Mayor
Melinda Bales

Mayor Pro Tem
Stacy Phillips

Commissioners
Dan Boone
Rob Kidwell
Amber Kovacs
Lance Munger
Derek Partee

AGENDA
Regular Town Board Meeting
July 17, 2023 - 6:00 PM

TOWN HALL (101 Huntersville-Concord Road)

Live Stream available via YouTube
@townofhuntersvillenc28078

Town Manager
Anthony Roberts

Deputy Town Manager
Jackie Huffman

Assistant Town Manager
Bobby Williams

Town Attorney
Emily Sloop

Town Clerk
Janet Pierson

1. Pre-meeting - 5:15 p.m.

1.A. New Town Hall Update. *(Bobby Williams)*

2. Call to Order

3. Invocation/ Moment of Silence

4. Pledge of Allegiance

5. Staff Questions

6. Public Comments, Requests, or Presentations

7. Agenda Changes/Adoption of Agenda

8. Consent Agenda

8.A. Approve the minutes of the June 5, 2023 Regular Town Board Meeting. *(Janet Pierson)*

8.B. Approve the minutes of the June 20, 2023 Regular Town Board Meeting. *(Janet Pierson)*

8.C. Adopt Resolution to award the bid for the Richard Barry Park Restroom and Parking Lot Expansion and approve the construction contract. *(Michael Jaycocks)*

8.D. Approve budget amendment appropriating Tourism fund balance in the amount of $333,000 to the Barry Park project account for restroom addition and additional paved parking spaces. *(Pattie McGinnis)*

8.E. Approve agreement with Bradley Tucker for Town to temporarily lease "Joelukeben" sculpture as part of the Town's SculpTOUR Exhibition. *(Tracy Houk)*

8.F. Approve agreement with Todd Frahm & Lara Nguyen for Town to temporarily lease "Basin & Range" sculpture as part of the Town's SculpTOUR Exhibition. *(Tracy Houk)*

8.G. Approve agreement with Hanna Jubran for Town to temporarily lease "Cube in Motion" sculpture as part of the Town's SculpTOUR Exhibition. *(Tracy Houk)*

8.H. Approve agreement with Jim Weitzel for Town to temporarily lease "Phoenix" sculpture as part of the Town's SculpTOUR Exhibition. *(Tracy Houk)*

8.I. Approve agreement with Kirk Seese for Town to temporarily lease "Feather" sculpture as part of the Town's SculpTOUR Exhibition. *(Tracy Houk)*

8.J. Approve agreement with Drew Coombes for Town to temporarily lease "Barely Scraping By" sculpture as part of the Town's SculpTOUR Exhibition. *(Tracy Houk)*

8.K. Adopt Resolution approving Interlocal Cooperation Agreement for Fire Protection Services. *(Jackie Huffman)*

8.L. Adopt Resolution to Acquire Property for maintenance of the 7225 Bud Henderson Sidewalk Project. *(Stephen Trott)*

8.M. Accept Streets located in Mirabella at Vermillion for Town Maintenance *(Kevin Fox)*

8.N. Accept Streets located in Asbury Park for Town Maintenance *(Kevin Fox)*

8.O. Call a public hearing for Monday, August 7, 2023, at 6:00 p.m. at Huntersville Town Hall, 101 Huntersville-Concord Road, Huntersville, NC 28078, on Petition #R23-06, Beatties Ford Family Entertainment, a request by Jonathan Eury to rezone three parcels totaling 2.513 acres generally located at 9339 Beatties Ford Road from existing Rural to Highway Commercial - Conditional District for outdoor recreation and commercial uses. *(Nathan Farber)*

9. Public Hearings

9.A. Conduct public hearing on Petition #R23-01, Foundry - Everette Keith Road, a request by Foundry Commercial, LLC to rezone +/- 59.66-acres generally located east of Everette Keith Road and south of Hambight Road from existing Transitional Residential to Corporate Business - Conditional District for approximately 750,000 sq. ft. of light industrial space. *(David Peete)*

9.B. Conduct public hearing for petition #TA23-01 Street Trees, a request by the Town of Huntersville Planning Department in cooperation with the Engineering and Public Works Departments to amend Articles 7.7, 5.5, and 12 of the Zoning Ordinance to provide options for developers to reduce impacts caused by street trees while meeting the guidelines of the Huntersville 2040 Community Plan and the intent of the Zoning Ordiannce. *(Lauren Speight)*

9.C. Conduct public hearing to close a portion of Mt. Holly-Huntersville Road. *(Lora Mastrofrancesco)*

9.D. Conduct public hearing to receive public comments on Bond Order authorizing the issuance of $50,000,000 General Obligation Transportation Bonds. *(Pattie McGinnis)*

9.E. Conduct public hearing to receive public comments on Bond Order authorizing the issuance of $8,000,000 General Obligation Parks and Recreation Bonds. *(Pattie McGinnis)*

10. Other Business

10.A. Consider adopting Bond Order authorizing the issuance of $8,000,000 General Obligation Parks and Recreation Bonds. *(Pattie McGinnis)*

10.B. Consider adopting Bond Order authorizing the issuance of $50,000,000 General Obligation Transportation Bonds. *(Pattie McGinnis)*

10.C. Consider adopting Bond Resolution for Transportation General Obligation Bonds and Parks and Recreation General Obligation Bonds. *(Pattie McGinnis)*

10.D. Consider decision on Petition #R23-05, Lagoona Bay Beach Club, a request by Bi-Part Development, LLC to rezone +/- 263.01-acres generally located north and south of NC 73, south of Mayes Road, east of Westmoreland Road, north of McCord Road and west of Black Farm Road from existing Rural and Transitional Residential to Traditional Neighborhood Development - Conditional District, Neighborhood Residential - Conditional District, and Highway Commerical - Conditional District for a mixed-use development consisting of approximately 1,183 residential units (250 single-family homes, 201 townhomes, 432 apartment units and 300 condominium units), 210,000 sq. ft. of retail, 200 hotel rooms, 36,000 sq. ft. of convention center space and a 41.16-acre commercial lagoon.

10.E. Consider decision on Petition #TA23-03, a request by the Huntersville Planning Department to amend Article 2 of the Subdivision Ordinance and Article 7.5 of the Zoning Ordinance to limit Minor Subdivisions to five lots or less and to require a 10' buffer for Minor Subdivisions within the Rural and Transitional Residential zoning districts. *(Nathan Farber)*

10.F. Consider decision on Petition #TA23-04, a request by the Huntersville Planning Department to amend Article 9.54 Solar Energy Facilities to further clarify the text for simplicity. *(Nathan Farber)*

10.G. Consider approving Ada Jenkins FY24 budget Amendment. *(Pattie McGinnis)*

10.H. Consider approving Angels and Sparrows FY24 budget amendment. *(Pattie McGinnis)*

10.I. Consider approving Arts and Science Council FY24 budget amendment. *(Pattie McGinnis)*

10.J. Consider approving Bags of Hope FY24 budget amendment. *(Pattie McGinnis)*

10.K. Consider approving Caterpillar Ministries FY24 budget amendment. *(Pattie McGinnis)*

10.L. Consider approving Hope House FY24 budget amendment. *(Pattie McGinnis)*

10.M. Consider approving North Mecklenburg CrimeStoppers FY24 budget amendment. *(Pattie McGinnis)*

10.N. Consider approving Seasons of Giving FY24 budget amendment. *(Pattie McGinnis)*

10.O. Consider approving North Carolina League of Municipalities FY24 budget amendment. *(Pattie McGinnis)*

10.P. Consider adopting Hugh Torance House and Store FY24 budget amendment. *(Pattie McGinnis)*

10.Q. Consider adopting Rural Hill FY24 budget amendment. *(Pattie McGinnis)*

10.R. Dellwood/Central Sidewalk Discussion. *(Stephen Trott)*

10.S. Consider approving purchase agreement to purchase +/- 24.81 acres located at 13409 Ramah Church Road. *(Anthony Roberts)*

11. Mayor and Commissioner Reports/Closing Comments

12. Closed Session

12.A. Closed Session pursuant to NCGS 143-318.11(a)(6) to consider the qualifications, competence, and performance of an employee. *(Melinda Bales)*

13. Adjourn

GENERAL MEETING INFORMATION

Town Board:

The Town of Huntersville Mayor and Board of Commissioners are elected for two-year terms. Huntersville operates under the council-manager form of government, which establishes the Town's policies that are carried out by the Town Manager and staff. For more information visit www.huntersville.org.

Meeting Time, Place and Agenda:

All meetings of the Board are open to the public and the public is invited and encouraged to attend. The Board meets in the Town Hall at 6:00 p.m. on the first and third Monday of each month (unless otherwise posted). Agendas are published Thursdays before the meeting on our webiste. The Board reserves the right to deviate from the agenda.

Public Comment and Public Hearing Policy:

Persons desiring to address the Board during the public comment period or a public hearing shall sign up via the speaker sign-up sheet prior to the beginning of the meeting. Once the meeting has begun, a person may not sign up to speak. Persons who have signed up to speak shall be allowed to speak for up to three (3) minutes. The Mayor shall have the discretion to shorten the allotted speaking time depending on the number persons registered to speak and in consideration of the length of the agenda. (Public Comment and Public Hearing Policy - Adopted April 19th 2021)

Special Accommodations:

Anyone needing special accommodations when attending this meeting and/or if this information is needed in an alternative format please contact the Town Clerk. The Clerk can be reached by phone or fax: 704-875-6541, email: clerk@huntersville.org or at 101 Huntersville-Concord Rd, Huntersville, NC 28078.
We request at least 72-hours' notice prior to the meeting to make the appropriate arrangements.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Janet Pierson, Town Clerk

Date: July 17, 2023

Subject: Approval of Minutes - June 5, 2023

EXPLAIN REQUEST:
Consider approving the minutes of the June 5, 2023 Regular Town Board Meeting.

ACTION RECOMMENDED:
Approve Minutes

FINANCIAL IMPLICATIONS:
N/A

ATTACHMENTS:
1. Draft Minutes

TOWN OF HUNTERSVILLE
TOWN BOARD MEETING
MINUTES

June 5, 2023
6:00 p.m. – Huntersville Recreation Center
11836 Verhoeff Drive

PRE-MEETING

None

REGULAR MEETING
TOWN OF HUNTERSVILLE
BOARD OF COMMISSIONERS

The Regular Meeting of the Huntersville Board of Commissioners was held at the Huntersville Recreation Center, 11836 Verhoeff Drive, at 6:00 p.m. on June 5, 2023.

GOVERNING BODY MEMBERS PRESENT: Mayor Melinda Bales; Commissioners Dan Boone, Rob Kidwell, Amber Kovacs, Lance Munger, Derek Partee and Stacy Phillips.

Mayor Bales called the meeting to order.

Mayor Bales called for a moment of silence.

Mayor Bales led the Pledge of Allegiance.

Mayor Bales recognized former elected officials present: Former commissioners Ron Julian and Brian Sisson, Former Cornelius Mayor Gary Knox.

STAFF QUESTIONS

Commissioner Boone requested update on when left-hand turn onto Ramah Church Road from Old Statesville Road would be open.

Kevin Fox, Director of Public Works, indicated the left-hand turn should be open in approximately 1-1/2 to 2 weeks.

PUBLIC COMMENTS, REQUESTS, OR PRESENTATIONS

None

AGENDA CHANGES

DRAFT

Commissioner Phillips made a motion to adopt the agenda. Commissioner Kidwell seconded motion. Motion carried unanimously.

CONSENT AGENDA

Approval of Minutes – May 1, 2023. Commissioner Phillips made a motion to approve the minutes of the May 1, 2023 Regular Town Board Meeting. Commissioner Munger seconded motion. Motion carried unanimously.

Approval of Minutes – May 15, 2023. Commissioner Phillips made a motion to approve the minutes of the May 15, 2023 Regular Town Board Meeting. Commissioner Munger seconded motion. Motion carried unanimously.

Approval of Minutes – May 23, 2023. Commissioner Phillips made a motion to approve the minutes of the May 23, 2023 Special Town Board Meeting. Commissioner Munger seconded motion. Motion carried unanimously.

Property Tax Refunds. Commissioner Phillips made a motion to approve property tax refunds from Mecklenburg County. Commissioner Munger seconded motion. Motion carried unanimously.

Property Tax Refunds attached hereto as Exhibit No. 1.

Capital Project Budget Amendments – Main Street Project. In an effort to close out the 2016 GO Bonds, interest income and the remaining bond premium needs to be appropriated. This Board action appropriates $213,678.08 to Interest Income, and $119,922.21 in Bond Premium to the Main Street Project.

In addition, there have been numerous unexpected capital expenses related to the water and sewer project associated with Main Street. Based on the Town's agreement with Charlotte Water, any additional cost increases will be reimbursed by Charlotte Water at 100 percent. This action also appropriates Charlotte Water – Contribution revenue in the amount of $550,000 to the Water and Sewer Main Street expense account.

Commissioner Phillips made a motion to approve Capital Project budget amendments appropriating additional revenue and expenses for the Main Street Project. Commissioner Munger seconded motion. Motion carried unanimously.

Fourth Amendment to Main Street Upgrade Capital Project Ordinance attached hereto as Exhibit No. 2.

Resolution – Intent to Abandon/Close Portion of Mt. Holly-Huntersville Road. Commissioner Phillips made a motion to adopt Resolution declaring intent to abandon and close a portion of Mt. Holly-Huntersville Road. Commissioner Munger seconded motion. Motion carried unanimously.

Resolution attached hereto as Exhibit No. 3.

Resolution – Right-of-way for Harvest Point Sidewalk Project. Commissioner Phillips made a motion to adopt Resolution to acquire right-of-way and/or easements for the Harvest Point Sidewalk Project. Commissioner Munger seconded motion. Motion carried unanimously.

DRAFT

Resolution attached hereto as Exhibit No. 4.

Accept Streets for Town Maintenance – Chapel Grove Subdivision. Commissioner Phillips made a motion to accept streets in the Chapel Grove Subdivision for Town maintenance. Commissioner Munger seconded motion. Motion carried unanimously.

Street Name	From	To	Approx. Length
Hollow Bend Drive	Asbury Chapel Road	Sable Creek Drive	1640
Stable Creek Drive	Approx 225' S of Hollow Bend Dr	Chapel Grove Crossing	1000
Chapel Grove Crossing	Eagles Nest Lane	Approx 470-ft E of Lytle Blvd	2200
Eagles Nest Lane	Everwood Ave	Cul-de-sac	1100
Lonesome Pine Road	Eagles Nest Lane	Everwood Ave	340
Everwood Ave	Chapel Grove Crossing	Cul-de-sac	1550
Lytle Blvd	Asbury Chapel Road	Chapel Grove Crossing	280

Call for Public Hearing – Petition #TA23-01. Commissioner Phillips made a motion to call a public hearing for Monday, July 17, 2023 at 6:00 p.m. at Huntersville Town Hall, 101 Huntersville-Concord Road, Huntersville, NC 28078, on Petition #TA23-01, a request by the Huntersville Planning Department for a text amendment to the Zoning Ordinance to amend Article 5 and Article 7 to provide options to ensure the goals of the Zoning Ordinance and Comprehensive Plan are met and address concerns regarding the impact of street trees. Commissioner Munger seconded motion. Motion carried unanimously.

Call for Public Hearing – Petition #TA22-15. Commissioner Phillips made a motion to call a public hearing for Monday, July 17, 2023 at 6:00 p.m. at Huntersville Town Hall, 101 Huntersville-Concord Road, Huntersville, NC 28078, on Petition #TA22-15, a request by the Huntersville Planning Department for a text amendment to the Zoning Ordinance to amend Article 7 to amend the penalties for the removal and/or disturbance of required vegetation. Commissioner Munger seconded motion. Motion carried unanimously.

PUBLIC HEARINGS

Petition #23-05 – Lagoona Bay Beach Club. Mayor Bales called to order public hearing on Petition #23-05, Lagoona Bay Beach Club, a request by Bi-Part Development, LLC to rezone +/- 263.01-acres generally located north and south of NC 73, south of Mayes Road, east of Westmoreland Road, north of McCord Road and west of Black Farms Road from existing Rural and Transitional Residential to Traditional Neighborhood Development - Conditional District, Neighborhood Residential - Conditional District and Highway Commercial - Conditional District for a mixed-use development consisting of approximately 1,183 residential units (250 single-family homes, 201 townhomes, 432 apartment units and 300 condominium units), 210,000 sq. ft. of retail, 200 hotel rooms, 36,000 sq. ft. of convention center space and a 41.16-acre commercial lagoon (Parcel Nos. 01106218, 01125102, 01125109, 01125103, 01125108, 01104101, 01105105, 01106217, 01106226, 01106219, 01125101, 01125104, 01124123, 01105104 and 01124102).

David Peete, Principal Planner, entered the Staff Report, Staff PowerPoint, as well as the applicant's PowerPoint into the record. *Refer to Exhibit No. 5.*

DRAFT

Rezoning #23-05, Lagoona Bay Beach Club mixed-use conditional rezoning, is located where you see the red star on the screen. It is on the east side of town along the NC 73 corridor. I'm going to give a brief outline of the request and show you how it lines up through some of our policies and plans, try to answer any questions you may have, and then we'll go from there. The applicant and their representatives are here as well.

The current zoning districts for this property you see in the red boundary. There's 263 acres that are being pursued to be rezoned – 173 of those acres are zoned Transitional Residential and they would support 259 single-family homes as they are.

The Rural district, which is there in the light green, represents 90 acres and a density of 81 single-family units would be possible.

You see a summary in the upper left – 340 single-family dwelling units by right with current zoning. Of course, you would have to maximize at least 40 percent or more of open space to get to that total.

The proposed Lagoona Bay Beach Club you can see shown here. The concentric circles that you see are the ¼ mile and ½ mile walking distance. This proposal is for a mixed-use walkable community, so you can see the ¼ mile is the benchmark that our ordinance uses. The ½ mile can be appropriate in other context.

I want to show you the townhome section at the top contemplates 180 townhome units. There's apartments on the north side of 73 as well, 320 proposed there. South of 73 to the east of the lagoon is 112 apartments, 200-room hotel, 36,000 sq. ft. of convention center space and 210,000 sq. ft. of retail.

The lagoon is 41 acres of the parcel itself or the recreational element, if you will. That is not the surface of the water, etc. There are a myriad of things in there – sports fields, food halls, cabanas, a larger clubhouse, as well as parking and such. There's a trail system that goes around the lagoon as well.

You can see at the bottom there's 250 single-family dwelling units that are proposed. Over on the left you can see that's a total of 1,162, 200-room hotel, I don't need to repeat all of that, but that is the totality of the request from the 263 and the 340 single-family that existing would permit.

The proposed R23-05 zoning, if approved, would set the zoning pattern as you see there. The Traditional Neighborhood Development (TND) would be above 73 and then underneath you would have along 73 Highway Commercial and then you can see in the oddly shaped bright yellow around Willow Brook, you would have Neighborhood Residential.

Moving to our Community Plan, I just want to remind everyone that the purpose of any community plan is it's a policy document and it helps guide zoning and development decisions. It is not law specifically, but is a guiding document. State law does require that a comprehensive plan is necessary for the Town to retain its authority to enforce zoning and development regulations and it needs to be reasonably maintained over time. In other words, it's not static, it is updated on a regular basis.

State Statute Chapter 160D speaks to local planning and it says that the planning process shall include opportunities for citizen engagement in plan preparation and adoption, so it is very much a collective agreement, if you will.

DRAFT

Extending the 160D-605 Section, Plan Consistency, when you are adopting or rejecting any zoning text or map amendment, the governing board shall approve a brief statement describing whether its action is consistent or inconsistent with an adopted comprehensive or land use plan. This is a summary item that the Town has always done when they are looking to do their rezonings at the end of the reports and in motions, so there's a consistency with that.

Another thing to remind you of is if a zoning map amendment is adopted, that action replaces or lays into place how the Community Plan will now address that property. It doesn't require a separate community plan amendment, it is done at that same time, so you are doing two things if you were to rezone this particular property.

I wanted to show you the Future Land Use Map from the Community Plan. This is the jurisdiction in the colored areas and then the kind of dark brown circled areas with the stipple pattern, those represent activity centers. Those are very specifically identified areas where at least two thoroughfares are coming together and there's an intensification that's encouraged and desired and the most recent example would be the North Creek, some of you may remember it began as the Huntersville East project, and that's located where Davidson-Concord Highway comes into 73. That was a situation where that was identified for intensity and we worked through that and the Board ultimately did adopt a project that would fit into that.

This project is located between an Activity Center located that I just described and then to the west where 115 and 73 come together, there's another one that's been identified in the 2040 Plan.

Here is the boundary of the project. The three future land use classifications that would apply to this would be Moderate Density, which is the yellow with the orange striping. Residential Edge, which is just the yellow in the middle. And then Rural Conservation, which is the light green on the eastern edge.

That is what the 2040 Plan is looking to do. As a reminder, these are not parcel specific, but they are general lines that are drawn in there based upon where transitions are happening naturally.

You can see here we've overlaid the site plan onto those, so you can see a little bit more specifically where that Moderate Density, Residential Edge and Rural Conservation would line up and then it's proximity to that Activity Center to the east.

A little more information here is with the Moderate Density, Residential Edge and Rural Conservation, you can see that some of the other elements that would apply…….of course the Town Core is the brown area in the middle straddling I-77. The Mixed-use Centers are the larger circles that are along 77 that contemplate certainly a lot of density and mixing, and then you have Open Space which would be the green that runs through in this particular case for this request, there's a creek that runs through the lower third of the project.

This is showing the Mixed-use Center if it were to be adopted on the 2040 Plan Map. You can see there that there would be a Mixed-use Center would be identified and then Moderate Density, which would be adding or extending that striping, the yellow area where the striping is, would be moved to the east. This is sort of a visual of what that 2040 Plan would look like if this request is to be adopted in some form.

One of the major considerations here is the impact to adjoining properties. With the Community Plan intensifying in a manner similar to this, now you have a lot of properties that are abutting or adjacent or

nearby that are not looking at the same pattern that they were in the current plan, but now you've got the added impact of what everything else in that area may be able to do or a request that they may be able to bring. That's something to keep in mind.

If the 2040 Plan were to be amended to allow an intensification above what is currently there, Moderate Density and Residential Edge is something that would make a transitional sense. In other words, increasing from what it is but allowing the densities that you see described there in the lower left and those would still be in that 1 to 3 units an acre, that would be a transition from what is around it. It does not get to what the proposed plan would like to do and then you would also have things like the photo in the bottom right. That is an image of a large buffer along 73. Those would be the types of things that the Community Plan would look for. That would definitely be consistent with what DOT is looking for in some of their plans and then 73 Corridor Plan as well, which I'll get to in just a few minutes.

Here is what 73 currently does running from Lincolnton to Concord. I just kind of wanted to show you in the 73 Corridor Plan it's a little bit difficult to make out, but in the middle…….if you look at the red arrow, underneath that you will see 73 and it calls for it to be Transitional and it calls for a very large buffer on both sides of 73 on the north and the south side, so making sure that 73 has the room to make the improvements that it's going to have.

Density…..I wanted to give you a quick snapshot of the proposed density. The entire project spread out over everything would be 4.4 units an acre, but you can see as you drill down to the specific little sub areas on the north side of 73 where the townhomes are, it's 5.3. The apartments are 13.1. The mixed-use area to the east of the lagoon would be 6.5 and then the residential spreads out to 2.5. You can see the densities of the specifically approved developments surrounding. For instance and I'll just grab a couple, 1.59 in Willow Brook. You can see the Stonegate Estates is 0.3, Northbrook 1.65 and you can go around the rest. Again, if you look at the North Creek example on the far east there in the circle, you can see that the intensification, the 17 units an acre where they are doing apartments, is there in that intensification Activity Center and then as you move toward the Rural that abuts that project, the density stepped down to 1.7 and 1.5. It never really got above 2-1/2 as it moved to try to be compatible.

I wanted to remind the Board that right-of-way acquisition is currently underway for 73 and construction per the DOT plans is still set to start in 26 or 27, so those upgrades and those improvements along 73 are going to begin and then of course the timeframe that it will take is certainly not completely known.

The transportation element for our TIA's, there are four steps that we follow. You are going to determine the study area, which we call the scoping. That has been completed. Then the TIA would normally be prepared, reviewed by the reviewing agency. In this case I want to make sure that everybody understands that the Town itself is not doing the TIA review. That was deferred to DOT. The reasoning for that is that all of the roads that are being impacted and the intersections are state roads – Westmoreland, Black Farms, 73, McCord, they would all be under NCDOT's control. The last thing would be that the TIA would be brought before you and the findings of it after it's been reviewed.

I do want to point out that at this point the applicant has indicated that they are not going to provide that TIA prior to rezoning. They would like to have a note on the plan that they will look to do what DOT asks of them at the construction stage. We can come back to that later on if you would like to.

DRAFT

This is just a quick snapshot of some of the development in the area. It does include some development in the Cornelius area, as well as Davidson, but you can see from Northbrook over to the park, I mentioned North Creek and there's some residential developments along McCord, so just giving you again a little more of the larger setting.

The criteria for the Zoning Ordinance, number one the question that the Board asks is whether the proposed reclassification is consistent with the overall character of existing development in the immediate vicinity of the subject property. Number two, is the adequacy of public facilities and services intended to serve the subject property, including but not limited to roads, transit, parks, recreational, police, fire, hospitals, medical, schools, storm water drainage, water supplies and wastewater. And then three is whether the proposed reclassification will adversely affect any known archaeological, environmental, historical, or cultural resource.

Very quickly I will just add that there is a home along Black Farms Road that is in the proposed buffer for this development. It does not have historic protection or designation. It does line up as one that would fall under a very large net of potential and in speaking with the Historic Landmarks Commission for Mecklenburg County, they think that its value is marginal and I hope that I'm not putting strong words in their mouth. I think the applicant, if I'm speaking for him, and I'll let him speak for himself, is possibly indifferent about the property. But again, if the Board was interested in looking into that, we could bring you more information, but just wanted to express there does not seem to be an overwhelming need to look at it from a historic perspective. It's an example of just a residential property on a farm. It is not the architecture of the home or the farm itself, but it is just a kind of an example of a certain time setting.

I mentioned in the second part of that criteria that I just went over just a couple of highlighted items in terms of infrastructure. We did have a report from Charlotte Water speaking to capacity, kind of the accommodations that are being made for the current situation that Charlotte Water is sort of digging their way out and then what they have projected for the future line of 2050 and I think you all received this in the packet so you can see what that says. And then on the right is a report from Charlotte-Mecklenburg Schools and in the far right you can see in the gray boxes their capacity numbers projected based upon this particular project. Obviously, as units come and go those numbers would potentially be adjusted.

The staff recommendation is that there is not support for this particular proposal as it appears before you. The red highlight there states that if you look in Parts 2 through 4 of the Staff Report you will see a very large number of items from not only the 2040 Plan and the 73 Corridor Plan, but the Subdivision Ordinance and the Zoning Ordinance, that the three zones that have been requested by the applicant, that this plan is not satisfying the requirements of that.

There may be a number of modifications that the applicant might be asking for, but to date they are not on the plan, so we could not evaluate those. We've identified in the report some of the elements that might be eligible for modification. There are a lot of miscellaneous as we like to say items that also need to be addressed as well. But it's a fairly exhaustive list. If you have any specific questions, we can try to explain or elaborate on any of those.

That concludes the majority of the presentation. I wanted to make sure that you understood the request. I wanted to make sure you understood the context of the long-range plans and then the nature of the site plan is where the great number of details come into place.

DRAFT

Mayor Bales recognized Planning Board members present: Jodi Wright, Jay Henson, Chris Boyd, Frank Gammon and Jeff Sny.

Mayor Bales called for staff questions from the Board.

Commissioner Munger said one of the things that I noticed in the packet was that there were public hearing signs placed in 10 different locations adjacent to the site. Can you give me an idea approximately where those signs were placed?

Mr. Peete displayed slide in the Staff PowerPoint showing location of signs.

Commissioner Munger said I just wanted to make sure we covered everywhere that we possibly could to let as many people know.

Mr. Peete said we did. Nothing really to elaborate. The state law requires that the property be signed and so we did our best to hit every state road with the most exposure. We ended up adding two additional signs in the Willow Brook community at their request, so 10 signs in total.

Commissioner Munger said you had mentioned in regards to the TIA and not hearing anything back from NCDOT simply because the applicant at this point has not started the process of the TIA and it is the intent that the TIA will not be completed prior to seeking an actual approval from this Board. Is that normal? Have we ever set that precedent before?

Mr. Peete said not to my knowledge. We have certainly had TIA's that maybe have lagged in terms of their acceptance or adoption to present before you before final action. The ordinance requires the TIA is presented to you, but as it is part of the ordinance, the applicant is asking to modify that and I'll let them elaborate on that. And then of course, Stephen Trott, our Engineering Director is here if you have a little more specific question about that. In summary, no that is not a normal thing that we hear.

Commissioner Partee said a question regarding the 62 issues on the application. Is it common practice for a developer to submit an application with these many issues, 62. I can see 10 or 11, but 62 issues and why as a Planning Department we would accept the application with so many issues and not delay it or defer it until these issues are addressed.

Mr. Peete said all I can say with the first part of your question is we certainly have not seen this many at this stage. Again, as you move through or review, you generally come to some compromise or work through the issues. That doesn't mean that we've not had some fairly lengthy lists as you move through the process. But this is by far the most to date and then the second part of your question is the applicant has the right to ask for these modifications, with or without support from staff. As we've identified them, made them clear, they have not made any adjustments to that, so we had to make sure that we were exhaustive in our inventory of issues that needed to be addressed either through alignment with the ordinance or through granting of modification by the Board. We didn't have the ability not to bring it to the hearing.

Commissioner Kidwell said no questions at this time.

Commissioner Kovacs said I have some, but I'll ask them later.

Commissioner Boone said I'm going to wait until we hear from the applicant.

Commissioner Phillips said I would like to see what the Historic Landmarks Commission had to say, could you send that to us, please?

Mr. Peete said absolutely.

Mayor Bales said Planning Board members, do you have any questions for staff at this point?

Mr. Gammon said no ma'am.

Mayor Bales called for the applicant to make his presentation.

Jake Palillo, 17532 Sail View Drive, Cornelius, said I want to explain this exciting project that I believe is good for the town and is needed. I want to work with the town and properly develop this last large tract of land in Huntersville along a major corridor.

Charlotte was just ranked 8th best place to live in the US and Huntersville Planning has anticipated the population to grow to 100,000 people over the next 20 years, so it's important to develop this property the right way.

The proposed project is 270 acres located on Sam Furr Road between Westmoreland and Black Farms Road. It's the last tract of land along the 73 major highway corridor. You will hear me say that several times tonight because it truly is the last parcel this large.

The development is made up of four different parts. We have townhouses up at the top. We have multi-family in this area. We have 250 single-family detached custom homes ranging in price from $900,000 to over $1 million. The town doesn't currently have a lot of housing stock valued over $1 million. It's good for a town to have homes in that price range. It helps your tax base. For example, 10 percent of Cornelius's houses pay 33 percent of their tax base.

Huntersville's median home price is $495,000. It's up 47 percent over the last three years. All of Lagoona Bay's housing types for sale are all above the median home price. Two hundred fifty (250) custom homes will pay double the property tax of a median home price. Also note that townhomes, apartments and condominiums have the lowest amount of occupancy per unit and they also produce the fewest amount of students to the school system.

We have our mixed-use area right there. This map here explains why Huntersville is in demand and growing so fast. You have 485 to the south, you have 73 to the north. NC 73 is 38 miles long and connects seven of the fastest growing towns in the area. It also has access to three major north-south connectors – Highway 16, 77 and 85. Highway 73 is the major commercial business district for all seven towns. Huntersville has 10 miles along this corridor with very little vacant land remaining.

This slide here shows all of the proposed road projects whether performed by the Town or NCDOT. It's $1.2 billion of road improvements that NCDOT has planned. There's another $50 million in road projects that the Town has planned. This is all over the next four years.

This right here is a great slide. This shows the whole region between Cornelius, Davidson and Huntersville. Combined population is 130,000 people and it's growing. If this project was approved today by the time it went through permitting and construction, the population will grow by over 10,000

people. Cornelius and Davidson residents come to Huntersville to shop and dine. There's only one major place in the entire region to gather, shop and dine, and that's Birkdale Village. Birkdale is the pride and joy of Huntersville.

Lagoona Village is four miles away from Birkdale and it would split the region in half allowing half the people to go to Lagoona Village and the other half to go to Birkdale. With the town's population continuing to grow we need more places for people to go out and dine and shop and entertain.

This slide shows everyone the travel distance between the two locations. Notice all the highlighted ones are closer to the Lagoona Village proposed project. If you look at smart growth manuals, it tells you bringing goods and services closer to the people reduces traffic, less travel distance, less time on the road, less traffic.

This slide is important to show what little land it left along the 73 corridor. The highlighted line is 73. The Lagoona Bay site is the last large parcel along this corridor. The west side of 73 from Beatties Ford to Catawba has the lake to the north. From Catawba and 73 to Mayes the Town controls both sides of 73. There's very few vacant parcels along this stretch of road left to develop.

Over the past three or four years there's been scattered infill projects within one mile of Lagoona Bay. Eleven infills with over 1,867 dwelling units, almost twice what Lagoona Bay is proposing. With the exception of the multi-family, none of these developments have added amenities like pools or clubhouses. Where are these people going to go to swim and gather? More importantly, where are they going to go to shop and dine? Birkdale. You can't stop this kind of infill, but you can see the difference between a masterplan development with amenities versus infill. Without developing more places to gather and dine, where are the people to go and how will the quality of life in Cornelius end up.

Lagoona Village is what I consider a happy place. It's a place where people go live, work, shop, gather and entertain. It's not a bad place that will hurt the town. It won't hurt morning traffic or school buses, lunch traffic will be light, but at the end of the day it's a place to bring your family to meet friends and eat and enjoy time together. It's a good place. More and more people are working from home today. If you noticed in the paper this past weekend in the Charlotte Business Journal half of the major high-rises in Charlotte have 50 percent or more vacancy, meaning more people are working from home. At the end of the day people that work at home they want to get out of the house, they want to get a hold of friends and family, and they want to go out and shop and dine and have a drink. People that work get out and they call their families and they want to again find a place to go and eat. Weekends people wake up and the first thing that comes to mind is where are we going to go today, what are we going to do. If we don't have places like Lagoona Village, where are people going to go.

The village is three and four story buildings with ample parking. The two major buildings are four stories with the first floor retail/restaurants, with three stories of luxury condos above. The first floor retail and restaurant open on to large plazas and squares. This is similar to relaxed European concept where people love to gather, visit, dine and be entertained outdoors and enjoy life. This is a modern place for the community to gather called the third place of being. This large square will host events, festivals, an amazing Christmas market, sidewalk musicians and activities. People enjoy the park-like setting of the square overlooking the two man-made lakes and the amazing crystal lagoon. This will be an amazing loved by people, not hated.

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The village dining will have a large food hall. This is the newest concept in food where small entrepreneur chefs can open a business for a reasonable amount of money and showcase their talent. This also gives people a variety of food options at reasonable prices. This is something for everybody.

Other areas will have large full-service restaurants all open to outdoors. The village would be a food paradise with a variety of food and beverages from all around, plus smaller specialty shops, coffee, brews and sweets. The village has something for everyone and everyone is welcome.

The village also has proposed a 200-room full-service luxury hotel with a resort-style pool, rooftop restaurant, banquet room and spa. Guests will have access to a special area at the Lagoon with the purchase of a day pass. Only registered guests will have that access. There's no other full-service hotel in the area. Everyone has to go to Charlotte. This area is in need of this type of hotel. It's a valuable asset to attract business to our area. If it's not here in this location, there is no other place for this type of resort in Huntersville.

The convention civic center is another needed asset in the area. There is nowhere in the area to host an event that will hold 300 to 500 people. We have several great Huntersville-based charities that don't have a place large enough to host a gala event. Here it is if the Town wants it.

We have also agreed as a part of our plan to allow the staff to get involved and take out certain parts of the project. We've also said that we wouldn't start the village until construction on Highway 73 began, which is about two years from the now, so if the Town didn't like the density and they wanted to take out the hotel or the convention center, or reduce the amount of retail space, we are open to that. You can eliminate all three or any one part, or any part of there, and we're in agreeance to doing this.

The beach club is the centerpiece of this project. Today there are over 260 lagoon projects in some stage of development around the US. I want to bring you the first to Huntersville and North Carolina.

The beach club is similar to a golf country club, with the golf course being replaced with a crystal lagoon. The 40-acre resort is an amazing lifestyle for the entire family. It has a large clubhouse with restaurant, several buildings with food hall, waterside dining, swim up bar, beach service, 30,000 sq. ft. fitness center with state-of-the-art equipment and classes. No other country club has this amount of amenities – full spa, six pickleball courts, six tennis courts with a pro, large green for sports and events, beach volleyball, kids camp, crafts, classes, study hall and babysitting, every kind of water sport, a remote shared work studio for people to work from home. It's truly a year-round resort country club like none other. It's membership only and not open for daily passes.

The modern lagoon concept is like bringing the beach to the people. Our beaches are over four hours away. Now people can enjoy something similar, only minutes away. The community pool or backyard pool is no comparison to the lagoon and the sandy beach. This isn't a gimmick. Look at the amazing crystal clear water surrounded by sand and all the amenities. It's like being at a tropical resort.

The beach club is a community where people create friendships and families enjoy time together. During the peak season like now when kids are out of school, you will never be able to pull your kids away. What is better for kids today than to be out swimming, playing, enjoying childhood versus playing games on some device at home. This is a life of paradise right down the street. There's a similar community pool that you see a lot of your community clubhouse. This here is life at Lagoona Bay. This is actual one of the pictures from one of the bays walking through the sand, kids playing.

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These next slides here will show you all of the activities that are at the Lagoona Bay Beach Club – swim-up bar, water aerobics, beach volleyball, yoga, snorkeling, all sorts of dining, kids camp, tennis, kayaking, study hall, pickleball, working remote, all sorts of events, event space, fitness center.

What our plan is, too, is also to have a trolley that will travel within a 3-mile distance to different communities to pick-up people.

Let's talk about the about the value this project brings to Huntersville. The town currently has close to 70,000 residents and projected to be over 100,000 over the next 20 years. This is a business decision for what is best for this land for the town. It's not up to 200 or 300 people objecting, half don't even live in the town. If the Town turns down this opportunity today, it's gone forever. There is no other parcel of land within the town to do something like this in the future. National tract builders are waiting for this project to be turned down and they will come in and build 400 to 600 homes. They don't care about the town. They will look at this as another property to build and go. Building just homes is a waste of this valuable land.

The project checks all the boxes and the town's needs. It adds another place like Birkdale that we desperately need. It adds a full-service hotel we need as well. It adds a 35,000 sq. ft. civic and convention center that doesn't exist in this whole entire region.

The Lake Norman Chamber has endorsed this project as an exciting project the community needs. The beach club unique lifestyle first to come to North Carolina. If the Town passes on this project, there is nowhere in Huntersville left to do it in the future. This opportunity is gone forever. The project generates $16 million in tax revenue. About $8 million of that is in property taxes. Another $8 million is produced in sales tax, prepared food and hotel tax. Putting 500 homes on this property will produce about 20 percent of that. There is something here for everyone in this community. A well thought-out masterplan development is an asset. It will be the pride of Huntersville versus scattered infill projects.

This project will create hundreds of jobs. We are proposing 20 affordable housing units in the community which we will give full access of no charge of membership and dues. Four different types of housing projects, three of them will pay property tax above the median house income. Three of those have lower occupancies and put less impact on the schools and 250 homes would pay double the median home price and property taxes.

Mayor Bales said you have reached your 15 minutes. Let's go ahead and see if there are any questions at this point from the Board.

Commissioner Phillips said I'll skip for now.

Commissioner Munger said do we want to hear from the public first before we ask questions.

Mayor Bales said would you rather hear from the public first?

Commissioner Munger said I feel like that probably flows a little bit better.

Mayor Bales said I want to take a moment to walk through our Rules of Procedure with Public Comments and Public Hearings. The rules that we have established are designed to ensure fairness to each speaker by establishing rules in advance that will be applied equally to each speaker. Because we have more than 20 folks that have signed up to speak this evening, everyone will get two minutes. You

also have the opportunity to pool your speaking time up to 9 minutes. If you have designated someone to speak and I see that I have several here who have given their time, designated or time deferred, I've got a few here already, but we are going to go through this, kind of our rules very quickly.

Our speakers shall be civil and courteous in their language and presentation. Insults, personal attacks, accusations, profanity, vulgar language, inappropriate gestures or other inappropriate behavior will not be tolerated. In order to provide for the maintenance of order and decorum in the conduct of the meeting, the Mayor may declare out-of-order any person who fails to comply with this policy. The Mayor shall caution any such person to abide by the provisions of the policy and refusal to do so shall be grounds for removal of the speaker from the meeting.

These rules are in order for us to conduct public business in an efficient and productive manner and speakers are encouraged to avoid duplicative and repetitive comments.

I'm going to call the first handful of folks up and we'll just line up and hopefully we will do this in an efficient manner.

Linda Lucas, 16500 Redcliff Drive, Apt. E, said I'm a resident of Huntersville. I have lived here for close to 20 years. I was living in a home in Birkdale Village, but now I'm living in an apartment at 16500 Redcliff Drive. First of all I would like to thank Mr. Palillo because now I can save money on a trip to Disneyland. It seems like we are going to have one right here in Huntersville. I'm here primarily to represent the senior citizens of this area and those who might be affected by the environmental implications of the project. I am currently a representative. I sell Medicare insurance. I meet with a lot of the senior citizens in this area. A large majority of the senior citizens have respiratory and allergy issues. I've looked at some information from the American Lung Association. There is a report made in April of 2023 from the American Lung Association that Charlotte area counties have failing grades in ozone pollution. Mecklenburg County has scored an F in our ozone quality. They say one day of poor air is one day too many for the residents of Huntersville, especially seniors, children, pregnant women and those with chronic illnesses. Thankfully you are studying the traffic patterns and how that will affect the area and I noticed that there was a small line about environmental, how it will affect the environment. I don't know if that's going to include the air quality, but I would like for you to take a look at the air quality as well and see how that would affect the health of our community.

Marsha Bradford, 15901 Hollingbourne Road, (Bradley Heinrick, 15901 Hollingbourne Road deferred his time), said before I begin I cannot argue zoning or planning. It's not my background and this is the first time I've ever had the interest in actually attending a zoning meeting inside my community. I've been neutral about the project for the most part focusing on facts and I'm so proud to see so many people here who do not normally take part actually have an opinion, even dear friends and even if we disagree. I really wanted to be against this. My first public response against it was part of the Mom pages on Facebook and like everyone else where was the affordable housing, what about the expenses, does Huntersville really need this and a beach. After having met with Mr. Palillo and the time that he spent with me, I really appreciate many conversations with one of his team members, I learned why I am for it. I'm for the additional tax revenue that this will create, mainly because I've never looked at Huntersville budgets before. I have lived here for seven years, never paid attention. Looking through it there is so much that that tax revenue can do. I guess apparently we actually have a tourism budget. I didn't know there was anything in Huntersville to have tourism for, but this drastically would increase that. I'm for how a luxury hotel and convention center will definitely affect that and I want to reiterate something that Mr. Palillo said is that the only access the hotel guests have to the lagoon is a specially designed designated cove area for them exclusively. I'm for being able to fund new and existing projects within

the community that have been cut from the budget. These are all things that can help Huntersville. I'm for the growth and development that brings more jobs to Huntersville. If we are going to have more population, we need more jobs to support that. Staffing for retail, commercial, restaurants, maintenance, security, technology, administrative, real estate, construction, weddings, event planning, live music, co-working spaces, childcare, sports, etc. would all be coming to our area and add to it. I am for the additional traffic because the road projects are already there. We have so much coming to the town before these road projects are done, before the three new schools are built to meet the capacity that we need because project delays enough to where some of those things can catch up with capacity. Speaking with so many different friends, it's a lifestyle center. We can have more dining, more shopping, public park like spaces, live music venues, rooftop dining, basically everything that we love about Birkdale, all of the enhancements that we had at Birkdale, that isn't big enough. There's not enough space there for how many people want to go there. It's not just Huntersville that feeds into Birkdale. Being able to spread it out in one location would be great. I ask that you guys approve this project because I'm really tired of giving my money to Southpark. I want to give it to Huntersville.

Suzanne Villar, 17130 Bridgeton Lane, said as a resident I'm concerned about the consequences the massive Lagoona Bay development will have on the town's already overtaxed infrastructure. The impact of traffic and quality of life issues stemming from new developments in general is no longer a single neighborhood concern. When construction and subsequent occupant traffic from a new project overwhelms any major thoroughfare like Sam Furr, the impact is felt throughout the town and gridlock often spreads to encompass Old Statesville, Statesville, as well as I-77. But the impact is not just felt on roadways, it's just more apparent there. No matter where they live residents are concerned about the drain new developments will put on town resources already stretched thin including emergency response, schools, equipment and facilities, sewer, water, etc. Just because a new development is built does not mean that the town is suddenly funded and equipped to address all the additional burdens that are created by the development. More is not necessarily better if it can't be supported and sustained. Please do not let the hunger for growth diminish the quality of life that Huntersville has become famous for. Strive now and in the future for quality, not quantity. It's not the commission's job to assure that every project that's ever conceived gets built. The objective should never be the number of new projects underway in the town at one time or the financial impact on a particular developer. The objective of our boards and commissions should be identifying the right projects for Huntersville that will preserve and enhance our quality of life and toward that end I'm asking you to adopt the Planning Staff's recommendation to deny approval of the Lagoona Bay project.

Mayor Bales said I am sorry but that is not decorum, we do not cheer when people come up to speak. We won't do that.

Violet Clark, 13423 Willow Breeze Lane, said I have lived in Huntersville for over 17 years and when I found out about this project I'm the one that started going door-to-door to raise awareness because I was horrified that most people didn't know anything about it and it was going to impact especially my community so greatly because we are adjacent to it. The petitioner mentioned earlier that there's a few hundred people that are opposed to it and most of them do not live here. That is false because as of today there are over 5,000 signatures and most of them do live here and will be greatly affected by this and are very opposed to this as you can see by the turnout today and as you probably saw by the turnout that was at the community meeting in April. Also, the petitioner is suing me for speaking out and starting the petition and sharing information about his communities that others have shared on my petition which is public record. Last week we had a meeting in our community of Willow Brook. We had a small little town meeting and actually they said it was one of the biggest turn-outs they have ever seen and it was about this development. At that meeting it was discussed that one of our residents had a

meeting, a private meeting, with the petitioner and he had promised our neighborhood that if we get everyone on board to approve this that we will get from him, he will give us a new pool, a new clubhouse, new patio that is shaded, firepits, playground, pickleball courts, etc., essentially wanting us to approve this by giving us promises that I highly doubt will ever materialize.

Pam Deal, 13604 Brook Line Lane, said I've lived in Huntersville for 35 years and in Willow Brook for 26 years. When we were looking for a place to move my mother and sister closer to us, we chose a lot also in Willow Brook and my brother built their home 22 years ago. There are six homes in Willow Brook that border the Westmoreland farm. My husband and I and my sister own two of them. My family loves our home. We love Huntersville. We do not resent the Westmoreland family for selling their land. We always knew that it would happen one day, but we expected a neighborhood similar to Willow Brook to take the farm's place, not a hotel and conference center and certainly not a lagoon. I've read through the Huntersville Planning Department's recent analysis of the Lagoona Bay development. It reinforces my feelings that this development is out of place and doesn't meet the requirements of the Town's 2040 Plan or the 73 Corridor Plan. I could mention my concerns about the traffic through our neighborhood and also on 73 and my concerns about the noise, lights, crime, the sewer system, impact on the environment, the density of the homes and the quality of life in our area, but I know you have heard and will continue to hear about all of those concerns until this decision is made. The 2040 Community Plan is meant to establish a framework for growth and development while maintaining the character and livability of the town that Huntersville residents hold so dear. That statement comes straight from the 2040 Plan document. Please honor your commitment to the 2040 Plan and the citizens of Huntersville. Don't amend the 2040 Plan to appease one developer. That will only encourage more developers to ask for concessions. Please listen to the recommendation of your own Planning Department and deny this request for rezoning.

Noelle Burton, 12940 Cadgwith Cove Drive, (Ray Angele, 18612 River Falls Drive, Davidson deferred time), said I always knew my mouth would one day get me into trouble, but that's okay because I know speaking out against this monstrosity is the right thing to do, even though certain people have tried to intimidate me into not speaking out and now I'm getting sued. I will fight for everyone in Huntersville who is against this. I'm all in at this point, probably deeper than I wanted to be, but here I am. I'm beyond thrilled that the Planning Board made the right decision to deny this waterpark community. It does not comply with the 2040 Plan even though certain people are claiming that this isn't true. The nightmarish traffic we deal with on a daily basis will become so much worse than anything we can ever imagine. The infrastructure is not made to handle this nonsense and don't believe anything you hear about roads being built anytime soon, whether if it's their professional opinion or not. I'm asking all of my Huntersville friends and neighbors to do the research on all the issues such as the tree canopies, the sewage, traffic, the list goes on. We need to be vigilant and stay on top of every single change that occurs moving forward. Every person involved in trying to push this waterpark through needs to be held accountable for their actions. We will fact check all of their data.

Patrick Farrell, 13212 Willow Breeze Lane, said I just want to thank the Mayor and the Commissioners. I don't know how this is going to turn out, but I thank you for your service. One of the things that really attracted my wife and I to Huntersville when we moved here 25 years ago was the quality of life. It was beautiful rolling hills, nice developments, yes Birkdale was a nice attraction afterwards, but now the town is losing a lot of that attraction and I'm afraid that the last great developable piece of property on Highway 73 is going to make us lose even more of that. The other thing is, traffic is a huge issue for anyone who lives in Willow Brook. For us to get out of our development and go west on 73, sometimes and this can be any time of the day, sometimes can take three to five minutes and no exaggeration some of you know the song Bohemian Rhapsody. I have heard the entire song while I waited to turn

left. I have heard In-A-Gadda-Da-Vida the entire song while I waited to turn left. This, by my reckoning, we are talking about 1,160 homes, 2.7 people per home. Let's just say that equates to about 2,200 cars. Persons per household is 2,970. The hotel is going to be maybe 100 cars a day. The convention center, who knows, maybe 1,000, maybe 2,000 cars. This doesn't concern the Lagoona Bay because the 1,500 memberships, who knows who is going to be there and we know it's probably going to be used for four months and that's it. But let's just say 20 percent usage, there's 300 more cars. Basically you are talking 4,000 additional cars that are going to just make our traffic situation worse.

Mary Ann Turetsky, 16977 Bridgeton Lane, (George Burton, 12940 Cadgwith Cove Drive and Michelle Mills, 12615 Kane Alexander Drive deferred their time), said the developer suing and threatening us will not stop the 5,000 people who have signed a petition against this project. A project has to follow and comply with the 2040 Plan. It does not. The Town Planning staff already denied the rezoning. Our hope is that the Planning Board and eventually the Commissioners will follow suit. A few of us met with Commissioner Boone and Frank Gammon to discuss our concerns about this project. A day later, the developer was bragging how one of the commissioners had told him about the meeting. I thought this was going to be confidential. Obviously, I was wrong. He said we were slandering him, which we were not. We were talking about the water issues, the sewer issues for his cement pond. We were concerned about displacing wildlife and crime. We did not waste our time bashing the developer like he does night after night as he sits behind his keyboard. There is nothing in this plan that is good for our community. He keeps insisting that Noelle and Violet are…….

Mayor Bales said we are not doing personal attacks this evening. Are you sticking with the facts as your concerns……..

Ms. Turetsky said these are facts and concerns.

Mayor Bales said and your opinions.

Ms. Turetsky said they are facts. It's been on Facebook. He puts it on Facebook that Noelle is an influencer and she's going to bring his plan……

Mayor Bales said we are not going to do that.

Ms. Turetsky said they also told us that you were going to do this to us and not let us speak our truth.

Mayor Bales said no, that is not going to happen.

Ms. Turetsky said that was on Facebook.

Mayor Bales said we are not going to have a back and forth, I just want to stick with our comments, please.

Ms. Turetsky said I think I have freedom of speech in this meeting.

Mayor Bales said Commissioner Phillips, would you please give her another minute.

Ms. Turetsky said I guess I'll have to skip half of it, but I have one hope for Huntersville and the people, that we don't end up paying for his cement pond……our town doesn't need a failed upscale

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development. Everybody should check out the Balmoral Lagoon in Texas and see what our Huntersville will be. It's very sad.

Scott Sittler, 15829 Lavenham Road, said I'm not going to repeat everything that everyone has said, but I can tell you as a 25-year resident of Huntersville this is the first time I've attended a meeting like this and a lot of my neighbors and other citizens will surely be watching how you all vote as a result of the Planning Board's recommendation.

Jamie Wideman, 17008 Knoxwood Drive, said for anyone who is not familiar with the area, as you head east on 73 and cross Highway 115 into Huntersville, Knoxwood is the very first right you make. We currently have a large apartment complex being built behind us. They are finishing it. There is a daycare down the street that they are finishing. There is another apartment complex across the street on 73 that I believe there's a rezoning request up for that now. There is another one that is approved behind us. The farm that is behind us is currently under contract with a developer who is trying to put more apartments in. They've had an impact plan done, I don't know if you guys have seen it but we have. There is more mixed-use down 115. All of this is within ½ mile of where we live. For those of us who have to travel and commute in the area, the infrastructure is a huge deal. My children go to Hough. By the time this development is finished they'll be out of school, that won't be an issue for me anymore, but it will be an issue for plenty of people around us. The developer has made comments that they don't anticipate a large number of people with children, this is not going to impact our schools, however in his presentation he also pointed out they are going to have a daycare and splash pads and all of these things in the Lagoon project that cater to families with children. I just want to point that out to the commissioners that there's a little bit of contradicting information being provided. I can't say a whole lot that hasn't already been said. I thank Mr. Peete and his comments on what the Planning Board's recommendation is. It says pretty much everything you can say. I am a lifelong resident of the area. I have lived here my whole life. I have traveled 73 from the time I got my driver's license until today. It's very sad to see that we are losing our [inaudible].

Melanie Griffin, 12900 Westmoreland Road, said that's the northern section of Westmoreland Road in between Sam Furr and Mayes. My husband and I built our home there in 2004. We have raised three daughters there. The oldest just graduated college and the youngest is 9. Bailey and Hough have both been built since we moved there, so the traffic on our road has changed a lot in the time that we have been there, but we haven't complained because the schools are great and we are happy to have them, so I'm not by nature a complainer. Also, just to note, our oldest was in the first kindergarten class at J. V. Washam and by the time that school was built it already had mobile classrooms outside. So, if you act like we are going to get ahead of the school issue in time for this community to be built is not realistic. I did watch the video that the developer has released entitled "Facts about Lagoona Bay." However, I have not been reassured by his promises. It is a promo video with stock videos. I don't want the best reason for this project to be that it's better than tract housing, because is it? Since I did not feel that I've learned any facts about the project from that video, I've been trying to find them out on my own. Per the Crystal Lagoon website, these are marketed as public access lagoons. The website touts endless ways to monetize from entrance and membership fees to water sports and cabana rentals. On their website there's no direct link to individual lagoons, so through Google I've been able to find three in Florida and three in Texas. Four of them are open to the public, one isn't open yet, and one in Texas is indeed a private club only for residents. It's a 2,000 acre exclusive development. Greenspace occupies 600 acres and the lagoon takes up 5. It doesn't seem to have a hotel or convention center. If the Florida and Texas weather cannot support a lagoon unless it's public, I'm not sure how ours can.

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Darryl Wood, 12720 Willingdon Road, said I was a little surprised a traffic study has not been done, so I've run some numbers myself. I've been digging into some DOT formulas and so forth. Just the residences in this development would put 2,600 cars on the road. That's not mentioning the hotel, the convention center, people visiting retail and if it goes the same direction as the Texas and Florida resorts went, it will be open to the public which could add more, so we're probably talking over 3,000. I know one individual mentioned 4,000. But I went back and that's all because of the density. I went back and looked at it. If only single-family homes were developed as it may well be, that would be about 1,600 cars on the road. We are probably putting an additional 1,400 that would not be on the road had we just stayed with the current zoning. Why would we change the zoning and the 2040 Plan to put this many more cars on the road when our traffic problems are already bad enough. Yes, 73 is planned to be widened. If you look at the website it says start Summer 2026, completion TBD. We've contacted Kevin Moore, the PM with DOT to find a completion date and no answer returned whatsoever. We went back and looked at the history of this project. They first announced it in 2019. That's when they had community meetings. There hasn't been a press release or anything since 2020. At that point they were planning the start date to be this year, 2023, so it's already slid three years. Who knows when this is going to be built with the lack of speed the DOT works in. I'm from Atlanta……we're putting the cart ahead of the horse here. Why can't we wait until that road is widened and then think about developments like this. We are putting the cart ahead of the horse. Atlanta did the same thing, that's why everybody from Atlanta says it's a traffic nightmare.

Keith Westmoreland, 13420 Westmoreland Road, (Robin Westmoreland, 13420 Westmoreland Road and Wayne Westmoreland, 13434 Westmoreland Road deferred their time), said between myself and my two brothers and our families we are the majority owners of the property for this site. Just a brief history of the farm. My grandparents purchased the first tract in 1913 and it was a cotton farm. They raised eggs and hams and chickens and they would take a mule and wagon to Trade and Tryon on Saturday to sell their goods to support themselves. My father started milking cows in 1952. We continued with the dairy until 2011. Wayne and myself have farmed there our entire lives. We have lived here our entire lives. My father and all his siblings were born in the house that my grandparents built. That house is still there with additions and add-ons. It is the heart of the house that me and my brothers grew up in. We farmed, we raised crops. At one time we had 650 acres of farmland to farm. We used to farm what is now Northstone, River Run and also Willow Brook. I hear the thing about change. What most of the people here don't realize is Sam Furr was not always Sam Furr as it is now. It did not exist from Davidson-Concord Road to 115 at all. We lived at the end of a mile long dirt road that went all the way to Mayes Road. Without change, most of these people here would not be living in a house in Huntersville. I just wanted to give you a brief background. With all the development we have been farming only 200 acres of crop land now versus 650 acres 18 years ago. With that being said, y'all can vote on our property what we can or cannot do with it, but my beef is I can't vote for either one of y'all.

Mark Towne, 15909 Northstone Drive, said first of all I want to thank the Board and the staff that did the assessment and put it out on the website. As someone who knew nothing about this project, that was actually very good data to understand what's going on, you know try to take emotion out of it. There are four things that I pulled out of that assessment that I think is germane and you've heard a lot about that. The importance of the 2040 Community Plan and NC 73 Corridor Plan. Our expectation as citizens of Huntersville is the developer should propose plans that are consistent with whatever the plans you as elected officials have deliberated on and approved. Their expectations should not be that the tail wags the dog. The plan should be changed because of some great idea that they've got. It may be a good idea, but there's a deliberative process that must be gone through that why is it good for the long-term not just the short-term of the community. The second point is the lack of the North Carolina DOT

transportation infrastructure assessment. There's a lot of visibility on 73. I'm also concerned about McCord Road and all the other flashpoints around the development. It's kind of like jumping into an LZ without a parachute and not understanding any intel. You are going to go and ask for approval on something and don't know what's on the other end. If this is approved and then all of a sudden it comes back you've got not only volume issues but safety problems that could come out of the assessment. Third, sewer and water capacity. The letter was really good about the water capacity, but what it also gives a warning to is that the 11 percent of the entire 3 million gallons per day that was recently purchased to expand capacity, what's the impact on not just Huntersville but the other members of that particular piece. School impact is clear. I know my time is up, but I want to thank you again.

Amanda Shuford, 13503 Willow Breeze Lane, said I'm here on behalf of the Willow Brook HOA. I'm here tonight as a spokesperson for our neighborhood to address several of the concerns and questions we have that we would like you to address. Clearly, this development plan and zoning change will have direct impact on our community. Our community was developed over 20 years ago. We have one entrance. Our children play in the streets. We have no lights and very little crime. It's a desirable quiet country-style community and as a result our homes sell quickly. The current development plan directly connects to Willow Grove Way within our neighborhood and we understand for safety reasons the Town will require this connection. Based on the Huntersville 2040 Community Plan connectivity is required for residential developments. Part of this development is proposed for commercial use. We want to know if the connectivity is a straight road in our neighborhood what will the Town's plan be to protect our neighborhood from becoming the GPS shortcut when Highway 73 backs up. Will this development plan be required to restrict construction traffic to other entrances. Will the Town install speed bumps within our community. Are there options for emergency vehicles only gate at the connection between our Willow Grove Way and this development. Our next concern is the sewer. Does the sewer system have the capacity for this development of residential and commercial use. The 2040 Plan states in PS-9 that Charlotte Water provides water and wastewater services for the Town of Huntersville. Our neighborhood remains on Aqua and has a private sewer. The sewer lines for the Town are about 250' behind several properties within our neighborhood. Will the Town provide this connection to the sewer when these new connections are made for this development. Our third concern is the impact this will have on the infrastructure of the town of Huntersville. There are obvious concerns – the roads, emergency services, water, electricity and school capacities. Our neighborhood was part of Duke Energy's roaming blackout this past year. Can Duke keep up with this new capacity and new demand. In closing, we are realistic and understand that the rural farm will not always be that. Our community is not saying we are against this development. We are expressing our concerns that our elected officials and Planning Board will meet our needs as a community.

Dr. Ken Reische, 13200 White Birch Terrace in Pages Pond, said I don't have a lot to add specifically but I know that growth happens. The question is what kind of growth we want. We had a California farm we had to sell, so I understand selling land. Mr. Palillo wants to change this community. He wants it to be what he thinks is good for us. He wants us to be more entertained. Apparently he's bored by our quiet community. Where I grew up in Connecticut I go back…..we left in '72. I go back, it's the same. There are major highways, I-95, there's Merritt Parkway and when you go down there when you are more than ½ mile away then you are back in the community where there's low crime, etc. For entertainment here, I love going to Charlotte. I love seeing the city. We used to go to New York City for that, but then we could come home where there is low crime. There's low traffic. We had a place that we could come to as home. A couple of bullet points. On his video he mentioned that the sq. ft. value in these developments in Northcross and Birkdale go up because of this development. What about the adjacent property. We are right next to that. What about the noise pollution, the light pollution. What's that going to do to our property value when we're not within that community. Yes, the sq. ft. value goes up

within the community, but what about adjacent. And, of course, they mentioned the water supply, that's Catawba River Valley basin and South Carolina is suffering even at this point.

Danielle Peterson – not present.

Bob Baer, 15802 Lavenham, said I'm a 20 plus year resident. I won't waste anybody's time by talking about a long time ago when it was so nice and quiet in Huntersville because we know it's all changing, but this is simply too much. We were almost late for this meeting because it took us almost 30 minutes to go 5.8 miles from Northstone to this place right here. NC 115 is a parking lot. US 21 is a parking lot. NC 73 is a parking lot. The roads, the schools, everyone has already addressed that. I'm not sure I've ever seen a development that got turned down in Huntersville. They are totally clearcutting Ramah Church Road. We had a dead deer on the corner of McCord and 115 because they simply have nowhere else to go. There's been four subdivisions being built on McCord, little teeny McCord Road, as we speak right now and I'm assuming from that plan that there's an ingress/egress from this development at that southern end on McCord Road. What kind of plans are there to increase the capacity of that road. Why don't we just clear-cut entire Huntersville from Beatties Ford to Poplar Tent and cover it with apartment buildings and developments. This is ridiculous. I'm not a zoning expert. I don't know if you folks are zoning experts, but these people are zoning experts. That's why we pay them. They are already saying that this zoning change should not happen and you should agree with them as elected officials of our town. To conclude, I've been told and I don't know if this is true or not, but I've been told that our mayor and three of our council people are not running for reelection next year. Please don't let your last official act to sell us out to this developer. Please don't.

Brian Sisson, 18222 Delray Drive, said I'm the owner of The Range at Lake Norman in Cornelius. Over 25 years ago a developer came into Huntersville to build a project on Sam Furr Road. The project would be mixed-use and over 45 acres with surrounding homes that would take up another 200+ acres with a golf course and would add a new Exit 25. Many in the community did not want this project and voiced their concerns, like the project would destroy the rural feel of Huntersville. The project was ultimately approved despite opposition and a couple of years later after the project was built and running, the Town of Huntersville gained nationwide prominence for this project. The project was called Birkdale Village. This one project arguably was the catalyst for the positive growth that has been seen in Huntersville over the past 20 years and caused this. With this growth we have seen a significant increase in traffic and stress to the infrastructure. However, we have also seen major improvements to the infrastructure as a result of the growth, and even today many of the major arteries in the Lake Norman region either have orange barrels or will soon have orange barrels. The Lagoona Bay project is another watershed moment of the development in Huntersville and the Lake Norman region. The project brings a new highly desirable amenity to the region, the likes of which we have not seen. There are always a lot of complaints about roads and the need for more wider, bigger roads, and don't get me wrong, we need them. The last significant road project in Huntersville prior to current construction was the widening of Sam Furr Road. More needs to be done and more is coming, however the lack of current road capacity should not be a reason to deny the rezoning and approval of this project. NCDOT is planning numerous road projects in the area with associated funding. From the 2040 Community Plan, I paraphrase, by 2040 Huntersville will be a vibrant community rooted in the past while looking towards the future. It provides attractive options for its residents to live, work, play and grow. This project would be a great addition to Huntersville and the Lake Norman region. I'm a small business owner and we look forward to having rooftops that can support all of our small businesses in the area. The Lake Norman Chamber supported this and as a member of the Lake Norman Chamber Board I ask you to support it.

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Ashley Wiley, 12435 Treasure Cove, said I'm here tonight because honestly all of this has gotten entirely out of hand. You have people saying things online such as "are you a graduate of Bully 101 at Palillo University" to a reply of "Palillo U, the place for people to go with a fourth grade education." Statements such as they (referring to the commissioners) need to do the right thing…….I'm just saying. Comments suggesting that campaign donations were buying the silence of commissioners who are vocal about the development of downtown Huntersville, to further comments of stating that the family has been harsh to people who speak out against this project. However, the only thing that the family has asked was to disagree with the development, not attack the person. Disagree with the density if you wish, but do not share their private addresses……..to be concerned about the impact on schools, but not share the information to where their children attend school online. To disagree with the development and the developer's proposed business venture is one thing, but to attack the person when you don't even know them is entirely different. He's been called greedy, uneducated, cruel and he has spoken to a room of people yelling and interrupting him. He's had to defend his character and his children. He's had to defend his children's children, so his grandchildren and his family. His family has been doxed, which is not okay, and there's been comments to expose him. Expose him for the greedy person he is. I don't know him well, but let's expose him. I know he cares about our town. He cares so much that he doesn't need his name attached to donations or good deeds. He made a marching band's dreams come true when he matched what we all did and was the reason why they got to go to Georgia to the Peach Bowl. He made children cry thinking this only happens in real life.

Missy Maylott, 13515 Scanlan Way, Davidson, said I'm on the corner of Huntersville. I apologize for not being prepared to speak. I just recently found out, but I can't sit here and listen to all the negativity without letting you guys know that a lot of times when people are for something they are not as noisy. When they are against something, they are very loud. I hope your decision is not clouded by some of that being so loud. I grew up in Canada. I'm not new to this area, but I did grow up in Canada. I grew up around water, a lot of it. Jake said something about it being a happy place. I look at this as a happy place, something that my children will be able to enjoy. Something that is safe, clean. You get a pool, but no beach, or you get a beach but you might get dirty water. This is pretty incredible. I've seen what he builds. I know it's going to be good. I know he's going to do the right thing. I can't speak on environmental factors or zoning. Other people are much smarter than me and they can do that, but I know that he's going to build the right thing. He's going to do it the right way and I think this is really good for the community. I am for this.

David Hudak, 361 Brook Glen Drive, Mooresville, said I don't have a dog in this hunt because I live in Mooresville, but the reason I came is because I saw this petition online and I saw some people in Mooresville that I was familiar with that were kind of interested in it and everything, so I picked up the phone and called them and said what are you doing signing this petition, because I didn't know until then that I knew the developer. When I was reading some of this stuff and saw what they were saying, I was like out of my mind mad, because I've known them people for a long time. Everybody realizes here they live here and they've lived here for like 30 years or close to it and they are going to be living right up against the property, so how scary could it be. A couple of things, I've been here 30 years. I started in south Charlotte. I moved out Brawley School Road. Did anybody live out Brawley School Road before they widened it. It was 8 minutes from my house to the interstate. That was when there was no traffic. In the morning and in the evening it was 45 minutes when there was traffic. Somebody couldn't get here tonight. The meeting was at 6 p.m. Of course you can't get here tonight. Anyhow, when I came here 30 years ago, greater Charlotte had maybe 400,000 people. I know we're scaring 3 million right now. A lot of stuff was built. A lot of staff was developed and nobody built the roads first because you don't build roads that go nowhere. Somebody said this is out of place. It's out of place anywhere you build it because it's different, it's innovative, it's new, it's exciting. What in the world. When I first

found out about this project I didn't know that Jake had anything to do with it and then as I got into it I found that out. At first when I saw it I thought what is this. I had to read about it. Traffic, you are never going to get roads built or widened or whatever before something comes along. The other thing is something is going to be built there. It sounds like it's pretty good use of tax revenue coming in on that amount of space. If that's the last piece of property that you all got your hands on I think you ought to take advantage of all the money you can get.

Mayor Bales said your time is up.

Mr. Hudak said can I say one more thing on a personal…….hold up I'm a car salesman. On a personal level.

Mayor Bales said your time is up. Folks we are going to respect one another. We are going to give everyone common courtesy but when your time is up, your time is up.

Robun Hahn, 119…..that's my old address 11930 Sam Furr Road, which is 14121 Pinoli Pine Circle because we were overtaken by the Oak Farm development. I know all about this development. Our family has lived at this location for over 30 years and in that time many people have moved here from all over the country and we've asked why are people coming to Huntersville, North Carolina. And I did ask why Huntersville. I'm glad you are here, but why. The most common answer is they wanted to move to the country and leave the big city behind. They wanted to see countryside, trees and wildlife. Huntersville is a rapidly growing town, yet it still retains its hometown feel. The town and developers promote this idea across the country to everyone to entice them to come here. The Lagoona Bay project is a grand idea, but it doesn't fit into our community. This development would destroy the country feel of our community. We would be sandwiched between Birkdale and Lagoona Bay. Retail space, a hotel, apartments, a convention center, would each bring in transient people. People who would not have a long-term investment in keeping our community safe and family oriented. When the neighborhood came together for the last meeting, Mr. Palillo stated that the development was not being put in for us, the baby boomers, yet we are the people that live here. We are the people that are being asked to sacrifice our lifestyle and the happiness for this development. You asked us to give up what we love over our lifetime. I believe that in the not so distant future the project will go in the same direction as Eastland Mall and Northlake Mall, each of these were great.

Briana Strassburg, 12719 Sulgrave Drive, said I just want to say that there is literally nothing in this area that is like this development. Yes we have Birkdale. Yes, we have Lake Norman, but it does not provide the amenities that this project will provide. It will provide so many jobs, so many new opportunities and I just want to make people aware of that. Sometimes people are too quick to judge, too quick to look at all the negatives. There are so many positives in this project and I just want to make that known.

Sean Bachman, 12719 Sulgrave Drive, said I've heard a lot of negatives about the project, and I personally just want to express my support. I feel like when you hear a lot about something it's more so the negative side, you don't really hear the positives. All I'm really gathering from it is that people seem to be afraid to change in this area and I just want to see a lot more growth and change.

Kimberle Burton, 15555 Huntersville-Concord Road, said I want to thank you for the opportunity to voice my opposition to the Lagoona Bay project. I need to re-do my whole speech because so many good points were already put out there I don't need to repeat all of them, but mainly the scope and the design of the project completely changes the Huntersville 2040 Community Plan and it doesn't fit the NC 73 Corridor Plan. The Plan says the land in question is zoned Rural and Transitional Rural, that means

low density. I would argue that the words high density are not strong enough to describe this project – 1,100 residential units, a hotel, convention center, commercial use and a lagoon which is only going to be accessible if you are one of the residents or if you pay $10,000 to be a member. All of this jammed into 270 acres in what the middle of what the people of the town deem should remain rural via the plan. My family is one of the thousands of people who chose to make a large investment in the community based on reasonable assumption that this plan would be honored. Our voices should count, too. We do not want to make Huntersville Charlotte. The increase in the amount of traffic to the area will be huge. A convention center and hotel alone could bring so much congestion, let alone the residential traffic and we just learned there is no traffic survey to be done. Mr. Palillo in a CorneliusToday.com article dated January 12, 2021, stated that traffic is a way of life, get used to it. No, I don't want to get used to it. I moved to Huntersville for its charm and there are already enough areas deemed high density. According to a change.org petition at least 5,000 people don't want to get used to it either. If you allow this project to be approved, what's next. Zoning is in place to make sure the community is properly balanced and that people know where they are making an investment.

Stewart Heath, 14801 Black Farms Road, said my property abuts Keith's family farm, the Westmorelands, Hines Feet Farm and I'm some of the Virginia farm owner. I moved to Huntersville because I didn't want to farm. I know I'm not in rural Virginia, but we moved in '94 to Sam Furr. We left Sam Furr because we were concerned about the safety of our children. The project you approved when we opposed it for the Publix that got extended to have extension to Black Farms Road, that came in after it failed the Town Planning Commission prior to you being a mayor. I think you were the assistant at the time. We moved there on Black Farms to have a better traffic pattern for our children. You can't teach your children to drive aggressive and drive defensively when people run redlights and you all know that if you live in our town. It's happening everywhere, so we moved to Black Farms Road. The Westmorelands have been wonderful neighbors. We enjoyed having the Blacks across the road from us. I was fortunate enough with my wife to buy 18 acres. We did that because the market on Black Farms allowed for that. The Town's 2040 Plan said we are going to honor that. I ask that you simply honor what you paid millions to do from the charrettes that you held. I was a commercial banker for years in this area, I know the market. You paid millions of dollars for that. Adhere to the plan that allows for you to have less density. I believe it was 340 homes versus over 800, plus all the other square footage of development. As we live near Black Farms Road and the bridge, I can tell you that any removal of significant nature of the watershed has a negative impact on the bridge that hasn't been improved.

Dawn Snow, 8132 Evanston Falls Road, said I'm here today to ask that you please deny the Lagoona Bay rezoning for the following reasons. First and foremost, the Planning staff has recommended denial for the long list of reasons including the following. It's not consistent with the 2040 Plan or the NC Highway 73 Corridor Plan and it doesn't meet the density requirements to preserve the rural character and low density development consistent with the surrounding neighborhoods. The TIA requirements have not been met. Per CMS it will likely result in overcrowding of schools. It will utilize 11 percent of the water capacity until 2050. There is no tree survey to mitigate tree loss and meet the minimum requirements to preserve trees. Parking lot, landscape, buffer and building plans are not detailed and do not meet the minimum requirements as described in the Planning staff report. Should these requirements be amended for a single developer? Secondly, the infrastructure along Highway 73 does not support this kind of density and traffic. As we all know on Highway 73 it's already a huge bottleneck. Thirdly, how do we know that Lagoona Bay will remain private. Given the high cost of membership, what marketing survey and studies have been done to make sure it remains private. What guarantee will be in place to ensure it will remain private. The reason I mention this is that the Balmora Crystal Lagoon in Texas was supposed to be private just like this one, however after residents invested their money into it, the Lagoon started offering public access resulting in a host of problems. And lastly, most people in this

area feel it's a bad project for our town that is quickly losing any semblance of being a town. Approximately 5,000 residents have signed this petition. There are just too many issues with this project, so I respectfully ask that you vote against the Lagoona Bay Beach Club.

Katie Dandrea, 15525 Davidson East Drive, said I am a resident of Davidson, and it is in the spirit of a neighbor that I come before the Town Board to ask you to deny and concur with your Town Planning committee to deny this project in total. I moved to Charlotte in 2018. I grew up in a small bedroom community outside of Cleveland and spent 10 years in Chicago living in the Museum Campus area. If you are familiar with it, it's right near Grant Park, extremely dense. So I am no stranger to dense projects, insane projects trying to fit in a small space. But in that time I was able to take advantage of public transit and walking. If I was unhappy that Lollapalooza was going on nearby, I could go elsewhere within the town. When we moved to Charlotte in 2018 and when we finally decided to reside in Davidson, I realized I was one of the few millennials that was lucky enough to actually purchase a home and probably even fewer to actually purchase a home in one of these communities off of Lake Norman and I feel incredibly fortunate because everyday I get to walk outside my house and I get to see a plethora of wildlife and old growth trees and I just have to drive down east going five minutes to see the Cabarrus reservoir and how gorgeous it is. When I think about what is going in there, how odd it is, how confusing it is, that it just does not fit in this community. It seems like a wonderful development. It looks like it will be like a lot of fun, but as a private community, and I won't rehash what others have said, I am concerned for the actual sustainability of this business. These private businesses are built on private equity investment. They are successful because of that and because of that there's an expectation for persistent growth and so if that profitability does not grow, what happens. What has to come in to sustain that. Does concert venues, music halls, large convention centers…….

Mayor Bales said your time is up.

Gary Knox, 19725 Oak Street, Cornelius, said while I have served your community in a host of different ways, I've been to hundreds and hundreds of meetings like this over 36 years as a professional, as a citizen and as a neighbor. If I ever stopped after the first meeting, I wouldn't have been doing my job as a good citizen in being engaged because I know there is change, constant change. If you were sitting here and this was a quasi-judicial hearing, you would only be hearing testimony from registered experts. I have to say there is a lot of emotion here. I appreciate it. I think it's great to have this many people engaged, but as Town Board members you also have a charge to diversify your tax base as best you can. The more you diversify it, the less burden you have on every individual in here who is paying property tax. Do your business and run the financials on a project of this nature because when you start talking about additional hotel/motel tax, prepared food tax, beer and wine sales tax, etc., a lot of that revenue comes from payors, not taxpayers. People who come in to spend their money here and then they leave. I do have confidence that Highway 73 will be widened. It is funded. And it's only because that was known to be coming that a project like this gets consideration. In closing, I think the 2040 Plan is a guiding plan. One of the things that you will notice on the very slides that Mr. Peete showed earlier is a big activity center at the county line. That can't happen anymore because 500 acres has moved into other hands and it won't be the employment center you thought it would be.

Brad Cleary, 18605 Boulder Rock Loop, Davidson, said it's across the street from where the project is proposed. I've lived in Cornelius/Davidson area since 2013. Three years ago my family moved to the outskirts of town to escape the busy roads and noise levels as we have a five year old daughter with auditory sensory issues. During high traffic people start getting routed by our house as a cut-through and the cars come in droves and many ignore the speed bumps and stop signs, even though we have small children in our neighborhood. This project will increase that if approved due to high density

housing. We feel like we are being pushed out of our home and so do many of our other neighbors in surrounding neighborhoods. Tonight the Board of Commissioners needs to decide how they want to be remembered for this project. Do you want to approve something that will cause unnecessary strain on not only the people of Huntersville, but Davidson and Cornelius also. The Planning Board has already cited infrastructure limits that will tap the remaining 11 percent of water supply until 2050, which would be irresponsible. When you pass the baton to the next board members, remember you are also passing that baton's implications to everyone in the community for years to come. The town should leverage this land and give something back to the people like a state-of-the-art park that alleviates the business of other parks like Bradford and Bailey and provides a peaceful place for us all to visit versus another cow field turned into a hustling, bustling traffic stop.

Mayor Bales said before we move on, Danielle Petersen, I just wanted to see if maybe she was still here. Danielle Petersen did not come forward. That is the last of the public comments for this evening.

Mayor Bales called for a 5-minute recess.

The Board reconvened.

Mayor Bales said we are still in the middle of the public hearing for Petition #R23-05. We have finished up with public comments and now we are going to move into questions.

Commissioner Phillips said the external buffer, it says landscaped instead of not disturbing. Why are you doing that? Is it because it's not a good buffer, you want it to be more dense. Could you explain that, please.

Mr. Palillo said a lot of the conditions on there we are working with staff to whittle all those down. One of the things that we like to do with all of the buffers and we've done it at Bailey's Glenn, is we like to totally rebuild them. When you do an undisturbed buffer a lot of times you have dead vegetation, dead trees and it's all scrub. So we like to go in, clean it up, create a berm, and build these really nice buffers that are well landscaped and attractive.

Commissioner Phillips asked do you have any examples you could send to the Board to review?

Mr. Palillo said I could. If you go right along Bailey Road, right where we did Bailey's Glenn. But I'll be happy to take pictures and show you exactly the quality of buffer we build.

Commissioner Phillips said could you send us what you already have because I would like to see what you are dealing with, because sometimes in our heads we think disturbed and really it's dead trees and bushes. Could you state on the record that this will remain private?

Mr. Palillo said yes, I will. Absolutely. Once you sell memberships and get members into it, you would have to buy all of them out. It's like going to the Peninsula Club or River Run or any of these clubs. Once you have taken memberships, you can't then open it up to the public. A good example, these things they've been starting to develop, they've tested a lot of stuff. A good example is the Beach Walk in Jacksonville. The Beach Walk in Jacksonville they sell memberships for $5,000. It's not as elaborate as the one we are building, but that model is where it stays private. But yes, it's going to stay private. I don't mind adding that as a condition onto the plan that it must stay private.

Commissioner Phillips asked would you be willing to kill the Willow Brook connection? Does that hurt your project? Does it help it?

Mr. Palillo said no, I actually like that. I like the idea of putting an emergency exit there, fence it across. Some of the residents have said it could be beneficial, so my position was if the Board will allow us to do it as an emergency access only, we would love to do that and then if the residents want to come back and petition the Board to say we think it would be beneficial to open it, then it will be their decision to do that, but I'm a big fan of keeping quaint little communities without a lot of access. I'm not a big fan of all this connectivity. Once you do that you open the door the cut-throughs and it really hurts the community. But yes, absolutely.

Commissioner Phillips said you don't have to answer this tonight. Would you consider going to three-story apartments instead of four? You don't have to answer it, just keep that on the back of your mind.

Commissioner Boone said I've got several emails from probably many of the people in this room. I've got them on a spreadsheet to kind of keep them straight in my mind – the date it was sent, the person's first and last name if it was available, the town they said they were from, and if they were for or against it. And then I had issues that they had so I can kind of keep the issues straight. The majority of the emails that I have gotten mention traffic. Can you address the traffic situation, how you think this lagoon project is going to be solved and how you are going to make this traffic move better in Huntersville.

Mr. Palillo said I think if I can make traffic better, I would be a gazillionaire. When you really look at the areas here and why we've been delayed on getting dollars for 20 years, all these roads are done on a scoring basis. So we haven't really scored high enough. What people here feel is traffic, the state looks at other traffic around the area and feel that they are more important, they've gotten their dollars. NC 73 I've stressed several times is a major corridor. It's going to be one of the most active east/west corridors. It's now finally going to be widened. I feel it needs to be widened for the village section to take construction. We want to make a condition that we won't start that phase if the Board approves the plan until construction begins. Once that road is widened out, we've got a peak rush hour in the morning. We've got another peak rush hour around 4 p.m. to 6 p.m. and then throughout the rest of the day…….we're at Symphony park five to six times day. Yes, there is traffic, but it's in those heavy times. And once you get past like 6:30 p.m., traffic opens up. We need to widen the road in order to solve the traffic issue.

Commissioner Boone said you said you weren't going to be able to have the traffic impact analysis done by the time this goes to the Board to be voted on.

Mr. Palillo said how that took place is that the Town's Traffic Engineer said he was deferring all of the stuff to NCDOT. So we have to follow everything that NCDOT says. The traffic study is $80,000. We've got about $850,000 already invested in this project. So what I came back to the Town and said hey listen, because we've got all of this…..I never thought we would face this type of opposition on something that I feel is just amazing…..I said I'm more than happy to do it and since the Town has deferred everything to NCDOT, put a condition in there that everything that NCDOT says we have to do, we'll do. We'll do the traffic study if the plan is approved and I'm happy to bring the traffic study back to the Board. But at a point here I'm going to be $1 million to $1.2 million into this thing with all these studies and we've got some opposition. We've kind of done some due diligence in the beginning to see if this was something the town liked, so that's really why. But we will meet every condition that NCDOT tells us they want. We've already done the scoping session, so we already know the scope of the

intersections, everything that needs to be done. I'm happy to give you a copy of that. I'm happy to give you a copy of the invoice for $80,000 to do the study as well. But we will meet every condition on NCDOT, whatever they require us to do.

Commissioner Boone said in the Town of Huntersville, can you tell me some of the specific projects you've completed in the town.

Mr. Palillo said one that is really our pride and joy is Symphony Park. It's one of the premiere independent living facilities. We went around the country, we researched, and then we brought what we feel is one of the best here. It's already won two design awards and it's not even open. Baileys Glenn is another one that we went over and above. We added more amenities, great quality of life for seniors. We are doing senior living right next to Birkdale, the white building should be done in about 60 days. I did the little leasing center on Rich Hatchett. I also did apartments across from St. Marks Church on Stumptown Road. I live here. I would challenge anyone, elected officials or not, to say that they care more about this community than I do. I live here. My kids live here. My nine grandchildren live here. I'm going to be able to walk through the community hopefully someday and people are going to be yelling and screaming at me, they are going to enjoy the projects we bring here.

Commissioner Kovacs said the first question is for Mr. Palillo. Hotel guests will get day passes to the whole lagoon or to a specific area?

Mr. Palillo said a small portion just over in that little area there. They can access just that one little cove.

Commissioner Kovacs asked can they do any of the amenities like the kayaks or tennis?

Mr. Palillo said no, they can't use the facility. They can go down to the sports dock and rent like a kayak or that, but that's the extent there. They are going to be cordoned off, they have a certain wristband.

Commissioner Kovacs asked what is the actual cost for a membership?

Mr. Palillo said we are projecting between $5,000 and $10,000. I always like to tell people $10,000 so it's worst case scenario. It's comparable though to where you look like social memberships and stuff like River Run, the Peninsula Club. It offers a lot more than a lot of these clubs. The only difference here is we've taken the golf course out and put a lagoon in. That lagoon is $20 million just for the lagoon. You can develop a golf course for about $7.5 million to $8 million for the golf course plus the amenities. So that whole resort is about $50 million to put together.

Commissioner Kovacs said so it will be $5,000 to $10,000 for the membership and then a monthly fee.

Mr. Palillo said there will be a monthly fee. We are projecting $200 for a single, which is about $6.50 a day, $300 for a couple, which is about $10 a day, and $500 for a family of four, which breaks out to about $16.50 a day. When you compare it to traveling somewhere, it's a lot better value. Even Northstone Country Club is $5,500 a year for a golf membership, so it's not out of line. And once they see the value I think it's going to be in high demand.

Commissioner Kovacs asked will you have security on staff?

Mr. Palillo said absolutely.

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Commissioner Kovacs asked in just the lagoon or what about the retail?

Mr. Palillo said no, the whole retail. The retail component today has to be built with in-house security. Any type of development today they are factoring security into their cam feeds and everything else. You've got to police your own. I also live right directly next to the parking lot there, so my family, five of my children and brother live right there, so I'm putting this right next to where we live. I made a major investment in homes there, so again I wouldn't bring this here and put next to my kids if I didn't think it was proper.

Commissioner Kovacs asked will you have any medical personnel on staff – nurse, medic, anything like that?

Mr. Palillo said the lagoon will. The lagoon will have lifeguards, medical people. I don't know that we will have an EMT at the Village itself, but we will have security there. But yes, the lagoon when it's up and operational, we'll have lifeguards, EMT there, someone who is trained.

Commissioner Kovacs said it's kind of a two-parter. I know that it said that there would be social events and then we also heard from some people having concerns about events like concerts and gatherings and stuff. How large would your social events be for members?

Mr. Palillo said a social event at the club is basically like a 4th of July picnic or a barbecue or a Labor Day event or a Memorial Day event. It's not a rock concert. Nobody wants to be in that. It's more community gathering. So what the club is, you know your members, you become friends with your members and you will have those type of social events. We might do like movies on the green, where at night time we'll have a big movie screen and they will come out there. Or like a flick and float where we put one up close to the lagoon. Those are the type of family community events that we're going to have there. On the Village side, the events we'll have there will really be on the square. One of the things that I've always enjoyed is like sidewalk entertainers, so we'll have certain designated areas where if someone is a soloist guitar where they open up the guitar case or different events like that. We have this big square where people can come and gather and hang out. When you go to Europe or Paris and stuff, when you are walking through all the plazas and the squares, it's that environment and that feel. You are not just going there to eat. You can go through a drive-through and eat. You are going there to spend time and enjoy.

Commissioner Kovacs said my next questions are more so for staff. I guess the first ones are for you, Ms. Sloop. Kind of based off what Commissioner Phillips said, if Mr. Palillo has stated that this would be a membership only, if this were to be approved, can that be part of a condition that it will remain an annual membership only?

Ms. Sloop said if he's willing to agree to that, then yes, as part of the conditional district rezoning that can be included in the notes as a condition.

Commissioner Kovacs said what about somehow avoiding the use of people who purchase the properties to avoid using Airbnb or products like that.

Mr. Palillo said that's already done. That will be in the HOA documents and I'll put that as a condition. We don't want that.

Mayor Bales said will you say that into the microphone.

Mr. Palillo said that's already a given. We don't want Airbnb's. We don't want short-term rentals. That will be a condition under the HOA documents and I'm more than happy to incorporate that into any approval that there is no Airbnb's.

Commissioner Kovacs said to clarify, the CMS report does not include anything that is currently being built. That is only seats at a desk right now, correct?

Mr. Peete said correct. They are identifying the three levels of school, their current capacity and then they project it based on the unit numbers.

Commissioner Kovacs said we have I think I heard quite a few projects open that feed into those area schools that are not being accounted for. There's a few projects that are currently going on right now, so those project numbers are not being put into account in this report we have.

Mr. Peete said do you mean private development or school projects?

Commissioner Kovacs said private.

Mr. Peete said they have a regular tally of where their school systems are. I don't know the date…..in fact I take that back, it's in the report. It says as of "x" date and then from that point whatever has been approved and we send them any of the rezonings that we do, that would be in that account, but would there be something perhaps not on there, no.

Mayor Bales said I'm not sure about that.

Mr. Palillo said I don't think that CMS……so there's 11 projects around where we are developing, so I think when they do the report, they take our project and they say what kind of impact our project will have on it. I don't think they keep a score card saying well, there's these 11 projects so if we add those and this and this is what it'll do. I think they give it to you based on a project-by-project.

Mayor Bales said if you read the report it says the following data is as of the 20th day of 2022-2023 school year. My understanding has always been of those reports is that's what's existing as of the 20th day of that year, kind of students and seats.

Mr. Peete said that's what I was trying to explain. In other words, anything that is circling around that date, it's probably not in there.

Mayor Bales said but we could have a project that's on the books that's been approved that could be sitting there for three years and that's not included in these numbers.

Commissioner Kovacs said to clarify, you said NCDOT is starting on right-of-way acquisition for the road project.

Mr. Peete said yes, that's our understanding – 2023/2024 and then beginning in 2026/2027.

Commissioner Kovacs asked will there have to be any improvements on Black Farms Road?

Mr. Palillo said yes.

Commissioner Kovacs said I am done for now.

Mr. Palillo said just one note, I own a piece of property on Sam Furr Road and NCDOT has already sent me a right-of-way and they are buying the right-of-way from me, so it's already in the works.

Commissioner Kidwell said I've seen a lot of your projects and they've been good projects and I do want to applaud you. This is an out-of-the-box project. This is not something anybody else has thought about in the area. I like out-of-the-box thinkers. My concern is not on how you are going to run the business. That's you. You know the business. My concerns are really out of your control – the Charlotte Water, the letter here, about 13 percent of the capacity. We talk about traffic. A lot of numbers were thrown around today. The average household has 1.79 cars according to the United States government, so we are looking at roughly around 2,100 added vehicles if all this is approved. Six years down the line potentially and NCDOT is starting to buy right-of-way, but they are way behind. We had a meeting with NCDOT just a couple of weeks ago and what they are presenting, the superstreet concept, is going to require a lot of land on both sides of 73 and it's going to be a lot of u-turns involved. Keep that in mind. I know you are talking about having a trolley cross 73. The one thing, and I'm just going to suggest this and Commissioner Partee brought it up, 62 issues were brought forth in this report. Of them, the Town had recommendations for somewhere around 21. I would say between now and to the Planning Board and then back to us, work with the Town to see if we can narrow those down.

Mr. Palillo said we've already got meetings scheduled and a lot of those were a lot of notations that notes were missing on the plan, so there's about 12 different modifications that we are going to request, so yes we will get that totally under control.

Commissioner Kidwell said I will say I do like connectivity and this Board a while back voted against connecting a neighborhood to a for-rental neighborhood and I thought that was a mistake. I understand you have to move forward. If this Willow Brook subdivision doesn't want it connected, precedent has been set. I appreciate you willing to work with them. My fellow commissioners have asked some other questions, but I'm going to point out a couple of things. This is not a dig at you or anybody else. I've never heard the Chamber not endorse anything that's going to bring money to them. So that's like asking a kid do you want ice cream first or dinner, they are going to say oh yeah. We received an email awhile back that the Chamber endorsed it. I appreciate the Chamber weighing in, but I'd also appreciate them waiting until this Board has time to hear the presentation and review it before weighing in. In terms of the potential $16 million in tax revenue, when I do the math roughly after we pay Visit Lake Norman, the county, the $16 million gets dwindled down for the Town of Huntersville to about $5 million. It's just how taxes work. Again, not your fault. That's just because Mecklenburg County takes the bulk of it and Visit Lake Norman takes 28 percent of it. That's the state statute on that. Schools, to be clear, and I think we've clarified that they don't base numbers until they have the CO. Until that Certificate of Occupancy is in their hand, they don't base the numbers. That is the state's fault because the state won't change the way schools project. If the state would do their job and allow schools to use projections, I am sure CMS would want to build more schools up here to alleviate the overcrowding. That's all I have to really say right now. I'm looking forward to hearing the rest of my commissioners reviewing all the notes I've taken tonight. Thank you for the presentation. I thank staff for the presentation. And I want to thank each individual that came out tonight to voice their opinion. Good or bad is neither relevant to me. It's that you came here and you actively participated within a government body.

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Commissioner Partee said to date the Lagoona project as per our Planning Department does not comply with the Zoning Ordinances and there are 62 issues that have to be addressed. The timeline that you have now between this hearing and the Planning Board is a very short window. What issues can you address and correct now and before it comes before the Planning Board, because as you know our Planning Department has recommended that your petition be denied.

Mr. Palillo said yes, I understand that. I think we can address all of them with the exception of the modifications that we'll come back and ask for. So out of the 62, I think we can address all of those and then we are going to have a list of modifications. The reason for asking for the modifications is this is a unique project so it doesn't kind of fit in the box of a lot of your traditional zoning things. So we will ask for them, but it won't be 62. Quite a few of them are just a lot of notations like parking lot buffers, trees in the parking areas, so my engineers are here. They've already been talking with Planning staff. I think we are going to meet Thursday and kind of go through that entire list so we can get everything back to the Planning Board prior to doing that. The other thing I would like to comment on is kind of staff's position. In all these projects that we've done, they don't really have the ability to say hey I love this project. In other words, they have to make a recommendation based on the rules that are in that book. When you don't meet all of those rules, they can't come in and say well, you don't meet 62 requirements, but we support this. They are saying they can't support it because it doesn't meet the requirements but it's up to the Board to do that. That was the same situation with Symphony Park. Symphony Park didn't fit all the rules. We asked for modifications. We're not really going to be asking for any modifications that are so bizarre or unique that would harm anything in the town, but we will have that addressed.

Commissioner Munger said if at any point anyone wants me to stop, just let me know. Jake, I have 59 questions.

Mr. Palillo said I'm ready.

Commissioner Munger said first and foremost I just want to make a general statement about the highways in this town. We all hate them. We absolutely despise them. What I would suggest to you is pick up the phone and call your state senator, call your state representative, and tell them to start funding our roads in a more adequate manner. Essentially what happens is NCDOT will not improve any road in the entire state until it reaches a D level of service, which means it's crap already. That's why you have all these roads that end up getting fixed at the same time because an area like Huntersville has explosive growth suddenly they realize all the roads are inadequate so they decide that they should fix them all at once. I do feel your pain. I've been on the roads. I get stuck in the traffic. It sucks. Do any of the housing units qualify as workforce housing units?

Mr. Palillo said I'm going to allocate 20 of the townhomes and we're going to meet and then we are going to put that in the plan and we're going to keep those to meet the workforce requirements, I believe which is 30 percent of your income, and we're also giving those residents a free membership and waiving the monthly dues. We are going to incorporate affordable housing and we are going to do that on a couple of our other projects as well.

Commissioner Munger said the area proposed for this development is outside of our medium and density centers in the Huntersville 2040 Community Plan. What makes you believe that an exception should be made for this development?

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Mr. Palillo said I believe that Highway 73 is a major business corridor. I believe that the 2040 Plan made a mistake. As you continue to grow and you see these numbers where even the town projects 100,000 people, Highway 73 is an east/west connector connecting seven towns. It's not a rural area. All of the towns, look at Kannapolis Parkway, they've got 229 acres in one corner. The opposite corner has more growth. So all of the towns are using 73 as its main highway. It's going to be like 150 or it's going to be like Harris Boulevard. To take this section of great land for the town and call it rural and go down to like one house per acre or one house per three acres I think does a disservice to the town. You have very few pieces of property left along the 73 corridor. You have even fewer left along the 21 corridor. So as your town continues to grow and you need locations for commercial and goods and services, where are you going to put them. You can put rural housing off the corridor, but you can't put business off the corridor because it will fail.

Commissioner Munger said the single-family homes in this development offer lot widths of either 40' or 50'. Why so narrow and why so few options given that these homes are in your words I believe $900,000 to $1.2 million?

Mr. Palillo said that's the kind of model. We are modeling this after a place called Rosemary Beach or Seaside down in Destin, Florida. The model today is that people want smaller yards. The urban sprawl with the big yards and lawn maintenance have gone by the wayside. People want minimal amount of maintenance and they want to enjoy life, so the younger generation of people, even us older guys, we don't want to mow grass. We want small areas and we are more focused on quality of life – come home, little to do, little work, no honey-do list. We want to change our clothes, we want to go out and hang out in the social environments. That's why the smaller lots. And they are all going to be alley fed so we are going to create a really nice streetscape, porches in the front, 10' multi-purpose path on one side of the street, large treed areas, so we want a really nice, charming streetscape coming through the community, garages and stuff off the back so you don't see all these cars in the front. One side of the street will have parking on it. It's well thought out and there's more than adequate space on that lot to build a house between 3,000 and 4,500 sq. ft.

Commissioner Munger said what have you done to coordinate with Charlotte Water to ensure water and sewer provisioning for this development?

Mr. Palillo said I talk to Charlotte Water more than I talk to my wife. I've got several projects that are being held up. We've been working with Charlotte Water on the Michael Jordan/Denny Hamlin project. We are bringing that trunkline in, we're just getting ready to bring that in. Again, with Symphony Park we only had two of the buildings approved. We're getting the third building released. In talking with Carrie and Charlotte Water what they said is they have a 30-year plan they put out and they put it out based on what your zoning requirements are. Our plan will eat up 11 percent of that plan, but what she's saying is that doesn't make any difference, we just remodify our engineering and we have to plan for future growth faster. There's no impact. They've met with the Lagoona Bay people with the amount of water it takes and they are very comfortable. There's no issues with Charlotte Water. They've got an expansion at WSACC and they also have a lift station that they are working on to take some of the capacity over to Charlotte, so there's plenty of capacity.

Commissioner Munger said a couple of people have mentioned the effects on CMS. This development will bring 272 new students to the area. Have you taken an opportunity to discuss this with CMS to see if any remedy could be found to assist with these already overcrowded schools?

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Mr. Palillo said I've dialed that phone number on the CMS form about 500 times, no one picks it up. I've tried to get more information. I'd be happy if anyone can coordinate a meeting to sit with them, but I can't get anyone to pick up the phone.

Commissioner Munger said we can reach out to our CMS commissioner. This was kind of touched on. You are currently indicating that 1,500 memberships to the country club will be sold. Under what circumstances could that number change?

Mr. Palillo said the model says we can have about 2,000 memberships, but what we want to do is go with 1,500 to see what the capacity is. One thing you don't want to do is sell someone a membership and then it's too crowded where they can't enjoy the time, then they get upset with you. If anyone is familiar with Lifetime Fitness, Lifetime Fitness is now in the market from Ballantyne. They've been looking for a location up here. They are about a 80,000 to 100,000 sq. ft. facility. They charge $219 for a single membership. So we know that our cost model works and the thing is, what will the market bear. Is it 5,000 memberships, is it 10,000 memberships. That's what we really need to see. But we don't want to oversell it, we want to be able to go to 1,500. If the capacity and the community is comfortable and flowing, we'll add some memberships. If not, our model works at 1,500 memberships.

Commissioner Munger said if an individual lived in this development, would they automatically be given a membership?

Mr. Palillo said no. It's like any other community, you'd have to buy a membership, similar to a country club.

Commissioner Munger said how do you enforce not allowing someone who might live on the edge of the lagoon to not enter that area?

Mr. Palillo said everything will be fenced off. The perimeter of the lagoon will have a well landscaped 6' high iron fence. It will have cameras. It will have all sorts of security. It's not open where you can just walk into it. It will all be cordoned off.

Commissioner Munger said how much will this total project be valued at?

Mr. Palillo said when we run the numbers about $860 million, the way we have run it. We are looking at about $250 million on single-family homes. We're looking at the apartment project to be about $90 million. We're looking at the townhouses to be around $120 million. The hotel itself will be $100 million. Convention Center is going to be about $10 million. And that mixed-use component is going to be somewhere around $150 million. We also have our model base in how we are projecting sales tax revenue, hotel revenue. Those numbers are on the conservative side. When we really run models it's about $17.6 million of taxable income.

Commissioner Munger said one of the things with that valuation, I struggle to understand the hesitancy to spend $80,000 on a TIA. With the TIA it gives a better understanding of exactly what that impact is. It gives the Planning Board the proper guidance to understand what that overall impact is. It gives this Board the overall understanding for what that impact is going to do, so I would urge you to rethink the process on spending that $80,000. I know it's a fair amount of money, but this is a monster project and it's going to be a significant impact. We need to have all of the possible details to understand to make a good conscious choice.

DRAFT

Mr. Palillo said I'm in about $860,000 right now, non-refundable money. I don't have any problem doing that and I don't even have any problem if it's approved with a condition to bring that study back and then you can rule on that if you want. If NCDOT says to do "x" and you feel you want me to do "y," I'm willing to do "y." But because the size of this…….normally a traffic study is about $12,000 or $15,000, but because of the size of this project everything is in the hundreds of thousands and if we didn't have all the opposition, if we felt good about bringing this, I never thought that we would have the type of media fanfare and stuff that we have because truly we believe it is outside the box but that's the beauty of it. Birkdale was outside the box when it came here. And then you became the model for the country. Developers around the whole country came here to view Birkdale to duplicate that model. We've looked at the lagoon model and we've created our own concept that we're going to incorporate and we just think this is something that's going to be a valuable piece. I believe you are going to be as proud of this project as you are of Birkdale.

Commissioner Munger said just understand it's part of our process and that is what we try and follow is a process and with a step missing from the process, it makes our decisions more difficult.

Mr. Palillo said I understand that.

Commissioner Munger said urban space does not meet requirements, what revisions are being made to address this issue?

Mr. Palillo said I think that some of the areas that we're counting as urban open space, like some of it in the rear of it, they are saying it doesn't meet that, so we are working with the town.

Paul Pennell, Urban Design Partners, said we are working through a lot of the code minimum required items that are within the Zoning Ordinance. Up to this point we have been focused on a lot of the items that we need to incorporate into the development set to make sure that we have arrived at what will be a successful project.

Commissioner Munger said can I cut you off real quick. I have 50 more questions. I'm going to ask each one, so let's take them one by one.

Mr. Pennell said we are addressing each individual one including urban open space.

Commissioner Munger said urban open space does not meet requirements. What revisions are being made to address this issue?

Mr. Pennell said they will meet requirements when we are done.

Commissioner Munger said the TND-U area requires 30 percent specimen tree preservation. Currently, you are proposing 15 percent specimen tree preservation. What are you doing to address this issue?

Mr. Pennell said we have a tree survey. We are going through the items that are located within the buffer areas on site. We'll meet as much tree save area as we can within the development parameters.

Commissioner Munger said the Highway Commercial area requires 30 percent specimen tree preservation. Currently you are proposing 26 percent. Similar?

Mr. Pennell said same answer.

Commissioner Munger said external property buffers are to be 20' wide and should be labeled as undisturbed. There's at least one instance where this is not the case. What are you doing to address this issue?

Mr. Pennell said all required buffers are shown. We would like to have some areas where they can be disturbed for previously discussed reasons to go in and clear.

Commissioner Munger said all blocks within TND-U must demonstrate a perimeter block length not to exceed 1,350'. Will you be requesting a modification or modifying your proposal.

Mr. Pennell said it will be a modification. We are breaking up block lengths with alleys and pedestrian thoroughfares.

Commissioner Munger said the maximum height for apartments is three stories. You are proposing four stories. Will you be requesting a modification or modifying the proposal.

Mr. Pennell said right now the plan is to request a modification for four stories.

Mr. Palillo said the reason we are doing that is just along 73 so that those additional stories get that beautiful view across 73 looking at the lagoon.

Commissioner Munger said the apartment clubhouse and small buildings in apartment parking lot must face a public street or urban open space. Your plan does not feature this. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said we will be requesting a modification and there is language within the Zoning Ordinance to allow this request.

Commissioner Munger said multiple parking lots do not comply with regulations, parking rooms and pedestrian corridors need to be added. Will you be requesting a modification or modifying your proposal.

Mr. Pennell said modification.

Commissioner Munger said the clubhouse parking is located between the building and the street, which is not permitted. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said modification. There is language within the highway corridor to allow this.

Commissioner Munger said all sidewalks must be a minimum 7' wide. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said modification.

Commissioner Munger said the townhomes on the plan have zero setback. This should be 10' to 25'. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said modification.

Commissioner Munger said will you be adding the 10' wide path along the east side of Westmoreland?

Mr. Pennell said the intent is to add the sidewalk.

Commissioner Munger said will you be adding pedestrian connections from buildings to frontage (public street or urban open space)?

Mr. Pennell said yes.

Commissioner Munger said Road 9 and Blocks 10 and 11 of Road 6 exceed block length limit of 500' for TND-U and lack traffic calming measures. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said we're breaking up block lengths with alleys and vehicle tables, so it will be a combination of a modification but also utilizing the plan development to break up those block lengths along those public roads.

Commissioner Munger said similar, cul-de-sac exceeds length limit of 350' for major subdivisions. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said we're breaking that block length up with an existing alley that we are showing within the plan set, so combination.

Commissioner Munger said there is an urban open space referred to as "Two Greens" along Westmoreland Road that has not been designed at sketch plan. What are you doing to address this issue?

Mr. Pennell said they will be designed.

Commissioner Munger said what will the frontage area along the north side of NC 73 be once the construction easements for road widening are no longer needed?

Mr. Pennell said planted and bermed, and we will provide a cross-section in our next submittal to demonstrate this.

Commissioner Munger said what is the overall plan for tree canopy save percentage?

Mr. Pennell said we are showing zero percent which is the code minimum requirement. On our next submittal we'll actually be showing what tree save we are actually showing on the plan set. We were just showing code minimum.

Commissioner Munger said zero percent for the entire area.

Mr. Pennell said let me provide some clarification. We were illustrating and noting on the plan set what code minimum was required within those zoning areas. Zero percent is what code minimum is. When we resubmit we'll be showing a greater percentage of the actual tree save area that we are incorporating into the plan set.

DRAFT

Commissioner Munger said the part that confuses me is I probably understand that for the Highway Commercial. I believe that is zero percent and I'm looking for a nod from Mr. Peete and the area that would be in question would be the area across Sam Furr that would be your apartments and your condos and the single-family homes, which I believe would fall into a different zoning classification and that zero is no longer the case.

Mr. Pennell said that would be the TND-U.

Commissioner Munger said so the TND-U, you are looking to meet the minimum.

Mr. Pennell said that is correct.

Commissioner Munger said staff is recommending a 40' buffer along external borders to appropriately transition from abutting large lot single-family to this project. Is this something that you are willing to do?

Mr. Pennell said we will be providing the code minimum, which is 20'. We'll be providing what's required within the ordinance.

Commissioner Munger said staff is recommending adding a stub to northwest adjacent property as an extension of cul-de-sac. Is this something that you are willing to do?

Mr. Pennell said no, we will not be doing that.

Commissioner Munger said staff is recommending providing on-street parking on both sides of the street abutting townhomes. Is this something that you are willing to do?

Mr. Pennell said we will be doing parking on one side of the street.

Commissioner Munger said so no.

Mr. Pennell said no.

Mr. Palillo said one point on that is the townhouses are designed to have a two-car garage and two parking spaces off the alley, so there's more than adequate parking. That's one of the pet peeves I have is I don't like to count the inside of the garage as a parking space, so the setback allows two parking spaces on the paved area, plus you can fit two in the garage, plus we have on-street parking on one side.

Commissioner Munger said all buildings must front either a public street or an urban open space. The lagoon and its accessory buildings are amenities that are not urban open space. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said it will be a modification but we believe that the lagoon is urban open space. It will be designed as urban open space. It will be a modification. We'll work with staff on that.

Commissioner Munger said a berm has been discussed along NC 73 and Westmoreland Road but does not appear on the plans. Will you be implementing this in your plans?

Mr. Pennell said yes.

Commissioner Munger said staff is recommending a buffer along Westmoreland Road and Road 9 where the sports fields are located. Is this something that you are willing to commit to?

Mr. Pennell said yes.

Commissioner Munger said your plan indicates 140,000 sq. ft. of retail. Do you have a breakdown of how that will be allocated?

Mr. Palillo said we'll come up with a formula on that on the first floor of those buildings. We'll come up with some idea. The four-story buildings as part of the Village have the retail on the first floor and then those red buildings have first floor retail and then the second and third floors are condos. We'll get you a breakdown.

Commissioner Munger said 100 percent attached residential units are only permitted in the Highway Commercial zone with special conditions. What are your special conditions to comply with this requirement or do you intend to request a modification?

Mr. Pennell said modification.

Commissioner Munger said the retail/apartment buildings and condo buildings have large setbacks from the public right-of-way. What type of streetscape is proposed for this area?

Mr. Pennell said we will be following code minimum Zoning Ordinance requirements.

Commissioner Munger said why are the setbacks so large?

Mr. Palillo said the buildings along Black Farms Road are setback, so that's going to be like a park-like setting, so we've got big green spaces off Black Farms and the reason is we want you to feel like you are kind of coming into a nice shopping center, well landscaped. We don't want it to be all open. Those will be bermed and well landscaped coming off of there. And the reason we pushed it back was to get it closer to the view of the lagoon and we have two manmade lakes right in front of that that will act as detention as well.

Commissioner Munger the hotel and convention center does not show loading areas for deliveries and large vehicles. How do you plan to address this?

Mr. Pennell said we will illustrate loading.

Commissioner Munger said do you anticipate holding large events at this location….conventions?

Mr. Palillo said it's only 35,000 sq. ft. so we are going to have medium size conventions, gatherings.

Commissioner Munger said give me a number.

Mr. Palillo said on how big of a convention?

Commissioner Munger said how many people.

DRAFT

Mr. Palillo said probably no more than about 500 to 600 is all that it will occupy, because it will have several different meeting rooms. It's not like the Charlotte Convention Center which is about 100,000 sq. ft. This is about 1/3 of that and then we break it up to meeting spaces and offices, it will accommodate a nice banquet of about 500 or 600 max.

Commissioner Munger said relating to that, how will event set-up be accommodated?

Mr. Palillo said event set-up for like banquets and stuff?

Commissioner Munger said for these 500 to 600 person conventions.

Mr. Palillo said we'll have it set up to where we have storage rooms in there so we can bring tables out and a lot of the catering will be taken care of through the hotel restaurant.

Commissioner Munger said at what point do you believe that you will have a complete sketch plan. It sounds like we are missing two plazas between the condos.

Mr. Palillo said I'm sorry when you say a complete sketch plan for……..

Commissioner Munger said from what I'm understanding you were missing two plazas between the condos. The specific question is all urban open spaces must be designed at sketch plan. Two plazas between the condos must be generally designed to illustrate ordinance compliance and for possible merit of ordinance modifications.

Mr. Palillo said so those are the open courtyards and stuff I think we have.

Mr. Pennell said we'll be designing those to meet ordinance guidelines.

Commissioner Munger said so no modification.

Mr. Pennell said no modifications, we'll just be designing them in our next submittal.

Commissioner Munger said a six-story hotel is proposed in the Highway Commercial. This requires a SUP. Will you be pursuing this as a SUP process or do you have an alternative plan?

Mr. Palillo said it would be special use permit. Those are components that if the Board wishes to pull those, we are open to that. There will be five stories of rooms. The sixth floor will be rooftop bar and restaurant and a banquet facility overlooking the lakes and the lagoon.

Commissioner Munger said a portion of the block for Westmoreland Road Road 14 and Road 19 exceed block length limit of 800' for major subdivisions. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said modification.

Commissioner Munger said staff recommends shifting the connection south to align with the Heath parcel, as there is greater future redevelopment potential based on parcel size and frontage along Black Farms Road. Is this something that you are willing to commit to?

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Mr. Pennell said we'll study, but as of right now we do not plan on shifting.

Commissioner Munger said there are a large number of lots in the center of the Neighborhood Residential area with a break as the lots run north to south. Adding a walkway would break up the block repetition, but also provide pedestrian access from east to west. Is this something you are willing to commit to?

Mr. Pennell said we can study it, but we are not willing to commit to it at this time.

Commissioner Munger said staff is recommending a redesign of Westmoreland Road with a traffic circle. Is this something you are willing to commit to?

Mr. Pennell said no.

Commissioner Munger said staff is recommending a redesign of the stub to Willow Grove Way in Willow Brook. Is this something that you are willing to commit to?

Mr. Pennell said I think that needs to be studied based on feedback that we have received tonight.

Commissioner Munger said staff is recommending eliminating on-street parking on both sides of Road 9 as parking on only one side of the street may be more appropriate. Is this something that you are willing to commit to?

Mr. Pennell said we could probably study that, yes.

Commissioner Munger said the cross-section for McCord Road shows 4' bike lanes, which NCDOT no longer allows. This should show a 10' side path. Will you be requesting a modification or modifying your proposal?

Mr. Pennell said I think we can modify the proposal for the 10' path.

Commissioner Munger said staff is recommending a future street stub along the western edge south of Ramah Creek. Is this something that you are willing to commit?

Mr. Pennell said is that the one through the cul-de-sac that you are referring to on the bottom of the plan?

Commissioner Munger said recommending a future street stub along the western edge south of Ramah Creek.

Mr. Pennell said no, we will not be stubbing.

Commissioner Munger said staff is recommending a walkway to the rear alley, a mini-park or street stub to the west to break up the block along Road 14. Is this something that you are willing to commit to?

Mr. Pennell said we can study that.

DRAFT

Commissioner Munger said staff is recommending an 80' buffer along the frontage of McCord Road to be consistent with other developments along this corridor. Is this something you are willing to commit to?

Mr. Pennell said at this time I can't speak to that. We will have to study it.

Commissioner Munger said staff is recommending the largest lots proposed be placed along the external edge of the development to address transitional lot size. Is this something you are willing to commit to?

Mr. Pennell said not at this time.

Commissioner Munger said staff has requested floorplans for the apartments over commercial and condos to understand how these units will function and satisfy the requirements of the ordinance. When will you provide these items to staff?

Mr. Pennell said is that a recommendation?

Commissioner Munger said it is a question within the staff notes.

Mr. Pennell said they are asking for floor plans for all the apartments and townhomes.

Mr. Palillo said we don't have those. We'll provide those in construction.

Mr. Peete said just a quick clarification. It's the ground level. The recommendation is for the ground level…..it's the easiest way to satisfy some of the requirements.

Commissioner Munger said my impression was it was whatever is over the commercial.

Brian Richards, Assistant Planning Director, said that is a requirement. If they do not want to do it they would need to ask for a modification.

Mr. Palillo said what are you asking us to do.

Mr. Richards said give us the floorplan of the first floor of the apartments.

Mr. Palillo said we'll put something together on that.

Commissioner Munger said you'll get it? When?

Mr. Palillo said we'll get it within the next 10 days. That's just on the apartment section, correct?

Commissioner Munger said apartments and condos is what I'm reading.

Mr. Palillo said so then you need the retail layout for the commercial buildings.

Commissioner Munger said sounds like it.

Mr. Palillo said that one is not going to be possible to get, but we can put a condition on there that we bring that back before the Board to approve before we start construction.

DRAFT

Commissioner Munger said so you would be open to us placing a condition on the actual layout of that building prior to any construction of that building?

Mr. Palillo said right. Once we have it, we'll bring it back.

Commissioner Munger said staff has requested a phasing plan for this project. Will you be able to provide this to staff?

Mr. Pennell said yes.

Commissioner Munger said staff has requested the location of mail kiosks. When will you be able to provide this to staff?

Mr. Pennell said prior to our next submittal.

Commissioner Munger said staff has requested the garbage collection locations for the hotel/convention center, apartment and condo locations. When will you be able to provide this to staff?

Mr. Pennell said prior to our next submittal.

Commissioner Munger said what percentage of the impervious coverage do you have proposed?

Mr. Pennell said I do not know at this time the exact percentage of the impervious coverage, but I do know that we have done engineering calculations on the impervious coverage that we are proposing which has dictated the size of the ponds that we are showing on the plan. We are close to where we need to be.

Commissioner Munger said have you taken into consideration the upcoming improvements to NC 73 when developing the plan for this development?

Mr. Pennell said yes.

Commissioner Munger said is it your intention to have all staff questions and comments addressed prior to the Planning Board meeting on June 27, 2023?

Mr. Pennell said that would be the ideal scenario. While there may be some disagreement on the recommendations, we would like to have everything addressed prior, yes.

Commissioner Munger said I absolutely implore you to have it done prior to the Planning Board because I can tell you right now if the Planning Board looks at this, they have no choice but to say no. We want it to go through a process and every box needs to be checked and we have to do it the right way.

Mr. Pennell said thank you for your guidance.

Mayor Bales said sir, if you wouldn't mind stating your name and address for the record.

DRAFT

Mr. Pennell said Paul Pennell with Urban Design Partners, 1213 West Morehead Street, Suite 450, Charlotte.

Mayor Bales said I had questions myself. Most of them have been answered. One of the questions that I have and it may be for Mr. Peete, as far as permitting through the county, does the county know how they would permit this if it were to be approved?

Mr. Peete said are you talking about the lagoon?

Mayor Bales said yes.

Mr. Peete said they have a process. Their Health Department would look into it. Through the Whitewater Center, some other facilities, they have created paths for this review. I won't say that they have an example of this specifically in the county, but we have reached out to them and they will move it through their process. But please don't misunderstand that, they were not saying that it's okay as is, but that they have a process.

Mayor Bales said Mr. Palillo, can you talk a little bit about how the lagoon filtration system would work. We have a lot of geese, we have a lot of…….how does that work.

Mr. Palillo said the way it's filtered is there's a regular pumphouse that it filters through and if you see a regular traditional swimming pool where you see that little monster with the hose on it that runs around, well this monster is probably and it's remote controlled, so there's coagulants in the the water that make the particles collect and fall to the bottom and then there's this big robot with a big hose on it that continues to sweep the bottom, so you vacuum the whole entire bottom. It meets all the requirements. North Carolina has approved it. It's approved in all the different states. It's safe. It's safe drinking water. It doesn't have the chlorine content that a regular traditional swimming pool would have in it. If you go on crystallagoon.com they will show you all the different technology, how it uses less chemicals, less energy and it gives you all the technical……and I'm happy to bring the Crystal Lagoon people in if anyone wants to sit through a presentation of how the technology works.

Mayor Bales said so you are saying it's drinkable water.

Mr. Palillo said yes. It's swimmable, it's chlorinated, it's got chlorine in it. A pool circulates so many times. This circulates fewer times but it meets all the requirements. It's not classified as a swimming pool. It's classified as an access lagoon. But yes, if you drink the water, there's no issues.

Mayor Bales said concerns regarding water run-off.

Mr. Palillo said the way the water run-off is, this loses about three gallons per……so a certain amount of water evaporates everyday so we have to bring water into it and then there's an area in there to where there's a spill lake. So if you get a heavy rain it's designed so that it will accept "x" amount of rain and then if you had this monsoon rain and there was a spill-off, it has to spill into a holding area, go through a filtration system, and then it go into the stream. But because it has chlorine you can't overflow directly into it. There's a process in how you overflow.

Mayor Bales said where are those overflow ponds shown on the design.

DRAFT

Mr. Palillo said we are designing all that. That will all be designed, but there will be an overflow area for any type of overflow. It's very rare that the lagoon overflows. More water evaporates than will overflow.

Mr. Pennell said we do actually have the pond that we are referring to shown on the plan. In this picture it's immediately to the east of the pond. It's a little triangular feature, so we're accounting for those storage areas in the event of a storm.

Mayor Bales said there was a lot of conversation around our climate. Is this water heated? Is this something that will be used year-round or will it be shut down certain times of the year?

Mr. Palillo said the lagoon itself is open year-round. It's open for water sports – kayaking, canoeing, wakeboarding, stuff like that. Peak season is like anything else, even like our lake and stuff. We use our lake so many months a year and then we winterize our boats and stuff. So no, our climate is not warm enough for you to go out there in your bathing suit, but the lagoon itself will be open. It's open for all the water sports. It will open in April and it will probably close towards the end of October. But the actual clubhouse and fitness and everything around the club will be open year-round and you can do watersports year-round.

Mayor Bales said so the lagoon itself is closed November to March?

Mr. Palillo said the lagoon is open year-round. The swimming to where we allow swimming where we have lifeguards and everybody on would be from April until the end of October. Other than that if you wanted to come and kayak or wakeboard or any one of the water activities….there's all sorts of activities….you can do those activities year-round on the lagoon.

Mayor Bales said are there any other questions? Are you closing this public hearing?

Commissioner Phillips said no. I'd like to keep it open. I don't know what date would work to keep it open to get it to Planning Board.

Mayor Bales said Planning Board is June 27. Is there motion to leave this public hearing open until the next Board meeting.

Commissioner Munger said I would recommend June 20.

Commissioner Phillips made a motion to keep the public hearing open until June 20, 2023.

Mayor Bales said where will we be meeting and at what time.

Commissioner Phillips said where are we meeting. We haven't set the location. Are we going back to Town Hall or are we coming back here.

Mr. Roberts said I don't know if we can come back here. Did we ask about coming back here on the 20th?

Jackie Huffman, Deputy Town Manager, said they'll be having summer camp.

Mr. Roberts said we've got summer camps.

Commissioner Phillips said we'll keep the public hearing open until June 20, 2023 at Huntersville Town Hall, 101 Huntersville-Concord Road at 6:00 p.m.

Commissioner Munger seconded motion.

Mayor Bales said I apologize. I did not give our Planning Board an opportunity to ask questions.

Frank Gammon said this is not really a question. It's a request because this question and answer period was very extensive. I like that, and thorough. We always get copies of the public comments when we get our packets. I'm requesting that a copy of the question/answer period for this petition be included in the Planning Board's packet for this petition.

Mayor Bales said we will provide that.

Mayor Bales said before we move on, does anyone else from the Planning Board have a question or comment at this point.

Mayor Bales called for the vote to continue the public hearing.

Motion carried 5 to 1, with Commissioner Partee opposed.

Petition TA23-03. Mayor Bales called to order public hearing on Petition #TA23-03, a request by the Huntersville Planning Department to amend Article 2 of the Subdivision Ordinance and Article 7.5 of the Zoning Ordinance to limit Minor Subdivisions to five lots or less and to require a 10' buffer for Minor Subdivisions within the Residential and Transitional Residential zoning districts.

Nathan Farber, Planner I, entered the Staff Report into the record. *Staff Report attached hereto as Exhibit No. 6.*

Minor subdivision definition – a minor subdivision is anything that does not qualify as a major subdivision. Importantly, a minor subdivision cannot involve the creation of any new public streets, therefore minor subdivisions involve the creation of new lots along existing streets. In the past this has typically involved the creation of few lots along a public street.

Recently staff has seen a trend of larger tracts of land being subdivided under the minor subdivision provisions resulting in multiple lots created along thoroughfares. The concern is that there will be multiple driveway cuts on thoroughfares with lot layouts based on minimizing development costs versus the creation of a quality subdivision.

Above is an example of an 11.8 acre tract at the northeast corner of Hambright Road and Beatties Ford Road. Along the 950' stretch of this property, there would be 10 driveways.

Staff feels that the lot layouts and the desired best use of land conflict with the 2040 Community Plan policies.

In order to combat these issues, staff recommends the following text to limit minor subdivisions to five lots. With this change farmhouse clusters would still be considered a minor subdivision and would not be affected.

Limiting minor subdivisions to five lots is directly supported by the above 2040 Plan policies. These policies deal directly with ensuring the preservation of rural character, national resources, scenic roadways, as well as aligning with becoming a Vision Zero community by improving access management and road conflicts.

Above shows all the other Mecklenburg County towns that currently have limitations on minor subdivisions, ranging from four to ten lots.

Staff is also proposing that any new residential minor subdivision within the Rural and Transitional Residential zoning district be required to provide a 10' buffer. This buffer would require any existing trees and shrubs to remain, while not requiring any new vegetation to be planted to not add any unnecessary burdens to those subdivision.

This buffer shown in red would help ensure that the neighbors are protected from losing any existing visual buffers and further preserve elements of rural character and sensitive environmental areas.

Commissioner Kidwell is this a live project that you are showing.

Mr. Farber said this is an approved by right project.

Commissioner Kidwell said I wanted to thank Jack Simoneau for clarifying this, because when I first read this it was like what's the difference between this and a farmhouse cluster and it was made very clear that farmhouse clusters have a private drive. This is identifying potential homes that are going to be pulled right onto a street.

Mr. Farber said every lot would have to front on a public road.

Commissioner Partee said I live in Latta Springs which is right down the block from this subdivision here that this developer has totally cleared out and stripped the land, so therefore he can build right now his seven homes. I was a little disturbed and then the neighbors within Latta Springs and Tanners Creek have reached out as to what was being built there and the way they just stripped the land was incredibly disturbing, but moving forward I like how we are going to proceed with limiting lots.

Commissioner Munger said was any consideration given to requiring a buffer larger than 10', like maybe 20' to keep it more in line with residential zoning.

Mr. Farber said we did look into it but if the proposed text amendment for limiting minor subdivisions to five lots is approved, we feel that it's an adequate buffer for such a small subdivision.

Commissioner Munger said 10' being adequate?

Mr. Farber said correct, yes.

Commissioner Munger said I disagree, but that's my opinion.

There being no further questions or comments, Mayor Bales closed the public hearing.

DRAFT

Petition #TA23-04. Mayor Bales called to order public hearing on Petition #TA23-04, a request by the Huntersville Planning Staff to amend Article 9.54 Solar Energy Facilities to further clarify the text for simplicity.

Nathan Farber, Planner I, entered the Staff Report into the record. *Staff Report and Staff PowerPoint attached hereto as Exhibit No. 7.*

Just a quick background, in May of last year the Board here approved changes to Article 9.54 in order to remove Minor Solar SUP requirements and align the text with 160D. Currently, Article 9.54.2 which is the Major Solar Facility portion is split into a residential and non-residential section. We have determined that a Major Solar Facility cannot be located on a residential property because it is a permitted use, not an accessory use unlike a Minor Solar Facility. Staff proposes to make adjustments to simplify this language by removing the residential section. All the previously used general requirements would still apply and this includes the SUP requirements.

This is the text. Previously the HOAB recommended approval with a vote of 8-0 for approval with a recommendation to remove the reference 160D-914(c)(3) within the non-residential portion of the Minor Solar Facilities ordinance. Staff agrees with this recommendation as 160D-914 only applies to residential properties. Staff originally included this reference to keep residential and non-residential solar panel locations the same. Staff proposes to replace the language with "Front yard placement, as depicted by area (1) in the above illustration, is prohibited when the placement would cause the solar facility to be visible by a person on the ground." We have also made a minor change as you can see in the highlighted section at the bottom to change the word "slopes" to "surfaces."

There being no questions or comments, Mayor Bales closed the public hearing.

Mayor Bales called for a 5-minute recess.

OTHER BUSINESS

FY24 Budget Ordinance. Anthony Roberts, Town Manager, said the budget ordinance that you have in your packet, just to be clear and make sure everyone understands, that is based on our last workshop. I know there's been some discussion since then, but that is based on 18 cents per $100 assessed valuation, a solid waste fee of $144 per residential pick-up site, and a total employee raise of 8 percent, all COLA. That is what is in your packet before you. I'm not going to waste a whole lot of time. We've talked all about this. I just need to, as the Town Manager, I need to show you what other folks are doing and then ultimately you make the decision as you see fit and we'll carry that out. But if I didn't do this, then I wouldn't be doing my job. *PowerPoint attached hereto as Exhibit No 8.*

You've seen this before. We took out tax rates and all that, but this is what other towns are proposing right here before you and you'll see what is in the budget packet tonight is in yellow is the 8 percent. The average as you can see for the other places are 7.75 total and I can go on and talk to you all night long and tell you that obviously hopefully we're better than average and you would consider that in your deliberations as we move forward tonight, but I'm not going to sit up here and beat a dead horse. That's the point I would make, look at that screen and make your decision. I do have, if it does go a different way, obviously I've heard that it may, have a print-out of where it may go, and I can hand those out if a motion is made in that direction. If there are various other iterations that come up, I think Jackie and Pattie have access to a printer tonight so that we could make those changes, so I will be quiet…….I'm open for any questions or concerns, etc.

Commissioner Kovacs said we don't know what these towns did last year?

Mr. Roberts said I do have what some of them did last year. The problem is, and I can read you out some of those, some of them did market studies etc. so when you see a town do a market study that kind of throws some of that off just like Matthews on this sheet you have in front of you did a market study even though their numbers are low. They did a market study and they had a $2.2 million impact on top that, so that's a little different. I'll just give you neighboring towns just to give you an idea of kind of from what I understand last year. Pineville was 5 percent COLA, 3 percent merit. Cornelius was 2.5 percent COLA, 3.25 percent merit and they had a market adjustment. And then I'll just give you ours was 5 and 3.5. You have to remember in the budget we averaged that. I think you all had mentioned 4, when we put that in the budget we plug it in a 3.5, so that's just an example of some. I did not check on Mint Hill and Matthews.

Commissioner Munger said of the top 20 municipalities in terms of population in the entire state of North Carolina, we have the single lowest tax rate. If we went with the proposed number that the Town Manager had suggested. Is that correct?

Jackie Huffman, Deputy Manager, said we have the lowest tax rate in FY23 and if we adopt it 17.6 or 19 or any other number I've heard, we will still be the lowest.

Commissioner Munger said what's the next lowest.

Ms. Huffman said Cary is at ballpark 34 – 34.5 cents.

Commissioner Munger said so a solid 15 cents or more above any number that we've predicted so far.

Ms. Huffman said the numbers we have talked about, that's true. My understanding Wake County, primarily the county Cary is in, though not exclusively, plans a reval effective 1/1/2024 which would be FY25. They can change their tax rate anytime they want to, but it's typically any major changes would be done in a reval year.

Commissioner Munger said it's simply the most convenient time to do it, because we have to adjust it anyway or we have to at least consider going revenue neutral by state law. Is that correct?

Ms. Huffman said by statute we are required to disclose a revenue neutral rate.

Commissioner Munger said everyone has to consider it, so it's obviously the most convenient time to be able to adjust it because odds are you have to adjust it regardless. At one point if memory serves we had $8 million in uncommitted funds in the General Fund out of the total balance in excess of $50 million. After paying approximately $1.5 million for the HFFA improvements, how much do we have in uncommitted funds and what, if any, other commitments have we made with those funds?

Ms. Huffman said my recollection is the air filtration system at HFFA was $1.350 million and we did a budget amendment for land at Seagle for $915,000. Those are the only two I remember after the $3 million pre-fund of town hall bringing the ballpark $8 million which I think was $7.6 million to ballpark $5.4 million.

Commissioner Munger said so we have $5.4 million out of that $50 million that's not committed.

Ms. Huffman said $5.383 million, yes $5.4 million.

Commissioner Munger said it's also my understanding that we have a potential lead on a piece of land for fire station 5. How much will that cost and would any of those funds come out of the uncommitted funds from General Fund.

Mr. Roberts said we do have a letter of intent and that is roughly $2.55 million. That does not commit the Board to anything, it's just a letter of intent and we'll see where it goes, but the answer is that would draw that down too, we would pull that out of fund balance. A portion of it would probably come out of some of the county fire tax fund that we have, probably $1 million of it, so $1.5 million, probably somewhere around there, would come out of fund balance.

Commissioner Munger said so we are down to about $4 million uncommitted general fund.

Ms. Huffman said I follow the math, that sounds reasonable.

Commissioner Munger said what's the sales tax rate here in Huntersville.

Ms. Huffman sales tax on food that you buy at the grocery store is different than prepared food tax which is different than of course the occupancy tax, generally speaking ballpark 7.25 cents.

Commissioner Munger said I noticed a lot of people have made comment that we have had a fair amount of inflation – things that obviously eggs, milk, basic things cost more now than they used to. So using kind of similar logic do we try and go revenue neutral on sales tax. Do we reduce our sales tax because people are paying more for those things to negate the increase.

Ms. Huffman said municipalities in North Carolina generally speaking don't have the authority to set the sales tax rate. The state and county do that, so we don't make a recommendation. We don't impact sales tax rates.

Commissioner Munger because similar to the milk, eggs, the things that are perishables that people buy at grocery stores where they pay the sales tax, the services that we need to provide including staff, cost more money as well. Inflation has that affect, so while sales tax revenues increase it is commensurate with our increased cost as well and that's probably why we don't ever try and go revenue neutral on something like that.

Ms. Huffman said it takes me out of my comfort zone to talk about the tax rate on groceries because of the state portion of sales tax doesn't apply to it, so a PC or yes, I agree.

Commissioner Munger said if memory serves our Powell Bill funds are nearing the point where they are no longer covering our town's need. How close are we actually to pulling from general fund to cover these specific costs.

Ms. Huffman said because of the funds we've committed and spent in FY23, we'll have less than $1 million worth of Powell Bill fund balance at the end of this fiscal year.

Commissioner Munger said and it's very likely in the future fiscal years we'll actually have to pull from general fund to pay for what normally Powell funds would have covered.

Ms. Huffman said historically in the last seven years it's not been unusual for us to carry a Powell Bill fund balance of $3 million, $3.5 million, and we are spending at a rate that that less than $1 million fund balance will be gone soon and yes, sir, I will always advocate that we maintain the roads and I think you will, too, as board members and therefore if there is a pothole we need to fill and we don't have Powell Bill fund balance to do it with, I will recommend you do it with the general fund and the other things that we do to maintain roads.

Commissioner Munger said our new solid waste contract. I apologize, I only have about five more questions. Our new solid waste contract will result in increased costs of $703,300. Is that correct?

Ms. Huffman said yes. We estimate that based on number of households in next fiscal year.

Commissioner Munger said I did some quick math. How much would that cost per resident to offset that increase. The number I came up with was $32.18 per home in the town of Huntersville.

Ms. Huffman said I bet that as well based on the number of residential units we estimate we'll be picking up at in July which is the month when the county generates the solid waste fee on the tax bill. I come up with the same amount $703,300 divided by the 21,857 gives me $32.18.

Commissioner Munger said one of the things that's been mentioned is adding an additional $2 per hour to our fire department personnel cost. That resulting cost is $572,650, is that correct?

Ms. Huffman said yes, and that's in the budget ordinance as in the packet tonight.

Commissioner Munger said and in future years that would carry out similarly…..there would be an additional cost of the $572,000 for every year thereafter.

Ms. Huffman said once we change the hourly rate we generally speaking don't go back the next year and reduce it and so yes, that would be in their budget every year as long as we continue to fund part-time salaries.

Commissioner Munger said so it's a repetitive charge against our general fund. As mentioned previously by our Police Chief, currently the town has 106 sworn positions of which and I'm really guessing at this number, I believe approximately 100 are filled. But he had mentioned and this again was our former chief, but I believe our current chief would concur with it. Actually, I think it was our current chief that mentioned it. A town of our size that staffing should be 140 is that correct.

Ms. Huffman said we keep on our website a copy of the presentation that Chief Hoyle made at the previous workshop and that's consistent with the numbers he gave based on current population, yes.

Mayor Bales said Commissioner Munger said you have hit your 10-minute mark and I would like to go ahead and flow through everyone else. I will circle back to you. But I did want to give everyone an else opportunity.

Commissioner Partee said our general fund balance is $52 million?

DRAFT

Ms. Huffman said $58 million and change, it's not quite $59 million, at the end of our FY22 audited statements.

Commissioner Partee said to remain revenue neutral, will we be able to fully staff, stay competitive with our public service, with our police and fire, moving forward into next year, can we stay competitive with our neighbors, CMPD who just went up to $57,000 to start. Stallings, Matthews, Mooresville and Gastonia, I would like to stay if not above, close to CMPD as we are on the cusp of the city and it has been brought to my attention today that we've had a murder. I'm more concerned with our fire department, which we are speaking about and planning to go full-time with a fire department, and we have to stay competitive. Those are two of my concerns and what the advent of us voting to, well not myself and Munger, to vote to build a $30 million plus town hall. How will that affect us being revenue neutral. Will we have to pull from the general fund to finance a town hall in that particular I would say million dollars, $30 million, area instead of having a $19 million town hall. I know that's a lot of questions but I'm more concerned as keeping the competitive, making sure our administrative staff, our employees are well compensated for the job that they do to maintain the quality of life here in Huntersville.

Mr. Roberts said for the town hall, obviously we can handle a town hall in the revenue neutral. What I think Jackie and myself have told you with town hall and all the other debt that we have coming forward, we will definitely have to look at tax increases in future years. I think that's sort of the message we told you when we have heard about possibly going revenue neutral. Could we do it this year? Sure, the Board can do it, but future years we have to look at……you can't not because you can't take on all the debt that we are going to be taking on and not pay for it and keeping the tax rate the same is not going to do that in future years. We are going to have to do that, so that would be my answer to that question. What I would say on competitive with staff, tax rate would be irrelevant for me on that. Ultimately what we would be dealing with on staff and being competitive is merit/COLA. The reason I was pushing more for COLA was to….whatever number you come up with and the reason I was going 8, I mean I think you can look at the sheet and kind of tell you why I was going for that. But the way our system is set up is that we want to be able with the COLA is to raise the ranges. With the ranges we raise the entry level salaries. Whether you do 6 and 2, or 8, or whatever, 6 plus 2 is 8, so I'll pick on Jackie because she's the first one I see. Six and 2 is 8 and if Jackie is a good employee, which she is, she would probably get 8. If it was a COLA 8, it's still 8, but the difference is the range is going to be able to move up higher with COLA. If you are trying to compete with the other towns as you can see the higher we can get that sort of entry level, the better chance we have to compete with them. And I'm just picking on police because that's what you said, but that applies to everything. That's why I'm pushing for the COLA. And the COLA, I didn't make that up. That was based off CPI. That's ultimately why you see what's before you.

Commissioner Partee said I'd just like to keep our fire and police departments fully funded so they can protect our community.

Commissioner Kidwell said if we go revenue neutral, we're still funding our police and fire, correct?

Mr. Roberts said correct, unless you tell me otherwise.

Commissioner Kidwell said wouldn't want to do that.

Commissioner Kovacs said I said so much at the board retreat. We have to get something passed and we have to get something passed that is good for residents and for our staff as well. When looking at

employee raises, merit/COLA, all of that we have to remember it's more than just two departments, but it's the entire town, but I just want to be able to get something passed so we can continue to fund the things that we need to fund and if we are to go revenue neutral, I want to say the only email we have received about this has been to stay at revenue neutral. I think I've received personally one email to stay revenue neutral and none otherwise. I did receive one text asking to go above. If we stay revenue neutral, I do predict that in the future we will have to go up and so I just hope that whoever is sitting up here is willing to raise taxes at that point and if this is a starting point for people to be able to handle the leveling out of revals, then the same people making a decision have to be prepared to raise taxes later.

Commissioner Boone said no questions at this time.

Commissioner Phillips said the budget can always be amended after it's passed, correct?

Ms. Huffman said the only thing that cannot be changed about the budget ordinance once it's adopted is the tax rate.

Mayor Bales said I want to weigh in a little bit on what Mr. Roberts was talking about regarding the COLA and the importance of that number and raising entry level. But it doesn't just raise only entry level. It raises everything to ensure that there's not compression, correct?

Mr. Roberts said that's right.

Mayor Bales said I would just say that I've sat up here where we've thrown money at entry level positions for several years and found ourselves in dire straits in regards to compression, where it took us a couple of years to dig out if my memory serves, is that correct?

Mr. Roberts said when I first got here, we had to do some adjustments, so I guess we call them market adjustments because there was a lot of compression for various reasons. It could have been things that we implemented in past years, you know whether it was and I'm going to pick on Police, there's always various incentives that police departments do. Sometimes they stay, sometimes they go. In-town, out of town, all those kind of things come and go and that causes all sorts of issues, so we were trying to fix that problem at that time. If you go and come back later on and say we'll let's just…….everybody who makes under $50,000 we want to give whatever raise to. You just have to be cognizant of how close do you push those up to other folks, that's where you get compression, so be careful and if you're thinking about doing that, that's awesome that you are thinking about those type things, but remember we want to try to avoid compression so we are not right back here again next year if we do a market study…..we are planning on doing a market study for the following year etc. and we have to come back and say well, hey folks, we've really compressed things, we've got to fix that.

Mayor Bales said I just wanted to make that point, because we had lots of meetings around compression and trying to figure out how to dig out of compression. It's not something that I would want to pawn off on any board in the future.

Mr. Roberts said I know there was some talk about doing something different. I have that in front of you to pass out if that's what the Board so chooses to do. And that packet in front of you is a revenue neutral, 17.6……I don't know……like I said I've heard that there may be the votes for it, but 17.6 revenue neutral, garbage going from $144 to $154, and it was a 4 percent COLA and 2 percent merit. I think that's what's in front of you if someone makes that motion and they move down that path to hand that out.

Commissioner Munger said correct me if I'm wrong, the CPI for last year was 8 percent and that's why we are looking at COLA of 8 percent and that's the national standard.

Ms. Huffman said that was CPI in calendar 22, yes sir.

Commissioner Munger said just to understand in layman's terms what a CPI of 8 percent means essentially in the prior year if I had $1, I would need the equivalent of $1.08 this year to have the exact same spending power that the dollar did last year.

Ms. Huffman said exactly. I call it purchasing power, but yes.

Commissioner Munger said even more layman's terms, if I'm making $50,000 last year, I should make $54,000 and that $4,000 increase in pay would net me nothing new in terms of spending power. I would have the exact same spending power I had the previous year at $50,000 if I was given an 8 percent raise, I would get no additional benefits, I would just be able to buy the exact same level of life comfort I did the prior year.

Ms. Huffman said I agree with that. It's a generic basket of goods, so to the extent you participate in the same basket of goods, that's correct, your purchasing power would have gone down if you did not get CPI.

Commissioner Munger said to that point if we say I'm going to do a 4 percent and I made $50,000 last year and I make $52,000 this year, effectively in terms of my spending power what I'm able to purchase with said funds I will have to find a way to make up for a $2,000 loss in income.

Ms. Huffman said yes, $2,000 as a percentage of 50……help me with the math but generally…..

Commissioner Munger said I'm sticking with $50,000 because if I say $100,000 people are going to say they're fine, but they wouldn't be. Wrap your heads around that, really. And the other thing that we have to constantly keep cognizant of I know unemployment went up. It shot all the way up to 3.8.

Ms. Huffman said didn't it go to 3.7. Didn't it go from 3.4 to 3.7, in the most recent month.

Commissioner Munger said it crazily shot up to 3.8 percent and I repeatedly say this from an economic standpoint, if you really follow economics and you really just look at it, 4 to 5 percent unemployment is in fact full employment. Anyone that wants to get a job that has skills, can get a job and I still bring my own life experiences to it. Literally I had a discussion with my boss today about two positions I'm trying to fill. A senior data engineer and a data engineer. It's been open for two years. Two years I've been looking for a senior……my company has been looking for a senior data engineer. In fairness I've only been there for 7 months. Seven months I've been looking to fill this position. That job pays $140,000. We're not paying dog meat for that. We are paying good money. I can't fill that position. There will come a time when we fail to act here where we won't be able to fill a lot more police positions, IT people, planning people, human resources people, all of our departments will suffer……city manager. The indispensable Jackie…….could you imagine the scenario where we lost Jackie.

Ms. Huffman said so unemployment, I don't like thinking about it, I keep turning around and looking at staff and when I look at Lara I'm reminded of our employees who participate in dependent care health insurance and our average increase for the last two years is going up 12 percent in each of the last two

years and when you talk about that as an offset to the raise, if you participate in dependent care, that's why I talked about basket of goods, so you need something to have gone down to help offset your increase price of your health insurance, so thank you.

Commissioner Munger said one other thing I just want to draw attention to that bothers me greatly, there's been a general conception that government workers are overpaid, are lazy and shouldn't be respected in any manner. That is a travesty. I know the people in this room. I know the people that work. I have an entire list of everyone who works for this town, and I want to look those people in the face and say we are doing the right thing for you, and you should put a face to everything that we are doing. It's not just random people, it's not just that it's the police officers, well they're only half the team and maybe we could do something special for them. Everyone in this town matters. Everyone in this town is excelling at their job doing the absolute best they can. We are completely understaffed in so many different ways and if we fail to keep up with the market, it's just going to get worse. I can't stress it enough we have to do the right thing not just for the Town employees but for the town as a whole. These development projects keep coming and we continue to have demand. We mentioned it earlier, we had a murder tonight. The police department has to be staffed. We have to have the right type of personnel. We have Mecklenburg County who won't give us an increase of funds to have our police people take care of the ETJ. We have to work with CMS to be able to get personnel so that we have officers in our schools. We have to do the right thing. We have to plan for the future and not just tomorrow the future, the distant future. We have to think about what is best for this town and what's best for this town is to have a good core group of employees who are excelling at their job giving everything they can, but I guarantee you at some point they are going to say they don't care. Our board doesn't care, why the hell am I still here.

Mayor Bales said Commissioner Munger, do you have a motion.

Commissioner Munger said no, but I'm open to listening to others.

Commissioner Boone made a motion to approve the budget ordinance as presented with the following modifications: (1) in Section 1C change the tax rate from 18 cents per $100 valuation to 17.6 cents per $100 valuation which is revenue neutral; (2) in Section 1.D change the solid waste fee from $144 to $154; (3) change the employee compensation to include a 4 percent COLA and a 2 percent merit raise; and (4) modify the numerical values contained in the budget ordinance to reflect these modifications while maintaining a balanced budget.

Commissioner Phillips seconded motion.

Commissioner Munger made a substitute motion to approve the budget ordinance as presented with the following modifications: (1) in section 1C change the tax rate from 18 cents per $100 valuation to 19 cents per $100 and update the numerical values contained in the budget ordinance to reflect this modification while maintaining a balanced budget; (2) modify numerical values contained in the budget ordinance to reflect a 7 percent COLA increase and a 2 percent merit increase to employee compensation while maintaining a balanced budget.

Commissioner Partee seconded motion.

Mayor Bales said I would like clarification – 19 cents, 7 percent cost of living, 2 percent merit.

Commissioner Munger said that is correct.

Mayor Bales called for the vote on the substitute motion.

Motion failed 2 to 4. Commissioners Munger and Partee in favor; Commissioners Boone, Kidwell, Kovacs and Phillips opposed.

Mayor Bales called for discussion.

Commissioner Boone said I have nothing to add to my motion.

Mayor Bales said any comment or discussion points?

Commissioner Boone said nope.

Commissioner Munger said one of the points that was brought up we're shifting the trash rate from $144 to $154. We are increasing that rate by $10. That is essentially $10 to every single person. It is not weighted by property value. We have a number of commissioners who on various occasions have said that we don't want to burden our fixed income residents. I find that ironic that if you raise the tax rate by a penny, if someone had a $300,000 house, it would cost them $2.50 per month. If they had a $600,000 house, it cost them $5.00 per month. A $900,000 home, it would cost them $7.50 per month and a $1.2 million home, it would cost them $10 per month. Whereas you just said well, we're just going to say $10 for everyone. Everyone has to pay the exact same thing. It defies the logic of your whole argument that we are going to try to do the best thing for fixed income people. You're applying it blanket across everyone, whereas the tax rate specifically weights out that burden based on income level. Similarly, do you know exactly how much you would have to raise the tax rate to generate one penny of property tax. The number is $69……$10 is nothing. It does nothing to address the problem. Similarly, I mentioned it earlier the new trash service - $703,000 would require a $32 increase in trash fee. You are not even beginning to touch it. I also heard a comment specifically someone saying that we'll wait until next year…..someone next year can do it. That is so cowardly. You are basically kicking it down the bucket because you are counting votes at this point and not even caring about the town. I don't want to do it because it's an election year and it might cost me votes. I can't believe you can't even say anything to defend what you are doing. You're just sitting there in silence and you're going to vote for it because you think it will win you votes. This is pathetic. I'm disgusted. I'm done.

Commissioner Kidwell said it's easy to sit down there and rant and rave and pound your fist, bottom-line is the budget will work with this. We'll be fine. We'll still be functioning tomorrow. I hear a lot of path to yes. I found a path to yes. It might not be your path, it might not be the path that you wanted to go down, but there's a path to yes. I know I've sat on this board for a while and I have not been on the side of the path to yes. But one thing I do is not throw a tantrum. I respect how the other side votes and walk away. I believe a motion has been called.

Mayor Bales called for the vote on the original motion.

Motion carried 4 to 2 – Commissioners Boone, Kidwell, Kovacs and Phillips in favor; Commissioners Munger and Partee opposed.

Resolution Opposition of CRTPO Weighted Voting Structure. Commissioner Kidwell said I sent the Board an email with this resolution a couple of weeks ago. I want to thank Commissioner Partee for providing substantive information from an interview with Mayor Knox from Davidson regarding how

Charlotte is controlling the weighted vote for transportation for the entire region. Currently under the redesignation period we have the opportunity to change that from a weighted vote to a fair and equitable vote as the most important word in CRTPO is not Charlotte, it is Regional. I sit on this committee with CRTPO. They are looking at numbers financially speaking and saying well we give the most, so we have the most vote, but what they are not looking at is, as it has been pointed out during the public hearing tonight, that we are a data driven group. We go by data and the politics get taken out, so having a fair and equitable vote for data driven projects make sense. We are also one of three major cities in the United States that have a weighted vote and we are the only one in the Carolinas, if I recall the diagram that I sent to everyone. I would ask for your support tonight on this.

Commissioner Kidwell made a motion to support the resolution of the Town of Huntersville to oppose CRTPO's current weighted voting structure.

Commissioner Phillips seconded motion.

Commissioner Phillips said I would like to say this is something I am so excited to see. It's something that has been asked for by the citizens like when the tolls started and to finally see Huntersville take a stand is just really refreshing.

Commissioner Partee said I also want to give credit to Mayor Knox of Davidson who came forward with the idea of succession. I think he deserves a lot of credit on that because he came out first and pulled all the other communities together.

Mayor Bales said I will say Mayor Knox, Mayor Washam and I have been working diligently together to build relationships within the region. I do give immense credit to Mayor Knox. He's a great partner in what we're doing within the region and with Connect Beyond.

Mayor Bales called for the vote.

Motion carried unanimously.

Resolution attached hereto as Exhibit No. 9.

MAYOR AND COMMISSIONER REPORTS/CLOSING COMMENTS

Commissioner Phillips
- No Report

Commissioner Boone
- The Mecklenburg County Fire Marshal's office ruled the fire in Huntersville a few weeks ago as undetermined.

Commissioner Kovacs
- No Report.

Commissioner Kidwell
- The Redesignation Committee meets tomorrow at 10 a.m.

Commissioner Partee

- No report.

Commissioner Munger
- Peace Pole unveiling ceremony is scheduled for June 15 at North Mecklenburg Park.
- Charlotte-Mecklenburg Schools will announce the new superintendent tomorrow.
- Consider supporting local non-profits.

Mayor Bales
- Lake Norman Economic Development Corporation is currently working 28 projects. Interviews for Pivot Program Internship were held.
- Noted that on June 4, 1919 Congress passed the 19th amendment to the constitution allowing women the right to vote and it was ratified on August 20 1920.
- Will be sending letter to House Speaker Kevin McCarthy in support of the Helper Act.

Commissioner Kidwell wished the Mayor a happy birthday.

There being no further business, the meeting was adjourned.

Approved this the ____ day of _____, 2022.

DRAFT

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Janet Pierson, Town Clerk

Date: July 17, 2023

Subject: Approval of Minutes - June 20, 2023

EXPLAIN REQUEST:
Consider approving the minutes of the June 20, 2023 Regular Town Board Meeting.

ACTION RECOMMENDED:
Approve Minutes

FINANCIAL IMPLICATIONS:
N/A

ATTACHMENTS:
1. Draft Minutes

TOWN OF HUNTERSVILLE
TOWN BOARD MEETING
MINUTES

June 20, 2023
6:00 p.m. – Huntersville Town Hall
101 Huntersville-Concord Road

PRE-MEETING

None

REGULAR MEETING
TOWN OF HUNTERSVILLE
BOARD OF COMMISSIONERS

The Regular Meeting of the Huntersville Board of Commissioners was held at the Huntersville Town Hall at 6:00 p.m. on June 20, 2023.

GOVERNING BODY MEMBERS VIRTUALLY PRESENT: Mayor Melinda Bales; Commissioners Dan Boone, Rob Kidwell, Amber Kovacs, Lance Munger, Derek Partee and Stacy Phillips.

Mayor Bales called the meeting to order.

Mayor Bales called for a Moment of Silence.

Mayor Bales led the Pledge of Allegiance.

STAFF QUESTIONS

None

PUBLIC COMMENTS, REQUESTS, OR PRESENTATIONS

Parks and Recreation Month Proclamation. Mayor Bales proclaimed July 2023 as Parks and Recreation Month.

TOWN OF HUNTERSVILLE
PROCLAMATION

WHEREAS, parks and recreation is an integral part of communities throughout this country, including Huntersville, North Carolina; and

WHEREAS, parks and recreation promotes health and wellness, improving the physical and mental health of people who live near parks; and

WHEREAS, parks and recreation promotes time spent in nature, which positively impacts mental health by increasing cognitive performance and well-being, and alleviating illnesses such as depression, attention deficit disorders, and Alzheimers; and

WHEREAS, parks and recreation encourages physical activities by providing space for popular sports, hiking trails, swimming pools and many other activities designed to promote active lifestyles; and

WHEREAS, parks and recreation is a leading provider of healthy meals, nutrition services and education; and

WHEREAS, park and recreation programming and education activities, such as out- of-school time programming, youth sports and environmental education, are critical to childhood development; and

WHEREAS, parks and recreation increases a community's economic prosperity through increased property values, expansion of the local tax base, increased tourism, the attraction and retention of businesses, and crime reduction; and

WHEREAS, parks and recreation is fundamental to the environmental well-being of our community; and

WHEREAS, parks and recreation is essential and adaptable infrastructure that makes our communities resilient in the face of natural disasters and climate change; and

WHEREAS, our parks and natural recreation areas ensure the ecological beauty of our community and provide a place for children and adults to connect with nature and recreate outdoors; and

WHEREAS, The Huntersville Parks and Recreation Department was created in 1995 and now serves more than 1.8 million visitors per year to its local parks; and

WHEREAS, the U.S. House of Representatives has designated July as Parks and Recreation Month; and

WHEREAS, Huntersville recognizes the benefits derived from parks and recreation resources.

NOW, THEREFORE, I, Melinda Bales, Mayor of Huntersville, do hereby proclaim the month of July as **"PARKS AND RECREATION MONTH"** in Huntersville, North Carolina.

IN WITNESS WHEREOF, I do hereby set my hand and cause the Seal of the Town to be affixed, this the 20th of June, 2023.

Big Day at the Lake Proclamation. Mayor Bales proclaimed July 22, 2023 as Big Day at the Lake.

Town of Huntersville
Proclamation

WHEREAS, Big Brothers Big Sisters (BBBS) of Greater Charlotte provides one-to-one mentoring relationships that focus on school success, works with families and volunteers to keep children out of delinquency, and supports the family competency; and

WHEREAS, in celebration of its annual accomplishments and, more importantly, in celebration of the youth BBBS of Greater Charlotte serves, the Big Day at the Lake Committee (Committee) will hold its 19th annual "Big Day at the Lake" event on July 22, 2023; and

WHEREAS, the Committee organizes through volunteers a day full of fun activities on Lake Norman for participating BBBS of Greater Charlotte matches; and

WHEREAS, since 2003, the "Big Day at the Lake" events have hosted more than 1,500 BBBS youth, all of whom have treasured this opportunity to laugh, play, mingle, and make new friends; and

WHEREAS, over the past 19 years, the Committee has raised more than $2,000,000 for BBBS of Greater Charlotte; and

WHEREAS, the Committee encourages volunteers to become BBBS mentors, known as "Bigs," following in the footsteps of past Big Day at the Lake participants who have embraced the opportunity to mentor; and

WHEREAS, the Committee and BBBS of Greater Charlotte, along with many volunteers and sponsors, deserve appreciation and recognition for enhancing the quality of life of the residents in Mecklenburg County and surrounding areas, especially the youth.

NOW, THEREFORE, I, Melinda Bales, Mayor of Huntersville, do hereby proclaim July 22 **"BIG DAY AT THE LAKE"** in Huntersville, North Carolina.

IN WITNESS WHEREOF, I do hereby set my hand and cause the Seal of the Town to be affixed, this the 20h of June, 2023.

Mark Swatek, 14701 Stonegreen Lane, (Tom Dorgan, 9045 Tayside Court deferred his time), said I'm Vice President of the Wynfield HOA. I'm here with my valued neighbors, the president of Wynfield Creek HOA and also the president of Wynfield Forest HOA. Combined we represent over 1,000 homes in this fully developed neighborhood. We're here to discuss the Gilead Road West to the Wynfield Creek Parkway entrance. On the NCDOT proposal we will lose our entire from the north section of the Gilead Road on the north section by Wynfield Creek Parkway. We'll lose the stone fencing, the mature trees, the irrigation and sidewalks. We accept that. We don't want our neighbors on the south side of Gilead

Road to lose their homes or their additional acreage. However, we request the Town of Huntersville's help in having NCDOT reconsider the need for the expansion of the Wynfield Creek Parkway outgoing lanes from three lanes back down to two, and allow the retention or the reconstruction of our entrance island on the parkway. We have accomplished our own two-day peak traffic review and found that most drivers exited the parkway in a one light cycle, both on the left and right turns out of the subdivision. The Wynfield communities request that all options to preserve the entrances and the safety and the aesthetics for this entrance continue to be considered and evaluated. This community is interested in preserving what we already have presently because once we lose it, we will probably never get it back.

AGENDA CHANGES

Commissioner Boone moved Item 8.K (Approve contract with Waste Connections of the Carolinas for solid waste collection services) under the Consent Agenda to Item 10.H under Other Business.

Commissioner Kidwell made a motion to adopt the agenda, as amended.

Commissioner Boone seconded motion.

Motion carried unanimously.

CONSENT AGENDA

Budget Amendment – Main Street Project. Commissioner Phillips made a motion to approve budget amendment appropriating the final Interest Income Revenue in the amount of $5,800 for the 2016 GO bonds to the Main Street Project. Commissioner Kovacs seconded motion. Motion carried unanimously.

Fifth Amendment Main Street Upgrade Capital Project Ordinance attached hereto as Exhibit No. 1.

Budget Amendment – Main Street Project. Commissioner Phillips made a motion to approve budget amendment appropriating the final Interest Income Revenue of $750 for the 2013 GO bonds to the Main Street Project. Commissioner Kovacs seconded motion. Motion carried unanimously.

Refer to Fifth Amendment Main Street Upgrade Capital Project Ordinance attached hereto as Exhibit No. 1.

Budget Amendment – Community Emergency Needs. Commissioner Phillips made a motion to approve budget amendment appropriating Community Needs contributions in the amount of $8,495 to the Miscellaneous Expense – Community Emergency Needs expense account. Commissioner Kovacs seconded motion. Motion carried unanimously.

Budget Amendment – Police. The Town received a $2,500 grant from AAA towards the purchase of four speed feedback signs which are solar powered. These signs use a RADAR to detect and display vehicle speed. They will also be used to collect traffic statistics used to direct enforcement priorities.

Commissioner Phillips made a motion to approve budget amendment appropriating $2,500 received from AAA Grant from the Police Restrictions Donation account to the Non-capitalized Equipment

account for the purchase of four speed feedback signs. Commissioner Kovacs seconded motion. Commissioner Kovacs seconded motion. Motion carried unanimously.

Budget Amendment – Memorial Tree and Bench. Commissioner Phillips made a motion to approve budget amendment appropriating $1,500 to the Memorial Tree and Bench account for a memorial bench on the Greenway Trailhead. Commissioner Kovacs seconded motion. Motion carried unanimously.

Budget Amendment – Barry Park. Commissioner Phillips made a motion to approve budget amendment appropriating $25,000 from the Barry Park Capital Reserve account for athletic lighting repairs at Barry Park. Commissioner Kovacs seconded motion. Motion carried unanimously.

Budget Amendment – Sidewalks. Commissioner Phillips made a motion to approve budget amendment recognizing Contributed Capital from the American Asset Corporation Escrow account in the amount of $43,216.88 and appropriate to Sidewalk Expense account to construct a sidewalk along Highway 115 near North Mecklenburg High School. Commissioner Kovacs seconded motion. Motion carried unanimously.

Resolution – HAP Synthetic Turf Project. This project will replace the existing synthetic turf infields on Fields 1 and 2 and add synthetic turf to the infields on Fields 3 and 4. This project was approved in the FY23 budget. This project will improve the quality of the fields and will allow more usage. The Town of Huntersville originally advertised the request for bids on April 9, 2023 and, due to not receiving three bids, readvertised the request for bids on May 11, 2023. The AstroTurf Corporation was the lowest responsible bidder. AstroTurf Corporation installed the original two synthetic turf infields over 13 years ago at Huntersville Athletic Park and also installed the turf on the Bradford Park Soccer fields. This project will be completed by the end of the year.

Commissioner Phillips made a motion to adopt Resolution to award the bid for the Huntersville Athletic Park Synthetic Turf Project and approve the construction contract. Commissioner Kovacs seconded motion. Motion carried unanimously.

Resolution attached hereto as Exhibit No. 2.

Call for Public Hearing – Petition #R23-01. Commissioner Phillips made a motion to call a public hearing for Monday, July 17, 2023 at 6:00 p.m. at Huntersville Town Hall, 101 Huntersville-Concord Road, Huntersville, NC 28078, on Petition #R23-01, Foundry - Everette Keith Road, a request by Foundry Commercial, LLC to rezone +/- 59.66-acres generally located east of Everette Keith Road and south of Hambright Road from existing Transitional Residential to Corporate Business - Conditional District for approximately 750,000 sq. ft. of light industrial space. Commissioner Kovacs seconded motion. Motion carried unanimously.

Resolution – Safe Streets and Roads for All Discretionary Grant Program. The Safe Streets and Roads for All (SS4A) Grant Program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries in support of the goal of zero roadway deaths. Through the SS4A Planning Grant, the Town of Huntersville will be seeking funding to create a Safety Action Plan to evaluate and develop strategies and project recommendations to address safety risks on our roadways. By creating a Safety Action Plan, the Town will be eligible in subsequent years to reapply for additional funding through the SS4A Grant Program to implement the projects and strategies identified in the Safety Action Plan.

Commissioner Phillips made a motion to adopt Resolution authorizing the application to the Safe Streets and Roads for All Discretionary Grant Program. Commissioner Kovacs seconded motion. Motion carried unanimously.

Resolution attached hereto as Exhibit No. 3.

PUBLIC HEARINGS

Petition #R23-05, Lagoona Bay Beach Club. Mayor Bales called to order continuation of public hearing on Petition #R23-05, Lagoona Bay Beach Club, a request by Bi-Part Development, LLC to rezone +/- 263.01-acres generally located north and south of NC 73, south of Mayes Road, east of Westmoreland Road, north of McCord Road and west of Black Farm Road from existing Rural and Transitional Residential to Traditional Neighborhood Development - Conditional District, Neighborhood Residential - Conditional District, and Highway Commercial - Conditional District for a mixed-use development consisting of approximately 1,183 residential units (250 single-family homes, 201 townhomes, 432 apartment units and 300 condominium units), 210,000 sq. ft. of retail, 200 hotel rooms, 36,000 sq. ft. of convention center space and a 41.16-acre commercial lagoon.

David Peete, Principal Planner, entered the Staff Report into the record. *Staff Report and Staff PowerPoint attached hereto as Exhibit No. 4.*

I also want to enter in the email with the attached memo of responses that I believe was sent to all of you as well as the Clerk. I want to make sure that is entered into the minutes for tonight as well. *Refer to Exhibit No. 5.*

Very quickly tonight I just want to give you an update since the public hearing on June 5. Since the meeting on June 5, we've received an updated tree survey. We've received some urban open space plans and then some concepts to go along with that and then the email that I alluded to just a moment ago outlining some responses from the applicant. That was received Friday afternoon. This afternoon we received the next version of the plan was uploaded to EPM. No review has been done of that plan and we don't have anything to elaborate on for this evening. If you have any questions on what was previously discussed, we could certainly go over that. But that is all that we have.

Commissioner Partee said I have some questions regarding the Planning Department's application process. As you know, and this is for my own edifice, not the dais that's up here now, because I want to have some sort of conceptual idea as how this application has moved and the process at which it moved. Just for the record for the public, I just want to let them know that my background as a former federal and state criminal investigator, you know I like to have all my ducks in a row before I make a decision on any case. Approximately how many man hours was logged in pertaining to the application for rezoning from the filing date to present?

Mr. Peete said I'm going to let Brian answer that.

Brian Richards, Assistant Planning Director, said just so you know we don't have a formal tracking system so these are estimates based on our review of times and meeting hours that we logged in our calendars. Right now, between Planning staff, Parks & Rec and Engineering, we have approximately about 190 man hours into this project so far. That does not include external agencies, CMS, fire marshal, landmarks commission, NCDOT. This is just Town staff.

Commissioner Partee said exactly. And that's all taxpayer dollars that goes into this, right?

Mr. Richards said yes.

Commissioner Partee said that's one of my points. And you just gave me how many departments were involved in the process as the application moves forward. Now my question is hypothetical. Hypothetical because I'm one of the new commissioners up here and I've been trying to grasp exactly how decisions are made from the time that the application is processed and I'm going to use a hypothetical situation. Let's say I'm the commissioner on a board for Anytown, USA and Mr. Jones, a developer, submits an application to the Planning Department for a rezoning to build a development. The Planning Department denies the application because it didn't fit its Anytown 2040 Plan. A TIA wasn't done by that particular state. Then it goes to a public hearing in Anytown. They have a public hearing, which we are conducting right now. Then the next step is to go before the Planning Board, am I correct?

Mr. Richards said correct.

Commissioner Partee said and they evaluate exactly what you present during the public hearing and whether you state that you deny the application…….

Mr. Richards said just for clarification, the Planning staff doesn't actually approve or deny, we make our professional recommendations.

Commissioner Partee said your professional recommendation, thank you, that's what I like to hear. And then the last stage after the Planning Board makes their decision, it's sent back to the Anytown Board of Commissioners to make their final determination whether to approve or deny the petition.

Mr. Richards said correct.

Commissioner Partee said my question is and maybe our attorney can clarify, commissioners for whatever reason can approve a developer's petition disregarding the Planning Department's recommendation, and the Planning Board's recommendation also. So hypothetically, this is all hypothetical……..whereas the optics, now I'm concerned with the optics of the petition process, really concerns me. And over the past week after our last Board meeting and to this present Board meeting, there's been a lot of communication, a lot of FOIA dumps on records pertaining to our developer and this Board and it really concerns me. I say that because as a…..and I'm speaking for myself…..as a former law enforcement officer I have to maintain ethical standards. And I'm not accusing anybody or anything. I don't want to accuse anybody of anything, but I just don't like the optics of the fact that there's a sort of, and this is probably in Anytown USA, that a developer could have a cozy relationship with its commissioners. I'm a person who represents the Town of Huntersville as an elected official and I want to protect the Planning Department, the Planning Board, our Town Managers, from any type of charade or any type of fugazi stuff that's going on. I disapprove of it wholeheartedly. I can't enforce it, but I can address it. And I want to just state that I am one of those individuals who's not afraid to address it, because I'm from the hood and I'll get down and dirty with anybody that dislikes what I have to say or make comments on. So, I just want to get a grasp on the process and the fact that we really don't have to be sitting here because if there's any influence, then we are wasting time if this petition is going to get passed because of relationships. I know that as an elected official, I will speak for myself, I want to maintain my dignity, my honesty and my trustworthiness to the constituents of this town. So, therefore,

I appreciate what you guys do, the Planning Department, and the waste of taxpayer dollars is just abominable, I just don't like it. That's my question.

Mayor Bales said are there any other questions for staff at this point?

There were no questions.

Mayor Bales called on the petitioner.

Jake Palillo, 17532 Sail View Drive, Cornelius, said we've spent the last two weeks going through all of staff's review and reports. I'll go through it pretty quickly. *Refer to PowerPoint attached hereto as Exhibit No. 6.* We had like 59 different issues. We've addressed all those. We have 12 different modifications that we are asking for. It gives you the plan.

This shows you one of the things…..it shows you the different zoning requirements that were required. This shows you the block length, another requirement. This shows you the 10' multi-purpose path throughout the area.

This one here shows the traffic calming areas and stuff, again that staff required.

This one here shows you the berm area. We are going to put the berm along the highway and stuff.

This, I promised I would bring you some pictures. These are the pictures of what we've done along Bailey Road near Bailey's Glenn, so this gives you an indication of how we build our berms and how we buffer areas. That's another section of the berm. After it grows then you barely see what's behind it.

This one here had quite a few issues here, so over here all of these we have sidewalks going to the street. We have loading docks showing off the hotel and convention center. This area here we're asking for a modification because we want a little bigger area up front. We'll show that on another slide. Again, we had a modification for larger courtyards and open space and then we have our trash and stuff down here, so again all those were issues that we answered.

This is the first-floor layout of the building. That's the other building. This gives you some ideas of what our courtyards will be designed like, so they are not just going to be open areas, they are going to have features and stuff in them. These are all precedents of the lifestyle out there on the courtyard. That's all inside that area there. I left packets for everybody with the pictures there so that you can look at it later, a little slower, so you'll have all that information. *Packet attached hereto as Exhibit No. 7.* Again, that's all precedent pictures around the lifestyle and the walking and the people in that mixed-use area.

This is one of those red buildings of free-standing buildings out front. The reason we want the additional sidewalk is because we want this space out here. So, you see how there's chairs here, there's a walkway rather than have the building up close where you don't have any pedestrian traffic.

That's the one condo building. This is a precedent about the hotel. This is five stories. This is the Edwin. It's in Chattanooga. It shows you the rooftop bar, restaurant. That shows you the view off the rooftop. That shows you the banquet facility that will be up there as well.

On the lagoon, another one of the areas that we are asking for one of the modifications, is because these buildings don't face up on the street. These buildings really need to circulate around the lagoon

area. If we pushed them up near the street, they wouldn't work. That's one of the modifications that we are asking for.

Again, that's the berm that will go along the road to buffer the parking area that was a requirement.

This is a 6' high fence that will run around the parameter of the Lagoona Beach Club to keep people out. It will also be landscaped, so it's not just going to be a fence like you see here, it will have landscaping and well dressed up.

This one here was a modification. This is showing the four-story buildings here. We've shown all the different parking requirements. All the buildings are facing greens and this is we moved this to a street. All the concerns around this we've addressed that. That gives you what the four-story building will look like. It's in a beachy theme. That's the three-story building. That's the first floor. Again, all requirements that we were lacking in the last application.

This here shows the urban open spaces that were required and the mailbox kiosks, so we did all that.

Again, this urban open space here, we eliminated two lots. There was an issue here where this was in the buffer. We moved that out of the buffer. There was an issue here about a 10' multi-purpose path. We've moved all this, and we have the 10' multi-purpose path.

Staff will be reviewing all this, but all this stuff, which was a lot, there's 68 pages of designs and drawings that were modified and Urban Design Partners, hats off for working around the clock to get this done.

This gives you an indication, these are precedents of the urban open space. So, it's a requirement to kind of show what they are going to look like.

This here gives you some precedents about what the housing will look like, so it's going after that seaside theme, very beachy, very comfortable, a lot of large porches, all front load so that all the lifestyle comes out to the front. And then we went through all the different development notes in there. The ones that I want to bring to your attention would be the traffic analysis.

If the zoning is approved, the traffic impact analysis shall be conducted according to approved scoping documents. The petitioner agrees to install all the road improvements as required by North Carolina Department of Transportation. The petitioner agrees to submit the final TIA to the Town for review. Staff may recommend additional improvements within a half mile of the project along 73, Westmoreland, Black Farms Road and McCord. The report and staff recommend improvements will be presented to the Planning Board and brought back to the Board for approval, so anything that you think that NCDOT is failing to make us do, and you want to add stuff to it, you have that right to add that after that.

The other one that was in here…….affordable housing. We're going to put 20 affordable housing units in the community. They're going to pay whatever the affordable, I think it's 30 percent of their income and we're going to provide them free membership to the Lagoona Beach Club and we're going to waive the dues, so those 20 families will have the opportunity to enjoy life at the Lagoona Beach Club at no cost. The only thing they'll pay for is their food.

The last one here that one of the commissioners had asked for, access to Lagoona Beach Club will be restricted to members and household family members only. A limited number of guest passes will be

issued to members annually. Registered hotel guests will have limited access to the lagoon in a restricted area, private beach area only. So, again, it's a private beach club. This is a condition that if it's approved, will go into the approval. And if we ever wanted to change, I'd have to come back to the Board to do that. Once you already have all these memberships, it's really hard to change a membership.

These are the list of 12 modifications. Again, most of them are block lengths we're asking for. One was to go to the apartments, which were 48' along Sam Furr. Setbacks at 20'. There's four different block lengths we want to extend. The height of the hotel…….all of this is in the packet I gave you. I sent you an e-mail. But that's what it's down to, 12 different modifications is all we are asking for. And they're really modifications because the plan doesn't fit within the Town's current zoning and I believe staff can tell you that pretty much in every one of your rezonings there's always modifications. We had modifications for Symphony Park.

Before I run out of time what I want to address over here is this. I've been a developer and a resident in the area for 23 years. I've done several different projects here. I've had a salon business here. I developed Symphony Park, Bailey's Glen. I have relationships with all of you. I have relationships with people in Cornelius. I have never ever, and I support a lot of people politically just as a contribution, I don't buy votes. I don't coerce anybody. I've never asked anyone to do me a favor. Every one of the projects I brought to this town I am proud of and every single person who has voted for my projects has to say they're proud as well to be there. So this indication that all of a sudden…..yes, I'm very passionate about this town. Yes, I did fight to take out a former mayor who was in here who hurt my business and I spent my money and I went after them politically and changed the political environment of this town. Yes, I had some issues with Planning staff, but this idea that I'm all of a sudden cozied up to commissioners……you vote for this project because it's the best thing for this town. And I've never…….the same in Cornelius where I've done all my business…….I could go develop anywhere in the country. I focus in Davidson, Mooresville, Cornelius and Huntersville. I enjoy Huntersville because it's a great place. I built my kids' homes here and I've got nine grandchildren living here. So obviously in a town this size, I'm going to be able to know the people, see the people, but we don't cozy up with people. So that indication that somehow there's this underhanded thing going on here where I'm buying people's votes and stuff is absolute crap.

Commissioner Munger said I'm just going to put it out for the record. Jake has given me a donation of $2,500 during my last run for commissioner. The first few times I ran, he didn't. I have questions related to what we….the first sheet. Unfortunately, I wasn't able to update with the second one you sent later today. My time is very busy. Your time is very busy. I didn't have time to update everything in there, so you might have already covered some of this, my apologies. The first modification I'm looking at, modification requesting Blocks 10 and 11 exceed 500'. Do you know off the top of your head how far they're extending?

Mr. Palillo said the sheet over here has the modifications and it will tell you in the top corner….right there. That chart right there tells you all the block lengths. I think there's like four or five and it'll tell you the length. All your block lengths are noted there.

Commissioner Munger said and that's included in what we're getting shortly in the packet or what you've already sent to us?

Mr. Palillo said you have the download of the 68 pages and then you have the sheet that tells you what the issue was.

Commissioner Munger said tree save…..the comment was 30 percent tree save requirement will be met with mitigation. What is mitigation and can you explain what exactly you're doing?

Mr. Palillo said I believe we met all the tree save, though, did we not? This is Nolan. He's one of the engineers. He can answer that.

Nolan Groce, Urban Design Partners, 1213 W. Morehead Street, Suite 450, Charlotte, said we are meeting the tree save in each zoning district with mitigation. The NR zoning district to the south we are meeting on its own. The other two zoning districts will require mitigation. The Zoning Ordinance has specific measures that we must take to mitigate the site, which will be met.

Commissioner Munger said what I'm asking is what is mitigation. Can you explain that, so we get it out there.

Mr. Groce said generally, it's replanting a tree per DBH that is removed.

Commissioner Munger said on this particular one you are doing a 15 percent tree save and essentially 15 percent tree mitigation.

Mr. Groce said correct.

Commissioner Munger said the Planning staff has recommended a 40' buffer and in multiple instances you've set it up to be 20', why not 40'?

Mr. Groce said I believe the ordinance was modified after our petition was submitted, so we have permit choice, so we are sticking with the original 20' undisturbed buffer. It meets our plan layout and we believe that we have stepped down development to the edges of the property to keep with the spirit and intent of the ordinance.

Mr. Palillo said mainly what it is when you look along this area here, all of these homes on Mayes Road are over 500' deep. A lot of their homes are placed closer towards Mayes Road, so this is all open space in the back, so it's not like we are up against anyone's house tightly. Same thing here. This is all field. There's one resident here and we've left this space close to her. Along here we've got buffers. Again, here we left a big buffer along this road. And then this area here, this backs up to our property that we own. This here backs up to a vacant lot, so there's not really many areas that we've requested that.

Commissioner Munger said I know, I'm just saying staff has recommended 40' but you went against it and said 20'. Recommend add stub northwest adjacent property the comment was two stubs are included in the northern project edge and the addition of stub would disturb open space.

Mr. Palillo said we moved this stub per the staff.

Mr. Groce said it's to the north.

Mr. Groce said that stub was up here at the cul-de-sac area. They are requesting an additional stub to come this way, so we have shortened our cul-de-sac to be in compliance with the ordinance and that is actually urban open space. We're going to have a dog park in that area. If we extended that stub, it would eliminate our urban open space. We are already providing two stub roads to the north.

Commissioner Munger said one of the reasons that staff typically says we want stubs is because eventually that land will probably likely be developed and to get traffic flow to occur, we ask for stubs in as many places as possible.

Mr. Palillo said I'm not opposed to giving right-of-way there. We'll keep it as urban open space for now and then if you ever want to do that, then it will be up to the staff and town that you can then connect to it. We can dedicate a right-of-way there and in the meantime we'll just maintain it as urban open space.

Commissioner Munger said just to let all of the commissioners know, I have 25 questions. That was question 4. You can stop me at any time.

Commissioner Munger said providing on-street parking on both sides of the street abutting townhomes, you said you will allow parking on one side. Why not both sides?

Mr. Palillo said because we've got detention basins, so we are pinched for space. What we've done for our townhomes, you'll see in the 68-page plan we provide two parking spaces in the driveway and then we provide two parking spaces in the garage, plus we have on-street parking, so we more than overpark it. A lot of times you see double parking on it because they count the garage as an actual parking space. We didn't do that. We have actual driveway space to park two cars, plus the garage, plus on-street parking.

Commissioner Munger said I think you already kind of covered this one, all buildings must front either public street and that was where you had various buildings around the lagoon simply because they….explain that again.

Mr. Palillo said the concept of the lagoon is that the buildings that are around it are part of kind of the beach club, so in other words these restaurants and stuff……so because the lagoon is a new concept, this could really be called an urban open space where it's all open. But because no one ever developed a lagoon, it's not, so all these buildings are really on this open space. But if we put these buildings along the parking lot, then we lose the effect of waterside dining and stuff.

Commissioner Munger said Road 9 exceeds block length limit of 500' for urban conditions. Can you give me an idea of……allowing Block 16. I'm not sure I follow……the question was Road 9 exceeds block length limit of 500' for urban conditions. Road 9 should also incorporate traffic calming measures, and then a modification has been requested allowing Block 16. Is that a typo?

Mr. Palillo said we added all those modifications…..I'm trying to get to that slide.

Mr. Groce said which number are you on?

Commissioner Munger said this would be 34. I can give you the numbers at the beginning, too.

Mr. Palillo said traffic circles we added and then all these yellow things are all modifications to slow….those are all calming. This shows you where they are raised. The reason of a block length, you see how long this is. That exceeds it because we're crossing over top of this stream area. There's nothing in here. That's why this block length is so long.

DRAFT

Mr. Groce said that is actually Road 9 where Jake was just highlighting. The modifications we are requesting are due to existing……

Commissioner Munger said but did you see where on the response you said Block 16.

Mr. Groce said it's Road 9, but the block and the block [inaudible] is No. 16. That's the confusion, the block lengths are numbered differently than the specific roadways.

Commissioner Munger said retail, apartment buildings and condo buildings have large setbacks from public right-of-way. This is 35. Modification requested for larger setback to allow outdoor dining areas.

Mr. Palillo said these are the retail areas that we want to have more space and we don't want to have them up on top of the road area, so we create this environment around the buildings. We can landscape it and then the building is really kind of set into the landscape.

Commissioner Munger said 37, all urban open spaces must be designed at sketch plan. Two plazas between the condos must generally be designed to illustrate ordinance compliance. Modification being requested allowing the plaza to exceed 30,000 sq. ft. An exhibit showing plaza design will be provided.

Mr. Palillo said we showed those urban open spaces. Here's the urban open spaces that we have done and this is kind of some precedents that are in urban open spaces. We've addressed all of those.

Commissioner Munger said you are asking for a modification on the hotel to go to 78' high, max six stories.

Mr. Palillo said right.

Commissioner Munger said 43, portions of block for Westmoreland Road and Road 9 exceed block length limit of 800'. Modification request to allow Block 20 and 27 to exceed 800' and you're putting in traffic calming.

Mr. Palillo said yeah, we've got traffic calming throughout. We've added all the traffic calming.

Commissioner Munger said what type of traffic calming are you planning on putting in place?

Mr. Palillo said some of them are circles, roundabouts, and other ones are raised areas……raised walkways. See how this area here kind of raises so it slows the traffic down. It's not a bump, it's just like a raised area.

Commissioner Munger said people would still be able to drive over that?

Mr. Palillo said yeah.

Commissioner Munger said so only at the intersection will there be traffic calming.

Mr. Groce said that's correct.

Commissioner Munger said for block lengths that exceed the block length limit, let's say going into 800', you're going to have an 800' run without any traffic calming at all?

Mr. Groce said the specific roadway that you referenced, Westmoreland Road, we've added two traffic circles and I believe six raised crosswalks along that run.

Mr. Palillo said there's a raised walk, there's a traffic circle, there's a raised walk, raised walk, raised walk, traffic circle, raised walk.

Commissioner Munger said so there is traffic calming beyond just the intersections.

Mr. Palillo said yes, they are all the way down. And those walkways are raised up. You don't fly over it, it's not like a speed bump.

Commissioner Munger said 47, redesign of Westmoreland Road. Roadway will not be redesigned, but traffic calming measures provided will be provided along Westmoreland Road, a mini-circle. Why not redesign?

Mr. Palillo said we added all the traffic calming devices for it. I'm sorry, we did redesign it. We put all these traffic calming and we added the two circles in there.

Commissioner Munger said literally the comment from you is the roadway will not be redesigned.

Mr. Palillo said you mean curving the road more?

Commissioner Munger said redesign of Westmoreland Road even with the traffic circle, Westmoreland Road is too direct a route between NC 73 and McCord Road. This road should be redesigned to create a less direct route between the two thoroughfares. And the comment back is roadway will not be redesigned, but traffic calming measures will be provided along Westmoreland Road. A mini-traffic circle was added at the intersection with Road 13.

Mr. Peete said the comment was about [inaudible] of Westmoreland and not having it go from 73 down to McCord without interruption. His option was to add the traffic calming rather than redesign.

Commissioner Munger said but that's not in line with what staff had recommended, correct.

Mr. Peete said another department made that comment.

Commissioner Munger said 48, redesign of stub to Willow Grove, Willow Brook, the traffic circle at Westmoreland will calm traffic but the stub connection should be a very indirect route between neighborhoods. Stub will not be redesigned. Traffic circle provides calming. So we're going against staff on that one as well?

Mr. Palillo said we have this traffic circle right there, so that's the stub. And we have added that traffic circle. That's where you get into Willow Brook right here, so that traffic circle is right there at that intersection which calms all the traffic.

Commissioner Munger said how long is that block length if we consider the extension into Willow Brook. If I go from that traffic circle to the first intersection inside of Willow Brook.

Mr. Groce said I believe it's around 350'.

Commissioner Munger said so it fits within what we need. Revision of on-street parking on both sides of Road 9. On-street parking will be provided on one side of the street. Ample parking……so again the parking issue. You just want parking on one side of the street rather than both.

Mr. Palillo said I think because we are putting the 10' multi-purpose path and we're putting the streets fronting it, it looks a lot more appealing to have just cars on one side and then two lanes of pass-through traffic.

Commissioner Munger said block for Road 14 exceeds block length limit. Block 31 to exceed block length limit of 800'. How many roads exceed the block length limit?

Mr. Palillo said four. I think it's only four.

Mr. Groce said we are requesting modifications for six specific blocks…..now, there's less total roads. I believe it is three specific roads – Road 9, Westmoreland Extension and the road to the north of Sam Furr that has the cul-de-sac.

Commissioner Munger said so multiple blocks within the same road.

Commissioner Munger said a number of different places you've already kind of pointed out the 20' buffer versus the 40' staff recommended. Seriously, it's one of the things I hope you reconsider. Fifty-eight, a future street stub along western edge, south of Ramah Creek. Stub street will not be provided in this area because it requires stream crossing and the abutting area is developed.

Mr. Palillo said I think that was they wanted this crossing to go through here……and it doesn't really go anywhere.

Commissioner Munger said so that land back over there behind that stream is undeveloped at this point?

Mr. Palillo said it's a small little tract of land.

Mr. Groce said this is part of our development. This parcel here is virtually all tree save area. The parcel directly abutting to the west is approximately 8.42 acres, which has one single-family home, but has existing access to this development.

Commissioner Munger said so like a dirt road there.

Mr. Groce said correct.

Commissioner Munger said 60, buffer along frontage of McCord Road 80' deep. You are proposing 70'.

Mr. Palillo said we have a 70' buffer right in there, and we have the 10' path here.

Commissioner Munger said and that was just to make things fit, instead of going the 80' staff recommended.

Mr. Palillo said yeah, we'd lose two more lots. If it's something you want, we could do that.

DRAFT

Commissioner Munger said I skipped over a couple of them, but the last one I have, it still bothers me your lot widths, limiting those to 50' and having very few variations in that number. I would like to see that change. A wider variety would be more appealing in my opinion.

Mr. Palillo said the precedent of the house is it really fits within that, the 5' setback on each side. That's the style of the house that we are going after. Rear-load, all the cars and everything is to the back. Bringing porches up front, creating a 10' multi-purpose path, so it's a really walkable, warm community.

Commissioner Munger said still expressing my opinion. I don't like the fact that they are all 50' or less. I'd like to see it varied up some.

Mr. Palillo said what other sizes would you like to see.

Commissioner Munger said you're the developer, Jake, you know better than I do. A little bit wider. I live in Vermillion and we have a variety of widths within some of our houses. I believe they go anywhere from like 40' to probably up to 75', 80'……..variety, variation, everything looking the same all the way down, not appealing.

Mr. Palillo said what we tried to do was create kind of more or less the pods so that this area here would be more 40'. The area to the top would be more 50'. Then we have townhouses, we have condos and we have the apartments, so we really have five different housing, so these here are 50's.

Commissioner Munger said you see right up there, that road…..this road that goes here, all the way up. Go up along that street. Every single one of those is the exact same width and it looks very cookie cutter.

Mr. Palillo said so you would like to see these a little wider here.

Commissioner Munger said just in general. A variety makes it more interesting, I would think. And it feels like you have more variation happening as opposed to just this house, this house, this house, they all look the same. They're all the same width. You don't have any variety is what I'm seeing on that. Varying that lot width would seem sensible to me. Again, it's my opinion. I'm not a developer. If I was driving down that street I wouldn't want to live there.

Mr. Palillo said we'll take a look at that.

Commissioner Partee said before I ask my question, I just want to address Mr. Palillo's accusations towards me. Number one, I didn't accuse anybody of anything. I just said the optics looks very bad.

Mr. Palillo said I didn't……..

Mr. Partee said I didn't ask you to respond. It's my turn. But if you want me to, I will read emails from you communicating to commissioners on this board and past commissioners putting a bagel on them, so don't ever sit up there and tell me that I accused you of anything. I want to state that for the record. And you don't want me to read these emails, do you. Now my question. Let's go to No. 6, building type issue. Small buildings in apartment parking lots does not front anything. Revised layout, modification requested. Carriage units in apartment area have been revised from front urban open spaces. Is there a certification that this will be done.

Mr. Groce said we have incorporated that into the updated plan set. They now front urban open space. They are actually carriage units, so garages with an upstairs apartment. But we have incorporated clear urban open space as the frontage condition.

Commissioner Partee said No. 57, appropriate land use transitions recommended 40' buffers along external borders to appropriately transition from abutting large lot single-family to the west with density of 0.34 units per acre to proposed subdivision with 40' wide single-family lots with a density of 2.5, 7 times the existing density. External buffers are shown as 20' undisturbed buffers per our ordinance. Does this not meet the recommendations of 40' buffers or will you provide 40' buffers?

Mr. Groce said we are showing a 20' undisturbed buffer, which is the ordinance requirement.

Commissioner Partee said but the recommendation I believe is 40'.

Mr. Groce said correct. The recommendation from staff was 40'.

Mayor Bales said are there any other questions or comments for the developer.

Commissioner Phillips said I don't have a question, but I've done this every time he's been up here. The applicant has donated to my campaign. If you think my soul is worth $5,000, bless your heart.

Commissioner Kidwell said Jake, what's the development that you just launched – age restricted home.

Mr. Palillo said Symphony Park.

Commissioner Kidwell said correct me if I'm wrong, was everyone who's elected at this dais, did they not come to a function that you had there celebrating that?

Mr. Palillo said yes, they did. I'm sorry, Stacy wasn't there.

Commissioner Kidwell said what's that mean. That means, all right, I will say it, nobody was accused of doing something, but it was implicated up here by one of my fellow commissioners. I've known this man for a long time. I've sat on three boards up here. I have worked with numerous people who I did not get along with and yet when the votes came, I knew that they were doing ethically the right thing. I never questioned it. And for accusations to be thrown out in the air……it's not acceptable behavior. All of us up here have gone to some sort of function from a developer throughout the years. It does not mean that we have been bought and paid for at all. What it does mean is that we do at some point interact with individuals in this town. I've met with individuals from neighborhoods. I've met with developers. I have met with other people. But how we vote up here has and I believe will always be ethical, regardless if they get a campaign donation, which I've never received. I have received his support. He put my name on a sign back in 2013. Most of you know me, I shoot from the hip. I'll just tell you how it is. I don't have to get along with everybody. There are people that frankly I don't like, but guess what……that's life. In business you work with people you don't like sometimes but guess what, you work with them and you get along. Tonight crossed a line for me that I am just…please no clapping. This is not the time for outbursts from the public. This is the time that we listen to people and we try to come together to find a resolution and when we make accusations towards each other or outbursts, it's wrong and it needs to stop.

Commissioner Boone said I have received a donation for my campaign from Mr. Palillo, but I've also got one from Dr. Brennan. So, you're asking who's Dr. Brennan. He's the man who's doing pro bono work for ocular melanoma for the Town of Huntersville. The point I'm trying to make is that donations come in from a large scope of the residents of this town and if you think that, like Commissioner Phillips said, if you think I'm worth "x" amount of dollars, you're mistaken. I want to say……I'll just stop right there.

Mr. Palillo said the one thing I would like to add is I don't go out and donate money to get plaques and get my name out, but I would challenge anybody who's donated more money to charities and communities in this community than I have over the last 20 years. And I don't do it to get my name out there. I give it anonymously and I support all the charities and stuff. So this nonsense that I do it for…..if I was going to do it because I want to get gratitude for it, I'd put my name all over the place. We don't do that. We support people that run for office. We support charities, we support the community, we support the schools, we support everybody. In all of our projects I don't think anyone here can point to a project I've done in Huntersville, Cornelius, or Davidson where you can say that should never have been there and this guy got a favor by getting that rezoned, including the $100 million independent living facility, which is one of the finest in the southeast that's being built now.

Mayor Bales said if my memory serves, Mr. Palillo I do believe you donated to my mayoral campaign and I will put that out there as well. But as I have told every person who has ever donated to a campaign of mine for the last 12 years, the decisions that I make sitting up here are decisions that are in the best interest of this community and this community as a whole – not an individual, as a whole. And sometimes that means making decisions that actually hurt me personally, because it's in the benefit of the whole. I'll just put that out there on record as well. Personal attacking members up here is unacceptable. We don't do that. We need to get back to doing the people's business and that's simply a hard stop. If there are no other questions for our petitioner this evening, we're going to move to public hearing comments. Before I do, I am going to revisit our Public Hearing Policy. Persons desiring to address the Board during public hearing shall list their full name, address and subject matter to be discussed and that goes to the clerk. The public hearing speakers shall be civil and courteous in their language and presentation. Insults, personal attacks, accusations, profanity, vulgar language, inappropriate gestures or other inappropriate behavior will not be tolerated and that includes clapping. We do not do that here. This is not a football game. If those rules are broken, you will be asked to leave.

Noelle Burton, 12940 Cadgwith Cove Drive, said in the 2040 Plan which was enacted December 2020, the proposed property needs to stay at the current zoning at 1-1/2 units per acre and 40 percent open space. The 2040 Plan, as most of you know, is for guiding the growth for development and overall improvement of the town. How can this proposed plan possibly improve our town. This horrible waterpark project goes against everything the people want that helped to implement the 2040 Plan. I have a lot more to say, but I guess I'll just tell the news directly. And lastly, Mr. Partee, I believe you have just earned yourself a lot of votes with your honesty and integrity. Partee for mayor. Thank you for standing up for us.

Mary Ann Turetsky, 17114 Bridgeton Lane, said there are just so many reasons to deny this project. Other lagoons like Epperson……has anybody visited Epperson on the Board. They have daily passes. Oh, Amber, you visited Epperson….okay. They just give you a daily pass. Will this one in Huntersville start giving out daily passes? Will it be another waterpark? But more importantly how many gallons of our public water is needed to fill this 11 acre pond? How much sand has to be trucked in over our already compromised roads? And continuing to talk about water, his oasis resort style condos were put on hold due to Charlotte Water capacity. The sign said they'd be ready in 2020. How long would water and

sewer hold ups be for a club the size of the lagoon? How would he ever finish his swan song monstrosity? Some might say the 2040 Plan is outdated, but hopefully we are going to persevere and stick to our plan for the good of all the people of Huntersville, not just the few.

Violet Clarke, 13423 Willow Breeze Lane (George Burton, 12940 Cadgwith Cove Drive, deferred his time), said first of all, thank you Mr. Partee for your comments. We are definitely going to be supporting you for mayor. Secondly, Mr. Kidwell, you said listen to the people. Fifty three hundred (5,300) people have signed my petition – 5,300. That's more than the number of people that come out and vote in a municipal election, so if you are going to be listening to the people, maybe listen to those people. Also, there's a lot of comments from all those people on my petition. I'm happy to share those all with you, but I did share the signatures on the petition and entered them for the record. *Petition attached hereto as Exhibit No. 8.* Ms. Bales, you also said that you are making decisions for the community as a whole and you want to do the people's business. Well, this community does not want Lagoona Bay and neither do the people in the surrounding communities, because many of the signatures are mostly from a lot of everybody in Huntersville, of course, but there's also Cornelius, Davidson, Concord….you know, everybody that's affected, anybody that travels to Exit 25 or uses Sam Furr Road. You know, all those towns are all interconnected. They will all be affected and this is not something that people want and they've spoken loud and clear. And also, how can you approve or even consider this project that completely doesn't fit the 2040 Plan, which was only implemented a couple of years ago and the project is almost a billion dollar project and there's no traffic impact study. That is unprecedented I was told this afternoon when I talked to Mr. Peete and as far as him providing one after it's rezoned, that's definitely backwards and should never happen for a project this size and I'm horrified that you would even consider that and not just throw this out or throw it back to him and say do the traffic impact study. If he can spend what he says $800,000 so far, he can certainly afford a traffic impact study and the traffic will affect all of us…..everybody in the area. And also, how big of a red flag do we need to shut it down and so these are some of his exact words. Mr. Palillo's words. This is what he said to Brian Richards. He said Brian, you are killing me with this crap. His words – who gives a s*** about the stupid TIA. Stop reading that stupid code book that should have been thrown in the garbage. Stick with me, I'll teach you. I'm fighting this fight for all of you residents because you are all entitled to quiet enjoyment in our homes and neighborhoods and this proposed nightmare will bring nothing but chaos, crime, destruction and turn Sam Furr Road into a parking lot at all hours of the day and immobilize all of us that live nearby. How do you not see how self-serving this is. It doesn't take a genius to figure it out that he's planning this as his last hurrah next door to the 25 acres he bought for himself and his family sitting right here. Of course, he doesn't care about a traffic study, but we will all be sitting in gridlock by this nightmare. Do your jobs everyone of you and throw this out. Thank you.

Shannon Harris, 12807 Levins Hall Road, said I'm originally from Orlando, Florida. I moved to Huntersville almost 30 years ago and graduated from North Meck, so Huntersville is my home. Huntersville is my peace, my greenspace, and is filled with locals who share the same feeling in wanting to keep our town green, quaint and not have it become a tourist destination. I lived in concrete beach life growing up and believe me, it was great, but that was in Florida, where something like this belongs, where it can be used year-round. With the amusement parks and the beaches Florida has to offer, tourism ruined Florida. I've watched it go from farmland and orange groves to the hustle and bustle of crowds overwhelming our infrastructure. When the tourists came to visit, they left behind trash, they destroyed hotel rooms and overcrowd our roads. They were there just to visit, so why did they care about what they left behind. That's one of the main reasons I left Florida. I came to Huntersville for peace, quiet and nature and that's what I found when I moved here. Places like this don't last. From Disney River Country, built, closed, abandoned, you know, it's left to ruins. It's still sitting there in ruins. Watermania. I went to this as a teenager. It's closed down. Within a year, it was abandoned. And right

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now there's a Golden Corral and putt-putt sitting on the property. I suggest maybe using this property for something good like Frank Lisk Park with many activities, open greenery, trees are still there. It's quiet. It's not going to disrupt anything. Please vote no as I'm sure this proposed plan will end up like many concrete beaches that have become defunct or filed bankruptcy across the US.

Bob Baer, 15802 Lavenham Road, said I'm a 23 year resident of Lavenham Road in the Northstone subdivision. I know at the last public hearing Mr. Westmoreland got up and spoke about how he sold his land. We really appreciate that. We also appreciate the developers that built Northstone. They built a beautiful community that kept the rural feel of the area and it feels like you are in the country even though it's a 1,000 home subdivision. It also brings up again McCord Road. There's four subdivisions being built on there right now. What is going to be done to make sure that McCord Road doesn't turn into a freeway. The current zoning for this property is Rural and Transitional. Does anybody in there think that 250 $1 million homes on 40' lots is anything remotely resembling rural. Mr. Palillo presents this project like it's an exclusive members-only community and we're fine with that. If you want to build a beautiful community with a 10-acre cement pond instead of a golf course and it's members only, that's fine with me. But when you open it up to a convention center and a hotel, that is an open invitation for transient people to come in and out of our community within a mile of our peaceful subdivision and these are people that have no ties to our town, it's a hotel, that's a destination. That's a fiasco right in our backyards. I have no empathy for someone who moves right next door to an existing airport and complains about the noise. The airport was there first. We were here first and you're trying to put this down our throats. I thought at the last meeting that someone posed the question would he be willing to give up the hotel and the convention center and I thought he said that he would be willing to look at that. That is my huge issue is bringing thousands and thousands of transient people into our neighborhood to stay at this hotel and be at this convention center. I guess the last thing I'd like to say is there's going to be people coming up here that are going to say that they are for this project. We have to give our addresses where we live to show that we sort of have some skin in this game. I think it's only appropriate that if someone is coming up and they are saying they for this project, that they should also state whether they have anything to gain from this project being built. If they don't have anything to gain, do they plan on spending $10,000 to be a member of this community with this big cement pond. The last thing I just had a question about was at the last hearing it was presented that the swimming in the lagoon will only be seasonal, but then for the rest of the year people can kayak and wakeboard. If I'm not mistaken wakeboarding takes a boat. Are power boats allowed on this lagoon?

Mayor Bales said there's no communication back and forth with anyone, it's just your opportunity to speak. I think that's a great question and it's one I'm sure one of the commissioners will ask at some point.

Dr. Gary Maves, 13515 Evening Primrose Drive, Davidson, said I'm not a part of Huntersville, but I have seen what this state since I moved down here from Illinois……I have a Chicago background, and I just realized that this state is about as backward as they come. When you have roads that look like they were old paths that horses, buggies and things like that went down before and now our roads are that way – two lanes going down the road all the time and 73 is one of those roads. Basically, it goes from Concord to Denver and that road has been said to be widened by the state of North Carolina for over 25 years. I have that on record because I've got a friend who's been here 30 years and he says they've been trying to widen this road forever. Now, if they think that because of this Lagoona thing that they are going to widen that section before they widen Denver, before they widen through Huntersville itself and come out and go to Concord with four lanes or five lanes or what…..what they're even thinking three lanes with limited turns and stuff like this. How are we going to get that done in 4 years. I don't know because basically North Carolina, Raleigh, doesn't care about this area. Let's face it, they don't.

They have been building a bridge across Gilead forever right now and they are continuing……they haven't even started the bridges. How can you have people building things that take years to get done and to say that 73 is going to become a three, four lane road in any short period of time is just ridiculous. Let's face it, Mecklenburg County doesn't care about us either. Have you been on the south side of Mecklenburg County. They've got four lane roads. They've got five lane roads. They've got six lane roads. They've got good roads. They've got curbs on their roads. What do we have up here, two lane roads going everywhere. Have you ever been on Concord. I have come back from Concord one time and I saw traffic from Amazon building on 73 all the way to 115. It wasn't even caused by an accident. There was just that many people going to Concord from our area.

Mayor Bales said thank you Mr. Maves your time is up.

Jennifer Hunt, 12838 Levins Hall Road, said I have several concerns about the Lagoona Bay development and its environmental impacts. Many of these concerns are derived from Lagoona Bay's and Crystal Lagoon's website. First, what is in the proprietary Crystal Lagoon molecular film technology used to prevent evaporation. Is this substance biodegradable. How rigorous has it been tested for long-term affects. Will Lagoona users carry this film home washing it into our sewers and potentially leaching it into our drinking water supply. Second, how can Crystal Lagoon boast about lowering a carbon footprint but cutting down trees which sequester carbon. The development will effectively create more traffic in the area contributing to our emissions. Furthermore, why do we need another additional water recreation area when Lake Norman and Mountain Island Lake are free and accessible to many through public beaches and access points. Third, Lagoona residential homes serve to further gentrify the area with majority unaffordable housing. Lastly, their website claims having an idyllic beach close to home you won't need to take an airplane or travel by car to a distant beach, thereby lowering the carbon footprint. This claim is full of hubris. No manufactured Lagoona can compete with the majesty of our oceans or nature's beauty. Take all these factors into consideration, I'm requesting that this development be denied.

Melanie Griffin, 12900 Westmoreland Road, said thank you for letting me speak again. I spoke at the last meeting. I spoke at the community meeting and I'm very uncomfortable speaking in public, so this has been a lot for me. Everyone keeps talking about the 2040 Plan. I felt like at the last meeting when I was limited to two minutes, I didn't really touch on the fact that I'm not against progress or development or even making changes to the current zoning. However, I own a home where a new road will connect to Westmoreland Road in between 73 and Mayes Road from all of the apartments and I believe townhomes in that section, where I guess you guys are recommending a 40' setback and only a 20' setback is in place, I believe, I feel like that could not be anymore against the 2040 Plan than maybe anything……well, I mean the whole thing is against the 2040 Plan, but how I can walk out of my house and then see three stories and 700 units worth of cars turning onto my road that's already a cut-through from 73 to all of the schools and everywhere else and I don't see that changing. Also, I think that it has been made pretty clear from a lot of members of the community that the beach concept in and of itself seems a little frightening for us, for lack of a better word. It seems gimmicky. It's disconcerting to see that all of the buildings are going to look like you have landed at the beach. I am nervous that that's not going to take off and then I'm not sure what's going to happen to all of this stuff that has been put in that looks like you have stepped into the beach. The only other thing that I wanted to touch on was that I feel like we still haven't been given a lot of information, like several other people have touched on, and I'm not trying to repeat everyone, but we're not all developers, so when I see that there are 15,000 new residences already approved right in the little section where I live, it doesn't make me think well that's fine to just add this many more. Or when I find out that that's the last large tract of land along 73 within

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what is it eight towns. I don't feel like we need to hurry up and develop it. I'm not a developer and I don't think that all of the people here that this will affect think like a developer.

Jeff Burton, 15555 Huntersville-Concord Road, said there's a lot of emotion in this room obviously and I want to thank the Board. I know it's a thankless job that comes with a lot of criticism and you guys do a lot of work that's good for the community….controversial at times, that's the nature of the business. I'm glad we have citizens that care. That's a good thing. I'm glad that we have developers that want to develop in our community. We are fortunate. If not, we don't have restaurants, we don't have hospitals, we don't have the things that we enjoy. I'd like to talk about this process. Everyone knows we live in a developing area and it's developing fast. There's a lot of challenges that come with that. There's a lot of good things that come with that and there's a lot of challenges. You guys have to help manage that. Years ago this town recognized the need for that and they developed a plan to manage and organize that growth. It was really smart to do that. There was a ton of money, time and energy spent developing that plan. It was well thought out with input from the citizens. The citizens gave their ideas of what they liked and didn't like. The 2040 Plan was created. It's my view that it's imperative that this Board recognize and respect that plan in the approval or denial of any request, not just this one, any request. If developers know what this town is going to approve and the landowners know what this town is going to approve, we will end up with a better process and better projects. It's better for all of us. This process of coming in and saying you had developed the plan, I disagree with it, I want to do this. It doesn't yield a result that we deserve. There's no way to manage our growth without having a plan and then the discipline to enact it. I am fortunate far beyond I would ever believe. I built a home in Kiawah Island, South Carolina. If anybody has ever been there, it's beautiful. It's beautiful because they have a plan and the architectural review board and the town enforce the plan. The developers know it, the landowners know it. End of story. And they say no a lot and they don't care. They built a culture of we have a plan and for our community to be what we want it to be, you're going to follow that plan and the architects follow it and it pisses the landowners off. I'm one of them. I want this and they say no. But at the end of the day the result is the result. And if you've ever been there the result speaks for itself. If you approve this plan or any plan that goes against the 2040 Plan, it's open season. You may as well crumble it up and throw it away. We have to have discipline so we have the end result that we work so hard to get.

Mayor Bales said that is everyone who has signed up to speak this evening.

Mayor Bales recognized Planning Board members present: Jeff Sny and Chris Boyd.

Commissioner Boone said when you send your agenda packet over to the Planning Board, will it have all the updated changes that we've been discussing over the last two weeks?

Mr. Peete said due to our process, the Staff Report will be just as you had it tonight. We will send the new plan set and we will make sure that's understood because they will not be in sync and then we will work through the week to update the Staff Report for next Tuesday's meeting.

Commissioner Munger said there was a question brought up about kayaking, jet skiing, various other activities that could be done during the non-swimming months. Can you address that and how that's handled just so it's kind of out there because it was asked.

Mr. Palillo said in off season you can use canoes, the glass bottom canoe, kayaks, paddleboards and there's some different ones where you can paddle. It's a little boat that you can paddle, but that's mainly what can be done in there.

Commissioner Munger said and that's available year-round.

Mr. Palillo said that's year-round.

Mayor Bales said are those engine driven or people driven?

Mr. Palillo said people driven, there's no motorized vehicles on it.

Commissioner Kovacs said we had someone ask, I think it was Ms. Hunt, about the technology and is there anything that's left behind or anything with this specific technology. Do you have answers to the environmental impact?

Mr. Palillo said the technology is proven. The evaporation chemical they put in that is mainly in the high heat like Arizona and overseas. We don't use any of that here. It slows evaporation down. It's drinkable so you could actually drink the water, swallow it. I wouldn't advise drinking it just like you wouldn't drink pool water, but if you get it in your mouth, it's just like pool water, fully treated.

Commissioner Kovacs said you would not be using the additional chemicals.

Mr. Palillo said not the one for evaporation. It has chlorine in it and it has a chemical in it like you put in a pool. Anything that goes in this is similar to what you put in a swimming pool. There's nothing in there that's unique. The only difference is the pool cleaner that you use is usually about this big….it vacuums. The one that goes in the lagoon is probably four of these podiums and it's remote controlled driven to where it drives and it's a big vacuum system that goes in the filtration system.

There being no further questions or comments, Mayor Bales closed the public hearing.

Mayor Bales called for a 5-minute recess.

The Board reconvened.

OTHER BUSINESS

Petition #R22-07, Town 1 Mixed Use Center. Petition # R22-07 is a request by Treenail Development, Inc. to rezone +/- 70.54 acres located at the intersection of Mt. Holly-Huntersville Road and Hambright Road from Corporate Business and Corporate Business Conditional District to Transit Oriented Development Residential Conditional District, Transit Oriented Development Employment Conditional District, Highway Commercial Conditional District, and Special Purpose Conditional District, for a mixed used development.

Jesse James, Principal Planner, entered the Staff Report into the record. *Staff Report and Staff PowerPoint attached hereto as Exhibit No. 9.*

The staff recommendation is for approval of the rezoning. Staff recommends approval of the modifications as well. There's seven of those. We do recommend any minor staff comments that are left over from the review that has not been completed as a whole be addressed. Those would be very minor in nature. One thing to note at this meeting is the final TIA was sealed and approved by NCDOT as

requested per the Zoning Ordinance Article 14.2.3. The applicants have attested that they will comply with all of those TIA comments on the plan if it moves forward.

The Planning Board voted unanimously 9-0 in favor of this approval, with the seven modifications requested as well.

Commissioner Kidwell said I do not see the CMS report in any of the documents here.

Mr. James said I've got the CMS report on a back-up slide here. It was called out at the public hearing. They have said on their report that the three schools in the area are all at capacity – 124 percent for Torrence Creek, 109 percent for Francis Bradley Middle and 100 percent for Hopewell High. As with any time you are at capacity, their comment was they are concerned about any rezoning to add more capacity.

Commissioner Munger said my question is for the applicant. During your neighborhood meeting someone asked if you would be willing to install a pedestrian crossing on Mt. Holly-Huntersville Road. Do you have any updates on that or thoughts about being able to do that?

Ben Geisler, 20419 Shearer Road, Davidson, said it didn't come up through the balance of the process with staff or DOT. We did put on our plan a pedestrian crossing on Hambright Road across to get access to the CATS station. I think that question came up just earlier today and so I reviewed it with our team and pending NCDOT approval, because that's who would dictate that, we would be open to putting a crosswalk to access the Burkert campus along with RFB beacon there pending DOT approval.

Commissioner Boone made a motion to approve R22-07, Town 1 Mixed-use Center, including modifications and subject to the following conditions. Modification No. 1: Side yard parking. Allow side yard parking on Lots 6, 7, 8, 13, 18 and 19 which is subject to the final staff review and approval. Additional screening shall be provided pursuant to Article 7.6 as shown on the zoning plan. Modification No. 2: I-77 buffer disturbance. Allow up to a 20' buffer disturbance in the I-77 buffer for grading including a portion along Hambright Road, provided an alternate buffer plan is submitted in accordance with 7.5 of the ordinance. Modification No. 3: Buffer reduction along Mt. Holly-Huntersville Road. Allow buffer to be reduced to 70' subject to screening and buffering as shown in submitted plans. Modification Request No. 4: Cul-de-sac distance. The distance between the cul-de-sac location at Public Road A and the right-of-way on Mt. Holly-Huntersville Road may be increased to 380'. Modification No. 5: Massing requirements. Waive massing requirements for the building on Lot 18. Modification No. 6: Vertical parking structure. Vertical parking may serve the TOD-E and TOD-R portions of the project. Parking may be completed prior to the completion of all the improvements such parking is intended to serve. Modification No. 7: Building façade requirements for building W2. No building entrance shall be required to be constructed on and no sidewalk shall be required along the portions of building W2 that does not front on the cul-de-sac and driveway adjoining building W2 subject to staff approval of detailed renderings of the building frontage. All remaining staff comments, conditions, and all TIA comments are addressed. The proposal is consistent with the 2040 Community Plan, specifically policies LU-1.1, 2, 5.1, 6.1, 7.1, 8.1, 8.3, LV-1.3, T1.2, T1.3. It is reasonable and in the public interest to rezone approximately 70.54 acres identified on the submitted plans as it is consistent with the envisioned use and development pattern set forth in the 2040 Community Plan. The location of the proposed development can support the increased density through the proximity of two major thoroughfares, future CATS park and ride facility, and I-77. The proposed rezoning plans meet the intent of the four districts requested, the applicable provisions of the Zoning Ordinance and together as one development plan in a cohesive manner.

Commissioner Phillips seconded motion.

Mayor Bales said I do have a clarification question. Did you say that to allow the buffer to be reduced to 70' or 60'.

Commissioner Boone said subject of Modification No. 3 the buffer reduction allowed on Mt. Holly-Huntersville Road. Allow the buffer to be reduced to 60', subject to screening and buffering as shown in the submitted plans.

Mayor Bales said one last clarification. I know there was discussion regarding a pedestrian crossing on Mt. Holly-Huntersville Road if NCDOT would allow it. Was that a part of your motion or no?

Commissioner Boone said it was not. Ben just mentioned that, that he studied it and we didn't hear anything about it and neither did the Planning Board. If Mr. Munger would like me to add that to it…..

Commissioner Munger said I have full faith in this developer that they will look into it and do what's best. I'll leave it at that.

Commissioner Boone said motion stands.

Commissioner Kidwell said with the TIA request from the state, what level of service does that take the intersection to?

Mr. Geisler said I know that it maintains it at the future level post development, where it will be once we do all of our improvements brings it back to where that future level will be.

Commissioner Kidwell said the current level I think is a D.

Unidentified Speaker said we are talking about just for clarification Mt. Holly-Huntersville and Hambright, correct? One other point of clarification from the public hearing. I know you asked that question and I said C. I believe it was C in today's scenario and then E in the future. But the difference is the future development and growth to get to the build-out year without Town 1 is going to be E, regardless, whether Town 1 comes or not. When Town 1's traffic is added there's of course a little bit of congestion that's added and improvements that are being made more than mitigate that from a delay perspective so it's still Level of Service E as though it would be without Town 1, but the numbers are slightly better from an overall delay versus on a per second per vehicle scenario.

Commissioner Phillips said this isn't a question. This is a comment. I want to thank the applicants for this project and the fact that we didn't have to ask for affordable housing. But especially thank you for focusing on young people that age out of foster care. In the years I spent helping the homeless community the amount of young people and young adults I met that became homeless because they hit an age and didn't have supportive services like you guys are going to change lives and that means so much to me. Seeing somebody do that and just have the heart for that, it's a nice positive spin at this Town Hall for once and you are appreciated.

Mr. Geisler said thank you for the comment and I want to recognize Joey, he's here this evening. That is a big piece of what he brings to the project through his foundation.

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Commissioner Kidwell said I'm not going to support this project. I'm just going to be honest with you. It's a seven-story parking deck, seven-story office building, 750 units adding about 1,150 cars to the area and schools which are not in your control. Again, I've said it over and over, CMS and the state need to work out their metrics because it sucks. I always hear people running for office or in office, we don't have control of the schools, we don't have control of the roads. Well, we do. We do by saying no. Just because development wants to come in and do things, we can say no. That's how we get to where we need to be. I will not be supporting this tonight. It's a nice project. I applaud you for the foster care aspect, but this is bigger than that or anything else that this project provides.

Mayor Bales called for the vote.

Motion carried 5 to 1, with Commissioner Kidwell opposed.

Petition #R23-03, Ultimate Athlete. Petition #R23-03, Ultimate Athlete, is a request by Jeremy Martin to rezone +/- 1.290 acres located at 15901 Cramur Drive from Neighborhood Center and General Residential to Highway Commercial Conditional District for an indoor/outdoor recreation center.

Jesse James, Principal Planner, entered the Staff Report into the record. *Staff Report attached hereto as Exhibit No. 10.*

The Planning Department recommends approval as it meets several policies in the 2040 Plan.

The Planning Board voted unanimously with one member stepping down with his involvement of this rezoning 8-0.

Commissioner Munger made a motion in considering the proposed Rezoning Application R23-03, Ultimate Athlete, the Town Board recommends approval based on the plan being consistent with the Huntersville 2040 Community Plan Policies LU-6.1 and EV-2.1 which encourages a mix of land uses in Activity Centers and promotes and encourages local/small businesses to locate in Huntersville. It is reasonable and in the public interest to amend the zoning map for this rezoning being that it is consistent with the existing development patterns in the area and supports the goals set forth in the 2040 Community Plan for Activity Centers. Lastly, the requested modification of the buffer yard (buffer yard reduction) is in keeping with the spirit of the Ordinance and therefore supported.

Commissioner Partee seconded motion.

Mayor Bales called for the vote.

Motion carried unanimously.

Board of Adjustment Appointments. Two Town Seats filled by Edward Cecil and Steven Genenbacher have terms expiring June 30, 2023. Alternate Seat 1 filled by John Passarelli also has a term expiring June 30, 2023. Edward Cecil and John Passarelli have confirmed they would like to be considered for reappointment and are eligible for additional terms. Steven Genenbacher is not eligible for an additional term.

Mayor Bales said the process in which we are going to use, you will give me three names in order of the Town Seat that you would like them placed in – Seat 5, then Seat 6 and then Alternate. Each

commissioner will give three names. The first name will be the person you want in Seat 5. The next person will be the person you would like to see in Seat 6 and then the third would be the alternate.

Commissioner Phillips said 5 Cecil, 6 Passarelli, Alternate Russell.

Commissioner Munger said hypothetically because Commissioner Phillips said Russell for Alternate. If I had Russell for 4, does it count as we both nominated Russell. I want to understand 100 percent.

Emily Sloop, Town Attorney, said the seats that are open are Cecil's seat, the Genenbacher seat, and the Alternate seat. Cecil is currently in 5, Genenbacher is in 6 and Passarelli is in Alternate 1. Those will be the seats that these nominations go into.

Mayor Bales said I think the confusion with Commissioner Munger and maybe with others is that typically we take the top three people and then we plug them in.

Commissioner Munger said specifically what Commissioner Phillips said was I forget the names, but someone for 5, someone for 6 and someone for Alternate, as opposed to saying three names and then if we had five people who someone said the same person 5 in theory that person would go into 5, if there was someone that said that person would go to six and kind of like that but if she says specifically what seat and she says Alternate for Russell and I say 4 for Russell does that mean that Russell got two.

Mayor Bales said we can do the two normal seats and then we'll circle back with the alternate.

Mayor Bales said we are going to pick the regular seats first and then we'll turn around go toward for alternate.

Commissioner Boone said does that mean the alternates don't move up.

Commissioner Kidwell said no.

Mayor Bales said which is correct Commissioner Boone, we would not be shifting alternates.

Ms. Sloop said you can also instead of doing the two normal seats first, you can put out a nomination for the alternate first if the Board would prefer to do that.

Mayor Bales said first of all you are going to give me two names.

Commissioner Phillips nominated Edward Cecil and John Passarelli.
Commissioner Boone nominated Mike Russell and Shannan Younger.
Commissioner Kovacs nominated Edward Cecil and John Passarelli.
Commissioner Kidwell nominated Edward Cecil and John Passarelli.
Commissioner Partee nominated Mike Russell and Shannan Younger.
Commissioner Munger nominated Mike Russell and Shannan Younger.

Mayor Bales supported nomination of Mike Russell and Shannan Younger.

Commissioner Boone made a motion appoint Mike Russell to Town Seat 5 and Shannan Younger to Town Seat 6.

Commissioner Munger seconded motion.

Mayor Bales called for the vote.

Motion was tied – Commissioners Boone, Munger, Partee in favor; Commissioners Kidwell, Kovacs and Phillips opposed.

Mayor Bales voted in favor of the appointment of Mike Russell and Shannan Younger.

Mayor Bales called for nominations for the Alternate 1 Seat.

Commissioner Phillips nominated Edward Cecil.
Commissioner Boone nominated Jack Zovistoski.
Commissioner Kovacs nominated Edward Cecil.
Commissioner Kidwell nominated Edward Cecil.
Commissioner Partee nominated Jack Zovistoski.
Commissioner Munger nominated Jack Zovistoski.

Mayor Bales supported nomination for Jack Zovistoski.

Commissioner Partee made a motion to appoint Jack Zovistoski to the Alternate Seat.

Commissioner Boone seconded motion.

Motion was tied – Commissioners Boone, Munger, Partee in favor; Commissioners Kidwell, Kovacs and Phillips opposed.

Mayor Bales voted in favor of the appointment of Jack Zovistoski.

Planning Board Appointments. Three board seats filled by Christopher Boyd, Stephen Swanick and Jodi Wright as regular seated members have terms expiring June 30, 2023. Christopher Boyd and Jodi Wright have confirmed they would like to be considered for reappointment and are eligible for additional terms. Stephen Swanick is not eligible for an additional term.

Mayor Bales called for nominations.

Commissioner Phillips nominated Christopher Boyd, Jodi Wright, Lee Hallman.
Commissioner Boone nominated Christopher Boyd, Jodi Wright, Lee Hallman.
Commissioner Kovacs nominated Christopher Boyd, Jodi Wright, Lee Hallman.
Commissioner Kidwell nominated Jodi Wright, William Haigler, Lee Hallman.
Commissioner Partee nominated Christopher Boyd, Scott Hinson, Jodi Wright.
Commissioner Munger nominated Christopher Boyd, Jodi Wright, Christy Clark.

Commissioner Phillips made a motion to nominate Christopher Boyd, Jodi Wright and Lee Hallman to the Planning Board.

Commissioner Boone seconded motion.

Motion carried unanimously.

DRAFT

Commissioner Munger said I just want to call out the fact that we had actually 30 different applications for these three spots……so impressive, love the fact that people are turning out. I wish we could appoint more. It's a great statement that 30 people showed up for this board.

Introduction of Bond Order – Transportation Bonds. Jack Huffman, Deputy Town Manager, said based on the size of our CIP we are in need of some funding mechanisms. The previous consensus of the Board was to move forward with a November 2023 Bond Referendum. The next step to do that is Item 10.E which is the introduction of a Transportation Bond order in the amount of $50,000,000.

Commissioner Partee made a motion to approve Introduction of Bond Order authorizing the issuance of $50,000,000 general obligation transportation bonds of the Town of Huntersville, North Carolina.

Commissioner Boone seconded motion.

Mayor Bales called for the vote.

Motion carried 5 to 1, with Commissioner Phillips opposed.

Bond Order attached hereto as Exhibit No. 11.

Introduction of Bond Order – Parks and Recreation Bond. Jackie Huffman, Deputy Town Manager, said similar to the previous motion based on the size of our Capital Improvement Program we are in need of funding mechanisms for capital projects related to Parks and Recreation and so the general consensus of previous action of this Board was to move forward with an $8,000,000 Parks and Recreation Bond for the November referendum.

Commissioner Kidwell made a motion to approve the resolution for parks bond $8,000,000.

Ms. Sloop said could you restate that to say motion to approve introduction of bond order authorizing the issuance of $8,000,000 General Obligation Parks and Recreation bonds.

Commissioner Kidwell made a motion to approve introduction of Bond Orders for $8,000,000 for the November 2023 referendum.

Commissioner Partee seconded motion.

Mayor Bales called for the vote.

Motion carried 5 to 1, with Commissioner Phillips opposed.

Bond Order attached hereto as Exhibit No. 12.

Resolution Authorizing Bond Order and Setting Public Hearing. Jackie Huffman, Deputy Town Manager, said the previous two items introduced bond orders. This item will approve the resolution authorizing those bond orders. It also sets a public hearing for July 17 in this building for the consideration of the referendum.

DRAFT

Commissioner Partee made a motion to approve the authorization of Resolution setting public hearings on July 17 regarding the planned November 2023 Transportation and Parks and Recreation referendum.

Mayor Bales if you would include the dollar amount which would be the $58,000,000.

Commissioner Partee said $50,000,000 in Transportation and $8,000,000 in Parks and Recreation.

Commissioner Kidwell seconded motion.

Motion carried 5 to 1, with Commissioner Phillips opposed.

Resolution attached hereto as Exhibit No. 13.

Solid Waste Contract. Commissioner Boone said I took it off the Consent Agenda because I think the Board should discuss a 7-year contract with a provider to be sure we've got a good contract.

Mayor Bales said so the question is regarding the 7-year contract.

Commissioner Boone said I've got numerous questions. I was just giving the reason why I took it off.

Mayor Bales said if you would like to go ahead and start with your questions.

Commissioner Boone said I talked to Mr. Fox on the phone earlier today and we went over some of these points, but I guess the questions that I think the citizens should know that the new roll-out containers will have the phone number of the provider of the service. How will that phone service work and if I have a broken can or missing can, can you walk us through that.

Kevin Fox, Director of Public Works, that basically is how we operate today. The current cans out there do have the provider's telephone number. We are going to keep going with that in the future. How we anticipate that to happen is we always ask the citizens to call the waste contractor customer service line first. If they fail to get the resolution that they need, then they can reach out to the Town. That is a manned customer service line during normal business hours so they can talk to an actual person and then we make the contractor give us a list of those calls so that we can canvas those as well.

Commissioner Boone said there's been some question or delay in can replacement like they are offshore or someplace in logistic system. Are we going to have any facilities where we can keep some additional roll-out cans on Public Works property along with the provider?

Mr. Fox said I've spoken with the Manager's office and that is a plan external of this contract. The provider is required per contract to deliver these cans. However, the Town plans to purchase a stock of each of the cans to keep at our Public Works facility to make sure that we can get them out in a timely fashion if the contractor fails to do so.

Commissioner Boone said when it comes to yard waste and leaves, it says five additional bags of yard waste on a weekly basis can be set to the curb. Are those regular brown bags or do they have to be clear bags, especially when it comes to leaves?

Mr. Fox said there has been some discussion. Per this contract it's going to be clear plastic or the recycled paper bags is what we are going to accept. Our preference is the paper bags because our

contractor tells us that they can just dump the bag and everything into the recycling bin and grind it up because it's an organic material. We will accept clear plastic or paper.

Commissioner Boone said I have two additional questions. There's a leakage or a hydraulic fuel leak on the streets of Huntersville. Tell me the process of how that's going to be handled.

Mr. Fox said the process is we are going to reach out as soon as we are made aware of it. We reach out to the contractor and advise them if they are not already aware. In your packet if you go to the liquidated damages section, they have a time to respond to that and they will give us a plan of attack. They have to provide us a written plan of how they plan to address that because as we have learned coming out once and cleaning it generally doesn't get it. It's a process, so they have to identify that plan to us and then the liquidated damages section you will see that we are hitting them pretty hard. It's $1,000 I believe per day. I'll take this opportunity to thank Attorney Sloop for her hard work on getting this contract ready for us.

Commissioner Boone said point of clarification, it's $1,000 per occurrence, not day.

Mr. Fox said it's $1,000 per occurrence, but if you will read the failure to clean-up based on their plan, is $1,000 per day. That hits them in the pocket. If they provide us a plan of how they are going to attack it and then they don't implement that plan, then we can assess them liquidated damages of $1,000 per day.

Commissioner Boone said can you clarify under valid misses versus area misses.

Mr. Fox said a valid miss per the contract is a missed collection that is basically through contractor negligence or omission. So, it wasn't because it was a non-compliant cart or something like that, it was just they missed it. One hundred of those in one specific area is an area miss. A valid miss, just the guy is daydreaming and drives by a cart and misses it. That's a valid miss. If he does that in an area of 100 or more, then that is an area miss.

Commissioner Kidwell said unfortunately sometimes they've missed my entire block. There's 10 houses on the block, so that would be a $1,000……like if they missed each house, is that what you are saying. If they live on a dead-end, they drive by my block, they are missing my can, my neighbor's cans, so it would be $100 per house.

Ms. Sloop said we have a tier violation for that. For the first 10, it's $100, for 11-20 it's $200.

Mayor Bales said I would like to thank Commissioner Boone for bringing these up. The first one is with the phone number on the roll-out can, for the residents who still have Advanced with that telephone number on there, what is our process to get them a new can.

Mr. Fox said that number still works. When they took that contract over from Advanced, they took that number as well, so that number still I believe is a valid number. A lot of those cans are aging. We're working towards getting all the new cans out there and this contract does specify that we will own every single can.

Mayor Bales said the other question that I have is in regards to the natural waste so your leaves and brush, etc. and you said clear plastic or paper bags. Are we putting that on our app to promote that so people know what to use. Are we going to update that?

Mr. Fox said us and the public information office will be working on putting out information, but part of the contract is a community education piece that we are going to require the contractor to do in addition to our internal efforts to inform people.

Mayor Bales said that will be very helpful because I don't think many residents think……you see a black leaf bag at a Lowes or whatever and that's what you are going to use, so thank you for that.

Commissioner Kidwell said in my neighborhood I've seen it a few times where they put out the clear plastic bags. They've emptied the clear plastic bags and then they've thrown the clear plastic bags on the ground. Are they going to take them this time?

Mr. Fox said no and the reason being is because that's a contaminant with where they are taking the yard waste. Our preference would be for them not to just leave them laying on the ground, but they also can't put it in the yard waste truck because then that becomes a contaminant for the yard waste because they sell that as mulch and they sell other products so that plastic is a contaminant. It also binds up the machinery that grinds so they don't want that and that's why some municipalities around us have gone to only paper and I think probably in the future we'll look that way, but for the time being…..

Mayor Bales said and where do you get paper?

Mr. Fox said Mecklenburg County has a program where they provide them for free and we've held some events here, but we run out. You can buy those at the big box home improvement stores.

Mayor Bales said and that's what we are going to say paper bags preferred on our communications.

Commissioner Boone said I just want to follow-up with the education of the community on what can go in the recycling. In the contract it says they've got to do this every year.

Ms. Sloop said bi-annually actually.

Mr. Fox said they have to do it twice. What they collect is not based on what their preference is. It's the county. So whatever new rules or anything that the county comes out with because we are taking our recyclables to a county MURF. Waste Connections doesn't really care what you can recycle or not, it's based on the requirements of the county and that will be where we get the educational material from.

Mayor Bales said one of the things that I think would be helpful for us and if you would not like to participate that's fine, but I would like to see if we could set up an opportunity to go down to the county's facility so that we can educate ourselves on the machinery and what works and what doesn't so as we communicate to our residents then we have a very clear picture and clear understanding about what can and cannot go through that facility and why.

Mr. Fox said we would be glad to do that, to set that up.

Commissioner Munger said is the wording actually bi-annual or semi annual, because bi-annual in my understanding is once every two years.

DRAFT

Ms. Sloop said do it says in there bi-annual…….it's meant to be twice and we also reiterate in the recycling section that they also have to provide that information on a routine basis …..anytime there's a change outside of the designated periods for providing that information that they have to immediately update the website.

Commissioner Boone made a motion that the Town of Huntersville award a solid waste service contract to Waste Connections of the Carolinas for a 7-year period.

Commissioner Kidwell seconded motion.

Motion carried unanimously.

MAYOR AND COMMISSIONER REPORTS

Commissioner Phillips
- No Report.

Commissioner Boone
- No Report.

Commissioner Kovacs
- Provided update from the Lake Norman Chamber of Commerce.

Commissioner Kidwell
- Next meeting of the Charlotte Regional Transportation Planning Organization is tomorrow.

Commissioner Partee
- If you have a charity that you want to donate to, please do that.

Commissioner Munger
- Provided update from the Public Arts Commission.
- Consider supporting local non-profits.

Mayor Bales
- Public input meeting at Abernathy Park tomorrow.
- CATS meeting for the month of June has been canceled.
- Next meeting of Charlotte MTC Working Group is June 27.
- Provided update on NCDEQ's decision to grant Colonial Pipeline's application for a permit to install a wastewater treatment plant in Huntersville.
- Hope Juneteenth celebrations where joyful ones.

CLOSING COMMENTS

None

There being no further business, the meeting was adjourned.

Approved this the ____ day of _____, 2023.

DRAFT

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Michael Jaycocks, Director of Parks and Recreation

Date: July 17, 2023

Subject: Adopt Resolution for Richard Barry Park Restroom and Parking Lot Expansion

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EXPLAIN REQUEST:
This project will address two of the biggest issues that we hear from residents and park visitors at Richard Barry Park. The new restroom building at the entrance to the park will address the first issue, which is the long lines at the restrooms during games and tournaments. This building will also provide an attached covered area for family members and park visitors to get out of the heat while still being able to watch games. The additional 98 paved parking spaces will address the second issue, which is the lack of parking during games and tournaments. On many occasions, we have had cars get stuck in the mud when trying to park in the grass overflow areas. This project was approved in the FY23 budget and the funds are coming from the Tourism Fund. We are requesting to use an additional $333,000 from the Tourism Fund Balance to complete this project.
The Town of Huntersville originally advertised the request for bids on April 28, 2023 and, due to not receiving three bids, readvertised the request for bids on May 25, 2023. The JD Goodrum Company, Inc. was the lowest responsible bidder. The JD Goodrum Company, Inc. has done numerous park projects in Huntersville and in the surrounding area. This project will be completed by January 2024, just in time for the busy spring season.

ACTION RECOMMENDED:
Consider approving the resolution to award the bid for the Richard Barry Park Restroom and Parking Lot Expansion and approve the construction contract.

FINANCIAL IMPLICATIONS:
$1,532,692 from the Tourism Fund

ATTACHMENTS:
1. R-2023-36 Resolution awarding the contract to JD Goodrum 7-2023
2. 2023.06.28 Bid Recommendation Letter
3. JD Goodrum Contract- Barry Park Expansion

4. JD Goodrum Bid
5. Richard Barry Park Parking Lot & Restroom - SPECS
6. Richard Barry Park Parking Lot & Restroom - ARCHITECTURAL
7. Richard Barry Park Parking Lot & Restroom - CIVIL VOL 1
8. Richard Barry Park Parking Lot & Restroom - CIVIL VOL 2
9. Richard Barry Park Parking Lot & Restroom - CIVIL VOL 3

RESOLUTION OF THE TOWN OF HUNTERSVILLE TO AWARD THE BID FOR THE RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING PROJECT AND APPROVE THE CONSTRUCTION CONTRACT

WHEREAS, the Town of Huntersville received formal, written, sealed bids for the construction of new Restroom Building and Parking Lot at Richard Barry Park (the "Project"); and

WHEREAS, the Town of Huntersville originally advertised the request for bids on April 28, 2023 and, due to not receiving three bids, readvertised the request for bids on May 25, 2023; and

WHEREAS, the lowest responsive responsible bidder was JD Goodrum Company, Inc, a North Carolina company located in Cornelius, NC ("Low Bidder"); and

WHEREAS, the Town wishes to award the Project to the Low Bidder, accept certain alternates that were bid, and approve and establish administrative authority for the construction contract with the Low Bidder;

NOW THEREFORE, BE IT RESOLVED AS FOLLOWS:

1. The Board of Commissioners awards the Project to the Low Bidder, in accordance with the Bid Proposal submitted, as modified by the Contract Documents, and accepts the alternates bid as follows:
   - Base Bid consisting of:
     1. Base Bid $1,466,596.00 (lump sum)
     2. Alternate 1: $66,096.00 (lump sum)

     Total Bid Amount: $1,532,692.00
2. The draft Construction Contract, attached hereto as Exhibit 1, is hereby approved. As used herein, the Construction Contract is deemed to include Exhibit A, attached thereto, and all Contract Documents identified and incorporated therein by reference.
3. The Board hereby authorizes the Town Manager, acting on advice of counsel, to take any actions necessary to effect the provisions of this Resolution, including signing the Agreement attached with such modification as may be required. Provided a budget amendment is not necessary, the Town Manager shall have the authority to approve change orders to the Construction Contract for time and price, however the total of all change orders approved by the Town Manager may not exceed five percent (5%) of the Total Bid Amount stated in paragraph 1, above.
4. This Resolution shall be effective as of the date its adoption.

Adopted this 17th day of July, 2023.

ATTEST:

_____ _____

Janet Pierson, Town Clerk Melinda Bales, Mayor

APPROVED AS TO FORM:

_____

Emily Sloop, Town Attorney

EXHIBIT “1”
(Construction Contract)

Dewberry

Dewberry Engineers Inc.
9300 Harris Corners Parkway
Suite 220
Charlotte, NC 28269-3797

704.509.9918
704.509.9937 fax
www.dewberry.com

June 28, 2023

Attn: Michael Jaycocks, Director
Town of Huntersville, Parks and Recreation
105 Gilead Road, Third Floor
Huntersville, NC 28078

RE: Richard Barry Park – Parking Lot Expansion and New Restroom Building
Bid Recommendation Letter

Dear Mr. Jaycocks:

Per your request, Dewberry Engineers Inc. (Dewberry) has reviewed the bids received for the Richard Barry Park – Parking Lot Expansion and New Restroom project which were received and publicly opened on June 21, 2023 at 2:00pm. Upon review of the two (2) bids submitted, feedback from contractor references, and discussion with you, Dewberry recommends that the Town of Huntersville proceed with the award of this project to the following lowest, responsive, responsible bidder:

J.D. Goodrum Company, Inc.
18339-F Old Statesville Road
Cornelius, NC 28031

In the amount of:

Base Bid –	$1,466,596.00
Alternate #1 –	+ $66,096.00
Total Bid Award –	$1,532,692.00

Sincerely,
Dewberry Engineers Inc.

Tristan M. McMannis, PLA, ASLA, LEED AP
Senior Project Manager

Bid Tabulation Document
Richard Barry Park
Parking Lot Expansion and New Restroom Building
EPM ID #: 444681 and 447341
06/28/2023

Richard Barry Park

BID DATE: June 21, 2023

Bidder	NC License Number	Project Name, Bid Date, Contractor, and License Numbers on Outer Env. (Y/N)	Bid Acceptance Form (Y/N)	Non-Collusion Affidavit (Y/N)	Minority Business Participation Form Included (Y/N)	Affidavit A - Listing of Good Fath Efforts Form Included (Y/N) *Either Affidavit A or B*	Affidavit B - Intent to Perform Contract with OWN Workforce Form Included (Y/N) *Either Affidavit A or B*	Bid Bond (Y/N)	Base Bid ($)	Alternate #1 - Restroom Canopy ($)
J.D. Goodrum	19284	Y	Y	Y	Y (13.7%)	Y	N/A	Y	$1,466,596	$66,096
Polivka International	62492	Y	Y	Y	Y (11.6%)	Y	N/A	Y	$2,137,150	$200,000

NOTES:

The project scope includes the expansion of the existing parking lot, construction of a new restroom building and new utility services, and upgrades and repairs to the existing detention basin at the Richard Barry Par, in Huntersville, NC

I hereby certify that the bid tabulation contained herein was prepared by me or under my direct supervision.

Signed, Sealed, and Dated this 28th Day of June, 2023

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1622 TRISTAN M. MCMANNIS

06/28/23

Richard Barry Park Parking Lot Expansion and New Restroom Building – Bid Opening Meeting

EPM Project No. 444681 and 447341

June 21, 2023

Name	Company	Telephone Number	Email
Stacie Leavitt	J.D. Goodrum	443-744-2334	Jamie@jdgoodrum.com stacie@jdgoodrum.com
Michael Jaycocks	Town of Huntersville	704-766-2228	mjaycocks@huntersville.org
Brian LaFranchi	Dewberry	704-631-5206	blafranchi@dewberry.com
Basil Polivka	Polivka International	704-321-0802	ESTIMATING@POLIVKAINTL.com
Daniel Jones	Dewberry	704-699-9593	djones@dewbery.com

Parks and Recreation
105 Gilead Road, Suite 300
Huntersville, NC 28078
(704) 766-2220

CONTRACT FOR CONSTRUCTION SERVICES

CONTRACTOR: **JD Goodrum Company, Inc.**

18339-F Old Statesville Road
Cornelius, NC 28031
Jamie Yoxtheimer
gbare@astroturf.com

PROJECT: Richard Barry Park Parking Lot expansion and new Restroom Building Project
SITE LOCATION(S): 13707 Beatties Ford Road, Huntersville, NC 28078
Huntersville, NC 28078

This Contract for Construction and Repair, and all exhibits, (collectively this "Contract") is entered into this _____day of _____, 20_____ by and between the Town of Huntersville, a municipal corporation of the State of North Carolina, (the "Town")
And **JD Goodrum Company, Inc.** located at **18339-F Old Statesville Road, Cornlius, NC 28031** (the "Contractor").

WITNESSETH:

That for and in consideration of the mutual promises set forth in this Contract, the sufficiency of which is acknowledged by the parties hereto, the parties do mutually agree as follows:

1. Scope of Services. The Contractor agrees to perform for the Town the services according to the following construction design drawings, plans, and specifications, which is incorporated herein by reference as Exhibit C. The Contractor agrees to provide the labor, service, equipment, and materials, and other services included in Exhibit C, which shall constitute the "Work." The Contractor warrants that the Contractor has visited the location of the project and is familiar with all field conditions bearing upon the Contractor's performance of the Work; that the materials and equipment furnished under the Contract are of good quality and new (unless otherwise permitted); that the Work meets or exceeds the standards ordinarily observed in the industry; and that the Work conforms to the requirements of the Contract and to all applicable codes, ordinances, laws, or regulations. The Contractor further warrants and promises that the Work shall be free from defects and nonconformities in materials and workmanship for a period of one year from the later of the "Date of Completion" or such date as the Contractor actually completes all the Work. During such period, the Contractor will remedy at Contractor's expense any nonconformities or defects in the Work within a reasonable time after receiving notice thereof from the Town.
2. Fees: Fees for the Work shall be specified in a fee schedule attached hereto as Exhibit D, (the "Contract Price").

3. Change Orders. The Contractor agrees that the Town may order changes to the general scope of the Work, including additions, deletions, and similar revisions ("Change Orders"). The parties agree to adjust the Contract Price to reflect the effects of such changes. These changes shall be authorized only upon execution of a written Change Order. The amount of any increase or decrease in the Contract Price shall be by mutual acceptance of a total amount supported by sufficient data and information to substantiate the change. If the Town and Contractor do not mutually agree on the amount of the change in the Contract Price, the Contractor will proceed with the Work described in the Change Order and the Town will pay the reasonable costs of any additional work as determined by the Town, including a reasonable amount for the Contractor's overhead and profit. Any decrease in Contract Price for a decrease in the Work will be the reasonable costs of the Work deleted as determined by the Town, including a reasonable amount for the decrease in the Contractor's overhead. The Contractor may submit claims for an increase in the Contract Price or an extension of the Date of Completion by means of a written Change Request. The Contractor agrees to submit the Change Request within a reasonable time after the event giving rise to the requested change and before the Contractor undertakes any additional work. Upon receipt of a Change Request, the Town, at its sole discretion, shall inform the Contractor whether to proceed with the additional work and shall approve any adjustment in the Contract Price or Date of Completion by issuing a Change Order as provided above. The timely submission of a written Change Request shall be a condition precedent to the issuance of a Change Order, and the Town will have no obligation to pay the Contractor for additional work performed by the Contractor without a Change Order approved in writing by the Town.
4. Historically Underutilized Businesses (HUB). It is the policy of the Town of to provide minorities and women equal opportunity for participating in all aspects of the Town's contracting and procurement programs, including but not limited to employment, construction development projects, materials/services contracts and/or lease agreements, consistent with the laws of the State of North Carolina.
5. Personal Protective Equipment (PPE). The Contractor and his/her employees will wear the proper equipment such as, but not limited to, high visibility clothing, safety glasses, hearing protection, etc. at all times when performing the Work at the Site Location(s). Failure to be in the appropriate PPE will result in removal from the project site.
6. Contract Insurance. Contractor shall be required to purchase and maintain, during its performance under this Contract, insurance coverage as shown on the Insurance Requirements as stated in Exhibit B, which is incorporated herein by reference. All insurance purchased shall have a specific endorsement, copy of which shall be provided to the Town, naming the Town as an additional insured and providing that such insurance will not be cancelled without providing thirty (30) days advance written notice to the Town.
7. Working Drawings and Specifications at the Job Site. The Contractor shall maintain, in readable condition at his job site one complete set of working drawings and specifications for his work including all shop drawings. Such drawings and specifications shall be available for use by the owner, designer, or his authorized representative. The Contractor shall also maintain at the job site, a day-to-day record of work-in-place that is at variance with the contract documents. Such variations shall be fully noted on Project drawings by the Contractor and submitted to the designer upon Project completion and no later than 30 days after acceptance of the Project.

8. Materials, Equipment, Employees. The Contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, fuel, heat, sanitary facilities, water, scaffolding and incidentals necessary for the completion of the work, and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied therefrom, all in accordance with the contract documents.
9. Cleaning Up and Restoration of Site. The Contractor shall keep the sites and surrounding area reasonably free from rubbish at all times and shall remove debris from the site from time to time or when directed to do so by the Owner. Before final inspection and acceptance of the Project, the Contractor shall thoroughly clean the sites, and completely prepare the Project and site for use by the Owner. At the end of construction, the Contractor shall oversee and implement the restoration of the construction site to its original state. Restoration includes but not limited to walks, drives, lawns, trees and shrubs, corridors, stairs, and other elements shall be repaired, cleaned, or otherwise restored to their original state.
10. Protection of Work, Property, the Public, and Safety. The Contractor shall be solely responsible for the entire site and the building or construction of the same and provide all the necessary protections, as required by the owner or designer, and by laws or ordinances governing such conditions. The Contractor shall be responsible for any damage to the owner's property or of that of others on the job, by them, their personnel, or their subcontractors, and shall make good such damages. The Contractor shall be responsible for and pay for any damages caused to the owner.
11. As-Built Marked-Up Construction Documents. Contractor shall provide one complete set of legible "as-built" marked-up construction drawings and specifications recording any and all changes made to the original design during the course of construction. In the event no changes occurred, submit construction drawings and specifications set with notation "No Changes." The Designer/Owner must receive "As-built" marked-up construction drawings and specifications before the final pay request can be processed.
12. Retainage. Retainage on periodic or final payments on public construction contracts in which the total project costs are $100,000 or more are allowed pursuant to N.C.G.S. § 143-134.1.
13. Addendums: If applicable, Contractor acknowledges that it has received, executed, and shall abide by any addendums issued by the Town prior to this Contract.
14. Standard Terms and Conditions. The Standard Terms and Conditions, attached hereto as Exhibit A, shall be a part of this Contract. The Standard Terms and Conditions are hereby incorporated by reference, and all parties agree to be bound thereby.
15. Contract Term. Work will begin within ten (10) days of receipt of the Notice to Proceed from the Town. The Contractor and the Town recognize that time is of the essence for completion of the Work. Any Notice to Proceed shall also contain a date that the Contractor shall complete the Work by (the "Date of Completion"). The terms of this Contract shall apply to every Notice to Proceed issued by the Town. The Contractor shall complete all necessary phases of construction in order to substantially complete the base bid work within **180 consecutive calendar days**. This time of construction shall be defined as the Contract Period.
16. Liquidated Damages. Contractor and Town recognize that time is of the essence and that Town will suffer financial and other losses if the Work is not completed by the Date of Completion, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize

the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Town if the Work is not completed on time. Accordingly, instead of requiring any such proof, Town and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Town $500 for each day that expires after the end of the Date of Completion (as duly adjusted pursuant to the Contract) until the Work is complete.

17. Payment for Work In consideration of the above Work, the Town will pay the Contractor the sum as further described on Exhibit D.

In witness thereof, the contracting parties, by their authorized agents, affix their signatures and seals at Huntersville, North Carolina, this _____ day of _____, 20_____.

Contractor

Name:

_____
Name of Contractor (type or print)

By:

_____
(Signature)

Title:

_____

Attest:

_____
(Secretary, if a corporation)

Town of Huntersville

_____
Town Manager

Attest: _____
Town Clerk

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act

_____
Finance Director

EXHIBIT A
STANDARD TERMS & CONDITIONS

1. **Acceptance**. Contractor's acknowledgment of the terms of this Contract constitutes an agreement to: (i) all terms and conditions set forth or referenced herein, (ii) on any attachments hereto, (iii) any applicable solicitation documentation related to this Contract (including without limitation any request for proposals or invitation for bids or Contractor's response thereto) that deal with the same subject matter as this Contract, and (iv) any other terms and conditions of a written agreement signed by Contractor and the Town that deals with the same subject matter as this Contract (collectively, the "Contract Documents"). The terms and provisions set forth in the Contract Documents shall constitute the entire agreement between Contractor and the Town with respect to the purchase by the Town of the: (i) goods ("Goods") and/or (ii) services provided or work performed ("Services") as described in the Contract Documents. The agreements set forth in the Contract Documents are sometimes referred to herein as the "Contract." In the event of any conflict between any terms and conditions of the Contract Documents, the terms and conditions most favorable to the Town shall control. No additional or supplemental provision or provisions in variance herewith that may appear in Contractor's quotation, acknowledgment, invoice, or in any other communication from Contractor to the Town shall be deemed accepted by or binding on the Town. The Town hereby expressly rejects all such provisions which supplement, modify, or otherwise vary from the terms of the Contract Documents, and such provisions are superseded by the terms and conditions stated in the Contract Documents, unless and until the Town's authorized representatives expressly assent, in writing, to such provisions. Stenographic and clerical errors and omissions by the Town are subject to correction.
2. **Entire Agreement**. These terms and conditions and any other specifications contained in any other documents referenced shall constitute and represent the complete and entire agreement between the Town and Contractor and supersede all previous communications, either written or verbal with respect to the subject matter of this Contract.
3. **Changes, Additions, Deletions**. No changes, additions, deletions, or substitutions of scope of work, specifications, terms and conditions, quantity, unit of issue, delivery date, delivery charges or price will be permitted without the prior written approval from the Town.
4. **Relationship of the Parties**. The Contractor is an independent contractor and not an employee of the Town. The conduct and control of the work will lie solely with the Contractor. The Contract shall not be construed as establishing a joint venture, partnership, or any principal-agent relationship for any purpose between the Contractor and the Town. Employees of the Contractor shall remain subject to the exclusive control and supervision of the Contractor, which is solely responsible for their compensation.
5. **Prices**. If Contractor's price or the regular market price of any of the Goods or Services covered hereunder is lower than the price stated in the Contract Documents on the date of shipment of such Goods or performance of such Services, Contractor agrees to give the Town the benefit of such lower price on any such Goods or Services. In no event shall Contractor's price be higher than the price last quoted or last charged to the Town unless otherwise agreed in writing. No charges for transportation, boxing, crating, etc. are allowable unless such charges are included in the Contract Documents.
6. **Taxes**. Any applicable taxes shall be invoiced as a separate item.
7. **Substitutions**. No substitutions or cancellations shall be permitted without prior written approval from the Town.

8. **Indemnification.** To the greatest extent allowed by North Carolina law, the Contractor shall indemnify and hold harmless the Town, its officers, agents, employees and assigns from and against all claims, losses, costs, damages, expenses, attorneys' fees ("Claims"). In the event that any portion of the Work performed under the Contract shall be defective in any respect whatsoever, the Contractor shall indemnify and save harmless the Town, its officers, agents, employees, and assigns from all loss or the payment of all sums of money, but only to the extent allowed by law.
9. **Invoices and Payment Terms**. It is understood and agreed that orders will be shipped at the established Contract prices in effect on dates orders are placed. Invoicing that does not comply with this provision will subject the Contract to cancellation. Upon satisfactory delivery of the Goods or satisfactory completion of the Work, all invoices and statements shall reference the Contract number and be submitted to: Town of Huntersville, Accounts Payable, PO Box 664, Huntersville, North Carolina, 28070. Payment terms are Net 30 days after receipt of correct, undisputed invoice or acceptance of Goods or Services, whichever is later.

   When the Contract is for construction services, the Contractor will submit monthly Requests for Payment for Work performed, for review. The Request for payment shall be based upon the Contractor's estimate of the percentage of the total Work completed during the period represented on the Request for Payment. The Contractor must certify that the Work represented in the Contractor's Request for Payment has been completed in accordance with the Contract Documents and certify that the Request for Payment is appropriate for payment before the Town shall be obligated to make such payment to the Contractor. If any Request for Payment is disputed by the Town, in whole or in part, the Town shall provide a written explanation for such dispute to Contractor within five days of receipt of the certified Request for Payment and shall pay all undisputed amounts therein.
10. **Anti-Discrimination and Equal Employment**. During the performance of the Contract, Contractor shall comply with all federal and state requirements concerning fair and equal employment and shall not discriminate against or deny the Contract's benefits to any person on the basis of race, religion, color, creed, national origin, age, sex (including sexual orientation, gender identity, and pregnancy), disability or handicapping condition, or genetic information.
11. **Insurance**. The Contractor shall provide the insurance coverages shown on Exhibit B, attached hereto and incorporated herein by reference. The Contractor shall provide the Town with a North Carolina Certificate of Insurance and such endorsements as may be required by the Contract Documents prior to the commencement of any work under the Contract and agrees to maintain such insurance until the completion of the Contract. Such certificates of insurance shall be considered part of the Contract.
12. **Ethics in Public Contracting**. By submitting their prices and acceptance of this Contract, all Contractors certify that their bids are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other supplier, manufacturer, or subcontractor in connection with their offer, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.
13. **Applicable Laws and Courts**. All Town Contracts shall be governed in all respects by the laws of the State of North Carolina. All matters, whether sounding in contract or tort relating to the validity, construction, interpretation, and enforcement of the Contract, shall be governed in all respects by the laws of the State of North Carolina and venue shall be proper only in a court of

competent jurisdiction located in Mecklenburg County, North Carolina. The Contractor represents and warrants that it shall comply with all applicable federal, state, and local laws, regulations, and orders, including, not limited to, licensure requirements.

14. **Codes and Permits**. When applicable, the Contractor shall obtain all required permits, give all required notices, and comply with all laws, ordinances, codes, rules, and regulations bearing on the conduct of the work under this contract. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the designer in writing. All work under this contract shall conform to the current North Carolina Building Code and other state and national codes as are applicable. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules, and regulations, and without such notice to the Town, Contractor shall bear all cost arising therefrom.
15. **License Requirement**. If applicable, the Contractor must be a licensed General Contractor as required by North Carolina General Statutes Section 87-1 and must have a good ethical and professional standing with the North Carolina General Contractor's Licensing Board. The Contractor will be responsible for providing properly qualified, licensed (if required) personnel to complete the Work in accordance with the standard of care ordinarily used by members of the Contractor's profession practicing under similar circumstances and at the same time in Mecklenburg County.
16. **Strict Compliance**. The Town may at any time insist upon strict compliance with these terms and conditions notwithstanding any previous course of dealing or course of performance between the parties to the contrary.
17. **Assignment**. Contractor may not assign, pledge, or in any manner encumber Contractor's rights under this Contract or delegate the performance of any of its obligations hereunder, without Town's prior, express written consent.
18. **General Provisions**. The Town's remedies as set forth herein are not exclusive. Any delay or omission by the Town in exercising any right hereunder, or any waiver by the Town of any single breach or default hereunder, shall not be deemed to be a waiver of such right or of any other right, breach, or default.
19. **Warranties**. The Contractor warrants it shall adhere to all laws, codes, ordinances, and regulations of the United States, the State of North Carolina, the County of Mecklenburg, and the Town in the performance of the Work outlined in this Contract and any attached specifications. Contractor warrants that any finished Work completed hereunder shall also adhere to all laws, codes, ordinances, and regulations of the United States, the State of North Carolina, the County of Mecklenburg, and the Town. Contractor warrants that all Work delivered hereunder will be free from defects in materials and workmanship and will conform strictly to the specifications, drawings, or samples specified or furnished. This warranty shall survive any inspection, delivery, acceptance, or payment by the Town for the Work and shall run to the Town and any user of the Work. Contractor warrants that all Work will be performed in a professional and workman like manner in accordance with best industry practices. This express warranty is in addition to Contractor's implied warranties of merchantability and fitness for a particular purpose which shall not be disclaimed. In addition to any other rights available at law or in equity, the Town shall be entitled to consequential and incidental damages.
20. **Quality and Workmanship**. All Work shall be performed to the satisfaction of the Town. The Work shall not be considered complete nor applicable payments rendered until the Town is satisfied with the Work provided.

21. **Default**. The Town may terminate the Contract, in whole or in part, immediately and without prior notice upon breach of the Contract by the Contractor. In addition to any other remedies available to the Town in law or equity, the Town may procure upon such terms as the Town shall deem appropriate, Work substantially similar to those so terminated, in which case the Contractor shall be liable to the Town for any excess costs for such similar supplies or services and any expenses incurred in connection therewith.
22. **Termination for Convenience**. The Town shall have the right, without assigning any reason therefore, to terminate any Work under the Contract, in whole or in part, at any time at its complete discretion by providing 10 days' notice in writing from the Town to Contractor. If the Contract is terminated by the Town in accordance with this paragraph, the Contractor will be paid in an amount which bears the same ratio to the total compensation as does the Work actually delivered or performed to the total originally contemplated in the Contract. The Town will not be liable to the Contractor for any costs for materials acquired or contracted for if such costs were incurred prior to the date of this Contract.
23. **Risk of Loss.** Risk of Loss for all supplies, materials, the Work performed, and the Project as it is being constructed, shall be on the Contractor until such time as substantial completion is achieved, and approved by the Town.
24. **No Third-Party Beneficiaries**. There shall be no intended nor incidental third-party beneficiaries of this Contract. Contractor shall include in all contracts, subcontracts, or other agreements relating to the Contract an acknowledgment by the contracting parties that the Contract creates no third-party beneficiaries.
25. **Exclusivity.** Nothing in this Contract shall require the Town to use the Contractor or prohibit the Town from soliciting third parties for the good or services provided in this Contract.
26. **Confidentiality**. The Contractor acknowledges the Town is subject public records law and no term shall be inconsistent with N.C.G.S. §132 et al.
27. **Valid Contract for Services**. In order for a Contract for Services of the Town to be valid, it must be executed by the Town Manager or his or her authorized designee and must be pre-audited in that manner required by the Local Government Budget and Fiscal Control Act, as the same may be amended.
28. **Verification of Work Authorization.** Contractor shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify, for all contractors and subcontractors.
29. **Iran Divestment List.** With the execution hereof, Contractor, certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.
30. **Availability of Funds**. Any and all payments to the Contractor are dependent upon and subject to the availability of funds to the Town for the purpose set forth in this agreement.
31. **Severability**. If any provision of this Contract is found to be invalid or unlawful, then remainder of this Contract shall not be affected thereby, and each remaining provision shall be valid and enforced to the fullest extent permitted by law.
32. **Companies that Boycott Israel**. With the execution hereof, Contractor, certifies that they are not on the Companies that Boycott Israel List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.80, and will not contract with anyone on such List in performance of the work hereunder.

33. **Governmental Immunity**. Nothing contained in this Contract shall constitute a waiver of the Town's governmental immunity or of any limitation on liability or damages created by law.

ADDITIONAL TERMS AND CONDITIONS FOR FEDERAL CONTRACTS

For contracts using federal funds, the following additional terms and conditions shall apply:

1. **Davis-Bacon Act.** For all contracts in excess of $2,000.00 for construction, alteration, or repair, including painting and decorating, of public buildings or public works, the Contractor shall comply with the Davis-Bacon Act, including payment of no less than the locally prevailing wages as determined by the Secretary of Labor. The contract shall not be valid unless the current prevailing wage as determined by the North Carolina Department of Labor is accepted. The Contractor shall also be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The Town shall report all suspected or reported violations to the Federal awarding agency.
2. **Contract Work Hours and Safety Standards Act**. For contracts in excess of $100,000 that involve the employment of mechanics or laborers, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. For construction work, no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous.
3. **Funding Agreements**. If a Federal award meets the definition of "funding agreement" under 37 C.F.R. § 401.2(a) and the Town or Contractor enter into a contract with a small business firm, or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 C.F.R. Part 401.
4. **Clean Air Act and Federal Water Pollution Control Act**. Contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act and Federal Water Pollution Control Act as amended for any Contract in excess of $150,000.00.
5. **Debarment and Suspension**. Contractor acknowledges and warrants that it is not listed on the governmentwide exclusions in the System Award Management (SAM) Exclusions, in accordance with the OMB guidelines at 2 C.F.R. § 180 for "Debarment and Suspension."
6. **Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352)**. For an award exceeding $100,000, Contractors must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or

employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the Town.

7. **Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment**. The Contractor warrants that their systems or equipment are not covered under telecommunication equipment as described in Public Law 115-232.
8. **Domestic Preference for Procurements**. As appropriate and to the extent consistent with law, the Contractor will, to the greatest extent practicable under a federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products), as required under 2 C.F.R. § 200.322.
9. **Procurement of Recovered Material**. The Contractor agrees to comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.
10. **Conflict of Interest**. The Contractor agrees to be bound by the Town's Uniform Guidance Conflict of Interest Policy, which is included herein by reference.
11. **Equal Employment Opportunity**. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 include, by reference, the equal opportunity clause provided under 41 CFR 60-1.4(b). The Contractor agrees to abide by 41 CFR 60-1.4(b) during the performance of the contract[1].

[1] 60 CFR Part 60-1.4(b) can be accessed at: https://www.ecfr.gov/current/title-41/subtitle-B/chapter-60/part-60-1/subpart-A/section-60-1.4#p-60-1.4(b)

EXHIBIT B
MINIMUM INSURANCE REQUIREMENTS

The Work under this Contract shall not commence until the Contractor has obtained all required insurance and verifying certificates of insurance have been approved in writing by the Town. Except for Worker's Compensation and Professional Liability policies, the Town shall be named as additional insured on all policies. These certificates shall document that coverages afforded under the policies will not be cancelled, reduced in amount or coverages eliminated until at least thirty (30) days after mailing written notice, by certified mail, return receipt requested, to the insured and the Town of such alteration or cancellation. If endorsements are needed to comply with the notification or other requirements of this article copies of the endorsements shall be submitted with the certificates.

a. **Worker's Compensation and Employer's Liability**
The Contractor shall provide and maintain, until final acceptance, workmen's compensation insurance, as required by law, as well as employer's liability coverage with minimum limits of $100,000.

b. **Comprehensive General Liability Insurance**
The Contractor shall provide and maintain, until final acceptance, comprehensive general liability insurance, including coverage for premises operations, independent contractors, completed operations, products and contractual exposures, as shall protect such contractors from claims arising out of any bodily injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operations be by the Contractor or by any subcontractor, or by anyone directly or indirectly employed by either of them and the minimum limits of such insurance shall be as follows:

Bodily Injury: $1,000,000 per occurrence/$2,000,000 aggregate
Professional Liability: $1,000,000 per occurrence/$2,000,000 aggregate
Property Damage: $1,000,000 per occurrence/$2,000,000 aggregate

Such coverage for completed operations must be maintained for at least two (2) years following final acceptance of the Work performed under the contract.

c. **Deductible**
Any deductible, if applicable to loss covered by insurance provided, is to be borne by the Contractor.

d. **Other Insurance**
The Contractor shall obtain such additional insurance as may be required by the Town or by the General Statutes of North Carolina including motor vehicle insurance, in amounts not less than the statutory limits.

e. **Proof of Carriage**
The Contractor shall furnish the Town with satisfactory proof of carriage of the insurance required before written approval is granted by the Town.

EXHIBIT C – PLANS AND SPECIFICATIONS

See construction documents and project manual dated May 24, 2023.

EXHIBIT D – FEE SCHEDULE

Base Bid Total: $1,466,596.00

Alternate #1: $66,096.00

Total Lump Sum: $1,532,692.00

_____

Company Name Date

_____

Print Name Title

_____

Signature

SINGLE PRIME GENERAL CONSTRUCTION CONTRACT
BID PROPOSAL

RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

ALTERING THE FACE OF THIS FORM IN ANY MANNER, OR PROVIDING INFORMATION NOT SPECIFICALLY REQUESTED SHALL RENDER THIS BID PROPOSAL NON-RESPONSIVE AND INELIGIBLE FOR CONSIDERATION BY THE TOWN

Date: June 21, 2023

TO: Town of Huntersville
North Carolina

To Whom It May Concern:

The undersigned Bidder, having examined carefully the site, the Invitation to Bid, Instructions to Bidders, Construction Drawings, the form Construction Agreement, Supplementary Documents (if any) and subsequent Addenda (as acknowledged herein) for the construction of one (1) new restroom building, ninety-eight (98) new parking spaces, and improvements to existing detention pond, with associated erosion control, grading, stormwater, mechanical, electrical, plumbing, masonry, and concrete work. Bidder hereby proposes to furnish all labor, materials, equipment and services necessary to perform the Work required in the Construction Documents and terms of this Proposal for the amounts listed below.

1. Restroom Facility:
   $724,650.00 (LS)

2. Parking Lot Expansion:
   $603,900.00 (LS)

3. Detention Pond Improvements:
   $138,046.00 (LS)

Total Base Bid: (Item 1 + Item 2 + Item 3)
$1,466,596.00 (LS)

Town reserves the right to award contract based on Base Bid only, or combination of Base Bid and any/all of the Alternate Bid Items below. The Bidder shall indicate if the Alternate is an add or deduct for the overall bid. If the Alternate is left blank, then the Alternate will not change the Base Bid if accepted. The Bidder agrees to provide the Alternates as described in the Contract Documents for the following prices:

Alternate #1 Restroom Building Exterior Canopy: Add/
$66,096.00 (LS)

The undersigned further agrees that this Bid Proposal shall be valid for a period of sixty (60) days from the date of receipt of the Bid Proposal and that if this Bid Proposal is accepted by the Town within this period, the Bidder will execute the Construction Agreement provided as part of the Contract Documents.

The undersigned further agrees to begin the work promptly upon receipt of the Notice to Proceed and to pursue the work with an adequate work force to complete the work within 180 calendar days from receipt of the Notice to Proceed. Liquidated Damages of $500.00 per calendar day are hereby agreed upon as an assessment from the Contractor for failure to complete the work within the time period stated herein.

The undersigned Bidder further proposes and agrees to commence the work promptly upon notice, with an adequate force to satisfactorily complete the Project.

The undersigned acknowledges receipt of the following addenda which will be considered as part of the Contract Documents.

Addendum No.	1	Dated	05/04/2023
Addendum No.	2	Dated	06/09/2023
Addendum No.	3	Dated	06/15/2023
Addendum No.		Dated	

CONTRACTOR: J.D. Goodrum Company, Inc.
(Company)

Contractor ☐ is or ☒ is not a historically underutilized business, registered with the North Carolina Office of Historically Underutilized Businesses. (Must be completed by all Bidders.)

ADDRESS: 18339-F Old Statesville Road

Cornelius, NC 28031

BY: Jamie Yoxtheimer
(Signature) (Typed Name)

TITLE: Owner

NC General Contractor's License No. 19284

NC State Sales and Use Tax Registration 56-1506393

☒ Non-collusion Affidavit has been completed and is attached to this Bid Proposal Form (Required)
(Note: Inclusion of the non-collusion affidavit is mandatory. A bid will be rejected as non-responsive if not included in the bid submission.)

Select One (One or the other must be chosen by the Bidder):

☒ Substitution Listing (if substitutions are being proposed) is attached to this Bid Proposal Form.
(Note: Failure to include the Substitution Listing with this Bid Proposal will render the substitutions ineligible for consideration by the Town.) OR

☐ Substitution Listing is not attached to this Bid Proposal Form (No substitutions are proposed.)

SUBSTITUTION LISTING

TO: Town of Huntersville, North Carolina
Hereinafter called "Town"

1. A Bidder requesting a substitution must submit this form to the Project Manager and Project Landscape Architect at least five (5) business days prior to the time stated for Bid Opening.

2. Pursuant to bidding requirements for the Work titled:

   RICHARD BARRY PARK
   PARKING LOT EXPANSION AND NEW RESTROOM BUILDING
   FOR HUNTERSVILLE PARKS AND RECREATION

   The Contract Sum proposed by the under signed on the Bid Proposal form is for the Work as shown on the Drawings, and otherwise defined in the Contract Documents. However, the undersigned proposes the following substitutions for the Town's consideration. Should the Town accept any or all of the proposed substitutions, the Bidder's proposed contract sum will be reduced by the amount shown.

3.

Specified Product Or Material	Drawing Number	Proposed Substitution	Proposed Reduction In Contract Sum
Flooring	ARCH	Delete epoxy, use sealed concrete	Deduct - ($5,000.00)
Doors	ARCH	Utilize (2) Hollow metal doors in lieu of roll up door	Deduct - ($3,500.00)
Box Soffit	ARCH-Alt#1	Delete linear box soffit in Alt #1 and provide exterior painted board & batten.	Deduct - ($6,000.00)

PROVIDE SIGNATURE IDENTICAL TO THAT SHOWN ON THE BID FORM

BIDDER:

J.D. Goodrum Company, Inc.

By _____
Jamie Yoxtheimer, Owner

END OF SUBSTITUTION LISTING

Standard Form Contract

NON-COLLUSION AFFIDAVIT

I, on behalf of the Bidder, being first duly sworn or as the Contractor, do hereby represent on behalf of the Bidder that the Bid Proposal submitted was made without collusion or fraud and that neither I, nor anyone else affiliated with the Bidder to my knowledge, have offered or received any kickbacks or inducements from any other supplier, manufacturer or subcontractor in connection with their Bid Proposal, and neither I, nor anyone else affiliated with the Bidder to my knowledge, have conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

This the 21st day of June, 2023.

BIDDER: J.D. Goodrum Company, Inc.

Print Name: Jamie Yoxtheimer
Print Title: Owner

State of North Carolina
County of Mecklenburg

Sworn to or subscribed before me this the 21st day of June, 2023.

(Official Seal)

STACIE LEAVITT
Notary Public, North Carolina
Iredell County
My Commission Expires
November 01, 2025

Notary Public
Print Name: Stacie Leavitt

Attach To Bid

Identification of HUB Certified/ Minority Business Participation

I, J.D. Goodrum Company, Inc.
(Name of Bidder)

do hereby certify that on this project, we will use the following HUB Certified/ minority business as construction subcontractors, vendors, suppliers, or providers of professional services. If none, leave blank.

Firm Name, Address and Phone #	Work Type	*Minority Category	**HUB Certified (Y/N)
Pressley Site Works (803) 431-3068 9015 Collins Road, Indian Land, SC 29797	Site Work	F	Y

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

** **HUB Certification with the state HUB Office required to be counted toward state participation goals.**

The total value of minority business contracting will be ($) 200,140.00 .
If none, please insert zero above.

Attach To Bid

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of Mecklenburg

Affidavit of J.D. Goodrum Company, Inc.
(Name of Bidder)

I have made a good faith efforts to comply under the following areas checked.

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive.

☒ **1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.

☒ **2 --(10 pts)** Made the construction plans, specifications, and requirements available for review by prospective minority businesses or provided these documents to them at least 10 days before the bids are due.

☐ **3 – (15 pts)** Broke down or combined elements of work to be subcontracted into economically feasible units to facilitate minority participation.

☐ **4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.

☒ **5 – (10 pts)** Attended any prebid meetings scheduled by the Town.

☐ **6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.

☒ **7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.

☐ **8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.

☐ **9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.

☒ **10 - (20 pts)** Providing quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Town. Substitution of contractors must be in accordance with N.C.G.S. § 143-128.2(d). Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: June 21, 2023 Name of Authorized Officer: Jamie Yoxtheimer

Signature: _____

Title: Owner

STACIE LEAVITT
Notary Public, North Carolina
Iredell County
My Commission Expires
November 01, 2025
SEAL

State of North Carolina, County of Mecklenburg

Subscribed and sworn to before me this 21st day of June 2023

Notary Public _____

My commission expires November 1, 2025

Attach To Bid

State of North Carolina --AFFIDAVIT B—

Intent to Perform Contract with Own Workforce.

County of _____ N/A

Affidavit of _____

(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

_____ contract.

(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

The Bidder agrees to provide any additional information or documentation requested by the Town in support of the above statement. The Bidder agrees to make a Good Faith Effort to utilize minority suppliers where possible.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____

SEAL

State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20___

Notary Public _____

My commission expires _____

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT _____

J.D. Goodrum Co., Inc. as principal, and Fidelity and Deposit Company of Maryland, as surety, who is duly licensed to act as surety in North Carolina, are held and firmly bound unto Town of Huntersville as obligee, in the penal sum of Five Percent of Amount Bid 5% DOLLARS, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed, sealed and dated this 21st day of June, 2023

WHEREAS, the said principal is herewith submitting proposal for

Richard Barry Parking Lot Expansion & New Restroom Building

and the principal desires to file this bid bond in lieu of making the cash deposit as required by G.S. 143-129.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION is such, that if the principal shall be awarded the contract for which the bid is submitted and shall execute the contract and give bond for the faithful performance thereof within ten days after the award of same to the principal, then this obligation shall be null and void; but if the principal fails to so execute such contract and give performance bond as required by G.S. 143-129, the surety shall, upon demand, forthwith pay to the obligee the amount set forth in the first paragraph hereof. Provided further, that the bid may be withdrawn as provided by G.S. 143-129.1

J.D. Goodrum Co., Inc. (SEAL)

By: (SEAL)

(SEAL)

Fidelity and Deposit Company of Maryland (SEAL)

By: (SEAL)

Wendy E Lahm, Attorney-in-Fact

Surety Phone No. 847-605-6000

Bond Number: Bid Bond

Obligee Town of Huntersville

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Wendy E Lahm**, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 18th day of April, A.D. 2023.

ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Robert D. Murray
Vice President

By: Dawn E. Brown
Secretary

State of Maryland
County of Baltimore

On this 18th day of April, A.D. 2023, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Iva Bethea
Notary Public
My Commission Expires September 30, 2023

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 21st day of June, 2023.

M J Pethick

By: Mary Jean Pethick
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com
800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

DocuSign Envelope ID: 4E78395F-5B07-4D4D-A529-0C1582FA88BC

PROJECT MANUAL

TOWN OF HUNTERSVILLE
RICHARD BARRY PARK
PARKING LOT AND NEW RESTROOM BUILDING

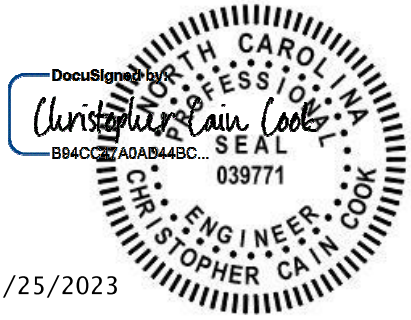
SITE ADDRESS: 13707 BEATTIES FORD ROAD
HUNTERSVILLE, NC 28078

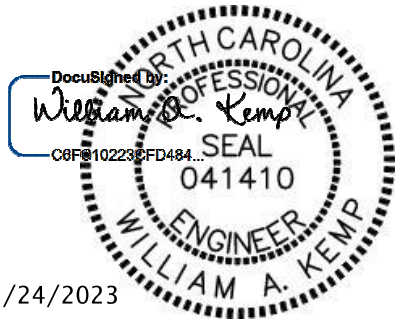
PROJECT MANAGER:
Town of Huntersville
Michael Jaycocks
704-766-2228

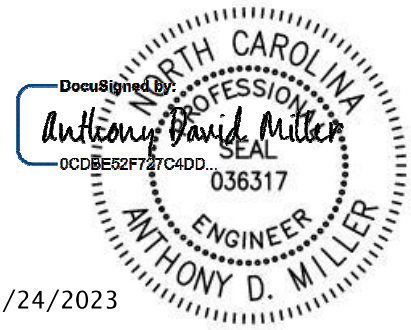
PROJECT ENGINEER:
Dewberry Engineers Inc.
9300 Harris Corners Pkwy
Suite 220
Charlotte, NC 28269
704-509-9918
NCBELS #F-0929

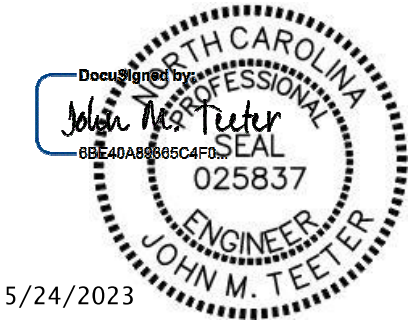
PROJECT LANDSCAPE ARCHITECT:
Dewberry Engineers Inc.
9300 Harris Corners Pkwy
Suite 220
Charlotte, NC 28269
704-509-9918
NCBOLA #C-478

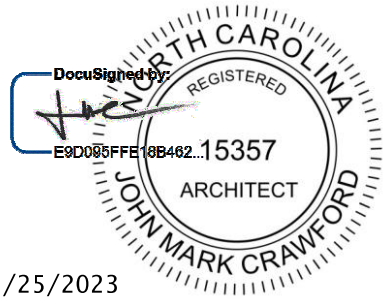
PROJECT ARCHITECT:
Creech & Associates, PLLC
1000 W. Morehead Street
Suite 120
Charlotte, NC 28208
704-376-6000
NCBOA #52304











OWNER:
Town of Huntersville
ATTN: Parks and Recreation Department
105 Gilead Road, Third Floor
Huntersville, NC 28078
May 24, 2023

TOWN OF HUNTERSVILLE
RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS
April 24, 2023

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INVITATION TO BID

FOR THE CONSTRUCTION OF
RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

Town of Huntersville, North Carolina

Sealed, single prime bids for the construction of one (1) new restroom building, ninety-eight (98) new parking spaces, and improvements to existing detention pond, with associated erosion control, grading, stormwater, mechanical, electrical, plumbing, masonry, and concrete work. Bids for the project will be received by the Town of Huntersville Parks and Recreation Department, 105 Gilead Road, 3rd Floor, P.O. Box 2879, Huntersville, NC, 28070 until **2:00 PM, local time, Wednesday, June 21, 2023**, and there at said office, at said time. Bid Proposals will be received for

THE CONSTRUCTION OF ONE (1) NEW RESTROOM BUILDING
AND NINETY-EIGHT (98) NEW PARKING SPACES
FOR HUNTERSVILLE PARKS AND RECREATION

The Bid Package, consisting of the Invitation to Bid, Instructions to Bidders, Bid Proposal Form, Non-collusion Affidavit, Substitution Listing Form, General Conditions of the Contract, and Contract Drawings may be obtained from the Huntersville Parks and Recreation Department, 105 Gilead Road, 3rd Floor, Huntersville, NC, or may be accessed at the following web address: www.huntersville.org. Contract documents will not be mailed to Bidders.

Copies of the Contract Documents may be examined at the Huntersville Parks and Recreation Department, Huntersville, North Carolina 28078

Each Bid must be accompanied by cash, cashier's check, certified check on a bank or trust company insured by the Federal Deposit Insurance Corporation, or Bid Bond in the amount not less than five percent (5%) of the amount of the Bid in the form and subject to the conditions provided in the Information for Bidders.

1. The Contract Drawings for this Project were provided to the Town by Dewberry Engineers Inc. If awarded, the Project will be awarded to the lowest responsive, responsible Bidder, taking into account quality, performance and time specified in the Contract Documents.

A pre-bid meeting shall be held on **Thursday, June 1, 2023, at 11:00 A.M.** at the project site located at 13707 Beatties Ford Road, Huntersville, NC 28078. Any questions regarding this meeting should be directed to Michael Jaycocks, Director of Parks and Recreation at 704-766-2228.

The Town of Huntersville ("Town") reserves the right to waive any minor deviations in the Bid Proposal and to reject any or all Bid Proposals.

Town of Huntersville
End of Invitation to Bid

INSTRUCTIONS TO BIDDERS:

Project Landscape Architect: Tristan McMannis, PLA, LEED AP BD+C
Dewberry Engineers Inc.
9300 Harris Corners Pkwy, Suite 220
Charlotte, NC 28269

PLEASE NOTE: ALL QUESTIONS REGARDING THE CONTRACT DRAWINGS, AND THE CONSTRUCTION SPECIFICATIONS INDICATED ON SAID DRAWINGS SHOULD BE DIRECTED TO THE PROJECT LANDSCAPE ARCHITECT. ALL QUESTIONS AND ANSWERS PROVIDED WILL BE POSTED ON THE TOWN'S WEBSITE AS AN ADDENDUM TO THE CONTRACT DOCUMENTS. BIDDERS WILL BE RESPONSIBLE FOR ENSURING THAT THEY HAVE RECEIVED AND RELIED UPON ALL ADDENDA FOR THE PROJECT IN SUBMITTING THEIR BIDS.

1. **FAMILIARITY WITH WORK AND CONDITIONS:** Before preparing Bid Proposals, Bidders are urged to visit the site of the Project to inform and familiarize themselves with all conditions involved and under which the Project is to be constructed or apparatus erected or installed. The Town of Huntersville will not be responsible to the Contractor for payments other than as set out in the contract price, should conditions be different than those assumed or contemplated by the Contractor. The Contractor is required to satisfy himself, before bidding, as to the correctness of the site as indicated by the plans.

2. **FAMILIARITY WITH LAWS, ETC.:** The Bidder is assumed to have made himself familiar with all Federal, State, and Local Laws, ordinances and regulations which may in any manner affect those engaged or employed in work or the materials or equipment in or upon the work, or in any way affect the conduct of the work, and no pleas of misunderstanding will be considered on account of the ignorance thereof. If the Bidder or Contractor shall discover any provisions in the plans, specifications, or contract which are contrary or inconsistent with any such law, ordinance, or regulation, he shall forthwith report it to the Project Engineer in writing before the bid opening.

3. **INTERPRETATIONS OF PLANS:** If any prospective Bidder is in doubt as to the true meaning of any part of the plans, or other proposed contract documents, he may submit to the Project Landscape Architect, a written request for an interpretation thereof, who will either answer or secure an answer based upon their relative expertise. The person submitting such request will be responsible for its prompt delivery. Note, requests for clarification or interpretation must be submitted no later than 5:00 pm on June 14, 2023. Any interpretation of the proposed documents will be made only by addendum duly issued and posted on the Town's website. The Project Landscape Architect will not be responsible for any other explanations or interpretations of the proposed document. The Contractor shall acknowledge receipt of all addenda in the space provided in the Bid Proposal.

4. **CONTRACT DOCUMENTS**: The Contract Documents consist of the Invitation to Bid, Instructions to Bidders, Bid Proposal Form, Non-collusion Affidavit, HUB Good Faith Effort Form, Substitution Listing, all Addenda issued, the Contract Drawings, the Town's Standard Form Contract, the General Conditions of the Construction Contract, and all exhibits and attachments incorporated by reference to any of the Contract Documents.

5. **BID PROPOSAL FORM:** Each Bidder must submit a Bid Proposal on the blank forms herewith provided. Each Bidder must include both the Bid Proposal Form and the Noncollusion Affidavit with their Bid Proposal as well as the HUB Good Faith Effort Form, otherwise the Bid Proposal will not be considered. Each Bidder shall sign his Bid Proposal correctly by one duly authorized, and Bid Proposals may be rejected if they show any omissions, alterations of form, additions not called for, or other irregularities of any kind. Conditioning and unbalancing of bids will not be permitted.

6. **BID PROPOSAL REPRESENTATIONS:** Submission of a Bid Proposal Form shall be a representation of the Bidder of all of the following:

   a. The Bidder has carefully examined the **CONTRACT DOCUMENTS** and fully understands them.

   b. The Bidder has carefully examined the site or sites of the Project and is familiar with the conditions under which the Work, or any part of it, is to be done, and the conditions which must be fulfilled in the furnishing and/or erection or construction of any or all items of the Project.

   c. The Bidder has the financial means and stability to provide all materials and all necessary tools, machinery, and all means necessary to do all the Work in the manner prescribed in the Contract Documents and according to the Plans and the requirements of the Town of Huntersville, in a workmanlike manner, consistent with the standards of the profession in and around Huntersville.

   d. The Bid has been made without connection with any other person, company, or parties making a similar Bid Proposal, and that it is in all respects fair and in good faith, without collusion or fraud.

   e. The Bidder understands that it is the intention of the Town of Huntersville, North Carolina, to award the Contract on the basis of Bid Proposals received at this letting, however, the Town reserves the right to reject any or all bids.

   f. If the Bid Proposal is made by a Corporation or Contractor, the Bid Proposal Form has been signed by its proper officers or members, as applicable, in a legal manner and its official address stated therein.

   g. The Bidder will enter into the Town's Construction Agreement, included as part of the Contract Documents, and will perform all of the work necessary for the construction of facilities outlined in the **CONTRACT DOCUMENTS** for the Town of Huntersville, North Carolina, for the bid price stated in the Bid Proposal Form.

   h. The Bidder has received and completely understood the Addenda and the bid price stated in the Bid Proposal Form reflects all Addenda.

7. **SUBMISSION OF BID PROPOSALS:** It is the responsibility of each Bidder, without excuse, to ensure that their Bid Proposal is submitted at the right place by the deadline. Each Bid Proposal must be submitted in a sealed envelope, to indicate its contents without being opened. The name of the Bidder, his address and his license number must be marked on the outside of the envelope. **This envelope shall be placed in another one** addressed to the attention of Michael Jaycocks, Town of Huntersville Recreation Department, 105 Gilead Road, P.O. Box 2879, Huntersville, North Carolina, 28070, and if forwarded otherwise than by mail, must be delivered

to Mr. Michael Jaycocks at the above address. If the mail is delayed beyond the date and hour set for the Bid Proposal opening, proposals thus delayed will not be considered. The outer envelope must also state the Project Name and the name of the Bidder. Bid Proposals will be accepted until 2:00 PM on the date of the Bid Proposal Opening. Bid Proposals submitted after this time cannot be accepted.

8. **OPENING OF BID PROPOSALS:** Bid Proposals will be opened publicly and read promptly at the time, on the date, and at the place set forth in the "Invitation to Bid". Bidders or their authorized agents and other interested parties are invited to be present. The Bid Proposal shall be deemed valid for a period of sixty (60) calendar days after the opening thereof. The Bidder may request to withdraw their Bid Proposal in writing, received prior to the time for opening of the Bid Proposals, directed to the Town of Huntersville. Bid Proposals may be withdrawn after the opening of the Bid Proposals **for unintentional and substantial arithmetic errors or omissions pursuant to N.C.G.S. § 143-129.1** if the request is made in writing to and received by Michael Jaycocks, Huntersville Parks and Recreation Director, within seventy-two hours after the time for opening Bid Proposals. Such written request of withdrawal must include sufficient documentation of the clerical error or math computational error.

9. **AWARDING OF CONTRACT:** If awarded, the Town of Huntersville, North Carolina will award the contract conditioned upon funds being made available for such construction. If awarded, the contract will be awarded to the lowest, responsive, responsible Bidder taking into account quality, performance, and time specified in the Contract Documents. Consideration will be given only to Bid Proposals of contractors who are experienced in the class of work proposed and who can refer to projects of similar magnitude and/or character as have been completed by them. The Town also reserves to itself the right to reject any or all Bid Proposals and to waive minor informalities or technicalities, as it may deem to be in the Town's best interest.

10. **EXECUTION OF CONTRACT:** The successful Bidder will be required to enter into the Town's Standard Form Contract, included as part of this Project Manual, and must execute the Contract no later than ten (10) consecutive calendar days following receipt of the Notice of Award from the Town. Failure of a Bidder to execute the Contract within said ten (10) day period shall result in the forfeiture of the bidder's bid bond as described below.

11. **CHECKS, CASH, OR BID BOND:** Each proposal must be accompanied by a Bid Bond executed by a corporate surety licensed under the laws of North Carolina to execute such bonds, conditioned that the surety will, upon demand for with make payment to the Town if the bidder fails to execute the Contract. The Bid Bond shall be in the amount of five percent (5%) of the total bid plus all of the alternates. The Bid Bond shall be valid for a minimum of ninety (90) calendar days. In lieu of a Bid Bond, a deposit equal to five percent (5%) of the total bid plus all alternates in the form of a Cashier's Check or Certified Check on some bank or trust company insured by the Federal Deposit Insurance Corporation and payable to the Town of Huntersville may be provided. The purpose of the Bid Deposit or Bid Bond is to ensure that the bidder will enter into a Contract with the Town with the terms stipulated in the Bid Proposal and the bidder guarantees that a Performance, Labor and Material will be executed. If the Contractor fails to execute a Contract, the Bid Bond or Bid Deposit shall be forfeited to the Town. Bid security shall be submitted separately for each project bid.

12. **PERFORMANCE BOND:** The successful Bidder shall provide a performance bond equal to 100% of the contract sum, and shall conform to the Town's requirements. Bond/surety shall be provided in a form as noted in item 11 above.

13. **PAYMENT BOND:** The successful Bidder shall provide a payment bond equal to 100% of the contract sum, and shall conform to the Town's requirements. Bond/surety shall be provided in a form as noted in item 11 above.

14. **COORDINATION OF WORK:** During the performance of the contract it shall be the responsibility of the successful Bidder to pursue the orderly progress of all work stages throughout the Project and to assure that all work is completed within the time period stipulated herein as the Contract Period. In executing the duties incurred by these responsibilities, the successful Bidder shall provide sufficient executive and supervisory staff in the field to enable efficient and expeditious progress of the work. The Town relies upon the organization, management, skill, cooperation, and efficiency of the successful Bidder to supervise, direct, control and manage the work and the efforts of the sub-contractors so as to deliver the intended construction to the Contract Documents and within the scheduled time.

15. **LIQUIDATED DAMAGES:** The successful Bidder is required to complete the Project as outlined in the Project progress schedule and as defined by the Contract Period. Should the successful Bidder fail to assure the completion of the total Project satisfactorily within the time period specified in the contract, the successful Bidder shall be charged with liquidated damages at a rate of **Five Hundred Dollars ($500.00) per calendar day** until the total Project is successfully completed.

    If in the event the successful Bidder is granted substantial completion by the Project Landscape Architect and fails to complete and/or correct all of the remaining list of items to be corrected within **30** days of the date of substantial completion, the successful Bidder shall be charged with **liquidated damages at a rate of Five Hundred Dollars ($500.00) per calendar day** until all of the remaining items on the list are completed and corrected and approved by the Project Manager or Landscape Architect.

    The successful Bidder shall indemnify the Town for any claim or legal action against the Town by any subcontractor or supplier as a result of injury or damages caused by that Contractor to others, including paying judgements against the Town, all costs and expenses, legal or otherwise, incurred by the Town in defending the suit.

16. **CONTRACT REDUCTION:** The Town retains the exclusive right to reduce any or all of the scope of work within the Contract Documents after award of the contract for budgetary or other reasons. Should the Town choose to reduce any or all of said scope of work, the successful Bidder shall not be allowed any claims for anticipated profit or overhead on such deleted work.

17. **CONTRACTORS LICENSE:** All Bidders must possess a valid North Carolina General Contractors License to do work in North Carolina as required by N.C.G.S. Chapter 87, plus any other applicable licenses. A copy of these requirements is included in the bid documentation.

18. **TIME OF CONSTRUCTION:** The Successful Bidder shall begin work on the date specified in the Notice to Proceed and shall pursue all necessary phases of construction in order to substantially complete the base bid work within **180 consecutive calendar days**. This time of construction shall be defined as the Contract Period.

19. **CONSTRUCTION SCHEDULES**: The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Town and Consultant's information, a construction schedule. The construction schedule shall be a detailed bar chart or Critical Path Method, for the Work to be performed. The schedule shall not exceed time limits current under the Contract Documents and shall include weather delays and delays due to delivery of the equipment. The schedule shall

be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of Work.

The Contractor shall maintain the construction schedule, making monthly adjustments, updates, and corrections. The construction schedule shall be reviewed at each construction meeting.

The Contractor shall also prepare a schedule of submittals which shall be coordinated with the Contractor's construction schedule. The submittal schedule shall also be reviewed at each construction meeting and adjusted as necessary.

The following chart is the anticipated adverse weather delays for this project.

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
10	10	11	6	6	6	6	5	6	6	7	9

The construction schedule shall reflect the anticipated adverse weather delays.

National Oceanic and Atmospheric Administration (NOAA) data shall be used to claim addition construction days beyond the above chart for critical path activities.
Weather days occurring on holidays or Sundays will not be considered as delays significant to the Contract completion date. The request for a weather delay must be submitted to the Consultant in writing with supporting data within (20) days following the occurrence.

The Contractor shall allocate sufficient resources to meet the current construction schedule.

20. **TECHNICAL SPECIFICATIONS.** Technical specifications are included both on the Contract Drawings themselves, and within the Project Manual and are included in the bid documents. It is up to each Bidder to satisfy themselves that these technical specifications are sufficient to enable them to perform the Work. If a Bidder determines that the technical specifications are not sufficient, the Bidder should pose appropriate questions to the Project Manager who will secure answers from the Project Landscape Architect. All such inquiries and answers will be put out in the form of an Addendum prior to the time for opening bids.

21. **SUBSTITUTIONS:** Requests for approval of substitutions for specified products or "or equal" or "equivalent" submittals other than those listed as acceptable products will be considered only upon submission of samples and manufacturers' data, in triplicate, of both the product specified and the product intended for substitution. All such requests for substitutions must be received for consideration by the Project Landscape Architect no later than 5 business days prior to the Bid Proposal opening. All substitutions approved will be put into an Addendum. The Town reserves the right to consider and accept any and all substitutions proposed in determining the lowest responsible bidder.

22. **MINORITY BUSINESS PARTICIPATION**: The Contractor and any Bid Proposal shall adhere to the Town of Huntersville Minority Business Participation Outreach Plan, which said plan is attached to this document.

END OF INSTRUCTIONS TO BIDDERS

SINGLE PRIME GENERAL CONSTRUCTION CONTRACT
BID PROPOSAL

RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

ALTERING THE FACE OF THIS FORM IN ANY MANNER, OR PROVIDING INFORMATION NOT SPECIFICALLY REQUESTED SHALL RENDER THIS BID PROPOSAL NON-RESPONSIVE AND INELIGIBLE FOR CONSIDERATION BY THE TOWN

Date: _____

TO: **Town of Huntersville**
North Carolina

To Whom It May Concern:

The undersigned Bidder, having examined carefully the site, the Invitation to Bid, Instructions to Bidders, Construction Drawings, the form Construction Agreement, Supplementary Documents (if any) and subsequent Addenda (as acknowledged herein) for the construction of one (1) new restroom building, ninety-eight (98) new parking spaces, and improvements to existing detention pond, with associated erosion control, grading, stormwater, mechanical, electrical, plumbing, masonry, and concrete work. Bidder hereby proposes to furnish all labor, materials, equipment and services necessary to perform the Work required in the Construction Documents and terms of this Proposal for the amounts listed below.

1. Restroom Facility:
   $_____(LS)

2. Parking Lot Expansion:
   $_____(LS)

3. Detention Pond Improvements:
   $_____(LS)

Total Base Bid: (Item 1 + Item 2 + Item 3)
$_____(LS)

Town reserves the right to award contract based on Base Bid only, or combination of Base Bid and any/all of the Alternate Bid Items below. The Bidder shall indicate if the Alternate is an add or deduct for the overall bid. If the Alternate is left blank, then the Alternate will not change the Base Bid if accepted. The Bidder agrees to provide the Alternates as described in the Contract Documents for the following prices:

Alternate #1 Restroom Building Exterior Canopy: Add/
$_____(LS)

The undersigned further agrees that this Bid Proposal shall be valid for a period of sixty (60) days from the date of receipt of the Bid Proposal and that if this Bid Proposal is accepted by the Town within this period, the Bidder will execute the Construction Agreement provided as part of the Contract Documents.

The undersigned further agrees to begin the work promptly upon receipt of the Notice to Proceed and to pursue the work with an adequate work force to complete the work within 180 calendar days from receipt of the Notice to Proceed. Liquidated Damages of $500.00 per calendar day are hereby agreed upon as an assessment from the Contractor for failure to complete the work within the time period stated herein.

The undersigned Bidder further proposes and agrees to commence the work promptly upon notice, with an adequate force to satisfactorily complete the Project.

The undersigned acknowledges receipt of the following addenda which will be considered as part of the Contract Documents.

Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____

CONTRACTOR: _____
(Company)

Contractor ☐ is or ☐ is not a historically underutilized business, registered with the North Carolina Office of Historically Underutilized Businesses. (Must be completed by all Bidders.)

ADDRESS: _____

_____

_____

BY: _____
(Signature) (Typed Name)

TITLE: _____

NC General Contractor's License No. _____

NC State Sales and Use Tax Registration _____

☐ Non-collusion Affidavit has been completed and is attached to this Bid Proposal Form (Required)
(Note: Inclusion of the non-collusion affidavit is mandatory. A bid will be rejected as non-responsive if not included in the bid submission.)

Select One (One or the other must be chosen by the Bidder):

☐ Substitution Listing (if substitutions are being proposed) is attached to this Bid Proposal Form.
(Note: Failure to include the Substitution Listing with this Bid Proposal will render the substitutions ineligible for consideration by the Town.) OR

☐ Substitution Listing is not attached to this Bid Proposal Form (No substitutions are proposed.)

SUBSTITUTION LISTING

TO: Town of Huntersville, North Carolina
Hereinafter called "Town"

1. A Bidder requesting a substitution must submit this form to the Project Manager and Project Landscape Architect at least five (5) business days prior to the time stated for Bid Opening.

2. Pursuant to bidding requirements for the Work titled:

   RICHARD BARRY PARK
   PARKING LOT EXPANSION AND NEW RESTROOM BUILDING
   FOR HUNTERSVILLE PARKS AND RECREATION

   The Contract Sum proposed by the under signed on the Bid Proposal form is for the Work as shown on the Drawings, and otherwise defined in the Contract Documents. However, the undersigned proposes the following substitutions for the Town's consideration. Should the Town accept any or all of the proposed substitutions, the Bidder's proposed contract sum will be reduced by the amount shown.

3.

Specified Product Or Material	Drawing Number	Proposed Substitution	Proposed Reduction In Contract Sum
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

PROVIDE SIGNATURE IDENTICAL TO THAT SHOWN ON THE BID FORM

BIDDER:

_____

By _____

END OF SUBSTITUTION LISTING

Standard Form Contract

NON-COLLUSION AFFIDAVIT

I, on behalf of the Bidder, being first duly sworn or as the Contractor, do hereby represent on behalf of the Bidder that the Bid Proposal submitted was made without collusion or fraud and that neither I, nor anyone else affiliated with the Bidder to my knowledge, have offered or received any kickbacks or inducements from any other supplier, manufacturer or subcontractor in connection with their Bid Proposal, and neither I, nor anyone else affiliated with the Bidder to my knowledge, have conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

This the _____ day of _____, 2023.

BIDDER:_____

_____
Print Name:
Print Title:

State of _____
County of _____

Sworn to or subscribed before me this the _____ day of _____, 2023.

(Official Seal)

_____
Notary Public
Print Name:_____

Attach To Bid

Identification of HUB Certified/ Minority Business Participation

I,_____,
(Name of Bidder)

do hereby certify that on this project, we will use the following HUB Certified/ minority business as construction subcontractors, vendors, suppliers, or providers of professional services. If none, leave blank.

Firm Name, Address and Phone #	Work Type	*Minority Category	**HUB Certified (Y/N)

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

The total value of minority business contracting will be ($)_____.
If none, please insert zero above.

Attach To Bid

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of _____

Affidavit of _____
(Name of Bidder)

I have made a good faith efforts to comply under the following areas checked.

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive.

- ❑ **1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- ❑ **2 --(10 pts)** Made the construction plans, specifications, and requirements available for review by prospective minority businesses or provided these documents to them at least 10 days before the bids are due.
- ❑ **3** – **(15 pts)** Broke down or combined elements of work to be subcontracted into economically feasible units to facilitate minority participation.
- ❑ **4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- ❑ **5** – **(10 pts)** Attended any prebid meetings scheduled by the Town.
- ❑ **6** – **(20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- ❑ **7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- ❑ **8** – **(25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- ❑ **9** – **(20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- ❑ **10** - **(20 pts)** Providing quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Town. Substitution of contractors must be in accordance with N.C.G.S. § 143-128.2(d). Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer:_____

Signature:_____

Title:_____

SEAL

State of_____, County of_____

Subscribed and sworn to before me this _____day of _____20____

Notary Public_____

My commission expires _____

Attach To Bid

State of North Carolina --AFFIDAVIT B—
Intent to Perform Contract with Own Workforce.

County of _____

Affidavit of _____
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the _____

_____ contract.
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

The Bidder agrees to provide any additional information or documentation requested by the Town in support of the above statement. The Bidder agrees to make a Good Faith Effort to utilize minority suppliers where possible.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____

SEAL

State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20___

Notary Public _____

My commission expires _____

State of North Carolina - AFFIDAVIT C - Portion of the Work to be Performed by HUB Certified/Minority Businesses

County of _____

If the portion of the work to be executed by HUB certified/minority businesses as defined in N.C.G.S 143-128.2(g) and 128.4(a),(b),(e) is **equal to or greater than 10%** of the bidders total contract price, then the bidder must complete this affidavit.

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

_____
(Project Name)

Project ID#_____ Amount of Bid $_____

I will expend a minimum of _____% of the total dollar amount of the contract with minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers, or providers of professional services. Such work will be subcontracted to the following firms listed below.

(Attach additional sheets if required)

Name and Phone Number	*Minority Category	**HUB Certified Y/N	Work Description	Dollar Value

*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

Pursuant to N.C.G.S. § 143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Town. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer:_____

Signature:_____

Title:_____

SEAL

State of _____, County of _____

Subscribed and sworn to before me this _____day of _____20____

Notary Public_____

My commission expires_____

Do not submit with bid Do not submit with bid Do not submit with bid Do not submit with bid

State of North Carolina -AFFIDAVIT D – Good Faith Efforts Documentation

County of _____

If the goal of 10% participation by HUB Certified/ minority business **is not** achieved, the Bidder shall provide the following documentation to the Town of his good faith efforts:

Affidavit of _____ I do hereby certify that on the
(Name of Bidder)

_____
(Project Name)

Project ID#_____ Amount of Bid $_____

I will expend a minimum of _____% of the total dollar amount of the contract with HUB certified/ minority business enterprises. Minority businesses will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below.

(Attach additional sheets if required)

Name and Phone Number	*Minority Category	**HUB Certified Y/N	Work Description	Dollar Value

***Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

**** HUB Certification with the state HUB Office required to be counted toward state participation goals.**

Examples of documentation that may be required to demonstrate the Bidder's good faith efforts to meet the goals set forth in these provisions include, but are not necessarily limited to, the following:

A. Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.

B. Copies of quotes or responses received from each firm responding to the solicitation.

C. A telephone log of follow-up calls to each firm sent a solicitation.

D. For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.

E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal, including ads placed.

F. Copy of pre-bid roster.

G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.

H. Letter detailing reasons for rejection of minority business due to lack of qualification.

I. Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay

agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

Pursuant to N.C.G.S. § 143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Town. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date:_____ Name of Authorized Officer:_____

Signature:_____

Title:_____

SEAL

State of _____, County of _____

Subscribed and sworn to before me this _____ day of _____ 20____

Notary Public_____

My commission expires _____

Parks and Recreation 105 Gilead Road, Suite 300
Huntersville, NC 28078
(704) 766-2220

CONTRACT FOR CONSTRUCTION SERVICES

CONTRACTOR: **Contractor Name**
Contractor Name

Address 1
City, State Zip
Contact Name
Contact Email

PROJECT: Richard Barry Park Parking Lot Expansion and New Restroom Bldg. Project
SITE LOCATION(S): **11836 13707 Beatties Ford Road Huntersville, NC 28078**

This Contract for Construction and Repair, and all exhibits, (collectively this "Contract") is entered into this _____day of _____, 20_____ by and between the Town of Huntersville, a municipal corporation of the State of North Carolina, (the "Town") and_____ located at _____(the "Contractor").

WITNESSETH:

That for and in consideration of the mutual promises set forth in this Contract, the sufficiency of which is acknowledged by the parties hereto, the parties do mutually agree as follows:

1. Scope of Services. The Contractor agrees to perform for the Town the services according to the following construction design drawings, plans, and specifications, which is incorporated herein by reference as Exhibit C. The Contractor agrees to provide the labor, service, equipment, and materials, and other services included in Exhibit C, which shall constitute the "Work." The Contractor warrants that the Contractor has visited the location of the project and is familiar with all field conditions bearing upon the Contractor's performance of the Work; that the materials and equipment furnished under the Contract are of good quality and new (unless otherwise permitted); that the Work meets or exceeds the standards ordinarily observed in the industry; and that the Work conforms to the requirements of the Contract and to all applicable codes, ordinances, laws, or regulations. The Contractor further warrants and promises that the Work shall be free from defects and nonconformities in materials and workmanship for a period of one year from the later of the "Date of Completion" or such date as the Contractor actually completes all the Work. During such period, the Contractor will remedy at Contractor's expense any nonconformities or defects in the Work within a reasonable time after receiving notice thereof from the Town.
2. Fees: Fees for the Work shall be specified in a fee schedule attached hereto as Exhibit D, (the "Contract Price").

3. Change Orders. The Contractor agrees that the Town may order changes to the general scope of the Work, including additions, deletions, and similar revisions ("Change Orders"). The parties agree to adjust the Contract Price to reflect the effects of such changes. These changes shall be authorized only upon execution of a written Change Order. The amount of any increase or decrease in the Contract Price shall be by mutual acceptance of a total amount supported by sufficient data and information to substantiate the change. If the Town and Contractor do not mutually agree on the amount of the change in the Contract Price, the Contractor will proceed with the Work described in the Change Order and the Town will pay the reasonable costs of any additional work as determined by the Town, including a reasonable amount for the Contractor's overhead and profit. Any decrease in Contract Price for a decrease in the Work will be the reasonable costs of the Work deleted as determined by the Town, including a reasonable amount for the decrease in the Contractor's overhead. The Contractor may submit claims for an increase in the Contract Price or an extension of the Date of Completion by means of a written Change Request. The Contractor agrees to submit the Change Request within a reasonable time after the event giving rise to the requested change and before the Contractor undertakes any additional work. Upon receipt of a Change Request, the Town, at its sole discretion, shall inform the Contractor whether to proceed with the additional work and shall approve any adjustment in the Contract Price or Date of Completion by issuing a Change Order as provided above. The timely submission of a written Change Request shall be a condition precedent to the issuance of a Change Order, and the Town will have no obligation to pay the Contractor for additional work performed by the Contractor without a Change Order approved in writing by the Town.
4. Historically Underutilized Businesses (HUB). It is the policy of the Town of to provide minorities and women equal opportunity for participating in all aspects of the Town's contracting and procurement programs, including but not limited to employment, construction development projects, materials/services contracts and/or lease agreements, consistent with the laws of the State of North Carolina.
5. Personal Protective Equipment (PPE). The Contractor and his/her employees will wear the proper equipment such as, but not limited to, high visibility clothing, safety glasses, hearing protection, etc. at all times when performing the Work at the Site Location(s). Failure to be in the appropriate PPE will result in removal from the project site.
6. Contract Insurance. Contractor shall be required to purchase and maintain, during its performance under this Contract, insurance coverage as shown on the Insurance Requirements as stated in Exhibit B, which is incorporated herein by reference. All insurance purchased shall have a specific endorsement, copy of which shall be provided to the Town, naming the Town as an additional insured and providing that such insurance will not be cancelled without providing thirty (30) days advance written notice to the Town.
7. Working Drawings and Specifications at the Job Site. The Contractor shall maintain, in readable condition at his job site one complete set of working drawings and specifications for his work including all shop drawings. Such drawings and specifications shall be available for use by the Town, designer, or his authorized representative. The Contractor shall also maintain at the job site, a day-to-day record of work-in-place that is at variance with the contract documents. Such variations shall be fully noted on Project drawings by the Contractor and submitted to the designer upon Project completion and no later than 30 days after acceptance of the Project.

8. Materials, Equipment, Employees. The Contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, fuel, heat, sanitary facilities, water, scaffolding and incidentals necessary for the completion of the work, and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied therefrom, all in accordance with the contract documents.
9. Cleaning Up and Restoration of Site. The Contractor shall keep the sites and surrounding area reasonably free from rubbish at all times and shall remove debris from the site from time to time or when directed to do so by the Town. Before final inspection and acceptance of the Project, the Contractor shall thoroughly clean the sites, and completely prepare the Project and site for use by the Town. At the end of construction, the Contractor shall oversee and implement the restoration of the construction site to its original state. Restoration includes but not limited to walks, drives, lawns, trees and shrubs, corridors, stairs, and other elements shall be repaired, cleaned, or otherwise restored to their original state.
10. Protection of Work, Property, the Public, and Safety. The Contractor shall be solely responsible for the entire site and the building or construction of the same and provide all the necessary protections, as required by the Town or designer, and by laws or ordinances governing such conditions. The Contractor shall be responsible for any damage to the Town's property or of that of others on the job, by them, their personnel, or their subcontractors, and shall make good such damages. The Contractor shall be responsible for and pay for any damages caused to the Town.
11. As-Built Marked-Up Construction Documents. Contractor shall provide one complete set of legible "as-built" marked-up construction drawings and specifications recording any and all changes made to the original design during the course of construction. In the event no changes occurred, submit construction drawings and specifications set with notation "No Changes." The Designer/Town must receive "As-built" marked-up construction drawings and specifications before the final pay request can be processed.
12. Retainage. Retainage on periodic or final payments on public construction contracts in which the total project costs are $100,000 or more are allowed pursuant to N.C.G.S. § 143-134.1.
13. Addendums: If applicable, Contractor acknowledges that it has received, executed, and shall abide by any addendums issued by the Town prior to this Contract.
14. Standard Terms and Conditions. The Standard Terms and Conditions, attached hereto as Exhibit A, shall be a part of this Contract. The Standard Terms and Conditions are hereby incorporated by reference, and all parties agree to be bound thereby.
15. Contract Term. Work will begin within ten (10) days of receipt of the Notice to Proceed from the Town. The Contractor and the Town recognize that time is of the essence for completion of the Work. Any Notice to Proceed shall also contain a date that the Contractor shall complete the Work by (the "Date of Completion"). The terms of this Contract shall apply to every Notice to Proceed issued by the Town. The Contractor shall complete all necessary phases of construction in order to substantially complete the base bid work within **180 consecutive calendar days**. This time of construction shall be defined as the Contract Period.
16. Liquidated Damages. Contractor and Town recognize that time is of the essence and that Town will suffer financial and other losses if the Work is not completed by the Date of Completion, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize

the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Town if the Work is not completed on time. Accordingly, instead of requiring any such proof, Town and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Town $500 for each day that expires after the end of the Date of Completion (as duly adjusted pursuant to the Contract) until the Work is complete.

17. Payment for Work In consideration of the above Work, the Town will pay the Contractor the sum as further described on Exhibit D.

In witness thereof, the contracting parties, by their authorized agents, affix their signatures and seals at Huntersville, North Carolina, this _____ day of _____, 20_____.

Contractor

Name:

_____
Name of Contractor (type or print)

By:

_____
(Signature) Title:

Attest:

_____
(Secretary, if a corporation)

_____

Town of Huntersville

_____
Town Manager

Attest: _____
Town Clerk

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act

_____

Finance Director

EXHIBIT A

STANDARD TERMS & CONDITIONS

1. **Acceptance**. Contractor's acknowledgment of the terms of this Contract constitutes an agreement to: (i) all terms and conditions set forth or referenced herein, (ii) on any attachments hereto, (iii) any applicable solicitation documentation related to this Contract (including without limitation any request for proposals or invitation for bids or Contractor's response thereto) that deal with the same subject matter as this Contract, and (iv) any other terms and conditions of a written agreement signed by Contractor and the Town that deals with the same subject matter as this Contract (collectively, the "Contract Documents"). The terms and provisions set forth in the Contract Documents shall constitute the entire agreement between Contractor and the Town with respect to the purchase by the Town of the: (i) goods ("Goods") and/or (ii) services provided or work performed ("Services") as described in the Contract Documents. The agreements set forth in the Contract Documents are sometimes referred to herein as the "Contract." In the event of any conflict between any terms and conditions of the Contract Documents, the terms and conditions most favorable to the Town shall control. No additional or supplemental provision or provisions in variance herewith that may appear in Contractor's quotation, acknowledgment, invoice, or in any other communication from Contractor to the Town shall be deemed accepted by or binding on the Town. The Town hereby expressly rejects all such provisions which supplement, modify, or otherwise vary from the terms of the Contract Documents, and such provisions are superseded by the terms and conditions stated in the Contract Documents, unless and until the Town's authorized representatives expressly assent, in writing, to such provisions. Stenographic and clerical errors and omissions by the Town are subject to correction.
2. **Entire Agreement**. These terms and conditions and any other specifications contained in any other documents referenced shall constitute and represent the complete and entire agreement between the Town and Contractor and supersede all previous communications, either written or verbal with respect to the subject matter of this Contract.
3. **Changes, Additions, Deletions**. No changes, additions, deletions, or substitutions of scope of work, specifications, terms and conditions, quantity, unit of issue, delivery date, delivery charges or price will be permitted without the prior written approval from the Town.
4. **Relationship of the Parties**. The Contractor is an independent contractor and not an employee of the Town. The conduct and control of the work will lie solely with the Contractor. The Contract shall not be construed as establishing a joint venture, partnership, or any principal-agent relationship for any purpose between the Contractor and the Town. Employees of the Contractor shall remain subject to the exclusive control and supervision of the Contractor, which is solely responsible for their compensation.
5. **Prices**. If Contractor's price or the regular market price of any of the Goods or Services covered hereunder is lower than the price stated in the Contract Documents on the date of shipment of such Goods or performance of such Services, Contractor agrees to give the Town the benefit of such lower price on any such Goods or Services. In no event shall Contractor's price be higher than the price last quoted or last charged to the Town unless otherwise agreed in writing. No charges for transportation, boxing, crating, etc. are allowable unless such charges are included in the Contract Documents.
6. **Taxes**. Any applicable taxes shall be invoiced as a separate item.
7. **Substitutions**. No substitutions or cancellations shall be permitted without prior written approval from the Town.

8. **Indemnification.** To the greatest extent allowed by North Carolina law, the Contractor shall indemnify and hold harmless the Town, its officers, agents, employees and assigns from and against all claims, losses, costs, damages, expenses, attorneys' fees ("Claims"). In the event that any portion of the Work performed under the Contract shall be defective in any respect whatsoever, the Contractor shall indemnify and save harmless the Town, its officers, agents, employees, and assigns from all loss or the payment of all sums of money, but only to the extent allowed by law.
9. **Invoices and Payment Terms**. It is understood and agreed that orders will be shipped at the established Contract prices in effect on dates orders are placed. Invoicing that does not comply with this provision will subject the Contract to cancellation. Upon satisfactory delivery of the Goods or satisfactory completion of the Work, all invoices and statements shall reference the Contract number and be submitted to: Town of Huntersville, Accounts Payable, PO Box 664, Huntersville, North Carolina, 28070. Payment terms are Net 30 days after receipt of correct, undisputed invoice or acceptance of Goods or Services, whichever is later.
   When the Contract is for construction services, the Contractor will submit monthly Requests for Payment for Work performed, for review. The Request for payment shall be based upon the Contractor's estimate of the percentage of the total Work completed during the period represented on the Request for Payment. The Contractor must certify that the Work represented in the Contractor's Request for Payment has been completed in accordance with the Contract Documents and certify that the Request for Payment is appropriate for payment before the Town shall be obligated to make such payment to the Contractor. If any Request for Payment is disputed by the Town, in whole or in part, the Town shall provide a written explanation for such dispute to Contractor within five days of receipt of the certified Request for Payment and shall pay all undisputed amounts therein.
10. **Anti-Discrimination and Equal Employment**. During the performance of the Contract, Contractor shall comply with all federal and state requirements concerning fair and equal employment and shall not discriminate against or deny the Contract's benefits to any person on the basis of race, religion, color, creed, national origin, age, sex (including sexual orientation, gender identity, and pregnancy), disability or handicapping condition, or genetic information.
11. **Insurance**. The Contractor shall provide the insurance coverages shown on Exhibit B, attached hereto and incorporated herein by reference. The Contractor shall provide the Town with a North Carolina Certificate of Insurance and such endorsements as may be required by the Contract Documents prior to the commencement of any work under the Contract and agrees to maintain such insurance until the completion of the Contract. Such certificates of insurance shall be considered part of the Contract.
12. **Ethics in Public Contracting**. By submitting their prices and acceptance of this Contract, all Contractors certify that their bids are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other supplier, manufacturer, or subcontractor in connection with their offer, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.
13. **Applicable Laws and Courts**. All Town Contracts shall be governed in all respects by the laws of the State of North Carolina. All matters, whether sounding in contract or tort relating to the validity, construction, interpretation, and enforcement of the Contract, shall be governed in all respects by the laws of the State of North Carolina and venue shall be proper only in a court of

competent jurisdiction located in Mecklenburg County, North Carolina. The Contractor represents and warrants that it shall comply with all applicable federal, state, and local laws, regulations, and orders, including, not limited to, licensure requirements.

14. **Codes and Permits**. When applicable, the Contractor shall obtain all required permits, give all required notices, and comply with all laws, ordinances, codes, rules, and regulations bearing on the conduct of the work under this contract. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the designer in writing. All work under this contract shall conform to the current North Carolina Building Code and other state and national codes as are applicable. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules, and regulations, and without such notice to the Town, Contractor shall bear all cost arising therefrom.
15. **License Requirement**. If applicable, the Contractor must be a licensed General Contractor as required by North Carolina General Statutes Section 87-1 and must have a good ethical and professional standing with the North Carolina General Contractor's Licensing Board. The Contractor will be responsible for providing properly qualified, licensed (if required) personnel to complete the Work in accordance with the standard of care ordinarily used by members of the Contractor's profession practicing under similar circumstances and at the same time in Mecklenburg County.
16. **Strict Compliance**. The Town may at any time insist upon strict compliance with these terms and conditions notwithstanding any previous course of dealing or course of performance between the parties to the contrary.
17. **Assignment**. Contractor may not assign, pledge, or in any manner encumber Contractor's rights under this Contract or delegate the performance of any of its obligations hereunder, without Town's prior, express written consent.
18. **General Provisions**. The Town's remedies as set forth herein are not exclusive. Any delay or omission by the Town in exercising any right hereunder, or any waiver by the Town of any single breach or default hereunder, shall not be deemed to be a waiver of such right or of any other right, breach, or default.
19. **Warranties**. The Contractor warrants it shall adhere to all laws, codes, ordinances, and regulations of the United States, the State of North Carolina, the County of Mecklenburg, and the Town in the performance of the Work outlined in this Contract and any attached specifications. Contractor warrants that any finished Work completed hereunder shall also adhere to all laws, codes, ordinances, and regulations of the United States, the State of North Carolina, the County of Mecklenburg, and the Town. Contractor warrants that all Work delivered hereunder will be free from defects in materials and workmanship and will conform strictly to the specifications, drawings, or samples specified or furnished. This warranty shall survive any inspection, delivery, acceptance, or payment by the Town for the Work and shall run to the Town and any user of the Work. Contractor warrants that all Work will be performed in a professional and workman like manner in accordance with best industry practices. This express warranty is in addition to Contractor's implied warranties of merchantability and fitness for a particular purpose which shall not be disclaimed. In addition to any other rights available at law or in equity, the Town shall be entitled to consequential and incidental damages.
20. **Quality and Workmanship**. All Work shall be performed to the satisfaction of the Town. The Work shall not be considered complete nor applicable payments rendered until the Town is satisfied with the Work provided.

21. **Default**. The Town may terminate the Contract, in whole or in part, immediately and without prior notice upon breach of the Contract by the Contractor. In addition to any other remedies available to the Town in law or equity, the Town may procure upon such terms as the Town shall deem appropriate, Work substantially similar to those so terminated, in which case the Contractor shall be liable to the Town for any excess costs for such similar supplies or services and any expenses incurred in connection therewith.
22. **Termination for Convenience**. The Town shall have the right, without assigning any reason therefore, to terminate any Work under the Contract, in whole or in part, at any time at its complete discretion by providing 10 days' notice in writing from the Town to Contractor. If the Contract is terminated by the Town in accordance with this paragraph, the Contractor will be paid in an amount which bears the same ratio to the total compensation as does the Work actually delivered or performed to the total originally contemplated in the Contract. The Town will not be liable to the Contractor for any costs for materials acquired or contracted for if such costs were incurred prior to the date of this Contract.
23. **Risk of Loss.** Risk of Loss for all supplies, materials, the Work performed, and the Project as it is being constructed, shall be on the Contractor until such time as substantial completion is achieved, and approved by the Town.
24. **No Third-Party Beneficiaries**. There shall be no intended nor incidental third-party beneficiaries of this Contract. Contractor shall include in all contracts, subcontracts, or other agreements relating to the Contract an acknowledgment by the contracting parties that the Contract creates no third-party beneficiaries.
25. **Exclusivity.** Nothing in this Contract shall require the Town to use the Contractor or prohibit the Town from soliciting third parties for the good or services provided in this Contract.
26. **Confidentiality**. The Contractor acknowledges the Town is subject public records law and no term shall be inconsistent with N.C.G.S. §132 et al.
27. **Valid Contract for Services**. In order for a Contract for Services of the Town to be valid, it must be executed by the Town Manager or his or her authorized designee and must be pre-audited in that manner required by the Local Government Budget and Fiscal Control Act, as the same may be amended.
28. **Verification of Work Authorization.** Contractor shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify, for all contractors and subcontractors.
29. **Iran Divestment List.** With the execution hereof, Contractor, certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.
30. **Availability of Funds**. Any and all payments to the Contractor are dependent upon and subject to the availability of funds to the Town for the purpose set forth in this agreement.
31. **Severability**. If any provision of this Contract is found to be invalid or unlawful, then remainder of this Contract shall not be affected thereby, and each remaining provision shall be valid and enforced to the fullest extent permitted by law.
32. **Companies that Boycott Israel**. With the execution hereof, Contractor, certifies that they are not on the Companies that Boycott Israel List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.80, and will not contract with anyone on such List in performance of the work hereunder.

33. **Governmental Immunity**. Nothing contained in this Contract shall constitute a waiver of the Town's governmental immunity or of any limitation on liability or damages created by law.

ADDITIONAL TERMS AND CONDITIONS FOR FEDERAL CONTRACTS

For contracts using federal funds, the following additional terms and conditions shall apply:

1. **Davis-Bacon Act.** For all contracts in excess of $2,000.00 for construction, alteration, or repair, including painting and decorating, of public buildings or public works, the Contractor shall comply with the Davis-Bacon Act, including payment of no less than the locally prevailing wages as determined by the Secretary of Labor. The contract shall not be valid unless the current prevailing wage as determined by the North Carolina Department of Labor is accepted. The Contractor shall also be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The Town shall report all suspected or reported violations to the Federal awarding agency.
2. **Contract Work Hours and Safety Standards Act**. For contracts in excess of $100,000 that involve the employment of mechanics or laborers, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. For construction work, no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous.
3. **Funding Agreements**. If a Federal award meets the definition of "funding agreement" under 37 C.F.R. § 401.2(a) and the Town or Contractor enter into a contract with a small business firm, or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 C.F.R. Part 401.
4. **Clean Air Act and Federal Water Pollution Control Act**. Contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act and Federal Water Pollution Control Act as amended for any Contract in excess of $150,000.00.
5. **Debarment and Suspension**. Contractor acknowledges and warrants that it is not listed on the governmentwide exclusions in the System Award Management (SAM) Exclusions, in accordance with the OMB guidelines at 2 C.F.R. § 180 for "Debarment and Suspension."
6. **Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352)**. For an award exceeding $100,000, Contractors must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or

employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the Town.

7. **Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment**. The Contractor warrants that their systems or equipment are not covered under telecommunication equipment as described in Public Law 115-232.
8. **Domestic Preference for Procurements**. As appropriate and to the extent consistent with law, the Contractor will, to the greatest extent practicable under a federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products), as required under 2 C.F.R. § 200.322.
9. **Procurement of Recovered Material**. The Contractor agrees to comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.
10. **Conflict of Interest**. The Contractor agrees to be bound by the Town's Uniform Guidance Conflict of Interest Policy, which is included herein by reference.
11. **Equal Employment Opportunity**. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 include, by reference, the equal opportunity clause provided under 41 CFR 60-1.4(b). The Contractor agrees to abide by 41 CFR 60-1.4(b) during the performance of the contract[1].

[1] 60 CFR Part 60-1.4(b) can be accessed at: https://www.ecfr.gov/current/title-41/subtitle-B/chapter-60/part-60-1/subpart-A/section-60-1.4#p-60-1.4(b)

EXHIBIT B

MINIMUM INSURANCE REQUIREMENTS

The Work under this Contract shall not commence until the Contractor has obtained all required insurance and verifying certificates of insurance have been approved in writing by the Town. Except for Worker's Compensation and Professional Liability policies, the Town shall be named as additional insured on all policies. These certificates shall document that coverages afforded under the policies will not be cancelled, reduced in amount or coverages eliminated until at least thirty (30) days after mailing written notice, by certified mail, return receipt requested, to the insured and the Town of such alteration or cancellation. If endorsements are needed to comply with the notification or other requirements of this article copies of the endorsements shall be submitted with the certificates.

a. **Worker's Compensation and Employer's Liability**
The Contractor shall provide and maintain, until final acceptance, workmen's compensation insurance, as required by law, as well as employer's liability coverage with minimum limits of $100,000.

b. **Comprehensive General Liability Insurance**
The Contractor shall provide and maintain, until final acceptance, comprehensive general liability insurance, including coverage for premises operations, independent contractors, completed operations, products and contractual exposures, as shall protect such contractors from claims arising out of any bodily injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operations be by the Contractor or by any subcontractor, or by anyone directly or indirectly employed by either of them and the minimum limits of such insurance shall be as follows:

Bodily Injury: $1,000,000 per occurrence/$2,000,000 aggregate
Professional Liability: $1,000,000 per occurrence/$2,000,000 aggregate
Property Damage: $1,000,000 per occurrence/$2,000,000 aggregate

Such coverage for completed operations must be maintained for at least two (2) years following final acceptance of the Work performed under the contract.

c. **Deductible**
Any deductible, if applicable to loss covered by insurance provided, is to be borne by the Contractor.

d. **Other Insurance**
The Contractor shall obtain such additional insurance as may be required by the Town or by the General Statutes of North Carolina including motor vehicle insurance, in amounts not less than the statutory limits.

e. **Proof of Carriage**
The Contractor shall furnish the Town with satisfactory proof of carriage of the insurance required before written approval is granted by the Town.

TOWN OF HUNTERSVILLE
MINORITY BUSINESS PARTICIPATION OUTREACH PLAN

SECTION 1. POLICY STATEMENT

It is the policy of the Town of Huntersville (the "Town") to encourage minorities to participate in its building construction, renovation, and repair projects.

In accordance with N.C.G.S. § 143-128.2, the purpose of this plan is to identify minority businesses that can perform public building projects and to implement outreach efforts to encourage minority business participation in these projects to include education, recruitment, and interaction between minority businesses and nonminority businesses.

It is further the policy of the Town to prohibit illegal discrimination against any person or business enterprise and to conduct its building construction, renovation, and repair programs so as to prevent such discrimination.

The Town provides minorities and women equal opportunity for participating in all aspects of the Town's contracting and procurement programs, including but not limited to, building projects, supplies and materials purchases, and professional and personal service contracts. We consider the participation of minority and women-owned businesses and the value of the quality and diversity of goods and services provided an investment. Any subsequent growth of businesses related to minority business participation parallels greater economic expansion, more jobs, and increased revenue to build our future.

It is the policy of the Town in concert with other local, state, and federal agencies and with the assistance of minority groups and agencies, to seek and identify qualified minority and women's business enterprises (M/WBEs) and to offer them the opportunity to participate, and to encourage them to participate, in the Town's building construction and repair programs. Under this policy, the Town adopts the definition of M/WBEs contained in N.C.G.S. § 143-128.2.

It is the intent of this policy to secure contractors' participation and ensure competition. Nothing in this policy shall be construed to require contractors or the Town to award contracts or subcontracts or to make purchases of materials or equipment from minority business contractors or minority-business subcontractors who do not submit the lowest responsible, responsive bid or bids.

The Town will award public building construction and repair contracts to the lowest responsible, responsive bidder as provided by Article 8 of Chapter 143 of the North Carolina General Statutes.

OBJECTIVES:

The primary objective of the Town's Minority Business Participation Outreach Plan will be to focus on full utilization of minority and women businesses in the Town's construction activities; the assurance of a good faith effort program that benefits contractors, subcontractors, and

vendors alike; and early conflict intervention of general and discriminatory concerns in addition to the following areas of assistance:

- Maintain and promote minority-owned and women-owned business utilization.

- Increase the Town of Huntersville's knowledge of minority and women owned business firms and become familiar with their product line.

- Provide up-to-date information on Town bidding opportunities.

- Management and technical assistance guidance and support throughout the process to ensure significant minority and female business participation.

- HUBs will have an opportunity to receive technical assistance in licensing, bonding, completing bid forms, clarification of any area of the contract in which there are questions (not including estimates for any specific project), and other procedures involved in securing Town contracts.

- Provide and administer procedures for reporting and monitoring compliance of contract activity, subject to the provisions of the HUB requirements of the Town of Huntersville.

- Provide and administer procedures for resolving complaints of discrimination made against businesses holding construction contracts with the Town of Huntersville.

SCOPE:

This Policy Applies to Minority Businesses, Minority Persons, and Socially and Economically Disadvantaged Individuals.

A. A Minority Business is a business:

1. In which at least fifty-one percent (51%) is owned by one or more minority persons or socially and economically disadvantaged individuals, or in the case of a corporation, in which at least fifty-one percent (51%) of the stock is owned by one or more minority persons or socially and economically disadvantaged individuals, and

2. Of which the management and daily business operations are controlled by one or more of the minority persons or socially and economically disadvantaged individuals who own it.

B. A Minority Person[1] is a person who is a citizen or lawful permanent resident of the United States, and who is:

1. Black, that is, a person having origins in any of the black racial groups in Africa;
2. Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race;
3. Asian American, that is, a person having origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, the Pacific Islands;
4. American Indian or Alaskan Native, that is, a person having origins in any of the original peoples of North America; or
5. Female.

C. A Socially and Economically Disadvantaged Individual is defined by 15 U.S.C. § 637 as a socially disadvantaged individual whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged. In determining the degree of diminished credit and capital opportunities, the federal government considers factors such as assets and net worth. This category includes M/WBEs of economically disadvantaged Indian tribes.

SECTION 1.1 VERIFIABLE GOALS FOR MINORITY BUSINESS ENTERPRISE PARTICIPATION[2]

The Town has established a verifiable goal of ten percent (10%) for participation by minority businesses in locally funded building projects costing $300,000 or more. The goal will be for the total value of work for the building project.

Pursuant to N.C.G.S. § 143-128.2(a), the Town shall also require a verifiable goal of ten percent (10%) of the total value of work for participation by minority businesses in building projects receiving state appropriations or other state grant funds, including a building project done by a private entity on a facility to be leased or purchased by the Town, where the project cost is one hundred thousand dollars ($100,000) or more.

This policy shall not apply to the purchase and erection of prefabricated or relocatable buildings or portions thereof, except that portion of the work which must be performed at the construction site, as excepted in N.C.G.S. § 143-128.2(j).

[1] For building projects funded in whole or in part with federal funds, Hasidic Jews are also considered minority persons.

[2] Projects funded in whole or in part with federal funds will comply with applicable federal thresholds regarding Minority and Woman Owned Business Enterprises participation.

SECTION 1.2 MINORITY BUSINESS RESPONSIBILITIES

The Town does not certify minority, disadvantaged or woman-owned businesses. In order to participate, you must first become a certified minority or woman-owned business with the State of North Carolina. Certification is handled through the NC Department of Administration's Office for Historically Underutilized Businesses. Through Vendor Link, the online vendor registration software, businesses may register with the State and verify their status as a HUB vendor. Registration not only certifies you to do business with the Town as a M/WBE, but also makes you eligible for work with the State of NC.

If you would like to be certified, please visit the NC Department of Administration's Office for Historically Underutilized Businesses and complete the online application. The application process takes approximately 6-8 weeks.

SECTION 2- REGULATIONS AND PROCEDURES FOR IMPLEMENTING MINORITY BUSINESS ENTERPRISE PARTICIPATION POLICY

SECTION 2.1 FORMAL BUILDING PROJECTS:

The following requirements shall apply to all building projects costing three hundred thousand dollars ($300,000) or more.

A. Town Responsibilities:

1. Advertise building projects. When soliciting bids for formal building projects, the Town shall advertise on their website via: https://www.huntersville.org/Bids.aspx.

   At least 10 days prior to the scheduled day of bid opening, the Town shall notify minority businesses that have requested notices from the Town for public construction or repair work and minority businesses that otherwise indicated to the Office of Historically Underutilized Businesses an interest in the type of work being bid or the potential contracting opportunities listed in the proposal. The notification shall include the following:

   i. a description of the work for which the bid is being solicited,

   ii. the date, time, and location where bids are to be submitted,

   iii. the name of the individual within the public entity who will be available to answer questions about the project,

   iv. where bid documents may be reviewed, and

   v. any special requirements that may exist.

2. Hold a pre-bid conference prior to bid opening for each project and assure a Town representative is in attendance. The conference may be hosted in-person or through a virtual meeting platform.

3. Utilize other media, as appropriate, likely to inform potential minority businesses of the bid being sought.

4. The Town will research Historically Underutilized Business (HUB) resources on an annual basis and update its list of registered HUBs accordingly.

5. The Town shall report to the Department of Administration, Office of Historically Underutilized Business: 1) the verifiable percentage goal; 2) the type and total dollar value of the project, minority business utilization by minority business category, trade, total dollar value of contracts awarded to each minority group for each project; 3) the applicable good faith effort guidelines or rules used to recruit minority business participation; 4) good faith documentation accepted by the public entity from the successful bidder; and 5) the utilization of minority businesses under the various construction methods under N.C.G.S. § 143-128(a1).

B. Contractor Responsibilities:

1. Attend the scheduled pre-bid conference.

2. Identify or determine those work areas of a subcontract where minority businesses may have an interest in performing subcontract work.

3. At least ten (10) days prior to the scheduled day of bid opening, notify minority businesses of potential subcontracting opportunities listed in the proposal. The notification must include all of the following:

    i. A description of the work for which the sub-bid is being solicited.

    ii. The date, time and location where sub-bids are to be submitted.

    iii. The name of the individual within the company who will be available to answer questions about the project.

    iv. Where bid documents may be reviewed.

    v. Any special requirements that may exist, such as insurance, licenses, bonds and financial arrangements.

4. All bidders on building projects costing $300,000 or more shall undertake good faith

efforts to recruit minority businesses and provide documentation of meeting the minimum requirements of N.C. Gen. Stat. § 143-128.2. Failure to comply with these procedural requirements and requirements for submittal shall render the bid non-responsive and result in rejection of the bid.

5. Each bidder, which shall include first-tier subcontractors for construction manager at risk projects, on a building projects costing $300,000 or more shall identify on its bid the minority businesses that it will use on the project and the total value of minority business contracting by **attaching to his or her bid** the *Identification of Hub Certified/Minority Business Participation Form* in the Appendix of this Plan. Each bidder shall also **attach to their bid** an affidavit (*Affidavit A* in the Appendix of this Plan) listing the good faith efforts it has made pursuant to N.C. Gen. Stat. § 143-128.2(f) and Section 2.2 below. Alternatively, a contractor, including a first-tier subcontractor on a construction manager at risk project, that performs all of the work under a contract with its own workforce may submit an affidavit to that effect (*Affidavit B* in the Appendix of this Plan) in lieu of Affidavit A. However, bidders opting to submit *Affidavit B* in lieu of *Affidavit A* must still submit the *Identification of Hub Certified/Minority Business Participation Form* with their bid.

   The apparent lowest responsible, responsive bidder shall also file the following:

   i. Within the time specified in the bid documents, or if no time is specified, then at the time the bid is submitted, either:

      a. An affidavit that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal (*Affidavit C* in the Appendix of this Plan). An affidavit under this sub-subdivision shall give rise to a presumption that the bidder has made the required good faith or effort; or

      b. Documentation of its good faith effort to meet the goal. The documentation must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations, and evidence of other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract. Bidders submitting documentation under this subsection must also submit *Affidavit D* in the Appendix of this Plan.

   ii. Within 30 days after award of the contract, a list of all identified subcontractors that the contractor will use on the project.

6. During the construction of a project, if it becomes necessary to replace an M/WBE subcontractor, the prime contractor shall advise the Town in writing. No M/WBE subcontractor may be replaced with a different subcontractor except for the following:

    i. If the subcontractor's bid is later determined by the contractor or construction manager at risk to be nonresponsible or nonresponsive, or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work; or

    ii. With the approval of the Town for good cause.

Prior to substituting a subcontractor, the contractor shall identify the substitute subcontractor and inform the Town, in writing, of its good faith efforts to replace with another M/WBE Subcontractor. Good faith efforts as set forth in N.C.G.S. § 143-131(b) and Section 2.3(B) below apply to the selection of a substitute subcontractor.

SECTION 2.2 Minimum Good Faith Effort Requirements N.C.G.S. § 143-128.2(f):

All written statements, affidavits, or intentions made by the bidder shall become a part of the agreement between the contractor and Town for the performance of the contract. Failure to comply with any of these statements, affidavits, or intentions, or with the minority business guidelines shall constitute a breach of contract. A finding by the Town that any information, submitted either prior to award of the contract or during the performance of the contract, is inaccurate, false, or incomplete, shall constitute a breach of the contract. Any such breach may result in termination of the contract in accordance with the termination provisions contained in the contract. The Town shall determine, in the exercise of its sole discretion, whether to terminate the contract for breach.

In determining whether a contractor has made good faith efforts, the Town will evaluate all efforts made by the contractor and will determine compliance in regard to quantity, intensity, and results of these efforts. Bidders must earn at least 50 points from the good faith efforts listed below in order for their bids to be considered responsive:

(1) Contacting those minority businesses reasonably expected to submit a quote and known or identified to the contractor, or available on State or local government-maintained lists, at least 10 days before the bid or proposal date and notifying them of the nature and scope of the work to be performed. (Value = 10 points)

(2) Making the construction plans, specifications, and requirements available for review by prospective minority businesses or providing these documents to them at least 10 days before the bid or proposals are due. (Value = 10 points)

(3) Breaking down or combining elements of work in economically feasible units to facilitate minority participation. (Value = 15 points)

(4) Working with minority trade, community, or contractor organizations identified by the Office for Historically Underutilized Businesses and those included in the bid documents to provide assistance in recruitment of minority businesses. (Value = 10 points)

(5) Attending any pre-bid meetings scheduled by the public owner. (Value = 10 points)

(6) Providing assistance in obtaining required bonding or insurance or providing alternatives to bonding or insurance for subcontractors. (Value = 20 points)

(7) Negotiating in good faith with interested minority businesses and not rejecting them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification shall have the reasons documented in writing. (Value = 15 points)

(8) Providing assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisting minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit. (Value = 25 points)

(9) Negotiating joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public building construction or repair project when possible. (Value = 20 points)

(10) Providing quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands. (Value = 20 points)

Failure to file a required affidavit or documentation demonstrating that the contractor made the required good faith effort is grounds for rejection of the bid.

SECTION 2.3 INFORMAL BUILDING PROJECTS

Building projects costing more than thirty thousand dollars ($30,000), but less than three hundred thousand Dollars ($300,000).

A. Town's Responsibilities:

1. Notify Minority Business Enterprises of bidding opportunities by one of the following methods:

   a) Advertise on their website via: https://www.huntersville.org/Bids.aspx.

   b) Advertise the project in an identified Minority Business Enterprise targeted newspaper(s) or;

   c) Attempt to contact Minority Business Enterprises.

2. Record all contractors contacted, along with the list of contractors provided with bidding documents.

3. Document Minority Business firms contacted and record their minority category along with any other efforts to recruit minority businesses.

4. Record all contractors submitting bids, along with the amount of each bid.

5. All data, including the type of project, total dollar value of the project, dollar value of minority business participation on each project, and documentation of efforts to recruit minority participation shall be reported to the Department of Administration, Office for Historically Underutilized Business, upon the completion of the project.

B. Contractor Responsibilities:

1. The Contractor will provide the following documentation prior to final payment by the Town.

   a) A record of contractors solicited and efforts to recruit minority business participation in those contracts.

   b) A list of minority businesses used on the project, identifying the businesses name, type of work performed, and minority category.

   c) List the dollar amount paid to each minority business and the percentage it represents of the final project value.

SECTION 2.4 QUALIFICATIONS BASED SELECTION

For the qualifications-based selection process to procure architectural, engineering, surveying, and construction-management-at-risk services, the Town shall make good faith efforts to encourage minority participation. These good faith efforts shall include notifying Minority Business Enterprises of opportunities by similar means as described in Section 2.3 of this policy.

SECTION 01 11 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS and REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Richard Barry Park – Parking Lot Expansion and New Restroom Building, 13707 Beatties Ford Road, Huntersville, NC 28078

B. Consultant Identification: The Contract Documents, dated April 24, 2023 were prepared for Project by Dewberry Engineers Inc.

C. The Work consists of a Single Prime General Construction Contract:

1. The work of this contract includes but is not be limited to, site clearing, grading, erosion control, seeding, asphalt and concrete paving, storm drainage systems, steel fencing, landscape planting, site furnishings, site lighting, restroom building, and water/sewer service to restroom building.
2. Contractor shall furnish all material, labor, tools, supplies, equipment, transportation, temporary construction of every nature, insurance, taxes, contributions and all services and facilities, unless specifically excepted, and install all materials, items and equipment required to complete the construction of the Project, as set forth in the Contract.
3. Coordination of owner provided and owner installed equipment. General Contractor shall coordinate all trades with owner’s contractor for these items.
4. The General Contractor shall act as the Project Expediter and be responsible for coordinating the work and schedules of other trades.

1.3 CONTRACT

A. Project will be constructed as a Single Prime Contract.

1.4 SPECIFICATION FORMATS AND CONVENTIONS

A. Technical Specifications Format: The Specifications are organized into Divisions and Sections using the 16-division format and Construction Specifications Institute / Construction Specifications Canada (CSI/CSC's) "Master Format" numbering system.

1. Section Identification: The Technical Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections in the Contract Documents.

B. Technical Specifications Content: The Technical Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Technical Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Technical Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

    a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 11 00

SECTION 01 14 00 - WORK RESTRICTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 USE OF PREMISES

A. Use of Site: Limit use of premises to work in areas indicated on the drawings. Do not disturb portions of site beyond areas in which the Work is indicated.

1. Limits: Confine constructions operations to limits of denuded area and erosion and sediment control devises.

2. Owner Occupancy: Allow for Owner occupancy of site. This area of the school will be closed for the project's duration and use by the public is not allowed.

3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

    a. Schedule deliveries to minimize use of driveways and entrances.
    b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

4. Construction hours shall start between the hours of 7 A.M. and end at 7 P.M, Monday through Friday.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 14 00

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SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Provide all labor, materials, necessary equipment and services to complete the Total Base Bid and Alternates work, as indicated on the drawings, as specified herein or both except as for items specifically indicated as "NIC ITEMS". Contractors are responsible for payment of all applicable fees and taxes in association with their contract.

1.02 USE OF ALTERNATES

A. Submit alternate/total base bid proposals as described herein and in the "Bid Form" stating the total difference in cost to the stipulated Lump Sum Bid for adding or deducting the following alternates to that specified and/or shown on the drawings.

1. Include all applicable omissions, additions, and adjustments of all other applicable trades as required.

1.03 DESCRIPTION OF UNIT PRICES (See Single Prime General Contract Proposal)

A. Include on the Form of Proposal the proposed Total Base Contract Sum, which shall represent the total cost of the Work, including all allowances but excluding all alternates. Also show separately on the Form of Proposal the amounts proposed to be added to or deducted from the Total Base Contract Sum if the Owner accepts particular alternates.

B. Limits of Total Base Bid and Alternates: Alternates are outlined below for the purpose of overall coordination. Note: all contractors shall include in the base bid amounts any and all expense anticipated for the project including all taxes and fees.

C. The Owner reserves the right to accept any alternate and to amend the Contract accordingly, provided the order to proceed with such alternative Work is issued within 60 days after execution of the Contract.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS AND MATERIALS

A. The bidder shall utilize all materials and products specified for the base bid in all of the construction for the accepted alternates, or pre-approved equal.

PART 3 - EXECUTION

3.01 A. All construction shall be in strict accordance with manufacturer's printed standards, recommendations and specifications.

END OF SECTION 01 23 00

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SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications whereas all parties agree to the following:

1. A modification in the Work or Contract Documents.

2. The amount of the adjustment in the Contract Sum, if any.

3. The extent of the adjustment in the Contract Time, if any.

1.3 NOTIFICATION TO SURETY

A. The Contractor shall notify the Surety of any modifications to the Work or provisions of the Contract Documents, including, but not limited to, the Contract Price or Contract Time.

1.4 MINOR CHANGES IN THE WORK

A. The Consultant shall have authority to order Minor Changes in the Work not involving adjustment to the Contract Sum or extension of the Contract Time, and consistent with the intent of the Contract Documents. Such changes shall be in a form of a written order and shall be binding for both the Owner and Contractor.

1.5 CLAIMS FOR ADDITIONAL COST:

A. If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property.

B. The Contractor shall submit a claim if he believes additional cost is involved for reasons including but not limited to the following:

1. A written interpretation from the Consultant,

2. An order by the Owner to stop the Work where the Contractor was not at fault,

3. A written order for a minor change in the Work issued by the Consultant,

4. A change in the Scope of the Work by the Consultant.

1.6 PROPOSAL REQUESTS

A. The Owner initiated Proposal Requests is generated by the Owner to modify the Work or Contract Documents. The Consultant will issue a detailed description of proposed modifications in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications. The description is for information and shall be considered as a directive to automatically stop work or execute the proposed change.

1. Within ten 10 calendar days after receipt of the Proposal Request, the Contractor shall submit a Proposal Request Form with an estimate to adjust the Contract Sum and the Contract Time if necessary to execute the change.

   a. Include a list of quantities of (plus or minus) the materials and/or products required with unit prices, total amount of purchases, and credits to be made. If requested, furnish survey data to substantiate quantities.

   b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

   c. Include costs of labor and supervision directly attributable to the change, including social security, old age and unemployment insurance, fringe benefits, and workmen’s compensation insurance.

   d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start, and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

   e. Provide any additional information related to the Proposal Request requested by the Consultant or Owner to clarify the Proposal within Seven (7) Days of the request. Failure to provide requested information will result in the Consultant researching and documenting the additional cost and assigning a cost that is the fair market value of the proposed modifications to the Work based on all information available to the Consultant.

2. The Contractor may initiate proposals if latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Consultant.

   a. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

   b. Include a list of quantities of (plus or minus) the materials and/or products required with unit prices, total amount of purchases, and credits to be made. If requested, furnish survey data to substantiate quantities.

   c. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

   d. Include costs of labor and supervision directly attributable to the change, including social security, old age and unemployment insurance, fringe benefits, and workmen’s compensation insurance.

e. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

f. Comply with requirements in Division 1 Section, of the Technical Specifications "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

g. Comply with requirements in Division I Section 01 60 00, of the Technical Specifications “Product Requirements”, if the proposed change requires substitution of one product or system for product or system specified.

B. An alternative method to price the changes in the work is to utilize current “Mean’s Cost Data”.

C. Profit and Overhead shall not exceed ten percent (10%) of the cost of the changes to the Work.

D. Prepare a Proposal Request Form in a format agreed to by the Owner. The Contractor shall prepare three copies, one for the Consultant, one for the Owner and one for himself and for all parties to sign. Each shall keep a copy.

E. The Contractor shall be responsible for keeping and updating a “Proposal Request Log”, listing all Proposal Requests and Minor Changes. The log shall also indicate the date of the Proposal Request, approval date, action taken, running balances, and a complete description of the change.

F. After all parties have signed “The Proposal Request Form”, it shall be the Contractor’s authorization to proceed with the changes to the Work.

G. If the Owner and Contractor do not agree with the requested adjustment in the Contract Sum, the Contract Time or the method of determining each, the provisions for Mediation shall be utilized.

1.7 ALLOWANCES ADJUSTMENT: (Not Used)

1.8 CHANGE ORDER PROCEDURES

A. The Consultant shall issue a Change Order for signatures once all of the Proposal Request(s) amounts exceeds $20,000 or at the end of the project.

B. The Contractor shall not invoice for the Change Order until it has been executed by all parties.

1.9 CONSTRUCTION CHANGE DIRECTIVE

A. The Consultant may issue a Construction Change Directive that has been signed by the Owner to the Contractor directing a change in the Work. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved. And the Contractor shall advise the Consultant of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

C. The Contractor shall maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

2.0 ADDITIONAL TIME

A. Additional work does not automatically translate into additional time. The Contractor must illustrate using Critical Path Schedule in a clearly and logical sequence if additional work has extended the critical path. The consultant shall review with the Owner the time extension request and make a recommendation to the Owner to approve or reject the time extension request.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PROCESSING CHANGE ORDERS

A. The Change Order will be issued describing the change or changes to the Work and/or Contract Documents and will refer to the Proposal Requests.

B. The Consultant shall issue five copies of the Change Order to the Contractor. The Contractor shall promptly sign all five copies and return all five copies to the Consultant who will sign the Change Order and forward the Change Order to the Owner to execute.

C. Once the Change Order has been full executed, a copy shall be forwarded to the Consultant and to the Contractor for their files.

END OF SECTION 01 26 00

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SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections include the following:

1. Division 1, of the Technical Specifications Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.

2. Division 1, of the Technical Specifications Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

a. Application for Payment forms AIA G702.

b. Continuation Sheets.

2. Submit the Schedule of Values to the Consultant at earliest possible date but no later than fourteen days before the date scheduled for submittal of initial Applications for Payment.

3. Sub-schedules: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each of the Technical Specifications Section.

1. Identification: Include the following Project information on the Schedule of Values:

   a. Project name and location.
   b. Name of Consultant.
   c. Contract number.
   d. Contractor's name and address.
   e. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

   a. Related Technical Specifications Section or Division.
   b. Description of the Work.
   c. Name of subcontractors.
   d. Name of manufacturer or fabricator.
   e. Name of suppliers.
   f. Change Orders (numbers) that affect value.
   g. Dollar value.

3. Group items that are “Non-Tangible & Non-Taxable and Tangible & Taxable Items” on the Schedule of Values (see VIII. Forms).

4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.

5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

6. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include labor and materials and/or equipment purchased or fabricated and stored, but not yet installed.

   a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.

7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Closeout documentation: Provide a separate line item in the Schedule of Values for close out documentation as set forth in the Supplementary Conditions.

9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

10. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Consultant and paid for by Owner.

    1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involves additional requirements.

B. Such applications shall not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor or material supplier because of a dispute or other reason.

C. Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for material and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner’s title to such material and equipment or otherwise protect the Owner’s interest, and shall include applicable insurance, storage and transportation to the site for such material and equipment stored off the site.

    The Contractor warrants that title to all Work covered by an Application and Certificate for payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application and Certificate for payment all work for which Certificates for payment have been previously issued and payment received from the Owner shall, to the best of the Contractor’s knowledge, information and belief, be free and clear of claims of liens, claims, security, interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

D. Payment Application Times: Each Month, the Town can make a partial payment to the Contractor on the basis of a duly notarized Application and Certification for Payment approved and certified by the Consultant.

E. Contractor shall provide Owner with lien waivers executed by all subcontractors within five (5) business days of each progress payment. Failure to provide such lien waivers may be grounds for Owner to terminate the Agreement or suspend any future payments until compliance is achieved.

F. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. The Consultant will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

3. The Town shall retain five (5%) percent of each payment to up fifty (50%) percent completion of the Contract.
   a) The Owner shall not retain more than five percent (5%) of any periodic payment due a prime Contractor.
   b) When the project is fifty percent (50%) complete, the Owner, with written consent of the surety, **shall not retain any further** retainage from periodic payments due the Contractor if the Contractor continues to perform satisfactorily and any nonconforming work identified in writing prior to that time by the Consultant or Owner has been corrected by the Contractor and accepted by the Consultant and Owner. If the Consultant determines the Contractor's performance is unsatisfactory, the Owner may reinstate retainage for each subsequent periodic payment application as authorized in this subsection up to the maximum amount of five percent (5%). The project shall be deemed fifty percent (50%) complete when the Contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed fifty percent (50%) of the value of the contract, except the value of materials stored on-site shall not exceed twenty percent (20%) of the Contractor's gross project invoices for the purpose of determining whether the project is fifty percent (50%) complete.
   c) Within 60 days after the submission of a pay request and one of the following occurs, as specified in the contract documents, the Owner with written consent of the surety shall release to the Contractor all retainage on payments held by the Owner:
      i. The Owner receives a certificate of substantial completion from the Consultant in charge of the project; or (ii) the Owner receives beneficial occupancy or use of the project. However, the Owner may retain sufficient funds to secure completion of the project or corrections on any work. If the Owner retains funds, the amount retained shall not exceed two and one-half times the estimated value of the work to be completed or corrected. Any reduction in the amount of the retainage on payments shall be with the consent of the Contractor's surety.

d) The existence of any third-party claims against the Contractor or any additive change orders to the construction contract shall not be a basis for delaying the release of any retainage on payments.

i Full payment, less authorized deductions, shall also be made for those trades that have reached one hundred percent (100%) completion of their contract by or before the project is fifty percent (50%) complete if the Contractor has performed satisfactorily. However, payment to the early finishing trades is contingent upon the Owner's receipt of an approval or certification from the Consultant of record or applicable engineer that the work performed by the subcontractor is acceptable and in accordance with the contract documents. At that time, the Owner shall reduce the retainage for such trades to **five-tenths percent (0.5%)** of the contract. Payments under this subsection shall be made no later than 60 days following receipt of the subcontractor's request or immediately upon receipt of the surety's consent, whichever occurs later. Early finishing trades under this subsection shall include structural steel, piling, caisson, and demolition. The early finishing trades for which line-item release of retained funds is required shall not be construed to prevent an Owner or an Owner's representative from identifying any other trades not listed in this subsection that are also allowed line-item release of retained funds. Should the Owner or Owner's representative identify any other trades to be afforded line-item release of retainage, the trade shall be listed in the original bid documents. Each bid document shall list the inspections required by the Owner before accepting the work, and any financial information required by the Owner to release payment to the trades, except the failure of the bid documents to contain this information shall not obligate the Owner to release the retainage if it has not received the required certification from the Consultant of record or applicable engineer.

ii Notwithstanding 3-a & b of this section, following fifty percent (50%) completion of the project, the Owner shall be authorized to withhold additional retainage from a subsequent periodic payment, not to exceed five percent (5%) as set forth in 3-a of this section, in order to allow the Owner to retain two and one-half percent (2.5%) total retainage through the completion of the project. In the event that the Owner elects to withhold additional retainage on any periodic payment subsequent to release of retainage pursuant to 3-d-i of this section, the General Contractor may also withhold from the subcontractors remaining on the project sufficient retainage to offset the additional retainage held by the Owner, notwithstanding the actual percentage of retainage withheld by the Owner of the project as a whole.

iii Neither the Owner's nor Contractor's release of retainage on payments as part of a payment in full on a line-item of work under 3-d-i of this section shall affect any applicable warranties on work done by the Contractor or subcontractor, and the warranties shall not begin to run any earlier than either the Owner's receipt

of a certificate of substantial completion from the Consultant in charge of the project or the Owner receives beneficial occupancy.

f) Nothing in this section shall prevent the prime Contractor at the time of application and certification to the Owner from withholding application and certification to the Owner for payment to the subcontractor for unsatisfactory job progress; defective construction not remedied; disputed work; third party claims filed or reasonable evidence that claim will be filed; failure of subcontractor to make timely payments for labor, equipment, and materials; damage to prime Contractor or another subcontractor; reasonable evidence that subcontract cannot be completed for the unpaid balance of the subcontract sum; or a reasonable amount for retainage not to exceed the initial percentage retained by the Owner.

g) Nothing in this section shall prevent the Owner from withholding payment to the Contractor in addition to the amounts authorized by this section for unsatisfactory job progress, defective construction not remedied, disputed work, or third-party claims filed against the Owner or reasonable evidence that a third-party claim will be filed.

4. Provide a separate line item in the Schedule of values for close out documentation as set forth in the Supplementary Conditions.

G. Transmittal: Submit five (5) signed and notarized original copies of each Application for Payment to the Consultant.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

H. With each Application and Certification for payment, the Contractor must furnish for themselves, as well as for all Subcontractors**,** certified statements stating the cost of the property purchased from each vendor and the amount of sales and/or use taxes paid. See General Conditions, Sales and Use Tax for additional information**.**

I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

J. Neither Final payment nor any remaining retained percentage shall become due until the Contractor submits the following to the Consultant for approval:

1. An affidavit that payrolls, bills for material and other indebtedness connected with the Work has been paid or otherwise satisfied,

2. A certificate evidencing that insurance required by the Contract Document to remain in force after Final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner,

3. Consent of surety to Final payment, and

4. If required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of claim of liens, claims security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If the Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such claim of lien. If such claim of lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such claim, including all costs and reasonable attorneys' fees.

5. MWSBE form VI.

6. A list of all suppliers and subcontractors that were involved with the project. As part of the list, the Contractor shall include the address, phone number, what they supplied or Work preformed, and a contact name.

7. "As-Builts" Drawings and all other specified closeout documents.

8. Maintenance and Operation instructions and guarantees.

K. Final Payment Application: Submit three originals with the final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Warranties and Test results required by the Contract Documents.

2. Updated final statement, accounting for final changes to the Contract Sum.

3. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."

4. AIA Document G706A, "Contractor's Affidavit of Release of Liens."

5. AIA Document G707, "Consent of Surety to Final Payment."

6. Additional Evidence that claims has been settled if required by the Owner. An example of the evidence could be a letter from a subcontractor indicating that he has been paid in full for the work that he has preformed.

7. Certificates from all local and State Governing Agencies as required by Law.

8. Final liquidated damages settlement statement.

9. List of Subcontractors and Suppliers that has contributed to the completion of the Work. The list shall include:

a. Material they supplied or type of construction they performed.
b. Address
c. Contact person
d. Phone number

10. M/WSBE From VI

11. Final Sales Tax Form.

2.0 PRODUCTS (Not Used)

3.0 EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. To enable orderly review during progress of the Work, and to provide for systematic discussion of problems, the Consultant will chair and conduct project meetings and compile an agenda for each meeting throughout the construction period.

B. This Section includes administrative provisions for coordinating construction operations on the Project including, but not limited to, the following:

1. General project coordination procedures.
2. Conservation.
3. Coordination Drawings.
4. Administrative and supervisory personnel.
5. Project meetings.

C. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division 1, of the Technical Specifications Section "Construction Progress Documentation" for preparing and submitting the Contractor's Construction Schedule.
2. Division 1, of the Technical Specifications Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Division 1, of the Technical Specifications Section "Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

A. Coordination: Coordinate construction operations included in various Sections of the Technical Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components.
2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. If necessary, the Consultant shall prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Pre-installation conferences.
7. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

1.4 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Indicate relationship of components shown on separate Shop Drawings.
2. Indicate required installation sequences.

B. Staff Names: Fourteen days prior to the Pre-Construction conference, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone.

1.5 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting.
2. Agenda: The Consultant shall prepare the meeting agenda. Distribute the agenda to all invited attendees.

3. Minutes:
   a. The Consultant will compile minutes of each project meeting, and will distribute copies to the Contractor and required copies to the Owner.
   b. Recipients of copies may make and distribute such other copies as they wish.

4. Attendance:
   a. To the maximum extent practical, assign the same person or persons to represent the Contractor at the project meetings throughout progress of the Work.
   b. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved.

5. Minimum agenda:
   a. Review, revise as necessary, and approve minutes of previous meetings.
   b. Review progress of the Work since last meeting, including status of submittals for approval.
   c. Identify problems which impede planned progress.
   d. Develop corrective measures and procedures to regain planned schedule.
   e. Complete other current business.

B. Pre-construction Conference: Schedule a pre-construction conference before starting construction, at a time convenient to Owner and Consultant, but no later than 14 days after execution of the Construction Contract. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Consultant, and their consultants; Contractor and its superintendent; major subcontractors and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Discuss items of significance that could affect progress, including the following:

   a. Tentative construction schedule.
   b. Phasing.
   c. Critical work sequencing.
   d. Designation of responsible personnel.
   e. Procedures for processing field decisions and Change Orders.
   f. Procedures for processing Applications for Payment.
   g. Distribution of the Contract Documents.
   h. Submittal procedures.
   i. Preparation of Record Documents.
   j. Use of the premises.
   k. Responsibility for temporary facilities and controls.
   l. Parking availability.
   m. Office, work, and storage areas.
   n. Equipment deliveries and priorities.
   o. Security.
   p. Working hours.

C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.

1 Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Consultant of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. Contract Documents.
b. Options.
c. Related Change Orders.
d. Purchases.
e Deliveries.
f. Submittals.
q. Review of mockups.
h. Possible conflicts.
i. Time schedules.
j. Weather limitations.
k. Manufacturer's written recommendations.
l. Temporary facilities and controls.
m. Space and access limitations.
n. Regulations of authorities having jurisdiction.
o. Testing and inspecting requirements.
p. Required performance results.
q. Protection of construction and personnel.

Record significant conference discussions, agreements, and disagreements.
Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at a minimum of once every month. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: Representatives at the meeting shall be the Owner, Consultant, Subcontractors, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.

3) Status of submittals.
4) Deliveries.
5) Access.
6) Work hours.
7) Hazards and risks.
8) Review of Record Drawings
9) Review of construction defects that has been identified by the Consultant

3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

   a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

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SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Preliminary Construction Schedule.
2. Contractor's Construction Schedule.
3. Submittals Schedule.
4. Daily construction reports.
5. CPM Reports

B. Related Sections include the following:

1. Division 1, of the Technical Specifications Section "Payment Procedures" for submitting the Schedule of Values.
2. Division 1, of the Technical Specifications Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
3. Division 1, of the Technical Specifications Section "Submittal Procedures" for submitting schedules and reports.
4. Division 1, of the Technical Specifications Section "Quality Requirements" for submitting a schedule of tests and inspections.
5. Division 1, of the Technical Specifications Section "Closeout Procedures" for Project Record Documents at Project closeout.

1.3 SUBMITTALS

A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Consultants and owners, and other information specified. The date shall be submitted for any change of construction personal.

B. Preliminary Construction Schedule: Submit three printed copies; one a single sheet, of the Preliminary Construction Schedule.

C. Contractor's Construction Schedule: Submit three printed copies of initial schedule, large enough to show entire schedule for entire construction period.

1. If required, submit an electronic copy of schedule, using software indicated, on a CD and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.

D. Daily Construction Reports: Submit two copies at monthly intervals.

E. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:

1. Scheduled date for first submittal.

2. Of the Technical Specifications Section number and title.

3. Submittal category (action or informational).

4. Name of subcontractor.

5. Description of the Work covered.

6. Scheduled date for Consultant's final release or approval.

1.4 COORDINATION

A. Coordinate preparation and processing of schedules and daily construction reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.

2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
   a) At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.

3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed, through the date of Substantial Completion and Final Completion.

1. Contract completion date shall not be changed, unless specifically authorized by Change Order.

B. Activities: Treat as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities by number of days to complete.

2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

3. Submittal Review Time: Include review and re-submittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.

4. Startup and Testing Time: Include number of days for startup and testing.

5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Consultant's administrative procedures necessary for certification of Substantial Completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in the schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.

2. Work Restrictions: Show the effect of the following items on the schedule:

   a) Coordination with existing construction.

   b) Limitations of continued occupancies.

   c) Uninterruptible services.

d) Partial occupancy before Substantial Completion.

e) Use of premises restrictions.

f) Environmental control.

3. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

a) Submittals.

b) Purchases.

c) Mockups.

d) Fabrication.

e) Sample testing.

f) Deliveries.

g) Installation.

h) Tests and inspections.

i) Startup and placement into final use and operation.

D. Milestones: If not included in the Construction Documents, milestones shall be indicated in the Construction Schedule for the Consultant's and Owner's approval and shall be reference points of the construction progress.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragments to demonstrate the effect of the proposed change on the overall project schedule.

2.3 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven (7) days of date established for the Notice to Proceed

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.

2. List of separate contractors at Project site.

3. Approximate count of personnel at Project site.

4. High and low temperatures and general weather conditions.

5. Accidents.

6. Meetings and significant decisions.

7. Unusual events (refer to special reports).

8. Stoppages, delays, shortages, and losses.

9. Services connected and disconnected.

10. Equipment or system tests and startups.

11. Visitors to the site

12. Activities accomplished that day

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.

3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Consultant, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.

2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 32 00

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

B. Related Sections include the following:

1. Division 1, of the Technical Specifications Section "Payment Procedures" for submitting Applications for Payment.
2. Division 1, of the Technical Specifications Section "Project Management and Coordination" for submitting Coordination Drawings.
3. Division 1, of the Technical Specifications Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
4. Division 1, of the Technical Specifications Section "Quality Requirements" for test and inspection reports and Delegated-Design Submittals and for erecting mockups.
5. Division 1, of the Technical Specifications Section "Closeout Procedures" for submitting warranties Project Record Documents and operation and maintenance manuals.
6. Division 1, of the Technical Specifications Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Consultant's responsive action.

B. Informational Submittals: Written information that does not require Consultant's approval. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

A. The Contractor shall provide the submittals as required by the Consultant’s Submittal Log and the Contract Documents.

B. General: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Consultant for Contractor's use in preparing submittals.

C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. Consultant reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

D. Submittals Schedule: Comply with requirements in Division 1, of the Technical Specifications Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities. (Submittal Log)

E. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Consultant's receipt of submittal.

1. Initial Review: Allow seven (7) days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Consultant will advise Contractor when a submittal being processed must be delayed for coordination.
2. Concurrent Review: Where concurrent review of submittals by Consultant's consultants, Owner, or other parties is required, allow twenty one (21) days for initial review of each submittal.
3. If intermediate submittal is necessary, process it in same manner as initial submittal.
4. Allow seven (7) days for processing each re-submittal.
5. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

F. Identification: Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 4 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Consultant.
3. Include the following information on label for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name and address of Consultant.
    d. Name and address of Contractor.
    e. Name and address of subcontractor.
    f. Name and address of supplier.
    g. Name of manufacturer.
    h. Unique identifier, including revision number.
    i. Number and title of appropriate Technical Specifications Section.
    j. Drawing number and detail references, as appropriate.
    k. Other necessary identification.

G. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.

H. Additional Copies: Unless additional copies are required for final submittal, and unless Consultant observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.

1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Consultant.

2. Additional copies submitted for maintenance manuals will be marked with action taken and will be returned.

I. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Consultant will return submittals, without review, received from sources other than Contractor.

1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Consultant on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
3. Transmittal Form: Use on form to be approved by the Consultant.

J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

K. Use for Construction: Use only final submittals with mark indicating action taken by Consultant in connection with construction.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

1. Number of Copies: Submit 6 copies of each submittal, unless otherwise indicated. Consultant will return 5 copies that have been marked-up. Retain three returned copies as a Project Record Document.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

a. Manufacturer's written recommendations.
b. Manufacturer's product specifications.
c. Manufacturer's installation instructions.
d. Standard color charts.
e. Manufacturer's catalog cuts.
f. Wiring diagrams showing factory-installed wiring.
g. Printed performance curves.
h. Operational range diagrams.
i. Mill reports.
j. Standard product operating and maintenance manuals.
k. Compliance with recognized trade association standards.

l. Compliance with recognized testing agency standards.
m. Application of testing agency labels and seals.
n. Notation of coordination requirements.
o. Manufacturer’s location.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams and existing conditions.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shopwork manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Design calculations.
j. Compliance with specified standards.
k. Notation of coordination requirements.
l. Notation of dimensions established by field measurement.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches .
4. Number of Copies: Submit 6 blue- or black-line prints of each submittal, print will be required for operation and maintenance manuals. Consultant will retain two prints; remainder will be returned.

D. Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination."

E. Samples: Prepare physical units of materials or products, including the following:

1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups. Verify the samples are true presentation of the materials to be used.
2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Consultant's sample where so indicated. Attach label on unexposed side that includes the following:

a. Generic description of Sample.
b. Product name or name of manufacturer.
c. Sample source.

4. Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, provide the following:

a. Size limitations.
b. Compliance with recognized standards.

c. Availability.
d. Delivery time.

5. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.

   a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations. The consultant will return submittal with the option selected.
   b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.

6. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

F. Product Schedule or List: Prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product.
2. Number and name of room or space.
3. Location within room or space.

G. Delegated-Design Submittal: Comply with requirements in Division 1 Section "Quality Requirements."

H. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."

I. Application for Payment: Comply with requirements in Division 1 Section "Payment Procedures."

J. Schedule of Values: Comply with requirements in Division 1 Section "Payment Procedures."

K. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Consultant will not return copies.

2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

B. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."

C. Qualification Data: If requested, prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of Consultants and owners, and other information specified.

D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

I. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation for the application.

J. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

K. Coordinate individual Specification Sections with paragraph below by including specific model code organization in that Section. If all are same, insert name below.
Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Closeout Procedures Operation and Maintenance Data."

L. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
2. Required substrate tolerances.
3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

M. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

N. Material Safety Data Sheets: Submit two copies for the Consultant and the Owner and keep a copy at the job site. Post warning signs when appropriate.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Consultant.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 CONSULTANT'S ACTION

A. General: Consultant will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Consultant will review each submittal, make marks to indicate corrections or modifications required, and return it. Consultant will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. No Exceptions Taken
2. Make Changes Noted
3. Revise and Resubmit
4. Rejected

C. Informational Submittals: Consultant will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Consultant will forward each submittal to appropriate party.

D. Submittals not required by the Contract Documents will not be reviewed and may be discarded unless a justification is also submitted.

END OF SECTION 01 33 00

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-control services required by Consultant, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections include the following:

1. Division 1, of the Technical Specifications Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
2. Divisions 2 through 33, of the Technical Specifications Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with requirements. Services do not include contract enforcement activities performed by Consultant.

C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

1.4 SUBMITTALS

A. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Technical Specifications Section number and title.
2. Description of test and inspection.
3. Identification of applicable standards.
4. Identification of test and inspection methods.
5. Number of tests and inspections required.
6. Time schedule or time span for tests and inspections.
7. Entity responsible for performing tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent for a second option.

F. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.

1.6 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ the same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Special Tests and Inspections: Owner will engage a testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner.

1. Testing agency will notify Consultant and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
2. Testing agency will submit a certified written report of each test, inspection, and similar quality-control service to Consultant with copy to Contractor and to authorities having jurisdiction.
3. Testing agency will submit a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
4. Testing agency will interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
5. Testing agency will retest and re-inspect corrected work.

D. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.

E. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services as requested by the Consultant at the Contractor’s expense, including retesting and re-inspecting, for construction that revised or replaced Work, at the Contractor’s expense, that failed to comply with requirements established by the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Consultant and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. In the event there is a need for the Contractor to have testing performed.
2. Notify Consultant and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
3. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.

5. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field-curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for the Notice to Proceed.

1. Distribution: Distribute schedule to Owner, Consultant, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

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SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

B. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

C. Temporary utilities include, but are not limited to, the following:

1. Sewers and drainage.
2. Water service and distribution.
3. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
4. Heating and cooling facilities.
5. Ventilation.
6. Electric power service.
7. Lighting.
8. Telephone service.

D. Support facilities include, but are not limited to, the following:

1. Temporary roads and paving.
2. Dewatering facilities and drains.
3. Project identification and temporary signs.
4. Waste disposal facilities.
5. Field offices as required.
6. Storage and fabrication sheds.
7. Lifts and hoists.
8. Temporary elevator usage.
9. Temporary stairs.
10. Construction aids and miscellaneous services and facilities.

E. Security and protection facilities include, but are not limited to, the following:

1. Environmental protection.
2. Stormwater control.
3. Tree and plant protection.
4. Pest control.
5. Site enclosure fence.

6. Security enclosure and lockup.
7. Barricades, warning signs, and lights.
8. Temporary enclosures.
9. Temporary partitions.
10. Fire protection.

F. Related Sections include the following:

1. Division 1, of the Technical Specifications Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
2. Division 1, of the Technical Specifications Section "Execution Requirements" for progress cleaning requirements.

1.3 DEFINITIONS

A. Permanent Enclosure: As determined by Consultant, permanent or temporary roofing is complete, insulated, and weather tight; exterior walls are insulated and weather tight; and all openings are closed with permanent construction or substantial temporary enclosures.

1.4 USE CHARGES

A. General: Cost or use charges for temporary facilities are not chargeable to Owner or Consultant and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:

1. Owner's construction forces.
2. Consultant.
3. Testing agencies.
4. Personnel of authorities having jurisdiction.
5. Occupants of Project

B. Sewer Service: Pay sewer service use charges for sewer usage, by all parties engaged in construction, at Project site.

C. Water Service: Pay water service use charges, whether metered or otherwise, for water used by all entities engaged in construction activities at Project site.

D. Electric Power Service: Pay electric power service use charges, whether metered or otherwise, for electricity used by all entities engaged in construction activities at Project site.

E. Communications: Pay all charge associated with communications.

F. Streets, Sidewalks, and Temporary Easements: Pay all charges associated with the Work where charges will occur.

1.5 SUBMITTALS

A. Implementation and Termination Schedule: Within 15 days of date established for submittal of Contractor's Construction Schedule, submit a schedule indicating implementation and termination of each temporary utility.

1.6 QUALITY ASSURANCE

A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.

1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.7 PROJECT CONDITIONS

A. Temporary Utilities: At earliest feasible time, when acceptable to Owner, change over from use of temporary service to use of permanent service.

1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:

1. Keep temporary services and facilities clean and neat.
2. Relocate temporary services and facilities as required by progress of the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if indicated on the plans and/or specifications. Provide materials suitable for use intended.

B. Chain-Link Fencing: Minimum 2-inch , 0.148-inch- thick, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts**,** with 1-5/8-inch- OD top rails.

C. Portable Chain-Link Fencing: Minimum 2-inch 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide concrete or galvanized steel bases for supporting posts.

D. Water: Potable.

2.2 EQUIPMENT

A. General: Provide equipment suitable for use intended.

B. Field Offices: Prefabricated or Mobile units with lockable entrances, operable windows, and serviceable finishes; heated and air conditioned; on foundations adequate for normal loading, if required by the Contractor for their use.

C. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.

1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure and the requirements of the local Governing agency.

D. Self-Contained Toilet Units: The Owner will permit the Contractor to utilize the existing public bathroom facilities at the park for the duration of the project. In the event that the contractor damages or misuses these facilities, the Owner reserves the right to revoke this allowance. In the event that the Contractor is no longer permitted to use the existing public facilities, they shall provide single-occupant units of chemical or aerated recirculation or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

E. Drinking-Water Fixtures: Containerized, tap-dispenser, bottled-water drinking-water units, including paper cup supply.

F. Heating Equipment: Unless Owner authorizes use of permanent heating system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use for type of fuel being consumed.

G. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.

H. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Engage appropriate local utility company to install temporary service or connect to existing service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.
3. If existing easements cannot be used, the Contractor shall consult and coordinate with the Consultant and Owner to secure as necessary to obtain the temporary easement. Add provisions for work not in the Contract but served by temporary facilities if required.

B. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off-site in a lawful manner.

1. Filter out excessive soil, construction debris, chemicals, oils, and similar contaminants that might clog sewers or pollute waterways before discharge.
2. Connect temporary sewers to municipal system or private system indicated as directed by sewer department officials.
3. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. After heavy use, restore normal conditions promptly.
4. Provide temporary filter beds, settlement tanks, separators, and similar devices to purify effluent to levels acceptable to authorities having jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction until permanent water service is in use. Sterilize temporary water piping before use.

D. Sanitary Facilities: The Owner will permit the Contractor to utilize the existing public bathroom facilities at the park for the duration of the project. In the event that the contractor damages or misuses these facilities, the Owner reserves the right to revoke this allowance. In the event that the Contractor is no longer permitted to use the existing public facilities, they shall provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with

regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Subparagraph below may be excessive for small- and medium-size projects.
3. Wash Facilities: Install wash facilities supplied with potable water at convenient locations as required. Dispose of drainage properly. Supply cleaning compounds appropriate for each type of material handled.
4. Drinking-Water Facilities: Provide drinking-water.

E. Heating and Cooling: Provide temporary heating and cooling as required by construction activities.

F. Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnecting means, automatic ground-fault interrupters, and main distribution switchgear as required.

G. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment as required.

1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

H. Telephone Service: Provide temporary telephone service throughout construction period for common-use facilities used by all personnel engaged in construction activities.

1. At each telephone, post a list of important telephone numbers in Spanish and English.

a. Police and fire departments.
b. Ambulance service.
c. Contractor's home office.
d. Consultant's office.
e. Engineers' offices.
f. Owner Representative’s office.
g. Principal subcontractors' field and home offices.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: If required, Comply with the following:

1. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.
2. Maintain support facilities until approved by the Consultant to be removed.

B. Temporary Roads and Paved Areas: If applicable/as needed, construct and maintain temporary roads and paved areas to avoid damage to the site. Locate temporary roads and paved areas in same location as permanent roads and paved areas. If applicable, extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

C. Traffic Controls: Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.

D. Project Identification and Temporary Signs: A project sign is not required for this project. Do not permit installation of other unauthorized signs.

E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with “Construction and Demolition Waste Management Recycling.

F. Common-Use Field Office: If required for the Contractor’s use, provide an insulated, weather tight, air-conditioned and heated field office for use as a common facility by all personnel engaged in construction activities; of sufficient size to accommodate required office personnel and meetings. Location of the facility shall be approved by the Owner prior to placement.

G. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment involved. Locations of the sheds shall be approved by the Owner prior to placement.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Storm water Control: Comply as indicated on the erosion control plan/measures before any earth disturbing activities start.

C. Tree and Plant Protection: Comply with the plans and specifications for protection.

D. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

E. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.

F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather tight enclosure for building exterior.

G. Temporary Partitions: Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.

H. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

B. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1, of the Technical Specifications Section "Closeout Procedures."

END OF SECTION 01 50 00

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

1. This Section includes the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

2. Related Sections include the following:

    1. Division 1, of the Technical Specifications Section "Alternates" for products selected under an alternate.

1.3 DEFINITIONS

1. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

    1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
    2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.

1.4 SUBMITTALS

1. Product List: Submit a list, in tabular from, showing specified products. Coordinate this list with other specification section submittal requirements. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.

    1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.

    2. Form: Tabulate information for each product under the following column headings:

        a. Specification Section number and title.
        b. Generic name used in the Contract Documents.
        c. Proprietary name, model number, and similar designations.
        d. Manufacturer's name and address.

e. Supplier's name and address.
f. Installer's name and address.
g. Projected delivery date or time span of delivery period.
h. Identification of items that require early submittal approval for scheduled delivery date.

3. Initial Submittal: Within 5 days after date of commencement of the work, submit 3 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.

4. Completed List: Within 10 days after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.

5. Consultant's Action: Consultant will respond in writing to Contractor within 10 days of receipt of completed product list. Consultant's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Consultant's response, or lack of response, does not constitute a waiver of requirement that products comply with the Contract Documents.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

1. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

    1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
    2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
    3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
    4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
    5. Store products to allow for inspection and measurement of quantity or counting of units.
    6. Store materials in a manner that will not endanger Project structure.
    7. Store products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, with ventilation adequate to prevent condensation.
    8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
    9. Protect stored products from damage.

2. Storage: Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

PART 2 - PRODUCTS

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

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SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Progress cleaning.
4. Starting and adjusting.
5. Protection of installed construction.
6. Correction of the Work.

B. Related Sections include the following:

1. Division 1, of the Technical Specifications Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 1, of the Technical Specifications Section "Submittal Procedures" for submitting surveys.
3. Division 1, of the Technical Specifications Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 SUBMITTALS

A. Qualification Data: For land surveyor to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Consultants and owners, and other information specified.

B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

D. Certified Surveys: Submit two copies signed by land surveyor or professional engineer as required.

1.4 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A licensed professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of utility services.

B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility, Owner, and Consultant that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Consultant, Owner, adjacent property owners not less than **two** days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Consultant's and Owner's written permission.

C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Consultant. Include a detailed description of problem encountered, together with recommendations for modifications of the Contract Documents.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Consultant promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
3. Inform installers of lines and levels to which they must comply.
4. Check the location, level and plumb, of every major element as the Work progresses.
5. Notify Consultant when deviations from required lines and levels exceed allowable tolerances.
6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
7. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
8. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
9. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Consultant.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Consultant. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Consultant before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.

3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and site work.

3.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations. Dispose of material accordance to Division 1, Section “Construction Waste Management”.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

1. Thoroughly clean surfaces and similar features before applying paint or other finishing materials.

H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration until Substantial Completion.

J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 70 00

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Inspection procedures.
2. Project As-Builts Documents.
3. Operation and maintenance manuals.
4. Warranties.
5. Instruction of Owner's personnel.
6. Final cleaning.

B. Related Sections include the following:

1. Division 1, of the Technical Specifications Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
2. Division 1, of the Technical Specifications Section "Construction Progress Documentation" for submitting Final Completion construction photographs and negatives.
3. Division 1, of the Technical Specifications Section "Execution and Closeout Requirements" for progress cleaning of Project site.
4. Division 1, of the Technical Specifications Section “Project Record Documents”.
5. Divisions 2 through 33, of the Technical Specifications Sections for specific closeout and special cleaning requirements for products of those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: The Contractor shall, before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, “As-Builts” drawings operation and maintenance manuals, Final Completion construction photographs and photographic negatives if required, damage or settlement surveys, property surveys, and similar final record information.

6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Consultant will either proceed with inspection or notify Contractor of unfulfilled requirements. Consultant will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Consultant, that must be completed or corrected before certificate will be issued. The Consultant's Substantial Completion list is composed by verification of the punch list submitted by the Contractor and any additional defects in the work observed by the Consultant.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1, of the Technical Specifications Section "Payment Procedures."
2. Submit certified copy of Consultant's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Consultant. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training videotapes if required.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Consultant will either proceed with inspection or notify Contractor of unfulfilled requirements. Consultant will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

2. The Contactor shall take immediate steps to correct the stated deficiencies, and send a written notice to the Consultant, certifying the Project is complete, at which time the Consultant will re-inspect the Work. This review and additional reviews by the Consultant where the Work is not considered Substantial Completion or Final Completion will be considered an additional service from the Consultant. The Contractor will be charged for these additional services incurred by such failure including travel time,

observation time, and administrative time at the Consultant's hourly rate, as well as all expenses associated with the distribution of a written notice stating the reasons for failure to reach final completion.

3. In the event the Contractor is granted Substantial Completion by the Consultant and the Contractor fails to complete and/or correct all of the items listed in the Substantial Completion within **15** calendar days of the date of Substantial Completion, the liquated damages shall start to accrued until all of the items on the Substantial Completion list are completed and/or corrected and have been approved by the Consultant.

4. If the Consultant is required to make more than two inspections for the project to achieve Substantial Completion, the Contractor shall pay for the Consultant's time and expensive.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, use the room number as indicated on the drawings and on the exterior areas include a location diagram indicating the defects.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Consultant.
    d. Name of Contractor.
    e. Page number.

1.6 PROJECT RECORD DOCUMENTS

A. The Contractor shall provide Project Record Documents, O&M, "As-Builts" Drawings, and Warrantees as indicated in Division 1, of the Technical Specifications Section Project Record Documents. Use Division 1, of the Technical Specifications Section "Project Record Documents".

1.7 OPERATION AND MAINTENANCE MANUALS

A. Not Applicable.

1.8 WARRANTIES

A. Submittal Time: Submit written warranties on request of Consultant for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period.

C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

D. Provide copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    f. Remove labels that are not permanent.
    g. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
    h. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
    i. Replace parts subject to unusual operating conditions.
    j. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01 77 00

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SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all Divisions of the Technical Specifications, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. As-Built Drawings.
2. Record Specifications.
3. Record Product Data.

B. Related Sections include the following:
1. Division 1, of the Technical Specifications, Section "Closeout Procedures" for general closeout procedures.
2. Divisions 2 through 33, of the Technical Specifications, Sections for specific requirements for Project Record Documents of products in those Sections.

1.3 SUBMITTALS

A. As-Built Drawings: Comply with the following:

1. Number of Copies: Submit two sets of marked-up As-Built Drawings to the Consultant for the Consultant to prepare the Record Drawings.

B. Record Specifications: Submit two copies of Project's marked up Specifications, including addenda and contract modifications.

C. Record Product Data: Submit two copies of each Product Data submittal.

1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 AS-BUILT DRAWINGS

A. As-Built Drawings: Maintain one set of black-line white prints of the Contract Drawings and Shop Drawings.

1. Preparation: Mark As-Built Drawings to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up As-Built Drawings.

    a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    b. Accurately record information in an understandable drawing technique.
    c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Content: Types of items requiring marking include, but are not limited to, the following:

    a. Dimensional changes to Drawings.
    b. Revisions to details shown on Drawings.
    c. Depths of foundations below first floor.
    d. Locations and depths of underground utilities.
    e. Revisions to routing of piping and conduits.
    f. Revisions to electrical circuitry.
    g. Actual equipment locations.
    h. Duct size and routing.
    i. Locations of concealed internal utilities.
    j. Changes made by Change Order or Construction Change Directive.
    k. Changes made following Consultant's written orders.
    l. Details not on the original Contract Drawings.
    m. Field records for variable and concealed conditions.
    n. Record information on the Work that is shown only schematically.
    o. Clarification Drawings.

3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
7. Identify and date each As-Builts Drawing; include the designation "PROJECT AS-BUILTS DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

B. Newly Prepared As-Built Drawings: Prepare new Drawings instead of preparing As-Built Drawings where Consultant determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.

1. New Drawings may be required when a Change Order is issued as a result of accepting a substitution or other modification.
2. Consult with Consultant for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared As-Built Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of the manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders, As-Built Drawings, and Product Data where applicable.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, As-Built Drawings, and Product Data where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other of the Technical Specifications Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Consultant's reference during normal working hours.

END OF SECTION 01 78 39

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes for the following:

1. Footings.
2. Slabs-on-grade.

B. Related Requirements:

1. Section 312000 "Earth Moving" for drainage fill under slabs-on-grade.
2. Section 321313 "Concrete Paving" for concrete pavement and walks.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.

B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:

a. Contractor's superintendent.
b. Independent testing agency responsible for concrete design mixtures.
c. Ready-mix concrete manufacturer.
d. Concrete Subcontractor.
e. Special concrete finish Subcontractor.

2. Review testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, forms and form removal limitations, shoring and reshoring procedures, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, methods for achieving specified floor and slab flatness and levelness floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1. Indicate amounts of mixing water to be withheld for later addition at Project site.

C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.

1. Location of construction joints is subject to approval of the Architect.

E. Samples: For waterstops and vapor retarder.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, manufacturer and testing agency.

B. Welding certificates.

C. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Form materials and form-release agents.
4. Steel reinforcement and accessories.
5. Curing compounds.
6. Bonding agents.
7. Adhesives.
8. Vapor retarders and barriers.
9. Semirigid joint filler.
10. Joint-filler strips.
11. Repair materials.

D. Material Test Reports: For the following, from a qualified testing agency:

1. Aggregates: Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.

E. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer, detailing fabrication, assembly, and support of formwork.

1. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and reshoring installation and removal.

F. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.

G. Field quality-control reports.

H. Minutes of preinstallation conference.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Grade I. Testing agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician, Grade II.

D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M.

1.8 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on concrete mixtures.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

1.10 FIELD CONDITIONS

A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

B. Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301.
2. ACI 117.

2.2 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

1. Plywood, metal, or other approved panel materials.
2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:

a. High-density overlay, Class 1 or better.
b. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
c. Structural 1, B-B or better; mill oiled and edge sealed.
d. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.

3. Overlaid Finnish birch plywood.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

D. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

E. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
2. Furnish ties that, when removed, leave holes no larger than 1 inch in diameter in concrete surface.
3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.3 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

B. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.

2.4 REINFORCEMENT ACCESSORIES

A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.

B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.5 CONCRETE MATERIALS

A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

B. Cementitious Materials:

1. Portland Cement: ASTM C 150/C 150M, Type I/II, gray.
2. Blended Cement: ASTM C595/C 595 M, Type IL, gray.
3. Fly Ash: ASTM C 618, Class F or C.
4. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.

C. Normal-Weight Aggregates: ASTM C 33/C 33M, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.

1. Maximum Coarse-Aggregate Size: 1 inch nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

D. Air-Entraining Admixture: ASTM C 260/C 260M.

E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

F. Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete and complying with ASTM C 494/C 494M, Type C.

G. Non-Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, non-set-accelerating, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

H. Water: ASTM C 94/C 94M and potable.

2.6 VAPOR RETARDERS AND BARRIERS

A. Sheet Vapor Barrier: ASTM E 1745, Class A with a Perm Rating less than or equal to 0.018 perms (grains / (ft2 *hr *in. HG) as tested by ASTM E 96

1. Minimum thickness: 15 mil

B. Vapor Barrier Accessories:
1. Seal Tape: Water vapor transmission rate per ASTM E96 on 0.3 perm or less.
2. Vapor Proofing Mastic: Water vapor transmission rate per ASTM E96 of 0.3 perm or less.
3. Pipe Boots: Construct pipe boots from vapor barrier material, pressure sensitive tape and/or mastic per manufacturer's instructions.

2.7 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

F. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.

2.8 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 according to ASTM D 2240.

C. Bonding Agent: ASTM C 1059/C 1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.

D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

E. High-Strength Epoxy Doweling System: Epoxy doweling system shall consist of an injectable two-part epoxy complying with the requirements of ASTM C881-90, Type IV, Grade 3, Class B and C except gel times. Epoxy doweling system shall be tested in accordance with ICC Acceptance Criteria 308 demonstrating compliance with the performance features of ACI 355.2. Epoxy doweling system shall have an ICC-ES Evaluation Report (ESR) indicating it is intended for use in both cracked and uncracked normal weight concrete in Seismic Design Categories A through F. The epoxy doweling system shall be installed according to manufacturer's instructions.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Hilti HIT-HY 200 Adhesive Anchoring System (ICC ESR-3187)
b. ITW Red Head EPCON G5 Adhesive Anchoring System (ICC ESR-1137)
c. Powers AC100+ Gold Adhesive Anchor System (ICC ESR-2582)
d. Simpson Strong-Tie SET-XP Epoxy Adhesive Anchors (ICC ESP-2508)

F. Expansion Wedge Anchors: Expansion wedge anchors shall consist of threaded stud bolt body and integral wedge expander, nut, and washer complying with the requirements of Federal Specification A-A 1923A, Type 4. Expansion wedge anchors shall be tested in accordance with ICC Acceptance Criteria 193 demonstrating compliance with the performance features of ACI 355.2. Expansion wedge anchors shall have an ICC-ES Evaluation Report (ESR) indicating it is intended for use in both cracked and uncracked normal weight concrete in Seismic Design Categories A through F. Anchors shall be made of zinc-plated carbon steel meeting ASTM B633 or Type 304 stainless steel.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Hilti Kwik Bolt 3 (KB3) Concrete Anchors (ICC ESR-2302)
b. ITW Red Head TRUBOLT Wedge Anchor (ICC ESR-2251)
c. Powers Power-Stud+ SD1/SD2 Anchor (ICC ESR-2818/ESR-2502/)
d. Simpson STRONG-BOLT/STRONG-BOLT 2 Wedge Anchor (ICC ESR-1771/ESR-3037)

2.9 REPAIR MATERIALS

A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 4100 psi at 28 days when tested according to ASTM C 109/C 109M.

B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109/C 109M.

2.10 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash: 20 percent.
2. Combined Fly Ash and Pozzolan: 20 percent.
3. Ground Granulated Blast-Furnace Slag: 50 percent.
4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.
5. Silica Fume: 10 percent.
6. Combined Fly Ash,, Pozzolans, Ground Granulated Blast-Furnace Slag and Silica Fume: 35 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.06 percent by weight of cement.

D. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a w/c ratio below 0.50.
4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.

2.11 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Footings: Normal-weight concrete.

1. Minimum Compressive Strength: As indicated at 28 days.
2. Maximum W/C Ratio: 0.50.
3. Slump Limit: 5 inches and 8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch.
4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.

B. Slabs-on-Grade: Normal-weight concrete.

1. Minimum Compressive Strength: As indicated at 28 days.
2. Maximum W/C Ratio: 0.50.
3. Minimum Cementitious Materials Content: 470 lb/cu. yd..
4. Slump Limit: 4 inches, plus or minus 1 inch.
5. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.

2.12 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.13 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

B. Project-Site Mixing: Not permitted.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

1. Class A, 1/8 inch for smooth-formed finished surfaces.
2. Class B, 1/4 inch for rough-formed finished surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

1. Install keyways, reglets, recesses, and the like, for easy removal.
2. Do not use rust-stained steel form-facing material.

F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

H. Chamfer exterior corners and edges of permanently exposed concrete.

I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEM INSTALLATION

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.

3.3 REMOVING AND REUSING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.

1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 75 percent of its 28-day design compressive strength.
2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 VAPOR-RETARDER INSTALLATION

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.

1. Lap joints 6 inches and seal with manufacturer's recommended tape.

B. Bituminous Vapor Retarders: Place, protect, and repair bituminous vapor retarder according to manufacturer's written instructions.

3.5 STEEL REINFORCEMENT INSTALLATION

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded-wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.6 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

C. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

D. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.7 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit

duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

F. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

G. Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.8 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.9 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in one direction.

1. Apply scratch finish to surfaces indicated and to receive concrete floor toppings.

C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces indicated to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces indicated or exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
2. Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:

    a. Specified overall values of flatness, F(F) 25; and of levelness, F(L) 20; with minimum local values of flatness, F(F) 17; and of levelness, F(L) 15.

3. Finish and measure surface, so gap at any point between concrete surface and an unleveled, freestanding, 10-ft.- long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch.

E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces indicated and where ceramic or quarry tile is to be installed by either thickset or thinset method. While concrete is still plastic, slightly scarify surface with a fine broom.

1. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.

F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.

1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

3.10 MISCELLANEOUS CONCRETE ITEM INSTALLATION

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations:

1. Coordinate sizes and locations of concrete bases with actual equipment provided.
2. Construct concrete bases 4 inches high unless otherwise indicated, and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
3. Minimum Compressive Strength: 4000 psi at 28 days.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
5. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
6. Coordinate anchor installation with equipment manufacturer.

3.11 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period.

D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

   a. Water.
   b. Continuous water-fog spray.
   c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.

   a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
   b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.

c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies does not interfere with bonding of floor covering used on Project.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound does not interfere with bonding of floor covering used on Project.

4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.12 JOINT FILLING

A. Prepare, clean, and install joint filler according to manufacturer's written instructions.

1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.

C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.13 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.14 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

C. Inspections:

1. Steel reinforcement placement.
2. Headed bolts and studs.
3. Verification of use of required design mixture.
4. Concrete placement, including conveying and depositing.
5. Curing procedures and maintenance of curing temperature.
6. Verification of concrete strength before removal of shores and forms from beams and slabs.

D. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; ASTM C 173, volumetric method, for structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below or 80 deg F and above, and one test for each composite sample.
5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
6. Compression Test Specimens: ASTM C 31.

    a. Cast and laboratory cure four 6x12 or five 4x8 cylinder specimens for each composite sample.
    b. One cylinder size shall be used throughout the project.
    c. Each cylinder shall be weighed and the weight recorded directly prior to performing the compression test.
7. Compressive-Strength Tests: ASTM C 39; test one laboratory-cured specimen at 7 days and two 6x12 or three 4x8 specimens at 28 days, and retain one specimen for later testing at 56 days if 28 day strength falls below the required specified strength.

    a. A compressive-strength test shall be the average compressive strength from a set of two 6x12 or three 4x8 specimens obtained from same composite sample and tested at age indicated.
8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
9. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

E. Measure floor and slab flatness and levelness according to ASTM E 1155 within 24 hours of finishing.

END OF SECTION 03 30 00

SECTION 04 20 00 – UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes unit masonry assemblies consisting of the following:
   1. Concrete masonry units.
   2. Face brick.
   3. Mortar and grout.
   4. Steel reinforcing bars.
   5. Masonry joint reinforcement.
   6. Ties and anchors.
   7. Embedded flashing.
   8. Miscellaneous masonry accessories.
   9. Masonry-cell insulation.
   10. Cavity-wall insulation.

B. Related Sections:
   1. Division 04 Section “Cast Stone” for cast stone masonry requirements.
   2. Division 05 Section “Metal Fabrications” for related steel requirements for unit masonry.
   3. Division 07 Section "Bituminous Dampproofing" for dampproofing applied to cavity face of backup wythes of cavity walls.
   4. Division 07 Section "Joint Sealants" for sealing control and expansion joints in unit masonry.

C. Products furnished, but not installed, under this Section include the following:
   1. Dovetail slots for masonry anchors, installed under Division 03 Section "Cast-in-Place Concrete."

D. Products installed, but not furnished, under this Section include the following:
   1. Cast-stone trim, furnished under Division 04 Section "Cast Stone."
   2. Steel lintels for unit masonry, furnished under Division 05 Section "Metal Fabrications."
   3. Manufactured reglets in masonry joints for metal flashing, furnished under Division 07 Section "Sheet Metal Flashing and Trim."

1.3 ALTERNATES

A. Work of this Section is affected by an Alternate. Refer to Division 01 Section “Alternates”.

1.4 DEFINITIONS

A. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.5 PERFORMANCE REQUIREMENTS

A. Provide unit masonry that develops indicated net-area compressive strengths (f'_m) at 28 days.

B. Determine net-area compressive strength (f'_m) of masonry by testing masonry prisms according to ASTM C 1314.

1.6 PRECONSTRUCTION TESTING – SOURCE QUALITY CONTROL

A. Preconstruction Testing Service: Owner will engage a qualified independent testing agency to perform preconstruction testing indicated below. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

1. Clay Masonry Unit Test: For each type of unit required, according to ASTM C 67 for compressive strength.
2. Concrete Masonry Unit Test: For each type of unit required, according to ASTM C 140 for compressive strength.

1.7 ACTION SUBMITTALS

A. Product Data: For each different masonry unit, accessory, and other manufactured product specified.

B. Shop Drawings: Show fabrication and installation details for the following:
1. Masonry Units: Show sizes, profiles, and coursing.
2. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."
3. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.

C. Samples for Initial Selection: For the following:
1. Face brick, in the form of straps of five or more bricks.
2. Colored mortar Samples for each color required, showing the full range of colors expected in the finished construction. Make samples using the same sand and mortar ingredients to be used on Project.

D. Samples for Verification: For each type and color of the following:
1. Face brick, in the form of straps of five or more bricks.
2. Pigmented mortar. Make Samples using same sand and mortar ingredients to be used on Project**.**

1.8 INFORMATIONAL SUBMITTALS

A. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, model numbers, lot numbers, batch numbers, source of supply, and other information as required to identify materials used. Include mix proportions for mortar and grout and source of aggregates.
1. Submittal is for information only. Neither receipt of list nor approval of mockup constitutes approval of deviations from the Contract Documents unless such deviations are specifically brought to the attention of Architect and approved in writing.

B. Qualification Data: For testing agency.

C. Material Certificates: Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards. Provide for each type and size of the following:
1. Masonry units.
a. Include material test reports substantiating compliance with requirements.
b. For bricks, include size-variation data verifying that actual range of sizes falls within specified tolerances.
c. For exposed brick, include material test report for efflorescence according to ASTM C 67.
d. For masonry units used in structural masonry, include data and calculations establishing average net-area compressive strength of units.
2. Cementitious materials. Include brand, type, and name of manufacturer.
3. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
4. Grout mixes. Include description of type and proportions of ingredients.
5. Reinforcing bars.
6. Joint reinforcement.
7. Anchors, ties, and metal accessories.

D. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
1. Include test reports, per ASTM C 780, for mortar mixes required to comply with property specification.

2. Include test reports, per ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

E. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

F. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with cold-weather requirements.

1.9 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C 1093 for testing indicated.

B. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source from a single manufacturer for each product required.

C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source or producer for each aggregate.

D. Mockups: Build mockups as indicated on Drawings to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.10 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.

E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.11 PROJECT CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches down both sides of walls and hold cover securely in place.
2. Where one wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.

B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.

C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing

conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

B. Fire-Resistance Ratings: Where indicated, provide units that comply with requirements for fire-resistance ratings indicated as determined by testing according to ASTM E 119, by equivalent masonry thickness, or by other means, as acceptable to authorities having jurisdiction.

2.2 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows:

1. Provide special shapes for lintels, corners, jambs, sash, control joints, headers, bonding, and other special conditions.
2. Provide square-edged units for outside corners, unless indicated as bullnose.
3. Provide 8-inches by 16-inches size units with rounded corners in locations indicated.

B. Integral Water Repellent: Provide units made with integral water repellent for exposed units and where indicated.

1. Integral Water Repellent: Provide units made with liquid polymeric, integral water-repellent admixture that does not reduce flexural bond strength. Units made with integral water repellent, when tested as a wall assembly made with mortar containing integral water-repellent manufacturer's mortar additive according to ASTM E 514, with test period extended to 24 hours, show no visible water or leaks on the back of the test specimen.
   a. Products: Subject to compliance with requirements, provide one of the following:
      1) ACM Chemistries; RainBloc.
      2) BASF Corporation; Rheopel Plus.
      3) Grace Construction Products; Dry-Block.
2. Size: Standard units with nominal face dimensions of 16 x 8 inches and nominal depths as indicated on Drawings for specific locations.
3. Minimum Net Area Average Compressive Strength: Average of three units 1900 psi, individual unit 1700 PSI. Meets ASTM C 90 standard average of three units 1900 psi, individual unit 1700 psi.
4. Special Shapes: Provide non-standard blocks configured for corners.
5. Load-Bearing Units: Normal weight.
   a. Both hollow and solid block, as indicated.
   b. Exposed faces: Manufacturer's standard color and texture.

C. Lightweight Concrete Masonry Units:

1. Lightweight concrete masonry units shall conform to the requirements of ASTM Specification C-90, Type II, for load bearing concrete masonry units. All units shall be free of organic impurities that will cause rusting, staining or pop outs, and shall contain no combustible matter. The use of coal cinder aggregate/bottom ash, or similar waste products will not be allowed.

2. All aggregate used in the concrete units shall be 100% Solite, Stalite, or approved equal, shall conform to ASTM Specification C 331 "Lightweight Aggregates for Concrete Masonry Units", shall be expanded shale produced by rotary kiln process, and shall be graded to assure constant texture.
3. The air dry weights of all units shall not exceed the following:
   a. 4 x 8 x 16 - 16 pounds; 4 x 8 x 16 - 75% solid - 22 pounds
   b. 6 x 8 x 16 - 20 pounds; 6 x 8 x 16 - 75% solid - 29 pounds
   c. 8 x 8 x 16 - 26 pounds; 8 x 8 x 16 - 75% solid - 38 pounds
   d. 12 x 8 x 16 - 37 pounds; 12 x 8 x 16 - 75% solid - 56 pounds
4. All 8 inch or larger units shall meet U.L. U905 requirements for two hours or better rating (as required) and certificates shall be furnished to the architect prior to any concrete masonry work.
5. The producer of the concrete masonry units will furnish a letter of certification stating that all aggregate used in the manufacturer of the units was expanded and produced by rotary kiln process, 100% Solite or approved equal conforming to ASTM C 331.
6. A random sample of the concrete masonry units may be taken and tested by an independent lab to assure that the concrete masonry units conform to all specifications.

2.3 MASONRY LINTELS

A. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam concrete masonry units with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.

2.4 BRICK

A. General: Provide shapes indicated and as follows for each form of brick required:
   1. Provide units without cores or frogs and with exposed surfaces finished for ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces.
   2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

B. Face Brick: ASTM C 216, Grade SW, Type FBS:
   1. Basis of Design Products: Subject to compliance with requirements, provide Red brick by Hanson Brick to match existing buildings on NCRC Campus; and, White brick to match Hanson Brick, Color “White”, or comparable products by one of the following:
      a. Carolina Ceramics Brick Company.
      b. General Shale Brick.
      c. Palmetto Brick Company.
      d. Pine Hall Brick.
      e. Taylor Clay Products, Inc.
      f. Triangle Brick Company.
   2. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested per ASTM C 67.
   3. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
   4. Surface Coloring: Brick with surface coloring, other than flashed or sand-finished brick, shall withstand 50 cycles of freezing and thawing per ASTM C 67 with no observable difference in the applied finish when viewed from 10 feet.
   5. Size (Actual Dimensions): Standard Common.
   6. Application: Use where brick is exposed, unless otherwise indicated.

C. Building (Common) Brick: ASTM C 62, Grade SW.
   1. Size: Match size of face brick.
   2. Application: Use where brick is indicated for concealed locations.

2.5 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C 207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207, Type S.

D. Masonry Cement: ASTM C 91, Type S.

E. Mortar Cement: ASTM C 1329.

F. Colored Cement Product: Packaged blend made from portland cement and lime and mortar pigments, all complying with specified requirements, and containing no other ingredients.

1. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
2. Pigments shall not exceed 10 percent of portland cement by weight.
3. Pigments shall not exceed 5 percent of mortar cement by weight.
4. Products: Subject to compliance with requirements, provide products by one of the following:
   a. Colored Portland Cement-Lime Mix:
      1) Capital Materials Corporation; Riverton Portland Cement Lime Custom Color.
      2) Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
      3) ARGOS USA; Eaglebond.
      4) Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.
   b. Colored Mortar Cement:
      1) ARGOS USA; Magnolia Superbond Mortar Cement.

G. Aggregate for Mortar: ASTM C 144.

1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
2. For joints less than 1/4-inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
3. Natural Color.
4. White-Mortar Aggregates: Natural white sand or crushed white stone.

H. Aggregate for Grout: ASTM C 404.

I. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

1. Products: Subject to compliance with requirements, provide products by one of the following:
   a. BASF Corporation; Pozzolith NC 534.
   b. Euclid Chemical Company (The); Accelguard 80.
   c. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Morset.

J. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with concrete masonry units, containing integral water repellent by same manufacturer.

K. Water: Potable.

2.6 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

B. Masonry Joint Reinforcement, General: ASTM A 951.

1. Interior Walls: Hot-dip galvanized, carbon steel.
2. Exterior Walls: Hot-dip galvanized, carbon steel.
3. Wire Size for Side Rods: 0.187-inch diameter.
4. Wire Size for Cross Rods: 0.187-inch diameter.
5. Wire Size for Veneer Ties: 0.187-inch diameter.
6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.

7. Provide in lengths of not less than 10 feet.

C. Masonry Joint Reinforcement for Single-Wythe Masonry: Either ladder or truss type with single pair of side rods.

D. Masonry Joint Reinforcement for Multiwythe Masonry:
1. Adjustable (two-piece) type, either ladder or truss design, with one side rod at each face shell of backing wythe and with separate adjustable ties with pintle-and-eye connections having a maximum adjustment of 1-1/4 inches. Size ties to extend at least halfway through facing wythe but with at least 5/8-inch cover on outside face. Ties have hooks or clips to engage a continuous horizontal wire in the facing wythe.

E. Masonry Joint Reinforcement for Veneers Anchored with Seismic Masonry-Veneer Anchors: Single 0.187-inch- diameter, hot-dip galvanized, carbon-steel continuous wire.

2.7 TIES AND ANCHORS, GENERAL

A. General: Provide ties and anchors, specified in subsequent articles, made from materials that comply with this Article, unless otherwise indicated.
1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82; with ASTM A 153, Class B-2 coating.
2. Galvanized Steel Sheet: ASTM A 653/A 653M, Commercial Steel, G60 zinc coating.
3. Steel Sheet, Galvanized after Fabrication: ASTM A 366 cold-rolled, carbon-steel sheet hot-dip galvanized after fabrication to comply with ASTM A 153.
4. Steel Plates, Shapes, and Bars: ASTM A 36.

B. Wire Ties, General: Unless otherwise indicated, size wire ties to extend at least halfway through veneer but with at least 5/8-inch cover on outside face. Outer ends of wires are bent 90 degrees and extend 2 inches parallel to face of veneer.

C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches wide.
1. Z-shaped ties with ends bent 90 degrees to provide hooks not less than 2 inches long may be used for masonry constructed from solid units or hollow units laid with cells horizontal.
2. Where wythes do not align, use adjustable ties with pintle-and-eye connections having a maximum adjustment of 1-1/4 inches.
3. Wire: Fabricate from 3/16-inch- diameter, hot-dip galvanized steel wire.

D. Adjustable Anchors for Connecting to Structure: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
1. Anchor Section for Welding to Steel Frame: Crimped 1/4-inch- diameter, stainless-steel wire.
2. Tie Section for Steel Frame: Triangular-shaped wire tie, sized to extend within 1 inch of masonry face, made from 0.187-inch- diameter, hot-dip galvanized steel wire.

E. Partition Top anchors: 0.105-inch- thick metal plate with 3/8-inch- diameter metal rod 6 inches long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication.

2.8 ADJUSTABLE MASONRY-VENEER ANCHORS

A. General: Provide anchors that allow vertical adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to wood or metal studs, and as follows:
1. Structural Performance Characteristics: Capable of withstanding a 100-lbf load in both tension and compression without deforming or developing play in excess of 0.05 inch.

B. Screw-Attached, Masonry-Veneer Anchors: Units consisting of a wire tie and a metal anchor section.
1. Products: Subject to compliance with requirements, provide the following:
a. Hohmann & Barnard, Inc.; DW-10-X.
2. Anchor Section: Gasketed sheet metal plate, 1-1/4 inches wide by 6 inches long, with screw holes top and bottom; top and bottom ends bent to form pronged legs of length to match thickness of insulation

or sheathing; and raised rib-stiffened strap, 5/8 inch wide by 6 inches long, stamped into center to provide a slot between strap and plate for inserting wire tie. Provide anchor manufacturer's standard, self-adhering, modified bituminous gaskets manufactured to fit behind anchor plate and extend beyond pronged legs.

C. Polymer-Coated, Steel Drill Screws for Steel Studs: ASTM C 954 except manufactured with hex washer head and neoprene or EPDM washer, No. 10 diameter by length required to penetrate steel stud flange with not less than three exposed threads, and with organic polymer coating with salt-spray resistance to red rust of more than 800 hours per ASTM B 117.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. ITW Buildex; Teks Maxiseal with Climaseal finish.
      b. Textron Inc., Textron Fastening Systems; Elco Dril-Flex with Stalgard finish.

2.9 MISCELLANEOUS ANCHORS

A. Unit Type Inserts in Concrete: Cast-iron or malleable-iron wedge-type inserts.

B. Dovetail Slots in Concrete: Furnish dovetail slots with filler strips, of slot size indicated, fabricated from 0.034-inch, galvanized steel sheet.

C. Anchor Bolts: Headed or L-shaped steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153/A 153M, Class C; of dimensions indicated.

D. Postinstalled Anchors: Torque-controlled expansion anchors or chemical anchors.
   1. Load Capacity: Capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
   2. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5 unless otherwise indicated.
   3. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 or Group 2 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

2.10 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and Division 07 Section "Sheet Metal Flashing and Trim".

B. Provide prefabricated corners and end dams of same material and thickness as primary material and from the same flashing manufacturer.

C. Provide minimum 10-inch wide strips of same material under joints.

D. Flexible Flashing: For flashing not exposed to the exterior, use the following, unless otherwise indicated:
   1. Copper-Laminated Flashing (All thru-wall flashing): 5-oz./sq. ft. copper sheet bonded with asphalt between 2 layers of glass-fiber cloth. Use only where flashing is fully concealed in masonry.
      a. Products: Subject to compliance with requirements, provide one of the following:
         1) Advanced Building Products Inc.; Copper Fabric Flashing.
         2) Hohmann & Barnard, Inc., Dur-O-Wall Division; Copper Fabric Thru-Wall Flashing.
         3) Hohmann & Barnard, Inc.; H & B C-Fab Flashing.
         4) Phoenix Building Products; Type FCC-Fabric Covered Copper.
         5) Sandell Manufacturing Co., Inc.; Copper Fabric Flashing.
         6) York Manufacturing, Inc.; Multi-Flash 500.
   2. Self-Adhering Rubberized-Asphalt Flashing (Around doors and window type openings): Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 inch.
      a. Products: Subject to compliance with requirements, provide one of the following:
         1) Advanced Building Products Inc.; Peel-N-Seal.

2) Carlisle Coatings & Waterproofing; CCW-705-TWF Thru-Wall Flashing.
3) Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Perm-A-Barrier Wall Flashing.
4) Heckmann Building Products Inc.; No. 82 Rubberized-Asphalt Thru-Wall Flashing.
5) Hohmann & Barnard, Inc.; Textroflash.
6) Hohmann & Barnard, Inc., Dur-O-Wall Division; Dur-O-Barrier-44.
7) W. R. Meadows, Inc.; Air-Shield Thru-Wall Flashing.
8) Polyguard Products, Inc.; Polyguard 300.
9) Sandell Manufacturing Co., Inc.; Sando-Seal.
10) Williams Products, Inc.; Everlastic MF-40.

E. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by the flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.11 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene or urethane.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 or PVC, complying with ASTM D 2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

C. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).

D. Weep/Vent Products:
1. Cellular Plastic Weep/Vent: One-piece, flexible extrusion made from UV-resistant polypropylene copolymer, full height and width of head joint and depth 1/8 inch less than depth of outer wythe, in color selected from manufacturer's standard.
a. Products: Subject to compliance with requirements, provide one of the following:
1) Heckmann Building Products Inc.; No. 85 Cell Vent.
2) Hohmann & Barnard, Inc.; Quadro-Vent.
3) Hohmann & Barnard, Inc., Dur-O-Wal Division; Cell Vents.
4) Wire-Bond; Cell Vent.

E. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Archovations, Inc.; CavClear Masonry Mat.
b. Hohmann & Barnard, Inc., Dur-O-Wal Division; Polytite MortarStop.
c. Mortar Net USA, Ltd.; Mortar Net.
2. Provide one of the following configurations:
a. Strips, full-depth of cavity and 10 inches high, with dovetail shaped notches 7 inches deep.
b. Strips, not less than 1-1/2 inches thick and 10 inches high, with dimpled surface designed to catch mortar droppings and prevent weep holes from clogging with mortar.
c. Sheets or strips full depth of cavity and installed to full height of cavity.

F. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells with loops for holding reinforcing bars in center of cells. Units are formed from 0.142-inch steel wire, hot-dip galvanized after fabrication. Provide units with either two loops or four loops as needed for number of bars indicated.
1. Products: Subject to compliance with requirements, provide one of the following:
a. Heckmann Building Products Inc.; No. 376 Rebar Positioner.
b. Hohmann & Barnard, Inc.; #RB or #RB-Twin Rebar Positioner.

c. Hohmann & Barnard, Inc., Dur-O-Wal Division; D/A 810, D/A 812 or D/A 817.
d. Wire-Bond; O-Ring or Double O-Ring Rebar Positioner.

2.12 CAVITY-WALL INSULATION

A. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV, closed-cell product extruded with an integral skin.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. DiversiFoam Products.
      b. Dow Chemical Company (The).
      c. Owens Corning.
   2. Thickness: As indicated.
B. Adhesive: Type recommended by insulation board manufacturer for application indicated.

2.13 MASONRY CLEANERS

A. Job-Mixed Detergent Solution: Solution of 1/2-cup dry measure tetrasodium polyphosphate and 1/2-cup dry measure laundry detergent dissolved in 1 gal. of water.
B. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
   1. Manufacturers: Subject to compliance with requirements, provide one of the following:
      a. Diedrich Technologies, Inc.
      b. EaCo Chem, Inc.
      c. ProSoCo, Inc.

2.14 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
   1. Do not use calcium chloride in mortar or grout.
   2. Limit cementitious materials in mortar to portland cement and lime.
B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.
   1. For masonry below grade or in contact with earth, use Type S.
   2. For reinforced masonry, use Type N.
   3. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions; and for other applications where another type is not indicated, use Type N.
   4. For interior non-load-bearing partitions, Type O may be used instead of Type N.
C. Pigmented Mortar: Use colored cement product.
   1. Pigments shall not exceed 10 percent of portland cement by weight.
   2. Mix to match Architect's sample.
D. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.
   1. Mix to match Architect's sample.
E. Grout for Unit Masonry: Comply with ASTM C 476.
   1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.

2. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
   1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
   2. Verify that foundations are within tolerances specified.
   3. Verify that reinforcing dowels are properly placed.

B. Before installation, examine rough-in and built-in construction to verify actual locations of piping connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Thickness: Build cavity and composite walls and other masonry construction to the full thickness shown. Build single-wythe walls to the actual widths of masonry units, using units of widths indicated.

B. Build chases and recesses to accommodate items specified in this Section and in other Sections of the Specifications.

C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to the opening.

D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
   1. Mix units from several pallets or cubes as they are placed.

F. Wetting of Brick: Wet brick before laying if the initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at the time of laying.

3.3 TOLERANCES

A. Comply with construction tolerances in ACI 530.1/ASCE 6/TMS 602 and with the following:
   1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
   2. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
   3. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
   4. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
   5. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
   6. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

7. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

3.4 LAYING MASONARY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4-inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

D. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

F. Fill space between steel frames and masonry solidly with mortar, unless otherwise indicated.

G. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.

H. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.

I. Build non-load-bearing interior partitions full height of story to underside of solid floor or roof structure above, unless otherwise indicated.
   1. Install compressible filler in joint between top of partition and underside of structure above.
   2. Fasten partition top anchors to structure above and build into top of partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide 1/2-inch clearance between end of anchor rod and end of tube. Space anchors 48 inches o.c., unless otherwise indicated.
   3. At fire-rated partitions, treat joint between top of partition and underside of structure above to comply with Division 07 Section "Fire-Resistive Joint Systems."

3.5 MORTAR BEDDING AND JOINTING

A. Lay hollow brick and concrete masonry units as follows:
   1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
   2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
   3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
   4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.

B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
   1. At cavity walls, bevel beds away from cavity, to minimize mortar protrusions into cavity. As work progresses, trowel mortar fins protruding into cavity flat against the cavity face of the brick.

C. Set cast-stone trim units in full bed of mortar with full vertical joints. Fill dowel, anchor, and similar holes.
   1. Clean soiled surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
   2. Allow cleaned surfaces to dry before setting.
   3. Wet joint surfaces thoroughly before applying mortar.

D. Tool exposed joints at concrete masonry units slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.

E. Tool exposed joints at face brick to "grapevine joint" when thumbprint hard, using a jointer specifically designed for this shape.

3.6 CAVITY WALLS

A. Bond wythes of cavity walls together using one of the following methods:
   1. Individual Metal Ties: Provide ties as shown installed in horizontal joints, spaced not to exceed 16 inches o.c. horizontally and 16 inches o.c. vertically. Stagger ties in alternate courses. Provide additional ties within 12 inches of openings and space not more than 36 inches apart around perimeter of openings. At intersecting and abutting walls, provide ties at no more than 24 inches o.c. vertically.
      a. Where bed joints of wythes do not align, use adjustable (two-piece) type ties.
      b. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable (two-piece) type ties to allow for differential movement regardless of whether bed joints align.
   2. Masonry Joint Reinforcement: Installed in horizontal mortar joints.
      a. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable (two-piece) type reinforcement with continuous horizontal wire in facing wythe attached to ties to allow for differential movement regardless of whether bed joints align.
   3. Masonry Veneer Anchors: Comply with requirements for anchoring masonry veneers.

B. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

C. Coat cavity face of backup wythe to comply with Division 07 Section "Bituminous Dampproofing."

D. Installing Cavity-Wall Insulation: Place small dabs of adhesive, spaced approximately 12 inches o.c. both ways, on inside face of insulation boards, or attach with plastic fasteners designed for this purpose. Fit courses of insulation between wall ties and other confining obstructions in cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.
   1. Fill cracks and open gaps in insulation with crack sealer compatible with insulation and masonry.

3.7 MASONRY-CELL INSULATION

A. Install molded-polystyrene insulation units into masonry unit cells before laying units.

3.8 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
   1. Space reinforcement not more than 16 inches o.c.
   2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
   3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.
      a. Reinforcement above is in addition to continuous reinforcement.

B. Interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

E. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.9 ANCHORING MASONRY TO STRUCTURAL MEMBERS

A. Anchor masonry to structural members where masonry abuts or faces structural members to comply with the following:

1. Provide an open space not less than 1/2 inch in width between masonry and structural member, unless otherwise indicated. Keep open space free of mortar and other rigid materials.
2. Anchor masonry to structural members with anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than 24 inches o.c. vertically and 36 inches o.c. horizontally.

3.10 ANCHORING MASONRY VENEERS

A. Anchor masonry veneers to wall framing, concrete, and masonry backup with seismic masonry-veneer anchors to comply with the following requirements:
   1. Fasten screw-attached and seismic anchors through sheathing to wall framing and to concrete and masonry backup with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
   2. Embed connector sections and continuous wire in masonry joints. Provide not less than 2 inches of air space between back of masonry veneer and face of sheathing.
   3. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
   4. Space anchors as indicated.

3.11 CONTROL AND EXPANSION JOINTS

A. General: Install control and expansion joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.
B. Form control joints in concrete masonry as follows:
   1. Install preformed control-joint gaskets designed to fit standard sash block.
C. Form expansion joints in brick as follows:
   1. Form open joint full depth of brick wythe and of width indicated, but not less than 3/8 inch for installation of sealant and backer rod specified in Division 07 Section "Joint Sealants."
D. Provide horizontal, pressure-relieving joints by either leaving an air space or inserting a compressible filler of width required for installing sealant and backer rod specified in Division 07 Section "Joint Sealants," but not less than 3/8 inch.
   1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry.

3.12 LINTELS

A. Install steel lintels where indicated; all lintels shall be galvanized and painted as specified in Division 05 Section “Metal Fabrications”.
B. Provide masonry lintels where shown and where openings of more than 12 inches for brick-size units and 24 inches for block-size units are shown without structural steel or other supporting lintels.
C. Provide minimum bearing of 8 inches at each jamb, unless otherwise indicated.

3.13 FLASHING, WEEP HOLES, CAVITY DRAINAGE, AND VENTS

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
B. Install flashing as follows, unless otherwise indicated:
   1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
   2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches, and 1-1/2 inches into the inner wythe.

3. At masonry-veneer walls, extend flashing through veneer, across air space behind veneer, and up face of sheathing at least 8 inches; with upper edge tucked under building paper or building wrap, lapping at least 4 inches.
4. At lintels and shelf angles, extend flashing a minimum of 6 inches into masonry at each end. At heads and sills, extend flashing 6 inches at ends and turn up not less than 2 inches to form end dams.
5. Cut flexible flashing off flush with face of wall after masonry wall construction is completed.

C. Install reglets and nailers for flashing and other related construction where they are shown to be built into masonry.

D. Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:
1. Use specified weep products specified in Part 2 to deter insects from entering weep holes.
2. Space weep holes 24 inches o.c., unless otherwise indicated.

E. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in Part 2 "Miscellaneous Masonry Accessories" Article.

3.14 REINFORCED UNIT MASONRY INSTALLATION

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.
1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other temporary loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches.

3.15 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

B. Inspections: Level 1 special inspections according to the "International Building Code."
1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
3. Place grout only after inspectors have verified proportions of site-prepared grout.

C. Testing Prior to Construction: One set of tests.

D. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.

E. Clay Masonry Unit Test: For each type of unit provided, according to ASTM C 67 for compressive strength.

F. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C 140 for compressive strength.
G. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.
H. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar for mortar air content and compressive strength**.**
I. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.
J. Prism Test: For each type of construction provided, according to ASTM C 1314 at 7 days and at 28 days.

3.16 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
    1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
    2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
    3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
    4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
    5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
    6. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
    7. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.
    8. Clean cast stone trim to comply with stone supplier's written instructions.

3.17 MASONRY WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
    1. Crush masonry waste to less than 4 inches in each dimension.
    2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Division 31 "Earthwork."
    3. Do not dispose of masonry waste as fill within 18 inches of finished grade.
C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04 20 00

SECTION 04 72 00 – CAST STONE MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Cast stone column base and band, and trim.
B. Related Sections include the following:
   1. Division 04 Section "Unit Masonry" for installing cast stone units in unit masonry.

1.3 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for cast stone units.
B. Shop Drawings: Show fabrication and installation details for cast stone units. Include dimensions, details of reinforcement and anchorages if any, and indication of finished faces.
   1. Include building elevations showing layout of units and locations of joints and anchors.
C. Samples for Initial Selection: For colored mortar.
D. Samples for Verification:
   1. For each color and texture of cast stone required, 10 inches square in size.
E. Qualification Data: For manufacturer.
   1. Include copies of material test reports for completed projects, indicating compliance of cast stone with ASTM C 1364.
F. Material Test Reports: For each mix required to produce cast stone, based on testing according to ASTM C 1364, including test for resistance to freezing and thawing.
   1. Provide test reports based on testing within previous two years.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer of cast stone units similar to those indicated for this Project, that has sufficient production capacity to manufacture required units, and is a plant certified by the Cast Stone Institute.
B. Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 for testing indicated.
C. Source Limitations for Cast Stone: Obtain cast stone units through one source from a single manufacturer.
D. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color, from one manufacturer for each cementitious component and from one source or producer for each aggregate.
E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Furnish cast stone for installation in mockups specified in Division 04 Section "Unit Masonry."

1.5 DELIVERY, STORAGE, AND HANDLING

A. Coordinate delivery of cast stone with unit masonry work to minimize the need for on-site storage and to avoid delaying the Work.

B. Pack, handle, and ship cast stone units in suitable packs or pallets.
   1. Lift with wide-belt slings; do not use wire rope or ropes that might cause staining. Move cast stone units, if required, using dollies with wood supports.
   2. Store cast stone units on wood skids or pallets with nonstaining, waterproof covers. Arrange to distribute weight evenly and to prevent damage to units. Ventilate under covers to prevent condensation.

C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

D. Store mortar aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

1.6 PROJECT CONDITIONS

A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
   1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until cast stone has dried, but not less than 7 days after completing cleaning.

B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 CAST STONE MATERIALS

A. General: Comply with ASTM C 1364 and the following:

B. Portland Cement: ASTM C 150, Type I, containing not more than 0.60 percent total alkali when tested according to ASTM C 114.

C. Coarse Aggregates: Granite, quartz, or limestone complying with ASTM C 33; gradation as needed to produce required textures and colors as needed to produce required cast stone colors.

D. Fine Aggregates: Natural sand or crushed stone complying with ASTM C 33, gradation as needed to produce required textures and colors as needed to produce required cast stone colors.

E. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, nonfading, and resistant to lime and other alkalis.

F. Admixtures: Do not use admixtures unless specified or approved in writing by Architect.
   1. Do not use admixtures that contain more than 0.1 percent water-soluble chloride ions by mass of cementitious materials. Do not use admixtures containing calcium chloride.
   2. Use only admixtures that are certified by manufacturer to be compatible with cement and other admixtures used.
   3. Air-Entraining Admixture: ASTM C 260. Add to mixes for units exposed to the exterior at manufacturer's prescribed rate to result in an air content of 4 to 6 percent, except do not add to zero-slump concrete mixes.
   4. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
   5. Water-Reducing, Retarding Admixture: ASTM C 494/C 494M, Type D.
   6. Water-Reducing, Accelerating Admixture: ASTM C 494/C 494M, Type E.

G. Reinforcement: Deformed steel bars complying with ASTM A 615/A 615M, Grade 60. Use galvanized or epoxy-coated reinforcement when covered with less than 1-1/2 inches of cast stone material.
   1. Epoxy Coating: ASTM A 775/A 775M.
   2. Galvanized Coating: ASTM A 767/A 767M.

H. Embedded Anchors and Other Inserts: Fabricated from stainless steel complying with ASTM A 240/A 240M, ASTM A 276, or ASTM A 666, Type 304.

2.2 CAST STONE UNITS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Advanced Cast Stone, Inc.; Website: www.advancedcaststone.com.
   2. Bassco Caststone; Website: www.basscocaststone.com.
   3. Cast Stone Systems, Inc.; Website: www.caststonesystems.com.
   4. Custom Stone Works, Inc.; Website: www.cswstone.com
   5. Reading Rock, Inc.; Custom Cast Stone Series; Website: www.readingrock.com.
   6. Superior Precast Products, Inc.; Website: www.superiorprecast.com

B. Provide cast stone units complying with ASTM C 1364 using either the vibrant dry tamp or wet-cast method.
   1. Provide units that are resistant to freezing and thawing as determined by laboratory testing according to ASTM C 666/C 666M, Procedure A, as modified by ASTM C 1364.

C. Fabricate units with sharp arris and details accurately reproduced with indicated texture on all exposed surfaces, unless otherwise indicated.
   1. Slope exposed horizontal surfaces 1:12, unless otherwise indicated.
   2. Provide raised fillets at backs of sills and at ends indicated to be built into jambs.
   3. Provide drips on projecting elements, unless otherwise indicated.

D. Fabrication Tolerances:
   1. Variation in Cross Section: Do not vary from indicated dimensions by more than 1/8 inch.
   2. Variation in Length: Do not vary from indicated dimensions by more than 1/360 of the length of unit or 1/8 inch, whichever is greater, but in no case by more than 1/4 inch.
   3. Warp, Bow, and Twist: Not to exceed 1/360 of the length of unit or 1/8 inch, whichever is greater.
   4. Location of Grooves, False Joints, Holes, Anchorages, and Similar Features: Do not vary from indicated position by more than 1/8 inch on formed surfaces of units and 3/8 inch on unformed surfaces.

E. Cure Units as Follows:
   1. Cure units in enclosed moist curing room at 95 to 100 percent relative humidity and temperature of 100 deg F (38 deg C) for 12 hours or 70 deg F (21 deg C) for 16 hours.
   2. Keep units damp and continue curing to comply with one of the following:
      a. No fewer than five days at mean daily temperature of 70 deg F (21 deg C) or above.
      b. No fewer than six days at mean daily temperature of 60 deg F (16 deg C) or above.
      c. No fewer than seven days at mean daily temperature of 50 deg F (10 deg C) or above.
      d. No fewer than eight days at mean daily temperature of 45 deg F (7 deg C) or above.

F. Acid etch units after curing to remove cement film from surfaces to be exposed to view.

G. Color and Texture: Provide cast stone units to match existing buildings on NCRC Campus.

2.3 MORTAR MATERIALS

A. Provide mortar materials that comply with Division 04 Section "Unit Masonry".

2.4 ACCESSORIES

A. Anchors: Type and size indicated, fabricated from stainless steel complying with ASTM A 240/A 240M, ASTM A 276, or ASTM A 666, Type 304.

B. Dowels: Round stainless-steel bars complying with ASTM A 276, Type 304, and 1/2-inch diameter.

C. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cast stone manufacturer and expressly approved by cleaner manufacturer for use on cast stone and adjacent masonry materials.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Diedrich Technologies, Inc.
b. EaCo Chem, Inc.
c. ProSoCo, Inc.

2.5 MORTAR MIXES

A. Comply with requirements in Division 04 Section "Unit Masonry" for mortar mixes.

2.6 SOURCE QUALITY CONTROL

A. Engage a qualified independent testing agency to sample and test cast stone units according to ASTM C 1364.
   1. Include one test for resistance to freezing and thawing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of cast stone.
B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SETTING CAST STONE IN MORTAR

A. Set cast stone as indicated on Drawings. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
   1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
   2. Coordinate installation of cast stone with installation of flashing specified in other Sections.
B. Wet joint surfaces thoroughly before applying mortar or setting in mortar.
C. Set units in full bed of mortar with full head joints, unless otherwise indicated.
   1. Set units with joints 1/4 to 3/8 inch wide, unless otherwise indicated.
   2. Build anchors and ties into mortar joints as units are set.
   3. Fill dowel holes and anchor slots with mortar.
   4. Fill collar joints solid as units are set.
   5. Build concealed flashing into mortar joints as units are set.
   6. Keep head joints in coping and other units with exposed horizontal surfaces open to receive sealant.
   7. Keep joints at shelf angles open to receive sealant.
D. Rake out joints for installation of sealant to depths of not less than 3/4 inch. Rake joints to uniform depths with square bottoms and clean sides. Scrub faces of units to remove excess mortar as joints are raked.
E. Point mortar joints by placing and compacting mortar in layers not greater than 3/8 inch. Compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
F. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
G. Provide sealant joints at copings and other horizontal surfaces, at expansion, control, and pressure-relieving joints, and at locations indicated.
   1. Keep joints free of mortar and other rigid materials.
   2. Build in compressible foam-plastic joint fillers where indicated.
   3. Form joint of width indicated, but not less than 3/8 inch.
   4. Prime cast stone surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.

5. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Division 07 Section "Joint Sealants."

3.3 SETTING ANCHORED CAST STONE WITH SEALANT-FILLED JOINTS

A. Set cast stone as indicated on Drawings. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
   1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
   2. Shim and adjust anchors, supports, and accessories to set cast stone in locations indicated with uniform joints.

B. Keep cavities open where unfilled space is indicated between back of cast stone units and backup wall; do not fill cavities with mortar or grout.

C. Fill anchor holes with sealant.
   1. Where dowel holes occur at pressure-relieving joints, provide compressible material at ends of dowels.

D. Set cast stone supported on clip or continuous angles on resilient setting shims. Use material of thickness required to maintain uniform joint widths. Hold shims back from face of cast stone a distance at least equal to width of joint.

E. Keep joints free of mortar and other rigid materials. Remove temporary shims and spacers from joints after anchors and supports are secured in place and cast stone units are anchored. Do not begin sealant installation until temporary shims and spacers are removed.
   1. Provide expansion, control, and pressure-relieving joints of widths and at locations indicated.
   2. Form open joint of width indicated, but not less than 3/8 inch.

F. Prime cast stone surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.

G. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Division 07 Section "Joint Sealants."

3.4 INSTALLATION TOLERANCES

A. Variation from Plumb: Do not exceed 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.

B. Variation from Level: Do not exceed 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.

C. Variation in Joint Width: Do not vary joint thickness more than 1/8 inch in 36 inches or one-fourth of nominal joint width, whichever is less.

D. Variation in Plane between Adjacent Surfaces (Lipping): Do not vary from flush alignment with adjacent units or adjacent surfaces indicated to be flush with units by more than 1/16 inch, except due to warpage of units within tolerances specified.

3.5 ADJUSTING AND CLEANING

A. Remove and replace stained and otherwise damaged units and units not matching approved Samples. Cast stone may be repaired if methods and results are approved by Architect.

B. Replace units in a manner that results in cast stone matching approved Samples, complying with other requirements, and showing no evidence of replacement.

C. In-Progress Cleaning: Clean cast stone as work progresses.
   1. Remove mortar fins and smears before tooling joints.
   2. Remove excess sealant immediately, including spills, smears, and spatter.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed cast stone as follows:
   1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
   2. Test cleaning methods on sample; leave one sample uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of cast stone.

3. Protect adjacent surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
4. Clean cast stone by bucket-and-brush hand-cleaning method described in BIA Technical Notes No. 20.

END OF SECTION 04 72 00

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Wood blocking and nailers.

B. Related Requirements:

1. Section 061600 "Sheathing" for sheathing, subflooring, and underlayment.
2. Section 061753 "Shop-Fabricated Wood Trusses" for wood trusses made from dimension lumber.

1.3 DEFINITIONS

A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.

B. Dimension Lumber: Lumber of 2 inches nominal size or greater but less than 5 inches nominal size in least dimension.

C. Exposed Framing: Framing not concealed by other construction.

D. OSB: Oriented strand board.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

B. Fastener Patterns: Full-size templates for fasteners in exposed framing.

1.5 INFORMATIONAL SUBMITTALS

A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

B. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.
2. Engineered wood products.
3. Power-driven fasteners.
4. Post-installed anchors.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal thickness or less; 19 percent for more than 2-inch nominal thickness unless otherwise indicated.

C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.

2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.

D. Application: Treat items indicated on Drawings, and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.3 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions: Standard, Stud, or No. 3 grade.

1. Application: Interior partitions not indicated as load bearing.
2. Species:

a. Southern pine or mixed southern pine; SPIB.
b. Spruce-pine-fir; NLGA.
c. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

2.4 ENGINEERED WOOD PRODUCTS

A. Source Limitations: Obtain each type of engineered wood product from single source from a single manufacturer.

B. Parallel-Strand Lumber: Structural composite lumber made from wood strand elements with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.

1. Extreme Fiber Stress in Bending, Edgewise: 2900 psi for 12-inch nominal- depth members.
2. Modulus of Elasticity, Edgewise: 2,200,000 psi.

2.5 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Grounds.

B. Dimension Lumber Items: Construction or No. 2] grade lumber of any species.

C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.6 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: Plywood, DOC PS 1, Exterior, A-C, fire-retardant treated, in thickness indicated or, if not indicated, not less than 1/2-inch nominal thickness.

2.7 FASTENERS

A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M orof Type 304 stainless steel.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01, ICC-ES AC58, ICC-ES AC193 or ICC-ES AC308 as appropriate for the substrate.

1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.8 METAL FRAMING ANCHORS

A. Allowable design loads, as published by manufacturer, shall meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.

1. Use for interior locations unless otherwise indicated.

C. Rafter Tie-Downs (Hurricane or Seismic Ties): Bent strap tie for fastening rafters or roof trusses to wall studs below, 2-1/4 inches wide by 0.062 inch thick. Tie fits over top of rafter or truss and fastens to both sides of rafter or truss, face of top plates, and side of stud below.

2.9 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to suit width of sill members indicated.

B. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

C. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

D. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chloropyrifos as its active ingredient.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.

D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.

E. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

F. Do not splice structural members between supports unless otherwise indicated.

G. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

H. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

1. Use inorganic boron for items that are continuously protected from liquid water.
2. Use copper naphthenate for items not continuously protected from liquid water.

I. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

J. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
2. ICC-ES evaluation report for fastener.

K. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

L. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.

1. Comply with approved fastener patterns where applicable.
2. Use finishing nails unless otherwise indicated. Countersink nail heads and fill holes with wood filler.
3. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for screeding or attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 10 00

SECTION 06 10 53 – MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Rooftop equipment bases and support curbs.
   2. Wood blocking, cants, and nailers.

1.3 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.
   1. Include data for wood-preservative and fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Evaluation Reports: For the following, from ICC-ES:
   1. Preservative-treated wood.
   2. Fire-retardant-treated wood.
   3. Power-driven fasteners.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
   1. Factory mark each piece of lumber with grade stamp of grading agency.
   2. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
   1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to maximum moisture content of 19 percent.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:
   1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. General: Comply with performance requirements in AWPA C27 (plywood).

1. Use Interior Type A, unless otherwise indicated. Treated materials shall have moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity.

B. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.

C. Application: Treat items indicated on Drawings, and the following:
1. Plywood backing panels.
2. Concealed blocking.
3. Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
4. Cants.

B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.

C. For concealed boards, provide lumber with 19 percent maximum moisture content andthe following species and grades:
1. Mixed southern pine, No. 2 grade; SPIB.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified.
1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.

B. Power-Driven Fasteners: NES NER-272.

C. Screws for Fastening to Metal Framing: ASTM C 1002 for non-load-bearing steel framing and ASTM C 954 for cold-formed metal framing; length as recommended by screw manufacturer for material being fastened.

D. Bolts: Steel bolts complying with ASTM A 307, Grade A(ASTM F 568M, Property Class 4.6); with ASTM A 563(ASTM A 563M) hex nuts and, where indicated, flat washers.

2.6 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Self-adhesive rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set miscellaneous rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.

D. Do not splice structural members between supports unless otherwise indicated.

E. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

F. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
   1. NES NER-272 for power-driven fasteners.
   2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

END OF SECTION 06 10 53

SECTION 06 16 00 - SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Roof sheathing.
2. Sheathing joint and penetration treatment.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
2. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated plywood.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

A. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.

B. Factory mark panels to indicate compliance with applicable standard.

2.2 PRESERVATIVE-TREATED PLYWOOD

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.

C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

2.3 ROOF SHEATHING

A. Plywood Sheathing: Exposure 1 sheathing.

1. Span Rating: As indicated in the drawings.
2. Nominal Thickness: As indicated in the drawings

B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1 sheathing.

1. Span Rating: As indicated in the drawings.
2. Nominal Thickness: As indicated in the drawings.

2.4 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. For roof, sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Screws for Fastening Sheathing to Wood Framing: ASTM C 1002.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.

E. Coordinate sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

F. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.

B. Fastening Methods: Fasten panels as indicated below:

1. Roof Sheathing:

   a. Nail to wood framing.
   b. Space panels 1/8 inch apart at edges and ends.

END OF SECTION 06 16 00

SECTION 06 17 53 - SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Wood roof trusses.
2. Wood girder trusses.

1.3 DEFINITIONS

A. Metal-Plate-Connected Wood Trusses: Planar structural units consisting of metal-plate-connected members fabricated from dimension lumber and cut and assembled before delivery to Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For metal-plate connectors, metal truss accessories, and fasteners.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification from treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to truss fabricator.

B. Shop Drawings: Show fabrication and installation details for trusses.

1. Show location, pitch, span, camber, configuration, and spacing for each type of truss required.
2. Indicate sizes, stress grades, and species of lumber.
3. Indicate locations of permanent bracing required to prevent buckling of individual truss members due to design loads.
4. Indicate locations, sizes, and materials for permanent bracing required to prevent buckling of individual truss members due to design loads.
5. Indicate type, size, material, finish, design values, orientation, and location of metal connector plates.
6. Show splice details and bearing details.

C. Delegated-Design Submittal: For metal-plate-connected wood trusses indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Material Certificates: For dimension lumber specified to comply with minimum specific gravity. Indicate species and grade selected for each use and specific gravity.

B. Product Certificates: For metal-plate-connected wood trusses, signed by officer of truss-fabricating firm.

C. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated lumber.
2. Metal-plate connectors.
3. Metal truss accessories.

1.6 QUALITY ASSURANCE

A. Metal Connector-Plate Manufacturer Qualifications: A manufacturer that is a member of TPI and that complies with quality-control procedures in TPI 1 for manufacture of connector plates.

1. Manufacturer's responsibilities include providing professional engineering services needed to assume engineering responsibility.
2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.

B. Fabricator Qualifications: Shop that participates in a recognized quality-assurance program, complies with quality-control procedures in TPI 1, and involves third-party inspection by an independent testing and inspecting agency acceptable to Architect and authorities having jurisdiction.

C. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Handle and store trusses to comply with recommendations in SBCA BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."

1. Store trusses flat, off of ground, and adequately supported to prevent lateral bending.
2. Protect trusses from weather by covering with waterproof sheeting, securely anchored.
3. Provide for air circulation around stacks and under coverings.

B. Inspect trusses showing discoloration, corrosion, or other evidence of deterioration. Discard and replace trusses that are damaged or defective.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design metal-plate-connected wood trusses.

B. Structural Performance: Metal-plate-connected wood trusses shall be capable of withstanding design loads within limits and under conditions indicated. Comply with requirements in TPI 1 unless more stringent requirements are specified below.

1. Design Loads: As indicated.
2. Maximum Deflection under Design Loads:

a. Roof Trusses: Vertical deflection of 1/240 of span.

C. Comply with applicable requirements and recommendations of TPI 1, TPI DSB, and SBCA BCSI.

D. Wood Structural Design Standard: Comply with applicable requirements in AF&PA's "National Design Specifications for Wood Construction" and its "Supplement."

2.2 DIMENSION LUMBER

A. Lumber: DOC PS 20 and applicable rules of any rules-writing agency certified by the American Lumber Standard Committee (ALSC) Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Provide dressed lumber, S4S.
4. Provide dry lumber with **15** percent maximum moisture content at time of dressing.

B. Minimum Chord Size for Roof Trusses: 2x6 for both top and bottom chords.

C. Minimum Specific Gravity for Top Chords: 0.50.

D. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber in Section 061000 "Rough Carpentry.

2.3 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
2. For exposed trusses indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat all exterior trusses.

2.4 METAL CONNECTOR PLATES

A. General: Fabricate connector plates to comply with TPI 1.

B. Hot-Dip Galvanized-Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G60 coating designation; and not less than 0.036 inch thick.

1. Use for interior locations unless otherwise indicated.

C. Hot-Dip Heavy-Galvanized-Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.

1. Use for wood-preservative-treated lumber and where indicated.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Provide fasteners for use with metal framing anchors that comply with written recommendations of metal framing manufacturer.
2. Where trusses are exposed to weather, in ground contact, made from pressure-preservative treated wood, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

2.6 METAL FRAMING ANCHORS AND ACCESSORIES

A. Allowable design loads, as published by manufacturer, shall comply with or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.

1. Use for interior locations unless otherwise indicated.

C. Hot-Dip Heavy-Galvanized-Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.

1. Use for wood-preservative-treated lumber and where indicated.

D. Truss Tie-Downs: Bent strap tie for fastening roof trusses to top plate below, 1-1/2 inches wide by 0.050 inch thick.

2.7 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: SSPC-Paint 20, with dry film containing a minimum of 92 percent zinc dust by weight.

2.8 FABRICATION

A. Cut truss members to accurate lengths, angles, and sizes to produce close-fitting joints.

B. Fabricate metal connector plates to sizes, configurations, thicknesses, and anchorage details required to withstand design loads for types of joint designs indicated.

C. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly, with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber indicated.

1. Fabricate wood trusses within manufacturing tolerances in TPI 1.

D. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install wood trusses only after supporting construction is in place and is braced and secured.

B. If trusses are delivered to Project site in more than one piece, assemble trusses before installing.

C. Hoist trusses in place by lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss members or joints by out-of-plane bending or other causes.

D. Install and brace trusses according to TPI recommendations and as indicated.

E. Install trusses plumb, square, and true to line and securely fasten to supporting construction.

F. Space trusses as indicated; adjust and align trusses in location before permanently fastening.

G. Anchor trusses securely at bearing points; use metal truss tie-downs as applicable. Install fasteners through each fastener hole in metal framing anchors according to manufacturer's fastening schedules and written instructions.

H. Securely connect each truss ply required for forming built-up girder trusses.

1. Anchor trusses to girder trusses as indicated.

I. Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of permanent bracing where terminating at walls or beams.

1. Install and fasten strongback bracing vertically against vertical web of parallel-chord floor trusses at centers indicated.

J. Install wood trusses within installation tolerances in TPI 1.

K. Do not alter trusses in field. Do not cut, drill, notch, or remove truss members.

L. Replace wood trusses that are damaged or do not comply with requirements.

1. Damaged trusses may be repaired according to truss repair details signed and sealed by the qualified professional engineer responsible for truss design, when approved by Architect.

3.2 REPAIRS AND PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect wood trusses from weather. If, despite protection, wood trusses become wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

C. Repair damaged galvanized coatings on exposed surfaces according to ASTM A 780/A 780M and manufacturer's written instructions.

3.3 FIELD QUALITY CONTROL

A. Inspections: Owner will engage a qualified inspector to perform special inspections to verify that temporary installation restraint/bracing and the permanent individual truss member restraint/bracing are installed in accordance with the approved truss submittal package.

END OF SECTION 06 17 53

SECTION 07 11 13 - BITUMINOUS DAMPPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Cold-applied, emulsified-asphalt dampproofing.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include recommendations for method of application, primer, number of coats, coverage or thickness, and protection course.

B. Material Certificates: For each product, signed by manufacturers.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain primary dampproofing materials and primers through one source from a single manufacturer. Provide secondary materials recommended by manufacturer of primary materials.

1.5 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit dampproofing to be performed according to manufacturers' written instructions.

B. Ventilation: Provide adequate ventilation during application of dampproofing in enclosed spaces. Maintain ventilation until dampproofing has cured.

PART 2 - PRODUCTS

2.1 COLD-APPLIED, EMULSIFIED-ASPHALT DAMPPROOFING

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Degussa Building Systems; Sonneborn Brand Products.
   2. Henry Company,
   3. Karnak Corporation.
   4. Meadows, W. R., Inc.

B. Brush and Spray Coats: ASTM D 1227, Type III, Class 1.

2.2 MISCELLANEOUS MATERIALS

A. Emulsified-Asphalt Primer: ASTM D 1227, Type III, Class 1, except diluted with water as recommended by manufacturer.

B. Asphalt-Coated Glass Fabric: ASTM D 1668, Type I.

C. Protection Course, Asphalt-Board Type: Premolded, 1/8-inch- thick, multi-ply, semirigid board consisting of a mineral-stabilized asphalt core sandwiched between layers of asphalt-saturated felt, and faced on 1 side with polyethylene film.

D. Patching Compound: Manufacturer's fibered mastic of type recommended by dampproofing manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for surface smoothness and other conditions affecting performance of work.
   1. Proceed with dampproofing application only after substrate construction and penetrating work have been completed and unsatisfactory conditions have been corrected.
   2. Test for surface moisture according to ASTM D 4263.

3.2 PREPARATION

A. Protection of Other Work: Mask or otherwise protect adjoining exposed surfaces from being stained, spotted, or coated with dampproofing. Prevent dampproofing materials from entering and clogging weep holes and drains.
B. Clean substrates of projections and substances detrimental to work; fill voids, seal joints, and apply bond breakers if any, as recommended by prime material manufacturer.
C. Apply patching compound for filling and patching tie holes, honeycombs, reveals, and other imperfections; cover with asphalt-coated glass fabric.

3.3 APPLICATION, GENERAL

A. Comply with manufacturer's written recommendations unless more stringent requirements are indicated or required by Project conditions to ensure satisfactory performance of dampproofing.
   1. Apply additional coats if recommended by manufacturer or if required to achieve coverages indicated. Allow curing and drying in accordance with manufacturer’s instructions.
B. Apply dampproofing to footings and foundation walls from finished-grade line to top of footing, extend over top of footing, and down a minimum of 6 inches over outside face of footing.
   1. Extend 12 inches onto intersecting walls and footings, but do not extend onto surfaces exposed to view when Project is completed.
   2. Install flashings and corner protection stripping at internal and external corners, changes in plane, construction joints, cracks, and where shown as "reinforced," by embedding an 8-inch- wide strip of asphalt-coated glass fabric in a heavy coat of dampproofing. Dampproofing coat required for embedding fabric is in addition to other coats required.
C. Apply dampproofing to provide continuous plane of protection on exterior face of inner wythe of exterior masonry cavity walls.
   1. Lap dampproofing at least 1/4 inch onto flashing, masonry reinforcement, veneer ties, and other items that penetrate inner wythe.
   2. Extend dampproofing over outer face of structural members and concrete slabs that interrupt inner wythe, and lap dampproofing at least 1/4 inch onto shelf angles supporting veneer.
D. Apply dampproofing to provide continuous plane of protection on interior face of above-grade, exterior concrete and masonry walls unless walls are indicated to receive direct application of paint.
   1. Continue dampproofing through intersecting walls by keeping vertical mortar joints at intersection temporarily open or by delaying construction of intersecting walls until dampproofing is applied.

3.4 COLD-APPLIED, EMULSIFIED-ASPHALT DAMPPROOFING

A. On Concrete Foundations Walls: Apply two brush or spray coats at not less than 1.5 gal./100 sq. ft. for first coat and 1 gal./100 sq. ft. for second coat, one fibered brush or spray coat at not less than 3 gal./100 sq. ft., or one trowel coat at not less than 4 gal./100 sq. ft.
B. On Unparged Masonry Foundation Walls: Apply primer and one trowel coat at not less than 5 gal./100 sq. ft.
C. On Backs of Concrete Retaining Walls: Apply one brush or spray coat at not less than 1.25 gal./100 sq. ft.

3.5 INSTALLATION OF PROTECTION COURSE

A. Where indicated, install protection course over completed-and-cured dampproofing. Comply with dampproofing material manufacturer's written recommendations for attaching protection course. Support protection course with spot application of trowel-grade mastic where not otherwise indicated.

3.6 CLEANING

A. Remove dampproofing materials from surfaces not intended to receive dampproofing.

END OF SECTION 07 11 13

SECTION 07 13 26 - SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Modified bituminous self-adhering sheet waterproofing.

1.3 SUBMITTALS

A. Product Data: Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties of waterproofing.

B. Shop Drawings: Show locations and extent of waterproofing. Include details for substrate joints and cracks, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.
   1. Include setting drawings showing layout, sizes, sections, profiles, and joint details of pedestal-supported concrete pavers.

C. Samples: For the following products:
   1. 12-by-12-inch square of waterproofing and flashing sheet.

D. Installer Certificates: Signed by manufacturers certifying that installers comply with requirements.

E. Qualification Data: For Installer.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for waterproofing.

G. Warranties: Special warranties specified in this Section.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A firm that is approved or licensed by waterproofing manufacturer for installation of waterproofing required for this Project.

B. Source Limitations: Obtain waterproofing materials through one source from a single manufacturer.

C. Preinstallation Conference: Conduct conference at Project site.
   1. Review waterproofing requirements including surface preparation, substrate condition and pretreatment, minimum curing period, forecasted weather conditions, special details and sheet flashings, installation procedures, testing and inspection procedures, and protection and repairs.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver liquid materials to Project site in original packages with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by waterproofing manufacturer.

C. Remove and replace liquid materials that cannot be applied within their stated shelf life.

D. Store rolls according to manufacturer's written instructions.

E. Protect stored materials from direct sunlight.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Apply waterproofing within the range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a damp or wet substrate.
   1. Do not apply waterproofing in snow, rain, fog, or mist.

B. Maintain adequate ventilation during preparation and application of waterproofing materials.

1.7 WARRANTY

A. Special Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to replace waterproofing material that does not comply with requirements or that fails to remain watertight within specified warranty period.
   1. Failure includes, but is not limited to, failure of waterproofing due to failure of substrate prepared and treated according to requirements or formation of new joints and cracks in substrate exceeding 1/16 inch in width.
   2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MODIFIED BITUMINOUS SHEET WATERPROOFING

A. Modified Bituminous Sheet: 60-mil- thick, self-adhering sheet consisting of 56 mils of rubberized asphalt laminated to a 4-mil- thick, polyethylene film with release liner on adhesive side and formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. American Hydrotech, Inc.; VM 75.
      b. Carlisle Coatings & Waterproofing Inc.; CCW MiraDRI 860/861
      c. CETCO Building Materials Group; Envirosheet.
      d. Grace, W. R. & Co.; Bituthene 3000 or 4000, depending on application.
      e. Henry Company; Blueskin WP 200.
      f. Meadows, W. R., Inc.; SealTight Mel-Rol.
      g. Pecora Corporation; Duramem 700-SM.
      h. Polyguard Products, Inc.; Polyguard 650
      i. Tamko Roofing Products, Inc.; TW-60.

2. Physical Properties:
   a. Tensile Strength: 250 psi minimum; ASTM D 412, Die C, modified.
   b. Ultimate Elongation: 300 percent minimum; ASTM D 412, Die C, modified.
   c. Low-Temperature Flexibility: Pass at minus 20 deg F; ASTM D 1970.
   d. Crack Cycling: Unaffected after 100 cycles of 1/8-inch movement; ASTM C 836.
   e. Puncture Resistance: 40 lbf minimum; ASTM E 154.
   f. Hydrostatic-Head Resistance: 150 feet minimum; ASTM D 5385.
   g. Water Absorption: 0.15 percent weight-gain maximum after 48-hour immersion at 70 deg F; ASTM D 570.
   h. Vapor Permeance: 0.05 perms; ASTM E 96, Water Method.

2.2 AUXILIARY MATERIALS

A. General: Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with sheet waterproofing.
   1. Furnish liquid-type auxiliary materials that comply with VOC limits of authorities having jurisdiction.

B. Primer: Liquid primer recommended for substrate by manufacturer of sheet waterproofing material.

C. Surface Conditioner: Liquid, waterborne surface conditioner recommended for substrate by manufacturer of sheet waterproofing material.

D. Liquid Membrane: Elastomeric, two-component liquid, cold fluid applied, trowel grade or low viscosity.

E. Substrate Patching Membrane: Low-viscosity, two-component, asphalt-modified coating.

F. Sheet Strips: Self-adhering, rubberized-asphalt sheet strips of same material and thickness as sheet waterproofing.

G. Mastic, Adhesives, and Tape: Liquid mastic and adhesives, and adhesive tapes recommended by waterproofing manufacturer.
   1. Detail Tape: Two-sided, pressure-sensitive, self-adhering reinforced tape, 4-1/2 inches wide, with a tack-free protective adhesive coating on one side and release film on self-adhering side.
   2. Detail Strips: 62.5-mil- thick, felt-reinforced self-adhesive strip, 9 inches wide, with release film on adhesive side.

H. Metal Termination Bars: Aluminum bars, approximately 1 by 1/8 inch thick, predrilled at 9-inch centers.

2.3 INSULATION

A. Board Insulation: Extruded-polystyrene board insulation complying with ASTM C 578, square or shiplap edged.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Diversifoam Products.
      b. Dow Chemical Company (The).
      c. Owens Corning.
      d. Pactiv Building Products.

2. Board Insulation Type: Provide one of the following in accordance with waterproofing manufacturer's recommendations for application:
   a. Type IV, 25-psi minimum compressive strength.
   b. Type VI, 40-psi minimum compressive strength.
   c. Type VII, 60-psi minimum compressive strength.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.
   1. Verify that concrete has cured and aged for minimum time period recommended by waterproofing manufacturer.
   2. Verify that concrete is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
   3. Verify that compacted subgrade is dry, smooth, and sound; and ready to receive adhesive-coated HDPE sheet.
   4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

A. Clean, prepare, and treat substrates according to manufacturer's written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.

B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.

C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.

D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids.

E. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks according to ASTM D 4258.
   1. Install sheet strips and center over treated construction and contraction joints and cracks exceeding a width of 1/16 inch.

F. Bridge and cover isolation joints, expansion joints and discontinuous deck-to-wall and deck-to-deck joints with overlapping sheet strips.
   1. Invert and loosely lay first sheet strip over center of joint. Firmly adhere second sheet strip to first and overlap to substrate.

G. Corners: Prepare, prime, and treat inside and outside corners according to ASTM D 6135.
   1. Install membrane strips centered over vertical inside corners. Install 3/4-inch fillets of liquid membrane on horizontal inside corners and as follows:
      a. At footing-to-wall intersections, extend liquid membrane each direction from corner or install membrane strip centered over corner.

H. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions according to ASTM D 6135.

3.3 MODIFIED BITUMINOUS SHEET WATERPROOFING APPLICATION

A. Install modified bituminous sheets according to waterproofing manufacturer's written instructions and according to recommendations in ASTM D 6135.

B. Apply primer to substrates at required rate and allow to dry. Limit priming to areas that will be covered by sheet waterproofing in same day. Reprime areas exposed for more than 24 hours.

C. Apply and firmly adhere sheets over area to receive waterproofing. Accurately align sheets and maintain uniform 2-1/2-inch- minimum lap widths and end laps. Overlap and seal seams and stagger end laps to ensure watertight installation.
   1. When ambient and substrate temperatures range between 25 and 40 deg F, install self-adhering, modified bituminous sheets produced for low-temperature application. Do not use low-temperature sheets if ambient or substrate temperature is higher than 60 deg F.

D. Two-Ply Application: Install sheets to form a membrane with lap widths not less than 50 percent of sheet widths to provide a minimum of 2 thicknesses of sheet membrane over areas to receive waterproofing.

E. Horizontal Application: Apply sheets from low point to high point of decks to ensure that side laps shed water.

F. Apply continuous sheets over sheet strips bridging substrate cracks, construction, and contraction joints.

G. Seal exposed edges of sheets at terminations not concealed by metal counterflashings or ending in reglets with mastic.

H. Install sheet waterproofing and auxiliary materials to tie into adjacent waterproofing.

I. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending 6 inches beyond repaired areas in all directions.

J. Correct deficiencies in or remove sheet waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.

3.4 INSULATION INSTALLATION

A. Install one or more layers of board insulation to achieve required thickness over waterproofed surfaces. Cut and fit to within 3/4 inch of projections and penetrations.

B. On vertical surfaces, set insulation units in adhesive or tape applied according to manufacturer's written instructions.

C. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

3.5 FIELD QUALITY CONTROL

A. Engage a full-time site representative qualified by waterproofing membrane manufacturer to inspect substrate conditions; surface preparation; membrane application, flashings, and protection components; and to furnish daily reports to Architect.

3.6 PROTECTION AND CLEANING

A. Do not permit foot or vehicular traffic on unprotected membrane.

B. Protect waterproofing from damage and wear during remainder of construction period.

C. Protect installed board insulation from damage due to UV light, harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where insulation will be subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

D. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 13 26

SECTION 07 31 13 - ASPHALT SHINGLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Asphalt shingles.
   2. Self-adhering sheet underlayment.
   3. Ridge vents.

B. Related Sections include the following:
   1. Division 06 Section "Sheathing" for roof deck wood structural panels.

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For the following products, of sizes indicated, to verify color selected.
   1. Asphalt Shingle: Full-size asphalt shingle strip.
   2. Ridge and Hip Cap Shingles: Full-size ridge and hip cap asphalt shingle.
   3. Ridge Vent: 12-inch- long Sample.
   4. Self-Adhering Underlayment: 12 inches square.

C. Qualification Data: For Installer, including certificate signed by asphalt shingle manufacturer stating that Installer is approved, authorized, or licensed to install roofing system indicated.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by qualified testing agency or by manufacturer (witnessed by qualified testing agency), for asphalt shingles.

E. Research/Evaluation Reports: For asphalt shingles.

F. Maintenance Data: For asphalt shingles to include in maintenance manuals.

G. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual that is approved, authorized, or licensed by asphalt shingle roofing system manufacturer to install roofing system indicated.

B. Fire-Test-Response Characteristics: Provide asphalt shingle and related roofing materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
   1. Exterior Fire-Test Exposure: Class A; ASTM E 108 or UL 790, for application and roof slopes indicated.

C. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 01 Section “Project Management and Coordination”. Review methods and procedures related to roofing system including, but not limited to, the following:
   1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and

installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store roofing materials in a dry, well-ventilated, weathertight location according to asphalt shingle manufacturer's written instructions. Store underlayment rolls on end on pallets or other raised surfaces. Do not double-stack rolls.
   1. Handle, store, and place roofing materials in a manner to avoid significant or permanent damage to roof deck or structural supporting members.

B. Protect unused underlayment from weather, sunlight, and moisture when left overnight or when roofing work is not in progress.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit asphalt shingle roofing to be performed according to manufacturer's written instructions and warranty requirements.
   1. Install self-adhering sheet underlayment within the range of ambient and substrate temperatures recommended by manufacturer.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials or workmanship within specified warranty period. Materials failures include manufacturing defects and failure of asphalt shingles to self-seal after a reasonable time.
   1. Material Warranty Period: 30 years (minimum) from date of Substantial Completion, prorated, with first five years nonprorated.

B. Special Project Warranty: Roofing Installer's warranty, on warranty form at end of this Section, signed by roofing Installer, covering Work of this Section, in which roofing Installer agrees to repair or replace components of asphalt shingle roofing that fail in materials or workmanship within the following warranty period:
   1. Warranty Period: Two years from date of Substantial Completion.

1.9 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Asphalt Shingles: 100 sq. ft. of each type, in unbroken bundles.

PART 2 - PRODUCTS

2.1 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

A. Laminated-Strip Asphalt Architectural Luxury Shingles: ASTM D 3462 and ASTM D 3018, Class 1, laminated, multi-ply overlay construction, glass-fiber reinforced, mineral-granule surfaced, and self-sealing.
   1. Products: Subject to compliance with requirements, provide products by one of the following:
      a. CertainTeed Corporation; Grand Master Shingle.
      b. Hanson; Grand Master Shangle.
      c. GAF Materials Corporation; Country Mansion.
   2. Strip Size: Manufacturer's standard.
   3. Algae Resistance: Granules treated to resist algae discoloration.
   4. Color and Blends: As selected by Architect from manufacturer's full range.

B. Hip and Ridge Shingles: Manufacturer's standard units to match asphalt shingles.

2.2 UNDERLAYMENT MATERIALS

A. Self-Adhering Sheet Underlayment, Polyethylene Faced: ASTM D 1970, minimum of 40-mil- thick, slip-resisting, polyethylene-film-reinforced top surface laminated to SBS-modified asphalt adhesive, with release paper backing; cold applied.
   1. Basis of Design Product: The design for self-adhering sheet underlayment is based on Ice and Water Shield by Grace Construction Products. Subject to compliance with requirements, provide the named product or a comparable product by one of the following manufacturers, as approved by Architect:
      a. Carlisle Coatings & Waterproofing, Div. of Carlisle Companies Inc.
      b. Henry Company.
      c. Johns Manville, A Berkshire Hathaway Company.
      d. Owens Corning.

2.3 RIDGE VENTS

A. Rigid Ridge Vent: Manufacturer's standard rigid section high-density polypropylene or other UV-stabilized plastic ridge vent with nonwoven geotextile filter strips; for use under ridge shingles.

2.4 ACCESSORIES

A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.

B. Roofing Nails: ASTM F 1667; aluminum, stainless-steel, copper, or hot-dip galvanized steel wire shingle nails, minimum 0.120-inch- diameter, barbed shank, sharp-pointed, with a minimum 3/8-inch- diameter flat head and of sufficient length to penetrate 3/4 inch into solid wood decking or extend at least 1/8 inch through OSB or plywood sheathing.
   1. Where nails are in contact with metal flashing, use nails made from same metal as flashing.

2.5 METAL FLASHING AND TRIM

A. Sheet Metal Flashing and Trim: Comply with requirements in Division 07 Section "Sheet Metal Flashing and Trim."

B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item.

C. Vent Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof and extending at least 4 inches from pipe onto roof.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer and Manufacturer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
   1. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
   2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored; and that provision has been made for flashings and penetrations through asphalt shingles.
B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free, on roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install at locations indicated, lapped in direction to shed water. Lap sides not less than 3-1/2 inches. Lap ends not less than 6 inches staggered 24 inches between courses. Roll laps with roller. Cover underlayment within seven days.

3.3 METAL FLASHING INSTALLATION

A. General: Install metal flashings and other sheet metal to comply with requirements in Division 07 Section "Sheet Metal Flashing and Trim."
   1. Install metal flashings according to recommendations in ARMA's "Residential Asphalt Roofing Manual" and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."
B. Apron Flashings: Extend lower flange over and beyond each side of downslope asphalt shingles and up the vertical surface.
C. Step Flashings: Install with a headlap of 2 inches and extend over the underlying asphalt shingle and up the vertical surface. Fasten to roof deck only.
D. Open Valley Flashings: Install centrally in valleys, lapping ends at least 8 inches in direction to shed water. Fasten upper end of each length to roof deck beneath overlap.
   1. Secure hemmed flange edges into metal cleats spaced 12 inches apart and fastened to roof deck.
E. Rake Drip Edges: Install rake drip edge flashings over underlayment and fasten to roof deck.
F. Eave Drip Edges: Install eave drip edge flashings below underlayment and fasten to roof sheathing.
G. Pipe Flashings: Form flashing around pipe penetrations and asphalt shingles. Fasten and seal to asphalt shingles as recommended by manufacturer.

3.4 ASPHALT SHINGLE INSTALLATION

A. Install asphalt shingles according to manufacturer's written instructions, recommendations in ARMA's "Residential Asphalt Roofing Manual," and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."
B. Install starter strip along lowest roof edge, consisting of an asphalt shingle strip with tabs removed with self-sealing strip face up at roof edge.
   1. Extend asphalt shingles 3/4 inch over fascia at eaves and rakes.
   2. Install starter strip along rake edge.
C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.
D. Fasten asphalt shingle strips with a minimum of six roofing nails located according to manufacturer's written instructions.
   1. Where roof slope is less than 4:12, seal asphalt shingles with asphalt roofing cement spots.

2. When ambient temperature during installation is below 50 deg F, seal asphalt shingles with asphalt roofing cement spots.

E. Closed-Cut Valleys: Extend asphalt shingle strips from one side of valley 12 inches beyond center of valley. Use one-piece shingle strips without joints in the valley. Fasten with extra nail in upper end of shingle. Install asphalt shingle courses from other side of valley and cut back to a straight line 2 inches short of valley centerline. Trim upper concealed corners of cut-back shingle strips.
   1. Do not nail asphalt shingles within 6 inches of valley center.
   2. Set trimmed, concealed-corner asphalt shingles in a 3-inch- wide bed of asphalt roofing cement.

F. Ridge Vents: Install continuous ridge vents over asphalt shingles according to manufacturer's written instructions. Fasten with roofing nails of sufficient length to penetrate sheathing.

G. Ridge and Hip Cap Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.
   1. Fasten ridge cap asphalt shingles to cover ridge vent without obstructing airflow.

SECTION CONTINUES

3.5 ROOFING INSTALLER'S WARRANTY

A. WHEREAS_____<Insert name> of _____ <Insert address>, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
   1. Owner: _____
   2. Address: _____
   3. Building Name/Type: _____
   4. Address: _____
   5. Area of Work: _____
   6. Acceptance Date: _____
   7. **Warranty Period: 2 years from date of Substantial Completion.**
   8. Expiration Date: _____

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:
   1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
      a. lightning;
      b. peak gust wind speed exceeding 90 mph;
      c. fire;
      d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
      e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
      f. vapor condensation on bottom of roofing; and
      g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
   2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
   3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
   4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
   5. During Warranty Period, if original use of roof is changed, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.

6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____<Insert day> day of _____<Insert month>, 20__.
1. Authorized Signature: _____
2. Name: _____
3. Title: _____

END OF SECTION 07 31 13

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following sheet metal flashing and trim:
   1. Formed wall flashing and trim.

B. Related Sections include the following:
   1. Division 4 Section "Unit Masonry Assemblies" for installing through-wall flashing, reglets, and other sheet metal flashing and trim.
   2. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.
   3. Division 07 Section "Joint Sealants" for field-applied sheet metal flashing and trim sealants.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop- and field-assembled work. Include the following:
   1. Identify material, thickness, weight, and finish for each item and location in Project.
   2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
   3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
   4. Manufacturer’s maintenance data for Closeout Submittals.

C. Samples: For each exposed product and for each color and texture specified.

1.4 QUALITY ASSURANCE

A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.

B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

1.6 COORDINATION

A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation.

1.7 WARRANTY

A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

C. Fabricate and install sheet metal flashing and trim capable of resisting the following forces according to recommendations in FMG Loss Prevention Data Sheet 1-49:

1. Wind Zone: As indicated on Drawings.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

E. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

2.2 SHEET METALS

A. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required.

1. Exposed Coil-Coated Finish:
   a. High-Performance Organic Finish: Three-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat.
2. Color: As selected by Architect from manufacturer's full range (standard and custom).
3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

2.3 UNDERLAYMENT MATERIALS

A. Polyethylene Sheet: 6-mil- thick polyethylene sheet complying with ASTM D 4397.

B. Felts: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.

C. Slip Sheet: Rosin-sized paper, minimum 3-lb/100 sq. ft.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
   a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
   b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
2. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.

C. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.

D. Elastomeric Sealant: ASTM C 920, elastomeric siliconepolymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.

F. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

G. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.5 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.

B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.

C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

D. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.

E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.

G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

1. Aluminum: Use aluminum or stainless steel fasteners.

H. Seal joints with elastomeric sealant as required for watertight construction.

1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F, set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
2. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."

I. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual" and FMG Loss Prevention Data Sheet 1-49 for application but not less than thickness of metal being secured.

2.6 MISCELLANEOUS SHEET METAL FABRICATIONS

A. Equipment Support Flashing: Fabricate from the following material:

1. Aluminum: 0.040 inch thick

2.7 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.

1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Torch cutting of sheet metal flashing and trim is not permitted.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.

1. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene underlayment.
2. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.

C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.

D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.

E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

1. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.

F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.

G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

1. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329 or Series 300 stainless steel.

H. Seal joints with elastomeric sealant as required for watertight construction.

1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F, set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
2. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."

3.3 WALL FLASHING INSTALLATION

A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
B. Reglets: Installation of reglets is specified in Division 4 Section "Unit Masonry Assemblies."

3.4 MISCELLANEOUS FLASHING INSTALLATION

A. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

3.5 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
B. Clean and neutralize flux materials. Clean off excess solder and sealants.
C. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 62 00

SECTION 07 71 00 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following manufactured roof specialties:
   1. Copings.
   2. Roof edge flashings.
   3. Roof edge drainage systems.

1.3 PERFORMANCE REQUIREMENTS

A. General: Manufacture and install manufactured roof specialties to resist thermally induced movement and exposure to weather without failing, rattling, leaking, and fastener disengagement.

B. FMG Listing: Manufacture and install copings and roof edge flashings that are listed in FMG's "Approval Guide" and approved for Windstorm Classification, Class 1-90. Identify materials with FMG markings.

C. Thermal Movements: Provide manufactured roof specialties that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

D. Water Infiltration: Provide manufactured roof specialties that do not allow water infiltration to building interior.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: Show layouts of manufactured roof specialties, including plans and elevations. Identify factory- vs. field-assembled work. Include the following:
   1. Details for fastening, joining, supporting, and anchoring manufactured roof specialties including fasteners, clips, cleats, and attachments to adjoining work.
   2. Details for expansion and contraction.

C. Samples: For each type of exposed factory-applied color finish required and for each type of roof accessory indicated, prepared on Samples of size to adequately show color.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, verifying compliance of copings and roof edge flashings with performance requirements.

E. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

A. Product Options: Information on Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.
   1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

1.6 COORDINATION

A. Coordinate installation of manufactured roof specialties with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation.

1.7 WARRANTY

A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace manufactured roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.
   1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
   2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following manufacturers.
   1. ATAS International, Inc.
   2. Cheney Flashing Company.
   3. Hickman, W. P. Company.
   4. MM Systems Corporation.
   5. Petersen Aluminum Corp.

2.2 EXPOSED METALS

A. Aluminum Sheet: ASTM B 209, alloy and temper recommended by manufacturer for use and finish indicated, finished as follows:
   1. Surface: Smooth, flat finish.
   2. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with AAMA 2604 and containing not less than 50 percent PVDF resin by weight in color coat.
      a. Color: As selected by Architect.

2.3 CONCEALED METALS

A. Aluminum Sheet: ASTM B 209, alloy and temper recommended by manufacturer for use and structural performance indicated, mill finished.

B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by manufacturer for type of use and structural performance indicated, mill finished.

C. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304.

D. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, separators, sealants, and other miscellaneous items required by manufacturer for a complete installation.

B. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.
   1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.

C. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

D. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.

E. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

F. Polyethylene Sheet: 6-mil- thick polyethylene sheet complying with ASTM D 4397.

G. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
   1. Slip Sheet: Rosin-sized paper, minimum 3 lb/100 sq. ft..

2.5 COPINGS

A. Copings: Manufactured coping system consisting of formed-metal coping cap in section lengths not exceeding 12 feet, concealed anchorage, concealed splice plates with same finish as coping caps, mitered corner units, and end cap units.
   1. Coping Caps: Face leg hooked to continuous cleat with back leg fastener exposed, fabricated from the following exposed metal:
      a. Aluminum: 0.050 inch thick.
   2. Corners: Continuously welded.
   3. Snap-on Coping Anchor Plates: Concealed, galvanized steel sheet, 12 inches wide, 0.028 inch thick, with integral cleats.
   4. Face Leg Cleats: Concealed, continuous galvanized steel sheet.

2.6 ROOF EDGE FLASHINGS

A. Roof Edge Fascia: Manufactured, two-piece, roof edge fascia consisting of snap-on metal fascia cover in section lengths not exceeding 12 feet and a continuous formed- or extruded-aluminum anchor bar with integral drip edge cleat to engage fascia cover. Provide matching mitered and welded corner units.
   1. Fascia Cover: Fabricated from the following exposed metal:
      a. Formed Aluminum: 0.050 inch thick.
   2. Fascia Cover Color: As selected by Architect from manufacturer's full range.
   3. Splice Plates: Concealed, of same material, finish, and shape as fascia cover.
   4. Fascia Accessories: Wall cap.

B. Gravel Stops: Manufactured, one-piece, formed-metal gravel stop in section lengths not exceeding 12 feet, with a horizontal flange and vertical leg fascia terminating in a drip edge, continuous hold-down cleat, and concealed splice plates of same material, finish, and shape as gravel stop. Provide mitered and welded or soldered corner units.
   1. Fabricate from the following exposed metal:
      a. Aluminum: 0.050 inch thick.
   2. Color: As selected by Architect from manufacturer's full range.
   3. Accessories: Fascia extenders with continuous hold-down cleats.

2.7 ROOF EDGE DRAINAGE SYSTEMS

A. Gutters and Downspouts: Manufactured formed gutter in uniform section lengths not exceeding 12 feet, with mitered and welded or soldered corner units, end caps, outlet tubes, and other accessories. Elevate back edge at least 1 inch above front gutter rim. Furnish with flat-stock gutter straps and gutter support brackets and expansion joints and expansion-joint covers fabricated from same metal as gutters.
   1. Fabricate gutter from the following exposed metal:
      a. Aluminum: 0.040 inch thick.
   2. Gutter Style: In shape and size indicated on Drawings and in accordance to SMACNA's "Architectural Sheet Metal Manual."
   3. Applied Fascia Cover: Exposed, formed aluminum, 0.040 inch thick, with mitered corners, end caps, and concealed splice joints.
   4. Gutter Accessories: Continuous removable leaf screen with sheet metal frame and wire ball downspout strainer.
   5. Downspouts: Rectangular with mitered elbows, manufactured from the following exposed metal. Furnish wall brackets, from same material and finish as downspouts, with anchors.
      a. Formed Aluminum: 0.040 inch thick.

B. Conductor Heads: Manufactured conductor heads with flanged back and stiffened top edge and of dimensions and shape indicated complete with outlet tubes, exterior flange trim.
   1. Fabricate conductor heads from the following exposed metal:
      a. Aluminum: 0.0320 inch thick.

2.8 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION (Not Applicable)

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of work.
   1. Examine walls, roof edges, and parapets for suitable conditions for manufactured roof specialties.
   2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
   3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install manufactured roof specialties according to manufacturer's written instructions. Anchor manufactured roof specialties securely in place and capable of resisting forces specified in performance requirements. Use fasteners, separators, sealants, and other miscellaneous items as required to complete manufactured roof specialty systems.
   1. Install manufactured roof specialties with provisions for thermal and structural movement.
   2. Torch cutting of manufactured roof specialties is not permitted.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
   1. Coat concealed side of uncoated aluminum manufactured roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
   2. Underlayment: Where installing exposed-to-view components of manufactured roof specialties directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene underlayment.
   3. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.

C. Install manufactured roof specialties level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil-canning, buckling, or tool marks.

D. Install manufactured roof specialties to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.

E. Expansion Provisions: Provide for thermal expansion of exposed manufactured roof specialties. Space movement joints at a maximum of 12 feet with no unplanned joints within 18 inches of corners or intersections.

F. Fasteners: Use fasteners of type and size recommended by manufacturer but of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

G. Seal joints with elastomeric sealant as required by manufacturer of roofing specialties.

3.3 COPING INSTALLATION

A. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor copings to resist uplift and outward forces according to performance requirements.
   1. Interlock face and back leg drip edges into continuous cleats anchored to substrate at 16-inch centers.
   2. Interlock face leg drip edge into continuous cleat anchored to substrate at 16-inch centers. Anchor back leg of coping with screw fasteners and elastomeric washers at 16-inch centers.

3.4 ROOF EDGE FLASHING INSTALLATION

A. Install cleats, cant dams, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor roof edgings to resist uplift and outward forces according to performance requirements.

3.5 ROOF EDGE DRAINAGE SYSTEM INSTALLATION

A. General: Install gutters, downspouts and conductor heads to produce a complete roof drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof drainage system.

B. Gutters: Join and seal gutter lengths. Attach gutters to firmly anchored gutter brackets or straps spaced not more than 36 inches apart. Slope gutters to downspouts.
   1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet apart. Install expansion joint caps.
   2. Install continuous gutter screens on gutters with noncorrosive fasteners, removable for cleaning gutters.

C. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c. in between.
   1. Provide elbows at base of downspout to direct water away from building.
   2. Connect downspouts to underground drainage system indicated.

D. Conductor Heads: Anchor securely to wall with elevation of conductor head rim 1 inch below scupper or gutter discharge.

3.6 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as manufactured roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.

D. Replace manufactured roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 07 71 00

SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes joint sealants for the following applications, including those specified by reference to this Section:
   1. Exterior and Interior joints in vertical surfaces and horizontal nontraffic surfaces.
   2. Exterior and Interior joints in horizontal traffic surfaces.

1.3 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.

E. Qualification Data: For testing agency.

F. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing specified in "Quality Assurance" Article.

G. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
   1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
   2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

H. Field Test Report Log: For each elastomeric sealant application.

I. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.

J. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F.

1.6 WARRANTY

A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Five years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.

B. VOC Content of Interior Sealants: Provide interior sealants and sealant primers that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
   1. Sealants: 250 g/L.
   2. Sealant Primers for Nonporous Substrates: 250 g/L.
   3. Sealant Primers for Porous Substrates: 775 g/L.

C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.3 ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

C. Suitability for Immersion in Liquids. Where elastomeric sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247 and qualify for the length of exposure indicated by reference to ASTM C 920 for Class 1 or 2. Liquid used for testing sealants is deionized water, unless otherwise indicated.

D. Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

E. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 100/50; for Use NT.
   1. Products:
      a. Dow Corning Corporation; 790.
      b. Momentive (formerly GE Advanced Materials) - Silicones; SilPruf LM SCS2700.
      c. Pecora 890NST/890FTS.
      d. Tremco; Spctrem 1.

F. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 50; for Use NT.
   1. Products for Glazing:
      a. Dow Corning Corporation; 795.
      b. Momentive (formerly GE Advanced Materials); 2000.
      c. Pecora 895NST.

G. Multicomponent, nonsag, urethane sealant, ASTM C 920, Type M, Grade NS, Class 25, for Use T.
   1. Products:
      a. Pecora Corporation; Dynatred.
      b. Sika Corporation, Construction Products Division; Sikaflex - 2c NS.
      c. Tremco Incorporated; Vulkem 227.

2.4 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
   1. Products:
      a. Pecora Corporation; AC-20+.
      b. Schnee-Morehead, Inc.; SM 8200.
      c. Tremco Incorporated; Tremflex 834.

2.5 ACOUSTICAL JOINT SEALANTS

A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
   1. Products:
      a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.
      b. United States Gypsum Co.; SHEETROCK Acoustical Sealant.

2.6 PREFORMED JOINT SEALANTS

A. Preformed Silicone Sealant System: Manufacturer’s standard consisting of precured low-modulus silicone extrusion, in sizes to fit joint widths indicated, combined with a neutral-curing silicone sealant for bonding extrusions to substrates.
   1. Products:
      a. Dow Corning Corporation; 123 Silicone Seal.
      b. Momentive (formerly GE Silicones); UltraSpan US1100.
      c. Pecora Corporation; Sil-Span.

2.7 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin); Type B (bicellular material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.8 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of type recommended by manufacturer to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.

2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint configuration per Figure 8A in ASTM C 1193, unless otherwise indicated.

G. Installation of Preformed Silicone-Sealant System: Comply with the following requirements:
1. Apply masking tape to each side of joint, outside of area to be covered by sealant system.
2. Apply silicone sealant to each side of joint to produce a bead of size complying with preformed silicone-sealant system manufacturer's written instructions and covering a bonding area of not less than 3/8 inch. Hold edge of sealant bead 1/4 inch inside masking tape.
3. Within 10 minutes of sealant application, press silicone extrusion into sealant to wet extrusion and substrate. Use a roller to apply consistent pressure and ensure uniform contact between sealant and both extrusion and substrate.
4. Complete installation of sealant system in horizontal joints before installing in vertical joints. Lap vertical joints over horizontal joints. At ends of joints, cut silicone extrusion with a razor knife.

H. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT SEALANT SCHEDULE

A. General: Provide Joint-Sealant Applications as applicable for conditions indicated on Drawings.

B. Joint-Sealant Application: Exterior vertical control and expansion joints in unit masonry, exterior joints in vertical surfaces, and horizontal nontraffic surfaces.
   1. Joint Sealant: Single Component silicone sealant.
   2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

C. Joint-Sealant Application: Joints in glazed nontraffic surfaces.
   1. Joint Sealant: Single Component nonsag silicone sealant.
   2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

D. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
   1. Joint Sealant: Multicomponent nonsag urethane sealant.
   2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

E. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.
   1. Joint Sealant: Acoustical sealant.
   2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

F. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces, interior perimeter joints of exterior openings, and perimeter joints between interior wall surfaces and frames of interior doors, windows, and elevator entrances.
   1. Joint Sealant: Latex sealant.
   2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION 07 92 00

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Hollow-metal steel doors.
   2. Hollow-metal steel frames.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings.

1.4 SUBMITTALS

A. Product Data: Include construction details, material descriptions, core descriptions, label compliance, fire-resistance and temperature-rise ratings, and finishes for each type of steel door and frame specified.

B. Shop Drawings: In addition to requirements below, provide a schedule of standard steel doors and frames using same reference numbers for details and openings as those on Drawings:
   1. Elevations of each door design.
   2. Details of doors, including vertical and horizontal edge details.
   3. Details and locations of door reinforcement and preparations for hardware.
   4. Frame details for each frame type, including dimensioned profiles.
   5. Details of each different wall opening condition.
   6. Details of conduit and preparations for electrified door hardware and controls.

C. Coordination Drawings: Drawings of each opening, including door and frame, drawn to scale and coordinating door hardware. Show elevations of each door design type, showing dimensions, locations of door hardware, and preparations for power, signal, and electrified control systems.

D. Product Test Reports: Based on evaluation of comprehensive fire tests performed by a qualified testing agency, for each type of standard steel door and frame.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency qualified according to ASTM E 329 for testing indicated, as documented according to ASTM E 548.

B. Source Limitations: Obtain standard steel doors and frames through one source from a single manufacturer.

C. Fire-Rated Door, Sidelight, and Transom Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated.
   1. Test Pressure: Test according to NFPA 252 or UL 10C. After 5 minutes into the test, the neutral pressure level in furnace shall be established at 40 inches or less above the sill.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver doors and frames palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store doors and frames under cover at Project site. Place units in a vertical position with heads up, spaced by blocking, on minimum 4-inch- high wood blocking. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber.
   1. If wrappers on doors become wet, remove cartons immediately. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify openings by field measurements before fabrication and indicate measurements on Shop Drawings.
   1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating standard steel frames without field measurements. Coordinate wall construction to ensure that actual opening dimensions correspond to established dimensions.

1.8 COORDINATION

A. Coordinate installation of anchorages for standard steel frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Amweld Building Products, LLC.
   2. Ceco Door Products; an ASSA ABLOY Group Company.
   3. Curries Company; an ASSA ABLOY Group Company.
   4. Karpen Steel Custom Doors & Frames.
   5. Steelcraft; an Allegion Company.

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum A60 zinc-iron-alloy (galvannealed) coating designation.
D. Supports and Anchors: After fabricating, galvanize units to be built into exterior walls according to ASTM A 153/A 153M, Class B.
E. Inserts, Bolts, and Fasteners: Provide items to be built into exterior walls, hot-dip galvanized according to ASTM A 153/A 153M.
F. Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching standard steel door frames of type indicated.
G. Grout: Comply with ASTM C 476, with a slump of 4 inches for standard steel door frames built into concrete or masonry, as measured according to ASTM C 143/C 143M.

H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with 6- to 12-lb/cu. ft. density; with maximum flame-spread and smoke-developed indexes of 25 and 50 respectively; passing ASTM E 136 for combustion characteristics.

I. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.3 STANDARD STEEL DOORS

A. General: Provide doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces, unless otherwise indicated. Comply with ANSI A250.8.
   1. Design: Flush panel.
   2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, mineral-board, or vertical steel-stiffener core that produces doors complying with ANSI A250.8.
      a. Fire Door Core: As required to provide fire-protection ratings indicated.
      b. Thermal-Rated (Insulated) Doors: Where indicated, provide doors fabricated with thermal-resistance value (R-value) of not less than 4.0 deg F x h x sq. ft./Btu when tested according to ASTM C 1363.
         1) Locations: Exterior doors, where indicated.
   3. Vertical Edges for Single-Acting Doors: Beveled edge.
      a. Beveled Edge: 1/8 inch in 2 inches.
   4. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- thick end closures or channels of same material as face sheets.
   5. Tolerances: Comply with SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."

B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheet. Provide doors complying with requirements indicated below by referencing ANSI A250.8 for level and model and ANSI A250.4 for physical-endurance level:
   1. Level 3 and Physical Performance Level A (Extra Heavy Duty), Model 2 (Seamless) 0.053-inch thick faces.

C. Hardware Reinforcement: Fabricate reinforcement plates from same material as door face sheets to comply with the following minimum sizes:
   1. Hinges: Minimum 0.123-inch thick by 1-1/2 inches wide by 6 inches longer than hinge, secured by not less than 6 spot welds.
   2. Pivots: Minimum 0.167-inch thick by 1-1/2 inches wide by 6 inches longer than hinge, secured by not less than 6 spot welds.
   3. Lock Face, Flush Bolts, Closers, and Concealed Holders: Minimum 0.067 inch thick.
   4. All Other Surface-Mounted Hardware: Minimum 0.067 inch thick.

D. Fabricate concealed stiffeners and hardware reinforcement from either cold- or hot-rolled steel sheet.

2.4 STANDARD STEEL FRAMES

A. General: Comply with ANSI A250.8 and with details indicated for type and profile.

B. Exterior Frames: Fabricated from metallic-coated steel sheet.
   1. Fabricate frames with mitered or coped and welded face corners and seamless face joints.
   2. Frames for Level 3 Steel Doors: 0.067-inch- thick steel sheet.

C. Interior Frames: Fabricated from cold-rolled steel sheet, unless otherwise indicated to comply with exterior frame requirements.
   1. Fabricate frames with mitered or coped and welded face corners and seamless face joints.
   2. Fabricate knocked-down, drywall slip-on frames for in-place gypsum board partitions.
   3. Frames for Level 2 Steel Doors: 0.067-inch- thick steel sheet.

4. Frames for Wood Doors: 0.053-inch-thick steel sheet.
5. Frames for Wood Doors with Closers: 0.067-inch- thick steel sheet.

D. Hardware Reinforcement: Fabricate reinforcement plates from same material as frames to comply with the following minimum sizes:
   1. Hinges: Minimum 0.123 inch thick by 1-1/2 inches wide by 6 inches longer than hinge, secured by not less than 6 spot welds.
   2. Pivots: Minimum 0.167 inch thick by 1-1/2 inches wide by 6 inches longer than hinge, secured by not less than 6 spot welds.
   3. Lock Face, Flush Bolts, Closers, and Concealed Holders: Minimum 0.067 inch thick.
   4. All Other Surface-Mounted Hardware: Minimum 0.067 inch thick.

E. Supports and Anchors: Fabricated from electrolytic zinc-coated or metallic-coated steel sheet.

2.5 FRAME ANCHORS

A. Jamb Anchors:
   1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
   2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.

B. Floor Anchors: Formed from same material as frames, not less than 0.042 inch thick, and as follows:
   1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.6 STOPS AND MOLDINGS

A. Fixed Frame Moldings: Formed integral with standard steel frames, minimum 5/8 inch high, unless otherwise indicated.

2.7 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Ceiling Struts: Minimum wide steel.

C. Grout Guards: Formed from same material as frames, not less than thick.

2.8 FABRICATION

A. General: Fabricate standard steel doors and frames to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Standard Steel Doors:
   1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.

C. Standard Steel Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
   1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
   2. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints; fabricated from same material as door frame. Fasten members at crossings and to jambs by butt-welding.
   3. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners, unless otherwise indicated.

4. Plaster Guards: Weld guards to frame at back of hardware mortises in frames installed in concrete or masonry.
5. Where installed in masonry, leave vertical mullions in frames open at top for grouting.
6. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
7. Jamb Anchors: Provide number and spacing of anchors as follows:
    a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
        1) Two anchors per jamb up to 60 inches in height.
        2) Three anchors per jamb from 60 to 90 inches in height.
        3) Four anchors per jamb from 90 to 120 inches in height.
        4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof more than 120 inches in height.
    b. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
        1) Three anchors per jamb up to 60 inches in height.
        2) Four anchors per jamb from 60 to 90 inches in height.
        3) Five anchors per jamb from 90 to 96 inches in height.
        4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof more than 96 inches in height.
        5) Two anchors per head for frames more than 42 inches wide and mounted in metal-stud partitions.
8. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers as follows. Provide plastic plugs to keep holes clear during construction.
    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
    b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

D. Hardware Preparation: Factory prepare standard steel doors and frames to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping, according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
1. Reinforce doors and frames to receive nontemplated mortised and surface-mounted door hardware.
2. Comply with applicable requirements in ANSI A250.6 and ANSI/DHI A115 Series specifications for door and frame preparation for hardware. Locate hardware as indicated on Shop Drawings or, if not indicated, according to ANSI A250.8.

2.9 STEEL FINISHES

A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
1. Finish standard steel door and frames after assembly.

B. Metallic-Coated Steel Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.
1. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in steel, complying with SSPC-Paint 20.

C. Steel Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning"; remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel; comply with SSPC-SP 3, "Power Tool Cleaning," or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

D. Factory Priming for Field-Painted Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of standard steel doors and frames.
   1. Examine roughing-in for embedded and built-in anchors to verify actual locations of standard steel frame connections before frame installation.
   2. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
   3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory.
B. Prior to installation, adjust and securely brace standard steel door frames for squareness, alignment, twist, and plumb to the following tolerances:
   1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
   3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.
C. Drill and tap doors and frames to receive nontemplated mortised and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Provide doors and frames of sizes, thicknesses, and designs indicated. Install standard steel doors and frames plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
B. Standard Steel Frames: Install standard steel frames for doors, sidelights, transoms, borrowed lights, and other openings, of size and profile indicated. Comply with SDI 105.
   1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
      a. At fire-protection-rated openings, install frames according to NFPA 80.
      b. Where frames are fabricated in sections due to shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
      c. Install frames with removable glazing stops located on secure side of opening.
      d. Install door silencers in frames before grouting.
      e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
      f. Check plumb, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
      g. Apply bituminous coating to backs of frames that are filled with mortar, grout, and plaster containing antifreezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor and secure with postinstalled expansion anchors.
3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with mortar as specified in Division 04 Section "Unit Masonry."
5. Ceiling Struts: Extend struts vertically from top of frame at each jamb to supporting construction above, unless frame is anchored to masonry or to other structural support at each jamb. Bend top of struts to provide flush contact for securing to supporting construction above. Provide adjustable wedged or bolted anchorage to frame jamb members.
6. Installation Tolerances: Adjust standard steel door frames for squareness, alignment, twist, and plumb to the following tolerances:
    a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Standard Steel Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Standard Steel Doors:
    a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
    b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
    c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
    d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.
2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including standard steel doors or frames that are warped, bowed, or otherwise unacceptable.

B. Clean grout and other bonding material off standard steel doors and frames immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.

D. Galvannealed Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 08 11 13

SECTION 08 31 13 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Access doors and frames for ceilings.
B. Related Sections include the following:
   1. Division 23 Sections for heating and air-conditioning duct access doors.

1.3 SUBMITTALS

A. Product Data: For each type of access door and frame indicated. Include construction details, materials, individual components and profiles, and finishes.
B. Shop Drawings: Show fabrication and installation details of access doors and frames for each type of substrate. Include plans, elevations, sections, details, and attachments to other work.
C. Access Door and Frame Schedule: Provide complete access door and frame schedule, including types, locations, sizes, latching or locking provisions, and other data pertinent to installation.
D. Ceiling Coordination Drawings: Reflected ceiling plans, drawn to scale, on which ceiling-mounted items including access doors and frames, lighting fixtures, diffusers, grilles, speakers, sprinklers, and special trim are shown and coordinated with each other.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain access door(s) and frame(s) through one source from a single manufacturer.
B. Size Variations: Obtain Architect's acceptance of manufacturer's standard-size units, which may vary slightly from sizes indicated.

1.5 COORDINATION

A. Verification: Determine specific locations and sizes for access doors needed to gain access to concealed plumbing, mechanical, or other concealed work, and indicate in the schedule specified in "Submittals" Article.

PART 2 - PRODUCTS

2.1 STEEL MATERIALS

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
   1. ASTM A 123/A 123M, for galvanizing steel and iron products.
   2. ASTM A 153/A 153M, for galvanizing steel and iron hardware.
B. Steel Sheet: Uncoated cold-rolled steel sheet substrate complying with ASTM A 1008/A 1008M, Commercial Steel (CS), exposed.
C. Steel Finishes: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
   1. Surface Preparation for Steel Sheet: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."

2. Factory-Primed Finish: Apply shop primer immediately after cleaning and pretreating.

D. Drywall Beads: Edge trim formed from 0.0299-inch zinc-coated steel sheet formed to receive joint compound and in size to suit thickness of gypsum board.

2.2 ACCESS DOORS AND FRAMES FOR CEILINGS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. J. L. Industries, Inc.
2. Karp Associates, Inc.
3. Larsen's Manufacturing Company.
4. Milcor Inc.
5. Nystrom, Inc.

B. Recessed Access Doors and Trimless Frames: Fabricated from steel sheet.
1. Locations: Ceiling surfaces.
2. Door: Minimum 0.060-inch- thick sheet metal in the form of a pan recessed 5/8 inch for gypsum board infill.
3. Frame: Minimum 0.060-inch- thick sheet metal with drywall bead for gypsum board surfaces.
4. Hinges: Concealed pivoting rod hinge.
5. Latch: Cam latch operated by screwdriver with interior release.

2.3 FABRICATION

A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.

B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

C. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels to types of supports indicated.
1. For trimless frames with drywall bead, provide edge trim for gypsum board securely attached to perimeter of frames.
2. Provide mounting holes in frames for attachment of units to metal or wood framing.

D. Recessed Access Doors: Form face of panel to provide recess for application of applied finish. Reinforce panel as required to prevent buckling.

E. Latching Mechanisms: Furnish number required to hold doors in flush, smooth plane when closed.
1. For recessed panel doors, provide access sleeves for each locking device. Furnish plastic grommets and install in holes cut through finish.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with manufacturer's written instructions for installing access doors and frames.

B. Install doors flush with adjacent finish surfaces or recessed to receive finish material.

3.2 ADJUSTING AND CLEANING

A. Adjust doors and hardware after installation for proper operation.

B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION 08 31 13

SECTION 09 51 33 - ACOUSTICAL METAL PAN CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes acoustical metal pans and associated suspension system for interior ceilings.

B. Products furnished, but not installed, under this Section include anchors, clips, and other ceiling attachment devices to be cast in concrete.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified, 6 inches in size.

C. Samples for Initial Selection: For units with factory-applied finishes.

D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below:
   1. Metal Pans: Set of 6-inch-square Samples of each type, finish, color, pattern, and texture. Show pan edge profile.
   2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch-long Samples of each type, finish, and color.
   3. Sound Absorber: Sample of each type matching size of Sample metal pan.

E. Delegated-Design Submittal: For design of seismic restraints and attachment devices.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
   1. Suspended ceiling components.
   2. Structural members to which suspension systems will be attached.
   3. Size and location of access modules for acoustical panels.

4. Items penetrating finished ceiling including the following:
   a. Lighting fixtures.
   b. Air outlets and inlets.
   c. Speakers.
   d. Sprinklers.
   e. Access panels.
5. Perimeter moldings.

B. Qualification Data: For testing agency.

C. Product Test Reports: For each acoustical metal pan ceiling, for tests performed by a qualified testing agency.

D. Evaluation Reports: For each acoustical metal pan ceiling suspension system and anchor and fastener type.

E. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For finishes to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Manufacturer/Installer Qualifications:
1. Provide tile components produced by a single manufacturer with resources to provide consistent quality in appearance and physical properties, without delaying the work.
2. Provide suspension system components produced by a single manufacturer to provide compatible components for a complete metal tile ceiling system installation.
3. Perform installations using a firm with installers having no less than 3 years of successful experience on projects of similar size and requirements.

B. Regulatory Requirements:
1. Fire Rating Performance Characteristics: Install system to provide a flame spread of 0 - 25, complying with certified testing to ASTM E 84.
2. Structural Criteria: Install and certify system to comply with structural and wind uplift requirements of governing codes.
3. Installation Standard for Suspension System: Comply with ASTM C 636.

C. Testing Agency Qualifications: Qualified according to NVLAP for testing indicated.

D. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Build mockup of typical ceiling area as shown on Drawings.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical metal pans, suspension-system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they are protected against

damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

B. Handle acoustical metal pans, suspension-system components, and accessories carefully to avoid damaging units and finishes in any way.

1.9 PROJECT CONDITIONS

A. Begin system installations only after spaces are enclosed and weathertight, and all wet and overhead work have been completed.

B. Prior to starting installations, allow materials to reach ambient room temperature and humidity intended to be maintained for occupancy.

1.10 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

B. Acoustical Metal Pans: Full-size units equal to 2 percent of quantity installed.

C. Suspension-System Components: Quantity of each grid, exposed molding, and trim equal to 2 percent of quantity installed.

D. Hold-Down Clips: Equal to 2 percent of quantity installed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Division 01 Section "Quality Requirements," to design seismic restraints and attachment devices.

B. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
1. Flame-Spread Index: Comply with ASTM E 1264 for Class A materials.

2.2 ACOUSTICAL METAL PANS, GENERAL

A. Source Limitations: Obtain each type of acoustical metal ceiling pan and supporting suspension system from single source from single manufacturer.

B. Glass-Fiber Insulation: Made with binder containing no urea formaldehyde.

C. Acoustical Panel Standard: Provide manufacturer's standard pans of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances unless otherwise indicated.

1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches away from test surface according to ASTM E 795.

D. Sheet Metal Characteristics: For metal components exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, roughness, stains, or discolorations.
   1. Aluminum Sheet: Rolled aluminum sheet, complying with ASTM B 209; alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
      a. Thickness: .040.
   2. Steel Sheet: Commercial-quality, cold-rolled, carbon-steel sheet; stretcher leveled; with protective coating complying with ASTM C 635/C 635M.
      a. Painted Finishes: Electrolytic zinc-coated steel complying with ASTM A 879/A 879M, 13Z coating, surface treatment as recommended by finish manufacturer for type of use and finish indicated.
      b. Chemical/Mechanical Finishes: Uncoated steel sheet complying with ASTM A 1008/A 1008M with luster or bright finish as required by finisher for applying electroplating or other metallic-finishing processes.
      c. Exterior rated

E. Sound-Absorbent Fabric Layer: Provide fabric layer, sized to fit concealed surface of pan, and consisting of black, nonwoven, nonflammable, sound-absorbent material with surface-burning characteristics for flame-spread index of 25 or less and smoke-developed index of 50 or less, as determined by testing according to ASTM E 84.
   1. Bond fabric layer to panels in the factory with manufacturer's standard nonflammable adhesive.

F. Sound-Absorbent Pads: Provide width and length to completely fill concealed surface of pan, with surface-burning characteristics for flame-spread index of 25 or less and smoke-developed index of 50 or less, as determined by testing according to ASTM E 84, and to comply with the following requirements:

G. Sound Attenuation Panels: Provide manufacturer's standard unperforated metal backing unit that acts as a sound attenuation pan to reduce the travel of sound through ceiling plenum into adjoining rooms.

   1. Sound-Absorbent Pads: Provide secondary sound-absorbent pads, same as specified for primary sound-absorbent pads, for placement over sound attenuation pan to reduce plenum sound.

H. Adhesive: Manufacturer's standard nonflammable adhesive for sound-absorbent fabric and pads.

2.3 ALUMINUM PANS FOR ACOUSTICAL METAL PAN CEILING

A. Basis-of-Design Product: Subject to compliance with requirements, provide metal tile ceilings by Custom Architectural Designs, Inc., Powder Springs, GA; Website: www.cadconcepts.net or a comparable product by one of the following:
   1. Armstrong World Industries, Inc.
   2. Hunter Douglas Contract.
   3. USG Interiors, Inc.

B. Metal Tile Ceilings:
   1. Profile: Square edged.
   2. Width and Length: As indicated on Drawings.
   3. Material / thickness: .040 Alum.

C. Snap-in Suspension System
   1. Tile Type: Snap-In tile formed with two sides raised and dimpled for secure engagement into runners.
   2. Structural Classification: intermediate duty.
   3. Primary runners: 1 1/2 inches (38 mm) deep, 16 Ga., galvanized steel "C" channels.
   4. Hanger wire: 12 Ga. pre-stretched galvanized steel.
   5. Secondary runners: 24 Ga. galvanized steel, 1 1/2 inches (38 mm) deep inverted V shaped profile providing interlocking snap-in capability.
   6. Clamps: Manufacturer's standard die-formed primary/secondary runner connector two-piece clamps.

D. Hook-On Suspension System:
   1. Tile Type: Hook-On tile formed with two sides to hook securely onto runners.
   2. Structural Classification: (intermediate duty) (heavy duty)
   3. Primary runners: 1 1/2 inches (38 mm) deep, 16 Ga., galvanized steel "C" channels.
   4. Hanger wire: 12 Ga. pre-stretched galvanized steel.
   5. Secondary runners: 18 Ga. prepunched galvanized steel, 1 5/8 inches (41 mm) deep Z-shaped.
   6. Connectors: 3/16 inch (4.8 mm) diameter, 3/4 inch (19 mm) wide, 2 inch (51 mm) deep U bolts with flat plate and nuts.

E. Lay-In Suspension System:
   1. Tile Type: Lay-In design with (flat) (reveal) edge to lay in an exposed Tee grid system
   2. Structural Classification: (intermediate duty) (heavy duty)
   3. Hanger wire: 12 Ga. pre-stretched galvanized steel.

F. Lay-In Grid: Exposed Tee-grid system of snap-in type main and cross runners.

G. Seismic / Wind Uplift Compression Struts: 1 1/2 inch (38 mm) deep, 16 Ga., cold rolled steel "C" channels.

H. Provide non-perforated metal tile material, if indicated.

I. Perforations: Provide metal tile with nominal 1/4 inch (6.4 mm) solid border and perforation pattern as selected by Architect.

J. Color and Finish: (CAD Pre-Coat Matte White / Black) baked-on polyester enamel.

2.4 ACCESSORY MATERIALS

A. Suspension System Carrier/Channel Splices: Manufacturer's standard splices with matching profile and attachment holes.

B. Wall Moldings / Trim: Box mold design.

C. Clips: Manufacturer's standard hold-down, security and seismic clips.

D. Access Panels: Manufacturer's standard hinged style at locations indicated.

E. Acoustic Material: As selected by Architect from manufacturer's standard acoustic materials.

F. Custom Panels and Trim Pieces: Fabricate panels for dropped soffit returns and similar conditions from materials and finishes to match selected ceiling tile.

G. Plenum Access Tool: Manufacturer's standard for removing snap-in type panels.

2.5 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 ALUMINUM FINISHES

A. Color-Coated Finish: Manufacturer's standard powder-coat baked paint complying with coating manufacturer's written instructions for surface preparation, pretreatment, application, baking, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas receiving metal tile ceiling system for conditions that might adversely affect installation.

B. Verify that all work above ceiling system has been satisfactorily completed prior to start of ceiling installations.

C. Do not start ceiling installations until all unsatisfactory conditions affecting ceiling systems have been corrected.

3.2 PREPARATION

A. Provide layouts for inserts, clips and other support items required to be installed by other trades. Furnish inserts, clips and related items to other trades in a timely manner to preclude construction delays.

B. Coordinate with other trades for proper installation of inserts and related items.

C. Verify ceiling layouts by actual field measurements.
   1. Establish ceiling layout to balance borders and minimize out-of-square conditions. Coordinate all work that penetrates tile.

3.3 INSTALLATION

A. General: Install acoustical metal pan ceilings to comply with ASTM C 636/C 636M and seismic design requirements indicated, according to manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."

B. Install metal tile system in accordance with manufacturer’s printed installation instructions, submittals, applicable industry standards, and governing regulatory requirements for the work.

C. Snap-in Metal Tile Suspension System Installation:
   1. Primary runners: Install C channels at maximum spacing of 48 inches (1220 mm).

a. Install seismic / wind uplift struts at spacings to comply with structural requirements of governing codes. Attach securely to runner channels and structure above.

2. Assemble snap-in suspension system by clamping primary and secondary runners together to form a mounting grid.
3. Install snap-in metal tile by holding level and applying pressure on panel dimple points. Examine dimples on panel edge to ensure positive lock into secondary runner.
4. Install lock-clips at (all) (designated) interior locations to prevent lifting of tile except at access panels.
5. Install lock-clips at exterior locations to prevent lifting of panels due to wind pressure.

D. Hook-On Metal Tile Suspension System Installation:
1. Primary runners: Install C channels at maximum spacing of 48 inches (1220 mm).
a. Install seismic / wind uplift struts at spacing required to comply with structural requirements of governing codes, and attach securely to runner channels and structure above.
2. Assemble hook-on suspension system by bolting primary and secondary runners together to form a mounting grid.
3. Install hook-on metal tile by lifting and shifting the tile to hook on the Z-shaped secondary runners.
4. Install lock-clips at (all) (designated) interior locations to prevent lifting of tile except at access panels.
5. Install lock-clips at exterior locations to prevent lifting of panels due to wind.

E. Lay-In Metal Tile Suspension System Installation:
1. Assemble lay-in suspension system by connecting primary runners to main and cross runners of lay-in grid to form a mounting grid for the ceiling tile.
2. Primary runners: Install C channels at maximum spacing of 48 inches (1220 mm).
a. Suspend runner channels using hanger wires spaced at maximum 48 inches (1220mm) on-centers in both directions and within 12 inches (305 mm) of walls.
3. Secondary (lay-in grid) runners: Install exposed grid members on-centers to match the longest dimension of the ceiling tile. Secure to primary runners with (clips) (wire ties) at intersections of primary and secondary runners.
4. Install lay-in metal tile by lifting and shifting tile to lay into the flanges of exposed Tee shaped main and cross grid members.
5. Install lock-clips at (all) (designated) interior locations to prevent lifting of tile except at access panels.

F. Plenum Access:
1. Install hinged access panels at locations shown.
2. Access plenum at other locations as follows:
a. Snap-In tile: Carefully insert access tool into two adjacent corners and gently pull downward.
b. (Hook-On) (Lay-In) tile: Carefully lift, partially rotate and shift, then remove and lower tile.

G. Install acoustical material to completely fill each ceiling panel.

H. Install custom panels and trim pieces for dropped soffit returns, and other required locations, with neat, tight joints and to comply with approved details.

I. Install specified perimeter trim edge molding at all locations required to conceal edges of ceiling system.

J. Install air distribution devices and lighting fixtures at indicated locations.
1. Support devices and fixtures from building structure above, independent from ceiling suspension system.
2. Field fabricate ceiling panels to accommodate air distribution devices.
3. Verify that only fixtures with Modular Type “M” or “MT” flanges will be installed.

3.4 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
   1. Seismic design compliance.

B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

C. Perform the following tests and inspections of completed installations of acoustical metal panel ceiling hangers, anchors, and fasteners in successive stages. Do not proceed with installations of acoustical metal panel ceiling hangers for the next area until test results for previously completed installations show compliance with requirements.
   1. Extent of Each Test Area: When installation of ceiling suspension systems on each floor has reached 20 percent completion but no panels have been installed.
      a. Within each test area, testing agency selects one of every 10 power-actuated fasteners and postinstalled anchors used to attach hangers to concrete and tests them for 200 lbf of tension; it also selects one of every two postinstalled anchors used to attach bracing wires to concrete and tests them for 440 lbf of tension.
      b. When tested fasteners and anchors do not comply with requirements, testing agency tests those fasteners and anchors not previously tested until 20 pass consecutively and then resumes initial testing frequency.

D. Acoustical metal panel ceiling hangers, anchors, and fasteners will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports.

3.5 ADJUSTING AND CLEANING

A. Adjust components to provide uniform tolerances.

B. Replace all tile that are scratched, dented or otherwise damaged.

C. Clean exposed surfaces with non-solvent, non-abrasive commercial type cleaner.

D. Clean exposed surfaces of acoustical metal pan ceilings, including trim and edge moldings, after removing strippable, temporary protective covering, if any. Comply with manufacturer's written instructions for stripping of temporary protective covering, cleaning, and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage, including dented and bent units.

END OF SECTION 09 51 33

SECTION 09 65 13 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Resilient base.
   2. Resilient stair tread accessories.
   3. Resilient molding accessories.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Verification: For each type of product indicated, in manufacturer's standard-size Samples but not less than 12 inches long, of each resilient product color, texture, and pattern required.

1.4 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
   1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

B. Mockups: Provide resilient products with mockups specified in other Sections.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

1.6 PROJECT CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive resilient products during the following time periods:
   1. 48 hours before installation.
   2. During installation.
   3. 48 hours after installation.

B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Install resilient products after other finishing operations, including painting, have been completed.

1.7 EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design Manufacturers: Subject to compliance with requirements, provide products by Johnsonite, a Tarkett Company, and by Roppe Corporation, USA as indicated on Finish Schedule or comparable products by one of the following:
   1. Armstrong World Industries, Inc.
   2. Burke Mercer Flooring Products.

2.2 RESILIENT WALL BASE

A. Rubber Base Product Standard: ASTM F 1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous).
B. Style and Height: As scheduled.
C. Lengths: Coils in manufacturer's standard lengths.
D. Outside Corners: Premolded.
E. Inside Corners: Premolded.
F. Colors: As scheduled on Finish Legend or as selected by Architect.

2.3 RUBBER STAIR TREAD ACCESSORIES

A. Stair Treads Standard: ASTM F 2169.
   1. Type: TS (rubber, vulcanized thermoset) or TP (rubber, thermoplastic).
   2. Class: As scheduled.
   3. Nosing Style and Height: As scheduled.
      a. Thickness: 1/4 inch and tapered to back edge.
      b. Size: Lengths and depths to fit each stair tread in one piece unless otherwise scheduled.
   4. Risers: Smooth, flat, coved-toe, 7 inches high by length matching treads; produced by same manufacturer as treads and recommended by manufacturer for installation with treads.
      a. Thickness: 0.125 inch unless otherwise indicated.
   5. Colors: As scheduled.
B. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
   1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.4 RESISILIENT ACCESSORIES

A. Carpet bar for tackless installations for resilient floor covering.
B. Reducer strip for resilient floor covering.
C. Joiner for tile and carpet.

2.5 INSTALLATION ACCESSORIES

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement- or blended hydraulic cement-based formulation provided or approved by flooring manufacturer for applications indicated.
B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.
C. Metal Edge Strips: Extruded aluminum in maximum available lengths to minimize joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Preformed Corners: Install preformed corners before installing straight pieces.

3.3 RESILIENT ACCESSORY INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient accessories.

B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of carpet or resilient floor covering that would otherwise be exposed.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.

B. Perform the following operations immediately after completing resilient product installation:

1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Cover resilient products until Substantial Completion.

END OF SECTION 09 65 13

SECTION 09 67 23 - RESINOUS FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes epoxy colored quartz double-broadcast resinous flooring system and self-leveling epoxy resinous flooring system.

1.3 SUBMITTALS

A. Product Data:
   1. Current edition of manufacturer's product literature including physical data, chemical resistance, surface preparation, and application instructions.

B. Samples:
   1. A hard sample of the proposed system shall be submitted to represent the finished floor.

C. Warranty:
   1. Manufacturer's standard warranty
   2. Applicator's standard warranty

1.4 QUALITY ASSURANCE

A. Qualifications:
   1. The manufacturer shall have a minimum of ten (10) years' experience in the production, sales, and technical support of polymer-based floor coatings.
   2. The applicator shall have a minimum of three (3) years' documented experience in the application of polymer floor coatings to concrete floors.
   3. Proposed suppliers shall provide certification that they have ten (10) years' experience in the production of polymer floor coatings and be required to meet all provisions of this specification as well as provide evidence for compatibility between components to the satisfaction of the Architect.

B. Pre-Bid Conference:
   1. A pre-bid conference should be held between prospective applicators and the Architect to review surface preparation, application, clean-up procedures, and design issues.

C. Packing and Shipping:
   1. All materials are to be delivered to the job site in the manufacturer's original packaging. The product code and other identification marks should be clearly marked and visible.

D. Storage and Protection:
1. All material is to be stored in a cool, dry place out of the direct sunlight and away from any ignition sources. The applicator should refer to the manufacturer's literature and material safety data sheets for more information.

2. Material Safety Data Sheets are to be kept on site and made readily available for all personnel.
3. Keep containers sealed and ready for use.

1.5 PROJECT CONDITIONS

A. Environmental Requirements:
1. Optimum air and substrate temperature for product application is between between 55° F (13° C) and 95° F (35° C). For temperatures outside of this range, consult the manufacturer for product application suggestions.
2. Verify the work environment is properly equipped with vapor barriers and perimeter drains.
3. Maintain proper lighting throughout the work environment; the lighting should be comparable to the final lighting level of the space.
4. Store and dispose of any waste in accordance with regulations of local authorities.

B. Safety Requirements:
1. "No Smoking" signs shall be posted throughout the work area prior to application.
2. The owner shall be responsible for removing any foodstuffs from the work area.
3. Open flames, spark producing tools/items, and ignition sources shall be removed from the work area prior to application.
4. Only work-related personnel shall be allowed within the work area.

1.6 WARRANTY

A. Coordination:
1. The manufacturer offers a full, one-year warranty against defects in materials. Warranties concerning the installation of the material are solely the responsibility of the applicator.

PART 2 - PRODUCTS

2.1 RESINOUS FLOORING SYSTEMS

A. Basis-of-Design Products: Subject to compliance with requirements, provide Florock Seamless Flooring Systems; Floropoxy SL self-leveling epoxy flooring system and FloroQuartz BC epoxy colored quartz double-broadcast flooring system by Crawford Laboratories, Inc. or comparable products by the following:
1. Stonhard, Inc.; "Stonclad" GS4/GS6; Stonclad GS coated with Stonkote GS4 and Stonseal GS6 as manufactured by Stonhard, Inc.

2.2 EPOXY COLORED QUARTZ DOUBLE-BROADCAST FLOORING SYSTEM

A. Primer:
1. The primer shall be a 100% reactive, epoxy-based, penetrating primer that exhibits chemical resistance: Florock Floropoxy 4700 Epoxy Primer.

B. Basecoats:
1. The two (2) basecoats shall consist of a tough, impact-resistant 100% solids epoxy coating appropriate for accepting broadcast aggregate: Florock Floropoxy 4805.

C. Broadcast:
1. Broadcast BC grade colored quartz aggregate to the point of rejection into the first wet basecoat. Repeat the broadcast into a second basecoat application: Florock FloroQuartz BC Aggregate.

D. Grout Coat(s):
1. Apply grout coat with a flat squeegee, then backroll, using a Clear 100% solids, chemical and UV resistant epoxy. If no optional finish coats are to be used, apply a second grout coat: Florock Floropoxy 4805.

E. Optional Topcoat(s):
1. Apply 1 to 2 topcoat(s) of a high performance, color-stable, chemical resistant urethane to enhance the abrasion and chemical resistance of the flooring system: Florock Florothane CR, FloroWear 7100 or Florothane MC.

2.3 PROPERTIES

A. The coating system should meet the following physical properties:

Cured System Properties

Chemical Properties	FloroQuartz BC
Compressive Strength, ASTM C579, psi	10,000
Flexural Strength, ASTM D580, psi	4,300
Flexural Modulus of Elasticity, ASTM C580, psi	2.0 x 10E6
Indentation, MIL-D-3134F	No Indentation
Hardness, Shore A/D, ASTM D2240	85 / 90
Impact Resistance, ASTM D4226, in/ lbs.	>160
Percent Elongation, ASTM D2370, %	6
Water Absorption, ASTM C413, %	0.1
Bond Strength, ACI Committee #503, pg. 1139-1141, psi	>400
Abrasion Resistance, Taber Abrader CS-17 Wheel, 1000 gm load, 1000 cycles, ASTM D4060, max. gm loss	0.06
Heat Resistance Limitation (Continuous Exposure)	140° F / 60° C
Coeffiecient of Friction, ASTM D2047	0.6
Flammability, ASTM D635	Self-Extinguishing
Thermal Coefficient of Linear Expansion, ASTM C531, in/ in/ °C	1.8 x 10E5

2.4 SELF-LEVELING EPOXY FLOORING SYSTEM

A. Primer:
1. The primer shall be the appropriate Florock primer.

B. Optional Intermediate:
1. The optional coat shall consist of a Florock Floropoxy.

C. Topcoat:
1. The topcoat shall consist of a Florock Floropoxy.

D. Properties:
1. The coating system should meet the following physical properties:

Cured System Properties

Chemical Properties	Floropoxy SL
Sward Hardness, ASTM D2240	40
Compressive Strength ASTM C579	11,200 PSI
Tensile Strength, ASTM D2370	7,300 PSI
Abrasion Resistance, Taber Abrader CS-17 Wheel, 1000 gm. load, 1000 cycles, ASTM D4060	7 mg loss
Coefficient of Friction, James Friction Tester, ASTM D2047	0.65
Percent Elongation, Coating, ASTM D2370	5%
Percent Elongation, Resin Only, ASTM D2370	6%

PART 3 - EXECUTION

3.1 EXAMINATION

A. General:
1. Examine the areas and conditions where FloroQuartz is to be installed and notify the Architect of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected by the contractor in a manner acceptable to the Architect.

3.2 PREPARATION

A. General:
1. Consult the manufacturer’s recommendations for concrete substrate preparation before proceeding.

B. Patching and Joint Preparation:
   1. Before application, the floor shall be examined for spalls, pits, holes, cracks, non-functional joints, etc. These must be treated after preparation and before application with the suitable Florock products. For functional or expansion joints, these shall be treated with 100% solids elastomeric resin having a minimum elongation of 150%, Florock System 6500.

C. Concrete Surfaces:
   1. Shot-blast, diamond grind or power scarify as required to obtain clean, open, porous concrete. Remove sufficient material to provide a sound surface, free of laitance, glaze, efflorescence, and any bond-inhibiting curing compounds or form release agents. Remove grease, oil, and other penetrating contaminants. Repair damaged and deteriorated concrete to acceptable condition; leave surface free of dust, dirt, laitance, and efflorescence.

D. Materials:
   1. Mix components when required, and prepare materials according to flooring system manufacturer's instructions.

3.3 APPLICATION - EPOXY COLORED QUARTZ DOUBLE-BROADCAST FLOORING SYSTEM

A. General:
   1. The system shall be installed in the order described below:
      a. Substrate Preparation
      b. Priming
      c. Basecoat & Broadcast Applications
      d. Grout Coat Applications
      e. Optional Finish Coat Applications
   2. Concrete surfaces on grade shall have been constructed with a vapor barrier to help protect against the effects of vapor transmission and possible delamination of the system. Refer to manufacturer's concrete preparation instructions for additional recommendations.
   3. The surface should be dry prior to application of any of the aforementioned steps. Furthermore, the substrate shall always be kept clean, dry, and free of any contaminants.
   4. The handling and mixture of any material associated with the installation of the system shall be in accordance with the manufacturer's recommendations and approved by the Architect.
   5. The system shall follow the contours of the substrate unless otherwise specified by the Architect.
   6. A neat finish with well-defined boundaries and straight edges shall be provided by the applicator.

B. Priming:
   1. All areas considered for the application shall be primed with the manufacturer's primer to seal and penetrate the substrate in preparation for applying the basecoat and grout coat.
   2. Porous concrete substrates may require additional applications of primer.

C. Basecoat & Broadcast:
   1. The basecoat shall consist of the manufacturer's approved resin and decorative colored broadcast quality quartz aggregate, installed to resurface the floor, seal the surface and give the floor impact and chemical resistance.
   2. Slip-resistant properties are provided through a broadcast of quartz aggregate into each basecoat application.

D. Grout Coat(s):

1. 1. The grout coat(s) and optional topcoat(s) shall be consistent with the manufacturer's recommendations for the system.

E. Optional Topcoat(s):
1. Additional abrasion and chemical resistance may be provided by applying the manufacturer's compatible high performance urethane.
2. No traffic or equipment shall be permitted on the floor during the curing period.

3.4 APPLICATION - SELF-LEVELING EPOXY FLOORING SYSTEM

A. General:
1. The system shall be installed in the order described below:
   a. Substrate Preparation
   b. Primer /Optional midcoat Application
   c. Topcoat Application
2. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system. Refer to manufacturer's concrete preparation instructions for additional recommendations.
3. The surface should be dry prior to application of any of the aforementioned steps. Furthermore, the substrate shall always be kept clean, dry, and free of any contaminants.
4. The handling and mixture of any material associated with the installation of the system shall be in accordance with the manufacturer's recommendations and approved by the Architect.
5. The system shall follow the contours of the substrate unless otherwise specified by the Architect.
6. A neat finish with well-defined boundaries and straight edges shall be provided by the applicator.

B. Priming:
1. All areas considered for the application shall be primed with the manufacturer's primer to seal and penetrate the substrate in preparation for applying the topcoat.
2. Porous concrete substrates may require additional applications of primer followed by an intermediate coat.

C. Optional Intermediate:
1. The optional coat shall consist of the manufacturer's approved epoxy.

D. Topcoat:
1. The topcoat shall consist of the manufacturer's approved epoxy topcoat to seal the surface and give the floor improved wear resistance.
2. No traffic or equipment shall be permitted on the floor during the curing period.

3.5 FIELD QUALITY CONTROL

A. Tests & Inspection
1. The following tests shall be performed by the applicator and recorded during application to submit to the Architect:
   a. Temperature during installation
      1) Air.
      2) Substrate.
      3) Dew Point.

3.6 CLEANING

A. Disposal:
   1. Properly remove and dispose of any excess materials.

END OF SECTION 09 67 23

SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes surface preparation and field painting and staining of exposed interior and exterior items and surfaces.
   1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

1.3 SUBMITTALS

A. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
   1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
   2. Submit 2 Samples on the following substrates for Architect's review of color and texture only:
      a. Stained or Natural Wood: 4-by-8-inch Samples of natural- or stained-wood finish on representative maple surfaces.

1.4 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

C. Benchmark Samples (Mockups): Provide a full-coat benchmark finish sample for each type of coating and substrate required. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample Submittals.
   1. Architect will select one room or surface to represent surfaces and conditions for application of each type of coating and substrate.
      a. Wall Surfaces: Provide a 6-ft. x 8-ft. mock-up of all paint colors selected.
   2. Apply benchmark samples, according to requirements for the completed Work, after permanent lighting and other environmental services have been activated. Provide required sheen, color, and texture on each surface.
      a. After finishes are accepted, Architect will use the room or surface to evaluate coating systems of a similar nature.
   3. Final approval of colors will be from benchmark sample Architect and Owner prior to Contractor proceeding with painting.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
   1. Product name or title of material.
   2. Product description (generic classification or binder type).
   3. Manufacturer's stock number and date of manufacture.

4. Contents by volume, for pigment and vehicle constituents.
5. Thinning instructions.
6. Application instructions.
7. Color name and number.
8. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.

1.6 PROJECT CONDITIONS

A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F.

B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F.

C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.7 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

1. Quantity: Furnish Owner with extra paint materials in quantities of 1 gallon of each interior and exterior type and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: The design for paint products is based on products by Benjamin Moore & Co. (Benjamin Moore); “Zero-VOC Natura” for interior surfaces and “ECO-ADVANTAGE” for exterior surfaces. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:

1. PPG Industries, Inc. (PPG).
2. Sherwin-Williams Co. (Sherwin-Williams).

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

C. Colors: As scheduled or as selected by Architect from manufacturer’s full range.

2.3 CONCRETE UNIT MASONRY BLOCK FILLERS

A. Concrete Unit Masonry Block Filler: Factory-formulated high-performance latex block fillers.

1. Benjamin Moore; Moorcraft Super Craft Latex Block Filler No. 206: Applied at a dry film thickness of not less than 8.1 mils.

2. PPG; 6-7 SpeedHide Interior/Exterior Masonry Latex Block Filler: Applied at a dry film thickness of not less than 6.0 to 12.5 mils.
3. Sherwin-Williams; PrepRite Interior/Exterior Block Filler B25W25: Applied at a dry film thickness of not less than 8.0 mils.

2.4 EXTERIOR PRIMERS

A. Exterior Soffit and Trim Board Primer: Factory-formulated alkyd- or alkali-resistant acrylic-latex primer for exterior application.
   1. Benjamin Moore; Moorcraft Super Spec Alkyd Exterior Primer No. 176: Applied at a dry film thickness of not less than 1.8 mils.
   2. PPG; 4-603 Perma-Crete Interior/Exterior Acrylic Latex Alkali Resistant Primer: Applied at a dry film thickness of not less than 1.5 mils.
   3. Sherwin-Williams; Multi-Purpose Primer B51-450 Series: Applied at a dry film thickness of not less than 1.4 mils.

B. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.
   1. Benjamin Moore; Super Spec HP Alkyd Metal Primer No. P06: Applied at a dry film thickness of not less than 2.0 mils.
   2. PPG; 6-208 Speedhide Alkyd Metal Primer: Applied at a dry film thickness of not less than 3.0 mils.
   3. Sherwin-Williams; Kem Kromik Universal Metal Primer B50NZ6/B50WZ1: Applied at a dry film thickness of not less than 3.0 mils.

C. Exterior Galvanized Metal Primer: Factory-formulated galvanized metal primer for exterior application.
   1. Benjamin Moore; Super Spec HP Acrylic Metal Primer No. P04: Applied at a dry film thickness of not less than 2.0 mils.
   2. PPG; 90-712 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils.
   3. Sherwin-Williams; primer not required over this substrate.

2.5 INTERIOR PRIMERS

A. Interior Concrete and Masonry Primer: Factory-formulated alkali-resistant acrylic-latex interior primer for interior application.
   1. Benjamin Moore; SuperSpec 100% acrylic Interior/Exterior Masonry Primer, N068: Applied at a dry film thickness of not less than 1.0 mils.
   2. PPG; 4-603 Perma-Crete Interior/Exterior Acrylic Latex Alkali Resistant Primer: Applied at a dry film thickness of not less than 1.5 mil.
   3. Sherwin-Williams; LOXON Concrete & Masonry Primer B24W8300: Applied at a dry film thickness of not less than 3.0 mils.

B. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.
   1. Benjamin Moore; Moorcraft Super Spec Latex Enamel Undercoater & Primer Sealer No. 253: Applied at a dry film thickness of not less than 1.2 mils.
   2. PPG; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1.0 mil.
   3. Sherwin-Williams; ProMar 200 Latex Wall Primer B28W2600 Series: Applied at a dry film thickness of not less than 1.5 mils.

C. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer.
   1. Benjamin Moore; Super Spec HP Alkyd Metal Primer No. P06: Applied at a dry film thickness of not less than 2.0 mils.
   2. PPG; 90-712 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 1.5 mils.

3. Sherwin-Williams; Pro-Cryl Universal Metal Primer B66-310: Applied at a dry film thickness of not less than 2.0 mils.

D. Interior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer.
1. Benjamin Moore; Super Spec HP Acrylic Metal Primer No. P04: Applied at a dry film thickness of not less than 2.0 mils.
2. PPG; 90-712 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils.
3. Sherwin-Williams; primer not required over this substrate.

2.6 EXTERIOR FINISH COATS

A. Exterior Low-Luster Acrylic Paint: Factory-formulated low-sheen (eggshell) acrylic-latex paint for exterior application.
1. Benjamin Moore; Ultra Spec EXT Satin Finish House Paint No. N448: Applied at a dry film thickness of not less than 1.0 mil.
2. PPG; 6-2045XI Series SpeedHide Exterior House & Trim Satin--Acrylic Latex: Applied at a dry film thickness of not less than 1.0 mil.
3. Sherwin-Williams; A-100 Exterior Latex Satin, A82 Series: Applied at a dry film thickness of not less than 1.5 mils.

B. Exterior Semigloss Acrylic Enamel: Factory-formulated semigloss waterborne acrylic-latex enamel for exterior application.
1. Benjamin Moore; Ultra Spec EXT Gloss Finish No. N449: Applied at a dry film thickness of not less than 1.1 mils.
2. PPG; 6-900XI Series SpeedHide Exterior House & Trim Semi-Gloss Acrylic Latex Paint: Applied at a dry film thickness of not less than 1.5 mils.
3. Sherwin-Williams; A-100 Exterior Latex Gloss, A8 Series: Applied at a dry film thickness of not less than 1.3 mils.

2.7 INTERIOR FINISH COATS

A. Interior Flat Latex-Emulsion Size: Factory-formulated flat latex-based interior paint. PREMIUM Option:
1. Benjamin Moore; Natura Interior Flat #512: Applied at a dry film thickness of not less than 1.8 mils.
2. PPG; 9-100 Pure Performance Flat-Latex Paint: Applied at a dry film thickness of not less than 1.6 mil.
3. Sherwin-Williams; Harmony Zero VOC Interior Latex Flat Wall Paint B05-500 Series: Applied at a dry film thickness of not less than 1.6 mils.

B. Interior Flat Latex-Emulsion Size: Factory-formulated flat latex-based interior paint. COMMERCIAL Option:
1. Benjamin Moore; Ultra Spec 500 Interior Flat N536: Applied at a dry film thickness of not less than 1.8 mils.
2. PPG; 6-4110XI Speedhide zero Interior Zero VOC Flat-Latex Paint: Applied at a dry film thickness of not less than 1.4 mil.
3. Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Flat Wall Paint B30W2600 Series: Applied at a dry film thickness of not less than 1.6 mils.

C. Interior Low-Luster Acrylic Enamel: Factory-formulated eggshell acrylic-latex interior enamel. PREMIUM Option:
1. Benjamin Moore; Natura Latex Eggshell Enamel No. 513: Applied at a dry film thickness of not less than 1.8 mils.
2. PPG; 9-300XI Series Pure Performance Eggshell Acrylic Latex Enamel: Applied at a dry film thickness of not less than 1.4 mils.
3. Sherwin-Williams; Harmony Zero VOC Interior Latex Egg-Shell Enamel B9-700 Series: Applied at a dry film thickness of not less than 1.7 mils.

D. Interior Low-Luster Acrylic Enamel: Factory-formulated eggshell acrylic-latex interior enamel. COMMERCIAL Option:
   1. Benjamin Moore; Ultra Spec 500 Interior Latex Eggshell Enamel N538: Applied at a dry film thickness of not less than 1.8 mils.
   2. PPG; 6-4310XI Speedhide zero Interior Zero VOC Eggshell Acrylic Latex Enamel: Applied at a dry film thickness of not less than 1.5 mils.
   3. Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Egg-Shell Enamel B20W2600 Series: Applied at a dry film thickness of not less than 1.7 mils

E. Interior Semigloss Acrylic Enamel: Factory-formulated semigloss acrylic-latex enamel for interior application. PREMIUM Option:
   1. Benjamin Moore; Natura Latex Semi-Gloss Enamel No. 514: Applied at a dry film thickness of not less than 1.5 mils.
   2. PPG; 9-500 Pure Performance Interior Semi-Gloss Latex: Applied at a dry film thickness of not less than 1.4 mil.
   3. Sherwin-Williams; Harmony Zero VOC Interior Latex Semi-Gloss Enamel B10W500 Series: Applied at a dry film thickness of not less than 1.6 mils.

F. Interior Semigloss Acrylic Enamel: Factory-formulated semigloss acrylic-latex enamel for interior application. COMMERCIAL Option:
   1. Benjamin Moore; Ultra Spec 500 Latex Semi-Gloss Enamel N539: Applied at a dry film thickness of not less than 1.6 mils.
   2. PPG; 6-4510XI Speedhide zero Interior Zero VOC Semi-Gloss Latex: Applied at a dry film thickness of not less than 1.4 mil.
   3. Sherwin-Williams; ProMar 200 Zero VOC Interior Latex Semi-Gloss Enamel B31W2600 Series: Applied at a dry film thickness of not less than 1.6 mils

2.8 INTERIOR WOOD STAINS AND VARNISHES

A. Open-Grain Wood Filler: Factory-formulated paste wood filler applied at spreading rate recommended by manufacturer.
   1. Benjamin Moore; No Longer In Portfolio
   2. PPG; none required.
   3. Sherwin-Williams; Sher-Wood Fast-Dry Filler.

B. Interior Wood Stain: Factory-formulated alkyd-based penetrating wood stain for interior application applied at spreading rate recommended by manufacturer.
   1. Benjamin Moore; Lenmar QuickStain Alkyd Wiping Stain 1AS.12XX
   2. PPG; Olympic Low VOC Interior Semi-Transparent Oil Stain 44500.
   3. Sherwin-Williams; Wood Classics Interior Oil Stain A-48 Series.

C. Clear Sanding Sealer: Factory-formulated fast-drying alkyd-based clear wood sealer applied at spreading rate recommended by manufacturer.
   1. Benjamin Moore; Lenmar Rapid Seal Dual Purpose Sealer No. 1Y.519
   2. PPG; Olympic Waterbased Interior Sanding Sealer 41061.
   3. Sherwin-Williams; Wood Classics Fast Dry Sanding Sealer B26V43.

D. Interior Waterborne Clear Satin Varnish: Factory-formulated clear satin acrylic-based polyurethane varnish applied at spreading rate recommended by manufacturer.
   1. Benjamin Moore; Stays Clear Acrylic Polyurethane No. 423, Satin.
   2. PPG; Olympic Satin Acrylic Clear Polyurethane 42786.
   3. Sherwin-Williams; Wood Classics Waterborne Polyurethane Satin, A68 Series.

E. Colors and Sheen: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
   1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
   2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
   1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
   1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
   1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
   1. Provide barrier coats over incompatible primers or remove and reprime.
   2. Cementitious Materials: Prepare concrete and concrete unit masonry surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
      a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
      b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces if moisture content exceeds that permitted in manufacturer's written instructions.
      c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.
   3. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
      a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
      b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling.
      c. If transparent finish is required, backprime with spar varnish.
      d. Backprime paneling on interior partitions where masonry, or other wet wall construction occurs on back side.

e. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.

4. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
   a. Blast steel surfaces clean as recommended by paint system manufacturer and according to SSPC-SP 6/NACE No. 3.
   b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
   c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.
5. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
   1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
   2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
   3. Use only thinners approved by paint manufacturer and only within recommended limits.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
   1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
   2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
   3. Provide finish coats that are compatible with primers used.
   4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
   5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
   6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
   7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
   8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
   9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
   10. Sand lightly between each succeeding enamel or varnish coat.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
   1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.

2. Omit primer over metal surfaces that have been shop primed and touchup painted.
3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.

E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.

F. Mechanical items to be painted include, but are not limited to, the following:
1. Uninsulated metal piping.
2. Uninsulated plastic piping.
3. Pipe hangers and supports.
4. Tanks that do not have factory-applied final finishes.
5. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
6. Duct, equipment, and pipe insulation having "all-service jacket" or other paintable jacket material.
7. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

G. Electrical items to be painted include, but are not limited to, the following:
1. Switchgear.
2. Panelboards.
3. Electrical equipment that is indicated to have a factory-primed finish for field painting.

H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

I. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

K. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.

L. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 CLEANING

A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
   1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.5 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
   1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.6 EXTERIOR PAINT SCHEDULE

A. Concrete and Masonry (Other Than Concrete Unit Masonry):
   1. Acrylic Finish: Two finish coats over a primer.
      a. Primer: Exterior concrete and masonry primer.
      b. Finish Coats: Exterior low-luster acrylic paint.
B. Concrete Unit Masonry:
   1. Acrylic Finish: Two finish coats finish coats over a block filler.
      a. Block Filler: Concrete unit masonry block filler.
      b. Finish Coats: Exterior low-luster acrylic paint.
C. Exterior Gypsum and Glass-Fiber Reinforced Cement Fabrications: Provide the following finish systems over exterior gypsum soffit board:
   1. Low-Luster Acrylic Finish: Two finish coats over a primer.
      a. Primer: Exterior gypsum soffit board primer.
      b. Finish Coats: Exterior low-luster acrylic paint.
D. Smooth Wood:
   1. Alkyd-Enamel Finish: Two finish coats over a primer.
      a. Primer: Exterior wood primer for alkyd enamels.
      b. Finish Coats: Exterior full-gloss alkyd enamel.
E. Wood Trim:
   1. Alkyd-Enamel Finish: Two finish coats over a primer.
      a. Primer: Exterior wood trim primer for full-gloss alkyd enamels.
      b. Finish Coats: Exterior full-gloss alkyd enamel.
F. Fiber-Cement Trim and Soffit Board:
   1. Low-Luster Acrylic Finish: Two finish coats over a primer.
      a. Primer: Exterior gypsum soffit board primer.
      b. Finish Coats: Exterior low-luster acrylic paint.
G. Ferrous Metal: Provide the following finish systems over exterior ferrous metal. Primer is not required on shop-primed items.
   1. Semigloss Acrylic-Enamel Finish: Two finish coats over a rust-inhibitive primer.
      a. Primer: Exterior ferrous-metal primer.
      b. Finish Coats: Exterior semigloss acrylic enamel.
H. Zinc-Coated Metal: Provide the following finish systems over exterior zinc-coated metal surfaces:
   1. Semigloss Acrylic-Enamel Finish: Two finish coats over a galvanized metal primer.

a. Primer: Exterior galvanized metal primer.
b. Finish Coats: Exterior semigloss acrylic enamel.

3.7 INTERIOR PAINT SCHEDULE

A. Concrete and Masonry (Other Than Concrete Unit Masonry): Provide the following paint systems over interior concrete and brick masonry substrates:
1. Low-Luster Acrylic-Enamel Finish: Two finish coats over a primer.
a. Primer: Interior concrete and masonry primer.
b. Finish Coats: Interior low-luster acrylic enamel.

B. Concrete Unit Masonry: Provide the following finish systems over interior concrete masonry:
1. Low-Luster Acrylic-Enamel Finish: Two finish coats over a block filler.
a. Block Filler: Concrete unit masonry block filler.
b. Finish Coats: Interior low-luster acrylic enamel.

C. Gypsum Board Surfacer / Primer: Level 5 Finish Primer over Level 4 Gypsum Board Finish: Provide a Level 5 gypsum board primer / surfacer product over a minimum Level 4 finish to produce a Level 5 finish without the need for hand-applying a skim coat.
1. Products: Subject to compliance with requirements, provide one of the following:
a. CertainTeed; Level 5 Wall & Ceiling Primer.
b. Sherwin-Williams; Builders Solution.
c. TWI Products; Nucoat Roll-on Level 5 Primer.
d. USG; Tuff Hide.

D. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:
1. Low-Luster Acrylic-Enamel Finish: Two finish coats over a primer.
a. Primer: Interior gypsum board primer.
b. Finish Coats: Interior low-luster acrylic enamel.
2. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
a. Primer: Interior gypsum board primer.
b. Finish Coats: Interior semigloss acrylic enamel.

E. Wood and Hardboard:
1. Acrylic-Enamel Finish: Two finish coats over a primer.
a. Primer: Interior wood primer for acrylic-enamel and semigloss alkyd-enamel finishes.
b. Finish Coats:
1) Interior trim: Full-gloss acrylic enamel.
2) Interior doors and panels: Semi-gloss acrylic enamel.

F. Ferrous Metal: Provide the following finish systems over ferrous metal:
1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
a. Primer: Interior ferrous-metal primer.
b. Finish Coats: Interior semigloss acrylic enamel.

G. Zinc-Coated Metal: Provide the following finish systems over interior zinc-coated metal surfaces:
1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
a. Primer: Interior zinc-coated metal primer.
b. Finish Coats: Interior semigloss acrylic enamel.

H. All-Service Jacket over Insulation: Provide the following finish system on cotton or canvas insulation covering:
1. Flat Acrylic Finish: Two finish coats. Add fungicidal agent to render fabric mildew proof.
a. Finish Coats: Interior flat latex-emulsion size.

END OF SECTION 09 91 00

SECTION 10 14 00 - SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Signage for Building Code compliance:
      a. Coordinate with Owner-furnished signage requirements.

B. Related Sections and Documents include the following:
   1. See Mechanical Drawings for labels, tags, and nameplates for mechanical equipment.
   2. See Electrical Drawings for labels, tags, and nameplates for electrical equipment.
   3. See Electrical Drawings and Specifications for illuminated exit signs, and for electrical service and connections for illuminated characters and for access to remote transformers, if required.

1.3 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of sign.

B. Shop Drawings: Include plans, elevations, and large-scale sections of typical members and other components. Show mounting methods, grounds, mounting heights, layout, spacing, reinforcement, accessories, and installation details.
   1. Provide message list for each sign, including large-scale details of wording, lettering, and Braille layout.

C. Samples for Initial Selection: For each type of sign material indicated that involves color selection.

D. Samples for Verification: For each of the following products and for the full range of color, texture, and sign material indicated, of sizes indicated:
   1. Plaque Casting: 6 inches square.

E. Maintenance Data: For signage cleaning and maintenance requirements to include in maintenance manuals.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each sign type through one source from a single manufacturer.

B. Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA) and with code provisions as adopted by authorities having jurisdiction.
   1. Interior Code Signage: Provide signage as required by accessibility regulations and requirements of authorities having jurisdiction. These include, but are not limited to, the following:
      a. Illuminated Exit Signs.
      b. Fire Doors.
      c. Signs for Accessible Spaces.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.5 PROJECT CONDITIONS

A. Field Measurements: Where sizes of signs are determined by dimensions of surfaces on which they are installed, verify dimensions by field measurement before fabrication and indicate measurements on Shop Drawings.

1.6 COORDINATION

A. For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs.
   1. For signs supported by or anchored to permanent construction, furnish templates for installation of anchorage devices.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).
   1. Color: As selected by Architect from manufacturer's full range.
B. Molded Plastic Characters: Thermoformed or Injection molded.
C. Tactile Characters: Characters and Grade 2 Braille raised 1/32-inch above surface with contrasting colors.

2.2 FINISHES, GENERAL

A. Protect mechanical finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.
B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
B. Verify that items, including anchor inserts, provided under other sections of Work are sized and located to accommodate signs.
C. Examine supporting members to ensure that surfaces are at elevations indicated or required to comply with authorities having jurisdiction and are free from dirt and other deleterious matter.
D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Locate signs and accessories where indicated, using mounting methods of types described and in compliance with manufacturer's written instructions.
   1. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.
   2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches of sign without encountering protruding objects or standing within swing of door.

3.3 CLEANING AND PROTECTION

A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION 10 14 00

SECTION 10 21 13 - TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes phenolic-core units with plastic laminate facing as follows:
   1. Toilet Enclosures: Floor anchored, overhead braced.
   2. Urinal Screens: Floor anchored, overhead braced.

B. Related Sections include the following:
   1. Division 05 Section "Metal Fabrications" for supports that attach floor-and-ceiling-anchored compartments to overhead structural system.
   2. Division 06 Section "Miscellaneous Rough Carpentry" for blocking and overhead support of floor-and-ceiling-anchored compartments.
   3. Division 10 Section "Toilet and Bath Accessories" for toilet tissue dispensers, grab bars, and similar accessories.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachments to other work.
   1. Show locations of cutouts for compartment-mounted toilet accessories.
   2. Show locations of reinforcements for compartment-mounted grab bars.
   3. Show locations of centerlines of toilet fixtures.
   4. Show ceiling grid and overhead support or bracing locations.

C. Samples for Initial Selection: For each type of unit indicated. Include Samples of hardware and accessories involving material and color selection.

D. Samples for Verification: If toilet compartment finishes are indicated on Finish Schedule, submit samples for verification of each color/finish selected .

E. Product Certificates: For each type of toilet compartment, from manufacturer.

F. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.4 QUALITY ASSURANCE

A. Comply with requirements in GSA's CID-A-A-60003, "Partitions, Toilets, Complete."

B. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84, or another standard acceptable to authorities having jurisdiction, by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
   1. Flame-Spread Index: 25 or less.
   2. Smoke-Developed Index: 450 or less.

C. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities" and ICC/ANSI A117.1 for toilet compartments designated as accessible.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication and indicate measurements on Shop Drawings.

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating toilet compartments without field measurements. Coordinate wall, floor, ceilings, and other contiguous construction to ensure that actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum Castings: ASTM B 26/B 26M.

B. Aluminum Extrusions: ASTM B 221.

C. Steel Sheet: Commercial steel sheet for exposed applications; mill phosphatized and selected for smoothness.

1. Electrolytically Zinc Coated: ASTM A 879/A 879M, 01Z.
2. Hot-Dip Galvanized: ASTM A 653/A 653M, either hot-dip galvanized or galvannealed.

D. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.

E. Stainless-Steel Castings: ASTM A 743/A 743M.

F. Plastic Laminate: NEMA LD 3, general-purpose HGS grade, 0.048-inch nominal thickness.

G. Adhesives: Manufacturer's standard product.

2.2 PHENOLIC-CORE UNITS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Bobrick Washroom Equipment, Inc.
2. Knickerbocker Partitions Corp.
3. Metpar Corp.

B. Toilet-Enclosure Style: Floor anchored, Overhead braced.

C. Urinal-Screen Style: Floor anchored, Overhead braced.

D. Door, Panel, Screen, and Pilaster Construction: Solid phenolic-core panel material with plastic laminate facing on both sides fused to substrate during panel manufacture (not separately laminated), and with eased and polished edges. Provide minimum 3/4-inch- thick doors and pilasters and minimum 1/2-inch- thick panels.

1. Plastic Laminate: NEMA LD 3, Grade HGS.
   a. Facing Sheet Color: As scheduled or as selected by Architect.
2. Core Color: Manufacturer's standard dark color.

E. Pilaster Shoes and Sleeves (Caps): Fabricated from stainless-steel sheet, not less than 0.031-inch nominal thickness and 3 inches high, finished to match hardware.

F. Urinal-Screen Post: Manufacturer's standard post design of material matching the thickness and construction of pilasters or 1-3/4-inch- square, aluminum tube with satin finish; with shoe and sleeve (cap) matching that on the pilaster.

G. Brackets (Fittings):

1. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.

H. Phenolic-Core Panel Finish:

1. Plastic Laminate Facing Sheet Color and Pattern: As selected by Architect from manufacturer's full range, with manufacturer's standard dark color core.

2.3 ACCESSORIES

A. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories.
   1. Material: Stainless steel.

B. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile in manufacturer's standard finish.

C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or chrome-plated steel or brass, finished to match hardware, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized or other rust-resistant, protective-coated steel.

2.4 FABRICATION

A. General: Provide standard doors, panels, screens, and pilasters fabricated for compartment system. Provide units with cutouts and drilled holes to receive compartment-mounted hardware, accessories, and grab bars, as indicated.

B. Toilet Compartments: Overhead braced, floor anchored.

C. Urinal Screens: Overhead braced, floor anchored.

D. Overhead-Braced-and-Floor-Anchored Compartments and Screens: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, fasteners, and anchors at pilasters to suit floor conditions. Make provisions for setting and securing continuous head rail at top of each pilaster. Provide shoes at pilasters to conceal supports and leveling mechanism.

E. Floor-Anchored Screens at Gypsum Board Walls: Provide pilasters and panels of same construction and finish as toilet compartments. Provide manufacturer's standard corrosion-resistant anchoring assemblies complete with threaded rods, lock washers, and leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

F. Door Size and Swings: Unless otherwise indicated, provide 24-inch- wide, in-swinging doors for standard toilet compartments and 36-inch- wide, out-swinging doors with a minimum 32-inch- wide, clear opening for compartments designated as accessible.

G. Door Hardware: Stainless steel. Provide units that comply with accessibility requirements of authorities having jurisdiction at compartments indicated to be accessible to people with disabilities.
   1. Hinges: Self-closing type, adjustable to hold door open at any angle up to 90 degrees.
   2. Latches and Keepers: Recessed unit designed for emergency access and with combination rubber-faced door strike and keeper.
   3. Coat Hook: Combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories.
   4. Door Bumper: Rubber-tipped bumpers at out-swinging doors or entrance screen doors.
   5. Door Pull: Provide at out-swinging doors. Provide units on both sides of doors at compartments indicated to be accessible to people with disabilities.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
   1. Maximum Clearances:
      a. Pilasters and Panels: 1/2 inch.
      b. Panels and Walls: 1 inch.

B. Provide brackets, pilaster shoes, bracing, and other components required for a complete installation. Use theft-resistant exposed fasteners finished to match hardware. Use sleeve nuts for through-bolt applications.
   1. Stirrup Brackets: Align brackets at pilasters with brackets at walls. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
   2. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.

END OF SECTION 10 21 13

SECTION 10 28 00 - TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Public-use washroom accessories.
   2. Underlavatory guards.
   3. Custodial accessories.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated, include the following:
   1. Construction details and dimensions.
   2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
   3. Material and finish descriptions.
   4. Features that will be included for Project.
   5. Manufacturer's warranty.

B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
   1. Identify locations using room designations indicated on Drawings.
   2. Identify products using designations indicated on Drawings.

C. Maintenance Data: For toilet and bath accessories to include in maintenance manuals.

1.4 QUALITY ASSURANCE

A. Source Limitations: For products listed together in the same articles in Part 2, provide products of same manufacturer unless otherwise approved by Architect.

1.5 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

PART 2 - PRODUCTS

2.1 PUBLIC-USE WASHROOM, SHOWER ROOM, AND CUSTODIAL ACCESSORIES

A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide Bobrick Washroom Equipment, Inc. products as indicated in Toilet Accessory Schedule on Drawings and as specified below, or a comparable product by one of the following:
   1. A & J Washroom Accessories, Inc.
   2. American Specialties, Inc.
   3. Bradley Corporation.
   4. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.

B. Products: Provide the following products; model numbers indicated in Toilet Accessory Schedule.
   1. Toilet Tissue (Roll) Dispenser: Owner furnished; Owner installed.
   2. Paper Towel Dispenser / Disposal: Owner furnished; Owner installed.
   3. Soap Dispenser: Owner furnished; Owner installed.
   4. Sanitary Napkin Disposal.
   5. Seat Cover Dispenser.
   6. Mirror.
      a. Size: As indicated on Drawings.
   7. Coat Hook.
   8. Grab Bars.
      a. Lengths:
         1) Horizontal: 36 inches, 42 inches.
         2) Vertical: 18 inches.
   9. Baby Changing Station
   10. Paper Towel Dispenser
   11. Trash Can
   12. Surface Mounted Soap Dispenser
   13. Paper Towel Dispenser / Disposal.

2.1 UNDERLAVATORY GUARDS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Plumberex Specialty Products, Inc.
   2. Truebro by IPS Corporation.

B. Underlavatory Guard:
   1. Description: Insulating pipe covering for supply and drain piping assemblies, that prevent direct contact with and burns from piping, and allow service access without removing coverings.
   2. Material and Finish: Antimicrobial, molded-plastic, white.

2.2 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, 0.0312-inch minimum nominal thickness, unless otherwise indicated.

B. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.0359-inch minimum nominal thickness.

C. Galvanized Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip zinc coating.

D. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

E. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

F. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).

G. ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.

2.3 FABRICATION

A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

B. Surface-Mounted Toilet Accessories: Unless otherwise indicated, fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with continuous stainless-steel hinge. Provide concealed anchorage where possible.

C. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least 250 lbf, when tested according to method in ASTM F 446.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.

B. Remove temporary labels and protective coatings.

C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

3.3 TOILET ACCESSORY SCHEDULE

A. Provide products and model numbers indicated Toilet Accessory Schedule on Drawings.

END OF SECTION 10 28 00

SECTION 22 01 00 – PLUMBING GENERAL WORK REQUIREMENTS

PART 1 - GENERAL

1.1. SUMMARY

A. This section includes general requirements and information for Division 22 work.

1.2. DEFINITIONS

A. Owner Acceptance / Substantial Completion: Work that is judged by the Engineer to be substantially complete, accepted to be safe for use by the Authority Having Jurisdiction (AHJ), and accepted by the Owner. Acceptance comes with an agreement the Engineer's written punchlist of outstanding items will be completed to fulfill the contractual obligations.

B. Full Owner Occupancy: Owner will occupy the site and existing building during entire construction period.

C. Partial Owner Occupancy: Owner may occupy completed areas of building before Owner Acceptance.

D. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct chases, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

E. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

F. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

G. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and chases.

H. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

I. Provide: Contractor shall furnish and install materials, equipment or fixtures as indicated.

J. Install Items Furnished by Owner or Others: Contractor shall receive shipment, store, install and verify materials, equipment or fixtures selected and purchased outside of the prime construction contract as indicated.

K. Furnish Items to Owner or Others: Contractor shall purchase and deliver materials, equipment or fixtures for installation by others as indicated.

1.3. SUBMITTALS

A. Construction Submittals: Manufacturer startup, operation and maintenance checklists for all equipment and devices included in Division 22 specifications in a single submittal package for review prior to equipment startup.

B. Closeout Submittals: Manufacturer startup, operation and maintenance reports with completed checklists signed by the involved technicians and the Mechanical Contractor's witnessing superintendent.

1.4. INSPECTIONS

A. Contractor shall be responsible for obtaining all inspections from regulatory agencies having jurisdiction over the project.

1.5. QUALITY ASSURANCE

A. Roof Warranties: All work on roofs shall comply with the roof manufacturer's warranty requirements.

1.6. WARRANTY

A. Project Warranty: All work performed, and all materials installed in Division 22 shall be warranted by the Contractor for 1 year from the Owner's written acceptance. The warranty shall include all labor and parts. The Contractor shall be on site within 48 hours of Owner notifications.

1. This warranty does not waive the Owner's obligation to provide routine maintenance. Routine maintenance includes maintenance recommended by each equipment manufacturer and industry standard requirements for overall systems as documented in the project's Operation and Maintenance Manuals. Replacement of wear items such as filters, etc. are not included in the warranty unless they are incidental to other warranty work being performed. Failures due to the lack of routine maintenance are the responsibility of the Owner.
2. Equipment manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the obligations of the Project Warranty.
3. Extended or special warranties defined in other sections shall be in addition to, and run concurrently with, the Project Warranty.

1.7. PROJECT DOCUMENTS

A. Project Documents: Division 22 project documents are diagrammatic in nature and intended to represent complete and functioning systems. If any aspect of the work is undefined or unclear, the contractor shall submit their questions in writing prior to the final addendum deadline as defined in the specifications and/or at the pre-bid conference. If any aspect of the work is undefined or unclear after the final addendum, include the details and cost for the highest quality solution. The contractor is encouraged to thoroughly review the contract documents and site conditions prior to bidding.

B. Basis of Design Manufacturers: Manufacturer names and model numbers of equipment and devices noted on drawings and in equipment schedules shall be considered the Engineer's basis of design. Proposed changes to the basis of design shall be submitted to the Engineer for review and approval. The submittal shall include a description of all changes necessary to implement the substitution, including but not limited to plumbing, mechanical, and electrical connections; dimensions, weights, and structural supporting structure; layout changes necessary to maintain clearances; and acoustical treatments. All changes required to implement a substitution is the responsibility of Contractor at no added cost to the Owner.

C. Listed Manufacturers: Manufacturers listed in the Division 22 specification sections and on drawings represent the performance requirements of the project documents. Alternative manufacturers that do not meet the requirements will not be accepted. The manufacturer listing does not result in an automatic approval. In addition to construction and performance requirements, the proposed equipment must meet the indicated physical dimension, weight, acoustic, power, and control limitations of the project. Verify existing conditions in the field, when applicable, and proposed conditions prior to submitting equipment for Engineer review. When full project coordination drawings are not required, generate coordination drawings to the level of detail necessary to determine if the proposed equipment will comply with the project documents and manufacturer recommended maintenance clearances.

1.8. COORDINATION

A. Maintenance Access: Install equipment and devices in such a manner to be readily accessible for testing, adjusting, balancing, inspection, and maintenance. All concealed equipment and devices, including but not limited to equipment, valves, actuators, sensors, gauges, test ports, filter housings, etc., shall be installed above accessible ceilings, or within accessible rooms or chases. Equipment and/or devices not coordinated prior to installation, as judged by the Engineer, shall be removed and reinstalled at no added cost.

B. Arrange for pipe spaces, chases, slots, and openings in building structure during progress of construction to allow for plumbing installations.

C. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.

PART 2 - PRODUCTS

2.1. ESCUTCHEONS AND FLOOR PLATES

A. Escutcheons:

1. One-Piece, Cast-Brass Type: With polished, chrome-plated finish and setscrew fastener.
2. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with chrome-plated finish and spring-clip fasteners.
3. Split-Casting Brass Type: With polished, chrome-plated finish and with concealed hinge and setscrew.

B. Floor Plates:

1. One-Piece Floor Plates: Cast-iron flange with holes for fasteners.
2. Split-Casting Floor Plates: Cast brass with concealed hinge.

PART 3 - EXECUTION

3.1. DOCUMENTATION OF PROJECT CONDITIONS

A. Project Conditions: Document in digital-format photos and video the existing project conditions and continue to document the conditions as the project progresses. Owner claims of contractor damage will be judged by the documented conditions.

3.2. OPERATION AND MAINTENANCE MANUALS

A. The contractors shall deliver one complete set of bookmarked manuals in electronic PDF format of all operation and maintenance manuals to the Owner through the Designer, two (2) weeks before the pre-final inspection is held. The manuals shall be bookmarked to a minimum of one level – ie: each major piece of equipment (chiller, boiler switchboard, water closet, water heater, etc.) or document category (warranties, parts list, contact information, etc.) The manuals shall be delivered by one of the following:

1. USB Drive.
2. CD/DVD.
3. Downloadable file from FTP Site.

B. Manuals shall include the following (at a minimum):

1. Index and page numbers.
2. Certificate of Owner Acceptance / Substantial Completion.
3. Summary sheet of warranties with dates noted and a copy of all warranties.
4. List of all subcontractors and suppliers with names, addresses, and phone numbers.
5. Complete start-up, operation, and shutdown procedures for each system including sequence of events, locations of switches, emergency procedures, and any other critical items.
6. Complete set of all submittal data and current shop drawings (including 3rd party generated shop drawings) and equipment description showing all capacities and other operation conditions.

3.3. WALL, FLOOR AND ROOF OPENINGS

A. Exterior and interior wall, floor, and roof openings made for piping penetrations shall maintain the building's structural integrity. Install penetration sleeves in accordance with the structural engineer.

3.4. PIPING SYSTEM INSTALLATION GENERAL REQUIREMENTS

A. Install piping according to the following requirements and Division 22 Sections specifying piping systems.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements which were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved.

C. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.

D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

F. Install piping to permit valve servicing.

G. Install piping at indicated slopes.

H. Install piping free of sags and bends.

I. Install fittings for changes in direction and branch connections.

J. Install piping to allow application of insulation.

K. Select system components with pressure rating equal to or greater than system operating pressure.

L. Install sleeves for pipes passing through concrete and masonry walls, gypsum-board partitions, and concrete floor and roof slabs. Refer to Section 220517 for more information about sleeves and sleeve seals.

M. Piping Connections: Make piping connections according to the following unless otherwise indicated:

1. Install unions, in piping 2-inches NPS and smaller, adjacent to each valve and at final connection to each piece of equipment.

3.5. ESCUTCHEONS AND FLOOR PLATES INSTALLATION

A. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.

B. Install escutcheons with inside diameter to closely fit around pipe, tube, and insulation of piping and with outside diameter that completely covers opening.

1. New Piping: Install one-piece cast-brass type for new piping installations. Install deep-pattern type where piping sleeve protrudes from the floor or wall.

C. Install floor plates for piping penetrations of floors.

D. Install floor plates with inside diameter to closely fit around pipe, tube, and insulation of piping and with outside diameter that completely covers opening.

1. New Piping: One-piece, floor-plate type.

E. Replace broken and damaged escutcheons and floor plates using new materials.

END OF SECTION 22 01 00

SECTION 22 05 17 – PLUMBING SLEEVES AND SLEEVE SEALS

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes sleeves, sleeve seals, and associated materials.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

PART 2 - PRODUCTS

2.1. SLEEVES

A. Cast-Iron Wall Pipes: Cast or fabricated of cast or ductile iron and equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop unless otherwise indicated.

B. Galvanized-Steel Wall Pipes: ASTM A 53, Schedule 40, with plain ends and welded steel collar; zinc coated.

C. Galvanized-Steel-Pipe Sleeves: ASTM A 53, Type E, Grade B, Schedule 40, zinc coated, with plain ends.

D. Galvanized-Steel-Sheet Sleeves: Minimum 20-gauge thickness; round tube closed with welded longitudinal joint.

E. PVC pipe sleeves are not acceptable.

2.2. SLEEVE-SEAL SYSTEMS

A. Description: Modular sealing-element unit, designed for field assembly, for filling annular space between piping and sleeve.

1. Sealing Elements: EPDM-rubber or NBR interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
2. Pressure Plates: Stainless steel.
3. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements.

B. PVC sleeve seal systems are not acceptable.

2.3. GROUT

A. Standard: ASTM C 1107, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

B. Characteristics: Non-shrink; recommended for interior and exterior applications.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.1. SLEEVE INSTALLATION

A. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.

1. Insulated piping systems shall have insulation continue through penetrations without interruption. Insulation joints shall not occur within sleeves.

B. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide 1-inch minimum annular clear space between piping and concrete slabs and walls.

1. Sleeves are not required for core-drilled holes.

C. Install sleeves in concrete floors, concrete roof slabs, and masonry walls as new slabs and walls are constructed.

1. Walls: Cut sleeves to length for mounting flush with both surfaces.
2. Floors: Extend sleeves 1-inch above finished floor and seal penetrations watertight.
3. Mechanical Equipment Room and Wet Area Floors: Extend sleeves 2-inches above finished floor and seal penetrations watertight.
4. Duke Health (Nov. 2017): Change 1 to 1 1/2-inches and 2 to 4-inches in above floor paragraphs.
5. Using grout, seal the space outside of sleeves in slabs and walls without sleeve-seal system.

D. Install sleeves for pipes passing through interior partitions.

1. Cut sleeves to length for mounting flush with both surfaces.
2. Install sleeves that are large enough to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation.
3. Seal annular space between sleeve and piping or piping insulation; use joint sealants appropriate for size, depth, and location of joint. Comply with requirements of sealants.

E. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Comply with requirements for firestopping and associated UL detail.

3.2. SLEEVE-SEAL-SYSTEM INSTALLATION

A. Install sleeve-seal systems in sleeves in exterior masonry walls and slabs-on-grade at service piping entries into building.

B. Select type, size, and number of sealing elements required for piping material and size and for sleeve interior diameter or hole size. Position piping in center of sleeve. Center piping in penetration, assemble sleeve-seal

system components, and install in annular space between piping and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make a watertight seal.

3.3. SLEEVE AND SLEEVE-SEAL SCHEDULE

A. Use sleeves and sleeve seals for the following piping-penetration applications:

1. Cast-Iron Pipe Sleeves with Sleeve Seals: Masonry walls above and below grade and concrete slabs on grade.

    a. Select sleeve size to allow for 1-inch annular clear space between piping and sleeve for installing sleeve-seal system.

2. Galvanized Steel Pipe Sleeves: Interior fire-rated partitions; interior non-rated partitions; and concrete slabs above grade.
3. Galvanized Steel Sheet Sleeves: Interior non-rated partitions.

END OF SECTION 22 05 17

SECTION 22 05 19 – PLUMBING PIPING INSTRUMENTS AND GAGES

GENERAL

1.1. SUMMARY

A. Section includes instruments and gages for plumbing systems.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

1. Product Certificates: For each type of instrument and gage from manufacturer.

B. Closeout Submittals:

1. Operation and Maintenance Data: For instruments and gages to include in operation and maintenance manuals.

1.3. QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70 by a qualified testing agency accepted by the Authority Having Jurisdiction and marked for intended location and application.

1. Listing agencies of electrical and plumbing equipment shall be accredited by the North Carolina Building Code Council (NCBCC).

PART 2 - PRODUCTS

2.1. PRESSURE GAGES

A. Standard: ASME B40.100.

B. Dial-Type Pressure Gages: Oil-filled, cast aluminum case with 4-1/2 inch nominal diameter; non-reflective aluminum dial with permanently etched scale markings graduated in psi and kPa; bourbon tube pressure element assembly; brass pressure connection with NPS 1/4 or 1/2 inch ASME B1.20 pipe threads and bottom-outlet; mechanical movement with link pressure element and connection to pointer; glass window; stainless steel ring; dark colored metal pointer; and accuracy to plus or minus 1 percent of scale range.

C. Scale Ranges for Piping Systems:

1. Cold and Hot Water: 0 to 100 psi.

2.2. GAGE ATTACHMENTS

A. Snubbers: ASME B40.100, brass; with NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe threads and surge-dampening device. Include extension for use on insulated piping.

B. Valves: Brass or stainless-steel needle, with NPS 1/4 or NPS 1/2, ASME B1.20.1 pipe threads.

2.3. TEST PLUGS

A. Test Plug: Test-station fitting made for insertion into piping tee fitting; brass or stainless steel body including extended stem when used on insulated piping; core inserts and gasketed and threaded cap; ASME B1.20.1 pipe threads; chlorosulfonated polyethylene synthetic and EPDM self-sealing rubber core inserts; rated for a minimum of 500 psig at 200 deg F.

PART 3 - EXECUTION

3.1. INSTALLATION

A. Install direct-mounted pressure gages in piping tees with pressure gage located on pipe at the most readable position.

B. Install remote-mounted pressure gages on panel.

C. Install valve and snubber in piping for each pressure gage for fluids.

D. Install test plugs in piping tees.

1. Install pressure gages in the inlet and outlet piping of each pressure-reducing valve.

3.2. ADJUSTING

A. Adjust faces of instruments and gages to proper angle for best visibility.

END OF SECTION 22 05 19

SECTION 22 05 23 – PLUMBING PIPING VALVES

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes general duty valves for plumbing piping systems such as ball and gate valves and associated accessories.

1.2. SUBMITTALS

A. Product Submittals: For each type of valve indicated.

1.3. QUALITY ASSURANCE

A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.

B. ASME Compliance:

1. ASME B31.1 for power piping valves.
2. ASME B31.9 for building services piping valves.

1.4. DELIVERY, STORAGE AND HANDLING

A. Prepare valves for shipping as follows:

1. Protect internal parts against rust and corrosion.
2. Protect threads, flange faces, grooves, and weld ends.
3. Set angle and gate valves closed to prevent rattling.
4. Set ball and plug valves open to minimize exposure of functional surfaces.

B. Use the following precautions during storage:

1. Maintain valve end protection.
2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

PART 2 - PRODUCTS

2.1. MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. Apollo Valves / Conbraco.

2. Milwaukee Valve / Hammond Valve.
3. NIBCO.
4. Watts.
5. Other owner-approved equivalents.

2.2. GENERAL REQUIREMENTS

A. Refer to plumbing valve schedule articles for applications of valves.

B. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable water service.

C. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15-percent zinc are not permitted.

D. Valve Pressure and Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.

E. Valve Sizes: Same as upstream piping unless otherwise indicated.

F. Valve Actuator Types:

1. Hand Wheel: For valves other than quarter-turn types.
2. Hand Lever: For quarter-turn valves 4-inches NPS and smaller except plug valves.

G. Valves in Insulated Piping: Provide 2-inch stem extensions.

1. Gate Valves: With rising stem.
2. Ball Valves: With extended operating handle of non-thermal-conductive material, and protective sleeve that allows operation of valve without breaking the vapor seal or disturbing insulation.

H. Valve-End Connections:

1. Threaded: With threads according to ASME B1.20.1.

I. Valve Bypass and Drain Connections: MSS SP-45.

2.3. BALL VALVES

A. Ball Valves, 2-inches NPS and smaller: Two-piece, full-port, quarter-turn, forged brass or bronze ball valves with stainless steel trim, PTFE seats, adjustable stem packing and anti-blowout stem, rated for 600 psig CWP (cold working pressure). Valves shall comply with MSS SP-110. Valves shall have threaded ends.

2.4. GATE VALVES

A. Gate Valves, 2-inches NPS and smaller: Bronze non-rising stem gate valves with integral seat and union-ring bonnet, bronze stem, solid-wedge bronze disc and asbestos-free packing and Class 125 rated for 200 psig CWP (cold working pressure). Hand-wheels shall be malleable or ductile iron. Valves shall comply with MSS SP-80. Valves shall have threaded ends.

PART 3 - EXECUTION

3.1. EXAMINATION

A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.

B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.

C. Examine threads on valve and mating pipe for form and cleanliness.

D. Do not attempt to repair defective valves; replace with new valves.

3.2. VALVE INSTALLATION

A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.

B. Install valves in branch lines to isolate sections of the piping system.

C. Locate valves for easy access and provide separate support where necessary.

D. Install valves in horizontal piping with stem at or above center of pipe. Valves with stems below center of piping are not acceptable.

E. Install valves in position to allow full stem movement.

F. Valves shall be equipped with stem extensions for all applications where the piping will be insulated.

3.3. ADJUSTING

A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.4. GENERAL REQUIREMENTS FOR VALVE APPLICATIONS

A. Plumbing piping systems shall use the following valve types unless otherwise indicated on the drawings or in other Division 22 sections:

1. Shutoff: Ball or gate.

END OF SECTION 22 05 23

SECTION 22 05 29 – PLUMBING HANGERS AND SUPPORTS

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes pipe hangers and hanger shields, metal framing systems, fastener systems, and pipe-stands.

1.2. PERFORMANCE REQUIREMENTS

A. Structural Performance: Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

1. Design supports for multiple pipes, including pipe stands, capable of supporting combined weight of supported systems, system contents, and test water.

1.3. SUBMITTALS

A. Product Submittals: For each type of product indicated.

PART 2 - PRODUCTS

2.1. METAL PIPE HANGERS AND SUPPORTS

A. Carbon-Steel Pipe Hangers and Supports: MSS SP-58, Types 1 through 58, factory-fabricated components. Hangers shall be galvanized. Padded hangers shall be fiberglass pad or cushion to support bearing surface of piping. Hanger rods shall be continuously threaded with nuts and washers made of carbon steel.

B. Copper Pipe Hangers: MSS SP-58, Types 1 through 58, copper-coated-steel, factory-fabricated components. Hanger rods shall be continuously threaded with nuts and washers made of stainless steel.

2.2. METAL FRAMING SYSTEMS

A. Description: Shop or field-fabricated pipe-support assembly for supporting multiple parallel pipes. Channels shall be continuous slotted steel with in-turned lips. Channel nuts shall be designed to fit into channel slot and when tightened to prevent slipping. Hanger rods shall be continuously threaded with nuts and washers made of carbon steel.

2.3. THERMAL-HANGER SHIELD INSERTS

A. Insulation-Insert Material: ASTM C 552, Type II cellular glass with 100-psig minimum compressive strength. For cold piping systems, include vapor barrier.

B. Insert and shield shall cover the entire pipe circumference for trapeze of clamped systems and cover the lower 180-degrees of pipe circumference for clevis or band hangers.

C. Insert Length: Extend 2 inches beyond sheet metal shield for piping operating below ambient air temperature.

2.4. FASTENER SYSTEMS

A. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

B. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel anchors, for use in hardened Portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

2.5. MISCELLANEOUS MATERIALS

A. Structural Steel: ASTM A 36, carbon-steel plates, shapes, and bars; black and galvanized.

B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, non-shrink and nonmetallic grout; suitable for interior and exterior applications.

1. Design Mix: 5000-psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1. HANGER AND SUPPORT INSTALLATION

A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure.

B. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems.

C. Thermal-Hanger Shield Installation: Install in pipe hanger or shield for insulated piping.

D. Fastener System Installation:

1. Install powder-actuated fasteners for use in lightweight concrete or concrete slabs less than 4 inches thick in concrete after concrete is placed and completely cured. Use operators that are licensed by powder-actuated tool manufacturer. Install fasteners according to powder-actuated tool manufacturer's operating manual.

2. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions.

E. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

F. Install hangers and supports to allow controlled thermal movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.

G. Install lateral bracing with pipe hangers and supports to prevent swaying.

H. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, 2 1/2-inches NPS and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

I. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.

J. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

K. Insulated Piping:

1. Attach clamps and spacers to piping. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping. Clamps may project through the insulation of hot piping systems. Use thermal hanger shield inserts with clamp sized to match outside diameter of insert for cold piping systems.

2. Install MSS SP-58, Type 40, protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees.

3. Shield Dimensions for Pipe: Not less than the following:

    a. Less than 4-inches NPS: 12-inches long and 0.060-inch thick.

4. Thermal-Hanger Shields: Install with insulation same thickness as piping insulation.

3.2. METAL FABRICATIONS

A. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.

B. Field Welding: Comply with AWS D1.1 procedures for shielded, metal arc welding; appearance and quality of welds; and methods used in correcting welding work; and with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. Finish welds at exposed connections so no roughness shows after finishing and so contours of welded surfaces match adjacent contours.

3.3. ADJUSTING

A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.

B. Trim excess length of continuous-thread hanger and support rods to 1 1/2 inches.

3.4. PAINTING

A. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

3.5. HANGER AND SUPPORT SCHEDULE

A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.

B. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.

C. Use hangers and supports with galvanized metallic coatings for piping that will not have field-applied finish.

D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.

E. Use carbon-steel pipe hangers and supports and metal framing systems and attachments for general service applications.

F. Use copper-plated pipe hangers and copper or stainless-steel attachments for copper piping and tubing.

G. Use thermal-hanger shield inserts for insulated piping and tubing.

H. Horizontal-Piping Hangers and Supports:

1. Adjustable Steel Clevis Hangers (MSS Type 1)
2. Split-Ring Hangers (MSS Type 69): Piping 2-inches NPS and smaller.
3. Copper Pipe Hangers: For copper piping.

I. Vertical-Piping Clamps:

1. Riser Clamps (MSS Type 8).

J. Building Attachments: Install MSS compliant devices for all building attachments. Install them per manufacturer’s instructions.

K. Saddles and Shields:

1. Steel-Pipe-Covering Protection Saddles (MSS Type 39): To fill interior voids with insulation that matches adjoining insulation.
2. Protection Shields (MSS Type 40): Of length recommended in writing by manufacturer to prevent crushing insulation.
3. Thermal-Hanger Shield Inserts: For supporting insulated pipe.

L. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.

M. Use powder-actuated fasteners or mechanical-expansion anchors instead of building attachments where required in concrete construction.

3.6. PIPE HANGER INSTALLATION

A. Steel Piping: Install hangers for steel piping with the following minimum rod sizes and maximum spacing:

HORIZONTAL PIPE HANGER SCHEDULE (STEEL/CAST-IRON)						
SYSTEM	WATER		FUEL GAS		WASTE AND VENT	
MATERIAL	SCHEDULE 40 STEEL		SCHEDULE 40 STEEL		CAST-IRON SOIL DWV	
PIPE DIAMETER (INCHES)	MINIMUM HANGER ROD DIA. (INCHES)	MAXIMUM HANGER SPACING (FEET)	MINIMUM HANGER ROD DIA. (INCHES)	MAXIMUM HANGER SPACING (FEET)	MINIMUM HANGER ROD DIA. (INCHES)	MAXIMUM HANGER SPACING (FEET)
1/2	3/8	6	3/8	6		
3/4	3/8	6	3/8	8		
1	3/8	6	3/8	8		
1 1/4	3/8	6	3/8	8		
1 1/2	3/8	8	3/8	8	3/8	5
2	3/8	10	3/8	8	3/8	5
2 1/2	3/8	10	1/2	10		
3	1/2	12	1/2	10	1/2	5
4	5/8	12	5/8	10	5/8	5
5	5/8	12	5/8	10	5/8	5
6	3/4	12	5/8	10	3/4	5
8	3/4	12			3/4	5
10	7/8	12			7/8	5
12	7/8	12			7/8	5
14	1	12				
16	1	12				
18	1 1/4	12				
20	1 1/4	12				
24	1 1/2	12				

B. Copper Piping: Install hangers for drawn-temper copper piping with the following minimum rod sizes and maximum spacing:

HORIZONTAL PIPE HANGER SCHEDULE (COPPER)						
SYSTEM	WATER		FUEL GAS		MGAS / VACUUM	
MATERIAL	DRAWN-TUBE COPPER		DRAWN-TUBE COPPER		DRAWN-TUBE COPPER	
PIPE DIAMETER (INCHES)	MINIMUM HANGER ROD DIA. (INCHES)	MAXIMUM HANGER SPACING (FEET)	MINIMUM HANGER ROD DIA. (INCHES)	MAXIMUM HANGER SPACING (FEET)	MINIMUM HANGER ROD DIA. (INCHES)	MAXIMUM HANGER SPACING (FEET)
1/2	3/8	5	3/8	4	3/8	6
3/4	3/8	5	3/8	6	3/8	6
1	3/8	5	3/8	6	3/8	8
1 1/4	3/8	5	3/8	8	3/8	8
1 1/2	3/8	8	3/8	8	3/8	10
2	3/8	8	3/8	8	3/8	10
2 1/2	1/2	8			1/2	10
3	1/2	10			1/2	10
4	5/8	10			1/2	10
5					1/2	10
6					5/8	10
8					3/4	10

C. Plastic Piping Hanger Spacing: Space hangers according to pipe manufacturer's written instructions for service conditions. Avoid point loading. Space and install hangers with the fewest practical rigid anchor points.

HORIZONTAL PIPE HANGER SCHEDULE (PVC)				
SYSTEM	WASTE AND VENT		VACUUM	
MATERIAL	PVC SOIL DWV		SCHEDULE 40 PVC	
PIPE DIAMETER (INCHES)	MINIMUM HANGER ROD DIA. (INCHES)	MAXIMUM HANGER SPACING (FEET)	MINIMUM HANGER ROD DIA. (INCHES)	MAXIMUM HANGER SPACING (FEET)
1/2			3/8	2.5
3/4			3/8	2.5
1			3/8	2.5
1 1/4			3/8	2.5
1 1/2	3/8	4	3/8	3
2	3/8	4	3/8	3
2 1/2			1/2	3.5
3	1/2	4	1/2	3.5
4	5/8	4	1/2	4
5	5/8	4	1/2	4
6	3/4	4	5/8	4
8	3/4	4	5/8	4
10	7/8	4		
12	7/8	4		

D. Support vertical runs at roof, at each floor, and at 8-foot intervals between floors.

END OF SECTION 22 05 29

SECTION 22 05 53 – PLUMBING SYSTEMS IDENTIFICATION

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes pipe labels and tags.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

1. Product Data: For each type of product indicated.

B. Closeout Submittals:

1. Valve Schedules: For each piping system to include in maintenance manuals.

1.3. COORDINATION

A. Coordinate the identification requirements with the Owner's up-to-date standards prior to purchasing materials.

B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

C. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1. PIPE LABELS

A. Pipe Labels: Pre-printed, color-coded, self-adhesive vinyl labels with lettering and flow direction arrows. They shall have minimum 1 1/2-inch tall block lettering. The labels shall be suitable for temperatures up to 160 deg F and compatible with each substrate material.

2.2. VALVE TAGS

A. Valve Tags: 0.032-inch thick brass or 0.025-inch thick stainless steel, stamped or engraved, with 1/4-inch letters for piping system abbreviation and 1/2-inch numbers with pre-drilled or stamped holes for beaded chain or S-hook attachment hardware.

B. Valve Schedules: For each piping system, on 8-1/2-by-11-inch bond paper. Tabulate valve number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal-operating

position (open, closed, or modulating), and variations for identification. Mark valves for emergency shutoff and similar special uses.

1. Valve-tag schedule shall be included in operation and maintenance data.

PART 3 - EXECUTION

3.1. PREPARATION

A. Clean piping surface of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulates.

3.2. PIPE LABEL INSTALLATION

A. Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:

1. Near each valve and control device.
2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
4. Spaced at maximum intervals of 25 feet along each run. Reduce intervals to 10 feet in areas of congested piping and equipment.
5. On piping above removable acoustical ceilings. Omit intermediately spaced labels.

3.3. VALVE-TAG INSTALLATION

A. Install tags on valves and control devices in piping systems, except valves within factory-fabricated equipment units; faucets; convenience and lawn-watering hose connections; and similar roughing-in connections of end-use fixtures and units. List tagged valves in a valve schedule.

3.4. RATED PENETRATION INSTALLATION

A. Stencil penetration ratings and UL detail numbers on wall surfaces directly adjacent to the penetrations. UL detail number shall match the material used. This information shall be readily visible in non-occupied spaces, within chases and above ceilings. The following is an example:

2-HR RATED FIRE BARRIER

UL DETAIL SYSTEM NO. ABC-0000

3.5. SYSTEM IDENTIFICATION SCHEDULE

A. Install equipment and piping identification materials with the color and abbreviations that match the Owner's standard practice. Refer to System Identification Schedule below.

SYSTEM IDENTIFICATION SCHEDULE			
PIPING SYSTEMS	ABBREV.	BACKGROUND	LETTERING
DOMESTIC WATER	DCW/DHW/DHWR	GREEN	WHITE
NON-POTABLE WATER	NPW	LIGHT GRAY	WHITE
REAGENT WATER	DI/RO/DISTILLED	BROWN	WHITE
CONDENSATE DRAIN	CD	WHITE	BLACK
STORM DRAINAGE	STORM	BLACK	WHITE
SANITARY WASTE AND VENT	WASTE/VENT	BLACK	WHITE
ACID WASTE AND VENT	ACID WASTE/VENT	SAFETY YELLOW	BLACK
COMPRESSED AIR	AIR	LIGHT ORANGE	BLACK
INSTRUMENT AIR	CONFORM TO NFPA 99, TABLE 5.1.11		
MEDICAL-GRADE COMPRESSED AIR	CONFORM TO NFPA 99, TABLE 5.1.11		
VACUUM	CONFORM TO NFPA 99, TABLE 5.1.11		
MEDICAL GASES	CONFORM TO NFPA 99, TABLE 5.1.11		
FIRE PROTECTION	FIRE	BRIGHT RED	WHITE
NATURAL GAS	NG	YELLOW	BLACK
PROPANE GAS	LPG	YELLOW	BLACK
FUEL OIL	FO	YELLOW	BLACK
DIESEL FUEL	DIESEL	YELLOW	BLACK
OTHERS	SEE PLANS	WHITE	BLACK
VALVE TAGS		BRASS	BLACK
EQUIPMENT AND DUCT SYSTEMS	ABBREV.	BACKGROUND	LETTERING
WARNING SIGNS	SEE PLANS	SAFETY YELLOW	BLACK
CEILING GRID MARKERS	SEE PLANS	CLEAR	BLACK
EQUIPMENT TAGS	SEE PLANS	BLACK	WHITE

NOTE: PROVIDE FLOW ARROWS ON ALL PIPE MARKERS.

END OF SECTION 22 05 53

SECTION 22 07 19 – PLUMBING INSULATION

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes insulation of plumbing piping systems.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory and field applied if any).

1.3. QUALITY ASSURANCE

A. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84, by a testing and inspecting agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

1. Indoors installed in air plenums: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
2. Indoors not installed in air plenums: Flame-spread index of 25 or less, and smoke-developed index of 450 or less.

1.4. DELIVERY, STORAGE, AND HANDLING

A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

B. Storage: Insulation material shall be stored in a dry location sealed in plastic to prevent moisture infiltration. Insulation material installed or not, that becomes wet, dirty, etc. shall be removed and replaced. “Dried” or “cleaned” insulation materials shall not be used.

1.5. COORDINATION

A. Coordinate sizes and locations of supports, hangers, and insulation shields.

B. Coordinate clearance requirements with piping installer for piping insulation application. Before preparing piping shop drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

1.6. SCHEDULING

A. Schedule insulation installation after pressure testing systems and where required after installing. Insulation applied prior to satisfactory test results shall be removed and replaced.

PART 2 - PRODUCTS

2.1. INSULATION MATERIALS

A. General: Comply with requirements in Piping Insulation Schedule and Field-Applied Jacket Schedule articles for where insulating materials shall be applied.

1. Products shall not contain asbestos, lead, mercury, or mercury compounds.
2. Fitting Covers: Field apply insulation to cover valves, elbows, tees, and flanges.

B. Mineral-Fiber, Preformed Pipe Insulation:

1. Type I, 850 deg F Materials: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 547, Type I, Grade A, with factory-applied ASJ-SSL.
2. Thermal conductivity (k-value) maximum value of 0.34 BTU in /(hr sqft deg F) for fluid temperatures above 350 deg F; 0.32 for fluids 350 deg F and lower; 0.30 for fluids 250 deg F and lower; 0.29 for fluids 200 deg F and lower; 0.27 for fluids 60 deg F and lower; and 0.26 for fluids 40 deg F and lower.

2.2. FACTORY-APPLIED JACKETS

A. Insulation system schedules indicate factory-applied jackets for various applications. When factory-applied jackets are indicated, comply with the following:

1. ASJ-SSL: ASJ with self-sealing, pressure-sensitive, acrylic-based adhesive covered by a removable protective strip.

2.3. FIELD-APPLIED JACKETS

A. Insulation system schedules indicate field-applied jackets for various applications. When field-applied jackets are indicated, comply with the following:

1. PVC Jacket: High-impact resistant, UV-resistant PVC complying with ASTM D1784, Class 16354-C, 20-mils thick.

    a. Adhesive: As recommended by jacket material manufacturer.
    b. Color: Comply with Section 220553.
    c. Factory-fabricated fitting covers to match jacket if available; otherwise, field fabricate.

        1) Shapes: 45- and 90-degree, short- and long-radius elbows, tees, valves, flanges, unions, reducers, end caps, soil-pipe hubs, traps, mechanical joints, and P-trap and supply covers for lavatories.

2. Woven Glass-Fiber Fabric Jacket: Comply with MIL-C-20079H, Type I, plain weave, and pre-sized a minimum of 8 oz./sq. yd.

2.4. INSULATING CEMENTS

A. Mineral-Fiber Insulating Cement: Comply with ASTM C 195.

B. Mineral-Fiber, Hydraulic-Setting Insulating and Finishing Cement: Comply with ASTM C 449.

2.5. PIPING INSULATION INSTALLATION MATERIALS

A. General: Adhesives, mastics and sealants shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated unless otherwise indicated.

B. Adhesives:

1. Mineral-Fiber Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.
2. ASJ Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.
3. PVC Jacket Adhesive: Compatible with PVC jacket.

C. Mastics: Comply with MIL-PRF-19565C, Type II.

1. Vapor-Barrier Mastic: Water based, white, suitable for indoor use on below-ambient services with water-vapor permeance of 0.013 perm at 43-mil dry film thickness per ASTM E 96/E 96M, Procedure B; service temperature range of minus 20 to plus 180 deg F; and solids content of 58 percent by volume and 70 percent by weight per ASTM D 1644.
2. Breather Mastic: Water based; white, suitable for indoor and outdoor use on above-ambient services with service temperature range of minus 20 to plus 180 deg F; water-vapor permeance of 1.8 perms at 0.0625-inch dry film thickness per ASTM F 1249; and solids content of 60 percent by volume and 66 percent by weight.

D. Sealants:

1. Joint Sealants: Permanently flexible, white or gray, elastomeric sealant with service temperature range of minus100 to plus 300 deg F.
2. ASJ Flashing Sealants and Vinyl and PVC Jacket Flashing Sealants: Fire and water-resistant, white, flexible, elastomeric sealant with service temperature range of minus 40 to plus 250 deg F.

E. Tapes:

1. ASJ Tape: White vapor-retarder tape matching factory-applied jacket with acrylic adhesive, complying with ASTM C 1136.
2. PVC Tape: Vapor-retarder tape matching field-applied PVC jacket with acrylic adhesive; suitable for indoor and outdoor applications.

F. Securements:

1. Staples: Outward-clinching insulation staples, nominal 3/4-inch wide, stainless steel or Monel.
2. Wire: 0.062-inch soft-annealed, stainless steel.

2.6. INDOOR PIPING INSULATION SCHEDULE

A. Domestic Cold Water:

1. Mineral-Fiber: 1-inch thick for 1/2 to 1 1/2-inches NPS and 1 1/2-inches thick for 2-inches and larger.

B. Exposed Domestic Cold Water, Sanitary Drainage Piping, and Stops for Plumbing Fixtures for People with Disabilities:

1. Molded Vinyl: 1/8-inch thick for all pipe sizes, ADA compliant, and anti-microbial surface compliant with ASTM G21. P-traps shall have vent at bottom.

2.7. FIELD-APPLIED JACKET SCHEDULE

A. Install jacket over insulation material. For insulation with factory-applied jacket, install the field-applied jacket over the factory-applied jacket.

B. Indoor Piping Jacket:

1. Concealed Piping: Woven-glass fiber jacket.
2. Exposed Piping: 20 mils thick PVC.

2.8. EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.

1. Verify that systems to be insulated have been tested and are free of defects.
2. Verify that surfaces to be insulated are clean and dry.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

2.9. PREPARATION

A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

B. Mix insulating cements with clean potable water.

2.10. GENERAL INSTALLATION REQUIREMENTS

A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping including fittings, valves, and specialties.

B. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of pipe system as specified in insulation system schedules.

C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.

D. Install insulation with longitudinal seams at top and bottom of horizontal runs.

E. Install multiple layers of insulation with longitudinal and end seams staggered.

F. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.

G. Keep insulation materials dry during application and finishing.

H. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.

I. Install insulation with least number of joints practical.

J. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.

1. Install insulation continuously through hangers and around anchor attachments.
2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.
4. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.

K. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.

L. Install insulation with factory-applied jackets as follows:

1. Draw jacket tight and smooth.
2. Cover circumferential joints with 3-inch wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches on center.
3. Overlap jacket longitudinal seams at least 1-1/2 inches. Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 2 inches on center.

    a. For below-ambient services, apply vapor-barrier mastic over staples.

4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe flanges and fittings.

M. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.

N. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.

O. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.

P. Piping insulation shall be continuous and not interrupted by hangers and supports. Hangers shall include factory-fabricated galvanized steel insulation shields that comply with MSS-58. Insulation installed that encapsulates any part of the hanger shall be removed and reinstalled.

2.11. PENETRATIONS

A. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.

B. Insulation Installation at Fire-Rated Wall and Partition Penetrations: Install insulation continuously through penetrations of fire-rated walls and partitions.

1. Comply with requirements in Section 220500 for firestopping and fire-resistive joint sealers.

2.12. PIPE INSULATION INSTALLATION

A. Requirements in this article generally apply to all insulation materials except where more specific requirements are specified in various pipe insulation material installation articles.

B. Insulation Installation on Fittings, Valves, Strainers, Flanges, and Unions:

1. Install insulation over fittings, valves, strainers, flanges, unions, and other specialties with continuous thermal and vapor-retarder integrity unless otherwise indicated.
2. Insulate pipe elbows using preformed fitting insulation or mitered fittings made from same material and density as adjacent pipe insulation. Each piece shall be butted tightly against adjoining piece and bonded with adhesive. Fill joints, seams, voids, and irregular surfaces with insulating cement finished to a smooth, hard, and uniform contour that is uniform with adjoining pipe insulation.
3. Insulate tee fittings with preformed fitting insulation or sectional pipe insulation of same material and thickness as used for adjacent pipe. Cut sectional pipe insulation to fit. Butt each section closely to the next and hold in place with tie wire. Bond pieces with adhesive.
4. Insulate valves using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. For valves, insulate up to and including the bonnets, valve stuffing-box studs, bolts, and nuts. Fill joints, seams, and irregular surfaces with insulating cement.
5. Insulate strainers using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker. Fill joints, seams, and irregular surfaces with insulating cement. Insulate strainers so strainer basket flange or plug can be easily removed and replaced without damaging the insulation and jacket. Provide a removable reusable insulation cover. For below-ambient services, provide a design that maintains vapor barrier.
6. Insulate flanges and unions using a section of oversized preformed pipe insulation. Overlap adjoining pipe insulation by not less than two times the thickness of pipe insulation, or one pipe diameter, whichever is thicker.
7. Cover segmented insulated surfaces with a layer of finishing cement and coat with a mastic. Install vapor-barrier mastic for below-ambient services and a breather mastic for above-ambient services. Reinforce the mastic with fabric-reinforcing mesh. Trowel the mastic to a smooth and well-shaped contour.
8. For services not specified to receive a field-applied jacket except for flexible elastomeric and polyolefin, install fitted PVC cover over elbows, tees, strainers, valves, flanges, and unions. Terminate ends with PVC end caps. Tape PVC covers to adjoining insulation facing using PVC tape.
9. Stencil or label the outside insulation jacket of each union with the word "union." Match size and color of pipe labels.

C. Insulate instrument connections for thermometers, pressure gages, pressure temperature taps, test connections, flow meters, sensors, switches, and transmitters on insulated pipes. Shape insulation at these connections by tapering it to and around the connection with insulating cement and finish with finishing cement, mastic, and flashing sealant.

D. Install removable insulation covers at locations necessary to access components. Installation shall conform to the following:

1. Make removable flange and union insulation from sectional pipe insulation of same thickness as that on adjoining pipe. Install same insulation jacket as adjoining pipe insulation.
2. When flange and union covers are made from sectional pipe insulation, extend insulation from flanges or union long at least two times the insulation thickness over adjacent pipe insulation on each side of flange or union. Secure flange cover in place with stainless-steel or aluminum bands. Select band material compatible with insulation and jacket.
3. Construct removable valve insulation covers in same manner as for flanges, except divide the two-part section on the vertical center line of valve body.

2.13. INSTALLATION OF MINERAL-FIBER INSULATION

A. Insulation Installation on Straight Pipes and Tubes:

1. Secure each layer of preformed pipe insulation to pipe with wire or bands and tighten bands without deforming insulation materials.
2. Where vapor barriers are indicated, seal longitudinal seams, end joints, and protrusions with vapor-barrier mastic and joint sealant.
3. For insulation with factory-applied jackets on below-ambient surfaces, do not staple longitudinal tabs. Instead, secure tabs with additional adhesive as recommended by insulation material manufacturer and seal with vapor-barrier mastic and flashing sealant.

B. Insulation Installation on Pipe Fittings and Elbows:

1. Install preformed sections of same material as straight segments of pipe insulation when available.
2. When preformed insulation elbows and fittings are not available, install mitered sections of pipe insulation, to a thickness equal to adjoining pipe insulation. Secure insulation materials with wire or bands.

C. Insulation Installation on Valves and Pipe Specialties:

1. Install preformed sections of same material as straight segments of pipe insulation when available.
2. When preformed sections are not available, install mitered sections of pipe insulation to valve body.
3. Arrange insulation to permit access to packing and to allow valve operation without disturbing insulation.
4. Install insulation to flanges as specified for flange insulation application.

2.14. FIELD-APPLIED JACKET INSTALLATION

A. Where glass-cloth jackets are indicated, install directly over bare insulation or insulation with factory-applied jackets.

1. Draw jacket smooth and tight to surface with 2-inch overlap at seams and joints.
2. Embed glass cloth between two 0.062-inch thick coats of lagging adhesive.
3. Completely encapsulate insulation with coating, leaving no exposed insulation.

B. Where PVC jackets are indicated, install with 1-inch overlap at longitudinal seams and end joints, for horizontal applications. Seal with manufacturer's recommended adhesive.

1. Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.

END OF SECTION 22 07 19

SECTION 22 11 16 – DOMESTIC WATER PIPING

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes pipe and fitting materials and joining methods for domestic water piping.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

B. Construction Submittals: System purging and disinfecting reports.

C. Closeout Submittals: Final disinfecting report.

1.3. QUALITY ASSURANCE

A. All piping and fittings shall be products of the United States of America. All other piping and fittings will be removed from the project at the contractor's expense.

1. This requirement does not apply to piping that is internal to and factory-fabricated and installed in unitary equipment.

PART 2 - PRODUCTS

2.1. PERFORMANCE REQUIREMENTS

A. Domestic water piping and components shall be capable of withstanding 80 psig at 75 deg F. Piping systems shall be pressure tested, leak tested, flushed, and disinfected.

2.2. COPPER TUBE AND FITTINGS

A. Drawn-Temper ("Hard") Copper Tubing: ASTM B 88, Type L.

B. Annealed-Temper ("Soft") Copper Tubing: ASTM B 88, Type K.

C. Wrought-Copper Fittings and Unions: ASME B16.22.

D. Cast-Copper, Solder-Joint Fittings: ASME B16.18, pressure fittings.

E. Copper Unions: MSS SP-123, cast-copper alloy with hexagonal-stock body, ball-and-socket metal-to-metal seating surfaces, and solder joint or threaded ends.

2.3. JOINING MATERIALS

A. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

2.4. DIELECTRIC FITTINGS

A. General Requirements: Assembly of copper alloy and ferrous materials with separating non-conductive insulating material. Include end connections compatible with pipes to be joined.

B. Dielectric Unions, 2-inches NPS and smaller: Factory-fabricated ASSE 1079 rated for 150 psig at 180 deg F with solder-joint copper alloy and threaded ferrous end connections.

PART 3 - EXECUTION

3.1. PIPING APPLICATIONS

A. Domestic Water Piping, Above Ground:

1. Copper Piping: Type L, drawn-temper (“hard”) copper tubing, wrought-copper fittings and soldered joints.

B. Domestic Water Piping, Below Slab:

1. Copper Piping: Type K, annealed-temper (“soft”) copper tubing, wrought-copper fittings, and soldered joints. No joints shall be located below grade.

3.2. PIPING INSTALLATIONS

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

B. Install copper tubing under building slab according to CDA's "Copper Tube Handbook."

C. Install shutoff valve, strainer, pressure gage, and test tee with valve inside the building at each domestic water-service entrance. Comply with requirements for pressure gages in Section 220519 and with requirements for drain valves and strainers in Section 221119.

D. Install shutoff valve immediately upstream of each dielectric fitting.

E. Install water-pressure-reducing valves downstream from shutoff valves. Comply with requirements for pressure-reducing valves in Section 221119.

F. Install domestic water piping level and plumb.

G. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas.

H. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

I. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space.

J. Install piping to permit valve servicing.

K. Install nipples, unions, special fittings, and valves with pressure ratings the same as or higher than the system pressure rating used in applications below unless otherwise indicated.

L. Install piping free of sags and bends.

M. Install fittings for changes in direction and branch connections.

N. Install piping to allow application of insulation.

O. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 220517.

P. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 220517.

Q. Install escutcheons for piping penetrations of walls, ceilings, and floors.

3.3. DIELECTRIC FITTING INSTALLATION

A. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.

1. Piping 4-inches NPS and Smaller: Dielectric unions.

3.4. HANGERS AND SUPPORTS

A. Comply with requirements in Section 220529 for hanger, support, anchor devices, and maximum spacings.

1. Straight Lengths of 100 Feet of Less: Adjustable clevis hangers.

3.5. PIPE JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.

D. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

3.6. CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. When installing piping adjacent to equipment and machines, allow space for service and maintenance.

C. Connect domestic water piping to exterior water-service piping. Use transition fitting to join dissimilar piping materials.

D. Connect domestic water piping to water-service piping with shutoff valve.

3.7. IDENTIFICATION

A. Identify system components. Comply with requirements for identification materials and installation in Section 220553.

B. Label pressure piping with system operating pressure.

3.8. FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Piping Inspections:

a. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction.
b. During installation, notify authorities having jurisdiction at least one day before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction:

1) Roughing-in Inspection: Arrange for inspection of piping before concealing or closing in after roughing in and before setting fixtures.
2) Final Inspection: Arrange for authorities having jurisdiction to observe tests specified in "Piping Tests" Subparagraph below and to ensure compliance with requirements.

c. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection.

2. Piping Tests:

a. Fill domestic water piping. Check components to determine that they are not air bound and that piping is full of water.

b. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit a separate report for each test, complete with diagram of portion of piping tested.
c. Leave new, altered, extended, or replaced domestic water piping uncovered and unconcealed until it has been tested and approved. Expose work that was covered or concealed before it was tested.
d. Cap and subject piping to static water pressure of 100 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow it to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.
e. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.
f. Prepare reports for tests and for corrective action required.

B. Domestic water piping will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.9. ADJUSTING

A. Perform the following adjustments before operation:

1. Close drain valves, hydrants, and hose bibbs.
2. Open shutoff valves to fully open position.
3. Remove plugs used during testing of piping and for temporary sealing of piping during installation.
4. Remove and clean strainer screens. Close drain valves and replace drain plugs.
5. Check plumbing specialties and verify proper settings, adjustments, and operation.

3.10. CLEANING

A. Clean and disinfect potable domestic water piping as follows:

1. Purge new piping and parts of existing piping that have been altered, extended, or repaired before using.
2. Use purging and disinfecting procedures prescribed by authorities having jurisdiction; if methods are not prescribed, use procedures described in either AWWA C651 or AWWA C652 or follow procedures described below:

a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
b. Fill and isolate system according to either of the following:

1) Fill system or part thereof with water/chlorine solution with at least 50 ppm of chlorine. Isolate with valves and allow to stand for 24 hours.
2) Fill system or part thereof with water/chlorine solution with at least 200 ppm of chlorine. Isolate and allow to stand for three hours.

c. Flush system with clean, potable water until no chlorine is in water coming from system after the standing time.
d. Repeat procedures if biological examination shows contamination.

B. Prepare and submit reports of purging and disinfecting activities. Include copies of water-sample approvals from authorities having jurisdiction.

C. Clean interior of domestic water piping system. Remove dirt and debris as work progresses.

3.11. PIPING SCHEDULE

A. Transition and special fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

B. Flanges and unions may be used for aboveground piping joints unless otherwise indicated.

C. Fitting Option: Brazed joints may be used on aboveground copper tubing.

D. Under-building-slab, domestic water, building-service piping, shall be the following:

1. Soft copper tube, ASTM B 88, Type K wrought-copper, solder-joint fittings; and brazed joints.

E. Aboveground domestic water piping, shall be the following:

1. Hard copper tube, ASTM B 88, Type L; cast or wrought-copper, solder-joint fittings; and brazed joints.

3.12. VALVE SCHEDULE

A. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:

1. Shutoff Duty: Use ball or gate valves for piping 2-inches NPS and smaller.

END OF SECTION 22 11 16

SECTION 22 11 19 – DOMESTIC WATER PIPING SPECIALTIES

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes special duty valves and specialties for domestic water piping systems.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

B. Closeout Submittals:

1. Operation and Maintenance Data: For domestic water piping specialties to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1. GENERAL REQUIREMENTS

A. Potable-water piping and components shall comply with NSF 61 Annex G.

2.2. PERFORMANCE REQUIREMENTS

A. Minimum Working Pressure for Domestic Water Piping Specialties: 125 psig unless otherwise indicated.

2.3. WATER PRESSURE-REDUCING VALVES

A. Water Regulators:

1. Standard: ASSE 1003.
2. Pressure Rating: Initial working pressure of 150 psig.
3. Size: As noted on the drawings.
4. Body: Bronze for NPS 2 and smaller.
5. End Connections: Threaded for NPS 2 and smaller.

2.4. STRAINERS FOR DOMESTIC WATER PIPING

A. Y-Pattern Strainers:

1. Pressure Rating: 125 psig minimum unless otherwise indicated.
2. Body: Bronze for NPS 2 and smaller.

3. End Connections: Threaded for NPS 2 and smaller.
4. Screen: Stainless steel with round perforations unless otherwise indicated.
5. Perforation Size:

    a. Strainers 2-inches NPS and Smaller: 0.020-inch.

6. Drain: Threaded outlet with plug.

2.5. WALL HYDRANTS

A. Non-Freeze Wall Hydrants:

1. Standard: ASME A112.21.3M for concealed outlet, self-draining wall hydrants.
2. Pressure Rating: 125 psig.
3. Operation: Loose key.
4. Casing and Operating Rod: Of length required to match wall thickness. Include wall clamp.
5. Inlet: NPS 3/4.
6. Outlet: Concealed, with integral vacuum breaker and garden-hose thread complying with ASME B1.20.7.
7. Box: Deep, flush mounted with cover.
8. Box and Cover Finish: As selected by architect.
9. Operating Keys(s): One with each wall hydrant.

2.6. WATER-HAMMER ARRESTERS

A. Water-Hammer Arresters:

1. Standard: ASSE 1010 or PDI-WH 201.
2. Type: Copper tube with piston.
3. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F.

2.7. TRAP-SEAL PRIMER DEVICE

A. Supply-Type, Trap-Seal Primer Device:

1. Standard: ASSE 1018 for pressure-initiated devices and ASSE 1044 for Flush Valve mounted trap primers.
2. Pressure Rating: 125 psig minimum.
3. Body: Bronze.
4. Inlet and Outlet Connections: NPS 1/2 threaded, union, or solder joint.
5. Gravity Drain Outlet Connection: NPS 1/2 threaded or solder joint.
6. Finish: Chrome plated, or rough bronze for units used with pipe or tube that is not chrome finished.

PART 3 - EXECUTION

3.1. INSTALLATION

A. Comply with requirements for ground equipment in Division 26.

3.2. ADJUSTING

A. Set field-adjustable pressure set points of water pressure-reducing valves.

END OF SECTION 22 11 19

SECTION 22 13 16 – SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes pipe and fitting materials and joining methods for sanitary waste and vent piping.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

PART 2 - PRODUCTS

2.1. PERFORMANCE REQUIREMENTS

A. Sanitary waste and vent piping and components shall be capable of withstanding 10-feet head of water at 75 deg F in gravity systems. Piping systems shall be pressure tested, leak tested, and flushed.

2.2. PIPING MATERIALS

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

B. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.

2.3. HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS

A. Pipe and Fittings: Hub-less cast iron pipe and fittings shall be manufactured from gray cast iron and shall conform to ASTM A 888 and CISPI Standard 301. All pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute and listed by NSF International.

B. Heavy-Duty, Hubless-Piping Couplings: Stainless-steel shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop. Comply with ASTM C 1540.

2.4. PVC PIPE AND FITTINGS

A. Comply with NSF 14, "Plastics Piping Systems Components and Related Materials," for plastic piping components. Include marking with "NSF-DWV" for plastic drain, waste, and vent piping and "NSF-sewer" for plastic sewer piping.

B. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.

C. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.

D. Adhesive Primer: ASTM F 656.

1. Adhesive primer shall have a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

E. Solvent Cement: ASTM D 2564.

1. PVC solvent cement shall have a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.5. SPECIALTY PIPE FITTINGS

A. Transition Couplings:

1. Fitting-Type Transition Couplings: Manufactured piping coupling or specified piping system fitting.
2. Shielded, Non-Pressure Transition Couplings:

a. Standard: ASTM C 1460.
b. Description: Elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.
c. End Connections: Same size as and compatible with pipes to be joined.

PART 3 - EXECUTION

3.1. EARTH MOVING

A. Comply with requirements of Section 220300 and Division 33.

3.2. PIPING APPLICATIONS

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems.

1. Indicated locations and arrangements were used to size pipe and other design considerations.
2. Install piping as indicated unless deviations to layout are approved on coordination drawings.

B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

E. Install piping at indicated slopes.

F. Install piping free of sags and bends.

G. Install fittings for changes in direction and branch connections.

H. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends.

1. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical.
2. Use long-turn, double Y-branch and 1/8-bend fittings if two fixtures are installed back to back or side by side with common drain pipe.

    a. Straight tees, elbows, and crosses may be used on vent lines.

3. Do not change direction of flow more than 90 degrees.
4. Use proper size of standard increasers and reducers if pipes of different sizes are connected.

    a. Reducing size of waste piping in direction of flow is prohibited.

I. Lay buried building waste piping beginning at low point of each system.

1. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream.
2. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
3. Maintain swab in piping and pull past each joint as completed.

J. Install sanitary waste and vent piping at the following minimum slopes unless otherwise indicated:

1. Building Sanitary Waste: 2 percent downward in direction of flow for piping NPS 3 and smaller; 1 per-cent downward in direction of flow for piping NPS 4 and larger.
2. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.

K. Install underground PVC piping according to ASTM D 2321.

L. Plumbing Specialties:

1. Install cleanouts at grade and extend to where building sanitary drains connect to building sanitary sewers in sanitary waste gravity-flow piping. Comply with requirements for cleanouts specified in Section 221319.
2. Install drains in sanitary waste gravity-flow piping. Comply with requirements for drains specified in Section 221319.

M. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

N. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 220517.

O. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 220517.

P. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 220518.

3.3. JOINT CONSTRUCTION

A. Join hubless, cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.

B. Plastic, Non-Pressure-Piping, Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
2. PVC Piping: Join according to ASTM D 2855 and ASTM D 2665 appendixes.

3.4. SPECIALTY PIPE FITTING INSTALLATION

A. Transition Couplings:

1. Install transition couplings at joints of piping with small differences in ODs.
2. In Waste Drainage Piping: Shielded, non-pressure transition couplings.

3.5. HANGER AND SUPPORT INSTALLATION

A. Comply with requirements for pipe hanger and support devices and installation specified in Section 220529.

1. Install carbon-steel pipe hangers for horizontal piping in noncorrosive environments.
2. Install carbon-steel pipe support clamps for vertical piping in noncorrosive environments.
3. Vertical Piping: MSS Type 8 or Type 42, clamps.
4. Install individual, straight, horizontal piping runs:

    a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.

B. Support horizontal piping and tubing within 12 inches of each fitting, valve, and coupling.

C. Support vertical piping and tubing at base and at each floor.

D. Rod diameter may be reduced one size for double-rod hangers, with 3/8-inch minimum rods.

E. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:

1. 1 1/2 and 2-inches NPS: 60 inches with 3/8-inch rod.
2. 3-inches NPS: 60 inches with 1/2-inch rod.
3. 4-inches NPS: 60 inches with 5/8-inch rod.
4. Spacing for 10-foot lengths may be increased to 10 feet. Spacing for fittings is limited to 60 inches.

F. Install supports for vertical cast-iron soil piping every 15 feet.

G. Install hangers for PVC piping with the following maximum horizontal spacing and minimum rod diameters:

1. 1 1/2 and 2-inches NPS: 48 inches with 3/8-inch rod.
2. 3-inches NPS: 48 inches with 1/2-inch rod.
3. 4-inches NPS: 48 inches with 5/8-inch rod.

H. Install supports for vertical PVC piping every 48 inches.

I. Support piping and tubing not listed above according to MSS SP-58 and manufacturer's written instructions.

3.6. CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect sanitary waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.

C. Connect waste and vent piping to the following:

1. Plumbing Fixtures: Connect waste piping in sizes indicated, but not smaller than required by plumbing code.
2. Plumbing Fixtures: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
3. Plumbing Specialties: Connect waste and vent piping in sizes indicated, but not smaller than required by plumbing code.

3.7. IDENTIFICATION

A. Identify exposed sanitary waste and vent piping. Comply with requirements for identification specified in Section 220553.

3.8. FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.

1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures.
2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Re-inspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for re-inspection.

C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

D. Test sanitary waste and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
2. Leave uncovered and unconcealed new, altered, extended, or replaced waste and vent piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
3. Roughing-in Plumbing Test Procedure: Test waste and vent piping except outside leaders on completion of roughing-in.

a. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water.
b. From 15 minutes before inspection starts to completion of inspection, water level must not drop.
c. Inspect joints for leaks.

4. Finished Plumbing Test Procedure: After plumbing fixtures have been set and traps filled with water, test connections and prove they are gastight and watertight.

a. Plug vent-stack openings on roof and building drains where they leave building. Introduce air into piping system equal to pressure of 1-inch wg.
b. Use U-tube or manometer inserted in trap of water closet to measure this pressure.
c. Air pressure must remain constant without introducing additional air throughout period of inspection.
d. Inspect plumbing fixture connections for gas and water leaks.

5. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
6. Prepare reports for tests and required corrective action.

3.9. CLEANING AND PROTECTION

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect sanitary waste and vent piping during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

D. Exposed PVC Piping: Protect plumbing vents exposed to sunlight with two coats of water-based latex paint.

E. Repair damage to adjacent materials caused by waste and vent piping installation.

3.10. PIPING SCHEDULE

A. Aboveground sanitary and waste and vent piping shall be:

1. Hubless, cast-iron soil pipe and fittings; CISPI heavy-duty hubless-piping couplings; and coupled joints.
2. Dissimilar Pipe-Material Couplings: Unshielded, non-pressure transition couplings.

B. Underground sanitary waste and vent piping shall be:

1. Solid Wall PVC pipe, PVC socket fittings, and solvent-cemented joints.
2. Dissimilar Pipe-Material Couplings: Unshielded, non-pressure transition couplings.

END OF SECTION 22 13 16

SECTION 22 13 19 – SANITARY WASTE AND VENT PIPING SPECIALTIES

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes piping specialties for sanitary waste and vent piping.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

1.3. QUALITY ASSURANCE

A. Pipe materials shall bear label or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1. ASSEMBLY DESCRIPTIONS

A. Sanitary waste piping specialties shall bear label, stamp, or other markings of specified testing agency.

2.2. CAST-IRON FLOOR DRAINS

A. Cast-Iron Floor Drains: ASME A112.6.3. Pattern: Area drain, epoxy-coated cast iron body with seepage flange and clamping device. Floor drains for installation in floor not having membrane waterproofing may have seepage flange without clamping device. Bottom outlet.

1. General: Size outlets as indicated on the drawings.
2. Strainers: Provide strainers as indicated on the drawings.
3. Provide additional optional features as indicated on the drawings.

2.3. CLEANOUTS

A. Cast-Iron Exposed Cleanouts: ASME A112.36.2M for cast iron cleanout and test tee. Size: Same as connected drainage piping. Body Material shall be hubless, cast-iron soil pipe test tee as required to match connected piping with a countersunk head plastic plug. Closure Plug Size: Same as cleanout size.

B. Cast-Iron Exposed Floor Cleanouts: ASME A112.36.2M for adjustable housing cleanout. Sized the same as connected branch. Cast iron body with spigot outlet connection and plastic plug. Adjustable Housing shall be Cast iron with threads. Frame and Cover Material and Finish: Painted cast iron with round cover. Medium Duty top loading classification and an ASTM A 74, Service class, cast-iron drainage pipe fitting and riser to cleanout.

C. Cast-Iron Wall Cleanouts: ASME A112.36.2M. Include wall access. Size: Same as connected drainage piping. Hub-less, cast-iron soil pipe test tee as required to match connected piping. Countersunk cast iron plug with plug size same as cleanout size. Wall Access: Round, flat, stainless-steel cover plate with screw.

2.4. MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES

A. Floor-Drain, Trap-Seal Primer Fittings: Cast iron, with threaded inlet and threaded or spigot outlet, and trap-seal primer valve connection. Size: Same as floor drain outlet with 1/2-inch NPS side inlet.

PART 3 - EXECUTION

3.1. INSTALLATION

A. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:

1. Size same as drainage piping up to 4-inches NPS. Use 4-inches NPS for larger drainage piping unless larger cleanout is indicated.
2. Locate at each change in direction of piping greater than 180 degrees.
3. Locate at minimum intervals of 100 feet for horizontal runs.

B. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

C. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.

D. Install roof flashing assemblies on sanitary stack vents and vent stacks that extend through roof. Comply with requirements in Division 7.

E. Install through-penetration firestop assemblies in accordance to the requirements in Section 220500.

F. Install floor drains with trap-seal primer fittings on inlet to floor drains that require trap-seal primer connection.

1. Exception: Fitting may be omitted if trap has trap-seal primer connection.

G. Install sleeve and sleeve seals with each riser and stack passing through floors with waterproof membrane.

3.2. CONNECTIONS

A. Comply with requirements in Section 221316 for piping installation requirements. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to equipment to allow service and maintenance.

3.3. FLASHING INSTALLATION

A. Comply with requirements in Division 7.

B. Fabricate flashing from single piece unless large pans, sumps, or other drainage shapes are required.

C. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.

1. Pipe Flashing: Sleeve type, matching pipe size, with minimum length of 10-inches, and skirt or flange extending at least 8-inches around pipe.
2. Sleeve Flashing: Flat sheet, with skirt or flange extending at least 8 inches around sleeve.
3. Embedded Specialty Flashing: Flat sheet, with skirt or flange extending at least 8 inches around specialty.

D. Set flashing on floors and roofs in solid coating of bituminous cement. For membrane roofs coordinate adhesive requirements with roofing contractor. Use adhesives compatible with roofing material.

E. Secure flashing into sleeve and specialty clamping ring or device.

F. Install flashing for piping passing through roofs with counter-flashing or commercially made flashing fittings, according to Division 7.

G. Extend flashing up vent pipe passing through roofs and turn down into pipe, or secure flashing into cast-iron sleeve having calking recess.

3.4. FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.5. PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 22 13 19

SECTION 22 40 00 – COMMERICAL PLUMBING FIXTURES

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes commercial plumbing fixtures, fittings, and supports.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for fixtures.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
3. Flow and water consumption requirements for fixture.
4. Shop Drawings: Include diagrams for power, signal, and control wiring.

B. Closeout Submittals:

1. Operation and Maintenance Data: For each type of product indicated.

PART 2 - PRODUCTS

2.1. WATER CLOSETS

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. American Standard.
2. Crane Plumbing.
3. Kohler.
4. Toto.
5. Zurn Industries.

B. Wall-Mounted, Rear Spud:

1. Description: White vitreous china, elongated rim, siphon jet type bowl with 1 1/2-inch NPS rear spud and flushometer valve. Fixture shall comply with ASME A112.19.2 and ASME A112.19.5.
2. Height: Standard and ADA, complying with ICC/ANSI A117.1, as scheduled.
3. Water Consumption: 1.28 GPF.
4. Support: Water Closet Carrier.

C. Toilet Seats:

1. Description: White plastic, elongated rim and open front, heavy-duty toilet seat with non-corroding metal, self-sustaining hinge. Seat shall comply with IAPMO/ANSI Z124.5.
2. Seat Cover: Not required.

2.2. URINALS

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. American Standard.
2. Crane Plumbing.
3. Kohler.
4. Toto.
5. Zurn Industries.

B. Wall-Hung, Back Outlet:

1. Description: White vitreous china, siphon jet type fixture with integral trap, 2-inch NPS back outlet, 3/4-inch NPS rear spud, and flushometer valve. Fixture shall comply with ASME A112.19.2 and ASME A112.19.5.
2. Mounting Height: Standard and ADA, complying with ICC/ANSI A117.1, as scheduled.
3. Water Consumption: 0.125 GPF, unless otherwise scheduled.
4. Edit Note: Change water consumption to 0.125 GPF if project is LEED certified.
5. Waste Fitting: 2-inch NPS complying with ASME A112.18.2 for coupling.
6. Support: ASME A112.6.1M, Type II, urinal carrier with hanger and bearing plates. Include rectangular, steel uprights.

2.3. FLUSHOMETER VALVES

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. Coyne and Delany.
2. Moen Commercial Brass.
3. Sloan Valve Company.
4. Toto.
5. Zurn Industries.

B. Water Closet Solenoid-Actuator:

1. Description: Concealed diaphragm flushometer style valve with minimum 1-inch NPS inlet and 1 1/2-inch NPS outlet, brass body, corrosion-resistant components, recessed control box, stainless steel panel finish, and integral check stop and backflow-prevention device. Valve shall be rated for minimum 125 psig and comply with ASME 1037.
2. Water Consumption: 1.28 GPF.
3. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
4. Trip Mechanism: Self-generating (hydroelectric) electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Urinal Solenoid-Actuator:

1. Description: Concealed diaphragm flushometer style valve with minimum 3/4-inch NPS inlet and 3/4-inch NPS outlet, brass body, corrosion-resistant components, recessed control box, stainless steel panel finish, and integral check stop and backflow-prevention device. Valve shall be rated for minimum 125 psig and comply with ASME 1037.
2. Water Consumption: 0.125 GPF.
3. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
4. Trip Mechanism: Self-generating (hydroelectric) electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.4. LAVATORIES

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. American Standard.
2. Crane Plumbing.
3. Kohler.
4. Toto.
5. Zurn Industries.

B. Wall-Mounted, Oval:

1. Description: White vitreous china with back for wall mounting. Fixture shall comply with ASME A112.19.2.
2. Nominal Size: 21” by 18”.
3. Faucet-Hole Location: Top.
4. Faucet-Hole Punching: As required for faucet.
5. Faucet: Refer to the Plumbing Fixture Schedule.
6. Mounting Material: Concealed arm carrier.
7. Mounting Height: Standard and ADA, complying with ICC/ANSI A117.1, as scheduled.

2.5. LAVATORY FAUCETS

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. American Standard.
2. Chicago Faucets.
3. Moen.
4. T & S Brass and Bronze Works.
5. Toto.

B. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for faucet materials that will be in contact with potable water.

C. Lavatory Automatically-Operated:

1. Description: Self-generating (hydroelectric) electronic sensor operated, with thermostatic mixing valve by same manufacturer. Faucets shall comply with ASME A112.18.1 and UL 1951. Coordinate faucet inlets with supplies and fixture hole punching. Coordinate outlet with spout and fixture receptor.
2. Maximum Flow Rate: 0.35 GPM.
3. Mounting Type: Deck, concealed.
4. Spout: Rigid type.
5. Spout Outlet: Aerator.
6. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.6. DRINKING FOUNTAINS

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. EBCO Manufacturing Co.
2. Elkay Manufacturing Co.
3. Halsey Taylor; A Household International Co.
4. Haws Drinking Faucet Co.

B. Drinking Fountains: Bilevel, with bottle filler, stainless steel, wall mounted.

1. Comply with ASME A112.19.3.
2. Comply with NSF 61 Annex G.
3. Freezeproof.
4. Vandal-resistant.
5. Receptor Shape: Round.
6. Bubblers: One per cooler, with adjustable stream regulator, located on deck.
7. Control: Push button on front and sides.
8. Drain: Grid type with NPS 1-1/4 tailpiece.
9. Supply: NPS 3/8 with shutoff valve.
10. Waste Fitting: ASME A112.18.2, NPS 1-1/4 chrome-plated brass P-trap and waste.
11. Support: Plate type water cooler carrier; ASME A112.6.1.
12. Drinking Fountain Mounting Height: As indicated on plumbing fixture schedule.

2.7. MOP RECEPTORS

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. Acorn Engineering.
2. Crane Plumbing.
3. Fiat.
4. Florestone Products.
5. Stern-Williams Co.

B. Floor-Mounted Terrazzo:

1. Description: Terrazzo floor-mounted mop receptor with 3-inch NPS drain outlet, drain grid, rim guard on front top surface that mounts to the floor and flush to the wall. Basins shall comply with IAPMO PS 99.
2. Nominal Size: Refer to the Plumbing Fixture Schedule.

3. Height: 12 inches.
4. Faucet: A faucet with integral check stops in shanks, vacuum breaker, hose-thread outlet, wall brace, and pail hook.
5. Provide with mop hanger bracket and stainless steel wall guard on each adjacent wall.

2.8. SUPPLY FITTINGS

A. Description: Supply piping shall be chrome-plated brass pipe or chrome-plated copper tube matching water-supply piping size including chrome-plated brass or stainless-steel wall flange. Supply stops shall be chrome-plated brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping. Fittings shall comply with ASME A112.18.1.

1. Risers: 1/2-inch NPS, chrome-plated, rigid-copper pipe.

B. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for supply-fitting materials that will be in contact with potable water.

2.9. WASTE FITTINGS

A. Description: Chrome-plated, two-piece, cast-brass trap and swivel elbow with 0.032-inch- thick brass tube to wall and chrome-plated brass or steel wall flange. Fittings shall comply with ASME A112.18.2.

1. Size: 1 1/2-inches NPS.
2. Drain: Grid type with 1 1/2-inches NPS offset and straight tailpiece.
3. Trap: 1 1/2-inches NPS.

2.10. SUPPORTS

A. Manufacturers: Subject to compliance with requirements, provide product by one of the following:

1. J.R. Smith Co.
2. Wade Industries.
3. Watts Water Technologies.
4. Zurn Industries.

B. Provide as specified on the drawings.

PART 3 - EXECUTION

3.1. EXAMINATION

A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before fixture installation.

B. Examine walls and floors for suitable conditions where fixtures will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2. INSTALLATION

A. Water-Closet Installation:

1. Install level and plumb.
2. Install accessible, wall-mounted water closets at mounting height for handicapped, according to ICC/ANSI A117.1.

B. Support Installation:

1. Use carrier supports with waste-fitting assembly and seal.
2. Install carriers with waste-fitting assembly and waste-fitting seals; and affix to building floor slabs.

C. Flushometer Valve Installation:

1. Install flushometer valve, water-supply fitting on each supply to each water closet and urinal.
2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.

D. Install toilet seats on water closets.

E. Wall Flange and Escutcheon Installation:

1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork.
2. Install deep-pattern escutcheons if required to conceal protruding fittings.
3. Comply with escutcheon requirements specified in Section 220518.

F. Joint Sealing:

1. Seal joints between water closets and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to water-closet color.

3.3. CONNECTIONS

A. Connect fixtures with water supplies and soil, waste, and vent piping. Use size fittings required to match fixtures.

B. Comply with water piping requirements specified in Section 221116.

C. Comply with sanitary waste piping requirements specified in Section 221316.

3.4. ADJUSTING

A. Operate and adjust fixtures and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.

B. Adjust water pressure at flushometer valves to produce proper flow.

3.5. CLEANING AND PROTECTION

A. Clean fixtures and fittings with manufacturers' recommended cleaning methods and materials.

B. Install protective covering for installed fixtures and fittings.

C. Do not allow use of plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 22 40 00

SECTION 23 01 00 – HVAC GENERAL WORK REQUIREMENTS

PART 1 - GENERAL

1.1. SUMMARY

A. This section includes general requirements and information for Division 23 work.

1.2. DEFINITIONS

A. Owner Acceptance / Substantial Completion: Work that is judged by the Engineer to be substantially complete, accepted to be safe for use by the Authority Having Jurisdiction (AHJ), and accepted by the Owner. Acceptance comes with an agreement the Engineer's written punchlist of outstanding items will be completed to fulfill the contractual obligations.

B. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct chases, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

C. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

D. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

E. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and chases.

F. Provide: Contractor shall furnish and install materials, equipment or fixtures as indicated.

G. Install Items Furnished by Owner or Others: Contractor shall receive shipment, store, install and verify materials, equipment or fixtures selected and purchased outside of the prime construction contract as indicated.

H. Furnish Items to Owner or Others: Contractor shall purchase and deliver materials, equipment or fixtures for installation by others as indicated.

1.3. SUBMITTALS

A. Construction Submittals:

1. Manufacturer startup, operation and maintenance checklists for all equipment and devices included in Division 23 specifications in a single submittal package for review prior to equipment startup.

B. Closeout Submittals:

1. Manufacturer startup, operation and maintenance reports with completed checklists signed by the involved technicians and the Mechanical Contractor's witnessing superintendent.

1.4. INSPECTIONS

A. Contractor shall be responsible for obtaining all inspections from regulatory agencies having jurisdiction over the project. These inspections include but are not limited to: NC Department of Labor Boiler Safety Bureau for boilers and pressure vessels, NC Department of Insurance, and other Local, State, and Federal inspection authorities as applicable.

1.5. QUALITY ASSURANCE

A. Electrical Components, Devices and Accessories: UL listed and labeled as defined by NFPA 70, the National Electric Code, or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

B. Mechanical Equipment and Materials: UL listed and labeled as defined by State Building Codes or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

C. Testing and listing laboratories of mechanical and electrical equipment shall be accredited by the North Carolina Building Code Council (NCBCC).

1.6. WARRANTY

A. Project Warranty: All work performed and all materials installed in Division 23 shall be warrantied by the Contractor for 1 year from the Owner's written acceptance of Owner Acceptance. The warranty shall include all labor and parts. The Contractor shall be on site within 48 hours of Owner notifications.

1. This warranty does not waive the Owner's obligation to provide routine maintenance. Routine maintenance includes maintenance recommended by each equipment manufacturer and industry standard requirements for overall systems as documented in the project's Operation and Maintenance Manuals. Replacement of wear items such as filters, belts, etc. are not included in the warranty unless they are incidental to other warranty work being performed. Failures due to the lack of routine maintenance are the responsibility of the Owner.

2. Equipment manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the obligations of the Project Warranty.

1.7. PROJECT DOCUMENTS

A. Project Documents: Division 23 project documents are diagrammatic in nature and intended to represent complete and functioning systems. If any aspect of the work is undefined or unclear, submit your questions in writing prior to the final addendum deadline as defined in the specifications and/or at the pre-bid conference. If any aspect of the work is undefined or unclear after the final addendum, include the cost for the highest quality solution. The contractor is encouraged to thoroughly review the contract documents and site conditions prior to bidding.

B. Basis of Design Manufacturers: Manufacturer names and model numbers of equipment and devices noted on drawings and in equipment schedules shall be considered the Engineer's basis of design. Proposed changes to the basis of design shall be submitted to the Engineer for review and approval. The submittal shall include a description of all changes necessary to implement the substitution, including but not limited to plumbing, mechanical and electrical connections; dimensions, weights and structural supporting structure; layout

changes necessary to maintain clearances; and acoustical treatments. All changes required to implement a substitution is the responsibility of Contractor at no added cost to the Owner.

C. Listed Manufacturers: Manufacturers listed in the Division 23 specification sections and on drawings must meet all the requirements of the project documents. Listed manufacturers that do not meet the requirements will not be accepted. The manufacturer listing does not result in an automatic approval. In addition to construction and performance requirements, the proposed equipment must meet the indicated physical dimension, weight, acoustic, power, controls, and plumbing limitations of the project. Verify existing conditions in the field, when applicable, and proposed conditions prior to submitting equipment for Engineer review. When full project coordination drawings are not required, generate coordination drawings to the level of detail necessary to determine if the proposed equipment will comply with the project documents and manufacturer recommended maintenance clearances.

1. If a manufacturer's equipment does not meet the physical dimension, weight, acoustic, power, controls and plumbing limitations of the project, a change order proposal may be submitted for the Owner's and Engineer's consideration. The proposal shall include all changes, including other trades, required and a reduction in cost to accept the non-conforming equipment. The base bid shall include equipment that fully meets the design requirements at no additional cost.

1.8. COORDINATION

A. Maintenance Access: Install equipment and devices in such a manner to be readily accessible for testing, adjusting, balancing, inspection and maintenance. All concealed equipment and devices, including but not limited to equipment, valves, dampers, actuators, sensors, gauges, test ports, filter housings, coils, etc., shall be installed above accessible ceilings, within accessible rooms or chases or within normally inaccessible construction with access doors. All access doors are not shown in the project drawings. All access doors shall be coordinated with the Engineer prior to the installation of the equipment or device. Equipment and/or devices not coordinated prior to installation, as judged by the Engineer, shall be removed and reinstalled at no added cost.

B. Arrange for pipe spaces, chases, slots, and openings in building structure during progress of construction, to allow for HVAC installations.

C. Coordinate requirements for access panels and doors for HVAC items requiring access that are concealed behind finished surfaces.

1.9. VOC CONTENTS

A. Low Volatile Organic Compounds (VOC) Requirements: All adhesives, mastics, sealants and compounds factory or field applied that are installed indoors and all paint field applied shall be certified as low VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Adhesives: 50 g/L or less, except 80 g/L or less for calcium silicate and mineral fiber insulation and 30 g/L or less for metal-to-metal adhesives.

2. Mastics: 50 g/L or less.

3. Sealants: 250 g/L or less for duct sealants and 420 g/L or less for equipment insulation joint sealants.

4. Compounds: 490 g/L or less for CPVC welding compounds and 510 g/L or less for PVC welding compounds.

5. Paints: 50 g/L or less for flat paints and primers and 150 g/L or less for non-flat paints.

PART 2 - PRODUCTS

2.1. PAINTS AND PRIMERS

A. General: Provide primers and paints designed for the intended applications. All primers and paints used indoors shall be low-odor and low VOC content type.

B. Primers:

1. Metal Applications: Water-based rust-inhibitive primer.

2. Aluminum Applications: Quick-drying primer for aluminum.

3. Interior Applications: Interior latex primer/sealer.

C. Paints:

1. Interior Applications: High-performance interior latex.

2. Exterior Applications: Exterior latex.

3. Match gloss level to adjacent finishes when applicable. Flat gloss level for all other applications, unless otherwise indicated.

2.2. GROUT

A. Description: ASTM C 1107, Grade B, non-shrink and nonmetallic, dry hydraulic-cement grout.

B. Characteristics: Post-hardening, volume-adjusting, non-staining, noncorrosive, nongaseous, and recommended for interior and exterior applications.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

2.3. PATCHING MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

2.4. ACCESS DOORS AND FRAMES, WALLS AND CEILINGS

A. Flush Access Doors with Concealed Flanges: Sheet steel door and frame, minimum 16-gauge, with face of door flush with frame, concealed flange and hinge, and key-operated lock and latch bolt.

1. Finish: Factory-painted flat white for white ceiling and wall surfaces. Factory-primed for field painted surfaces.

2. Coordinate frame styles with ceiling and wall types.

PART 3 - EXECUTION

3.1. OPERATION AND MAINTENANCE MANUALS

A. The contractors shall deliver one complete set of bookmarked manuals in electronic PDF format of all operation and maintenance manuals to the Owner through the Designer, two (2) weeks before the pre-final inspection is held. The manuals shall be bookmarked to a minimum of one level – ie: each major piece of equipment (chiller, boiler switchboard, water closet, water heater, etc.) or document category (warranties, parts list, contact information, etc.) The manuals shall be delivered by one of the following:

1. USB Drive

2. Downloadable file from FTP Site

B. Manuals shall include the following (at a minimum):

1. Index and page numbers

2. Certificate of Owner Acceptance / Substantial Completion

3. Summary sheet of warranties with dates noted and a copy of all warranties

4. List of all subcontractors and suppliers with names, addresses, and phone numbers

5. Certified Test and Balance Report

6. Complete start-up, operation, and shutdown procedures for each system including sequence of events, locations of switches, emergency procedures, and any other critical items.

7. Lubrication schedules and types of lubricants

8. Complete set of all submittal data and current shop drawings (including 3rd party generated shop drawings) and equipment description showing all capacities and other operation conditions.

9. Equipment summary showing all capacities and ratings (HP, Tons, kW, filter size, etc.).

3.2. OPERATION OF HVAC SYSTEMS DURING CONSTRUCTION

A. The Prime Contractor shall provide temporary heating, ventilation and air-conditioning as needed for the construction process. Use of the permanent HVAC is prohibited.

B. Permanent HVAC systems and components may only be operated for verification, testing, adjusting and balancing.

C. Air System Temporary Operation: Systems shall only be operated when the building is completely enclosed, is clean and there are no dust or fume creating activities being performed.

D. Owner/Engineer must approve operation of the permanent HVAC systems for use at Owner Acceptance.

3.3. PAINTING

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and re-prime substrate with compatible primers as required to produce paint systems indicated.

C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

D. Painting of Division 23 Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:

1. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.

2. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

E. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Engineer, and leave in an undamaged condition.

F. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.4. GROUTING

A. Mix and install grout for HVAC equipment base bearing surfaces, pump and other equipment base plates, and anchors.

B. Clean surfaces that will come into contact with grout.

C. Provide forms as required for placement of grout.

D. Avoid air entrapment during placement of grout.

E. Place grout, completely filling equipment bases.

F. Place grout on concrete bases and provide smooth bearing surface for equipment.

G. Place grout around anchors.

H. Cure placed grout.

3.5. WALL, FLOOR AND ROOF OPENINGS

A. Exterior and interior wall, floor and roof openings made for duct, piping and conduit penetrations shall maintain the building’s structural integrity. Install penetration sleeves, framing and lintels in accordance with the structural engineer.

3.6. ACCESS DOOR INSTALLATION

A. Coordinate the need and exact location of each access door with Architect/Engineer prior to installation.

B. Center wall and ceiling access doors on duct access doors, valve centers, junction boxes, etc. to provide the best access to inspect, operate, and maintain the associated mechanical and electrical devices.

C. Install wall and ceiling access doors level and square to building surfaces. Comply with manufacturer's written instructions.

D. Install access doors such that their door swings are not blocked from opening fully and they open in the direction that provides the best access for the user.

E. Adjust doors and hardware for proper installation.

F. Touch-up door finishes with factory-provided paint as needed prior to completion.

G. Label wall and ceiling access doors with clear plastic ceiling tags in compliance with Section 23 05 53.

3.7. EQUIPMENT INSTALLATION GENERAL REQUIREMENTS

A. Install equipment to allow maximum possible headroom unless specific mounting heights are not indicated.

B. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.

C. Install HVAC equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.

D. Install equipment to allow right of way for piping installed at required slope.

3.8. ADDITIONAL CONSTRUCTION PROCEDURES

A. General Requirements: In addition to the requirements of Division 1 and individual Division 23 sections, the Contractor shall comply with the following requirements during project construction:

1. Bidding: Review the requirements in the entire set of bid documents. Review the Project Documents paragraphs in Part 1 of this section. Submit clarification questions in compliance with Division 1 and Division 23.

2. Stored Material Verification: In coordination with each monthly Owner Construction Coordination Meeting, provide a copy of the month's proposed Payment Application and access to all equipment or material stored in an off-site insured and bonded warehouse for verification meeting the requirements of Division 1. Payment Applications with unverified off-site stored equipment and materials will not be approved.

END OF SECTION 23 01 00

SECTION 23 05 11 – HVAC ELECTRICAL PROVISIONS

PART 1 - GENERAL

1.1. SUMMARY

A. This section includes electrical equipment, materials and work that are the responsibility of Division 23.

1.2. SUBMITTALS

A. Product Submittals:

1. Product Data: For each type of device, include dimensions, mounting arrangements, location for conduit entries, shipping and operating weights, and manufacturer's technical data on features, performance, electrical ratings, characteristics, and finishes.

2. Electrical Connections: Submitted equipment nameplates shall be coordinated with the indicated design electrical characteristics. If the submitted equipment requires changes to the electrical connection(s) (including conduit, wire, circuit breaker, fuse, starter, and disconnect sizes, connection locations, etc.) comply with the requirements of Section 230100. Any changes required to accommodate the equipment shall be responsibility of the contractor.

a. Proposed changes to the design shall be submitted to the Engineer for review and approval.

b. Accepted changes shall be noted by the contractor on the as-built documentation.

B. Close-Out Submittals:

1. Operation and Maintenance Data: For disconnects, motor starters and combination motor starters and disconnects, to include in emergency, operation and maintenance manuals.

1.3. QUALITY ASSURANCE

A. Source Limitations: Obtain motor starters, disconnect switches and combination motor starters and disconnect switches of a single type through one source from a single manufacturer.

1. Exceptions: Disconnect switches that are factory-mounted to HVAC equipment may be provided by the equipment manufacturer.

B. Electrical Components, Devices and Accessories: UL listed and labeled as defined by NFPA 70, the National Electric Code, or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

1. Where requirements of Division 23, Division 26 or NFPA 70 conflict, conform to the strictest requirements.

C. Mechanical Equipment and Materials: UL listed and labeled as defined by State Building Codes or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

D. Testing and listing laboratories of mechanical and electrical equipment shall be accredited by the North Carolina Building Code Council (NCBCC).

1.4. EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Fuses: One set for each fused device.

PART 2 - PRODUCTS

2.1. EQUIPMENT ENCLOSURES

A. Provide NEMA-rated equipment enclosures for all disconnect switches, motor starters, control panels, variable speed controllers and other similar electrical equipment. When not otherwise indicated, provide enclosures based on the environments of the installations.

1. Inside, Clean Spaces without Water Piping: NEMA 1.

2. Inside, Utility Spaces and Spaces with Water Piping: NEMA 12.

2.2. DISCONNECT SWITCHES

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Eaton

2. General Electric

3. Schneider Electric/Square D

4. Siemens

B. Fusible Disconnect Switches: Single-throw, heavy-duty, service-rated fusible switch, rated for 200 to 600Vac and labeled and listed UL 98 and NEMA KS 1, Type HD with silver-tungsten type fuse clips and equipment ground and neutral kit. When a neutral is not necessary, bond the neutral bus to the enclosure for use as grounding bus. Internal current-carrying components shall be solid copper. Provide auxiliary contacts when needed for control system interface.

C. Non-Fusible Disconnect Switches: Single-throw, heavy-duty, service-rated switch, rated for 200 to 600Vac and labeled and listed UL 98 and NEMA KS 1, Type HD with equipment ground and neutral kit. When a neutral is not necessary, bond the neutral bus to the enclosure for use as grounding bus. Internal current-carrying components shall be solid copper. Provide auxiliary contacts when needed for control system interface.

D. Provide switch accessories required to meet the system requirements indicated.

2.3. MANUAL MOTOR SWITCHES

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Eaton
2. General Electric
3. Schneider Electric/Square D
4. Siemens

B. Description: Manual motor starter and disconnect switch with thermal overload protection for fractional horsepower motors. Toggle switch shall provide manual "on/off" control of one or two-pole single-phase motors rated up to 1 horsepower. The enclosure shall have green pilot light. The green light shall illuminate when "on". The switch shall have a hand guard to prevent accidental operation and provisions for a padlock in the "off" position. The switch shall be rated for single or two-speed applications as indicated. The enclosure shall be for flush wall-mounting where possible and surface wall-mounting where not.

2.4. FUSES

A. Description: Non-renewable cartridge fuses of the type and size required by NFPA 70 and Division 26.

2.5. SHORT-CIRCUIT CURRENT RATINGS

A. Overcurrent protection devices shall be rated for the ampere interruption current rating indicated in the Division 26 documents. Where the rating is not indicated, provide devices rated for 65,000 AIC.

2.6. POWER AND CONTROL CABLING AND RACEWAY

A. Low-Voltage (100 to 600 V) Power Feeders: Size conductors and raceway per NFPA 70 and Division 26 based on equipment nameplate requirements and manufacturer's installation recommendations.

B. Control-Voltage (Up to 24 V) Cabling: Provide control cabling for HVAC system per NFPA 70 and Division 26 based on the system manufacturer's installation recommendations.

1. Paired Cabling: No. 16 AWG Type CMP plenum-rated twisted pair.
2. Class 1 and 2 Control Circuits: Stranded copper Type THHN-THWN.
3. Class 3 Control Circuits: Stranded copper Type TW or TF.

C. Power Conductors: Copper, solid for No. 10 AWG and smaller and stranded for No. 8 AWG and larger, with THHN-THWN insulation. Aluminum conductors will not be accepted.

D. Grounding Conductors: Copper, solid for No. 8 AWG and smaller and stranded for No. 6 AWG and larger, with THHN-THWN insulation. Aluminum conductors will not be accepted.

E. Conduit:

1. EMT (electrical metallic tubing): Indoor, above-grade applications not subject to damage.
2. RGS (rigid galvanized steel): Indoor, above-grade applications subject to damage and outdoor, above-grade applications.

3. RNC (rigid non-metallic conduit), Type Schedule 40 PVC: Indoor and outdoor, below-grade applications.

4. FMC (flexible metallic conduit): Indoor, above-ceiling applications.

5. LFMC (liquid-tight flexible metal conduit): Outdoor, above-grade applications.

PART 3 - EXECUTION

3.1. INSTALLATION

A. Disconnect Switches: Provide disconnect switches for all HVAC equipment. Disconnect switches shall be sized to comply with NFPA 70. Single fan, blower and pump motors shall be based on nameplate horsepower. All other applications shall be based on nameplate total kW rating. Disconnects shall be provided with dual-element fuses sized based on equipment nameplate rating.

1. Service Disconnect Switches: Where the disconnecting means is not within the line-of-sight, as defined by NFPA 70 and the authority having jurisdiction (AHJ), an additional service disconnect shall be located adjacent to the equipment it feeds.

DISCONNECT SWITCH SIZES for MOTORS						
AMPERAGE RATING	MAX HP at VOLTAGE/PHASE					
	115V/1ph	200V/1ph	230V/1ph	200V/3ph	230V/3ph	460V/3ph
30A	1.5	3	3	5	7.5	15
60A	3	7.5	10	15	15	30
100A	-	-	-	25	25	60
200A	-	-	-	50	60	100
400A	-	-	-	100	125	250

DISCONNECT SWITCH SIZES for EQUIPMENT							
AMPERAGE RATING	MAX KW at VOLTAGE/PHASE						
	120V/1 ph	208V/1 ph	240V/1 ph	277V/1 ph	208V/3 ph	240V/3 ph	480V/3 ph
30A	2.8	5.0	5.8	6.6	8.6	10.0	19.9
60A	5.8	10.0	11.5	13.3	17.3	19.9	39.9
100A	9.6	16.6	19.2	22.2	28.8	33.2	66.4
200A	19.2	33.3	38.4	44.3	57.6	66.4	132.9
400A	38.4	66.6	76.8	88.6	115.1	132.9	265.7
600A	57.6	99.8	115.2	133.0	172.7	199.3	398.6

B. Manual Motor Switches: Provide manual motor switches for fractional horsepower fan, blower and pump motors that do not require automated start and stop functions.

C. Furnish and install devise fuses per equipment unit nameplate.

D. Size and adjust circuit breaker disconnect switches per equipment unit nameplate.

E. Electrical Connections: All electrical connections shall be made in accordance with equipment manufacturer's recommendations and in accordance with NFPA 70. Install and ground equipment connections in accordance with the requirements of NFPA 70 and Division 26.

1. Electrical Connections, Low Voltage (100 to 600 V): Division 23 contractor is responsible for power wiring and conduit from the equipment connections to the disconnecting means. Division 26 is responsible for the power circuit from the power source to the disconnecting means.

2. Electrical Connections, Control Voltage (Up to 24 V): Division 23 contractor is responsible for all control voltage wiring and conduit for HVAC equipment and controls from the low voltage power source disconnecting means. Division 26 is responsible for the low voltage power circuit from the power source to the disconnecting means.

a. Low Voltage Disconnecting Means: Where dedicated low voltage circuits are indicated in Division 26 documents, the disconnecting means shall be defined as the disconnect switch or junction box provided. Where dedicated low voltage circuits are not explicitly indicated in Division 26 documents, the disconnecting means shall be defined as 20A/1P spare circuit breakers in panelboards.

F. Wiring Pathway, Low and Control Voltage: All low and control voltage power and control wiring shall be installed in conduit unless otherwise noted.

1. Surface-mounted raceway may only be used when indicated or Engineer approved prior to installation. In most cases, conduits shall be installed within walls, above ceilings and below floor slabs. Cut and repair substrates to install raceway.

2. Control voltage cabling shall be plenum-rated and organized with J-hooks when control cabling is not required by the Engineer to be installed in conduit.

G. Conduit:

1. Flexible Connections: Provide flexible connections for all vibrating equipment including fans, pumps, compressors, etc. Flexible connections shall be no more than 24-inches long.

2. Areas Subject to Damage: In areas where the conduit will be exposed and is subject to damage, such as mechanical equipment rooms, RGS conduit shall be installed to no less than 8-feet above finished floor and EMT may be used above 8-feet.

H. Grounding and Bonding: Ground and bond equipment and circuits in accordance with the requirements of NFPA 70 and Division 26.

3.2. FIELD QUALITY CONTROL

A. Comply with NFPA 70E per OSHA 29CFR Part 1910.5, Appendix A.

3.3. DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain electrical devices.

END OF SECTION 23 05 11

SECTION 23 05 13 – HVAC EQUIPMENT MOTORS

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes general requirements for all HVAC motors

1.2. QUALITY ASSURANCE

A. Electrical Components, Devices and Accessories: UL listed and labeled as defined by NFPA 70, the National Electric Code, or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

B. Mechanical Equipment and Materials: UL listed and labeled as defined by State Building Codes or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

C. Testing and listing laboratories of mechanical and electrical equipment shall be accredited by the North Carolina Building Code Council (NCBCC).

PART 2 - PRODUCTS

2.1. GENERAL MOTOR REQUIREMENTS

A. Comply with NEMA MG 1 unless otherwise indicated.

B. Motors for fans and pumps shall be selected for the maximum brake-horsepower listed in the equipment schedules and no more than 85% of the nominal rated horsepower excluding the service factor.

2.2. MOTOR CHARACTERISTICS

A. Duty: Continuous duty at ambient temperature of 40 deg C and at altitude of 3300 feet above sea-level.

B. Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.

2.3. SINGLE-PHASE MOTORS

A. Motors larger than 1/20 hp shall be one of the following, to suit starting torque and requirements of specific motor application:

1. Permanent-split capacitor.

2. Split phase.

3. Capacitor start, inductor run.

4. Capacitor start, capacitor run.

B. Multispeed Motors: Variable-torque, permanent-split-capacitor type.

C. Bearings: Pre-lubricated, antifriction ball bearings or sleeve bearings suitable for radial and thrust loading.

D. Motors 1/20 HP and Smaller: Shaded-pole type.

E. Thermal Protection: Internal protection to automatically open power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal-protection device shall automatically reset when motor temperature returns to normal range.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 23 05 13

SECTION 23 05 29 – HANGERS AND SUPPORTS

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes pipe hangers and hanger shields, metal framing systems, fastener systems, pipe-stands and equipment supports.

1.2. PERFORMANCE REQUIREMENTS

A. Structural Performance: Hangers and supports for HVAC piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

1. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.

1.3. SUBMITTALS

A. Product Submittals: For each type of product indicated.

PART 2 - PRODUCTS

2.1. METAL FRAMING SYSTEMS

A. Description: Shop or field-fabricated pipe-support assembly for supporting multiple parallel pipes. Channels shall be continuous slotted steel with in-turned lips. Channel nuts shall be designed to fit into channel slot and when tightened to prevent slipping. Hanger rods shall be continuously threaded with nuts and washers made of carbon steel.

2.2. EQUIPMENT SUPPORTS

A. Description: Shop- or field-fabricated equipment support made from structural carbon-steel shapes.

2.3. MISCELLANEOUS MATERIALS

A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.

B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, non-shrink and nonmetallic grout; suitable for interior and exterior applications.

1. Design Mix: 5000-psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1. HANGER AND SUPPORT INSTALLATION

A. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.

B. Equipment Support Installation: Fabricate from welded-structural-steel shapes.

3.2. EQUIPMENT SUPPORTS

A. Fabricate structural-steel stands to suspend equipment from structure overhead or to support equipment above floor.

B. Provide lateral bracing, to prevent swaying, for equipment supports.

3.3. METAL FABRICATIONS

A. Cut, drill, and fit miscellaneous metal fabrications for equipment supports.

3.4. ADJUSTING

A. Trim excess length of continuous-thread hanger and support rods to 1 1/2 inches.

3.5. PAINTING

A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0 mils.

B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

3.6. HANGER AND SUPPORT SCHEDULE

A. Use hangers and supports with galvanized metallic coatings for equipment that will not have field-applied finish.

B. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.

C. Use carbon-steel pipe hangers and supports, metal trapeze pipe hangers and metal framing systems and attachments for general service applications.

D. Spring Hangers and Supports:

1. Spring Cushions (MSS Type 48): For light loads if vertical movement does not exceed 1-1/4 inches.

E. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.

END OF SECTION 23 05 29

SECTION 23 05 53 – HVAC SYSTEMS IDENTIFICATION

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes equipment and duct labels and tags.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

1. Product Data: For each type of product indicated.

2. Samples: For color, letter style, and graphic representation required for each identification material and device.

1.3. COORDINATION

A. Coordinate the identification requirements with the Owner’s up-to-date standards prior to purchasing materials.

B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

C. Coordinate installation of identifying devices with locations of access panels and doors.

D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1. EQUIPMENT LABELS

A. Plastic Labels for Equipment: 1/8-inch multilayer, multicolor, plastic labels for mechanical engraving suitable for temperatures up to 160 deg F with pre-drilled holes for stainless steel rivets or self-tapping screws. Labels shall be minimum 2-1/2 inches wide and 3/4-inch tall with 3/8-inch white letters on black background.

1. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

B. Label Content: Include equipment's drawing designation or unique equipment number.

2.2. WARNING SIGNS AND LABELS

A. Warning Signs and Labels: 1/8-inch multilayer, multicolor, plastic labels for mechanical engraving suitable for temperatures up to 160 deg F with pre-drilled holes for stainless steel rivets or self-tapping screws. Labels shall be minimum 2-1/2 inches wide and 3/4-inch tall with 3/8-inch letters.

1. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

B. Label Content: Include caution and warning information, plus emergency notification instructions.

2.3. DUCT LABELS

A. Duct Labels: Pre-printed, color-coded, self-adhesive vinyl labels with lettering and flow direction arrows. They shall have minimum 1 1/2-inch tall block lettering. The labels shall be suitable for temperatures up to 160 deg F and compatible with each substrate material.

2.4. WARNING TAGS

A. Warning Tags: 5-1/4 inches wide and 3-inches tall, pre-printed or partially pre-printed, accident-prevention tags, of plasticized card stock with matte finish suitable for writing, fastened with reinforced grommet and wire. Tags shall have letters with large-size primary caption such as "DANGER," "CAUTION," or "DO NOT OPERATE."

PART 3 - EXECUTION

3.1. PREPARATION

A. Clean equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulates.

3.2. EQUIPMENT LABEL INSTALLATION

A. Install or permanently fasten labels on each major item of mechanical equipment. Equipment to be labelled includes but is not limited to:

1. Fans.

2. Unit heaters.

B. Central HVAC system equipment labels shall include capacity and design information. Submit proposed label information for Engineer approval. The following are examples:

1. Unit Heaters

UNIT HEATER UH-1
INSTALLED: JUNE 2023
SERVICE: MENS ROOM
AIRFLOW: 500 CFM
HEATING: 5 KW

2. Fans

EXHAUST FAN EF-1
INSTALLED: JUNE 2020
SERVICE: WOMENS ROOM
CAPACITY: 300 CFM at 0.5" ESP

C. Locate equipment labels where accessible and visible.

D. Equipment Color Schedule: Insulation color and label scheme shall match the associated piping system.

3.3. DUCT LABEL INSTALLATION

A. Duct Labels: Install self-adhesive duct labels with permanent adhesive on air ducts.

B. Locate labels near points where ducts enter into concealed spaces and at maximum intervals of 25 feet in each space where ducts are exposed or concealed by removable ceiling system.

3.4. WARNING-TAG INSTALLATION

A. Write required message on, and attach warning tags to, equipment and other items where required.

END OF SECTION 23 05 53

SECTION 23 05 93 – TESTING, ADJUSTING AND BALANCING

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes testing, adjusting and balancing (TAB) of building systems.

1.2. GENERAL DESCRIPTION

A. HVAC Air Systems:

1. TAB of new HVAC air systems including exhaust air to design requirements.

1.3. SUBMITTALS

A. Construction Submittals:

1. Initial certified TAB reports of individual systems for engineer's review.

B. Close-Out Submittals: Final certified TAB report with all systems in a single report.

1.4. QUALITY ASSURANCE

A. TAB Contractor Qualifications: Engage a TAB entity certified by the Associated Air Balance Council (AABC) or National Environmental Balancing Bureau (NEBB).

1. TAB Field Supervisor: TAB contractor employee who is certified by AABC or NEBB.

2. TAB Technician: TAB contractor employee who is certified by AABC or NEBB.

B. TAB Certification: Certify TAB field data reports and perform the following:

1. Review field data reports to validate accuracy of data and to prepare certified TAB reports.

2. Certify that the TAB team complied with the approved TAB plan and the procedures specified and referenced in this Specification.

C. TAB Report Forms: Use standard AABC or NEBB report forms as reviewed by the engineer.

D. TAB Instrumentation: Provide instrumentation certification report including equipment type and make, serial number, accuracy and calibration as described in ASHRAE-111, Section 5, "Instrumentation."

1. All instruments shall be calibrated within 6 months of use.

E. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing" and ASHRAE 90.1, Section 6.7.2.3 - "System Balancing".

F. Code and AHJ Compliance: Comply with governing codes and requirements of authorities having jurisdiction.

1.5. PROJECT CONDITIONS

A. Partial Owner Occupancy: Owner may occupy completed areas of building before Owner Acceptance. Cooperate with Owner during TAB operations to minimize conflicts with Owner's operations.

1.6. COORDINATION

A. Notice: Provide 10-day notice for each test. Include scheduled test dates and times.

B. Perform TAB after mechanical work is complete, ductwork has been sealed, and ready for normal operation.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1. EXAMINATION

A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems' designs that may preclude proper TAB of systems and equipment.

B. Examine systems for installed manual volume dampers. Verify that locations of these balancing devices are accessible.

C. Examine the approved submittals for HVAC systems and equipment.

D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems' output, and statements of philosophies and assumptions about HVAC system and equipment controls.

E. Examine equipment performance data including fan curves.

1. Relate performance data to Project conditions and requirements, including system effects that can create undesired or unpredicted conditions that cause reduced capacities in all or part of a system.

2. Calculate system-effect factors to reduce performance ratings of HVAC equipment when installed under conditions different from the conditions used to rate equipment performance. To calculate system effects for air systems, use tables and charts found in AMCA 201, "Fans and Systems," or in SMACNA's "HVAC Systems - Duct Design." Compare results with the design data and installed conditions.

F. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.

G. Examine HVAC equipment and filters and verify that bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation.

H. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.2. PREPARATION

A. Complete system-readiness checks and prepare reports. Verify the following:

1. General:

a. Permanent electrical-power wiring is complete.

b. Automatic temperature-control systems are operational.

c. Equipment and duct access doors are securely closed.

2. HVAC Air Systems:

a. Verify that leakage and pressure tests on air distribution systems have been satisfactorily completed.

b. Duct systems are complete with terminals installed.

c. Volume dampers are open and functional.

d. Clean filters are installed.

e. Fans are operating, free of vibration, and rotating in correct direction.

f. Automatic temperature-control systems are operational.

g. Windows and doors are installed.

h. Suitable access to balancing devices and equipment is provided.

3.3. GENERAL PROCEDURES FOR TESTING AND BALANCING

A. Perform testing and balancing procedures on each system according to the procedures contained in ASHRAE-111 and in this Section.

1. Comply with requirements in ASHRAE-62.1, Section-7.2.2 - "Air Balancing."

B. Cut insulation and ducts for installation of test probes to the minimum extent necessary for TAB procedures.

1. After testing and balancing, install test ports and duct access doors that comply with requirements in Section 233300.

C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.

D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.4. GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Crosscheck the summation of required outlet volumes with required fan volumes.

B. Prepare schematic diagrams of systems' "as-built" duct layouts.

C. Coordinate pullies and sheaves needed to balance applicable air systems with fan supplier. Refer to Section 233400.

D. Determine the best locations in main and branch ducts for accurate duct-airflow measurements.

E. Locate start-stop and disconnect switches, electrical interlocks, and motor starters.

F. Verify that motor starters are equipped with properly sized thermal protection.

G. Check dampers for proper position to achieve desired airflow path.

H. Check for airflow blockages.

I. Verify that air duct system is sealed as specified.

3.5. PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

A. Adjust fans to deliver total indicated airflows within the maximum allowable fan speed listed by fan manufacturer.

1. Measure total airflow.

a. Where sufficient space in ducts is unavailable for Pitot-tube traverse measurements, measure airflow at terminal outlets and inlets and calculate the total airflow.

2. Measure fan static pressures as follows to determine actual static pressure:

a. Measure outlet static pressure as far downstream from the fan as practical and upstream from restrictions in ducts such as elbows and transitions.

b. Measure static pressure directly at the fan outlet.

c. Measure inlet static pressure of single-inlet fans in the inlet duct as near the fan as possible, upstream from the flexible connection, and downstream from duct restrictions.

d. Measure inlet static pressure of double-inlet fans through the wall of the plenum that houses the fan.

3. Do not make fan-speed adjustments that result in motor overload. Consult equipment manufacturers about fan-speed safety factors. Modulate dampers and measure fan-motor amperage to ensure that no overload will occur. Measure amperage in full-cooling, full-heating, economizer, and any other operating mode to determine the maximum required brake horsepower.

B. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows within specified tolerances.

1. Measure airflow of submain and branch ducts.

a. Where sufficient space in submain and branch ducts is unavailable for Pitot-tube traverse measurements, measure airflow at terminal outlets and inlets and calculate the total airflow for that zone.

2. Measure static pressure at a point downstream from the balancing damper, and adjust volume dampers until the proper static pressure is achieved.

3. Remeasure each submain and branch duct after all have been adjusted. Continue to adjust submain and branch ducts to indicated airflows within specified tolerances.

C. Measure air outlets and inlets without making adjustments.

1. Measure terminal outlets using a direct-reading hood or outlet manufacturer's written instructions and calculating factors.

D. Adjust air outlets and inlets for each space to indicated airflows within specified tolerances of indicated values. Make adjustments using branch volume dampers rather than extractors and the dampers at air terminals.

1. Adjust each outlet in same room or space to within specified tolerances of indicated quantities without generating noise levels above the limitations prescribed by the Contract Documents.

2. Adjust patterns of adjustable outlets for proper distribution without drafts.

E. Verify final system conditions:

1. Re-measure and confirm that total airflow is within design.

2. Re-measure all final fan operating data, speed, volts, amps, and static profile.

3. Mark all final settings.

4. Measure and record all operating data.

5. Record final fan-performance data.

3.6. PROCEDURES FOR MOTORS

A. Motors, 1/2 HP and Larger: Test at final balanced conditions and record the following data:

1. Manufacturer's name, model number, and serial number.

2. Motor horsepower rating.

3. Motor rpm.

4. Efficiency rating.

5. Nameplate and measured voltage, each phase.

6. Nameplate and measured amperage, each phase.

7. Starter thermal-protection-element rating.

3.7. PROCEDURES FOR ELECTRIC HEATING COILS

A. Measure, adjust, and record the following data for each electric heating coil:

1. Nameplate data.

2. Airflow.
3. Entering- and leaving-air temperature at full load.
4. Voltage and amperage input of each phase at full load and at each incremental stage.
5. Calculated kilowatt at full load.
6. Fuse or circuit-breaker rating for overload protection.

3.8. HVAC CONTROLS VERIFICATION

A. In conjunction with system balancing and the BAS Controls Contractor, perform the following:

1. Verify HVAC control system is operating within the design limitations.

B. Reporting: Include a summary of verifications performed, remaining deficiencies, and variations from indicated conditions.

3.9. TOLERANCES

A. Set HVAC system's air flow rates and water flow rates within the following tolerances:

1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus or minus 10 percent.
2. Air Outlets and Inlets: Plus 10 percent or minus 5 percent.

3.10. FINAL REPORT

A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.

1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
2. Include a list of instruments used for procedures, along with proof of calibration.
3. Certify validity and accuracy of field data.

B. Final Report Contents: In addition to certified field-report data, include the following:

1. Fan curves.
2. Manufacturers' test data.
3. Field test reports prepared by system and equipment installers.
4. Other information relative to equipment performance; do not include Shop Drawings and Product Data.

C. General Report Data: In addition to form titles and entries, include the following data:

1. Title page.
2. Name and address of the TAB specialist.

3. Project name.
4. Project location.
5. Architect's name and address.
6. Engineer's name and address.
7. Contractor's name and address.
8. Report date.
9. Signature of TAB supervisor who certifies the report.
10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
11. Summary of contents, including indicated versus final performance; notable characteristics of systems; and description of system operation sequence if it varies from the Contract Documents.
12. Nomenclature sheets for each item of equipment.
13. Data for terminal units, including manufacturer's name, type, size, and fittings.
14. Notes to explain why certain final data in the body of reports vary from indicated values.
15. Test conditions for fans performance forms, including the following:
    a. Settings for exhaust-air dampers.
    b. Heating coil, dry-bulb conditions.
    c. Fan drive settings, including settings and percentage of maximum pitch diameter.
    d. Other system operating conditions that affect performance.

D. Floor Plans: Include a copy of the ductwork plans, from either the Mechanical Contract Documents or Mechanical Contractor’s sheet metal fabrication documents, with final air flow values of all airside equipment and of each air inlet and outlet superimposed.

1. The floor plans are in addition to the written report. The values on the plans should match those in the written report and provide an easy reference to the location of each device.

E. System Diagrams: Include schematic layouts of air and hydronic distribution systems. Present each system with single-line diagram and include the following:

1. Quantities of exhaust airflows.
2. Duct, outlet, and inlet sizes.
3. Position of balancing devices.

F. Electric-Coil Test Reports: For electric furnaces, duct coils, and electric coils installed in central-station air-handling units, include the following:

1. Unit Data:
    a. System identification.

b. Location.

c. Coil identification.

d. Capacity in Btu/h.

e. Number of stages.

f. Connected volts, phase, and hertz.

g. Rated amperage.

h. Airflow rate in cfm.

i. Face area in sq. ft.

j. Minimum face velocity in fpm.

2. Test Data (Indicated and Actual Values):

a. Heat output in Btu/h.

b. Airflow rate in cfm.

c. Air velocity in fpm.

d. Entering-air temperature in deg F.

e. Leaving-air temperature in deg F.

f. Voltage at each connection.

g. Amperage for each phase.

G. Fan Test Reports: For exhaust fans, include the following:

1. Fan Data:

a. System identification.

b. Location.

c. Make and type.

d. Model number and size.

e. Manufacturer's serial number.

f. Arrangement and class.

g. Sheave make, size in inches, and bore.

h. Center-to-center dimensions of sheave and amount of adjustments in inches.

2. Motor Data:

a. Motor make, and frame type and size.

b. Horsepower and speed.

c. Volts, phase, and hertz.

d. Full-load amperage and service factor.

e. Sheave make, size in inches, and bore.

f. Center-to-center dimensions of sheave and amount of adjustments in inches.

g. Number, make, and size of belts.

3. Test Data (Indicated and Actual Values):

a. Total airflow rate in cfm.

b. Total system static pressure in inches wg.

c. Fan speed.

d. Discharge static pressure in inches wg.

e. Suction static pressure in inches wg.

H. Instrument Calibration Reports:

1. Report Data:

a. Instrument type and make.

b. Serial number.

c. Application.

d. Dates of use.

e. Dates of calibration.

3.11. INSPECTIONS

A. Initial Inspection:

1. After testing and balancing is complete, operate each system and randomly check measurements to verify that the system is operating according to the final test and balance readings documented in the final report.

2. Check the following for each system:

a. Measure airflow of at least 10 percent of air outlets.

b. Measure room temperature at each thermostat/temperature sensor. Compare the reading to the set point.

c. Verify that balancing devices are marked with final balance position.

d. Note deviations from the contract documents in the final report.

END OF SECTION 23 05 93

SECTION 23 31 13 – METAL DUCTS

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes single wall round and rectangular metal duct and fittings and associated sealants, gaskets, hangers and supports.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

1. Shop Drawings: For all new ductwork and accessories.

a. Factory and shop-fabricated ducts and fittings.

b. Reinforcement and spacing.

c. Seam and joint construction.

d. Hangers and supports, including methods for duct and building attachment and vibration isolation.

e. Sheet metal thicknesses.

PART 2 - PRODUCTS

2.1. SHEET METAL MATERIALS

A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations and other imperfections.

B. Galvanized Steel Sheets: Comply with ASTM A 653/A 653M.

1. Galvanized Coating Designation:

a. G90: Non-hazardous systems such as supply, return, ventilation, relief and general building exhaust duct installed indoors.

2. Finishes for Surfaces Exposed-to-View: Mill phosphatized.

3. Finishes for Surfaces Exposed-to-View: Painted.

2.2. DUCT CONSTRUCTION

A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class with the following exceptions:

1. Minimum Sheet Metal Thickness:

a. Non-hazardous ducted systems including supply, return, ventilation, relief and general building exhaust air.

1) Galvanized Sheet Steel: 0.028-inches (24-gage).

B. Intermediate Reinforcement: Match duct material.

C. Elbow Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows."

a. Radius Type RE-1 with minimum 1.5 radius-to-diameter ratio.

b. Radius Type RE-3 with minimum 1.0 radius-to-diameter ratio and two vanes.

c. Mitered Type RE-2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."

1) Fabricate elbows with single thickness blades with 2-inch inside radius for ducts with dimensions up to 18x18 and double thickness blades for dimensions 18x18 and larger.

2) Turning vanes may be deleted when duct dimensions are less than 12x12.

2. Round Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-4, "Round Duct Elbows."

a. Elbows shall be solid welded gored type constructed in accordance with Fig. 3-6 and Table 3-1 of SMACNA HVAC Duct Construction Standards. Mitered elbows may only be used where indicated on the Drawings. When used, mitered elbows shall always be supplied with single thickness turning vanes.

b. Minimum Radius-to-Diameter Ratio and Elbow Segments: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible".

1) Velocity up to 1500 fpm: 1.0 radius-to-diameter ratio and four segments for 90-degree elbow.

2) Velocity 1500 fpm or Higher: 1.5 radius-to-diameter ratio and five segments for 90-degree elbow.

c. Round Elbows:

1) Diameter 8-inches and Smaller: Stamped or pleated.

a) Adjustable elbows with lockform joints are also acceptable.

2) Diameter 10-inches and Larger: Welded gore-type.

a) 90-degree elbows shall have minimum 5 gores.

b) 45-degree elbows shall have minimum 3 gores.

D. Branch Configuration:

1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-6, "Branch Connection."

   a. Rectangular Main to Rectangular Branch: 45-degree entry.

   b. Rectangular Main to Round Branch:

      1) Velocity up to 1500 fpm: Conical.

      2) Velocity greater than 1500 fpm: 45-degree lateral.

2. Round and Flat Oval: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees." Saddle taps are permitted in existing duct.

   a. Round and Flat Oval Main to Round Branch:

      1) Velocity up to 1000 fpm: 90-degree tee.

      2) Velocity up to 2000 fpm: Conical.

      3) Velocity greater than 2000 fpm: 45-degree lateral.

3. Construct tees, bends, and elbows with minimum radius 1-1/2 times centerline duct width. Where not possible and where rectangular elbows are used, provide airfoil turning vanes. Where acoustical lining is indicated, furnish turning vanes of perforated metal with glass fiber insulation.

4. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

5. Provide standard 45-degree lateral wye takeoffs. When space does not allow 45-degree lateral wye takeoff, use 90-degree conical tee connections. Straight 90-degree round take-offs are allowed off rectangular ducts for single diffuser taps only.

6. Divided or diverging flow fittings shall be constructed as separate fittings. Tap collars welded into spiral duct sections are not acceptable.

2.3. TRAVERSE DUCT CONNECTION SYSTEM

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Ductmate.

2. Ward.

3. Nexus.

B. Product Description: SMACNA "F" rated or SMACNA "J" rated rigidity class connection, interlocking angle and duct edge connection system with sealant, gasket, cleats, and corner clips.

C. Duct connectors shall be equal to Ductmate 35 or 25 Systems, slide-on type. The 35 System joint shall be the equivalent of a SMACNA "J" connection. The 25 System joint shall be the equivalent of the SMACNA "F" connection. Duct connectors shall be tested by an independent recognized testing laboratory.

D. Duct connectors shall consist of roll formed angle frames with integral sealant, corner pieces with nuts and bolts, metal cleats and gasketing. (Metal cleats only, PVC cleats not acceptable, with the exception of breakaway joints at fire damper sleeves.)

E. Gasketing shall be equal to Ductmate Type 440 synthetic polymer (Butyl) based gasket/sealing tape or approved equal.

F. Connectors shall be selected for the system duct construction specified. Select in accordance with SMACNA HVAC Duct Construction Standards, Metal and Flexible and the manufacturers published criteria for positive and negative applications. The manufacturer shall assist in the selection of all duct connectors. Select methods of construction and gages as required to accommodate prefabricated duct connectors.

G. Angle flange connectors shall be fastened in each corner and 12-inches o/c minimum thereafter unless the MFR requires more stringent fastening. The type/style of fastening must be submitted for approval prior to ductwork fabrication.

2.4. SEALANT AND GASKETS

A. General Sealant and Gasket Requirements: Surface-burning characteristics for sealants and gaskets shall be a maximum flame-spread index of 25 and a maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.

B. Two-Part Tape Sealing System:

1. Tape: Woven cotton fiber impregnated with mineral gypsum and modified acrylic/silicone activator to react exothermically with tape to form hard, durable, airtight seal.
2. Tape Width: 4 inches.
3. Sealant: Modified styrene acrylic.
4. Water resistant.
5. Mold and mildew resistant.
6. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
7. Service: Indoor and outdoor.
8. Service Temperature: Minus 40 to plus 200 deg F.
9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum.
10. For indoor applications, sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. Water-Based Joint and Seam Sealant:

1. Application Method: Brush on.
2. Solids Content: Minimum 65 percent.
3. Shore A Hardness: Minimum 20.
4. Water resistant.

5. Mold and mildew resistant.
6. VOC: Maximum 75 g/L (less water).
7. Maximum Static-Pressure Class: 10-inch wg, positive and negative.
8. Service: Indoor or outdoor.
9. Substrate: Compatible with galvanized sheet steel (both PVC coated and bare), stainless steel, or aluminum sheets.

D. Flanged Joint Sealant: Comply with ASTM C 920.

1. General: Single-component, acid-curing, silicone, elastomeric.
   a. Type: S.
   b. Grade: NS.
   c. Class: 25.
   d. Use: O.
2. For indoor applications, sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

E. Flange Gaskets: Butyl rubber, neoprene, or EPDM polymer with polyisobutylene plasticizer.

2.5. HANGERS AND SUPPORTS

A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.

B. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."

C. Steel Cables for Galvanized-Steel Ducts: Galvanized steel complying with ASTM A 603.

D. Steel Cable End Connections: Cadmium-plated steel assemblies with brackets, swivel, and bolts designed for duct hanger service; with an automatic-locking and clamping device.

E. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.

F. Trapeze and Riser Supports:

1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
2. Supports for Stainless-Steel Ducts: Stainless-steel shapes and plates.
3. Supports for Aluminum Ducts: Aluminum or galvanized steel coated with zinc chromate.

PART 3 - EXECUTION

3.1. DUCT SCHEDULE

A. General Building Air Systems: Applies to general building supply, return, exhaust, ventilation and relief air duct.

1. Indoor Duct:

a. Concealed or Exposed to View in Mechanical Rooms: Single-wall galvanized sheet steel. Round duct shall have longitudinal or spiral seams.

3.2. DUCT INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and Coordination Drawings.

B. Duct Dimensions: Dimensions in the construction documents indicate as follows:

1. Rectangular Duct: Nominal inside width and height of the duct.

2. Round Duct: Nominal inside diameter of the duct.

C. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.

D. Install ducts according to SMACNA’s “Duct Cleanliness for New Construction Guidelines”.

1. Store duct, fittings and accessories on pallets in a clean and dry location.

2. All sections of duct, fittings and accessories shall be sealed for shipping and storage. They may be sealed at all openings with polyethylene film, shrink-wrapped, bagged or equivalent. Exposed openings shall remain sealed until temporary filtration is in place.

3. Temporary filter media shall be installed on both return and exhaust ducts/inlets if system is operated for conditioning prior to occupancy.

4. Internal surfaces shall be wiped clean as each is installed to prevent construction dust and debris from accumulating.

E. Install round ducts in maximum practical lengths.

F. Install ducts with fewest possible joints.

G. Install factory or shop fabricated fittings for changes in direction, size, and shape and for branch connections.

H. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.

I. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.

J. Route ducts to avoid passing through transformer vaults and electrical equipment rooms and enclosures.

K. Where ducts pass through non-fire-rated interior partitions and exterior walls and are exposed to view, cover the opening between the partition and duct or duct insulation with sheet metal flanges of same metal thickness as the duct. Overlap openings on four sides by at least 1-1/2 inches.

L. Protect duct interiors from moisture, construction debris and dust, and other foreign materials. Comply with SMACNA's "IAQ Guidelines for Occupied Buildings Under Construction," Appendix G, "Duct Cleanliness for New Construction Guidelines."

3.3. HANGER AND SUPPORT INSTALLATION

A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."

B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.

C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.

D. Hangers Exposed to View: Threaded rod and angle or channel supports.

E. Support vertical ducts with steel angles or channel secured to the sides of the duct with welds, bolts, sheet metal screws, or blind rivets; support at each floor and at maximum intervals of 10 feet.

F. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.4. CONNECTIONS

A. Make connections to equipment with flexible connectors.

B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.5. PAINTING

A. Paint interior of all metal duct that is visible through registers and grilles and that does not have duct liner.

B. Paint exterior of all galvanized metal duct that is exposed-to-view. Do not paint stainless steel duct unless otherwise directed.

1. Exception: Do not paint duct in mechanical rooms, mezzanines or penthouses.

C. Painting Duct:

1. Clean duct of dirt, grease and lubricants with a non-hydrocarbon “green” cleaner.

2. Prime duct with 2 coats of water-based white acrylic primer paint designed for use with galvanized steel.

3. Finish duct with 2 coats of latex paint.

a. Exterior Duct Surfaces: Color and finish shall be chosen by the owner/ architect.

b. Interior Duct Surfaces: Flat black.

D. Apply paint and primer at the recommended spreading rate and film thickness as recommended by the paint manufacturer.

E. Apply paint and primer within the environmental conditions recommended by the paint manufacturer but not less than 55F; not more than 90F; and not more than 70% RH.

F. Mill phosphatized or bonderized ”paint grip” steel is not acceptable. Galvannealed sheet metal using a continuous hot-dipping method is an acceptable alternative.

3.6. FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Leakage Pressure Tests:

1. Low pressure duct (2-inches w.g. or less) listed below shall be tested for leakage unless, in the judgement of the Engineer, it is not required. The Engineer has the option to make this judgement based on a visual inspection of the quality of sealant application. Poor workmanship will result in leakage testing of all duct.

   a. Exhaust air duct under negative pressure and less than 30 ft total length of duct.

2. Test duct leakage per 2013 ASHRAE Fundamentals Handbook Chapter 21and 2016 ASHRAE HVAC Systems and Equipment Handbook Chapter 19 with an average leakage rate for each duct system as specified in Table 3 for the leakage class specified in Part 3 of this section.

3. Disassemble, reassemble, and seal segments of systems to accommodate leakage testing and for compliance with test requirements.

4. Provide 10-day notice for testing.

5. Testing performed prior to the installation of duct accessories, such as dampers and access doors, is not valid. Alterations of the systems due to incomplete or non-conforming work made after testing will void previous test results and require new testing at no additional cost to the owner or engineer. Verify related work is complete before starting.

C. Duct system will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

END OF SECTION 23 31 13

SECTION 23 33 00 – METAL DUCT ACCESSORIES

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes air duct accessories including volume control dampers; flexible ducts; flange and flexible connectors; turning vanes; and duct hardware.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated.

B. Close-Out Submittals:

PART 2 - PRODUCTS

2.1. ASSEMBLY DESCRIPTION

A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and with NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."

B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.

C. Provide dampers constructed with materials matching the duct system.

2.2. MATERIALS

A. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.

1. Galvanized Coating Designation: G90.

2. Exposed-Surface Finish: Mill phosphatized.

B. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless-steel ducts.

C. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36-inches or less; 3/8-inch minimum diameter for lengths longer than 36-inches.

2.3. GRAVITY BALANCED BACKDRAFT DAMPERS

A. Description: Gravity-balanced dampers for backdraft. Dampers shall have adjustable tension return spring; steel ball bearings; counter-weights and spring-assist kits for vertical flow applications; and bird screens. Unless otherwise indicated, dampers shall be rated for 2000 fpm maximum air velocity and 2-inches w.g. maximum system pressure.

1. Frame: Hat-shaped with welded corners or mechanically attached and mounting flange, constructed of one of the following to match the duct system material type for each: 12-gauge thick, galvanized sheet steel; 0.063-inch thick extruded aluminum; or 0.05-inch thick stainless steel.

2. Blades: Parallel-action, multiple single-piece blades, center pivoted, maximum 6-inch width, 0.025-inch thick, roll-formed aluminum with mechanically-locked neoprene blade seals and 0.20-inch diameter stainless steel blade axles.

2.4. MANUAL VOLUME DAMPERS

A. Standard Rectangular, Steel, Manual Volume Dampers: Standard leakage rating suitable for horizontal or vertical volume control applications with molded synthetic bearings. Unless otherwise indicated, dampers shall be rated for 2000 fpm maximum air velocity and 2.5-inches w.g. maximum system pressure. Provide dampers equivalent to Ruskin MD35.

1. Frame: Hat-shaped with welded corners, constructed of 16-gauge thick, galvanized sheet steel, with flanges for wall attachments or flangeless for in duct installations.

2. Blades: Opposed-blade action, multiple single-piece blades, center-pivot, maximum 8-inch width, 16-gauge thick galvanized steel, galvanized steel blade axles and exposed linkage. Provide 2-inch handle extension wherever duct system will be insulated.

B. Standard Round, Steel, Manual Volume Dampers: Standard leakage rating suitable for horizontal or vertical volume control applications with molded synthetic bearings. Unless otherwise indicated, dampers shall be rated for 1500 fpm maximum air velocity and 2-inches w.g. maximum system pressure. Provide dampers equivalent to Ruskin MDRS25

1. Frame: Constructed of 20-gauge thick galvanized sheet steel, flangeless for in duct installations.

2. Blades: Single-blade, center-pivot, 20-gauge thick galvanized sheet steel, 0.375-inch diameter galvanized steel blade axle and 90-deg quadrant handle. Provide 2-inch handle extension wherever duct system will be insulated.

C. Damper Hardware: Zinc-plated, die-cast core with hand quadrant dial and handle made of 3/32-inch thick zinc-plated steel, and hexagon locking nut. Include elevated platform for insulated duct mounting.

1. Handle operation shall be painted orange.

2.5. TURNING VANES

A. Turning Vanes for Metal Ducts: Factory-fabricated, double-wall, curved airfoil-shaped blades of galvanized sheet steel; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting. Comply with details in SMACNA “HVAC Duct Construction Standards – Metal and Flexible”

2.6. DUCT TEST HOLES

A. Permanent Test Holes: Factory-fabricated, air-tight, flanged fittings with screw cap. Furnish extended neck fittings to clear insulation.

2.7. FLEXIBLE CONNECTORS

A. Materials: Flame-retardant or noncombustible fabrics.

B. Coatings and Adhesives: Comply with UL 181, Class 1.

C. Metal-Edged Connectors: Factory fabricated with a fabric strip 3-1/2 inches wide attached to two strips of 2-3/4-inch wide, 0.028-inch thick, galvanized sheet steel or 0.032-inch thick aluminum sheets. Provide metal compatible with connected ducts.

D. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene with a minimum weight of 26 oz/sqyd; tensile strength of 480 lbf/inch in the wrap and 360 lbf/inch in the filling; and a service temperature range of (-) 40 deg F to 200 deg F.

E. Grounding Straps: Flexible braided copper grounding strips, flat or round, providing an equivalent ampacity of a #6 AWG conductor.

2.8. FLEXIBLE DUCTS

A. General: Flexible duct shall comply with UL 181, Class 1 and have flame spread rating of less than 25 and smoke developed rating of less than 50.

B. Non-Insulated, Flexible Duct: Aluminum laminate and polyester film with latex adhesive supported by helically wound, spring-steel wire. Duct shall have 10-inch w.g. positive and 1-inch w.g. negative pressure ratings; maximum air velocity of 4000 fpm; and temperature rating of (-) 20 deg F to 210 deg F.

C. Insulated, Flexible Duct: Double-ply polyester film supported by helically wound, spring-steel wire; fibrous-glass insulation; polyethylene vapor-barrier film. Duct shall have 10-inch w.g. positive and 1-inch w.g. negative pressure ratings; maximum air velocity of 4000 fpm; and temperature rating of (-) 10 deg F to 160 deg F. Insulation value shall meet or exceed R-value of connected duct insulation.

D. Flexible Duct Connectors: Stainless steel bands with cadium-plated hex screws to tighten band with a worm gear action sized to suit duct size.

2.9. DUCT ACCESSORY HARDWARE

A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness.

B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease.

PART 3 - EXECUTION

3.1. INSTALLATION

A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAIMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts.

B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel.

C. Whether or not indicated on plans, install volume dampers at points on exhaust systems where branches extend from larger ducts. Damper construction materials shall match duct system materials.

1. Volume damper handle positions shall match volume damper positions. If the damper is closed, the handle should be perpendicular to the direction of airflow. If the damper is open, the handle should be parallel to the direction of airflow.

D. Set dampers to fully open position before testing, adjusting, and balancing.

E. Install test holes at fan inlets and outlets and elsewhere as indicated.

F. Install temporary duct test holes as required for testing and balancing purposes. Cut or drill ducts. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.

G. Install flexible connectors to connect ducts to equipment. Install flexible grounding strip(s) from equipment to duct.

H. Connect flexible ducts to metal ducts with adhesive plus sheet metal screws and tape.

I. Install duct test holes where required for testing and balancing purposes.

3.2. FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Operate dampers to verify full range of movement.

2. Inspect turning vanes for proper and secure installation.

a. Test Report:

1) Provide written report to Engineer and signed by the responsible Contractor representatives.

2) Report shall include a table showing each damper with a unique identification for each damper. Report shall include a notation of whether damper is in supply, return, exhaust or other type of duct.

3) Report shall include drawings showing the location of each damper on the floor plans.

END OF SECTION 23 33 00

SECTION 23 34 00 – HVAC FANS

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes in-line centrifugal fans.

1.2. PERFORMANCE REQUIREMENTS

A. Operating Limits: Classify according to AMCA 99.

1.3. SUBMITTALS

A. Product Submittals: For each type of product indicated include rated capacities, operating characteristics, and furnished specialties and accessories. The product data shall also include the following: certified fan performance curves with system operating conditions indicated; certified fan sound-power ratings; motor ratings and electrical characteristics, plus motor and electrical accessories; material thickness and finishes; dampers, including housings, linkages, and operators; roof curbs; and fan speed controllers.

B. Close-Out Submittals:

1. Operation and Maintenance Data: For power ventilators to include in emergency, operation, and maintenance manuals.

1.4. QUALITY ASSURANCE

A. Electrical Components, Devices and Accessories: UL listed and labeled as defined by NFPA 70, the National Electric Code, or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

B. Mechanical Equipment and Materials: UL listed and labeled as defined by State Building Codes or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

C. Testing and listing laboratories of mechanical and electrical equipment shall be accredited by the North Carolina Building Code Council (NCBCC).

1.5. EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Belts: Two set(s) for each belt-driven unit.

PART 2 - PRODUCTS

2.1. GENERAL REQUIREMENTS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Greenheck Fan Corp.
2. Loren Cook Company
3. New York Blower
4. PennBarry
5. Twin City Fan and Blower

B. Description: Factory fabricated, assembled, tested, and finished, belt-driven or direct-driven (as scheduled) fans consisting of housing, wheel, fan shaft, bearings, motor, drive assembly and support structure with factory installed and wired service disconnect switch. Deliver fans as factory-assembled units, to the extent allowable by shipping limitations.

C. AMCA Compliance: Comply with AMCA performance requirements and bear the AMCA-Certified Ratings Seal. Classify operating limits according to AMCA 99.

1. Sound-Power Level Ratings: Comply with AMCA 301, "Methods for Calculating Fan Sound Ratings from Laboratory Test Data." Factory test fans according to AMCA 300, "Reverberant Room Method for Sound Testing of Fans." Label fans with the AMCA-Certified Ratings Seal.
2. Fan Performance Ratings: Establish flow rate, pressure, power, air density, speed of rotation, and efficiency by factory tests and ratings according to AMCA 210/ASHRAE 51, "Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating."

D. Shafts: Fan shafts shall be statically and dynamically balanced and selected for continuous operation at maximum rated fan speed and motor horsepower, with adjustable alignment and belt tensioning. Shafts shall be turned, ground, and polished hot-rolled steel with keyway and finished with an anti-corrosive coating. They shall be designed to operate at no more than 70 percent of first critical speed at top of fan's speed range.

E. Pre-lubricated and Sealed Shaft Bearings: Self-aligning, pillow-block type bearings rated for L10 at 100,000 hours.

1. Extend grease fitting to accessible location outside of unit.
2. Insulated bearings for all fan motors 100 hp and larger.

F. Belt Drives: Factory mounted, with adjustable alignment and belt tensioning, and with 1.5 service factor based on fan motor.

1. Fan Pulleys: Cast iron or cast steel with split, tapered bushing; dynamically balanced at factory.
2. Motor Pulleys: Adjustable pitch for use with motors through 5 hp; fixed pitch for use with larger motors. Select pulley so pitch adjustment is at the middle of adjustment range at fan design conditions.
3. Belts: Oil resistant, non-sparking, and non-static V-belts; in matched sets for multiple-belt drives.

4. Belt Guards: Fabricate to comply with OSHA and SMACNA requirements of diamond-mesh wire screen welded to steel angle frame or equivalent, prime coated. Secure to fan or fan supports without short circuiting vibration isolation. Include provisions for adjustment of belt tension, lubrication, and use of tachometer with guard in place.

5. Motor Mount: Adjustable for belt tensioning.

G. Direct Drives: Factory-mounted with 1.2 service factor based on fan motor.

H. Motors: Comply with requirements of Section 230513.

I. Speed Controller: Where indicated, provide solid-state, factory-mounted, manual speed controller on 115V or 230V single-phase, direct-drive fans for air flow balancing.

J. Motor Starters and Disconnects: Refer to Section 230511.

1. Disconnect Switch: Factory wired and mounted non-fusible type with thermal-overload protection mounted to the fan housing, unless otherwise indicated. Wiring shall be enclosed in aluminum conduit.

K. Dampers: Motor-operated, parallel blade aluminum dampers mounted in the curb base shall open when the fan starts and close when it stops. Refer to Section 233300.

1. Where indicated, provide counter-balanced backdraft dampers in lieu of motor-operated type.

2.2. CABINET FANS

A. General Description: Cabinet style fan with steel housing lined with acoustical insulation; removable centrifugal fan wheel; and belt or direct-drive as scheduled. Electrical connection shall be hard-wired. Cord and plug wiring is not acceptable unless specifically noted on the equipment schedule.

B. In-Line Cabinet Fan: Greenheck CSP/SP Series, Loren Cook Gemini Series, PennBarry Zephyr Series or Twin City TL/DB Series.

1. Applications: General exhaust air systems.

C. Ceiling Cabinet Fan: Provide fan with white painted aluminum ceiling grille; plastic grilles are not acceptable. When located in fire-rated ceiling assemblies, provide with ceiling radiation damper that complies with Section 233300. Greenheck CSP/SP Series, Loren Cook Gemini Series, PennBarry Zephyr Series or Twin City TL/DB Series.

1. Applications: General exhaust air systems.

PART 3 - EXECUTION

3.1. GENERAL INSTALLATION

A. Install power ventilators level and plumb.

B. Ceiling Units: Suspend units from structure; use steel wire or metal straps.

C. Install units with clearances for service and maintenance.

D. Label units according to requirements specified in Section 230553.

3.2. CONNECTIONS

A. Drawings indicate general arrangement of ducts and duct accessories. Make final duct connections with flexible connectors. Flexible connectors are specified in Section 233300.

B. Install ducts adjacent to fans to allow service and maintenance.

C. Ground equipment according to Division 26.

D. Connect wiring according to Division 26.

3.3. FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Verify that shipping, blocking, and bracing are removed.
2. Verify that unit is secure on mountings and supporting devices and that connections to ducts and electrical components are complete. Verify that proper thermal-overload protection is installed in motors, starters, and disconnect switches.
3. Verify that cleaning and adjusting are complete.
4. Disconnect fan drive from motor, verify proper motor rotation direction, and verify fan wheel free rotation and smooth bearing operation. Reconnect fan drive system, align and adjust belts, and install belt guards.
5. Adjust belt tension.
6. Verify lubrication for bearings and other moving parts.
7. Verify that manual volume control connected ductwork systems are in fully open position.
8. Disable automatic temperature-control operators, energize motor and adjust fan to indicated rpm, and measure and record motor voltage and amperage.
9. Shut unit down and reconnect automatic temperature-control operators.
10. Remove and replace malfunctioning units and retest as specified above.

B. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Prepare test and inspection reports.

3.4. ADJUSTING

A. Adjust belt tension.

B. Comply with requirements in Section 230593 for testing, adjusting, and balancing procedures.

C. Replace fan and motor pulleys as required to achieve design airflow. Coordinate with the TAB Contractor.

D. Lubricate bearings.

END OF SECTION 23 34 00

SECTION 23 37 13 – DIFFUSERS, REGISTERS AND GRILLES

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes duct and wall mounted air inlets and outlets.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated, include the following:

1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.

2. Diffuser, Register, and Grille Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

1.3. QUALITY ASSURANCE

A. Comply with NFPA 90A and NFPA 90B.

B. Install flexible diffusion (“fabric”) outlets in accordance with manufacturer’s recommendations.

PART 2 - PRODUCTS

2.1. METAL DIFFUSERS, GRILLES & REGISTERS

A. Manufacturers: Provide products that comply with the construction documents and are manufactured by one of the following, unless otherwise noted in this section:

1. Krueger

2. Metalaire

3. Nailor Industries

4. Price

5. Titus

6. Tuttle & Bailey

B. General Requirements: Devices shall be specifically designed for variable air volume flows. Insulate backpan. Border type shall match each installation. Ceiling, wall, sill or duct-mounting as indicated. Face and neck dimensions as indicated. Inside of each backpan and duct plenum shall be painted flat black so that there is no visible metal from the face.

C. Materials: Provide devices constructed of the following materials unless otherwise indicated.

1. Material: Steel, aluminum, or stainless steel as noted.

2. Finish: Baked enamel, anodized aluminum, or primed-for-paint as noted.

a. Color: White, unless otherwise noted.

D. Volume Dampers: Provide manual volume damper at each air inlet or outlet branch duct tap, whether shown on the drawings or not, regardless of the diffuser, grille or register having an integral damper unless specifically noted otherwise. Dampers shall comply with Section 233300.

2.2. RETURN, EXHAUST AND TRANSFER AIR GRILLES AND REGISTERS

A. Airfoil Blade Grille: Single-deflection, fixed, airfoil blade grille with front horizontal and rear vertical blades spaced at 3/4-inch. The blades shall be at 0-degree or 35-degree deflection as indicated. Where indicated, provide opposed-blade neck mounted manual volume damper that is operable from the grille face. Titus 3/4/23/25/55/56 series or equal.

2.3. SOURCE QUALITY CONTROL

A. Verification of Performance: Rate diffusers, registers, and grilles according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 3 - EXECUTION

3.1. EXAMINATION

A. Examine areas where diffusers, registers, and grilles are to be installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2. INSTALLATION

A. Install diffusers, registers, and grilles level and plumb.

B. Install diffusers, registers, and grilles with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

3.3. ADJUSTING

A. After installation, adjust diffusers, registers, and grilles to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 23 37 13

SECTION 23 82 39 – UNIT HEATERS

PART 1 - GENERAL

1.1. SUMMARY

A. Section includes unit heaters with electric-resistance heating coils.

1.2. SUBMITTALS

A. Product Submittals: For each type of product indicated include rated capacities, operating characteristics, furnished specialties, and accessories.

B. Close-Out Submittals:

1. Operation and Maintenance Data: For propeller unit heaters to include in emergency, operation, and maintenance manuals.

1.3. QUALITY ASSURANCE

A. Electrical Components, Devices and Accessories: UL listed and labeled as defined by NFPA 70, the National Electric Code, or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

B. Mechanical Equipment and Materials: UL listed and labeled as defined by State Building Codes or equivalent by a qualified testing agency marked for the intended location and application and accepted by the Authority Having Jurisdiction and Engineer.

C. Testing and listing laboratories of mechanical and electrical equipment shall be accredited by the North Carolina Building Code Council (NCBCC).

D. For electric-resistance unit heaters, comply with UL 2021.

PART 2 - PRODUCTS

2.1. MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following for electric resistance unit heaters:

1. Markel
2. Modine
3. Reznor

4. Trane

2.2. DESCRIPTION

A. Assembly including casing, coil, fan, and motor in vertical and horizontal discharge configuration with adjustable discharge louvers.

2.3. HOUSINGS

A. Finish: Manufacturer's standard baked enamel applied to factory-assembled and -tested propeller unit heaters before shipping.

B. Discharge Louver: Adjustable fin diffuser for horizontal units and vertical units.

2.4. COILS

A. General Coil Requirements: Test and rate hot-water and steam propeller unit-heater coils according to ASHRAE 33.

B. Electric-Resistance Heating Coil: Nickel-chromium heating wire, free from expansion noise and 60-Hz hum, embedded in magnesium oxide refractory and sealed in steel or corrosion-resistant metallic sheath with fins no closer than 0.16 inch. Element ends shall be enclosed in terminal box. Fin surface temperature shall not exceed 550 deg F at any point during normal operation.

1. Circuit Protection: One-time fuses in terminal box for overcurrent protection and limit controls for high-temperature protection of heaters.

2. Wiring Terminations: Stainless-steel or corrosion-resistant material.

2.5. FAN AND MOTOR

A. Fan: Fan wheel directly mounted on motor shaft.

B. Motor: Comply with requirements in Section 230513.

2.6. CONTROLS

A. Control Devices: Wall-mounted thermostat or integral thermostat as scheduled.

PART 3 - EXECUTION

3.1. EXAMINATION

A. Examine areas to receive propeller unit heaters for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for piping and electrical connections to verify actual locations before unit-heater installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2. INSTALLATION

A. Install propeller unit heaters to comply with NFPA 90A.

B. Install unit heaters level and plumb.

C. Install wall-mounted thermostats and switch controls in electrical outlet boxes at heights to match lighting controls. Verify location of thermostats and other exposed control sensors with Drawings and room details before installation.

3.3. CONNECTIONS

A. Ground equipment according to Division 26.

B. Connect wiring according to Division 26.

3.4. FIELD QUALITY CONTROL

A. Perform the following tests and inspections.

1. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.

2. Operate electric heating elements through each stage to verify proper operation and electrical connections.

3. Test and adjust controls and safety devices. Replace damaged and malfunctioning controls and equipment.

3.5. DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain propeller unit heaters.

END OF SECTION 23 82 39

SECTION 26 05 00 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Electrical Equipment Installation.
2. Sleeves and sleeve seals for raceway and cable.
3. Firestopping.
4. Concrete equipment bases.
5. Cutting and patching for electrical construction.
6. Touchup painting.

1.3 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

C. Electrical equipment shall be new and manufactured within the last 12 months unless otherwise noted and approved by the engineer.

1.4 COORDINATION

A. Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installations that follow.

1. Set inserts and sleeves in poured-in-place concrete, masonry work, and other structural components as they are constructed.

B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning before closing in rooms.

C. Coordinate electrical service connections to components furnished by utility companies.

1. Coordinate installation and connection of exterior underground and overhead utilities and services, including provision for electricity-metering components.

2. Comply with requirements of authorities having jurisdiction and of utility company providing electrical power and other services.

D.

E. Coordinate location of access panels and doors for electrical items that are concealed by finished surfaces.

PART 2 - PRODUCTS

2.1 SLEEVES FOR RACEWAYS AND CABLES

A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.

B. Sleeves for Rectangular Openings: Galvanized sheet steel.

1. Minimum Metal Thickness:

a. For sleeve cross-section rectangle perimeter less than 50 inches (1270 mm) and no side more than 16 inches (400 mm), thickness shall be 0.052 inch (1.3 mm).
b. For sleeve cross-section rectangle perimeter equal to, or more than, 50 inches (1270 mm) and 1 or more sides equal to, or more than, 16 inches (400 mm), thickness shall be 0.138 inch (3.5 mm).

2.2 CONCRETE BASES

A. Concrete Forms and Reinforcement Materials: As specified in Division 03 Section "Cast-in-Place Concrete."

B. Concrete: 3000-psi (20.7-MPa), 28-day compressive strength as specified in Division 03 Section "Cast-in-Place Concrete."

2.3 TOUCHUP PAINT

A. For Equipment: Equipment manufacturer's paint selected to match installed equipment finish.

B. Galvanized Surfaces: Zinc-rich paint recommended by item manufacturer.

PART 3 - EXECUTION

3.1 ELECTRICAL EQUIPMENT INSTALLATION

A. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide the maximum possible headroom.

B. Materials and Components: Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.

C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations. Provide any additional supporting means not provided by manufacturer to install equipment.

D. Right of Way: Give to raceways and piping systems installed at a required slope.

3.2 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.

B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.

C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.

D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.

E. Sleeves for power raceway and cables: Steel, cut sleeves to length for mounting flush with both surfaces of walls.

F. Sleeves for telecommunication cables: Rigid galvanized steel conduit, extend sleeves 2” on each side of wall. Provide plastic bushing on each end.

G. Extend sleeves installed in floors 2 inches (50 mm) above finished floor level.

H. Size pipe sleeves to provide 1/4-inch (6.4-mm) annular clear space between sleeve and raceway or cable, unless indicated otherwise.

I. Seal space outside of sleeves with grout for penetrations of concrete and masonry

1. Promptly pack grout solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect grout while curing.

J. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Division 07 Section "Joint Sealants.".

K. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials. Comply with requirements in Division 07 Section "Penetration Firestopping."

L. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.

M. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.

N. Underground, Exterior-Wall Penetrations: Install cast-iron pipe sleeves. Size sleeves to allow for 1-inch (25-mm) annular clear space between raceway or cable and sleeve for installing mechanical sleeve seals.

3.3 SLEEVE-SEAL INSTALLATION

A. Install to seal exterior wall penetrations.

B. Use type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.4 FIRESTOPPING

A. Apply firestopping to cable and raceway penetrations of fire-rated floor and wall assemblies to achieve fire-resistance rating of the assembly. Firestopping materials and installation requirements are specified in Division 07 Section "Penetration Firestopping."

3.5 CONCRETE BASES

A. Construct concrete bases of dimensions indicated, but not less than 4 inches (100 mm) larger, in both directions, than supported unit. Follow supported equipment manufacturer's anchorage recommendations and setting templates for anchor-bolt and tie locations, unless otherwise indicated. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete and reinforcement as specified in Division 03 Section "Cast-in-Place Concrete."

3.6 CUTTING AND PATCHING

A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.

B. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing firestopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

3.7 REFINISHING AND TOUCHUP PAINTING

A. Refinish and touch up paint. Paint materials and application requirements are specified in Division 09 Section “Interior Painting” and Division 09 Section “Exterior Painting”

1. Clean damaged and disturbed areas and apply primer, intermediate, and finish coats to suit the degree of damage at each location.
2. Follow paint manufacturer's written instructions for surface preparation and for timing and application of successive coats.
3. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
4. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

3.8 CLEANING AND PROTECTION

A. On completion of installation, including outlets, fittings, and devices, inspect exposed finish. Remove burrs, dirt, paint spots, and construction debris.

B. Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

END OF SECTION 26 05 00

SECTION 26 05 19 - CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Building wires and cables rated 600 V and less.
   2. Connectors, splices, and terminations rated 600 V and less.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Field quality-control test reports: Submit all cable tests reports to Engineer ten days prior to Final Inspection.

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. American Insulated Wire Corp.; a Leviton Company.
   2. General Cable Corporation.
   3. Southwire Company.

B. Conductors: Comply with NEMA WC 70.
C. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN and XHHW.

2.2 CONNECTORS AND SPLICES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Thomas & Betts Corporation.
   2. Ideal Industries, Inc.
   3. 3M; Electrical Products Division.
   4. Tyco Electronics Corp.

B. Description: UL listed, factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated. Splices in solid conductors shall be made using Ideal Wirenuts, 3M Scotchlocks, or T&B Marrette pressure type wire connectors. Permanent crimp connectors are not acceptable.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
C. Minimum Size: No. 12 AWG for power and lighting circuits.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Service Entrance: Type THHN-THWN or XHHW, single conductors in raceway.
B. Exposed Feeders: Type THHN-THWN or XHHW, single conductors in raceway.
C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspaces: Type THHN-THWN or XHHW, single conductors in raceway.

D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN or XHHW, single conductors in raceway.
E. Exposed Branch Circuits, Including in Crawlspaces: Type THHN-THWN or XHHW, single conductors in raceway.
F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN or XHHW, single conductors in raceway.
   1. Concealed Lighting Branch Circuits: Type MC cable, #12 AWG, copper conductor, 90°C insulation. May be used for connecting light fixtures together. Maximum length is 15'. All home runs to first light fixture and switch legs shall be in conduit. Do not use for receptacle or other power circuits.

G. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN or XHHW, single conductors in raceway.
H. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.
I. Fire Alarm Circuits: See Section "Fire Alarm", in raceway.
J. Class 1 Control Circuits: Type THHN-THWN or XHHW, in raceway.
K. Class 2 Control Circuits: Type THHN-THWN or XHHW, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cables or raceway.
D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
E. Voltage Drop: Conductor size shall be increased to account for voltage drop as follows:
   1. Where the conductor length from the panel to the first outlet on a 277V circuit exceeds 125 feet, the branch circuit conductors from the panel to the first outlet shall not be smaller than #10 AWG.
   2. Where the conductor length from the panel to the first outlet on a 120V circuit exceeds 50 feet, the branch circuit conductors from the panel to the first outlet shall not be smaller than #10 AWG. Increase an additional wire size for every additional 50’ to first outlet.
   3. Proportionally increase size of equipment ground conductors wherever ungrounded conductor sizes are increased for voltage drop.

F. Dedicated Neutrals: Provide dedicated neutral for all single-pole branch circuits, unless otherwise noted on plans. All neutrals shall be uniquely identified at splices or taps to correspond with their ungrounded circuit conductors.
G. Support cables according to Division 26 Section "Hangers and Supports for Electrical Systems."
H. Identify and color-code conductors and cables according to Division 26 Section "Identification for Electrical Systems."

3.4 CONNECTIONS

A. Keep conductor splices to a minimum. No feeders shall be spliced. No splicing shall be made except within outlet or junction boxes, troughs, or gutters.
B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than un-spliced conductors.
   1. Splices shall be made using with pre-insulated spring/coil connectors (wire nuts), insulated barrel mechanical lugs, or box mounted insulated terminal strips.
   2. Push-in type, permanent crimp-on type, and split-bolt type are prohibited.
   3. Use oxide inhibitor in each splice and tap conductor for aluminum conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches of slack.

3.5 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.
B. Testing Technician
   1. The testing technicians shall be trained in all the methods of correctly and safely conducting the required test. The technician shall have regular experience conducting the required tests and they must have the knowledge to determine the serviceability of a specific piece of equipment.

C. Tests and Inspections: After installing conductors and cables and before electrical circuitry has been energized, test conductors for compliance with following requirements.

1. Physical Inspection and Testing
    a. Verify cable ratings and data correspond to drawings and specifications.
    b. Verify electrical connections are made to provide the electrical system described in the drawings and specifications.
    c. Confirm bolted electrical connections are low impedance using one of the following means:
        1)
        2) Measure the resistance with a low-resistance ohmmeter. Bolted electrical connection resistances shall be compared to resistances measured on similar connections. Any similar resistance values that deviate more than 50 percent should be investigated.
        3) Inspect the bolted connection and verify that it is at the manufacturer's rated torque using a calibrated torque wrench.
    d. A thermographic test of the service entrance conductors and distribution feeders. Conductor connection points shall be visible during the test. All equipment should be energized and loaded during test. Thermographic images of any connections that fail the test must be submitted with a description of the failure including the probable cause of the failure. A thermographic test shall be performed, but not limited to, the following areas.
        1) Service entrance conductors and feeders rated for 1000A or more.
    e. Inspect cable connectors to verify they are correctly installed.
    f. Verify all cables are identified and arranged according to the drawings and specifications.
    g. Verify that all cable jackets and insulation are in good condition and did not sustain damage during installation.
2. Electrical Inspection and Testing
    a. For feeder current-carrying phase conductors and neutrals: test the insulation resistance with respect to ground for one minute. Cables rated for 300 volts shall be tested with 500 volts DC and cables rated for 600 volts shall be tested with 1000 volts DC. All insulation resistance data gathered shall comply with manufacturer's documentation; if documentation does not exist, comply with the values found in Table 100.1 in the ANSI/NETA ATS-2009.

D. Remove and replace malfunctioning units and retest as specified above.
E. Test Reports: Prepare a written report to record the following:
1. Test procedures used.
2. Test results that comply with requirements.
3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

END OF SECTION 26 05 19

SECTION 26 05 26 - GROUNDING AND BONDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes methods and materials for grounding systems and equipment.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Field quality-control test reports.

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 CONDUCTORS

A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
B. Bare Copper Conductors:
   1. Solid Conductors: ASTM B 3.
   2. Stranded Conductors: ASTM B 8.
   3. Bonding Cable: stranded conductor sized per NEC 250 requirements.
   4. Bonding Conductor: stranded conductor sized per NEC 250 requirements.
   5. Bonding Jumper: Copper tape, braided conductors, terminated with copper ferrules; sized per NEC 250 requirements.

C. Grounding Bus: Rectangular bars of annealed copper, 1/4 by 2 inches (6 by 50 mm) in cross section, unless otherwise indicated; with insulators and stand-off brackets.

2.2 CONNECTORS

A. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.
B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.
   1. Pipe Connectors: Clamp type, sized for pipe.

C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

2.3 GROUNDING ELECTRODES

A. Ground Rods: Copper-clad steel; 3/4 inch by 10 feet (19 mm by 3 m) in diameter.

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.

B. Underground Grounding Conductors: Install bare copper conductor, No. 3/0 AWG minimum. Bury at least 24 inches (600 mm) below grade.

C. Grounding Bus: Install in electrical and telecommunication equipment rooms, in rooms housing service equipment, and elsewhere as indicated. Install bus on insulated spacers 1 inch (25 mm), minimum, with stand-off bracket from wall 6 inches (150 mm) above finished floor, unless otherwise indicated.
D. Conductor Terminations and Connections:
   1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
   2. Underground Connections: Welded connectors.
   3. Connections to Structural Steel: Welded connectors.

3.2 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits. The raceway shall not be relied on for ground continuity.
B. Signal and Communication Systems: For telephone, alarm, voice and data, and other communication systems, provide a No. 3/0 AWG minimum insulated grounding conductor (Telecommunications Bonding Backbone, TBB) in raceway from grounding electrode system to each service location, terminal cabinet, wiring closet, and central equipment location. Refer to Telecommunications Room Grounding Detail on plans for further requirements.
   1. MDF/Headend Room and IDF Rooms: Terminate Telecommunications Bonding Backbone on a grounding bus (Telecommunications Grounding Busbar, TGB). Refer to Telecommunications Room Grounding Detail on plans for requirements.

2. Cabinets, Racks, and Ladder Tray: Extend minimum #10 grounding conductor from equipment to TGB.
3. All telecommunication grounding shall be performed in compliance with TIA/EIA 607 Standard – Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications.

3.3 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

B. Ground Rods: Drive rods until tops are 6 inches (50 mm) below finished floor or final grade, unless otherwise indicated.
   1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating, if any.

C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
   1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
   2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install so vibration is not transmitted to rigidly mounted equipment.
   3. Provide exothermic-welded connection to building structural steel.
   4. Use exothermic-welded connectors for outdoor locations, but if a disconnect-type connection is required, use a bolted clamp.

D. Grounding Bushings and Jumpers: Boxes provided with concentric, eccentric or over-sized knockouts shall be provided with bonding bushings and jumpers lugged to box.

E. Grounding and Bonding for Piping:
   1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes, using a bolted clamp connector or by bolting a lug-type connector to a pipe flange, using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
   2. Water Meter and Backflow Preventer Piping: Use braided-type bonding jumpers to electrically bypass water meters and backflow preventers where located inside the building. Connect to pipe with a bolted connector.

F. Grounding for Steel Building Structure: Install a driven ground rod at base of each corner column and at intermediate exterior columns at distances not more than 60 feet (18 m) apart.

3.4 FIELD QUALITY CONTROL

A. Perform the following tests and inspections and prepare test reports:
   1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.

B. Testing Technician

1. The testing technicians shall be trained in all the methods of correctly and safely conducting the required test. The technician shall have regular experience conducting the required tests and they must have the knowledge to determine the serviceability of a specific piece of equipment.

C. Physical Inspection and Testing
   1. Inspect grounding system to verify that it complies with the requirements in the drawings and specifications, as well as, NFPA 70 *National Electric Code Article 250*.
   2. Inspect the physical and mechanical condition and verify that it complies with manufacturer's standards. All portions of the grounding system shall be free of corrosion.
   3. Confirm bolted electrical connections are provided with low impedance using one of the following means:
      a. Measure the resistance with a low-resistance ohmmeter. Bolted electrical connection resistances shall be compared to resistances measured on similar connections. Any similar resistance values that deviate more than 50 percent should be investigated.
      b. Inspect the bolted connection and verify that it is at the manufacturer's rated torque using a calibrated torque wrench.
      c.
   4. Verify that adequate anchorage is in place for the grounding system.

D. Electrical Inspection and Testing
   1. Conduct tests for fall of potential as defined by ANSI/IEEE 81 on the grounding system.
   2. Determine the resistance to ground throughout grounding system including equipment frames, systems neutral, and equipment grounding bars. Measure ground resistance not less than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance. Perform ground resistance in all of, but not limited to, the areas listed below:
      a. Main electrical distribution ground bar: 15 ohms
      b. Main telecommunications ground bar: 15 ohms
      c. Secondary telecommunications ground bars: 15 ohms
      d. Lightning protection path to ground: 5 ohms.

E. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Engineer promptly and include recommendations to reduce ground resistance.
   1.
   2. Retest required to show compliance with above value.

F. Remove and replace malfunctioning units and retest as specified above.
G. Test Reports: Prepare a written report to record the following:
   1. Test procedures used.
   2. Test results that comply with requirements.
   3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

END OF SECTION 26 05 26

SECTION 26 05 29 - HANGERS AND SUPPORTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Hangers and supports for electrical equipment and systems.
2. Construction requirements for concrete bases.

1.3 DEFINITIONS

A. EMT: Electrical metallic tubing.

B. IMC: Intermediate metal conduit.

C. RMC: Rigid metal conduit.

1.4 SUBMITTALS

A. Product Data: For anchors, supports, and slotted channel/strut systems.

1.5 QUALITY ASSURANCE

A. Comply with NFPA 70.

1.6 COORDINATION

A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 03.

B. Coordinate installation of roof curbs, equipment supports, and roof penetrations. These items are specified in Division 07 Section "Roof Accessories."

PART 2 - PRODUCTS

2.1 COATINGS

A. Coating: Supports, support hardware, and fasteners shall be protected with zinc coating or with treatment of equivalent corrosion resistance using approved alternative treatment, finish, or inherent material characteristic. Products for use outdoors shall be hot-dip galvanized.

2.2 MANUFACTURED SUPPORTING DEVICES

A. Raceway Supports: Clevis hangers, riser clamps, two-hole conduit straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring steel clamps as described in NECA 1 and NECA 101.

B. Fasteners: Types, materials, and construction features as follows:

1. Expansion Anchors: Carbon steel wedge or sleeve type for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
2. Powder-Driven Threaded Studs: Heat-treated steel for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
3. Toggle Bolts: All steel springhead type.
4. Hanger Rods: Threaded steel.

C. Conduit Sealing Bushings: Factory-fabricated watertight conduit sealing bushing assemblies suitable for sealing around conduit, or tubing passing through concrete floors and walls. Construct seals with steel sleeve, malleable iron body, neoprene sealing grommets or rings, metal pressure rings, pressure clamps, and cap screws.

D. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for non-armored electrical cables in riser conduits. Provide plugs with number and size of conductor gripping holes as required to suit individual risers. Construct body of malleable-iron casting with hot-dip galvanized finish.

E. U-Channel Systems: Comply with MFMA-4, factory-fabricated components for field assembly; 16-gauge steel channels, with 9/16-inch-diameter holes, at a minimum of 8 inches on center, in top surface. Provide fittings and accessories that mate and match with U-channel and are of the same manufacture.

2.3 FABRICATED SUPPORTING DEVICES

A. General: Shop- or field-fabricated supports or manufactured supports assembled from U-channel components.

B. Steel Brackets: Fabricated of angles, channels, and other standard structural shapes. Connect with welds and machine bolts to form rigid supports.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install supporting devices to fasten electrical components securely and permanently in accordance with NEC requirements.

B. Coordinate with the building structural system and with other electrical installation.

C. Raceway Supports: Comply with the NEC and the following requirements:

1. Conform to manufacturer's recommendations for selection and installation of supports.
2. Strength of each support shall be adequate to carry present and future load multiplied by a safety factor of at least four. Where this determination results in a safety allowance of less than 200 lbs, provide additional strength until there is a minimum of 200 lbs safety allowance in the strength of each support.
3. Install individual and multiple (trapeze) raceway hangers and riser clamps as necessary to support raceways. Provide U-bolts, clamps, attachments, and other hardware necessary for hanger assembly and for securing hanger rods and conduits.
4. Support parallel runs of horizontal raceways together on trapeze-type hangers.
5. Support individual horizontal raceways by separate pipe hangers. Spring steel fasteners may be used in lieu of hangers only for 1-1/2-inch and smaller raceways serving lighting and receptacle branch circuits above suspended ceilings only. For hanger rods with spring steel fasteners, use 1/4-inch-diameter or larger threaded steel. Use spring steel fasteners that are specifically designed for supporting single conduits or tubing. Spring steel fasteners are not permitted for use where exposed.
6. Support raceways installed on interior of exterior building walls a minimum of ¼ inch from wall surface using “clamp-back” struts.
7. Space supports for raceways in accordance with Table I of this section. Space supports for raceway types not covered by the above in accordance with NEC.
8. Support exposed and concealed raceway within 1 foot of an unsupported box and access fittings. In horizontal runs, support at the box and access fittings may be omitted where box or access fittings are independently supported and raceway terminals are not made with chase nipples or threadless box connectors.
9. In vertical runs, arrange support so the load produced by the weight of the raceway and the enclosed conductors is carried entirely by the conduit supports with no weight load on raceway terminals. Spring steel fasteners are not permitted for use in vertical runs. Support individual vertical runs using two-hole straps. Support parallel runs of vertical raceway together on channel using bolted clamps.

D. Miscellaneous Supports: Support miscellaneous electrical components as required to produce the same structural safety factors as specified for raceway supports. Install metal channel racks for mounting cabinets, panelboards, disconnects, control enclosures, pull boxes, junction boxes, transformers, and other devices.

E. Fixtures: Set level, plumb, and square with ceiling and walls, and secure according to manufacturer's written instructions and approved submittal materials.

F. Support for Fixtures in or on Grid-Type Suspended Ceilings refer to “Lighting” section, if none, then as follows: Use grid for support.

1. Fixtures within Ceiling Grid: Where a recessed fluorescent, high intensity, or downlight fixture replaces a section or part of a ceiling tile, the fixture shall be supported at the two (2) opposite ends to the building steel/concrete frame or floor decking. Supports shall be provided with the same type of wire as used to

support the lay-in ceiling track. Attach the luminaire to the main runners of the lay-in ceiling track at all four (4) corners using sheet metal screws. For fire rated suspended ceiling, luminaire shall be supported to the Building Structure as per the Ceiling Design Criteria, luminaire shall then be screwed to the man runners of the suspended ceiling track at all four (4) corners using sheet metal screws.

2. Fixtures of Sizes Less Than Ceiling Grid: Arrange as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4-inch (20-mm) metal channels spanning between ceiling tees in addition to wires from building structure per above. Channel support shall be attached to ceiling grid using sheet metal screws.

G. In open overhead spaces, cast boxes threaded to raceways need not be supported separately except where used for fixture support; support sheet metal boxes directly from the building structure or by bar hangers. Where bar hangers are used, attach the bar to raceways on opposite sides of the box and support the raceway with an approved type of fastener not more than 24 inches from the box.

H. Fastening: Unless otherwise indicated, fasten electrical items and their supporting hardware securely to the building structure, including but not limited to conduits, raceways, cables, cable trays, busways, cabinets, panelboards, transformers, boxes, disconnect switches, and control components in accordance with the following:

1. Fasten by means of wood screws or screw-type nails on wood, toggle bolts on hollow masonry units, concrete inserts or expansion bolts on concrete or solid masonry, and machine screws, welded threaded studs, or spring-tension clamps on steel. Threaded studs driven by a powder charge and provided with lock washers and nuts may be used instead of expansion bolts and machine or wood screws. Do not weld conduit, pipe straps, or items other than threaded studs to steel structures. In partitions of light steel construction, use sheet metal screws.
2. Holes cut to depth of more than 1-1/2 inches in reinforced concrete beams or to depth of more than 3/4 inch in concrete shall not cut the main reinforcing bars. Fill holes that are not used.
3. Ensure that the load applied to any fastener does not exceed 25 percent of the proof test load. Use vibration- and shock- resistant fasteners for attachments to concrete slabs.

3.2 TABLE I: SPACING FOR RACEWAY SUPPORTS

HORIZONTAL RUNS

Raceway Size (Inches)	No. of Conductors in Run	Location	RMC & IMC (1)	EMT (1)	OFR (1)
1/2,3/4	1 or 2	Flat ceiling or wall.	5	5	5
1/2,3/4	1 or 2	Where it is difficult to provide supports except at intervals fixed by the building construction.	7	7	5
1/2,3/4	3 or more	Any location.	7	7	...
1/2-1	3 or more	Any location.			
1 & larger	1 or 2	Flat ceiling or wall.	6	6	...
1 & larger	1 or 2	Where it is difficult to provide supports except at intervals fixed by the building construction.	10	10	5
1 & larger	3 or more	Any location.	10	10	...
Any	....	Concealed.	10	10	...

VERTICAL RUNS

Raceway Size (Inches)	No. of Conductors in Run	Location	RMC & IMC (1,2)	EMT (1)	OFR (1)
1/2,3/4	....	Exposed.	7	7	...
1,1-1/4	....	Exposed.	8	8	...
1-1/2 and larger	....	Exposed.	10	10	...
Up to 2	....	Shaftway.	14	10	...
2-1/2	....	Shaftway.	16	10	...
3 & larger	....	Shaftway.	20	10	...
Any	....	Concealed.	10	10	5

NOTES:

(1) Support spacing listed in feet. Maximum spacing of supports 10 feet.
(2) Maximum spacings for IMC above apply to straight runs only. Otherwise the maximums for EMT apply.

Abbreviations: EMT Electrical metallic tubing.
IMC Intermediate metallic conduit.
RMC Rigid metallic conduit.
OFR Optical Fiber Raceway.

END OF SECTION 26 05 29

SECTION 26 05 33 - RACEWAY AND BOXES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes interior and exterior raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.3 DEFINITIONS

A. EMT: Electrical metallic tubing.
B. FMC: Flexible metal conduit.
C. IMC: Intermediate metal conduit.
D. LFMC: Liquidtight flexible metal conduit.
E. RNC: Rigid nonmetallic conduit.
F. RSC: Rigid steel conduit.

1.4 SUBMITTALS

A. Product Data: For raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Allied Tube & Conduit; a Tyco International Ltd. Co.
   2. O-Z Gedney; a unit of General Signal.
   3. Wheatland Tube Company.

B. Rigid Steel Conduit: ANSI C80.1.

C. Aluminum Rigid Conduit: ANSI C80.5.
D. IMC: ANSI C80.6.
E. EMT: ANSI C80.3.
F. LFMC: Flexible steel conduit with PVC jacket.
G. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.
   1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.
   2. Fittings for EMT: Plated-steel hexagonal compression type. Cast, pot metal, set-screw, or crimp type fittings are not acceptable.
      a. Couplings shall be "concrete tight" where concealed in masonry.
      b. Box connectors shall be insulated throat type.

H. Joint Compound for Rigid Steel Conduit or IMC: Listed for use in cable connector assemblies, and compounded for use to lubricate and protect threaded raceway joints from corrosion and enhance their conductivity.

2.2 NONMETALLIC CONDUIT AND TUBING

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. AFC Cable Systems, Inc.
   2. Arnco Corporation.
   3. Lamson & Sessions; Carlon Electrical Products.
   4. Thomas & Betts Corporation.

B. ENT: NEMA TC 13.
C. RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.
D. LFNC: UL 1660.
E. Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.
F. Fittings for LFNC: UL 514B.

2.3 OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY AND FITTINGS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Arnco Corporation.
   2. Endot Industries Inc.
   3. Lamson & Sessions; Carlon Electrical Products.

B. Description: Comply with UL 2024; flexible type, approved for plenum installation.

2.4 METAL WIREWAYS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Cooper B-Line, Inc.
   2. Hoffman.
   3. Square D; Schneider Electric.
   4. Austin Electrical Enclosures

B. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1, unless otherwise indicated.
C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
D. Wireway Covers: Hinged type.
E. Finish: Manufacturer's standard enamel finish.

2.5 BOXES, ENCLOSURES, AND CABINETS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
   2. EGS/Appleton Electric.
   3. Hoffman.
   4. RACO; a Hubbell Company.
   5. Thomas & Betts Corporation.

B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.
D. Metal Floor Boxes: Cast or sheet metal, fully adjustable, rectangular. See details on plans.
   1. All floor boxes shall meet UL scrub water exclusion requirements.

E. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated.
   1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

F. Cabinets:
   1. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
   2. Hinged door in front cover with flush latch and concealed hinge.
   3. Key latch to match panelboards.
   4. Metal barriers to separate wiring of different systems and voltage.
   5. Accessory feet where required for freestanding equipment.

2.6 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

A. Fiberglass Reinforced Concrete Handholes: Constructed of polymer concrete and reinforced by heavy-weave fiberglass. Composite material shall be rated for no less than 8,000 lbs. Over a 10”x10” area and tested to temperatures of -50°F. Compressive strength should be no less than 11,000 psi. Covers shall have a minimum coefficient of friction of .5 and have a design load of minimum 15,000 lbs per 10”x10” area. Unit, when buried, shall be designed to support AASHTO H10 loading.
B. Cover Legend: "ELECTRIC" or “COMMUNICATIONS” accordingly.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
   1. Exposed Conduit: Rigid steel conduit.

2. Concealed Conduit, Aboveground: Rigid steel conduit.
3. Underground Conduit & Duct:
   a. Service Entrance: RNC, Type EPC-40-PVC, concrete encased.
   b. Feeders: RNC, Type EPC-40-PVC, concrete encased.
   c. Branch Circuit: RNC, Type EPC-40-PVC, direct buried.
   d. Telecommunications: RNC, Type EPC-40-PVC, concrete encased.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 4.

B. Indoors: Apply raceway products as specified below, unless otherwise indicated:
1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed and Subject to Physical Damage: Rigid steel conduit.
   a. Exposed conduit routed vertically and horizontally below 8’ above finished floor in mechanical, electrical, and telecom rooms is considered subject to physical damage.
   b. Exposed conduit routed vertically up through floor slabs shall be considered subject to physical damage until it reaches 8’ above finished floor or enters a box, cabinet, or enclosure.
   c. Exposed conduit routed down vertically from above 8’ which enters boxes, cabinets, or enclosures mounted 48” to top above finished floor or higher is not considered exposed and subject to physical damage and EMT may be used.
3. Concealed in Ceilings and Interior Walls and Partitions: EMT.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
5. Damp or Wet Locations: Rigid steel conduit.
6. Raceways for Optical Fiber or Communications Cable: Plenum-type, optical fiber/communications cable raceway.
7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, stainless steel in damp or wet locations.
8. Raceway Color Coding: Apply color coding to both concealed raceway in all locations and exposed raceway in non-finished areas.
   a. Fire Alarm Raceway: EMT raceway containing fire alarm wiring shall have a factory applied red color finish.
   b.
   c. Rigid steel conduit used for the above systems shall be field painted to match corresponding EMT Finish.

C. Raceway Fittings: Compatible with raceways and suitable for use and location.
1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.

3.2 INSTALLATION

A. Install raceways, boxes, enclosures, and cabinets as indicated, according to manufacturer's written instructions.
B. Minimum Raceway Size:
1. Interior: 3/4-inch trade size.
2. Exterior, below grade: 1-inch trade size.

C. Conceal conduit and EMT, unless otherwise indicated, within finished walls, ceilings, and floors.
D. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
E. Install raceways level and square and at proper elevations. Provide adequate headroom.

F. Complete raceway installation before starting conductor installation.
G. Support raceways as specified in Division 26 Section "Supporting Devices."
H. Use temporary closures to prevent foreign matter from entering raceways.
I. Protect stub-ups from damage where conduits rise through floor slabs. Arrange so curved portion of bends is not visible above the finished slab.
J. Make bends and offsets so ID is not reduced. Keep legs of bends in the same plane and straight legs of offsets parallel, unless otherwise indicated.
K. Use raceway fittings compatible with raceways and suitable for use and location. For intermediate steel conduit, use threaded rigid steel conduit fittings, unless otherwise indicated.
L. Run concealed raceways, with a minimum of bends, in the shortest practical distance considering the type of building construction and obstructions, unless otherwise indicated.
M. Raceways Embedded in Concrete Slabs: Raceway shall not be installed embedded within floor and roof slabs, except where connecting to floor boxes. Install in middle third of slab thickness where practical, and leave at least 1-inch (25-mm) concrete cover.
    1. All raceway embedded in slabs shall be rigid galvanized steel conduit.
    2. Raceway shall extend a maximum of 24” from floor box before offsetting beneath slab. Raceway shall extend 12” from penetration of floor slab before transitioning back to electrical metallic tubing.
    3. Space raceways laterally to prevent voids in concrete.
    4. Run conduit parallel to or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.
    5. Roofing slab: Raceway shall not be embedded in roofing slabs.
    6. Raceway installed in vertical concrete wall shall be rigid galvanized steel conduit and comply with requirements for installation in slabs.

N. Raceways Installed in Load Bearing Masonry: Raceways installed in load bearing masonry shall be either rigid galvanized steel conduit or coated EMT specifically rated and listed for installation in concrete.
O. Install exposed raceways parallel to or at right angles to nearby surfaces or structural members, and follow the surface contours as much as practical.
    1. Run parallel or banked raceways together, on common supports where practical.
    2. Make bends in parallel or banked runs from same centerline to make bends parallel. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for parallel raceways.

P. Join raceways with fittings designed and approved for the purpose and make joints tight.
    1. Make raceway terminations tight. Use bonding bushings or wedges at connections subject to vibration. Use bonding jumpers where joints cannot be made tight.
    2. Use insulating bushings to protect conductors.

Q. Terminations: Where raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against the box. Where terminations are not secure with 1 locknut, use 2 locknuts: 1 inside and 1 outside the box.
    1. Where concentric, eccentric, or over-sized knock outs are encountered, a grounding-type insulated bushing shall be provided.

R. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into the hub so the end bears against the wire protection shoulder. Where chase nipples are used, align raceways so the coupling is square to the box and tighten the chase nipple so no threads are exposed.
S. Install pull wires in empty raceways. Use No. 14 AWG zinc-coated steel or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of the pull wire.
T. Telecommunications Stub-ups & Sleeves: Provide plastic bushings on all conduit stub-ups and sleeves.
U. Telecommunications Raceways, 4-Inch Trade Size (DN53) and Smaller: In addition to the above requirements, install raceways in maximum lengths of 150 feet (45 m) and with a maximum of two 90-degree bends or

equivalent. Separate lengths with pull or junction boxes sized per BICSI's Telecommunications Distribution Methods Manual where necessary to comply with these requirements. All bends shall be sweeping long radius manufactured elbows.

1. Type LB and similar condulet fittings are not permitted for use with any telecommunications raceways.
2. Flexible metal conduit (FMC) is not permitted for use as a telecommunications raceway.

V. Install raceway sealing fittings according to manufacturer's written instructions. Locate fittings at suitable, approved, and accessible locations and fill them with UL-listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:
   1. Where conduits pass from warm to cold locations, such as the boundaries of refrigerated spaces.
   2. Where otherwise required by NFPA 70.

W. Stub-up Connections: Where underground raceways are required to turn up into equipment, cabinets, etc., the elbow and stub-up shall be rigid steel. Install with an adjustable top or coupling threaded inside for plugs set flush with the finished floor. Extend to equipment with rigid steel conduit; FMC may be used 6 inches above the floor. Install screwdriver-operated, threaded flush plugs flush with floor for future equipment connections.

X. Flexible Connections: Use maximum of 6 feet (1830 mm) of flexible conduit for recessed and semirecessed lighting fixtures; for equipment subject to vibration, noise transmission, or movement; and for all motors. Use liquidtight flexible conduit in wet or damp locations. Install separate ground conductor across flexible connections.

Y. Set floor boxes level and adjust to finished floor surface.

Z. Install hinged-cover enclosures and cabinets plumb. Support at each corner.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

A. Direct-Buried Conduit:
   1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Division 31 Section "Earth Moving" for pipe less than 6 inches (150 mm) in nominal diameter.
   2. Install backfill as specified in Division 31 Section "Earth Moving."
   3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches (300 mm) of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Division 31 Section "Earth Moving."
   4. Install manufactured rigid steel conduit elbows for stub-ups at equipment and at building entrances through the floor.
      a. Couple steel conduits to ducts with adapters designed for this purpose.
      b. For stub-ups at equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches (1500 mm) from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.

B. Concrete-Encased Conduit/Duct:
   1. For electrical-power duct banks, note that ampacity of cables may be reduced in duct banks of more than two tiers of two ducts each.
   2. Slope: Pitch ducts a minimum slope of 1:300 down toward manholes and handholes and away from buildings and equipment. Slope ducts from a high point in runs between two manholes to drain in both directions.

3. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use long sweep bends with a minimum radius of 25 feet, both horizontally and vertically, at other curve locations unless otherwise indicated. Use manufactured long sweep bends with a minimum radius of 48 inches only where indicated.
4. Joints: Use solvent-cemented joints in ducts and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent ducts do not lie in same plane.
5. Duct Entrances to Manholes and Concrete and Polymer Concrete Handholes: Use end bells, spaced approximately 8 inches o.c. for 4-inch ducts, and vary proportionately for other duct sizes.
    a. Begin change from regular spacing to end-bell spacing 10 ft. (3 m) from the end bell without reducing duct line slope and without forming a trap in the line.
    b. Grout end bells into structure walls from both sides to provide watertight entrances.
6. Coordinate design of concrete-encased duct banks approaching building wall penetrations with building structural design to support ducts at wall without reducing structural or watertight integrity of building. Do not use steel conduit in highly corrosive soils. Coordinate with Drawings.
7. Sleeves and sleeve seals for conduits penetrating building walls below grade are specified in Division 26 Section "Common Work Results for Electrical."
8. Building Wall Penetrations: Make a transition from underground duct to rigid steel conduit at least 5 ft. (1.5 m) outside the building wall without reducing duct line slope away from the building and without forming a trap in the line. Use fittings manufactured for duct-to-conduit transition. Install conduit penetrations of building walls as specified in Division 26 Section "Common Work Results for Electrical."
9. Sealing: Provide temporary closure at terminations of ducts that have cables pulled. Seal spare ducts at terminations. Use sealing compound and plugs to withstand at least 15-psig (1.03-MPa) hydrostatic pressure.
10. Pulling Cord: Install 100-lbf- (445-N-) test nylon cord in ducts, including spares.
11. Concrete-Encased Ducts: Support ducts on duct separators.
    a. Separator Installation: Space separators close enough to prevent sagging and deforming of ducts, with not less than 5 spacers per 20 ft. (6 m) of duct. Secure separators to earth and to ducts to prevent floating during concreting. Stagger separators approximately 6 inches (150 mm) between tiers. Tie entire assembly together using fabric or plastic straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
    b. Concreting Sequence: Pour each run of envelope between manholes or other terminations in one continuous operation.
        1) Start at one end and finish at the other, allowing for expansion and contraction of ducts as their temperature changes during and after the pour. Use expansion fittings installed according to manufacturer's written recommendations, or use other specific measures to prevent expansion-contraction damage.
        2) If more than one pour is necessary, terminate each pour in a vertical plane and install 3/4-inch (19-mm) reinforcing rod dowels extending 18 inches (450 mm) into concrete on both sides of joint near corners of envelope.
    c. Pouring Concrete: Spade concrete carefully during pours to prevent voids under and between conduits and at exterior surface of envelope. Do not allow a heavy mass of concrete to fall directly onto ducts. Use a plank to direct concrete down sides of bank assembly to trench bottom. Allow concrete to flow to center of bank and rise up in middle, uniformly filling all open spaces. Do not use power-driven agitating equipment unless specifically designed for duct-bank application.
    d. Reinforcement: Reinforce concrete-encased duct banks. Arrange reinforcing rods and ties without forming conductive or magnetic loops around ducts or duct groups.
    e. Forms: Use walls of trench to form side walls of duct bank where soil is self-supporting and concrete envelope can be poured without soil inclusions; otherwise, use forms.
    f. Depth: Install top of duct bank at least 24 inches (600 mm) below finished grade in areas not subject to deliberate traffic, and at least 30 inches (750 mm) below finished grade in deliberate traffic paths for vehicles unless otherwise indicated.

g. Stub-Ups: Use manufactured rigid steel conduit elbows for stub-ups at equipment and at building entrances through the floor.
   1) Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches (75 mm) of concrete.
   2) Stub-Ups to Equipment: For equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches (1500 mm) from edge of base. Install insulated grounding bushings on terminations at equipment.

12. Warning Tape: Provide underground-line warning tape specified in Division 26 Section "Electrical Identification." Install 6 to 8” below finished grade.

3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.

B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch (12.5-mm) sieve to No. 4 (4.75-mm) sieve and compacted to same density as adjacent undisturbed earth.

C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch (25 mm) above finished grade.

D. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.5 FIRESTOPPING

A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 07 Section "Penetration Firestopping."

3.6 PROTECTION

A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
   1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

END OF SECTION 26 05 33

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes electrical identification materials and devices required to comply with ANSI C2, NFPA 70, OSHA standards, and authorities having jurisdiction.

1.3 SUBMITTALS

A. Product Data: For each electrical identification product indicated.

B. Identification Schedule: An index of nomenclature of all electrical equipment and system components used in identification signs and labels. Schedule shall depict preliminary printouts of proposed equipment labels for review prior to order.

1.4 QUALITY ASSURANCE

A. Comply with ANSI C2.

B. Comply with NFPA 70.

C. Comply with ANSI A13.1 and NFPA 70 for color-coding.

D. Comply with ANSI Z535.4 for safety signs and labels.

E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

PART 2 - PRODUCTS

2.1 RACEWAY AND CABLE LABELS

A. Colored Adhesive Tape: Self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide (0.08 mm thick by 25 to 51 mm wide).

B. Underground-Line Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape.
1. Not less than 6 inches wide by 4 mils thick (152 mm wide by 0.102 mm thick).

2. Compounded for permanent direct-burial service.
3. Embedded continuous metallic strip or core.
4. Printed legend indicating type of underground line.

C. Tape Markers: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.

D. Plasticized Card-Stock Tags: Vinyl cloth with preprinted and field-printed legends. Orange background, unless otherwise indicated, with eyelet for fastener.

2.2 NAMEPLATES AND SIGNS

A. Safety Signs: Comply with 29 CFR, Chapter XVII, Part 1910.145.

B. Engraved Plastic Nameplates and Signs: Engraving stock, melamine plastic laminate, minimum 1/16 inch (1.6 mm) thick for signs up to 20 sq. in. (129 sq. cm) and 1/8 inch (3.2 mm) thick for larger sizes.
1. Punched or drilled for mechanical fasteners.

C. Baked-Enamel Signs for Interior Use: Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for the application. 1/4-inch (6.4-mm) grommets in corners for mounting.

D. Exterior, Metal-Backed, Butyrate Signs: Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch (1-mm) galvanized-steel backing; and with colors, legend, and size required for the application. 1/4-inch (6.4-mm) grommets in corners for mounting.

E. Fasteners for Nameplates and Signs: Self-tapping, stainless-steel screws or No. 10/32, stainless-steel machine screws with nuts and flat and lock washers.

2.3 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Cable Ties: Fungus-inert, self-extinguishing, one-piece, self-locking, Type 6/6 nylon cable ties.
1. Minimum Width: 3/16 inch (5 mm).
2. Tensile Strength: 50 lb (22.3 kg) minimum.
3. Temperature Range: Minus 40 to plus 185 deg F (Minus 40 to plus 85 deg C).
4. Color: According to color-coding.

B. Paint: Formulated for the type of surface and intended use.
1. Primer for Galvanized Metal: Single-component acrylic vehicle formulated for galvanized surfaces.
2. Primer for Concrete Masonry Units: Heavy-duty-resin block filler.
3. Primer for Concrete: Clear, alkali-resistant, binder-type sealer.
4. Enamel: Silicone-alkyd or alkyd urethane as recommended by primer manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Identification Materials and Devices: Install at locations for most convenient viewing without interference with operation and maintenance of equipment.

B. Lettering, Colors, and Graphics: Coordinate names, abbreviations, colors, and other designations with corresponding designations in the Contract Documents or with those required by codes and standards. Use consistent designations throughout Project.
   1. General 277/480V and 120/208V Equipment: Black label with white core.
   2. Emergency Generation & Distribution Equipment: Orange label with white core.
   3. Stand-by Distribution Equipment: Green label with white core.
   4. Fire Alarm Equipment: Red label with white core.
   5. Voice, Data & Video Systems: Blue label with white core.
   6. Security Systems: Burgundy label with white core.

C. Sequence of Work: If identification is applied to surfaces that require finish, install identification after completing finish work.

D. Self-Adhesive Identification Products: Clean surfaces before applying.

E. Install painted identification according to manufacturer's written instructions and as follows:
   1. Clean surfaces of dust, loose material, and oily films before painting.
   2. Prime surfaces using type of primer specified for surface.
   3. Apply one intermediate and one finish coat of enamel.

F. Color Banding Raceways and Exposed Cables: Band exposed and accessible raceways of the systems listed below. Banding of colored conduit is not required.
   1. Bands: Pretensioned, wraparound plastic sleeves; colored adhesive tape; or a combination of both. Make each color band 2 inches (51 mm) wide, completely encircling conduit, and place adjacent bands of two-color markings in contact, side by side.
   2. Band Locations: At changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas. Also provide color banding at outlet box stub-ups.
   3. Apply the following colors to the systems listed below:
      a. Fire Alarm System: Red.
      b. Telecom (Intercom, Data, Video) Systems: Blue.
      c. Security (CCTV, Intrusion Detection) System: Black.
      d. Emergency Systems: Orange.
      e. Stand-by Systems: Green.
   4. Color code cover of raceway junction boxes following the colors listed above.
   5. Spare raceway for future use shall be identified as such and shall indicate where raceway originates and terminates on each end.

G. Caution Labels for Indoor Boxes and Enclosures for Power and Lighting: Install pressure-sensitive, self-adhesive labels identifying system voltage with black letters on orange background. Install on exterior of door or cover.

H. Circuit Identification Labels on Outlet Boxes, Junction Boxes and Pull Boxes: Install labels externally.
   1. Outlet boxes (receptacles and switches) and exposed junction boxes: Pressure-sensitive, self-adhesive plastic label on faceplate. Use clear label with black letters.
   2. Concealed junction and pull boxes: Neat handwritten label using permanent black marker.
   3. Labeling Legend: Permanent, waterproof listing of panel and circuit number or equivalent.
   4. Future Use Circuits: Circuits for future use shall be identified as such and list panel and circuit number of source.

I. Secondary Service, Feeder, and Branch-Circuit Conductors: Color-code throughout the secondary electrical system.
   1. Color-code 208/120-V system as follows:
      a. Phase A: Black.
      b. Phase B: Red.
      c. Phase C: Blue.
      d. Neutral: White.
      e. Ground: Green.
   2. Color-code 480/277-V system as follows:
      a. Phase A: Brown.
      b. Phase B: Orange.
      c. Phase C: Yellow.
      d. Neutral: Gray.
      e. Ground: Green.
   3. Factory apply color the entire length of all conductors, except the following field-applied, color-coding methods may be used instead for service conductors:
      a. Colored, pressure-sensitive plastic tape in half-lapped turns for a distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Use 1-inch- (25-mm-) wide tape in colors specified. Adjust tape bands to avoid obscuring cable identification markings.
      b. Colored cable ties applied in groups of three ties of specified color to each wire at each terminal or splice point starting 3 inches (76 mm) from the terminal and spaced 3 inches (76 mm) apart. Apply with a special tool or pliers, tighten to a snug fit, and cut off excess length.

J. Apply identification to conductors as follows:
   1. Conductors to Be Extended in the Future: Indicate source and circuit numbers.
   2. Multiple Power or Lighting Circuits in the Same Enclosure: Identify each conductor with source, voltage, circuit number, and phase. Use color-coding to identify circuits' voltage and phase.
   3. Multiple Control and Communication Circuits in the Same Enclosure: Identify each conductor by its system and circuit designation. Use a consistent system of tags, color-coding, or cable marking tape.

K. Apply warning, caution, and instruction signs as follows:
   1. Warnings, Cautions, and Instructions: Install to ensure safe operation and maintenance of electrical systems and of items to which they connect. Install engraved plastic-laminated instruction signs with approved legend where instructions are needed for system or equipment operation. Install metal-backed butyrate signs for outdoor items.
   2. Emergency Operation: Install engraved laminated signs with white legend on red background with minimum 3/8-inch- (9-mm-) high lettering for emergency instructions on power transfer, load shedding, and other emergency operations.

L. Equipment Identification Labels: Engraved plastic laminate. Install on each unit of equipment, including central or master unit of each system. Locate label on exterior of any enclosure. This includes power, lighting, signal, and alarm systems, unless units are specified with their own self-explanatory identification. Unless otherwise indicated, provide three lines of text with 1/4-inch high lettering on 1-1/2-inch high label; where four lines of text are required, use labels 2 inches high. Use surface and core colors as listed in Part 2 above. Provide labels for all electrical equipment listed below. In general, all labels shall include riser diagram ID, amperage, voltage, number of phases/poles, and equipment served from (source). Provide additional information as listed below:
   1. Switchboard: include bus amperage and mimic bus.
   2. Panelboards: MCB/MLO.
   3. Disconnect switches: equipment served by.

a. Provide label for all disconnects provide by Division 23, 24 or 26.

4. Enclosed circuit breakers: equipment served by.
   a. Provide label for all disconnects provide by Division 23, 24 or 26.
5. Contactors & Relay Panels.
6. Transformers: equipment served by.
7. Transfer Switches: normal power source, emergency power source, and panelboard served by.
8. Fire Alarm Control Panel and auxiliary power supplies and enclosures.
9. Service Entrances: Provide placard at service entrance disconnects indicating maximum fault current and date of calculation per NEC Article 110.24. Maximum fault current shall be coordinated with utility and placard installed prior to energization

END OF SECTION 26 05 53

SECTION 26 09 23 - LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following lighting control devices:
   1. Occupancy sensors.
   2. Lighting contactors.
   3. Emergency lighting transfer devices.

B. Related Sections include the following:
   1. Division 26 Section "Relay Lighting Control Systems" for low-voltage, programmable relay based lighting control systems.
   2. Division 26 Section "Wiring Devices" for wall-box dimmers and manual light switches.

1.3 DEFINITIONS

A. LED: Light-emitting diode.

B. PIR: Passive infrared.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.6 COORDINATION

A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression system, and partition assemblies.

PART 2 - PRODUCTS

2.1 OCCUPANCY SENSORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Hubbell Lighting.
   2. Leviton Mfg. Company Inc.
   3. Novitas, Inc.
   4. Watt Stopper (The).
   5. Lutron Electronics Inc.

B. Wall-box Line Voltage Occupancy Sensor: Wall-box, solid-state units with integral relay.
   1.
   2. Basis of Design: Wattstopper PW-200.
   3. Operation: Unless otherwise indicated, turn lights on when covered area is occupied and off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 5 to 45 minutes. Capable of being set to either automatic on or manual on.
   4. Must be capable of controlling lighting and fans for bathroom exhaust.
   5. PIR Type: Detect occupancy by sensing a combination of heat and movement in area of coverage.
      a. Detector Sensitivity: Detect occurrences of 6-inch minimum movement of any portion of a human body that presents a target of at least 36 sq. in.
   6. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A.
   7. Relay Unit: Dry contacts rated for 20-A ballast load at 120- and 277-V ac, for 13-A tungsten at 120-V ac, and for 1 hp at 120-V ac. Power supply to sensor shall be 24-V dc, 150-mA, Class 2 power source as defined by NFPA 70.
   8. Mounting: Suitable for mounting in a standard outlet box.
   9. Indicator: LED, to show when motion is being detected during testing and normal operation of the sensor.
   10. On/Bypass Switch: Provides manual on function or overrides the automatic on function in case of sensor failure.

C. Ceiling & Wall Mount Low-Voltage Occupancy Sensor: Ceiling or wall mounted 24-volt occupancy sensors with separate relay/power pack.
   1. Basis of Design:
      a. Spaces Less than 1000 square feet: Lutron #LOS-CDT-1000-WH
         1) Area of Major Motion Detection: 23’x23’.
         2) Area of Minor Motion Detection: 32’x32’.
      b. Spaces Greater than 1000 square feet: Lutron #LOS-CDT-2000-WH.
         1) Area of Major Motion Detection: 45’x23’.
         2) Area of Minor Motion Detection: 64’x32’.
   2. Sensors shall be dual technology and utilize both infrared and ultrasonic sensing mechanisms.
      a. Passive infrared sensor shall have a multiple segmented lens, with internal grooves to eliminate dust and residue build-up.
      b. Ultrasonic sensor shall have an operating frequency of 32kHz or 40kHz, that shall be crystal controlled to within plus or minus 0.005% tolerance to assure reliable performance and eliminate sensor cross talk. Sensors using multiple frequencies are not acceptable.
      c. Sensors shall be fully adaptive and adjust their sensitivity and timing to ensure optimal lighting control for any use of the space.

d. Sensors shall have optional readily accessible, user adjustable controls for time delay and sensitivity that can override any adaptive features.

3. All sensors shall provide a method of indication to verify that motion is being detected during testing and that the unit is working. There shall be different indicators for infrared and ultrasonic technologies.
4. Controls shall incorporate non-volatile memory. Should power be interrupted and subsequently restored, settings and learned parameters saved in protected memory shall not be lost.
5. Power pack shall be able to mount in junction box, self-contained unit consisting internally of an isolated load switching control relay and a transformer to provide low-voltage power. Transformer shall provide power to a minimum of three (3) sensors
   a. Power pack shall be plenum rated
6. Control wiring between sensors and control units shall be Class 2, 18-24 AWG, stranded U.L. Classified, PVC insulated or TEFLON jacketed cable in conduit.

2.2 LIGHTING CONTACTORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Eaton Electrical Inc.; Cutler-Hammer Products.
   2. GE Industrial Systems; Total Lighting Control.
   3. Siemens Energy & Automation, Inc.
   4. Square D; Schneider Electric.

B. Description: Electrically operated and electrically held, complying with NEMA ICS 2 and UL 508.
   1. Current Rating for Switching: Listing or rating consistent with type of load served, including tungsten filament, inductive, and high-inrush ballast (ballast with 15 percent or less total harmonic distortion of normal load current).
   2. Enclosure: Contactors shall be mounted in NEMA 1 enclosure where located indoors and in NEMA 4 enclosure where located outdoors or in damp or wet locations.
   3. Provide hand-off-auto selector switch mounted through enclosure door.
      a. Selector switch is not required for contactors used for emergency power off controls.
   4. Control Coil Voltage: Match control power source, unless otherwise noted on plans.

2.3 EMERGENCY LIGHTING TRANSFER DEVICES

A. Description: Emergency lighting transfer device shall transfer a lighting load from normal power to generator or central inverter system power when normal power is lost and shall bypass any local wall switch or occupancy sensor to allow generator- or central inverter system-supplied lighting loads to energize when normal power is lost. Transfer device shall comply with UL 924.

B. Single Fixture Device: Transfer device designed to provide emergency transfer to a single fluorescent fixture or ballast within fixture. Device housing shall be designed to be installed within fixture ballast channel.
   1. Basis of Design: Bodine GTD

C. Branch Circuit Device: Transfer device designed to provide emergency transfer to a 20A lighting branch circuit. The device shall consist of relay switching circuitry, a test switch, a normal power indicator light and an alternate power indicator light contained within a wall mount enclosure.
   1. Basis of Design: Bodine GTD20A.

PART 3 - EXECUTION

3.1 SENSOR INSTALLATION

A. Install and aim sensors in locations to achieve not less than 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.

3.2 CONTACTOR INSTALLATION

A. Mount electrically held lighting contactors with elastomeric isolator pads, to eliminate structure-borne vibration, unless contactors are installed in an enclosure with factory-installed vibration isolators.

3.3 WIRING INSTALLATION

A. Wiring Method: Comply with Division 26 Section "Conductors and Cables."

B. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.

C. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.4 IDENTIFICATION

A. Identify components and power and control wiring according to Division 26 Section "Identification for Electrical Systems."
   1. Identify controlled circuits in lighting contactors and branch circuit emergency lighting transfer devices.

3.5 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:
   1. After installing time switches and sensors, and after electrical circuitry has been energized, adjust and test for compliance with requirements.
   2. Operational Test: Verify operation of each lighting control device, and adjust time delays.

B. Lighting control devices that fail tests and inspections are defective work. Repair, or replace, and retest.

3.6 ADJUSTING

A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting sensors to suit occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 26 09 23

SECTION 26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Distribution panelboards.
2. Lighting and appliance branch-circuit panelboards.
3. Surge protection devices.

1.3 DEFINITIONS

A. SVR: Suppressed voltage rating.

B. TVSS: Transient voltage surge suppressor.

1.4 SUBMITTALS

A. Product Data: For each type of panelboard, switching and overcurrent protective device, transient voltage suppression device, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Shop Drawings: For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details. Show tabulations of installed devices, equipment features, and ratings.
2. Detail enclosure types and details for types other than NEMA 250, Type 1.
3. Detail bus configuration, current, and voltage ratings.
4. Short-circuit current rating of panelboards and overcurrent protective devices.
5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.

C. Field Quality-Control Reports:

1. Test procedures used.
2. Test results that comply with requirements.
3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

D. Panelboard Schedules: For installation in panelboards. Room names and numbers shall match the final signage at the site. Submit final versions prior to installation in panelboard.

E. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:

1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.

B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for panelboards including clearances between panelboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. Comply with NEMA PB 1.

E. Comply with NFPA 70.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Handle and prepare panelboards for installation according to NEMA PB 1.

1.7 PROJECT CONDITIONS

A. Environmental Limitations:

1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.8 COORDINATION

A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
3. Siemens Energy & Automation, Inc.
4. Square D; a brand of Schneider Electric.

2.2 GENERAL REQUIREMENTS FOR PANELBOARDS

A. Enclosures: Flush- and surface-mounted cabinets as noted on schedules.

1. Rated for environmental conditions at installed location.

a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
b. Outdoor Locations: NEMA 250, Type 4.
c. Kitchen Areas: NEMA 250, Type 4X stainless steel.
d. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.

2. Front Cover: For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.

a. Flush Mounted Panelboards: Standard front cover. Secured to box with concealed trim clamps. Trim shall extend beyond box at least 1” in all dimensions.
b. Surface Mounted Panelboards: Entire front trim hinged to box. Continuous piano hinge. Provide standard door with front trim.

3. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
4. Finishes:

a. Panels and Trim: Steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
b. Back Boxes: Galvanized steel.

5. Directory Card: Inside panelboard door, mounted in metal frame with transparent protective cover.
6. Main Overcurrent Protective Devices: Molded-case circuit breakers.
   a. Center Mounted Main: Branch mounted main breakers are not allowed.
7. Branch Overcurrent Protective Devices: Molded-case circuit breakers.
   a. Center mounted branch devices and sub-feed branch devices are not allowed.

B. Incoming Mains Location: Top and bottom.

C. Phase, Neutral, and Ground Buses: Hard-drawn copper, 98 percent conductivity

1. Neutral Bus: Neutral bus rated 100 percent of phase bus.

2. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box. For branch circuit panelboards provide a minimum of 21 terminals.

D. Main and Neutral Lugs: Mechanical type suitable for use with conductor material.

E. Feed-through Lugs: Not acceptable.

F. Future Devices: Mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices. Future devices indicated as "SPACE" on drawings.

G. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. Series rating of equipment is not acceptable.

2.3 DISTRIBUTION PANELBOARDS

A. Panelboards: NEMA PB 1, power and feeder distribution type.

B. Doors: Secured with vault-type latch with tumbler lock; keyed alike.

1. For doors more than 36 inches (914 mm) high, provide two latches, keyed alike.

C. Mains: Circuit breaker.

D. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller: Bolt-on circuit breakers.

E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Bolt-on circuit breakers; plug-in circuit breakers where individual positive-locking device requires mechanical release for removal.

2.4 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

A. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.

B. Mains: Circuit breaker, unless otherwise noted on drawings.

C. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.

D. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.

2.5 SURGE PROTECTION DEVICES

A. SPDs: Comply with UL 1449, Type 1.

B. SPDs: Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, Type 1.

C. Features and Accessories:

1. Integral disconnect switch.
2. Internal thermal protection that disconnects the SPD before damaging internal suppressor components.
3. Indicator light display for protection status.
4. Surge counter.

D. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per phase shall not be less than 200 kA. The peak surge current rating shall be the arithmetic sum of the ratings of the individual MOVs in a given mode.

E. Protection modes and UL 1449 VPR for grounded wye circuits with 480Y/277 V, three-phase, four-wire circuits shall not exceed the following:

1. Line to Neutral: 1200 V for 480Y/277 V.
2. Line to Ground: 1200 V for 480Y/277 V.
3. Line to Line: 2000 V for 480Y/277 V.

F. SCCR: Equal or exceed 200 kA.

G. Nominal Rating: 20 kA.

2.6 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

A. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with full interrupting capacity to meet available fault currents.

1. Electronic Trip Circuit Breakers: Electronic trip circuit breakers with RMS sensing; field-replaceable rating plug or field-replicable electronic trip and individually field-adjustable long time, short time, and instantaneous trip pickup level settings. Trip unit shall also have adjustable long time and short time delay settings. Provide for circuit-breaker frame sizes 250A and larger.
    a. Ground Fault Protection: Any 1000A-rated circuit breaker or larger, above 150V L-G, shall have ground fault pickup and time delay settings in addition to overcurrent trip settings indicated above.
2. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Field adjustable instantaneous trip setting for circuit-breaker frame sizes 100 A to 225A.
3. Breakers Serving Elevator Controllers: Field adjustable instantaneous-trip setting for circuit-breaker.
4. GFCI Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6-mA trip).
5. Ground-Fault Equipment Protection (GFEP) Circuit Breakers: Class B ground-fault protection (30-mA trip).
6. Arc-Fault Circuit Interrupter (AFCI) Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration.
7. Molded-Case Circuit-Breaker (MCCB) Features:
    a. Standard frame sizes, trip ratings, and number of poles.
    b. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
8. Molded-Case Circuit-Breaker (MCCB) Accessories (where indicated):
    a. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge (HID) lighting circuits.
    b. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.

c. Shunt Trip: Trip coil energized from separate circuit, set to trip at [**55**] [**75**] percent of rated voltage. Match coil voltage to control power source.
d. Undervoltage Trip: Set to operate at 35 to 75 percent of rated voltage without intentional time delay.
e. Auxiliary Contacts: Two SPDT switches with "a" and "b" contacts; "a" contacts mimic circuit-breaker contacts and "b" contacts operate in reverse of circuit-breaker contacts.
f. Handle Clamp: Loose attachment, for holding circuit-breaker handle in on position.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Receive, inspect, handle, and store panelboards according to NEMA PB 1.1.

B. Examine panelboards before installation. Reject panelboards that are damaged or rusted or have been subjected to water saturation.

C. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install panelboards and accessories according to NEMA PB 1.1.

B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from panelboards.

C. Mount top of trim 90 inches (2286 mm) above finished floor unless otherwise indicated.

D. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.

E. Install filler plates in unused spaces.

F. Stub eight 3/4-inch empty conduits from panelboard into accessible ceiling space or space designated to be ceiling space in the future. Stub four 3/4-inch empty conduits into raised floor space or below slab not on grade.

G. Arrange conductors in gutters into groups and bundle and wrap with wire ties.

H. Comply with NECA 1.

3.3 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with Division 26 Section "Identification for Electrical Systems."

B. Create a directory to indicate installed circuit loads; incorporate Owner's final room designations. Obtain approval before installing. Use a computer or typewriter to create directory; handwritten directories are not acceptable.

C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."

D. Device Nameplates: Label each branch circuit device in distribution panelboards with a nameplate complying with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."

3.4 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Testing Technician

   a. The testing technicians shall be trained in all the methods of correctly and safely conducting the required test. The technician shall have regular experience conducting the required tests and they must have the knowledge to determine the serviceability of a specific piece of equipment.

2. Physical inspection and Testing

   a. Verify equipment rating correspond to drawings and specifications.
   b. Inspect the physical and mechanical condition and verify that it complies with manufacturer’s standards.
   c. Verify equipment is properly secured and aligned with the required clearances as specified in the drawings and specifications. Assure that the equipment is properly grounded.
   d. Verify that all packing materials have been removed and the equipment has been cleaned.
   e. Confirm all breaker sizes, quantities, and configurations correspond to the drawings and specifications.
   f. Confirm bolted and mechanical lug electrical connections are low impedance using one of the following means:
      1) Measure the resistance with a low-resistance ohmmeter. Bolted electrical connection resistances shall be compared to resistances measured on similar connections. Any similar resistance values that deviate more than 50 percent should be investigated.
      2) Inspect the bolted connection and verify that it is at the manufacturer’s rated torque using a calibrated torque wrench. If manufacturer’s data is not available verify the torque meets the requirements of Table 100.12 in the ANSI/NETA ATS-2009.

3. Electrical Inspection and Testing

   a. Test each bus section for insulation resistance for one minute on phase to phase and phase to ground connections. Verify the test results comply with manufacturer’s documentation or the requirements established in Table 100.1 of the ANSI/NETA ATS-2009.
   b. Verify all meters functionality and accuracy after testing and calibrating all inputs.
   c. Verify instrument transformers meet all the requirements of the drawings and specifications.
      1) Test transformer wiring integrity and proper transformer operation.
      2) Verify transformer output voltage is at the specified level.

4. Test Reports: Prepare a written report to record the following:

a. Test procedures used.
b. Test results that comply with requirements.
c. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

B. Panelboards will be considered defective if they do not pass tests and inspections.

3.5 ADJUSTING

A. Set field-adjustable circuit-breaker trip ranges. Unless otherwise noted, trip settings shall mimic trip characteristics for thermal magnetic circuit-breakers of similar trip rating.

B. Load Balancing: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes.

1. Measure as directed during period of normal system loading.
2. Perform load-balancing circuit changes outside normal occupancy/working schedule of the facility and at time directed. Avoid disrupting critical 24-hour services such as fax machines and on-line data processing, computing, transmitting, and receiving equipment.
3. After circuit changes, recheck loads during normal load period. Record all load readings before and after changes and submit test records.
4. Tolerance: Difference exceeding 20 percent between phase loads, within a panelboard, is not acceptable. Rebalance and recheck as necessary to meet this minimum requirement.

END OF SECTION 26 24 16

SECTION 26 27 26 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes receptacles, connectors, floor boxes, switches, wall-box dimmers, and finish plates.

B. Related Sections include the following:
   1. Division 26 Section "Lighting Control Devices" for general purpose occupancy sensors.
   2. Division 26 Section "Relay Lighting Control Systems" for low-voltage, programmable relay based lighting control systems and associated wall stations.
   3. Division 26 Section “Classroom Dimming Lighting Control System” for low-voltage wall stations, occupancy sensors, and photocells associated with classroom dimming system.

1.3 DEFINITIONS

A. GFCI: Ground-fault circuit interrupter.

B. Pigtail: Short lead used to connect a device to a branch-circuit conductor.

C. TVSS: Transient voltage surge suppressor.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Field quality-control test reports.

C. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing label warnings and instruction manuals that include labeling conditions.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer. Insofar as they are available, obtain all wiring devices and associated wall plates from a single manufacturer and one source.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70.

1.6 COORDINATION

A. Receptacles for Owner-Furnished Equipment: Match plug configurations.
   1. Cord and Plug Sets: Match equipment requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Wiring Devices:
      a. Hubbell, Inc.; Wiring Devices Div.
      b. Leviton Manufacturing Co., Inc.
      c. Pass & Seymour/Legrand; Wiring Devices Div.
   2. Floor Boxes:
      a. Hubbell, Inc.; Wiring Devices Div.
      b. Wiremold/Legrand.
      c. Thomas & Betts Corporation.

2.2 STRAIGHT BLADE RECEPTACLES

A. General Purpose Receptacles: Heavy-Duty grade, rated 20A minimum. Comply with UL498.
   1. NEMA 5-20R (standard #WD1.101968).
   2. Arranged for back and side wiring.
   3. Grounding type. Separate single or double grounding terminals with screw lugs and a direct, green insulated conductor connector to system ground. Screw shall be green and hex-headed. Self-grounding type are not acceptable.
   4. Weather-resistant receptacles shall be marked with WR on face.
   5. Listed by an approved third party agency.

B. GFCI Receptacles: Non feed-through type, with integral NEMA WD 6, Configuration 5-20R duplex receptacle arranged to protect connected downstream receptacles on same circuit. Design units for installation in a 2-3/4-inch- (70-mm-) deep outlet box without an adapter. Comply with UL 498 and UL 943, Class A.

2.3 TWIST-LOCKING RECEPTACLES

A. Single Receptacles: Heavy-duty grade. Comply with NEMA WD 1, NEMA WD 6 for configuration as required, or as shown on plans, and UL 498.

2.4 PENDANT CORD-CONNECTOR DEVICES

A. Description: Matching, locking-type plug and receptacle body connector; NEMA WD 6 for configuration as required, or as shown on plans, heavy-duty grade.

1. Body: Nylon with screw-open cable-gripping jaws and provision for attaching external cable grip.
2. External Cable Grip: Woven wire-mesh type made of high-strength galvanized-steel wire strand, matched to cable diameter, and with attachment provision designed for corresponding connector.

2.5 CORD AND PLUG SETS

A. Description: Match voltage and current ratings and number of conductors to requirements of equipment being connected.
   1. Cord: Rubber-insulated, stranded-copper conductors, with Type SOW-A jacket; with green-insulated grounding conductor and equipment-rating ampacity plus a minimum of 30 percent.
   2. Plug: Nylon body and integral cable-clamping jaws. Match cord and receptacle type for connection.

2.6 SWITCHES

A. General Purpose Snap Switches: Heavy-duty, quiet type. Comply with NEMA WD1 and UL 20.
   1. 20A, 120/277v, AC only.
   2. Grounding type, with green hex-head grounding screw.
   3. Quiet type operating mechanism; shall not utilize mercury switches.
   4. Listed by an approved third party agency.

B. Equipment Disconnect Snap Switches: Heavy-duty, quiet type. Comply with NEMA WD1 and UL 20.
   1. 30A, 120/277v, AC only.
   2. Grounding type, with green hex-head grounding screw.
   3. Quiet type operating mechanism; shall not utilize mercury switches.
   4. Listed by an approved third party agency.

2.7 WALL-BOX DIMMERS

A. Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EMI/RFI suppression filters.

B. Control: Continuously adjustable rotary knob; with single-pole or three-way switching. Comply with UL 1472.

C. Incandescent Lamp Dimmers: 120 V; control shall follow square-law dimming curve. On-off switch positions shall bypass dimmer module. Coordinate dimmer wattage with required load. Do not derate dimmer. Provide individual device boxes as required.

D. Fluorescent Lamp Dimmer Switches: Modular; compatible with dimmer ballasts; trim potentiometer to adjust low-end dimming; dimmer-ballast combination capable of consistent dimming with low end not greater than 20 percent of full brightness.

2.8 WALL PLATES

A. Single and combination types to match corresponding wiring devices.
   1. Plate-Securing Screws: Metal with head color to match plate finish.
   2. Material for Finished Spaces: 0.04-inch (1-mm) thick, Type 302, satin-finished stainless steel.
   3. Material for Unfinished Spaces: Galvanized steel.

4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."

B. Wet-Location, Weatherproof Cover Plates: "In Use" cast aluminum with spring-loaded lift cover capable of closing with plug assembly still engaged, and listed and labeled for use in "wet locations."

2.9 FLOOR SERVICE FITTINGS

A. Type: Modular, flush-type, dual-service units suitable for wiring method used.

B. Compartments: Barrier separates power from voice and data communication cabling.

C. Service Plate: [**Rectangular**] [**Round**], [**die-cast aluminum**] [**solid brass**] with satin finish.

D. Power Receptacle: NEMA WD 6 Configuration 5-20R, gray finish, unless otherwise indicated.

E. Data Communication Outlet: Two modular, keyed, color-coded, RJ-45 jacks for twisted pair cable complying with requirements in Section 271513 "Communications Copper Horizontal Cabling.

2.10 POKE-THRU ASSEMBLIES

A. Description:

1. Factory-fabricated and -wired assembly of below-floor junction box with multichanneled, through-floor raceway/firestop unit and detachable matching floor service-outlet assembly.
2. Comply with UL 514 scrub water exclusion requirements.
3. Service-Outlet Assembly: Flush type with two simplex receptacles and space for two RJ-45 jacks complying with requirements in Section 271513 "Communications Copper Horizontal Cabling."
4. Size: Selected to fit nominal 4-inch (100-mm) cored holes in floor and matched to floor thickness.
5. Fire Rating: Unit is listed and labeled for fire rating of floor-ceiling assembly.
6. Closure Plug: Arranged to close unused 3-inch (75-mm) cored openings and reestablish fire rating of floor.
7. Wiring Raceways and Compartments: For a minimum of four No. 12 AWG conductors and a minimum of two, four-pair cables that comply with requirements in Section 271513 "Communications Copper Horizontal Cabling."

2.11 FINISHES

A. Color:
1. Wiring Devices Connected to Normal Power System: White, unless otherwise indicated or required by NFPA 70 or device listing.
2. Receptacle Devices Connected to Stand-by Power System: Green, unless otherwise indicated or required by NFPA 70 or device listing.
3. Receptacle Devices Connected to UPS Power System: Blue, unless otherwise indicated or required by NFPA 70 or device listing.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.

B. Coordination with Other Trades:
1. Take steps to insure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
4. Install wiring devices after all wall preparation, including painting, is complete.

C. Conductors:
1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
4. Existing Conductors:
   a. Cut back and pigtail, or replace all damaged conductors.
   b. Straighten conductors that remain and remove corrosion and foreign matter.
   c. Pigtailing existing conductors is permitted provided the outlet box is large enough.

D. Device Installation:
1. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
6. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:
1. Mount vertically except where installed over counters, back-splashes, etc. mount horizontally.
2. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the right.

F. Damp and Wet Locations:
1. Provide weather-resistant receptacles with weatherproof cover in damp and wet locations.
2. Provide additional weather-resistant receptacles with weatherproof cover as indicated on the plans.

G. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.
   a. Provide 2% quantity of spare cover plates of each type to Owner.

H. Dimmers:
   1. Install dimmers within terms of their listing.
   2. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

I. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

3.2 IDENTIFICATION

A. Comply with Division 26 Section "Identification for Electrical Systems."

3.3 FIELD QUALITY CONTROL

A. Test wiring devices for proper polarity and ground continuity. Operate each device at least six times.

B. Test GFCI operation with both local and remote fault simulations according to manufacturer's written instructions.

C. Replace damaged or defective components.

3.4 CLEANING

A. Internally clean devices, device outlet boxes, and enclosures. Replace stained or improperly painted wall plates or devices.

END OF SECTION 26 27 26

SECTION 26 51 00 - LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Lighting fixtures, lamps, and ballasts.
2. Emergency lighting units.
3. Exit signs.
4. Lighting fixture supports.

B. Emergency Lighting Equipment, including supporting raceway, requires Seismic Controls. Equipment is required to be certified by the manufacturer. Engineer has delegated design of controls for mounting and supports to Contractor.
1. Delegated Design: Design emergency lighting equipment supports, mounting, and associated raceway supports, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
2. Seismic Performance: Emergency lighting equipment shall withstand the effects of earthquake motions determined according to ASCE 7.
   a. The term “withstand” means “the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event”.
3. Structural Performance: Emergency lighting equipment supports, mounting, and associated raceway supports shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to ASCE 7.
   a. Seismic Loads: See Specification Section 260548.

C. Related Sections:
1. Division 26 Section "Lighting Control Devices" for occupancy sensors, contactors, and emergency lighting transfer devices.
2. Division 26 Section "Classroom Dimming Control System" for modular classroom dimming systems.
3. Division 26 Section "Relay Lighting Control System" for programmable relay control systems with low-voltage control wiring.
4. Division 26 Section “Seismic Controls for Electrical Systems” for seismic restraint performance requirements including Site Classification and Seismic Use Group.

1.3 DEFINITIONS

A. CRI: Color-rendering index.

B. HID: High-intensity discharge.

1.4 SUBMITTALS

A. Product Data:

1. Fixture Schedule Matrix: At the front of the product data submittal provide a matrix that lists the fixture manufacturer and model number, ballast manufacturer and model number, lamp manufacturer and model number for each fixture type in schedule.
2. Light Fixtures: For each type of lighting fixture in schedule, arranged in order of fixture designation. Provide manufacturer's published literature which includes data on features, accessories, and the following:
   a. Dimensions of fixtures.
   b. Manufacturer and type of ballasts.
   c. Manufacturer and types of lamps.
   d. For fixtures (non-exit) with LED light source submit the manufacturer's IESNA LM-79 Photometric Report and IESNA LM-80 Lumen Maintenance Report.
   e. Method of emergency ballast installation (integral, external, or remote).
3. Emergency Ballasts: For each type of emergency ballast installed in a scheduled lighting fixture, provide manufacturer's published literature containing lumen output, time duration, battery type, ballast dimensions, and mounting. Also provide wiring diagram.

B. Seismic Controls:
1. Delegated-Design Submittal: For each seismic-restraint device, include design calculations and details for selecting seismic restraints complying with performance requirements, design criteria, and analysis data signed and sealed by the qualified professional engineer, licensed in the project state, responsible for their preparation.
   a. Detail fabrication and assembly drawings of supports.
   b. Design Calculations: Calculate static and dynamic loading caused by equipment weight, operation, and seismic forces required to select seismic restraints and for designing vibration isolation bases.
2. Seismic Qualification Certificates: For emergency lighting equipment, accessories, and components, from manufacturer.
   a. Certificate of compliance.
   b. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
   c. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

C. Shop Drawings:
1. Site Lighting Illumination Plan: Provide computer generated isofootcandle plot diagrams for both initial and maintained footcandles on all horizontal patio, landing, walkway, roadway, and parking surfaces which show composite values of illuminance projected from the arrangement of all building mounted and non-building mounted light fixtures. Use manufacturer's published maintenance factors in calculating maintained footcandles. Calculation grid shall be 2' x 2' on pedestrian surfaces and 5' x 5' on vehicular surfaces. Also provide spill light isofootcandle plot diagrams for both horizontal and vertical maintained footcandles along property/LEED boundary and 10' beyond property/LEED boundary. Calculation grid shall be 10' on center along boundary. Plans depicting building mounted lighting and egress pedestrian surfaces shall be scaled no greater than 1"=10'. Plans depicting vehicular surfaces and property boundary shall be scaled no greater than 1"=30'.

D. Warranty Information: Include in submittals warranty information for emergency exit signs, emergency lighting units, and emergency ballasts installed in schedule fixtures.

E. Coordination Drawings: Reflected ceiling plans and sections drawn to scale and coordinating fixture installation with ceiling grid, ceiling-mounted items, and other components in the vicinity. Include work of all trades that is to be installed near lighting equipment.

F. Test Reports: Report of operation test for emergency lighting units, emergency ballasts, and battery-powered exit signs. See Field Quality Control paragraph below. Submit copy to State Construction Office.

G. Maintenance Data: For lighting fixtures to include in maintenance manuals specified in Division 1. Provide revised and updated Fixture Schedule Matrix. Include all warranty information and documentation with maintenance data.

1.5 QUALITY ASSURANCE

A. Fixtures, Emergency Lighting Units, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

C. NFPA 101 Compliance: Comply with visibility and luminance requirements for exit signs.

1.6 COORDINATION

A. Fixtures, Mounting Hardware, and Trim: Coordinate layout and installation of lighting fixtures with ceiling system and other construction.

1.7 WARRANTY

A. Special Warranty for Electronic Ballasts: Written warranty, executed by manufacturer agreeing to replace fluorescent electronic ballasts that fails in materials or workmanship within 5 years from date of manufacturer, but not less than 4 years from date of Final Acceptance.

B. Special Warranty for Emergency Exit Signs, Emergency Lighting Units, and Emergency Ballasts: Written warranty, executed by manufacturer agreeing to replace entire sign/unit/ballast that fails within 3 years from date of Final Acceptance. The batteries within sign/unit/ballast shall be covered for an additional 2 years by a pro-rated warranty.

1.8 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Lamps: 10 for every 100 of each type and rating installed. Furnish at least two of each type.
   2. Ballasts: 1 for every 100 of each type and rating installed. Furnish at least two of each type. Includes emergency battery ballasts.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers and Products: Subject to compliance with requirements, manufacturers and respective products that may be incorporated into the Work are indicated on the drawings in Light Fixture Schedule.
   1. It is the intent of the Light Fixture Schedule to denote the Basis of Design and quality standard of product desired and not to restrict bidders to a specific brand, make, manufacturer or specific name. The manufacturers and products listed in Schedule are used only to set forth and convey to bidders the general style, type, character, and quality of product desired. However, the use of products by a manufacturer not listed in Schedule is considered a substitution. Substitution of equivalent products will be acceptable according to the following paragraph.

B. Substitution of Equivalent Products: Substitution of manufacturers and products equivalent to those listed in Light Fixture Schedule shall be submitted to the Engineer for approval through the product/shop drawing submittal review process.

C. Equivalent fixtures, poles, ballasts, and other materials and equipment shall be products of manufacturers regularly engaged in the production of such products which are of equal material, design and workmanship. Products shall be a standard product offering as shown on manufacturer's published printed literature for appearance, mounting, light distribution and lamping (ballast and lens options are excluded from this requirement). Cut-sheets prepared for submittal are not considered published printed literature. Products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period. Where two or more items of the same type or class of fixture are required, these items shall be products of a single manufacturer.

2.2 FIXTURES AND FIXTURE COMPONENTS, GENERAL

A. Metal Parts: Free from burrs, sharp corners, and edges.

B. Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.

C. Doors, Frames, and Other Internal Access: Smooth operating, free from light leakage under operating conditions, and arranged to permit relamping without use of tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent accidental falling during relamping and when secured in operating position.

D. Reflecting Surfaces: Minimum reflectance as follows, unless otherwise indicated:
   1. White Surfaces: 85 percent.
   2. Specular Surfaces: 83 percent.
   3. Diffusing Specular Surfaces: 75 percent.
   4. Laminated Silver Metallized Film: 90 percent.

E. Lenses, Diffusers, Covers, and Globes: 100 percent virgin acrylic plastic or annealed crystal glass, unless otherwise indicated.
   1. Plastic: High resistance to yellowing and other changes due to aging, exposure to heat, and ultraviolet radiation.
   2. Lens Thickness: 0.125 inch (3 mm) minimum, unless greater thickness is indicated.

2.3 FLUORESCENT LAMP BALLASTS

A. General Requirements: Unless otherwise indicated, features include the following:
   1. Type: Electronic rapid-start. Comply with UL 953 and with ANSI C82.11.
   2. Designed for type and quantity of lamps indicated at full light output.
   3. Total Harmonic Distortion Rating: Less than 10 percent.
   4. Sound Rating: Class A.
   5. Protection: Class P Thermal Cutout
   6. Power Factor: 90 percent, minimum.
   7. Operating Frequency: 20 kHz or higher.
   8. Flicker: Less than 5 percent.
   9. Lamp Current Crest Factor: Less than 1.7.
   10. Shall meet or exceed requirements listed in ANSI C82.11
   11. Transient Protection: Comply with IEEE C62.41 for Category A1 locations.
   12. Normal Ambient Operating Temperature: 104 deg F (40 deg C).
      a. Exterior Locations: Ballasts for exterior installed fixtures shall be rated for 0 deg F (minus 17 deg C) starting and operating temperature with indicated lamp types.
   13. Maximum Case Temperature: 77 deg F (25 deg C) above operating ambient

B. Electronic Ballasts for Linear Lamps: Unless otherwise indicated, additional features include the following, besides those in "General Requirements" Paragraph above:
   1. Ballast Factor: 0.87 through 0.89.
   2. Parallel Lamp Circuits: Multiple lamp ballasts connected to maintain full light output on surviving lamps if one or more lamps fail.

C. Electronic Ballasts for Compact Lamps: Unless otherwise indicated, additional features include the following, besides those in "General Requirements" Paragraph above:
   1. Ballast Factor: 0.95 or higher.

D. Ballast Disconnect Device: All fixtures with double-ended fluorescent lamps, fixtures where the ballast is accessible without removing fixture, and other fixtures required by NEC 410.73(g) shall be provided with a plug-style disconnecting means within 12" and visual site of each ballast. Plug-style disconnecting means shall be factory installed by manufacturer and UL listed as an assembly.

2.4 FLUORESCENT DIMMING BALLASTS

A. General Materials and Performance:

   1. Programmed Rapid Start Type.
   2. Current crest factor (CCF) less than 1.7.
   3. Meet ANSI C82.11 High frequency ballast standard.
   4. Inaudible in a 27 dBA ambient.
   5. No visible change in light output with a variation of +/- 10 percent line voltage input.
   6. Total Harmonic Distortion less than 10 percent and meet ANSI C82.11 maximum allowable THD requirements
   7. Ballasts to track evenly across: Multiple lamp lengths and all light levels.
   8. Designed and tested to withstand electrostatic discharges up to 15,000 V without impairment per IEC 801-2.
   9. Ballast Disconnect Device: All fixtures with double-ended fluorescent lamps, fixtures where the ballast is accessible without removing fixture, and other fixtures required by NEC 410.73(g) shall be provided with

a plug-style disconnecting means within 12" and visual site of each ballast. Plug-style disconnecting means shall be factory installed by manufacturer and UL listed as an assembly.

B. 10% General Purpose Dimming for Linear Fluorescent Lamps:

1. Electronic dimming ballast shall have a continuous flicker-free architectural dimming range of 100% - 10% relative light output (RLO) for T5, T5HO, T8, and T12 linear fluorescent lamps.
2. Electronic dimming ballast shall not be damaged by miswires between any input power and control connections and any lamp leads to each other and/or ground.

C. 1% Architectural Dimming for Linear Fluorescent Lamps:

1. Electronic dimming ballast shall have a continuous flicker-free architectural dimming range of 100% -1% relative light output (RLO) for T5, T5HO, T8, and T12 linear fluorescent lamps.
2. Electronic dimming ballast shall not be damaged by miswires between any input power and control connections and any lamp leads to each other and/or ground.
3. See Fixture Schedule for fixtures requiring 1% Architectural Dimming ballasts.

D. 10% General Purpose Dimming for T4 Compact Fluorescent Lamps:

1. Electronic dimming ballast shall have a continuous flicker-free architectural dimming range of 100% - 1% relative light output (RLO) for T4 4-pin compact fluorescent lamps
2. Electronic dimming ballast shall not be damaged by miswires between any input power and control connections and any lamp leads to each other and/or ground.

E. 1% Architectural Dimming for T4 Compact Fluorescent Lamps:

1. Electronic dimming ballast shall have a continuous flicker-free architectural dimming range of 100% - 1% relative light output (RLO) for T4 4-pin compact fluorescent lamps
2. Electronic dimming ballast shall not be damaged by miswires between any input power and control connections and any lamp leads to each other and/or ground.
3. See Fixture Schedule for fixtures requiring 1% Architectural Dimming ballasts.

F. Fluorescent Ballast Energy Ratings: High Performance or Reduced Wattage type from the CEE qualified product list suitable for utility company rebates.

2.5 HIGH-INTENSITY-DISCHARGE LAMP BALLASTS

A. General: Comply with ANSI C82.4. Unless otherwise indicated, features include the following:
1. Type: Constant wattage autotransformer or regulating high-power-factor type, unless otherwise indicated.
2. Operating Voltage: Match system voltage.
3. Minimum Starting Temperature: Minus 22 deg F (Minus 30 deg C) for single lamp ballasts.
4. Normal Ambient Operating Temperature: 104 deg F (40 deg C).
5. Open-circuit operation that will not reduce average life.

B. Encapsulation: Manufacturers' standard epoxy-encapsulated model designed to minimize audible fixture noise.

2.6 LED DRIVERS

A. General:
1. Ten-year operational life while operating with a case temperature range of 0 degrees C to 62 degrees C and 90 percent non-condensing relative humidity.
2. Electrolytic capacitors to operate at least 20 degrees C below the capacitor's maximum temperature rating when the driver is under fully-loaded conditions and case temperature is 62 degrees C.
3. Designed and tested to withstand electrostatic discharges up to 15,000 V without impairment per IEC 801-2.
4. Maximum inrush current of 2 amperes for 120V and 277 V drivers.
5. Withstand up to a 4,000 volt surge without impairment of performance as defined by ANSI C62.41 Category A.
6. Manufactured in a facility that employ ESD reduction practices in compliance with ANSI/ESD S20.20.
7. Inaudible in a 27 dBA ambient environment.
8. No visible change in light output with a variation of +/- 10 percent line voltage input.
9. Total Harmonic Distortion less than 10 percent and meet ANSI C82.11 maximum allowable THD requirements

B. Compatibility of driver and LED light engine must be tested and ensured by driver manufacturer.

2.7 FLUORESCENT EMERGENCY BALLASTS

A. Integral Type: Self-contained, modular, battery-inverter unit factory mounted within, on, or remote from fixture body. Comply with UL 924
1.
2. Output: Emergency ballast shall provide light output as listed in Light Fixture Schedule for a minimum of 90 minutes.
3. Battery: Sealed, maintenance-free, high-temperature, nickel-cadmium type with minimum seven-year nominal life.
   a. For Interior Locations: Temperature Operating Range: 0°C to 60°C.
   b. For Exterior Locations: Temperature Operating Range to minimum -18°C/0°F.
   c. Battery shall be field replaceable.
4. Charger: Battery charger shall be fully automatic solid state type, full wave rectifying, with current limiting. Charger shall restore the battery to its full charge within 24 hours after a discharge of 90 minutes under full rated load.
5. Test Switch and Light-Emitting-Diode Indicator Light: Visible and accessible without opening fixture or entering ceiling space.
   a. All 2x4 fluorescent fixtures with emergency ballast, test switch, and indicate light factory installed. Field mounting is not acceptable.
6. See Warranty requirements Part 1.

2.8 EMERGENCY EXIT SIGNS

A. General Requirements: Comply with UL 924 and the following:
1. Sign Colors and Lettering Size: Comply with authorities having jurisdiction.
2. Lamps for AC Operation: Light-emitting diodes, 70,000 hours minimum rated lamp life. Maximum LED failure rate shall be 25% within a 7 year period.
3. Emergency Operation: When normal voltage drops below 80% nominal, sign shall switch to operation from emergency battery.

4. Testing Features: Exit sign shall be provided with a test switch to simulate the operation of the unit upon loss of normal power. Sign shall also be provided with pilot light indicating connection of normal power and a pilot indicating high rate charging status.
5. Exit Signs shall be third party listed as emergency lighting equipment, and meet or exceed the following standards: NEC, NC Building Code, NC Energy Conservation Code, NFPA 101, and any applicable NEMA standards.

B. Integral Emergency Battery: Battery shall be sealed, maintenance-free nickel-cadmium sized for a minimum of 90 minutes operating endurance. It shall also be a high temperature type with an operating range of 0°C to 60°C and contain a resealable pressure vent. Exterior signs shall be rated to a minimum temperature operating range of -18°C/0°F. Battery shall have normal life expectancy of 10 years. See Warranty requirements Part 1.

C. Battery Charger: Battery charger shall be fully automatic solid state type, full wave rectifying, with current limiting. Charger shall restore the battery to its full charge within 24 hours after a discharge of 90 minutes under full rated load.

2.9 EMERGENCY LIGHTING UNIT

A. General Requirements: Comply with UL 924 and the following:
1. Description: Emergency lighting unit shall be a completely self-contained lighting unit designed to provide emergency illumination upon loss of normal power. Unit contains battery, automatic charger, transfer device, lamps, and testing features.
2. Emergency Operation: When normal voltage drops below 80% nominal, unit shall activate to operate lamps from emergency battery. Lamps are off during normal operation.
3. Testing Features: Units shall be provided with a test switch to simulate the operation of the unit upon loss of normal power. It shall also be provided with pilot light indicating connection of normal power and a pilot indicating high rate charging status.
4. Emergency Lighting Units shall be third party listed as emergency lighting equipment.

B. Emergency Battery: Battery shall be 12V sealed, maintenance-free nickel-cadmium sized for a minimum of 90 minutes operating endurance. It shall also be a high temperature type with an operating range of 0°C to 60°C and contain a resealable pressure vent. Exterior units shall be rated to a minimum temperature operating range of -18°C/0°F. Battery shall have normal life expectancy of 10 years. See Warranty requirements Part 1.

C. Battery Charger: Battery charger shall be fully automatic solid state type, full wave rectifying, with current limiting. Charger shall restore the battery to its full charge within 24 hours after a discharge of 90 minutes under full rated load.

2.10 LAMPS

A. Fluorescent Color Temperature and Minimum Color-Rendering Index: 3500 K and 75 CRI, unless otherwise indicated.
1. Non-compact Fluorescent Lamp Life: Rated average is 20,000 hours at 3 hours per start when used on rapid-start circuits.

B. Metal-Halide Color Temperature and Minimum Color-Rendering Index: 3200 K and 70 CRI, unless otherwise indicated.

C. Fluorescent Lamps Energy Ratings: High Performance or Reduced Wattage type from the CEE qualified product list suitable for utility company rebates.

2.11 FIXTURE SUPPORT COMPONENTS

A. Comply with Division 26 Section “Hangers and Supports”, for channel- and angle-iron supports and nonmetallic channel and angle supports.

B. Refer to “Light Fixture Mounting Detail” on plans for individual fixture support.

2.12 FINISHES

A. Fixtures: Manufacturers’ standard, unless otherwise indicated.
1. Paint Finish: Applied over corrosion-resistant treatment or primer, free of defects.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Fixtures: Set level, plumb, and square with ceiling and walls, and secure according to manufacturer's written instructions and approved submittal materials. Install lamps in each fixture.

B. Support for Fixtures in or on Grid-Type Suspended Ceilings: Use grid for support.
1. Fixtures within Ceiling Grid: Where a recessed fluorescent, high intensity, or downlight fixture replaces a section or part of a ceiling tile, the fixture shall be supported at the two (2) opposite ends to the building steel/concrete frame or floor decking. Supports shall be provided with the same type of wire as used to support the lay-in ceiling track. Attach the luminaire to the main runners of the lay-in ceiling track at all four (4) corners using sheet metal screws. For fire rated suspended ceiling, luminaire shall be supported to the Building Structure as per the Ceiling Design Criteria, luminaire shall then be screwed to the man runners of the suspended ceiling track at all four (4) corners using sheet metal screws.
2. Fixtures of Sizes Less Than Ceiling Grid: Arrange as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4-inch (20-mm) metal channels spanning between ceiling tees in addition to wires from building structure per above. Channel support shall be attached to ceiling grid using sheet metal screws.

3.2 CONNECTIONS

A. Ground equipment.
1. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.3 FIELD QUALITY CONTROL

A. Inspect each installed fixture for damage. Replace damaged fixtures and components.

B. Provide instruments to make and record test results.

C. Tests: As follows:
   1. Verify normal operation of each fixture after installation.
   2. Emergency Lighting: Interrupt electrical supply to demonstrate proper operation.
      a. Contractor shall perform a test on each battery unit after it is permanently installed and charged for a minimum of 24 hours. Battery units shall be tested for 90 minutes and shall maintain not less than 60% of the initial emergency illumination or 87-1/2% of initial battery voltage for the duration of the test. Any unit which fails the test must be repaired or replaced, and tested again. Copy of testing report for each unit shall be sent to the Engineer.
      b. All battery tests shall be complete a minimum of 10 days prior to final inspection.
   3. Verify operation of photoelectric controller and contactor.
   4. Verify normal transfer to battery source and retransfer to normal.
   5. Report results in writing.

D. Malfunctioning Fixtures and Components: Replace or repair, then retest. Repeat procedure until units operate properly.

E. Corrosive Fixtures: Replace during warranty period.

3.4 CLEANING AND ADJUSTING

A. Clean fixtures internally and externally after installation. Use methods and materials recommended by manufacturer.

B. Adjust aimable fixtures to provide required light intensities.

END OF SECTION 26 51 00

SECTION 31 10 00 – SITE PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, Supplemental General Conditions, and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. The CONTRACTOR shall be responsible for preparation of the site for construction of the project in accordance with the Contract Documents and as specified herein.

1.3 REFERENCES

A. North Carolina Department of Environmental and Natural Resources Erosion and Sediment Control Planning and Design Manual, latest edition.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to store at the site and handle in a manner which will maintain the materials in their original manufactured or fabricated condition until ready for use.

PART 2 - (Not Used)

PART 3 - EXECUTION

3.1 TRAFFIC

A. Conduct site clearing operations to ensure minimum interference with roads, streets, walks, businesses, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without prior permission from Owner, NCDOT, and/or authorities having jurisdiction.

3.2 PROTECTION

A. General: Provide temporary fences, barricades, coverings, or other protection to preserve existing items indicated to remain and to prevent injury or damage to persons or property. Provide protection for adjacent properties as required.

B. Restoration/Repair: Restore damaged items to condition existing prior to start of WORK.

C. Existing Trees/Vegetation: Protect existing trees and vegetation adjacent to the actual WORK area or borrow area from physical damage. Do not store equipment or materials within tree drip line.

D. Road and Walks: Keep roads and walks free of dirt and debris at all times.

E. Utility Lines: Protect existing utility lines that are indicated to remain from damage. Notify ENGINEER immediately of damage to or an encounter with unknown existing utility lines. CONTRACTOR shall be responsible for the repairs of damage to existing utility lines that are indicated or made known to CONTRACTOR prior to start of clearing and grubbing operations. When utility lines which are to be removed are encountered within the area of operations, CONTRACTOR shall notify ENGINEER and OWNER and Utility Owner within 10 days time to minimize interruption of the service.

3.3 EROSION/SEDIMENT CONTROL

A. Provide appropriate erosion and sediment control measures for all off-site borrow areas in full compliance with the North Carolina Department of Environment and Natural Resources Erosion and Sediment Control Planning and Design Manual and regulations of the local jurisdiction. CONTRACTOR shall be solely responsible for all borrow sites outside of the Project area.

3.4 CLEARING

A. Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within the areas to be cleared. Cut off flush with or below the original ground surface trees, stumps, roots, brush, and other vegetation in areas to be cleared, except for trees and vegetation indicated or directed to be left standing. CONTRACTOR shall coordinate all clearing with OWNER prior to proceeding.

3.5 TREE REMOVAL

A. Where indicated or directed by OWNER, trim designated trees or remove designated trees and stumps and grub roots.

3.6 GRUBBING

A. Remove and dispose of roots larger than 3 inches in diameter, matted roots, and stumps from the indicated grubbing areas. Excavate this material together with logs, organic and metallic debris, brush, and refuse and remove to a depth of not less than 18 inches below the original soil surface in areas indicated to be grubbed and in areas indicated as construction areas for this Project. Fill depressions made by grubbing with suitable material and compact in accordance with the requirements of the Contract Documents to make the new surface conform with the existing adjacent surface of the ground.

3.7 DISPOSAL OF CLEARED AND GRUBBED MATERIALS

A. Nonsalable Materials: Disposal shall be CONTRACTOR’s responsibility.

3.8 STORING MATERIALS

A. Strip and stockpile topsoil material and other cleared materials that will be reused in the WORK.

3.9 EXISTING IMPROVEMENTS/FACILITIES

A. Remove existing improvements, both above-grade and below-grade to extent indicated or as otherwise required to permit new construction and provide for proper disposal off-site. Existing improvements and facilities such as mailboxes, signs, ornamental or decorative items, etc. that require temporary removal to permit new construction shall be promptly replaced and/or restored to the location and condition prior to construction. Improvements and facilities that are damaged by the CONTRACTOR during the course of construction shall be promptly replaced at the CONTRACTOR's expense.

3.10 SALVABLE ITEMS

A. No salvable items are anticipated for this project.

3.11 FUGITIVE DUST

A. Control air pollution caused by dust and dirt; comply with governing regulations.

3.12 FILLING

A. Fill depressions and voids resulting from site clearing operations. Comply with the requirements of Specification Section 31 20 00, "Earth Moving".

3.13 GRADING

A. Grade ground surface to conform to required contours and to provide positive surface drainage away from the WORK or borrow area.

3.14 DISPOSAL

A. Dispose of waste materials, including trash and debris, and excess topsoil, legally off-site.

3.15 BURNING

A. Burning of waste materials is prohibited for this project.

END OF SECTION 31 10 00

SECTION 31 20 00 – EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, Supplemental General Conditions, and Division 01 Specification Sections, apply to this Section.

B. Geotechnical report titled “Report of Test Pit Exploration and Kessler Penetrometer Testing Services: Richard Barry Park Expansion” by Froehling & Robertson, Inc. dated July 13, 2022.

1.2 SUMMARY

A. Prior to beginning construction, the Geotechnical Engineer should evaluate the subgrade soils for suitability based on observations of proofrolling with a loaded dump truck or other method considered acceptable to the Geotechnical Engineer. Fill meeting the requirements herein shall then be placed to the grade shown.

1.3 DEFINITIONS

A. Excavation consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed.

B. Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

C. Borrow: Soil material obtained off site when sufficient approved soil material is not available from excavations.

D. Subbase Course: The layer placed between the subgrade and surface of a pavement or walk.

E. Design Subgrade: Elevation of bearing for foundations, bottom of porous fill beneath slabs on grade (4" below bottom of slab), bottom of turn down slabs, and bottom most portion of stairs and ramps.

F. Drainage Fill: Course of washed granular material supporting slab on grade placed to cut off upward capillary flow of pore water.

G. Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the Engineer. Unauthorized excavation, as well as remedial work directed by the Engineer, shall be at the Contractor's expense.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man made stationary features constructed above or below ground surface.

I. Utilities include on site underground pipes, conduits, ducts, and cables, as well as underground services within building lines.

1.4 SUBMITTALS

A. General: Submit the following according to the Conditions of the Contract and Division 1 Specification Sections.

B. Test Reports: In addition to test reports required under field quality control, submit the following:

1. Laboratory analysis (including grain size and plasticity analyses) of each soil material proposed for fill and backfill from on site and borrow sources.
2. One Standard Proctor compaction test (moisture density relationship) in accordance with ASTM D698 for each soil material.

C. Submit excavation support system design and details for trench excavation.

1.5 QUALITY ASSURANCE

A. Codes and Standards: Perform earthwork complying with requirements of authorities having jurisdiction. These include, but are not limited to, Town of Huntersville, Mecklenburg County, North Carolina Department of Environment and Natural Resources, and the State of North Carolina.

B. Testing and Inspection Service: Owner shall employ a qualified independent geotechnical engineering testing agency to classify proposed on site and borrow soils to verify that soils comply with specified requirements and to perform required field and laboratory testing.

1.6 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt existing utilities serving facilities occupied by the Owner or others except when permitted in writing by the Engineer and then only after acceptable temporary utility services have been provided.

1. Provide a minimum 10 day notice to the Owner and receive written notice to proceed before interrupting any utility.

B. Demolish and completely remove from site existing underground utilities indicated to be removed. If utilities cannot be removed due to existing field conditions they shall be filled with flowable fill (minimum 200psi) and noted as “Abandoned” on as-built drawings. However, in all cases the contractor shall demolish all utilities within the footprint of any proposed structure and within the area extending 5’ from the proposed footprint. Coordinate with utility companies to shutoff services if lines are active.

C. Excavation support system design and details for trench excavation, shall be sealed and signed by a professional engineer licensed in the State of North Carolina, copy of design shall be filed with ENGINEER.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide approved borrow soil materials from off site when sufficient approved soil materials are not available from excavations. Contractor is responsible for locating appropriate off-site borrow areas.

B. Satisfactory Soil Materials:

1. Engineered Fill: Select material classifying ML, MH, CL, SM, or SC, in accordance with ASTM D 2487 with a sand content of at least 30 percent and a maximum plasticity index of 15. High plasticity clays (CH) should not be used as engineered fill. The maximum particle size should not exceed 3 inches. Fill should be free of debris, waste, frozen materials, vegetation, and any other deleterious matter. Off-site borrow materials should have a CBR value no less than 6 percent.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, OL, CH, OH, and PT according to ASTM D 2487 or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.

F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

I. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.

J. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.

K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 GEOTEXTILE FABRIC

A. Medium Duty Geotextile Fabric as follows:

1. Weight: 6.0 oz/sy as per ASTM D-3776-79.

2. Grab Strength: 300 lbs as per ASTM D-4632-86.

3. Grab Elongation: 15% as per ASTM D-4632-86.

4. Trapezoid Tear Strength: 115 lbs as per ASTM D-4533-85.
5. Mullen Burst Strength: 600 psi as per ASTM D-3786-87.
6. Puncture Strength: 145 lbs as per ASTM D-4833-88.
7. Wide Width Strip Tensile: 200x230 lbs/in as per ASTM D-4595-86.
8. Wide Width Strip Elongation: 15x15 % as per ASTM D-4595-86.
9. Thickness: 25 mils as per ASTM D-1777-64.
10. Permittivity: .1 sec(-1) as per ASTM D-4491-85.
11. Water Flow Rate: 9.2 gal/min/sf as per ASTM D-4491-85.
12. Apparent Opening Size: 30-70 U.S. Std Sieve as per ASTM D-4751-87.
13. Ultraviolet Stability: 90% as per ASTM D-4355-84.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.

C. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil bearing water runoff or airborne dust to adjacent properties and walkways.

D. Prior to proceeding with construction, all topsoil and other deleterious, non-soil materials shall be stripped from proposed construction area. Stripping shall extend at least 5 feet horizontally beyond building limits, and stripping of unsatisfactory soils shall be as identified by the Geotechnical Engineer.

E. Subgrades which are to support slabs, pavements, or compacted fill shall be proofrolled with a 20 to 30 ton fully loaded truck or other pneumatic-tired vehicle of similar size and weight to identify areas of localized soft soil or unsuitable soil. Any soft or unsuitable material encountered during proofrolling shall be removed and replaced with engineered fill. The Geotechnical Engineer shall observe all proofrolling operations.

3.2 DEWATERING

A. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

C. Dewatering disposal shall be in accordance with Erosion and Sediment Control permit.

3.3 EXCAVATION

A. Explosives: Do not use explosives.

3.4 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 0.10 foot. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

2. Excavation for Mechanical or Electrical Appurtenances: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 0.10 foot. Do not disturb bottom of excavations intended for bearing surface.

3.5 APPROVAL OF SUBGRADE

A. Notify Engineer when excavations have reached required subgrade.

B. When Engineer determines that unforeseen unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Engineer.

3.6 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending indicated bottom elevation of concrete foundation or footing to excavation bottom, without altering required top elevation. Lean concrete fill or flowable fill may be used to bring elevations to proper position.

3.7 STORAGE OF SOIL MATERIALS

A. Stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent wind blown dust.

3.8 BACKFILL

A. Backfill excavations promptly, but not before completing the following:

1. Acceptance of construction below finish grade including, where applicable, damp-proofing, waterproofing, and perimeter insulation.

2. Surveying locations of underground utilities for record documents.

3. Testing, inspecting, and approval of underground utilities.

4. Concrete form-work removal.

5. Removal of trash and debris from excavation.

6. Removal of temporary shoring and bracing, and sheeting.

7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.9 SUBSURFACE DRAINAGE BACKFILL

A. Subsurface Drain: Place a layer of filter fabric around perimeter of drainage trench or at footing, as indicated. Place a 6 inch compacted course of filtering material on filter fabric to support drainage pipe. After installing and testing, encase drainage pipe in a minimum of 6 inches of compacted filtering material and wrap in filter fabric, overlapping edges at least 6 inches.

B. Drainage Backfill: Place and compact drainage backfill of filtering material over subsurface drain, in width indicated, to within 18 inches of final subgrade. Overlay drainage backfill with one layer of filter fabric, overlapping edges at least 6 inches.

C. Fill: Place and compact fill material over drainage backfill to final subgrade.

3.10 FILL

A. Preparation: Remove vegetation, topsoil, debris, wet, and unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placing fills.

1. Plow, strip, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing surface.

B. When subgrade or existing ground surface to receive fill has a density less than that required for fill, break up ground surface to 8 inches, pulverize, moisture condition, or aerate soil and recompact to required density.

C. Place fill material in layers to required elevations for each location listed below.

1. Under grass, use General Site Fill.

2. Under walks and pavements, use aggregate base to the required depth and, General Site Fill.

3. Under steps and ramps, aggregate base.

4. Under building slabs, use porous fill to the required depth, and General Site Fill.

5. Under footings and foundations, use Engineered Fill, aggregate base, or flowable fill.

6. Behind below-grade walls, use Engineered Fill or porous fill.

3.11 MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

2. Remove and replace, or scarify and air dry satisfactory soil material that is too wet to compact to specified density.

a. Stockpile or spread and dry removed wet satisfactory soil material.

b. If excavation must remain open overnight or rainfall becomes imminent while the bearing soils are exposed, place a 1 to 3 inch thick “mud mat” of lean concrete on the bearing soils before the placement of reinforcing steel.

c. Costs associated with removing and replacing previously approved backfill due to being too wet shall be borne by the CONTRACTOR.

3.12 COMPACTION

A. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand operated tampers.

B. Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698.

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 98 percent.

2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 98 percent.

3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90 percent.

4. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

3.13 GRADING

A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between existing adjacent grades and new grades.

2. Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 0.10 foot.

2. Walks: Plus or minus 0.10 foot.

C. Grading Inside Building Lines: Finish subgrade to a tolerance of ½ inch when tested with a 10 foot straightedge.

3.14 POROUS FILL

A. Under slabs on grade, place porous fill course on prepared subgrade.

1. Compact porous fill to required cross sections and thickness.

3.15 FIELD QUALITY CONTROL

A. Testing Agency Services: Allow testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements.

1. Perform field in place density tests according to ASTM D 6938, (nuclear method) provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1556. With each density calibration check, check the calibration curves furnished with the moisture gages according to ASTM D 6938.

a. When field in place density tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of work, on each different type of material encountered, and at intervals as directed by the Engineer.

2. Footing Subgrade: The Geotechnical Engineer shall observe all subgrades and determine suitability to support design loads.

3. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, perform at least one field in place density test for every 2,500 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.

4. Foundation Wall Backfill: In each compacted backfill layer, perform at least one field in place density test for each 100 feet or less of wall length, but no fewer than two tests along a wall face.

B. When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained.

3.16 PROTECITON

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace material to depth directed by the Engineer; reshape and recompact at optimum moisture content to the required density.

C. Settling: Where settling occurs during the Project correction period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

D. Costs associated with restoration or replacement of backfill which has not been protected shall be borne by the CONTRACTOR.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove surplus satisfactory soil and topsoil and dispose of on-site at locations indicated. Waste material, including unsatisfactory soil, trash, and debris, shall be legally disposed of off the Owner's property. Contractor is responsible for all costs associated with disposal and for all erosion and sediment control measures at off-site disposal areas.

END OF SECTION 31 20 00

SECTION 31 25 00 – EROSION CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, Supplemental General Conditions, and Division 01 Specification Sections, apply to this Section.

1.2 SCOPE

A. Compliance: This WORK shall be performed in accordance with the erosion and sediment control plan of the Construction Drawings and the details provided therein, and as described, detailed and required by the North Carolina Department of Environmental Quality in the most recent edition of the North Carolina Department of Environmental and Natural Resources Erosion and Sediment Control Planning and Design Manual; and in the latest edition of the Town of Huntersville's Engineering Standards and Procedures Manual (ESAPM).

B. Details: In the event a detailed plan is not shown, CONTRACTOR shall comply with the requirements of the local authority and provide a plan if required by that authority.

1.3 REFERENCES

A. North Carolina Department of Environmental and Natural Resources Erosion and Sediment Control Planning and Design Manual, latest edition.

1.4 SUBMITTALS

A. Temporary Seed Mixture: Provide written notification as to the temporary seed mixture to be used.

B. Temporary Riser: Provide shop drawings for all risers shown on the approved plans, including trash racks, and anti-flotation blocks.

C. Temporary Skimmer Device: Provide shop drawings for temporary skimmers as indicated on the approved plans.

1.5 MAINTENANCE

A. Maintain all erosion and sediment control structures to be utilized during the life of the Project in compliance with the regulations of the Division of Soil and Water Conservation until vegetative cover is acceptable to the Division's field personnel and approval acceptance is received.

PART 2 - PRODUCTS

2.1 TEMPORARY SEEDING

A. A suitable mixture shall be selected from those listed in North Carolina Department of Environmental and Natural Resources Erosion and Sediment Control Planning and Design Manual.

PART 3 - EXECUTION

3.1 EROSION AND SEDIMENT CONTROL MEASURES

A. Measures: Silt fence, straw bales, construction entrance, check dams, temporary vegetation, and all other items for erosion and sediment control shall be constructed as directed by the ENGINEER or in the locations shown or designated on the Drawings in accordance with the details provided.

B. Schedule: CONTRACTOR shall institute the erosion and sediment control program as a part of clearing and grubbing, and prior to rough grading. The initial program shall include, however is not limited to, the installation of silt fences, staked straw bales, diversion ditches and/or gravel weirs as shown on erosion and sediment control Drawing at the limits of clearing and grubbing where silt-carrying surface water runoff may be diverted and/or filtered prior to leaving the disturbed area.

C. Temporary Seeding: Establish temporary cover for erosion control by seeding and/or mulching graded areas which may otherwise be exposed for a period greater than 30 days. This should be accomplished as soon as rough grading WORK is done. Begin temporary seeding within 72 hours after earth disturbance.

D. Pipe Outfalls: All pipe outfall areas disturbed by construction shall be protected with non-erodible materials conforming to the North Carolina Department of Environment and Natural Resources Erosion and Sediment Control Planning and Design Manual.

E. Maintenance: All siltation and erosion control devices installed during the course of construction shall be maintained in proper working order at all times, and shall not be removed until final stabilization of all disturbed areas or at the direction of the ENGINEER.

3.2 CLEANING OF ROADS AND STREETS

A. CONTRACTOR shall maintain a vehicle wash rack or gravel bed at all vehicle egress areas. All vehicles shall be thoroughly cleaned of mud and silt before leaving the construction site to avoid tracking mud and silt onto roads, streets, and highways. In the event that tracking does occur, CONTRACTOR shall immediately clean the street or road of all debris, mud or silt and shall pay all damages resulting therefrom. A daily survey of the condition of the adjacent streets and roads shall be made and recorded in the field log along with daily cleanup of the streets of the tracking from the site onto roads, alleys, parking lots, and highways.

3.3 PROTECTION OF STORMWATER SYSTEMS

A. Stormwater structures which will receive runoff from the construction shall be protected from the buildup of mud or silt as outlined by the North Carolina Department of Environment and Natural Resources Erosion and Sediment Control Planning and Design Manual or as directed by ENGINEER.

END OF SECTION 31 25 00

SECTION 32 12 16 – ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Cold milling of existing hot-mix asphalt pavement.

2. Hot-mix asphalt patching.

3. Hot-mix asphalt paving.

4. Hot-mix asphalt paving overlay.

5. Asphalt surface treatments.

6. Pavement-marking paint.

7. Traffic-calming devices.

8. Imprinted asphalt.

B. Related Sections:

1. Division 02 Section "Site Demolition" for demolition, removal, and recycling of existing asphalt pavements, and for geotextiles that are not embedded within courses of asphalt paving.

2. Division 31 Section "Earth Moving" for aggregate subbase and base courses and for aggregate pavement shoulders.

1.3 DEFINITION

A. Hot-Mix Asphalt Paving Terminology: Refer to ASTM D 8 for definitions of terms.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.

1. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

2. Job-Mix Designs: For each job mix proposed for the Work.

B. Shop Drawings: Indicate pavement markings, lane separations, and defined parking spaces. Indicate, with international symbol of accessibility, spaces allocated for people with disabilities.

C. Qualification Data: For qualified manufacturer and Installer.

D. Material Certificates: For each paving material, from manufacturer.

E. Material Test Reports: For each paving material.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of state in which Project is located.

B. Installer Qualifications: Imprinted-asphalt manufacturer's authorized installer who is trained and approved for installation of imprinted asphalt required for this Project.

C. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated.

D. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:

a. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.

b. Review condition of subgrade and preparatory work.

c. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.

d. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.

B. Store pavement-marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:

1. Prime Coat: Minimum surface temperature of 60 deg F.

2. Slurry Coat: Comply with weather limitations in ASTM D 3910.

3. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.

4. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials 55 deg F for water-based materials], and not exceeding 95 deg F.

PART 2 - PRODUCTS

2.1 AGGREGATES

A. General: Use materials and gradations that have performed satisfactorily in previous installations.

B. Coarse Aggregate: ASTM D 692, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.

C. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.

1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.

2.2 ASPHALT MATERIALS

A. Asphalt Binder: AASHTO M 320 or AASHTO MP 1a.

B. Asphalt Cement: ASTM D 3381 for viscosity-graded material.

C. Water: Potable.

D. Undersealing Asphalt: ASTM D 3141, pumping consistency.

2.3 AUXILIARY MATERIALS

A. Herbicide: Commercial chemical for weed control, registered by the EPA. Provide in granular, liquid, or wettable powder form.

B. Sand: ASTM D 1073, Grade Nos. 2 or 3.

C. Paving Geotextile: AASHTO M 288, nonwoven polypropylene; resistant to chemical attack, rot, and mildew; and specifically designed for paving applications.

D. Pavement-Marking Paint: Latex, waterborne emulsion, lead and chromate free, ready mixed, complying with FS TT-P-1952, Type II, with drying time of less than 45 minutes.

2.4 MIXES

A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and complying with the following requirements:

1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to begin paving.

B. Proofroll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proofroll wet or saturated subgrades.

1. Completely proofroll subgrade in one direction. Limit vehicle speed to 3 mph.

2. Proofroll with a loaded 10-wheel, tandem-axle dump truck weighing between 20 to 30 tons.

3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Engineeer, and replace with compacted backfill or fill as directed.

C. Proceed with paving only after unsatisfactory conditions have been corrected.

D. Verify that utilities, traffic loop detectors, and other items requiring a cut and installation beneath the asphalt surface have been completed and that asphalt surface has been repaired flush with adjacent asphalt prior to beginning installation of imprinted asphalt.

3.2 PATCHING

A. Hot-Mix Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

B. Portland Cement Concrete Pavement: Break cracked slabs and roll as required to reseat concrete pieces firmly.

1. Pump hot undersealing asphalt under rocking slab until slab is stabilized or, if necessary, crack slab into pieces and roll to reseat pieces firmly.

2. Remove disintegrated or badly cracked pavement. Excavate rectangular or trapezoidal patches, extending into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Recompact existing unbound-aggregate base course to form new subgrade.

C. Patching: Fill excavated pavements with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

D. Patching: Partially fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact. Cover asphalt base course with compacted, hot-mix surface layer finished flush with adjacent surfaces.

3.3 SURFACE PREPARATION

A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.

1. Mix herbicide with prime coat if formulated by manufacturer for that purpose.

C. Prime Coat: Apply uniformly over surface of compacted unbound-aggregate base course at a rate of 0.15 to 0.50 gal./sq. yd. Apply enough material to penetrate and seal but not flood surface. Allow prime coat to cure.

1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.

2. Protect primed substrate from damage until ready to receive paving.

D. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd.

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.

2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

E. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.

2. Place hot-mix asphalt surface course in single lift.

3. Spread mix at minimum temperature of 250 deg F.

4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.

5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

F. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.

1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.

G. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.4 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.

2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.

3. Offset transverse joints, in successive courses, a minimum of 24 inches.

4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.

5. Compact asphalt at joints to a density within 2 percent of specified course density.

3.5 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F.

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling with nine-wheel rubber tired roller immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:

1. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm. Density: Acceptable compaction should be defined as a test section density within the range of 98% to 102% of the maximum density determined on a density control strip. In addition, no one test should be below 92% of maximum (Rice) specific gravity.

D. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

E. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

G. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.6 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:

1. Surface Course: Plus 1/4 inch, no minus.

B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:

1. Surface Course: 1/8 inch.

2. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.7 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Engineer.

B. Allow paving to age for 30 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

3.8 FIELD QUALITY CONTROL

A. Testing Agency: The Owner will engage a qualified testing agency to perform tests and inspections.

B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.

C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D 979.

1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.

2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.

a. One core sample will be taken for every 1000 sq. yd. or less of installed pavement, with no fewer than 3 cores taken.

b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.

E. Replace and compact hot-mix asphalt where core tests were taken.

F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.9 DISPOSAL

A. Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow milled materials to accumulate on-site.

END OF SECTION 32 12 16

SECTION 32 13 13 – CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Driveways.

2. Roadways.

3. Parking lots.

4. Curbs and gutters.

5. Walks.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Other Action Submittals:

1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified ready-mix concrete manufacturer and testing agency.

B. Material Certificates: For the following, from manufacturer:

1. Cementitious materials.

2. Steel reinforcement and reinforcement accessories.

3. Fiber reinforcement.

4. Admixtures.

5. Curing compounds.

6. Applied finish materials.

7. Bonding agent or epoxy adhesive.

8. Joint fillers.

C. Material Test Reports: For each of the following:

1. Aggregates.

D. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Detectable Warning Installer Qualifications: An employer of workers trained and approved by manufacturer of stamped concrete paving systems.

B. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").

C. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.

D. Concrete Testing Service: Owner will engage a qualified testing agency to perform material evaluation tests and to design concrete mixtures.

E. ACI Publications: Comply with ACI 301 unless otherwise indicated.

F. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to concrete paving, including but not limited to, the following:

a. Concrete mixture design.

b. Quality control of concrete materials and concrete paving construction practices.

2. Require representatives of each entity directly concerned with concrete paving to attend, including the following:

a. Contractor's superintendent.

b. Independent testing agency responsible for concrete design mixtures.

c. Ready-mix concrete manufacturer.

d. Concrete paving subcontractor.

e. Manufacturer's representative of stamped concrete paving system used for detectable warnings.

1.7 PROJECT CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F, and not exceeding 95 deg F.

PART 2 - PRODUCTS

2.1 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.

1. Use flexible or uniformly curved forms for curves with a radius of 100 feet or less.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.2 STEEL REINFORCEMENT

A. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, fabricated from as-drawn-]steel wire into flat sheets.

B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.

C. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 plain-steel bars. Cut bars true to length with ends square and free of burrs. Retain one of first two paragraphs below. Tie bars or hook bolts may be used for connection between new and existing paving and between paving and gutters.

D. Tie Bars: ASTM A 615/A 615M, Grade 60, deformed.

E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified, and as follows:

1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.

2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

F. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating, compatible with epoxy coating on reinforcement.

G. Zinc Repair Material: ASTM A 780.

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: ASTM C 150, gray portland cement Type I

a. Fly Ash: ASTM C 618, Class F.

b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Normal-Weight Aggregates: ASTM C 33, Class 4M, uniformly graded. Provide aggregates from a single source with documented service-record data of at least 10 years' satisfactory service in similar paving applications and service conditions using similar aggregates and cementitious materials.

1. Maximum Coarse-Aggregate Size: 1-1/2 inches nominal.

2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: Potable and complying with ASTM C 94/C 94M.

D. Air-Entraining Admixture: ASTM C 260.

E. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.

2. Retarding Admixture: ASTM C 494/C 494M, Type B.

3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.

4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.

5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.

6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.4 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

2.5 RELATED MATERIALS

A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber in preformed strips.

B. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.

C. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

2.6 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.

1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.

2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that meet or exceed requirements.

B. Proportion mixtures to provide normal-weight concrete with the following properties:

1. Compressive Strength (28 Days): 3000 psi for hardscape.

2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45

3. Slump Limit: 4 inches, plus or minus 1 inch.

C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:

1. Air Content: 5-1/2 percent plus or minus 1.5 percent for 1-1/2-inch nominal maximum aggregate size.

D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

E. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash or Pozzolan: 25 percent.

2. Ground Granulated Blast-Furnace Slag: 50 percent.

3. Combined Fly Ash or Pozzolan, and Ground Granulated Blast-Furnace Slag: 50 percent, with fly ash or pozzolan not exceeding 25 percent.

2.7 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.

1. For concrete batches of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.

2. For concrete batches larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.

3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixing time, quantity, and amount of water added.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.

B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.

1. Completely proofroll subbase in one direction. Limit vehicle speed to 3 mph (5 km/h).

2. Proofroll with a pneumatic-tired and loaded, 10-wheel, tandem-axle dump truck weighing between 20 to 30 tons.

3. Correct subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch according to requirements in Section 312000 "Earth Moving."

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Zinc-Coated Reinforcement: Use galvanized-steel wire ties to fasten zinc-coated reinforcement. Repair cut and damaged zinc coatings with zinc repair material.

F. Epoxy-Coated Reinforcement: Use epoxy-coated steel wire ties to fasten epoxy-coated reinforcement. Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M.

G. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch overlap of adjacent mats.

3.5 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.

2. Provide tie bars at sides of paving strips where indicated.

3. Keyed Joints: Provide preformed keyway-section forms or bulkhead forms with keys unless otherwise indicated. Embed keys at least 1-1/2 inches into concrete.

4. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.

1. Locate expansion joints at intervals of 50 feet unless otherwise indicated.

2. Extend joint fillers full width and depth of joint.

3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated.

4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.

5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.

6. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

D. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch 3/8-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.

B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.

F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.

H. Screed paving surface with a straightedge and strike off.

I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

J. Curbs and Gutters: Use design mixture for automatic machine placement. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing.

K. Slip-Form Paving: Use design mixture for automatic machine placement. Produce paving to required thickness, lines, grades, finish, and jointing.

1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of slip-form paving machine during operations.

L. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:

1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.

2. Do not use frozen materials or materials containing ice or snow.

3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.

M. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.

3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.

3.8 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

a. Water.

b. Continuous water-fog spray.

c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm) and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas that have been subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

3.9 PAVING TOLERANCES

A. Comply with tolerances in ACI 117 and as follows:

1. Elevation: 1/4 inch.

2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).

3. Surface: Gap below 10-foot- (3-m-) long, unleveled straightedge not to exceed 1/2 inch (13 mm).

4. Alignment of Tie-Bar End Relative to Line Perpendicular to Paving Edge: 1/2 inch per 12 inches (13 mm per 300 mm) of tie bar.

5. Lateral Alignment and Spacing of Dowels: 1 inch (25 mm).

6. Vertical Alignment of Dowels: 1/4 inch (6 mm).

7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Paving Edge: 1/4 inch per 12 inches (6 mm per 300 mm) of dowel.

8. Joint Spacing: 3 inches (75 mm).

9. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.

10. Joint Width: Plus 1/8 inch (3 mm), no minus.

3.10 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Engineer.

B. Allow concrete paving to cure for a minimum of 28 days and be dry before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).

1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils, firmly secured to concrete surface. Mask an extended area beyond edges of each stencil to prevent paint application beyond stencil. Apply paint so that it cannot run beneath stencil.

2. Broadcast glass beads uniformly into wet markings at a rate of 6 lb/gal. (0.72 kg/L).

3.11 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain at least one composite sample for each 50 cu. yd. or fraction thereof of each concrete mixture placed each day.

a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.

3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.

4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.

5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at seven days and two specimens at 28 days.

a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.

C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

D. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design

compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.

F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer.

G. Concrete paving will be considered defective if it does not pass tests and inspections.

H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

I. Prepare test and inspection reports.

3.12 REPAIRS AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Engineer.

B. Drill test cores, where directed by Engineer, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.

C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 32 13 13

SECTION 33 41 00 – STORM DRAINAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, Supplemental General Conditions, and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Work under this section shall consist of providing all labor, plant facilities, materials, tools, equipment, shop drawings and supervision necessary and required to install all of the storm drainage facilities, including piping, fittings, structures, bedding, and backfilling, as specified in accordance with the contract documents.

1.3 REFERENCE SECTIONS

A. Section 30 35 00 – Earthwork: Utilities

1.4 REFERENCE STANDARDS

A. American Society For Testing and Materials (ASTM)

1. A185 – Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
2. A615 – Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
3. C76 – Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
4. C478 – Precast Reinforced Concrete Manhole Sections
5. C913 – Precast Concrete Water and Wastewater Structures
6. C1479 – Installation of Reinforced Concrete Pipe
7. C990-01A – Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
8. D2321 – Installation of Thermoplastic Pipe for Sewer/Gravity-Flow Applications
9. D3034 – Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
10. D3212 – Joints for Drain and Sewer Plastic Pipes Using Elastomeric Seals
11. F477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe
12. F794 – Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter
13. F949 – Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings

B. American Association of State Highway and Transportation Officials (AASHTO)

1. M198 – Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets

2. M252 – Corrugated Polyethylene Drainage Tubing

3. M294 – Corrugated Polyethylene Pipe.

4. M199 – Standard Specification for Precast Reinforced Concrete Manhole Sections

C. American Water Works Association (AWWA)

1. C110 – Ductile-Iron and Gray-Iron Fittings, 3 in through 48 in (75 mm through 1200 mm), for Water and Other Liquids (revision of ANSI/AWWA C110/A21.10-93)

2. C111 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

3. C151 – Ductile-Iron Pipe, Centrifugally Cast, for Water

D. American Concrete Institute (ACI)

1. 301 – Structural Concrete for Buildings, Specifications for

2. 318 –Building Code Requirements for Structural Plain Concrete

1.5 PROJECT RECORD DOCUMENTS

A. Accurately record as-built locations of pipe runs, connections, catch basins, cleanouts, top elevations and invert elevations.

B. Identify and describe unexpected variations of subsurface conditions and location of any utilities encountered.

1.6 QUALITY ASSURANCE

A. All costs related to reinspection due to failures shall be paid for by the Contractor at no additional expense to the Owner. Owner reserves the right to direct any inspection that is deemed necessary. Contractor shall provide free access to site for inspection activities.

1.7 PROJECT CONDITIONS

A. Removal/Relocation of Existing Utilities: The contractor shall be responsible for removal and/or relocation of existing utilities, whether shown or not shown on the drawings, at locations where conflicts occur with proposed storm drainage improvements at no additional cost to the owner.

1.8 SUBMITTALS

A. The General Contractor and the Subcontractor shall execute the Conformance Submittal(s) at the end of this section.

B. Product Data: Submit manufacturer's technical product data and installation instructions for storm drainage piping and products, in accordance with requirements of Division 1.

C. Record drawings: At project closeout, submit record drawings of installed storm drainage piping and products, in accordance with requirements of Division 1.

PART 2 - PRODUCTS

2.1 PIPES AND FITTINGS

A. Reinforced Concrete Pipe (RCP)

1. ASTM C76, Class III unless otherwise noted on drawings; and,

2. Butyl mastic sealant shall meet the requirements of ASTM C990-01a or AASHTO M198 for Type B flexible plastic gaskets.

B. Polyvinyl Chloride Pipe (PVC)

1. Pipe shall meet the requirements of ASTM D1784, and 1785 for Schedule 40 pipe; and,

2. PVC pipe shall be joined by solvent weld joint type connections. The pipe joints shall be tightly sealed against infiltration and exfiltration.

3. Maximum allowable diameter shall be 12 inches.

C. Ductile Iron Pipe (DIP)

1. Pipe shall meet the requirements of AWWA C151; and,

2. Fittings shall meet the requirements of AWWA C110 with rubber gaskets conforming to AWWA C111.

D. High Density Polyethylene Pipe (HDPE) Smooth Interior

1. Pipe and fittings shall conform to AASHTO M252 and M294;

2. Rubber gaskets shall meet the requirements of ASTM F477 with joints conforming to ASTM D3212; and,

3. Maximum permitted diameter of 24 inches and only where indicated on drawings; and,

E. Subdrains

1. Subdrains shall be installed along all foundation walls, retaining walls, seat walls, and as indicated in the contract documents.

2. Shall be perforated PVC Schedule 40 or HDPE; and,

3. PVC pipe shall be limited to pipe diameters less than 12-inches; and,

4. PVC pipe shall be joined by solvent weld joint type connections. The pipe joints shall be tightly sealed against infiltration and exfiltration.

5. All subdrains shall be installed with a sock filter to prevent the migration of fines into the pipe.

2.2 DRAINAGE STRUCTURES, DROP INLETS, CATCH BASINS, MANHOLES, JUNCTION BOXES, AND YARD INLETS (ALL STRUCTURES SHALL BE PRECAST UNLESS OTHERWISE APPROVED BY THE OWNER)

A. Structures:

1. Precast Concrete Drainage Structures;

2. Heavy-duty traffic rated (H20) conforming to ASTM C478, ASTM C913 and ASTM C890.

B. Steps

1. Shall meet the requirements of AASHTO M199 for design, materials, and dimensions;

2. Built into the walls of all structures over 4 feet in height; and,

3. Steps shall be 16 inches on center with lowest step being no more than 16 inches from the bottom.

C. Reinforcement

1. Deformed reinforcing bars, grade 40 or 60, meeting the requirements of ASTM A615; and,

2. Wire fabric meeting the requirements of ASTM A185.

D. All joints in precast structures shall be patched inside and out with non-shrink grout. See spec 330513 “Pre-Cast Concrete: Manholes” for grout requirements.

E. All precast structures shall have entire outside coated with bitumastic.

F. All structures shall be provided with flexible neoprene rubber boots on all pipe penetrations.

2.3 CLEANOUTS & PLUGS

A. Installation shall be in accordance with the details and at locations shown on the drawings.

B. All Cleanouts shall have a concrete apron.

2.4 BEDDING AND BACKFILL MATERIAL

A. Where the foundation material is found to be of poor supporting value or of rock, the Owner may make minor adjustments in the location of the pipe to provide a more suitable foundation. Where this is not practical, the foundation shall be conditioned by removing the existing foundation material by undercutting to the depth as directed by the geotechnical engineer and backfilling with either a suitable local material secured from unclassified excavation or borrow excavation at the nearest accessible location along the project, or foundation conditioning material consisting of crushed stone or gravel or a combination of sand and crushed stone or gravel approved by geotechnical engineer as being suitable for the purpose intended. The selection of the type of backfill material to be used for foundation conditioning will be made by the geotechnical engineer.

2.5 CONCRETE

A. No concrete or masonry shall be placed when the temperature is below 40 degrees Fahrenheit, or when indications are for lower temperatures within 24 hours, unless protection of concrete and masonry is approved by the Owner. Damage to the structure because of freezing shall be corrected by the Contractor at his own expense, to the satisfaction of the Owner.

B. Concrete shall conform to ACI 301 and applicable referenced specifications and shall have a 28 day compressive strength of 4,000 psi.

PART 3 - EXECUTION

3.1 GENERAL

A. The Contractor shall install all drainage structures and pipe in the locations shown on the drawings and/or as approved by the Owner. Pipe shall be of the type and sizes specified on the drawings and shall be laid accurately to line and grade. Structures shall be accurately located and properly oriented.

B. Excavation and Backfill – The provisions in Section 330500, Earthwork: Utilities shall govern all work under this Section.

C. Storage and Handling of Pipe – All pipe shall be protected against impact, shock and free fall, and only equipment of sufficient capacity and proper design shall be used in the handling of the pipe. Storage of pipe on the job shall be in accordance with the pipe manufacturer's recommendations.

D. Damage to Pipe

1. Pipe which is defective from any cause, including damage caused by handling, and determined by the Owner as unrepairable, shall be unacceptable for installation and shall be replaced at no cost to the Owner and as directed by the Owner; and,

2. Pipe that is damaged or disturbed through any cause prior to acceptance of the work, shall be repaired realigned or replaced as directed by the Owner, at the Contractor's expense.

E. Manholes, catch basins and drain inlets shall be constructed as soon as the pipe laying reaches the location of the structures. Should the Contractor continue his pipe laying without making provisions for completion of the structures, the Owner shall have the authority to stop the pipe laying operations until the structure is completed.

F. Any structure, which is mislocated or oriented improperly, shall be removed and re-built in its proper location, alignment and orientation at the Contractor's expense.

3.2 BEDDING

A. Bedding material, when required, shall be in accordance with Section 330500, Earthwork: Utilities for work described within this Section.

3.3 PIPE INSTALLATION

A. Comply with Section 330500, Earthwork: Utilities

B. Laying Pipe

1. Unloading and Handling: All pipes shall be unloaded and handled with reasonable care. Pipes shall not be rolled or dragged over gravel or rock during handling. The Contractor shall take necessary precautions to ensure the method used in lifting or placing the pipe does not induce stress fatigue in the pipe and the lifting device used uniformly distributes the weight of the pipe along its axis or circumference;

2. Each length of pipe shall be inspected for defects and cracks before carefully lowered into the trench. Any damaged or any pipe that has had its grade disturbed after laying shall be removed and replaced. Bituminous coated pipe shall be handled with special care and repair of damaged coating shall conform with AASHTO M190;

3. Lay pipe on prepared foundation starting at the downgrade end according to line and grade with the necessary drainage structures, fittings, bends and appurtenances as shown on the drawings. Rigid pipes shall be laid with the bell or groove ends upgrade with the spigot or tongue fully inserted. Flexible pipes shall be laid with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points. Reinforced concrete pipe shall be installed in accordance with ASTM C1479. HDPE pipes shall be installed in accordance with pipe manufacture's installation guidelines for heavy duty drainage applications and ASTM D2321; and,

4. Pipe sections shall be firmly joined together with appropriate gaskets or bands.

3.4 DROP INLET, CATCH BASIN, MANHOLE, JUNCTION BOX, AND YARD INLET INSTALLATION

A. Pre-cast Drainage Structures

1. Structure units shall be assembled in accordance with the manufacturer's instructions to form a sound structural unit. Precast lements are to conform to ASTM C478 and designed per ASTM C890 for HS 20 loading.

2. Patch joints of pre-cast pieces from inside and outside with non-shrink grout and finish smooth.

3. Waterproof from outside with bituminous coating per the manufacturer recommendations. Coal Tar Epoxy shall have a minimum dry film thickness of 16 millimeters (22 millimeters wet). Apply a minimum of two coats of bituminous coating. Each coat to be 8-10 millimeters thick (dry thickness).

4. Minimum Drop Inlet size is 2'x2' for up to 4' depth and minimum 4' inside dimensions for depths over 4' per modified VDOT DI-1, both with minimum grate size of 24".

5. Epoxy coated steps for structures over 4' deep.

6. Base slab shall be shaped for inverts per VDOT detail IS-1.

B. Fittings and Connections

1. Pipe connections shall be made so that the pipe is flush with the inside wall of the drainage structure, and shall be grouted as necessary to make smooth and uniform surfaces on the inside of the structure. Boxes to have bottoms filled with concrete to provide a bench between pipe inverts.

2. Flexible boots shall be used for all pipe connections.

C. Frames, Grates and Hoods

1. Shall be set to grade in accordance with the drawings;

2. Firmly embedded in mortar approximately 1 inch thick and aligned to fit the top section of the structure; and,

3. Bricks set in mortar used to adjust the frame to finished grade shall be limited to no more than four courses for pre-cast structures and have a minimum wall thickness of 8 inches.

4. Shall be HS 20 rated and installed with 24" minimum clear opening.

D. Interface with Existing Facilities

1. Compliance with Facility Owner Requirements: Connections made into existing drainage facilities shall be performed in accordance with the requirements of the Owner of the facility, and all pipes shall be cut flush with wall of structure. Pipe connections to existing structures shall be made through the installation of a wall sleeve and grout, and then the use of a flexible boot connector. The Contractor will be required to comply with all such requirements, including securing of all required permits, and paying the costs thereof. The cost of making the connections in accordance with the requirements of the Owner of the existing facility shall be included in the Contract Sum; and,

2. Requirements: The Contractor shall make all required connections of the proposed drainage facilities into existing drainage facilities, where and as shown on the Drawings and/or as approved by the Owner.

3.5 CONSTRUCTION WITHIN THE PUBLIC R.O.W.

A. Construction within the public right-of-way shall conform to all requirements of the regulatory authority having jurisdiction.

3.6 MODIFICATIONS OF EXISTING STRUCTURES

A. General: The Contractor shall alter, reconstruct and/or convert existing structures where and as shown on the drawings, and/or as approved by the Owner. In general, alterations shall be performed with the same type of material used in the original construction unless otherwise indicated on the drawings or approved by the Owner.

B. Damage to Existing Installations: The Contractor shall exercise extreme care during such alteration, reconstruction and/or conversions so as not to damage any portions of the structure and/or pipe shown to remain. Any such damage shall be repaired by the Contractor at his own expense and to the satisfaction of the Owner.

3.7 ROOF DRAINS AND LEADERS

A. The Site Contractor shall install roof downspout leaders as provided on the drawings to within 5 feet of building limits. If work by others is complete then the Contractor shall complete the connection. If future connections will be required by others, Contractor shall install plugging and material apparatus as necessary to protect and mark his work.

B. All piping connections shall utilize a prefabricated fittings or drainage structure.

C. A cleanout shall be installed on the roof downspout leaders as provided on the drawings.

3.8 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318 and ACI 350R.

3.9 PROTECTION AND CLEANING

A. The Contractor shall maintain all pipe installations and drainage structures in a condition such that they will function continuously and shall be kept clean of silt, debris and other foreign matter from the pipe and drainage structure is installed until the project is accepted.

3.10 FINAL INSPECTION

A. Upon completion of the work and before final acceptance by the Owner, the entire drainage system shall be subject to a final inspection in the presence of the Owner and/or Site Engineer. The work shall not be considered as complete until all requirements for line, grade, cleanliness, and workmanship have been completed.

B. Storm Sewer Pipe Testing: Storm sewer pipes and structures shall be visually inspected by the CONTRACTOR and testing agency of the OWNER prior to backfilling.

END OF SECTION 33 41 00

F&R Project No.: 63A-0058

Mr. Tristan McMannis
Dewberry
9300 Harris Corners Parkway, Suite 220
Charlotte, North Carolina 28269

13 July 2022

Re: Report of Test Pit Exploration and Kessler Penetrometer Testing Services
Richard Barry Park Expansion
Huntersville, North Carolina
F&R Project No. 63A-0058

Mr. McMannis:

Froehling & Robertson, Inc. (F&R) is pleased to present this report of Test Pit Exploration and Kessler Penetrometer Testing services for the above referenced project. Our services were performed in general accordance with revised F&R Proposal No. 2163-00122 (Revision 2) dated May 2nd 2022. This report presents our understanding of the project, reviews our exploration procedures, describes general subsurface conditions, and presents our conclusions with respect to anticipated excavation conditions.

PROJECT INFORMATION

F&R understands that a parking lot and new restroom facility expansion is proposed for the eastern edge of Richard Barry Park located at 13707 Beatties Ford Road in Huntersville, North Carolina. Based on review of available aerial photography and our site observations, the site is an open, grass-covered area situated between Beatties Ford Road to the east and a large athletic field to the west.

No site grading or traffic loading information has been provided at this time. However, based on our review of available Mecklenburg County GIS topographic data, the site slopes from north to south with elevations ranging from approximately 751 feet to 749 feet. For the purposes of this proposal, we have assumed maximum cuts and fills on the order of 1 foot or less with limited traffic loading consisting of passenger vehicles (automobiles and SUV's) as well as light pickup trucks. We have assumed that no heavy truck traffic is expected for this pavement expansion.

GEOTECHNICAL SCOPE OF SERVICES

The purpose of our involvement on this project was to 1) conduct the requested preliminary subsurface exploration program consisting of up to four (4) test pits (equipment provided by the ownership team) to evaluate excavation conditions with the concurrent performance of associated Kessler DCP testing to evaluate potential pavement support conditions, 2) provide general descriptions of the subsurface soil conditions at the locations explored, 3) provide

pavement design recommendations, and 4) comment on the site development aspects of the proposed construction. In order to accomplish the above objectives, we undertook the following scope of services:

1) Visited the site to observe existing surface conditions and features and mark test pit locations.
2) Coordinated utility clearance with NC-811 Utility services.
3) Reviewed readily available geologic information relative to the project site.
4) Executed the requested subsurface exploration consisting of up to four (4) test pits excavated to a depth of approximately 5 feet below existing site grades. The test pits will be extended to their planned depths below the existing ground surface or refusal, whichever is encountered first. The proposed exploration includes up to one day of tests pit observation.
5) Performed Kessler Dynamic Cone Penetrometer (KDCP) near the proposed finished grade elevation in conjunction with the proposed test pit excavations.
6) Prepared this written report summarizing our work on the project, providing descriptions of the encountered subsurface conditions, provide pavement recommendations using the KDCP values to correlate an appropriate California Bearing Ratio (CBR) for design, and discussing geotechnical related aspects of the proposed construction. One electronic PDF version of the report will be submitted with copies of the test pit and KDCP logs are included

Our scope of services does not include drilling services, foundation design recommendations, laboratory services, rock coring, survey services, quantity estimates, preparation of plans or specifications, slope stability analyses, civil, storm water, or environmental engineering services, evaluations of earthquake motions, or the identification and evaluation of wetland or other environmental aspects of the project site.

EXPLORATION PROCEDURES

The test pit exploration and Kessler dynamic cone penetrometer (KDCP) testing were conducted on 23 June 2022. The exploration program consisted of the excavation of four (4) test pits, designated as Test Pits TP-1 through TP-4 at the approximate locations shown in the attached Test Pit Location Plan (Drawing No. 2 in Appendix II). An F&R geotechnical engineer established the test pit locations in the field using a handheld GPS device. Test pit elevations were interpolated from the Mecklenburg County GIS. In consideration of the methods used in their determination, the test pit locations and elevations shown on the attached Test Pit Location Plan and Test Pit Logs should be considered approximate. After completion of the test pit exploration, KDCP testing was performed on undisturbed soil adjacent to each location.

The test pits were excavated to an approximate depth of 5 feet below the existing ground surface using a Takeuchi TB-235 excavator equipped with a small-tooth bucket. The Town of Huntersville Public Works provided the excavation equipment and operator. The test pits consisted of

trenches approximately one bucket width wide and four to five bucket lengths long. The test pits were excavated in a manner to allow cross sections of the subsurface soils to be visually observed by the F&R engineer.

Field logs detailing the observations made were created at the time of excavation. The test pits were backfilled with the excavated soil spoils and lightly tamped with the excavator bucket upon completion of the excavation and observation process. It should be noted that the test pit backfill may subside at some time following our work and F&R assumes no responsibility for test pit subsidence after completion of the fieldwork. For continued safety, others should occasionally observe the test pits and, as needed, perform any needed additional backfilling at that time.

The observed soils were visually classified by the F&R engineer in general accordance with techniques outlined in the visual-manual identification procedure (ASTM D 2488) and the Unified Soil Classification System (ASTM D 2487). The soil descriptions and classifications discussed in this report and shown on the attached test pit logs are based on visual observation and should be considered approximate. Following completion of the test pit exploration, KDCP testing was performed at each of the locations into the underlying subsurface soils to a depth of about 3 feet below the existing ground surface. We also note that the KDCP testing did not encounter refusal at any of the locations explored. KDCP refusal is defined as less than 0.08 inches of advancement after 3 consecutive hammer blows.

The KDCP testing was performed in general accordance with ASTM D6951/D6951M – 18. In this test method, a 17.6-pound hammer is dropped in freefall 22.6 inches to drive a conical point into subgrade materials. Depth of penetration for the conical point is recorded following each hammer drop. The penetration rate is then used to estimate the in-situ CBR value for the near-surface soils. Results of the KDCP testing performed at locations TP-1 through TP-4 are presented as the attached KDCP Test Results sheets.

SUBSURFACE CONDITIONS

Regional Geology

The project site is located in the Charlotte Belt of the Piedmont Physiographic Province. According to the Generalized Geologic Map of North Carolina (1985), the site is underlain by rock primarily consisting of metamorphosed quartz diorite. The topography of the Piedmont Plateau consists of well-rounded hills and long-rolling ridges with a NE to SW trend.

The soils resulting from in-situ weathering of the parent rock, without significant transportation, are called residual soils and may retain some of the structure of the rock from which they weathered. The residual soil profile generally grades downward gradually from fine-grained plastic soils near the ground surface to coarse-grained soils at greater depth. A transitional zone of partially weathered rock (PWR) of varying thickness occurs between the coarse-grained residual soils and the underlying bedrock. PWR is typically defined, for engineering purposes, as residual material with standard penetration test (SPT) resistances in excess of 100 blows per foot. For this study, PWR was classified based on rate of excavation, visual observation, and previous

experience. Weathering of the parent bedrock is generally more rapid near fracture zones and therefore, the bedrock surface may be irregular. Irregular patterns of differential weathering may also result in zones of rock and partially weathered rock embedded within the more completely weathered coarse-grained soils.

The subsurface conditions discussed in the following paragraphs represent an estimate of the subsurface conditions based on interpretation of the field data using normally accepted geotechnical engineering judgments. Although individual test are representative of the subsurface conditions encountered at the explored locations on the dates shown, they are not necessarily indicative of subsurface conditions at other locations or at other times.

The testing locations encountered surficial soil underlain by existing fill soils and residual soils. These materials are discussed further in the following paragraphs.

Surficial Soils

Surficial Soils were encountered in each test pit from the ground surface to an approximate depth of 2 inches. Surficial Soils generally consist of dark-colored soil material containing roots, fibrous matter, and/or other organic components, and is typically not suitable for engineering purposes. F&R has not performed any laboratory testing to determine the organic content or other horticultural properties of the observed Surficial Soil materials. Therefore, the term Surficial Soil is not intended to indicate suitability for landscaping and/or other purposes. The Surficial Soil depths provided in this report are based on field observations and should be considered approximate. We note that the transition from Surficial Organic Soil to underlying materials may be gradual, and therefore the observation and measurement of the Surficial Soil depths is subjective. Actual Surficial Soil depths should be expected to vary.

Fill Soils

Fill materials include those materials deposited by man. Existing fill materials were encountered below the surficial soils at each of the test pit locations. Observed fill depths ranged from about 1 foot to 2.5 feet below the existing ground surface. The observed fill soils were generally described as sandy silt (ML).

Residual Soils

Residual soils, formed by in-place weathering of the parent rock, were encountered below the fill soils in each of the test pits. Observed residual soils were generally described as sandy silt (ML) and elastic silt (MH).

Groundwater Observations

All of the observed soil samples were classified as being in a moist condition based on visual observation. No groundwater was observed in the test pit excavations. It should be noted that the groundwater levels fluctuate depending upon seasonal factors such as precipitation and temperature. As such, soil moisture and groundwater conditions at other times may vary from those described in this report.

Estimated Subgrade CBR Values

Estimated in-situ California Bearing Ratio values were calculated from the KDCP data using published correlations (Webster et al 1992). The average CBR value in the subgrade soils varied from 8 to 17 as summarized in the table below:

Summary of CBR Values

Sample	Avg Stone CBR	Avg Subgrade CBR
C-2	N/A	15
C-3	N/A	17
C-4	N/A	8
C-5	N/A	17

CONCLUSIONS

General

The following findings and conclusions are based on our observations at the site, interpretation of the field data obtained during this exploration, and our experience with similar subsurface conditions and projects. Subsurface conditions in unexplored locations may vary from those encountered.

Excavation Conditions

Based on readily available topographic information obtained from Mecklenburg County GIS, we have estimated that 1 foot or less of cut and fill will be required during site grading. Based on the conditions encountered in the test pits, we do not generally anticipate that materials requiring difficult excavation techniques will be encountered during site earthwork. Utility depths have not been determined at the time of this report; however, we do not anticipate that the utility excavations will exceed the depth of the test pit explorations and therefore do not envision that difficult excavation techniques will be needed during utility installation.

Pavement Design Recommendations

We anticipate that the proposed parking lot area will consist of light-duty asphalt. The light-duty asphalt pavement section should be used where traffic is expected to primarily consist of passenger vehicles (automobiles and SUV's) as well as light pickup trucks. We have assumed that no heavy truck traffic is expected for this pavement expansion. The following pavement design recommendations were developed based on the following assumptions:

- a 20-year design life;
- a design CBR of 8 (based on correlation of the collected KDCP data);
- assumed traffic loads consisting of up to 1000 passenger car passes per day for light-duty pavement design.

- the pavement subgrade will be prepared in accordance with the recommendations indicated here and in Site Preparation section of this report,

Based on the above assumptions and in accordance with AASHTO 1993 Method, we recommend using the following asphalt pavement sections. A final evaluation of pavement design sections for light-duty traffic conditions should be performed once definitive traffic loads and finished grades are determined.

Light-Duty

Pavement Section	Thickness (Inches)
Asphalt Pavement Surface Course, Type S9.5B	2.0
Graded Aggregate Base Course (GAB stone)	6.0

Fill materials underlying pavements should be placed in accordance with the controlled fill and pavement subgrade recommendations contained in this report. In addition, all pavement subgrades should be evaluated by a geotechnical engineer prior to base stone placement. If excessive subgrade movement is observed, appropriate improvements such as undercutting and/or in-place stabilization will be required at that time.

We recommend that the aggregate base course and surface courses be placed and compacted in general accordance with North Carolina Department of Transportation specifications.

It is recommended that the approaches, loading and unloading areas, main turnaround areas, dumpster pads (if applicable), areas where tight turns are required and other areas subjected to excessive starting/stopping motion be supported with concrete pavement constructed in general accordance with ACI 330R-08. For pavements where excessive starting, stopping or turning motions are anticipated, we recommend a rigid pavement system be constructed with a minimum of 4 inches of concrete and be underlain by a minimum of 4 inches of compacted Graded Aggregate Base (GAB) stone.

Site Preparation

Before proceeding with construction, surficial soils and any other deleterious non-soil materials should be stripped or removed from the proposed construction area. During the clearing and stripping operations, positive surface drainage should be maintained to prevent the accumulation of water.

After stripping, areas intended to support new fill, pavements, floor slabs, and foundations should be carefully evaluated by a representative of the geotechnical engineer. At that time, the engineer may require proofrolling of the subgrade with a 20- to 30-ton fully-loaded truck or other pneumatic-tired vehicle of similar size and weight. Proofrolling should be performed during a time of good weather and not while the site is wet, frozen, or severely desiccated. The purpose of the proofrolling is to locate soft, weak, or excessively wet soils present at the time of construction and to provide an opportunity for the geotechnical engineer to locate inconsistencies intermediate of our boring locations.

Any unsuitable materials observed during the evaluation and proofrolling operations should be undercut and replaced with compacted fill or stabilized in-place. Depending on how the subgrade materials respond during the proofrolling operations, some in-place densification, undercutting, or in-place stabilization may be required. The actual extent of densification, undercutting and/or in-place stabilization required can best be determined by a representative of the geotechnical engineer at the time of construction. Once the site has been properly prepared, at-grade construction may proceed.

Groundwater Conditions

Groundwater was not observed at any of the testing locations. Based previously outlined grading assumptions, we do not generally anticipate that groundwater will be encountered required site earthwork. It should be noted that groundwater levels tend to fluctuate with seasonal and climatic variations as well as with some types of construction operations. Generally, the highest subsurface water levels occur in late winter and early spring and the lowest levels occur in late summer and early fall.

CONTINUATION OF SERVICES

We recommend that we be given the opportunity to review the final construction documents and project specifications when construction documents approach completion. This review evaluates whether the recommendations and comments provided herein have been understood and properly implemented. We also recommend that Froehling & Robertson, Inc. be retained for professional and construction materials testing services during construction of the project. Our continued involvement on the project helps provide continuity for proper implementation of the recommendations discussed herein. These services are not part of the currently authorized scope of work.

LIMITATIONS

There are important limitations to this and all geotechnical studies. Some of these limitations are discussed in the information prepared by the Geoprofessional Business Association (GBA), which is included in Appendix I. We recommend that you review the GBA information.

This report has been prepared for the exclusive use of Dewberry for the specific application to the proposed Richard Barry Park Expansion project located in Huntersville, North Carolina, in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made. Our recommendations are based on design information furnished to us at the time the work was performed; the data obtained from the previously described subsurface exploration program, and generally accepted geotechnical engineering practice. The findings and recommendations do not reflect variations in subsurface conditions, which could exist in unexplored areas of the site. In areas where variations from the available subsurface data become apparent during construction, it will be necessary to re-evaluate our recommendations based upon on-site observations of the conditions.

Regardless of the thoroughness of a subsurface exploration, there is the possibility that conditions in other areas will differ from those at the boring locations, that conditions are not as anticipated by the designers, or that the construction process has altered the soil conditions. Therefore, our experienced geotechnical engineers should evaluate foundation construction to verify that the conditions anticipated in design actually exist. Otherwise, we assume no responsibility for construction compliance with the design concepts, specifications, or recommendations. In the event that changes are made in the design or location of the proposed structures, the recommendations presented in this report shall not be considered valid unless the changes are reviewed by our firm and recommendations of this report modified or verified in writing. If this report is copied or transmitted to a third party, it must be copied or transmitted in its entirety, including text, attachments, and enclosures. Interpretations based on only a part of this report may not be valid.

CLOSING

F&R appreciates the opportunity to continue to provide geotechnical engineering services for you on this project. If you have additional questions, please do not hesitate to contact us.

Sincerely,
FROEHLING & ROBERTSON, INC.

NORTH CAROLINA PROFESSIONAL SEAL 049638 ENGINEER ANDREW R. FRANK

2022.07.13 16:48:58 -04'00'

Carver J. Warren, E.I.
Staff Geotechnical Engineer

Andrew R. Frank, P.E.
Regional Senior Geotechnical Engineer

Attachments:
GBA Important Information about Your Geotechnical Engineering Report
Site Vicinity Map (Figure 1)
Test Pit Location Plan (Figure 2)
Key to Soil Classification
Soil Classification Chart
Test Pit Logs (TP-1 through TP-4)
KDCP Summary Tables

Email Distribution: tmcmannis@Dewberry.com

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APPENDIX I

GBA Important Information about Your Geotechnical Engineering Report
Site Vicinity Map, Drawing No. 1

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled*. No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be*, and, in general, *if you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying it. A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old.*

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration.*** Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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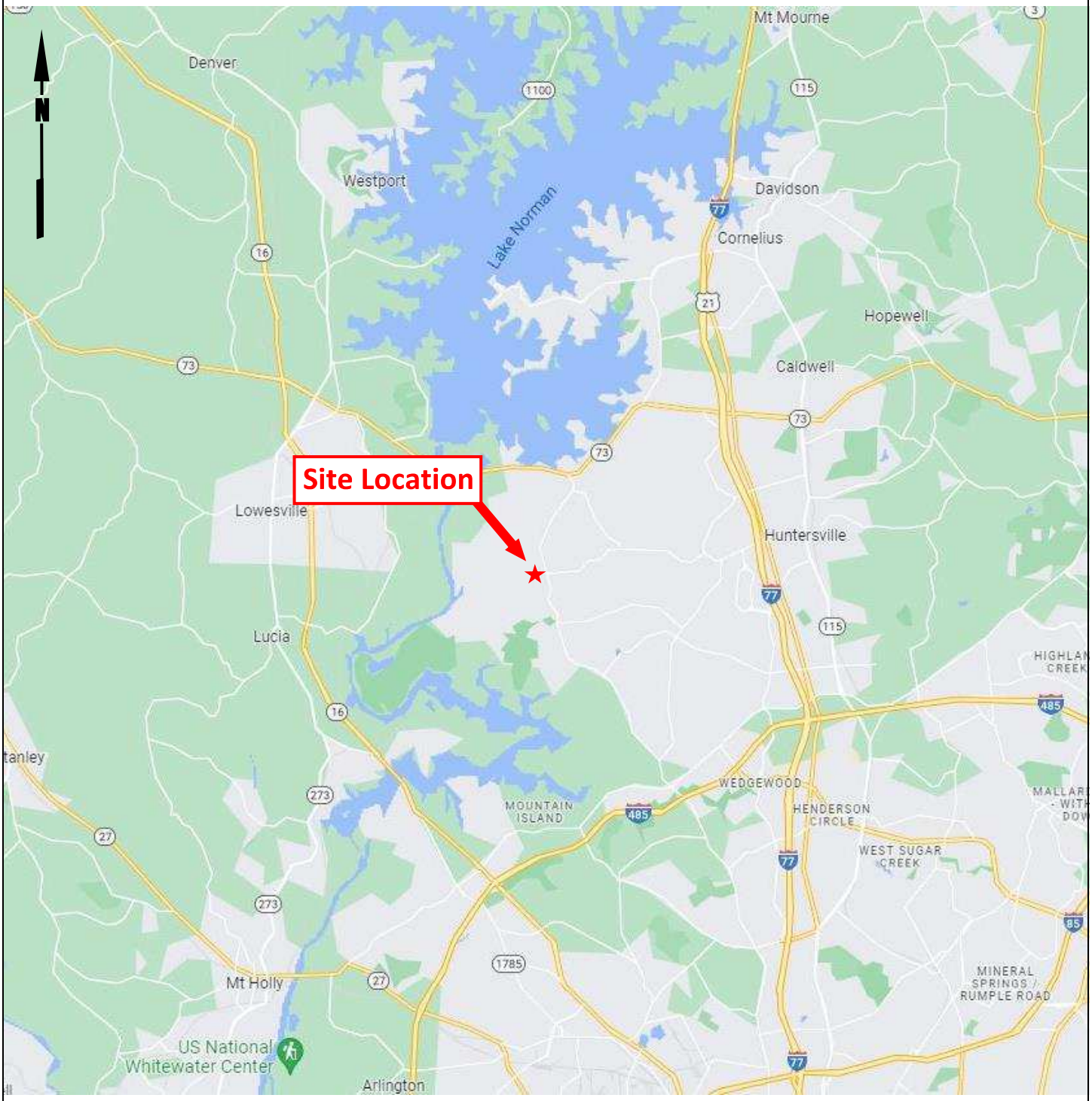

GRAPHIC SCALE

0 1 2

1=2 miles

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DATE:	July 2022
SCALE:	As shown
DRAWN: CJW	63A-0058

Dewberry
Richard Barry Park
Huntersville, North Carolina

SITE VICINITY MAP

Drawing
No. 1

APPENDIX II

Key to Soil Classification
Unified Soil Classification Chart
Test Pit Location Plan, Drawing No. 2
Test Pit Logs

KEY TO BORING LOG SOIL CLASSIFICATION

Particle Size and Proportion

Visual descriptions are assigned to each soil sample or stratum based on estimates of the particle size of each component of the soil and the percentage of each component of the soil.

Particle Size Descriptive Terms		Proportion Descriptive Terms		
Soil Component	Particle Size	Component	Term	Percentage
Boulder	> 12 inch	Major	Uppercase Letters (e.g., SAND, CLAY)	> 50%
Cobble	3 - 12 inch			
Gravel-Coarse	3/4 - 3 inch			
-Fine	#4 - 3/4 inch	Secondary	Adjective (e.g., sandy, clayey)	20% - 50%
Sand-Coarse	#10 - #4			
-Medium	#40 - #10			
-Fine	#200 - #40	Minor	Some	15% - 25%
Silt (non-cohesive)	< #200		Little	5% - 15%
Clay (cohesive)	< #200		Trace	0% - 5%

Notes:
1. Particle size is designated by U.S. Standard Sieve Sizes
2. Because of the small size of the split-spoon sampler relative to the size of gravel, the true percentage of gravel may not be accurately estimated.

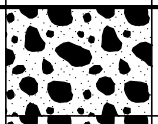
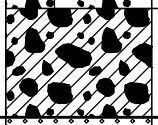
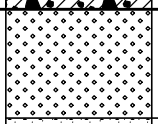
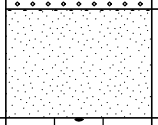
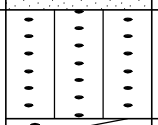
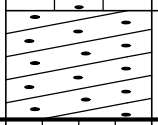
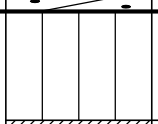
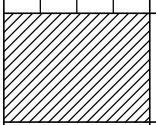
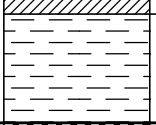
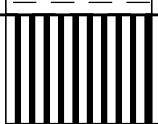
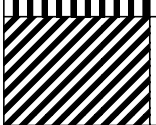
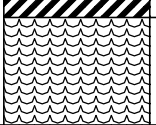
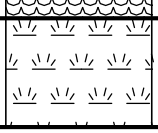
Density or Consistency

The standard penetration resistance values (N-values) are used to describe the density of coarse-grained soils (GRAVEL, SAND) or the consistency of fine-grained soils (SILT, CLAY). Sandy silts of very low plasticity may be assigned a density instead of a consistency.

DENSITY		CONSISTENCY	
Term	N-Value	Term	N-Value
Very Loose	0 - 4	Very Soft	0 - 1
Loose	5 - 10	Soft	2 - 4
Medium Dense	11 - 30	Firm	5 - 8
Dense	31 - 50	Stiff	9 - 15
Very Dense	> 50	Very Stiff	16 - 30
		Hard	> 30

Notes:
1. The N-value is the number of blows of a 140 lb. Hammer freely falling 30 inches required to drive a standard split-spoon sampler (2.0 in. O.D., 1-3/8 in. I.D.) 12 inches into the soil after properly seating the sampler 6 inches.
2. When encountered, gravel may increase the N-value of the standard penetration test and may not accurately represent the in-situ density or consistency of the soil sampled.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

SINCE F&R 1881

FROEHLING & ROBERTSON, INC.
Engineering Stability Since 1881
3300 International Airport Drive, Suite 600
Charlotte, North Carolina, 28208
T 704.596.2889 I F 704.596.3784

Date: July 2022

Drawn by: C. Warren

SCALE: As Shown

Dewberry
Richard Barry Park
Huntersville, North Carolina

Drawing No. 2
Test Pit Location Plan

Project Number: 63A-0058

Test Locations:

Froehling & Robertson, Inc.

TEST PIT LOG

Test Pit: TP-1 (1 of 1)

Project No: 63A-0058
Client: Dewberry
Project: Richard Barry Park Test Pits
City/State: Huntersville, NC

Elevation: 751.0 ±
Total Depth: 5.0'
Test Pit Location: See Location Plan

Drilling Method: Takeuchi TB-235
Hammer Type: N/A
Date Excavated: 6/23/22
Driller: Huntersville Public Works

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
750.8	0.2	**SURFICIAL SOIL** 2 inches				No groundwater observed during excavation.
		FILL: Tan, fine to medium sandy SILT (ML), moist				
748.5	2.5	**RESIDUUM:** Red and brown, fine to medium sandy SILT (ML), moist				
746.0	5.0	**Test pit terminated at 5 feet**				

Froehling & Robertson, Inc.

TEST PIT LOG

Test Pit: TP-2 (1 of 1)

Project No: 63A-0058
Client: Dewberry
Project: Richard Barry Park Test Pits
City/State: Huntersville, NC

Elevation: 750.0 ±
Total Depth: 5.0'
Test Pit Location: See Location Plan

Drilling Method: Takeuchi TB-235
Hammer Type: N/A
Date Excavated: 6/23/22
Driller: Huntersville Public Works

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
749.8	0.2	**SURFICIAL SOIL** 2 inches				No groundwater observed during excavation.
748.0	2.0	**FILL:** Tan, fine to medium sandy SILT (ML), moist				
		RESIDUUM: Red and brown, fine to medium sandy SILT (ML), moist				
745.0	5.0	**Test pit terminated at 5 feet**				

Froehling & Robertson, Inc.

TEST PIT LOG

Test Pit: TP-3 (1 of 1)

Project No: 63A-0058
Client: Dewberry
Project: Richard Barry Park Test Pits
City/State: Huntersville, NC

Elevation: 750.0 ±
Total Depth: 5.0'
Test Pit Location: See Location Plan

Drilling Method: Takeuchi TB-235
Hammer Type: N/A
Date Excavated: 6/23/22
Driller: Huntersville Public Works

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
749.8	0.2	**SURFICIAL SOIL** 2 inches				No groundwater observed during excavation.
748.0	2.0	**FILL:** Tan, fine to medium sandy SILT (ML), moist				
		RESIDUUM: Red and brown, fine to medium sandy elastic SILT (MH), moist				
745.0	5.0	**Test pit terminated at 5 feet**				

Froehling & Robertson, Inc.

TEST PIT LOG

Test Pit: TP-4 (1 of 1)

Project No: 63A-0058
Client: Dewberry
Project: Richard Barry Park Test Pits
City/State: Huntersville, NC

Elevation: 749.0 ±
Total Depth: 5.0'
Test Pit Location: See Location Plan

Drilling Method: Takeuchi TB-235
Hammer Type: N/A
Date Excavated: 6/23/22
Driller: Huntersville Public Works

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
748.8	0.2	**SURFICIAL SOIL** 2 inches				No groundwater observed during excavation.
748.0	1.0	**FILL:** Tan, fine to medium sandy SILT (ML), moist				
		RESIDUUM: Red and brown, fine to medium sandy elastic SILT (MH), moist				
744.0	5.0	**Test pit terminated at 5 feet**				

APPENDIX III

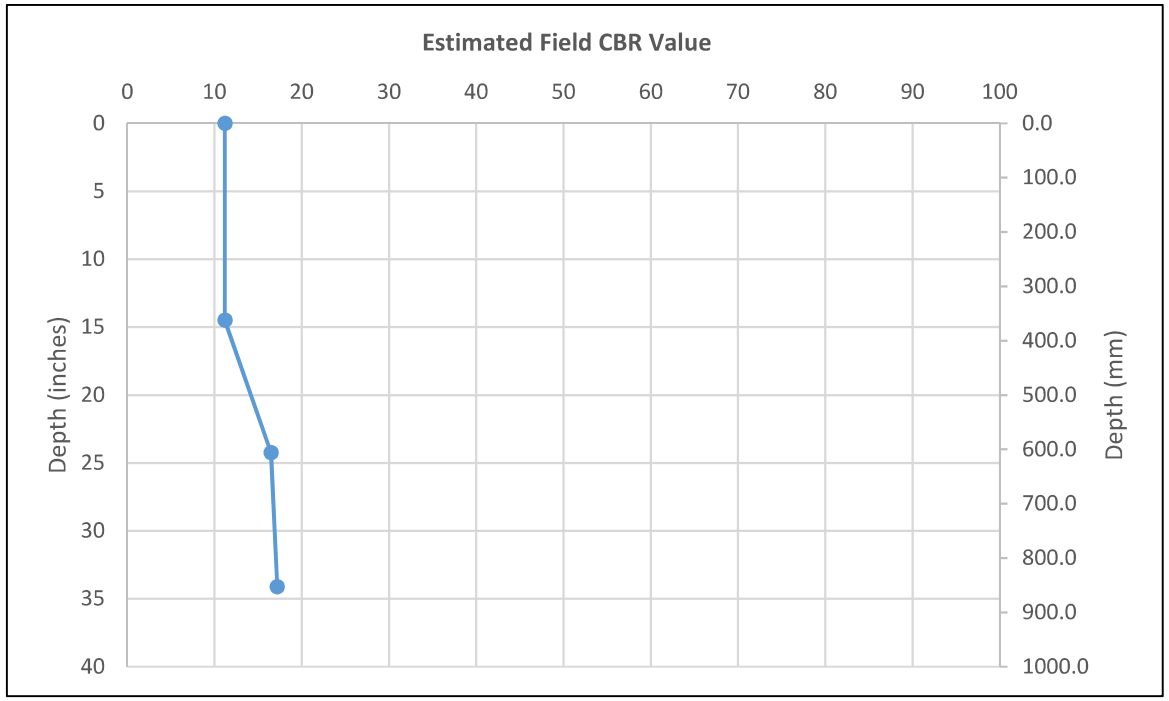
KDCP Summary Tables

KESSLER DCP TEST RESULTS

Project Name: Dewberry - Richard Barry Test Pits
F&R Project No.: 63A-0058
Test Location: TP-1

Date: 6/23/2022
Personnel: C. Warren

Field		Calculated	
No. of Blows	Cummulative Penetration (mm)	Cummulative Penetration (in)	Estimated CBR (Webster et al. 1992)
20	368.3	14.5	11
19	616.0	24.3	16
20	866.8	34.1	17



Test Summary

Stone	
Measured Thickness (in)	0
Average CBR	N/A
Weighted Average	**N/A**
Min CBR	N/A
Max CBR	N/A

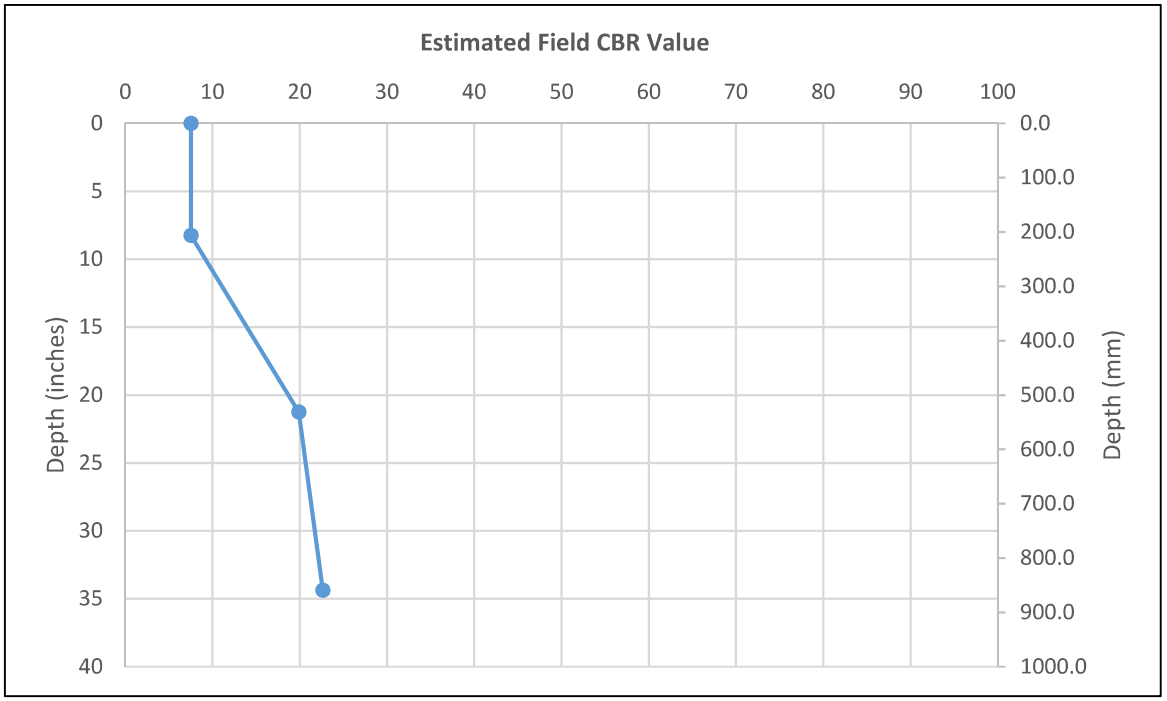
Subgrade Soils	
Depth Explored (in)	34
Average CBR	15
Weighted Average	**15**
Min CBR	11
Max CBR	17

KESSLER DCP TEST RESULTS

Project Name: Dewberry - Richard Barry Test Pits
F&R Project No.: 63A-0058
Test Location: TP-2

Date: 6/23/2022
Personnel: C. Warren

Field		Calculated	
No. of Blows	Cummulative Penetration (mm)	Cummulative Penetration (in)	Estimated CBR (Webster et al. 1992)
8	209.6	8.3	8
30	539.8	21.3	20
34	873.1	34.4	23



Test Summary

Stone	
Measured Thickness (in)	0
Average CBR	N/A
Weighted Average	**N/A**
Min CBR	N/A
Max CBR	N/A

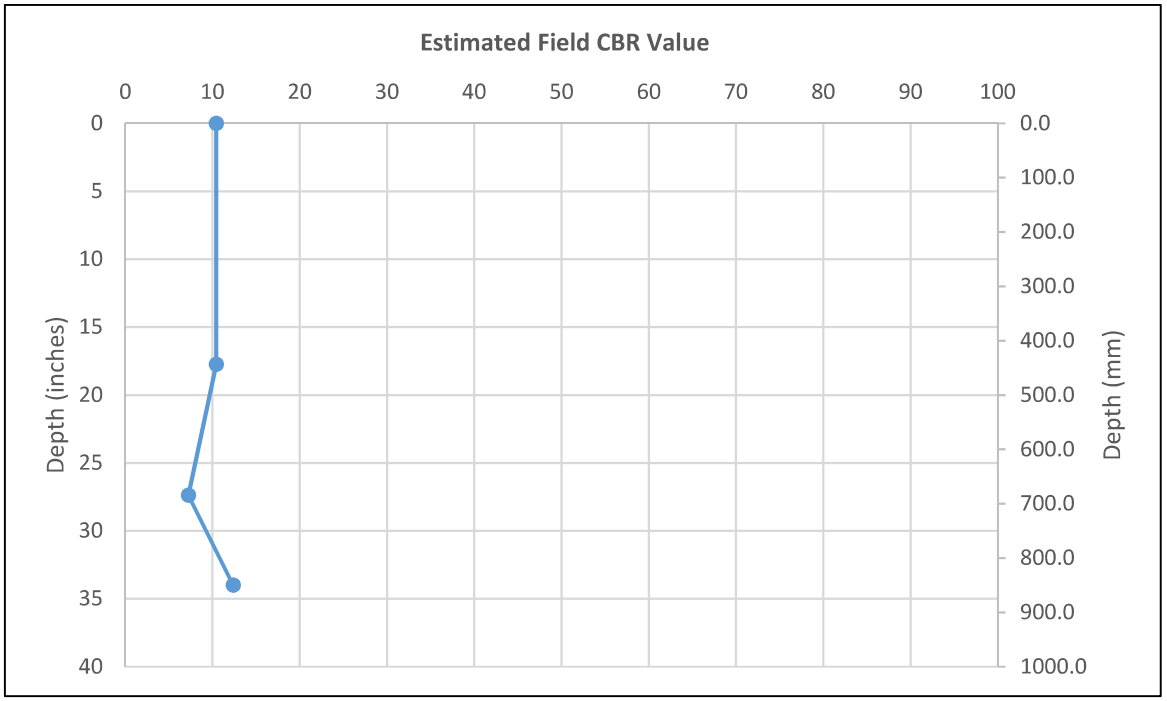
Subgrade Soils	
Depth Explored (in)	34
Average CBR	17
Weighted Average	**19**
Min CBR	8
Max CBR	23

KESSLER DCP TEST RESULTS

Project Name: Dewberry - Richard Barry Test Pits
F&R Project No.: 63A-0058
Test Location: TP-3

Date: 6/23/2022
Personnel: C. Warren

Field		Calculated	
No. of Blows	Cummulative Penetration (mm)	Cummulative Penetration (in)	Estimated CBR (Webster et al. 1992)
23	450.9	17.8	10
9	695.3	27.4	7
10	863.6	34.0	12



Test Summary

Stone	
Measured Thickness (in)	0
Average CBR	N/A
Weighted Average	**N/A**
Min CBR	N/A
Max CBR	N/A

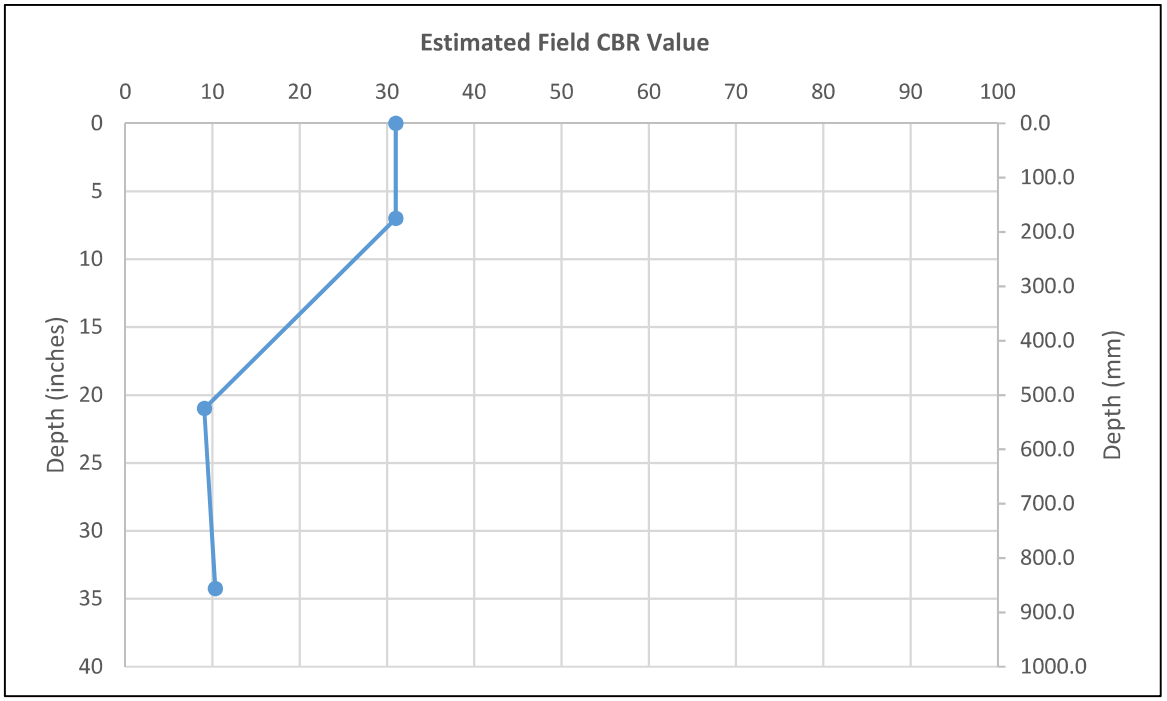
Subgrade Soils	
Depth Explored (in)	34
Average CBR	8
Weighted Average	**10**
Min CBR	7
Max CBR	12

KESSLER DCP TEST RESULTS

Project Name: Dewberry - Richard Barry Test Pits
F&R Project No.: 63A-0058
Test Location: TP-4

Date: 6/23/2022
Personnel: C. Warren

Field		Calculated	
No. of Blows	Cummulative Penetration (mm)	Cummulative Penetration (in)	Estimated CBR (Webster et al. 1992)
24	177.8	7.0	31
16	533.4	21.0	9
17	870.0	34.3	10



Test Summary

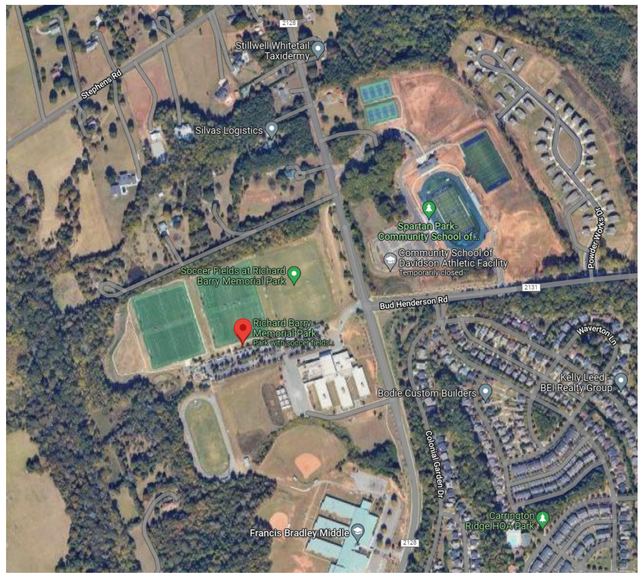
Stone	
Measured Thickness (in)	0
Average CBR	N/A
Weighted Average	**N/A**
Min CBR	N/A
Max CBR	N/A

Subgrade Soils	
Depth Explored (in)	34
Average CBR	17
Weighted Average	**23**
Min CBR	9
Max CBR	31

RICHARD BARRY PARK - BATH HOUSE

HUNTERSVILLE, NC
CONSTRUCTION DOCUMENTS
AUGUST 29, 2022

VICINITY PLAN



GENERAL NOTES

GENERAL CONDITIONS

1. SEE PROJECT SPECIFICATION MANUAL FOR GENERAL AND SUPPLEMENTARY CONDITIONS

2. IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLSIH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER UNCERTAINTIES AND REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.

3. THE QUANTITY OR QUALITY LEVEL SHOWN OR SPECIFIED SHALL BE THE MINIMUM PROVIDED OR PERFORMED. THE ACTUAL INSTALLATION MAY COMPLY EXACTLY WITH THE MINIMUM QUANTITY OR QUALITY SPECIFIED, OR IT MAY EXCEED THE MINIMUM WITHIN REASONABLE LIMITS TO COMPLY WITH THESE REQUIREMENTS. REFER UNCERTAINTIES TO ARCHITECT FOR A DECISION BEFORE PROCEEDING.

DIMENSIONS

1. ALL DIMENSIONS SHALL BE FROM THE FACE OF FINISH SURFACES WITH THE EXCEPTION OF ANYTHING BEING DIMENSIONED FROM COLUMN LINES OR NOTED OTHERWISE.

2. ALIGNMENT INDICATION SHALL BE FINISHED FACE OF WALL TO FINISHED FACE OF PARTITION OR WALL UNLESS NOTED OTHERWISE

3. PARTITION ANGLES ARE PARALLEL, PERPENDICULAR OR 45 DEGREE ANGLES TO BUILDING PERIMETER UNLESS NOTED OTHERWISE

4. CENTERLINE DIMENSIONS SHALL BE MEASURED FROM CENTERLINE OF ASSEMBLY, FIXTURE OR DEVICE

5. CENTERLINE INDICATION AT PARTITIONS ABUTTING BUILDING ELEMENTS (MULLIONS, COLUMNS, OR PILASTERS), SHALL ALIGN CENTER OF PARTITION ASSEMBLY WITH CENTER OF ELEMENT UNLESS NOTED OTHERWISE

6. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, OBTAIN CLARIFICATION FROM ARCHITECT.

PARTITIONS

1. ALIGNMENT OF PARTITIONS WITH NEW OR EXISTING CONSTRUCTION SHALL PROVIDE A SMOOTH, UNINTERRUPTED FINISH SURFACE

2. PROVIDE REQUIRED ACCESS PANELS IN PARTITIONS FOR MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS. LOCATION OF ACCESS PANEL SHALL BE VERIFIED WITH ARCHITECT PRIOR TO CONSTRUCTION

3. PENETRATION OF PARTITIONS FOR MECHANICAL SYSTEMS SHALL BE HERMETICALLY SEALED.

4. G.C. TO PROVIDE SOLID WOOD BLOCKING (OR STEEL PLATE BLOCKING WHEN METAL STUDS ARE USED) AS REQUIRED FOR ALL TOILET ROOM ACCESSORIES, CABINETRY AND INSTALLATION OF GRAB BARS PER APPLICABLE ACCESSIBILITY CODES

5. CABINETRY SHALL MEET ALL APPLICABLE ACCESSIBILITY CODES

6. ALL FINISH AND COLOR SELECTIONS SHALL BE APPROVED BY OWNER

7. CENTER DOOR ON LENGTH OF PARTITION. IF THE TWO SIDES OF PARTITION ARE UNEQUAL, THE DOOR TAG WILL BE ON THE SIDE THAT APPLIES

CEILING

1. MINIMUM HEIGHT OF OVERHEAD OBSTRUCTIONS ALONG AN ACCESSIBLE ROUTE SHALL BE MAINTAINED IN ACCORDANCE WITH APPLICABLE CODES

2. PROVIDE REQUIRED ACCESS PANELS IN CEILING FOR MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS. LOCATIONS OF ACCESS PANEL SHALL BE VERIFIED WITH ARCHITECT PRIOR TO CONSTRUCTION

3. PENETRATIONS AND OPENINGS IN CEILING FOR FIXTURES OR MECHANICAL SYSTEM PATHS AND REGISTERS SHALL BE PRECISELY CUT FOR INSTALLED ITEMS WITH EDGES TO BE CONCEALED BY MOUNTING TRIM OR COVER. INSTALLATION OF TRIM AND COVERS SHALL BE FLUSH TO SURFACE

4. FIXTURES AND REGISTERS SHALL ALIGN SQUARE AND LEVEL WITH FINISHED CEILING

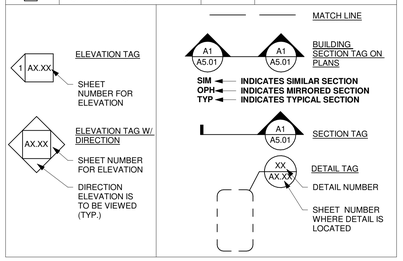
5. DO NOT USE DUCTS, PIPES AND CONDUIT TO SUPPORT CEILING SYSTEM. PROVIDE BRACING AS REQUIRED BY SEISMIC ZONE

ARCHITECTURAL MATERIAL LEGEND

	BRICK (ELEVATION)		RIGID INSULATION
	BRICK (PLAN & SECTION)		BATT INSULATION
	CONCRETE		FINISHED WOOD
	CMU (PLAN & SECTION)		ROUGH WOOD (CONTINUOUS)
	CUT STONE / CAST STONE		ROUGH WOOD (NON-CONTINUOUS)
	GRANULAR FILL		PLYWOOD
	EARTH		STEEL
	GYPSUM, SHEATHING, SAND, OR PLASTER		ALUMINUM

ARCHITECTURAL SYMBOL LEGEND

X	COLUMN LINE TAG	X	REVISION TRIANGLE
X	WINDOW SYBOL TAG		DATUM LINE, BEARING, OR FLOOR ELEVATION
XXX	PARTITION TYPE TAG	X	DOOR TAG
X	SHEET KEYNOTE		



SHEET INDEX

GENERAL	
Sheet Number	Sheet Name
CS	COVER SHEET, LIFE SAFETY & SHEET INDEX
G1.01	CODE SUMMARY

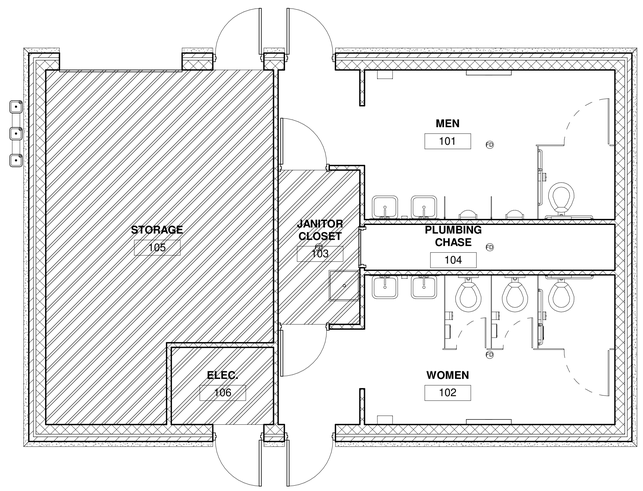
STRUCTURAL	
Sheet Number	Sheet Name
S-001	GENERAL STRUCTURAL NOTES
S-101	STRUCTURAL FOUNDATION AND ROOF FRAMING
S-301	STRUCTURAL FOUNDATION DETAILS
S-401	STRUCTURAL FRAMING DETAILS
S-410	MASONRY SCHEDULES, SECTIONS AND DETAILS

ARCHITECTURAL	
Sheet Number	Sheet Name
A1.11	FIRST FLOOR PLANS & PARTITION TYPES
A1.21	REFLECTED CEILING & ROOF PLANS
A2.01	EXTERIOR ELEVATIONS
A3.11	ENLARGED RESTROOM ACCESSORIES & PLANS
A4.11	TYPICAL DETAILS
A5.01	BUILDING & WALL SECTIONS
A7.11	SECTION DETAILS & EXTERIOR PROFILES
A9.01	FINISH, DOOR, & WINDOW DETAILS
A11.01	INTERIOR ELEVATIONS
A21.01	ADD ALT. - FLOOR PLANS & DETAILS
A21.02	ADD ALT. - RCP & ROOF PLAN
A21.03	ADD ALT. - EXTERIOR ELEVATIONS
A21.04	ADD ALT. - SECTIONS & DETAILS

PLUMBING	
Sheet Number	Sheet Name
P0.01	PLUMBING SYMBOLS, ABBREVIATIONS & NOTES
P1.11	PLUMBING FIRST FLOOR PLAN
P5.01	DETAILS & SCHEDULES
P9.01	RISER DIAGRAMS

MECHANICAL	
Sheet Number	Sheet Name
M0.01	MECHANICAL SYMBOLS, ABBREVIATIONS & NOTES
M1.11	MECHANICAL FIRST FLOOR PLAN
M5.01	DETAILS & SCHEDULES

ELECTRICAL	
Sheet Number	Sheet Name
E0.01	ELECTRICAL SYMBOLS & ABBREVIATIONS
E1.10	ELECTRICAL SITE PLAN
E1.11	ELECTRICAL FIRST FLOOR PLAN
E6.01	SCHEDULES
E6.02	DETAILS

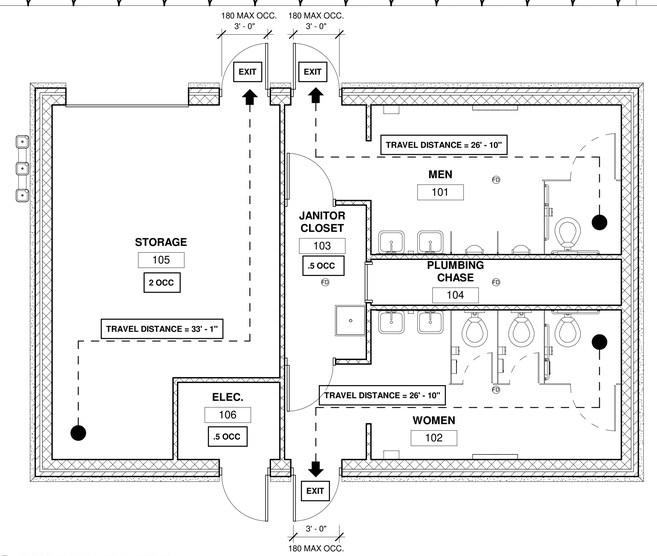


B1 FIRST FLOOR OCCUPANY PLAN
1/4" = 1'-0"

OCCUPANCY LEGEND

SYMBOL	OCCUPANCY TYPE	SQUARE FOOTAGE	OCCUPANTS
	STORAGE OCCUPANCY	306 / 300	2
	UTILITY OCCUPANCY	87 / 300	1
	A-5 OCCUPANCY BASED ON PARKING	99 SPACES * 2	198
TOTAL OCCUPANCY=			201

THE EXISTING PARKING LOT IS SHARED BETWEEN THE TOWN OF HUNTERSVILLE, MECKLENBURG COUNTY AND CHARLOTTE-MECKLENBURG BOARD OF EDUCATION PER THE JOINT USE AGREEMENT DATED JANUARY 19, 2005 AND AMENDED MARCH 11, 2008. THE EXISTING RESTROOM BUILDING AT RICHARD BARRY PARK (PREVIOUSLY KNOWN AS THE CANIPE ATHLETIC FIELDS COMPLEX) WAS DESIGNED USING THE EXISTING PARKING SPACE COUNT OF 122 SPACES ALLOCATED TO THE TOWN OF HUNTERSVILLE AS NOTED ON THE APPROVED ARCHITECTURAL PLANS FOR THE CANIPE ATHLETIC FIELDS COMPLEX DATED FEBRUARY 06, 2006.



B8 FIRST FLOOR LIFE SAFETY PLAN
1/4" = 1'-0"

GENERAL NOTE:

1) PLAN TO ILLUSTRATE COMPLIANCE WITH C104.1 CODE EXCEPTION. NO EGRESS DISTANCE >300'-0" , PER GROUP "U" OCCUPANCY CLASSIFICATION

2) ALL STRUCTURES ON THE SITE ARE MORE THAN 30' - 0" FROM THIS STRUCTURE BEING BUILT.

LIFE SAFETY LEGEND

TRUE NORTH | PLAN NORTH

EXIT — EXIT DOOR

CREECH & ASSOCIATES
1000 W. Morehead St.
Suite 120
Charlotte, NC 28208
p 704.376.6000
www.creech-design.com

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NORTH CAROLINA REGISTERED 15257 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

04-03-2023

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N. C.

RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date
1	Code Comments Cycle 1	04/03/2023

Project Number: 2021-046
Date: 08/29/2022

COVER SHEET, LIFE SAFETY & SHEET INDEX

CS

Architectural
Creech and Associates
1000 W. Morehead St.
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Charlotte, NC 28208
704.376.6000

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Suite 220
Charlotte, NC 28269
704.509.9918

Civil
Dewberry
9300 Harris Corners Pkwy
Suite 220
Charlotte, NC 28269
704.509.9918

Plumbing
Dewberry
9300 Harris Corners Pkwy
Suite 220
Charlotte, NC 28269
704.509.9918

Mechanical
Dewberry
9300 Harris Corners Pkwy
Suite 220
Charlotte, NC 28269
704.509.9918

Electrical
Dewberry
9300 Harris Corners Pkwy
Suite 220
Charlotte, NC 28269
704.509.9918

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: RICHARD BARRY PARK - BATH HOUSE

Address : 13707 BEATTIES FORD RD, HUNTERSVILLE, NC Zip Code: 28078

Owner/Authorized Agent: MICHAEL JAYCOCKS Phone # (704) 766 - 2228 E-Mail: MJAYCOCKS@HUNTERSVILLE.ORG

Owned By: ☒ City/County ☐ Private ☐ State

Code Enforcement Jurisdiction: ☐ City ☒ County MECK. ☐ State

CONTACT: PROJECT MANAGER: JOHN CRAWFORD OF CREECH & ASSOCIATES; LICENSE # 15357; (704) 376-6000; JCRAWFORD@CREECH-DESIGN.COM

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	CREECH & ASSOCIATES	JOHN CRAWFORD	15357	(704) 376-6000	JCRAWFORD@CREECH-DESIGN.COM
Civil	DEWBERRY ENGINEERS INC.	TRISTAN MCMANNIS	1622	(704) 264-1233	TMCMANNIS@DEWBERRY.COM
Electrical	DEWBERRY ENGINEERS INC.	WILLIAM A. KEMP	041410	(919) 424-3724	WKEMP@DEWBERRY.COM
Fire Alarm				( )	
Plumbing	DEWBERRY ENGINEERS INC.	CHRISTOPHER COOK	039771	(919) 746-9630	CCOOK@DEWBERRY.COM
Mechanical	DEWBERRY ENGINEERS INC.	JOHN TEETER	025837	(984) 232-6803	JTEETER@DEWBERRY.COM
Sprinkler-Standpipe				( )	
Structural	DEWBERRY ENGINEERS INC.	ANTHONY MILLER	036317	(704) 264-1248	AMILLER@DEWBERRY.COM
Retaining Walls > 5' High				( )	
Other	DEWBERRY ENGINEERS INC.	BRIAN M. LAFRANCHI	40016	(704) 631-5206	BLAFRANCHI@DEWBERRY.COM

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: ☒ New Building ☐ Addition ☐ Renovation
☐ 1st Time Interior Completion
☐ Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements.
☐ Phased Construction - Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements.

2018 NC EXISTING BUILDING CODE: Existing: ☐ Prescriptive ☐ Repair ☐ Chapter 14
Alteration: ☐ Level I ☐ Level II ☐ Level III
☐ Historic Property ☐ Change of Use

CONSRUCTED (date): N/A **CURRENT OCCUPANCY(S)** (Chap 3): N/A

RENOVATED (date): N/A **PROPOSED OCCUPANCY(S)** (Chap 3): U, S-1, A-5

RISK CATEGORY (Table 1604.5): **Current:** ☐ I ☐ II ☐ III ☐ IV
Proposed: ☐ I ☒ II ☐ III ☐ IV

BASIC BUILDING DATA

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
(check all that apply) ☐ I-B ☐ II-B ☐ III-B ☒ V-B
Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☐ No ☒ Yes **Flood Hazard Area:** ☒ No ☐ Yes
Special Inspections Required: ☒ No ☐ Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

GROSS BUILDING AREA TABLE

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB - TOTAL
Roof			
4th Floor			
3rd Floor			
2nd Floor			
1st Floor		BASE: 1,040 / ADD ALT: 1,629	
Basement			
TOTAL		BASE: 1,040 / ADD ALT: 1,629	

ALLOWABLE AREA

*UTILIZATION OF STORAGE SPACE IS PRIMARILY FOR EQUIPMENT FROM PARKS AND REC.

Primary Occupancy Classification(s):
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☒ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 Condition ☐ 1 ☐ 2
☐ I-2 Condition ☐ 1 ☐ 2
☐ I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ I-4
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☒ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☒ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☒

Accessory Occupancy Classification(s):

Incidental Uses (Table 509):

Special Uses (Chapter 4 - List Code Sections):

Special Provisions (Chapter 5 - List Code Sections):

Mixed Occupancy: ☐ No ☒ Yes Separation: ____ Hr. Exception:

☒ Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1.00$$

_____ + _____ = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY, ACTUAL	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE [1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
1st Floor	PUBLIC RESTROOMS	BASE: 1,040 / ADD ALT: 1,629	5,500	N/A	5,500
2nd Floor					
3rd Floor					
4th Floor					

[1] Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____(F)
b. Total building perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase I_f [100F/P - 0.25] x W/30 = _____ (%)

[2] Unlimited area applicable under conditions of Section 507.

[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2)

[4] The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.

[5] Frontage increase is absed on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE[1]
Building Height in Feet (Table 504.3)	40' - 0"	14' - 9 1/4"	-
Building Height in Stories (Table 504.4)	1	1	-

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET# FOR RATED JOINTS
Structural frame, including columns, girders, and trusses							
Bearing walls							
Exterior	>30	0	0	N/A	N/A	N/A	N/A
North	>30	0	0	N/A	N/A	N/A	N/A
East	>30	0	0	N/A	N/A	N/A	N/A
West	>30	0	0	N/A	N/A	N/A	N/A
South	>30	0	0	N/A	N/A	N/A	N/A
Interior	N/A	-	-	N/A	N/A	N/A	N/A
Nonbearing walls and partitions							
Exterior	N/A	-	-	N/A	N/A	N/A	N/A
North	N/A	-	-	N/A	N/A	N/A	N/A
East	N/A	-	-	N/A	N/A	N/A	N/A
West	N/A	-	-	N/A	N/A	N/A	N/A
South	N/A	-	-	N/A	N/A	N/A	N/A
Interior Walls and Partitions	N/A	-	-	N/A	N/A	N/A	N/A
Floor construction Including supporting beams and joists		N/A	N/A	N/A	N/A	N/A	N/A
Floor Ceiling Assembly		N/A	N/A	N/A	N/A	N/A	N/A
Columns Supporting Floors		N/A	N/A	N/A	N/A	N/A	N/A
Roof construction Including supporting beams and joists		0	0	N/A	N/A	N/A	N/A
Roof Ceiling Assembly		0	0	N/A	N/A	N/A	N/A
Columns Supporting Roof		0	0	N/A	N/A	N/A	N/A
Shafts Enclosures - Exit		N/A	N/A	N/A	N/A	N/A	N/A
Shafts Enclosures - Other		0	0	N/A	N/A	N/A	N/A
Corridor Separation		N/A	N/A	N/A	N/A	N/A	N/A
Occupancy / Fire Barrier Separation		0	0	N/A	N/A	N/A	N/A
Party/ Fire Wall Separation		0	0	N/A	N/A	N/A	N/A
Smoke Barrier Separation		0	0	N/A	N/A	N/A	N/A
Smoke Partition		0	0	N/A	N/A	N/A	N/A
Tenant / Dwelling Unit / Sleeping Unit Separation		N/A	N/A	N/A	N/A	N/A	N/A
Incidental Use Separation		0	0	N/A	N/A	N/A	N/A

* Indicates section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY REQUIREMENTS

*THE BUILDING WILL NOT HAVE LIFE SAFETY REQUIREMENTS BECAUSE RESTROOMS ARE NOT HABITABLE SPACES

Emergency Lighting: ☐ No ☒ Yes
Exit Signs: ☒ No ☐ Yes
Fire Alarm: ☒ No ☐ Yes
Smoke Detection Systems: ☒ No ☐ Yes ☐ Partial _____
Carbon Monoxide Detection: ☒ No ☐ Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: CS

☐ Fire and/or smoke rated wall locations (Chapter 7) **N/A**
☐ Assumed and real property line locations (if not on the site plan) **N/A**
☒ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☐ Occupancy Use for each area as it relates to occupant load calculations (Table 1004.1.2) **N/A**
☐ Occupancy loads for each area **N/A**
☒ Exit access travel distance (1017)
☒ Common path of travel distances (Tables 1006.2.1 & 1006.3.2 (1))
☐ Dead end lengths (1020.4) **N/A**
☒ Clear exit widths for each exit door
☒ Maximum calculated occupant load capacity each exit door can accomodate based on egress width (1005.3)
☐ Actual occupant load for each exit door **N/A**
☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation **N/A**
☐ Location of doors with panic hardware (1010.1.10) **N/A**
☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7) **N/A**
☐ Location of doors with electromagnetic egress locks (1010.1.9.9) **N/A**
☐ Location of doors equipped with hold-open devices **N/A**
☐ Location of emergency escape windows (1030) **N/A**
☐ The square footage of each fire area (202) **N/A**
☐ The square footage of each smoke compartment of Occupancy Classification I-2 (407.5) **N/A**
☐ Note any code exceptions or table notes that may have been utilized regarding the items above **N/A**

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESIBLE UNITS REQUIRED	ACCESIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESIBLE UNITS PROVIDED

ACCESSIBLE PARKING (SECTION 1106)

*THIS NEW STRUCTURE WILL NOT BE GENERATING ADDITIONAL TRAFFIC AND IS BEING CONSTRUCTED TO FURTHER SUPPORT EXISTING USES. ROUTE TO EXISTING ACCESSIBLE PARKING SHALL BE MAX RUNNING SLOPE OF 5% AND MAX 2% CROSS SLOPE.

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACE WITH 132" ACCESS AISLE	VAN SPACE WITH 8' ACCESS AISLE	
TOTAL						

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE		WATERCLOSETS			URINALS	LAVATORIES			SHOWER / TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
SPACE	EXISTING										
	NEW	1	3	0	2	2	2	0	0	0	0
	REQUIRED	3	3	0	0	1	1	0	0	0	0

SPECIAL APPROVALS

2018 NC BUILDING CODE: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc.., describe below)

ENERGY SUMMARY

ENERGY REQUIREMENTS:

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed dessign.

Existing building envelope complies with code: N/A
Exempt Building: YES (UTILITY - BATHHOUSE) Provide code or stautory reference: NCGS 143-138 (B18)
Climate Zone: 3A
Method of Compliance: N/A
(If "other" specify source here): _____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A
Skylights in each assembly: N/A
U-Value of skylight: N/A
total square footage of skylights in each assembly: N/A

Exterior Walls (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A
Openings (windows or doors with glazing)
U-Value of assembly: N/A
Solar heat gain coefficient: N/A
Projection factor: N/A
Door R-Values: N/A

Walls Below Grade (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floors Over Unconditioned Space (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floors Slab On Grade
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A
Horizontal/vertical requirement: N/A
slab heated: N/A

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

STRUCTURAL DESIGN

(PROVIDE ON THE STRUCTURAL SHEETS IF APPICABLE)

DESIGN LOADS:

Importance Factors: Wind (I_w) 1.0
Snow (I_s) 1.0
Seismic (I_E) 1.0

Live Loads: Roof 20 psf
Mezzanine N/A psf
Floor 100 psf

Ground Snow Load: 10 psf

Wind Load: Basic Wind Speed 115 mph (ASCE-7)
Exposure Category C

SEISMIC DESIGN CATEGORY: C

Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) II
Spectral Response Acceleration S_S 22.4 %g S_1 9.8 %g
Site Classification (ASCE 7) D
Data Source: ASSUMED
Basic Structural System: MASONRY BEARING WALLS
Analysis Procedure: ELF
Architectural, Mechanical, Components anchored? NO

LATERAL DESIGN CONTROL: WIND

SOIL BEARING CAPACITIES:

Field Test 2,000 (ASSUMED) psf
Pile size, type, and capacity:

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL DESIGN

(PROVIDE ON THE MECHANICAL SHEETS IF APPICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 3A
winter dry bulb: SEE MECHANICAL
summer dry bulb: SEE MECHANICAL

Interior Design Conditions
winter dry bulb: SEE MECHANICAL
summer dry bulb: SEE MECHANICAL
relative humidity: SEE MECHANICAL

Building heating load: SEE MECHANICAL
Building cooling load: SEE MECHANICAL

Mechanical Spacing Conditioning System
Unitary
description of unit SEE MECHANICAL
heating efficiency SEE MECHANICAL
cooling efficiency SEE MECHANICAL
size category of unit SEE MECHANICAL
Boiler
Size category. If oversized, state reason: SEE MECHANICAL
Chiller
Size category. If oversized, state reason: SEE MECHANICAL

List equipment efficiencies: SEE EQUIPMENT SCHEDULES

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN

(PROVIDE ON THE ELECTRICAL SHEETS IF APPICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: PRESCRIPTIVE

Lighting schedule (each fixture type)
lamp type required in fixture SEE ELECTRICAL
number of lamps in fixture SEE ELECTRICAL
ballast type used in fixture SEE ELECTRICAL
number of ballasts in fixture SEE ELECTRICAL
total wattage per fixture SEE ELECTRICAL
total interior wattage specified SEE ELECTRICAL
allowed SEE ELECTRICAL
total exterior wattage specified SEE ELECTRICAL
allowed SEE ELECTRICAL

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
☐ C406.2 More Efficient HVAC Equipment Performance
☐ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Digital Lighting Controls
☐ C406.5 On-Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air System
☐ C406.7 Reduced Energy Use in Service Water Heating

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NORTH CAROLINA REGISTERED ARCHITECT 15357 JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

04-03-2023

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N. C.

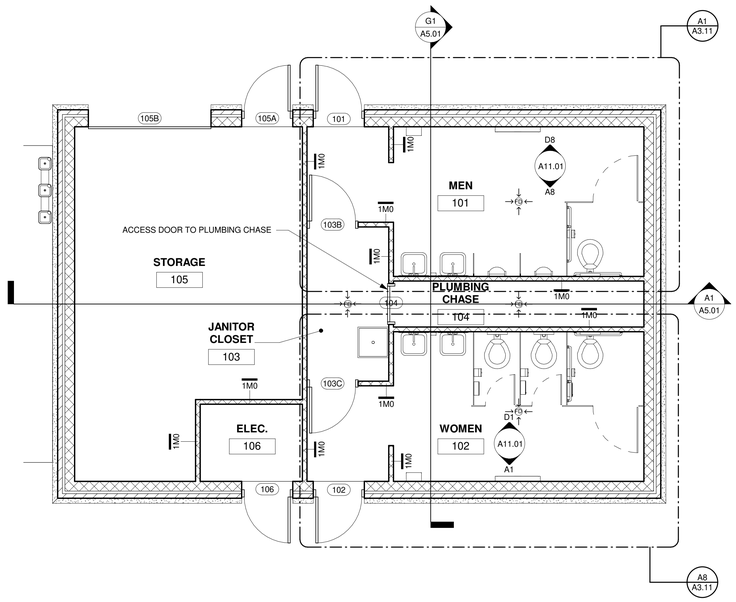
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date
1	Code Comments Cycle 1	04/03/2023

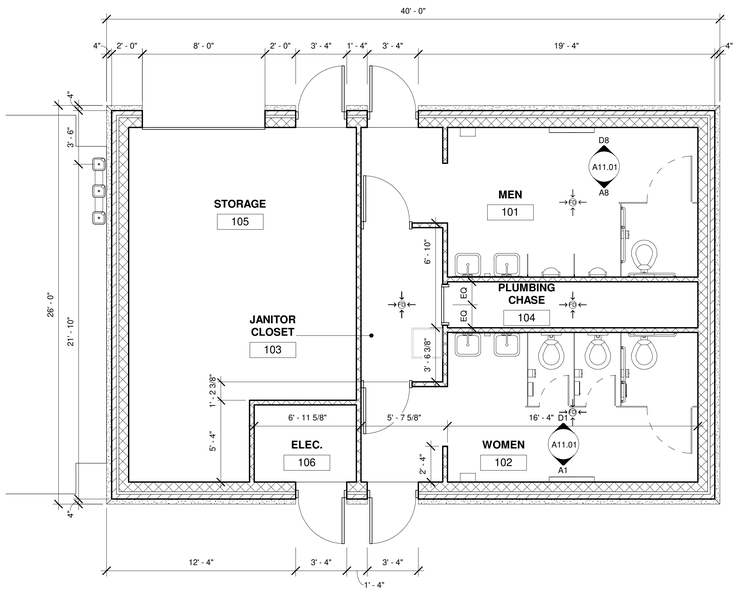
Project Number: 2021-046
Date: 08/29/2022

CODE SUMMARY

G1.01



G1 FLOOR PLAN
1/4" = 1'-0"



A1 DIMENSIONED PLAN
1/4" = 1'-0"

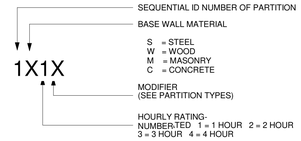
GENERAL NOTE:

FLOOR DRAIN PLACEMENT TO BE COORDINATED WITH TOILET PARTITIONS AND CENTERED WITHIN RESPECTIVE ROOMS

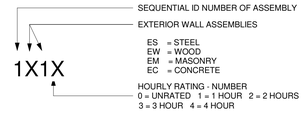
LEGEND

TRUE NORTH

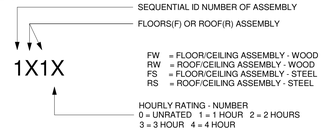
PLAN NORTH



PARTITION KEY



EXTERIOR WALL ASSEMBLIES KEY

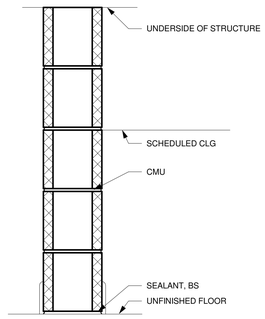


CEILING ASSEMBLIES KEY

GENERAL NOTES:

1. FOR COMMON INTERIOR WALLS, PARTITION, AND FLOOR/CEILING ASSEMBLIES BETWEEN ADJACENT DWELLING UNITS OR BETWEEN DWELLING UNITS AND ADJACENT PUBLIC AREAS SUCH AS HALLS, CORRIDORS, STAIRS OR SERVICE AREAS, REFER TO SECTION 1207 OF THE 2009 NCSBC FOR MINIMUM AIRBORNE SOUND AND STRUCTURE- BORNE SOUND RATINGS.
2. STUD SPACING IN ASSEMBLIES SHALL OCCUPY WITH UL ASSEMBLY REQUIREMENTS, REFER TO STRUCTURAL DRAWINGS FOR ACTUAL SPACING.
3. GC SHALL INSTALL ALL RATED ASSEMBLIES PER UL RATED ASSEMBLIES INDICATED ON DRAWINGS
4. * ASTERISK DENOTES ONE HALF OF A SPLIT UL ASSEMBLY SUCH AS AT COLUMN ENCLOSURES, BRACE FRAMEENCLOSURES, ETC.
5. USE OF WATER RESISTANT BACKER BOARD MAY BE LIMITED TO ONLY THOSE AREAS OF A WALL WHICH ARE SCHEDULED TO OR INDICATED BY DETAILS TO RECEIVE CERAMIC TILE FINISH
6. MOISTURE AND MOLD RESISTANT GYPSUM WALL BOARD TO BE USED IN BATHROOMS, SHOWER ROOMS, AND LAUNDRY ROOMS.
7. PROVIDE SLOTTED EXPANSION ANCHORS/CLIPS AT TOP PLATE WHERE PARTITION IS SECURED TO BOTTOM CHORD OF ROOF TRUSSES
8. BULLET RESISTANT WALL ASSEMBLIES ONLY: INSTALL BULLET RESISTANT FOUR INCH WIDE BATTEN STRIPS AT ALL PANEL JOINTS AND A BULLET RESISTANT BACKER AT ALL WALL PENETRATIONS

1M0



TYPE	CMU SIZE	GWB THK	INSULATION THICKNESS	STC RATING	REMARKS
1M0	3 5/8"	-	-		

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NORTH CAROLINA REGISTERED 13257 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 52304 NORTH CAROLINA CHARLOTTE, N. C.

RICHARD BARRY PARK - BATH HOUSE

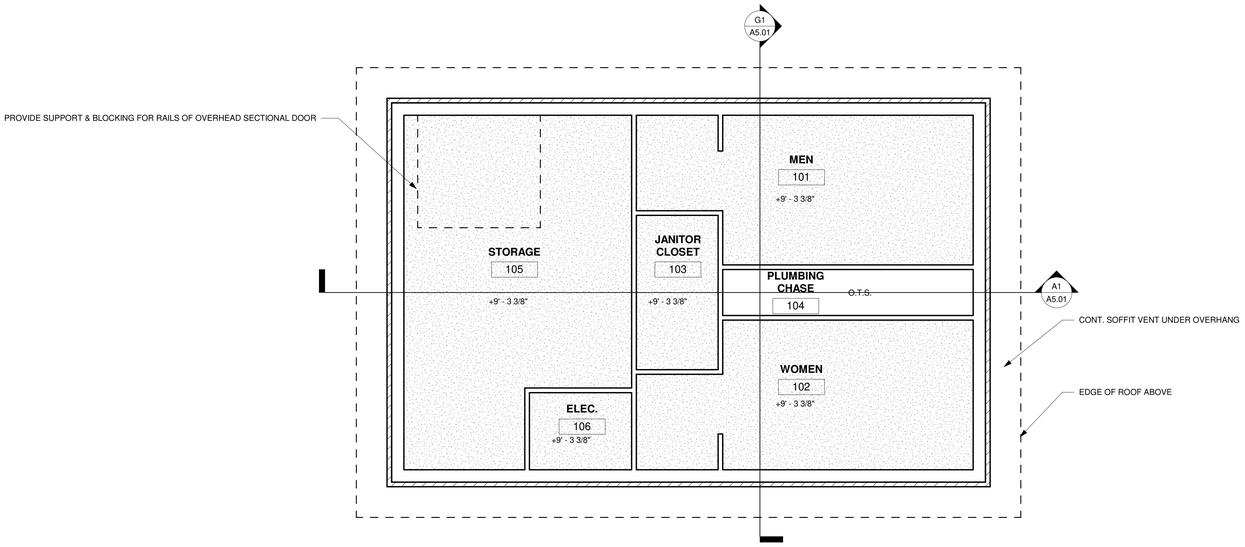
No.	Description	Date

Project Number: 2021-046

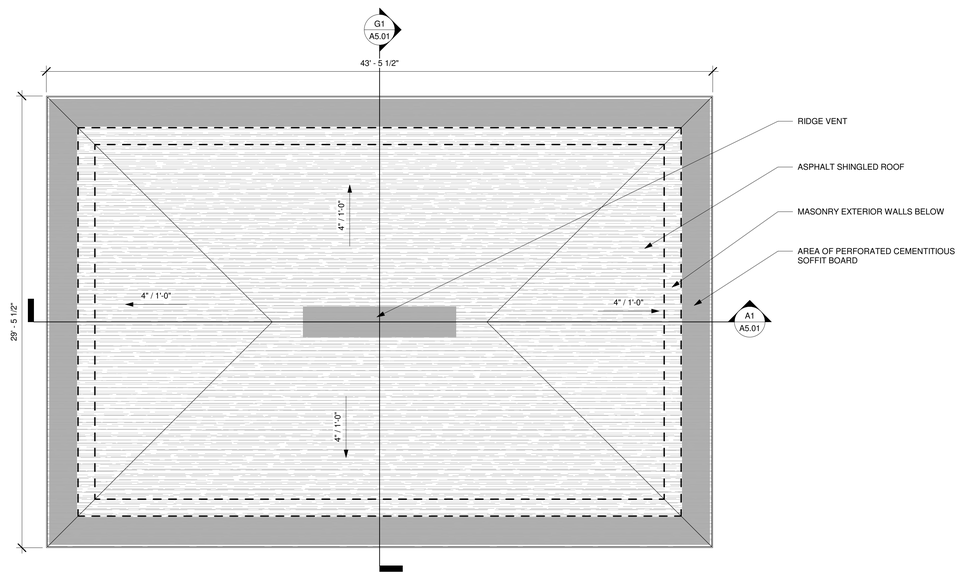
Date: 08/29/2022

FIRST FLOOR PLANS & PARTITION TYPES

A1.11



G1 REFLECTED CEILING PLAN
1/4" = 1'-0"



A1 ROOF PLAN
1/4" = 1'-0"

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NORTH CAROLINA REGISTERED 15257 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N.C.

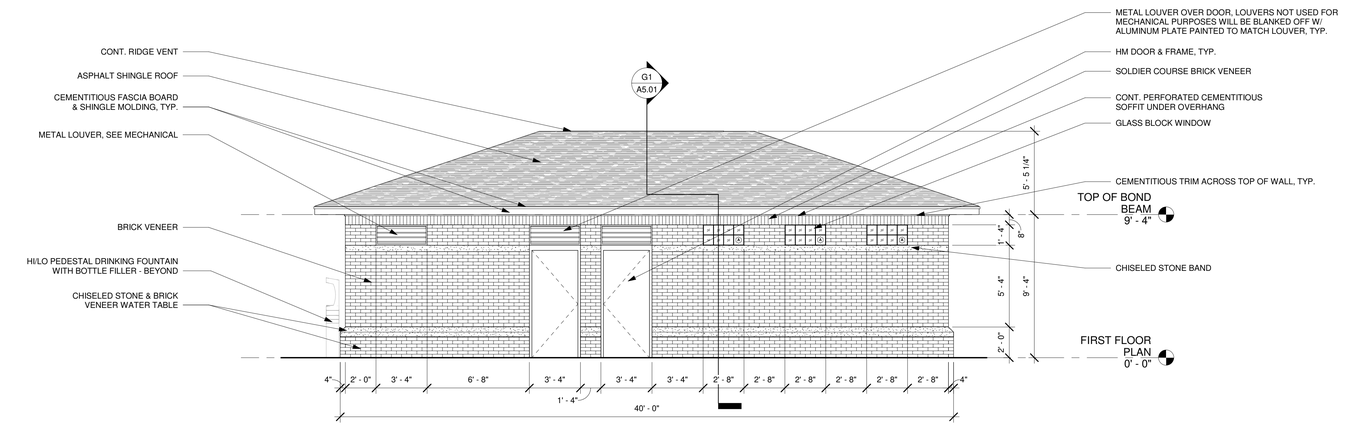
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

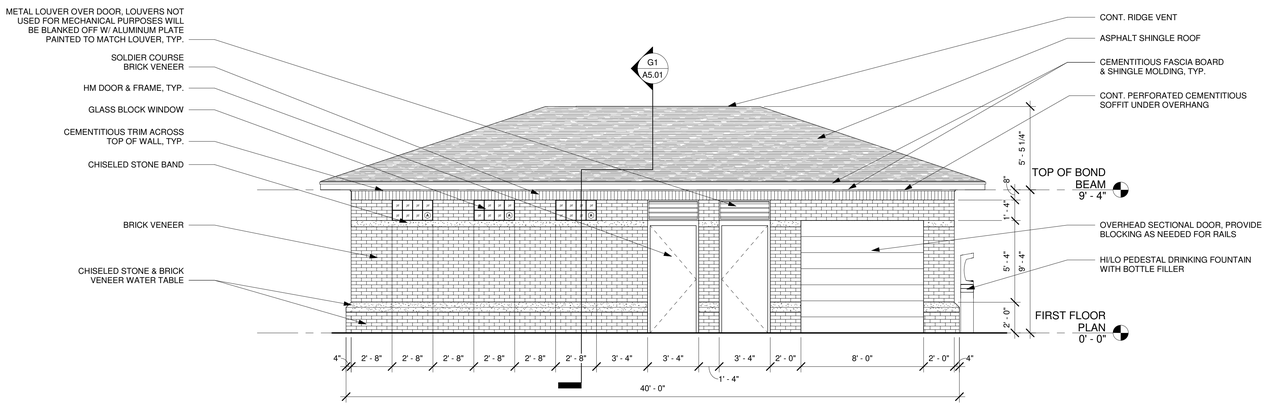
Project Number: 2021-046
Date: 08/29/2022

REFLECTED CEILING & ROOF PLANS

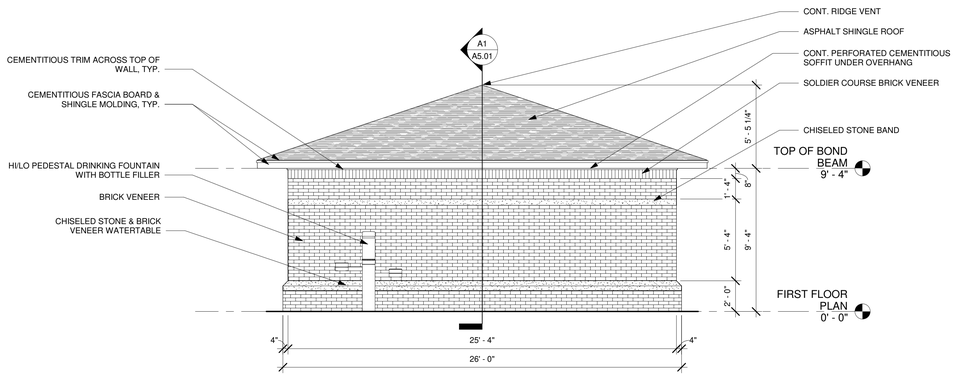
A1.21



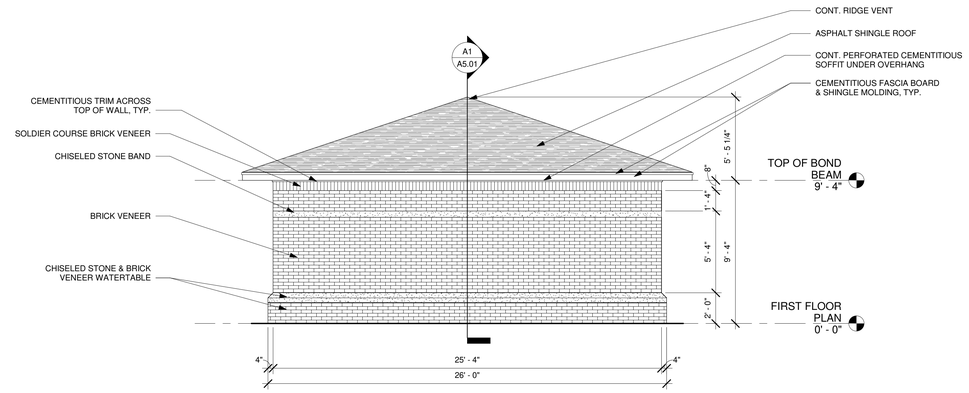
2 SOUTH ELEVATION
1/4" = 1'-0"



1 NORTH ELEVATION
1/4" = 1'-0"



4 WEST ELEVATION
1/4" = 1'-0"



3 EAST ELEVATION
1/4" = 1'-0"

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NORTH CAROLINA REGISTERED ARCHITECT 15257 JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N. C.

RICHARD BARRY PARK - BATH HOUSE

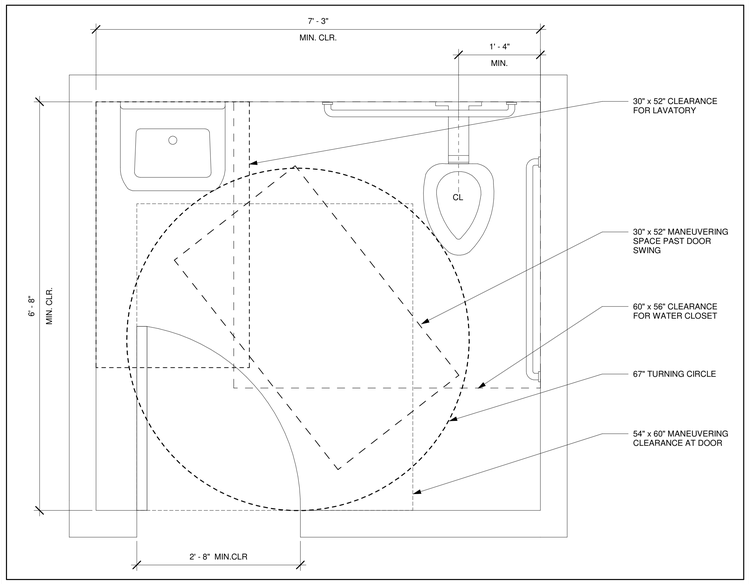
No.	Description	Date

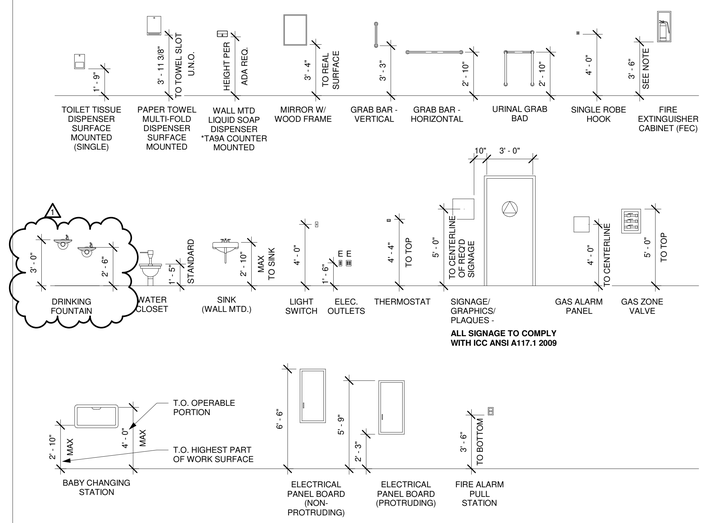
Project Number: 2021-046
Date: 08/29/2022

EXTERIOR ELEVATIONS

A2.01

ADA COMPLIANT RESTROOM LEGEND



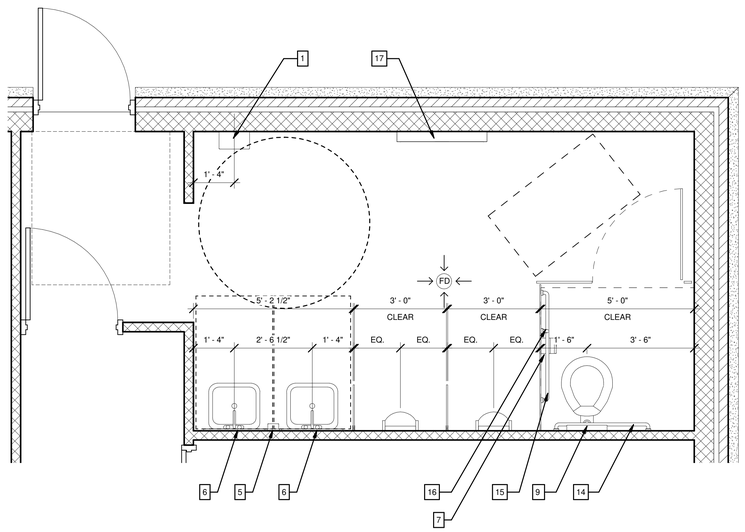


TOILET ACCESSORY SCHEDULE

TA #	DESCRIPTION	MANUFACTURER	MODEL #	NOTES
1	HAND DRYER	XLERATOR	XL-BW	SURFACE MOUNTED
2	PAPER TOWEL DISPENSER / WASTE RECEPTACLE	NOT USED	NOT USED	NOT USED
3	TRASH CAN	O.F.O.I.	O.F.O.I.	O.F.O.I.
4	SOAP DISPENSER - LAVATORY	NOT USED	NOT USED	NOT USED
5	SOAP DISPENSER - WALL	O.F.C.I.	O.F.C.I.	O.F.C.I.
6	MIRROR	BRADLEY	781-018240	18" WIDTH x 24" HEIGHT, S.S. FINISH
7	TOILET TISSUE DISPENSER	O.F.C.I.	O.F.C.I.	O.F.C.I.
8	SANITARY NAPKIN DISPOSAL	BOBRICK	B-254	SURFACE-MOUNTED
9	SEAT COVER DISPENSER	BOBRICK	B-221	SURFACE-MOUNTED
10	COAT HOOK	BOBRICK	B-671	DOUBLE ROBE HOOK
11	ADA COMPLIANT SHOWER SEAT	NOT USED	NOT USED	NOT USED
12	HEAVY-DUTY SHOWER CURTAIN ROD	NOT USED	NOT USED	NOT USED
13	HORIZONTAL SHOWER GRAB BAR	NOT USED	NOT USED	NOT USED
14	36" HORIZONTAL GRAB BAR	BOBRICK	B-6806x36	1-1/2" DIAMETER
15	42" HORIZONTAL GRAB BAR	BOBRICK	B-6806x42	1-1/2" DIAMETER
16	18" VERTICAL GRAB BAR	BOBRICK	B-6806x18	1-1/2" DIAMETER
17	BABY CHANGING STATION	BOBRICK	KB110-SSWM	WALL-MOUNTED
18	PROTECTIVE PLUMBING COVERS	TRUBRO LAV-GUARD	103 WHITE	SHALL BE USED AT ALL LAV'S.

NOTES

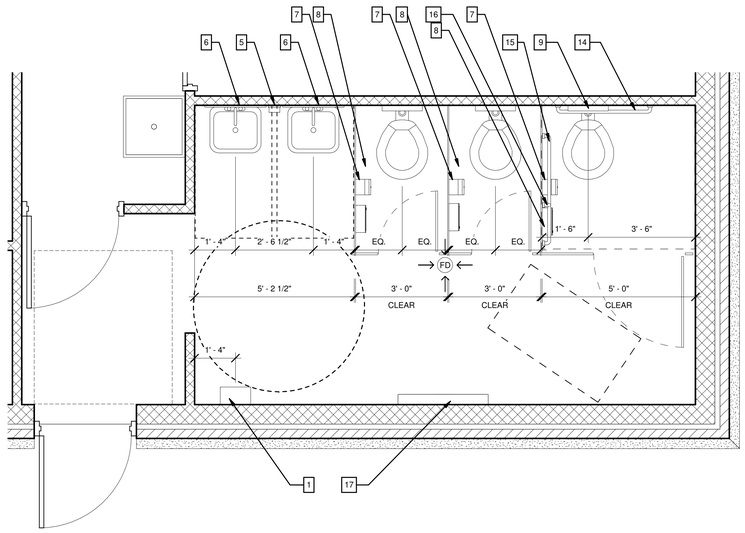
1. REFER TO ICC A117.1-2009 AND ENLARGED TOILET AND ACCESSORIES SHEET FOR TYPICAL MOUNTING HEIGHTS.
2. ALL MANUFACTURERS BASIS FOR DESIGN. SEE SPECIFICATIONS FOR EQUALS.
3. O.F.C.I. - OWNER FURNISHED CONTRACTOR INSTALLED



ENLARGED FLOOR PLAN - MENS RESTROOM
A1 1/2" = 1'-0"

GENERAL NOTE:

FLOOR DRAIN PLACEMENT TO BE COORDINATED WITH TOILET PARTITIONS AND CENTERED WITHIN RESPECTIVE ROOMS



ENLARGED FLOOR PLAN - WOMENS RESTROOM
A8 1/2" = 1'-0"

GENERAL NOTE:

FLOOR DRAIN PLACEMENT TO BE COORDINATED WITH TOILET PARTITIONS AND CENTERED WITHIN RESPECTIVE ROOMS

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NORTH CAROLINA REGISTERED ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

04-03-2023

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N. C.

RICHARD BARRY PARK - BATH HOUSE

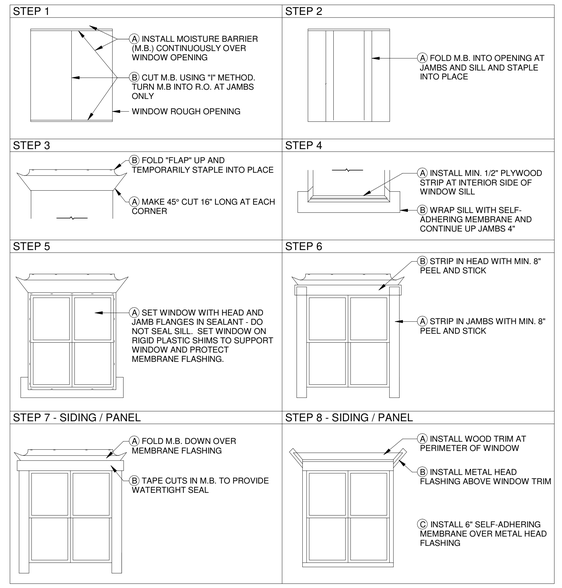
No.	Description	Date
1	Code Comments Cycle 1	04/03/2023

Project Number: 2021-046

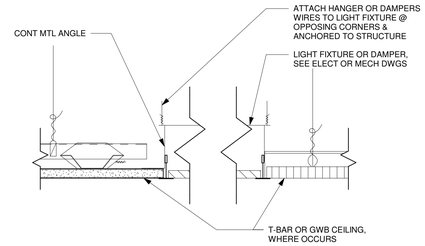
Date: 08/29/2022

ENLARGED RESTROOM ACCESSORIES & PLANS

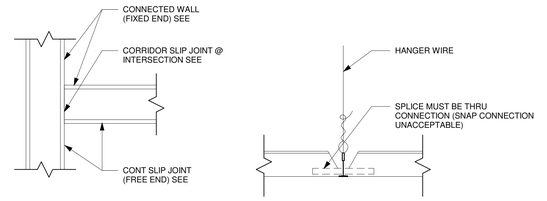
A3.11



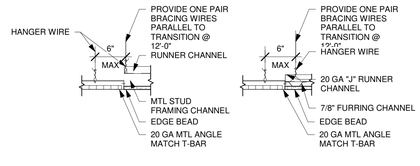
1 WINDOW FLASHING INSTALLATION SEQUENCE AT MASONRY
1/4" = 1'-0"



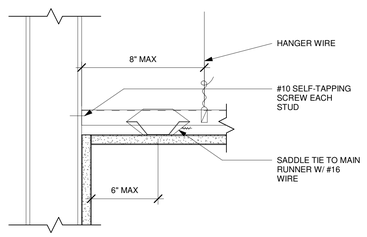
K12 TYPICAL LIGHT FIXTURE
3" = 1'-0"



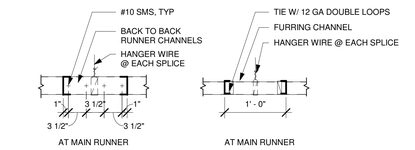
H12 TYPICAL SLIP JOINT AND RUNNER
3" = 1'-0"



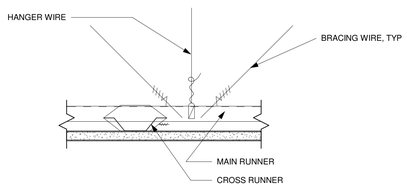
F9 GWB TO SUSP. CLG. TRANSITION
1" = 1'-0"



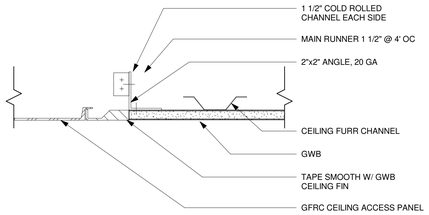
F1 GWB CEILING - END
3" = 1'-0"



C9 SPLICING OF GWB CEILING
1" = 1'-0"



F5 GWB CEILING - INTERMEDIATE
3" = 1'-0"



A12 ACCESS PANEL AT GWB CEILING
3" = 1'-0"

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NORTH CAROLINA REGISTERED ARCHITECT JOHN MARK CRAWFORD 15257

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N.C.

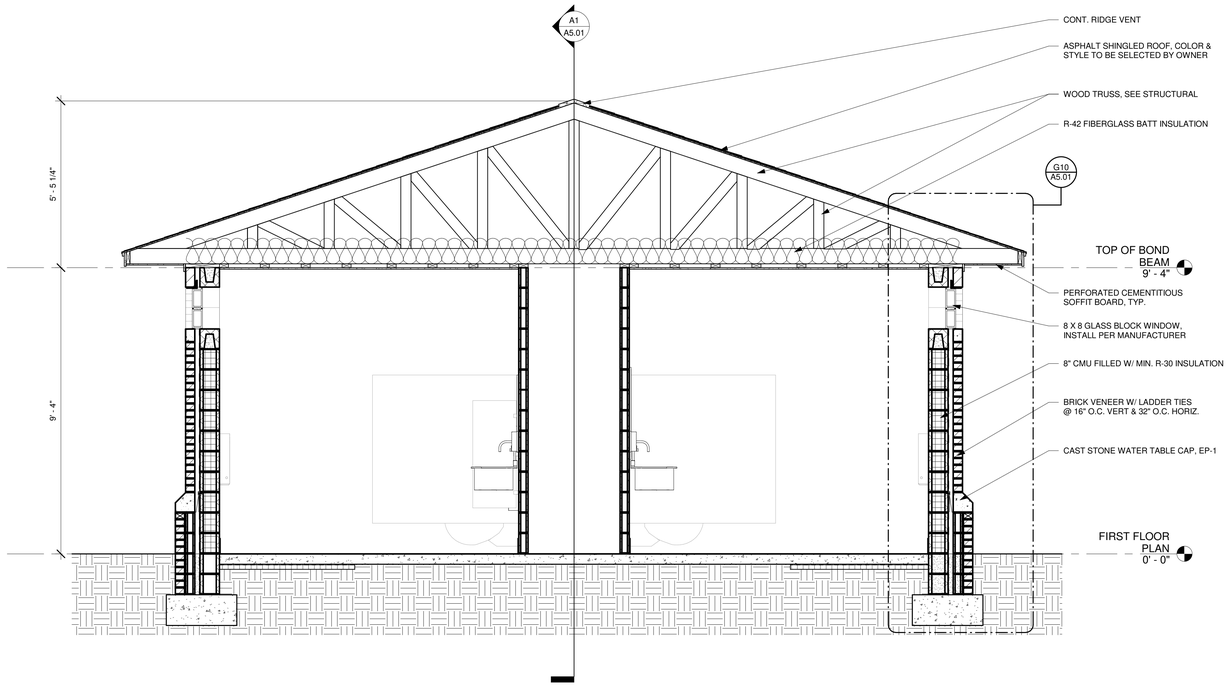
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

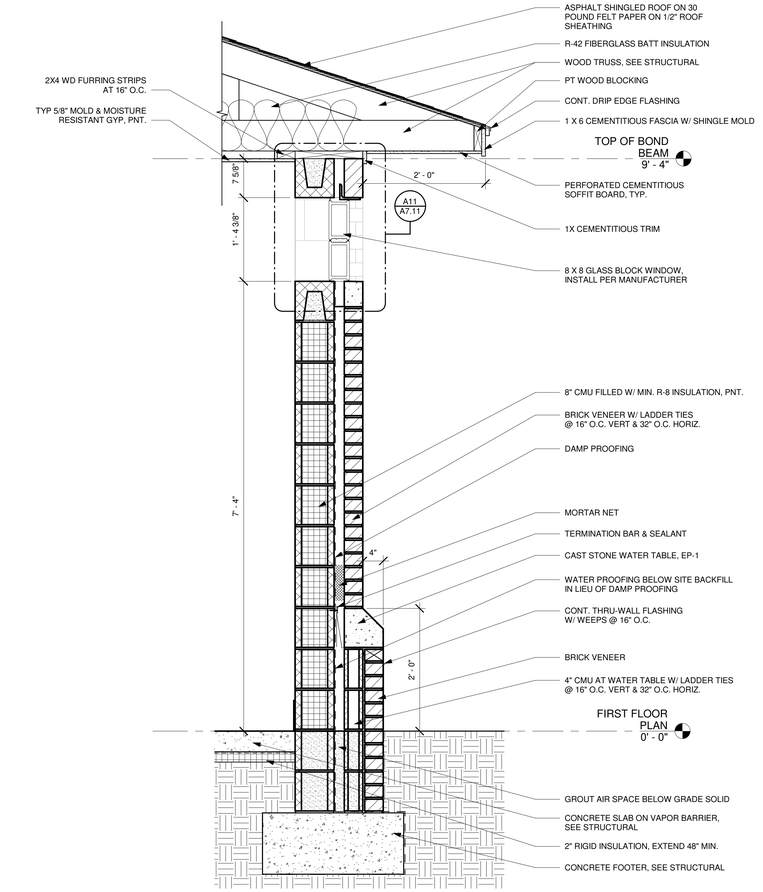
Project Number: 2021-046
Date: 08/29/2022

TYPICAL DETAILS

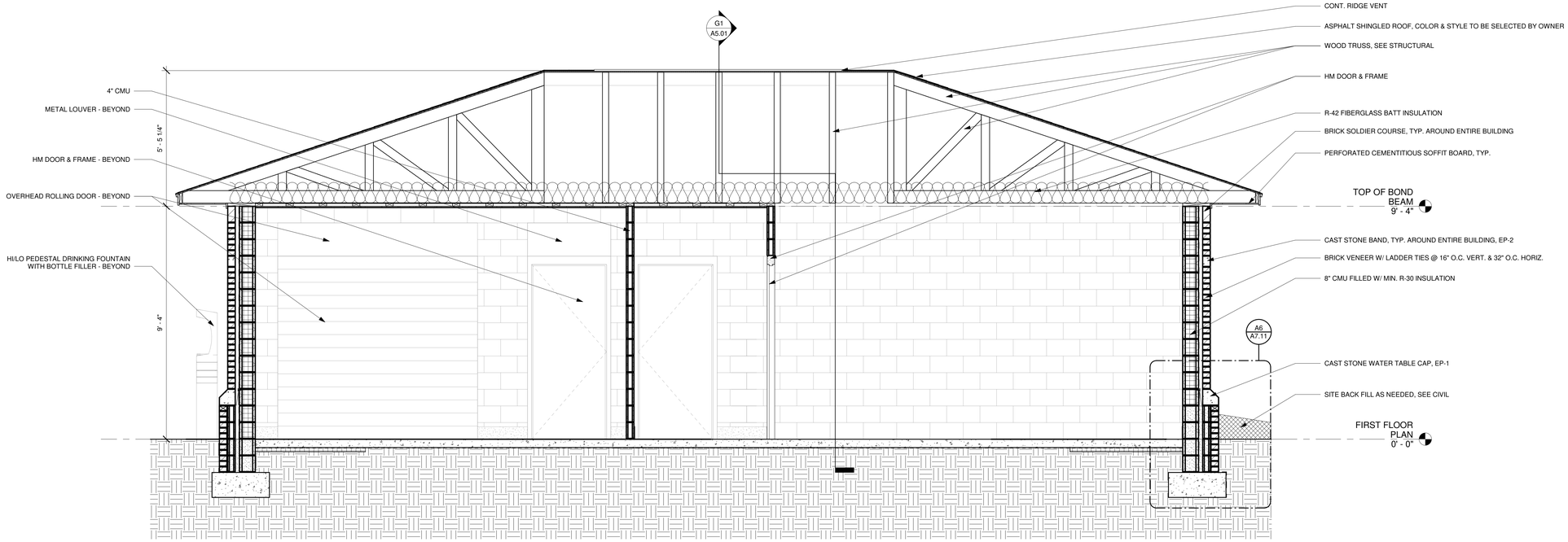
A4.11



G1 TRANSVERSE SECTION
1/2" = 1'-0"



G10 WALL SECTION - TYPICAL
1" = 1'-0"



A1 LONGITUDINAL SECTION
1/2" = 1'-0"

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NORTH CAROLINA REGISTERED 15257 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N.C.

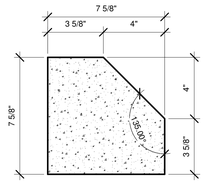
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

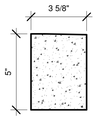
Project Number: 2021-046
Date: 08/29/2022

BUILDING & WALL SECTIONS

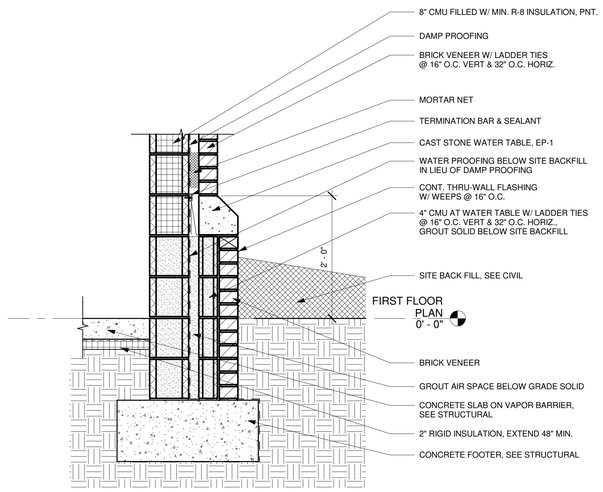
A5.01



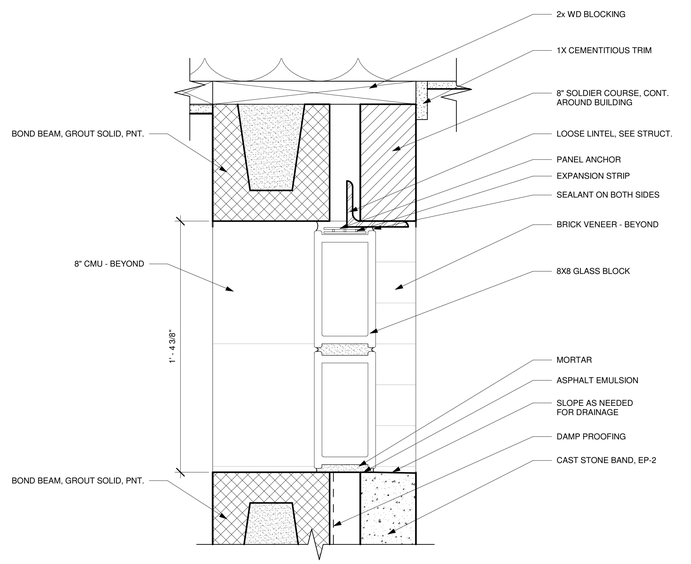
F11 CAST STONE WATER TABLE CAP - EP-1
3" = 1'-0"



F13 CAST STONE BAND - EP-2
3" = 1'-0"



A6 FOUNDATION DETAIL @ PLAN EAST WALL
1" = 1'-0"



A11 SECTION DETAIL @ WINDOW - TYPICAL
3" = 1'-0"

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NORTH CAROLINA REGISTERED 15357 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N. C.

RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

Project Number: 2021-046
Date: 08/29/2022

SECTION DETAILS & EXTERIOR PROFILES

A7.11

FINISH SCHEDULE											
							Wall Finish				
Number	Name	Floor Finish	Base Finish	Ceiling Finish	Casework	Countertop	North	South	East	West	Comments
101	MEN	EF-1	EF-1	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
102	WOMEN	EF-1	EF-1	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
103	JANITOR CLOSET	EF-1	EF-1	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
104	PLUMBING CHASE	-	N/A	O.T.S.	N/A	N/A	-	-	-	-	
105	STORAGE	SC-1	N/A	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
106	ELEC.	SC-1	N/A	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	

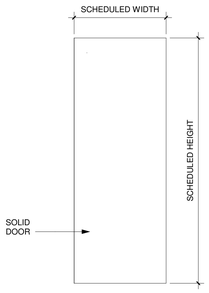
DOOR SCHEDULE										
	Door						Frame			
Mark	Width	Height	Elevation	Material	Hardware	Fire Rating	Frame Type	Frame Material	Jamb	Notes
FIRST FLOOR PLAN										
101	3' - 0"	7' - 0"	D1	HM			F1	HM	J2	
102	3' - 0"	7' - 0"	D1	HM			F1	HM	J2	
103B	3' - 0"	7' - 0"	D1	HM			F1	HM	J1	
103C	3' - 0"	7' - 0"	D1	HM			F1	HM	J1	
104	2' - 4"	7' - 0"	D1	HM			F1	HM	J1	ACCESS DOOR FOR PLUMBING CHASE
105A	3' - 0"	7' - 0"	D1	HM			F1	HM	J2	
105B	8' - 0"	7' - 4"	-	-			-	-	J3	OVERHEAD SECTIONAL DOOR
106	3' - 0"	7' - 0"	D1	HM			F1	HM	J2	

MATERIAL LEGEND

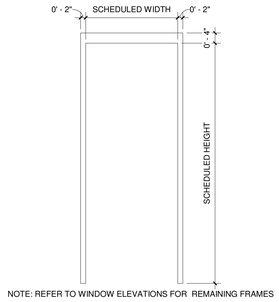
DESIGNATION	FINISH TYPE	MANUFACTURER	STYLE NAME/ NUMBER	COLOR NAME / SIZE	LOCATION/ COMMENTS
EF-1	EPOXY FLOORING	STONHARD	STONTEC	SILVER SAGE	TO INCLUDE INTEGRATED COVE BASE
MP-1	EXTERIOR METAL PANELS	DRI-DESIGN	TBD	TBD	TO CLAD CEILING OF CANOPY - EXTERIOR - ADD ALT.
PNT-1	MASONRY PAINT	SHERWIN WILLIAMS	EGGSHELL	TBD	FIELD PAINT, TYP., LATEX PAINT WITH ACRYLIC APPLIED OVER BLOCK FILLER
PNT-2	MASONRY PAINT	SHERWIN WILLIAMS	EGGSHELL	TBD	ACCENT PAINT - SEE FINISH SCHEDULE
PNT-3	PAINT	SHERWIN WILLIAMS	FLAT	TBD	GWB CEILING PAINT, TYP.
SC-1	SEALED CONCRETE	TBD	REACTIVE CONCRETE SEALER	TBD	
TS-1	TRANSITION STRIP	SCHLUTER	SCHIENE SERIES	TBD	AS NOTED ON PLANS

GENERAL NOTES:

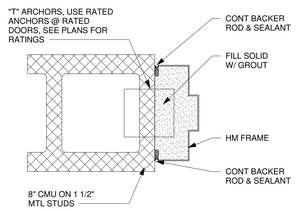
1. ALL NEW WALL AND CEILING FINISHES SHALL COMPLY WITH 803 OF THE IFC AND FLOOR FINISHES SHALL COMPLY WITH 804 OF THE IFC.
2. GC SHALL BE RESPONSIBLE FOR COMPLYING WITH VOLATILE ORGANIC COMPOUND REGULATIONS FOR ALL FINISH MATERIALS.
3. GC SHALL PROVIDE GWB FINISH IN COMPLIANCE WITH GYPSUM ASSOCIATION GA214-96.
4. FLOOR SURFACE SHALL BE CLEAN AND CLEAR OF DEBRIS OR MATERIAL PRIOR TO CONSTRUCTION. FLOAT AND SCRAPE TO PROVIDE LEVEL SURFACE FOR NEW SPECIFIED FINISH.
5. CONTRACTOR SHALL PROVIDE NECESSARY SHORING OR TEMPORARY SUPPORT AS REQUIRED.
6. ALL CUTTING AND PATCHING WORK SHALL BE DONE IN A NEAT MANNER WITH QUALITY WORKMANSHIP AND IN ACCORDANCE WITH A PROFESSIONAL STANDARD OF CARE.
7. ALL FINISHES SPECIFIED ARE APPROVED BY THE OWNER/DEVELOPER; NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PROPER APPROVAL FROM OWNER/DEVELOPER & INTERIOR DESIGNER IN WRITING.
8. REFER TO THE CONSTRUCTION PLANS DIMENSIONS FOR ALL PRELIMINARY FINISH MATERIAL TAKE-OFFS. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDER PLACEMENT.
9. UNLESS NOTED OTHERWISE (U.N.O.), PROVIDE SATIN ALUMINUM FINISH TRANSITION STRIPS BY SCHLUTER OR EQUAL AT ALL FLOOR FINISH TRANSITIONS. VINYL AND MARBLE THRESHOLDS WILL NOT BE ACCEPTED. U.N.O., TRANSITION FINISHES AT CENTER OF DOOR. FLOAT OR FEATHER ALL FLOORING MATERIALS AS REQUIRED TO ENSURE A LEVEL TRANSITION BETWEEN MATERIALS OF VARYING THICKNESS. CHANGES IN LEVEL SHALL BE 1/4" MAXIMUM VERTICAL AND 1/2" MAXIMUM WITH A 1:2 BEVEL.
   a. SLOPED TRANSITIONS = SCHLUTER RENO-TK OR RENO U, SATIN ANODIZED ALUMINUM
   b. FLOOR FINISH TO CONCRETE FLOOR = SCLUTER RENO-U, COMES IN VARYING HEIGHTS SO MUST BE IN ADA HEIGHT, SATIN ANODIZED ALUMINUM
10. TRANSITION FINISHES SHALL OCCUR AT CENTER OF DOOR OPENING OR AS INDICATED ON FLOOR PLANS.
11. CONTINUE FLOORING AND WALL BASE MATERIAL AS SCHEDULED UNDER MILLWORK AND INTO ALL MILLWORK RECESSES.
12. WALLS THAT CONTAIN MECHANICAL VENTS, ACCESS DOORS, ELECTRICAL PANELS, ETC., SHALL BE PAINTED THE COLOR OF THE WALL IN WHICH IT IS LOCATED.
13. CEILINGS THAT CONTAIN MECHANICAL VENTS, ACCESS DOORS, ETC., SHALL BE PAINTED CEILING COLOR.
14. ALL ELECTRICAL OUTLET COVERS & PLUGS SHALL MATCH AND BE STAINLESS STEEL WITH GRAY PLUGS. FLOORBOXES TO BE METAL, NOT PLASTIC, SATIN ALUMINUM FINISH.
15. ALL SURFACES RECEIVING PAINT, VARNISH, OR WALLCOVERING SHALL BE PREPARED ACCORDING TO MANUFACTURER'SSPECIFICATIONS FOR APPLIED FINISH PRIOR TO INSTALLATION OR APPLICATION OF FINISH MATERIAL WHETHER GYPSUM BOARD, CMU, BRICK, ETC. PAINTER TO DETERMINE CORRECT PAINT TYPE FOR INSTALLATION.
16. PAINT INSTALLATION SHALL CONSIST OF MIN. ONE COAT OF PRIMER AND MIN. TWO COATS OF SPECIFIED PAINT TO PRODUCE A SATISFACTORY FINISH APPEARANCE. INSTALLATION OF ALL PAINT MATERIALS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. CORRECT PAINT TYPE AND FINISH TO BE DETERMINED BY PAINTER FOR GYPSUM BOARD, CMU, BRICK, ETC. TYPE WALLS.
   a. U.N.O., ALL PTD. INTERIOR HOLLOW METAL FRAMES SHALL RECEIVE A WATERBASED ALKYD SEMI-GLOSS PAINT WITH LOW VOC'S. COLOR SHALL MATCH EXISTING ADJACENT WALL PAINT COLOR.
   b. U.N.O., ALL GWB CEILINGS SHALL RECEIVE FLAT FINISH.
   c. U.N.O., ALL EXPOSED CEILINGS SHALL RECEIVE FLAT FINISH. ALL CONDUIT, PIPING AND HVAC DUCT TO BE PAINTED TO MATCH CEILING.
   d.U.N.O., ALL GWB WALLS SHALL RECEIVE EGGSHELL FINISH.
   e. U.N.O., ALL DOORS SHALL BE PAINTED: INTERIOR SEMI-GLOSS AND EXTERIOR TO BE EXTERIOR GRADE.
   f. U.N.O., ALL CMU WALLS SHALL BE PREPPED WITH BLOCK FILLER, PRIOR TO PRIMER AND PAINT APPLICATION
17. DOORS: SEE ARCHITECTURAL DOOR SCHEDULE
   a. ALL DOORS SHALL BE LEVER SET IN SATIN NICKEL.
   b. ALL GLASS DOORS SHALL HAVE ROCKWELL NEOTEK OFFSET PULLS, 16"L, WITH SQUARE ENDS.
   c. MILLWORK CABINET DOOR PULLS SHALL HAVE AMEROCK BLACKROCK 5"; SATIN NICKEL.
18. ALL FLOORING MATERIALS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. INSTALLATION SHALL BE FREE OF ABRASION, BUBBLES, CRACKS, AND OTHER IMPERFECTIONS. SEAMING SHALL BE VISIBLY CONCEALED.
19. PROVIDE WATERPROOF AND CRACK ISOLATION MEMBRANE IN ALL AREAS RECEIVING PORCELAIN FLOOR TILE. PROVIDE APPROPRIATE EXPANSION AND CONTROL JOINTS PER CURRENT T.C.N.A RECOMMENDATIONS. REFER TO TCNA EJ-171-09 FOR MOVEMENT JOINTS - VERTICAL AND HORIZONTAL.
20. TILE INSTALLATION SHALL BE SLOPED TO DRAINS; TILE AND SUBSTRATE SHALL BE INSTALLED PER TCNA GUIDELINES; MOISTURE RESISTANT GYPBOARD SHALL BE USED BEHIND WALLS THAT ARE WET WALLS.
21. CEILINGS SHALL BE INSTALLED PER PLAN DIAGRAMS. CEILINGS SHALL BE INSTALLED TO AVOID TILE "SLIVERS". CUT TILES LESS THAN 6" WILL NOT BE ACCEPTED.
22. REFER TO INTERIOR ELEVATIONS FOR ALL MILLWORK FINISH DESIGNATIONS.
23. GC SHALL SUBMIT FINISH SAMPLES TO INTERIOR DESIGNER AND ARCHITECT FOR REVIEW PRIOR TO ORDER AND INSTALLATION.



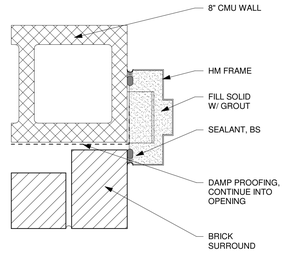
D1 DOOR TYPE D1
1/2" = 1'-0"



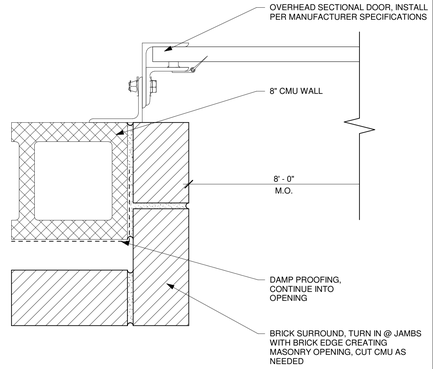
D4 FRAME TYPE F1 - MASONRY
1/2" = 1'-0"



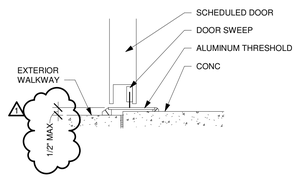
D7 JAMB AT INTERIOR CMU WALL J1
3" = 1'-0"



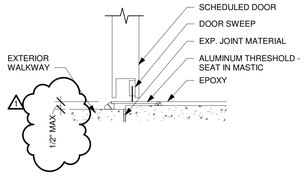
D10 JAMB AT EXTERIOR CMU WALL J2
3" = 1'-0"



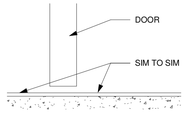
D13 JAMB AT EXTERIOR CMU WALL J3
3" = 1'-0"



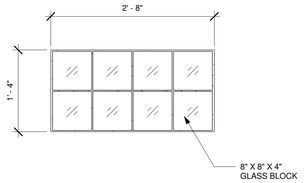
A1 EXTERIOR TRANSITION - CONCRETE TO CONCRETE
3" = 1'-0"



A4 EXTERIOR TRANSITION - CONCRETE TO EPOXY
3" = 1'-0"



A7 TRANSITION - SIM TO SIM
3" = 1'-0"



A10 WINDOW ELEVATION - A
1" = 1'-0"

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NORTH CAROLINA REGISTERED 13257 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

04-03-2023

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 52304 NORTH CAROLINA CHARLOTTE, N. C.

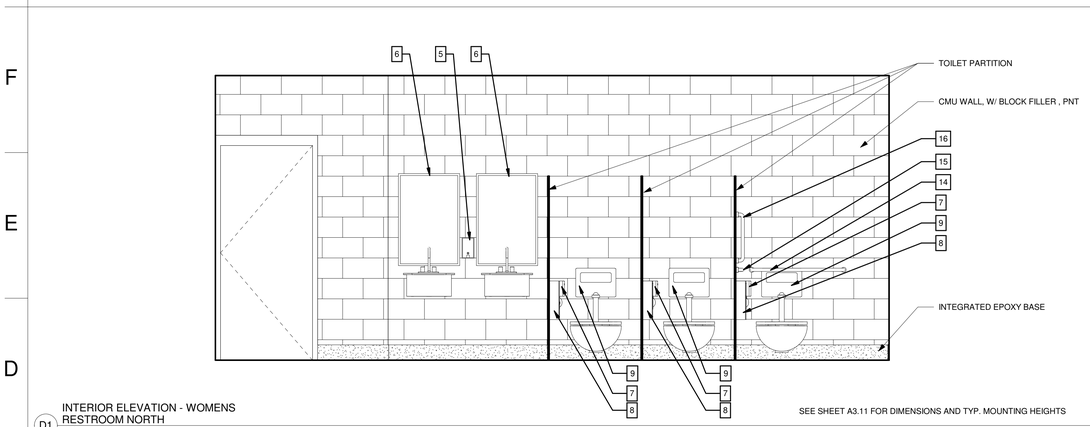
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date
1	Code Comments Cycle 1	04/03/2023

Project Number: 2021-046
Date: 08/29/2022

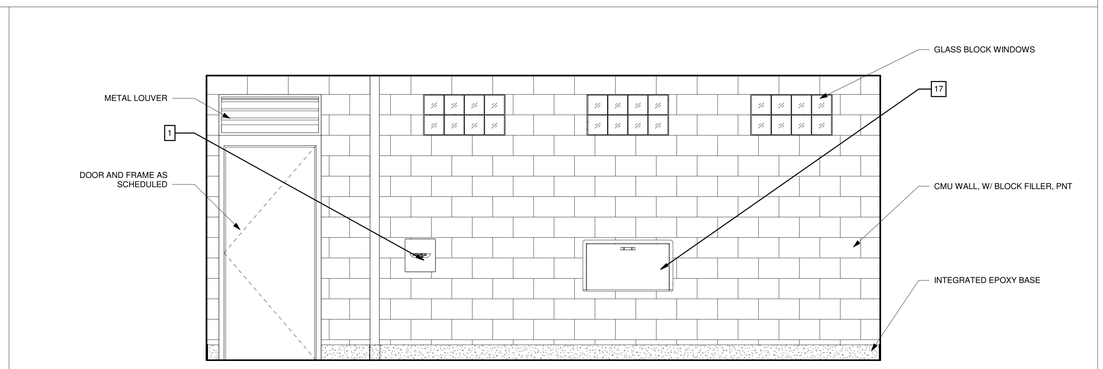
FINISH, DOOR, & WINDOW DETAILS

A9.01



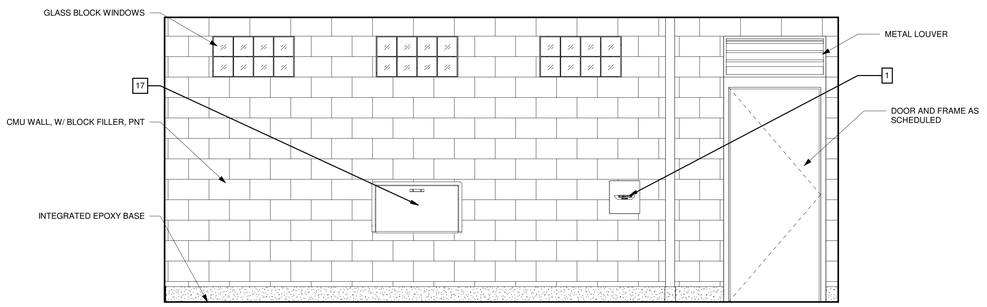
D1 INTERIOR ELEVATION - WOMENS RESTROOM NORTH
1/2" = 1'-0"

SEE SHEET A3.11 FOR DIMENSIONS AND TYP. MOUNTING HEIGHTS



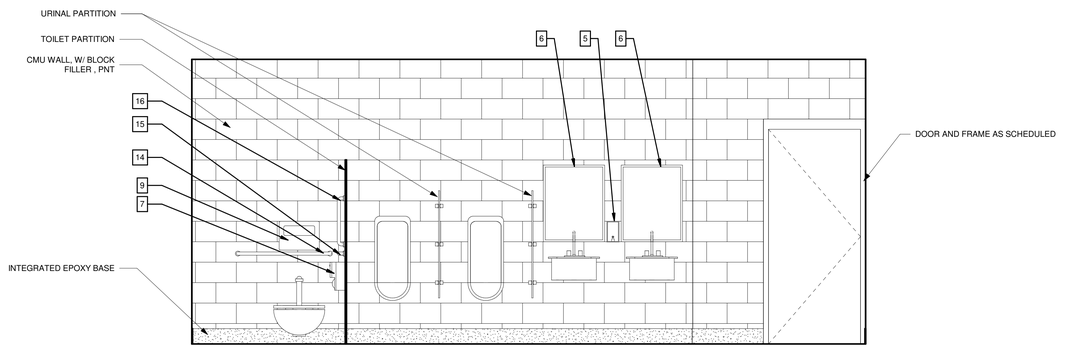
D8 INTERIOR ELEVATION - MENS RESTROOM NORTH
1/2" = 1'-0"

SEE SHEET A3.11 FOR DIMENSIONS AND TYP. MOUNTING HEIGHTS



A1 INTERIOR ELEVATION - WOMENS RESTROOM SOUTH
1/2" = 1'-0"

SEE SHEET A3.11 FOR DIMENSIONS AND TYP. MOUNTING HEIGHTS



A8 INTERIOR ELEVATION - MENS RESTROOM SOUTH
1/2" = 1'-0"

SEE SHEET A3.11 FOR DIMENSIONS AND TYP. MOUNTING HEIGHTS

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NORTH CAROLINA REGISTERED 15257 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N.C.

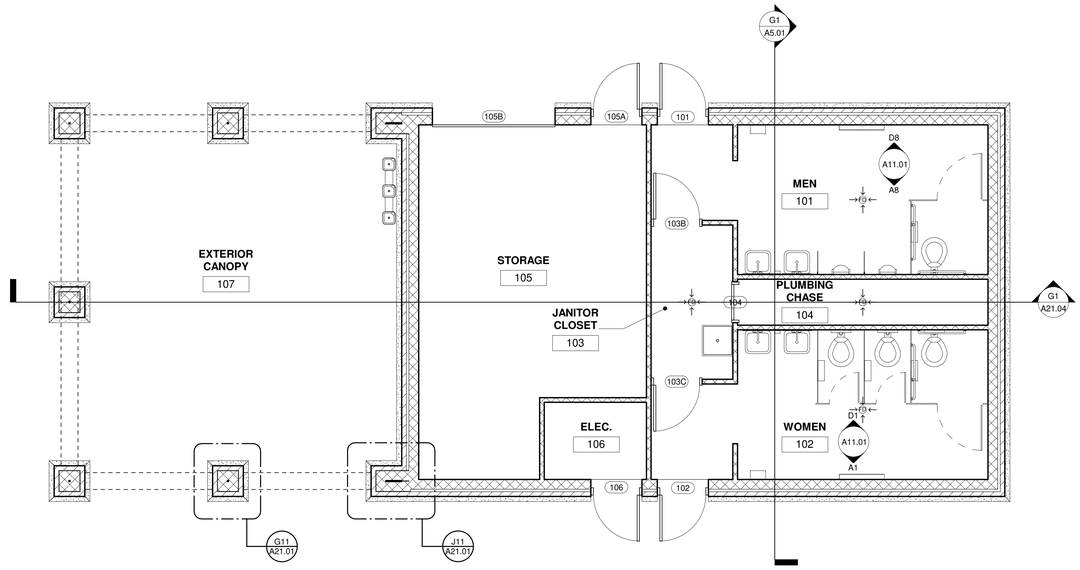
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

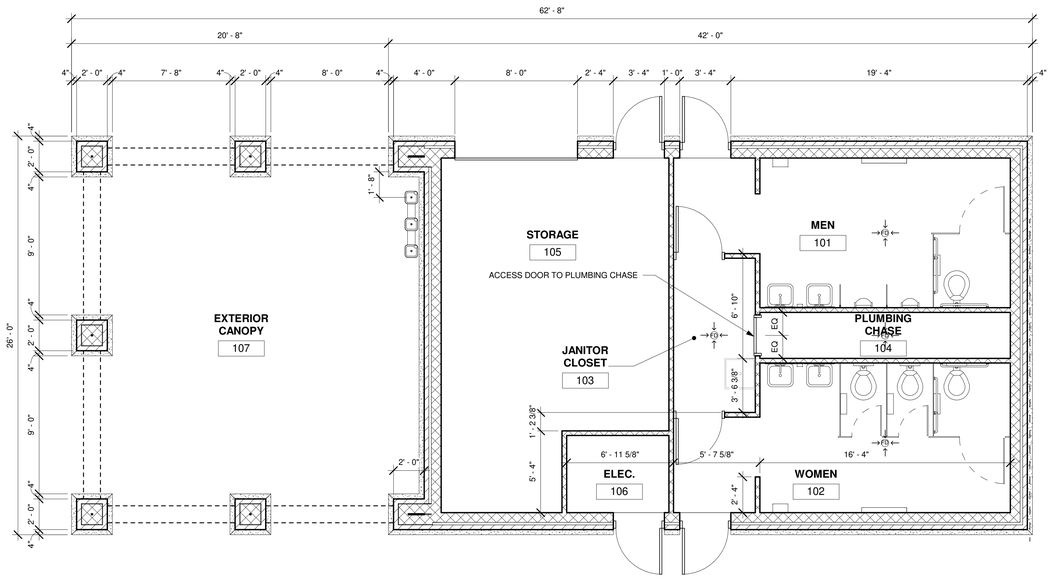
Project Number: 2021-046
Date: 08/29/2022

INTERIOR ELEVATIONS

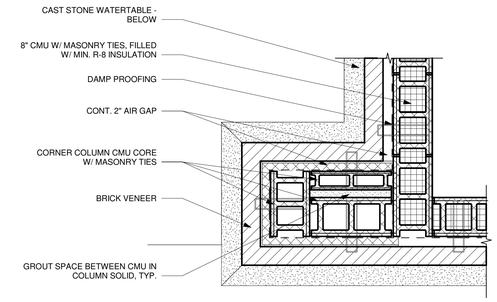
A11.01



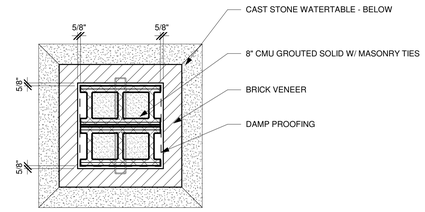
G1 CANOPY ALT. - FLOOR PLAN
1/4" = 1'-0"



A1 CANOPY ALT. - DIMENSIONED PLAN
1/4" = 1'-0"



J11 CANOPY ALT. - PLAN DETAIL @
CORNER COLUMN
1" = 1'-0"



G11 CANOPY ALT. - PLAN DETAIL @
EXTERIOR COLUMN - TYPICAL
1" = 1'-0"

ADD ALT FINISH SCHEDULE

Number	Name	Floor Finish	Base Finish	Ceiling Finish	Casework	Countertop	Wall Finish				Comments
							North	South	East	West	
101	MEN	EF-1	EF-1	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
102	WOMEN	EF-1	EF-1	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
103	JANITOR CLOSET	EF-1	EF-1	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
104	PLUMBING CHASE	-	N/A	O.T.S.	N/A	N/A	-	-	-	-	
105	STORAGE	SC-1	N/A	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
106	ELEC.	SC-1	N/A	GWB / PNT-3	N/A	N/A	PNT-1	PNT-1	PNT-1	PNT-1	
107	EXTERIOR CANOPY	SC-1	N/A	MP-1	N/A	N/A	BRICK-1	BRICK-1	BRICK-1	BRICK-1	

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NORTH CAROLINA REGISTERED 15257 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N. C.

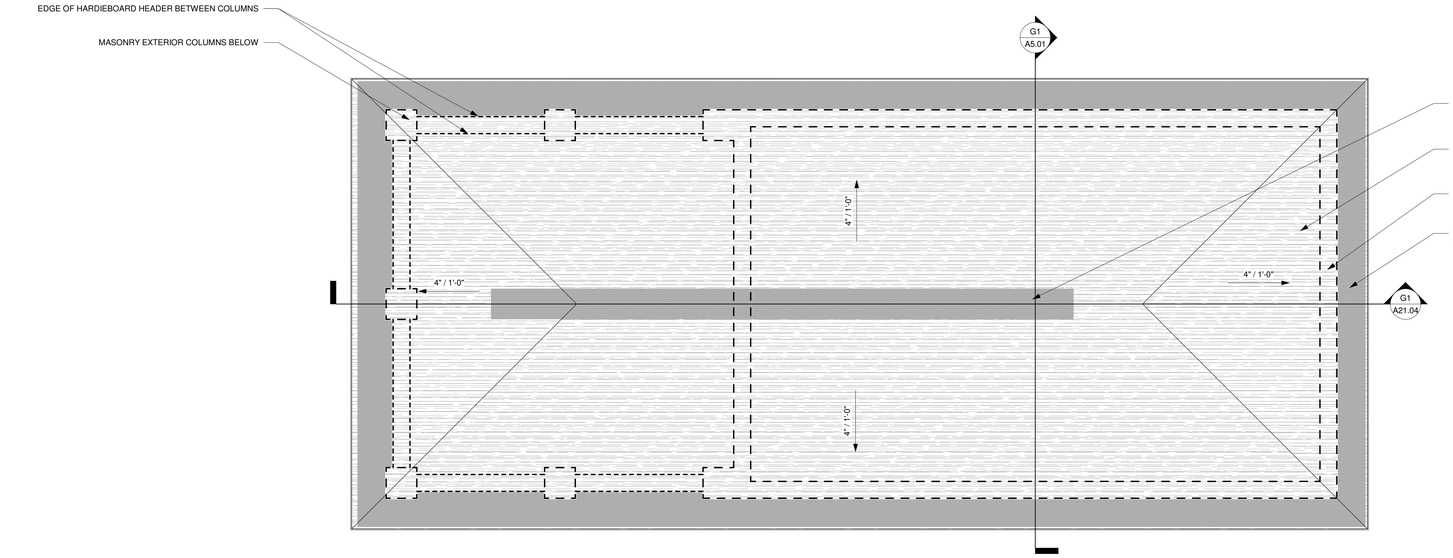
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

Project Number: 2021-046
Date: 08/29/2022

ADD ALT. - FLOOR PLANS & DETAILS

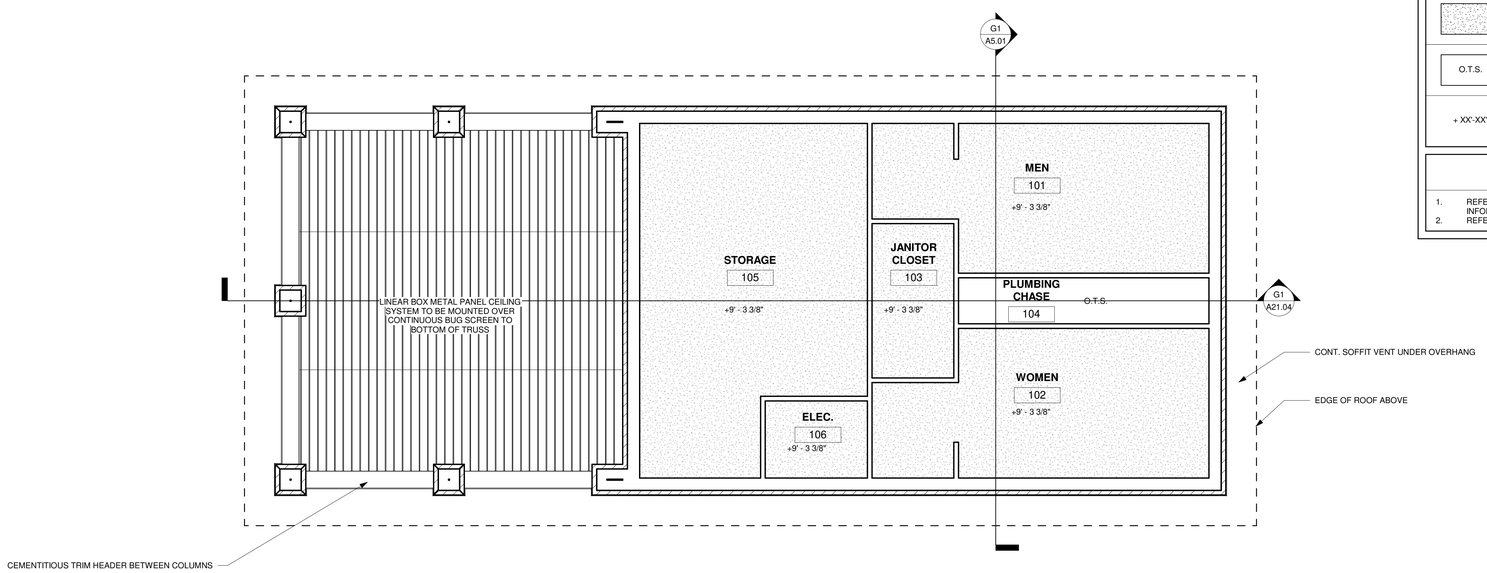
A21.01



G1 CANOPY ALT. - ROOF PLAN
1/4" = 1'-0"

ROOF PLAN LEGEND

+X' - X"	HEIGHT OF ROOF DECK
→	DIRECTION OF SLOPE
	VENTED SPACE



A1 CANOPY ALT. - REFLECTED CEILING PLAN
1/4" = 1'-0"

REFLECTED CEILING PLAN LEGEND

	GYPSUM BOARD CEILING
O.T.S.	OPEN TO STRUCTURE
+ XX'-XX"	CEILING HEIGHT ABOVE FINISHED FLOOR

NOTES

1. REFER TO DETAILS & SPECIFICATIONS FOR CEILING SUSPENSION/ANCHOR INFORMATION.
2. REFER TO MEP DRAWINGS FOR SYMBOL IDENTIFICATION.

LEGEND

TRUE NORTH

PLAN NORTH

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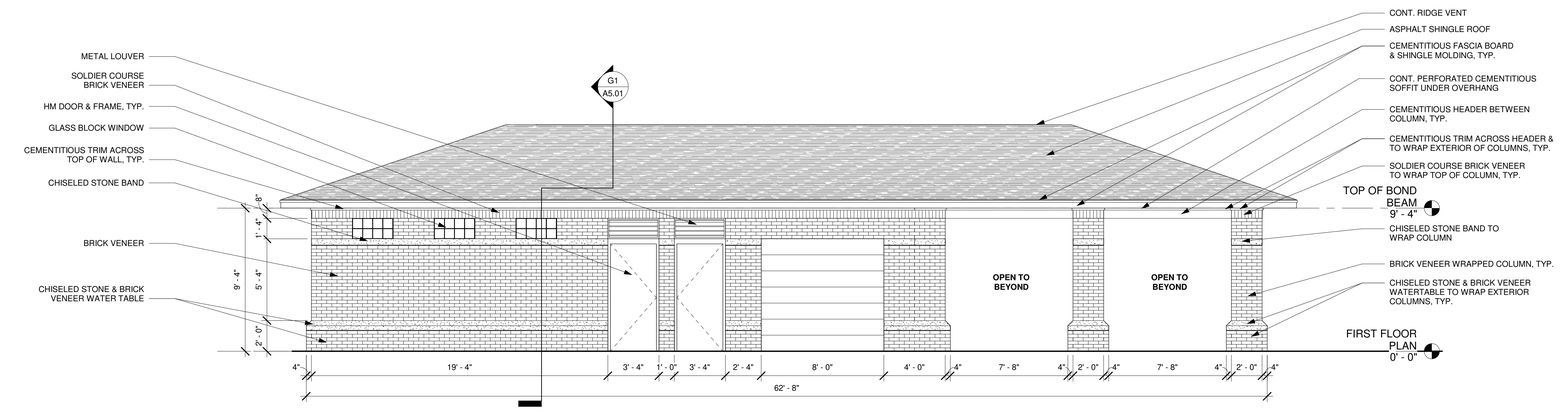
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

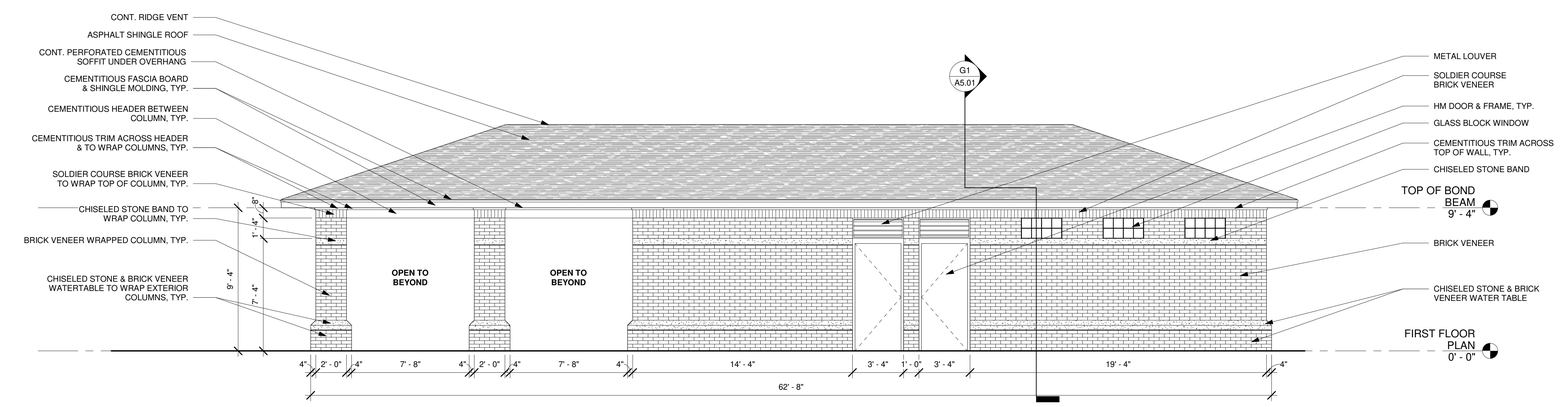
Project Number: 2021-046
Date: 08/29/2022

ADD ALT. - RCP & ROOF PLAN

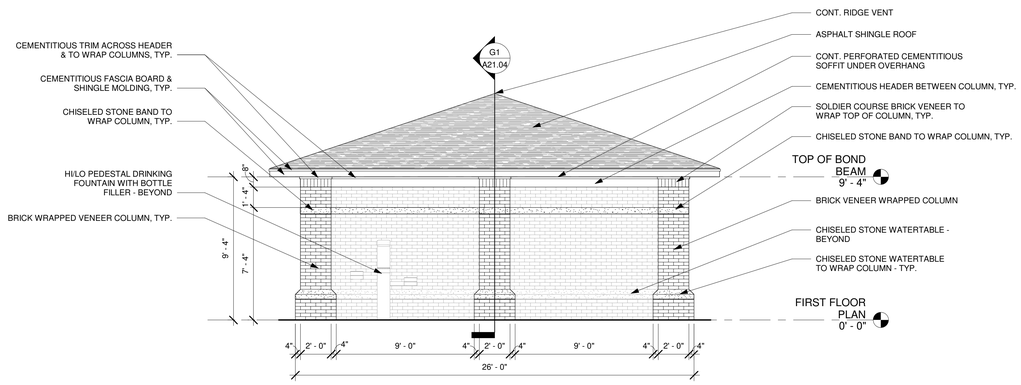
A21.02



I1 CANOPY ALT. - NORTH ELEVATION
1/4" = 1'-0"



E1 CANOPY ALT. - SOUTH ELEVATION
1/4" = 1'-0"



A1 CANOPY ALT. - WEST ELEVATION
1/4" = 1'-0"

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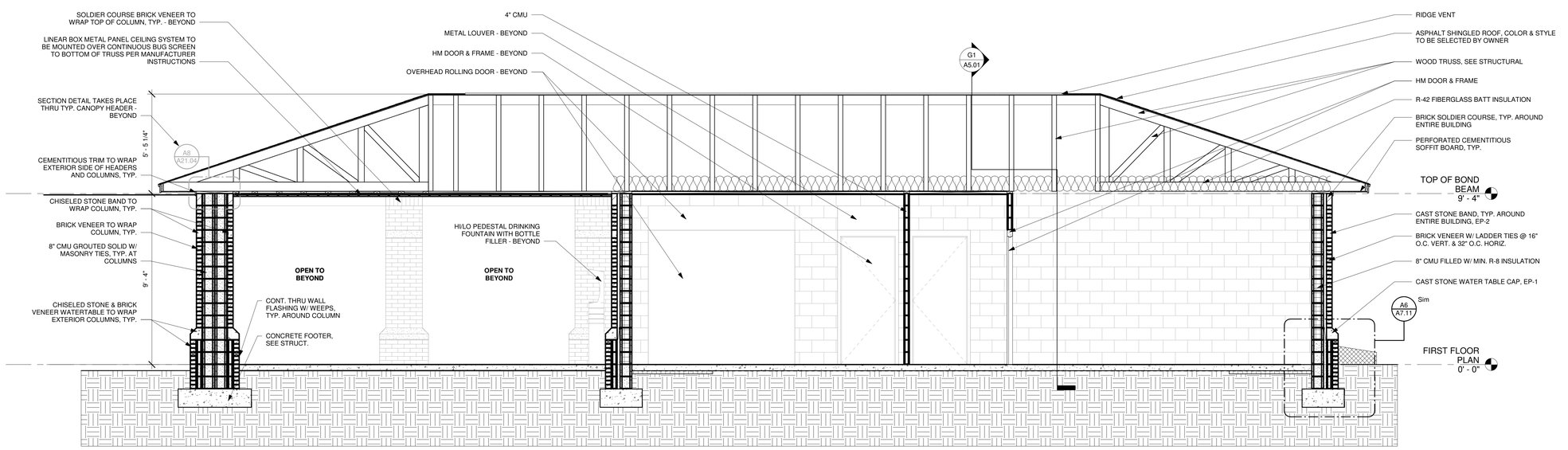
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

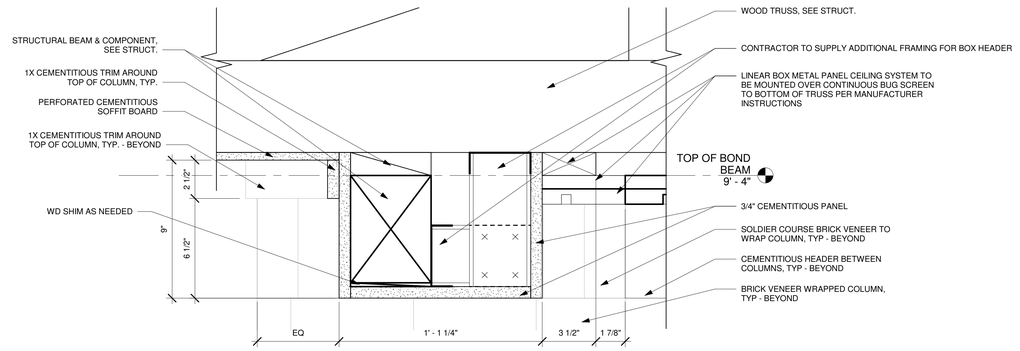
Project Number: 2021-046
Date: 08/29/2022

ADD ALT. - EXTERIOR ELEVATIONS

A21.03



G1 CANOPY ALT. - LONGITUDINAL SECTION W/ CANOPY
3/8" = 1'-0"



A8 ADD ALT. - SECTION DETAIL @ HEADER - TYPICAL
3" = 1'-0"

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RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

Project Number: 2021-046
Date: 08/29/2022

ADD ALT. - SECTIONS & DETAILS

A21.04

DRAWING INDEX

		ORIGINAL DATE	REVISION DATE
GENERAL			
T0.01	COVER SHEET	12/02/2022	04/24/2023
T0.02	TOPOGRAPHIC SURVEY (SHEET 1 OF 8)	12/02/2022	
T0.03	TOPOGRAPHIC SURVEY (SHEET 2 OF 8)	12/02/2022	
T0.04	TOPOGRAPHIC SURVEY (SHEET 3 OF 8)	12/02/2022	
T0.05	TOPOGRAPHIC SURVEY (SHEET 4 OF 8)	12/02/2022	
T0.06	TOPOGRAPHIC SURVEY (SHEET 5 OF 8)	12/02/2022	
T0.07	TOPOGRAPHIC SURVEY (SHEET 6 OF 8)	12/02/2022	
T0.08	TOPOGRAPHIC SURVEY (SHEET 7 OF 8)	12/02/2022	
T0.09	TOPOGRAPHIC SURVEY (SHEET 8 OF 8)	12/02/2022	
CIVIL			
C0.01	GENERAL NOTES	12/02/2022	03/28/2023
C0.02	NCG01 NOTES (SHEET 1 OF 2)	12/02/2022	
C0.03	NCG01 NOTES (SHEET 2 OF 2)	12/02/2022	
C1.01	DEMOLITION AND PHASE I ESC PLAN – OVERALL	12/02/2022	03/28/2023
C1.02	DEMOLITION AND PHASE I ESC PLAN – AREA 1	12/02/2022	03/28/2023
C1.03	DEMOLITION AND PHASE I ESC PLAN – AREA 2	12/02/2022	03/28/2023
C2.01	SITE PLAN – OVERALL	12/02/2022	03/28/2023
C2.02	SITE PLAN – AREA 1	12/02/2022	03/28/2023
C2.03	SITE PLAN – AREA 2	12/02/2022	
C3.01	PHASE II ESC PLAN – OVERALL	12/02/2022	03/28/2023
C3.02	PHASE II ESC PLAN – AREA 1	12/02/2022	03/28/2023
C3.03	PHASE II ESC PLAN – AREA 2	12/02/2022	03/28/2023
C3.04	PHASE III ESC PLAN – OVERALL	03/28/2023	
C3.05	PHASE III ESC PLAN – AREA 1	03/28/2023	
C3.06	PHASE III ESC PLAN – AREA 2	03/28/2023	
C3.07	GRADING AND STORM DRAINAGE PLAN – OVERALL	12/02/2022	03/28/2023
C3.08	GRADING AND STORM DRAINAGE PLAN – AREA 1	12/02/2022	03/28/2023
C3.09	GRADING AND STORM DRAINAGE PLAN – AREA 2	12/02/2022	03/28/2023
C3.10	STORM PROFILES	12/02/2022	03/28/2023
C3.11	BMP DETAILS	03/28/2023	
C4.01	UTILITY PLAN	12/02/2022	03/28/2023
C5.01	ESC DETAILS (SHEET 1 OF 2)	12/02/2022	
C5.02	ESC DETAILS (SHEET 2 OF 2)	12/02/2022	03/28/2023
C5.03	SITE DETAILS (SHEET 1 OF 2)	12/02/2022	
C5.04	SITE DETAILS (SHEET 2 OF 2)	12/02/2022	
C5.05	STORM DETAILS (SHEET 1 OF 3)	12/02/2022	
C5.06	STORM DETAILS (SHEET 2 OF 3)	12/02/2022	03/28/2023
C5.07	STORM DETAILS (SHEET 3 OF 3)	12/02/2022	
C5.08	UTILITY DETAILS	12/02/2022	
C5.09	SITE DISTANCE PLAN AND PROFILE	03/28/2023	
L1.01	LANDSCAPE PLAN	12/02/2022	04/24/2023
L1.02	LANDSCAPE NOTES AND DETAILS	12/02/2022	03/28/2023

SHEETS BY OTHERS

A2.01	EXTERIOR ELEVATIONS (BY CREECH & ASSOCIATES)	09/23/2022
A21.03	ADD ALT. – EXTERIOR ELEVATIONS (BY CREECH & ASSOCIATES)	09/23/2022
	PHOTOMETRICS PLAN (SHEET 1 OF 2)	03/01/2023
	PHOTOMETRICS PLAN (SHEET 2 OF 2)	03/01/2023

PROJECT / BUILDING INFORMATION:

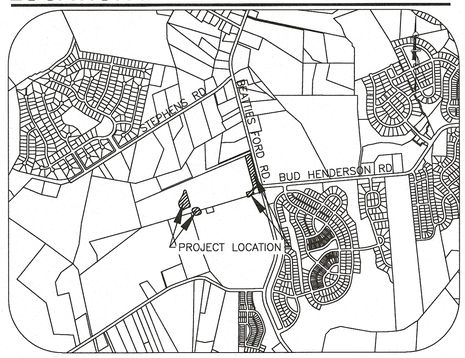
SCOPE OF WORK:	PARKING LOT EXPANSION, NEW RESTROOM BUILDING, AND EXPANSION OF EXISTING STORMWATER BMP	BUILDING OCCUPANCY USE GROUP:	UTILITY & MISC.
		SEPARATED MIXED USE:	N/A
		GROSS BUILDING AREA:	1,040 OR 1,629 SF
		SITE AREA:	42.13 AC
		DENUDED AREA:	4.3 AC
		FIRE ALARMS:	NO
		ZONING:	R (RURAL)
OCCUPANT LOAD:	N/A		
CONSTRUCTION TYPE:	II–B		
FLOOR AREA:	748 SF		
FIRE SUPPRESSION:	NO		
PARCEL ID NUMBER:	1309101		
WATERSHED:	MCDOWELL		
DRAINAGE AREA:	21.76 AC		

RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS
13707 BEATTIES FORD ROAD
HUNTERSVILLE, NORTH CAROLINA
MECKLENBURG COUNTY EPM# 444681 (1)

LOCATION MAP

SCALE: NTS



VICINITY MAP

SCALE: 1" = 500'

CONTACTS

OWNER:
MECKLENBURG COUNTY
CARE OF MICHAEL JAYCOCKS (TOWN OF HUNTERSVILLE)
DIRECTOR OF PARKS & RECREATION ADMINISTRATIVE OFFICES
P.O. BOX 2879
105 GILEAD ROAD – 3RD FLOOR
HUNTERSVILLE, NC 28078
PH. (704)766–2228
FAX (704)992–5528
MJAYCOCKS@HUNTERSVILLE.ORG

ENGINEER:
DEWBERRY ENGINEERS INC.
BRIAN LAFRANCHI, P.E.
9300 HARRIS CORNERS PKWY
SUITE 220
CHARLOTTE, NC 28269
PH. (704) 631–5206
FAX (704) 509–9937
BLAFRANCHI@DEWBERRY.COM

LANDSCAPE ARCHITECT:
DEWBERRY ENGINEERS INC.
TRISTAN M. MCMANNIS, PLA
9300 HARRIS CORNERS PKWY
SUITE 220
CHARLOTTE, NC 28269
PH. (704) 264–1233
FAX (704) 509–9937
TMCMANNIS@DEWBERRY.COM

SUBMITTAL		SET NUMBER
☐ PRELIMINARY	☐ CONSTRUCTION	
■ APPROVAL	☐ REVISION	
☐ BIDDING	☐ RECORD	

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NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK
PARKING LOT EXPANSION AND
NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA LANDSCAPE ARCHITECT TRISTAN M. MCMANNIS
FOR BIDDING PURPOSES ONLY
4/24/23
FOR SITE DESIGN

SEAL

NORTH CAROLINA ENGINEER BRIAN M. LaFRANCHI
FOR BIDDING PURPOSES ONLY
3/28/2023
FOR UTILITIES ONLY

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION
2	04/24/23	PMW	AGENCY COMMENTS
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY: DLJ
APPROVED BY: TMM
CHECKED BY: TMM
DATE: DECEMBER 2, 2022

TITLE

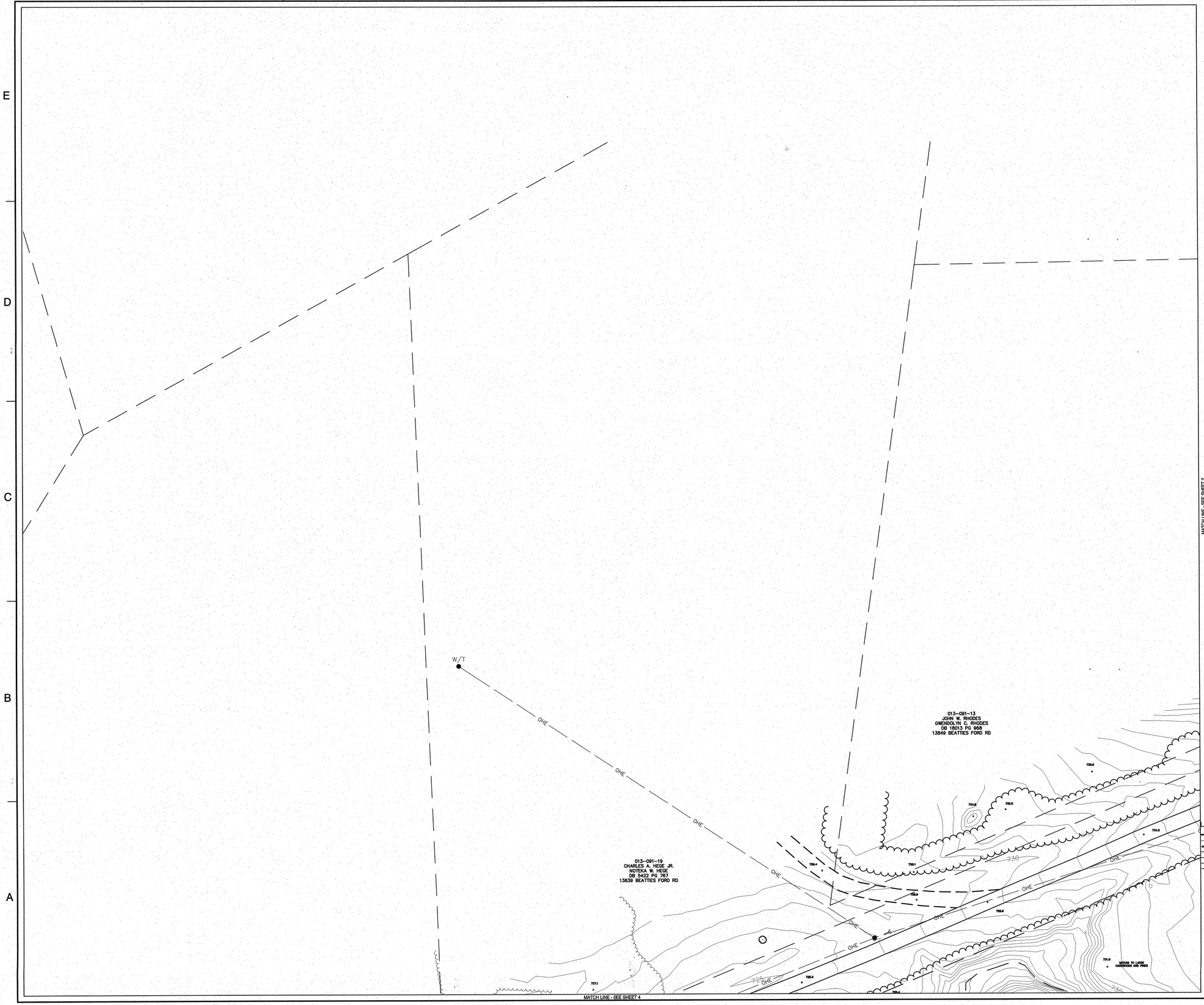
COVER SHEET

DEI PROJECT NO: 50153755

SHEET NO.

T0.01

P:\50153755\CAD\Civil\Sheets\T0.01 - Cover.dwg



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SHEET 1 OF 8

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	LINE NOT SURVEYED
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P	POWER LINE
	CENTERLINE
	RIGHT OF WAY R/W
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IPF	IRON PIPE FOUND
IRF	REBAR FOUND
SCM / FCM	SET / FOUND CONCRETE MONUMENT
PP	UTILITY POLE
N.C.G.S.	NORTH CAROLINA GEODETIC SURVEY
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EBX	ELECTRIC BOX
TVPED	CABLE PEDASTLE
SDM	STORM DRAIN MANHOLE
FHH	FIBER OPTIC HANDHOLE
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DIG	DROP INLET GRATE
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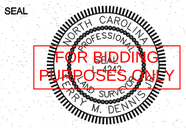
RICHARD BARRY PARK SYNTHETIC TURF FIELDS

100% CONSTRUCTION DOCUMENTS

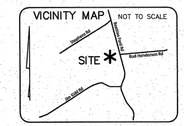
13707 BEATTIES FORD ROAD
HUNTERSVILLE, NORTH CAROLINA

SEAL



FOR BIDDING PURPOSES ONLY

VICINITY MAP NOT TO SCALE



SCALE: 1"=30'

0 30 60 90

REVISIONS

No.	DATE	BY	Description

DRAWN BY TMD
APPROVED BY TMD
CHECKED BY TAR
DATE NOVEMBER 21, 2019

TITLE

TOPOGRAPHIC SURVEY OF RICHARD BARRY PARK

PREPARED FOR
TOWN OF HUNTERSVILLE
PARKS AND RECREATION DEPT.
105 GILEAD ROAD – 3RD FLOOR
HUNTERSVILLE, NC 28078

DEI PROJECT NO: 50118877

SHEET NO.

T0.02

DATUM DESCRIPTION:
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SHEET 2 OF 8

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	CENTERLINE
	RIGHT OF WAY R/W
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RICHARD BARRY PARK SYNTHETIC TURF FIELDS

100% CONSTRUCTION DOCUMENTS

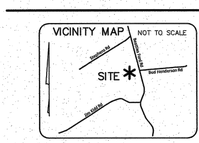
13707 BEATTIES FORD ROAD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA PROFESSIONAL LAND SURVEYOR L-4242 TERRY M. DENNIS

FOR BIDDING PURPOSES ONLY

VICINITY MAP NOT TO SCALE



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0 30 60 90

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CHECKED BY TAR
DATE NOVEMBER 21, 2019

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PARKS AND RECREATION DEPT.
105 GILEAD ROAD – 3RD FLOOR
HUNTERSVILLE, NC 28078

DEI PROJECT NO: 50118877

SHEET NO.

T0.03

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13707 BEATTIES FORD ROAD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA PROFESSIONAL SEAL L-4242 TERRY M. DENNIS

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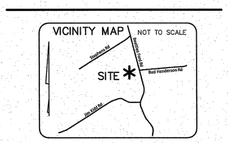

SCALE: 1"=30'

0 30 60 90

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CHECKED BY TAR
DATE NOVEMBER 21, 2019

TITLE

TOPOGRAPHIC SURVEY OF RICHARD BARRY PARK

PREPARED FOR
TOWN OF HUNTERSVILLE
PARKS AND RECREATION DEPT.
105 GILEAD ROAD – 3RD FLOOR
HUNTERSVILLE, NC 28078

DEI PROJECT NO: 50118877

SHEET NO.

T0.04

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SHEET 4 OF 8

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13707 BEATTIES FORD ROAD
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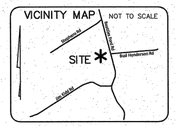
SEAL

VICINITY MAP NOT TO SCALE



SCALE: 1"=30'

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REVISIONS

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APPROVED BY TMD
CHECKED BY TAR
DATE NOVEMBER 21, 2019

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PARKS AND RECREATION DEPT.
105 GILEAD ROAD - 3RD FLOOR
HUNTERSVILLE, NC 28078

DEI PROJECT NO: 50118877

SHEET NO.

T0.05

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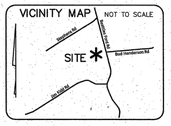
13707 BEATTIES FORD ROAD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA PROFESSIONAL SEAL L-4242 SURVEYOR TERRY M. DENNIS JR.

FOR BIDDING PURPOSES ONLY

VICINITY MAP NOT TO SCALE



SCALE: 1"=30'

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REVISIONS

No.	DATE	BY	Description

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APPROVED BY TMD
CHECKED BY TAR
DATE NOVEMBER 21, 2019

TITLE

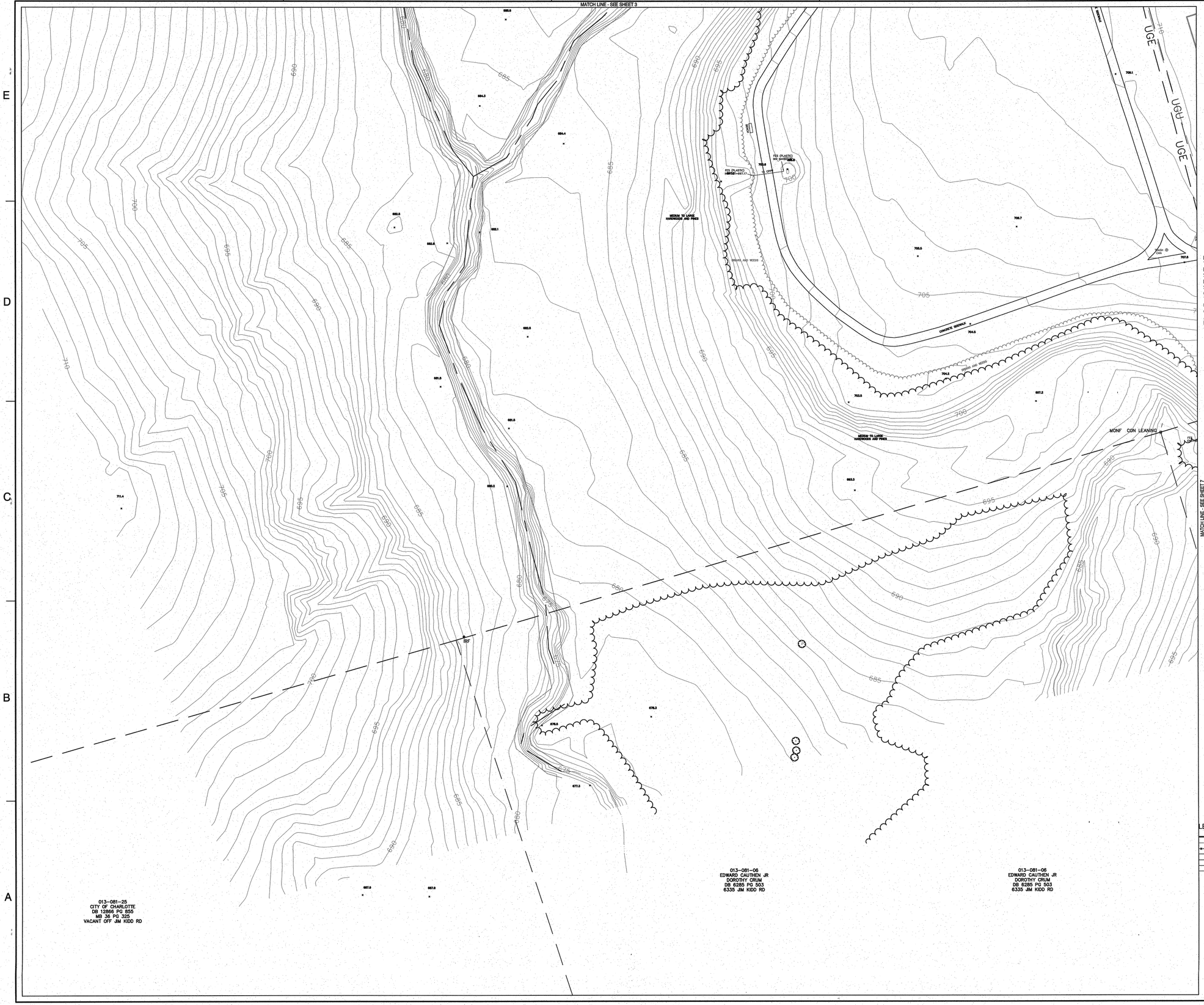
TOPOGRAPHIC SURVEY OF RICHARD BARRY PARK

PREPARED FOR
TOWN OF HUNTERSVILLE
PARKS AND RECREATION DEPT.
105 GILEAD ROAD – 3RD FLOOR
HUNTERSVILLE, NC 28078

DEI PROJECT NO: 50118877

SHEET NO.

T0.06



SHEET 6 OF 8

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LEGEND

	PROPERTY LINE
	LINE NOT SURVEYED
	FENCE LINE
P	POWER LINE
	CENTERLINE
	RIGHT OF WAY R/W
SS	SANITARY SEWER PIPE
IPF	IRON PIPE FOUND
IRF	REBAR FOUND
SCM / FCM	SET / FOUND CONCRETE MONUMENT
○ PP	UTILITY POLE
N.C.G.S.	NORTH CAROLINA GEODETIC SURVEY
RCP	REINFORCED CONCRETE PIPE
TBM	TEMPORARY BENCH MARK
POB	POINT OF BEGINNING
CB	CATCH BASIN
THH/TMH	TELEPHONE HANDHOLE/MANHOLE
PVC	POLYVINYL CHLORIDE
YIG	YARD INLET GRATE
SMH	SEWER MANHOLE
EBX	ELECTRIC BOX
TVPED	CABLE PEDASTLE
SDM	STORM DRAIN MANHOLE
FHH	FIBER OPTIC HANDHOLE
FMP	FIBER OPTIC MARKER POST
DIG	DROP INLET GRATE
LP	LIGHT POLE

Dewberry

Dewberry Engineers Inc.
9300 Harris Corners Pkwy - Suite 220
Charlotte, NC 28269
Phone: 704.509.9918
Fax: 704.509.9937
www.dewberry.com
N.C. REGISTRATION # F - 0929

RICHARD BARRY PARK SYNTHETIC TURF FIELDS

100% CONSTRUCTION DOCUMENTS

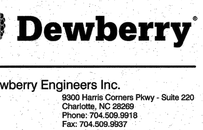
13707 BEATTIES FORD ROAD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA PROFESSIONAL LAND SURVEYOR L-4242 TERRY M. DENNIS

FOR BIDDING PURPOSES ONLY

VICINITY MAP NOT TO SCALE



SCALE: 1"=30'

0 30 60 90

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SHEET NO.

T0.07

DATUM DESCRIPTION:
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON STATE PLANE COORDINATES ESTABLISHED BY: DEWBERRY GPS #101 HAVING NAD 83(2011) STATE PLANE COORDINATES OF NORTHING: 606444.85 EASTING: 1,426,476.40 ELEVATION: 747.42. THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984506227. VERTICAL DATUM: NAVD 88. ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES. DATE OF SURVEY: 11/2019

SHEET 7 OF 8

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SEAL

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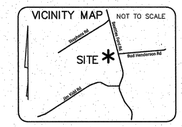

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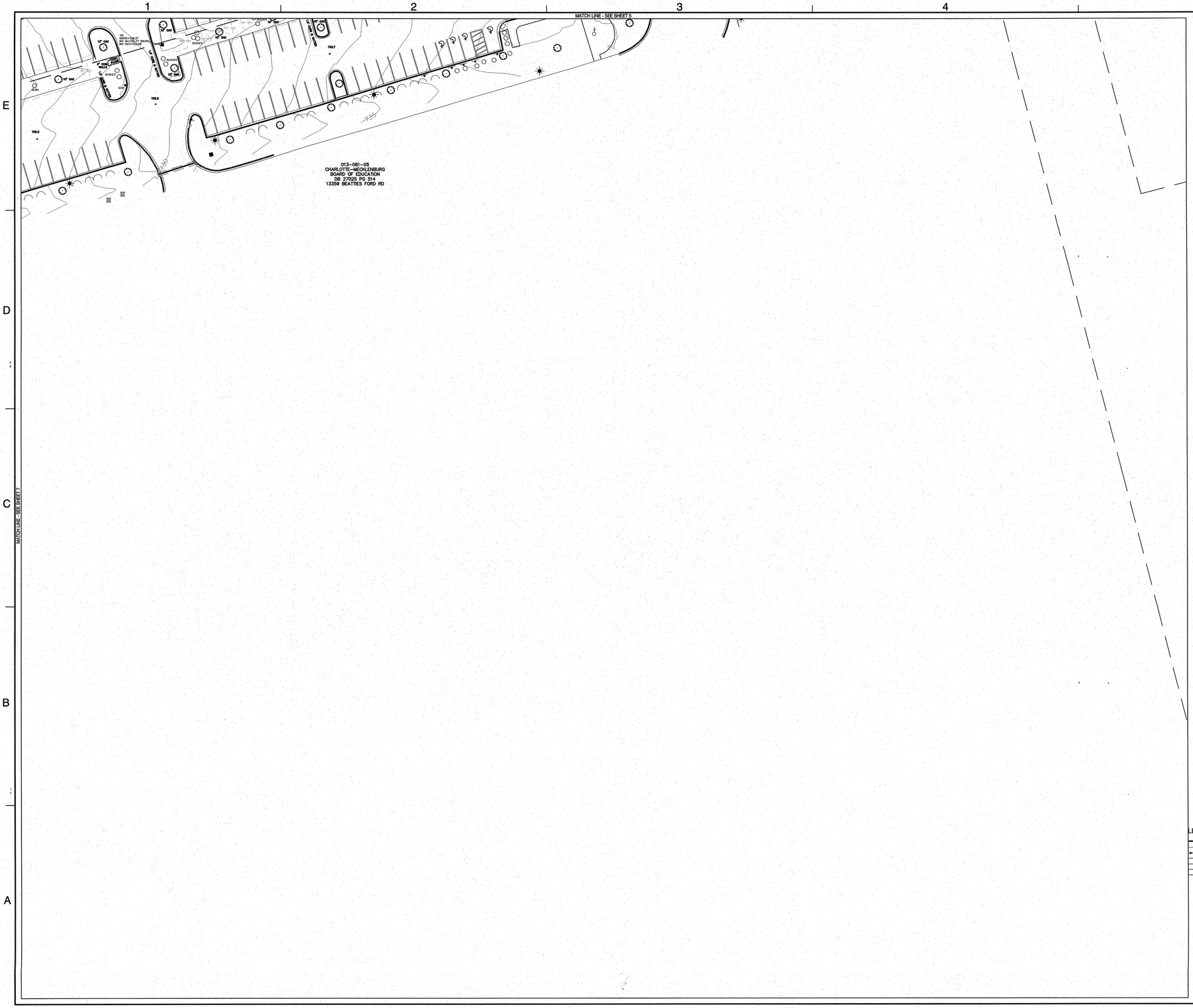

N.C. GRID NORTH NAD83

DATUM DESCRIPTION:
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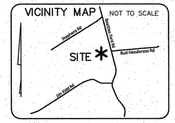

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DEI PROJECT NO: 50118877

SHEET NO.

T0.09

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GENERAL NOTES

1. EXISTING CONDITIONS BASED ON INFORMATION PROVIDED BY CLIENT AND PARTIAL FIELD SURVEY PERFORMED BY DEWBERRY JANUARY 27, 2020 AND ON CONSTRUCTION DOCUMENTS TITLED "RICHARD BARRY SYNTHETIC TURF FIELDS" PREPARED BY DEWBERRY ENGINEERS INC. AND DATED MARCH 24, 2022.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS PRIOR TO CONSTRUCTION.
3. THE INFORMATION AND DATA SHOWN OR INDICATED WITH RESPECT TO EXISTING UNDERGROUND FACILITIES AT OR CONTIGUOUS TO THE SITE IS BASED ON INFORMATION AND DATA FURNISHED TO THE ENGINEER BY THE OWNER. THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA, FOR LOCATING ALL UNDERGROUND FACILITIES SHOWN OR INDICATED PRIOR TO CONSTRUCTION, FOR COORDINATION OF THE WORK WITH THE OWNER OF SUCH UNDERGROUND FACILITIES DURING CONSTRUCTION, FOR THE SAFETY AND PROTECTION THEREOF RESULTING FROM THE WORK, ALL OF WHICH WILL BE AT NO ADDITIONAL COST TO THE OWNER.
4. WHEN WORKING ADJACENT TO EXISTING STRUCTURES, POLES, ETC., CONTRACTOR SHALL USE WHATEVER METHODS THAT ARE NECESSARY TO PROTECT STRUCTURES FROM DAMAGE. CONTRACTOR SHALL HAND EXCAVATE WITHIN 5' OF ALL BUILDINGS, WALLS AND STRUCTURES. REPLACEMENT OF DAMAGED STRUCTURES SHALL BE AT THE CONTRACTOR'S EXPENSE.
5. CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS TO THE ENGINEER OF RECORD AND THE OWNERS REPRESENTATIVE.
6. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS OF MECKLENBURG COUNTY AND TOWN OF HUNTERSVILLE.
7. ANY ALTERATIONS AND CONNECTIONS TO ANY UTILITY SHALL BE COORDINATED THROUGH THE OWNER.
8. CONTRACTOR WORK DAYS AND HOURS SHALL BE AS IDENTIFIED IN THE PROJECT MANUAL AND SPECIFICATIONS. ANY DEVIATION FROM THIS SCHEDULE SHALL BE APPROVED BY THE OWNER. SHUTDOWNS SHALL BE PERFORMED AT NIGHT AND WEEKENDS WITH 10 DAYS WRITTEN NOTICE.
9. CONTRACTOR SHALL PROTECT THE ACTIVE WORK AREA WITH 6' HIGH CHAIN LINK FENCE WITH TOP RAIL.
10. CONTRACTOR SHALL PROVIDE A PEDESTRIAN AND VEHICULAR MAINTENANCE PLAN TO THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
11. ALL CONTRACTOR LAYDOWN AREAS SHALL BE LOCATED WITHIN THE DENUDED LIMITS LINE OR AS SHOWN ON THESE PLANS.
12. CONTRACTOR SHALL COORDINATE SITE ACTIVITY WITH ADJACENT BUILDINGS TO MINIMIZE DISRUPTION TO DAILY ACTIVITIES.
13. CONTRACTOR SHALL MAINTAIN ALL INGRESS/EGRESS POINTS TO SURROUNDING BUILDINGS THROUGHOUT CONSTRUCTION UNLESS OTHERWISE NOTED ON THE PLANS.
14. ANY TREES AND/OR SHRUBS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY CONTRACTOR IN COORDINATION WITH THE OWNER.
15. ANY CURB, GUTTER, OR SIDEWALK DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY CONTRACTOR IN COORDINATION WITH THE OWNER. ALL REPAIRS SHALL BE MADE BY REPLACING ENTIRE SECTION (JOINT TO JOINT) OF CONCRETE DAMAGED.
16. ALL PAVING AND WALKWAY SHALL BE REPAIRED TO MATCH THE EXISTING CONDITIONS AND INSTALLED IN ACCORDANCE WITH THE NCDOT ROADWAY DESIGN MANUAL AND 2010 ADA STANDARDS.
17. CONTRACTOR SHALL EMPLOY A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM REQUIRED FIELD AND LABORATORY TESTING, AND PROVIDE RESULTS TO THE ENGINEER FOR REVIEW AND APPROVAL.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

THE SCOPE OF THIS PROJECT INCLUDES THE DESIGN AND CONSTRUCTION OF ONE (1) PARKING LOT AND ONE (1) RESTROOM FACILITY, INSTALLATION OF SUPPLEMENTAL STORM DRAINAGE, AND EXPANSION OF EXISTING STORMWATER POND. THE DENUDED LIMITS FOR THE PROJECT ARE APPROXIMATELY 4.3 AC.

ADJACENT PROPERTY

IT DOES NOT APPEAR ADJACENT PROPERTIES SHALL BE AFFECTED BY THE PERFORMANCE OF WORK ASSOCIATED WITH THIS PROJECT.

CRITICAL AREAS

MOUNTAIN ISLAND LAKE CRITICAL AREA 3 IS LOCATED WITHIN THE PROJECT LIMITS. WHERE GRADING IS TO BE PERFORMED, EROSION CONTROL MEASURES SUCH AS SILT FENCE, SEEDING, AND STABILIZATION ARE PROPOSED TO LIMIT EROSION AND SEDIMENTATION CONSISTENT WITH THE REQUIREMENTS OF TOWN OF HUNTERSVILLE REGULATIONS.

MANAGEMENT STRATEGIES

1. CONSTRUCTION SHALL BE SEQUENCED SO THAT DISTURBANCE, CONSTRUCTION, AND STABILIZATION CAN BE ACHIEVED AS SOON AS PRACTICABLE.
2. HARDSCAPE INSTALLATION SHALL BEGIN IMMEDIATELY FOLLOWING RETURN TO EXISTING SUBGRADE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
4. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY EROSION & SEDIMENT CONTROLS SHALL BE CLEANED UP AND REMOVED IMMEDIATELY.

EROSION AND SEDIMENT CONTROL MEASURES

THE INTENT OF THE EROSION AND SEDIMENT CONTROLS SHOWN ON THESE DRAWINGS IS TO GUIDE THE CONTRACTOR IN IMPLEMENTING ACCEPTABLE MEASURES, INFRASTRUCTURE, AND MAINTENANCE PROGRAMS THAT WILL MINIMIZE THE AMOUNT OF EROSION AND RESULTING SEDIMENT THAT WILL TAKE PLACE DURING THE CONSTRUCTION OF THIS PROJECT.

EROSION AND SEDIMENT CONTROL MAINTENANCE

IN GENERAL, ALL THE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED WEEKLY AND AFTER EACH ½" RAINFALL TO ENSURE THEY ARE IN WORKING ORDER. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

1. INLET PROTECTION: SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE DESIGN DEPTH OF THE TRAP.
2. SILT FENCE SHALL BE MAINTAINED BY CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT TO FUNCTION PER THE STANDARD DETAILS. WHEN/WHERE NECESSARY CONTRACTOR SHALL REPLACE/REPAIR DAMAGED SILT FENCE PER STANDARD DETAILS.

EROSION CONTROL & WATER QUALITY INSPECTOR:
ANNE LOFTIN
(704) 766-2256

LAND DEVELOPMENT INSPECTOR:
CECIL TALBOT
(704) 766-2258

ZONING INSPECTOR:
AU'DARIUS BLACKWOOD
(704) 766-2251

NCDEQ INSPECTOR:
JEFFREY CHANDLER
(704) 235-2148

EROSION AND SEDIMENT CONTROL NOTES

1. ALL "STD." NUMBERS REFER TO THE TOWN OF HUNTERSVILLE'S ENGINEERING STANDARDS AND PROCEDURES MANUAL (ESAMP).
2. ON-SITE BURIAL PITS REQUIRE AN ON-SITE DEMOLITION LANDFILL PERMIT FROM THE ZONING ADMINISTRATOR.
3. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE TOWN OF HUNTERSVILLE EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
4. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE TOWN OF HUNTERSVILLE EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
5. ALL PERIMETER AREAS AND SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITHIN 7 DAYS. GROUND STABILIZATION ON ALL OTHER AREAS MUST BE COMPLETED WITHIN 14 DAYS. REFER TO THE EROSION CONTROL ORDINANCE FOR ADDITIONAL REQUIREMENTS.
6. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF TOWN OF HUNTERSVILLE.
7. DEWATERING TO BE AUTHORIZED BY THE EROSION CONTROL INSPECTOR AS RELATED TO SITE CONDITIONS. CONTRACTOR SHALL OBTAIN EROSION CONTROL INSPECTOR AUTHORIZATION PRIOR TO DEWATERING ACTIVITIES.
8. A GRADING PLAN MUST BE SUBMITTED FOR ANY LOT GRADING EXCEEDING ONE ACRE THAT WAS NOT PREVIOUSLY APPROVED.
9. TEMPORARY DRIVEWAY PERMIT FOR CONSTRUCTION ENTRANCES IN NCDOT RIGHT OF WAY MUST BE PRESENTED AT PRE-CONSTRUCTION MEETING.
10. ALL EMBANKMENTS MUST BE CONSTRUCTED PER SECTION 4.0.6 EMBANKMENT REQUIREMENTS IN THE BMP DESIGN MANUAL.
11. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1. SLOPES GREATER THAN 10 VERTICAL FEET REQUIRE ADEQUATE TERRACING (ESAMP # 520.1). SOILS ENGINEER TO VERIFY STABILITY OF SLOPES GREATER THAN 3:1.
12. SOIL COMPACTION TESTS ARE REQUIRED ON ANY BERM >= 5' IN HEIGHT FROM THE NATURAL GRADE. SOIL COMPACTION MUST BE AT 95% PROCTOR PER ASTM D-1557 AND CERTIFIED BY A LICENSED SOIL ENGINEER.
13. CONTRACTOR SHALL OBTAIN COMPACTION AT 95% MAXIMUM DRY DENSITY STANDARD PROCTOR PER ASTM D-1557. CONTRACTOR SHALL PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
14. ALL LAND-DISTURBING ACTIVITIES, INCLUDING THOSE THAT DISTURB LESS THAN AN ACRE, SHALL PROVIDE ADEQUATE EROSION CONTROL MEASURES, STRUCTURES, OR DEVICES IN ACCORDANCE WITH THE TOWN OF HUNTERSVILLE SEDIMENT AND EROSION CONTROL ORDINANCE.
15. ENHANCED EROSION CONTROL MEASURES - THESE MEASURES ARE REQUIRED TO BE INSTALLED IN THE AREAS IDENTIFIED IN ATTACHMENT 1 (MCDOWELL CREEK WATERSHED, CRITICAL & PROTECTED WATERSHED DISTRICTS AND LAND WITHIN 500' OF CLARKE CREEK.
16. SURFACE WATER DRAW DOWN DEVICES (RISERS OR SKIMMERS) SHALL BE INSTALLED IN ALL SEDIMENT BASING. ROCK COFFER FOREBAYS SHALL BE USED IN CONJUNCTION WITH ALL SEDIMENT BASINS. THE BASIN SHALL ALSO HAVE A VOLUME TWENTY-FIVE (25) PERCENT GREATER THAN THE 1,800 CUBIC FEET PER DRAINAGE ACRE, WHEN POSSIBLE.
17. POLYACRYLAMIDES (PAM) SHALL BE USED TO REDUCE TURBIDITY AND SUSPENDED SOLIDS WHENEVER A SEDIMENT TRAP, BASIN, PIT, HOLE, OR BULDING FOUNDATION IS BEING PUMPED OUT TO REMOVE SEDIMENT LADEN WATER. PAM IS NOT REQUIRED WHEN ANY OF THE ABOVE IS BEING PUMPED TO AN APPROVED SEDIMENT BASIN ON SITE. THIS ACTIVITY MUST BE INSPECTED AND APPROVED BY THE TOWN OF HUNTERSVILLE EROSION CONTROL INSPECTOR.
18. POLYACRYLAMIDES MAY BE REQUIRED ON SITE, AS DETERMINED BY THE TOWN EROSION CONTROL INSPECTOR.
19. DOUBLE ROW OF HIGH HAZARD SILT FENCE WITH WIRE BACKING AND STONE SHALL BE USED ALONG WETLANDS, STREAMS, LAKES OR OTHER SURFACE WATER BODIES AS WELL AS ADJACENT TO ALL S.W.I.M. OR OTHER WATER QUALITY BUFFERS. SINGLE ROW OF SILT FENCE WITH WIRE BACKING AND WASHED STONE MAY BE REQUIRED ON ALL OTHER AREAS, AS DETERMINED NECESSARY BY THE TOWN ENGINEER OR FIELD INSPECTOR.
20. THE AMOUNT OF UNCOVERED AREA AT ANY ONE TIME SHALL BE LIMITED TO NO MORE THAN 20 ACRES, UNLESS APPROVED BY THE TOWN.
21. A 10-FOOT UNDISTURBED BUFFER SHALL BE PROVIDED AROUND THE OUTSIDE EDGE OF DRAINAGE FEATURES SUCH AS INTERMITTENT AND PERENNIAL STREAMS, PONDS, AND WETLANDS. INCIDENTAL DRAINAGE IMPROVEMENTS OR REPAIRS WILL BE PERMITTED WITHIN THE BUFFER AS APPROVED BY TOWN STAFF. THESE WOULD INCLUDE ANY ALLOWANCES STATED IN THE SWIM BUFFER AND/OR PCCO ORDINANCES, IF APPLICABLE.
22. A GROUND COVER SUFFICIENT TO RESTRAIN ACCELERATED EROSION MUST BE PROVIDED WITHIN 7 CALENDAR DAYS OF THE DATE OF LAST LAND-DISTURBING ACTIVITY ON ANY PORTION OF THE PROJECT.
23. ALL DIVERSION DITCHES AND INTERIOR BASIN SLOPES MUST BE MATTED.
24. ALL BASIN SPILLWAYS SHALL BE SIZED TO PASS THE 25-YR STORM EVENT.
25. FILL SLOPE STEEPNESS SHALL BE LIMITED TO 2:1. SLOPES STEEPER THAN 3:1 MUST BE TERRACED OR OTHERWISE PROVIDE AN APPROVED ENGINEERED SOLUTION. SLOPES 3:1 OR FLATTER MUST BE DESIGNED AS SET FORTH IN THE NC SOIL EROSION & SEDIMENT PLANNING & DESIGN MANUAL, STANDARD 6.02A.
26. ALL PLANS WILL CARRY A "PERFORMANCE RESERVATION".
27. ALL SELF-INSPECTION LOG BOOK ENTRIES WILL BE ELECTRONICALLY SENT TO THE AREA INSPECTOR, WITHIN 2 WORKING DAYS OF A QUALIFYING RAIN EVENT OR WEEKLY (WHICHEVER IS SHORTER). FOR EROSION CONTROL BASINS WITH A DRAINAGE AREA GREATER THAN 10 ACRES, TURBIDITY MEASUREMENTS MAY BE REQUIRED AT THE DISCRETION OF THE TOWN TO MEASURE CLARITY OF BASIN EFFLUENT AND ANY POTENTIAL IMPACT TO RECEIVING WATERS AT THE TIME OF RAINFALL-TRIGGERED INSPECTIONS. READINGS MUST BE COLLECTED AT THE BASIN OUTFALL (TO MEASURE CLARITY OF BASIN EFFLUENT), UPSTREAM OF THE DISCHARGE POINT (TO MEASURE BASELINE CONDITIONS) AND DOWNSTREAM OF THE DISCHARGE POINT (TO MEASURE STREAM IMPACTS OF THE BASIN EFFLUENT) WHEN POSSIBLE. THE RESULTS MUST BE LOGGED IN THE INSPECTION REPORTS.
28. AFTER CONSTRUCTION IS COMPLETED AND THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES.

EROSION CONTROL CONSTRUCTION SEQUENCE (PHASE 1)

1. SET UP AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH THE FOLLOWING DEPARTMENTS: NCDEQ EROSION CONTROL INSPECTOR, LAND DEVELOPMENT INSPECTOR AND ZONING INSPECTOR. FAILURE TO SCHEDULE SUCH CONFERENCE 48 HOURS PRIOR TO ANY LAND DISTURBING ACTIVITY IS SUBJECT TO FINE.
2. INSTALL CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, TREE PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
3. CALL FOR ON-SITE INSPECTION BY INSPECTOR. WHEN APPROVED, INSPECTOR ISSUES THE GRADING PERMIT AND CLEARING AND GRUBBING MAY BEGIN.
4. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
5. CONTRACTOR SHALL COMPLETE IMPROVEMENTS TO EXISTING DRY DETENTION BASIN AS SHOWN ON PLANS PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN "AREA 1" OF THIS PROJECT.
6. CONTRACTOR SHALL COMMENCE DEMOLITION AND REMOVAL OF EXISTING FEATURES AS SHOWN ON PLANS.
7. COORDINATE WITH EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURE.
8. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N. C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U. S. DEPT. OF AGRICULTURE, TOWN OF HUNTERSVILLE EROSION CONTROL ORDINANCE, AND THE TOWN OF HUNTERSVILLE STANDARDS.
9. FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING WITH EACH PHASE OF EROSION CONTROL MEASURES.

EROSION CONTROL CONSTRUCTION SEQUENCE (PHASE 2)

1. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL PHASE 1 EROSION CONTROL DEVICES AND STRUCTURES, AND ADJUST AS NEEDED TO CONSTRUCT PROPOSED IMPROVEMENTS.
2. FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING WITH EACH PHASE OF EROSION CONTROL MEASURES.
3. ADJUST AND INSTALL SILT FENCE, INLET PROTECTION, TREE PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS.
4. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES.
5. THE LAND DEVELOPMENT INSPECTOR SHOULD BE CALLED TO CONDUCT INSPECTIONS ON STORM DRAINAGE, SIDEWALKS, DRIVEWAY ON STORM DRAINAGE, SIDEWALKS, DRIVEWAY IMPROVEMENTS, AND ALL ASPECTS OF ROAD CONSTRUCTION
6. STABILIZE SITE AS AREAS ARE BROUGHT TO FINISHED GRADE.
7. COORDINATE WITH EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF ALL EROSION CONTROL MEASURES.
8. CONTRACTOR SHALL PERFORM OR CAUSE TO BE PERFORMED AS BUILT SURVEYS OF THE PROPOSED STORM DRAINAGE, STORMWATER BMP OUTLET CONTROL STRUCTURE, PROPOSED IMPERVIOUS AREAS (BUILDING, PARKING AREA, SIDEWALK, ETC.), AND ALL OTHER ASSOCIATED IMPROVEMENTS.

LANDSCAPING NOTES

1. TREES AND VEGETATION ADJACENT TO THE ACTUAL WORK AREA OR BORROW AREA SHALL BE PROTECTED WITH TEMPORARY FENCING (CHAIN LINK FENCE FOR TREES; CONSTRUCTION SAFETY FENCE FOR VEGETATION) TO PRESERVE EXISTING ITEMS INDICATED TO REMAIN AND TO PREVENT DAMAGE TO PROPERTY.
2. THE PARKING OF VEHICLES AND STORAGE OF ANY CONSTRUCTION EQUIPMENT OR MATERIALS SHALL NOT OCCUR UNDER THE DRIP LINE OF TREES.
3. BACKFILL AND COMPACTION SHALL BE COMPLETED TO THE SATISFACTION OF THE OWNER.

SITE INFORMATION

1. PROJECT IS LOCATED IN THE TOWN OF HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA.
2. THE PROJECT IS LOCATED WITHIN THE TOWN OF HUNTERSVILLE.
3. THE PROJECT SITE IS LOCATED IN MOUNTAIN ISLAND LAKE CRITICAL AREA 3. A POST CONSTRUCTION BUFFER IS ALSO LOCATED IN THE PROJECT AREA.

GENERAL DEMOLITION NOTES

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OWNER FOR FIELD LOCATION OF ALL UTILITIES WITHIN PROJECT LIMITS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES FOUND BETWEEN SITE CONDITIONS AND THESE PLANS SHALL BE COMMUNICATED TO THE OWNER AND DESIGNER OF RECORD AS SOON AS PRACTICABLE.
2. SAW CUT AND REMOVE ALL BRICK AND CONCRETE TO LIMITS REQUIRED FOR PROPOSED WORK. SAW CUTS FOR CONCRETE SHALL OCCUR AT THE NEAREST CONTROL JOINT OR EXPANSION JOINT. SAW CUTS BETWEEN CONTROL JOINTS ARE NOT ACCEPTABLE. ALL DECORATIVE SCORING PATTERNS SHALL BE REPLACED TO THE OWNER'S SATISFACTION. CONTRACTOR SHALL DOCUMENT AND PHOTOGRAPH ALL DECORATIVE SCORING PATTERNS PRIOR TO DEMOLITION.
3. REMOVE VEGETATION, GRASS, & ROOTMAT IN AREAS TO RECEIVE NEW BRICK AND CONCRETE PAVEMENTS.
4. ALL PRIMARY UTILITIES DISCOVERED DURING DEMOLITION OPERATIONS SHALL BE PROPERLY PRESERVED AND PROTECTED.
5. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER ANY UNFORESEEN OR ADVERSE CONDITIONS DISCOVERED DURING DEMOLITION OPERATIONS.
6. CONTRACTOR SHALL PROTECT EXISTING PLANT MATERIAL NOT DESIGNATED FOR REMOVAL OR RELOCATION FROM DAMAGE DURING CONSTRUCTION.
7. CONTRACTOR SHALL KEEP ALL SURROUNDING PUBLIC ROADWAYS AND DRAINAGE SYSTEMS FREE FROM DIRT, MUD, AND CONSTRUCTION DEBRIS AT ALL TIMES.
8. LIMITS OF DEMOLITION INDICATED ON PLAN ARE MINIMUM. CONTRACTOR SHALL REMOVE CONCRETE AND MISCELLANEOUS ITEMS AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY ITEMS DAMAGED DURING THE CONSTRUCTION.
10. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH CHARLOTTE-MECKLENBURG SCHOOLS TO AVOID IMPACTS TO DAILY OPERATION OF SCHOOL.

LEGEND

EXISTING:

- EXISTING STORM INLET
- EXISTING SANITARY SEWER MANHOLE
- EHH — EXISTING ELECTRIC HANDHOLE
- FHH — EXISTING FIBER HANDHOLE
- EXISTING POST
- EXISTING LIGHTPOLE
- EXISTING SIGN
- EXISTING FLAG/FOUL POLE
- RV — EXISTING IRRIGATION VALVE
- EXISTING CURB AND GUTTER
- 638 — EXISTING MINOR CONTOUR
- 640 — EXISTING MAJOR CONTOUR
- SS — EXISTING SANITARY SEWER PIPE
- EXISTING TRENCH DRAIN
- SD — EXISTING STORM DRAIN PIPE
- UGU — EXISTING UNDERGROUND UTILITY
- UGE — EXISTING UNDERGROUND ELECTRIC
- IRR — EXISTING UNDERGROUND IRRIGATION
- EXISTING CHAIN LINK FENCE
- EXISTING CHAIN LINK FENCE
- EXISTING SOILS LINE
- EXISTING RIPRAP

PROPOSED:

- PROPOSED DENUDED AREA
- SAF — PROPOSED TEMPORARY CONSTRUCTION SAFETY FENCE
- SF — PROPOSED SILT FENCE
- TP — PROPOSED TREE PROTECTION FENCING
- PROPOSED FENCE REPLACEMENT
- PROPOSED 4' DECORATIVE ALUMINUM FENCE
- IP — PROPOSED INLET PROTECTION WITH SILT SACK
- IP — PROPOSED BLOCK AND GRAVEL INLET PROTECTION WITH SILT SACK
- TP — PROPOSED TREE PROTECTION FENCING
- ML — PROPOSED MULCHING
- TS — PROPOSED TEMPORARY SEEDING
- PS — PROPOSED PERMANENT SEEDING
- CE — PROPOSED TEMPORARY CONSTRUCTION ENTRANCE
- SD — PROPOSED STORM DRAIN MANHOLE
- PROPOSED CONCRETE FLARED END SECTION
- PROPOSED OUTLET CONTROL STRUCTURE

- EXISTING PCSO BUFFER
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE
- EXISTING GRAVEL
- EXISTING BUSH
- EXISTING TREE
- EXISTING TREE LINE
- WM — EXISTING WATER METER
- E — EXISTING ELECTRIC MANHOLE
- SD — EXISTING STORM DRAIN MANHOLE
- EXISTING AREA TO BE CLEARED
- 600.00 EX — EXISTING GRADE SPOT ELEVATION
- EXISTING TRASH CAN
- WF — EXISTING WATER FOUNTAIN
- EXISTING WATER VALVE
- EXISTING PIPE/CURB DEMOLITION
- EXISTING TREE TO BE REMOVED

- 600.00 TW — PROPOSED TOP OF WALL ELEVATION
- 600.00 BW — PROPOSED BOTTOM OF WALL ELEVATION
- 600.00 FG — PROPOSED SPOT ELEVATION
- 600.00 SW — PROPOSED SIDEWALK ELEVATION
- 600.00 TC — PROPOSED TOP BACK OF CURB ELEVATION
- 600.00 TS — PROPOSED TOP OF SLAB ELEVATION
- 600.00 EP — PROPOSED EDGE OF PAVEMENT ELEVATION
- 803 — PROPOSED MINOR CONTOUR
- 800 — PROPOSED MAJOR CONTOUR
- PROPOSED RIGID RCP/HDPE STORM DRAIN PIPE
- PROPOSED CONCRETE
- PROPOSED SILT FENCE ROCK OUTLET
- PROPOSED TEMPORARY CONCRETE WASHOUT
- PROPOSED RIP-RAP APRON
- PROPOSED SHRUBS
- PROPOSED TREE
- PROPOSED CONCRETE WHEEL STOP
- PROPOSED EROSION CONTROL MATTING

SITE NOTES

1. DIMENSIONS AND COORDINATE POINTS ARE TO FACE OF CURB, EDGE OF PAVEMENT, OF CORNER OF BUILDING UNLESS OTHERWISE NOTED.
2. ALL IMPROVEMENTS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATE AND LOCAL STANDARDS.
3. ANY DISCREPANCIES FOUND IN THE FIELD SHALL BE CALLED TO THE ATTENTION OF THE OWNER OR DESIGNER OF RECORD PRIOR TO PROCEEDING WITH WORK.
4. PRIOR TO BEGINNING CONSTRUCTION, THE GENERAL CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND APPROVALS FROM ALL REGULATORY AUTHORITIES.
5. THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES, AND RIGHT-OF-WAYS, PUBLIC AND PRIVATE, PRIOR TO WORKING IN THESE AREAS.
6. GENERAL CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND THE PUBLIC SHALL BE PROTECTED FROM INJURY.
7. DO NOT SCALE DRAWINGS FOR ACTUAL DIMENSIONS, AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
8. ALL SIGNS, PAVEMENT MARKING, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION AS AMENDED.
9. CONTRACTOR SHALL SAW-CUT EXISTING ASPHALT PAVEMENT AREAS TO TIE IN SMOOTHLY TO PROPOSED PAVEMENT.
10. LAND DEVELOPMENT INSPECTOR TO BE GIVEN 24 HOURS NOTICE PRIOR TO START OF CONSTRUCTION.
11. MECKLENBURG COUNTY HAS NOT REVIEWED THE STRUCTURAL STABILITY OF ANY RETAINING WALLS ON THE SITE AND DOES NOT ASSUME RESPONSIBILITY FOR THEM.
12. THE ENGINEER/DESIGNER OF RECORD WILL PROVIDE THE CONTRACTOR WITH AN ELECTRONIC FILE OF THESE DRAWINGS UPON REQUEST.
13. ALL PAVED AREAS SHALL COMPLY WITH THE LATEST ADA ACCESSIBILITY (2010) AND ANSI A117.1 GUIDELINES.
14. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,600-PSI AT 28 DAYS, AND SHALL HAVE A MEDIUM BROOM FINISH PERPENDICULAR TO THE PATH OF TRAVEL.
15. ALL PROPOSED PAVEMENT ADJACENT TO EXISTING PAVEMENT SHALL TIE FLUSH TO ADJACENT SURFACES.

Dewberry

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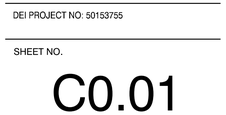
RICHARD BARRY PARK
PARKING LOT EXPANSION AND
NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



3/28/2023
FOR SITE DESIGN

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

GENERAL NOTES

DEI PROJECT NO: 50153755

SHEET NO.

C0.01

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

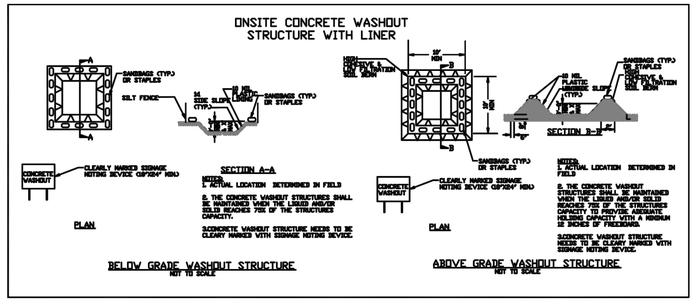
PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA Environmental Quality



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

Know what's **below.** **Call** before you dig.

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100% CONSTRUCTION DOCUMENTS

SEAL

FOR BIDDING PURPOSES ONLY

12/2/22

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

NCG01 NOTES
(SHEET 1 OF 2)

DEI PROJECT NO: 50153755

SHEET NO.

C0.02

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PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (anc this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA *Environmental Quality*

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

Know what's **below.** **Call** before you dig.

P:\50153755\CAD\Civil\Sheets\C0.01 - General Notes.dwg

Dewberry

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Phone: 704.509.9918
Fax: 704.509.9937
www.dewberry.com
NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK
PARKING LOT EXPANSION AND
NEW RESTROOM BUILDING

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

100% CONSTRUCTION DOCUMENTS

SEAL

FOR BIDDING PURPOSES ONLY

12/2/22

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

NCG01 NOTES
(SHEET 2 OF 2)

DEI PROJECT NO: 50153755

SHEET NO.

C0.03

DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732

LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- EXISTING MAJOR COUNTOUR
- EXISTING MINOR CONTOURS
- DENUDED LIMITS
- CLEARING AND GRUBBING LIMITS
- PROPOSED DEMOLITION
- PROPOSED TEMPORARY SILT DITCH
- PROPOSED TEMPORARY SILT FENCE
- PROPOSED TREE PROTECTION FENCE
- CONSTRUCTION ENTRANCE
- PROPOSED INLET PROTECTION
- PROPOSED TEMPORARY SEEDING
- PROPOSED PERMANENT SEEDING
- PROPOSED TEMPORARY CONCRETE WASHOUT
- PROPOSED MAJOR COUNTOUR
- PROPOSED MINOR CONTOURS

DENUDED LIMITS:

4.3 AC

NOTE:
NO SPECIMEN TREES SHALL BE REMOVED. CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

TREE PROTECTION

APPLICABILITY

A TREE AND ROOT PRESERVATION PLAN DELINEATING AREAS OF TREE SAVE SHALL BE INCORPORATED AS PART OF THE LANDSCAPING, GRADING, AND EROSION CONTROL PLANS. THE FOLLOWING MEASURES SHALL BE FOLLOWED TO PROTECT EXISTING TREES ON A DEVELOPING

1. PRIOR TO DEMOLITION, CLEARING, CONSTRUCTION, GRADING, AND INSTALLATION OF EROSION CONTROL MEASURES; TREE PROTECTIVE BARRIERS MUST BE INSTALLED AROUND ALL TREE SAVE AREAS BY THE DEVELOPER AND APPROVED BY THE TOWN.
2. THE TREE PROTECTION FENCE SHALL BE LOCATED ALONG THE PERIMETER OF THE TREE SAVE AREA (DRIP LINE PLUS 5 FEET), TREE PROTECTION FENCING FOR A FOREST CANOPY STANDS AREA IS TO BE LOCATED ALONG THE PERIMETER OF THE TREE SAVE AREA AROUND THE FOREST EDGE. TREE PROTECTION FENCING SHALL CONSIST OF ORANGE SAFETY FENCING OR A COMBINATION OF ORANGE SAFETY FENCING WITH SILT FENCING AT A MINIMUM OF 4 FEET IN HEIGHT ON METAL OR WOOD POSTS.
3. ALL TREE PROTECTION AREAS MUST BE DESIGNATED AS SUCH WITH "TREE SAVE AREA SIGNS" POSTED IN ADDITION TO THE REQUIRED PROTECTIVE FENCING. SIGNS REQUESTING SUBCONTRACTOR COOPERATION AND COMPLIANCE WITH TREE PROTECTION STANDARDS ARE RECOMMENDED FOR SITE ENTRANCES.
4. NO SOIL DISTURBANCE OR COMPACTION, STOCK PILING OF SOIL OR OTHER CONSTRUCTION MATERIAL, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT AND MATERIALS ARE ALLOWED WITHIN THE TREE SAVE AREA.
5. NO ROPES, SIGNS, WIRES, UNPROTECTED ELECTRICAL INSTALLATION OR OTHER DEVICE OR MATERIAL, SHALL BE SECURED OR FASTENED AROUND OR THROUGH A TREE OR SHRUB.
6. ALL PROTECTIVE MEASURES SHALL BE MAINTAINED THROUGHOUT THE LAND DISTURBING AND CONSTRUCTION PROCESS, AND SHALL NOT BE REMOVED UNTIL FINAL LANDSCAPING IS INSTALLED

ENCROACHMENT

IF ENCROACHMENT INTO A REQUIRED TREE SAVE/PRESERVATION AREA OCCURS WHICH CAUSES IRREPARABLE DAMAGE TO THE TREES, THE TREE PRESERVATION AND/OR REPLACEMENT PLAN SHALL BE REVISED TO COMPENSATE FOR THE LOSS. ENCROACHMENTS SHALL BE SUBJECT TO THE PENALTIES LISTED IN ARTICLE 7.9. ENCROACHMENTS, DAMAGE AND REMOVAL OF VEGETATION IN A TREE SAVE/PRESERVATION AREA SHALL BE REPLANTED IN ACCORDANCE WITH ARTICLE 7.4.5

TREE REMOVAL

LAND DISTURBING PERMIT REQUIRED. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL SUCH ACTIVITIES HAVE BEEN AUTHORIZED BY ISSUANCE OF A VALID LAND DISTURBING PERMIT AS SPECIFIED UNDER THE PROVISIONS OF THE CHARLOTTE-MECKLENBURG LAND DEVELOPMENT STANDARDS MANUAL AND EROSION AND SEDIMENTATION CONTROL MANUAL.

MITIGATION

IF A REQUIRED TREE SAVE/PRESERVATION AREA OR REQUIRED UNDISTURBED BUFFER YARD IS DISTURBED FOR ANY REASON, IT SHALL BE RESTORED AT A RATE OF 10 TREES PER 1000 SQUARE FEET. TREES TO BE PLANTED SHALL HAVE A MINIMUM CALIPER OF 2 INCHES, SHALL BE 8-10 FEET IN HEIGHT AT INSTALLATION, AND SHALL BE AT LEAST 75% LARGE MATURING VARIETIES. WHERE A DISTURBED AREA ALSO FUNCTIONED TO BUFFER ADJACENT PROPERTIES OR PUBLIC STREET(S), AT LEAST 50% OF THE TREES SHALL BE EVERGREEN VARIETIES. TREES HALL BE DISTRIBUTED THROUGHOUT THE DISTURBED AREA IN SUCH A WAY AS TO EFFECTIVELY REPLACE THE VEGETATION DISTURBED. WHERE UNDER STORY VEGETATION IS REMOVED OR DISTURBED IT SHALL BE REPLACED AT A RATE OF 40 SHRUBS PER 100 LINEAR FEET. SHRUBS SHALL BE EVERGREEN AND 3 FEET IN HEIGHT WHEN INSTALLED AND ARE EXPECTED TO REACH A MINIMUM HEIGHT OF 6 FEET AT MATURITY. WHEN TREE IS DESTROYED DUE TO AN ACT OF GOD, IT SHALL BE REPLACED WITH THE SAME SPECIES OR COMPARABLE SPECIES, 2 INCH IN CALIPER IN SIZE. A PLANTING PLAN IS REQUIRED FOR STAFF REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF PLANTING.

SEE SHEET C1.02

SEE SHEET C1.03

EXISTING 30' POST CONSTRUCTION BUFFER

EXISTING PROPERTY LINE (TYP.)

8' SIDE SETBACK

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEPT
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

EXISTING TURF FIELDS NOT FIELD SURVEYED AND ARE SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

EXISTING SIDEWALK NOT FIELD SURVEYED AND SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

SITE TBM #1
SET MAGNAIL DRILLED INTO CURB
ELEV. = 715.77

SITE TBM #2
SET CAPPED #4 REBAR
ELEV. = 730.66

013-081-05
CHARLOTTE MECKLENBURG
BOARD OF EDUCATION
DB 27025 PG 514
13359 BEATTIES FORD RD
ZONING: R

EXISTING POND DRAINAGE
AREA = 27.69 AC
DISTURBED AREA = 1.76 AC
UNDISTURBED AREA = 25.93 AC

TOWN OF HUNTERSVILLE NOTES:

1. INSPECTIONS SHALL BE CONDUCTED AS PRESCRIBED BY THE MAINTENANCE COVENANT. ADDITIONAL INSPECTIONS MAY BE CONDUCTED BY THE TOWN OF HUNTERSVILLE ON ANY REASONABLE BASIS, INCLUDING BUT NOT LIMITED TO: ROUTINE INSPECTIONS; RANDOM INSPECTIONS; INSPECTIONS BASED UPON COMPLAINTS OR OTHER NOTICE OF POSSIBLE VIOLATIONS; INSPECTIONS OF DRAINAGE BASINS OR AREAS IDENTIFIED AS HIGHER THAN TYPICAL SOURCES OF SEDIMENT OR OTHER CONTAMINANTS OR POLLUTANTS; INSPECTIONS OF BUSINESSES OR INDUSTRIES OF A TYPE ASSOCIATED WITH HIGHER THAN USUAL DISCHARGERS OF CONTAMINANTS OR POLLUTANTS OR WITH DISCHARGES OF A TYPE WHICH ARE MORE LIKELY THAN THE TYPICAL DISCHARGE TO CAUSE VIOLATIONS OF STATE OR FEDERAL WATER QUALITY STANDARDS OR THE NPDES STORM WATER PERMIT; AND JOINT INSPECTIONS WITH OTHER AGENCIES INSPECTING UNDER ENVIRONMENTAL AND SAFETY LAWS. INSPECTIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: REVIEWING MAINTENANCE AND REPAIR RECORDS; SAMPLING DISCHARGES, SURFACE WATER, GROUNDWATER, AND MATERIAL OR WATER IN BMPS; EVALUATING THE CONDITION OF BMPS AND STORM WATER MANAGEMENT PRACTICES.
2. RIGHT-OF-ENTRY FOR INSPECTION. WHEN ANY NEW BMP IS INSTALLED ON PRIVATE PROPERTY, THE PROPERTY OWNER SHALL GRANT TO THE TOWN OF HUNTERSVILLE THE RIGHT TO ENTER THE PROPERTY AT REASONABLE TIMES AND IN A REASONABLE MANNER FOR THE PURPOSE OF INSPECTION. THIS INCLUDES THE RIGHT TO ENTER A PROPERTY WHEN THE TOWN OF HUNTERSVILLE HAS A REASONABLE BASIS TO BELIEVE THAT A VIOLATION OF THIS REGULATION IS OCCURRING OR HAS OCCURRED, AND TO ENTER WHEN NECESSARY FOR ABATEMENT OF A PUBLIC NUISANCE OR CORRECTION OF A VIOLATION OF THIS REGULATION.

NORTH ORIENTED TO NC GRID (NAD83(2011))

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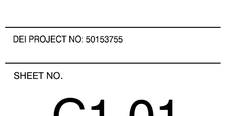
RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



3/28/2023

FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 80'

0' 80' 160'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

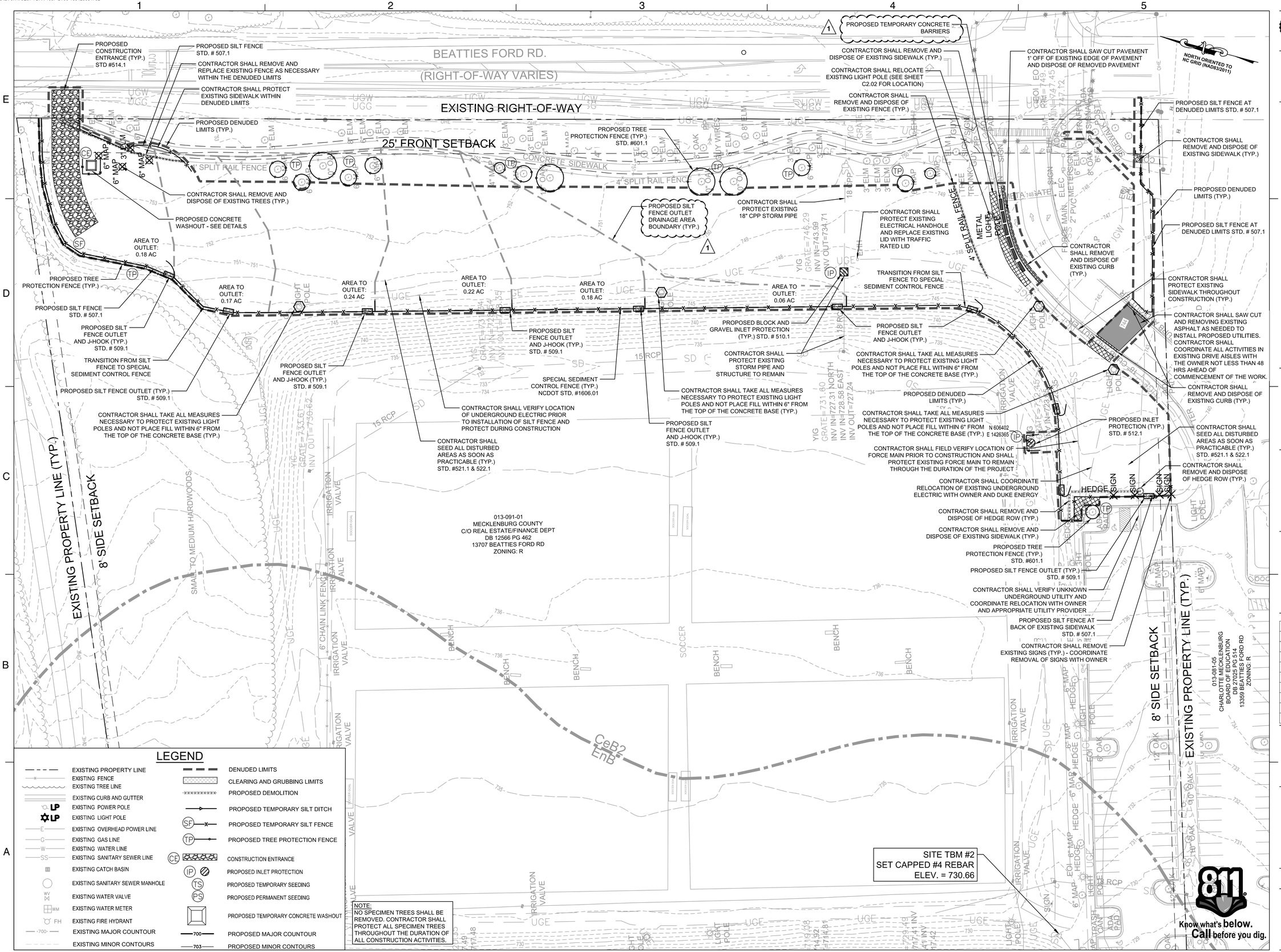
DEMOLITION AND PHASE 1 ESC PLAN - OVERALL

DEI PROJECT NO: 50153755

SHEET NO.

C1.01

DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732



LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
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- PROPOSED DEMOLITION
- PROPOSED TEMPORARY SILT DITCH
- PROPOSED TEMPORARY SILT FENCE
- PROPOSED TREE PROTECTION FENCE
- CONSTRUCTION ENTRANCE
- PROPOSED INLET PROTECTION
- PROPOSED TEMPORARY SEEDING
- PROPOSED PERMANENT SEEDING
- PROPOSED TEMPORARY CONCRETE WASHOUT
- PROPOSED MAJOR COUNTOUR
- PROPOSED MINOR CONTOURS

NOTE:
NO SPECIMEN TREES SHALL BE REMOVED. CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

Know what's below. Call before you dig.

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NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL
NOT FOR BIDDING PURPOSES ONLY
3/28/2023
FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

DEMOLITION AND PHASE 1 ESC PLAN - AREA 1

DEI PROJECT NO: 50153755

SHEET NO.

C1.02

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EXISTING 30' POST CONSTRUCTION BUFFER

CONSTRUCTION BUFFER

8' WIDE LOW AREA

CONCRETE SIDEWALK

EXISTING TURF FIELDS NOT FIELD SURVEYED AND ARE SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

CONTRACTOR SHALL INSTALL MATS, TIMBER, OR OTHER ITEMS AS NEEDED TO PROTECT EXISTING PAVEMENT/SIDEWALK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGED PAVEMENT AND/OR SIDEWALK AT NO COST TO OWNER.

CONTRACTOR SHALL PROTECT EXISTING PLAYGROUND EQUIPMENT, BENCHES, SIGNS, TABLES, AND TREES AND SHALL BE RESPONSIBLE FOR REPAIRING/REPLACING ANY DAMAGED ITEMS AT NO COST TO OWNER.

NORTH ORIENTED TO NC GRID (NAD83/2011)

PROPOSED CONSTRUCTION ENTRANCE (TYP.) STD #514.1

CONTRACTOR SHALL PROTECT EXISTING FENCE TO REMAIN (TYP.)

PROPOSED DENUDED LIMITS (TYP.)

CONTRACTOR SHALL SEED ALL DISTURBED AREAS AS SOON AS PRACTICABLE (TYP.) STD. #521.1 & 522.1

CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING TREES (TYP.)

PROPOSED GRAVEL AND RIPRAP FILTER BERM (TYP.) STD. # 516.1

PROPOSED COIR BAFFLES (TYP.) STD #524.1

PROPOSED 5" SKIMMER WITH A 2.5" ORIFICE. STD #503.1

CONTRACTOR SHALL PROTECT EXISTING OUTLET CONTROL STRUCTURE AND HEADWALL TO REMAIN.

CONTRACTOR SHALL PROTECT EXISTING FENCE TO REMAIN (TYP.)

PROPOSED STONE FILTER RING

CONTRACTOR SHALL EXCAVATE EMBANKMENT AND REMOVE AND DISPOSE OF EXISTING 48" CMP PIPE AND CONCRETE FLARED END SECTION. INSTALL 48" DUAL WALL HDPE PIPE AND FLARED END SECTION. REBUILD EMBANKMENT IN 8" LIFTS, COMPACTING EACH LIFT TO 95% STANDARD PROCTOR DENSITY (ASTM D698). SECURE CONNECTION OF PROPOSED PIPE TO EXISTING OUTLET CONTROL STRUCTURE WITH NON-SHRINK GROUT. SEE SHEET C3.09 FOR MORE INFO ON PROPOSED PIPE.

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEPT
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

CONTRACTOR SHALL CLEAR AND GRUB EXISTING DRY DETENTION BASIN WITHIN PROPOSED DENUDED LIMITS

CONTRACTOR SHALL PROTECT EXISTING 54" RCP PIPE AND FLARED END SECTION THROUGHOUT THE DURATION OF CONSTRUCTION.

CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING FENCE (TYP.)

CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING CMP TRASH RACK ATTACHED TO THE EXISTING HEADWALL AND REPLACE WITH HDPE TRASH RACK - SEE SHEET C5.07 FOR DETAIL

EXISTING DRY DETENTION BASIN

PROPOSED ANTI-SEEP COLLARS

PROPOSED SILT FENCE OUTLET (TYP.) STD. # 509.1

PROPOSED DOUBLE ROW OF SILT FENCE STD. # 507.1

PROPOSED SILT FENCE OUTLET AND J-HOOK (TYP.) STD. # 509.1

AREA TO OUTLET: 0.03 AC

AREA TO OUTLET: 0.21 AC

AREA TO OUTLET: 0.39 AC

AREA TO OUTLET: 0.55 AC

AREA TO OUTLET: 0.07 AC

AREA TO OUTLET: 0.04 AC

CONTRACTOR SHALL PROTECT EXISTING SIDEWALK THROUGHOUT CONSTRUCTION AND BE RESPONSIBLE TO REMOVE AND REPLACE ANY DAMAGED SIDEWALK AT NO COST TO OWNER (TYP.)

PROPOSED SILT FENCE STD. # 507.1

PROPOSED DENUDED LIMITS (TYP.)

PROPOSED SILT FENCE OUTLET AND J-HOOK (TYP.) STD. # 509.1

PROPOSED SILT FENCE OUTLET AND J-HOOK (TYP.) STD. # 509.1

DESIGNATED AREA FOR DISPOSAL OF SOIL EXCAVATED FROM EXISTING DRY DETENTION BASIN (SEE SHEET C3.03 FOR APPROXIMATE GRADES)

PROPOSED SILT FENCE OUTLET DRAINAGE AREA BOUNDARY (TYP.)

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEF
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

EXISTING SIDEWALK NOT FIELD SURVEYED AND SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

013-081-05
CHARLOTTE MECKLENBURG
BOARD OF EDUCATION
DB 27025 PG 514
13359 BEATTIES FORD RD
ZONING: R

8' SIDE SETBACK

EXISTING PROPERTY LINE (TYP.)

MEDIUM TO LARGE HARDWOODS AND PINES

N 668944
E 1425220

LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING CATCH BASIN
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- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- EXISTING MAJOR COUNTOUR
- EXISTING MINOR CONTOURS
- DENUDED LIMITS
- CLEARING AND GRUBBING LIMITS
- PROPOSED DEMOLITION
- PROPOSED TEMPORARY SILT DITCH
- PROPOSED TEMPORARY SILT FENCE
- PROPOSED TREE PROTECTION FENCE
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NOTE:
NO SPECIMEN TREES SHALL BE REMOVED. CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

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RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA — Professional Engineer — SEAL — 027425 — STEVEN M. MCMINN

NOT FOR BIDDING OR PERMITTING PURPOSES ONLY

3/28/2023

FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

DEMOLITION AND PHASE 1 ESC PLAN - AREA 2

DEI PROJECT NO: 50153755

SHEET NO.

C1.03

811 Know what's below. Call before you dig.

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LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING OVERHEAD POWER LINE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- PROPOSED CONCRETE
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED PAVEMENT MARKINGS
- PROPOSED FENCE
- PROPOSED HEADWALL
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED CURB AND GUTTER
- PROPOSED RETAINING WALL

SITE INFORMATION (PID : 1309101):
TOTAL SITE AREA = 42.13 AC.
SCOPE OF WORK : PARKING LOT EXPANSION, NEW RESTROOM BUILDING, AND EXPANSION OF STORMWATER BMP

FRONT SETBACK 25'
SIDE SETBACK : 8'
REAR SETBACK : 25'
ZONING : R (RURAL)

PROPOSED PARKING CALCULATION :
PARKING REQUIRED = 0 SPACES
PARKING PROVIDED = 94 STANDARD
4 ACCESSIBLE
ACCESSIBLE REQUIRED = 3 CAR SPACES AND 1 VAN SPACE
TOTAL PARKING = 98 SPACES

TREE SAVE CALCULATION:

HERITAGE TREES:
-NO HERITAGE TREES WERE IDENTIFIED/SURVEYED ON THE SITE

SPECIMEN TREES:
-APPROVED CANIPE SPECIMEN TREES TOTAL (CANIPE ATHLETIC FIELDS COMPLEX PLANS BY SITE SOLUTIONS DATED 12-21-2005)
- 130 SPECIMEN TREES
- 76 SPECIMEN TREES REMAINED
- 54 SPECIMEN TREES REMOVED

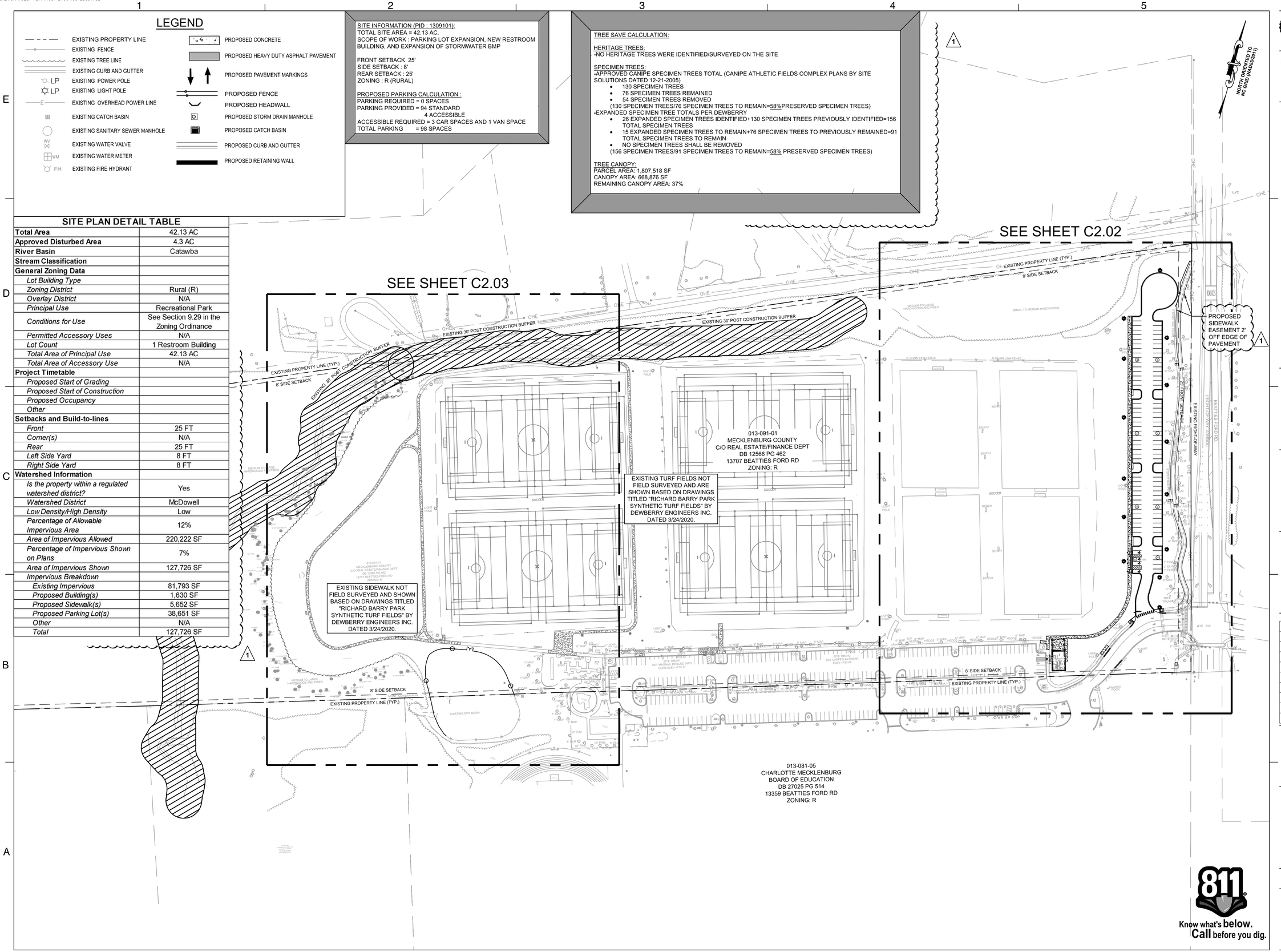
(130 SPECIMEN TREES/76 SPECIMEN TREES TO REMAIN=58%PRESERVED SPECIMEN TREES)
-EXPANDED SPECIMEN TREE TOTALS PER DEWBERRY
- 26 EXPANDED SPECIMEN TREES IDENTIFIED+130 SPECIMEN TREES PREVIOUSLY IDENTIFIED=156 TOTAL SPECIMEN TREES
- 15 EXPANDED SPECIMEN TREES TO REMAIN+76 SPECIMEN TREES TO PREVIOUSLY REMAINED=91 TOTAL SPECIMEN TREES TO REMAIN
- NO SPECIMEN TREES SHALL BE REMOVED

(156 SPECIMEN TREES/91 SPECIMEN TREES TO REMAIN=58% PRESERVED SPECIMEN TREES)

TREE CANOPY:
PARCEL AREA: 1,807,518 SF
CANOPY AREA: 668,876 SF
REMAINING CANOPY AREA: 37%

SITE PLAN DETAIL TABLE

Total Area	42.13 AC
Approved Disturbed Area	4.3 AC
River Basin	Catawba
Stream Classification	
General Zoning Data	
Lot Building Type	
Zoning District	Rural (R)
Overlay District	N/A
Principal Use	Recreational Park
Conditions for Use	See Section 9.29 in the Zoning Ordinance
Permitted Accessory Uses	N/A
Lot Count	1 Restroom Building
Total Area of Principal Use	42.13 AC
Total Area of Accessory Use	N/A
Project Timetable	
Proposed Start of Grading	
Proposed Start of Construction	
Proposed Occupancy	
Other	
Setbacks and Build-to-lines	
Front	25 FT
Corner(s)	N/A
Rear	25 FT
Left Side Yard	8 FT
Right Side Yard	8 FT
Watershed Information	
Is the property within a regulated watershed district?	Yes
Watershed District	McDowell
Low Density/High Density	Low
Percentage of Allowable Impervious Area	12%
Area of Impervious Allowed	220,222 SF
Percentage of Impervious Shown on Plans	7%
Area of Impervious Shown	127,726 SF
Impervious Breakdown	
Existing Impervious	81,793 SF
Proposed Building(s)	1,630 SF
Proposed Sidewalk(s)	5,652 SF
Proposed Parking Lot(s)	38,651 SF
Other	N/A
Total	127,726 SF



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NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA — TIMOTHY M. MCMINN — 3/28/2023 — NOT FOR BIDDING PURPOSES ONLY — FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 80'

0' 80' 160'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY: DLJ
APPROVED BY: TMM
CHECKED BY: TMM
DATE: DECEMBER 2, 2022

TITLE

SITE PLAN - OVERALL

DEI PROJECT NO: 50153755

SHEET NO.

C2.01

811 Know what's below. Call before you dig.

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BEATTIES FORD RD.
(RIGHT-OF-WAY VARIES)

NORTH ORIENTED TO NC GRID (NAD83/2011)

PROPOSED 4' SPLIT RAIL FENCE (SHALL MATCH EXISTING FENCE)

PROPOSED SIDEWALK EASEMENT 2' OFF EDGE OF PAVEMENT

EXISTING RIGHT-OF-WAY

25' FRONT SETBACK

4' SPLIT RAIL FENCE

CONCRETE SIDEWALK

PROPOSED TRUNCATED DOMES (TYP.) STD. #132.1

PROPOSED LOCATION OF EXISTING LIGHT POLE TO BE RELOCATED

PROPOSED SIDEWALK SHALL TIE FLUSH TO EXISTING

PROPOSED ACCESSIBLE RAMP (TYP.) STD. #136.1

CONTRACTOR SHALL REPLACE SIDEWALK REMOVED FOR WATER SERVICE INSTALLATION

PROPOSED PAVEMENT REPAIR STD. #720.1

PROPOSED CROSSWALK - SEE DETAILS

PROPOSED STOP BAR

PROPOSED STOP SIGN

PROPOSED 1'6" STANDARD C & G (TYP.) STD. #100.1

PROPOSED 4" WHITE PAINTED STRIP (TYP.)

PROPOSED 2' WIDE CURB FLUME (TYP.) - SEE DETAILS

PROPOSED 1'6" STANDARD C & G (TYP.) STD. #100.1

PROPOSED 7' SIDEWALK (TYP.) STD. #106.1

PROPOSED ACCESSIBLE RAMP (TYP.) STD. #125.1

PROPOSED CONCRETE WHEEL STOP (TYP. FOR ALL PROPOSED ADA SPACES)

PROPOSED FLUSH CURB (TYP.)

LANDING WITH TRUNCATED DOMES SHALL NOT EXCEED 2% IN ANY DIRECTION (TYP.) STD. #132.1

ACCESSIBLE PARKING SIGNAGE (TYP.) STD. #712.1

PROPOSED TRUNCATED DOMES (TYP.) STD. #132.1

PROPOSED ACCESSIBLE RAMP (TYP.) STD. #136.1

PROPOSED SIDEWALK SHALL TIE FLUSH TO EXISTING

PROPOSED 6' SIDEWALK (TYP.) STD. #106.1

PROPOSED PAVEMENT REPAIR STD. #720.1

PROPOSED 5' SIDEWALK (TYP.) STD. #106.1

PROPOSED FLOOR PLAN SHOWN FOR INFORMATION ONLY, SEE ARCHITECTURAL DRAWINGS BY CREECH AND ASSOC. FOR MORE INFORMATION. IF DISCREPANCIES EXIST BETWEEN PLAN SHOWN HERE AND ARCHITECT'S PLAN, ARCHITECT PLAN SHALL DICTATE IMPROVEMENTS.

PROPOSED SIDEWALK SHALL TIE FLUSH TO EXISTING

CONTRACTOR SHALL INSTALL PROPOSED TRUNCATED DOMES ON EXISTING ACCESSIBLE RAMP (TYP.) STD. #132.1

EXISTING PROPERTY LINE (TYP.)

8' SIDE SETBACK

SMALL TO MEDIUM HARDWOODS

6' CHAIN LINK FENCE

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEPT
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

013-081-05
CHARLOTTE MECKLENBURG
BOARD OF EDUCATION
DB 27025 PG 514
13359 BEATTIES FORD RD
ZONING: R

SOCCER

BENCH

LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- LP EXISTING POWER POLE
- LP EXISTING LIGHT POLE
- E EXISTING OVERHEAD POWER LINE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE
- WM EXISTING WATER METER
- FH EXISTING FIRE HYDRANT
- PROPOSED CONCRETE
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED PAVEMENT MARKINGS
- PROPOSED FENCE
- PROPOSED HEADWALL
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED CURB AND GUTTER
- PROPOSED RETAINING WALL

PROPOSED PARKING CALCULATION : SEE SHEET C2.01 FOR NOTES AND ADDITIONAL INFORMATION.

Know what's below. Call before you dig.

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RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1872 TRACY M. McMANUS

DocuSigned by: Tracy M. McManus

NOT FOR BIDDING PURPOSES

3/28/2023

FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

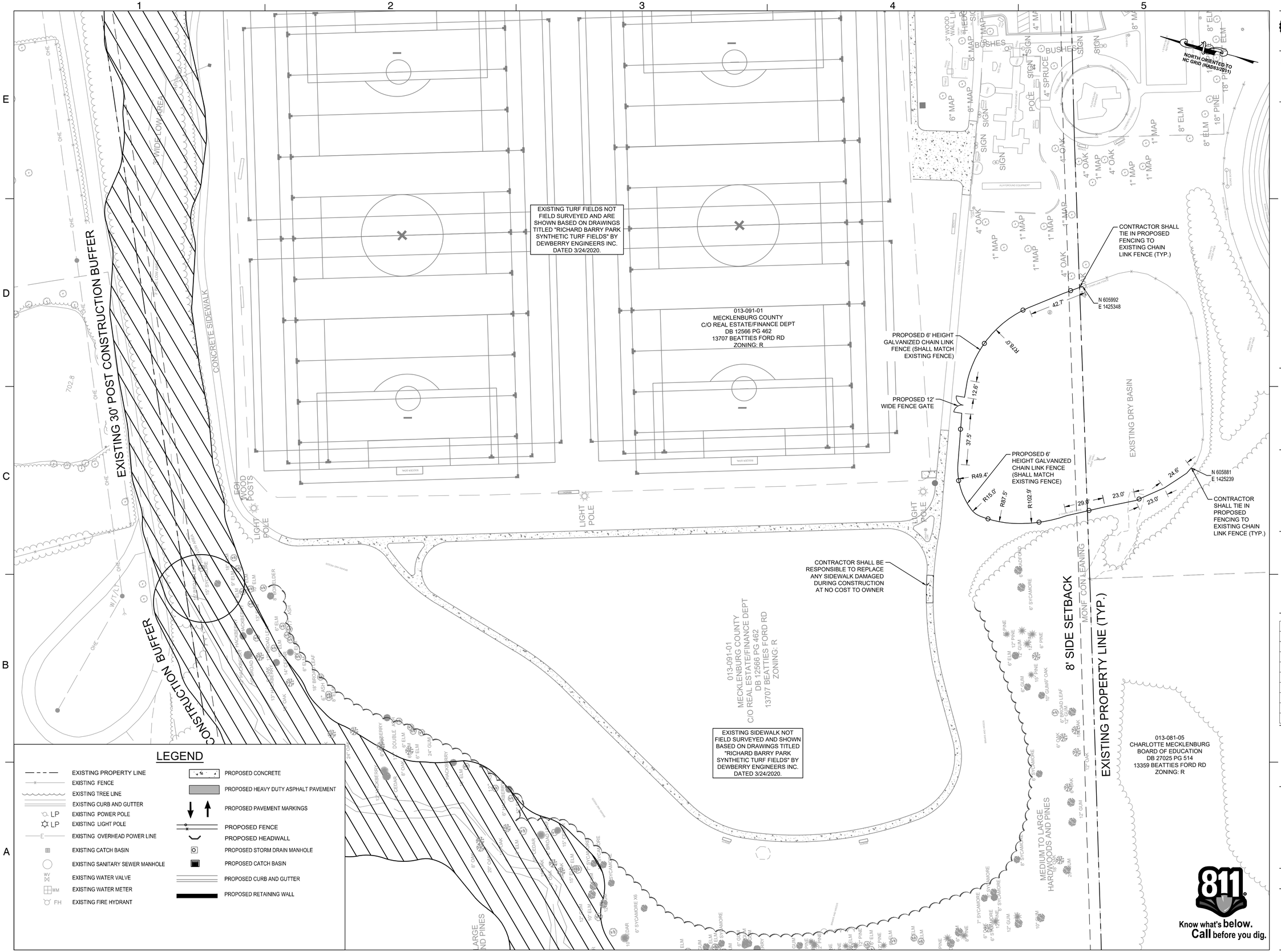
TITLE

SITE PLAN - AREA 1

DEI PROJECT NO: 50153755

SHEET NO.

C2.02



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13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

FOR BIDDING PURPOSES ONLY
12/2/22

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

SITE PLAN - AREA 2

DEI PROJECT NO: 50153755

SHEET NO.

C2.03

811 Know what's below. Call before you dig.

LEGEND

EXISTING PROPERTY LINE	DENUDED LIMITS
EXISTING FENCE	CLEARING AND GRUBBING LIMITS
EXISTING TREE LINE	PROPOSED DEMOLITION
EXISTING CURB AND GUTTER	
EXISTING POWER POLE	PROPOSED TEMPORARY SILT DITCH
EXISTING LIGHT POLE	PROPOSED TEMPORARY SILT FENCE
EXISTING OVERHEAD POWER LINE	PROPOSED TREE PROTECTION FENCE
EXISTING GAS LINE	
EXISTING WATER LINE	
EXISTING SANITARY SEWER LINE	CONSTRUCTION ENTRANCE
EXISTING CATCH BASIN	PROPOSED INLET PROTECTION
EXISTING SANITARY SEWER MANHOLE	PROPOSED TEMPORARY SEEDING
EXISTING WATER VALVE	PROPOSED PERMANENT SEEDING
EXISTING WATER METER	PROPOSED TEMPORARY CONCRETE WASHOUT
EXISTING FIRE HYDRANT	
EXISTING MAJOR COUNTOUR	PROPOSED MAJOR COUNTOUR
EXISTING MINOR CONTOURS	PROPOSED MINOR CONTOURS

DENUDED LIMITS:
4.3 AC

NOTE:
NO SPECIMEN TREES SHALL BE REMOVED. CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

TOWN OF HUNTERSVILLE NOTES:

1. INSPECTIONS SHALL BE CONDUCTED AS PRESCRIBED BY THE MAINTENANCE COVENANT. ADDITIONAL INSPECTIONS MAY BE CONDUCTED BY THE TOWN OF HUNTERSVILLE ON ANY REASONABLE BASIS, INCLUDING BUT NOT LIMITED TO: ROUTINE INSPECTIONS; RANDOM INSPECTIONS; INSPECTIONS BASED UPON COMPLAINTS OR OTHER NOTICE OF POSSIBLE VIOLATIONS; INSPECTIONS OF DRAINAGE BASINS OR AREAS IDENTIFIED AS HIGHER THAN TYPICAL SOURCES OF SEDIMENT OR OTHER CONTAMINANTS OR POLLUTANTS; INSPECTIONS OF BUSINESSES OR INDUSTRIES OF A TYPE ASSOCIATED WITH HIGHER THAN USUAL DISCHARGERS OF CONTAMINANTS OR POLLUTANTS OR WITH DISCHARGES OF A TYPE WHICH ARE MORE LIKELY THAN THE TYPICAL DISCHARGE TO CAUSE VIOLATIONS OF STATE OR FEDERAL WATER QUALITY STANDARDS OR THE NPDES STORM WATER PERMIT; AND JOINT INSPECTIONS WITH OTHER AGENCIES INSPECTING UNDER ENVIRONMENTAL AND SAFETY LAWS. INSPECTIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: REVIEWING MAINTENANCE AND REPAIR RECORDS; SAMPLING DISCHARGES, SURFACE WATER, GROUNDWATER, AND MATERIAL OR WATER IN BMPS; EVALUATING THE CONDITION OF BMPS AND STORM WATER MANAGEMENT PRACTICES.
2. RIGHT-OF-ENTRY FOR INSPECTION. WHEN ANY NEW BMP IS INSTALLED ON PRIVATE PROPERTY, THE PROPERTY OWNER SHALL GRANT TO THE TOWN OF HUNTERSVILLE THE RIGHT TO ENTER THE PROPERTY AT REASONABLE TIMES AND IN A REASONABLE MANNER FOR THE PURPOSE OF INSPECTION. THIS INCLUDES THE RIGHT TO ENTER A PROPERTY WHEN THE TOWN OF HUNTERSVILLE HAS A REASONABLE BASIS TO BELIEVE THAT A VIOLATION OF THIS REGULATION IS OCCURRING OR HAS OCCURRED, AND TO ENTER WHEN NECESSARY FOR ABATEMENT OF A PUBLIC NUISANCE OR CORRECTION OF A VIOLATION OF THIS REGULATION.

NORTH ORIENTED TO NC GRID (NAD83/2011)

SEE SHEET C3.02

SEE SHEET C3.03

EXISTING 30' POST CONSTRUCTION BUFFER

EXISTING PROPERTY LINE (TYP.)

8' SIDE SETBACK

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEPT
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

EXISTING TURF FIELDS NOT FIELD SURVEYED AND ARE SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

EXISTING SIDEWALK NOT FIELD SURVEYED AND SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

SITE TBM #1
SET MAGNAIL DRILLED INTO CURB
ELEV. = 715.77

SITE TBM #2
SET CAPPED #4 REBAR
ELEV. = 730.66

013-081-05
CHARLOTTE MECKLENBURG
BOARD OF EDUCATION
DB 27025 PG 514
13359 BEATTIES FORD RD
ZONING: R

EXISTING POND DRAINAGE
AREA = 27.69 AC
DISTURBED AREA = 4.30 AC
UNDISTURBED AREA = 23.39 AC

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RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

FOR BIDDING PURPOSES ONLY

3/28/22

FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 80'

0' 80' 160'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

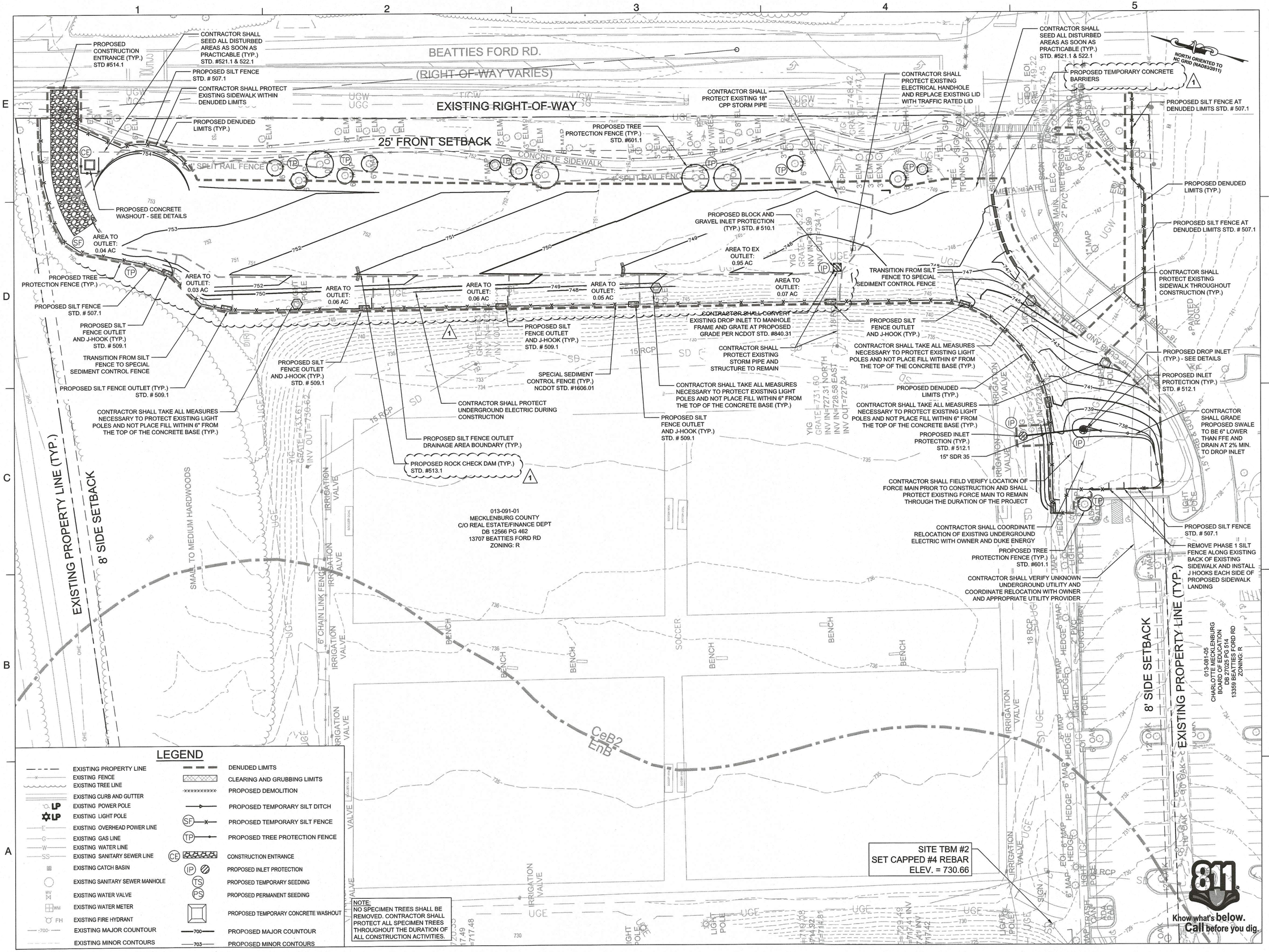
PHASE 2 ESC PLAN - OVERALL

DEI PROJECT NO: 50153755

SHEET NO.

C3.01

P:\50153755\CAD\Civil\Sheets\C3.01 - Phase 2 ESC Plan.dwg



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13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

FOR BIDDING PURPOSES ONLY

3/28/23

FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY: DLJ
APPROVED BY: TMM
CHECKED BY: TMM
DATE: DECEMBER 2, 2022

TITLE

PHASE 2 ESC PLAN - AREA 1

DEI PROJECT NO: 50153755

SHEET NO.

C3.02

DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732

EXISTING 30' POST CONSTRUCTION BUFFER

EXISTING TURF FIELDS NOT FIELD SURVEYED AND ARE SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

EXISTING SIDEWALK NOT FIELD SURVEYED AND SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

CONTRACTOR SHALL INSTALL MATS, TIMBER, OR OTHER ITEMS AS NEEDED TO PROTECT EXISTING PAVEMENT/SIDEWALK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGED PAVEMENT AND/OR SIDEWALK AT NO COST TO OWNER.

CONTRACTOR SHALL PROTECT EXISTING PLAYGROUND EQUIPMENT, BENCHES, SIGNS, TABLES, AND TREES AND SHALL BE RESPONSIBLE FOR REPAIRING/REPLACING ANY DAMAGED ITEMS AT NO COST TO OWNER.

NORTH ORIENTED TO NC GRID (NAD83/2011)

CONTRACTOR SHALL ADJUST RIM OF EXISTING MANHOLE TO 706.62. SEE BMP DETAIL SHEET FOR PROFILE

CONTRACTOR SHALL PROTECT EXISTING FENCE TO REMAIN (TYP.)

PROPOSED DENUDED LIMITS (TYP.)

CONTRACTOR SHALL PROTECT EXISTING 54" RCP PIPE AND FLARED END SECTION THROUGHOUT THE DURATION OF CONSTRUCTION.

PROPOSED CONSTRUCTION ENTRANCE (TYP.) STD #514.1

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEPT
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

PROPOSED RIPRAP APRON (TYP.) STD. # 306.1

PROPOSED EMBANKMENT MATTING - MUST BE STRAW MATTING THAT IS 8 OZ/SY AND COMPOSED OF PHOTO AND BIODEGRADABLE MESH (TYP.) STD. # 525.1

CONTRACTOR SHALL SEED ALL DISTURBED AREAS AS SOON AS PRACTICABLE (TYP.) STD. #521.1 & 522.1

PROPOSED ANTI-SEEP COLLARS - SEE DETAIL

PROPOSED GRAVEL AND RIPRAP FILTER BERM (TYP.) STD. # 516.1

PROPOSED COIR BAFFLES (TYP.) STD #524.1

EXISTING DRY DETENTION BASIN

PROPOSED 5" SKIMMER WITH A 2.5" ORIFICE. STD #503.1

CONTRACTOR SHALL PROTECT EXISTING OUTLET CONTROL STRUCTURE AND HEADWALL TO REMAIN.

CONTRACTOR SHALL PROTECT EXISTING FENCE TO REMAIN (TYP.)

START INV. = 689.23

END INV. = 689.01

PROPOSED FLARED END SECTION (TYP.) STD. # 307.1

PROPOSED RIPRAP APRON (TYP.) STD. # 306.1

CONTRACTOR SHALL EXTEND RIP-RAP TO BOTTOM OF SLOPE

PROPOSED DOUBLE ROW OF SILT FENCE STD. # 507.1

PROPOSED SILT FENCE OUTLET AND J-HOOK (TYP.) STD. # 509.1

PROPOSED SILT FENCE OUTLET (TYP.) STD. # 509.1

PROPOSED GRADES SHOWN ARE APPROXIMATE - CONTRACTOR SHALL GRADE AS NEEDED TO DISPOSE OF SOIL EXCAVATED FROM EXISTING DRY DETENTION BASIN.

AREA TO OUTLET: 0.03 AC

AREA TO OUTLET: 0.18 AC

AREA TO OUTLET: 0.40AC

AREA TO OUTLET: 0.44AC

PROPOSED SILT FENCE STD. # 507.1

PROPOSED DENUDED LIMITS (TYP.)

PROPOSED SILT FENCE OUTLET AND J-HOOK (TYP.) STD. # 509.1

PROPOSED SILT FENCE OUTLET DRAINAGE AREA BOUNDARY (TYP.)

AREA TO OUTLET: 0.06AC

AREA TO OUTLET: 0.02AC

PROPOSED SILT FENCE OUTLET AND J-HOOK (TYP.) STD. # 509.1

CONTRACTOR SHALL PROTECT EXISTING SIDEWALK THROUGHOUT CONSTRUCTION AND BE RESPONSIBLE TO REMOVE AND REPLACE ANY DAMAGED SIDEWALK AT NO COST TO OWNER(TYP.)

CONTRACTOR SHALL SEED ALL DISTURBED AREAS AS SOON AS PRACTICABLE (TYP.) STD. #521.1 & 522.1

8' SIDE SETBACK

EXISTING PROPERTY LINE (TYP.)

013-081-05
CHARLOTTE MECKLENBURG
BOARD OF EDUCATION
DB 27025 PG 514
13359 BEATTIES FORD RD
ZONING: R

MEDIUM TO LARGE HARDWOODS AND PINES

NOTE:
NO SPECIMEN TREES SHALL BE REMOVED. CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- EXISTING MAJOR COUNTOUR
- EXISTING MINOR CONTOURS
- DENUDED LIMITS
- CLEARING AND GRUBBING LIMITS
- PROPOSED DEMOLITION
- PROPOSED TEMPORARY SILT DITCH
- PROPOSED TEMPORARY SILT FENCE
- PROPOSED TREE PROTECTION FENCE
- CONSTRUCTION ENTRANCE
- PROPOSED INLET PROTECTION
- PROPOSED TEMPORARY SEEDING
- PROPOSED PERMANENT SEEDING
- PROPOSED TEMPORARY CONCRETE WASHOUT
- PROPOSED MAJOR COUNTOUR
- PROPOSED MINOR CONTOURS

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RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA — REGISTERED LANDSCAPE ARCHITECT — TIMOTHY M. MCMINN — 1872 — NOT FOR BIDDING PURPOSES — 3/28/2023

FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

PHASE 2 ESC PLAN - AREA 2

DEI PROJECT NO: 50153755

SHEET NO.

C3.03

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LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- EXISTING POWER POLE (LP)
- EXISTING LIGHT POLE (LP)
- EXISTING OVERHEAD POWER LINE (E)
- EXISTING GAS LINE (G)
- EXISTING WATER LINE (W)
- EXISTING SANITARY SEWER LINE (SS)
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE (WV)
- EXISTING WATER METER (WM)
- EXISTING FIRE HYDRANT (FH)
- EXISTING MAJOR COUNTOUR (-700-)
- EXISTING MINOR CONTOURS
- DENUDED LIMITS
- CLEARING AND GRUBBING LIMITS
- PROPOSED DEMOLITION
- PROPOSED TEMPORARY SILT DITCH
- PROPOSED TEMPORARY SILT FENCE (SF)
- PROPOSED TREE PROTECTION FENCE (TP)
- CONSTRUCTION ENTRANCE (CE)
- PROPOSED INLET PROTECTION (IP)
- PROPOSED TEMPORARY SEEDING (TS)
- PROPOSED PERMANENT SEEDING (PS)
- PROPOSED TEMPORARY CONCRETE WASHOUT
- PROPOSED MAJOR COUNTOUR (700)
- PROPOSED MINOR CONTOURS (703)

DENUDED LIMITS:
4.3 AC

NOTE:
NO SPECIMEN TREES SHALL BE REMOVED. CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

TOWN OF HUNTERSVILLE NOTES:

1. INSPECTIONS SHALL BE CONDUCTED AS PRESCRIBED BY THE MAINTENANCE COVENANT. ADDITIONAL INSPECTIONS MAY BE CONDUCTED BY THE TOWN OF HUNTERSVILLE ON ANY REASONABLE BASIS, INCLUDING BUT NOT LIMITED TO: ROUTINE INSPECTIONS; RANDOM INSPECTIONS; INSPECTIONS BASED UPON COMPLAINTS OR OTHER NOTICE OF POSSIBLE VIOLATIONS; INSPECTIONS OF DRAINAGE BASINS OR AREAS IDENTIFIED AS HIGHER THAN TYPICAL SOURCES OF SEDIMENT OR OTHER CONTAMINANTS OR POLLUTANTS; INSPECTIONS OF BUSINESSES OR INDUSTRIES OF A TYPE ASSOCIATED WITH HIGHER THAN USUAL DISCHARGERS OF CONTAMINANTS OR POLLUTANTS OR WITH DISCHARGES OF A TYPE WHICH ARE MORE LIKELY THAN THE TYPICAL DISCHARGE TO CAUSE VIOLATIONS OF STATE OR FEDERAL WATER QUALITY STANDARDS OR THE NPDES STORM WATER PERMIT; AND JOINT INSPECTIONS WITH OTHER AGENCIES INSPECTING UNDER ENVIRONMENTAL AND SAFETY LAWS. INSPECTIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: REVIEWING MAINTENANCE AND REPAIR RECORDS; SAMPLING DISCHARGES, SURFACE WATER, GROUNDWATER, AND MATERIAL OR WATER IN BMPS; EVALUATING THE CONDITION OF BMPS AND STORM WATER MANAGEMENT PRACTICES.
2. RIGHT-OF-ENTRY FOR INSPECTION. WHEN ANY NEW BMP IS INSTALLED ON PRIVATE PROPERTY, THE PROPERTY OWNER SHALL GRANT TO THE TOWN OF HUNTERSVILLE THE RIGHT TO ENTER THE PROPERTY AT REASONABLE TIMES AND IN A REASONABLE MANNER FOR THE PURPOSE OF INSPECTION. THIS INCLUDES THE RIGHT TO ENTER A PROPERTY WHEN THE TOWN OF HUNTERSVILLE HAS A REASONABLE BASIS TO BELIEVE THAT A VIOLATION OF THIS REGULATION IS OCCURRING OR HAS OCCURRED, AND TO ENTER WHEN NECESSARY FOR ABATEMENT OF A PUBLIC NUISANCE OR CORRECTION OF A VIOLATION OF THIS REGULATION.

NORTH ORIENTED TO NC GRID (NAD83(2011))

SEE SHEET C3.06

SEE SHEET C3.05

EXISTING PROPERTY LINE (TYP.)
8' SIDE SETBACK
EXISTING 30' POST CONSTRUCTION BUFFER
EXISTING 30' FRONT SETBACK
EXISTING RIGHT-OF-WAY

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEPT
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

EXISTING TURF FIELDS NOT FIELD SURVEYED AND ARE SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

EXISTING SIDEWALK NOT FIELD SURVEYED AND SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

SITE TBM #1
SET MAGNAIL DRILLED INTO CURB
ELEV. = 715.77

SITE TBM #2
SET CAPPED #4 REBAR
ELEV. = 730.66

013-081-05
CHARLOTTE MECKLENBURG
BOARD OF EDUCATION
DB 27025 PG 514
13359 BEATTIES FORD RD
ZONING: R

EXISTING POND DRAINAGE
AREA = 27.69 AC
DISTURBED AREA = 4.30 AC
UNDISTURBED AREA = 23.39 AC

1 SHEET ADDED TO SET

Know what's below. Call before you dig.

Dewberry

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www.dewberry.com
NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL
NORTH CAROLINA
TYLER M. MCMAHAN
3/28/2023
FOR SITE DESIGN
Document not for regulatory approval, permitting, or construction purposes.
Issued for: Bidding Purposes Only

KEY PLAN:

SCALE: 1" = 80'
0' 80' 160'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY: DLJ
APPROVED BY: TMM
CHECKED BY: TMM
DATE: DECEMBER 2, 2022

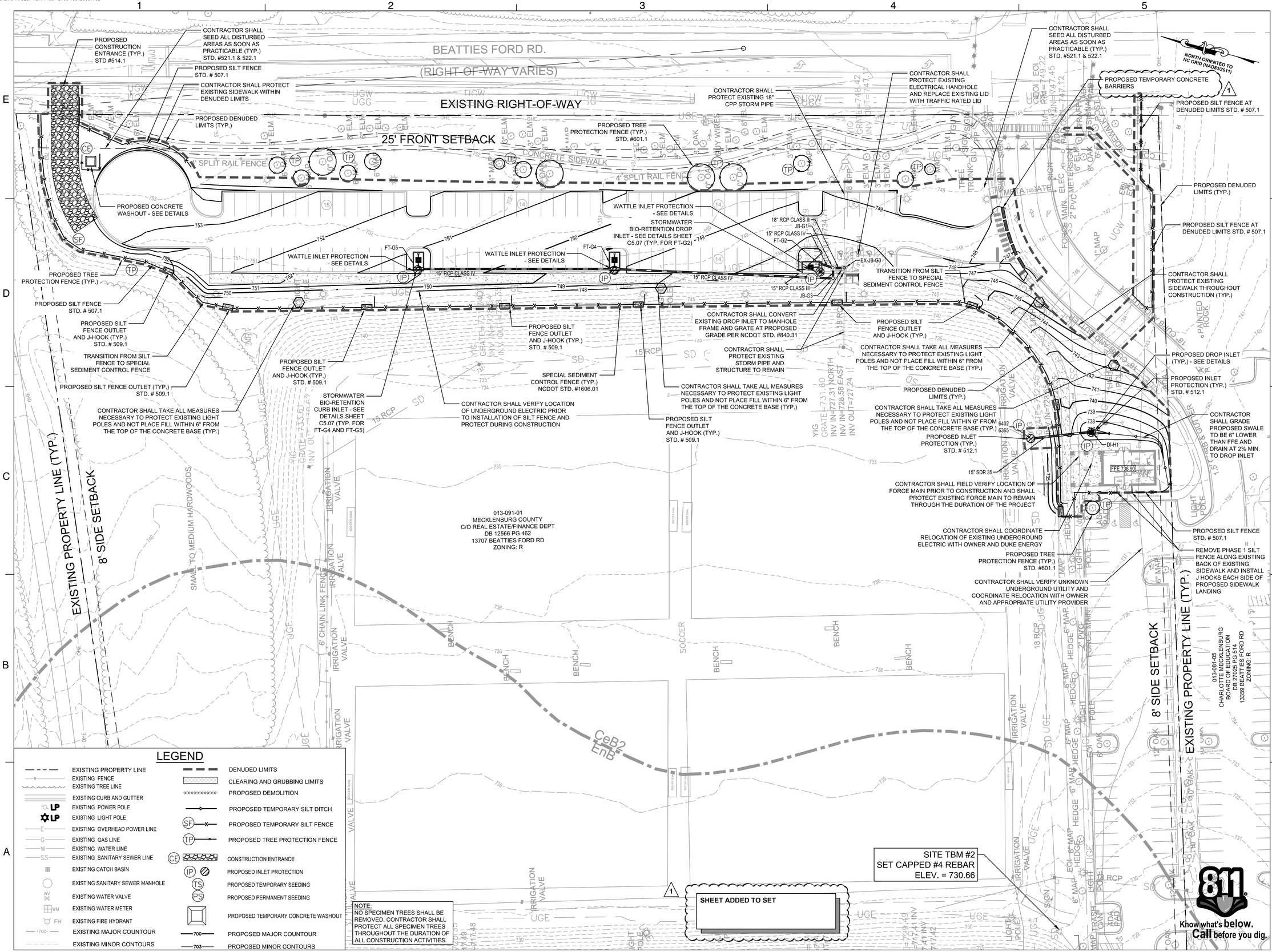
TITLE

PHASE 3 ESC PLAN - OVERALL

DEI PROJECT NO: 50153755

SHEET NO. C3.04 (1)

DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732



LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- EXISTING MAJOR COUNTOUR
- EXISTING MINOR CONTOURS
- DENUDED LIMITS
- CLEARING AND GRUBBING LIMITS
- PROPOSED DEMOLITION
- PROPOSED TEMPORARY SILT DITCH
- PROPOSED TEMPORARY SILT FENCE
- PROPOSED TREE PROTECTION FENCE
- CONSTRUCTION ENTRANCE
- PROPOSED INLET PROTECTION
- PROPOSED TEMPORARY SEEDING
- PROPOSED PERMANENT SEEDING
- PROPOSED TEMPORARY CONCRETE WASHOUT
- PROPOSED MAJOR COUNTOUR
- PROPOSED MINOR CONTOURS

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100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
TRACY M. MEMMINGER
035782
FOR BIDDING PURPOSES ONLY
3/28/2023
FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS

NO.	DATE	BY	AGENCY COMMENTS DESCRIPTION
1	03/28/23	PMW	

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

PHASE 3 ESC PLAN - AREA 1

DEI PROJECT NO: 50153755

SHEET NO. C3.05 (1)

811 Know what's below. Call before you dig.

P:\50153755\CAD\Civil\Sheets\C3.04 - Phase 3 ESC Plan.dwg

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EXISTING 30' POST CONSTRUCTION BUFFER

CONSTRUCTION BUFFER

EXISTING TURF FIELDS NOT FIELD SURVEYED AND ARE SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

EXISTING SIDEWALK NOT FIELD SURVEYED AND SHOWN BASED ON DRAWINGS TITLED "RICHARD BARRY PARK SYNTHETIC TURF FIELDS" BY DEWBERRY ENGINEERS INC. DATED 3/24/2020.

CONTRACTOR SHALL INSTALL MATS, TIMBER, OR OTHER ITEMS AS NEEDED TO PROTECT EXISTING PAVEMENT/SIDEWALK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGED PAVEMENT AND/OR SIDEWALK AT NO COST TO OWNER.

CONTRACTOR SHALL PROTECT EXISTING PLAYGROUND EQUIPMENT, BENCHES, SIGNS, TABLES, AND TREES AND SHALL BE RESPONSIBLE FOR REPAIRING/REPLACING ANY DAMAGED ITEMS AT NO COST TO OWNER.

NORTH ORIENTED TO NC GRID (NAD83/2011)

PROPOSED CONSTRUCTION ENTRANCE (TYP.) STD #514.1

PROPOSED 6' HEIGHT FENCE (SEE SHEET C2.03 FOR MORE INFO)

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEPT
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

PROPOSED RIPRAP APRON (TYP.) STD. # 306.1

PROPOSED EMBANKMENT MATTING - MUST BE STRAW MATTING THAT IS 8 OZ/SY AND COMPOSED OF PHOTO AND BIODEGRADABLE MESH (TYP.) STD. # 525.1

CONTRACTOR SHALL SEED ALL DISTURBED AREAS AS SOON AS PRACTICABLE (TYP.) STD. #521.1 & 522.1

PROPOSED ANTI-SEEP COLLARS - SEE DETAIL

PROPOSED SILT FENCE STD. # 507.1

PROPOSED SILT FENCE OUTLET AND J-HOOK (TYP.) STD. # 509.1

PROPOSED SILT FENCE OUTLET (TYP.) STD. # 509.1

PROPOSED GRADES SHOWN ARE APPROXIMATE - CONTRACTOR SHALL GRADE AS NEEDED TO DISPOSE OF SOIL EXCAVATED FROM EXISTING DRY DETENTION BASIN.

EXISTING DRY DETENTION BASIN

CONTRACTOR SHALL PROTECT EXISTING FENCE TO REMAIN (TYP.)

PROPOSED DENUDED LIMITS (TYP.)

CONTRACTOR SHALL PROTECT EXISTING 54" RCP PIPE AND FLARED END SECTION THROUGHOUT THE DURATION OF CONSTRUCTION.

PROPOSED GRAVEL AND RIPRAP FILTER BERM (TYP.) STD. # 516.1

PROPOSED COIR BAFFLES (TYP.) STD #524.1

PROPOSED 5" SKIMMER WITH A 2.5" ORIFICE. STD #503.1

CONTRACTOR SHALL PROTECT EXISTING OUTLET CONTROL STRUCTURE AND HEADWALL TO REMAIN.

CONTRACTOR SHALL PROTECT EXISTING FENCE TO REMAIN (TYP.)

START INV. = 689.23

48" DUAL WALL HDPE

END INV. = 689.01

FES-BMP

PROPOSED FLARED END SECTION (TYP.) STD. # 307.1

PROPOSED RIPRAP APRON (TYP.) STD. # 306.1

CONTRACTOR SHALL EXTEND RIP-RAP TO BOTTOM OF SLOPE

8' SIDE SETBACK

EXISTING PROPERTY LINE (TYP.)

CONTRACTOR SHALL PROTECT EXISTING SIDEWALK THROUGHOUT CONSTRUCTION AND BE RESPONSIBLE TO REMOVE AND REPLACE ANY DAMAGED SIDEWALK AT NO COST TO OWNER(TYP.)

CONTRACTOR SHALL SEED ALL DISTURBED AREAS AS SOON AS PRACTICABLE (TYP.) STD. #521.1 & 522.1

013-081-05
CHARLOTTE MECKLENBURG
BOARD OF EDUCATION
DB 27025 PG 514
13359 BEATTIES FORD RD
ZONING: R

NOTE:
NO SPECIMEN TREES SHALL BE REMOVED. CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- EXISTING MAJOR COUNTOUR
- EXISTING MINOR CONTOURS
- DENUDED LIMITS
- CLEARING AND GRUBBING LIMITS
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- PROPOSED TEMPORARY SILT DITCH
- PROPOSED TEMPORARY SILT FENCE
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- PROPOSED TEMPORARY SEEDING
- PROPOSED PERMANENT SEEDING
- PROPOSED TEMPORARY CONCRETE WASHOUT
- PROPOSED MAJOR COUNTOUR
- PROPOSED MINOR CONTOURS

SHEET ADDED TO SET

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RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA — TRAVIS M. MCMAHEN — 036999 — ENGINEER — NOT FOR BIDDING OR PERMITTING PURPOSES ONLY

3/28/2023

FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

PHASE 3 ESC PLAN - AREA 2

DEI PROJECT NO: 50153755

SHEET NO.

C3.06 1

DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732

LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING CURB AND GUTTER
- LP EXISTING POWER POLE
- LP EXISTING LIGHT POLE
- E EXISTING OVERHEAD POWER LINE
- G EXISTING GAS LINE
- W EXISTING WATER LINE
- SS EXISTING SANITARY SEWER LINE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- WV EXISTING WATER VALVE
- WM EXISTING WATER METER
- FH EXISTING FIRE HYDRANT
- 700 EXISTING MAJOR COUNTOUR
- EXISTING MINOR CONTOURS
- PROPOSED HEADWALL
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED RIGID RCP/HDPE STORM DRAIN PIPE
- PROPOSED RETAINING WALL
- 700 PROPOSED MAJOR COUNTOUR
- PROPOSED MINOR CONTOURS
- 600.00 TW PROPOSED TOP OF WALL ELEVATION
- 600.00 BW PROPOSED BOTTOM OF WALL ELEVATION
- 600.00 FG PROPOSED SPOT ELEVATION
- 600.00 SW PROPOSED SIDEWALK ELEVATION
- 600.00 TC PROPOSED TOP BACK OF CURB ELEVATION
- 600.00 TS PROPOSED TOP OF SLAB ELEVATION
- 600.00 EP PROPOSED EDGE OF PAVEMENT ELEVATION
- PROPOSED RIPRAP/STONE FOREBAY

TOWN OF HUNTERSVILLE NOTES:

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SEE SHEET C3.09

SEE SHEET C3.08

EXISTING 30' POST CONSTRUCTION BUFFER

EXISTING PROPERTY LINE (TYP.)

8' SIDE SETBACK

013-091-01
MECKLENBURG COUNTY
C/O REAL ESTATE/FINANCE DEPT
DB 12566 PG 462
13707 BEATTIES FORD RD
ZONING: R

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SITE TBM #2
SET CAPPED #4 REBAR
ELEV. = 730.66

EXISTING RIGHT-OF-WAY

013-081-05
CHARLOTTE MECKLENBURG
BOARD OF EDUCATION
DB 27025 PG 514
13359 BEATTIES FORD RD
ZONING: R

1 POND DRAINAGE AREA = 27.69 AC

NORTH ORIENTED TO NC GRID (NAD83(2011))

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RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

Document not for regulatory approval, permitting or construction
Tracy M. Mahoney
4-2006 PROFESSIONAL ENGINEER
NORTH CAROLINA
FOR BIDDING PURPOSES ONLY
3/28/2023
FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 80'

0' 80' 160'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

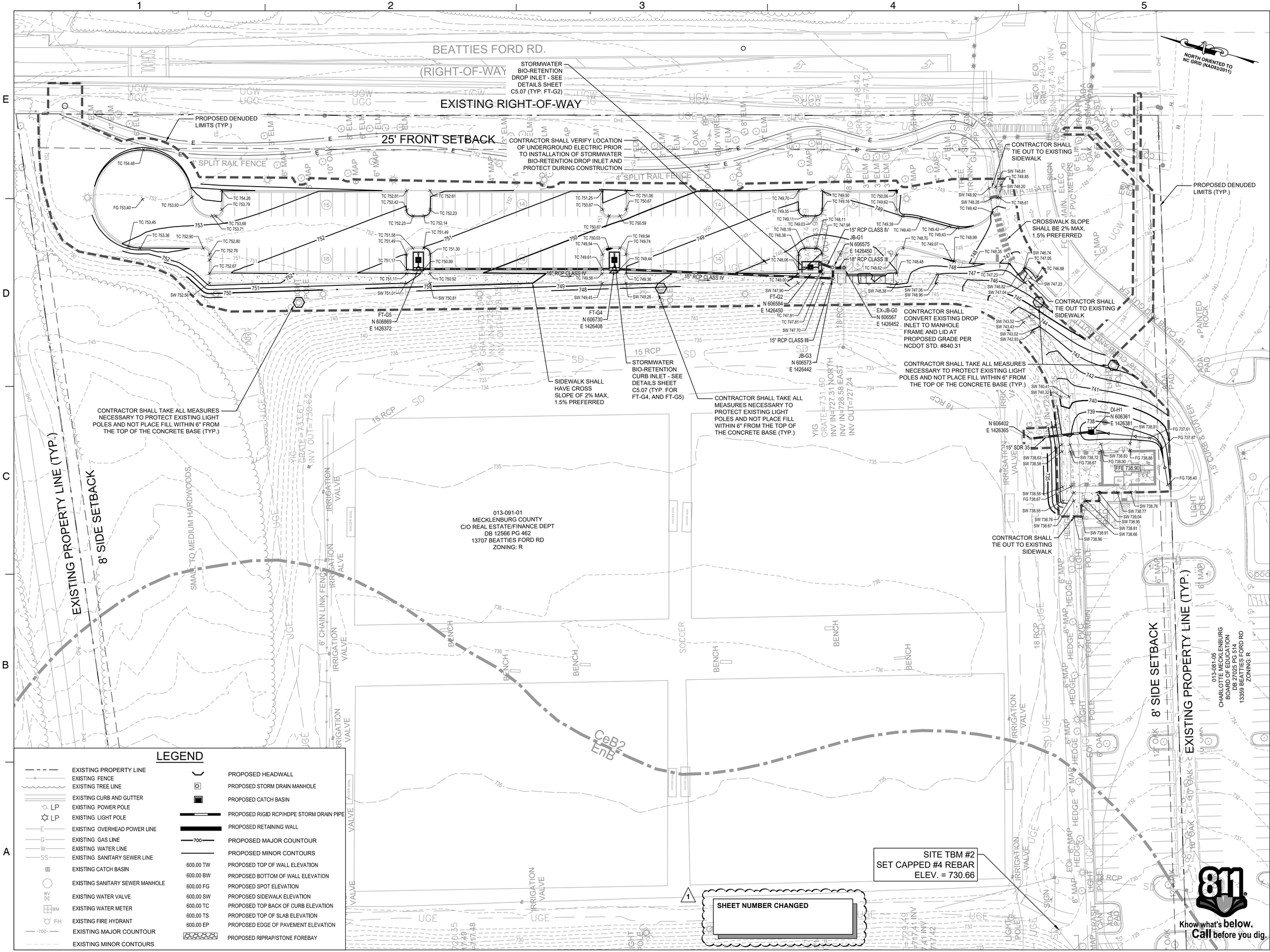
GRADING AND STORM DRAINAGE PLAN - OVERALL

DEI PROJECT NO: 50153755

SHEET NO.

C3.07

811 Know what's below. Call before you dig.



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13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

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3/28/23

FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

GRADING AND STORM DRAINAGE PLAN - AREA 1

DEI PROJECT NO: 50153755

SHEET NO.

1 C3.08

811 Know what's below. Call before you dig.

P:\50153755\CAD\Civil\Sheets\C3.04 - Grading and Storm Drainage Plan.dwg

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P:\50153755\CAD\Civil\Sheets\C3.04 - Grading and Storm Drainage Plan.dwg

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RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL
Document No.
Issue Date: 3/28/2023
Expiration Date: 12/31/2023
NORTH CAROLINA
PROFESSIONAL ENGINEER
TRISTAN M. MCMANN
NOT FOR BIDDING PURPOSES ONLY
3/28/2023
FOR SITE DESIGN

KEY PLAN:

SCALE: 1" = 30'
0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

GRADING AND STORM DRAINAGE PLAN - AREA 2

DEI PROJECT NO: 50153755

SHEET NO.

C3.09

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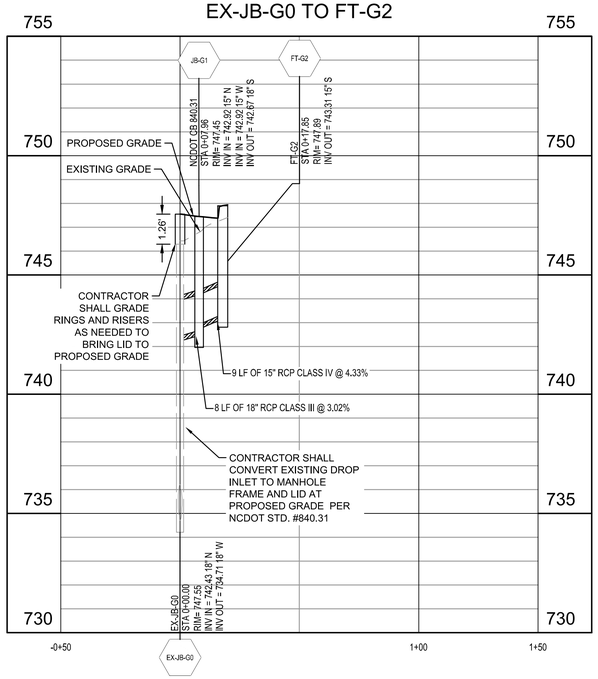
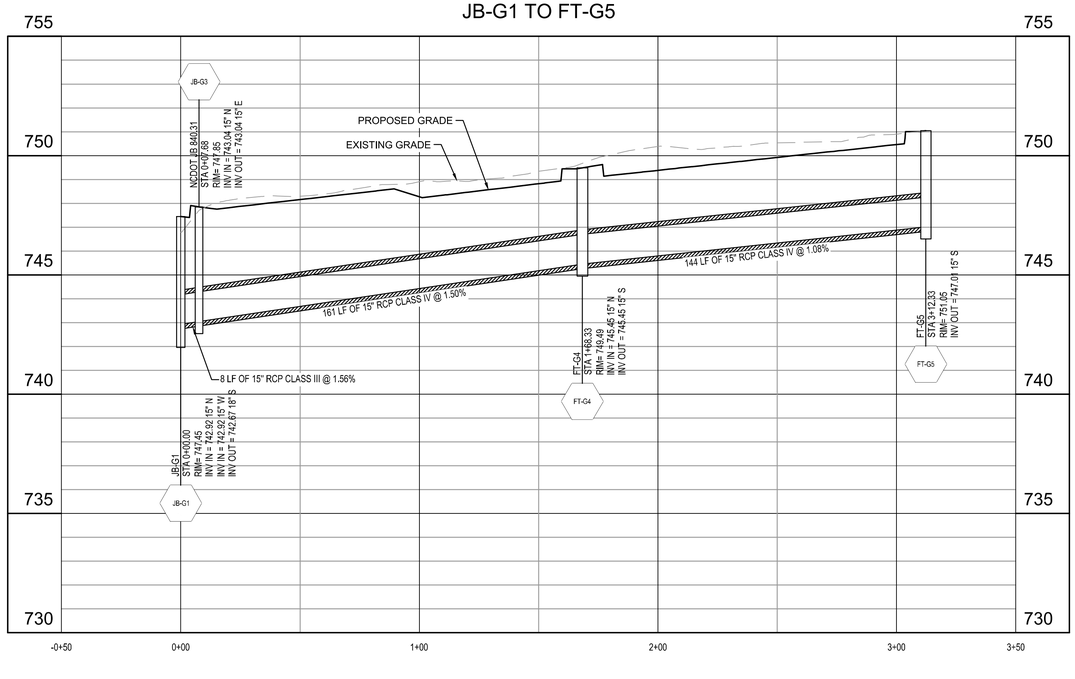
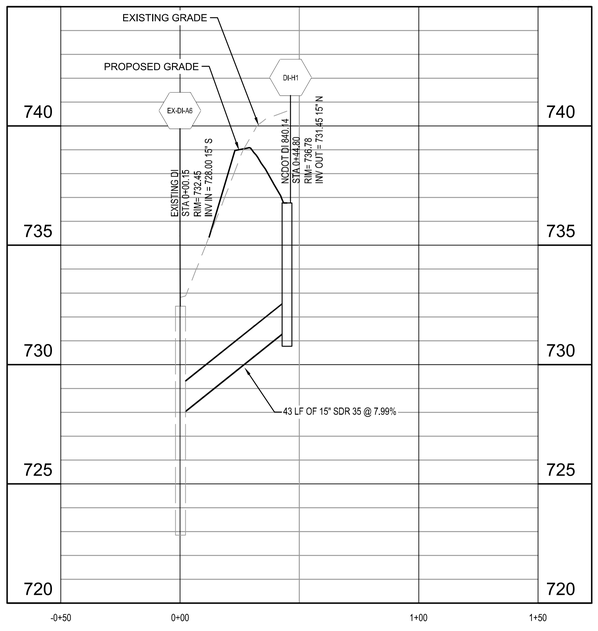
EX-JB-G0 TO FT-G2



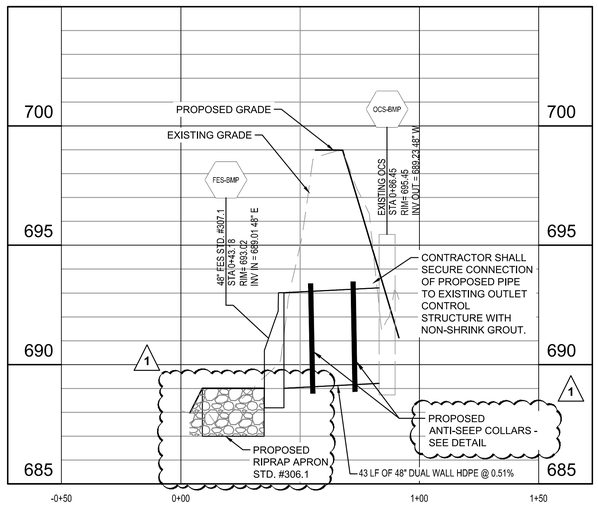
JB-G1 TO FT-G5



EX-DI-A6 TO DI-H1



FES-BMP TO OCS-BMP



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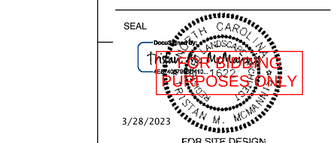
www.dewberry.com
NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



Document is preliminary and incomplete. It is not to be used for bidding, permit, or construction purposes. 1622 Tyler McMahon, NC
FOR BIDDING PURPOSES ONLY

KEY PLAN:

SCALE:

VERTICAL SCALE - PROFILE
0' 3' 6'

HORIZONTAL SCALE - PROFILE
0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

STORM PROFILES

DEI PROJECT NO: 50153755

SHEET NO.

C3.10

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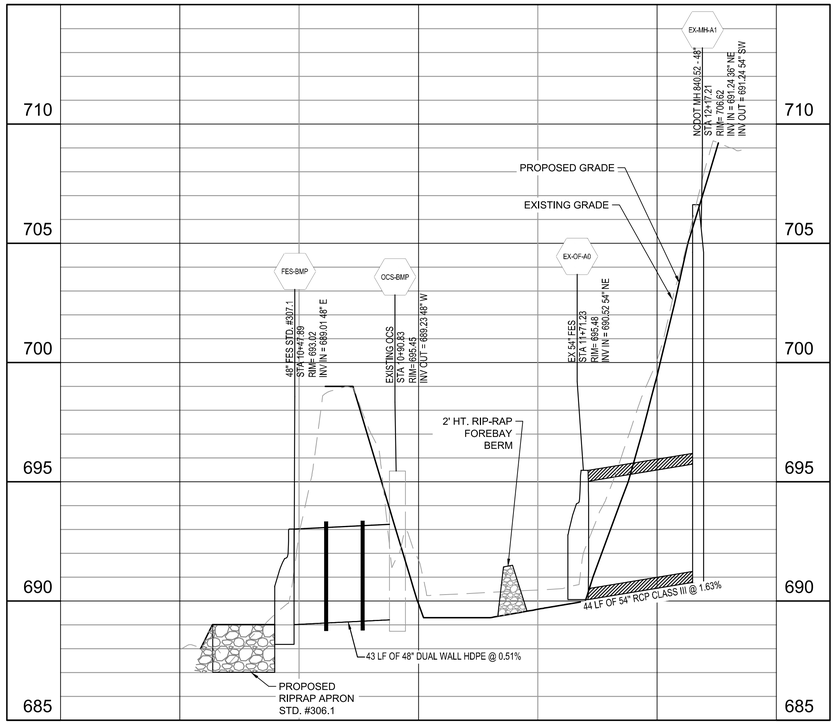
DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732

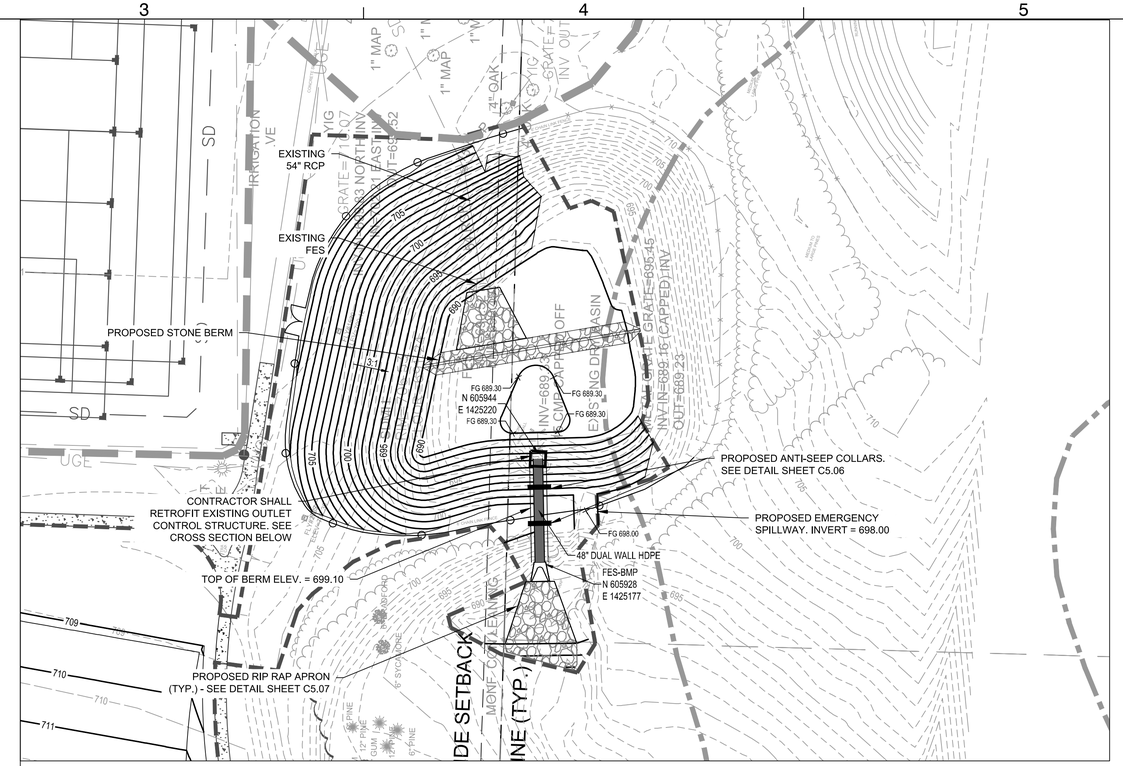
BMP PROFILE



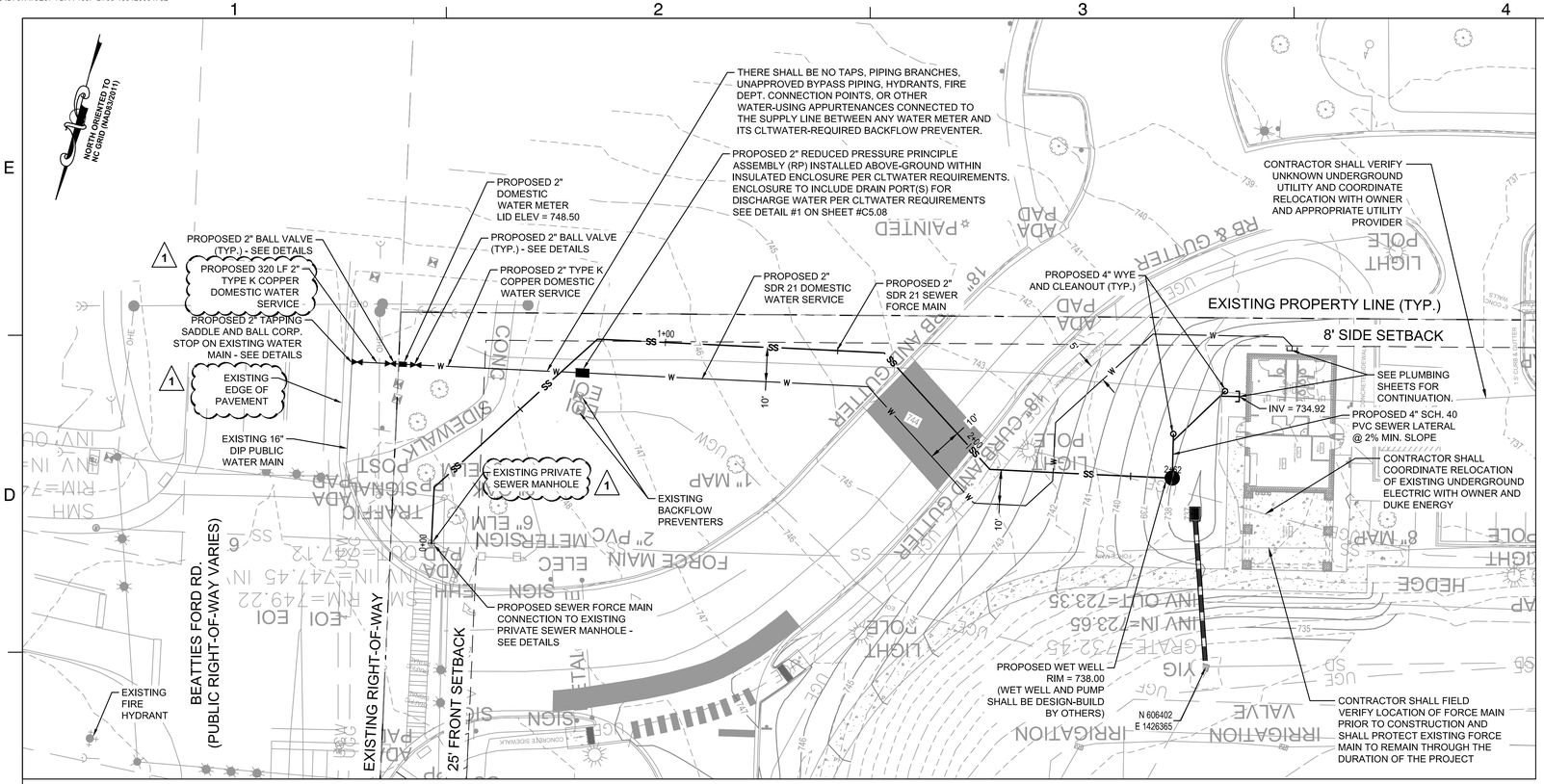
SCALE:
H: 1" = 30'
V: 1" = 3'

BMP PLAN VIEW

SCALE: 1" = 30'


EXISTING
54" RCP
EXISTING
FES
PROPOSED STONE BERM
CONTRACTOR SHALL
RETROFIT EXISTING OUTLET
CONTROL STRUCTURE. SEE
CROSS SECTION BELOW
TOP OF BERM ELEV. = 699.10
PROPOSED RIP RAP APRON
(TYP.) - SEE DETAIL SHEET C5.07
PROPOSED ANTI-SEEP COLLARS.
SEE DETAIL SHEET C5.06
PROPOSED EMERGENCY
SPILLWAY. INVERT = 698.00
48" DUAL WALL HDPE
FES-BMP
N 605928
E 1425177
FG 698.00
FG 689.30
N 605944
E 1425220
FG 689.30
FG 689.30
EXISTING DRAINAGE BASIN OFF
SITE CMP
INV=689.16 (CAPPED)
OUT=689.23
EXISTING GRATE=695.45
INV IN=689.16 (CAPPED) INV
OUT=689.23
EXISTING GRATE=695.45
EXISTING GRATE=695.45
EXISTING GRATE=695.45

DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732



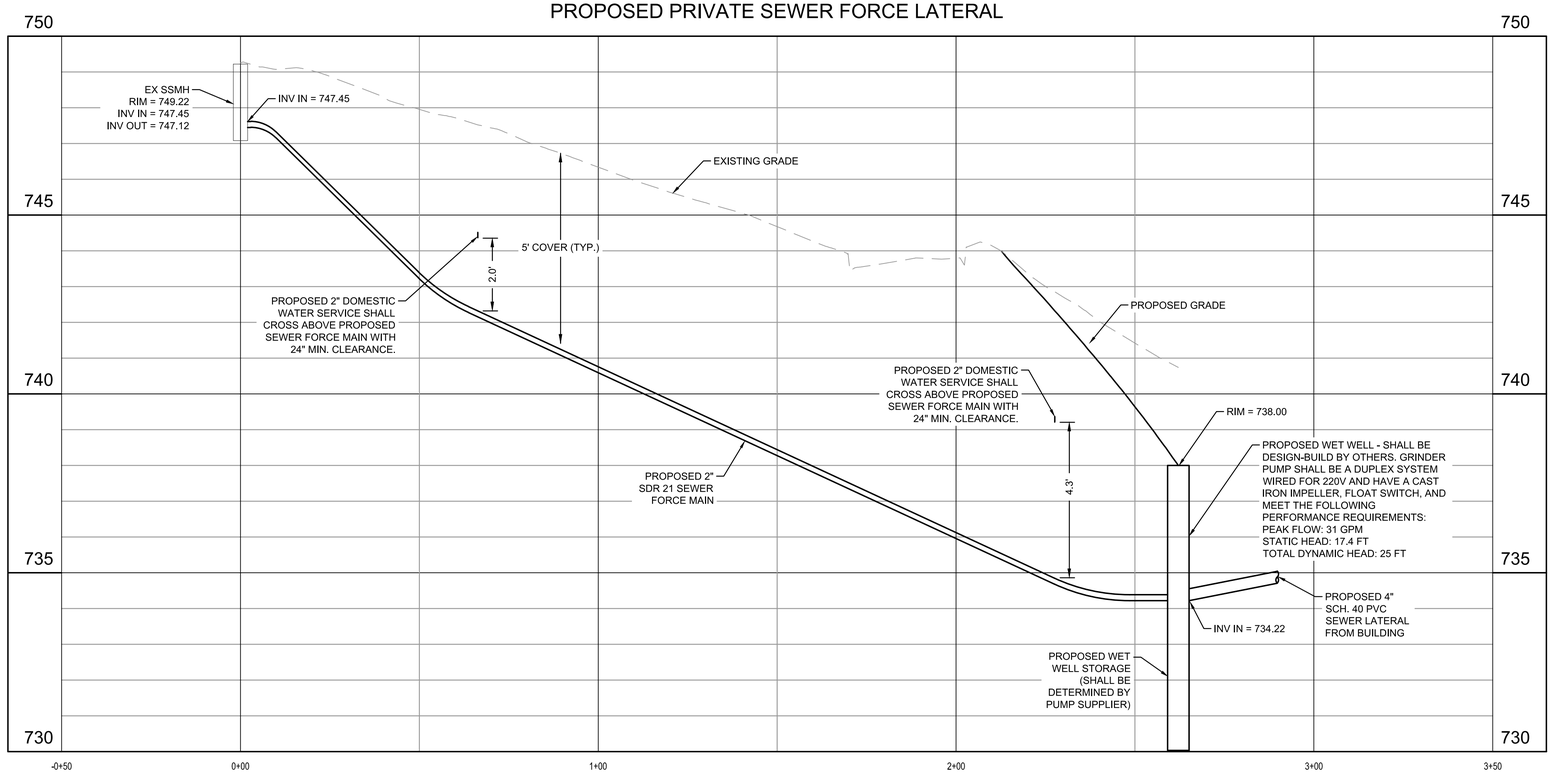
UTILITY NOTES:

1. TOPOGRAPHIC INFORMATION, SHOWN WITHIN PROJECT LIMITS, BASED ON INFORMATION PROVIDED BY CLIENT AND PARTIAL FIELD SURVEY PERFORMED BY DEWBERRY JANUARY 27, 2020.
2. UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODE REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES (STORM DRAINAGE, ELECTRIC, GAS, TELEPHONE, ETC.) PRIOR TO CONSTRUCTION. INFORMATION SHOWN ON THIS PLAN IS FOR REFERENCE ONLY AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL NOTIFY THE OWNER/DESIGNER OF RECORD IMMEDIATELY IF ANY DISCREPANCIES BETWEEN THE CONSTRUCTION PLANS AND ACTUAL FIELD CONDITIONS ARE FOUND.
5. MINIMUM COVER FOR ALL SANITARY SEWER MAINS SHALL BE 3'-0". DUCTILE IRON PIPE WILL BE SUBSTITUTED WHEN MINIMUM COVER CAN NOT BE MAINTAINED.
6. THE STANDARD DEPTH OF COVER FOR WATER MAINS SHALL BE 3'-0" MIN. EXCEPT AT VALVE OR HYDRANT LOCATIONS, OR OTHER SPECIAL CONDITIONS.
7. THE CONNECTION TO EXISTING WATER MAINS SHALL BE PERFORMED ONLY AFTER ALL PRESSURE TESTING AND CHLORINATION ARE SUCCESSFULLY COMPLETED AND THE LOCAL REVIEW AUTHORITY HAS APPROVED THE CONNECTION. THE CONTRACTOR SHALL AVOID DISRUPTION OF EXISTING SERVICE.
8. REFER TO PLUMBING DRAWING SERIES FOR THE LOCATION OF WATER AND SANITARY SEWER SERVICE CONNECTIONS AT THE BUILDING.
9. UNLESS OTHERWISE NOTED, THE PHYSICAL CONNECTION BETWEEN THE SITE UTILITY LINES AND THE PIPE INSTALLED BY THE PLUMBING CONTRACTOR SHALL BE MADE BY THE SITE UTILITY CONTRACTOR.
10. PIPE LENGTHS SHOWN ON PLAN ARE THE ENGINEER'S ESTIMATE USED TO COMPUTE PIPE SLOPES AND INVERTS AND SHALL NOT BE CONSTRUED BY THE CONTRACTOR TO REPRESENT THE ACTUAL QUANTITY OF PIPE REQUIRED.
11. IF WATER LINE CROSSES OVER SANITARY SEWER WITH LESS THAN 18 INCHES VERTICAL CLEARANCE BOTH PIPES SHALL BE DUCTILE IRON 10' EACH SIDE. IF WATER CROSSES UNDER THE SEWER REGARDLESS OF CLEARANCE, BOTH PIPES SHALL BE DUCTILE IRON 10' EACH SIDE. IF WATER LINE RUNS PARALLEL TO SEWER LINE WITH LESS THAN 18" VERTICAL CLEARANCE AND LESS THAN 10' SIDE CLEARANCE BOTH PIPES SHALL BE DUCTILE IRON.
12. IF REQUIRED BY NOTE 11 ABOVE, REPLACE EXISTING SEWER WITH DUCTILE IRON PIPE, CLASS 350 WORKING PRESSURE WITH GASKETED JOINTS, 10' EACH SIDE OF WATER MAIN.
13. THERE SHOULD BE A MIN. 12" VERTICAL CROSSING SEPARATION BETWEEN STORM DRAINS AND WATER OR SEWER LINES, WHERE THERE IS LESS THAN 12" VERTICAL SEPARATION FERROUS MATERIAL SHALL BE LAID FOR 10' EITHER SIDE OF CROSSING, FOR SEWER AND WATER LINES.
14. PRIOR TO BACK FILLING WATER AND SEWER TRENCHES, CONTACT ENGINEER WITH AT LEAST 24 HOURS NOTICE OF INSTALLATION TO SCHEDULE INSPECTION OF LINES.
15. ALL SANITARY SEWER SHALL BE SDR-35 PIPE UNLESS OTHERWISE NOTED.
16. EACH CHARLOTTE WATER REQUIRED BPA IS REQUIRED TO BE TESTED BY A CHARLOTTE WATER APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
17. ALL WATER METERS SHALL BE CHARLOTTE WATER BACKFLOW COMPLIANT.
18. CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL TESTS & SUPPLYING TESTING EQUIPMENT NECESSARY TO PROVIDE ENGINEER'S CERTIFICATION FOR WATER & SEWER LINES PER STATE & LOCAL REQUIREMENTS. CONTRACTOR SHALL SCHEDULE ALL TESTING W/ ENGINEER AT LEAST 2 BUSINESS DAYS PRIOR TO THE TEST.
19. CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKS OR RESTRAINED JOINT PIPE @ ALL BENDS & TEES. CONCRETE THRUST BLOCKS & RESTRAINED JOINT PIPE SHALL MEET ALL STATE & CHARLOTTE WATER REQUIREMENTS.

FIRE HYDRANT FLOW TEST INFORMATION:

TEST DATE: JULY 12, 2022
FIRE HYDRANT ID: N/A
RESIDUAL PRESSURE: 82 PSI
STATIC PRESSURE: 88 PSI
MEASURED FLOW: 5391 GPM @ 20 PSI

PROPOSED PRIVATE SEWER FORCE LATERAL



CLT WATER NOTES:

1. CUSTOMER IS RESPONSIBLE FOR STAKING SITE AS NECESSARY TO DETERMINE SERVICE LOCATIONS & ELEVATIONS PRIOR TO CLT WATER WATER CONTRACTOR MOBILIZING TO INSTALL SERVICES. SITE ADDRESS MUST BE VISIBLY POSTED AT SITE.
2. ON-SITE CONTRACTOR IS RESPONSIBLE FOR RELOCATING ANY APPLICABLE CONFLICTING UTILITIES NECESSARY TO COMPLETE SERVICE INSTALLATIONS. ADDITIONAL FEES MAY APPLY & CONSTRUCTION TIMELINES EXTENDED IF CONFLICTING UTILITIES ARE NOT SHOWN ON PLANS.
3. WATER AND SEWER CONNECTIONS SHALL NOT BE LOCATED WITHIN PROPOSED CONSTRUCTION ENTRANCES.
4. PAYMENT FOR A QUOTED SERVICE CONNECTION SHALL BE CONSIDERED ACKNOWLEDGEMENT & APPROVAL OF CLT WATER COMMENTS BY THE APPLICANT; PAYMENT DOES NOR INCLUDE ANY ADDITIONAL FEES REQUIRED DUE TO UNFORESEEN CONDITIONS THAT ARE/WERE NOT DEPICTED ON THE SITE PLAN PROVIDED BY THE APPLICANT.
5. BACKFLOW PREVENTION REVIEW SHALL BE COORDINATED THOUGH MECK. CO. CODE ENFORCEMENT PERMITTING PROCESS AT THE TIME OF APPLICATION FOR BUILDING PERMITS. THESE REQUIREMENTS CAN BE FOUND AT HTTP://CHARLOTTENC.GOV/WATER/PAGHES/BACKFLOWCONSTRUCTIONGUIDELINES.ASPZ. PLEASE CONTACT MARK KROUSE AT (704) 432-5800 FOR MORE INFORMATION. ANY REVISION TO TAP AND/OR METER LOCATIONS MAY BE SUBJECT TO RESUBMITTAL TO BACKFLOW FOR REVIEW.

WATER DEMAND CALCULATION RESULTS

	DEMAND TYPE	DEMAND FLOW (GPM)	CORRESPONDING METER (CLT WATER METER CHART)
METER - 1	COMMERCIAL	10.21 GPM	2-INCH POSITIVE DISPLACEMENT

WASTEWATER TREATMENT PLANT RECEIVING WASTEWATER:

___MCALPINE
___IRWIN
☒MCDOWELL
___SUGAR
___MALLARD
___ROCKY RIVER

VERTICAL SCALE - PROFILE
0' 2' 4'

HORIZONTAL SCALE - PROFILE
0' 20' 40'

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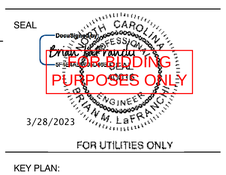
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



KEY PLAN:

SCALE: 1" = 20'

0' 20' 40'

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

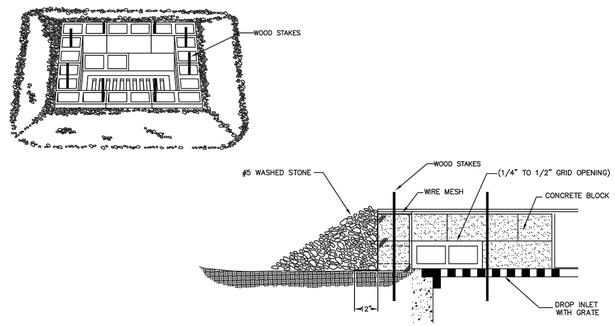
TITLE

UTILITY PLAN

DEI PROJECT NO: 50153755

SHEET NO.

C4.01



SPECIFIC APPLICATION:

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

NOT TO SCALE

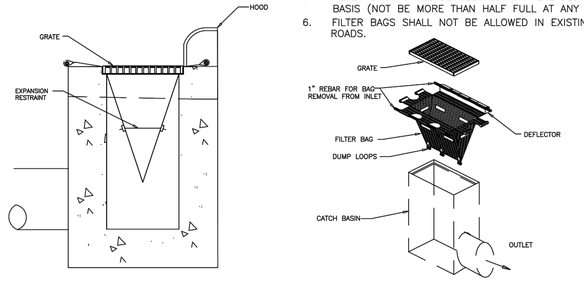
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

BLOCK AND GRAVEL STONE INLET PROTECTION

REV. DATE
10/14/09
STD. NO.
510.1

NOTES

1. INLET MAINTENANCE SHALL BE DOCUMENTED IN PROJECT LOG BOOK.
2. FILTER TYPES SHALL BE APPROVED BY THE INSPECTOR PRIOR TO INSTALLATION.
3. FILTER BAGS MAY BE REMOVED WHEN SITE IS STABILIZED AT THE DIRECTION OF THE ENGINEER.
4. FILTER BAGS SHALL BE REMOVED PRIOR TO STREET ACCEPTANCE.
5. FILTER BAGS SHALL BE CLEANED OR REPLACED ON A REGULAR BASIS (NOT BE MORE THAN HALF FULL AT ANY TIME).
6. FILTER BAGS SHALL NOT BE ALLOWED IN EXISTING TOWN OR NCDOT ROADS.



SECTION INSTALLATION

NOT TO SCALE

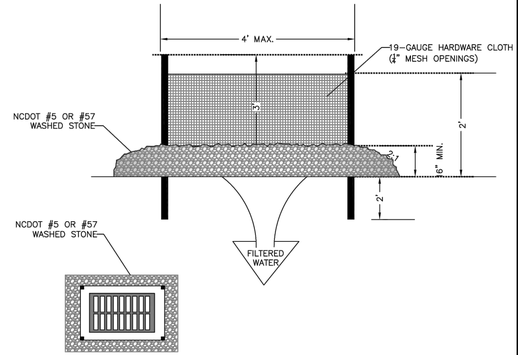
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

CATCH BASIN INLET PROTECTION

REV. DATE
10/14/09
STD. NO.
519.1

GENERAL NOTES:

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NC DOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZED IT WITH GROUNDCOVER.

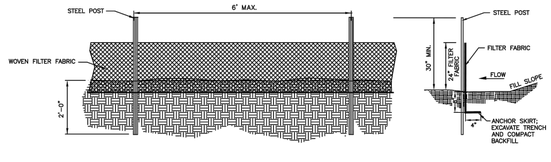


NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

HARDWARE CLOTH AND GRAVEL INLET PROTECTION

REV. DATE
10/14/09
STD. NO.
512.1



GENERAL NOTES:

1. FILTER FABRIC FENCE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
2. WOVEN FILTER FABRIC BE USED WHERE SILT FENCE IS TO REMAIN FOR A PERIOD OF MORE THAN 30 DAYS.
3. STEEL POSTS SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
4. TURN SILT FENCE UP SLOPE AT ENDS.
5. ORANGE SAFETY FENCE IS REQUIRED AT BACK OF SILT FENCE WHEN GRADING IS ADJACENT TO SWIM BUFFERS, STREAMS OR WETLANDS (REFER TO SWIM BUFFER GUIDELINES). THE COLOR ORANGE IS RESERVED FOR VISUAL IDENTIFICATION OF ENVIRONMENTALLY SENSITIVE AREAS.
6. DRAINAGE AREA CAN NOT BE GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
7. SLOPE LENGTHS CAN NOT EXCEED CRITERIA SHOWN IN TABLE 6.62A NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
8. DO NOT INSTALL SEDIMENT FENCE ACROSS STREAMS, DITCHES, WATERWAYS OR OTHER AREAS OF CONCENTRATED FLOW.

MAINTENANCE NOTES:

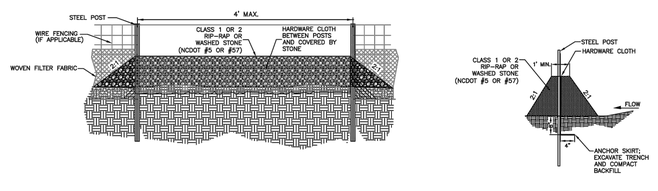
1. FILTER BARRIERS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROX. HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

TEMPORARY SILT FENCE

REV. DATE
10/14/09
STD. NO.
507.1



GENERAL NOTES:

1. SEDIMENT FILTER OUTLET AND HARDWARE CLOTH SHALL BE 16 INCHES HIGH BUT NO TALLER THAN 18 INCHES.
2. NCDOT #5 OR #57 WASHED STONE MAY BE USED WITH HARDWARE CLOTH OR CLASS 1 OR 2 RIP-RAP SHALL BE USED AND COVERED WITH 4 INCHES OF NCDOT #5 OR #57 WASHED STONE ON THE UPSLOPE SIDE WITH HARDWARE CLOTH.
3. HARDWARE CLOTH SHALL BE ANCHORED TO THE STEEL POSTS SECURELY USING APPROPRIATE ANCHORS. HARDWARE CLOTH SHALL BE KEYED IN A MINIMUM OF 12 INCHES IN LENGTH AND BACKFILLED PROPERLY AS SHOWN IN ABOVE DETAIL. HARDWARE CLOTH TO BE SAME AS STD. #512.1 (19 GAUGE, 1/4" SPACING).
4. POSTS SHALL BE NO MORE THAN 4 FEET APART.
5. SITE OUTLETS AT ANY POINT SMALL CONCENTRATED FLOWS ARE ANTICIPATED AND AT THE DIRECTION OF THE INSPECTOR.
6. ONE ACRE MAXIMUM DRAINAGE AREA PER OUTLET.

MAINTENANCE NOTES:

1. FILTER OUTLETS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. THE STONE SHALL BE REPLACED PROMPTLY AFTER ANY EVENT THAT HAS CLOGGED OR REMOVED IT.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OUTLET IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

NOT TO SCALE

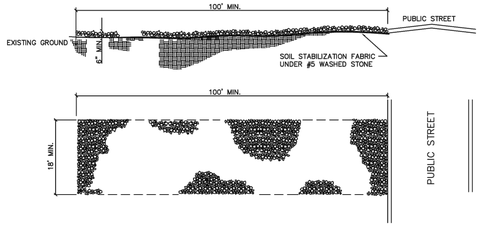
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

SILT FENCE OUTLET OPTION 2

REV. DATE
10/14/09
STD. NO.
509.1

NOTES:

1. A STABILIZED ENTRANCE PAD OF #5 WASHED STONE OR RAIL ROAD BALLAST SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. FILTER FABRIC OR COMPACTED CRUSHER RUN STONE SHALL BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS MUST BE REMOVED IMMEDIATELY.
5. WHEN APPROPRIATE, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN SEE STD. NO. 515.1.
6. TOWN MAY REQUIRE A STANDARD COMMERCIAL DRIVEWAY (STD. 108.1 – 116.1) TO ACCESS THE CONSTRUCTION SITE IF THE DRIVEWAY IS ON A THOROUGHFARE.

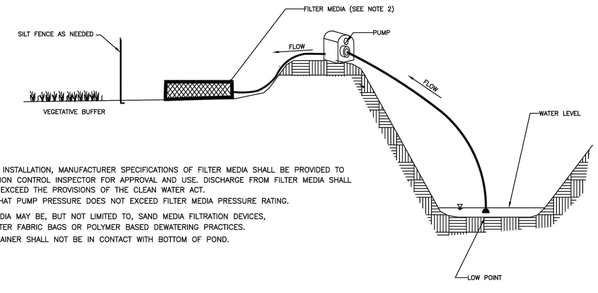


NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

STABILIZED CONSTRUCTION ENTRANCE

REV. DATE
10/14/09
STD. NO.
514.1



NOTE:

1. PRIOR TO INSTALLATION, MANUFACTURER SPECIFICATIONS OF FILTER MEDIA SHALL BE PROVIDED TO THE EROSION CONTROL INSPECTOR FOR APPROVAL AND USE. DISCHARGE FROM FILTER MEDIA SHALL MEET OR EXCEED THE PROVISIONS OF THE CLEAN WATER ACT.
2. ENSURE THAT PUMP PRESSURE DOES NOT EXCEED FILTER MEDIA PRESSURE RATING.
3. FILTER MEDIA MAY BE, BUT NOT LIMITED TO, SAND MEDIA FILTRATION DEVICES, RATED FILTER FABRIC BAGS OR POLYMER BASED DEWATERING PRACTICES.
4. PUMP STRAINER SHALL NOT BE IN CONTACT WITH BOTTOM OF POND.

NOT TO SCALE

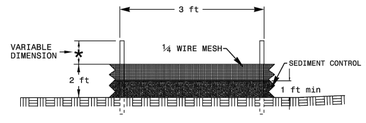
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

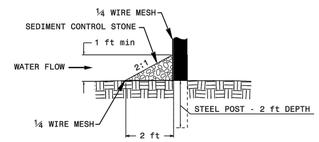
EROSION CONTROL DEWATERING

REV. DATE
10/14/09
STD. NO.
517.1

NOTES

1. USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
2. USE HARDWARE CLOTH 24 GAUGE WIRE MESH WITH ¼ INCH MESH OPENINGS.
3. INSTALL 5 FT. SELF FASTENER ANGLE STEEL POST 2 FT. DEEP MINIMUM.
4. ATTACH HARDWARE CLOTH TO POSTS WITH WIRE STAPLE OR OTHER ACCEPTABLE METHODS.
5. SPACE POSTS A MAXIMUM OF 3 FT.
6. FOR INSTALLATION BETWEEN SECTIONS OF SILT FENCE, EXTEND SEDIMENT CONTROL STONE A MINIMUM OF 12" ON EACH SIDE OF SPECIAL SEDIMENT CONTROL FENCE SECTION.





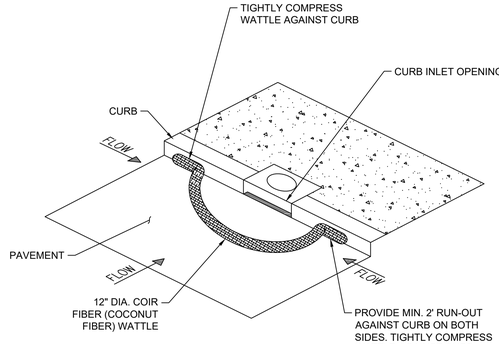
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

STANDARD NO. 1606.01

ROADWAY STANDARD DRAWING FOR

SPECIAL SEDIMENT CONTROL FENCE

SHEET 1 OF 1



MAINTENANCE NOTES:

1. WATTLE INLET PROTECTION SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE WATTLE. THE PAVEMENT SURFACE SHALL BE CLEANED OF SEDIMENT AFTER REMOVAL OF WATTLE INLET PROTECTION.

WATTLE INLET PROTECTION
N.T.S.

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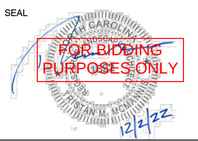
NCBOLA #C-478

RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



FOR BIDDING PURPOSES ONLY

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

ESC DETAILS (SHEET 1 OF 2)

DEI PROJECT NO: 50153755

SHEET NO.

C5.01

P:\50153755\CAD\Civil\Sheets\C6.01 - ESC Details.dwg

DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732

GENTLE SLOPES / STEEP SLOPES

	GENTLE SLOPES	STEEP SLOPES
SEEDING MIXTURE	80 lbs/acre of tall fesue	100 lbs/acre tall fescue 30 lbs/acre Sericea lespedeza (unscarified after August 15) 10 lbs/acre Kobe lespedeza
SEEDING DATES	FALL: August 25 – October Late winter: February 15 – April 15 To extend spring seeding into June, add 15 lbs/acre hulled Bermudagrass Overseeding of Kobe lespedeza over fall-seeded tall fescue is very effective.	FALL: August 25 – October 15 Late winter: February 15 – April 15 To extend spring seeding into June, add 15 lbs/acre hulled Bermudagrass Overseeding of Kobe lespedeza over fall-seeded tall fescue is very effective.
SEEDING AMENDMENTS	Apply lime and fertilizer per soil tests, or 4000 lbs/acre limestone and 1000 lbs/acre 10-10-10 fertilizer.	Apply lime and fertilizer per soil tests, or 4000 lbs/acre limestone and 1000 lbs/acre 10-10-10 fertilizer.

NOTE 1
Ground Cover-- Protective cover must be established on all disturbed areas within 14 calendar days after land disturbing activity is completed or has temporarily ceased.

NOTE 2
Graded slopes and fills-- Protective cover must be established on all graded slopes and fills within 7 calendar days after a phase of grading is completed or has temporarily ceased.

NOTE 3
Enhanced Controls-- Protective cover must be established on all disturbed areas, graded slopes, and fills within 5 calendar days after land disturbing activity or a phase of grading is completed or has temporarily ceased.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

SEEDING SCHEDULE

REV. DATE: 08/01/17
STD. NO.: 521.1

TEMPORARY SEEDING FOR WARM AND COOL SEASON

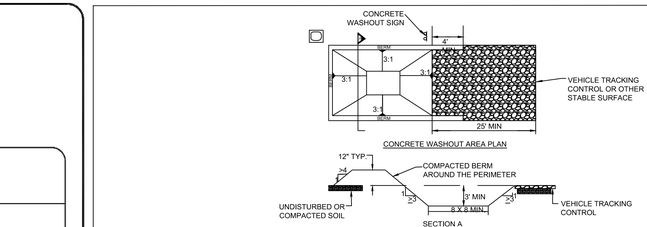
	EARLY SUMMER SEASON	STEEP SLOPES
SEEDING MIXTURE	40 lbs/acre of German millet 80 lbs/acre of tall fesue	120 lbs/acre Rye (grain) 80 lbs/acre tall fesue
SEEDING DATES	May 1 – August 15 Refertilize if growth is not fully adequate. Apply 4000 lbs/acre straw or equivalent hydroseeding.	October 25 – December 30 Between December 30 – February 15, add 50 lbs/acre of annual Kobe lespedeza. Apply 4000 lbs/acre straw or equivalent hydroseeding.
SEEDING AMENDMENTS	Apply lime and fertilizer per soil tests, or 2000 lbs/acre limestone and 750 lbs/acre 10-10-10 fertilizer.	Apply lime and fertilizer per soil tests, or 2000 lbs/acre limestone and 750 lbs/acre 10-10-10 fertilizer.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

SEEDING SCHEDULE (SEASONAL)

REV. DATE: 10/14/09
STD. NO.: 522.1



CWA INSTALLATION NOTES

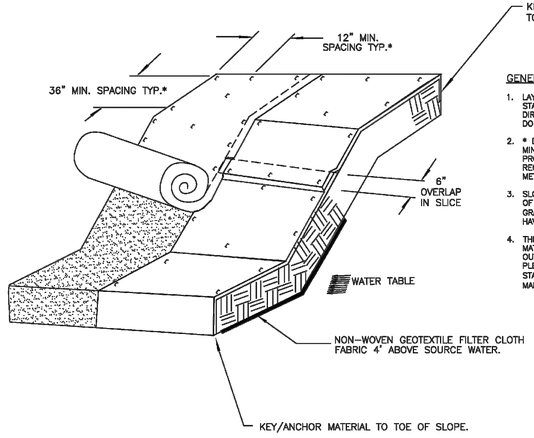
1. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON THE SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (8 IN. MIN THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINES ABOVE GROUND STORAGE SHOULD BE USED.
2. CWA SHALL BE INSTALLED PRIOR TO ANY CONCRETE INSTALLATION.
3. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' WITH SLOPES COMING OUT AT 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
4. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
5. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
6. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
7. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA MAINTENANCE NOTES

1. INSPECT BMP'S EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMP'S SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMP'S AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMP'S IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMP'S HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN PIT SHALL BE REMOVED ONCE MATERIALS HAVE REACHED A DEPTH OF 2'.
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE USED FOR THE PROJECT HAS BEEN PLACED.
7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED, AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

CONCRETE WASHOUT AREA

N.T.S.



GENERAL NOTES:

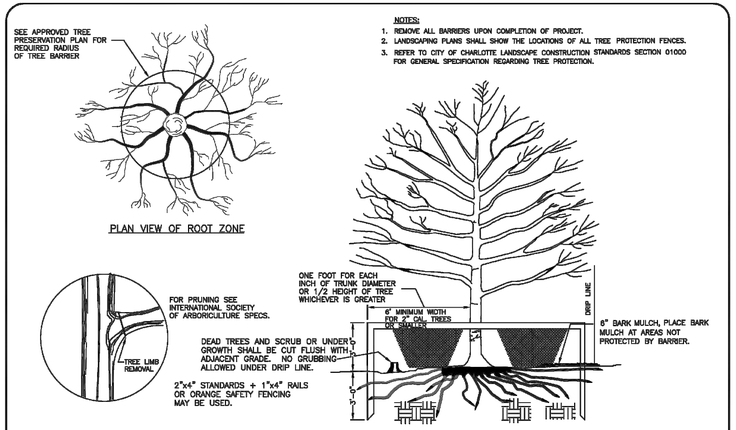
1. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
2. * DIMENSIONS SHOWN ARE MINIMUM. MANUFACTURED PRODUCTS MAY HAVE ADDITIONAL REQUIREMENTS THAT MUST BE MET.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, SOIL CLODS, STICKS, GRASS. MAT/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
4. THE DETAIL SHOWN IS FOR SLOPE MATTING. FOR CHANNEL OR PIPE OUTFALL MATTING SPECIFICATIONS, PLEASE REFER TO NCESCPDM STANDARD #6.17 AND MANUFACTURER'S GUIDELINES.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

EMBANKMENT MATTING DETAIL

REV. DATE: 10/14/09
STD. NO.: 525.1



NOTES:
1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
2. LANDSCAPING PLANS SHALL SHOW THE LOCATIONS OF ALL TREE PROTECTION FENCES.
3. REFER TO CITY OF CHARLOTTE LANDSCAPE CONSTRUCTION STANDARDS SECTION 01000 FOR GENERAL SPECIFICATION REGARDING TREE PROTECTION.

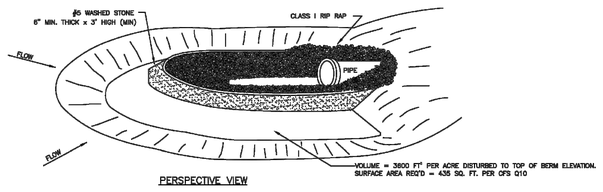
NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

TREE PROTECTION

REV. DATE: 10/14/09
STD. NO.: 601.1

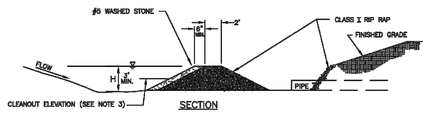
BASIN NO.	DRAINAGE AREA (ACRES)	DENUDED AREA (ACRES)	BASIN VOLUME REQUIRED (S.F.)	BASIN VOLUME PROVIDED (S.F.)	BASIN SURFACE AREA REQUIRED (S.F.)	BASIN SURFACE AREA PROVIDED (S.F.)	CLEANOUT DEPTH H/2 (FT.)	H (FEET)



PERSPECTIVE VIEW

GENERAL NOTES:

1. GRAVEL AND RIP RAP FILTER BERM BASIN SHOULD BE USED TO PROTECT EXISTING PIPE INVERTS THAT DRAIN 5 ACRES OR LESS.
2. DIMENSIONS SHOWN ARE THE MINIMUM ACCEPTED UNLESS OTHERWISE NOTED.
3. CLEANOUT PRIOR TO SEDIMENT REACHING HALF OF BERM HEIGHT.



SECTION

NOT TO SCALE

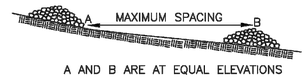
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

GRAVEL AND RIPRAP FILTER BERM BASIN

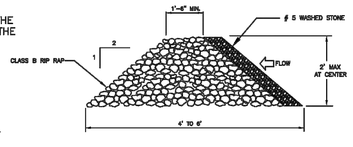
REV. DATE: 10/14/09
STD. NO.: 516.1

GENERAL NOTES:

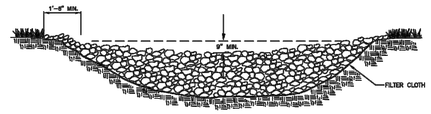
1. RIPRAP SIZE TO BE DESIGNED BY ENGINEER.
2. CHECK DAMS MAY BE USED IN SLOPING DITCHES OR CHANNELS TO SLOW VELOCITY OR TO CREATE SEDIMENT TRAPS.
3. ENSURE THAT MAXIMUM SPACING BETWEEN DAMS PLACES THE TOE OF THE UPSTREAM DAM AT THE SAME ELEVATION AS THE DOWNSTREAM DAM (SEE DIAGRAM BELOW).



A AND B ARE AT EQUAL ELEVATIONS



CROSS SECTION



PLAN

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

TEMPORARY CHECK DAM

REV. DATE: 11/13/09
STD. NO.: 513.1

1

Dewberry

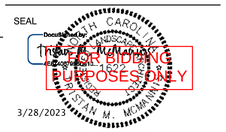
Dewberry Engineers Inc.
9300 Harris Corners Pkwy - Suite 220
Charlotte, NC 28269
Phone: 704.509.9918
Fax: 704.509.9937
www.dewberry.com
NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



FOR SITE DESIGN

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY: DLJ
APPROVED BY: TMM
CHECKED BY: TMM
DATE: DECEMBER 2, 2022

TITLE

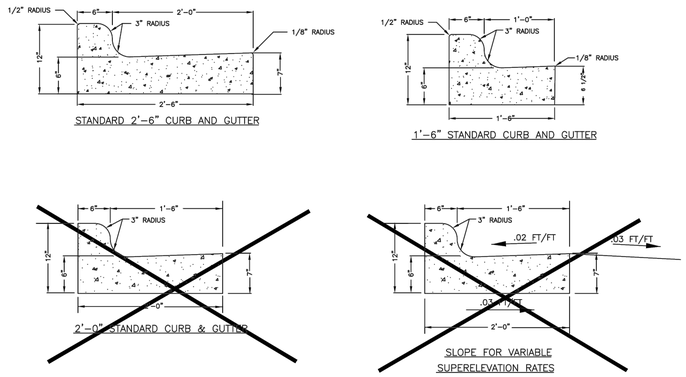
ESC DETAILS (SHEET 2 OF 2)

DEI PROJECT NO: 50153755

SHEET NO.

C5.02

811 Know what's below. Call before you dig.



STANDARD 2'-6" CURB AND GUTTER

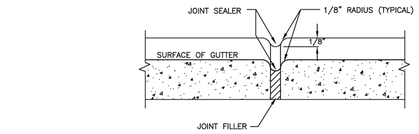
1'-6" STANDARD CURB AND GUTTER

2'-0" STANDARD CURB & GUTTER

SLOPE FOR VARIABLE SUPERELEVATION RATES

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING	STANDARD CURB AND GUTTER	REV. DATE 10/15/09 STD. NO. 100.1



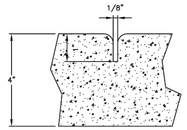
TRANSVERSE EXPANSION JOINT

NOTES:

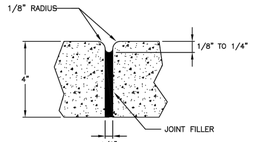
1. CONTRACTION JOINTS SHALL BE SPACED AT 10-FOOT INTERVALS. FOR VALLEY GUTTER, A 10-FOOT SPACING MAY BE USED WHEN A MACHINE IS USED. JOINT SPACING MAY BE ALTERED BY THE TOWN ENGINEER TO PREVENT UNCONTROLLED CRACKING.
2. CONTRACTION JOINTS MAY BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES, A MINIMUM DEPTH OF 1 1/2" SHALL BE OBTAINED.
3. ALL EXPANSION JOINTS SHALL BE SPACED AT 90-FOOT INTERVALS, AND ADJACENT TO ALL RIGID OBJECTS. JOINTS SHALL MATCH LOCATIONS WITH JOINTS IN ABUTTING SIDEWALK.
4. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3600 P.S.I. IN 28 DAYS.
5. CURB SHALL BE DEPRESSED AT INTERSECTIONS TO PROVIDE FOR FUTURE ACCESSIBLE RAMPS.
6. TOP 6" OF SUBGRADE BENEATH THE CURB AND GUTTER SHALL BE COMPACTED TO 100% STANDARD PROCTOR DENSITY.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING	CONCRETE CONTRACTION JOINT	REV. DATE 10/15/09 STD. NO. 102.1



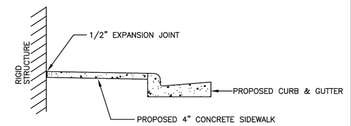
GROOVE JOINT IN SIDEWALK



TRANSVERSE EXPANSION JOINT IN SIDEWALK

GENERAL NOTES:

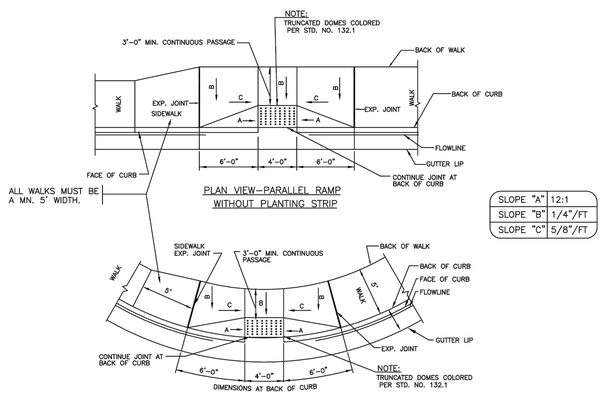
1. A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 45' INTERVALS NOT TO EXCEED 50' AND MATCHING EXPANSION/CONSTRUCTION JOINT IN ADJACENT CURB. A SEALED 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
2. SIDEWALK AT DRIVEWAY ENTRANCES TO BE 6" THICK.
3. WIDTH OF SIDEWALK ON TOWN STREETS SHALL BE A MINIMUM OF 5'.
4. WIDTH OF SIDEWALKS ON NON-TOWN STREETS SHALL BE A MINIMUM OF 5'.
5. SIDEWALK TO BE POURED TO END OF RADIUS AT INTERSECTING STREETS.
6. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3600 PSI. IN 28 DAYS.
7. ZONING CONDITIONS MAY REQUIRE ADDITIONAL WIDTH SIDEWALKS WHICH SHALL SUPERSEDE THESE STANDARD DIMENSIONS SHOWN.



DETAILS SHOWING EXPANSION JOINTS FOR CONCRETE SIDEWALK

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING	CONCRETE SIDEWALKS DETAILS AND NOTES	REV. DATE 10/15/09 STD. NO. 106.1



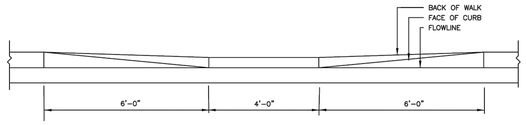
PLAN VIEW-PARALLEL RAMP WITHOUT PLANTING STRIP

SLOPE "A"	12:1
SLOPE "B"	1/4"/FT
SLOPE "C"	5/8"/FT

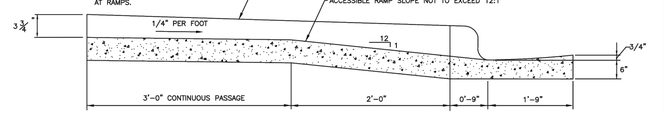
PLAN VIEW-DIAGONAL RAMP WITHOUT PLANTING STRIP

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING	ACCESSIBLE RAMP STANDARD WITHOUT PLANTING STRIP AND 2'-6" CURB AND GUTTER	REV. DATE 08/01/17 STD. NO. 125.1



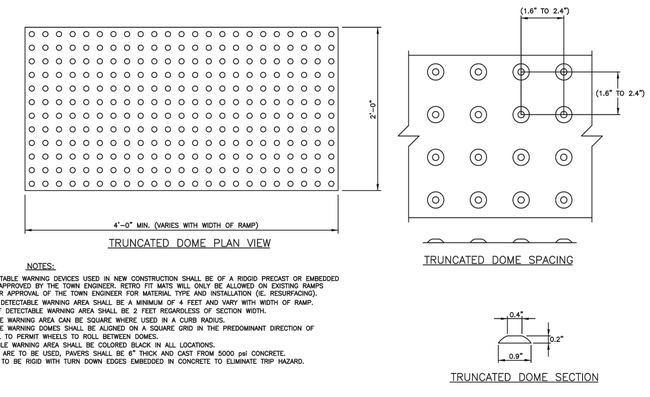
SECTION THROUGH FLOWLINE



TYPICAL RAMP L SECTION

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING	ACCESSIBLE RAMP SECTIONS WITHOUT PLANTING STRIP AND 2'-6" CURB AND GUTTER	REV. DATE 10/14/09 STD. NO. 126.1



TRUNCATED DOME PLAN VIEW

TRUNCATED DOME SPACING

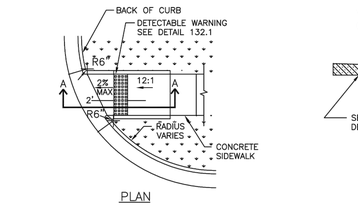
TRUNCATED DOME SECTION

NOTES:

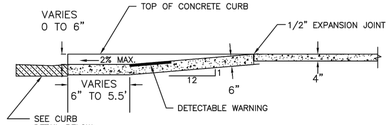
1. ALL DETECTABLE WARNING DEVICES USED IN NEW CONSTRUCTION SHALL BE OF A RIDGID PRECAST OR EMBEDDED PRODUCT APPROVED BY THE TOWN ENGINEER. RETRO FIT MATS WILL ONLY BE ALLOWED ON EXISTING RAMPS WITH PRIOR APPROVAL OF THE TOWN ENGINEER FOR MATERIAL TYPE AND INSTALLATION (IE. RESURFACING).
2. WIDTH OF DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 4 FEET AND VARY WITH WIDTH OF RAMP.
3. LENGTH OF DETECTABLE WARNING AREA SHALL BE 2 FEET REGARDLESS OF SECTION WIDTH.
4. DETECTABLE WARNING AREA CAN BE SQUARE WHERE USED IN A CURB RADIUS.
5. DETECTABLE WARNING DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
6. DECTECTABLE WARNING AREA SHALL BE COLORED BLACK IN ALL LOCATIONS.
7. IF PAVERS ARE TO BE USED, PAVERS SHALL BE 6" THICK AND CAST FROM 5000 psi CONCRETE.
8. MATS ARE TO BE RIGID WITH TURN DOWN EDGES EMBEDDED IN CONCRETE TO ELIMINATE TRIP HAZARD.

NOT TO SCALE

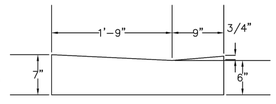
Town of Huntersville NORTH CAROLINA STANDARD DRAWING	TRUNCATED DOMES PLAN AND CROSS SECTION	REV. DATE 10/14/09 STD. NO. 132.1



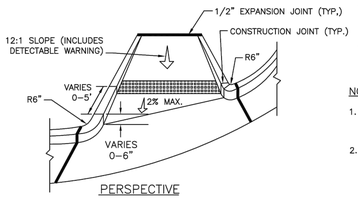
PLAN



SECTION A-A



CURB DETAIL



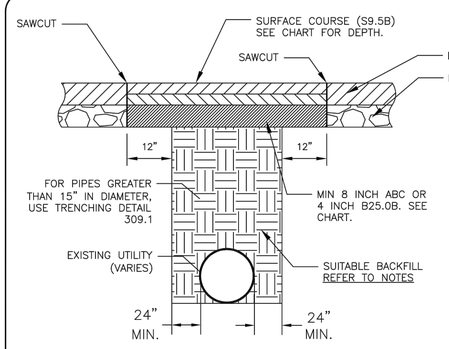
PERSPECTIVE

NOTES:

1. DIRECTIONAL RAMPS MAY BE USED WHEN A PLANTING STRIP IS PROVIDED. DO NOT USE THIS DETAIL IF THERE IS HARDSCAPE INSTEAD OF A PLANTING STRIP.
2. ALL CONCRETE SHALL BE AT LEAST 3600 PSI.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING	DIRECTIONAL ACCESSIBLE RAMP	REV. DATE 10/01/15 STD. NO. 136.1



PAVEMENT STRUCTURE (BASED ON STREET TYPE)			
	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
BASE COURSE	4"	8" (2 LIFTS)	10" (2 LIFTS)
SURFACE COURSE	3" (2 LIFTS)	3" (2 LIFTS)	3" (2 LIFTS)

NOTES

1. ALL TRENCHES SHALL BE BACKFILLED WITH SUITABLE MATERIAL.
2. THE BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED SIX (6) INCHES AND EACH LIFT COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR.
3. COMPACTION SHALL BE BY MECHANICAL METHODS.
4. WHEN THE EXISTING PAVEMENT DEPTH IS GREATER THAN THREE (3) INCHES, CONTACT THE ENGINEERING & PUBLIC WORKS DEPARTMENT FOR THE MINIMUM REQUIRED PAVEMENT DESIGN.
5. PATCH SIZE SHALL BE A MINIMUM OF 10'X10'.
6. PATCH JOINT SHALL NOT BE WITHIN WHEEL TRACK OF TRAVEL LANE.
7. WHERE TWO LIFTS ARE REQUIRED, EACH LIFT SHALL BE HALF OF THE TOTAL DEPTH OF MATERIAL.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING	PAVEMENT PATCHING DETAIL	REV. DATE 08/01/17 STD. NO. 720.1

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9300 Harris Corners Pkwy - Suite 220
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Phone: 704.509.9918
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NCBOLA #C-478

RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

FOR BIDDING PURPOSES ONLY

12/2/22

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

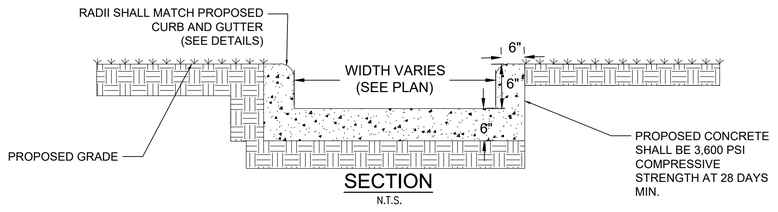
SITE DETAILS (SHEET 1 OF 2)

DEI PROJECT NO: 50153755

SHEET NO.

C5.03

P:\50153755\CAD\Civil\Sheets\C6.03 - Site Details.dwg



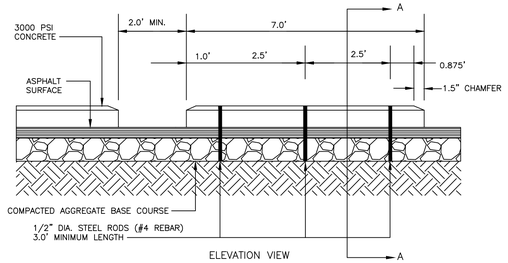
SECTION
N.T.S.

CURB FLUME DETAIL

N.T.S.

CROSSWALK DETAIL

N.T.S.

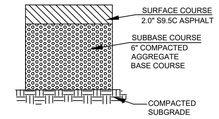


NOTES:

1. ANCHOR RODS TO BE SLEEVED OR GREASED THRU CONCRETE CURBS TO PERMIT RELOCATION OF CURBS.
2. SEE SITE PLAN FOR CURB STOP LOCATIONS. TYPICALLY PLACED 2' OFF OF EDGE OF PAVEMENT.

WHEEL STOP DETAIL

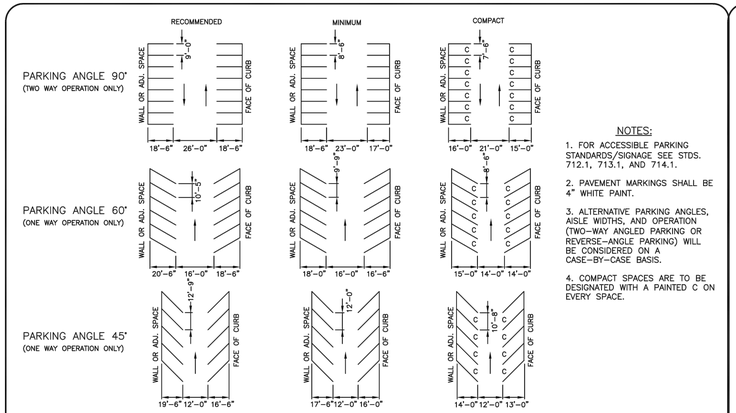
N.T.S.



REGULAR DUTY PAVEMENT SECTION
NOT TO SCALE

RECOMMENDED PAVING SPECIFICATIONS

1. ALL SUBGRADE SHALL BE COMPACTED TO 100% OF THE MAXIMUM DENSITY OBTAINABLE WITH THE STANDARD PROCTOR TEST TO A DEPTH OF 8 INCHES, AND A DENSITY OF 95% STANDARD PROCTOR FOR DEPTHS GREATER THAN 8 INCHES.
2. THE PAVEMENT SECTIONS LISTED ABOVE ARE BASED ON RECOMMENDATIONS LISTED IN THE GEOTECHNICAL REPORT TITLED "REPORT OF TEST PIT EXPLORATION AND KESSLER PENCTROMETER TESTING SERVICES RICHARD BARRY PARK EXPANSION" BY FROEHLING & ROBERTSON DATED JULY 13,2022. DEWBERRY ASSUMES NO RESPONSIBILITY FOR THE ADEQUACY OF THE PAVEMENT SPECIFICATION PROVIDED ABOVE.



NOTES:

1. FOR ACCESSIBLE PARKING STANDARDS/SIGNAGE SEE STDS. 712.1, 713.1, AND 714.1.
2. PAVEMENT MARKINGS SHALL BE 4" WHITE PAINT.
3. ALTERNATIVE PARKING ANGLES, AISLE WIDTHS, AND OPERATION (TWO–WAY ANGLED PARKING OR REVERSE–ANGLE PARKING) WILL BE CONSIDERED ON A CASE–BY–CASE BASIS.
4. COMPACT SPACES ARE TO BE DESIGNATED WITH A PAINTED C ON EVERY SPACE.

NOT TO SCALE

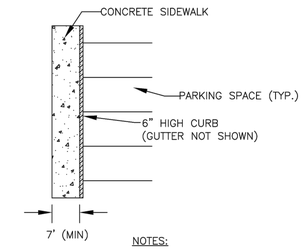
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

PARKING STANDARDS

REV. DATE
11/1/10
STD. NO.
710.1

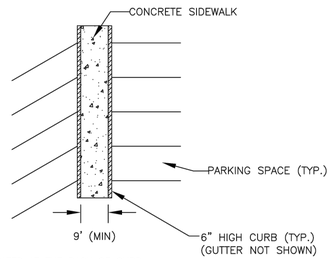
SIDEWALK ADJACENT TO HEAD–IN OR BACK–IN PARKING SHALL BE AT LEAST 7 FEET WIDE.

PARKING ON ONE SIDE OF A SIDEWALK



SIDEWALK BETWEEN TWO ROWS OF HEAD–IN OR BACK–IN PARKING SHALL BE AT LEAST 9 FEET WIDE.

PARKING ON BOTH SIDES OF A SIDEWALK



NOTES:

1. A 2–FOOT–WIDE GRASS PLANTED AREA LOCATED AT THE BACK OF CURB CAN BE USED IN LIEU OF 2 FEET OF SIDEWALK WIDTH.
2. PARKING AT ANY ANGLE OTHER THAN PARALLEL SHALL BE SUBJECT TO THIS STANDARD.
3. IF MONOLITHIC CURB & SIDEWALK IS USED, ADD 6" TO ALL DIMENSIONS (1' IF PARKING ON BOTH SIDES).
4. WHEELSTOPS IN LIEU OF ADDITIONAL SIDEWALK WIDTH SHALL BE CONSIDERED ON A CASE–BY–CASE BASIS.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

PARKING STANDARDS (CONTINUED)

REV. DATE
11/1/10
STD. NO.
711.1

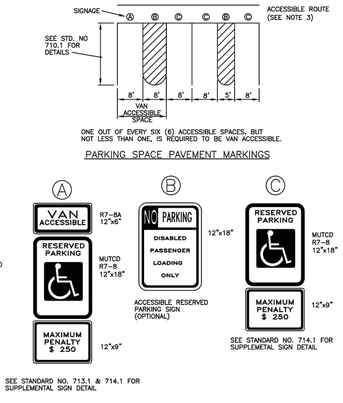
ACCESSIBLE PARKING REQUIREMENTS

TOTAL PARKING SPACES PROVIDED	MINIMUM NUMBER OF ACCESSIBLE SPACES SPACES REQUIRED	MINIMUM NUMBER OF ACCESSIBLE SPACES REQUIRED TO BE VAN ACCESSIBLE
1 TO 25	1	1
26 TO 50	2	1
51 TO 75	3	1
76 TO 100	4	1
101 TO 150	5	1
151 TO 200	6	1
201 TO 300	7	2
301 TO 400	8	2
401 TO 500	9	2
501 TO 1000	2% OF TOTAL	1 IN EVERY 6 ACCESSIBLE SPACES
1001 AND OVER	20 PLUS 1 FOR EACH 100 OVER 1000	1 IN EVERY 6 ACCESSIBLE SPACES

SECTION 4.1.2 (5) OF THE AMERICANS WITH DISABILITIES ACT (ADA). SEE 4.1.2,(5) (d) FOR MEDICAL CARE FACILITIES

NOTES:

1. ALL 12"x18" ACCESSIBLE SIGNS SHALL BE MOUNTED AT SEVEN FEET FROM GRADE TO BOTTOM EDGE OF SIGN FACE (MUTCD). MOUNTING HEIGHT CAN BE REDUCED TO FIVE FEET IF PLACED IN AN AREA BETWEEN SIDEWALK AND BUILDING FACE IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION AND NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENT.
3. IF ACCESSIBLE ROUTE IS A RAISED SIDEWALK AREA, THEN RAMPS ARE REQUIRED AT LOADING ZONE AREA.



ONE OUT OF EVERY SIX (6) ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, IS REQUIRED TO BE VAN ACCESSIBLE.

PARKING SPACE PAVEMENT MARKINGS

SEE STANDARD NO. 713.1 & 714.1 FOR SUPPLEMENTAL SIGN DETAIL

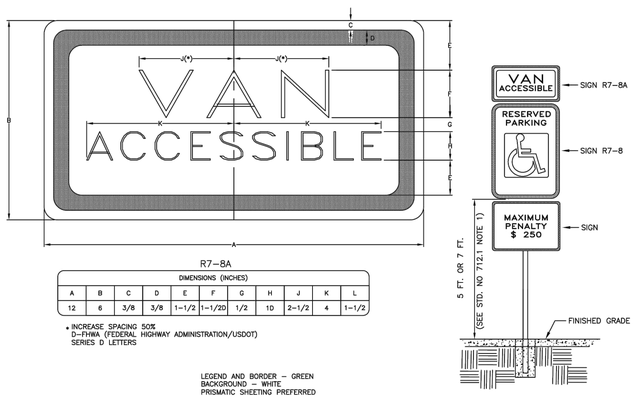
SEE STANDARD NO. 714.1 FOR SUPPLEMETAL SIGN DETAIL

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

ACCESSIBLE PARKING AND SIGNAGE STANDARDS

REV. DATE
10/01/15
STD. NO.
712.1



LEGEND AND BORDER – GREEN
BACKGROUND – WHITE
PRISMATIC SHEETING PREFERRED

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

SUPPLEMENTAL VAN ACCESSIBLE SIGN

REV. DATE
11/1/10
STD. NO.
713.1

LEGEND AND BORDER – GREEN
BACKGROUND – WHITE

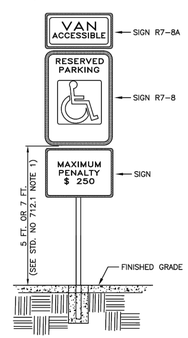
SIGN APPROVED FOR USE UNDER GENERAL STATUTE 20–37.6

MAXIMUM PENALTY SIGNS ARE REQUIRED TO ACCOMPANY ALL R7–8 PARKING SIGNS

SIGN LETTERING TO BE FHWA D SERIES LETTERS 1.5 INCHES TALL

NOTE:

SUPPLEMENTAL ACCESSIBLE SIGN USED IF THERE IS ONLY ONE REQUIRED ACCESSIBLE PARKING SPACE (MUST BE VAN ACCESSIBLE) AND AT EACH ADDITIONAL REQUIRED VAN ACCESSIBLE SPACE. (SEE STD. NO. 712.1)



NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

SUPPLEMENTAL MAXIMUM PENALTY SIGN

REV. DATE
10/01/15
STD. NO.
714.1

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NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK
PARKING LOT EXPANSION AND
NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT SEAL 5082 TRISTAN M. MORRIS

FOR BIDDING PURPOSES ONLY

12/2/22

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

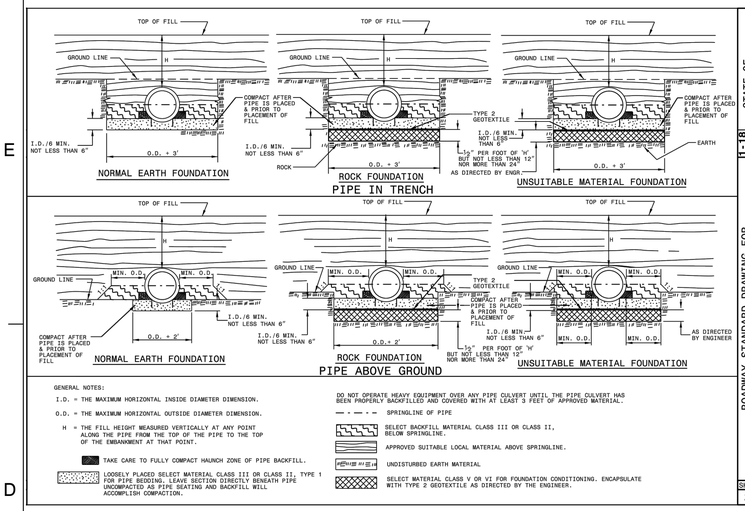
SITE DETAILS
(SHEET 2 OF 2)

DEI PROJECT NO: 50153755

SHEET NO.

C5.04

P:\50153755\CAD\Civil\Sheets\C6.03 - Site Details.dwg



GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINGLINE.

UNDISTURBED EARTH MATERIAL

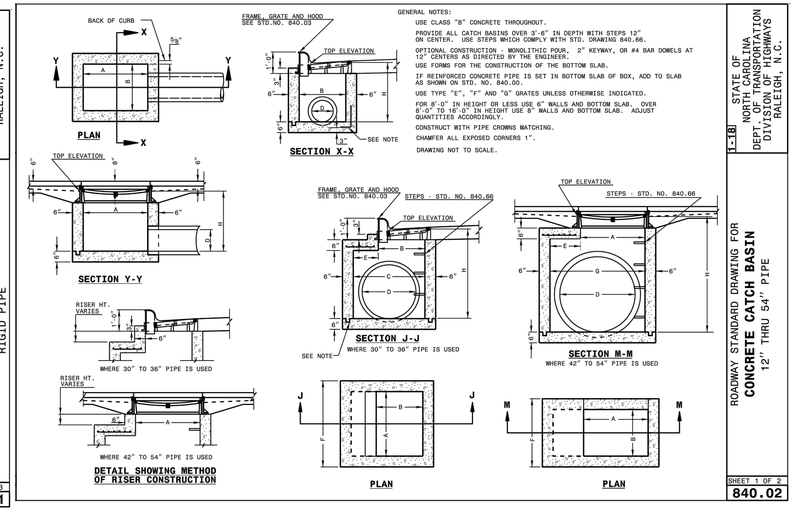
SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE 2 GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE

SHEET 2 OF 3
300.01



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB, OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

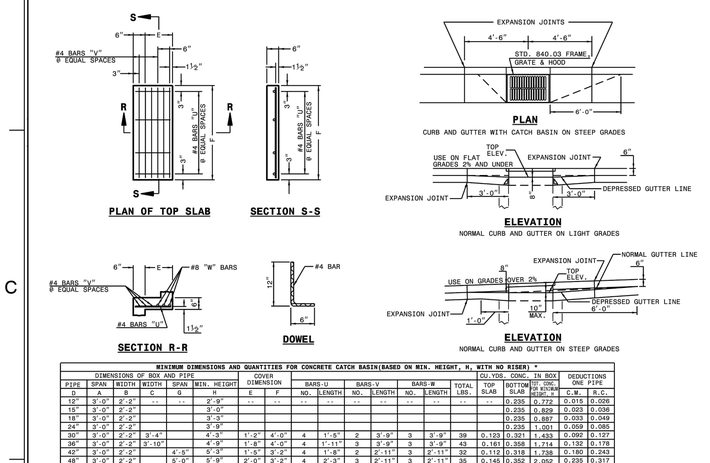
DRAWING NOT TO SCALE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

SHEET 1 OF 2
840.02



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *

DIMENSIONS OF BOX AND PIPE						COVER DIMENSION		BARS-U		BARS-V		BARS-W		TOTAL LBS.	CU.YDS. CONC. IN BOX			DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT			NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		TOP SLAB	BOTTOM SLAB	CU. CONC. IN WALLS FOR MIN. HEIGHT, H	C.M.	R.C.
D	A	B	C	G	H	E	F												
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.026
15"	3'-0"	2'-2"			3'-0"											0.235	0.829	0.023	0.036
18"	3'-0"	2'-2"			3'-3"											0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-9"											0.235	1.001	0.059	0.085
30"	3'-0"	2'-2"	3'-4"		4'-3"	1'-2"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"		4'-9"	1'-8"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.358	1.714	0.132	0.178
42"	3'-0"	2'-2"		4'-5"	5'-3"	1'-5"	3'-2"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-2"		5'-0"	5'-9"	2'-0"	3'-2"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.145	0.352	2.052	0.235	0.317
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401

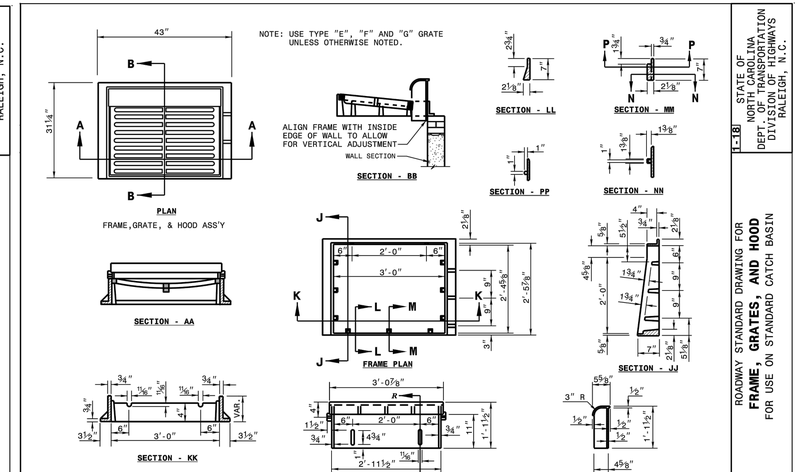
* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

SHEET 2 OF 2
840.02

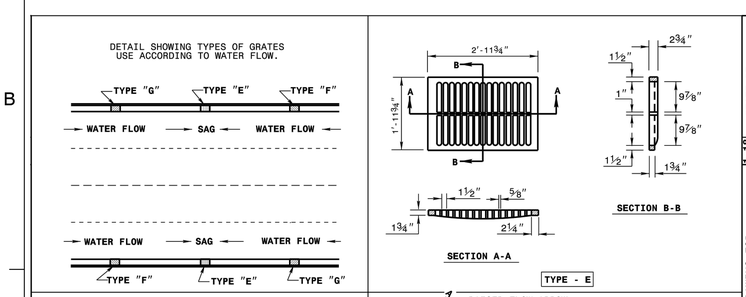


STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

SHEET 1 OF 2
840.03

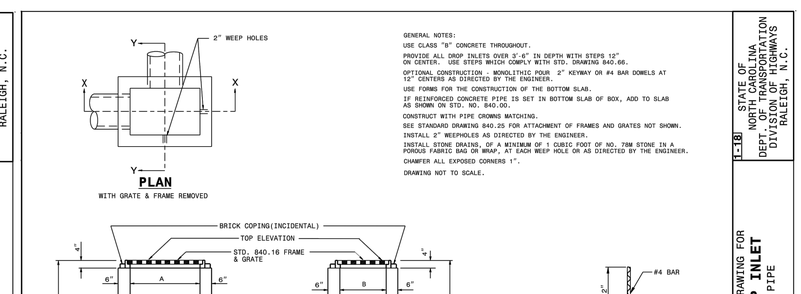


STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

SHEET 2 OF 2
840.03



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)

DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT	BOTTOM SLAB	WALL PER FT. HT.	TOTAL CONCRETE FOR MINIMUM HEIGHT	C.M.	R.C.
D	A	B	H					
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026
15"	/	/	2'-3"	/	/	0.648	0.023	0.036
18"	/	/	2'-6"	/	/	0.703	0.033	0.049
24"	/	/	3'-0"	/	/	0.814	0.059	0.085
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
CONCRETE DROP INLET
12" THRU 30" PIPE

SHEET 1 OF 1
840.14

Dewberry

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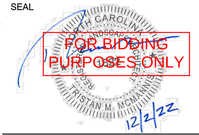
Fax: 704.509.9937
www.dewberry.com
NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

STORM DETAILS (SHEET 1 OF 3)

DEI PROJECT NO: 50153755

SHEET NO.

C5.05

811 Know what's below. Call before you dig.

P:\50153755\CAD\Civil\Sheets\C6.06 - Storm Details.dwg

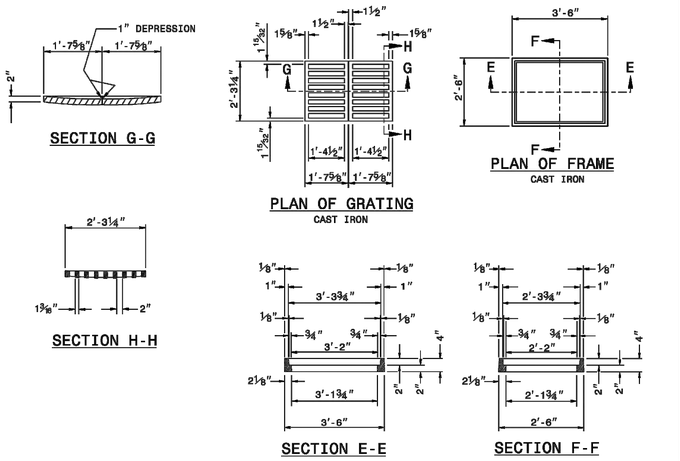
DocuSign Envelope ID: 07A79E37-7BFA-465F-B706-185129034732

DROP INLET FRAME AND GRATES

ROADWAY STANDARD DRAWING FOR

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18



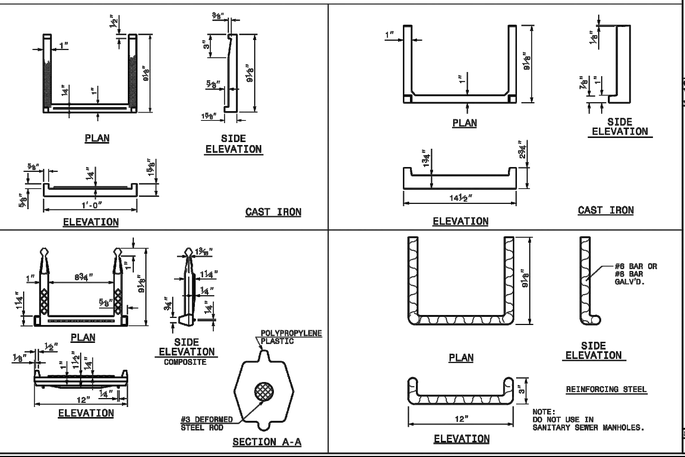
SHEET 1 OF 1

840.16

DRAINAGE STRUCTURE STEPS

ROADWAY STANDARD DRAWING FOR

NOTES:
INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL.
STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.

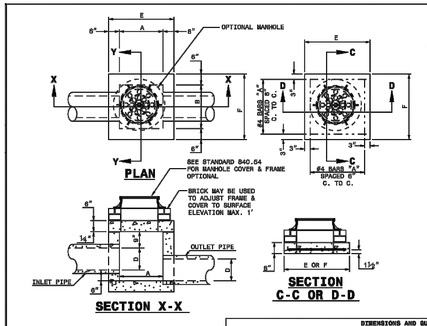


SHEET 1 OF 1

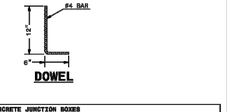
840.66

CONCRETE JUNCTION BOX (WITH OPTIONAL MANHOLE) 12" THRU 66" PIPE

ROADWAY STANDARD DRAWING FOR



GENERAL NOTES:
CHAMFER ALL EXPOSED CORNERS 1".
USE CLASS "B" CONCRETE THROUGHOUT.
OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN OR STANDARD NO. 840.00.
PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.
ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.



DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES

DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS "A"		TOP SLAB DIMENSIONS		CUBIC YARDS IN BOX			TOTAL QUANTITIES BOX AND SLABS			DEDUCTIONS FOR ONE PIPE CU.YDS.	
PIPE D	SPAN A	WIDTH B	HEIGHT H	NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB	WALL Ft. OF Wt.	LBS. REINF	CU. YDS. CONC. "H"	CU. YDS. MIN. "H"	C.S.	R.C.
12"	2'-0"	2'-0"	2'-3"	12	2'-9"	3'-0"	3'-0"	0.167	0.167	0.185	22	0.750	0.613	0.019	0.024
15"	2'-3"	2'-3"	2'-6"	12	3'-0"	3'-3"	3'-3"	0.196	0.196	0.204	24	0.902	0.723	0.023	0.036
18"	2'-6"	2'-6"	2'-9"	14	3'-3"	3'-6"	3'-6"	0.227	0.227	0.222	30	1.066	0.833	0.033	0.049
24"	3'-0"	3'-0"	3'-3"	16	3'-6"	4'-0"	4'-0"	0.296	0.296	0.259	40	1.434	1.059	0.059	0.065
30"	3'-6"	3'-6"	3'-9"	18	4'-3"	4'-6"	4'-6"	0.375	0.375	0.296	51	1.860	1.292	0.092	0.137
36"	4'-0"	4'-0"	4'-3"	20	4'-9"	5'-0"	5'-0"	0.463	0.463	0.333	64	2.341	1.532	0.132	0.176
42"	4'-6"	4'-6"	4'-9"	22	5'-3"	5'-6"	5'-6"	0.560	0.560	0.370	77	2.878	1.780	0.180	0.243
48"	5'-0"	5'-0"	5'-3"	26	6'-3"	6'-0"	6'-0"	0.743	0.743	0.407	111	3.823	2.235	0.235	0.317
54"	5'-10"	5'-10"	6'-0"	28	6'-7"	6'-10"	6'-10"	0.885	0.885	0.444	126	4.283	2.527	0.297	0.401
60"	6'-6"	6'-6"	6'-3"	30	7'-3"	7'-6"	7'-6"	1.042	1.042	0.481	145	5.060	2.987	0.367	0.495
66"	7'-1"	7'-1"	6'-9"	32	7'-10"	8'-1"	8'-1"	1.210	1.210	0.518	169	5.917	3.444	0.444	0.589

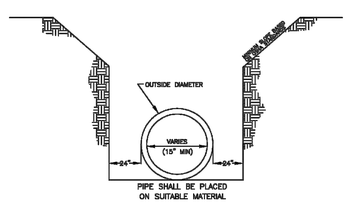
SHEET 1 OF 1

840.31

PIPE COLLAR

ROADWAY STANDARD DRAWING FOR

NOTES:
1. A MINIMUM OF 24" FROM OUTSIDE DIAMETER OF PIPE TO SIDE OF TRENCH MUST BE ALLOWED FOR COMPACTION OF FILL MATERIAL. BACKFILLING OF TRENCHES SHALL BE ACCOMPLISHED IMMEDIATELY AFTER THE PIPE IS LAID. THE FILL AROUND THE PIPE SHALL BE PLACED IN LAYERS NOT TO EXCEED 6". UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN UNBACKFILLED TRENCHES AFTER THE PIPE HAS BEEN PLACED. COMPACTION REQUIREMENTS SHALL BE ATTAINED BY THE USE OF MECHANICAL TAMPS ONLY. EACH AND EVERY LAYER OF BACKFILL SHALL BE PLACED LOOSE AND THOROUGHLY COMPACTED INTO PLACE.
2. ALL BACKFILL MATERIAL SHALL HAVE AN IN PLACE COMPACTED DENSITY OF 95% STANDARD PROCTOR. THE FINAL 2' BELOW FINISHED GRADE SHALL BE 100%.
4. ALL TRENCHING OPERATIONS SHALL MEET OSHA STANDARDS.
5. BACKFILL MATERIAL BENEATH ROADWAY SHALL BE SELECT BACKFILL MATERIAL.



NOT TO SCALE

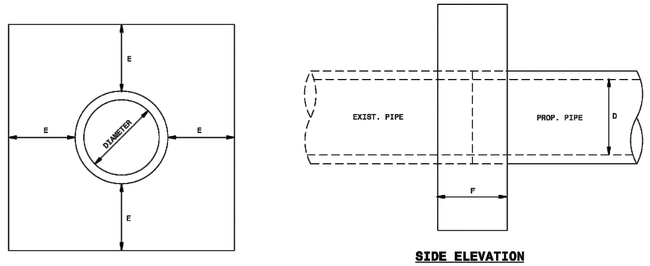
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

TRENCH DETAIL FOR STORM DRAIN

REV. DATE
08/01/17
STD. NO.
309.1

SIDE ELEVATION

ROADWAY STANDARD DRAWING FOR



GENERAL NOTES:
USE PIPE COLLAR FOR EXTENDING EXISTING CONCRETE PIPE CULVERTS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. THIS INCLUDES EXTENDING EXISTING PIPES WITH PIPES OF DIFFERENT MATERIALS.
CONSTRUCT THE PIPE COLLAR WITH CLASS "B" OR BETTER CONCRETE.
OBSERVE ALL REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
* USE 12 INCH DIAMETER VALUES FOR PIPE DIAMETERS LESS THAN 12 INCH.

D	E	F	CU. YD.
12"	12"	12"	0.3628
15"	12"	12"	0.3990
18"	12"	12"	0.4485
24"	12"	12"	0.5526
30"	12"	12"	0.6580
36"	12"	12"	0.7640
42"	12"	12"	0.8656
48"	12"	12"	1.0126
54"	18"	18"	2.5793
60"	18"	18"	2.8508
66"	18"	18"	3.1307
72"	18"	18"	3.4176

SHEET 1 OF 1

840.72

1

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

Dewberry

Dewberry Engineers Inc.
9300 Harris Corners Pkwy - Suite 220
Charlotte, NC 28269
Phone: 704.509.9918
Fax: 704.509.9937
www.dewberry.com
NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

3/28/2023

FOR SITE DESIGN

KEY PLAN:

SCALE:

REVISIONS

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

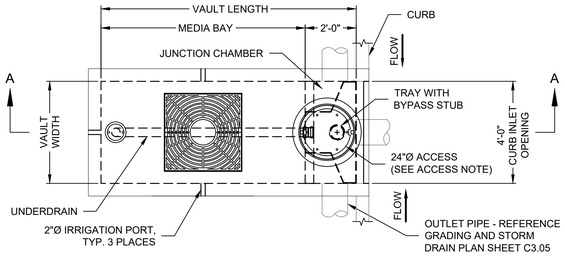
STORM DETAILS (SHEET 2 OF 3)

DEI PROJECT NO: 50153755

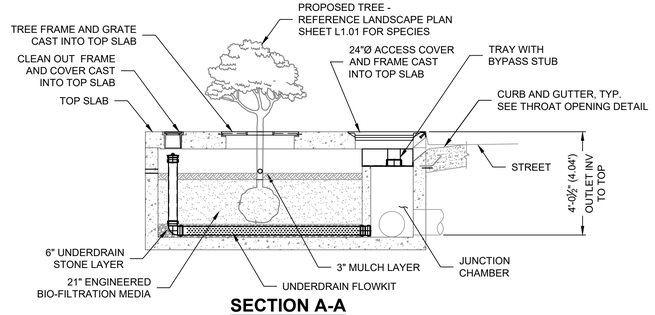
SHEET NO.

C5.06

Know what's below. Call before you dig.



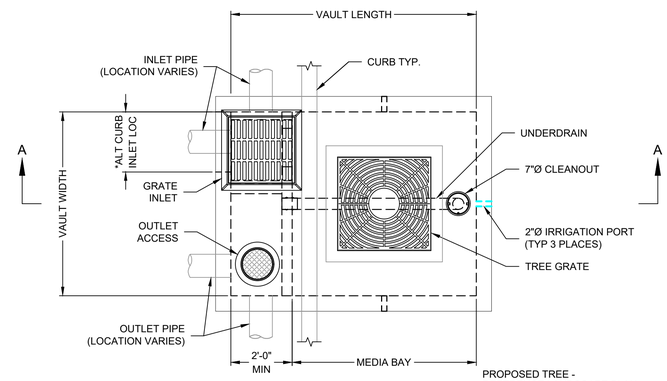
PLAN VIEW



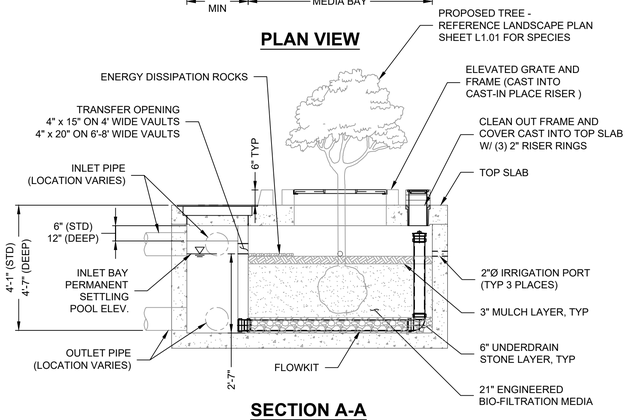
SECTION A-A

MEDIA BAY SIZE	VAULT SIZE (W x L)	MAX. BYPASS PIPE DIA	MAX. BYPASS FLOW (CFS)	UNDERDRAIN PIPE DIA. (PERF.)	TREE GRATE QTY. & SIZE
7 x 11	7 x 13	10" SDR 35	2.37	6" SDR 35	(1) 4' x 4'

STORMWATER BIO-RETENTION CURB INLET
NOT TO SCALE



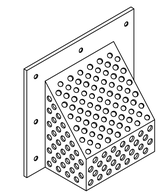
PLAN VIEW



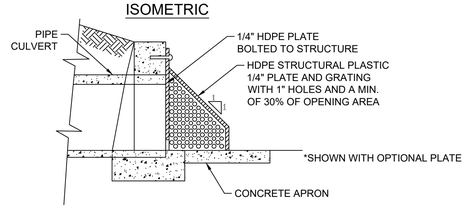
SECTION A-A
(STANDARD DEPTH SHOWN)

MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX CURB OPENING	*MAX BYPASS FLOW (CFS)	GRATE INLET/ OUTLET ACCESS SIZE	TREE GRATE QTY & SIZE
8 x 10.5	8 x 14	3'-0"	8.2	24"SQ/24"Ø	(1) 4' x 4'

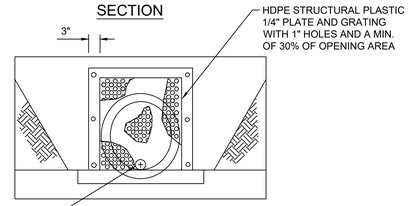
STORMWATER BIO-RETENTION DROP INLET
NOT TO SCALE



ISOMETRIC

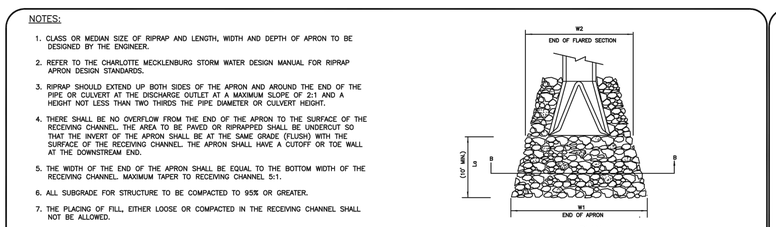


SECTION



ELEVATION

BMP TRASH RACK
NOT TO SCALE

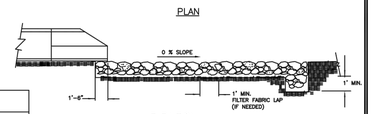


NOTES:

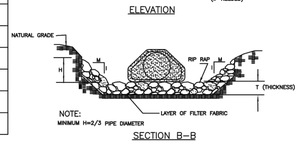
1. CLASS OR MEDIAN SIZE OF RIPRAP AND LENGTH, WIDTH AND DEPTH OF APRON TO BE DESIGNED BY THE ENGINEER.
2. REFER TO THE CHARLOTTE MECKLENBURG STORM WATER DESIGN MANUAL FOR RIPRAP APRON DESIGN STANDARDS.
3. RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
4. THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED OR RIPRAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR TOE WALL AT THE DOWNSTREAM END.
5. THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1.
6. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
7. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
8. NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.
9. FILTER FABRIC SHALL BE INSTALLED ON COMPACTED SUBGRADE PRIOR TO PLACEMENT OF RIP RAP.
10. ANY DISTURBED AREA FROM END OF APRON TO RECIEVING CHANNEL MUST BE STABILIZED.

USE USDA NOMOGRAPH FROM NC SEDIMENT AND EROSION CONTROL MANUAL OR CHARLOTTE MECKLENBURG STORM WATER DESIGN MANUAL FOR DESIGN DATA.

PLAN



ELEVATION



SECTION B-B

RIPRAP SUMMARY CHART							
OUTLET	La	W1	W2	H	d50	dmax	*T
BMP	26'	30'	12'	2.67'	0.9'	1.4'	2.1'
EX-OF-A0	29'	34'	14'	3.00'	1.0'	1.5'	2.3'

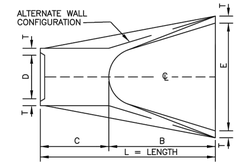
* d50 (see fig 8.06 o&b "NC SEDIMENT AND EROSION CONTROL MANUAL"
dmax = 1.5 x d50
T = 1.5 X dmax.

NOT TO SCALE

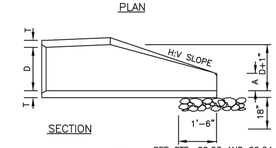
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

RIPRAP APRON AT PIPE OUTFALLS OTHER THAN SWIM

REV. DATE 08/01/017
STD. NO. 306.1

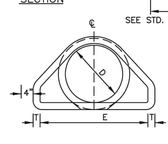


PLAN



SECTION

SEE STD. 20.23 AND 20.24



END VIEW

TABLE OF DIMENSIONS								
D	T	A	B	C	E	L	H:V	WT.
12"	2–1/4"	4"	2'–0"	4'–1"	2'–0"	6'–1"	3:1	730
15"	2–1/4"	6"	2'–3"	3'–10"	2'–0"	6'–1"	3:1	730
18"	2–1/2"	9"	2'–3"	3'–10"	3'–0"	6'–1"	3:1	1190
24"	3"	10"	3'–8"	2'–6"	4'–0"	6'–2"	3:1	1770
30"	3–1/2"	1'–0"	4'–6"	1'–8"	5'–0"	6'–2"	3:1	2380
36"	4"	1'–3"	5'–3"	2'–11"	6'–0"	8'–2"	3:1	5320
42"	4–1/2"	1'–6"	5'–3"	2'–11"	6'–6"	8'–2"	3:1	5920
48"	5"	2'–0"	6'–0"	2'–2"	7'–0"	8'–2"	3:1	7470
54"	5–1/2"	2'–3"	5'–6"	2'–10"	7'–6"	8'–4"	3:1	8810
60"	6"	2'–6"	5'–0"	3'–3"	8'–0"	8'–3"	3:1	11180
66"	6–1/2"	3'–0"	6'–0"	2'–3"	8'–6"	8'–3"	3:1	12530
72"	7"	3'–0"	6'–6"	1'–9"	9'–0"	8'–3"	3:1	13980

GENERAL NOTES:

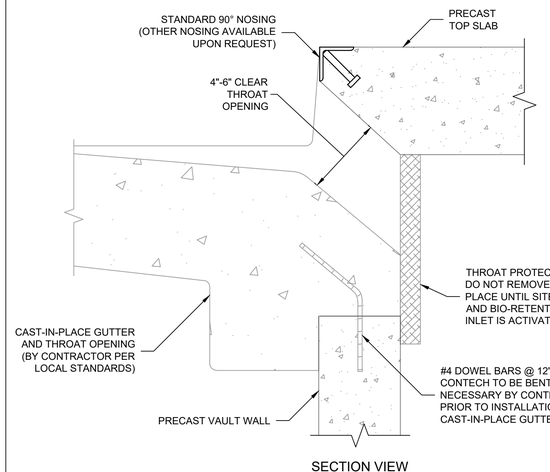
1. SEE FORMER NCDOT STANDARD 310.01 FOR DETAILS.
2. REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMENTER PER AASHTO M170, TABLE 2, WALL B.
3. ALL CONCRETE TO BE 4000 P.S.I COMPRESSIVE STRENGTH.
4. PROVIDE TONGUE OR SPIGOT JOINT AT INLET END SECTION.
5. PROVIDE GROOVE OR BELL JOINT AT OUTLET END SECTION.
6. THE DIMENSIONS FOR END SECTIONS SHALL SUBSTANTIALLY AGREE WITH THE TABLE. MINOR VARIATIONS WILL BE PERMITTED BASED ON THE MANUFACTURER'S STANDARD FORMS AND TEMPLATES.
7. NOT TO BE USED IN NCDOT MAINTAINED RIGHT OF WAY.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

FLARED END SECTION 12" THRU 72" PIPE

REV. DATE 10/7/09
STD. NO. 307.1



SECTION VIEW

CURB INLET OPENING - STORMWATER BIO-RETENTION
NOT TO SCALE

Know what's below. Call before you dig.

Dewberry

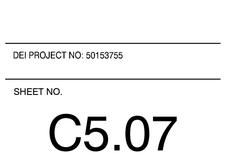
Dewberry Engineers Inc.
9300 Harris Corners Pkwy - Suite 220
Charlotte, NC 28269
Phone: 704.509.9918
Fax: 704.509.9937
www.dewberry.com
NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



FOR BIDDING PURPOSES ONLY

KEY PLAN:

SCALE:

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

STORM DETAILS (SHEET 3 OF 3)

DEI PROJECT NO: 50153755

SHEET NO.

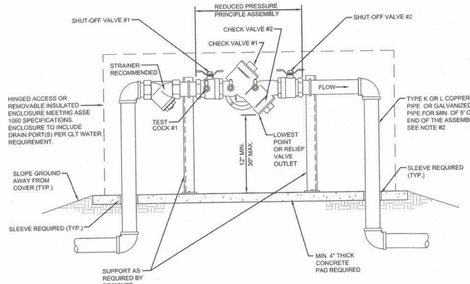
C5.07

P:\50153755\CAD\Civil\Sheets\C6.06 - Storm Details.dwg

REDUCED PRESSURE PRINCIPLE ASSEMBLY (RP) 1 1/2" & 2" ABOVE GROUND

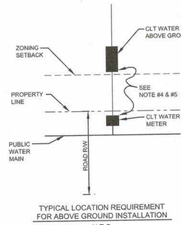
CHARLOTTE WATER — STANDARD DETAILS — BACKFLOW PREVENTION

NO SCALE — STANDARD NO. 1 — REVISED 4.3.2018



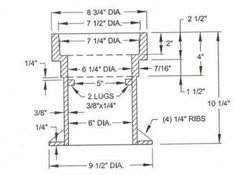
NOTES:

1. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA's.
2. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.
3. INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CLT WATER ENCLOSURE INFORMATION - HEATED INSULATED ENCLOSURE IS RECOMMENDED. NO INSULATION SHALL BE WRAPPED AROUND BPA.
4. ALL LOCATIONS FOR BPA'S REQUIRE CLT WATER APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK/ DIRECTLY BEHIND METER.
5. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.
6. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.
7. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.



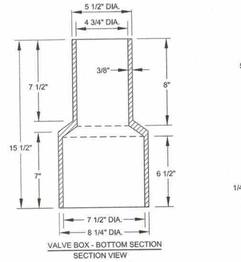
TYPICAL LOCATION REQUIREMENT FOR ABOVE GROUND INSTALLATION

N.T.S.



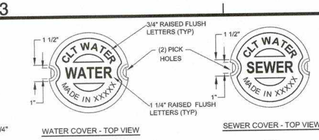
VALVE BOX - TOP SECTION

SECTION VIEW



VALVE BOX - BOTTOM SECTION

SECTION VIEW

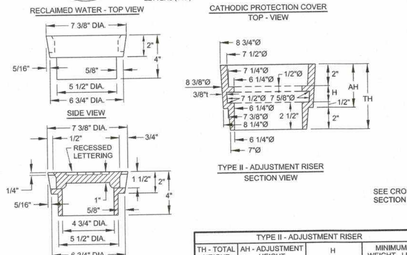


WATER COVER - TOP VIEW

SEWER COVER - TOP VIEW

RECLAIMED WATER - TOP VIEW

CATHODIC PROTECTION COVER TOP - VIEW



TYPE II - ADJUSTMENT RISER SECTION VIEW

NOTES:

A. LOAD RATING - HEAVY DUTY.
B. FERROUS CASTINGS MATERIAL - ASTM A48 - CLASS 35 GRAY IRON.
C. COATING - UNDIPPED OR ASPHALT VARNISH.
D. WEIGHT - 0% MINUS TOLERANCE.
E. CASTINGS SHALL CONFORM TO DIMENSION AND WEIGHT REQUIREMENTS.
F. TYPE II ADJUSTMENT RISERS MAY BE STACKED.
G. TYPE I ADJUSTMENT RISERS MAY NOT BE STACKED.

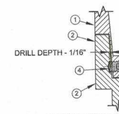
WEIGHT POUNDS	MINIMUM
TOP SECTION	31
BOTTOM SECTION	34
COVER	19
TOTAL	84

TYPE II - ADJUSTMENT RISER

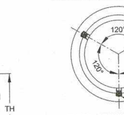
TH - TOTAL HEIGHT	AH - ADJUSTMENT HEIGHT	H	MINIMUM WEIGHT - LBS
		NOT APPROVED	NOT APPROVED
< 4 1/2"	< 2 1/2"	0	16
4 1/2"	2 1/2"	1/2"	20
5"	3"	1"	22.5
6"	4"	1 1/2"	25
7"	5"	2 1/2"	27
8"	6"	3 1/2"	27
10"	8"	5 1/2"	32

NO. DESCRIPTION

1. TYPE I ADJUSTMENT RISER.
2. VALVE BOX - TOP SECTION.
3. 18 - 8 SS 3/8"-16 x 3/8" HEX SET SCREW WITH PERMANENT THREAD LOCK (RED) - LOCTITE # 271, PERMABOND HM128, OR APPROVED EQUAL.
4. 1/2" DIA. x 1/16" - FIELD DRILL HOLE.



TYPE I CROSS SECTION - ASSEMBLY



TYPE I - ADJUSTMENT RISER SECTION VIEW

TYPE I - ADJUSTMENT RISER

TH - TOTAL HEIGHT	AH - ADJUSTMENT HEIGHT	MIN. WEIGHT LBS
3"	1"	7
3 1/2"	1 1/2"	9
4"	2"	15
> 4"	NOT APPROVED	N/A

CAST IRON VALVE BOX (12" AND SMALLER VALVES - ONLY)

CHARLOTTE WATER — STANDARD DETAILS — WATER/WASTEWATER CLEARANCE

CHARLOTTE WATER

2 INCH WATER METER SERVICE CONNECTION AND VAULT

NO SCALE — STANDARD NO. R — REVISED 4.28.2011

NOTES:

A. ALL FLANGE HARDWARE (BOLT/WASHER/NUT) SHALL BE STAINLESS STEEL - TYPE 304 WITH ANTI-SEIZE COMPOUND.
B. ALL PIPE SHALL BE RESTRAINED FROM TAP TO PROPERTY LINE VALVE.
C. VAULT SHALL BE RATED FOR NCDOT HS-20 LOADING - SUBMIT SHOP DRAWINGS / P.E. SEALED FOR REVIEW.
D. ALL CONCRETE SHALL BE MINIMUM 4000 PSI COMPRESSIVE STRENGTH.
E. DESIGN SHALL CONFORM TO ASTM C858 - SPECIFICATIONS FOR "UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES"
F. STEEL REINFORCING DESIGN SHALL CONFORM TO ASTM C857
G. REBARS SHALL BE GRADE 60 PER ASTM A615
H. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185
I. DIAGONAL REINFORCING SHALL BE ADDED AT ALL OPENINGS
J. PIPE PENETRATIONS SHALL BE SEALED WITH FLEXIBLE CONNECTERS (MANHOLE BOOTS) OR WITH 4-INCHES OF BRICK & MORTAR (AND 1/2 INCH THICK CONSTRUCTION EXPANSION MATERIAL)
K. FRAME TO BE FLUSH WITH GROUND OR CONCRETE SIDEWALK GROUND
L. ALL JOINTS SHALL BE MADE WATERTIGHT USING 2 RINGS OF BUTYL RUBBER JOINT MASTIC.

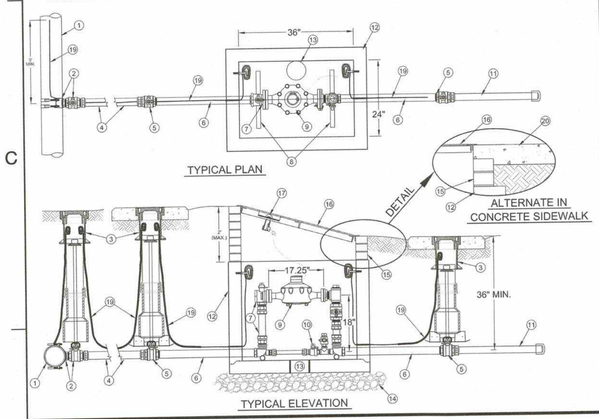
NO. ALTERNATE DESCRIPTION

WHEN USING SDR9 HDPE (IPS) WITH STAINLESS STEEL, BRASS, OR BRONZE MNPT ENDS, USE THE FOLLOWING PRODUCTS:

2 2" BALL CORPORATION STOP (CC TAPER THREAD x FNPT)
4 2" SDR9 HDPE (POLY) - IPS PIPE (MNPT x MNPT)
5 2" BALL VALVE (FNPT x FNPT)
11 2" SDR9 HDPE (POLY) - IPS PIPE (MNPT x MNPT) - CAP END

NO. DESCRIPTION

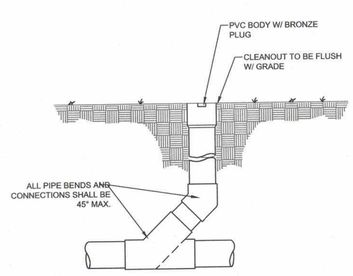
1 EXISTING OR PROPOSED WATER MAIN
2 TAPPING SADDLE AND 2" BALL CORPORATION STOP (CC TAPER THREAD x CTS COMPRESSION)
3 STANDARD VALVE BOX ASSEMBLY (TYP) - ALL VALVES (OMIT AT CORPORATION STOP ON SHORT SIDE SERVICE)
4 2" TYPE K COPPER TUBING
5 2" BALL VALVE (CTS COMPRESSION x FNPT)
6 2" RED BRASS PIPE NIPPLE (L = 30" OR 36")
7 2" BRASS METER SETTER ASSEMBLY - FORD #VB-77-9S311-0Z, MUELLER #1068 242343, CAMBRIDGE #6020-718F7F7 - UUBS OR MCDONALD #720871WHTF, NO SOLDER JOINTS PERMITTED
8 3/4" SCH 40 RED BRASS NIPPLE (L=18") x 2 EACH
9 2" WATER METER ASSEMBLY WITH AMR ERT TRANSMITTER (BY CONTRACTOR)
10 1" BY PASS BALL VALVE WITH LOCK WINGS - LOCK VALVE IN CLOSED POSITION (PERMANENT STUD LOCK - FURNISHED BY CMUD)
11 2" TYPE K COPPER TUBING TAIL PIECE - L = 24" MIN. - CAP END
12 PRECAST CONCRETE SERVICE VAULT - (36" x 24" x 31")
13 6" DIAMETER SUMP HOLE
14 6" COMPACTED #57 OR #67 WASHED STONE
15 MINIMUM OF (3) STANDARD SOLID CONCRETE BRICK COURSES UNDER ACCESS DOOR FRAME, MAXIMUM 2 FT.
16 24" x 36" ACCESS DOOR - SEE STANDARD DETAIL
17 AMR (ERT) TRANSMITTER
18 3/8" DIAMETER GALV. STEEL EYE BOLT (ADHESIVE ANCHOR) - TYPICAL
19 AWG #12 GAUGE COPPER TRACER WIRE (THWN) - WITH BLUE INSULATION TERMINATE WITH 24" EXCESS WIRE (COILED) AT EYE BOLT AND VALVE BOX (TYP).
20 CAST IN PLACE CONCRETE SIDEWALK - BRICK WORK SHALL NOT EXTEND TO SURFACE; ACCESS DOOR SHALL REST ON SIDEWALK



CHARLOTTE-MECKLENBURG UTILITIES — STANDARD DETAILS — WATER

CHARLOTTE

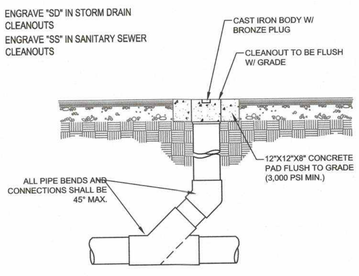
CLEANOUT DETAIL



CLEANOUT IN UNPAVED AREAS

ENGRAVE "SD" IN STORM DRAIN CLEANOUTS

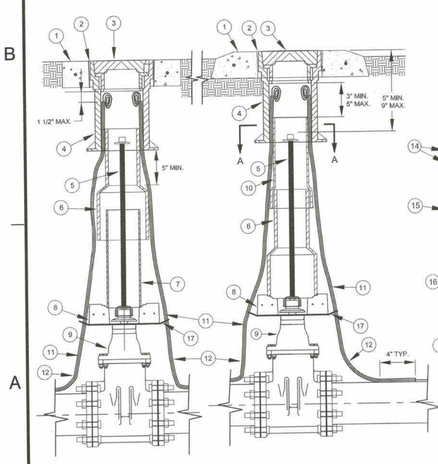
ENGRAVE "SS" IN SANITARY SEWER CLEANOUTS

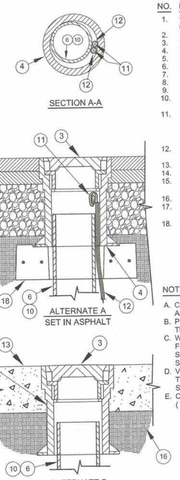


CLEANOUT IN PAVED AREAS

VALVE BOX ASSEMBLY INSTALLATION - 12" AND SMALLER VALVES

NO SCALE — STANDARD NO. HH — REVISED 1.5.2011





NOTES:

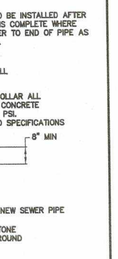
A. CONCRETE FOOTING TO BE CENTERED OVER VALVE NUT, AND SHALL NOT BEAR ON VALVE BODY.
B. PROVIDE CLEARANCE BETWEEN VALVE FOOTING AND THE VALVE.
C. WHEN OPERATING NUT DEPTH EXCEEDS 3'-0" BELOW FINISHED GRADE, PROVIDE EXTENSION STEM WITH STANDARD 2" SQUARE OPERATING NUT IN TOP SECTION OF VALVE BOX. SEE STANDARD DETAIL.
D. VALVE BOX ASSEMBLY SHALL CONSIST OF NO MORE THAN 3 VERTICAL SECTIONS - 1 TOP SECTION, 1 - BOTTOM SECTION, AND 1 - PIPE RISER SECTION.
E. CONCRETE PADS SHALL NOT BE USED IN PAVEMENT (CONCRETE OR ASPHALT), SIDEWALKS OR DRIVEWAYS.

NO. DESCRIPTION

1. 18" x 18" PRECAST (OR CAST IN PLACE) CONCRETE PAD OR 24" DIAMETER PRECAST PAD.
2. NON - SHRINK GROUT - IN ANNULAR SPACE.
3. VALVE BOX COVER.
4. TOP SECTION VALVE BOX.
5. EXTENSION STEM AS REQUIRED. SEE NOTES
6. BOTTOM SECTION VALVE BOX.
7. 6" PVC PIPE (C900 OR SDR 26).
8. PRECAST CONCRETE FOOTING - TYPE II - SEE DETAIL.
9. GATE VALVE (OR BALL VALVE, AS APPLICABLE).
10. 5" DIA. CAST IRON SOIL PIPE - BELL OF PIPE WILL RECEIVE BOTTOM SECTION OF VALVE BOX.
11. AWG #12 GAUGE COPPER TRACER WIRE (THWN) WITH BLUE INSULATION, TERMINATE WITH 24 INCH EXCESS WIRE (COILED) AT METER BOX AND VALVE BOX (TYP.)
12. 1/4" OR 3/8" ID CONDUIT - SDR 9 PEX TUBING - ASTM F 876.
13. CONCRETE (ROADWAY, DRIVEWAY OR SIDEWALK)
14. ASPHALT PAVEMENT.
15. COMPACTED AGGREGATE BASE COURSE (CABC) OR ASPHALT BASE COURSE.
16. COMPACTED SUBGRADE.
17. NONWOVEN GEOTEXTILE FABRIC - 18" x 18" - 2 LAYERS - MIRAFI #140N OR CARTHAGE MILLS # FX - 40HS.
18. PRECAST CONCRETE FOOTING - TYPE I - SEE DETAIL.

CHARLOTTE-MECKLENBURG UTILITIES — STANDARD DETAILS — WATER

CHARLOTTE



NOTES:

1. CONTRACTOR SHALL REFER TO THIS DETAIL WHEN CONNECTING NEW SEWER PIPES TO EXISTING OR NEW MANHOLES. THE NEW PIPES MAY BE INSTALLED FOR A POINT REPAIR, PIPE REPLACEMENT, PIPE BURSTING, OR SERVICE LATERAL REPLACEMENT.

CHARLOTTE-MECKLENBURG UTILITIES
CHARLOTTE, NORTH CAROLINA

NEW PIPE CONNECTION AT MANHOLE

NTS | DETAIL NO. E

No.	Date	By	Revision

CHARLOTTE MATER — STANDARD DETAILS — WATER/WASTEWATER CLEARANCE

CHARLOTTE WATER

811 Know what's below. Call before you dig.

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Fax: 704.509.9937
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NCBELS #F-0929
NCBOLA #C-478

RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 40016 BRIAN M. LAFRANCHI
FOR BIDDING PURPOSES ONLY
12-5-2022

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWN BY DLJ
APPROVED BY TMM
CHECKED BY TMM
DATE DECEMBER 2, 2022

TITLE

UTILITY DETAILS

DEI PROJECT NO: 50153755

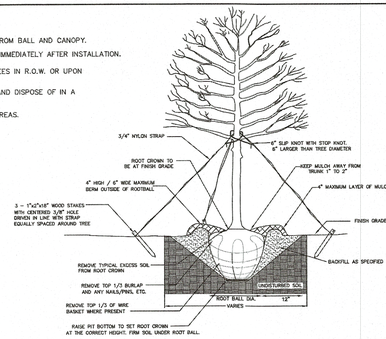
SHEET NO.

C5.08

P:\50153755\CAD\Civil\Sheets\C6.09 - Utility Details.dwg

NOTES:

1. REMOVE WIRE AND NYLON TWINE FROM BALL AND CANOPY.
2. SOAK ROOT BALL AND PLANT PIT IMMEDIATELY AFTER INSTALLATION.
3. STAKING IS REQUIRED FOR ALL TREES IN R.O.W. OR UPON REQUEST OF ARBORIST.
4. REMOVE EXCESS SOIL FROM SITE AND DISPOSE OF IN A LEGAL MANNER.
5. RESEED UNMULCHED, DISTURBED AREAS.



ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1–2004)

FOR EXAMPLE: CALIPER	HEIGHT (RANGE)	MAX. HEIGHT	MIN. ROOT BALL DIA.	MIN. ROOT BALL DEPTH
2"	12–14'	16'	24"	16"
3"	14–16'	18'	32"	21"

NOT TO SCALE

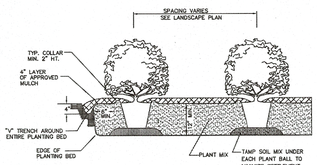
Town of Huntersville NORTH CAROLINA STANDARD DRAWING

TREE PLANTING
(FOR SINGLE AND MULTI-STEM TREES)

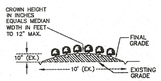
REV. DATE
10/14/09
STD. NO.
600.1

NOTES:

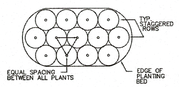
1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL CONTAINERIZED PLANTS AT FINISHED GRADE
3. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
4. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
5. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.



TYPICAL PLANTING BED DETAIL



TYPICAL BED CROWNING



TYPICAL PLANTING BED PLAN

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING

SHRUB PLANTING BED

REV. DATE
10/14/09
STD. NO.
610.1

PLANT SCHEDULE

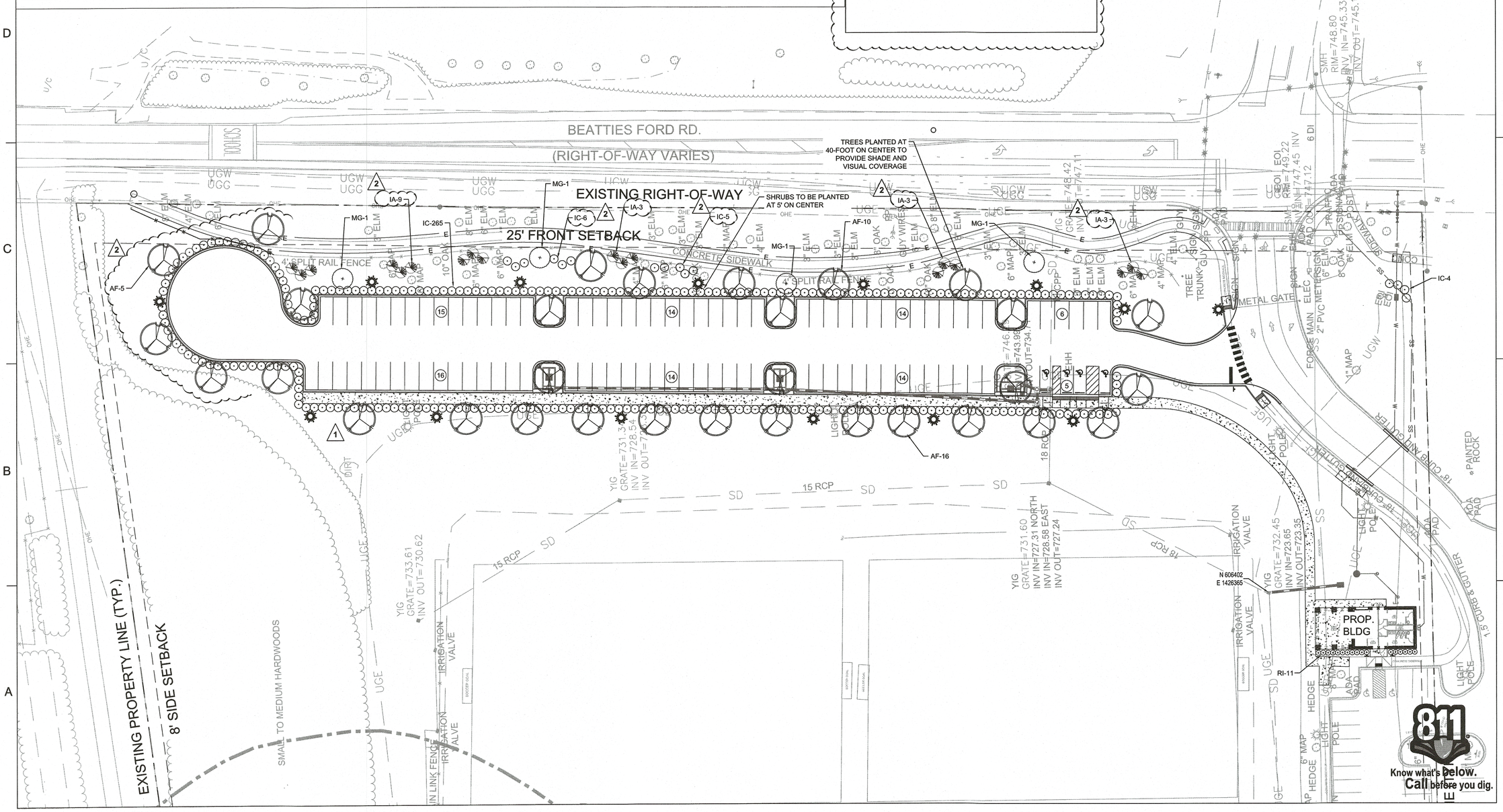
ABBREV.	QTY	BOTANICAL NAME	COMMON NAME	COND.	HEIGHT/SPREAD	CALIPER	SPACING	CONDITION
TREES								
AF	31	ACER X FREEMANII	FREEMAN MAPLE	B&B/CONT.	50' HT. / 30' SP.	N/A	40' O.C.	FULL MATCHED SPECIMEN
MG	4	MAGNOLIA GRANDIFLORA	LITTLE GEM MAGNOLIA	B&B/CONT.	20' HT. / 10' SP.	N/A	13' O.C.	FULL MATCHED SPECIMEN
SHRUBS								
IC	280	ILEX CORNUTA 'BURFORD HOLLY'	DWARF BURFORD HOLLY	B&B/CONT.	5' HT. / 5' SP.	N/A	5' O.C.	FULL MATCHED SPECIMEN
RI	11	RHAPHIOLEPIS INDICA	INDIAN HAWTHORN	B&B/CONT.	3' HT. / 3' SP.	N/A	3' O.C.	FULL MATCHED SPECIMEN
IA	18	ILEX X ATTENUATA 'FOSTER'	FOSTER HOLLY	B&B/CONT.	4' HT. / 7' SP.	N/A	7' O.C.	FULL TO GROUND MATCHED SPECIMEN

LEGEND

PROPOSED LARGE MATURING TREES

PROPOSED SHRUB

NOTE:
NO SPECIMEN TREES SHALL BE REMOVED. CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.



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Dewberry

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RICHARD BARRY PARK PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL

NORTH CAROLINA LANDSCAPE ARCHITECT TIMOTHY M. MCMANUS
FOR BIDDING PURPOSES ONLY
4/24/23

KEY PLAN:

SCALE: 1" = 30'

0' 30' 60'

REVISIONS

NO.	DATE	BY	DESCRIPTION
2	04/24/23	PMW	AGENCY COMMENTS
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

TITLE

LANDSCAPE PLAN

DEI PROJECT NO: 50153755

SHEET NO.

L1.01

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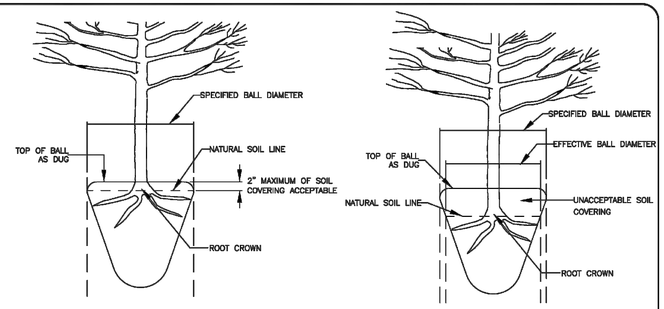

ACCEPTABLE CONDITION
(AS DELIVERED)

UNACCEPTABLE CONDITION
(AS DELIVERED)

NOTE:
A ROOT COLLAR EXCAVATION FOR ALL TREES SPECIFIED WILL BE INSPECTED BY THE INSPECTOR TO ENSURE THAT TREES WERE NOT PLANTED/GROWN TOO DEEPLY AT SOURCE (NURSERY). LANDSCAPE CONTRACTOR SHALL HAVE SUPPLIER MARK GROUND LEVEL LINE ABOVE ROOT BALL. IF INSPECTOR DETERMINES THAT THERE IS EXCESSIVE SOIL OVER THE ROOT CROWN, THESE TREES WILL BE REJECTED.

NOT TO SCALE

Town of Huntersville NORTH CAROLINA STANDARD DRAWING	ROOT CROWN DEPTHS (TREE ROOT BALL CONDITION ON TREES FROM SUPPLIERS)	REV. DATE 10/14/09 STD. NO. 614.1

TOWN OF HUNTERSVILLE LANDSCAPING GENERAL REGULATIONS:

1. ALL TREES AND SHRUBS PLANTINGS REQUIRED BY THIS ORDINANCE SHALL BE SELECTED FROM THE APPROVED HUNTERSVILLE TREE AND SHRUB LIST. OTHER SPECIES AND CULTIVARS NOT ON THE LIST MAY BE APPROVED BY THE PLANNING DIRECTOR ON A CASE BY CASE BASIS, BUT MUST BE LOCALLY ADAPTED TO THE AREA AND MEET THE SPECIFICATIONS FOR THE MEASUREMENT, QUALITY, AND INSTALLATION OF TREES AND SHRUBS IN ACCORDANCE WITH THE AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION. NATIVE SPECIES AND RELATED CULTIVARS ARE ENCOURAGED.
2. INSTALLATION OF TREES AND SHRUBS SHALL COMPLY WITH THE LAND DEVELOPMENT STANDARDS MANUAL.
3. LANDSCAPING, INCLUDING BERMS WHERE PERMITTED, SHALL NOT OBSTRUCT THE VIEW OF MOTORISTS USING ANY STREET, PRIVATE DRIVEWAY, PARKING AISLES OR THE APPROACH TO ANY STREET INTERSECTION SO AS TO CONSTITUTE A TRAFFIC HAZARD OR A CONDITION DANGEROUS TO THE PUBLIC SAFETY UPON ANY SUCH STREET, DRIVEWAY, PARKING AISLE, OR STREET INTERSECTION. REQUIRED NCDOT SIGHT DISTANCE TRIANGLES AND SIGHT TRIANGLES IN SECTION 8.9 SHALL APPLY TO STREET TREES. ANY SIGHT OBSTRUCTION DETERMINED BY THE TOWN SHALL BE CORRECTED IMMEDIATELY.
4. COMMERCIAL PARCELS SHALL BE LANDSCAPED WHILE VACANT TO STABILIZE THE SITE AND MAINTAIN AN ATTRACTIVE APPEARANCE. LANDSCAPING SHALL CONSIST OF, AT A MINIMUM, TURF GRASS OR OTHER VEGETATIVE GROUND COVER TO STABILIZE THE SOIL. SHRUBS, TREES, OR ANY OTHER VEGETATIVE COVER MAY BE PLANTED THAT WILL AND CREATE AN ATTRACTIVE APPEARANCE.
5. ALL REQUIRED PLANTINGS SHALL BE INSTALLED IN A MANNER THAT INSURES THE AVAILABILITY OF SUFFICIENT SOIL AND WATER FOR HEALTHY GROWTH AND THAT IS NOT INTRUSIVE TO ABOVEGROUND AND UNDERGROUND UTILITIES.
6. SMALL MATURING TREES ARE REQUIRED TO BE SUBSTITUTED FOR LARGE MATURING TREES WHENEVER LOCATED WITHIN 25 FEET OF AN OVERHEAD UTILITY LINE.
7. MONOCULTURE AND OVER PLANTING SHALL BE AVOIDED EXCEPT THAT A SINGLE SPECIES OF TREE MAY BE PLANTED IN FORMAL PARKS OR IN CONJUNCTION WITH A STREETSCAPE PLAN.
8. THE ZONING ADMINISTRATOR MAY APPROVE REVISIONS TO A LANDSCAPING PLAN APPROVED BY THE TOWN BOARD OR BOARD OF ADJUSTMENT IN ORDER TO ACCOMMODATE SEASONAL PLANTING PROBLEMS OR A LACK OF PLANT AVAILABILITY AS LONG AS:
   8.1. THERE IS NO REDUCTION IN THE QUANTITY OF PLANT MATERIAL.
   8.2. THERE IS NO SIGNIFICANT CHANGE IN THE SIZE OR LOCATION OF PLANT MATERIALS.
   8.3. THE NEW PLANTS ARE OF THE SAME GENERAL CATEGORY AND HAVE THE SAME GENERAL DESIGN CHARACTERISTICS AS THE MATERIALS BEING REPLACED.
9. EXISTING TREES AND SHRUBS SHALL COUNT TOWARDS MEETING THE BUFFER YARD AND SCREENING REQUIREMENTS OF SECTIONS 7.5 AND 7.6 OF THIS ARTICLE AS LONG AS SUCH ARE: 1) FREE FROM DISEASE OR GROWTH PROBLEMS, 2) CLEARLY SHOWN ON THE SITE PLAN, 3) APPROVED BY THE ZONING ADMINISTRATOR PRIOR TO DEVELOPMENT AS MEETING THE INTENT OF THE LANDSCAPING REQUIREMENTS, 4) ARE NOT CONSIDERED NUISANCE OR NOXIOUS PLANTS, AND 5) ARE ADEQUATELY PROTECTED DURING GRADING AND DEVELOPMENT OF THE SITE.
10. IN ADDITION TO THE TREE SAVE AREA REQUIRED IN THIS ARTICLE, EVERY REASONABLE EFFORT SHALL BE MADE TO PROTECT AND RETAIN EXISTING TREES AND SHRUBS NOT ACTUALLY LYING IN PLANNED ROADWAYS, DRAINAGE WAYS, BUILDING FOUNDATION SITES AND CONSTRUCTION ACTIVITY AREAS. EXCEPT WHEN NECESSARY TO PROVIDE ACCESS TO A SITE OR TO INSURE THE SAFETY AND SECURITY OF PEOPLE AND PROPERTY, ANY EXISTING HEALTHY TREES THAT ARE EIGHT INCHES OR GREATER IN CALIPER, LOCATED WITHIN A PUBLIC RIGHT-OF-WAY OR UNDEVELOPED REQUIRED YARD SHALL BE RETAINED UNLESS APPROVED FOR REMOVAL BY STAFF DURING SITE PLAN REVIEW.
11. BERMS ARE NOT PERMITTED ANYWHERE WITHIN THE TOWN'S JURISDICTION EXCEPT IN CONFORMITY WITH THIS ARTICLE.
12. 12 ALL TREES SHALL BE A MINIMUM OF 2 INCHES IN CALIPER AND 8 FEET IN HEIGHT AT THE TIME OF PLANTING, UNLESS OTHERWISE SPECIFIED.
13. ALL SHRUBS SHALL BE A MINIMUM OF 3 FEET IN HEIGHT AT THE TIME OF PLANTING WITH AN EXPECTED MINIMUM HEIGHT OF AT LEAST 6 FEET AT MATURITY, UNLESS OTHERWISE SPECIFIED

TOWN OF HUNTERSVILLE COMMERCIAL LANDSCAPING NOTES:

1. INSTALLATION GUARANTEE REQUIRED:
- A FINAL CERTIFICATE OF OCCUPANCY MAY BE ISSUED PRIOR TO THE INSTALLATION OF TREES AND SHRUBS, EXCLUDING YARD TREES, DURING THE NON-PLANTING SEASON IF A CASH BOND, SURETY BOND OR LETTER OF CREDIT IS ISSUED FOR 120% OF THE COST OF MATERIALS AND INSTALLATION. PLANTING SHALL BE COMPLETED DURING THE NEXT PLANTING SEASON.
- THE PLANTING SEASON SHALL RUN FROM OCTOBER 15 TO MARCH 15, EXCEPT FOR EXTREME WEATHER CONDITIONS AS DETERMINED BY STAFF. A FINAL CERTIFICATE OF OCCUPANCY SHALL NOT BE GIVEN DURING THE PLANTING SEASON UNLESS ALL OF THE LANDSCAPING IS COMPLETELY INSTALLED ACCORDING TO THIS ARTICLE.
2. MAINTENANCE SURETY REQUIRED:
- DEVELOPERS SHALL ENTER INTO A MAINTENANCE SURETY AGREEMENT WITH MECKLENBURG COUNTY GUARANTEEING THE VIABILITY OF STREET TREES AND TREES AND SHRUBS PLANTED IN BUFFER YARDS FOR A PERIOD OF 1 YEAR FOLLOWING PLANTING. THE AMOUNT OF THE SURETY SHALL BE EQUAL TO 50% OF THE VALUE OF THE NEW TREES OR LANDSCAPE MATERIAL AND THEIR INSTALLATION. THE MAINTENANCE SURETY SHALL BE PROVIDED WHEN ALL OF THE REQUIRED TREES AND SHRUBS HAVE BEEN PLANTED.

LANDSCAPING NOTES:

1. SIZE OF REQUIRED PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z60.1 (LATEST EDITION) AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION, EXCEPT WHERE SPECIFIED/AUTHORIZED BY URBAN FORESTRY.
2. ALL REQUIRED TREES OF A PARTICULAR SPECIES AND VARIETY SHALL BE UNIFORM IN SIZE AND CONFIGURATION.
3. PERIMETER TREES PLANED IN NCDOT RIGHT OF WAY SHALL BE 3" IN CALIPER AND BE FREE OF BRANCHES UP TO 6' FROM THE TOP OF THE BALL.
4. CONTRACTOR SHALL MULCH ALL SHRUB BEDS AND TREE RINGS. TYPE AND DEPTH OF MULCH SHALL BE AS SELECTED BY OWNER.
5. ALL AREAS OUTSIDE OF PLANTING BEDS WITHIN DENUDED LIMITS SHALL BE SEEDED UNLESS NOTES OTHERWISE - SEE PLAN FOR DETAILS.
6. ALL DISTURBED AREAS SHALL BE SEEDED WITH REBEL IV FESCUE MIXTURE AT THE FOLLOWING RATE:
   6.1. FESCUE @ 6-8 LBS. PER 1000 SF
   6.2. 10-10-10 FERTILIZER @ 10 LBS. PER 100 SF
   6.3. LIME @ 50 LBS. PER 1000 SF
   6.4. STRAW MULCH @ 2 BALES PER SF (STRAW MULCH SHALL BE TACKED USING NON-ASPHALTIC TACKIFIER.
7. CONTRACTOR OS RESPONSIBLE FOR ALL PLANTS SHOWN ON PLANS. QUANTITIES NOTED IN LANDSCAPE SCHEDULE ARE OF CONTRACTORS CONVENIENCE ONLY. IF DISCREPANCY IS FOUND BETWEEN THE PLAN AND LANDSCAPE SCHEDULE. THE QUANTITIES SHOWN ON PLANS SHALL PREVAIL.
8. ALL CONSTRUCTION MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO BOTH TOWN OF HUNTERSVILLE AND MECKLENBURG COUNTY STANDARDS.
9. THE TOP OF ALL ROOT BALLS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE, AS BORN TO PREVIOUS GROWING CONDITIONS.
10. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING PLANTING.
11. ALL ROOT BALL REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO PLANTING AND BACKFILLING.
12. ALL PLANT MATERIALS SHALL BE GUARANTEED TO BE IN HEALTHY CONDITION FOR (1) YEAR AFTER FINAL ACCEPTANCE OF ALL PLANT MATERIAL BY OWNER.
13. CONTRACTOR IS RESPONSIBLE FOR HAVING ALL UNDERGROUND UTILITIES LOCATED AND CLEARLY PAINTED TEN (10) DAYS PRIOR TO ANY GROUND DISTURBING ACTIVITY. OWNER WILL NOT PAT FOR UTILITY REPAIRS DUE TO FAILURE TO MARK AND OBSERVE UTILITY LOCATIONS. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT IMMEDIATELY IF FIELD CONDITIONS WARRANT ADJUSTMENT OF PLANT MATERIALS.
14. COORDINATE LANDSCAPE INSTALLATION WITH ANY LIGHTING/IRRIGATION CONSTRUCTION.
15. LARGE MATURING TREES MAY NOT BE PLANTED WITHIN 25' OF OVERHEAD POWER DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CONTRACT LANDSCAPE ARCHITECT TO RESOLVE PRIOR TO PLANTING.
16. ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES AND.OR UTILITY POLES.
17. **NO LIGHT POLES, UTILITY POLES, OR TRANSFORMERS CAN BE INSTALLED IN TREE ISLANDS.**
18. IN LOCATIONS WITH OVERHEAD POWER LINES, 75% OF PROPOSED TREES SHALL BE LARGE MATURING.
19. ALL NEW TREES MUST HAVE STRAIGHT TRUNKS WITH STRONG CENTRAL LEADERS INTACT TO THE TOP OF THE CROWN UNLESS MULTI-STEMS TREES ARE SPECIFIED. ALL REQUIRED TREES SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, HAVE WELL-DEVELOPED BRANCHES, BE VIGOROUS AND HAVE FIBROUS ROOT SYSTEMS. TREES WITH CO-DOMINANT BRANCHING WILL NOT BE ACCEPTED. TREES THAT HAVE BEEN SHEARED, TOPPED, OR CUT BACK TO MULTIPLY THE BRANCHING STRUCTURE WILL NOT BE ACCEPTED. TREES SHALL BE FREE OF ABRASIONS, DAMAGE, DISEASE, PESTS, AND CRACKS. ALL PRUNING CUTS GREATER THAN 0.5" DIAMETER SHALL HAVE CALLUS TISSUE FORMED PRIOR TO PLANTING. NO PRUNING CUT ON THE TRUNK SHALL BE MORE THAN ONE-HALF THE DIAMETER OF THE CENTRAL LEADER AT THE HEIGHT WHERE THE CUT WAS MADE. ROOT FLARES SHALL BE LOCATED AT GRADE. TREES WITH MORE THAN 2" OF SOIL COVERING THE ROOT BALL/FLARE WILL NOT BE ACCEPTED.
20. CONTRACTOR SHALL REMOVE ALL LUMPS OF CLAY, STONES OVER 1" DIAMETER, AND ALL COMPACTED SOIL OF CONSTRUCTION DEBRIS INCLUDING PAVEMENT, GRAVEL, ROOTS, LIMBS, AND OTHER DELETERIOUS MATTER WHICH WOULD BE HARMFUL OR PREVENT PROPER ESTABLISHMENT AND/OR MAINTENANCE OF LAWN AND TREE PLANTING AREAS.
21. IN AREAS WHERE CONSTRUCTION GRAVEL IS EMBEDDED IN THE SOIL, CONTRACTOR SHALL REMOVE CONTAMINATED SOIL TO A DEPTH OF 12" AND FILL WITH CLEAN TOPSOIL. CONTRACTOR SHALL IMPORT CLEAN TOPSOIL AT NO CHARGE TO THE OWNER IF REQUIRED TO FILL THESE EXCAVATIONS.
22. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS. REMOVE COMPACTED SOIL AND ADD 24" NEW TOPSOIL, OR TILL AND AMEND THE 24" OF EXISTING TOPSOIL TO MEET THE TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
23. CONTRACTOR SHALL REPAIR (RESEED OR SOD) ANY LAWN AREAS DAMAGED DUE TO PLANT MATERIAL INSTALLATION.
24. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF VEHICULAR AND PEDESTRIAN TRAFFIC AS NECESSARY TO ENSURE PUBLIC SAFETY.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL SPECIFICATIONS AND INSTALLATION REQUIREMENTS OF IRRIGATION, LIGHTING, AND FENCING TO ENSURE THAT PRODUCTS ARE INSTALLED PROPERLY AND PER MANUFACTURER REQUIREMENTS AND LOCAL AGENCY CODES AND RESTRICTIONS.
26. PLASTIC HOSE PARTS WILL NOT BE ACCEPTED FOR TREE STAKING.
27. ALL STRAPPING AND TOP ONE-THIRD OF WIRE BASKET AND BURLAP MUST BE CUT AWAY AND REMOVED FROM ROOT BALL WHEN PLANTING.
28. TREE PROTECTION MUST BE INSTALLED AND VERIFIED BY TOWN INSPECTOR PRIOR TO STARTING **ANY** CONSTRUCTION ACTIVITIES.
29. COMMERCIAL TREE SAVE AREAS MUST BE RECORDED ON A FINAL PLAT WITH THE MECKLENBURG COUNTY REGISTER OF DEED. A 10' NO-BUILD ZONE AROUND TREE SAVE AREAS MUST BE REFERENCED ON THE PLAT.
30. THE AREA OF ANY EASEMENTS (UTILITY, WATER, SEWER, ETC.) CAN NOT BE COUNTED TOWARD THE TREE SAVE REQUIREMENT.
31. ANY ALTERATIONS TO TREE SAVE AREAS MUST BE ACCOMPLISHED WITHOUT MECHANIZED EQUIPMENT.
32. NO STRUCTURE WILL BE ALLOWED WITHIN 10' OF TREE SAVE AREAS UNLESS APPROVED BY THE TOWN INSPECTOR.

SOIL AMENDMENTS

33. WHERE PAVEMENT CUTOUTS ARE ON RENOVATED SITES ARE REQUIRED AND/OR WHERE NEW PLANTING STRIPS OR ISLANDS ARE REQUIRED, ALL PAVEMENT, CONSTRUCTION DEBRIS, AND GRAVEL SUB BASE MUST BE REMOVED BEFORE PREPARING SOIL AND PLANTING TREES. EXISTING COMPACTED SOIL MUST BE REMOVED AND REPLACED WITH 24" OF TOPSOIL/PLANTING MIX -OR- EXISTING SOIL MAY BE UNCOMPACTED TO A DEPTH OF 24" AND AMENDED TO MEET TOPSOIL STANDARDS FOR THE ENTIRE PLANTING AREA.
34. SOIL IN ALL PLANTING STRIPS OF ISLANDS, WHETHER EXISTING OR NEW (ON NEW OR RENOVATED SITES), MUST MEET THE MIN. TOPSOIL/PLANTING MIX SPECIFICATIONS. SOIL AMENDMENTS OR FRESH TOPSOIL/PLANTING MIX ARE OFTEN NEEDED FOR PLANTING AREAS AT SITES WHERE ORIGINAL TOPSOIL IS OF POOR QUALITY, HEAVILY COMPACTED OR WHERE TOPSOIL HAS BEEN COMPLETELY REMOVED DURING GRADING ACTIVITIES.
35. TOPSOIL/PLANTING MIX SHOULD BE NATURAL, FERTILE, AGRICULTURAL SOIL CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. IT SHOULD BE UNIFORM COMPOSITION THROUGHOUT, WITH ADMIXTURE OF SUBSOIL. IT SHOULD BE FREE OF STONES, LUMPS, LIVE PLANTS, AND THEIR ROOTS, STICKS AND OTHER EXTRANEOUS MATTER. TOPSOIL SHOULD NOT BE USED WHILE IN A FROZEN OR MUDDY CONDITION.
36. TOPSOIL/PLANTING MIX SHALL HAVE AN ACIDITY RANGE OF PH 5.5-7.0 AND THE FOLLOWING COMPOSITION:

CLAY (RED CLAY, WELL PULVERIZED)	MINIMUM 10% / MAXIMUM 35%
COMPOST*/ORGANIC	MINIMUM 5% / MAXIMUM 10%
SILT	MINIMUM 30% / MAXIMUM 50%
COARSE SAND (FREE OF ROCKS, 0.5 TO 1.0 MM F)	MINIMUM 30% / MAXIMUM 45%

*ORGANIC MATERIAL SUCH AS SAWDUST OR LEAF MOLD THAT HAS COMPLETED THE DECOMPOSITION PROCESS.

37. ALL PLANTING AREAS SHOULD BE TESTED FOR PROPER DRAINAGE. DRAINAGE SHOULD BE CORRECTED AS NECESSARY TO ENSURE PROPER TREE GROWTH AND SURVIVAL. THE FOLLOWING LEVEL OF NUTRIENT ELEMENTS IS RECOMMENDED FOR PROPER GROWTH:

CALCIUM	55-80%
MAGNESIUM	10-30%
POTASSIUM	5-8%

Know what's **below.** **Call** before you dig.

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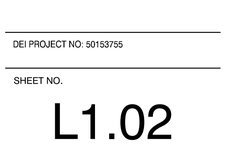
NCBOLA #C-478

RICHARD BARRY PARK
PARKING LOT EXPANSION AND NEW RESTROOM BUILDING

100% CONSTRUCTION DOCUMENTS

13707 BEATTIES FORD RD
HUNTERSVILLE, NORTH CAROLINA

SEAL



FOR SITE DESIGN

KEY PLAN:

SCALE:

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	03/28/23	PMW	AGENCY COMMENTS

DRAWN BY	DLJ
APPROVED BY	TMM
CHECKED BY	TMM
DATE	DECEMBER 2, 2022

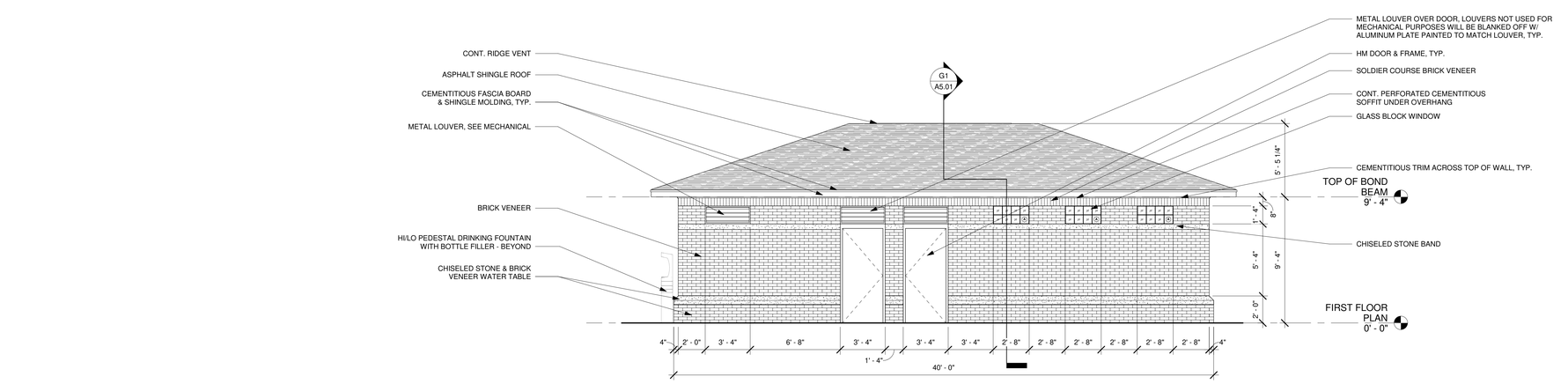
TITLE

LANDSCAPE DETAILS

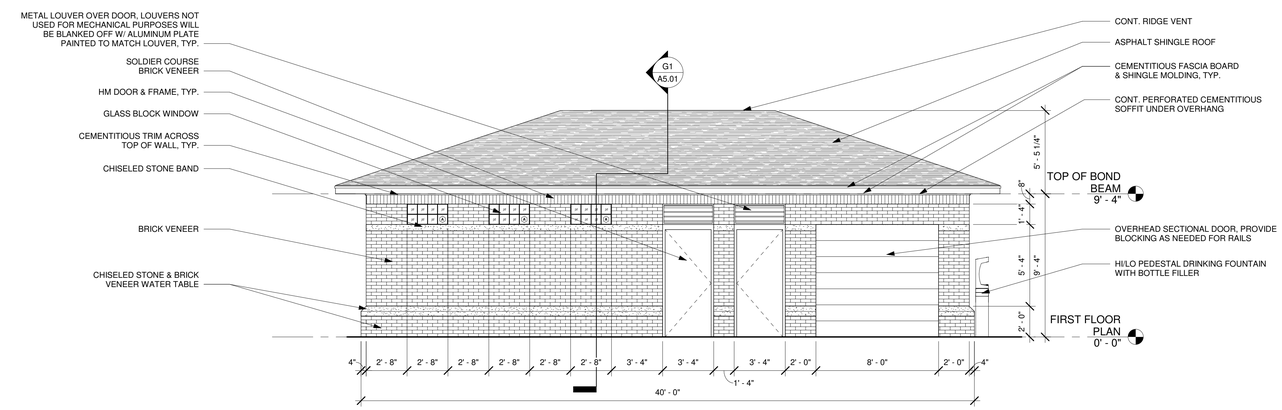
DEI PROJECT NO: 50153755

SHEET NO.

L1.02



2 SOUTH ELEVATION
1/4" = 1'-0"



1 NORTH ELEVATION
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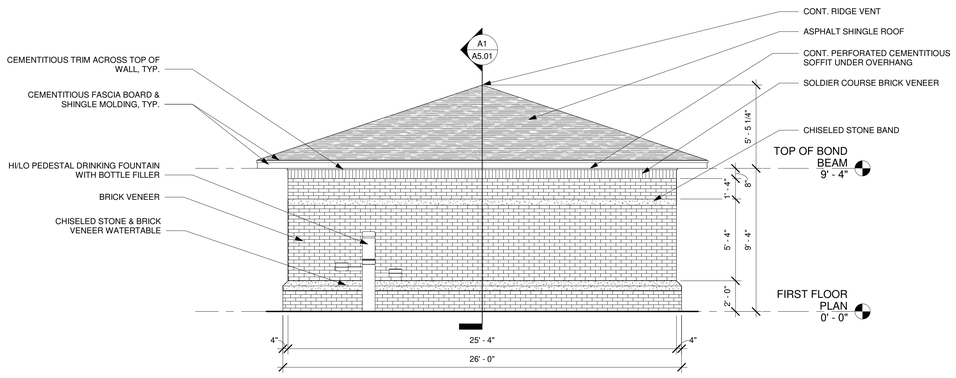

4 WEST ELEVATION
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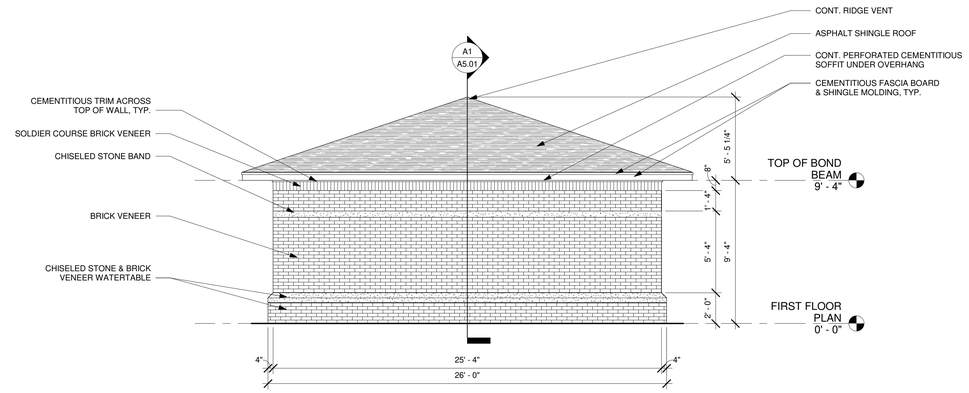

3 EAST ELEVATION
1/4" = 1'-0"

TOWN OF HUNTERSVILLE NOTES

GENERAL REQUIREMENTS:

1.TO PREVENT GLARE ON OFF-SITE LOCATIONS, ALL OUTDOOR LIGHTING FIXTURES SHALL BE FULL CUT-OFF. WHERE NECESSARY TO PREVENT LIGHT TRESPASS OR GLARE, ACCESSORIES SUCH AS HOODS AND SHIELDS SHALL BE USED ON FIXTURES. NO SOURCE OF GLARE SHALL BE VISIBLE FROM ANY ADJACENT PROPERTY OR STREET.

2.LIGHT TRESPASS SHALL BE PREVENTED BY EMPLOYING LIGHTING SHIELDS, HOODS, WALLS, OR FENCES, WHICH CONTROL LIGHT PROJECTION. IN NO CASE SHALL THE SPILLOVER LIGHT LEVEL FROM SITE LIGHTING ONTO ADJACENT PROPERTY OR A PUBLIC ROAD EXCEED 0.1 FOOTCANDLE MEASURED AT GROUND LEVEL 10' INTO THE ADJACENT PROPERTY OR STREET FROM ANY ORIENTATION OF THE MEASURING DEVICE.

3.SECURITY LIGHTING (FLOODLIGHTS, WHERE PERMITTED, WALL PACKS, AND ETC.) SHALL BE SHIELDED AND DIRECTED AT A DOWNWARD ANGLE NO HIGHER THAN 45 DEGREES ABOVE STRAIGHT DOWN (HALF-WAY BETWEEN STRAIGHT DOWN AND STRAIGHT TO THE SIDE) MEASURED PERPENDICULAR FROM THE POLE OR MOUNTING WALL.

4.UNLESS OTHERWISE SPECIFIED BY THIS ORDINANCE, UNIFORMITY RATIOS SHALL NOT EXCEED 4:1. UNIFORMITY SHALL BE BASED ON AVERAGE ILLUMINANCE. UNIFORMITY RATIOS SHALL ONLY BE MEASURED FOR DEVELOPED AREAS OF THE SITE FOR PARCELS GREATER THAN ONE ACRE.

5.PARKING LOT LIGHTING SHALL NOT EXCEED AN INITIAL MAXIMUM OUTPUT OF TEN FOOT-CANDLES AS MEASURED AT GROUND LEVEL FROM ANY ORIENTATION OF THE MEASURING DEVICE.

6.AN AS-BUILT/INSTALLED LIGHTING CERTIFICATION SEALED BY A REGISTERED ENGINEER STATING THAT ALL SITE LIGHTING IS INSTALLED ACCORDING TO AN APPROVED SITE PLAN SHALL BE REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ALL NONRESIDENTIAL PROJECTS.

7.DECORATIVE LIGHTING SHALL BE FOCUSED TOWARD THE GROUND, BE DESIGNED AND INSTALLED TO PREVENT LIGHT TRESPASS AND UNNECESSARY GLARE, AND ONLY BE USED TO HIGHLIGHT SIGNIFICANT ARCHITECTURAL OR NATURAL FEATURES.

8.OUTDOOR LIGHTING NOT NECESSARY FOR SECURITY PURPOSES SHALL BE TURNED OFF DURING NON-OPERATING HOURS.

PROHIBITED LIGHTING AND FIXTURES:

1.DROP LENSES AND SIMILAR LIGHTING FIXTURES ARE PROHIBITED.

2.FLOODLIGHTS ARE NOT PERMITTED FOR ILLUMINATION IN NON-RESIDENTIAL DISTRICTS UNLESS EXPRESSLY PERMITTED BY THIS ORDINANCE. IN ALL APPLICATIONS, LIGHTING SHALL BE DIRECTED DOWNWARD. FLOODLIGHTS IN RESIDENTIAL DISTRICTS SHALL NOT SHINE DIRECTLY ONTO AN ADJACENT PROPERTY OR PUBLIC RIGHTS-OF-WAY.

3.CANOPIES AND AWNINGS USED FOR BUILDING ACCENTS SHALL NOT BE INTERNALLY ILLUMINATED.

4.FLASHING, COLORED OR OBTRUSIVE LIGHTING IS PROHIBITED.

5.THE USE OF LASER SOURCE LIGHT OR ANY SIMILAR HIGH INTENSITY LIGHT FOR OUTDOOR ADVERTISING OR ENTERTAINMENT IS PROHIBITED.

6.THE OPERATION OF SEARCHLIGHTS FOR ADVERTISING PURPOSES IS PROHIBITED.

7.BLACK LIGHTS AND NEON LIGHTS (INCLUDING ARGON AND SIMILAR RARE GAS FIXTURES), EXCEPT FOR SIGNAGE, ARE PROHIBITED.

MAINTENANCE REQUIREMENTS:

1.ALL LIGHT FIXTURES THAT ARE REQUIRED TO BE SHIELDED SHALL BE INSTALLED AND MAINTAINED IN SUCH A MANNER THAT THE SHIELDING IS EFFECTIVE AS REQUIRED.

2.ANYTHING OTHER THAN ROUTINE SERVICING AND SAME-TYPE LAMP REPLACEMENT OF ANY EXTERIOR LIGHTING SHALL REQUIRE TOWN APPROVAL PRIOR TO INSTALLATION.

3.ANY DAMAGED, BROKEN OR MALFUNCTIONING LIGHT FIXTURE OR POLE, WHICH RESULTS IN FAILURE TO MEET ANY PART OF THIS ORDINANCE, SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

CREECH & ASSOCIATES
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Suite 120
Charlotte, NC 28208
p 704.376.6000
www.creech-design.com

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NORTH CAROLINA REGISTERED 15357 ARCHITECT JOHN MARK CRAWFORD
FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N.C.

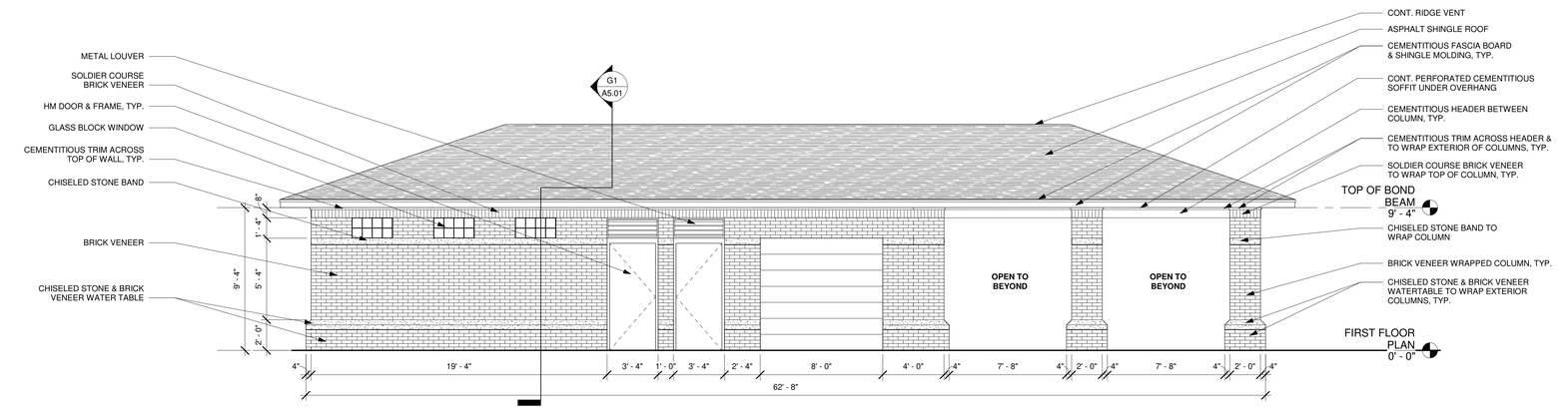
RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

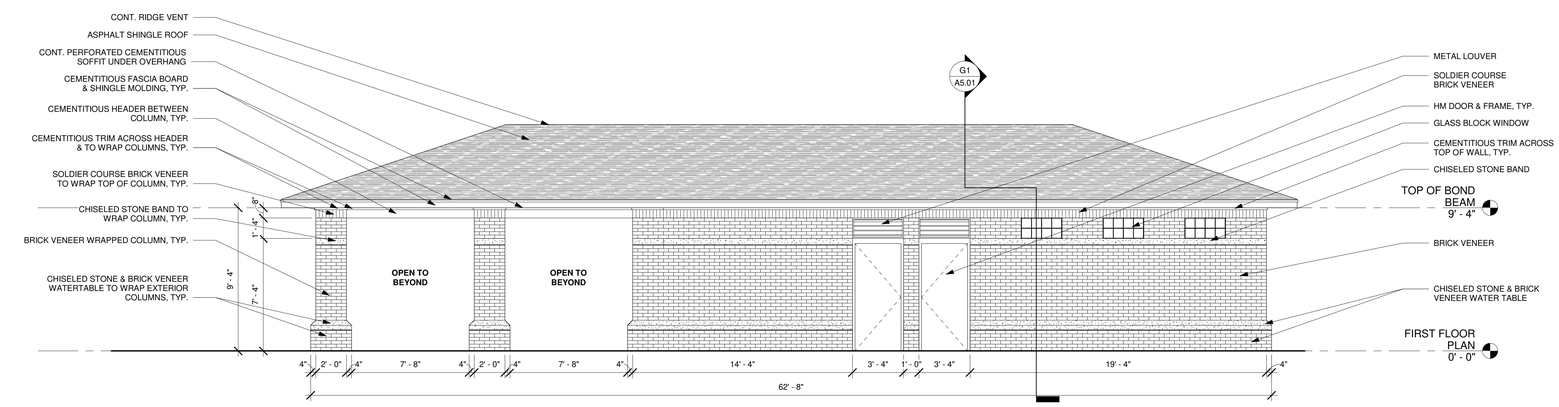
Project Number: 2021-046
Date: 08/29/2022

EXTERIOR ELEVATIONS

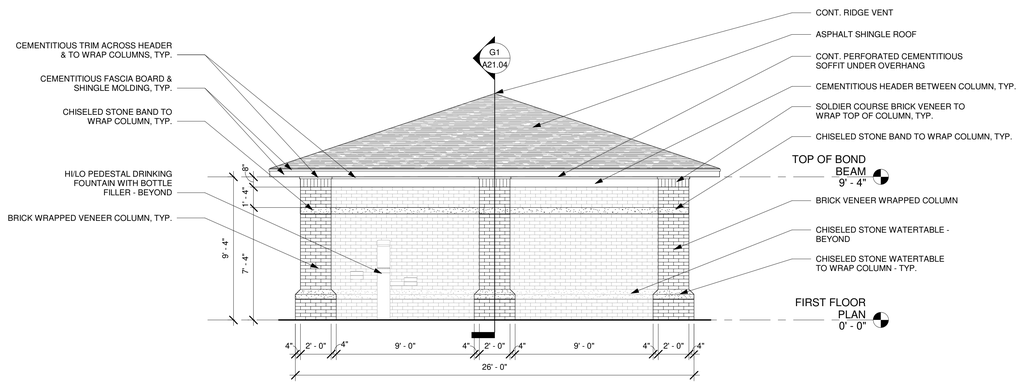
A2.01



I1 CANOPY ALT. - NORTH ELEVATION
1/4" = 1'-0"



E1 CANOPY ALT. - SOUTH ELEVATION
1/4" = 1'-0"



A1 CANOPY ALT. - WEST ELEVATION
1/4" = 1'-0"

TOWN OF HUNTERSVILLE NOTES

GENERAL REQUIREMENTS:

1.TO PREVENT GLARE ON OFF-SITE LOCATIONS, ALL OUTDOOR LIGHTING FIXTURES SHALL BE FULL CUT-OFF. WHERE NECESSARY TO PREVENT LIGHT TRESPASS OR GLARE, ACCESSORIES SUCH AS HOODS AND SHIELDS SHALL BE USED ON FIXTURES. NO SOURCE OF GLARE SHALL BE VISIBLE FROM ANY ADJACENT PROPERTY OR STREET.

2.LIGHT TRESPASS SHALL BE PREVENTED BY EMPLOYING LIGHTING SHIELDS, HOODS, WALLS, OR FENCES, WHICH CONTROL LIGHT PROJECTION. IN NO CASE SHALL THE SPILLOVER LIGHT LEVEL FROM SITE LIGHTING ONTO ADJACENT PROPERTY OR A PUBLIC ROAD EXCEED 0.1 FOOTCANDLE MEASURED AT GROUND LEVEL 10' INTO THE ADJACENT PROPERTY OR STREET FROM ANY ORIENTATION OF THE MEASURING DEVICE.

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4.UNLESS OTHERWISE SPECIFIED BY THIS ORDINANCE, UNIFORMITY RATIOS SHALL NOT EXCEED 4:1. UNIFORMITY SHALL BE BASED ON AVERAGE ILLUMINANCE. UNIFORMITY RATIOS SHALL ONLY BE MEASURED FOR DEVELOPED AREAS OF THE SITE FOR PARCELS GREATER THAN ONE ACRE.

5.PARKING LOT LIGHTING SHALL NOT EXCEED AN INITIAL MAXIMUM OUTPUT OF TEN FOOT-CANDLES AS MEASURED AT GROUND LEVEL FROM ANY ORIENTATION OF THE MEASURING DEVICE.

6.AN AS-BUILT/INSTALLED LIGHTING CERTIFICATION SEALED BY A REGISTERED ENGINEER STATING THAT ALL SITE LIGHTING IS INSTALLED ACCORDING TO AN APPROVED SITE PLAN SHALL BE REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ALL NONRESIDENTIAL PROJECTS.

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8.OUTDOOR LIGHTING NOT NECESSARY FOR SECURITY PURPOSES SHALL BE TURNED OFF DURING NON-OPERATING HOURS.

PROHIBITED LIGHTING AND FIXTURES:

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CREECH & ASSOCIATES
1000 W. Morehead St.
Suite 120
Charlotte, NC 28208
p 704.376.6000
www.creech-design.com

THESE DOCUMENTS PROVIDED BY CREECH & ASSOCIATES, PA ARE SUBJECT TO THE ARCHITECTURAL WORKS COPYRIGHT PROTECTION ACT AS INTELLECTUAL PROPERTY. SIMILAR PROTECTION IS ALSO APPLICABLE TO ELECTRONIC INFORMATION IN ANY FORM. THE USE OF THESE DOCUMENTS OR THE ELECTRONIC INFORMATION THAT PRODUCED THEM IS PROHIBITED UNLESS OTHERWISE PROVIDED IN WRITING BY AND COMPENSATION TO THE ARCHITECT.

NORTH CAROLINA REGISTERED 15367 ARCHITECT JOHN MARK CRAWFORD

FOR BIDDING PURPOSES ONLY

09-23-2022

CREECH & ASSOCIATES, PLLC REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA CERT. NO. 52304 CHARLOTTE, N.C.

RICHARD BARRY PARK - BATH HOUSE

No.	Description	Date

Project Number: 2021-046
Date: 08/29/2022

ADD ALT. - EXTERIOR ELEVATIONS

A21.03

TOWN OF HUNTERSVILLE NOTES

GENERAL REQUIREMENTS:

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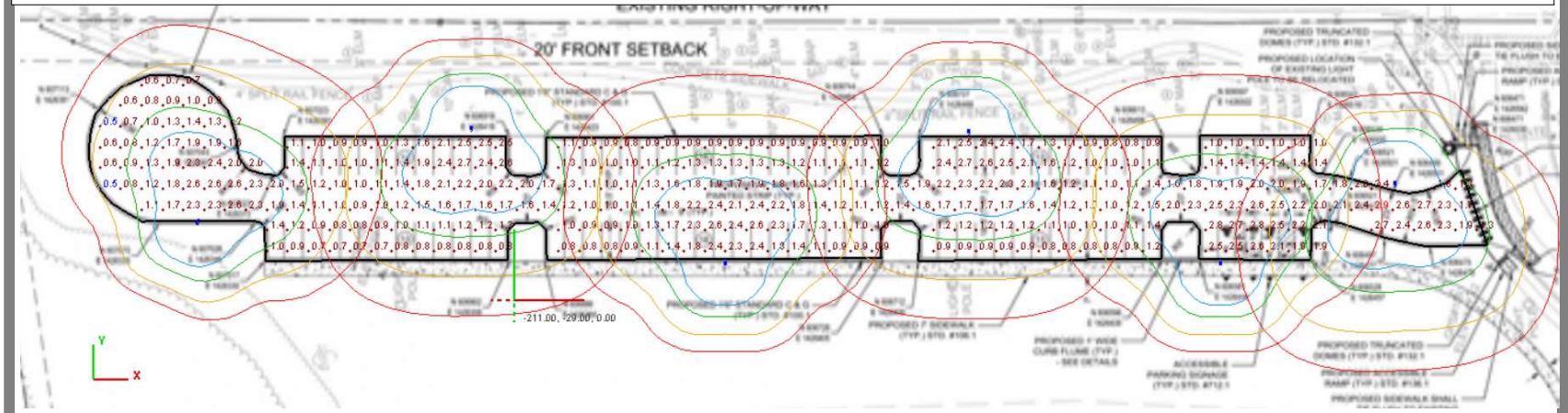
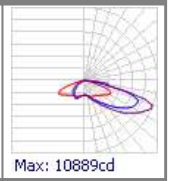


Schedule

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	Plot
	A		6	Holophane	MGLEDM P2 40K XXXXX FT	Mongoose Medium, P2 Performance Package, 4000K, Forward Throw (Type 4)	1	19882	0.9	125.56	 Max: 10889cd

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.5 fc	2.9 fc	0.5 fc	5.8:1	3.0:1

VISUAL

Richard Berry Park

Designer

Date
03/01/2023
Scale
Not to Scale
Drawing No.

Summary

TOWN OF HUNTERSVILLE NOTES

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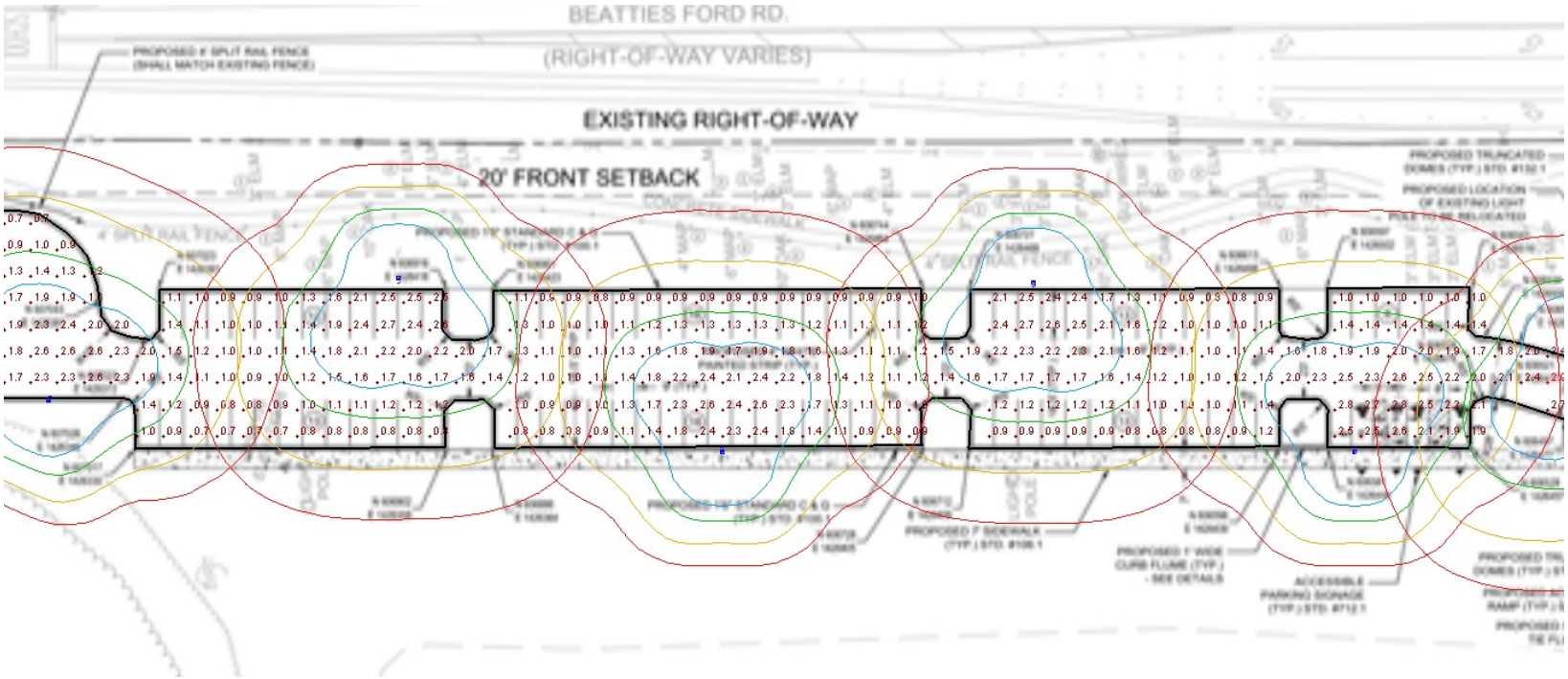


zoom

VISUAL

Richard Berry Park

Designer

Date
03/01/2023
Scale
Not to Scale
Drawing No.

Summary

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Budget Amendment - Barry Park Project

EXPLAIN REQUEST:
The bids for the Barry Park restroom addition and 98 additional paved parking spaces came in higher than budget. Appropriate $333,000 in Tourism fund balance (603890.9999) for the additional cost to the Barry Park project account (607102.0562.05003).

ACTION RECOMMENDED:
Approve budget amendment of $333,000.

FINANCIAL IMPLICATIONS:
Reduction in Tourism fund balance of $333,000.

ATTACHMENTS:
None

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Tracy Houk, Assistant Director of Parks and Recreation

Date: July 17, 2023

Subject: Public Arts Commission's SculpTOUR - "Joelukeben"

EXPLAIN REQUEST:
The Public Art Commission (PAC) put out a RFP for the 2023 Huntersville SculpTOUR. They received submissions from 15 artists. The PAC narrowed it down to 6 sculptures. The sculptures will be leased from the artists for 2 years.

ACTION RECOMMENDED:
Consider approving *"Joelukeben"* as one of the Public Art Commission's sculpture selections for the 2023 Huntersville SculpTOUR.

FINANCIAL IMPLICATIONS:
The 2023 Huntersville SculpTOUR is fully funded by grants awarded from Electricities and Arts & Science Council (ASC)

ATTACHMENTS:
1. Artist Agreement - SculpTOUR 2023 - TUCKER
2. Joelukeben

Town of Huntersville, NC
SculpTOUR Exhibition Agreement

THIS AGREEMENT made and entered as shown below by and among the Town of Huntersville, NC, hereinafter called "TOWN", and Bradley Tucker, hereinafter called "ARTIST".

1. PURPOSE OF THE AGREEMENT.

ARTIST agrees to temporarily lease to TOWN, and TOWN agrees to temporarily display ARTIST'S SCULPTURE entitled "_Joelukeben_" (hereinafter "SCULPTURE") as part of TOWN'S SculpTOUR Exhibition.

2. TITLE AND COPYRIGHT.

ARTIST hereby warrants that ARTIST has full legal title and copyrights, if applicable, to the SCULPTURE listed in this Agreement or that ARTIST is the duly authorized agent of the owner or owners of such works. ARTIST hereby agrees to indemnify and defend TOWN against, and to hold it harmless from, any liability (including attorney's fees and the costs of defending any actions) arising out of claims by individuals, institutions, or other persons claiming full or partial title or copyright to any of such works.

3. PUBLICITY AND PHOTOGRAPHY.

TOWN shall have the right at no cost or charge to the TOWN to photograph, telecast, and reproduce the SCULPTURE for publicity purposes in both the electronic and paper print media in connection with this exhibition and for illustration in the exhibition catalog and brochures concerning the exhibition, and to produce the slides or digital images of the SCULPTURE to be distributed for educational and publicity use. No images of the SCULPTURE will be used for commercial use by the TOWN.

4. EXHIBITION SITE.

The said referenced exhibition site is entitled "SculpTOUR". The TOWN shall make the final decision through its Parks & Recreation Assistant Director as to the exact location of the exhibition site (the "Site").

5. TERM.

The exhibition date shall be from SEPTEMBER 2023 through AUGUST 2025. ARTIST shall deliver the SCULPTURE to the TOWN before SEPTEMBER 31, 2023 and remove the SCULPTURE on or before AUGUST 15, 2025. The exact date for installation and removal shall be arranged between the TOWN and the ARTIST.

6. PREPARATION OF SITE.

Installation will not be performed until the preparation and construction of any required base ("BASE") is complete. TOWN is responsible for preparing SCULPTURE site and BASE (if required) according to the instructions supplied by ARTIST and agreed to by TOWN.

Notwithstanding the foregoing, in the event TOWN is unable to construct or is delayed in

the construction of BASE or preparation of SCULPTURE site due to budgetary constraints, inadequate available staffing, natural disaster or any other cause, ARTIST shall not have any right to bring action or make any claim against TOWN as a result of such inability or delay.

7. INSTALLATION AND REMOVAL.

TOWN shall coordinate the installation and removal of SCULPTURE and shall assist ARTIST or ARTIST'S representative with installation, with a minimal workforce, to the degree that the site is a safe and workable environment. ARTIST will be responsible for the delivery of SCULPTURE to the site, and for the on-site installation, and shall be responsible for SCULPTURE during the installation. ARTIST will be responsible for, and cover all expenses concerning, the delivery of SCULPTURE to the exhibition site and its installation, as well as its removal. The TOWN shall make the final decision as to the location of the Site as described in Section 4. Town shall not be responsible for any risk of loss of the SCULPTURE during installation or removal.

8. IDENTIFICATION PLAQUE.

TOWN shall provide and install an identification plaque at the site of SCULPTURE to identify title, artist's name, year of creation, and construction material. Design of the plaque shall be at the full discretion of TOWN.

9. MAINTENANCE.

ARTIST shall maintain the SCULPTURE at ARTIST'S sole cost and expense. TOWN shall maintain SCULPTURE site and any required BASE, but will not provide reimbursement for ARTIST'S maintenance costs.

In the event of defacing of or damage to SCULPTURE, whether by vandalism or act of God, ARTIST shall make such repairs as are necessary within one (1) week of receiving notice from TOWN of damage, or in the event repairs cannot be completed within that time, provide TOWN a written plan and timetable for the repairs within that time.

If the nature of the damage renders SCULPTURE hazardous to the public and SCULPTURE is determined not safe to remain in said location, SCULPTURE must be repaired to a condition not considered hazardous to the public within one (1) week after ARTIST receives notification from TOWN or SCULPTURE shall be removed from exhibition by ARTIST or by TOWN.

Failure to comply with this section shall be deemed grounds for termination of this Agreement.

10. COMPENSATION AND SALES.

Compensation to ARTIST for being chosen to exhibit SCULPTURE within the Town of Huntersville shall be provided by the Huntersville Parks and Recreation Department. ARTIST will receive $2,000 check within 30 days after installation, as well as exposure in a brochure publicizing the Sculpture Exhibition, on the Town of Huntersville Public Art website and Facebook pages.

The TOWN will not negotiate price or arrange sale of the SCULPTURE, however the

Town through the Public Art Committee will make good faith efforts to encourage sales. The sale of the SCULPTURE is the responsibility of the ARTIST. The ARTIST will agree to a sales price of $42,000 as part of the exhibit requirement and will pay the TOWN a fee of twenty percent (20%) of any sale of the SCULPTURE while on exhibit under the terms of this agreement at the time of sale. The funds received by the TOWN for the sale of the SCULPTURE will be used for future SculpTOURS. The parties agree that the terms of this agreement do not constitute a consignment under the "Sales of Artwork" as defined in NC General Statutes – Chapter 25C.

11. NOTICE OF TERMINATION.

ARTIST acknowledges that permission to exhibit the aforesaid SCULPTURE may be revoked at any time by TOWN, and ARTIST further acknowledges that said SCULPTURE may be removed, if ARTIST does not reclaim the aforesaid SCULPTURE within (30) days of Notice of Termination. TOWN or any of its agents, servants, officers, or employees may dispose of said SCULPTURE as they see fit. For purposes of the foregoing sentence, it is further agreed that a written request to reclaim the aforesaid SCULPTURE executed by TOWN and mailed to ARTIST by United States registered or certified mail, or other form of mail which offers proof of mailing and postage prepaid shall constitute "Notice of Termination".

12. INSURANCE.

ARTIST shall be solely responsible for providing all-risk property insurance coverage for the SCULPTURE leased to TOWN under the terms of this Agreement while such SCULPTURE is on TOWN premises, or while such SCULPTURE are being transported to or from the premises. ARTIST shall also provide commercial general liability insurance with limits not less than $1,000,000 per occurrence naming the Town of Huntersville, NC as additional insureds. TOWN will not provide reimbursement for property insurance.

13. INDEMNIFICATION FOR DAMAGES, TAXES AND CONTRIBUTIONS.

ARTIST will indemnify, defend, and hold harmless TOWN, including without limitation, its officers, agents, employees, and volunteers from and against:

A. Any and all damages, costs or expenses in law or equity that may at any time arise or be asserted because of injury to property or bodily or personal injury (including death) arising out of, or in any manner connected with, ARTIST'S exhibition under the terms of this Agreement, excepting any liability arising out of the sole negligence of TOWN. Such indemnification includes any damage to the person(s), or property(ies) of ARTIST and third persons.

B. Any and all Federal, State and Local taxes, charges, fees, or contributions required to be paid with respect to ARTIST and its officers, employees and agents engaged in the performance of this Agreement (including, without limitation, unemployment insurance, social security and payroll tax withholding).

14. APPLICABLE LAWS AND VENUE.

This Agreement shall be construed in accordance with and governed by the laws of the State of North Carolina. Venue for any legal action pertaining to this Agreement are the state and

federal courts for Huntersville, North Carolina.

15. AMENDMENT, ASSIGNMENT, AND APPLICABILITY.
This Agreement constitutes the entire Agreement of parties and may only be amended by written Agreement signed by all parties. This agreement binds the heirs, successors, executors, and assigns of the TOWN and ARTIST. This agreement shall not be assigned by the ARTIST without the sole, discretionary consent of the TOWN.

16. MISCELLANEOUS.

a. Artist, shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify for all contractors and subcontractors.

b. With the execution hereof, Artist certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.

17. VARA PROVISIONS. The Artist acknowledges that removing the SCULPTURE from the Site may cause the destruction, distortion, mutilation, or other modification of the Work. The Artist acknowledges that the TOWN may desire to or be required to remove the Work. Nevertheless, the Artist consents to the installation of the SCULPTURE even though the installation of the SCULPTURE may subject the SCULPTURE to destruction, distortion, mutilation, or other modification by reason of removal. The above and foregoing provision is made pursuant to the provisions of the Visual Artist Rights Act, 17 United States Code Section 106A *et seq*. ("VARA") to evidence the intention of the parties to waive the VARA provisions.

18. OTHER REMEDIES. The specification of remedies in this agreement shall not be deemed to be exclusive. The TOWN retains the right to pursue any remedy available for defective or delayed performance, including specifically the right to set off any damages for defective or delayed performance against any sum due the Artist under this agreement.

19. ASSIGNMENT. This Agreement may not be assigned without the prior written approval of all of the Parties. Any purported assignment of this Agreement without such approval shall be absolutely void.

20. Availability of Funds. Any and all payments to the ARTIST are dependent upon and subject to the availability of funds to the Town for the purpose set forth in this agreement.

21. NOTICE.
Unless otherwise provided herein, all notices required hereunder shall be given by United States registered or certified mail, or other form of mail which offers proof of mailing, postage prepaid and addressed to the party at the address below:

If to ARTIST:

Artist Name: Bradley Tucker
Artist Address: 161 Barley Park Lane, Mooresville, NC 28115_
Artist Email and Phone Number: bradleytuckerstudio@gmail.com / 336.749.1439_

If to TOWN:

Huntersville Parks and Recreation Assistant Director
PO Box 2879
Huntersville, NC 28070

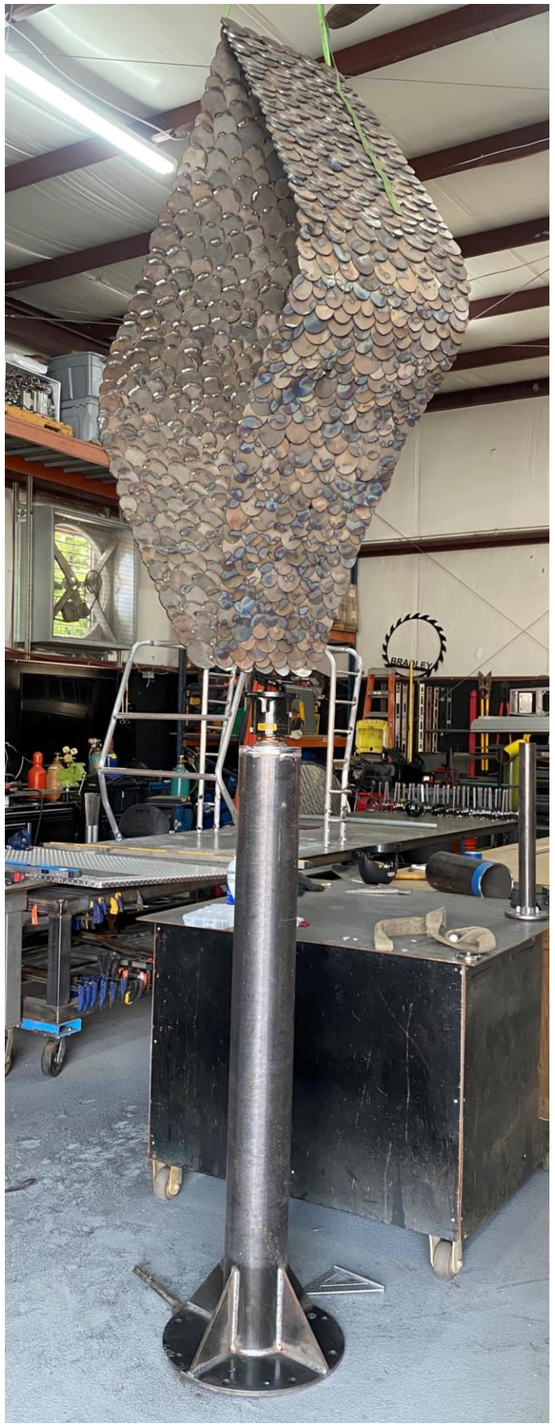
IN WITNESS WHEREOF, the parties have executed this Agreement on the dates shown below.

_____ _____
Artist Date

_____ _____
Town Manager Date

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act

_____
Finance Director



NEW

Tucker *Joelukeben*

Letter of Intent: SculpTOUR Cover Letter.pdf
Resume: 2020 Tucker_Bradley_Resume.pdf
More Info: SculpTOUR Proposal-Tucker Bradley.msg
Instagram: https://www.instagram.com/reel/CuGSfUiLcVC/?utm_source=ig_web_copy_link&igshid=MzRlODBiNWFlZA==

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Tracy Houk, Assistant Director of Parks and Recreation

Date: July 17, 2023

Subject: Public Arts Commission's SculpTOUR - "Basin & Range"

EXPLAIN REQUEST:
The Public Arts Commission (PAC) put out a RFP for the 2023 Huntersville SculpTOUR that will take place along the Downtown Greenway. They received submissions from 15 artists. The PAC narrowed it down to 6 sculptures. The sculptures will be leased from the artists for 2 years.

ACTION RECOMMENDED:
Approve *"Basin & Range"* as one of the Public Arts Commission's sculpture selections for the 2023 Huntersville SculpTOUR.

FINANCIAL IMPLICATIONS:
The 2023 Huntersville SculpTOUR is fully funded by grants awarded from Electricities and Arts & Science Council (ASC)

ATTACHMENTS:
1. Artist Agreement - SculpTOUR 2023 - FRAHM
2. Basin & Range

Town of Huntersville, NC
SculpTOUR Exhibition Agreement

THIS AGREEMENT made and entered as shown below by and among the Town of Huntersville, NC, hereinafter called "TOWN", and __Todd Frahm & Lara Nguyen__, hereinafter called "ARTIST".

1. PURPOSE OF THE AGREEMENT.

ARTIST agrees to temporarily lease to TOWN, and TOWN agrees to temporarily display ARTIST'S SCULPTURE entitled "_Basin & Range_" (hereinafter "SCULPTURE") as part of TOWN'S SculpTOUR Exhibition.

2. TITLE AND COPYRIGHT.

ARTIST hereby warrants that ARTIST has full legal title and copyrights, if applicable, to the SCULPTURE listed in this Agreement or that ARTIST is the duly authorized agent of the owner or owners of such works. ARTIST hereby agrees to indemnify and defend TOWN against, and to hold it harmless from, any liability (including attorney's fees and the costs of defending any actions) arising out of claims by individuals, institutions, or other persons claiming full or partial title or copyright to any of such works.

3. PUBLICITY AND PHOTOGRAPHY.

TOWN shall have the right at no cost or charge to the TOWN to photograph, telecast, and reproduce the SCULPTURE for publicity purposes in both the electronic and paper print media in connection with this exhibition and for illustration in the exhibition catalog and brochures concerning the exhibition, and to produce the slides or digital images of the SCULPTURE to be distributed for educational and publicity use. No images of the SCULPTURE will be used for commercial use by the TOWN.

4. EXHIBITION SITE.

The said referenced exhibition site is entitled "SculpTOUR". The TOWN shall make the final decision through its Parks & Recreation Assistant Director as to the exact location of the exhibition site (the "Site").

5. TERM.

The exhibition date shall be from SEPTEMBER 2023 through AUGUST 2025. ARTIST shall deliver the SCULPTURE to the TOWN before SEPTEMBER 31, 2023 and remove the SCULPTURE on or before AUGUST 15, 2025. The exact date for installation and removal shall be arranged between the TOWN and the ARTIST.

6. PREPARATION OF SITE.

Installation will not be performed until the preparation and construction of any required base ("BASE") is complete. TOWN is responsible for preparing SCULPTURE site and BASE (if required) according to the instructions supplied by ARTIST and agreed to by TOWN.

Notwithstanding the foregoing, in the event TOWN is unable to construct or is delayed in the construction of BASE or preparation of SCULPTURE site due to budgetary constraints, inadequate available staffing, natural disaster or any other cause, ARTIST shall not have any right to bring action or make any claim against TOWN as a result of such inability or delay.

7. INSTALLATION AND REMOVAL.

TOWN shall coordinate the installation and removal of SCULPTURE and shall assist ARTIST or ARTIST'S representative with installation, with a minimal workforce, to the degree that the site is a safe and workable environment. ARTIST will be responsible for the delivery of SCULPTURE to the site, and for the on-site installation, and shall be responsible for SCULPTURE during the installation. ARTIST will be responsible for, and cover all expenses concerning, the delivery of SCULPTURE to the exhibition site and its installation, as well as its removal. The TOWN shall make the final decision as to the location of the Site as described in Section 4. Town shall not be responsible for any risk of loss of the SCULPTURE during installation or removal.

8. IDENTIFICATION PLAQUE.

TOWN shall provide and install an identification plaque at the site of SCULPTURE to identify title, artist's name, year of creation, and construction material. Design of the plaque shall be at the full discretion of TOWN.

9. MAINTENANCE.

ARTIST shall maintain the SCULPTURE at ARTIST'S sole cost and expense. TOWN shall maintain SCULPTURE site and any required BASE, but will not provide reimbursement for ARTIST'S maintenance costs.

In the event of defacing of or damage to SCULPTURE, whether by vandalism or act of God, ARTIST shall make such repairs as are necessary within one (1) week of receiving notice from TOWN of damage, or in the event repairs cannot be completed within that time, provide TOWN a written plan and timetable for the repairs within that time.

If the nature of the damage renders SCULPTURE hazardous to the public and SCULPTURE is determined not safe to remain in said location, SCULPTURE must be repaired to a condition not considered hazardous to the public within one (1) week after ARTIST receives notification from TOWN or SCULPTURE shall be removed from exhibition by ARTIST or by TOWN.

Failure to comply with this section shall be deemed grounds for termination of this Agreement.

10. COMPENSATION AND SALES.

Compensation to ARTIST for being chosen to exhibit SCULPTURE within the Town of Huntersville shall be provided by the Huntersville Parks and Recreation Department. ARTIST will receive $2,000 check within 30 days after installation, as well as exposure in a brochure publicizing the Sculpture Exhibition, on the Town of Huntersville Public Art website and Facebook pages.

The TOWN will not negotiate price or arrange sale of the SCULPTURE, however the Town through the Public Art Committee will make good faith efforts to encourage sales. The sale of the SCULPTURE is the responsibility of the ARTIST. The ARTIST will agree to a sales price of $25,000 as part of the exhibit requirement and will pay the TOWN a fee of twenty percent (20%) of any sale of the SCULPTURE while on exhibit under the terms of this agreement at the time of sale. The funds received by the TOWN for the sale of the SCULPTURE will be used for future SculpTOURS. The parties agree that the terms of this agreement do not constitute a consignment under the "Sales of Artwork" as defined in NC General Statutes – Chapter 25C.

11. NOTICE OF TERMINATION.

ARTIST acknowledges that permission to exhibit the aforesaid SCULPTURE may be revoked at any time by TOWN, and ARTIST further acknowledges that said SCULPTURE may be removed, if ARTIST does not reclaim the aforesaid SCULPTURE within (30) days of Notice of Termination. TOWN or any of its agents, servants, officers, or employees may dispose of said SCULPTURE as they see fit. For purposes of the foregoing sentence, it is further agreed that a written request to reclaim the aforesaid SCULPTURE executed by TOWN and mailed to ARTIST by United States registered or certified mail, or other form of mail which offers proof of mailing and postage prepaid shall constitute "Notice of Termination".

12. INSURANCE.

ARTIST shall be solely responsible for providing all-risk property insurance coverage for the SCULPTURE leased to TOWN under the terms of this Agreement while such SCULPTURE is on TOWN premises, or while such SCULPTURE are being transported to or from the premises. ARTIST shall also provide commercial general liability insurance with limits not less than $1,000,000 per occurrence naming the Town of Huntersville, NC as additional insureds. TOWN will not provide reimbursement for property insurance.

13. INDEMNIFICATION FOR DAMAGES, TAXES AND CONTRIBUTIONS.

ARTIST will indemnify, defend, and hold harmless TOWN, including without limitation, its officers, agents, employees, and volunteers from and against:

A. Any and all damages, costs or expenses in law or equity that may at any time arise or be asserted because of injury to property or bodily or personal injury (including death) arising out of, or in any manner connected with, ARTIST'S exhibition under the terms of this Agreement, excepting any liability arising out of the sole negligence of TOWN. Such indemnification includes any damage to the person(s), or property(ies) of ARTIST and third persons.

B. Any and all Federal, State and Local taxes, charges, fees, or contributions required to be paid with respect to ARTIST and its officers, employees and agents engaged in the performance of this Agreement (including, without limitation, unemployment insurance, social security and payroll tax withholding).

14. APPLICABLE LAWS AND VENUE.

This Agreement shall be construed in accordance with and governed by the laws of the State

of North Carolina. Venue for any legal action pertaining to this Agreement are the state and federal courts for Huntersville, North Carolina.

15. AMENDMENT, ASSIGNMENT, AND APPLICABILITY.
This Agreement constitutes the entire Agreement of parties and may only be amended by written Agreement signed by all parties. This agreement binds the heirs, successors, executors, and assigns of the TOWN and ARTIST. This agreement shall not be assigned by the ARTIST without the sole, discretionary consent of the TOWN.

16. MISCELLANEOUS.

a. Artist, shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify for all contractors and subcontractors.

b. With the execution hereof, Artist certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.

17. VARA PROVISIONS. The Artist acknowledges that removing the SCULPTURE from the Site may cause the destruction, distortion, mutilation, or other modification of the Work. The Artist acknowledges that the TOWN may desire to or be required to remove the Work. Nevertheless, the Artist consents to the installation of the SCULPTURE even though the installation of the SCULPTURE may subject the SCULPTURE to destruction, distortion, mutilation, or other modification by reason of removal. The above and foregoing provision is made pursuant to the provisions of the Visual Artist Rights Act, 17 United States Code Section 106A *et seq.* ("VARA") to evidence the intention of the parties to waive the VARA provisions.

18. OTHER REMEDIES. The specification of remedies in this agreement shall not be deemed to be exclusive. The TOWN retains the right to pursue any remedy available for defective or delayed performance, including specifically the right to set off any damages for defective or delayed performance against any sum due the Artist under this agreement.

19. ASSIGNMENT. This Agreement may not be assigned without the prior written approval of all of the Parties. Any purported assignment of this Agreement without such approval shall be absolutely void.

20. Availability of Funds. Any and all payments to the ARTIST are dependent upon and subject to the availability of funds to the Town for the purpose set forth in this agreement.

21. NOTICE.
Unless otherwise provided herein, all notices required hereunder shall be given by United States registered or certified mail, or other form of mail which offers proof of mailing, postage prepaid and addressed to the party at the address below:

If to ARTIST:

Artist Name: _Todd Frahm & Lara Nguyen__
Artist Address: _30 Larry James Drive, Asheville, NC 28805_____
Artist Email and Phone Number:_Todd@stonecloudstudio.com / 828.571.0040_

If to TOWN:

Huntersville Parks and Recreation Assistant Director
PO Box 2879
Huntersville, NC 28070

IN WITNESS WHEREOF, the parties have executed this Agreement on the dates shown below.

_____	_____
Artist	Date
_____	_____
Town Manager	Date

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act

_____
Finance Director

Frahm

Basin & range

Letter of Intent: Huntersville Letter of Intent 2023 copy.docx
Resume: Todd Frahm and Lara Nguyen Full CVs 2023 w Refs.pdf

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Tracy Houk, Assistant Director of Parks and Recreation

Date: July 17, 2023

Subject: Public Arts Commission's SculpTOUR - "Cube in Motion"

EXPLAIN REQUEST:
The Public Arts Commission (PAC) put out a RFP for the 2023 Huntersville SculpTOUR. They received submissions from 15 artists. The PAC narrowed it down to 6 sculptures. The sculptures will be leased from the artists for 2 years.

ACTION RECOMMENDED:
Approve *"Cube in Motion"* as one of the Public Arts Commission's sculpture selections for the 2023 Huntersville SculpTOUR.

FINANCIAL IMPLICATIONS:
The 2023 Huntersville SculpTOUR is fully funded by grants awarded from Electricities and Arts & Science Council (ASC)

ATTACHMENTS:
1. Artist Agreement - SculpTOUR 2023 - JUBRAN
2. Cube in Motion

Town of Huntersville, NC
SculpTOUR Exhibition Agreement

THIS AGREEMENT made and entered as shown below by and among the Town of Huntersville, NC, hereinafter called "TOWN", and _Hanna Jubran_, hereinafter called "ARTIST".

1. PURPOSE OF THE AGREEMENT.

ARTIST agrees to temporarily lease to TOWN, and TOWN agrees to temporarily display ARTIST'S SCULPTURE entitled "_Cube in Motion_" (hereinafter "SCULPTURE") as part of TOWN'S SculpTOUR Exhibition.

2. TITLE AND COPYRIGHT.

ARTIST hereby warrants that ARTIST has full legal title and copyrights, if applicable, to the SCULPTURE listed in this Agreement or that ARTIST is the duly authorized agent of the owner or owners of such works. ARTIST hereby agrees to indemnify and defend TOWN against, and to hold it harmless from, any liability (including attorney's fees and the costs of defending any actions) arising out of claims by individuals, institutions, or other persons claiming full or partial title or copyright to any of such works.

3. PUBLICITY AND PHOTOGRAPHY.

TOWN shall have the right at no cost or charge to the TOWN to photograph, telecast, and reproduce the SCULPTURE for publicity purposes in both the electronic and paper print media in connection with this exhibition and for illustration in the exhibition catalog and brochures concerning the exhibition, and to produce the slides or digital images of the SCULPTURE to be distributed for educational and publicity use. No images of the SCULPTURE will be used for commercial use by the TOWN.

4. EXHIBITION SITE.

The said referenced exhibition site is entitled "SculpTOUR". The TOWN shall make the final decision through its Parks & Recreation Assistant Director as to the exact location of the exhibition site (the "Site").

5. TERM.

The exhibition date shall be from SEPTEMBER 2023 through AUGUST 2025. ARTIST shall deliver the SCULPTURE to the TOWN before SEPTEMBER 31, 2023 and remove the SCULPTURE on or before AUGUST 15, 2025. The exact date for installation and removal shall be arranged between the TOWN and the ARTIST.

6. PREPARATION OF SITE.

Installation will not be performed until the preparation and construction of any required base ("BASE") is complete. TOWN is responsible for preparing SCULPTURE site and BASE (if required) according to the instructions supplied by ARTIST and agreed to by TOWN.

Notwithstanding the foregoing, in the event TOWN is unable to construct or is delayed in

the construction of BASE or preparation of SCULPTURE site due to budgetary constraints, inadequate available staffing, natural disaster or any other cause, ARTIST shall not have any right to bring action or make any claim against TOWN as a result of such inability or delay.

7. INSTALLATION AND REMOVAL.

TOWN shall coordinate the installation and removal of SCULPTURE and shall assist ARTIST or ARTIST'S representative with installation, with a minimal workforce, to the degree that the site is a safe and workable environment. ARTIST will be responsible for the delivery of SCULPTURE to the site, and for the on-site installation, and shall be responsible for SCULPTURE during the installation. ARTIST will be responsible for, and cover all expenses concerning, the delivery of SCULPTURE to the exhibition site and its installation, as well as its removal. The TOWN shall make the final decision as to the location of the Site as described in Section 4. Town shall not be responsible for any risk of loss of the SCULPTURE during installation or removal.

8. IDENTIFICATION PLAQUE.

TOWN shall provide and install an identification plaque at the site of SCULPTURE to identify title, artist's name, year of creation, and construction material. Design of the plaque shall be at the full discretion of TOWN.

9. MAINTENANCE.

ARTIST shall maintain the SCULPTURE at ARTIST'S sole cost and expense. TOWN shall maintain SCULPTURE site and any required BASE, but will not provide reimbursement for ARTIST'S maintenance costs.

In the event of defacing of or damage to SCULPTURE, whether by vandalism or act of God, ARTIST shall make such repairs as are necessary within one (1) week of receiving notice from TOWN of damage, or in the event repairs cannot be completed within that time, provide TOWN a written plan and timetable for the repairs within that time.

If the nature of the damage renders SCULPTURE hazardous to the public and SCULPTURE is determined not safe to remain in said location, SCULPTURE must be repaired to a condition not considered hazardous to the public within one (1) week after ARTIST receives notification from TOWN or SCULPTURE shall be removed from exhibition by ARTIST or by TOWN.

Failure to comply with this section shall be deemed grounds for termination of this Agreement.

10. COMPENSATION AND SALES.

Compensation to ARTIST for being chosen to exhibit SCULPTURE within the Town of Huntersville shall be provided by the Huntersville Parks and Recreation Department. ARTIST will receive $2,000 check within 30 days after installation, as well as exposure in a brochure publicizing the Sculpture Exhibition, on the Town of Huntersville Public Art website and Facebook pages.

The TOWN will not negotiate price or arrange sale of the SCULPTURE, however the

Town through the Public Art Committee will make good faith efforts to encourage sales. The sale of the SCULPTURE is the responsibility of the ARTIST. The ARTIST will agree to a sales price of $8,000 as part of the exhibit requirement and will pay the TOWN a fee of twenty percent (20%) of any sale of the SCULPTURE while on exhibit under the terms of this agreement at the time of sale. The funds received by the TOWN for the sale of the SCULPTURE will be used for future SculpTOURS. The parties agree that the terms of this agreement do not constitute a consignment under the "Sales of Artwork" as defined in NC General Statutes – Chapter 25C.

11. NOTICE OF TERMINATION.

ARTIST acknowledges that permission to exhibit the aforesaid SCULPTURE may be revoked at any time by TOWN, and ARTIST further acknowledges that said SCULPTURE may be removed, if ARTIST does not reclaim the aforesaid SCULPTURE within (30) days of Notice of Termination. TOWN or any of its agents, servants, officers, or employees may dispose of said SCULPTURE as they see fit. For purposes of the foregoing sentence, it is further agreed that a written request to reclaim the aforesaid SCULPTURE executed by TOWN and mailed to ARTIST by United States registered or certified mail, or other form of mail which offers proof of mailing and postage prepaid shall constitute "Notice of Termination".

12. INSURANCE.

ARTIST shall be solely responsible for providing all-risk property insurance coverage for the SCULPTURE leased to TOWN under the terms of this Agreement while such SCULPTURE is on TOWN premises, or while such SCULPTURE are being transported to or from the premises. ARTIST shall also provide commercial general liability insurance with limits not less than $1,000,000 per occurrence naming the Town of Huntersville, NC as additional insureds. TOWN will not provide reimbursement for property insurance.

13. INDEMNIFICATION FOR DAMAGES, TAXES AND CONTRIBUTIONS.

ARTIST will indemnify, defend, and hold harmless TOWN, including without limitation, its officers, agents, employees, and volunteers from and against:

A. Any and all damages, costs or expenses in law or equity that may at any time arise or be asserted because of injury to property or bodily or personal injury (including death) arising out of, or in any manner connected with, ARTIST'S exhibition under the terms of this Agreement, excepting any liability arising out of the sole negligence of TOWN. Such indemnification includes any damage to the person(s), or property(ies) of ARTIST and third persons.

B. Any and all Federal, State and Local taxes, charges, fees, or contributions required to be paid with respect to ARTIST and its officers, employees and agents engaged in the performance of this Agreement (including, without limitation, unemployment insurance, social security and payroll tax withholding).

14. APPLICABLE LAWS AND VENUE.

This Agreement shall be construed in accordance with and governed by the laws of the State of North Carolina. Venue for any legal action pertaining to this Agreement are the state and

federal courts for Huntersville, North Carolina.

15. AMENDMENT, ASSIGNMENT, AND APPLICABILITY.
This Agreement constitutes the entire Agreement of parties and may only be amended by written Agreement signed by all parties. This agreement binds the heirs, successors, executors, and assigns of the TOWN and ARTIST. This agreement shall not be assigned by the ARTIST without the sole, discretionary consent of the TOWN.

16. MISCELLANEOUS.

a. Artist, shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify for all contractors and subcontractors.

b. With the execution hereof, Artist certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.

17. VARA PROVISIONS. The Artist acknowledges that removing the SCULPTURE from the Site may cause the destruction, distortion, mutilation, or other modification of the Work. The Artist acknowledges that the TOWN may desire to or be required to remove the Work. Nevertheless, the Artist consents to the installation of the SCULPTURE even though the installation of the SCULPTURE may subject the SCULPTURE to destruction, distortion, mutilation, or other modification by reason of removal. The above and foregoing provision is made pursuant to the provisions of the Visual Artist Rights Act, 17 United States Code Section 106A *et seq*. ("VARA") to evidence the intention of the parties to waive the VARA provisions.

18. OTHER REMEDIES. The specification of remedies in this agreement shall not be deemed to be exclusive. The TOWN retains the right to pursue any remedy available for defective or delayed performance, including specifically the right to set off any damages for defective or delayed performance against any sum due the Artist under this agreement.

19. ASSIGNMENT. This Agreement may not be assigned without the prior written approval of all of the Parties. Any purported assignment of this Agreement without such approval shall be absolutely void.

20. Availability of Funds. Any and all payments to the ARTIST are dependent upon and subject to the availability of funds to the Town for the purpose set forth in this agreement.

21. NOTICE.
Unless otherwise provided herein, all notices required hereunder shall be given by United States registered or certified mail, or other form of mail which offers proof of mailing, postage prepaid and addressed to the party at the address below:

If to ARTIST:

Artist Name: Hanna Jubran_
Artist Address: _5828 NC 33E, Grimesland, NC 27837____
Artist Email and Phone Number:_jubranh@ecu.edu / 252.341.1950_

If to TOWN:

Huntersville Parks and Recreation Assistant Director
PO Box 2879
Huntersville, NC 28070

IN WITNESS WHEREOF, the parties have executed this Agreement on the dates shown below.

_____ _____
Artist Date

_____ _____
Town Manager Date

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act

_____
Finance Director

Jubran
Cube in Motion

Letter of Intent & Resume:
huntersville2023applic_Jubran.docx

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Tracy Houk, Assistant Director of Parks and Recreation

Date: July 17, 2023

Subject: Public Arts Commission's SculpTOUR - "Phoenix"

EXPLAIN REQUEST:
The Public Arts Commission (PAC) put out a RFP for the 2023 Huntersville SculpTOUR that will take place along the Downtown Greenway. They received submissions from 15 artists. The PAC narrowed it down to 6 sculptures. The sculptures will be leased from the artists for 2 years.

ACTION RECOMMENDED:
Approve *"Phoenix"* as one of the Public Arts Commission's sculpture selections for the 2023 Huntersville SculpTOUR.

FINANCIAL IMPLICATIONS:
The 2023 Huntersville SculpTOUR is fully funded by grants awarded from Electricities and Arts & Science Council (ASC)

ATTACHMENTS:
1. Artist Agreement - SculpTOUR 2023 - WEITZEL
2. Phoenix

Town of Huntersville, NC
SculpTOUR Exhibition Agreement

THIS AGREEMENT made and entered as shown below by and among the Town of Huntersville, NC, hereinafter called "TOWN", and _Jim Weitzel_, hereinafter called "ARTIST".

1. PURPOSE OF THE AGREEMENT.

ARTIST agrees to temporarily lease to TOWN, and TOWN agrees to temporarily display ARTIST'S SCULPTURE entitled "Phoenix" (hereinafter "SCULPTURE") as part of TOWN'S SculpTOUR Exhibition.

2. TITLE AND COPYRIGHT.

ARTIST hereby warrants that ARTIST has full legal title and copyrights, if applicable, to the SCULPTURE listed in this Agreement or that ARTIST is the duly authorized agent of the owner or owners of such works. ARTIST hereby agrees to indemnify and defend TOWN against, and to hold it harmless from, any liability (including attorney's fees and the costs of defending any actions) arising out of claims by individuals, institutions, or other persons claiming full or partial title or copyright to any of such works.

3. PUBLICITY AND PHOTOGRAPHY.

TOWN shall have the right at no cost or charge to the TOWN to photograph, telecast, and reproduce the SCULPTURE for publicity purposes in both the electronic and paper print media in connection with this exhibition and for illustration in the exhibition catalog and brochures concerning the exhibition, and to produce the slides or digital images of the SCULPTURE to be distributed for educational and publicity use. No images of the SCULPTURE will be used for commercial use by the TOWN.

4. EXHIBITION SITE.

The said referenced exhibition site is entitled "SculpTOUR". The TOWN shall make the final decision through its Parks & Recreation Assistant Director as to the exact location of the exhibition site (the "Site").

5. TERM.

The exhibition date shall be from SEPTEMBER 2023 through AUGUST 2025. ARTIST shall deliver the SCULPTURE to the TOWN before SEPTEMBER 31, 2023 and remove the SCULPTURE on or before AUGUST 15, 2025. The exact date for installation and removal shall be arranged between the TOWN and the ARTIST.

6. PREPARATION OF SITE.

Installation will not be performed until the preparation and construction of any required base ("BASE") is complete. TOWN is responsible for preparing SCULPTURE site and BASE (if required) according to the instructions supplied by ARTIST and agreed to by TOWN.

Notwithstanding the foregoing, in the event TOWN is unable to construct or is delayed in

the construction of BASE or preparation of SCULPTURE site due to budgetary constraints, inadequate available staffing, natural disaster or any other cause, ARTIST shall not have any right to bring action or make any claim against TOWN as a result of such inability or delay.

7. INSTALLATION AND REMOVAL.

TOWN shall coordinate the installation and removal of SCULPTURE and shall assist ARTIST or ARTIST'S representative with installation, with a minimal workforce, to the degree that the site is a safe and workable environment. ARTIST will be responsible for the delivery of SCULPTURE to the site, and for the on-site installation, and shall be responsible for SCULPTURE during the installation. ARTIST will be responsible for, and cover all expenses concerning, the delivery of SCULPTURE to the exhibition site and its installation, as well as its removal. The TOWN shall make the final decision as to the location of the Site as described in Section 4. Town shall not be responsible for any risk of loss of the SCULPTURE during installation or removal.

8. IDENTIFICATION PLAQUE.

TOWN shall provide and install an identification plaque at the site of SCULPTURE to identify title, artist's name, year of creation, and construction material. Design of the plaque shall be at the full discretion of TOWN.

9. MAINTENANCE.

ARTIST shall maintain the SCULPTURE at ARTIST'S sole cost and expense. TOWN shall maintain SCULPTURE site and any required BASE, but will not provide reimbursement for ARTIST'S maintenance costs.

In the event of defacing of or damage to SCULPTURE, whether by vandalism or act of God, ARTIST shall make such repairs as are necessary within one (1) week of receiving notice from TOWN of damage, or in the event repairs cannot be completed within that time, provide TOWN a written plan and timetable for the repairs within that time.

If the nature of the damage renders SCULPTURE hazardous to the public and SCULPTURE is determined not safe to remain in said location, SCULPTURE must be repaired to a condition not considered hazardous to the public within one (1) week after ARTIST receives notification from TOWN or SCULPTURE shall be removed from exhibition by ARTIST or by TOWN.

Failure to comply with this section shall be deemed grounds for termination of this Agreement.

10. COMPENSATION AND SALES.

Compensation to ARTIST for being chosen to exhibit SCULPTURE within the Town of Huntersville shall be provided by the Huntersville Parks and Recreation Department. ARTIST will receive $2,000 check within 30 days after installation, as well as exposure in a brochure publicizing the Sculpture Exhibition, on the Town of Huntersville Public Art website and Facebook pages.

The TOWN will not negotiate price or arrange sale of the SCULPTURE, however the

Town through the Public Art Committee will make good faith efforts to encourage sales. The sale of the SCULPTURE is the responsibility of the ARTIST. The ARTIST will agree to a sales price of $4800 as part of the exhibit requirement and will pay the TOWN a fee of twenty percent (20%) of any sale of the SCULPTURE while on exhibit under the terms of this agreement at the time of sale. The funds received by the TOWN for the sale of the SCULPTURE will be used for future SculpTOURS. The parties agree that the terms of this agreement do not constitute a consignment under the "Sales of Artwork" as defined in NC General Statutes – Chapter 25C.

11. NOTICE OF TERMINATION.

ARTIST acknowledges that permission to exhibit the aforesaid SCULPTURE may be revoked at any time by TOWN, and ARTIST further acknowledges that said SCULPTURE may be removed, if ARTIST does not reclaim the aforesaid SCULPTURE within (30) days of Notice of Termination. TOWN or any of its agents, servants, officers, or employees may dispose of said SCULPTURE as they see fit. For purposes of the foregoing sentence, it is further agreed that a written request to reclaim the aforesaid SCULPTURE executed by TOWN and mailed to ARTIST by United States registered or certified mail, or other form of mail which offers proof of mailing and postage prepaid shall constitute "Notice of Termination".

12. INSURANCE.

ARTIST shall be solely responsible for providing all-risk property insurance coverage for the SCULPTURE leased to TOWN under the terms of this Agreement while such SCULPTURE is on TOWN premises, or while such SCULPTURE are being transported to or from the premises. ARTIST shall also provide commercial general liability insurance with limits not less than $1,000,000 per occurrence naming the Town of Huntersville, NC as additional insureds. TOWN will not provide reimbursement for property insurance.

13. INDEMNIFICATION FOR DAMAGES, TAXES AND CONTRIBUTIONS.

ARTIST will indemnify, defend, and hold harmless TOWN, including without limitation, its officers, agents, employees, and volunteers from and against:

A. Any and all damages, costs or expenses in law or equity that may at any time arise or be asserted because of injury to property or bodily or personal injury (including death) arising out of, or in any manner connected with, ARTIST'S exhibition under the terms of this Agreement, excepting any liability arising out of the sole negligence of TOWN. Such indemnification includes any damage to the person(s), or property(ies) of ARTIST and third persons.

B. Any and all Federal, State and Local taxes, charges, fees, or contributions required to be paid with respect to ARTIST and its officers, employees and agents engaged in the performance of this Agreement (including, without limitation, unemployment insurance, social security and payroll tax withholding).

14. APPLICABLE LAWS AND VENUE.

This Agreement shall be construed in accordance with and governed by the laws of the State of North Carolina. Venue for any legal action pertaining to this Agreement are the state and

federal courts for Huntersville, North Carolina.

15. AMENDMENT, ASSIGNMENT, AND APPLICABILITY.
This Agreement constitutes the entire Agreement of parties and may only be amended by written Agreement signed by all parties. This agreement binds the heirs, successors, executors, and assigns of the TOWN and ARTIST. This agreement shall not be assigned by the ARTIST without the sole, discretionary consent of the TOWN.

16. MISCELLANEOUS.

a. Artist, shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify for all contractors and subcontractors.

b. With the execution hereof, Artist certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.

17. VARA PROVISIONS. The Artist acknowledges that removing the SCULPTURE from the Site may cause the destruction, distortion, mutilation, or other modification of the Work. The Artist acknowledges that the TOWN may desire to or be required to remove the Work. Nevertheless, the Artist consents to the installation of the SCULPTURE even though the installation of the SCULPTURE may subject the SCULPTURE to destruction, distortion, mutilation, or other modification by reason of removal. The above and foregoing provision is made pursuant to the provisions of the Visual Artist Rights Act, 17 United States Code Section 106A *et seq*. ("VARA") to evidence the intention of the parties to waive the VARA provisions.

18. OTHER REMEDIES. The specification of remedies in this agreement shall not be deemed to be exclusive. The TOWN retains the right to pursue any remedy available for defective or delayed performance, including specifically the right to set off any damages for defective or delayed performance against any sum due the Artist under this agreement.

19. ASSIGNMENT. This Agreement may not be assigned without the prior written approval of all of the Parties. Any purported assignment of this Agreement without such approval shall be absolutely void.

20. Availability of Funds. Any and all payments to the ARTIST are dependent upon and subject to the availability of funds to the Town for the purpose set forth in this agreement.

21. NOTICE.
Unless otherwise provided herein, all notices required hereunder shall be given by United States registered or certified mail, or other form of mail which offers proof of mailing, postage prepaid and addressed to the party at the address below:

If to ARTIST:

Artist Name: Jim Weitzel_
Artist Address: _185 Baxter Way, Forest City, NC 28043_
Artist Email and Phone Number: weitzelart@aol.com / 828.899.7000_

If to TOWN:

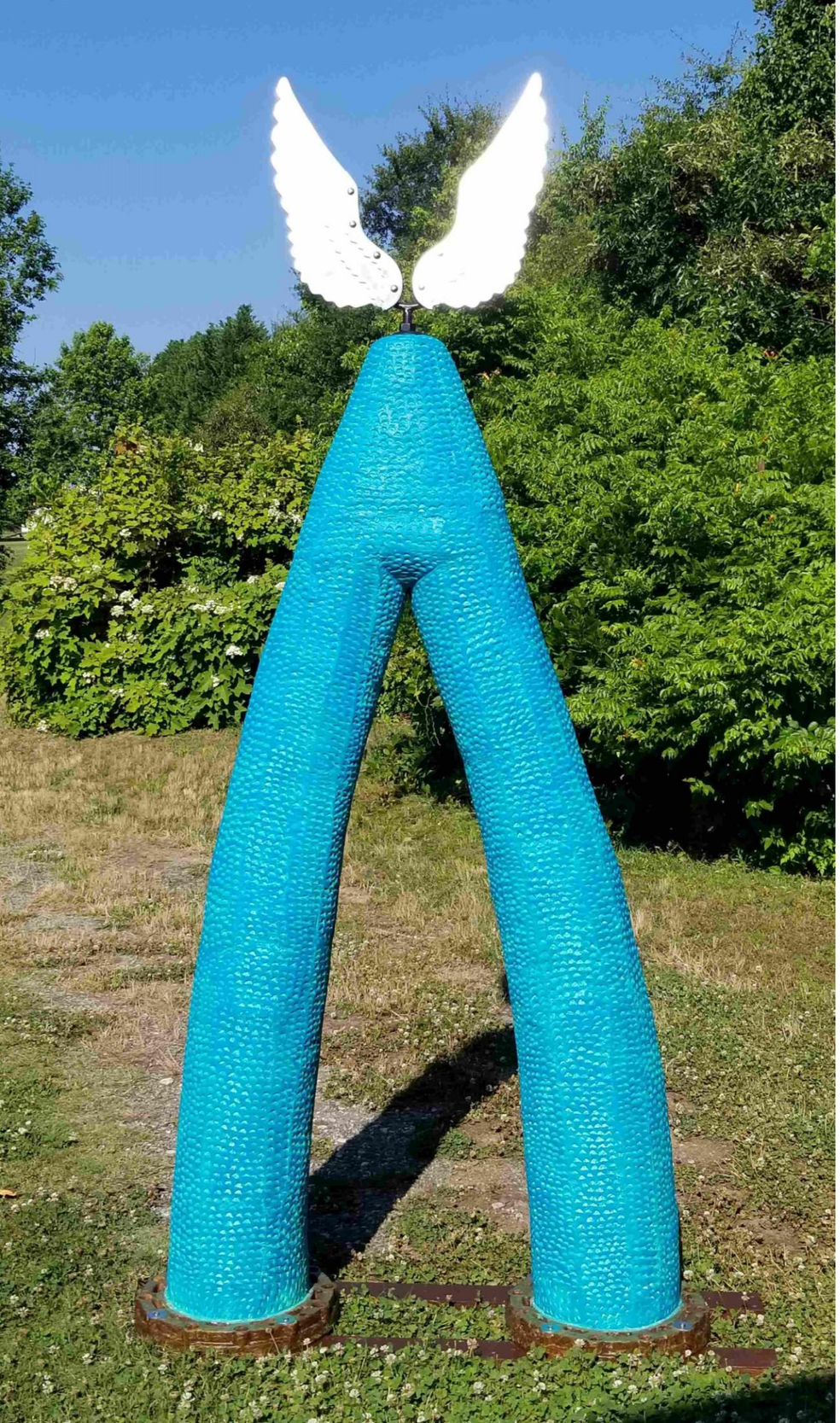
Huntersville Parks and Recreation Assistant Director
PO Box 2879
Huntersville, NC 28070

IN WITNESS WHEREOF, the parties have executed this Agreement on the dates shown below.

_____	_____
Artist	Date
_____	_____
Town Manager	Date

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act

_____
Finance Director



Weitzel

Phoenix

- Letter of Intent: Cover Letter.docx
- 1.Letter of Interest - Copy.docx
- 1.Letter of Interest - Copy.docx

- Resume: Weitzel Jim Resume.docx

ARTIST ARE IN ALPHABETICAL ORDER

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Tracy Houk, Assistant Director of Parks and Recreation

Date: July 17, 2023

Subject: Public Arts Commission's SculpTOUR - "Feather"

EXPLAIN REQUEST:
The Public Arts Commission (PAC) put out a RFP for the 2023 Huntersville SculpTOUR that will take place along the Downtown Greenway. They received submissions from 15 artists. The PAC narrowed it down to 6 sculptures. The sculptures will be leased from the artists for 2 years.

ACTION RECOMMENDED:
Approve *"Feather"* as one of the Public Arts Commission's sculpture selections for the 2023 Huntersville SculpTOUR.

FINANCIAL IMPLICATIONS:
The 2023 Huntersville SculpTOUR is fully funded by grants awarded from Electricities and Arts & Science Council (ASC)

ATTACHMENTS:
1. Artist Agreement - SculpTOUR 2023 - SEESE
2. Feather

Town of Huntersville, NC
SculpTOUR Exhibition Agreement

THIS AGREEMENT made and entered as shown below by and among the Town of Huntersville, NC, hereinafter called "TOWN", and _Kirk Seese__, hereinafter called "ARTIST".

1. PURPOSE OF THE AGREEMENT.

ARTIST agrees to temporarily lease to TOWN, and TOWN agrees to temporarily display ARTIST'S SCULPTURE entitled "_Feather_" (hereinafter "SCULPTURE") as part of TOWN'S SculpTOUR Exhibition.

2. TITLE AND COPYRIGHT.

ARTIST hereby warrants that ARTIST has full legal title and copyrights, if applicable, to the SCULPTURE listed in this Agreement or that ARTIST is the duly authorized agent of the owner or owners of such works. ARTIST hereby agrees to indemnify and defend TOWN against, and to hold it harmless from, any liability (including attorney's fees and the costs of defending any actions) arising out of claims by individuals, institutions, or other persons claiming full or partial title or copyright to any of such works.

3. PUBLICITY AND PHOTOGRAPHY.

TOWN shall have the right at no cost or charge to the TOWN to photograph, telecast, and reproduce the SCULPTURE for publicity purposes in both the electronic and paper print media in connection with this exhibition and for illustration in the exhibition catalog and brochures concerning the exhibition, and to produce the slides or digital images of the SCULPTURE to be distributed for educational and publicity use. No images of the SCULPTURE will be used for commercial use by the TOWN.

4. EXHIBITION SITE.

The said referenced exhibition site is entitled "SculpTOUR". The TOWN shall make the final decision through its Parks & Recreation Assistant Director as to the exact location of the exhibition site (the "Site").

5. TERM.

The exhibition date shall be from SEPTEMBER 2023 through AUGUST 2025. ARTIST shall deliver the SCULPTURE to the TOWN before SEPTEMBER 31, 2023 and remove the SCULPTURE on or before AUGUST 15, 2025. The exact date for installation and removal shall be arranged between the TOWN and the ARTIST.

6. PREPARATION OF SITE.

Installation will not be performed until the preparation and construction of any required base ("BASE") is complete. TOWN is responsible for preparing SCULPTURE site and BASE (if required) according to the instructions supplied by ARTIST and agreed to by TOWN.

Notwithstanding the foregoing, in the event TOWN is unable to construct or is delayed in

the construction of BASE or preparation of SCULPTURE site due to budgetary constraints, inadequate available staffing, natural disaster or any other cause, ARTIST shall not have any right to bring action or make any claim against TOWN as a result of such inability or delay.

7. INSTALLATION AND REMOVAL.

TOWN shall coordinate the installation and removal of SCULPTURE and shall assist ARTIST or ARTIST'S representative with installation, with a minimal workforce, to the degree that the site is a safe and workable environment. ARTIST will be responsible for the delivery of SCULPTURE to the site, and for the on-site installation, and shall be responsible for SCULPTURE during the installation. ARTIST will be responsible for, and cover all expenses concerning, the delivery of SCULPTURE to the exhibition site and its installation, as well as its removal. The TOWN shall make the final decision as to the location of the Site as described in Section 4. Town shall not be responsible for any risk of loss of the SCULPTURE during installation or removal.

8. IDENTIFICATION PLAQUE.

TOWN shall provide and install an identification plaque at the site of SCULPTURE to identify title, artist's name, year of creation, and construction material. Design of the plaque shall be at the full discretion of TOWN.

9. MAINTENANCE.

ARTIST shall maintain the SCULPTURE at ARTIST'S sole cost and expense. TOWN shall maintain SCULPTURE site and any required BASE, but will not provide reimbursement for ARTIST'S maintenance costs.

In the event of defacing of or damage to SCULPTURE, whether by vandalism or act of God, ARTIST shall make such repairs as are necessary within one (1) week of receiving notice from TOWN of damage, or in the event repairs cannot be completed within that time, provide TOWN a written plan and timetable for the repairs within that time.

If the nature of the damage renders SCULPTURE hazardous to the public and SCULPTURE is determined not safe to remain in said location, SCULPTURE must be repaired to a condition not considered hazardous to the public within one (1) week after ARTIST receives notification from TOWN or SCULPTURE shall be removed from exhibition by ARTIST or by TOWN.

Failure to comply with this section shall be deemed grounds for termination of this Agreement.

10. COMPENSATION AND SALES.

Compensation to ARTIST for being chosen to exhibit SCULPTURE within the Town of Huntersville shall be provided by the Huntersville Parks and Recreation Department. ARTIST will receive $2,000 check within 30 days after installation, as well as exposure in a brochure publicizing the Sculpture Exhibition, on the Town of Huntersville Public Art website and Facebook pages.

The TOWN will not negotiate price or arrange sale of the SCULPTURE, however the

Town through the Public Art Committee will make good faith efforts to encourage sales. The sale of the SCULPTURE is the responsibility of the ARTIST. The ARTIST will agree to a sales price of $7,500 as part of the exhibit requirement and will pay the TOWN a fee of twenty percent (20%) of any sale of the SCULPTURE while on exhibit under the terms of this agreement at the time of sale. The funds received by the TOWN for the sale of the SCULPTURE will be used for future SculpTOURS. The parties agree that the terms of this agreement do not constitute a consignment under the "Sales of Artwork" as defined in NC General Statutes – Chapter 25C.

11. NOTICE OF TERMINATION.

ARTIST acknowledges that permission to exhibit the aforesaid SCULPTURE may be revoked at any time by TOWN, and ARTIST further acknowledges that said SCULPTURE may be removed, if ARTIST does not reclaim the aforesaid SCULPTURE within (30) days of Notice of Termination. TOWN or any of its agents, servants, officers, or employees may dispose of said SCULPTURE as they see fit. For purposes of the foregoing sentence, it is further agreed that a written request to reclaim the aforesaid SCULPTURE executed by TOWN and mailed to ARTIST by United States registered or certified mail, or other form of mail which offers proof of mailing and postage prepaid shall constitute "Notice of Termination".

12. INSURANCE.

ARTIST shall be solely responsible for providing all-risk property insurance coverage for the SCULPTURE leased to TOWN under the terms of this Agreement while such SCULPTURE is on TOWN premises, or while such SCULPTURE are being transported to or from the premises. ARTIST shall also provide commercial general liability insurance with limits not less than $1,000,000 per occurrence naming the Town of Huntersville, NC as additional insureds. TOWN will not provide reimbursement for property insurance.

13. INDEMNIFICATION FOR DAMAGES, TAXES AND CONTRIBUTIONS.

ARTIST will indemnify, defend, and hold harmless TOWN, including without limitation, its officers, agents, employees, and volunteers from and against:

A. Any and all damages, costs or expenses in law or equity that may at any time arise or be asserted because of injury to property or bodily or personal injury (including death) arising out of, or in any manner connected with, ARTIST'S exhibition under the terms of this Agreement, excepting any liability arising out of the sole negligence of TOWN. Such indemnification includes any damage to the person(s), or property(ies) of ARTIST and third persons.

B. Any and all Federal, State and Local taxes, charges, fees, or contributions required to be paid with respect to ARTIST and its officers, employees and agents engaged in the performance of this Agreement (including, without limitation, unemployment insurance, social security and payroll tax withholding).

14. APPLICABLE LAWS AND VENUE.

This Agreement shall be construed in accordance with and governed by the laws of the State of North Carolina. Venue for any legal action pertaining to this Agreement are the state and

federal courts for Huntersville, North Carolina.

15. AMENDMENT, ASSIGNMENT, AND APPLICABILITY.
This Agreement constitutes the entire Agreement of parties and may only be amended by written Agreement signed by all parties. This agreement binds the heirs, successors, executors, and assigns of the TOWN and ARTIST. This agreement shall not be assigned by the ARTIST without the sole, discretionary consent of the TOWN.

16. MISCELLANEOUS.

a. Artist, shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify for all contractors and subcontractors.

b. With the execution hereof, Artist certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.

17. VARA PROVISIONS. The Artist acknowledges that removing the SCULPTURE from the Site may cause the destruction, distortion, mutilation, or other modification of the Work. The Artist acknowledges that the TOWN may desire to or be required to remove the Work. Nevertheless, the Artist consents to the installation of the SCULPTURE even though the installation of the SCULPTURE may subject the SCULPTURE to destruction, distortion, mutilation, or other modification by reason of removal. The above and foregoing provision is made pursuant to the provisions of the Visual Artist Rights Act, 17 United States Code Section 106A *et seq*. ("VARA") to evidence the intention of the parties to waive the VARA provisions.

18. OTHER REMEDIES. The specification of remedies in this agreement shall not be deemed to be exclusive. The TOWN retains the right to pursue any remedy available for defective or delayed performance, including specifically the right to set off any damages for defective or delayed performance against any sum due the Artist under this agreement.

19. ASSIGNMENT. This Agreement may not be assigned without the prior written approval of all of the Parties. Any purported assignment of this Agreement without such approval shall be absolutely void.

20. Availability of Funds. Any and all payments to the ARTIST are dependent upon and subject to the availability of funds to the Town for the purpose set forth in this agreement.

21. NOTICE.
Unless otherwise provided herein, all notices required hereunder shall be given by United States registered or certified mail, or other form of mail which offers proof of mailing, postage prepaid and addressed to the party at the address below:

If to ARTIST:

Artist Name: Kirk Seese_
Artist Address: _1605 Front Ave., Lutherville, NC 21093__
Artist Email and Phone Number:_kirk@alienartifactstudios.com / 443.622.2237_

If to TOWN:

Huntersville Parks and Recreation Assistant Director
PO Box 2879
Huntersville, NC 28070

IN WITNESS WHEREOF, the parties have executed this Agreement on the dates shown below.

_____	_____
Artist	Date
_____	_____
Town Manager	Date

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act

_____
Finance Director

Seese

Feather

Letter of Intent: Feather Single Presentation.pdf

Resume: kirk seese artists statement & resume 2023.pdf

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Tracy Houk, Assistant Director of Parks and Recreation

Date: July 17, 2023

Subject: Public Arts Commission's SculpTOUR - "Barely Scraping By"

EXPLAIN REQUEST:
The Public Arts Commission (PAC) put out a RFP for the 2023 Huntersville SculpTOUR that will take place along the Downtown Greenway. They received submissions from 15 artists. The PAC narrowed it down to 6 sculptures. The sculptures will be leased from the artists for 2 years.

ACTION RECOMMENDED:
Approve *"Barely Scraping By"* as one of the Public Arts Commission's sculpture selections for the 2023 Huntersville SculpTOUR.

FINANCIAL IMPLICATIONS:
The 2023 Huntersville SculpTOUR is fully funded by grants awarded from Electricities and Arts & Science Council (ASC)

ATTACHMENTS:
1. Barely Scraping By
2. Artist Agreement - SculpTOUR 2023 - COOMBES

NEW

Coombes

Barely Scraping By

Letter of Intent: Drew Coombes Huntersville Art Submission.pdf

Town of Huntersville, NC
SculpTOUR Exhibition Agreement

THIS AGREEMENT made and entered as shown below by and among the Town of Huntersville, NC, hereinafter called "TOWN", and _Drew Coombes_ hereinafter called "ARTIST".

1. PURPOSE OF THE AGREEMENT.

ARTIST agrees to temporarily lease to TOWN, and TOWN agrees to temporarily display ARTIST'S SCULPTURE entitled "_Barely Scraping By_" (hereinafter "SCULPTURE") as part of TOWN'S SculpTOUR Exhibition.

2. TITLE AND COPYRIGHT.

ARTIST hereby warrants that ARTIST has full legal title and copyrights, if applicable, to the SCULPTURE listed in this Agreement or that ARTIST is the duly authorized agent of the owner or owners of such works. ARTIST hereby agrees to indemnify and defend TOWN against, and to hold it harmless from, any liability (including attorney's fees and the costs of defending any actions) arising out of claims by individuals, institutions, or other persons claiming full or partial title or copyright to any of such works.

3. PUBLICITY AND PHOTOGRAPHY.

TOWN shall have the right at no cost or charge to the TOWN to photograph, telecast, and reproduce the SCULPTURE for publicity purposes in both the electronic and paper print media in connection with this exhibition and for illustration in the exhibition catalog and brochures concerning the exhibition, and to produce the slides or digital images of the SCULPTURE to be distributed for educational and publicity use. No images of the SCULPTURE will be used for commercial use by the TOWN.

4. EXHIBITION SITE.

The said referenced exhibition site is entitled "SculpTOUR". The TOWN shall make the final decision through its Parks & Recreation Assistant Director as to the exact location of the exhibition site (the "Site").

5. TERM.

The exhibition date shall be from SEPTEMBER 2023 through AUGUST 2025. ARTIST shall deliver the SCULPTURE to the TOWN before SEPTEMBER 31, 2023 and remove the SCULPTURE on or before AUGUST 15, 2025. The exact date for installation and removal shall be arranged between the TOWN and the ARTIST.

6. PREPARATION OF SITE.

Installation will not be performed until the preparation and construction of any required base ("BASE") is complete. TOWN is responsible for preparing SCULPTURE site and BASE (if required) according to the instructions supplied by ARTIST and agreed to by TOWN.

Notwithstanding the foregoing, in the event TOWN is unable to construct or is delayed in

the construction of BASE or preparation of SCULPTURE site due to budgetary constraints, inadequate available staffing, natural disaster or any other cause, ARTIST shall not have any right to bring action or make any claim against TOWN as a result of such inability or delay.

7. INSTALLATION AND REMOVAL.

TOWN shall coordinate the installation and removal of SCULPTURE and shall assist ARTIST or ARTIST'S representative with installation, with a minimal workforce, to the degree that the site is a safe and workable environment. ARTIST will be responsible for the delivery of SCULPTURE to the site, and for the on-site installation, and shall be responsible for SCULPTURE during the installation. ARTIST will be responsible for, and cover all expenses concerning, the delivery of SCULPTURE to the exhibition site and its installation, as well as its removal. The TOWN shall make the final decision as to the location of the Site as described in Section 4. Town shall not be responsible for any risk of loss of the SCULPTURE during installation or removal.

8. IDENTIFICATION PLAQUE.

TOWN shall provide and install an identification plaque at the site of SCULPTURE to identify title, artist's name, year of creation, and construction material. Design of the plaque shall be at the full discretion of TOWN.

9. MAINTENANCE.

ARTIST shall maintain the SCULPTURE at ARTIST'S sole cost and expense. TOWN shall maintain SCULPTURE site and any required BASE, but will not provide reimbursement for ARTIST'S maintenance costs.

In the event of defacing of or damage to SCULPTURE, whether by vandalism or act of God, ARTIST shall make such repairs as are necessary within one (1) week of receiving notice from TOWN of damage, or in the event repairs cannot be completed within that time, provide TOWN a written plan and timetable for the repairs within that time.

If the nature of the damage renders SCULPTURE hazardous to the public and SCULPTURE is determined not safe to remain in said location, SCULPTURE must be repaired to a condition not considered hazardous to the public within one (1) week after ARTIST receives notification from TOWN or SCULPTURE shall be removed from exhibition by ARTIST or by TOWN.

Failure to comply with this section shall be deemed grounds for termination of this Agreement.

10. COMPENSATION AND SALES.

Compensation to ARTIST for being chosen to exhibit SCULPTURE within the Town of Huntersville shall be provided by the Huntersville Parks and Recreation Department. ARTIST will receive $2,000 check within 30 days after installation, as well as exposure in a brochure publicizing the Sculpture Exhibition, on the Town of Huntersville Public Art website and Facebook pages.

The TOWN will not negotiate price or arrange sale of the SCULPTURE, however the

Town through the Public Art Committee will make good faith efforts to encourage sales. The sale of the SCULPTURE is the responsibility of the ARTIST. The ARTIST will agree to a sales price of $2,250 as part of the exhibit requirement and will pay the TOWN a fee of twenty percent (20%) of any sale of the SCULPTURE while on exhibit under the terms of this agreement at the time of sale. The funds received by the TOWN for the sale of the SCULPTURE will be used for future SculpTOURS. The parties agree that the terms of this agreement do not constitute a consignment under the "Sales of Artwork" as defined in NC General Statutes – Chapter 25C.

11. NOTICE OF TERMINATION.

ARTIST acknowledges that permission to exhibit the aforesaid SCULPTURE may be revoked at any time by TOWN, and ARTIST further acknowledges that said SCULPTURE may be removed, if ARTIST does not reclaim the aforesaid SCULPTURE within (30) days of Notice of Termination. TOWN or any of its agents, servants, officers, or employees may dispose of said SCULPTURE as they see fit. For purposes of the foregoing sentence, it is further agreed that a written request to reclaim the aforesaid SCULPTURE executed by TOWN and mailed to ARTIST by United States registered or certified mail, or other form of mail which offers proof of mailing and postage prepaid shall constitute "Notice of Termination".

12. INSURANCE.

ARTIST shall be solely responsible for providing all-risk property insurance coverage for the SCULPTURE leased to TOWN under the terms of this Agreement while such SCULPTURE is on TOWN premises, or while such SCULPTURE are being transported to or from the premises. ARTIST shall also provide commercial general liability insurance with limits not less than $1,000,000 per occurrence naming the Town of Huntersville, NC as additional insureds. TOWN will not provide reimbursement for property insurance.

13. INDEMNIFICATION FOR DAMAGES, TAXES AND CONTRIBUTIONS.

ARTIST will indemnify, defend, and hold harmless TOWN, including without limitation, its officers, agents, employees, and volunteers from and against:

A. Any and all damages, costs or expenses in law or equity that may at any time arise or be asserted because of injury to property or bodily or personal injury (including death) arising out of, or in any manner connected with, ARTIST'S exhibition under the terms of this Agreement, excepting any liability arising out of the sole negligence of TOWN. Such indemnification includes any damage to the person(s), or property(ies) of ARTIST and third persons.

B. Any and all Federal, State and Local taxes, charges, fees, or contributions required to be paid with respect to ARTIST and its officers, employees and agents engaged in the performance of this Agreement (including, without limitation, unemployment insurance, social security and payroll tax withholding).

14. APPLICABLE LAWS AND VENUE.

This Agreement shall be construed in accordance with and governed by the laws of the State of North Carolina. Venue for any legal action pertaining to this Agreement are the state and

federal courts for Huntersville, North Carolina.

15. AMENDMENT, ASSIGNMENT, AND APPLICABILITY.
This Agreement constitutes the entire Agreement of parties and may only be amended by written Agreement signed by all parties. This agreement binds the heirs, successors, executors, and assigns of the TOWN and ARTIST. This agreement shall not be assigned by the ARTIST without the sole, discretionary consent of the TOWN.

16. MISCELLANEOUS.

a. Artist, shall comply with, and require all contractors and subcontractors to comply with, the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, "Verification of Work Authorization," sometimes known as E-verify for all contractors and subcontractors.

b. With the execution hereof, Artist certifies that they are not on the Iran Final Divestment List created by the N.C. State Treasurer pursuant to N.C.G.S. § 147-86.58, and will not contract with anyone on such List in performance of the work hereunder.

17. VARA PROVISIONS. The Artist acknowledges that removing the SCULPTURE from the Site may cause the destruction, distortion, mutilation, or other modification of the Work. The Artist acknowledges that the TOWN may desire to or be required to remove the Work. Nevertheless, the Artist consents to the installation of the SCULPTURE even though the installation of the SCULPTURE may subject the SCULPTURE to destruction, distortion, mutilation, or other modification by reason of removal. The above and foregoing provision is made pursuant to the provisions of the Visual Artist Rights Act, 17 United States Code Section 106A *et seq*. ("VARA") to evidence the intention of the parties to waive the VARA provisions.

18. OTHER REMEDIES. The specification of remedies in this agreement shall not be deemed to be exclusive. The TOWN retains the right to pursue any remedy available for defective or delayed performance, including specifically the right to set off any damages for defective or delayed performance against any sum due the Artist under this agreement.

19. ASSIGNMENT. This Agreement may not be assigned without the prior written approval of all of the Parties. Any purported assignment of this Agreement without such approval shall be absolutely void.

20. Availability of Funds. Any and all payments to the ARTIST are dependent upon and subject to the availability of funds to the Town for the purpose set forth in this agreement.

21. NOTICE.
Unless otherwise provided herein, all notices required hereunder shall be given by United States registered or certified mail, or other form of mail which offers proof of mailing, postage prepaid and addressed to the party at the address below:

If to ARTIST:

Artist Name: _Drew Coombes__
Artist Address: __710 September Ln., Charlotte, NC 28208_____
Artist Email and Phone Number: djcoombes237@huntersville.org / 704.397.8695_

If to TOWN:

Huntersville Parks and Recreation Assistant Director
PO Box 2879
Huntersville, NC 28070

IN WITNESS WHEREOF, the parties have executed this Agreement on the dates shown below.

_____ _____
Artist Date

_____ _____
Town Manager Date

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act

_____
Finance Director

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Jackie Huffman, Deputy Town Manager

Date: July 17, 2023

Subject: Fire Protection Services Interlocal Cooperation Agreement

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EXPLAIN REQUEST:
Approve interlocal agreement with Mecklenburg County for Fire Protection Services

ACTION RECOMMENDED:
Approve Resolution

FINANCIAL IMPLICATIONS:
None

ATTACHMENTS:
1. Town of Huntersville Fire Service
2. R-2023-35 Interlocal Fire Protection resolution 2023

State of North Carolina County of Mecklenburg

FIRE PROTECTION SERVICES AGREEMENT

THIS AGREEMENT made and entered into as of the 1st day of July 2023 by and between **Mecklenburg County**, a political subdivision of the State of North Carolina, hereinafter referred to as the "County", and the **Town of Huntersville,** a North Carolina municipal corporation, hereinafter referred to as the "Town".

Identification:	Town of Huntersville
Address:	PO Box 664
	Huntersville, NC 28070
Telephone:	704-875-6541
Contact Person:	Anthony Roberts
Term of Contract:	7/1/23 - 6/30/24

RECITALS:

A. WHEREAS, North Carolina General Statute §153A-233 provides that a county may maintain a fire department and provide financial assistance to incorporated volunteer fire departments (VFD) and may contract for fire-fighting or prevention services with counties, cities, or other units of local government, and may for these purposes appropriate funds not otherwise limited as to use by law; and

B. WHEREAS, the Mecklenburg Board of County Commissioners has established fire protection service districts that cover the entire unincorporated area of Mecklenburg County and has levied a property tax for every fire protection service district for the purpose of funding fire protection services in the unincorporated area of Mecklenburg County; and

C. WHEREAS, the Town agrees to contract with the County to provide fire protection services in the area that is within the portion of unincorporated Mecklenburg County which is in the sphere of influence of the Town as shown on the map attached hereto as Attachment A (such area referred to herein as the "District") by exercising the power granted to the County by N.C.G.S. 153A-233 to maintain a fire department and/or to provide financial assistance to incorporated fire departments in the unincorporated area of Mecklenburg County; and

D. WHEREAS, the County and Town desire to enter into this Agreement for the Town to furnish fire protection and emergency services for and within the District using either a municipal fire department, or by contracting with one or more incorporated fire departments that meet the criteria set forth in this Agreement.

AGREEMENT

NOW THEREFORE, in consideration of the mutual promises contained herein and other good and valuable considerations, the receipt of which is hereby acknowledged, the parties hereto contract and agree as follows:

SECTION 1. USE AND AMOUNT OF SERVICE TAX LEVIED

The Mecklenburg Board of County Commissioners has agreed to levy and collect a tax each year on all taxable property within District. The amount of such fire protection service district tax levy shall be determined by the Board of

County Commissioners from year to year and maintained by the County in a special fund as provided by law and more specifically set out in Section 2 hereunder. Out of this fund, the County shall, to the extent of the taxes collected hereunder, provide funds for fire protection services for the District by appropriating funds for fire protection services to the Town. For each fiscal year, the funds provided to the Town from the fire protection service district tax fund shall be based on the request submitted by the Town to the County and as approved by and deemed necessary by the Board of County Commissioners for furnishing fire protection services within the District. The Town will recommend a tax rate for the District based on their annual budget assessment as it relates to the projected tax rate for fire protection services within the Town.

Fire protection services district tax funds levied and collected by the County and paid to the Town by the County shall be used solely for fire department operations, fire protection and emergency services in the District, and other areas of response as dispatched and to meet the standards established by this Agreement.

SECTION 2. ACCOUNT MAINTAINED FOR RECEIPTS FROM SERVICE TAX

A separate account will be maintained by the County for the receipts from the property tax levied for the District. Any fire protection service tax district revenues collected annually in excess of the approved total appropriations shall be maintained in the separate account established by the County and held for appropriation in future fiscal years to fund fire protection services in the tax district from which collected. The Mecklenburg County Fire Commission shall make recommendations to the Board of County Commissioners for distribution of these revenues.

The County will pay the approved total appropriations, up to the amount of taxes collected, to the Town in equal monthly payments on the last day of each month.

SECTION 3. PAYMENT PROVISIONS

1. Amount payable each month: $133,575.66
   Annual payment for Fire Protection Service: $1,602,908

2. Submit monthly invoices via electronic format to the email address: LUESA.invoices@mecklenburgcountync.gov. Each invoice shall provide a certification of the hours during which qualified staff were available for response to calls for service. For every hour in which staffing levels per Section 11.D. of this agreement were not met, the invoice will be reduced by $17.00 per hour per staff member.

3. Electronic invoices must be submitted in accordance with the following privacy and security requirements:

   a. The Service Provider shall adopt and apply data security standards and procedures that comply with all applicable federal, state, and local laws, regulations, and rules.

   b. Electronic exchange of confidential information, including any email which will include invoices, billing information, employee or administrative data, or any information regarding the delivery of services, must be sent and received via encrypted methods.

4. Payment will be made via electronic funds transfer.

5. Town will submit an invoice by the fifth (5th) of each month. The total amount paid under the terms of this Agreement shall not exceed the maximum amount payable in #1 above.

6. The first invoice will be due no later than August 15, 2023, for services rendered from July 1st through July 31st of the current year and will be paid providing the contract has been fully executed.

7. Upon receipt, the invoice will be validated and verified for accuracy and submitted to Finance for payment. Incorrect invoices will be clarified with Town with corrections/changes made on a revised invoice.

8. The date of the revised invoice will be considered as the original date of the invoice.

9. County will authorize approved amounts to be paid to Town.

10. Failure to send requests to the appropriate person may result in payment being delayed beyond thirty (30) calendar days.

11. For services rendered from June 1st through June 30th of the previous year, the invoice will be due no later than July 5th of the current year. Late billings must be submitted for payment no later than sixty (60) calendar days from the date of service. If billing is over (60) calendar days, the County may deny payment.

SECTION 4. SERVICES FURNISHED BY TOWN

The Town will furnish fire protection and other emergency services twenty four (24) hours per day, seven (7) days per week, 365 days per year as determined and approved by the Town's governing body and as contracted for by the County within the District and shall provide the necessary equipment, personnel and those things necessary for furnishing such protection in the District, or shall contract with one or more incorporated fire departments to provide such services. The services shall be in accordance with minimum standards set forth in this Agreement and all future amendments adopted in accordance with Section 16 of this Agreement. The Town shall furnish said fire protection in the District without charge (other than the service district tax funds) to all persons and property located in the District in an efficient and workmanlike manner. This provision shall not prohibit the Town from entering into contracts with the Federal, State or local governments, or utility companies for the provision of fire protection services exceeding the scope of this Agreement for a fee. This provision shall not prohibit the Town from billing for certain services, including but not limited to hazardous materials mitigation responses nor shall this provision prohibit the Town or incorporated fire departments from additional fundraising, memberships dues or similar funding.

SECTION 5. BOOKS AND RECORDS

The Town shall maintain a written accounting system which provides adequate documentation of all of its receipts and disbursements including, but not limited to, those related to the expenditure of funds subject to this Agreement and an inventory of all equipment purchased with County tax funding (it being acknowledged and agreed that the Town is not required to maintain separate accounting for fire and emergency related services provided within the Town corporate limits and outside the Town corporate limits). The County may inspect the financial books and records of the Town at reasonable times during regular business hours of the Town during the Term of this Agreement for up to three (3) years after the end of the Term of the Agreement. The Town agrees that it will supply such financial books, records, and information or verification as may be reasonably requested by the County.

SECTION 6. AUDIT

The Town shall provide to the County an audit and accompanying management letter prepared in accordance with generally accepted accounting principles and generally accepted auditing standards.

In the event that the audit or management letter reveals any reportable and/or material issue(s) related to Town fire operations, including those provided in the District, with regard to compliance with generally accepted accounting principles, the Town shall provide a written statement to the County that contains an explanation of each such issue and an action plan (with implementation timetable) for resolving each such issue, and shall provide periodic reports to the County on progress made in resolution of each issue.

SECTION 7. DECISION MAKING PROCESS OPEN TO PUBLIC

The Town acknowledges that it is a public body subject to the provisions of N.C.G.S. Chapter 143, Article 33C and agrees to comply with all provisions of said statute in conducting any decision-making process required by the terms of this Agreement.

SECTION 8. NOTICE OF FAILURE TO MAINTAIN DELIVERY OF SERVICES

In the event that the Town's governing body determines that the Town is unable to reliably deliver the services described herein, for reasons including, but not limited to, resignation or withdrawal of volunteers, part-time or full-time members, or other reasons for loss of ability to deliver services, the Town shall immediately so notify the County.

SECTION 9. TOWN'S USE OF FUNDS

The Town shall use the funds subject to this Agreement in accordance with the annual Town Budget. This budget may be amended by the Town within the approved total appropriations made available by this Agreement. All service tax funds provided by the County to the Town must be used for furnishing fire protection and emergency services within said District. For each year of the term of this Contract and as part of each parties' annual budget process, the Town Manager and County Fire Marshal shall agree in writing to a mutually agreeable method to demonstrate compliance with this Section.

SECTION 10. INSURANCE AND INDEMNIFICATION

The Town and its contracted fire department shall obtain and keep in force during the term of this Agreement the following minimum insurance coverage. All required insurance shall be procured from insurance companies licensed to do business in North Carolina and Workers' Compensation. Coverage shall be maintained continuously during the term of this agreement. The Town shall be responsible for purchasing or assuring the provision of such insurance coverage for both regular employees and contracted employees.

A. **Worker's Compensation:** Coverage A – Statutory – State of North Carolina. Coverage B – Employers Liability - $100,000 each claim.
B. **Comprehensive General Liability, Including Medical Malpractice and Errors and Omissions:** Coverage with minimum limits of $1,000,000.00 per occurrence combined single limit for bodily injury liability and property damage liability.

   The County shall be named as an additional insured under the commercial general liability insurance for operations or services rendered under this contract. The county shall be designated as Certificate Holder on the Certificate of Insurance.

C. **Business Auto Policy:** Coverage with minimum limits of $1,000,000.00 per occurrence combined single limit for bodily injury liability and property damage liability. This shall include owned vehicles, hired and non-owned vehicles and employee non-ownership.
D. **Management Liability/Directors and Officers Liability:** Coverage with minimum limits of $1,000,000.00 per claim and $2,000,000.00 aggregate.
E. **Umbrella Liability:** Coverage with limits of $2,000,000.00. Coverage shall excess the underlying auto liability, employer's liability, general liability including Medical Malpractice and Errors and Omissions liability. There shall not be any "drop down deductibles" in areas where underlying coverage is not required but the Umbrella Policy provides coverage.
F. **Fidelity Bonds:** A blanket fidelity bond shall be purchased in the amount of not less than $100,000.00.

To the extent permitted by law, the Town shall indemnify and save harmless the County, its officers, agents, and employees from and against all loss, cost, damages, expense and liability caused by accidents or other occurrence resulting in bodily injury, including death, sickness and disease to any person arising directly or indirectly from the negligence of the Town in performance of its obligations under this Agreement. The provisions of this Section shall survive the termination of this Agreement.

SECTION 11. STANDARDS OF PERFORMANCE.

A. The Town shall furnish fire protection and emergency services in a professional, efficient and workmanlike manner, in particular so as to meet the requirements of and comply with rules and regulations of the North Carolina Office of the State Fire Marshal, the North Carolina General Statutes, and other pertinent federal, State and County laws, regulations and standard.

B. The Town shall annually furnish documentation to the County certifying and/or verifying that the Town fire department or incorporated fire department servicing the District is in compliance with the minimal ISO performance standards, as well as the rules and regulations, as set forth by the North Carolina Department of Insurance, the North Carolina Office of State Fire Marshal, and the North Carolina General Statutes.

C. Fire Department shall provide County an accounting of all equipment purchased with tax dollars during a fiscal year by the last day of each fiscal year.

D. Fire Department shall maintain 4 qualified personnel available for response 24 hours per day, 7 days per week, 365 days per year.

SECTION 12. RELATIONSHIP OF PARTIES

The County and the Town agree that the Town shall operate and act as an independent contractor of the County, and the County is in no way responsible for the administration and supervision of the officers, employees, subcontractors, and agents of the Town, which persons it is agreed are not the officers, employees, subcontractors, and agents of the County.

SECTION 13. TERM OF AGREEMENT

This agreement shall become effective as of July 1, 2023, and shall automatically renew from fiscal year to fiscal year unless terminated by either party in accordance with Section 15 of this Agreement or replaced with a new contract in the future.

SECTION 14. NON-ASSIGNABILITY

This Agreement may not be transferred, assigned, or subcontracted by the Town without the prior written consent of the County.

SECTION 15. TERMINATION

This Agreement may be terminated in the following manner:

(a) By either party for breach that has not been cured within thirty (30) days after written notice of the breach;
(b) At any time by mutual consent; and
(c) By either party without cause upon advance written notice to the other party, served upon the other party by certified mail at least ninety (90) days prior to the date of termination. Failure of the Town and the County to agree on the level of funding (or the Town Budget) for fire protection and emergency services

shall require at least ninety (90) days' notice to terminate if the County provides at least the same level of funding as provided during the previous fiscal year.

SECTION 16. AMENDMENTS

Any amendment to this Agreement shall be made in writing and signed by both parties in order to be effective.

SECTION 17. NOTICES

Any notice, consent or other communication required or contemplated by this Agreement shall be in writing, and shall be delivered in person, by U.S. mail, by overnight courier, by electronic mail or by telefax as follows:

To the County: See **CONTRACT SUMMARY B2a.**

To Town: See **CONTACT SUMMARY B1a.**

Notice shall be effective upon the date of receipt by the intended recipient; provided that any notice, which is sent by telefax or electronic mail, shall also be simultaneously sent by mail deposited with the U.S. Postal Service or by overnight courier. Each party may change its address for notification purposes by giving the other party written notice of the new address and the date upon which it shall become effective as noted below:

A. Area to be served in Mecklenburg County is as identified on the attached Map (see Attachment A).

B. Agreement Identification:

1. Town
   a. Name of Agreement Administrator: Anthony Roberts
   b. Telephone Number: 704-875-6541
   c. E-mail: aroberts@huntersville.org
   d. Fax:
   e. Name of Program Contact: Same as above
   f. Telephone Number:
   g. E-mail: Fax:
   h. Name, Location, and Mailing Address: PO Box 664, Huntersville, NC 28070
      Same as above.
   i. Status: ☒ MUNCIPALITY
   j. Federal Tax Identification Number: 56-6001252

2. County
   a. Name of Agreement Analyst: Brian Lowman
   b. Telephone Number: 980-314-2418
   c. E-mail: Brian.Lowman@MecklenburgCountyNC.gov
   d. Fax:
   e. Name of Program Manager: Stephanie Prioleau
   f. Telephone Number: 980-314-3025
   g. E-mail: Stephanie.Prioleau@MecklenburgCountyNC.gov
   h. Fax:
   i. Address of Department: 2145 Suttle Avenue Charlotte, NC 28208

SECTION 18. MISCELLANEOUS MATTERS

A. Pursuant to NCGS §143-133.3 and NCGS § 64-26(a), any "employer" that transacts business in North Carolina and employs 25 or more employees in this State entering into a contract with Mecklenburg County is required to verify the work eligibility status of all newly hired employees through the E-Verify program.

B. **IRAN DIVESTMENT ACT PROHIBITION**. Each party of this agreement represents to the other party that as of the date of this Contract or purchase order, that they are not currently listed on the Final Divestment List created and maintained by the North Carolina State Treasurer pursuant to G.S.143-6A-4. Further, pursuant to G.S. 143C-6A-5(b), Town further agrees to notify the County Procurement Department if at any time during the term of this agreement, it is added to the "List." The Divestment List may be found on the State Treasurer's website at www.nctreasurer.com/Iran.

C. **E-VERIFY, FMLA, ADA, OSHA.** Both parties agree to make themselves aware of and comply with, and cause their subcontractors to comply with all federal, state, and local laws, regulations and ordinances relating to the performance of this Agreement or to the Services delivered hereunder, including without limitation, E-Verify (Article 2 of Chapter 64 of the North Carolina General Statutes), Workers' Compensation, the Fair Labor Standards Act (FLSA) the Americans with Disabilities Act (ADA), the Family and Medical Leave Act (FMLA) and Occupational Safety And Health Administration (OSHA). The Town further agrees to obtain all verifications, permits and licenses applicable to the performance of this Agreement. If any violation of this section has occurred or does occur, the violating party will indemnify and hold harmless the non-violating party from all losses, damages, costs, expenses (including reasonable attorneys' fees), obligations, duties, fines, penalties, interest charges and other liabilities (including settlement amounts) incurred on account of such violation.

D. **COMPANIES THAT BOYCOTT ISRAEL LIST.** With the execution hereof, the parties to this agreement certify to each other that they are not one of the companies that Boycott Israel List created by N.C State Treasurers pursuant to N.C.G.S § 147-86.80 and will not contract with anyone on such list in performance of the work hereunder.

E. **Contractor Certifications Required by North Carolina Law.** The person who signs this document should read the text of the statutes listed below and consult with counsel and other knowledgeable persons before signing.

- The text of Article 2 of Chapter 64 of the North Carolina General Statutes can be found online at: http://www.ncga.state.nc.us/EnactedLegislation/Statutes/PDF/ByArticle/Chapter_64/Article_2.pdf

- The text of G.S. 105-164.8(b) can be found online at: http://www.ncga.state.nc.us/EnactedLegislation/Statutes/PDF/BySection/Chapter_105/GS_105-164.8.pdf

- The text of G.S. 143-48.5 (S.L. 2013-418, s. 2.(d)) can be found online at: http://www.ncga.state.nc.us/Sessions/2013/Bills/House/PDF/H786v6.pdf

- The text of G.S. 143-59.1 can be found online at: http://www.ncga.state.nc.us/EnactedLegislation/Statutes/PDF/BySection/Chapter_143/GS_143-59.1.pdf

- The text of G.S. 143-59.2 can be found online at: http://www.ncga.state.nc.us/EnactedLegislation/Statutes/PDF/BySection/Chapter_143/GS_143-59.2.pdf

- The text of G.S. 147-33.95(g) (S.L. 2013-418, s. 2.(e)) can be found online at: http://www.ncga.state.nc.us/Sessions/2013/Bills/House/PDF/H786v6.pdf

Certifications

1. **Pursuant to G.S. 143-48.5 and G.S. 147-33.95(g)**, the undersigned hereby certifies that the Contractor named below, and the Contractor's subcontractors, complies with the requirements of Article 2 of Chapter 64 of the NC General Statutes, including the requirement for each employer with more than 25 employees in North Carolina to verify the work authorization of its employees through the federal E-Verify system." E-Verify System Link: www.uscis.gov

2. **Pursuant to G.S. 143-59.1(b)**, the undersigned hereby certifies that the Contractor named below is not an "ineligible Contractor" as set forth in G.S. 143-59.1(a) because:

    a. Neither the Contractor nor any of its affiliates has refused to collect the use tax levied under Article 5 of Chapter 105 of the General Statutes on its sales delivered to North Carolina when the sales met one or more of the conditions of G.S. 105-164.8(b); **and**

    b. [check **one** of the following boxes]

    ☐ Neither the Contractor nor any of its affiliates has incorporated or reincorporated in a "tax haven country" as set forth in G.S. 143-59.1(c)(2) after December 31, 2001; **or**

    ☐ The Contractor or one of its affiliates **has** incorporated or reincorporated in a "tax haven country" as set forth in G.S. 143-59.1(c)(2) after December 31, 2001 **but** the United States is not the principal market for the public trading of the stock of the corporation incorporated in the tax haven country.

3. **Pursuant to G.S. 143-59.2(b)**, the undersigned hereby certifies that none of the Contractor's officers, directors, or owners (if the Contractor is an unincorporated business entity) has been convicted of any violation of Chapter 78A of the General Statutes or the Securities Act of 1933 or the Securities Exchange Act of 1934 within 10 years immediately prior to the date of the bid solicitation.

4. The undersigned hereby certifies further that:

    a. He or she is a duly authorized representative of the Contractor named below;

    b. He or she is authorized to make, and does hereby make, the foregoing certifications on behalf of the Contractor; and

    c. He or she understands that any person who knowingly submits a false certification in response to the requirements of G.S. 143-59.1and -59.2 shall be guilty of a Class I felony.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed in their names by their duly authorized officers as of the day and year first above written.

TOWN OF HUNTERSVILLE

BY: _____
Mayor or Town Manager

Attest:

BY: _____
Town Clerk

Approved as to Form

_____
Town Attorney

RESOLUTION APPROVING INTERLOCAL COOPERATION AGREEMENT FOR FIRE PROTECTION SERVICES

WHEREAS, North Carolina General Statute §160A-461 authorizes units of local government to enter into agreements with each other in order to execute an undertaking by one unit of local government on behalf of another unit of local government; and

WHEREAS, the Town of Huntersville ("Town") and Mecklenburg County ("County") have previously entered into interlocal agreements for the provision of fire protection services to unincorporated areas within the Town's sphere of influence, and

WHEREAS, the Town of Huntersville and Mecklenburg County wish to renew the Interlocal Agreement according to the terms set forth therein.

NOW, THEREFORE, BE IT AND IT IS HEREBY RESOLVED AS FOLLOWS:

1. The Town of Huntersville Board of Commissioners hereby approves the Interlocal Agreement, attached hereto as Exhibit "A" and incorporated herein by reference.

2. The Mayor of the Board of Commissioners, the Town Manager, and the Clerk to the Board are hereby authorized to sign all necessary documents on behalf of the Town in order to effectuate this transaction.

3. This Resolution shall be reflected in the minutes of the Town of Huntersville Board of Commissioners.

4. This resolution shall become effective upon adoption.

Adopted this 17th day of July, 2023.

ATTEST:

_____ _____

Janet Pierson, Town Clerk Melinda Bales, Mayor

APPROVED AS TO FORM:

_____

Emily Sloop, Town Attorney

EXHIBIT “A”
(Interlocal Agreement)

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Stephen Trott, Director of Engineering

Date: July 17, 2023

Subject: Resolution to Acquire Property for 7225 Bud Henderson Sidewalk Project

---

EXPLAIN REQUEST:
Resolution to Acquire Property for maintenance of the 7225 Bud Henderson Sidewalk Project.

ACTION RECOMMENDED:
Approval

FINANCIAL IMPLICATIONS:
General Fund

ATTACHMENTS:
1. R-2023-37 Resolution - 7225 Bud Henderson - 7.7.23

RESOLUTION OF THE TOWN OF HUNTERSVILLE BOARD OF COMMISSIONERS TO ACQUIRE EASEMENTS NECESSARY FOR THE MAINTENANCE OF THE 7225 BUD HENDERSON RD SIDEWALK PROJECT

WHEREAS, the Town of Huntersville (the "Town") has determined that the acquisition of fee title right of way, and/or easements is necessary to the maintenance of the 7225 Bud Henderson Sidewalk Project; and

WHEREAS, the Town finds that such title, rights-of-way, and easements, including existing public rights-of-way and easements, are for a public use and necessary for the maintenance of the 7225 Bud Henderson Sidewalk Project; and

WHEREAS, the statutory powers of the Town include the power to acquire real property (N.C.G.S. §160A-11 and §160A-240.1), including the power of eminent domain (N.C.G.S. Chapter 40); and

WHEREAS, the Town's proposed property acquisition process for the 7225 Bud Henderson Sidewalk Project will comply with applicable federal and state requirements; and

WHEREAS, the Town has certified that the parcel ("the Property"), represented on Exhibit A, is needed for the 7225 Bud Henderson Sidewalk Project maintenance.

NOW THEREFORE, BE IT *RESOLVED* BY THE TOWN OF HUNTERSVILLE BOARD OF COMMISSIONERS (the "Town Board") AS FOLLOWS:

1. The Town Board approves and authorizes the acquisition of the necessary fee title, rights-of-way, and/or easements affecting the parcels described on Exhibit A at a price not to exceed that determined by the appraisals described in the Proposal for Real Estate Acquisition Services by a Professional Property Acquisition Firm and permitted Administrative Adjustments for Right-of-Way Acquisition. No further action is required by this Board to authorize the acquisition.
2. In the event any of the parcels or interest in Exhibit A cannot be acquired by negotiations at the price authorized above, the Town Manager, through counsel, may institute and pursue acquisition by the process of Eminent Domain according to the procedures contained in Chapter 40A, including but not limited to, giving notice of intent to the property owner, executing and filing a complaint and declaration of taking and depositing the necessary appraised value amount with the Clerk of Superior Court of Mecklenburg County. Any action pursuant to this subsection requires approval by the Town Board.

3. The Town Board hereby authorized the Town Manager, acting on advice of counsel, to take any actions necessary to carry out the provisions of this Resolution; and
4. This Resolution shall be effective as of the date its adoption.

Adopted this 17th day of July 2023.

ATTEST:

_____
Town Clerk

TOWN OF HUNTERSVILLE

_____
Town Mayor

APPROVED AS TO FORM:

_____
Town Attorney

EXHIBIT A - PARCEL INDEX
7225 Bud Henderson Sidewalk Project

PARCEL #	PARCEL ID #	PROPERTY OWNER NAME
1	015-021-18	Abigail M Jennings and Randolph M Lewis

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Kevin Fox, Director of Public Works

Date: July 17, 2023

Subject: Accept Streets Located in Mirabella at Vermillion for Town Maintenance

---

EXPLAIN REQUEST:
It is recommended that the Town of Huntersville accept the streets listed below for maintenance, which are located in the Mirabella at Vermillion Subdivision.

Street Name	From	To	Approx. Length
Vermillion Crossing Court	200-ft W of Guthire Dr	End of Road	1360
Venezia Lane	Vermillion Crossing Court	End of Road	1520
Rosa Court	Venezia Lane	Venezia Lane	310

ACTION RECOMMENDED:
Accept streets for Town Maintenance

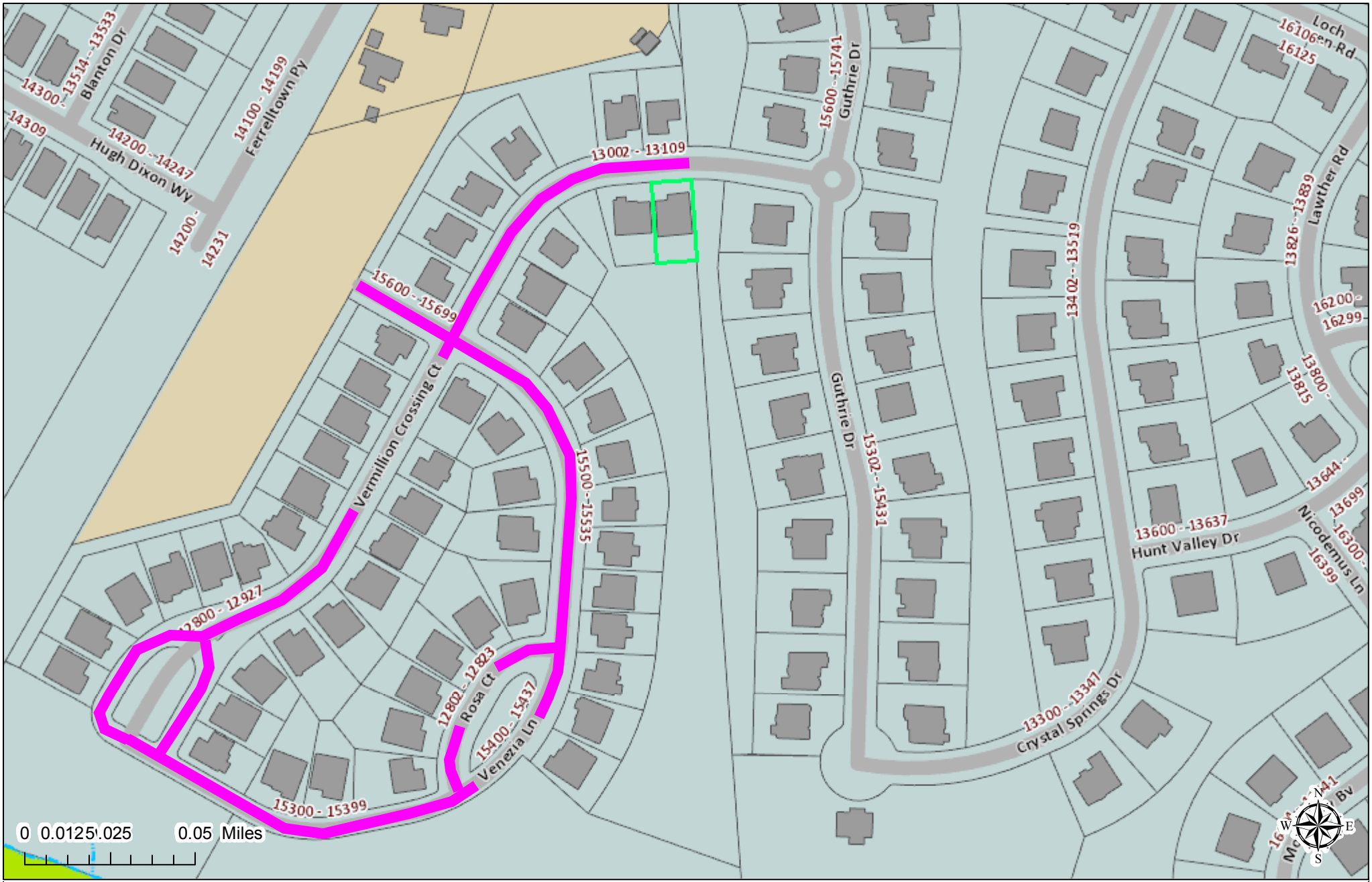
FINANCIAL IMPLICATIONS:
Powell Bill

ATTACHMENTS:
1. Mirabella at Vermillion - Map

Polaris 3G Map – Mecklenburg County, North Carolina

Vermillion at Mirabella Phase 2 Map 3 & 4

Date Printed: 6/23/2023 9:35:15 AM



This map or report is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, planimetric maps, and other public records and data. Users of this map or report are hereby notified that the aforementioned public primary information sources should be consulted for verification. Mecklenburg County and its mapping contractors assume no legal responsibility for the information contained herein.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Kevin Fox, Director of Public Works

Date: July 17, 2023

Subject: Accept Streets Located in Asbury Park for Town Maintenance

---

EXPLAIN REQUEST:
It is recommended that the Town of Huntersville accept the streets listed below for maintenance, which are located in the Asbury Park Subdivision.

Street Name	From	To	Approx. Length
Little Pine Drive	Asbury Park Road	Ferrelltown Pkwy	900
Cato Drive	Blanton Drive	Asbury Park Road	625
Hugh Dixon Way	Ferrelltown Pkwy	End of Road	1070
Blanton Drive	Hugh Dixon Way	End of Road	1730
Asbury Park Road	Blanton Drive	Hugh Dixon Way	1705

ACTION RECOMMENDED:
Accept streets for Town Maintenance

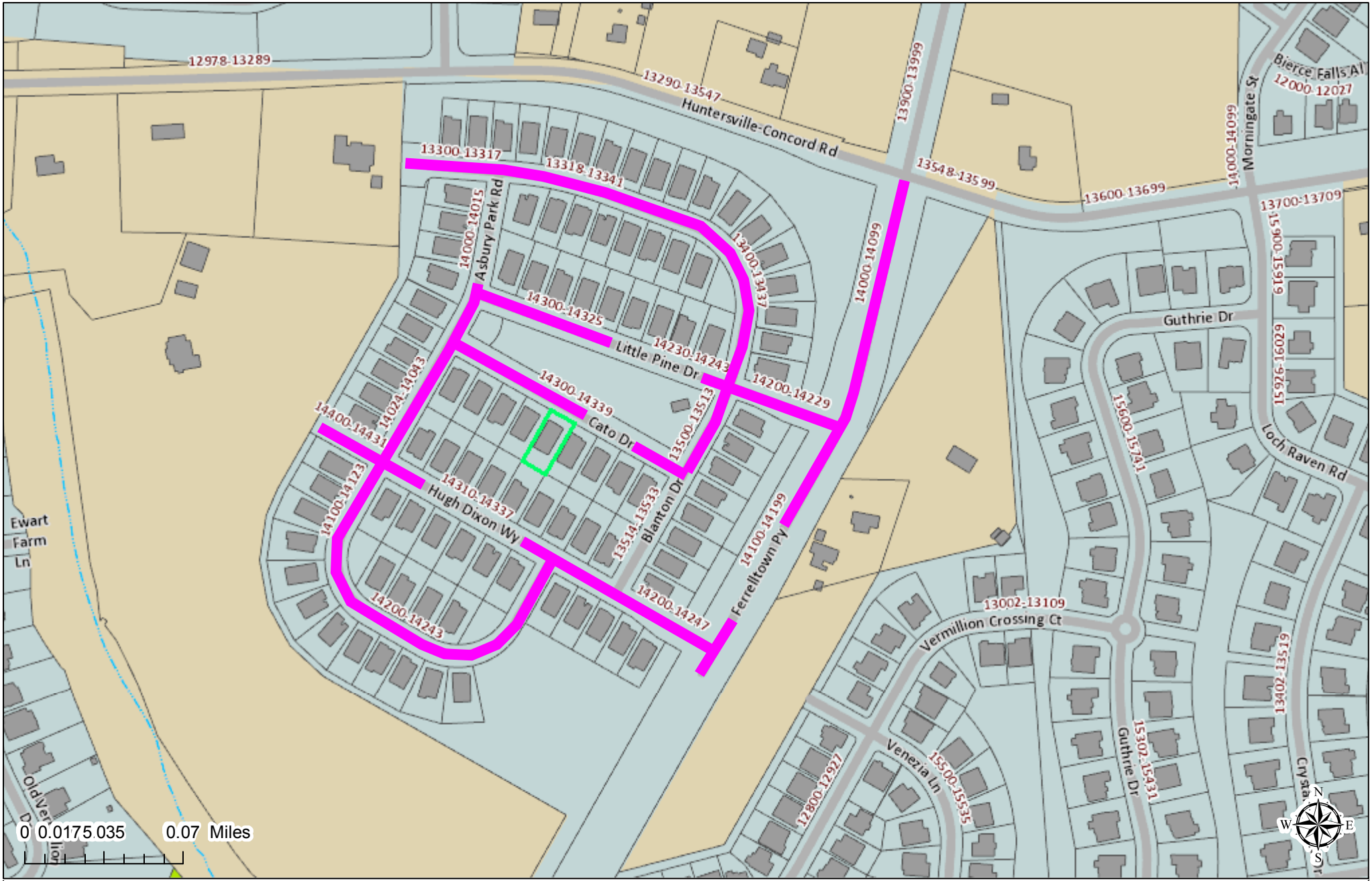
FINANCIAL IMPLICATIONS:
Powell Bill

ATTACHMENTS:
1. Asbury Park (Cato) - Map

Polaris 3G Map – Mecklenburg County, North Carolina

Asbury Park (Cato)

Date Printed: 6/27/2023 3:56:05 PM



This map or report is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, planimetric maps, and other public records and data. Users of this map or report are hereby notified that the aforementioned public primary information sources should be consulted for verification. Mecklenburg County and its mapping contractors assume no legal responsibility for the information contained herein.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Nathan Farber, Planner I

Date: July 17, 2023

Subject: Call for Public Hearing; Petition #R23-06 Beatties Ford Family Entertainment by Jonathan Eury

---

EXPLAIN REQUEST:
Call a public hearing for Monday, August 7, 2023, at 6:00 p.m. at Huntersville Town Hall, 101 Huntersville-Concord Road, Huntersville, NC 28078, on Petition #R23-06 Beatties Ford Family Entertainment, a request by Jonathan Eury, to rezone three parcels (02305105, 02305106, 02305107) totaling 2.513 acres generally located at 9339 Beatties Ford Rd from existing Rural to Highway Commercial - Conditional District for outdoor recreation and commercial uses.

ACTION RECOMMENDED:
Call a public hearing

FINANCIAL IMPLICATIONS:
N/A

ATTACHMENTS:
None

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: David Peete, Principal Planner

Date: July 17, 2023

Subject: Public Hearing on Petition #R23-01 Foundry Commerical - Everette Keith Road

---

EXPLAIN REQUEST:
Conduct public hearing on Petition #R23-01, Foundry - Everette Keith Road, a request by Foundry Commercial, LLC to rezone +/- 59.66-acres generally located east of Everette Keith Road and south of Hambight Road from existing Transitional Residential (TR) to Corporate Business - Conditional District (CB-CD) for approximately 750,000 square feet of light industrial space.

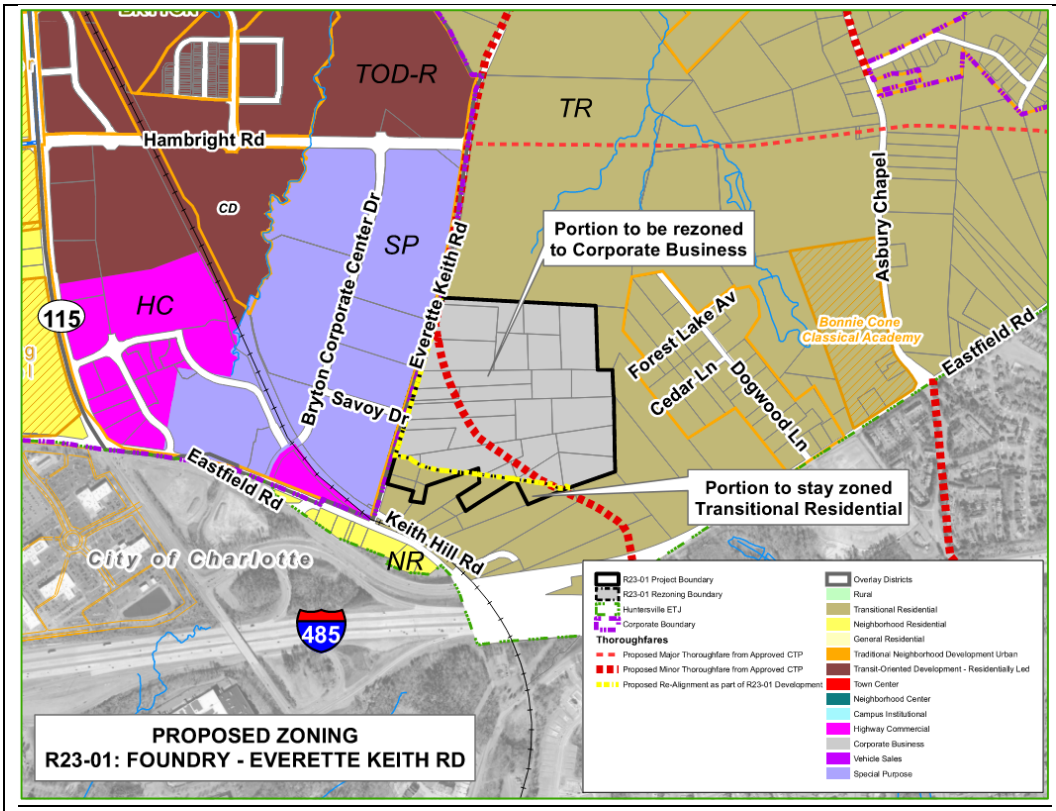
ACTION RECOMMENDED:
Conduct Public Hearing

FINANCIAL IMPLICATIONS:
N/A

ATTACHMENTS:
1. R23-01 Public Hearing Staff Report (7-17-23)
2. Attachment A - General Application
3. Attachment B - Foundry - Everette Keith Road CD Rezoning Plan
4. Attachment C - Community Meeting Report (5-24-23)

Petition R23-01
Foundry – Everette Keith Road Conditional District

PART 1: PROJECT SUMMARY



TR – Transitional Residential
SP – Special Purpose
HC – Highway Commercial
NR – Neighborhood Residential
TOD-R – Transit-Oriented Development - Residential

Applicant: Foundry Commercial, LLC.

Property Owner: Various (see Attachment A).

Property Address: 11226 Everette Keith Road

Project Size: (+/-) 63.91-acres (**ONLY 59.66 -acres to be rezoned**)

Parcel Number(s):

01915102, 01915103, 01915104, 01915107, 01915121, 01915122, 01915123, 01915124, 01915125, 01915126, 01915127, 01915131, 01915132, 01915134, 01915136, 01915137, 01915138, 01915142, 01915143, 01915144, 01915145, 01915146, portion of 01915105, 01915133 & 01915117.

Current Zoning: Transitional Residential (TR).

Current Land Use: Large-lot, Single-Family Homes & vacant.

Proposed Zoning: Corporate Business —Conditional District (CB-CD).

Proposed Land Use: 750,000 sq. ft. (max.) of manufacturing, warehouse & office.

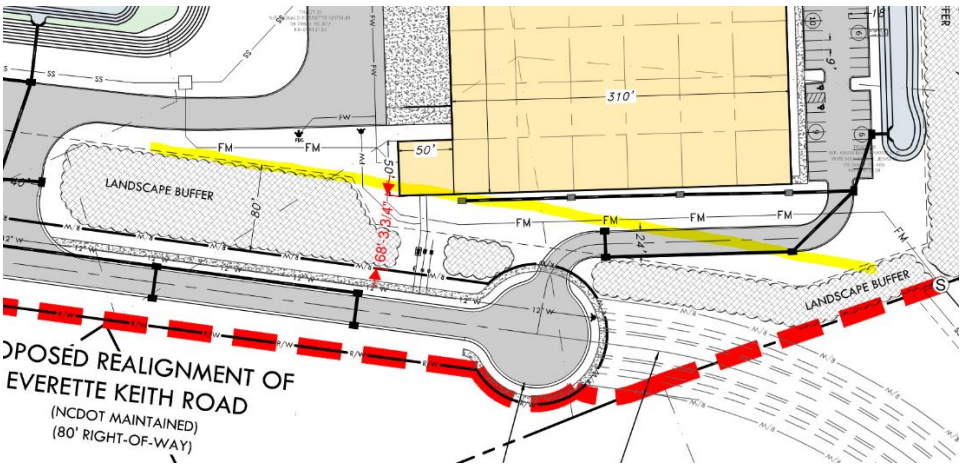
1. Purpose: Of the 64-acres within the project boundary, only 59.66-acres are proposed to be rezoned from Transitional Residential (TR) to Corporate Business - Conditional District (CB-CD), the remaining acreage is to stay Transitional Residential (TR) (see map above). The proposed rezoning is to build 750,000 square feet of light manufacturing, warehouse and office space in 2 – 3 buildings located east of Everette Keith Road and south of Hambright Road. If the proposed rezoning is approved, a Subdivision Sketch Plan will be reviewed by staff for compliance. [*NOTE: This petition was submitted in December of 2022 and was on track for an April public hearing, however, CRTPO review was required for the proposed thoroughfare re-alignment, therefore the timeline was extended. The original alignment is shown in red on the above map. The proposed alignment is shown in yellow.]*

2. Adjoining Zoning and Land Uses.
   North: *Transitional Residential (TR) – vacant.*
   South: *Transitional Residential (TR) – large-lot, single-family homes & vacant.*
   East: *Transitional Residential (TR) – electrical substation, large-lot, single-family homes and vacant.*
   West: *Special Purpose (SP) – Light manufacturing (Bryton).*
3. One Community Meeting was held on Wednesday, May 24, 2023, at the Huntersville Recreation Center on Verhoeff Drive. A Summary of the meeting is included in Attachment C.
4. Notice for this rezoning petition was given via postcards sent to adjoining property owners; a legal ad placed in the Charlotte Observer; and posting of rezoning signs on the property in two (2) locations.

PART 2: REZONING/SITE PLAN ISSUES

This proposed Foundry – Everette Keith Conditional District Rezoning is generally compliant with the Zoning Ordinance and Subdivision Regulations, with significant elements as follows:

- Principal use to be 750,000 square feet of light manufacturing/warehouse/office space.
- The re-alignment and construction of (a portion) of Everette Keith Road (per TIA and NCDOT requirements).
- The proposed buildings and associated parking will be located behind a 40 - 80 ft. wide landscaped buffer parallel to Everette Keith Road.
- The addition of two (2) Urban Open Spaces (plaza & nature trail) on site. The plaza space shown is not located to serve the entire development. Additional recommended spaces are recommended. The nature trail appears to be located within a stream buffer. Will this trail be constructed in an approvable manner (i.e. boardwalks, etc.)?
- The landscape buffer along Everette Keith Road nearest the cul-de-sac is not consistent across the frontage of the property and must be revised (see yellow line below).



The applicant requests the following nine (9) modifications to Ordinance requirements (see CD Rezoning Plan Sheet RZ 4.0. Per highlights below, five out of the nine modifications are not needed.

a) "Change from Article 7.5.3., which requires an 80-foot-wide buffer, to allow a 40-foot buffer along the northern and eastern boundaries of the property, as shown on the plan. An alternative buffer yard plan that includes a planted landscaped berm shall be provided for the northern and eastern buffers."
STAFF COMMENT: The request to reduce the buffer along the eastern boundary can be supported, as the 40 feet, in conjunction with the adjacent property owned by Duke Energy will create a substantial transition area. The request to reduce the buffer along the northern boundary is **not** supported, as there is development potential on the adjacent parcel and it is zoned TR, which is residential. An appropriate buffer is needed in this location.

b) "Change from Article 7.5.8., which requires all buffer yards to remain undisturbed with certain exceptions. Grading shall be allowed in the buffer yards as shown on the Rezoning Plan."
STAFF COMMENT: Staff can support this modification, as the site is generally clear of trees. Particularly along Everette Keith Road, there is not adequate buffer vegetation. This area is best served by installing new vegetation. There are some areas of trees along the north and east side and those areas should be reviewed for opportunities to save some existing, but the remainder may be re-planted.

c) "Modification that permits Applicant to ~~decrease or~~ increase the number of buildings to three buildings so long as (i) the building or buildings meet the applicable requirements of the Ordinance, (ii) the amount of impervious coverage and the extent of encroachments into property setbacks and buffers, although not in the specific location shown on the Rezoning Plan, are consistent with the amount of impervious coverage and the encroachment area shown on the Rezoning Plan, and (iii) the square footage does not exceed the footage in the TIA."
STAFF COMMENT: No modification needed. This can be a condition on the rezoning plan.

d) "Change that allows Planning Staff to approve a multi-building subdivision sketch and site plan in accordance with sub-paragraph c, hereof."
STAFF COMMENT: Staff has authority to approve subdivisions, this modification is not needed.

e) "Everette Keith Road shall be generally realigned as shown on the Rezoning Plan. Minor changes to the realignment and minor block length variations from the Ordinance may be approved administratively pursuant the TIA and Town and NCDOT approval."
STAFF COMMENT: This modification is not needed. The Charlotte Regional Transportation Planning Organization (CRTPO) has policies governing revisions to the thoroughfare plan. This rezoning plan proposes to "enter and exit" the impacted properties, as currently shown on the adopted thoroughfare plan. The only change is the route the thoroughfare takes through the new development from entry to exit points. If the Town rezones the development and adopts this alignment as part of the rezoning plan, CRTPO will update their thoroughfare plans accordingly.

f) "No stub street connections are required along the boundaries of the property, except as shown on the Rezoning Plan, due to incompatible uses of adjacent property."
STAFF COMMENT: Staff and the applicant are continuing to discuss connectivity options.

g) "To the extent required, block length waivers are permitted as shown in the block chart and on the Rezoning Plan."
STAFF COMMENT: The measurement used for Everette Keith Road's block length does not appear to be correct – Staff and the Applicant continue to work on this item.

h) "The portion of Everette Keith Road beyond the southwest boundary line of the property is not required to be completed as a part of the project."
STAFF COMMENT: This modification is not needed. The referenced portion of Everette Keith Road is not within the project or rezoning boundaries and is not needed to provide access.

i) "Final recorded easements for utility connections over adjacent property may be recorded at any time prior to construction plan approval."
STAFF COMMENT: This modification is not needed. Easements may be recorded at anytime – subject to easement plat requirements.

PART 3: TRANSPORTATION ISSUES

A TIA for the development was submitted on June 7, 2023, with comments to the applicant provided on June 29, 2023. The TIA is acceptable as submitted. The following improvements are recommended in the TIA as the responsibility of the developer (also see diagram below):

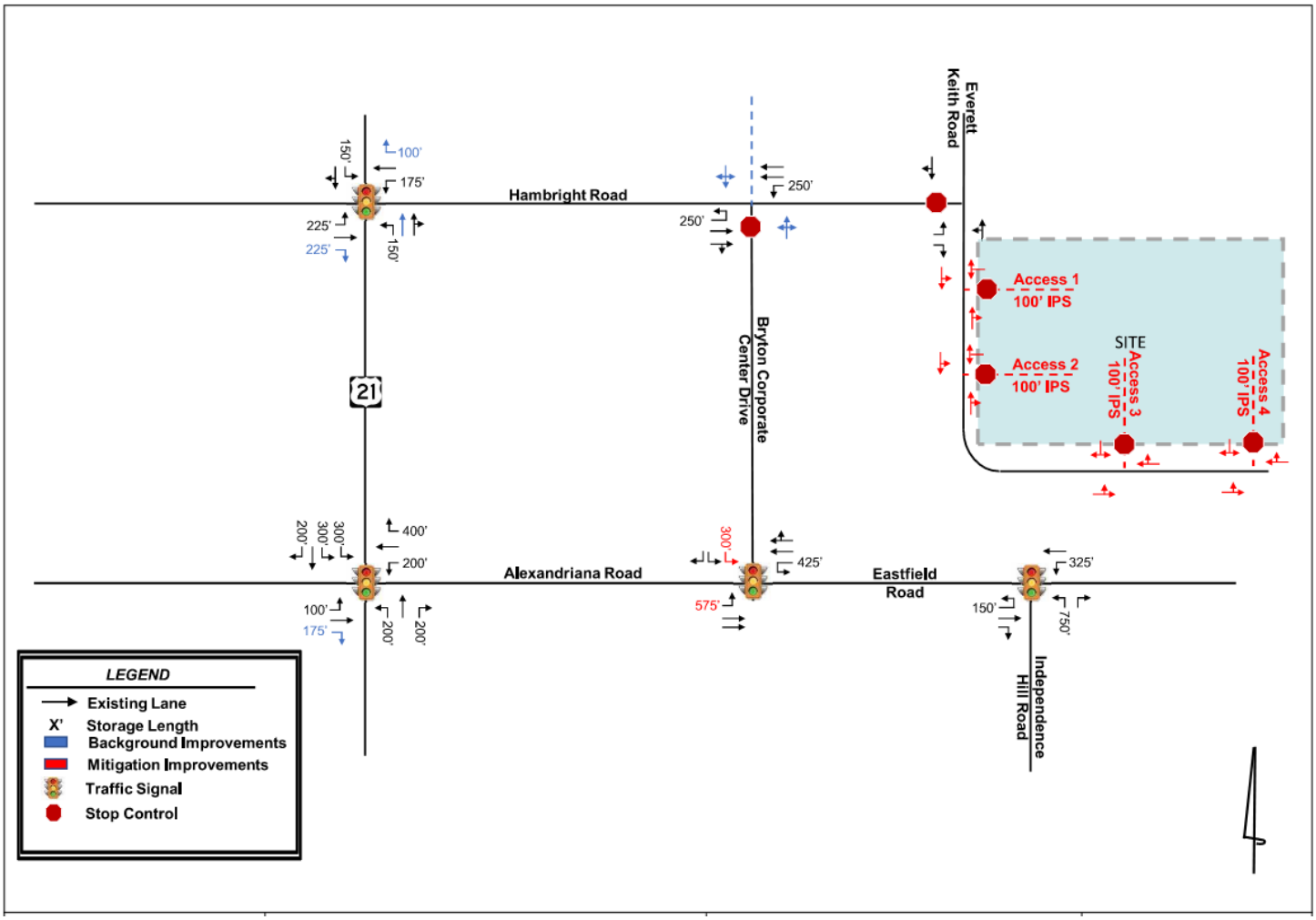
- Eastfield Road at Bryton Corporate Center Drive
  - Construct a second southbound left-turn lane on Bryton Corporate Center Drive with 300 feet of storage. The southbound, Bryton Corporate Center Drive approach would then have a dedicated right-turn lane and dual left-turn lanes with 300 feet of storage.
  - Construct an eastbound left-turn lane extension on Eastfield Road where storage would be extended to 575 feet.

- Everette Keith Road at Site Access 1, 2, 3, and 4
  - Site Accesses 1, 2, 3, and 4 to each have an internal protected stem of 100 feet.

The TIA assumes that the following road improvements will be constructed by other private development when this development is constructed. The timing of those improvements is not guaranteed, as they are not publicly funded projects. It is recommended that these improvements then become the responsibility of this development if they are not completed before construction of this development.

The assumed improvements include:
Statesville Road (US21) at Hambright Road
- Construct a second northbound through lane on Statesville Road with adequate receiving lane.
- Construct a westbound right-turn lane on Hambright Road with 100 feet of storage.
- Construct an eastbound right-turn lane on Hambright Road with 225 feet of storage.

Additional transportation comments:
- Roundabout to be designed to accommodate WB-67 design vehicle.
- 100 ft. internal protected stem lengths not provided at 2 of the 3 site driveways (site layout will need to be altered to provide required stem length).
- Future alignment shown on Sheet RZ3.1 does not properly align with existing intersection and Independence Hill Rd. This future alignment must be shown with appropriate radius and alignment per NCDOT design standards to ensure the connection to the proposed Everette Keith Rd realignment (to be built by developer) is feasible.



PART 4: REZONING CRITERIA

Article 11.4.7(d) of the Zoning Ordinance states that "in considering any petition to reclassify property, the Planning Board in its recommendation and the Town Board in its decision shall take into consideration any identified relevant adopted land-use plans for the area including, but not limited to, comprehensive plans, strategic plans, district plans, area plans, neighborhood plans, corridor plans, and other land-use policy documents".

The 2040 Huntersville Community Plan **could support** this project through the following sections:

- **Policy LU-5: Focus more intense development in locations that can support growth.**
  - LU 5.1: Allow more intense development only where transportation infrastructure and utilities already exist.
  - LU 5.2: Continue to require a Traffic Impact Analysis for developments that exceed a traffic generation threshold to promote development concurrent with transportation improvements town-wide.

  STAFF COMMENT: A traffic impact analysis (TIA) was required and it is summarized in Part 3 of this report. This development is located in close proximity to both Interstate 77 and Interstate 485. Those major corridors, as well as the other major thoroughfares nearby provide varied access to the site. It should be noted that Everette Keith Road will not connect to Eastfield Road, which would provide greater access and distribution of trips to and from the site.

- **Policy LU-7: Require new development to follow design principles that reinforce the vision for the Town as expressed in this plan and other adopted plans.** The town has committed to traditional town planning and urban design principles that are meant to preserve the character of the town. This commitment is noted in adopted plans and the zoning ordinance, and has been expressed in new development over the last 25 years.
    - LU 7.1: Require all new development to adhere to the following design principles:
        - In defined Employment Centers some flexibility in the form-based design principles is allowed, including:
            - Expanded options for frontages including buildings fronting the street or buffered from major or minor thoroughfares.
            - Exceptions to building frontage requirements and public street requirements may be allowable for internal streets in an industrial park or near interstates

  STAFF COMMENT: If the Town Board determines to extend the employment center, the proposed site plan will meet all building frontage requirements.

- **Policy EV-1: Support a balanced economy through job growth in target industry sectors.**
    - EV 1.2: Focus economic development in areas that support growth.

  • Preserve areas suitable for business and industrial development, along with a mixture of support uses, to ensure an adequate inventory of land for future growth and development, with increases to this inventory as required. These areas should have proximity to existing or future activity centers, have access to transportation options and utility service, and offer amenities for employees.

  STAFF COMMENT: This site, located to the east of Bryton, is located adjacent to a mix of uses (light manufacturing, retail, restaurants and various residential) and provides walkable access to these uses. The transportation network was previously mentioned and there are recreational amenities nearby, as well. It should be noted that the Town currently has a commercial and industrial tax base that makes up approximately 22% of total property taxes. The 2040 Community Plan indicates that "the Town is actively recruiting businesses to broaden and diversify the tax base" (2040 Community Plan, page 71).

- **Policy T-3: Improve connectivity throughout the study area.**
    - T 3.1: Continue to enhance street connectivity by requiring connections among different uses.

      • Continue to require street connectivity among residential, commercial, employment, recreational and institutional uses.

      • Street connectivity should be emphasized during the review of all development proposals for consistency with the proposed street map and the Zoning Ordinance.

      • Context-sensitive street design should be applied

  STAFF COMMENT: The extension of Everette Keith Road will provide enhanced transportation access and provide a multi-modal, 10 ft. side path to provide bicycle and pedestrian access, as well. The project does not provide public street stubs to the north and east. There is a proposed public access easement to connect Forest Lake Avenue to the new section of Everette Keith Road, however, access easements have not been used for this type of connectivity before. This is not recommended. Staff and the Applicant continue to discuss this item.

- **Policy T-5: Facilitate multimodal transportation.**
    - T 5.1: Design street improvements with considerations for the surrounding context and various users.

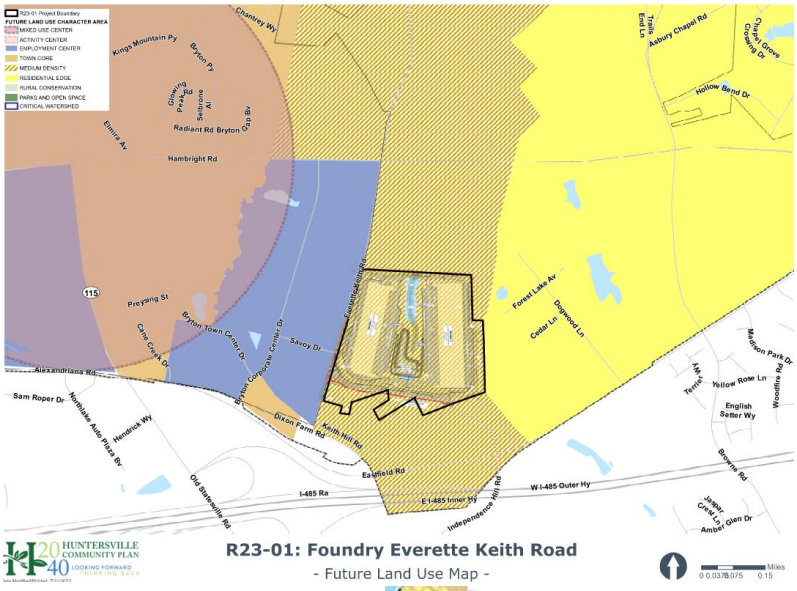
  STAFF COMMENT: No new streets within the development are proposed except for the extension of Everette Keith Road – which will have a 10 ft. wide side path on the east side to provide pedestrian and bicycle accommodation.

The 2040 Huntersville Community Plan **does not support** this project through the following sections:

- **Policy LU-1: Encourage a development pattern that follows the Future Land Use Map.**

- LU 1.1: Utilize the Future Land Use Map during development approval process to ensure compatibility with long-range plans.

STAFF COMMENT: The Town of Huntersville 2040 Community Plan (see Future Land Use Map, below) calls for this area to be "moderate density", which is meant to accommodate a mix of conventional residential subdivisions with larger lots and traditional neighborhood development with a mix of lots sizes…". Therefore, this request is not consistent with the 2040 Community Plan. However, across Everette Keith Road to the west is an Employment Center area (zoned Special Purpose (SP)) that is part of the Bryton Mixed-Use Center. If the Town viewed expansion of the Employment Center as appropriate in this location (i.e. to the Duke Energy properties, as a limiter), the Corporate Business zone could be consistent. It should be noted that while the overall square footage will more than likely be utilized by numerous users, the mix of uses will be limited to light industrial, warehouse and office, which is not the mix encouraged by the 2040 Community Plan. This area was also addressed in the Eastfield Road Small Area Plan (SAP), which is discussed later in this section.



Employment Center

Employment centers contain a mix of uses including office, industrial, and institutional. Modern employment campuses and cutting -edge employers are now incorporating some retail and residential to create a live, work, and play environment. These areas offer workspace where innovation can grow while meeting employee lifestyle needs.

Moderate Density

This area is meant to accommodate a mix of conventional residential subdivisions with larger lots and traditional neighborhood development with a mix of lot sizes, including smaller unit types and occasional attached housing. Average gross density is generally 1-3 units per acre. It may have some smaller-scale commercial or nonresidential activity at key intersections. Exact density of future development should vary based on context and site constraints including potential conflicts with adjacent development, access, and the presence of natural and/or cultural resources.

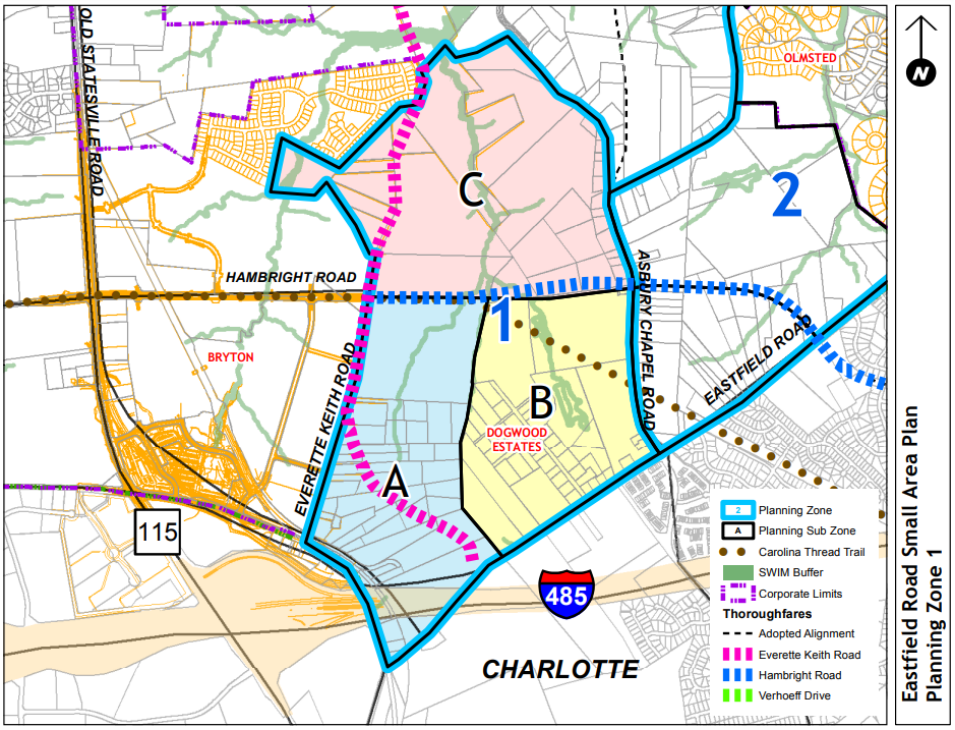
- **Policy LU-11: Protect Existing Housing Stock.**
  - LU 11.2: Along existing streets, encourage new buildings to respect the general spacing of structures, building mass and scale, and street frontage relationships of existing buildings.

STAFF COMMENT: The proposed buildings are out of scale with the homes south of Everette Keith Road. The project does propose establishing a visual buffer along the north side of Everette Keith Road. Approval of this rezoning may encourage changes in land use south of Everette Keith Road.

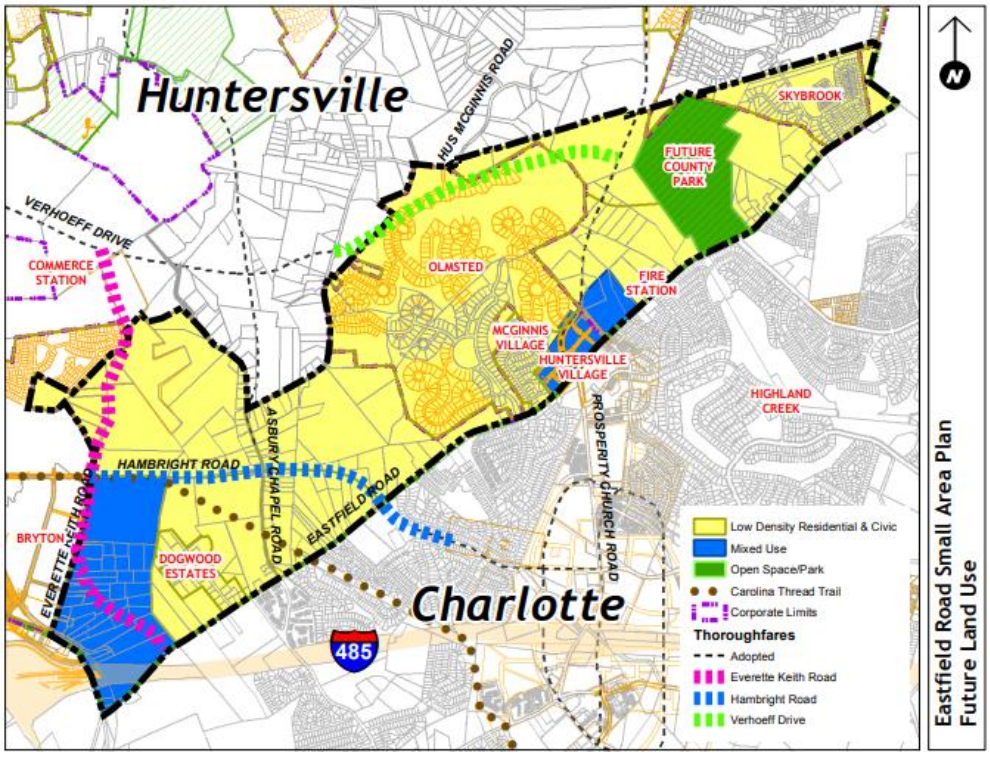
The Eastfield Road Small Area Plan (SAP) (adopted 2014) addresses this request as follows:

The proposed Foundry – Everett Keith Road development is located in "Planning Zone 1 - A" of the plan (shown in light blue, below) which states that east of Everette Keith Road and south of the proposed Hambright Road alignment, office, light industry and multi-family, with limited commercial/retail to support the primary office and light industrial uses, are recommended".

STAFF COMMENT: The Small Area Plan supports a mix of uses on this property, with the most intense uses located along the thoroughfare. The Small Area Plan indicates the need to provide "appropriate transitions between the existing Dogwood Estates neighborhood and more intensive proposed office/industrial uses to the west".



The Eastfield Road Small Area Plan Future Land Use Map (shown below) indicates the area of the Foundry – Everette Keith Road development is designated as "mixed-use" (see dark blue area).



Recommendations of the Eastfield Road Small Area Plan for Everette Keith Road:

- **Everette Keith Road is an existing state maintained two-lane road which is proposed to be realigned and extended from Eastfield Road (at intersection with Independence Hill Road) to Verhoeff Drive (see dotted-pink line on above map). While the CTP designates Everette Keith Road as a minor thoroughfare, public funding of improvements to this road (i.e. extension and realignment) are not currently programmed and therefore, improvements are only likely to be made as a result of private funding in conjunction with future development. The proposed new alignment for Everette Keith Road is intended to provide an additional north/south access route east of NC 115. However, the ultimate location of this road may be modified to accommodate and maximize development potential in the area that it will serve.**

  STAFF COMMENT: The proposed re-alignment of Everette Keith Road is permitted within the Small Area Plan. It is further suggested that the linkage between existing Everette Keith Road and Eastfield Road will need to be provided by private investment. The transportation improvement package is being discussed by the applicant and Town Staff.

- **Protect right-of-way for approved thoroughfare alignment, through the subdivision/rezoning process.**
- **For future subdivision development adjoining proposed thoroughfare alignment, require reservation/dedication/construction of thoroughfare as required to serve proposed development (page 37).**

  STAFF COMMENT: All required right-of-way for the expanded Everette Keith Road thoroughfare will be provided.

Article 11 Section 11.4.7(e) of the Zoning Ordinance states that: "in considering any petition to reclassify property the Planning Board in its recommendation and the Town Board in its decision should consider:

1. **Whether the proposed reclassification is consistent with the overall character of existing development in the immediate vicinity of the subject property.**
   STAFF COMMENT:
   The proposed Foundry – Everette Keith Road - Conditional District Rezoning could be supported by the 2040 Community Plan if it is determined that the expansion of "Employment Center" development east of Everette Keith Road is an appropriate use. Support is clearer with the Eastfield Road Small Area Plan, as the proposed use is identified as a possible future use (see page 8 of this report). While the mass and scale of the buildings do not represent preferred transitions from an Employment Center to the adjoining "moderate density/residential edge" land uses that are called for, Staff can recommend approval of the plan if appropriate buffers are provided to the north and east, and the mass of Building 2 is broken-up by utilizing the "three building option". Appropriate transitions are key to approval of development at this level of intensity. The Small Area Plan recommends to "maintain the approved development pattern within" the project. Therefore, the key question is whether the expansion of the Mixed-Use Center boundaries, to this degree, is supported by the Huntersville 2040 Community Plan and the Eastfield Road Small Area Plan.

2. **The adequacy of public facilities and services intended to serve the subject property, including but not limited to roadways, transit service, parks and recreational facilities, police and fire protection, hospitals and medical services, schools, storm water drainage systems, water supplies, and wastewater and refuse disposal.**
   STAFF COMMENT:
   - A Transportation Impact Analysis was required for this rezoning – see Part 3 of this report.
   - A Willingness-to-serve letter from Charlotte Water was issued by Charlotte Water on 12-6-21, however, this letter is not current and must be updated.
   - A Conceptual Storm Water Drainage Plan (PCO-1) is under review and must be approved by staff.

- The CD Rezoning Plan was not sent to Charlotte-Mecklenburg School (CMS) for consideration, as no residential units are proposed within this development.

3. **Whether the proposed reclassification will adversely affect a known archeological, environmental, historical or cultural resource."**
   STAFF COMMENT:
   Planning staff has no indication that the request will adversely affect known archeological, environmental, historical or cultural resources.

PART 5: STAFF RECOMMENDATION

The Foundry – Everette Keith Road Conditional District Rezoning Plan from TR to CB-CD could be supported by staff for the reasons outlined in Part 5 of this report, and with the following conditions:

- Staff CAN SUPPORT a portion of modification "a" – (reduce buffers). Reduction of buffer along east side is ok. The buffer along the north should not be reduced nor should the 80' buffer along the extension of Everette Keith Road..
- Staff CAN SUPPORT modification "b" as requested (allow disturbed buffers).
- Staff CAN SUPPORT modification "c" as requested (number of buildings). As long as the rezoning plan and TIA-supported square footage is not exceeded and all other Ordinance requirements are met, there is no issue with this request.
- Modification "d" is not needed.
- Modification "e" is not needed.
- Modification "f" (street stubs) is still being discussed by Town Staff and the Applicant.
- Modification "g" (block length) is still being discussed by Town Staff and the Applicant.
- Modification "h" is not needed.
- Modification "i" is not needed.
- Clarification required for how remnant parcels are being handled south of the proposed thoroughfare (outside of the proposed rezoning).
- The 80-ft. buffer along Everette Keith Road near the cul-de-sac is not complete and must be extended the full frontage of the development.
- Clarify if the nature trail shown in the stream buffer will be constructed to accommodate the stream or be relocated outside the buffer.
- Provide 10 ft side paths along Everette Keith Road along their frontage.
- Notes on Sheet RZ4.0 to be discussed with Staff.
- Tree save and tree mitigation to be discussed with Staff.
- Provide a current Willingness to Serve letter from Charlotte Water;
- All outstanding redline comments must be addressed.
- RECOMMEND – urban open spaces (plazas) should be better distributed throughout the development.
- RECOMMEND – the extension (full construction) of Everette Keith Road to connect with Eastfield Road.

PART 6: PUBLIC HEARING COMMENTS

Public Hearing scheduled for Monday, July 17, 2023.

PART 7: PLANNING BOARD RECOMMENDATION

Planning Board scheduled to review on July 25, 2023.

PART 8: SCHEDULED FINAL TOWN BOARD ACTION

Final Action scheduled for August 21, 2023.

PART 9: ATTACHMENTS/ENCLOSURES

Attachments

A – General Application (Rezoning).
B – Foundry – Everette Keith Road CD Rezoning Plan.
C - Community Meeting Report from May 24, 2023.

PART 10: CONSISTENCY STATEMENT - R 23-01 Foundry – Everette Keith Road Conditional District Rezoning.

Planning Department	Planning Board	Board of Commissioners
APPROVAL: In considering the proposed rezoning application R23-01; Foundry – Everette Keith Road Conditional District Rezoning, if Town Board extends the Employment Center designation to this property, Town Staff COULD RECOMMEND APPROVAL of the rezoning as it is consistent with Implementation Goals LU-5, LU-7, EV-1, T-3 & T-5 of the 2040 Community Plan, as well as the Recommended future land uses for Planning Zone 1 of the Eastfield Road SAP. Recommendation of approval is also based on all conditions outlined in Part 5 being addressed, as indicated. **With those conditions, it is reasonable and in the public interest to extend the Employment Center designation and rezone these 59.66-acres from Transitional Residential (TR) to Corporate Business – Conditional District (CB-CD) BECAUSE it would then be consistent with the 2040 Community Plan. The request is already consistent wtih the Eastfield Road SAP (as outlined above) and the applicable provisions of the Zoning Ordinance can be adequately addressed, with staff's recommendations in Part 5 of this report.**	APPROVAL: In considering the proposed rezoning application R23-01; Foundry – Everette Keith Road CD Rezoning, the Planning Board recommends approval based on the Plan being consistent with **(insert applicable plan reference)**. **It is reasonable and in the public interest to approve the Rezoning Plan because… (Explain)**	APPROVAL: In considering the proposed rezoning application R23-01; Foundry – Everette Keith Road CD Rezoning, the Town Board recommends approval based on the Plan being consistent with **(insert applicable plan reference)**. **It is reasonable and in the public interest to approve the Rezoning Plan because… (Explain)**
	DENIAL: In considering the proposed rezoning application R23-01; Foundry – Everette Keith Road CD Rezoning, the Planning Board recommends denial based on the Plan being **(consistent OR inconsistent) with (insert applicable plan reference).** **It is not reasonable and in the public interest to approve the Rezoning Plan because… (Explain)**	DENIAL: In considering the proposed rezoning application R23-01; Foundry – Everette Keith Road CD Rezoning, the Town Board recommends denial based on the Plan being **(consistent OR inconsistent) with (insert applicable plan reference).** **It is not reasonable and in the public interest to approve the Rezoning Plan because… (Explain)**

General Application

INCOMPLETE SUBMISSIONS WILL NOT BE ACCEPTED. PLEASE CHECK ALL ITEMS CAREFULLY.

1. Application Type

Please indicate the type of application you are submitting. In addition to the application, the submission process for each application type can be found at https://www.huntersville.org/528/Permits-Process

☐ Change of Use ☐ Commercial Site Plan ☒ Conditional Rezoning ☐ General Rezoning ☐ Master Signage Program ☐ Special Use Permit ☐ Revision to Original Project # _____ ☐ Other _____	SUBDIVISION CATEGORIES: Per the Huntersville Subdivision Ordinance ☒ Sketch Plan ☐ Preliminary Plan ☐ Final Plat (Includes Minor Subdivision) ☐ Exempt Subdivision ☐ Final Plat Revision ☐ Farmhouse Cluster

2. Project Data

Date of Application 12/27/22

Name of Project Eastfield Industrial Phase # (if subdivision) _____

Project Address Everette Keith Road, Huntersville

Parcel Identification Number(s) (PIN) See Attached

Current Zoning District TR Proposed District (for rezoning only) CB (CD)

Property Size (acres) 59.66 acres Street Frontage (feet) see Rezoning Plan

Current Land Use Residential

Proposed Land Use(s) Corporate Business, including those uses shown on the Rezoning Plan

Is the project within Huntersville's corporate limits?
Yes_____ No X If no, does the applicant intend to voluntarily annex? Yes

3. Description of Request

Explain the nature of this request. If a separate sheet is necessary, please attach to this application.
Applicant proposes to develop an industrial project in accordance with the attached Rezoning Plan.

4. Site Plan Submittals

Consult the particular type of *Review Process* for the application type selected above. These can be found at https://www.huntersville.org/528/Permits-Process.

5. Outside Agency Information

Other agencies may have applications and fees associated with the land development process. The *Review Process* list includes plan documents needed for most town and county reviewing agencies. For major subdivisions, commercial site plans, and rezoning petitions please enclose a copy of the Charlotte-Mecklenburg Utility *Willingness to Serve* letter for the subject property.

6. Applicant

Printed Name Foundry Commercial, LLC Phone 704-523-0272

☐ Corporation ☒ Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

☐ By signature below, I hereby acknowledge, as/on behalf of (circle one) the applicant my understanding this application will be considered in a quasi-judicial proceeding and that neither I, nor anyone on my behalf, may contact the Board of Commissioners except through sworn testimony at the public hearing. (Applicable for Special Use Permits and Subdivisions)

Signature _____ Printed Name: Bill Simerville

Title Managing Director Email bill.simerville@foundrycommercial.com

Address of Applicant 2151 Hawkins St. Suite 1000, Charlotte, NC 28203

7. Property Owner (if different than applicant)

*Printed Name See attached Joinders Phone _____

☐ Corporation ☐ Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

☐ By signature below, I hereby acknowledge, as/on behalf of (circle one) the owner my understanding this application will be considered in a quasi-judicial proceeding and that neither I, nor anyone on my behalf, may contact the Board of Commissioners except through sworn testimony at the public hearing. (Applicable for Special Use Permits and Subdivisions)

Signature _____ Printed Name _____

Title _____ Email _____

Address of Property Owner _____

* Property owner hereby grants permission to the Town of Huntersville personnel to enter the subject property for any purpose required in processing this application.

Every owner of each parcel included in this application, or the owner (s) duly authorized agent, must sign this application. If signed by an agent on behalf of the Owner, this application MUST be accompanied by a notarized Limited Power of Attorney signed by the property owner (s), specifically authorizing the agent to act on the owner (s) behalf in signing this application. Failure of each owner, or their duly authorized agent, to sign, or failure to include the authority of the agent signed by the property owner, will result in an INVALID APPLICATION. **If additional space is needed for signatures, attach the Town of Huntersville Signature Addendum Form.**

8. Development/Design Firm Contact Information

Development Firm	Name of Contact	Phone	Email
Oak Engineering	Greg Welsh	704-989-4046	gregatoak@gmail.com
Design Firm	**Name of Contact**	**Phone**	**Email**

Contact Information

Town of Huntersville
Planning Department
PO Box 664
Huntersville, NC 28070

Phone: 704-875-7000
Fax: 704-992-5528
Physical Address: 105 Gilead Road, Third Floor
Website: https://www.huntersville.org/228/Planning-Department

EASTFIELD INDUSTRIAL JOINDER AND CONSENT LIST

- Nelson Britt Jenkins: 019-151-45
- Laura S. Keistler: 019-151-24
- Richard S. Keith & Angela T. Keith: 019-151-03
- Gypsy F. Keith: 019-151-33 (Portion of. See preliminary plat attached)
- Timothy Neal Keith & Diane J. Keith: 019-151-25
- Edmond Barnette Keith: 019-151-27 & 019-151-42
- Ronald Everette Keith, Jr.: 019-151-36 & 019-151-34 (Portion of. See preliminary plat attached)
- NTC Holdings LLC: 019-151-26
- Barry Gene Shaw & Dana Archer Shaw: 019-151-02
- Nelson H. Jenkins & Patricia Keith-Jenkins: 019-151-37, 019-151-43 & 019-151-21
- Kevin Max Jenkins & Michelle B. Jenkins: 019-151-38
- Furman B. Keith: 019-151-32
- Earl Bryan Jenkins and Sandra Dee Jenkins: 019-151-07
- Cornelison Trust (dated 1/24/2003): 019-151-04
- Joshua Scott Shoun & Bethany Anne Shoun: 019-151-46
- Alan Mark Matthews and Lena M. Matthews: 019-151-31
- Robert Cordell Perry & Jody Perry: 019-151-23
- James Michael Smith & Sandi Hager Smith: 019-151-44
- Furman B. Keith & Barbara A. Keith: 019-151-22
- Earl Max Jenkins: 019-151-17 (Portion of. See preliminary plat attached)

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 16 day of _____, 2022, by Shirley P. Cornelison, as Trustee of the CORNELISON TRUST DATED JANUARY 24, 2003 ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-04 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Shirley P. Cornelison

Printed Name: Shirley P. Cornelison, Trustee
Address: 2564 Trotters Trail, Cocoa, FL 32926

Date: 11-30-22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 21 day of Nov., 2022, by Earl Max Jenkins ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-17 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

- **Joinder.** The Owner does, on behalf of themselves and their successors and assigns hereby join in and consent to the Application.

- **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

- **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

- **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

- **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Earl Max Jenkins

Printed Name: Earl Max Jenkins
Address: 12825 Keith Hill Road, Huntersville, NC 28078

Date: 11-21-2022

DocuSign Envelope ID: 10E31528-4281-4CC0-AA19-E6D5D2FC4CCC

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 12th day of July, 2022, by JOSHUA SCOTT SHOUN and BETHANY ANNE SHOUN, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-46 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

DocuSign Envelope ID: 10E31528-4281-4CC0-AA19-E6D5D2FC4CCC

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Joshua Scott Shoun
_____
Printed Name: JOSHUA SCOTT SHOUN
Address: 11124 Everette Keith Road, Huntersville, NC 28078

Date: 7/12/2022

Bethany A Shoun
_____
Printed Name: BETHANY ANNE SHOUN
Address: 11124 Everette Keith Road, Huntersville, NC 28078

Date: 7/12/2022

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 23rd day of September, 2022, by ALAN MARK MATTHEWS and LENA M. MATTHEWS, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-31 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Printed Name: ALAN MARK MATTHEWS
Address: 12921 Keith Hill Road, Huntersville, NC 28078

Date: 9/23/22

Printed Name: LENA M. MATTHEWS
Address: 12921 Keith Hill Road, Huntersville, NC 28078

Date: 9/23/22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 23rd day of September 2022, by GYPSY F. KEITH, an unremarried widow ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-33 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Gypsy Keith

Printed Name: GYPSY F. KEITH
Address: 10926 Everette Keith Road, Huntersville, NC 28078

Date: 9/23/2022

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 20th day of July, 2022, by KEVIN MAX JENKINS and MICHELLE B. JENKINS, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-38 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification.** Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law.** This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Kevin Max Jenkins

KEVIN MAX JENKINS
Address: 12933 Keith Hill Road, Huntersville, North Carolina 28078

Date: 7/20/2022

Michelle B. Jenkins

MICHELLE B. JENKINS
Address: 12933 Keith Hill Road, Huntersville, North Carolina 28078

Date: 7/20/2022

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 20th day of July, 2022, by EARL BRYAN JENKINS and SANDRA DEE JENKINS, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-07 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification.** Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law** This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Earl Bryan Jenkins

EARL BRYAN JENKINS
Address: 12929 Keith Hill Road, Huntersville, North Carolina 28078

Date: 7/20/22

SANDRA DEE JENKINS
Address: 12929 Keith Hill Road, Huntersville, North Carolina 28078

Date: 7/20/22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 24 day of Sept, 2022, by FURMAN B. KEITH ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-32 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Furman B Keith

Printed Name: FURMAN B. KEITH
Address: 11226 Everette Keith Rd., Huntersville, North Carolina 28078

Date: 9-24-22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 24 day of Sept, 2022, by FURMAN B. KEITH and BARBARA A. KEITH, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-22 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Furman B Keith

Printed Name: FURMAN B. KEITH
Address: 11226 Everette Keith Rd., Huntersville, North Carolina 28078

Date: 9-24-22

Barbara A. Keith

Printed Name: BARBARA A. KEITH
Address: 11226 Everette Keith Rd., Huntersville, North Carolina 28078

Date: September 24, 2022

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 24 day of Sept, 2022, by NELSON BRITT JENKINS ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-45 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Nelson Britt Jenkins

Printed Name: NELSON BRITT JENKINS
Address: 202 Butch Branch Road, Union Grove, NC 28689

Date: 9/24/22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 24th day of September 2022, by BARRY GENE SHAW and DANA ARCHER SHAW, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-02 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Printed Name: BARRY GENE SHAW
Address: 13225 Mount Holly-Huntersville Road, Huntersville, North Carolina 28078

Date: 9/24/22

Printed Name: DANA ARCHER SHAW
Address: 13225 Mount Holly-Huntersville Road, Huntersville, North Carolina 28078

Date: 9/24/22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 24 day of Sept., 2022, by RICHARD S. KEITH and ANGELA T. KEITH, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-03 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Richard S. Keith - Angela T Keith POA

Printed Name: RICHARD S. KEITH
Address: 5970 Tall Tree Lane, Harrisburg, NC 28075

Date: 9-24-22

Angela T. Keith

Printed Name: ANGELA T. KEITH
Address: 5970 Tall Tree Lane, Harrisburg, NC 28075

Date: 9-24-22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 24 day of Sept., 2022, by NELSON H. JENKINS and PATRICIA KEITH-JENKINS, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the properties identified as Parcel Numbers 019-151-37, 019-151-43, and 019-151-21 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Nelson H Jenkins

Printed Name: NELSON H. JENKINS
Address: 202 Butch Branch Road, Union Grove, NC 28689

Date: 9-24-2022

Patricia Keith Jenkins

Printed Name: PATRICIA KEITH-JENKINS
202 Butch Branch Road, Union Grove, NC 28689

Date: Sept. 24, 2022

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 29 day of June, 2022, by TIMOTHY NEAL KEITH and DIANE J. KEITH, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-25 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Timothy Neal Keith

Printed Name: TIMOTHY NEAL KEITH
Address: 11046 Everett Keith Road, Huntersville, NC 28078

Date: 6/29/22

Diane J Keith

Printed Name: DIANE J. KEITH
Address: 11046 Everett Keith Road, Huntersville, NC 28078

Date: Diane J Keith 6/29/22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 5 day of July, 2022, by LAURA S. KEISTLER ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-24 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Laura S. Keistler

Printed Name: LAURA S. KEISTLER
Address: 11040 Everett Keith Road, Huntersville, NC 28078

Date: 07-05-22

DocuSign Envelope ID: F3607FF0-EBD6-4BBB-B3A3-7DA2A67CEB2A

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 7 day of July, 2022, by NTC HOLDINGS LLC, a Virginia limited liability company ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-26 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

DocuSign Envelope ID: F3607FF0-EBD6-4BBB-B3A3-7DA2A67CEB2A

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

NTC HOLDINGS LLC, a Virginia limited liability company

DocuSigned by:
Tuan Nguyen
E4EA95DF5D88422...

By: Tuan Nguyen

Title: Manager/Member NTC Holdings LLC

Address: 1307 Charidge Lane, Charlotte, NC 28262

Date: 7/7/2022

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 11 day of July 2022, by ROBERT CORDELL PERRY and JODY PERRY, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-23 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification.** Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law.** This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Printed Name: ROBERT CORDELL PERRY
Address: 11050 Everette Keith Road, Huntersville, NC 28078

Date: 7/11/22

Printed Name: JODY PERRY
Address: 11050 Everette Keith Road, Huntersville, NC 28078

Date: 7/11/22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 29 day of SEPT, 2022, by RONALD EVERETTE KEITH, JR. ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the properties identified as Parcel Numbers 019-151-36 and 019-151-34 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Ronald Keith Jr

Printed Name: RONALD EVERETTE KEITH, JR.
Address: 108 Condor Court, Woodstock, GA 30188

Date: 9 29 22

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 12 day of July, 2022, by JAMES MICHAEL SMITH and SANDI HAGER SMITH, husband and wife ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the property identified as Parcel Number 019-151-44 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

James M Smith

Printed Name: JAMES MICHAEL SMITH
Address: 11100 Everette Keith Road, Huntersville, NC 28078

Date: 7-12-2022

Sandi Smith

Printed Name: SANDI HAGER SMITH
Address: 11100 Everette Keith Road, Huntersville, NC 28078

Date: 7-12-2022

JOINDER OF AND CONSENT TO APPLICATION

This JOINDER OF AND CONSENT TO APPLICATION (the "Joinder") is executed this 25 day of Sept., 2022, by EDMOND ~~BARNETTE~~ Burl KEITH ("Owner") in connection with that one certain General Application for a Conditional Rezoning ("Application"), for the Everette Keith Road Industrial Development filed, or to be filed, by Foundry Commercial Acquisitions, LLC ("Applicant") in connection with the properties identified as Parcel Numbers 019-151-27 and 019-151-42 in the Town of Huntersville, Mecklenburg County, North Carolina.

WHEREAS, the undersigned, as an Owner, desire to join in and consent to the rezoning and provisions of the Application and to ratify the execution thereof by Applicant.

NOW, THEREFORE, for and in consideration of good and valuable consideration as set forth herein, the undersigned agree as follows:

1. **Joinder.** The Owner does, on behalf of themselves and their successors and assigns, hereby join in and consent to the Application.

2. **Ratification.** The Owner does hereby further, on behalf of themselves, their heirs, successors and assigns, ratify and confirm all prior actions of Applicant in connection with the Application.

3. **Modification**. The Owner does hereby further agree, on behalf of itself, and its successors and assigns, to any modifications to the Application, as determined by the Applicant, during the review and approval process through the Town of Huntersville.

4. **Governing Law**. This Joinder is entered into under the laws of the State of North Carolina, and those laws shall govern the construction and enforcement hereof.

5. **Authority.** The person or persons executing this Joinder on behalf of the Owner are duly authorized to execute this Joinder, and no consent of any other person to execution of this Joinder is required.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Edmond Barnette Keith

Printed Name: EDMOND BARNETTE KEITH
Address: 41A W. Saddleback Mesa, Santa Fe, NM 87508

Date: 25 Sept 2012

IN WITNESS WHEREOF, the undersigned Owner has executed this Joinder of and Consent to Application on the date set forth below.

OWNER:

Earl Jenkins

Printed Name: Earl Jenkins
Address: 12825 Keith Hill Road, Huntersville, NC 28078

Date: 1-20-23

Vivian K. Jenkins

Printed Name: Vivian K Jenkins
Address: 12825 Keith Hill Road, Huntersville, NC 28078

Date: 1-20-23

LEGEND

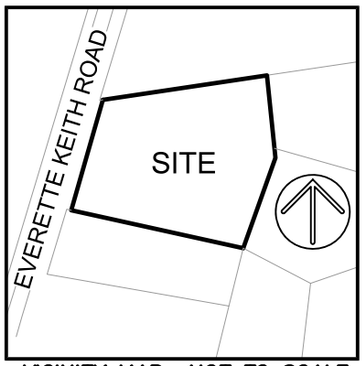
◬	CALCULATED POINT
AXF ■	AXLE FOUND
RBF ●	IRON REBAR FOUND
———	PROPERTY LINE
— —— —	ADJOINING PROPERTY LINE

NOTES

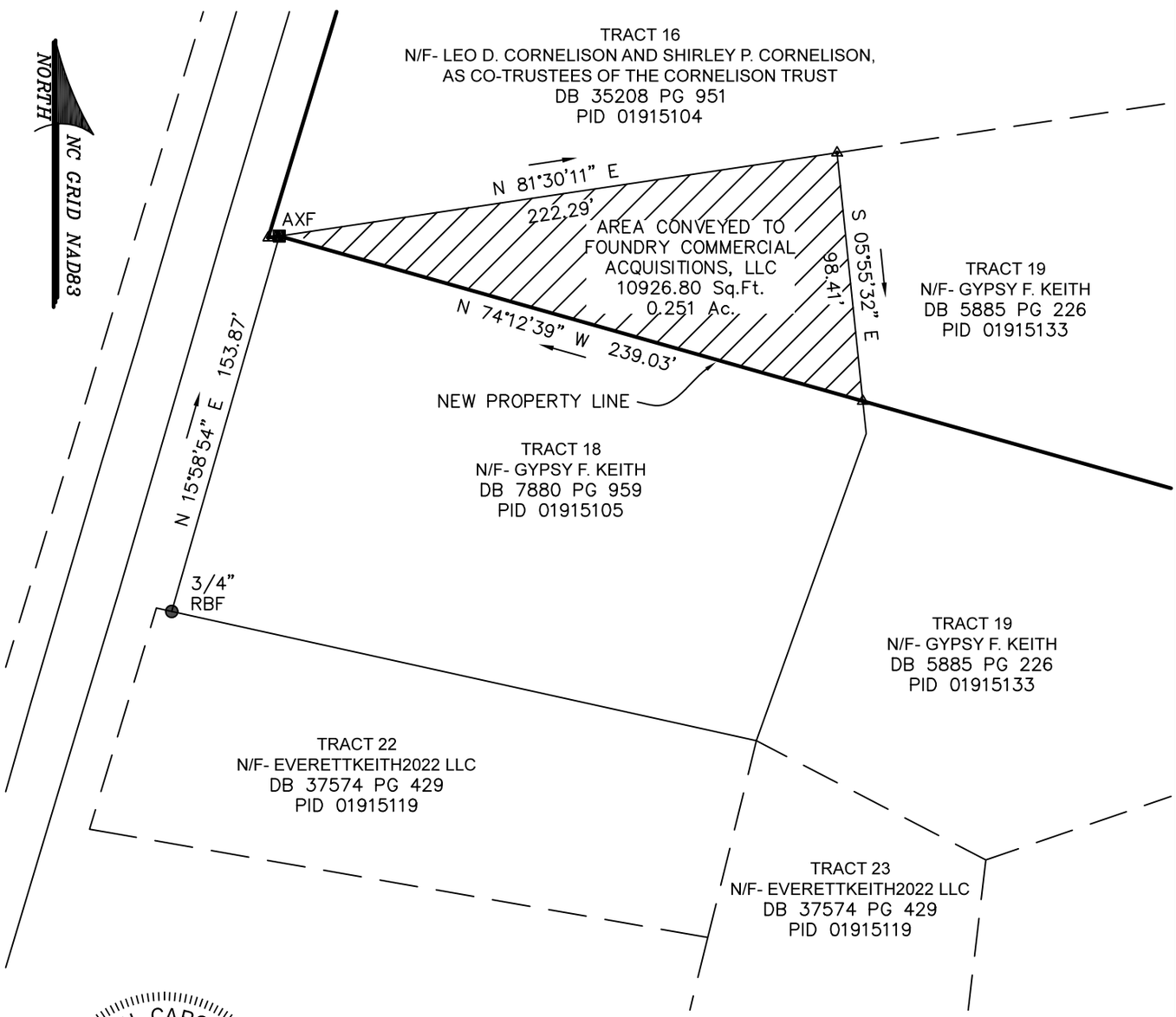
1. COORDINATES ARE BASED ON NC GRID NAD 83(2011).
2. PROPERTY IS SUBJECT TO ALL RECORDED OR UNRECORDED EASEMENTS, RIGHTS OF WAY AND ENCUMBRANCES THAT MAY AFFECT THIS PROPERTY.

REFERENCES

1. DB 5885 PG 226
2. DB 7880 PG 959



VICINITY MAP NOT TO SCALE



NORTH CAROLINA PROFESSIONAL SEAL L-5265 LAND SURVEYOR KEITH BURNS

60 30 0 60

GRAPHIC SCALE

A LAND SWAP EXHIBIT PREPARED FOR:

FOUNDRY COMMERCIAL ACQUISITIONS, LLC

PID: 01915105

MALLARD CREEK TOWNSHIP
MECKLENBURG COUNTY, NORTH CAROLINA

FIELD WORK:	JHR
FIELD CHECK:	RKB
DRAWN BY:	RM
DATE:	01-18-2023
SCALE:	1"=60'
PROJECT No.:	CLT-22131
FILE:	CLT-22131 LAND SWAP.DWG

ATLAS SURVEYING, INC.
ATLAS SURVEYING CLT, P.C. No. C-4370
13331 YORK CENTER DRIVE, SUITE E
CHARLOTTE, NC 28273
PHONE: (980) 949-8475
WEBSITE: WWW.ATLASSURVEYING.COM

THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS. (G.S.47-30(N))

FOR REVIEW ONLY

KEITH BURNS P.L.S. No. L-5265

LEGEND

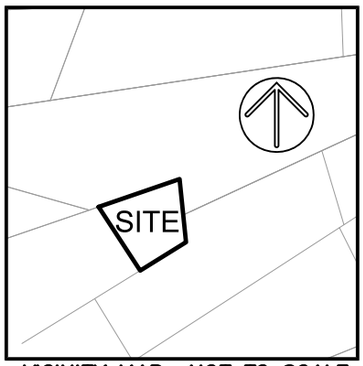
◬	CALCULATED POINT
IPF ●	IRON PIPE FOUND
RBF ●	IRON REBAR FOUND
———	PROPERTY LINE
— —— —	ADJOINING PROPERTY LINE

NOTES

1. COORDINATES ARE BASED ON NC GRID NAD 83(2011).
2. PROPERTY IS SUBJECT TO ALL RECORDED OR UNRECORDED EASEMENTS, RIGHTS OF WAY AND ENCUMBRANCES THAT MAY AFFECT THIS PROPERTY.

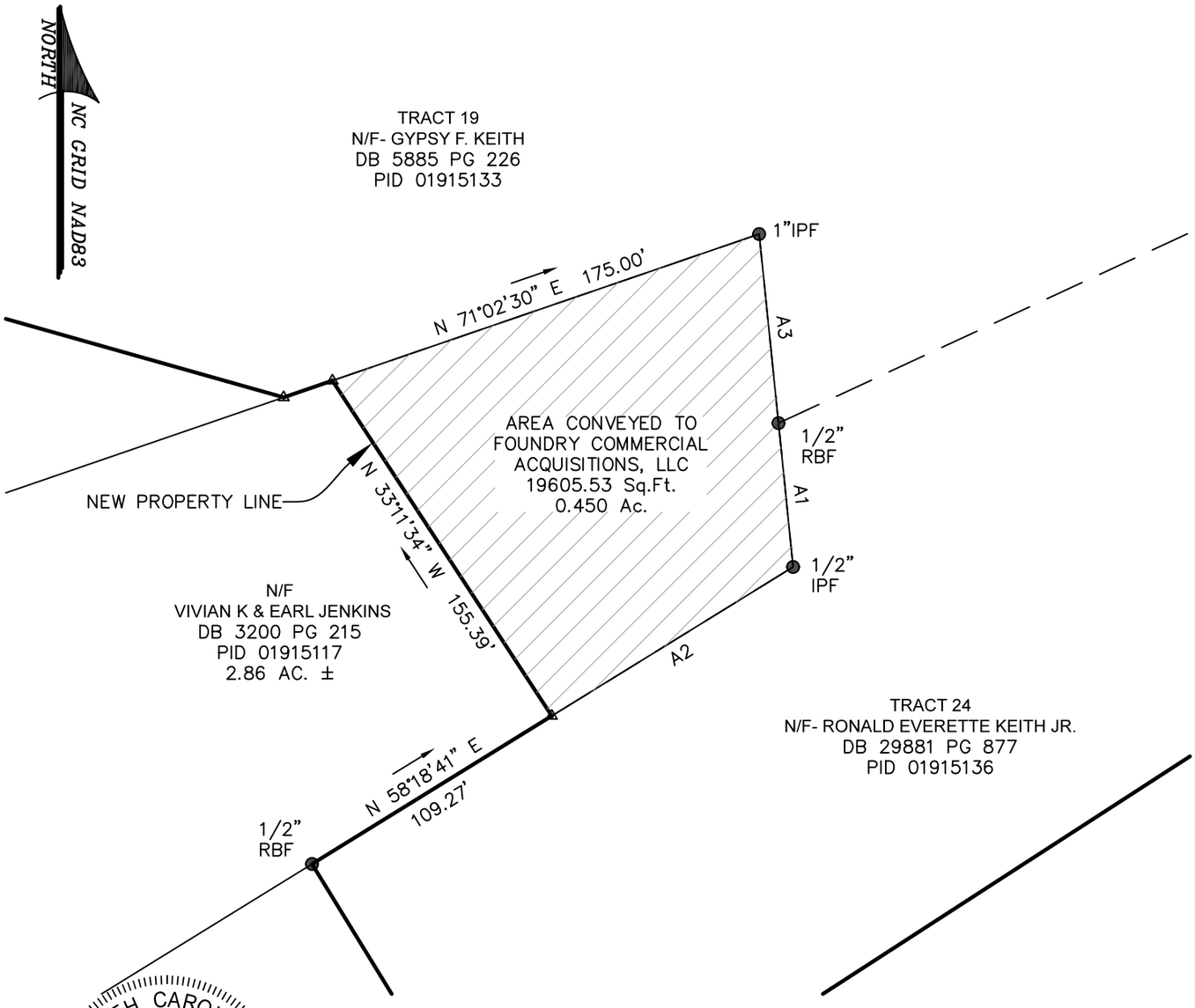
REFERENCES

1. DB 5885 PG 226
2. DB 3200 PG 215
3. DB 29881 PG 877



VICINITY MAP NOT TO SCALE

LINE TABLE		
LABEL	BEARING	DISTANCE
A1	S 05°46'15" E	56.07'
A2	S 58°18'41" W	110.00'
A3	S 05°51'41" E	73.71'



NORTH CAROLINA PROFESSIONAL SEAL L-5265 LAND SURVEYOR KEITH BURNS

60 30 0 60

GRAPHIC SCALE

A LAND SWAP EXHIBIT PREPARED FOR:

FOUNDRY COMMERCIAL ACQUISITIONS, LLC

PID: 01915117

MALLARD CREEK TOWNSHIP
MECKLENBURG COUNTY, NORTH CAROLINA

ATLAS SURVEYING, INC.
ATLAS SURVEYING CLT, P.C. No. C-4370
13331 YORK CENTER DRIVE, SUITE E
CHARLOTTE, NC 28273
PHONE: (980) 949-8475
WEBSITE: WWW.ATLASSURVEYING.COM

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FOR REVIEW ONLY

KEITH BURNS P.L.S. No. L-5265

FIELD WORK:	JHR
FIELD CHECK:	RKB
DRAWN BY:	RM
DATE:	01-18-2023
SCALE:	1"=150'
PROJECT No.:	CLT-22131
FILE:	CLT-22131 LAND SWAP.DWG

LEGEND

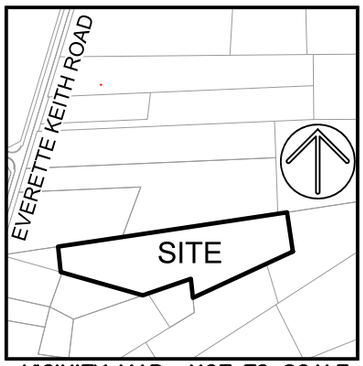
◬	CALCULATED POINT
IPF ●	IRON PIPE FOUND
RBF ●	IRON REBAR FOUND
———	PROPERTY LINE
— — —	ADJOINING PROPERTY LINE

NOTES

1. COORDINATES ARE BASED ON NC GRID NAD 83(2011).
2. PROPERTY IS SUBJECT TO ALL RECORDED OR UNRECORDED EASEMENTS, RIGHTS OF WAY AND ENCUMBRANCES THAT MAY AFFECT THIS PROPERTY.

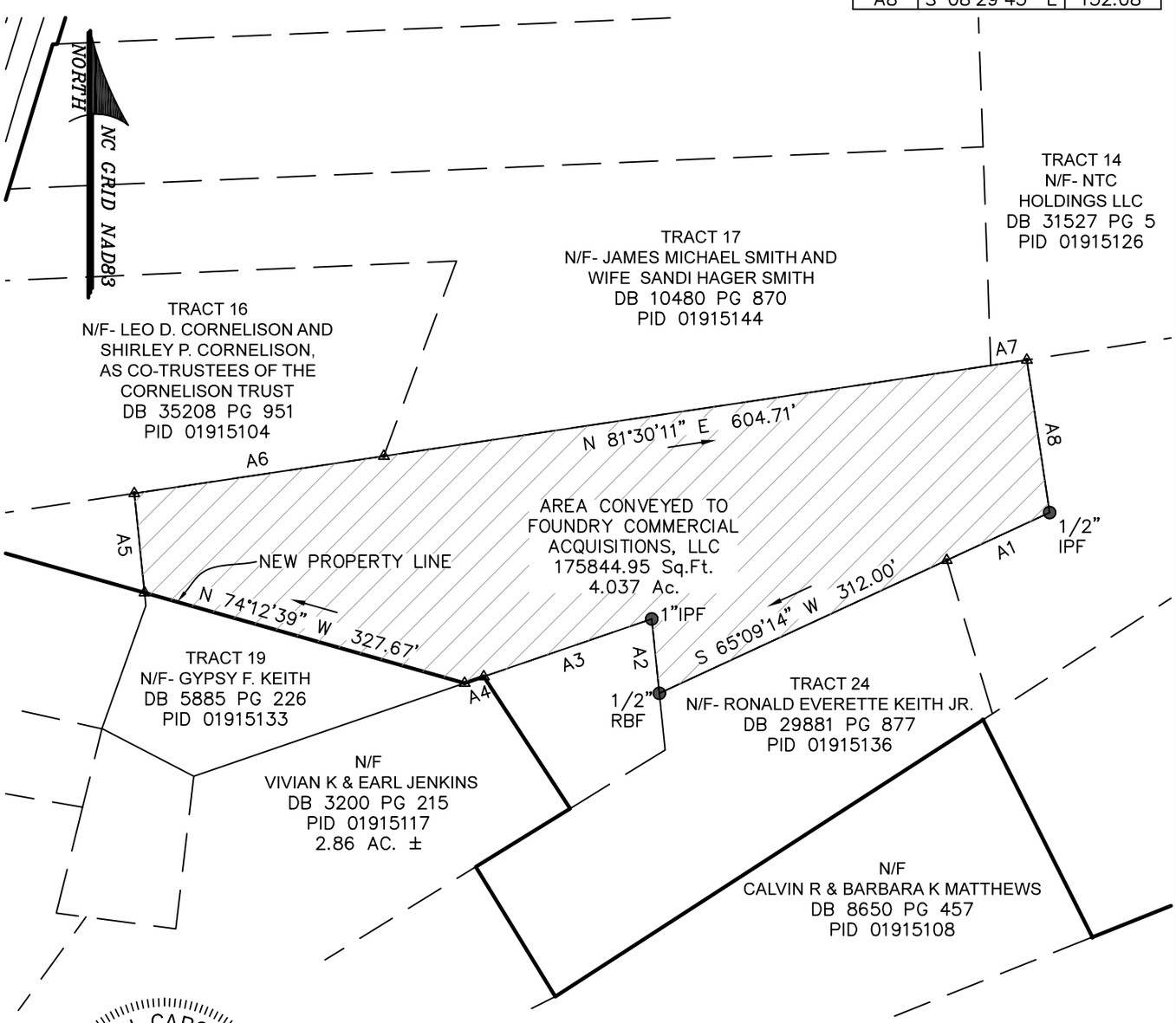
REFERENCES

1. DB 5885 PG 226
2. DB 35208 PG 951
3. DB 10480 PG 870
4. DB 29881 PG 877
5. DB 31527 PG 5



VICINITY MAP NOT TO SCALE

LINE TABLE		
LABEL	BEARING	DISTANCE
A1	S 65°08'11" W	111.78'
A2	N 05°51'41" W	73.71'
A3	S 71°02'30" W	175.00'
A4	S 71°02'30" W	20.00'
A5	N 05°55'32" W	98.41'
A6	N 81°30'11" E	248.65'
A7	N 81°19'54" E	35.91'
A8	S 08°29'45" E	152.08'



NORTH CAROLINA PROFESSIONAL SEAL L-5265 LAND SURVEYOR KEITH BURNS

150 75 0 150

GRAPHIC SCALE

A LAND SWAP EXHIBIT PREPARED FOR:

FOUNDRY COMMERCIAL ACQUISITIONS, LLC

PID: 01915133

MALLARD CREEK TOWNSHIP
MECKLENBURG COUNTY, NORTH CAROLINA

FIELD WORK:	JHR
FIELD CHECK:	RKB
DRAWN BY:	RM
DATE:	01-18-2023
SCALE:	1"=150'
PROJECT No.:	CLT-22131
FILE:	CLT-22131 LAND SWAP.DWG

ATLAS SURVEYING, INC.
ATLAS SURVEYING CLT, P.C. No. C-4370
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FOR REVIEW ONLY

KEITH BURNS P.L.S. No. L-5265

EASTFIELD INDUSTRIAL

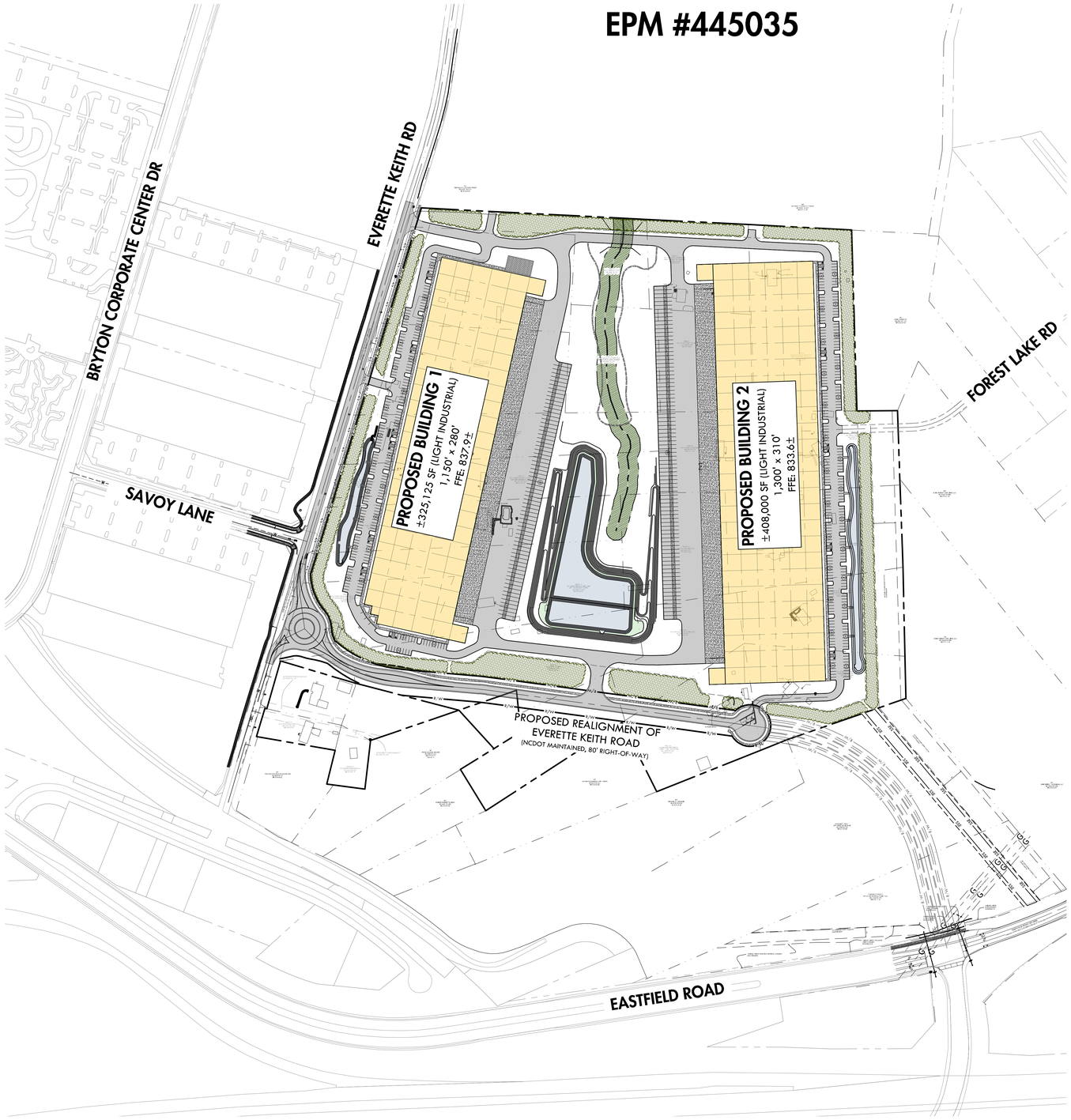
CONDITIONAL DISTRICT REZONING / SKETCH PLAN

11226 EVERETTE KEITH ROAD

HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA

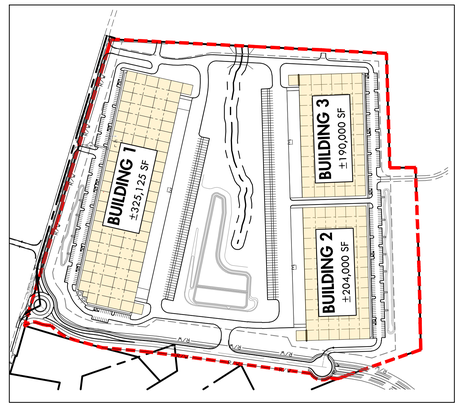
FOUNDRY COMMERCIAL

EPM #445035



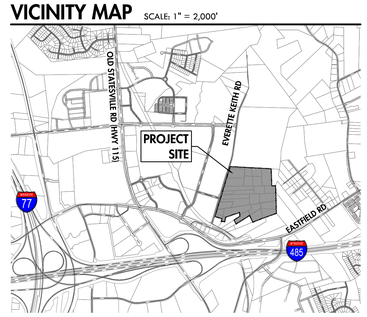
THREE-BUILDING OPTION

SCALE: 1" = 300'



VICINITY MAP

SCALE: 1" = 2,000'



PROJECT SUMMARY

PROJECT NAME:	**EASTFIELD INDUSTRIAL (FINAL NAME OF PARK TO BE DETERMINED)**
DEVELOPER:	FOUNDRY COMMERCIAL 2151 HAWKINS STREET, SUITE 1000 CHARLOTTE, NC 28203
PLANS PREPARED BY:	OAK ENGINEERING, PLLC
TAX PARCEL NUMBERS:	019-151-02, 03, 04, 07, 21, 22, 23, 24, 25, 26, 27, 31, 32, 34, 36, 37, 38, 42, 43, 44, 45, 46, P/O 019-151-05, P/O 019-151-33, AND P/O 019-151-17
JURISDICTION:	TOWN OF HUNTERSVILLE ETJ
EXISTING ZONING:	TRANSITIONAL RESIDENTIAL (TR)
PROPOSED ZONING:	CORPORATE BUSINESS (CB)
WATER SUPPLY WATERSHED:	N/A
RECEIVING WATERS:	TRIBUTARY TO CANE CREEK
RIVER BASIN:	CLARKE WATERSHED
DENSITY:	HIGH
FEMA INFORMATION:	MAP NO. 3710455900K MAP DATE: 09/02/2015 FLOOD ZONE: OUT
PROJECT SIZE:	±59.66 ACRES
PRINCIPAL USE:	LIGHT MANUFACTURING / WAREHOUSING
BUILDING SIZE:	750,000 SF (MAX)
BUILDING TYPE:	URBAN WORKPLACE (MULTI-BUILDING)
BUILDING USE:	LIGHT MANUFACTURING / WAREHOUSE / OFFICE
BUILDING SETBACKS:	
FRONT:	40' MIN (THERE IS NO BUILD-TO-LINE OR BUILD-TO-RANGE)
SIDE YARD:	40'
REAR YARD:	40'
NUMBER OF LOTS:	1
CONSTRUCTION DATES:	04/01/2024 - 06/30/2025
EXISTING BUA:	±141,100 SF
EXISTING BUA TO REMAIN:	0 SF
PROPOSED NEW BUA:	± 1,420,000 SF
PROPOSED % BUA:	54.6%
TOTAL POST-PROJECT BUA:	± 1,420,000 SF
PARKING REQUIRED:	1 SPACE / 4,000 SF OF WAREHOUSE PLUS 1 SPACE / 500 SF OF OFFICE
PARKING PROVIDED:	
BUILDING 1:	±224 SPACES CAN SUPPORT UP TO 25% OFFICE
BUILDING 2:	±238 SPACES CAN SUPPORT UP TO 19% OFFICE

DRAWING INDEX

SHEET	SHEET TITLE	ORIGINAL DATE	LATEST ISSUE	LATEST REV.
RZ1.0	COVER SHEET	12/30/22	06/01/23	1
RZ2.0	EXISTING FEATURES PLAN	12/30/22	06/01/23	1
RZ2.1	EXISTING TREE SURVEY	06/01/23	06/01/23	1
RZ3.0	REZONING / SKETCH PLAN	12/30/22	06/01/23	1
RZ3.1	EVERETTE KEITH - ROADWAY TYPICAL SECTIONS	06/01/23	06/01/23	1
RZ4.0	REZONING / SKETCH PLAN DEVELOPMENT STANDARDS	12/30/22	06/01/23	1
SP1.0	UTILITY CONCEPT PLAN	12/30/22	06/01/23	1
SP2.0	GRADING & DRAINAGE CONCEPT PLAN	12/30/22	06/01/23	1
SP3.0	LANDSCAPING CONCEPT PLAN	12/30/22	06/01/23	1

PROJECT CONTACTS

PROPERTY OWNER
FOUNDRY COMMERCIAL
121 W TRADE ST., STE 2500
CHARLOTTE, NC 28202
704.523.0272

DEVELOPER
FOUNDRY COMMERCIAL
121 W TRADE ST., STE 2500
CHARLOTTE, NC 28202
704.523.0272

ENGINEER
GREG WELSH, PE
OAK ENGINEERING, PLLC
4929 MONROE ROAD
CHARLOTTE, NC 28205
704.989.4046
greg@oak.engineering

CONTRACTOR
TBD

SURVEYOR
KEITH BURNS, PLS
ATLAS SURVEYING, INC
13331 YORK CENTER DR
SUITE E
CHARLOTTE, NC 28273
980.949.8475

ARCHITECT
NICKY NANJI, AIA
MERRIMAN SCHMITT ARCHITECTS
605 LEXINGTON AVE, STE 300
CHARLOTTE, NC 28203
704.870.3101

MUNICIPALITY CONTACTS

PLANNING/ZONING
DAVID PEETE
TOWN OF HUNTERSVILLE
105 GILEAD RD, 3RD FLOOR
HUNTERSVILLE, NC 28078
704.875.7000
dpeete@huntersville.org

ENGINEERING (TOWN)
MIKE MACINTYRE
TOWN OF HUNTERSVILLE
101 HUNTERSVILLE-CONCORD RD
HUNTERSVILLE, NC 28070
704.766.2220
mmacintyre@huntersville.org

EROSION CONTROL INSPECTOR
ANNIE LOFTIN
TOWN OF HUNTERSVILLE
101 HUNTERSVILLE-CONCORD RD
HUNTERSVILLE, NC 28070
704.579.1090
aloftin@huntersville.org

NCDOT
MALIK HASSAN
DIVISION 10, DISTRICT 2
7605 DISTRICT DRIVE
CHARLOTTE, NC 28213
980.523.0000
hamalik@ncdot.gov

LAND DEVELOPMENT INSPECTOR
CECIL TALBOT
TOWN OF HUNTERSVILLE
101 HUNTERSVILLE-CONCORD RD
HUNTERSVILLE, NC 28070
704.579.1163
ctalbot@huntersville.org

ZONING INSPECTOR
AU'DARIUS BLACKWOOD
TOWN OF HUNTERSVILLE
101 HUNTERSVILLE-CONCORD RD
HUNTERSVILLE, NC 28070
704.301.9969
ablackwood@huntersville.org

OAK ENGINEERING
4929 MONROE ROAD · CHARLOTTE, NC 28205
NORTH CAROLINA FIRM LICENSE #P1742
oak.engineering

PE SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 33996 ENGINEER

06/01/2023

150 0 150

SCALE: 1" = 150'

EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

COVER SHEET

EPM #445035

REVISIONS:
1. 06/01/23 - PER STAFF COMMENTS

ENGINEER: GTW
DRAWN BY: ERT
CHECKED BY: LJB

PROJECT #: 022.021

SHEET
RZ1.0
SHEET 1 OF 9

LIMITS OF PROPOSED REZONING

EXISTING MANMADE POND TO BE DRAINED AND BREACHED. STREAM CROSSING TO BE PERMITTED, 401/404 PERMITS WILL BE SUBMITTED AT THE TIME OF CONSTRUCTION PLAN REVIEW. PRIOR TO BREACHING, A STABILIZATION PLAN WILL BE PROVIDED,

TOP OF BANK (MAY VARY)

NATURAL STREAM CHANNEL AND ASSOCIATED 30' SWIM BUFFER MAY VARY (PENDING 401/404 PERMITS)

PCCO BUFFER (30' EACH SIDE)

POTENTIAL WETLAND 'B' TO BE PROTECTED

PORTION OF PARCEL 01915117 IS INCLUDED IN REZONING PETITION

POTENTIAL WETLAND 'A' 401/404 IMPACT PERMIT PENDING

PROPOSED REALIGNMENT OF EVERETTE KEITH ROAD (NCDOT MAINTAINED) (80' RIGHT-OF-WAY)

24,849 SF (0.80 ACRES)

33,100 SF (0.76 ACRES)

19,662 SF (0.45 ACRES)

LAND SWAP IN FAVOR OF DEVELOPMENT

LAND SWAP TO BE RETAINED BY SELLER

REMNANT PROPERTIES OUTSIDE OF THE REZONING BOUNDARY WILL REMAIN ZONED TR

EX. DUKE POWER EASEMENT

FUTURE CONNECTION TO EASTFIELD DRIVE (BY OTHERS)

68'

ZONED TR

ZONED SP(CD)

ZONED R-4

BRYTON CORPORATE CENTER DRIVE

SAVOY DRIVE

KEITH HILL ROAD

DIXON FARM ROAD

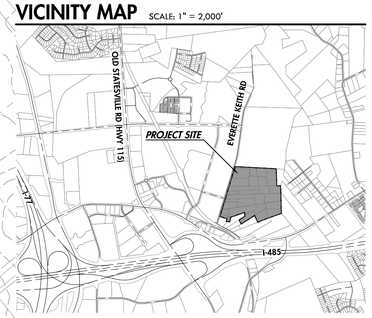
EASTFIELD DRIVE

INDEPENDENCE HILL ROAD

INTERSTATE 485

VICINITY MAP

SCALE: 1" = 2,000'



PROJECT SUMMARY

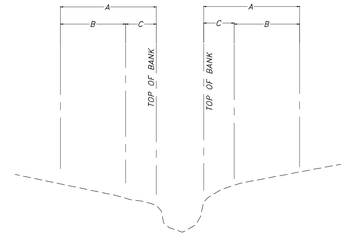
PROJECT NAME:	**EASTFIELD INDUSTRIAL (FINAL NAME OF PARK TO BE DETERMINED)**
DEVELOPER:	FOUNDRY COMMERCIAL 2151 HAWKINS STREET, SUITE 1000 CHARLOTTE, NC 28203
PLANS PREPARED BY:	**OAK** ENGINEERING, PLLC
TAX PARCEL NUMBERS:	019-151-02, 03, 04, 07, 21, 22, 23, 24, 25, 26, 27, 31, 32, 34, 36, 37, 38, 42, 43, 44, 45, 46, P/O 019-151-05, P/O 019-151-33, AND P/O 019-151-17
JURISDICTION:	TOWN OF HUNTERSVILLE ETJ
EXISTING ZONING:	TRANSITIONAL RESIDENTIAL (TR)
PROPOSED ZONING:	CORPORATE BUSINESS (CB)
WATER SUPPLY WATERSHED:	N/A
RECEIVING WATERS:	TRIBUTARY TO CANE CREEK
RIVER BASIN:	CLARKE WATERSHED
DENSITY:	HIGH
FEMA INFORMATION:	MAP NO. 3710455900K MAP DATE: 09/02/2015 FLOOD ZONE: OUT
PROJECT SIZE:	±59.66 ACRES
PRINCIPAL USE:	LIGHT MANUFACTURING / WAREHOUSING
BUILDING SIZE:	750,000 SF (MAX)
BUILDING TYPE:	URBAN WORKPLACE (MULTI-BUILDING)
BUILDING USE:	LIGHT MANUFACTURING / WAREHOUSE / OFFICE
BUILDING SETBACKS:	
FRONT:	40' MIN (THERE IS NO BUILD-TO-LINE OR BUILD-TO-RANGE)
SIDE YARD:	40'
REAR YARD:	40'
NUMBER OF LOTS:	1
CONSTRUCTION DATES:	04/01/2024 - 06/30/2025
EXISTING BUA:	±141,100 SF
EXISTING BUA TO REMAIN:	0 SF
PROPOSED NEW BUA:	± 1,420,000 SF
PROPOSED % BUA:	54.6%
TOTAL POST-PROJECT BUA:	± 1,420,000 SF
PARKING REQUIRED:	1 SPACE / 4,000 SF OF WAREHOUSE PLUS 1 SPACE / 500 SF OF OFFICE
PARKING PROVIDED:	
BUILDING 1:	±224 SPACES CAN SUPPORT UP TO 25% OFFICE
BUILDING 2:	±238 SPACES CAN SUPPORT UP TO 19% OFFICE

SLOPE TABLE

Number	Minimum Slope	Maximum Slope	Color
1	0.00%	10.00%	
2	10.00%	15.00%	
3	15.00%	25.00%	
4	25.00%	100.00%	

CONSTRAINING FEATURES

FEATURE	AREA
WETLANDS	0.27 ACRES
STREAM BUFFERS	1.37 ACRES



STREAM BUFFER SECTION

NTS

A 30' UPLAND ZONE STREAM BUFFER
B 20' VEGETATED BUFFER. DISTURBANCE WITHIN THIS AREA MUST BE REVEGETATED.
C 10' BANK STABILIZATION BUFFER. ANY DISTURBANCE WITHIN THIS AREA SHALL REQUIRE STREAM BANK STABILIZATION USING BIOENGINEERING TECHNIQUES AS SPECIFIED IN THE DESIGN MANUAL

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NORTH CAROLINA FIRM LICENSE #P1742
oak.engineering

PE SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 33996 ENGINEER

06/01/2023

100 0 100

SCALE: 1" = 100'

EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

EXISTING FEATURES PLAN

EPM #445035

REVISIONS:
1. 06/01/23 - PER STAFF COMMENTS

ENGINEER: GTW
DRAWN BY: ERT
CHECKED BY: LJB

PROJECT #: 022.021

SHEET
RZ2.0
SHEET 2 OF 9

PROPOSED REALIGNMENT OF EVERETTE KEITH ROAD
(PUBLIC STREET)
(80' ROW-CITY MAIN)

EVERETTE KEITH ROAD (SR-2458)
50' PUBLIC R/W (VARIABLE)
(NCDOT) SR 1317 (POST 885,585',885,685',893,785')

PAVED DRIVEWAY

BASKETBALL COURT

68' DUKE POWER COMPANY R/W EXCEPTION#7

HERITAGE TREES

NUMBER OF HERITAGE TREES ON SITE:	11
NUMBER OF HERITAGE TREES SAVED:	0
PERCENTAGE OF HERITAGE TREES REQUIRED TO SAVE:	100%
PERCENTAGE OF HERITAGE TREES ACTUALLY SAVED:	0%

NOTE: ON SITE MITIGATION AND/OR FEE IN LIEU SHALL BE INCORPORATED AS ALLOWED BY TOWN ORDINANCE

SPECIMEN TREES

NUMBER OF SPECIMEN TREES ON SITE:	67
NUMBER OF SPECIMEN TREES SAVED:	0
PERCENTAGE OF SPECIMEN TREES REQUIRED TO SAVE:	30%
PERCENTAGE OF SPECIMEN TREES ACTUALLY SAVED:	0%

NOTE: ON SITE MITIGATION AND/OR FEE IN LIEU SHALL BE INCORPORATED AS ALLOWED BY TOWN ORDINANCE

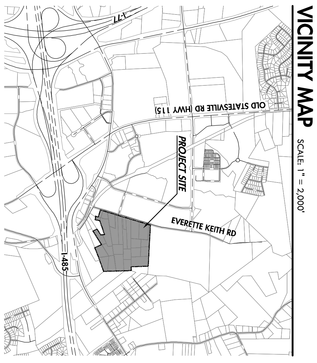
TREE CANOPY

PERCENTAGE OF SITE COVERED BY TREE CANOPY:	22%
% OF TREE CANOPY PRESERVATION REQUIRED:	0% (CB)
% OF TREE CANOPY ACTUALLY SAVED:	0%

NOTE: THE CB ZONING DISTRICT DOES NOT REQUIRE TREE CANOPY PRESERVATION

VICINITY MAP

SCALE: 1" = 2000'



ENGINEER: GTW
DRAWN BY: ERT
CHECKED BY: LJB

PROJECT #: 022.021

SHEET
RZ2.1
SHEET 3 OF 9

REVISIONS:
1. 06/01/23 - PER STAFF COMMENTS

EPM #445035

EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

EXISTING TREE SURVEY

SCALE: 1" = 60'

PE SEAL:

06/01/2023

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NORTH CAROLINA FIRM LICENSE #P1742
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LIMITS OF PROPOSED REZONING

STUB STREET FOR FUTURE CONNECTION. RECIPROCAL ACCESS EASEMENTS WILL BE RECORDED AS PART OF FINAL PLAT.

OUTDOOR AMENITY AREA #1: PAVER PLAZA (2,000 SF MIN) FINAL DESIGN TO BE DETERMINED

SECONDARY ACCESS AS REQUIRED PER NCFC D104.2 & D104.3 EXISTING MANMADE POND TO BE BREACHED 401/404 PERMIT PENDING

STUB STREET FOR FUTURE CONNECTION. RECIPROCAL ACCESS EASEMENTS WILL BE RECORDED AS PART OF FINAL PLAT.

40' LANDSCAPE BUFFER w/ 4' HIGH PLANTED BERM

DEVELOPER SHALL DEDICATED RIGHT-OF-WAY TO 40' FROM CENTERLINE

EVERETT KEITH ROAD (NCDOT MAINTAINED)

OUTDOOR AMENITY AREA #2: APPROX. 1/4 MILE MULCHED NATURE TRAIL

POTENTIAL LOCATION FOR CLUSTER MAILBOX FOR BUILDING 2 TENANTS. FINAL LOCATION TO BE DETERMINED DURING SITE PLAN REVIEW AND AS SUGGESTED BY USPS.

STUB STREET FOR FUTURE CONNECTION TO FOREST LAKE AVENUE. RECIPROCAL ACCESS EASEMENTS WILL BE RECORDED AS PART OF FINAL PLAT.

FOREST LAKE AVENUE (NCDOT MAINTAINED)

DEVELOPER SHALL MODIFY CONNECTION AT SAVOY LANE

DEVELOPER SHALL REALIGN EVERETT KEITH ROAD AS SHOWN AND AS APPROVED BY THE TOWN OF HUNTERSVILLE AND THE NCDOT

REMNANT PROPERTY LOCATED OUTSIDE OF THE REZONING BOUNDARY WILL REMAIN ZONED TR OR WILL BE DEDICATED AS R/W

POTENTIAL LOCATION FOR CLUSTER MAILBOX FOR BUILDING 1 TENANTS. FINAL LOCATION TO BE DETERMINED DURING SITE PLAN REVIEW AND AS SUGGESTED BY USPS.

PROPOSED REALIGNMENT OF EVERETTE KEITH ROAD (NCDOT MAINTAINED) (80' RIGHT-OF-WAY)

THESE REMNANT PROPERTIES LOCATED OUTSIDE OF THE REZONING BOUNDARY WILL REMAIN ZONED TR

REMNANT PROPERTY LOCATED OUTSIDE OF THE REZONING BOUNDARY WILL REMAIN ZONED TR OR WILL BE DEDICATED AS R/W

PROPOSED TEMPORARY CULDESAC PER TOWN OF HUNTERSVILLE DETAIL 280.1 AND PER NC FIRE CODE.

DEVELOPER HAS AGREED TO PROVIDE GRAVEL ACCESS TO PARCEL 01915109 SUBJECT TO TOWN AND NCDOT APPROVAL

FUTURE EXTENSION OF EVERETT KEITH ROAD BY OTHERS. TO ALIGN WITH INDEPENDENCE HILL ROAD AT EASTFIELD ROAD

BUILDING 1
±325,060 SF (LIGHT INDUSTRIAL)
1,150' x 280'
FFE: 839.6±

BUILDING 2
±408,000 SF (LIGHT INDUSTRIAL)
1,300 x 310'
FFE: 832.9±

PROPOSED DUMPSTER ENCLOSURE LOCATION

PROPOSED DUMPSTER ENCLOSURE LOCATION

STORMWATER MANAGEMENT POND DESIGNED TO TOWN ORDINANCE

LANDSCAPE BUFFER

9'18' VEHICLE PARKING

12' X 55' TRAILER PARKING SPACES

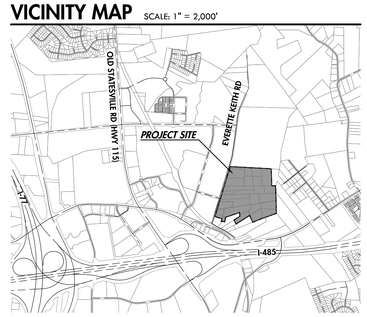
PC BUFFER

68' DUKE TRANSMISSION EASEMENT

126.6' MEASURED FROM P/L

VICINITY MAP

SCALE: 1" = 2,000'

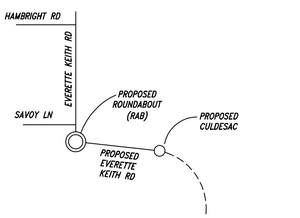


80 0 80
SCALE: 1" = 80'

PROJECT SUMMARY

PROJECT NAME:	**EASTFIELD INDUSTRIAL (FINAL NAME OF PARK TO BE DETERMINED)**
DEVELOPER:	FOUNDRY COMMERCIAL 2151 HAWKINS STREET, SUITE 1000 CHARLOTTE, NC 28203
PLANS PREPARED BY:	**OAK** ENGINEERING, PLLC
TAX PARCEL NUMBERS:	019-151-02, 03, 04, 07, 21, 22, 23, 24, 25, 26, 27, 31, 32, 34, 36, 37, 38, 42, 43, 44, 45, 46, P/O 019-151-05, P/O 019-151-33, AND P/O 019-151-17
JURISDICTION:	TOWN OF HUNTERSVILLE ETJ
EXISTING ZONING:	TRANSITIONAL RESIDENTIAL (TR)
PROPOSED ZONING:	CORPORATE BUSINESS (CB)
WATER SUPPLY WATERSHED:	N/A
RECEIVING WATERS:	TRIBUTARY TO CANE CREEK
RIVER BASIN:	CLARKE WATERSHED
DENSITY:	HIGH
FEMA INFORMATION:	MAP NO. 3710455900K MAP DATE: 09/02/2015 FLOOD ZONE: OUT
PROJECT SIZE:	±59.66 ACRES
PRINCIPAL USE:	LIGHT MANUFACTURING / WAREHOUSING
BUILDING SIZE:	750,000 SF (MAX)
BUILDING TYPE:	URBAN WORKPLACE (MULTI-BUILDING)
BUILDING USE:	LIGHT MANUFACTURING / WAREHOUSE / OFFICE
BUILDING SETBACKS:	
FRONT:	40' MIN (THERE IS NO BUILD-TO-LINE OR BUILD-TO-RANGE)
SIDE YARD:	40'
REAR YARD:	40'
NUMBER OF LOTS:	1
CONSTRUCTION DATES:	04/01/2024 - 06/30/2025
EXISTING BUA:	±141,100 SF
EXISTING BUA TO REMAIN:	0 SF
PROPOSED NEW BUA:	± 1,420,000 SF
PROPOSED % BUA:	54.6%
TOTAL POST-PROJECT BUA:	± 1,420,000 SF
PARKING REQUIRED:	1 SPACE / 4,000 SF OF WAREHOUSE PLUS 1 SPACE / 500 SF OF OFFICE
PARKING PROVIDED:	
BUILDING 1:	±224 SPACES CAN SUPPORT UP TO 25% OFFICE
BUILDING 2:	±238 SPACES CAN SUPPORT UP TO 19% OFFICE

BLOCK LENGTH CHART		
START / END	MAX LENGTH	PROPOSED LENGTH
HAMBRIGHT / SAVOY	1,500 FEET	2,473 FEET
SAVOY / RAB	1,500 FEET	274 FEET
RAB / CULDESAC	1,500 FEET	1,439 FEET



URBAN OPEN SPACE		
TYPE	SIZE	PARKING PROVIDE
PAVER PLAZA	2,000 SF (MIN)	0
NATURE TRAIL	1/4 MILE ±	0

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NORTH CAROLINA FIRM LICENSE #P1742
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PE SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 33996 ENGINEER

XX/XX/XXXX

EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

REZONING / SKETCH PLAN

EPM #445035

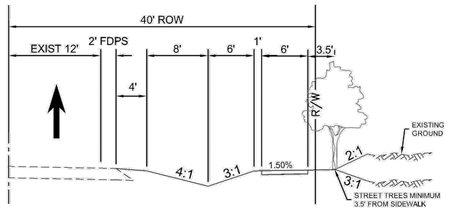
REVISIONS:
1. 06/01/23 - PES STAFF COMMENTS

ENGINEER: GTW
DRAWN BY: ERT
CHECKED BY: LJB

PROJECT #: 022.021

SHEET
RZ3.0
SHEET # OF ?

SECTION A-A
EXIST EVERETTE KEITH

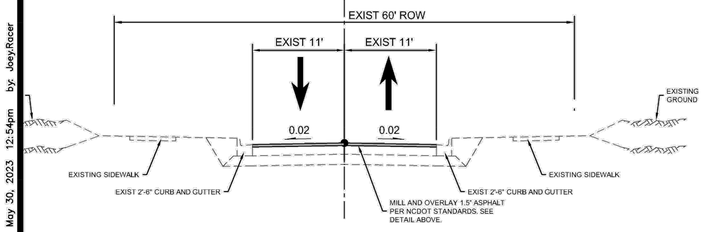


TYP. PAVEMENT SCHEDULE
WITHIN NCDOT RIGHT OF WAY

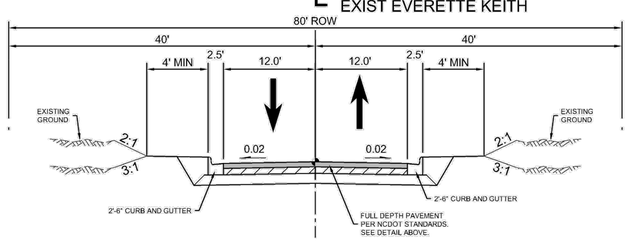
Surface Course (S9.5C) @ 112 lbs/sy/in 2 - 1.5" LIFTS	3"
Intermediate Course (I19.0C) @ 114 lbs/sy/in	4"
Base Course (B25.0C) @ 114 lbs/sy/in	6"

N.T.S

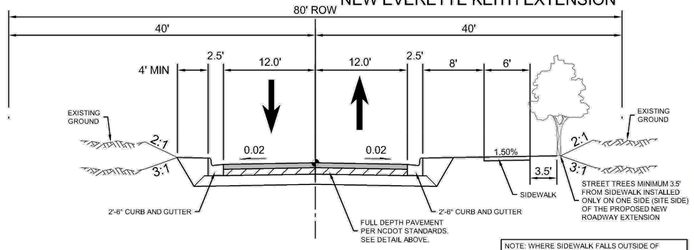
SECTION B-B
SAVOY LANE



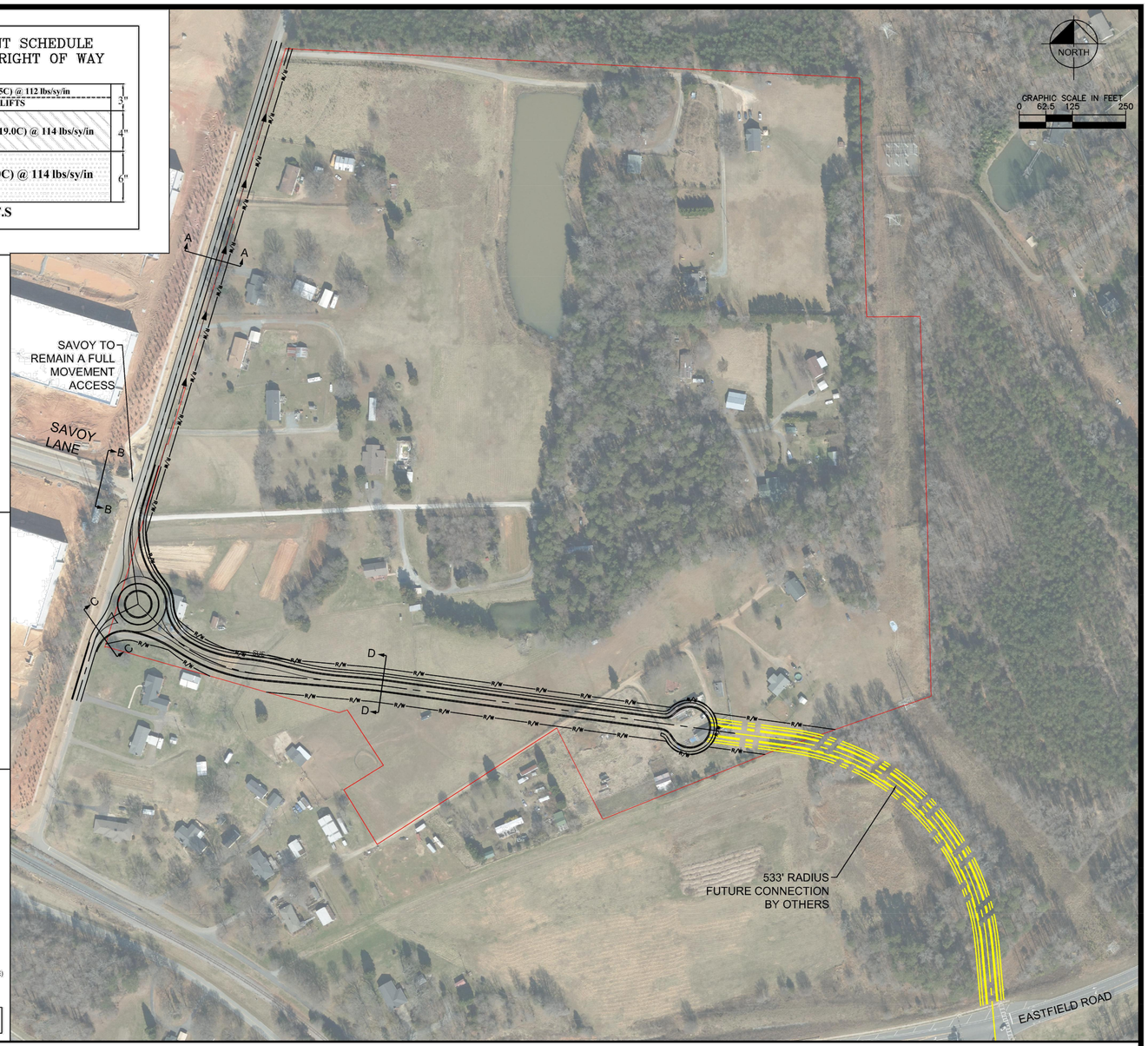
SECTION C-C
EXIST EVERETTE KEITH



SECTION D-D
NEW EVERETTE KEITH EXTENSION



NOTE: WHERE SIDEWALK FALLS OUTSIDE OF PROPOSED RIGHT OF WAY, SIDEWALK UTILITY EASEMENT IS REQUIRED 1' OFF BACK OF SIDEWALK



EVERETTE KEITH - ROADWAY TYPICAL SECTIONS

DATE: 5-30-2023

SHEET 1 of 1

Kimley»Horn
NC LICENSE #F-0102
200 SOUTH TRYON STREET, SUITE 200
CHARLOTTE, NORTH CAROLINA 28202
PHONE 704-333-5131

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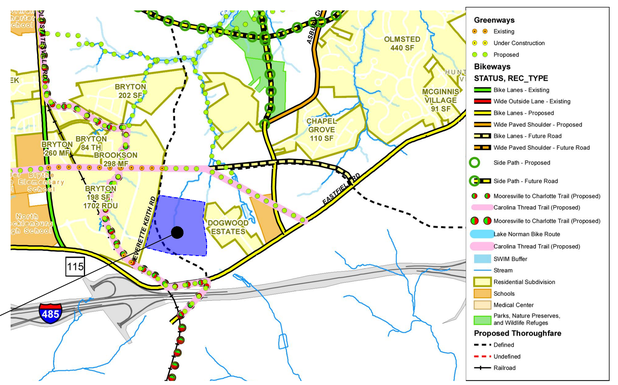
Drawing name: C:\Users\Joey.Rocer\Desktop\Projects at Home\Everett Keith - Eastfield\CAD\Everette Keith - Roadway Exhibit.dwg RAB May 30, 2023 12:54pm by Joey.Rocer

TRANSPORTATION IMPACT ANALYSIS (Z.O. ARTICLE 14):

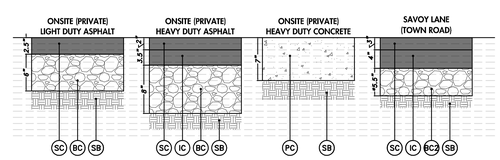
KIMLEY HORN ASSOCIATES ENGINEERING FIRM	THOMAS SHIRLEY, EIT CONTACT	(980) 296-0814 PHONE	THOMAS.SHIRLEY@KIMLEY-HORN.COM EMAIL

- ☐ TIA SUBMITTED. DATE: JUNE 1, 2023
- ☐ MITIGATION REQUIREMENTS ACCEPTED BY TOWN OF HUNTERSVILLE ENGINEERING DEPARTMENT
- ☐ MITIGATION SHOWN ON SITE PLANS
- ☐ APPLICANT SIGNED MITIGATION AGREEMENT
- ☐ MITIGATION NOTE PROVIDED.

PROJECT LOCATION.
THERE ARE NO PROPOSED GREENWAY, BIKEWAY, OR PEDESTRIAN PLANS WITHIN OR ADJACENT TO THE PROJECT BOUNDARY.



PAVEMENT SECTIONS



SC ASPHALT SURFACE COURSE (S9.5B)
IC INTERMEDIATE COURSE (I19.0B)
BC AGGREGATE BASE COURSE
BC2 5.5" ACBC OR 12" ABC
SB COMPACTED SUBBASE

NOTES:
1. CONFIRM WITH GEOTECHNICAL ENGINEER FOR PAVEMENT SECTIONS AND SUBGRADE. NOTIFY ENGINEER IN CASE OF CONFLICT.
2. PROVIDE CONSTRUCTION JOINTS PER ACI AND/OR GEOTECHNICAL ENGINEER RECOMMENDATIONS (CONCRETE PAVEMENT ONLY).
3. PAVEMENT SECTIONS ARE SUBJECT TO CHANGE PENDING FINAL DESIGN AND TOWN/NCDOT APPROVAL.

OAK ENGINEERING
4929 MONROE ROAD CHARLOTTE, NC 28205
NORTH CAROLINA FIRM LICENSE #P1742
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PE SEAL:

EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

EVERETTE KEITH - ROADWAY TYPICAL SECTIONS

EPM #4455035

REVISIONS:
1. 06/01/23 - PER STAFF COMMENTS

ENGINEER: GTW
DRAWN BY: ERT
CHECKED BY: LJB

PROJECT #: 022.021

SHEET
RZ3.1

SHEET 5 OF 9

REZONING NOTES
EASTFIELD INDUSTRIAL

1. Rezoning Petition. These rezoning notes comprise the development standards ("Development Standards") associated with the rezoning petition (the "Rezoning Petition") filed by Foundry Commercial ("Petitioner") on December 1, 2022 (the "Filing Date") as Rezoning Petition R23-01& Sketch Plan (the "Rezoning Plan") for that approximately 59.66 acre tract of land, identified on this Site Plan as Eastfield Industrial (the "Project") in connection with part of tax parcel numbers 019-151-02, 03, 04, 07, 21, 22, 23, 24, 25, 26, 27, 31, 32, 34, 36, 37, 38, 42, 43, 44, 45, 46, p/o 019-151-05, p/o 019-151-33, and p/o 019-151-17 (the "Property"). The purpose of the Rezoning Petition is to convert the zoning classification of the Property from Transitional Residential (TR) to Corporate Business-Conditional District (CB-CD) classification in accordance with the provisions of the Town of Huntersville Zoning Ordinance (the "Ordinance").

2. Development Standards. Development of the Property will be governed by these Development Standards, which are part of the Rezoning Petition, and the applicable provisions of the Ordinance in place on the date of the filing of the Rezoning Plan. Unless the Rezoning Plan establishes a more stringent standard(s), or unless otherwise noted on the Rezoning Plan or in these Development Standards, the regulations established under the Ordinance in place on the date of the filing of the Rezoning Plan govern development of the Property as shown on the Rezoning Plan.

3. Schematic Nature of Rezoning Plan. The lots and proposed improvements and architectural renderings shown on and included with the Rezoning Plan are schematic in nature and exact locations, architectural details, style and materials, size, number or quantity and configurations of lots and buildings may be modified, with Planning Staff approval, during design, engineering and construction phases of the development so long as such modification does not exceed the square footage in the TIA, meets the applicable requirements of the Zoning Ordinance and the Modifications. The exact alignments of the internal drives and internal public streets have not been determined and are subject to final design and engineering plans, and minor modifications or alterations of these alignments may take place during design development and construction phases.

4. Phasing. The development of the Property as generally depicted on the Rezoning Plan may be phased as shown on the Rezoning Plan. Any proposed phasing must align with required TIA, infrastructure and stormwater improvements; provided, however, any mitigation required by NCDOT will be coordinated with NCDOT and each phase or sequence of improvements in the Project will meet all applicable Ordinance requirements. Utilities, infrastructure, and grading shall be delivered to each individual Phase as each is developed.

5. Vested Rights. This Rezoning Plan is a site-specific development plan and approval thereof constitutes vested rights in the Rezoning Plan pursuant to the provisions of the Ordinance. Notwithstanding any other provisions of these Development Standards, if, at some point, modifications are made to the Ordinance by the Town Board, Petitioner may voluntarily agree to apply such modifications to the Rezoning Plan in a manner consistent with the Rezoning Plan and the Ordinance as it changes from time to time, and without pursuing a rezoning. Such modifications to the Ordinance shall in no way impact the Petitioner's vested rights. Approval of this conditional rezoning shall constitute establishment of vested rights in the landowner (and its successors or assigns) for a period of five years pursuant to N.C. Gen. Stat. §160D-108.1.

6. Permitted Uses. The Property may be developed for any uses (including accessory uses) permitted in the Corporate Business Zoning District; provided, however, inns, hotels and motels, wind energy facilities, schools, home occupation, single-family and multi-family uses shall be prohibited and all permitted uses shall be subject to the development standards associated with such uses. Any labelling on the Rezoning Plan may be an indication of the current intention on the part of Petitioner but shall not restrict the Property in a manner that conflicts with the provisions of these Development Notes. Retail, restaurant, personal services, branch banks, conference facilities, clinics, indoor recreation and similar "workplace support uses", as referenced in 3.2.9(c) of the Ordinance, up to 10% of gross floor area within the development or 70,000 SF, whichever is less, are permitted.

7. Access. The number of site access points, driveways and connections to roads are schematic in nature. To the extent permitted by applicable driveway permit requirements, future driveways, access points and road connections may cross the setback and shall not require a rezoning of the Property but shall otherwise comply with applicable driveway permit requirements.

8. Subdivision. The Property is one development and may be subdivided without a rezoning to allow separate owners of individual parcels so long as such subdivision is consistent with the general design of the Rezoning Plan, in compliance with applicable law, including subdivision regulations and consistent with the Ordinance. However, recombination, condominiumization, or reduction in the number of parcels may occur in accordance with the regulations of the Ordinance without amendment to the Rezoning Plan. Requirements that are met by the Project as a whole, such as open space, tree save and impervious requirements, need not be met by individual parcels.

9. Street Improvements. Petitioner shall be required to install sidewalks, street trees, planting strips, bicycle lanes or other street improvements as a condition of the approval of this Rezoning Plan as specifically shown on the Rezoning Plan and as required by the Zoning Ordinance, Subdivision Ordinance, applicable Huntersville/NCDOT TIA, or driveway permit requirements. Second row street trees may be placed in a landscape easement if required by Petitioner.

10. Grading. As more particularly described in the Rezoning Plan and the Modifications, grading in the buffer shall be allowed in accordance with the modifications set forth herein.

11. Amendment. Future amendments to the Rezoning Plan and/or these Development Standards may be applied for by the then owner of owners of the Property in accordance with the provisions of the Ordinance; provided, however, in the event any portion of the Property is conveyed to a third party, Petitioner may request an amendment to the Rezoning Plan without the written consent of any other owner of all or any portion of the Property unless such amendment constitutes a change in the building or use of the portion of the Property owned by such owner, provided Petitioner provides for such amendment right in the recorded private restrictive covenants that govern the Project. All requirements in connection with the amendment will be calculated on the Property as a whole in the same manner such requirements were calculated at the time of the initial approval. This note shall be shown on the final plat when recorded.

12. BMP Design. The designs for the BMPs shown on the Rezoning Plan shall be finalized during the construction phase and shall be completed as a part of the infrastructure improvements.

13. Lightning. The lighting will be in compliance with Article 8.26 of the Ordinance.

14. Parking Lots. Except as shown on the Rezoning Plan and as described in the Modifications, parking lots will be in compliance with Article 6 of the Ordinance.

15. Garbage collection areas and Fire Apparatus. Garbage collection (dumpsters) areas shown are conceptual and will comply with the Ordinance's screening requirements. The final location will be determined during construction documentation. Fire apparatus locations will be as generally depicted on the Rezoning Plan and final location will be determined during construction documentation.

16. Mail. Group/cluster boxes will be located in a central location and coordinated with USPS. Final locations and sizes will be determined during construction documentation.

17. Water and Sewer. Water and Sewer will be provided to the site by Charlotte Water.

18. Sketch Plan. At the election of the Applicant, any modifications to the Sketch Plan, including multi-building site plans, may be reviewed administratively by Planning Staff as permitted by the Ordinance as long as the sketch plan/ multi-building site is consistent with the Rezoning Plan.

19. Binding Effect of the Rezoning Documents and Definitions. If this Rezoning Application is approved, all conditions applicable to the use and development of the Site imposed under these Development Standards and the Rezoning Plan will, unless amended in the manner provided under the Ordinance, be binding upon and inure to the benefit of Petitioner and the current and subsequent owners of the Site and their respective successors in interest and assigns. Throughout these Development Standards, the term "Petitioner" shall be deemed to include the heirs, devisees, personal representatives, successors in interest and assigns of Petitioner or the owner or owners of the Site from time to time who may be involved in any future development thereof.

20. Requested Changes to Standards. Pursuant to Section 11.4.7(k) of the Ordinance, the standards of the Ordinance are modified to permit the following (the "Changes"):

a. Change from Article 7.5.3, which requires an 80-foot-wide buffer, to allow a forty-foot (40') buffer along the northern and eastern boundaries of the Property as shown on the Rezoning Plan. An alternative buffer yard plan that includes a planted landscaped berm shall be provided for the northern and eastern buffers.
b. Change from Article 7.5.8, which requires all buffer yards to remain undisturbed with certain exceptions. Grading shall be allowed in the buffer yards as shown on the Rezoning Plan.
c. Modification that permits Applicant to decrease or increase the number of buildings to three buildings so long as (i) the building or buildings meet the applicable requirements of the Ordinance, (ii) the amount of impervious coverage and the extent of encroachments into property setbacks and buffers, although not in the specific location shown on the Rezoning Plan, are consistent with the amount of impervious coverage and the encroachment area shown on the Rezoning Plan, and (iii) the square footage does not exceed the square footage in the TIA.
d. Change that allows Planning Staff to approve a multi-building subdivision sketch and site plan in accordance with subparagraph c. hereof.
e. Everette Keith Road shall be generally realigned as shown on the Rezoning Plan. Minor changes to the realignment and minor block length variations from the Ordinance may be approved administratively pursuant the TIA and Town and NCDOT approval.
f. No stub street connections are required along the boundaries of the Property, except as shown on the Rezoning Plan, due to incompatible uses of adjacent property.
g. To the extent required, block length waivers are permitted as shown in the block chart and on the Rezoning Plan
h. The portion of Everette Keith Road beyond the southeast boundary line of the Property is not required to be completed as a part of the Project.
i. Final recorded easements for utility connections over adjacent property may be recorded at any time prior to construction plan approval.

TOWN OF HUNTERSVILLE REQUIRED NOTES:

1. ALL DEVELOPMENT AND CONSTRUCTION SHALL COMPLY WITH ALL ZONING AND SUBDIVISION STANDARDS OF THE TOWN OF HUNTERSVILLE, MECKLENBURG COUNTY, AND NCDOT, AS APPLICABLE.
2. THE PROPERTY MAY BE SUBJECT TO ANY EASEMENTS AND/OR RIGHT-OF-WAY OF RECORD.
3. ALL AREAS DESIGNATED AS COMMON AND/OR URBAN OPEN SPACE SHALL BE OWNED AND MAINTAINED BY THE DEVELOPER OR THEIR ASSIGNEE AND SHALL BE DEDICATED FOR PERPETUITY.
4. ACCESS (INGRESS/EGRESS) LOCATION AND DESIGN SHOWN ON THE SKETCH PLAN AREA SUBJECT TO ACHIEVING VERTICAL AND HORIZONTAL SIGHT DISTANCES, TURN LANE IMPROVEMENTS (INCLUDING RIGHT-OF-WAY) AND INTERSECTION WITH ADJACENT AND OPPOSING ACCESS POINTS. MODIFICATIONS TO PLAN MAY RESULT.
5. LARGE MATURING TREES WILL BE PLANTED 40' ON CENTER WITHIN THE REQUIRED PLANTING STRIP ALONG ALL STREETS. TREE SPECIES SHALL COMPLY WITH TOW APPROVED TREE LIST.
6. SMALL MATURING TREES ARE TO BE USED WHERE OVERHEAD POWER LINES EXIST.
7. MAIL KIOSKS, INTERNAL TO THE DEVELOPMENT, WILL BE PROVIDED FOR EACH BUILDING. DELIVERY METHOD AND FINAL KIOSK LOCATION WILL BE COORDINATED WITH THE LOCAL USPS. THE KIOSK WILL BE LOCATED AS TO NOT IMPEDED PUBLIC TRAFFIC OR INTERNAL CIRCULATION.
8. COMMON GARBAGE RECEPTACLES (DUMPSTERS) WILL BE PROVIDED FOR EACH BUILDING. DEPENDING ON TENANT DEMAND, MULTIPLE DUMPSTER LOCATIONS MAY BE WARRANTED. ALL DUMPSTERS WILL BE SHIELDED FROM VIEW IN OPAQUE DUMPSTER ENCLOSURES.
9. DIRECT ACCESS FROM LOTS TO A THOROUGHFARE IS PROHIBITED. PROPOSED ACCESS POINTS ARE DEPICTED ON THE REZONING SITE PLAN.
10. THE SUBJECT PROPERTY IS LOCATED ENTIRELY OUTSIDE OF ALL FEMA FLOOD PLAINS AND FLOODWAYS.
11. THERE ARE NO PROPOSED BUILD-TO-LINES OR BUILD-TO-RANGES PROPOSED FOR THIS SITE.
12. A TIA MITIGATION PLAN SCOPING DOCUMENT HAS BEEN SUBMITTED AND IS BEING REVIEWED BY THE TOWN OF HUNTERSVILLE AND THE NCDOT. UPON ACCEPTANCE, A TIA WILL BE SUBMITTED FOR REVIEW AND APPROVAL.

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PE SEAL:

06/01/2023

EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

REZONING / SKETCH PLAN DEVELOPMENT STANDARDS

EPM #445035

REVISIONS:
1. 06/01/23 - PER STAFF COMMENTS

ENGINEER: GTW
DRAWN BY: ERT
CHECKED BY: LJB

PROJECT #: 022.021

SHEET
RZ4.0
SHEET 4 OF 9

PROPOSED FHA (PUBLIC)

PROPOSED PUBLIC WATERMAIN EXTENSION

PROPOSED FHA (PRIVATE)

PROPOSED FHA (PRIVATE)

PROPOSED FHA (PRIVATE)

PRIVATE DOMESTIC AND IRRIGATION SERVICE TO BUILDING 1

SPRINKLER RISER LEAD (TYP)

PROPOSED FHA (PUBLIC)

PROPOSED BUILDING 1
±325,125 SF (LIGHT INDUSTRIAL)
1,1,50' x 280'
FFE: 837.9±

SPRINKLER RISER LEAD (TYP)

PROPOSED BUILDING 2
±408,000 SF (LIGHT INDUSTRIAL)
1,300' x 310'
FFE: 833.6±

PROPOSED FHA (PRIVATE)

PROPOSED FHA (PRIVATE)

PROPOSED FHA (PRIVATE)

EX. 8-INCH PUBLIC WATERMAIN IN SAVOY LANE

CONNECT TO EXISTING 8-INCH PUBLIC WATERMAIN

PROPOSED SHARED PRIVATE PUMP STATION PER LOCAL AND STATE REQUIREMENTS

BUILDING 2 PUMP ROOM

PRIVATE SERVICES TO BUILDING 2

BLDG 1 FDC

BLDG 2 FDC

PROPOSED FHA (PRIVATE)

PROPOSED PRIVATE FORCEMAIN

CONNECT PRIVATE FORCEMAIN TO PROPOSED PUBLIC MANHOLE

PROPOSED FHA (PRIVATE)

PRIVATE FIRE SERVICE TO BUILDING 1

PROPOSED FHA (PUBLIC)

PROPOSED PUBLIC WATERMAIN EXTENSION

FIRE APPARATUS TURNING MOVEMENT (TYP)

PROPOSED FHA (PUBLIC)

PROPOSED PUBLIC SANITARY SEWER EXTENSION TO PROPERTY LINE.

PROPOSED SANITARY SEWER EASEMENT. FINAL RECORDED EASEMENT DOCUMENTATION SHALL BE PROVIDED PRIOR TO CONSTRUCTION PLAN APPROVAL.

PROPOSED GAS LINE CROSSING. ENCROACHMENT AGREEMENT IN PROGRESS

EX. PUBLIC SEWER IN EASTFIELD ROAD (MALLARD CREEK WWTP)

FIRE MARSHAL NOTE: IF PUBLIC ROAD IS NOT INSTALLED, ACCESS EQUIVALENT TO WHAT IS DEPICTED SHALL BE PROVIDED

UTILITY LEGEND

- EXISTING WATERLINE — W —
- PROPOSED WATERLINE/FIRE LINE (SIZE) — 10" W — 10" W —
- FIRE HYDRANT HOSE PULL — FIRE — FIRE —
- PROPOSED FIRE HYDRANT
- PROPOSED GATE VALVE
- PROPOSED WATER METER
- PROPOSED BACK FLOW PREVENTER
- PROPOSED FIRE DEPARTMENT CONNECTION — FDC
- EXISTING SANITARY SEWER LINE — SS —
- EXISTING SANITARY SEWER MANHOLE — Ⓢ
- PROPOSED SANITARY SEWER LINE — SS —
- PROPOSED SANITARY SEWER EASEMENT — SSE —
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER MANHOLE

UTILITY NOTES

1. PROJECT WATER AND SEWER SERVICE WILL BE SUPPLIED BY CLT WATER.

FIRE ACCESS NOTES

1. THE MOST REMOTE POINT OF THE BUILDING SHALL BE WITHIN 600' OF A FIRE HYDRANT AS A TRUCK TRAVELS (400' WHEN NO SPRINKLER SYSTEM IS PRESENT). ALL POINTS OF THE BUILDING SHALL BE WITHIN 200' OF A FIRE TRUCK ACCESSIBLE ROUTE.
2. FIRE HYDRANT SHALL BE WITHIN 200' OF FDC AS THE APPARATUS TRAVELS (100' WHEN FDC SERVES STANDPIPES).
3. FIRE ACCESS ROAD AND PARKING LOT SHALL BE ABLE TO WITHSTAND 85,000-LBS OF TRUCK TRAVEL.
4. ALL FIRE ACCESS ROADS REQUIRE A MINIMUM 20' UNOBSTRUCTED CLEAR WIDTH.
5. RADII OF CURVES IN THE FIRE ACCESS ROAD SHALL BE 30' MINIMUM (INSIDE) AND 42' MINIMUM (OUTSIDE).

BACKFLOW NOTES

1. NO PERMANENT INSULATION MAY BE INSTALLED ON THE BP ASSEMBLY. IT IS RECOMMENDED THAT HEAT BE PROVIDED FOR ALL ABOVE-GROUND DOMESTIC AND COMBINATION SERVICE BP ENCLOSURES TO PREVENT FREEZE DAMAGE. IRRIGATION BP'S CAN BE WINTERIZED BY DRAINING ALL WATER FROM THEM. ENCLOSURES FOR ABOVE-GROUND BP INSTALLATIONS ON FIRE LINES ARE REQUIRED BY THE FIRE DEPT. TO BE HEATED (MAINTAIN A MIN. OF 40°F)
2. NO PLASTIC PIPING MATERIAL IS ALLOWED WITHIN 5' OF THE BP ENDS.
3. ALL REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED ABOVE-GROUND WITHIN INSULATED ENCLOSURE PER CLTWATER REQUIREMENTS. ENCLOSURE TO INCLUDE DRAIN PORTS FOR DISCHARGE WATER PER CLTWATER REQUIREMENTS.
4. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER-USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT-WATER REQUIRED BACKFLOW PREVENTER.
5. EACH CLTWATER REQUIRED BPA IS TO BE TESTED BY A CLTWATER APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
6. ALL ABOVE GROUND BACKFLOW PREVENTERS ARE SUBJECT TO 20' MINIMUM BUILDING SETBACKS FROM THE REESE BLVD W RIGHT-OF-WAY.

CHARLOTTE WATER NOTES

1. CUSTOMER IS RESPONSIBLE FOR STAKING SITE AS NECESSARY TO DETERMINE SERVICE LOCATIONS AND ELEVATIONS PRIOR TO CHARLOTTE WATER CONTRACTOR MOBILIZING TO INSTALL SERVICES.
2. ON-SITE CONTRACTOR IS RESPONSIBLE FOR RELOCATING ANY APPLICABLE CONFLICTING UTILITIES NECESSARY TO COMPLETE SERVICE INSTALLATIONS. ADDITIONAL FEES MAY APPLY & CONSTRUCTION TIMELINES EXTENDED IF CONFLICTING UTILITIES ARE NOT SHOWN ON THE PLANS.
3. PAYMENT FOR A QUOTED SERVICE CONNECTION SHALL BE CONSIDERED ACKNOWLEDGMENT AND APPROVAL OF CHARLOTTE WATER COMMENTS BY THE APPLICANT. PAYMENT DOES NOT INCLUDE ANY ADDITIONAL APPLICABLE FEES REQUIRED DUE TO UNFORESEEN CIRCUMSTANCES THAT ARE NOT DEPICTED ON THE APPLICANT PROVIDED SITE PLAN.
4. BACKFLOW PREVENTION REVIEW ENTAILS PLAN SUBMITTAL VIA MECKLENBURG COUNTY'S CODE ENFORCEMENT PERMITTING PROCESS AT THE TIME OF APPLICATION FOR BUILDING PERMITS. BACKFLOW PROGRAM REQUIREMENTS ARE AVAILABLE ONLINE. PLEASE CONTACT MARK KROUSE AT 704.432.5800 FOR MORE INFORMATION. ANY REVISION TO THE SERVICE CONFIGURATIONS AND/OR METER LOCATIONS WILL REQUIRE A RESUBMITTAL TO BACKFLOW FOR REVIEW.

OAK ENGINEERING
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NORTH CAROLINA FIRM LICENSE #P1742
oak.engineering

PE SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 33996 ENGINEER

06/01/2023

100 0 100
SCALE: 1" = 100'

EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

UTILITY CONCEPT PLAN

EPM #445035

REVISIONS:
1. 06/01/23 - PER STAFF COMMENTS

ENGINEER: GTW
DRAWN BY: ERT
CHECKED BY: LJB

PROJECT #: 022.021

SHEET
SP1.0
SHEET 7 OF 9

PROPOSED BUILT UPON AREA (BUA) LEAVING THE SITE UNDETAINED SHALL NOT EXCEED WHAT IS EXISTING IN THE PROJECT LIMITS.

EXISTING BUA = 141,100 SF
PROPOSED BYPASS BUA = ± 48,800 SF

DA #2

BMP #2: BIORETENTION STRIP
DA = ± 4.3 ACRES
CN = ± 85
TC = ± 8 MIN

PROPOSED BUILDING 1
±325,125 SF (LIGHT INDUSTRIAL)
1,150' x 280'
FFE: 837.9±

PROPOSED BUILDING 2
±408,000 SF (LIGHT INDUSTRIAL)
1,300' x 310'
FFE: 833.6±

DA #3

PROPOSED GRASSED SWALE #1 TO MEET THE TOWN'S LID STORMWATER REQUIREMENTS

PROPOSED GRASSED SWALE #2 TO MEET THE TOWN'S LID STORMWATER REQUIREMENTS

BMP #3: BIORETENTION STRIP
DA = ± 5.2 ACRES
CN = ± 81

BMP #1: WET POND
DA = ± 40.9 ACRES
CN = ± 88
Tc = ± 21 MIN
POND SA = 98,000 SF
AVE DEPTH = 6 FT
PPV = ± 588,000 CF
WQv/PPV < 0.3

DA #1

GRADING LEGEND

- EXISTING CONTOUR — 100
- PROPOSED CONTOUR — 100
- PROPOSED LIMITS OF CONSTRUCTION — LOC
- PROPOSED STORM DRAINAGE EASEMENT — SDE
- PROPOSED STORM DRAINAGE PIPE — 18" RCP
- EXISTING JURISDICTIONAL WETLAND — WET
- PROPOSED SPOT ELEVATION (GUTTER LINE ELEV) — 100.00
- PROPOSED JUNCTION BOX
- PROPOSED CATCH BASIN
- PROPOSED DROP INLET
- PROPOSED FLARED END SECTION
- PROPOSED OUTLET STRUCTURE
- PROPOSED HEADWALL
- PROPOSED RIPRAP APRON

STORM DRAINAGE NOTES

1. THE PURPOSE OF THE STORM DRAINAGE EASEMENT (SDE) IS TO PROVIDE STORMWATER CONVEYANCE. BUILDINGS ARE NOT PERMITTED IN THE EASEMENT AREA. ANY OTHER OBJECTS WHICH IMPEDE STORMWATER FLOW OR SYSTEM MAINTENANCE ARE ALSO PROHIBITED.
2. "AS-BUILT" DRAWINGS AND PLANS OF THE STORM DRAINAGE SYSTEM, INCLUDING DESIGNED DITCHES, MUST BE SUBMITTED PRIOR TO SUBDIVISION FINAL INSPECTION TO THE TOWN ENGINEERING DEPARTMENT IN ACCORDANCE WITH THE SUBDIVISION ORDINANCE.
3. AS-BUILTS FOR ALL APPLICABLE DETENTION STRUCTURES AND BMP MEASURES ARE REQUIRED. AS-BUILTS ARE TO INCLUDE LATITUDE AND LONGITUDE FOR CENTER OF MEASURE, AND INLETS AND OUTLETS OF ALL STRUCTURES. ELEVATIONS ARE REQUIRED FOR ALL MEASURES AS WELL AS DIMENSIONS OF ALL MEASURES.
4. PRIOR TO INSTALLATION, PE SEALED SHOP DRAWINGS FOR UNDERGROUND DETENTION SYSTEMS AND OUTLET RESTRICTION DEVICES MUST BE FURNISHED TO THE TOWN FOR APPROVAL.
5. THE PROPOSED STORMWATER MANAGEMENT SYSTEM SHALL MEET THE 25-YEAR DETENTION.

HUNTERSVILLE GRADING & EC NOTES

1. INSPECTIONS SHALL BE CONDUCTED AS PRESCRIBED BY THE MAINTENANCE COVENANT. ADDITIONAL INSPECTIONS MAY BE CONDUCTED BY THE TOWN OF HUNTERSVILLE ON ANY REASONABLE BASIS, INCLUDING BUT NOT LIMITED TO: ROUTINE INSPECTIONS; RANDOM INSPECTIONS; INSPECTIONS BASED UPON COMPLAINTS OR OTHER NOTICE OF POSSIBLE VIOLATIONS; INSPECTIONS OF DRAINAGE BASINS OR AREAS IDENTIFIED AS HIGHER THAN TYPICAL SOURCES OF SEDIMENT OR OTHER CONTAMINANTS OR POLLUTANTS; INSPECTIONS OF BUSINESSES OR INDUSTRIES OF A TYPE ASSOCIATED WITH HIGHER THAN USUAL DISCHARGERS OF CONTAMINANTS OR POLLUTANTS OR WITH DISCHARGES OF A TYPE WHICH ARE MORE LIKELY THAN THE TYPICAL DISCHARGE TO CAUSE VIOLATIONS OF STATE OR FEDERAL WATER QUALITY STANDARDS OR THE NPDES STORM WATER PERMIT; AND JOINT INSPECTIONS WITH OTHER AGENCIES INSPECTING UNDER ENVIRONMENTAL AND SAFETY LAWS. INSPECTIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: REVIEWING MAINTENANCE AND REPAIR RECORDS; SAMPLING DISCHARGES, SURFACE WATER, GROUNDWATER, AND MATERIAL OR WATER IN BMPS; EVALUATING THE CONDITION OF BMPS AND STORM WATER MANAGEMENT PRACTICES.
2. RIGHT-OF-ENTRY FOR INSPECTION. WHEN ANY NEW BMP IS INSTALLED ON PRIVATE PROPERTY, THE PROPERTY OWNER SHALL GRANT TO THE TOWN OF HUNTERSVILLE THE RIGHT TO ENTER THE PROPERTY AT REASONABLE TIMES AND IN A REASONABLE MANNER FOR THE PURPOSE OF INSPECTION. THIS INCLUDES THE RIGHT TO ENTER A PROPERTY WHEN THE TOWN OF HUNTERSVILLE HAS A REASONABLE BASIS TO BELIEVE THAT A VIOLATION OF THIS REGULATION IS OCCURRING OR HAS OCCURRED, AND TO ENTER WHEN NECESSARY FOR ABATEMENT OF A PUBLIC NUISANCE OR CORRECTION OF A VIOLATION OF THIS REGULATION.

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PE SEAL:

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33996

10/14/2022

80 0 80
SCALE: 1" = 80'

EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

GRADING & DRAINAGE CONCEPT PLAN

EPM #445035

REVISIONS:
1. 06/01/23 - PER STAFF COMMENTS

ENGINEER: GTW
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PROJECT #: 022.021

SHEET
SP2.0
SHEET 9 OF 9

OUTDOOR AMENITY AREA #1:
PAVER PLAZA (2,000 SF MIN)
FINAL DESIGN TO BE DETERMINED

OUTDOOR AMENITY AREA #2:
APPROX. 1/4 MILE MULCHED
NATURE TRAIL

DOUBLE ROW OF STREET TREES
TO BE PLANTED ALONG THOROUGHFARE.
TREES TO BE LOCATED INSIDE THE R/W OR
IN A PUBLIC STREET TREE EASEMENT.

PROPOSED BUILDING 1
±325,125 SF (LIGHT INDUSTRIAL)
1,150' x 280'
FFE: 837.9±

PROPOSED BUILDING 2
±408,000 SF (LIGHT INDUSTRIAL)
1,300' x 310'
FFE: 833.6±

AREAS ADJACENT TO OVERHEAD POWER
LINE EASEMENTS MAY SUBSTITUTE SMALL
MATURING TREES WHERE LARGE MATURING
TREES WOULD OTHERWISE BE REQUIRED.

LANDSCAPING CALCULATIONS

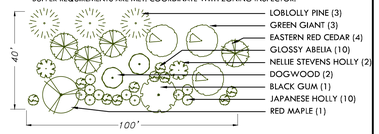
BUFFER LANDSCAPING REQUIRED:

EVERETTE KEITH RD STREET BUFFER (2,725' OF FRONTAGE x 40' WIDE)
TREES REQUIRED = (109,000 SF / 1,000 SF x 4 TREES) = 436 TREES
SHRUBS REQUIRED = (109,000 SF / 1,000 SF x 5 SHRUBS) = 545 SHRUBS
(TREES: 75% LARGE MATURING, 50% EVERGREEN, 25% SMALL MATURING)
(SHRUBS: 75% EVERGREEN)

PARKING LANDSCAPING REQUIRED
- LARGE MATURING TREES REQUIRED IN INTERIOR OF PARKING (MAX. 35 SPACES APART)
- LARGE MATURING TREES REQUIRED ALONG PERIMETER AT MAXIMUM 40' O.C.
- CONTINUOUS SCREEN OF EVERGREEN SHRUBS AT MAXIMUM 4' O.C.
- SEMI-OPAQUE SCREEN REQUIRED AT TRUCK COURT WITH MAX. 10' SEPARATION OF MATURE TREE CANOPY AND MAX. 4' CLEAR SPACE BETWEEN SHRUBS

BUFFER DETAIL SCALE: 1" = 30'

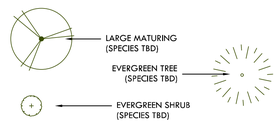
- 40' STREET BUFFER
- DETAIL SHOWS APPROXIMATE LOCATION OF VEGETATION REQUIRED PER 100' SECTION:
  - 16 TREES (INCLUDING 8+ EVERGREEN AND 12+ LARGE MATURING) REQUIRED
  - 20 SHRUBS REQUIRED (INCLUDING 15+ EVERGREEN)
- EXISTING VEGETATION LOCATED WITHIN THE BUFFER MAY BE SUBSTITUTED SO LONG AS BUFFER REQUIREMENTS ARE MET. COORDINATE WITH ZONING INSPECTOR.



TREE REPLANT AREAS
DENOTES AREAS WHERE COMPLETE CLEARING AND GRADING WILL BE REQUIRED. AREAS SHALL BE STABILIZED AND PLANTED PER THE APPROVED PLANS AND AS SPECIFIED BY THE TOWN OF HUNTERSVILLE LANDSCAPING ORDINANCE.

URBAN OPEN SPACE		
TYPE	SIZE	PARKING PROVIDE
PAVER PLAZA	2,000 SF (MIN)	0
NATURE TRAIL	1/4 MILE ±	0

LANDSCAPING KEY



LANDSCAPE NOTES

1. EXISTING VEGETATION LOCATED ON SITE MAY BE SUBSTITUTED SO LONG AS URBAN FORESTRY REQUIREMENTS ARE MET. COORDINATE ONSITE WITH URBAN FORESTER.
2. PLANT SPECIES MAY BE SUBSTITUTED DEPENDING ON TIME OF PLANTING, AVAILABILITY, ETC. UPON APPROVAL OF URBAN FORESTER AND AS LONG AS PLANT SELECTION, TYPE, SPACING MEETING TOWN OF HUNTERSVILLE'S LANDSCAPING ORDINANCE.
3. STREET TREE LOCATIONS ARE SUBJECT TO CHANGE DURING CONSTRUCTION PLAN PHASE TO SATISFY THE TOWN'S ENGINEERING STANDARDS AND PROCEDURES MANUAL.

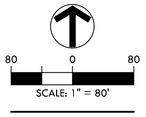
HUNTERSVILLE LANDSCAPE NOTES

1. INSTALLATION GUARANTEE REQUIRED
   - 1.1. A FINAL CERTIFICATE OF OCCUPANCY MAY BE ISSUED PRIOR TO THE INSTALLATION OF TREES AND SHRUBS, EXCLUDING YARD TREES, DURING THE NON-PLANTING SEASON IF A CASH BOND, SURETY BOND OR LETTER OF CREDIT IS ISSUED FOR 120% OF THE COST OF MATERIALS AND INSTALLATION. PLANTING SHALL BE COMPLETED DURING THE NEXT PLANTING SEASON.
   - 1.2. THE PLANTING SEASON SHALL RUN FROM OCTOBER 15 TO MARCH 15, EXCEPT FOR EXTREME WEATHER CONDITIONS AS DETERMINED BY STAFF. A FINAL CERTIFICATE OF OCCUPANCY SHALL NOT BE GIVEN DURING THE PLANTING SEASON UNLESS ALL OF THE LANDSCAPING IS COMPLETELY INSTALLED ACCORDING TO THIS ARTICLE.
2. MAINTENANCE SURETY REQUIRED
   - 2.1. DEVELOPERS SHALL ENTER INTO A MAINTENANCE SURETY AGREEMENT WITH MECKLENBURG COUNTY GUARANTEEING THE VIABILITY OF STREET TREES AND TREES AND SHRUBS PLANTED IN BUFFER YARDS FOR A PERIOD OF 1 YEAR FOLLOWING PLANTING. THE AMOUNT OF THE SURETY SHALL BE EQUAL TO 50% OF THE VALUE OF THE NEW TREES OR LANDSCAPE MATERIAL AND THEIR INSTALLATION. THE MAINTENANCE SURETY SHALL BE PROVIDED WHEN ALL OF THE REQUIRED TREES AND SHRUBS HAVE BEEN PLANTED.

OAK ENGINEERING
4929 MONROE ROAD · CHARLOTTE, NC 28205
NORTH CAROLINA FIRM LICENSE #P1742
oak.engineering

PE SEAL:

06/01/2023



EASTFIELD INDUSTRIAL

EVERETTE KEITH ROAD
HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA
FOUNDRY COMMERCIAL

LANDSCAPING CONCEPT PLAN

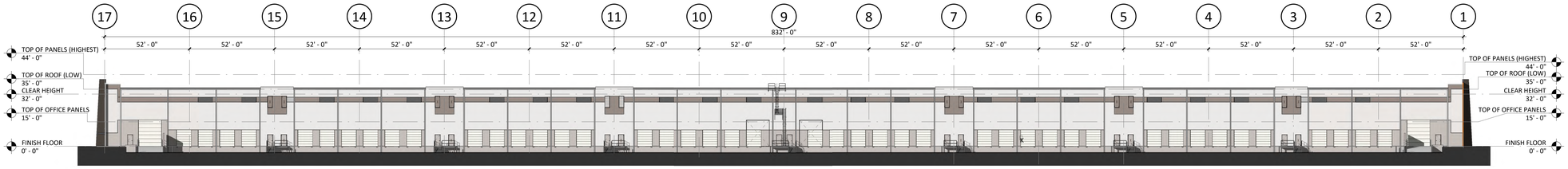
EPM #445035

REVISIONS:
1. 06/01/23 - PER STAFF COMMENTS

ENGINEER: GTV
DRAWN BY: ERT
CHECKED BY: LJB

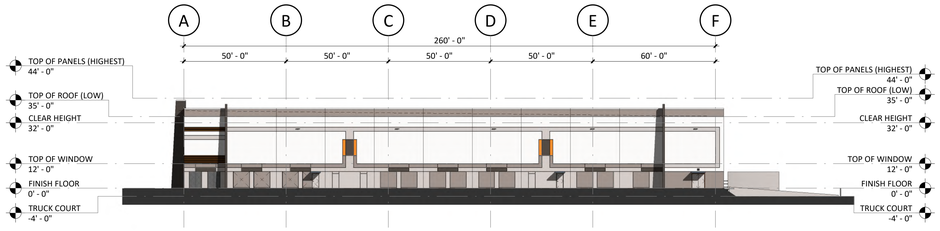
PROJECT #: 022.021

SHEET
SP3.0
SHEET 9 OF 9



1 COLOR ELEVATION - TRUCK COURT - PLAN NORTH

1" = 30'-0"



2 COLOR ELEVATION - PLAN EAST

1" = 30'-0"

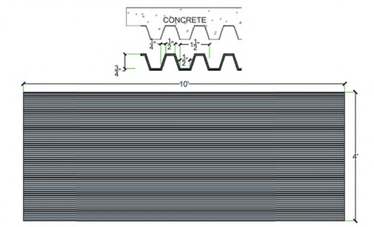
FORMLINER USED ON CORNERS TO ESTABLISH HEIRARCHY OF FEATURES

Pattern# 4004
3/4" Deep Rib 1 1/2"oc (1/2" Peak, 1/2" Valley)

customrock FORMLINER

General Information:

Thermoformed ABS and Styrene plastic formliners are an inexpensive alternative for providing architectural concrete. The Styrene single use liner is the least expensive liner option. The ABS plastic formliner properties allows for an up to ten reuse factor depending on the design and handling.



Thermal Deformation:
- Do not expose to temperatures >140°F (60°C)

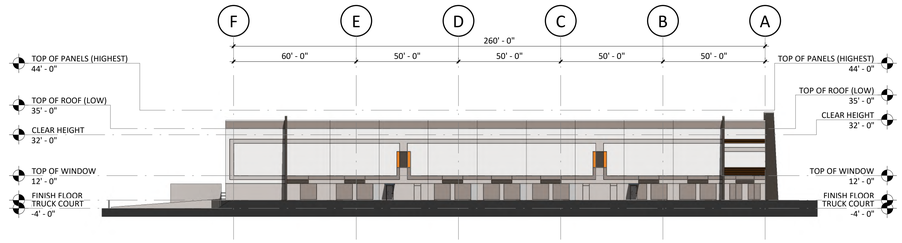
Care and Handling:
- Keep out of the sunlight and covered when not in use
- Keep away from steam, acids, and certain fuels
- For further instructions refer to the application guide

Thermal expansion:
- +/- 1/8" @ 70°F

Note:
Pattern may require additional backing. We recommend a mockup pour simulating job conditions.

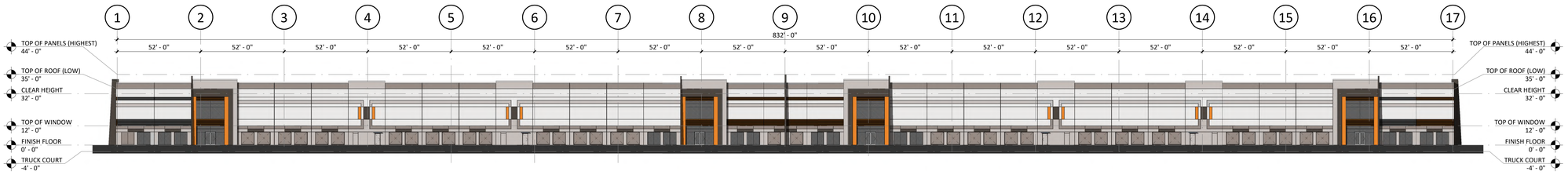
Material	Product Code	# of Reuses	Std. Dims	Color
Styrene	4004-STY	1	4'x10'	White
ABS	4004-ABS	Up to 10	4'x10'	Gray

Custom Rock Formliner • 2020 West 7th Street • St. Paul, MN 55116 • (800) 637-2447
www.customrock.com



3 COLOR ELEVATION - PLAN WEST

1" = 30'-0"



4 COLOR ELEVATION - PLAN SOUTH

1" = 30'-0"

BESIDES 1 ACCENT COLOR, THE 4 OTHER COLORS ARE CLOSE MONOCHROMES OF EACH OTHER TO CREATE SUBTLE ELEVATIONAL INTEREST IN THE PATTERNS

MEDIUM TEXTURE PAINT ON CONCRETE WALL PANELS

SHELL BUILDING ONLY

architects msa merriman schmitt
architecture · planning
interior design
605 LEXINGTON AVENUE
SUITE 300
CHARLOTTE, NC 28203
704.377.1177
704.377.3060 (fax)

CONSULTANTS:

GENERAL CONTRACTOR:

CLIENT: FOUNDRY COMMERCIAL

REPRESENTATIVE BUILDING ELEVATIONS

SHELL BUILDING ONLY

SEALS:

REVISIONS		
MARK	DATE	DESCRIPTION

NOTE:
MINIMUM 32 FT. CLEAR HEIGHT UNDER STRUCTURE, TYPICAL.

PROJECT NUMBER: C21144
PERMIT TRACKING: ---

DRAWING STATUS:
- (●) NOT FOR CONSTRUCTION
- ( ) ISSUED FOR BIDDING
- ( ) ISSUED FOR CONSTRUCTION

SHEET TITLE:
COLOR ELEVATIONS, PAINT COLORS, & WALL FORMLINER

SHEET NUMBER:
TRC 2

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C21144

2/9/2023 3:34:21 PM

architects
msa
merriman
associates

Community Meeting Report

R23-01 Foundry-Everette Keith Road

Date: May 24, 2023
Time: 6:30 PM to 7:30 PM
Location: Huntersville Recreation Center
1136 Verhoeff Drive, Huntersville, NC, 28078
Attendees: 13-14 neighbors, development team, David Peete and Frank Gammon. Neighbor sign-up sheets are attached.

Applicant and the neighborhood attendees discussed the following comments and questions:

Comments:

- Property owners of the property that is the subject of the rezoning discussed the uses of the property with the Applicant.
- Property owners and Applicant discussed how the proposed use and rezoning is consistent with Eastfield Road Small Area Plan ("Small Area Plan").
- Attendees discussed the history of the property and recommended names for the industrial park. Among the names recommended were Everette Keith and Christenbury.
- General enthusiasm for the project because it aligns with the Small Area Plan and the property owners have tried to develop the property for a very long time.
- Applicant explained the timeline for approval and provided the attendees with meeting dates Applicant reminded attendees that the dates can change and to check the town planning website.

Questions

1. What happens to the property north of this project if the project is approved? *The Small Area Plan and 2040 Comprehensive Plan are guides for development. The Applicant explained that the area the attendee asked about is Area C in the Small Area Plan (north of Hambright Road) which is recommend in the SAP to remain residential (TR).*
2. Will property to the south be zoned commercial along with this rezoning? *The Applicant explained that the property would not be rezoned without an owner's consent.*
3. What does the project timeline look like? *The project is currently on track for a July 17 public hearing and August rezoning vote and permitting and construction document approvals will take at least 12 months*.
4. How much time will the property owners be given to move after the rezoning is approved? *The property owners will be given 180 days from closing to relocate.*
5. Questions were asked about the existing pond and the function of the storm drainage systems. *The Applicant provided a detailed explanation of the pond drainage, storm water system, and pump location*.
6. What can go wrong with the rezoning approval? All 15 families are excited to see the property developed. *The Applicant reminded the attendees that rezoning is a political process*.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Lauren Speight, Senior Planner

Date: July 17, 2023

Subject: Public Hearing for Petition #TA 23-01 Street Trees

EXPLAIN REQUEST:
Conduct a public hearing for TA 23-01 Street Trees, a request by the by the Town of Huntersville Planning Department in cooperation with the Engineering and Public Works Departments to amend Articles 7.7, 5.5, and 12 of the Zoning Ordinance to provide options for developers to reduce impacts caused by street trees while meeting the guidelines of the Huntersville 2040 Community Plan and the intent of the Zoning Ordiannce.

ACTION RECOMMENDED:
Conduct a public hearing

FINANCIAL IMPLICATIONS:
N/A

ATTACHMENTS:
1. Staff Report TA 23-01 7.10.23
2. Attachment 1 TA23-01 Application
3. Attachment 2 TA 23-01 07.17.23 PH
4. Attachment 3 April 6 2023 Meeting Minutes

TA23-01 – Street Trees

PART 1: DESCRIPTION

Per the directive of the Town of Huntersville Board of Commissioners, TA23-01 is a text amendment request by the Town of Huntersville Planning Department in cooperation with the Engineering and Public Works Departments to amend Articles 7.7, 5.5, and 12 of the Zoning Ordinance to reduce impacts caused by street trees while ensuring high minimum quality of design meeting the intention of the Zoning Ordinance and Huntersville 2040 Comprehensive Plan.

PART 2: BACKGROUND

The regulation of required vegetation, such as street trees, is a standard part of the development codes. Street trees have been required for development in the Town of Huntersville since the adoption of the 1996 Zoning Ordinance. The planting strip for street trees was originally adopted at 5 feet in width for street trees. Over time the minimum planting strip width was increased from 5 feet to 7 feet in 2003 to allow street trees appropriate area for the health of the trees and infrastructure. Major residential subdivisions developed with the requirement for street trees include, but are not limited to, Monteith Park, Skybrook, Tanner's Creek, and Centennial. As the street trees in these and other developments with Town-maintained roads matured the Town Engineering and Public Works Departments provided feedback that evidence suggest a large portion of sidewalk repairs are the result of damage caused by street trees.

In response to feedback from the Town Engineering and Public Works Departments, the Town Board of Commissioners directed staff to propose a text amendment to resolve the challenges posed by street trees. Planning Staff conducted extensive research of street trees requirements and best practices and reviewed regulations for street trees of dozens of municipalities within North Carolina. Ultimately, staff found half of the largest municipalities in North Carolina allow or require trees in a green zone between the sidewalk and travel lanes. Several municipalities with street tree requirements also have arborists on staff. Best practices from staff research and feedback from those arborists indicate the most successful method to prevent damage to infrastructure evaluation of appropriate tree species and conditions at the plan review level. Staff found, through our research and review of subdivisions in Huntersville, the appropriate species and location of street trees is critical to the longevity of the public right-of-way.

Thus, the included proposal intends to meet multiple goals: 1) reduce impacts of street trees on Town-maintained infrastructure by requiring the most appropriate species in the most appropriate location; 2) comply with the Huntersville 2040 Community Plan, and 3) ensure the appropriate use of plant material in new construction per Article 7 of the Zoning Ordinance. To meet these goals TA 23-01 proposes the following:

Section 1: This section of the text amendment proposes to allow small maturing street trees within a minimum 7-foot-wide planting strip and large maturing trees within a minimum 9-foot-wide planting strip. In response to feedback from the Engineering and Public Works Departments, developers will also have the option to forgo planting a tree within the planting strip and may alternatively provide a 5-foot green zone and one yard tree in addition to the required supplemental landscaping required in Article 7.7, Section 3. Developers may only choose the option to provide a 5-foot green zone with an additional yard tree if the lots in the development meet certain dimensions. The dimension requirements are important for additional trees because lots are already required to include front and rear yard trees and it is important a lot is able to accommodate an additional tree.

Sections 2 and 4: Per feedback from the Huntersville Ordinances Advisory Board, "New Trees" in Article 7.7, Section 3 has been modified to "Required Yard Trees" with a proposed definition in Section 4 of this text amendment. This section also proposes to allow new lots for which the front build-to-range or setback is 25 feet or less to plant small-maturing trees instead of large-maturing trees. Small maturing trees in the front yard would allow a more appropriate tree species within a smaller area.

Section 3: This section of the text amendment is proposed to amend the green zone minimum widths in Article 5.5 of the Zoning Ordinance to correspond with the proposed changes to Article 7.7 of the Zoning Ordinance in Section 1 of this text amendment.

PART 3: RELEVANT SECTIONS OF THE HUNTERSVILLE 2040 COMMUNITY PLAN

EOS 4.1 Require street trees and encourage the preservation of heritage trees.

EOS 4.3 Plant more trees and continue to require street trees in new developments.

Staff comment: The proposed text amendment preserves the requirement for street trees in new developments as directed in EOS 4.1 and EOS 4.3 of the Huntersville 2040 Community Plan. The revisions propose to increase the options for developers to provide trees along the public street that are an appropriate species within a sufficient planting area to minimize maintenance of the public right-of-way and ensure the health of the tree canopy for the benefit of the community.

PART 4: STAFF RECOMMENDATION

Staff recommends approval of the proposed text amendment TA23-01 based on consistency with policies EOS 4.1 and EOS 4.3 of the Huntersville 2040 Community Plan as well as the intent of Article 7 of the Zoning Ordinance.

PART 5: HUNTERSVILLE ORDINANCE ADVISORY BOARD

On April 6, 2023, The Huntersville Ordinances Advisory Board (HOAB) recommended approval (8-0) with the following text changes and considerations. Text change 1) Article 7.7.3 c be changed to read, "in cases where the front built-to range or setback is 20 feet or less be changed to 25 feet or less. Small maturing trees may be permitted." Text change 2) In article 7.7.3 c (a) be changed from 'new trees' to 'yard trees.' Recommendation #3 that a definition of yard trees to the Zoning Ordinance Article 12 Definitions be added. Recommendation #4 that the reference note, "For lots greater than 50 feet in width with the front build to depth of greater than 40 feet, in lieu of providing a planting strip located between the existing street and proposed sidewalk, the development may provide a minimum 5-foot green zone and one front-yard tree in addition to the required supplemental landscaping provisions for residential lots in the following section" be deleted. And that the following items be considered, #1) The wording of proposed draft text of Article 7.7.2(a) be amended to be more in line with the wording of Article 5.5.d(2) to allow more flexibility in the spacing of street trees and removal of street tree plantings near intersections. (See Attachment 3)

PART 6: PUBLIC HEARING

The Public Hearing is scheduled for July 15, 2023.

PART 7: PLANNING BOARD RECOMMENDATION

The Planning Board is scheduled for July 25, 2023.

PART 8: ATTACHMENTS

1. Text Amendment Application
2. Proposed Ordinance
3. HOAB Minutes

PART 9: STATEMENT OF CONSISTENCY – TA23-03

Planning Department	Planning Board	Board of Commissioners
APPROVAL: In considering the proposed amendment TA23-01, Planning Staff recommends approval based on consistency with policies EOS 4.1 and EOS 4.3 of the Huntersville 2040 Community Plan. It is reasonable and in the public interest to amend the Zoning Ordinance because it will provide developers with multiple options to comply with the street tree guidelines of the Huntersville 2040 Community Plan as well as the intent of Article 7 of the Zoning Ordinance to continue to provide Huntersville with the benefits of a robust tree canopy while reducing maintenance impacts to the public right-of-way.	**APPROVAL:** In considering the proposed amendment TA23-01, the Planning Board recommends approval based on the amendment being consistent with **(insert applicable plan reference)** It is reasonable and in the public interest to amend the Zoning Ordinance because*…(Explain)*	**APPROVAL:** In considering the proposed amendment TA23-01, the Town Board recommends approval based on the amendment being consistent with **(insert applicable plan reference)** It is reasonable and in the public interest to amend the Zoning Ordinance because*…(Explain)*
DENIAL: N/A	**DENIAL:** In considering the proposed amendment TA23-01, the Planning Board recommends denial based on the amendment being **(consistent OR inconsistent)** with **(insert applicable plan reference).** It is not reasonable and in the public interest to amend the Zoning Ordinance because…. *(Explain)*	**DENIAL:** In considering the proposed amendment TA23-01, the Town Board recommends denial based on the amendment being **(consistent OR inconsistent)** with **(insert applicable plan reference).** It is not reasonable and in the public interest to amend the Zoning Ordinance because…. *(Explain)*

Text Amendment
Application

Date of Application 01/30/2023

Fee

See Current Town of Huntersville Fee Schedule for Text Amendment to the Zoning/Subdivision Ordinance

Type of Change

X New Addition to text of Zoning Ordinance / Subdivision Ordinance / Other

X Revision/Modification to text of Zoning Ordinance / Subdivision Ordinance / Other

Description of Change

Proposed text amendment will affect the following:

Ordinance(s): See Attached Article(s): See Attached Section(s): See Attached

Current Ordinance: See Attached

Proposed Text: See Attached

Reason for Proposed Change: Per Town Board and Staff discussion at 2022 Town Board Retreat

Attach additional pages if needed.

NOTE: If the proposed text amendment effects property located along Hwy 73; is 2000 feet from an adjoining municipality, and/or the Mountain Island and Lake Norman Watersheds, additional peer review is required.

Applicant

Printed Name Town of Huntersville Planning Department

☐ Corporation ☐Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature Lauren Speight Date 01/30/2023

Title Lauren Speight, Sr. Planner Email LSPEIGHT@HUNTERSVILLE.ORG

Address of Applicant 105 Gilead Road, 3rd Floor

Property Owner (if different than applicant)

* Printed Name _____

☐ Corporation ☐Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature _____ Date _____

Title _____ Email _____

Address of Property Owner _____

* Property owner hereby grants permission to the Town of Huntersville personnel to enter the subject property for any purpose required in processing this application.

Every owner of each parcel included in this application, or the owner (s) duly authorized agent, must sign this application. If signed by an agent on behalf of the Owner, this petition MUST be accompanied by a Limited Power of Attorney signed by the property owner (s) and notarized, specifically authorizing the agent to act on the owner (s) behalf in signing this application. Failure of each owner, or their duly authorized agent, to sign, or failure to include the authority of the agent signed by the property owner, will result in an INVALID APPLICATION. **If additional space is needed for signatures, attach the Town of Huntersville Signature Addendum Form.**

Contact Information

Town of Huntersville
Planning Department
PO Box 664
Huntersville, NC 28070

Phone: 704-875-7000
Fax: 704-875-6546
Physical Address: 105 Gilead Road, Third Floor, Huntersville, NC 28078
Website: https://www.huntersville.org/228/Planning-Department

Date Received By Planning Department: _____

Staff Initials: _____

AN ORDINANCE TO AMEND ARTICLE 7, STREET TREE PLANTING STRIPS AND SMALL MATURING YARD TREE OPTION

Section 1. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 7.7, Section 2 of the Zoning Ordinance is hereby amended by modifying the minimum width of planting strips located between the existing street and proposed sidewalk as follows:

2. Spacing and Location of Street Trees. Small maturing s~~S~~treet trees are required to be within a minimum 7-foot planting strip located between the existing street and proposed sidewalk **and large maturing street trees are required to be within a minimum 9-foot planting strip between the existing street and proposed sidewalk**.[1] Planting shall be provided as follows:

a. Large maturing canopy trees shall be planted at a spacing not to exceed 40 feet on center except that spacing may be altered slightly to accommodate driveways.
b. Small maturing "canopy –like" trees shall be planted 30 feet on center where existing overhead utility lines prohibit the use of large maturing canopy trees.
c. For property located on a major or minor thoroughfare, excluding the Town Center (TC) zoning district, an additional row of street trees are required to be located behind the proposed sidewalk in a 10-foot landscape easement to be recorded on a plat of record prior to issuance of a building permits. The interior row of trees shall be staggered from the trees provided within the right-of-way.
d. All street trees must be listed as an approved street tree on The Town of Huntersville Tree and Shrub List.

[1] For lots greater than 50 feet in width with a front build-to-area depth of greater than 40 feet, in lieu of providing a planting strip located between the existing street and proposed sidewalk, the development may provide a minimum 5-foot green zone and one front-yard tree in addition to the required supplemental landscaping provisions for residential lots in the following section.

Section 2. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 7.7, Section 3 of the Zoning Ordinance is hereby amended by modifying the permitted types of yard trees as follows:

Supplemental Landscaping Provisions for Residential Lot Trees.

1. ~~**New**~~ **Required Yard Trees**. In order to maintain or replenish the urban tree canopy in areas of new residential subdivision, except when located in the TOD-R zoning district, each lot shall provide canopy trees in accordance with the following schedule:

Lot Size	**Required Number of Canopy Trees**
Less than 10, 000 sq./ft.	1 Front yard, 1 Rear Yard

10,000 – 15,000 sq./ft.	1 Front yard, 2 Rear Yard
15,001 – 20,000 sq./ft	2 Front yard, 2 Rear Yard
More than 20,000 sq./ft.	3 Front yard, 3 Rear Yard

2. **Existing Trees**. The use of existing trees to satisfy this requirement is encouraged. Supplemental plantings may be required in the addition to native material. Existing canopy trees over 6'" in caliper may be counted towards fulfilling this requirement. Required street trees may not be counted towards the fulfillment of this requirement.
3. **Location and Spacing**. All trees required within this section shall be planted within the private lot and must be spaced at a width sufficient to accommodate mature growth. **In cases where the front build-to range or setback is 25 feet or less, small-maturing trees may be permitted.** All trees shall be listed as an approved tree on *The Town of Huntersville Tree and Shrub List*.

Section 3. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 5.5, Elements of Street Design, d of the Zoning Ordinance is hereby amended as follows:

Tree-grates may be utilized for street trees; however, the grate-area may only count toward 1 foot of the "free and clear" (per ADA standards) sidewalk area. All other material placed at the base of street trees, other than concrete or asphalt, shall not count toward the minimum sidewalk width.

1. Street trees are required on both sides of all public streets except along the undeveloped side of residential-type streets adjacent to open space. Street Trees shall be located within a Green Zone, which is the space between the sidewalk and the back of curb or back of swale where no curb and gutter is present. Typically, Green Zones are a planting strip or hardscaped amenity zone, which serves as a buffer between pedestrians and vehicles. The Green Zone may include street trees and landscaping and often includes street furnishings and utilities. To encourage tree health, Green Zones shall be provided as follows:
    1. Curb and gutter section – 7 feet in width (minimum **for small maturing street trees**), **9 feet in width (minimum for large maturing street trees) per Article 7**;
    2. Ditch section – 6 feet minimum outside the swale;
    3. Industrial Streets – 10 feet in width;
    4. Alleys – not required.
2. Generally, street trees shall be planted at a spacing not to exceed 40 feet on center~~, and shall be a large-maturing type (see Town of Huntersville Approved Tree and Shrub List)~~. Where overhead utility lines preclude the use of large-maturing street trees, small-maturing street trees may be substituted, planted 30 feet on center. Street tree spacing may be "field-adjusted" for driveways or utilities **and to comply with the Town of**

Huntersville Engineering Standards and Procedures Manual, but should generally maintain uniform spacing. Street trees should not be planted within 40 feet of the radius return of an intersection.

Section 4. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 12.2.1, General Definitions, of the Zoning Ordinance is hereby amended as follows:

Yard Tree, Required. A tree or trees required to be planted in the front or rear yard of a lot to satisfy the requirements of Article 7 of the Zoning Ordinance.

Section 5. This ordinance shall become effective upon adoption.

HUNTERSVILLE ORDINANCE ADVISORY BOARD: 4/6/2023
PUBLIC HEARING DATE: July 17, 2023
PLANNING BOARD MEETING: July 25, 2023
TOWN BOARD DECISION: August 21, 2023

Minutes of the Town of Huntersville Ordinance Advisory Board

The Town of Huntersville Ordinance Advisory Board met in person at 3:30 p.m. on Thursday, April 6, 2023.

Call to Order/Roll Call
Chairman Hallman called the meeting to order at 3:30 pm.

Voting Members Present: A. Hallman, K. Jones, M. Jones, H. Whittaker, J. Palillo (arriving at 3:33 p.m.), S. Harrington, M. Pollard, and F. Gammon
Voting Members Absent: J. Kluttz

Non-Voting Members Present: Commissioner Munger, J. Simoneau, T. Barron, E. Sloop, and J. Glass
Non-Voting Members Absent: None

Approval of Minutes
Item 2A. Consider approval of the March 2, 2023, Regular Meeting Minutes
Motion: M. Jones made a Motion to Approve the amended March 2, 2023, minutes with the comments added to include that the Board did not receive all material information on Agenda Item 4A which was the reason he voted against that item. K. Jones seconded the motion.

Vote: The motion passed unanimously (7-0).

Public Comments
No public comments.

Action Agenda
Item 4A: Consider a recommendation on petition #TA23-01, a request by the Huntersville Planning Department for a text amendment to Article 7, Part A: Landscaping altering the spacing and location of required street trees and providing greater flexibility for the types of supplemental residential lot trees.
L. Speight, Senior Planner reviewed the three sections of the proposed amendment as included in the attached exhibits.

F. Gammon asked why last installation guarantee was not required. Staff provided the example of major subdivisions and indicated that we would not want to prevent a certificate of occupancy being issued for a home if the developer elects to install all their street trees at the completion of development just prior to handing the streets over to the town.

M. Jones commented that the request to review this text amendment was due to the high cost of sidewalk repairs. He then asked if there has been an analysis to identify how the proposed amendments would create that effect. Staff responded that the Planning Department has

researched how municipalities have mitigated damage and the larger planting strips are the approach taken versus eliminating trees to mitigate the damage.

M. Jones asked if existing streets die or are cut down, could the tree be replaced with something that does create further damage. Staff responded that the department is currently working with an arborist to identify recommended replacement of trees that are dead, diseased, or dying so that the same damage does not occur and to reduce issues with monoculture.

M. Jones asked if there is a meeting of the minds between Planning and Public Works on how to best address this issue. S. Trott, Director of Engineering commented that the more room you can provide and the further the tree is from the sidewalk, the better the results are and less potential maintenance.

S. Trott shared a sample of a site plan to demonstrate the types of utility lines, trees, streetlights, and driveways that occur within or between planting strips.

J. Palillo asked if a better option would be to make one street tree per lot regardless of lot size, widen the planning strip, and make sure the house setback is sufficient so that when you park in the driveway the vehicle does not overlap the sidewalk. Staff replied that using the current method for spacing street trees provides the result of an average of one tree per lot by the time you remove stormwater inlets, streetlights, driveways, etc. Staff also shared the efforts being done to work with an arborist and identify local non-invasive small trees that would be suitable for minimum root sizes, deep tap roots to increase survivability and minimize damage as the trees mature.

H. Whittaker commented that he is concerned about putting the street tree on private property and asked if the trees convey with the deed to the new owner. Staff confirmed that it does convey, and the homeowner is responsible for maintaining and replacing the tree.

S. Harrington asked why a 7-foot planting strip width is proposed if wider has been determined as better. Staff responded that the 7-foot width is included because it is the current zoning requirement and developers would be allowed to pick the width based on the type of trees that would be planted.

J. Palillo commented that the Town may be better off recommended eliminating the 5-foot option so that government does not have to manage telling the homeowner that they have to install the street tree in their yard and

Motion: F. Gammon made a Motion to Approve TA23-01 to move forward for public hearing, Planning Board and Town Board recommendation and decision with the following text changes and considerations. Text change 1) Article 7.7.3 c be changed to read, “in cases where the front built-to range or setback is 20 feet or less be changed to 25 feet or less. Small maturing trees may be permitted.” Text change 2) In article 7.7.3 c (a) be changed from ‘new trees’ to ‘yard

trees.' Recommendation #3 that a definition of yard trees to the Zoning Ordinance Article 12 Definitions be added. Recommendation #4 that the reference note for lots greater than 50 feet in width with the front build to depth of greater …. Be deleted. And that the following items be considered, #1) The wording of proposed draft text of Article 7.7.2(a) be amended to be more in line with the wording of Article 5.5.d(2) to allow more flexibility in the spacing of street trees and removal of street tree plantings near intersections. H. Whittaker seconded the motion.

F. Gammon commented that he agrees with J. Palillo's comments, and he would prefer to be responsible for the tree on the street based on the homeowner's association determination then putting another tree in his yard.

H. Whittaker commented that the concerns of Engineering and Public Works have not been addressed and if the discussion with the arborist will be sufficient to identify tree varieties that do not go wide or deep in root growth. Staff commented that based on conversations with other municipalities experience the arborist will consider the species and planting location of the trees whether that is the street or the yard, in addition to where the utilities are placed to determine where the trees should be planted.

J. Palillo commented that all maintenance issues cannot be avoided but should be reduced through the actions being taken. He then asked if stormwater and utility interference is as large of an issue as the sidewalk damage. K. Fox, Director of Public Works shared that since the Town is not responsible for those repairs, we are not sure how often they are happening but we do know that they happen because these repairs can require sidewalk removal. The sidewalk buckles and trip hazards are the greatest liability and expense that the Town is aware of and looking to address.

Commissioner Munger asked if Staff agreed that the motion would significantly or at least moderately have an impact of expenses related to sidewalk repair and have a negligible impact on any other utilities. K. Fox, Director of Public Works commented that to the best of his knowledge the proposal to lessen the root ball and root spread and widen the planting strip is better than what we currently have. In his opinion the best option is to put trees in yards, but this has a potential to lessen the impact moving forward. This motion is a move in the right direction and only time will tell if it is addressing the issues enough, but it is a good start.

F. Gammon commented that the motion will largely address future development and reduce those issues. Allowing existing street trees to be replaced with small maturing trees seems to be the only part that will help reduce the current issues.

H. Whittaker asked if it would be better to do away with a large tree option and only use small maturing trees for street trees. Staff commented that the option for a large maturing tree seems to be the preference because when done correctly it can create a very majestic result.

J. Palillo presented the concept of a 5-foot planting strip, 5-foot sidewalk, and 5-foot right-of-way with the tree planted at the 15-foot mark so it is on the border of the right-of-way and

yard. Now the tree is pushed 15 feet from the curb. Use the same total width that is currently being proposed but divide it up differently to allow the tree to be placed further from the curb and sidewalk and create the canopy over the sidewalk area. Staff commented that they will take this into consideration.

Vote: The motion passed unanimously (8-0).

Item 4B: Consider recommendation on petition #TA23-03 Minor Subdivision Changes, a request by the Town of Huntersville Planning Department for a text amendment to Article 2 Definitions: "Subdivision, Minor" to cap the amount of lots allowed within a minor subdivision and to Article 7.5 "Buffer Yards" to require buffers for minor subdivisions located within the R and TR zoning districts.

N. Farber, Planner II presented the proposed amendment as included in the attached exhibits. The proposed amendment would limit minor subdivisions to a maximum of 5 lots in all zoning districts. The goal of this amendment is to reduce large scale minor subdivisions which can strip out the length of the roads and remove a large quantity of trees and extend curb cuts for driveways. Additionally, a 10-foot buffer would be proposed to provide a separation for minor subdivisions within the Rural (R) and Transitional Residential (TR) zoning districts to assist with the maintain the rural nature of these areas.

M. Jones discussed the current density and open space requirements of R and TR zoning districts and commented that he does not see the need to buffer residential from residential which can increase untaxed property and affect housing affordability. Staff responded that the open space requirement is up to 45% and often times minor subdivisions do not get anywhere near that. The buffer requirement would allow existing vegetation or trees to protect existing adjacent neighbors.

J. Palillo asked why the responsibility to buffer does not fall on the existing land owners to buffer themselves versus the developer to buffer when developing the land. Staff responded that in the example shown here land is not always developed at the same time or under the same ordinances. In this case buffers were not required when the existing land was developed.

Motion: K. Jones made a Motion to Approve TA23-03 Minor Subdivision changes a request by the Town Planning Department for a text amendment to Article 12 definitions, subdivision, minor to cap the amount of lots allowed within a minor subdivision and to Article 7.5 buffer yards to require buffers for minor subdivisions located within the R and TR zoning districts as written by staff. F. Gammon seconded the motion.

Vote: The motion passed (7-1) with M. Jones opposed.

Item 4C: Consider recommendation on petition #TA23-04, a request by the Huntersville Planning Department for text amendment to Article 9.54 Solar Energy Facilities to clean up the language.

N. Farber, Planner II presented the proposed amendment as included in the attached exhibits. Staff mentioned that the previous amendment TA22-06 brought the solar requirements in compliance with NC State Statute 160d changes. This amendment would address the definition of major and minor solar facilities.

F. Gammon asked if a developer built a green development and installed a major solar farm to provide that development with power, how would the ordinances apply? Staff responded if it is a separate facility on a separate parcel then it would be considered a major solar farm. If it was installed as an accessory use on each parcel, then it would not.

J. Palillo asked how parking lot shelters with solar panels on the roof are addressed. Staff stated that they would be considered an accessory use.

Motion: M. Jones made a motion to Approve TA23-04 with the following changes, part C. 1. delete reference to general statute in the section under non-residential property because that statute only applies to residential and in section C.3. replace the word slope with surfaces. J. Palillo seconded the motion.

E. Sloop responded that the general statute reference in part C.1. are appropriate because we want the same location limitations to apply as there is no limitation to how the non-residential can be regulated. F. Gammon commented that the goal is to make the regulation mirror the statute. E. Sloop recommended removal of the language, 'pursuant to.'

Amendment: F. Gammon proposed an amendment to the motion for staff to study and resolve the use of the general statute in part C.1. M. Jones and J. Palillo accepted the amendment.

Vote: The motion passed unanimously (8-0)

Other Business
No other business.

Adjourn
Motion: F. Gammon made a Motion to Adjourn. S. Harrington seconded the motion.
Vote: The motion passed unanimously (8-0).

Approved this ____ day of _____ 2023.

_____
Chairman or Vice Chairman

_____

Board Secretary

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Lora Mastrofrancesco, Transportation Engineer/Project Manager

Date: July 17, 2023

Subject: Public Hearing for Mt. Holly-Huntersville Rd

EXPLAIN REQUEST:
This portion of Mt. Holly-Huntersville Rd is no longer in use due to the altered road realignment.

ACTION RECOMMENDED:
Conduct public hearing.

FINANCIAL IMPLICATIONS:
None

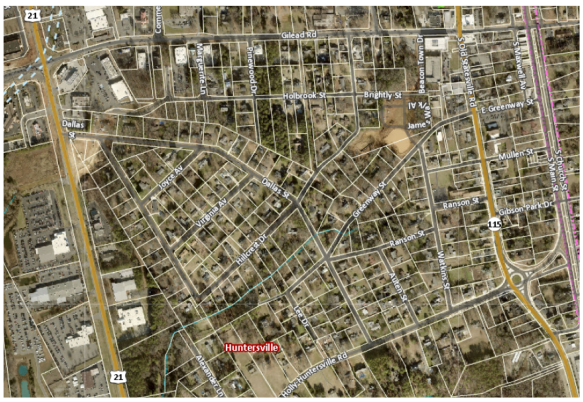
ATTACHMENTS:
1. Staff Report - ROW Abandonment Final 2023.7.6
2. Attachment A - Petition to Abandon by Guignard
3. Attachment B - 160A-299 PROCEDURE FOR CLOSING STREETS & ALLEYS
4. Attachment C - Resolution Declare Intent to Abandon and Close - 6.5.23

Right-of-Way Abandonment Petition:
A Portion of a Street (Right-of-Way)

PART 1: DESCRIPTION

Right-of-Way Abandonment Petition: A Portion of a Street (right-of-way) abandonment is a request by Mr. Charles Guignard to abandon public right-of-way of a portion of Mt Holly-Huntersville Road, see signed petition in Attachment A. The requested abandonment is of 0.148 acres.

PART 2: LOCATION



PART 3: BACKGROUND

The Town of Huntersville upgraded and realigned the intersection of NC115 and Mt Holly-Huntersville Road to a roundabout with 10ft multi use paths. The image above shows the 200LF section of roadway no longer in use.

North Carolina General Statue (NCGS) 160A-299, see Attachment B, gives the Town Board the authority to abandon street Right-of-Way (within the Town Limits) following a public hearing and a determination that the abandonment:

- Is not detrimental to the public interest, or the property rights of any individual.
- Does not deprive any individual(s) that own property nearby of reasonable means of ingress and egress to their property.
- Is contrary to the adopted policy to preserve existing right-of-way for connectivity.

PART 4: STAFF RECOMMENDATION

Staff finds the right-of-way abandonment:

- Is not a detriment to public interest, or property rights of adjacent parcels.
- Does not deprive any individuals a reasonable means of ingress and egress to their property.
- Does not adversely affect connectivity.

Therefore, staff recommends approval of the right-of-way abandonment for a portion of this Street (Right-of-Way).

Pursuant to §160A-299 notice of the intent to close this Unopened Right-of-Way (Street) (see Attachment B) was advertised in the newspaper. Copies of the notice were mailed to adjacent property owners, and two signs were posted along the right-of-way. Staff received no comments from adjacent property owners.

PART 6: PUBLIC HEARING

The Public Hearing will be held on July 17, 2023.

PART 7: ATTACHEMENTS

Attachment A: Right-of-Way Abandonment Petition
Attachment B: NCGS 160A-299
Attachment C: Resolution of Intent to Close and Abandon A Portion of a Street

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG PETITION

TO THE MEMBERS OF THE BOARD OF COMMISSIONERS OF HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA

(name of petitioner) Charles S. Guignard respectfully files this Petition and requests that (a portion or all of),
(name of street or location of alley) approximately 200LF of Mt Holly-Huntersville

lying (general description of location) From approximately the right of way at the new southern roundabout at NC115 and Mt-Holly-Huntersville Rd to its former terminus at S. Main St.

as shown on the map attached hereto and made a part hereof marked "Exhibit A", be closed and abandoned in accordance with the provisions of Chapter 160A, Section 299, subsection (a) of the General Statutes of North Carolina.

In support of this Petition, your petitioner respectfully alleges that:

1. (give reason for requested closing) This portion of Mt Holly-Huntersville Rd is no longer in use because of roadway realignment.
2. The closing of this portion of Mt Holly-Huntersville Rd street is not contrary to the public interest.
3. No individual, partnership or corporation owning property in the vicinity of this portion of Mt Holly-Huntersville Rd Street or in the subdivision in which it is located will be deprived of reasonable means of ingress and egress to his or its property by virtue of the closing. metes
4. The street (or portion thereof) which petitioner requests be closed and abandoned is illustrated as an approximation area in Exhibit A. Full ~~Mets~~ MEETS and Bounds will be provided before the Request to Call a Public Hearing.
5. The street (or portion there of), requested to be closed and abandoned has not been previously accepted by the North Carolina Department of Transportation for maintenance.

Wherefore, petitioner respectfully requests the Board of Commissioners of the Town of Huntersville consider this Petition and set the time for public hearing upon this matter as required by law.

Respectfully submitted the 13th day of APRIL, 2023

Charles S. Guignard
(signature of petitioner)

Charles S. Guignard
(Print Name)

Address: 406 S Main St,
Huntersville, NC 28078

Telephone Number: 704 875-1407

RIGHT-OF-WAY ABANDONMENT
AGREEMENT OF UNDERSTANDING

The following property owners have parcels that adjoin the public right-of-way

Mr. Charles S. Guignard. They hereby indicate, by signature, that they agree with the proposal to abandon that right-of-way. They further understand that once abandoned, a portion of that right-of-way becomes their property. The owners will then be responsible for maintenance and any additional property taxes that may result from the increase in the size of their original parcel.

I understand the statement above and agree with the proposed abandonment.

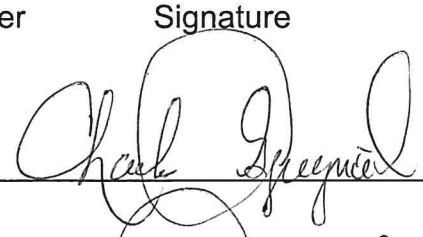
Name of Property Owner	Signature	Parcel Number
Charles S. Guignard		01904507
Charles S. Guignard		01907208

EXHIBIT A - LEGAL DESCRIPTION TO ABANDON A PORTION OF A STREET

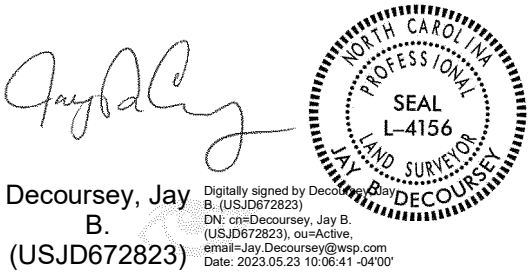
The properties now or formerly belonging to Charles S Guignard as recorded in Deed Book 17489 Page 813 and Deed Book 28947 Page 581 of the Mecklenburg County Register of Deeds. Parcel address is 406 South Main Street, Huntersville, NC 28078.

Mt Holly-Huntersville Road Right of Way Area 1:

Beginning at a computed point in the center of the Right of Way of Mt Holly-Huntersville Road, said point being the following six calls from NGS Monument First, having NC Grid Coordinates of North: 607,581.34' and Easting: 1,451,923.55' S23°0'35"W 66.38' to a half inch rod in the centerline of the Norfolk Southern Railway, thence following the tracks S10°5'34"E 110.97' to a computed point, thence crossing South Main Street Right of Way S80°24'27"W 63.51' to a computed point, said point being in the common line of Don and Carol Darcy (Deed Book 04164 Page 467) and Charles Guignard (Deed Book 28947 Page 581), thence following the existing Right of Way of South Main Street N11°44'0"W 111.08' to a computed point, thence N68°2'23"W 17.78' to a computed point, thence N14°25'35"W 9.25' to a computed point in the centerline of the old Mt Holly-Huntersville Road the Point and Place of Beginning, thence along the west Right of Way of South Main Street and across the old road the following two calls N14°25'35"W 9.05' to a computed point, thence N18°52'42"E 7.78' to a computed point in the northern Right of Way of the old Mt Holly-Huntersville Road, thence with said right of way S69°21'36"W 215.87' to a computed point in the new Right of Way of Mt-Holly Huntersville road, thence with said Right of way S5°17'4"E 15.55' to a computed point in the centerline of the old Mt Holly-Huntersville Road, thence along the former road centerline N69°21'36"E 214.06' to the point and Place of Beginning, containing 3,205 square feet. All per a map dated May 23, 2023 prepared by Jay Decoursey, NC PLS # L-4156 and WSP USA. 128 Talbert Road, Suite A. Mooresville, NC 28117. Phone 704-662-0100.

Mt Holly-Huntersville Road Right of Way Area 2:

Beginning at a computed point in the southerly Right of Way of Mt Holly-Huntersville Road, said point being the following five calls from NGS Monument First, having NC Grid Coordinates of North: 607,581.34' and Easting: 1,451,923.55' S23°0'35"W 66.38' to a half inch rod in the centerline of the Norfolk Southern Railway, thence following the tracks S10°5'34"E 110.97' to a computed point, thence crossing South Main Street Right of Way S80°24'27"W 63.51' to a computed point, said point being in the common line of Don and Carol Darcy (Deed Book 04164 Page 467) and Charles Guignard (Deed Book 28947 Page 581), thence following the existing Right of Way of South Main Street N11°44'0"W 111.08' to a computed point, thence N68°2'23"W 9.21' to a computed point in the southern Right of Way of Mt Holly-Huntersville Road and the Point of Beginning, thence following said southern Right of Way line S69°21'36"W 223.48' to a computed point in the new Right of Way for Mt-Holly Huntersville Road (Deed Book 34950 Page 933), thence N5°17'4"W 15.55' to a computed point in the centerline of the old Mt Holly-Huntersville Road, thence along the former road centerline N69°21'36"E 214.06' to a computed point, thence across the old road and with the south Right of Way of South Main Street S14°25'35"E 9.25' to a computed point, thence S68°2'23"E 8.57' to the point and Place of Beginning, containing 3,250 square feet. All per a map dated May 23, 2023 prepared by Jay Decoursey, NC PLS # L-4156 and WSP USA. 128 Talbert Road, Suite A. Mooresville, NC 28117. Phone 704-662-0100.



Decoursey, Jay B. (USJD672823)

Digitally signed by Decoursey, Jay B. (USJD672823)
DN: cn=Decoursey, Jay B. (USJD672823), ou=Active, email=Jay.Decoursey@wsp.com
Date: 2023.05.23 10:06:41 -04'00'

§ 160A-299. Procedure for permanently closing streets and alleys.

(a) When a city proposes to permanently close any street or public alley, the council shall first adopt a resolution declaring its intent to close the street or alley and calling a public hearing on the question. The resolution shall be published once a week for four successive weeks prior to the hearing, a copy thereof shall be sent by registered or certified mail to all owners of property adjoining the street or alley as shown on the county tax records, and a notice of the closing and public hearing shall be prominently posted in at least two places along the street or alley. If the street or alley is under the authority and control of the Department of Transportation, a copy of the resolution shall be mailed to the Department of Transportation. At the hearing, any person may be heard on the question of whether or not the closing would be detrimental to the public interest, or the property rights of any individual. If it appears to the satisfaction of the council after the hearing that closing the street or alley is not contrary to the public interest, and that no individual owning property in the vicinity of the street or alley or in the subdivision in which it is located would thereby be deprived of reasonable means of ingress and egress to his property, the council may adopt an order closing the street or alley. A certified copy of the order (or judgment of the court) shall be filed in the office of the register of deeds of the county in which the street, or any portion thereof, is located.

(b) Any person aggrieved by the closing of any street or alley including the Department of Transportation if the street or alley is under its authority and control, may appeal the council's order to the General Court of Justice within 30 days after its adoption. In appeals of streets closed under this section, all facts and issues shall be heard and decided by a judge sitting without a jury. In addition to determining whether procedural requirements were complied with, the court shall determine whether, on the record as presented to the city council, the council's decision to close the street was in accordance with the statutory standards of subsection (a) of this section and any other applicable requirements of local law or ordinance.

No cause of action or defense founded upon the invalidity of any proceedings taken in closing any street or alley may be asserted, nor shall the validity of the order be open to question in any court upon any ground whatever, except in an action or proceeding begun within 30 days after the order is adopted. The failure to send notice by registered or certified mail shall not invalidate any ordinance adopted prior to January 1, 1989.

(c) Upon the closing of a street or alley in accordance with this section, subject to the provisions of subsection (f) of this section, all right, title, and interest in the right-of-way shall be conclusively presumed to be vested in those persons owning lots or parcels of land adjacent to the street or alley, and the title of such adjoining landowners, for the width of the abutting land owned by them, shall extend to the centerline of the street or alley.

The provisions of this subsection regarding division of right- of-way in street or alley closings may be altered as to a particular street or alley closing by the assent of all property owners taking title to a closed street or alley by the filing of a plat which shows the street or alley closing and the portion of the closed street or alley to be taken by each such owner. The plat shall be signed by each property owner who, under this section, has an ownership right in the closed street or alley.

(d) This section shall apply to any street or public alley within a city or its extraterritorial jurisdiction that has been irrevocably dedicated to the public, without regard to whether it has actually been opened. This section also applies to unopened streets or public alleys that are shown on plats but that have not been accepted or maintained by the city, provided that this section shall not abrogate the rights of a dedicator, or those claiming under a dedicator, pursuant to G.S. 136-96.

(e) No street or alley under the control of the Department of Transportation may be closed unless the Department of Transportation consents thereto.

(f) A city may reserve a right, title, and interest in any improvements or easements within a street closed pursuant to this section. An easement under this subsection shall include utility, drainage, pedestrian, landscaping, conservation, or other easements considered by the city to be in the public interest. The reservation of an easement under this subsection shall be stated in the order of closing. The reservation also extends to utility improvements or easements owned by private utilities which at the time of the street closing have a utility agreement or franchise with the city.

(g) The city may retain utility easements, both public and private, in cases of streets withdrawn under G.S. 136-96. To retain such easements, the city council shall, after public hearing, approve a "declaration of retention of utility easements" specifically describing such easements. Notice by certified or registered mail shall be provided to the party withdrawing the street from dedication under G.S. 136-96 at least five days prior to the hearing. The declaration must be passed prior to filing of any plat or map or declaration of withdrawal with the register of deeds. Any property owner filing such plats, maps, or declarations shall include the city declaration with the declaration of withdrawal and shall show the utilities retained on any map or plat showing the withdrawal. (1971, c. 698, s. 1; 1973, c. 426, s. 47; c. 507, s. 5; 1977, c. 464, s. 34, 1981, c. 401; c. 402, ss. 1, 2; 1989, c. 254; 1993, c. 149, s. 1; 2015-103, s. 1.)

Resolution Declaring Intent to Abandon and Close a Portion of Mt Holly-Huntersville Rd

WHEREAS, Mr. Charles S. Guignard has filed a petition to close a part of Mt Holly-Huntersville Road, in the Town of Huntersville, as further described in Exhibit A – Legal Description; and

WHEREAS, N.C.G.S. § 160A-299 allows for a municipality to permanently close any street or public alley; and

WHEREAS, N.C.G.S. § 160A-299 requires that the Board of Commissioners for the Town of Huntersville (the "Board") first adopt a resolution declaring its intent to close the street and calling a public hearing on the question; said statute further requires that the resolution shall be published once a week for four successive weeks prior to the hearing, and a copy thereof be sent by registered or certified mail to all owners of property adjoining the street as shown on the county tax records, and a notice of the closing and public hearing shall be prominently posted in at least two places along said street or alley; and

WHEREAS, the Board desires to, pursuant to N.C.G.S. § 160A-299, declare its intent to close a portion of Mt Holly-Huntersville Road, as further described in Exhibit A.

NOW THEREFORE, BE IT RESOLVED AS FOLLOWS:

1. The Board hereby resolves that it intends to close a portion of Mt Holly-Huntersville Road, as further described in Exhibit A.
2. The Board hereby calls a public hearing the question of closing a portion of Mt Holly-Huntersville Road to be held at 6:00pm on Monday, the 17th day of July, 2023, at Town Hall, 101 Huntersville-Concord Road, Huntersville, NC, 28078, or location as otherwise designated by the Board.
3. The Clerk of the Board is hereby directed to publish a copy of this Resolution once a week for four successive weeks prior to the public hearing.
4. This Resolution shall be effective as of the date of its adoption.

Adopted this the 5th day of June 2023.

Attest:

Clerk to the Board

Mayor, Town of Huntersville

Approved as to Form:

Town Attorney

R-2023-29

EXHIBIT A - LEGAL DESCRIPTION TO ABANDON A PORTION OF A STREET

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Mt Holly-Huntersville Road Right of Way Area 2:
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STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG PETITION

TO THE MEMBERS OF THE BOARD OF COMMISSIONERS OF HUNTERSVILLE, MECKLENBURG COUNTY, NORTH CAROLINA

(name of petitioner) Charles S. Guignard respectfully files this Petition and requests that (a portion or all of),
(name of street or location of alley) approximately 200LF of Mt Holly-Huntersville

lying (general description of location) From approximately the right of way at the new southern roundabout at NC115 and Mt-Holly-Huntersville Rd to its former terminus at S. Main St.

as shown on the map attached hereto and made a part hereof marked "Exhibit A", be closed and abandoned in accordance with the provisions of Chapter 160A, Section 299, subsection (a) of the General Statutes of North Carolina.

In support of this Petition, your petitioner respectfully alleges that:

1. (give reason for requested closing) This portion of Mt Holly-Huntersville Rd is no longer in use because of roadway realignment.
2. The closing of this portion of Mt Holly-Huntersville Rd street is not contrary to the public interest.
3. No individual, partnership or corporation owning property in the vicinity of this portion of Mt Holly-Huntersville Rd Street or in the subdivision in which it is located will be deprived of reasonable means of ingress and egress to his or its property by virtue of the closing. meles
4. The street (or portion thereof) which petitioner requests be closed and abandoned is illustrated as an approximation area in Exhibit A. Full ~~Mets~~ MEETS & Bounds will be provided before the Request to Call a Public Hearing.
5. The street (or portion there of), requested to be closed and abandoned has not been previously accepted by the North Carolina Department of Transportation for maintenance.

Wherefore, petitioner respectfully requests the Board of Commissioners of the Town of Huntersville consider this Petition and set the time for public hearing upon this matter as required by law.

Respectfully submitted the 13th day of APRIL, 2023

Charles S. Guignard
(signature of petitioner)

Charles S. Guignard
(Print Name)

Address: 406 S Main St,
Huntersville, NC 28078

Telephone Number: 704 875-1407

RIGHT-OF-WAY ABANDONMENT
AGREEMENT OF UNDERSTANDING

The following property owners have parcels that adjoin the public right-of-way

Mr. Charles S. Guignard. They hereby indicate, by signature, that they agree with the proposal to abandon that right-of-way. They further understand that once abandoned, a portion of that right-of-way becomes their property. The owners will then be responsible for maintenance and any additional property taxes that may result from the increase in the size of their original parcel.

I understand the statement above and agree with the proposed abandonment.

Name of Property Owner	Signature	Parcel Number
Charles S. Guignard	Charles S. Guignard	01904507
Charles S. Guignard	Charles S. Guignard	01907208

WSP USA
128 Talbert Road
Suite A
Mooresville NC, 28117
NC License Number F-0165

SURVEY PREPARED FOR THE CITY OF HUNTERSVILLE
ON THE LANDS NOW OR FORMERLY OF:

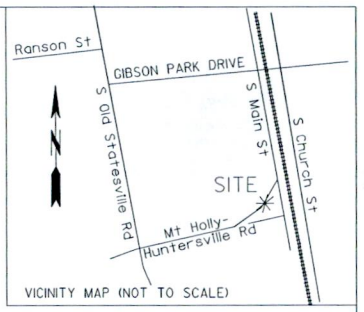
CHARLES S GUIGNARD
406 SOUTH MAIN STREET
HUNTERSVILLE, NC 28078

HUNTERSVILLE TOWNSHIP MECKLENBURG COUNTY NORTH CAROLINA

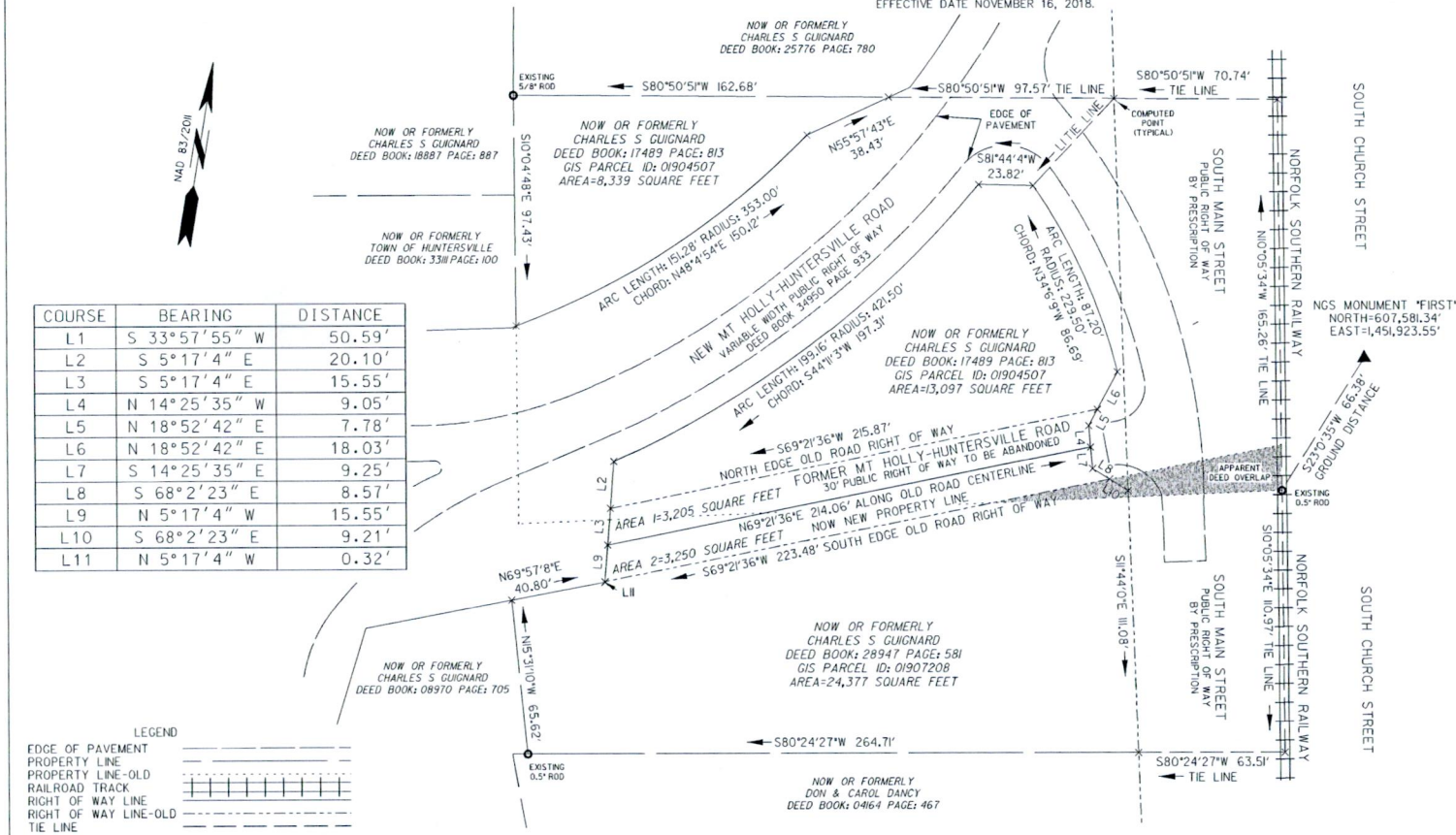
WSP PROJECT NUMBER: 188715A - DRAWING NAME: PARCEL 34 - DATE OF FIELD SURVEY: APRIL 11, 2023

-NOTES -

1. THIS MAP IS FOR DESCRIPTIVE AND REFERENCE PURPOSES ONLY, IT DOES NOT CONSTITUTE A DEDICATION OR CONVEYANCE OF EASEMENTS OR RIGHT OF WAY. ALL EXISTING BOUNDARY AND EASEMENT LINES WERE TAKEN FROM REFERENCES SHOWN, AS RECORDED WITH THE MECKLENBURG COUNTY, NC REGISTER OF DEEDS.
2. ALL DISTANCES SHOWN HEREON ARE HORIZONTAL GROUND MEASUREMENTS. ALL DIMENSIONS ARE IN US SURVEY FEET.
3. AREAS ARE BY COORDINATE COMPUTATION.
4. THIS EXHIBIT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY MATTERS THAT A FULL TITLE SEARCH WOULD DISCLOSE.
5. FIELD WORK CONDUCTED MAY 16TH, 2023
6. THE PROPERTY SHOWN HEREON DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS REFERENCED BY FEMA FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 3710465000K, EFFECTIVE DATE NOVEMBER 16, 2018.



VICINITY MAP (NOT TO SCALE)



COURSE	BEARING	DISTANCE
L1	S 33°57'55" W	50.59'
L2	S 5°17'4" E	20.10'
L3	S 5°17'4" E	15.55'
L4	N 14°25'35" W	9.05'
L5	N 18°52'42" E	7.78'
L6	N 18°52'42" E	18.03'
L7	S 14°25'35" E	9.25'
L8	S 68°2'23" E	8.57'
L9	N 5°17'4" W	15.55'
L10	S 68°2'23" E	9.21'
L11	N 5°17'4" W	0.32'

LEGEND
EDGE OF PAVEMENT
PROPERTY LINE
PROPERTY LINE-OLD
RAILROAD TRACK
RIGHT OF WAY LINE
RIGHT OF WAY LINE-OLD
TIE LINE

THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS.

GRAPHIC SCALE
60' 30' 0 60'
1 INCH = 60 FEET

I, JAY B DECOURSEY, CERTIFY THAT THIS MAP WAS PREPARED BY ME FROM A FIELD SURVEY PERFORMED BY ME BASED UPON THE REFERENCES SHOWN HEREON; THAT THE RATIO OF PRECISION IS 1: 20000+, AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600).
WITNESS MY HAND THIS 23RD DAY OF MAY, 2023.

Decoursey, Jay B. (USJD672823)

Digitally signed by Decoursey, Jay B. (USJD672823)
DN: cn=Decoursey, Jay B. (USJD672823), ou=Active, email=Jay.Decoursey@wsp.com
Date: 2023.05.23 10:13:32 -04'00'

JAY DECOURSEY, NC PLS # L-4156

NORTH CAROLINA PROFESSIONAL SEAL L-4156 LAND SURVEYOR JAY B DECOURSEY

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Public Hearing for Transportation Bond Order

EXPLAIN REQUEST:
Conduct public hearing to receive public comments on Bond Order authorizing the issuance of $50,000,000 General Obligation Transportation Bonds.

ACTION RECOMMENDED:
Hold public hearing on July 17th.

FINANCIAL IMPLICATIONS:
None

ATTACHMENTS:
None

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Public Hearing for Parks and Recreation Bond Order

EXPLAIN REQUEST:
Conduct public hearing to receive public comments on Bond Order authorizing the issuance of $8,000,000 General Obligation Parks and Recreation Bonds.

ACTION RECOMMENDED:

FINANCIAL IMPLICATIONS:
None

ATTACHMENTS:
None

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Adopt Parks and Recreation Bond Order

EXPLAIN REQUEST:
Adopt the $8,000,000 Parks and Recreation Bond order without change introduced at the June 20, 2023 Board meeting.

ACTION RECOMMENDED:
Adopt the $8,000,000 Parks and Recreation bond order.

FINANCIAL IMPLICATIONS:
None

ATTACHMENTS:
1. Adoption of Bond Orders - Town of Huntersville - 2023 GO Referendum (Transportation and Parks Rec)

BOND ORDER AUTHORIZING THE ISSUANCE OF $50,000,000 GENERAL OBLIGATION TRANSPORTATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA

WHEREAS, the Board of Commissioners of the Town of Huntersville, North Carolina has ascertained and hereby determines that it is necessary to pay the capital costs of constructing, reconstructing, enlarging, extending and improving streets and non-motorized paths, including streets and roads constituting a part of the State highway system or otherwise the responsibility of the State and including, without limitation, the cost of related studies, streetscape and pedestrian improvements, relocation of utilities, plans and design, acquiring, constructing, reconstructing, widening, extending, paving, resurfacing, grading or improving streets, roads and intersections, and acquiring, constructing, reconstructing or improving sidewalks, curbs, gutters, drains, bridges, overpasses, underpasses and grade crossings and providing related landscaping, lighting and traffic controls, signals and markers, and acquiring land, rights-of way and easements required for any of the foregoing; and

***WHEREAS*,** an application has been filed with the Secretary of the Local Government Commission of North Carolina requesting Commission approval of the General Obligation Transportation Bonds hereinafter described as required by the Local Government Bond Act, and the Town Clerk has notified the Board of Commissioners that the application has been accepted for submission to the Local Government Commission.

NOW, THEREFORE, BE IT ORDERED by the Board of Commissioners of the Town of Huntersville, North Carolina, as follows:

Section 1. In order to raise the money required for the purposes described above, in addition to any funds which may be made available for such purpose from any other source, General Obligation Transportation Bonds of the Town are hereby authorized and shall be issued pursuant to the Local Government Finance Act of North Carolina. The maximum aggregate principal amount of such General Obligation Transportation Bonds authorized by this order shall be $50,000,000.

Section 2. Taxes will be levied in an amount sufficient to pay the principal and interest on the General Obligation Transportation Bonds.

Section 3. A sworn statement of the Town's debt has been filed with the Town Clerk and is open to public inspection.

Section 4. This bond order will take effect when approved by the voters of the Town at a referendum scheduled for November 7, 2023.

PASSED, ADOPTED AND APPROVED this 17th day of July, 2023.

BOND ORDER AUTHORIZING THE ISSUANCE OF $8,000,000 GENERAL OBLIGATION PARKS AND RECREATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA

WHEREAS, the Board of Commissioners of the Town of Huntersville, North Carolina has ascertained and hereby determines that it is necessary to pay the capital costs of acquiring and constructing parks and recreation facilities and athletic fields, including, without limitation, the expansion of the Town recreation center, renovating and expansion of existing parks and recreation facilities and athletic fields, including improvements to the Huntersville Family Fitness & Aquatics facility, developing parkland, greenways and trails, and acquiring land, rights of-way and easements for park and recreation uses, if necessary; and

***WHEREAS*,** an application has been filed with the Secretary of the Local Government Commission of North Carolina requesting Commission approval of the General Obligation Parks and Recreation Bonds hereinafter described as required by the Local Government Bond Act, and the Town Clerk has notified the Board of Commissioners that the application has been accepted for submission to the Local Government Commission.

NOW, THEREFORE, BE IT ORDERED by the Board of Commissioners of the Town of Huntersville, North Carolina, as follows:

Section 1. In order to raise the money required for the purposes described above, in addition to any funds which may be made available for such purpose from any other source, General Obligation Parks and Recreation Bonds of the Town are hereby authorized and shall be issued pursuant to the Local Government Finance Act of North Carolina. The maximum aggregate principal amount of such General Obligation Parks and Recreation Bonds authorized by this order shall be $8,000,000.

Section 2. Taxes will be levied in an amount sufficient to pay the principal and interest on the General Obligation Parks and Recreation Bonds.

Section 3. A sworn statement of the Town's debt has been filed with the Town Clerk and is open to public inspection.

Section 4. This bond order will take effect when approved by the voters of the Town at a referendum scheduled for November 7, 2023.

PASSED, ADOPTED AND APPROVED this 17th day of July, 2023.

STATE OF NORTH CAROLINA)
)
TOWN OF HUNTERSVILLE)

ss:

I, Janet Pierson, Town Clerk of the Town of Huntersville, North Carolina, ***DO HEREBY CERTIFY*** that the foregoing are a true and exact copies of a bond order titled "**BOND ORDER AUTHORIZING THE ISSUANCE OF $50,000,000 GENERAL OBLIGATION TRANSPORTATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA**" and a bond order titled "**BOND ORDER AUTHORIZING THE ISSUANCE OF $8,000,000 GENERAL OBLIGATION PARKS AND RECREATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA"** duly adopted by the Board of Commissioners of the Town of Huntersville, North Carolina, at a meeting held on the 17th day of July, 2023, and that such proceedings are to be recorded in the minute books of said Board of Commissioners.

WITNESS my hand and the seal of the Town of Huntersville, North Carolina, this the ___ day of _____, 2023.

_____
Janet Pierson, Town Clerk
Town of Huntersville, North Carolina

(SEAL)

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Adopt Transportation Bond Order

EXPLAIN REQUEST:
Adopt the $50,000,000 Transportation Bond order without change introduced at the June 20, 2023 Board meeting.

ACTION RECOMMENDED:
Adopt $50,000,000 transportation bond order.

FINANCIAL IMPLICATIONS:
None

ATTACHMENTS:
1. Adoption of Bond Orders - Town of Huntersville - 2023 GO Referendum (Transportation and Parks Rec)

BOND ORDER AUTHORIZING THE ISSUANCE OF $50,000,000 GENERAL OBLIGATION TRANSPORTATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA

WHEREAS, the Board of Commissioners of the Town of Huntersville, North Carolina has ascertained and hereby determines that it is necessary to pay the capital costs of constructing, reconstructing, enlarging, extending and improving streets and non-motorized paths, including streets and roads constituting a part of the State highway system or otherwise the responsibility of the State and including, without limitation, the cost of related studies, streetscape and pedestrian improvements, relocation of utilities, plans and design, acquiring, constructing, reconstructing, widening, extending, paving, resurfacing, grading or improving streets, roads and intersections, and acquiring, constructing, reconstructing or improving sidewalks, curbs, gutters, drains, bridges, overpasses, underpasses and grade crossings and providing related landscaping, lighting and traffic controls, signals and markers, and acquiring land, rights-of way and easements required for any of the foregoing; and

***WHEREAS*,** an application has been filed with the Secretary of the Local Government Commission of North Carolina requesting Commission approval of the General Obligation Transportation Bonds hereinafter described as required by the Local Government Bond Act, and the Town Clerk has notified the Board of Commissioners that the application has been accepted for submission to the Local Government Commission.

NOW, THEREFORE, BE IT ORDERED by the Board of Commissioners of the Town of Huntersville, North Carolina, as follows:

Section 1. In order to raise the money required for the purposes described above, in addition to any funds which may be made available for such purpose from any other source, General Obligation Transportation Bonds of the Town are hereby authorized and shall be issued pursuant to the Local Government Finance Act of North Carolina. The maximum aggregate principal amount of such General Obligation Transportation Bonds authorized by this order shall be $50,000,000.

Section 2. Taxes will be levied in an amount sufficient to pay the principal and interest on the General Obligation Transportation Bonds.

Section 3. A sworn statement of the Town's debt has been filed with the Town Clerk and is open to public inspection.

Section 4. This bond order will take effect when approved by the voters of the Town at a referendum scheduled for November 7, 2023.

PASSED, ADOPTED AND APPROVED this 17th day of July, 2023.

BOND ORDER AUTHORIZING THE ISSUANCE OF $8,000,000 GENERAL OBLIGATION PARKS AND RECREATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA

WHEREAS, the Board of Commissioners of the Town of Huntersville, North Carolina has ascertained and hereby determines that it is necessary to pay the capital costs of acquiring and constructing parks and recreation facilities and athletic fields, including, without limitation, the expansion of the Town recreation center, renovating and expansion of existing parks and recreation facilities and athletic fields, including improvements to the Huntersville Family Fitness & Aquatics facility, developing parkland, greenways and trails, and acquiring land, rights of-way and easements for park and recreation uses, if necessary; and

***WHEREAS*,** an application has been filed with the Secretary of the Local Government Commission of North Carolina requesting Commission approval of the General Obligation Parks and Recreation Bonds hereinafter described as required by the Local Government Bond Act, and the Town Clerk has notified the Board of Commissioners that the application has been accepted for submission to the Local Government Commission.

NOW, THEREFORE, BE IT ORDERED by the Board of Commissioners of the Town of Huntersville, North Carolina, as follows:

Section 1. In order to raise the money required for the purposes described above, in addition to any funds which may be made available for such purpose from any other source, General Obligation Parks and Recreation Bonds of the Town are hereby authorized and shall be issued pursuant to the Local Government Finance Act of North Carolina. The maximum aggregate principal amount of such General Obligation Parks and Recreation Bonds authorized by this order shall be $8,000,000.

Section 2. Taxes will be levied in an amount sufficient to pay the principal and interest on the General Obligation Parks and Recreation Bonds.

Section 3. A sworn statement of the Town's debt has been filed with the Town Clerk and is open to public inspection.

Section 4. This bond order will take effect when approved by the voters of the Town at a referendum scheduled for November 7, 2023.

PASSED, ADOPTED AND APPROVED this 17th day of July, 2023.

STATE OF NORTH CAROLINA)
)
TOWN OF HUNTERSVILLE)

ss:

I, Janet Pierson, Town Clerk of the Town of Huntersville, North Carolina, ***DO HEREBY CERTIFY*** that the foregoing are a true and exact copies of a bond order titled "**BOND ORDER AUTHORIZING THE ISSUANCE OF $50,000,000 GENERAL OBLIGATION TRANSPORTATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA**" and a bond order titled "**BOND ORDER AUTHORIZING THE ISSUANCE OF $8,000,000 GENERAL OBLIGATION PARKS AND RECREATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA"** duly adopted by the Board of Commissioners of the Town of Huntersville, North Carolina, at a meeting held on the 17th day of July, 2023, and that such proceedings are to be recorded in the minute books of said Board of Commissioners.

WITNESS my hand and the seal of the Town of Huntersville, North Carolina, this the ___ day of _____, 2023.

_____
Janet Pierson, Town Clerk
Town of Huntersville, North Carolina

(SEAL)

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Bond Resolution for Transportation General Obligation Bonds and Parks and Recreation General Obligation Bonds

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EXPLAIN REQUEST:
Adopt the Resolution setting a Special Bond Referendem and Directing the Publication of Notice of a Special Bond Referendem and Notification of the Board of Elections for both the $50,000,000 Transportation General Obligation bonds and the $8,000,000 Parks and Recreation General Obligation bonds.

ACTION RECOMMENDED:
Adopt Resolution

FINANCIAL IMPLICATIONS:
None

ATTACHMENTS:
1. Resolution Setting Referendum - Town of Huntersville - 2023 GO Referendum (Transportation and Parks Rec)

RESOLUTION SETTING A SPECIAL BOND REFERENDUM AND DIRECTING THE PUBLICATION OF NOTICE OF A SPECIAL BOND REFERENDUM AND NOTIFICATION OF THE BOARD OF ELECTIONS

WHEREAS, the Board of Commissioners of the Town of Huntersville, North Carolina has adopted the following bond orders and such bond orders should be submitted to the voters of the Town of Huntersville, North Carolina for their approval or disapproval in order to comply with the constitution and laws of North Carolina:

"BOND ORDER AUTHORIZING THE ISSUANCE OF $50,000,000 GENERAL OBLIGATION TRANSPORTATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA;" and

"BOND ORDER AUTHORIZING THE ISSUANCE OF $8,000,000 GENERAL OBLIGATION PARKS AND RECREATION BONDS OF THE TOWN OF HUNTERSVILLE, NORTH CAROLINA;"

NOW, THEREFORE, be it resolved by the Board of Commissioners (the "*Board*") of the Town of Huntersville, North Carolina, as follows:

(1) For the purpose of determining the question whether the qualified voters of the Town of Huntersville, North Carolina shall approve or disapprove (a) the indebtedness to be incurred by the issuance of the General Obligation Transportation Bonds of the Town authorized by said bond order, which indebtedness shall be secured by a pledge of the Town's full faith and credit and (b) the levy of a tax for the payment thereof, said bond order shall be submitted to the qualified voters of said Town at a special bond referendum to be held in said Town on November 7, 2023.

(2) For the purpose of determining the question whether the qualified voters of the Town of Huntersville, North Carolina shall approve or disapprove (a) the indebtedness to be incurred by the issuance of the General Obligation Parks and Recreation Bonds of the Town authorized by said bond order, which indebtedness shall be secured by a pledge of the Town's full faith and credit and (b) the levy of a tax for the payment thereof, said bond order shall be submitted to the qualified voters of said Town at a special bond referendum to be held in said Town on November 7, 2023.

(3) The Town Clerk is hereby authorized and directed to publish a notice of said referendum which shall be entitled **"TOWN OF HUNTERSVILLE, NORTH CAROLINA NOTICE OF SPECIAL BOND REFERENDUM."** Said notice of referendum shall be published at least twice. The first publication shall be not less than 14 days and the second publication shall be not less than 7 days before the last day on which voters may register for the special bond referendum.

(4) The Mecklenburg County Board of Elections and the Cabarrus County Board of Elections are hereby requested to print and distribute the necessary ballots and to provide the equipment for the holding of said referendum and to conduct and to supervise said referendum.

(5) The ballots to be used at said referendum will indicate that it is being held on behalf of the Town of Huntersville, North Carolina and will contain the following words:

> "*SHALL* the order authorizing $50,000,000 of bonds plus interest to provide funds to pay the capital costs of constructing, reconstructing, enlarging, extending and improving streets and non-motorized paths, including streets and roads constituting a part of the State highway system or otherwise the responsibility of the State and including, without

limitation, the cost of related studies, streetscape and pedestrian improvements, relocation of utilities, plans and design, acquiring, constructing, reconstructing, widening, extending, paving, resurfacing, grading or improving streets, roads and intersections, and acquiring, constructing, reconstructing or improving sidewalks, curbs, gutters, drains, bridges, overpasses, underpasses and grade crossings and providing related landscaping, lighting and traffic controls, signals and markers, and acquiring land, rights-of way and easements required for any of the foregoing, and providing that additional taxes may be levied in an amount sufficient to pay the principal of and interest on the bonds be approved?";

with squares labeled **"YES"** and **"NO"** beneath or beside such words in which squares the voter may record his or her choice on the question presented; and

"*SHALL* the order authorizing $8,000,000 of bonds plus interest to provide funds to pay the capital costs of acquiring and constructing parks and recreation facilities and athletic fields, including, without limitation, the expansion of the Town recreation center, renovating and expansion of existing parks and recreation facilities and athletic fields, including improvements to the Huntersville Family Fitness & Aquatics facility, developing parkland, greenways and trails, and acquiring land, rights of-way and easements for park and recreation uses, if necessary, and providing that additional taxes may be levied in an amount sufficient to pay the principal of and interest on the bonds be approved?";

with squares labeled **"YES"** and **"NO"** beneath or beside such words in which squares the voter may record his or her choice on the question presented;

(6) The Town Clerk shall mail or deliver a certified copy of this resolution to the Mecklenburg County Board of Elections and the Cabarrus County Board of Elections within three days after this resolution is adopted.

BE IT FURTHER RESOLVED that this Resolution shall become effective on the date of its adoption.

Read, approved and adopted this 17th day of July, 2023.

STATE OF NORTH CAROLINA)
)
TOWN OF HUNTERSVILLE)

ss:

I, Janet Pierson, Town Clerk of the Town of Huntersville, North Carolina, ***DO HEREBY CERTIFY*** that the foregoing is a true and exact copy of a resolution titled "**RESOLUTION SETTING A SPECIAL BOND REFERENDUM AND DIRECTING THE PUBLICATION OF NOTICE OF A SPECIAL BOND REFERENDUM AND NOTIFICATION OF THE BOARDS OF ELECTIONS**" duly adopted by the Board of Commissioners of the Town of Huntersville, North Carolina, at a meeting held on the 17th day of July, 2023 and that such proceedings are to be recorded in the minute books of said Board of Commissioners.

WITNESS my hand and the seal of the Town of Huntersville, North Carolina, this the ___ day of _____, 2023.

_____
Janet Pierson, Town Clerk
Town of Huntersville, North Carolina

(SEAL)

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: David Peete, Principal Planner

Date: July 17, 2023

Subject: Petition #R23-05 - Lagoona Bay Beach Club

EXPLAIN REQUEST:
Final Action on Monday, July 17, 2023 at 6:00 p.m. at Huntersville Town Hall, 101 Huntersville-Concord Road, Huntersville, NC 28078, on Petition #R23-05, Lagoona Bay Beach Club, a request by Bi-Part Development, LLC to rezone +/- 263.01-acres generally located north and south of NC 73, south of Mayes Road, east of Westmoreland Road, north of McCord Road and west of Black Farm Road from existing Rural and Transitional Residential to Traditional Neighborhood Development - Conditional District, Neighborhood Residential - Conditional District, and Highway Commerical - Conditional District for a mixed-use development consisting of approximately 1,183 residential units (250 single-family homes, 201 townhomes, 432 apartment units and 300 condominium units), 210,000 sq. ft. of retail, 200 hotel rooms, 36,000 sq. ft. of convention center space and a 41.16-acre commercial lagoon (Parcel Nos. 01106218, 01125102, 01125109, 01125103, 01125108, 01104101, 01105105, 01106217, 01106226, 01106219, 01125101, 01125104, 01124123, 01105104 and 01124102).

ACTION RECOMMENDED:
Consider if the changes made to the Rezoing plan are substantial.

FINANCIAL IMPLICATIONS:
N/A

ATTACHMENTS:
1. 7-10-23 Lagoona Bay Update Letter
2. R23-05 Final Action Staff Report (7-17-23) - NO ACTION due to major changes
3. R23-05 Revision to Plan

Date: July 10, 2023

To: Brian Richards
Assistant Planning Director
Town of Huntersville
105 Gilead Rd 3rd Floor
Huntersville, NC 28078

Re: Lagoona Bay Beach Club
EPM #447044

Dear Mr. Richards,

Major design changes are being made to the Lagoona Bay Beach Club Conditional Rezoning Site Plan. We expect to submit the updated plans on Wednesday, July 12, 2023. Allow this letter to serve as an overview of the resubmittal.

The Traditional Neighborhood Development – Urban, TND-U (CD), zoning district will no longer propose 180 Townhomes. Instead, 90 single-family detached lots (patio homes) will be shown on the rezoning plan, at a minimum of 52' x 108'. Proposed road five will shift west along NC 73. Parcel 011-062-19 will remain natural and modified to the requested zoning district Rural, R (CD). This provides a larger natural development buffer and requires future development of the parcel to go through the conditional zoning process. Apartment density will be reduced from 320 to 300 dwelling units. A modification will no longer be requested to increase the apartment building height to four stories. Each apartment building shall be up to three stories as allowed by the Zoning Ordinance.

The Highway Commercial, HC (CD), zoning district will no longer be requested in zoning map amendment. The Hotel, Convention Center, Condos, Retail, Commercial, and Apartments have been removed from the rezoning plan. This area will be proposed as Neighborhood Residential, NR (CD). The Lagoona Bay crystal lagoon (body of water) will be downsized to 8 acres. The driveway on Black Farms Road (Proposed Road 8) will shift south to align with the proposed driveway for North Creek Village, creating an intersection. Parcel 011-251-01 will remain natural and modified to the requested zoning district Rural, R (CD). This provides a larger natural development buffer and requires future development to go through the conditional zoning process. Parcels 011-251-09 and 011-251-08 shall be redesigned to include approximately 75 patio homes, at a minimum of 52' x 108'.

The Neighborhood Residential, NR (CD), zoning district at the southern end of the site shall remain as proposed in the most recent submittal, containing 227 single family lots.

A 20' undisturbed buffer shall be provided around the entire site as required by ordinance. An additional 15'-20' buffer shall be disturbed and replanted as required by the zoning ordinance.

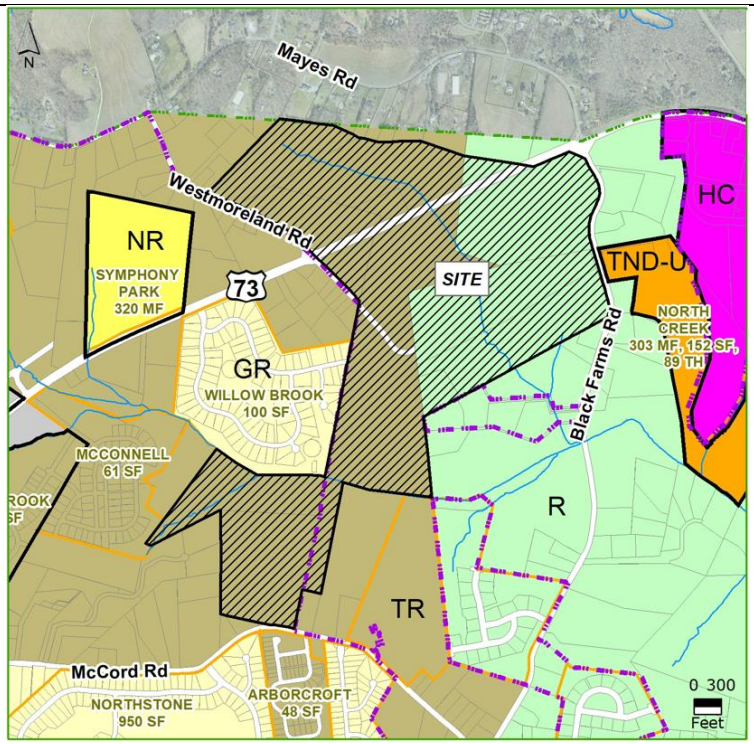
If you have any questions or comments, feel free to give me a call.

Paul Pennell
Partner
Urban Design Partners

Petition R23-05
Lagoona Bay Beach Club Mixed-Use Conditional District Rezoning

[Below is the staff analysis from the public hearings based on plans dated 3-3-23. On July 10, 2023, the applicant decided to make major revisions to the proposed CD Rezoning Plan – which now require a new review and public hearing process. A Call for a new public hearing on Tue., Sept. 5, 2023 is apart of this July 17, 2023 agenda. A new staff report will be provided going into the new public hearing]

PART 1: PROJECT SUMMARY



Proposed Zoning: Highway Commercial — Conditional District (HC-CD), Traditional Neighborhood Development - Urban – Conditional District (TND-U – CD) & Neighborhood Residential – Conditional District (NR-CD).

Proposed Land Uses:
250 Single-Family Homes, 180 Townhomes, 432 Apartments, 300 Condos, 200-Room Hotel, 36,000 sq. ft. Convention Center, 210,000 sq. ft. of Commercial Uses and a 41-acre Lagoon amenity.

Applicant: Bi – Part Development, LLC

Property Owners: C. W. Westmoreland, T. M. Westmoreland, T M Family LP Westmoreland, K. L. Westmoreland, Robert & Cynthia Knox, William & Dawn Bradford (see Attachment A).

Project Address: 12734 Sam Furr Road

Project Size: (+/-) 263.01-acres

Parcel Numbers:
01106218, 01125102, 01125109, 01125103, 01125108, 01104101 01105105, 01106217, 01106226, 01106219, 01125101, 01125104, 01124123, 01105104 & 01124102.

Current Zoning: Rural (R) & Transitional Residential (TR).

Current Land Use: vacant, large-lot single-family residential & farm.

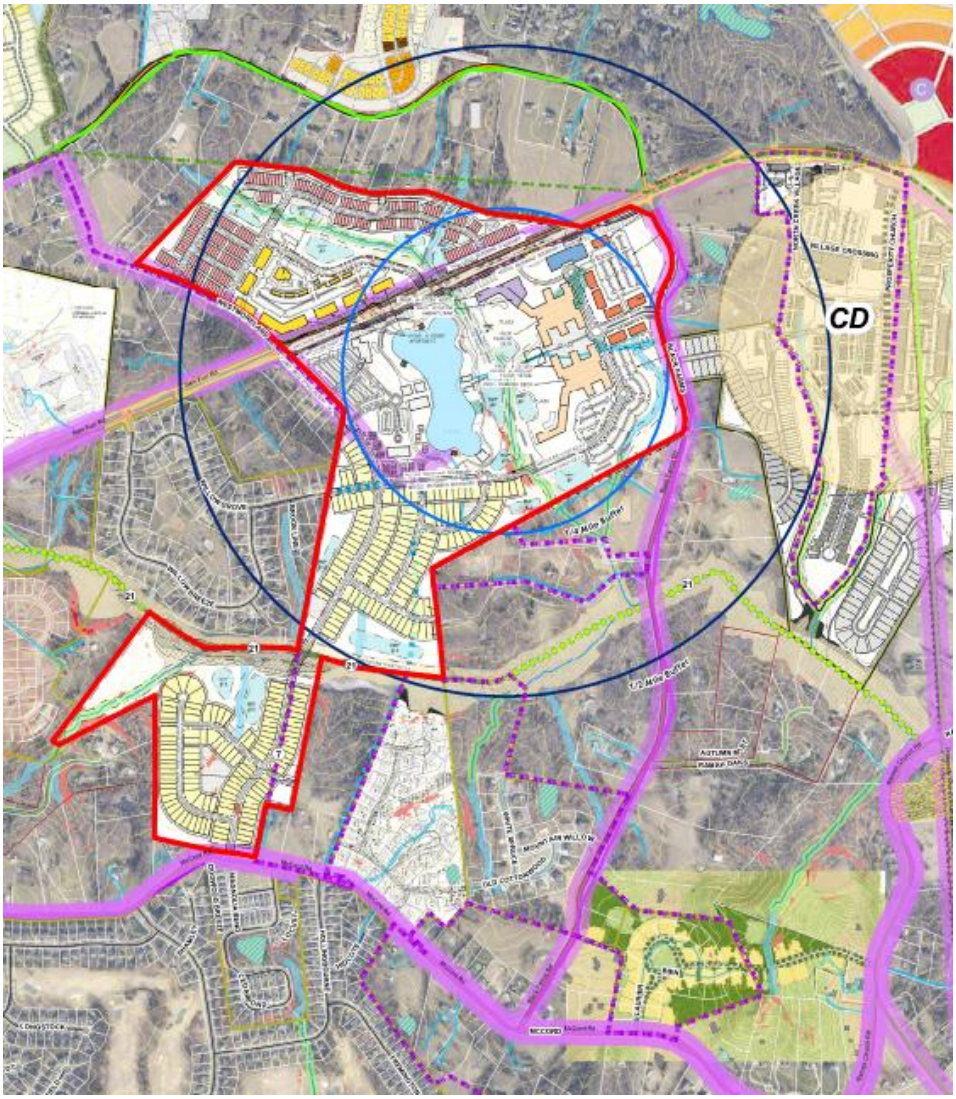
1. Purpose: Petition to rezone 263.01-acres generally located at 12734 Sam Furr Road – generally north and south of Sam Furr Road (NC 73), between Westmoreland Road to the west, Black Farm Road to the east, and McCord Road to the south. The proposed development is south of Mayes Road (but does not abut the road). The Rezoning Petition is from Rural (R) and Transitional Neighborhood (TR) Zoning District to Neighborhood Residential – Conditional District (NR-CD), Traditional Neighborhood Residential – Urban – Conditional District (TND-U-CD) and Highway Commercial – Conditional District (HC-CD) to create a mixed-use development consisting of: 250 Single-Family Homes; 180 Townhomes; 432 Apartments; 300 Condominium Units; 200-Room Hotel; 36,000 sq. ft. of Convention Center space; 210,000 sq. ft. of commercial (Highway Commercial permitted uses) and a 41-acre Lagoon amenity (see Attachment B).
2. Should the Conditional District Rezoning Plan be approved, a corresponding Subdivision Sketch Plan will be reviewed by staff for compliance.
3. Adjoining Zoning and Land Uses.

   North: Town of Cornelius: *Rural Preservation & Town of Huntersville – Transitional Residential (TR) & Rural (R) – Large-lot, single-family homes.*

   South: Rural (R), *Transitional Residential (TR) & General Residential (GR) – 2 single-family home subdivisions (Northstone & Arborcroft) & large-lot single-family homes.*

   East: *Rural (R) & Transitional Residential (TR)– Large-lot, single-family homes, 2 subdivisions (Camden & North Creek Village) & vacant.*

   West: General Residential (GR) & *Transitional Residential (TR) – 2 subdivisions (Willowbrook & McConnell), a farmhouse cluster (Stonegate Estates), large-lot, single-family homes, & vacant.*



4. One (1) neighborhood meeting was held on April 26, 2023, which had a significant attendance. A summary of the questions and concerns from that meeting are found in the report of the meeting (see Attachment C).
5. Notice of this CD-Rezoning request was provided via postcards sent to all property owners within 250 ft. of the project; a legal ad placed in the Charlotte Observer; and posting of public hearing signs adjacent the project in ten (10) locations.

PART 2: REZONING/SITE PLAN ISSUES

The proposed Lagoona Bay Beach Club Conditional District Rezoning Plan is summarized as follows:

- Proposed rezoning is from Rural (R) and Transitional Neighborhood (TR) Zoning District to Neighborhood Residential – Conditional District (NR-CD), Traditional Neighborhood Residential – Urban – Conditional District (TND-U-CD) and Highway Commercial – Conditional District (HC-CD)
- Proposed Uses: 250 Single-Family Homes, 180 Townhomes, 432 Apartments, 300 Condominiums, 200-Room Hotel, 36,000 sq. ft. Convention Center, 210,000 sq. ft. of Commercial (Retail) and a 41-acre Lagoon Amenity.
- The zoning district breakdown of the 263.01-acres is as follows:
    - **TND-U Area (Site Plan A – Sheet RZ-3.1) – is 58.33-acres.**

        - This area has 180 townhomes along the north border from NC 73 to Westmoreland Road. There are also 320 apartment units proposed along NC 73 and Westmoreland Road.
    - **HC Area (Site Plans B & C – Sheet RZ-3.2 & 3.3) – 104.88-acres**
        - This area has the 41-acre lagoon amenity along NC 73 and Westmoreland Road. Fronting along NC 73 there is a proposed 6-story hotel and 36,000 sq. ft. convention center. Immediately south of those two uses are 300 condominium units. 140,000 sq. ft. of commercial/retail would be located under the condos. Lastly, along NC 73 and Black Farm Road would be 70,000 sq. ft. or commercial/retail with 112 apartments above.
    - **NR Area (Site Plan D & E – Sheet RZ-3.4 & 3.5) – 100.57-acres**
        - This area has 250 single-family homes with alley-access on 40 and 50-feet wide lots. The single-family homes would be located immediately north and south of Ramah Creek and a future County greenway.
- Urban Open Space to be provided within ¼ mile of all residential units and includes greens, mini-parks and plazas. Some Urban Open Spaces do not meet the requirements of the Ordinance; therefore, site plan revisions are anticipated.
- The North Carolina Dept. of Transportation (NCDOT) will review the Transportation Impact Analysis (TIA), as all of the existing roads surrounding the proposed development are state-owned. The plan shows that additional right-of-way along NC 73 will be dedicated, as required. (see Part 3 of report for complete transportation improvement summary).
- Eight (8) street connections to existing public streets are proposed, including to NC 73, Westmoreland Road, Black Farm Road, McCord Road and Willow Grove Way. In addition, four (4) future street stubs to adjoining parcels are proposed.
- Several streets will have 10' side paths on one-side to create a pedestrian circulation network – including along the street that will connect to the County's future greenway along Ramah Creek.
- The entire floodplain along Ramah Creek is proposed to be dedicated to Mecklenburg County for future greenway development. One (1) trail is proposed in the area north of NC 73.
- In the TND-U area, minimum specimen tree preservation is 30% and 15% is proposed and the remainder must be mitigated, if the percentage is not increased. No tree canopy percentage is required to be saved and none is proposed.
- In the HC area, minimum specimen tree preservation is 30% and 26% is proposed and the remainder must be mitigated, if the percentage is not increased. No tree canopy percentage is required to be saved and none is proposed.
- In the NR area, minimum specimen tree preservation is 10% and 24% is proposed. Ten percent tree canopy is required to be saved and 10% is proposed.
- A shuttle service is proposed to transport residents throughout the entire project.
- If the Rezoning Plan is approved, Staff, at the construction document phase, will review the plans for compliance with the Water Quality Ordinance, Erosion Control Ordinance and Stream Buffer Requirements, as found in the Zoning Ordinance.
- No phasing plan is proposed. All required transportation improvements and any other conditional improvements will be required prior to any plat approvals.
- The entire project is proposed to be annexed into the Town of Huntersville.
- No Ordinance modifications have been requested.

The Lagoona Bay Beach Club Conditional District Rezoning Plan **does not comply with the Zoning Ordinance** in the following ways:

([Modification Request?] indicates that an item has not been addressed and must either be shown as ordinance-compliant or a "modification request" must be made to the Town Board. This does not mean Town Staff recommends a modification – merely that specific alterations to Zoning Ordinance / Subdivision Ordinance regulations cannot go unaddressed.)

TND-U Area (Site Plan A – Sheet RZ-3.1):

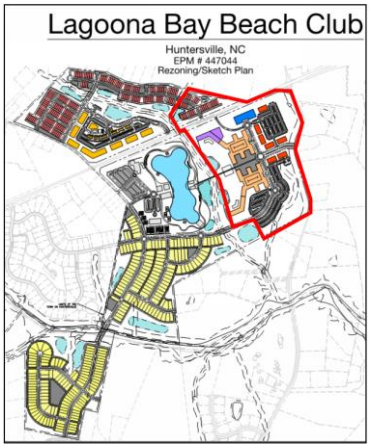
- [ISSUE – ZONING COMPLIANCE] – Requirements of TND-U zoning district have not been demonstrated. All required items must be shown, listed or noted.
- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] - External property buffers are 20 ft. wide and should be labeled as undisturbed. In addition, one location is listed as "possible buffer disturbance" – no explanation is provided as to why these are requested. [Modification request?]
- [ISSUE – TND DESIGN PROVISION] - Perimeter block length compliance has not been demonstrated. All blocks within TND-U must demonstrate a perimeter block length not to exceed 1,350 ft. [Modification request?]
- [ISSUE – BUILDING TYPE / APARTMENT BUILDING] – Maximum height for apartments is 3 stories. 4 stories are proposed. [Modification request?]
- [ISSUE – BUILDING TYPE] – Apartment clubhouse must front a public street or Urban Open Space (ZO Art. 8.1). Must be provided. [Modification request?]
- [ISSUE – BUILDING TYPE] – Small buildings in Apartment parking lot do not front anything. Revise layout. [Modification request?]
- [ISSUE – OFF-STREET PARKING (ZO Art. 6)] – Apartment parking lot does not comply with regulations. Parking "rooms" and pedestrian corridors need to be added. Revise site plan and add note that all parking lots will comply with ZO Art. 6. [Modification request?]
- [ISSUE – OFF-STREET PARKING (ZO Art. 6)] – Clubhouse parking lot is located between the building and the street, which is not permitted. Revise site layout. [Modification request?]
- [ISSUE – PEDESTRIAN CONNECTION] – Per ZO Art. 3, all sidewalks must be min. of 7 ft. wide. Revise site plan and add note. [Modification request?]
- [ISSUE – BUILDING TYPE] – Attached houses must have a build-to range of 10'-25'. Townhomes appear to have zero setback. Revise or request modification. [Modification request]
- [ISSUE – PEDESTRIAN CONNECTION] – It has been stated that a 10 ft.-wide path along east side of Westmoreland would be provided, but this is not shown. This should be added.
- [ISSUE – PEDESTRIAN CONNECTION] – Apartments fronting NC 73 need to have pedestrian connections from buildings to frontage (public street or Urban Open Space). Add to plan. [Modification request?]
- [ISSUE – STREET DESIGN (ZO Art. 5.2)] – Blocks 10 & 11 (Road 6) exceed the block length limit of 500 ft. for TND-U. Road 6 should also incorporate traffic-calming measures (in addition to on-street parking on both sides of street). This block must either be re-designed or request a modification. [Modification request?]

- [ISSUE – STREET DESIGN (ZO Art. 5.2)] – Cul-de-sac exceeds the length limit of 350 ft. for major subdivisions. This must either be re-designed or request a modification. [Modification request?]
- [ISSUE – URBAN OPEN SPACE (ZO Art. 7.11] – All Urban Open Spaces must be designed at Sketch Plan. Two Greens (along Westmoreland Road) do not qualify as such. Revise Urban Open Space type. [Modification request?]
- [ISSUE – BUFFERS] – What will the frontage area along north side of NC 73 be once the construction easements for road widening are no longer needed. Provide cross-section for this area.
- [ISSUE – TREE SAVE] – Specimen tree save in the TND-U zone is 30% minimum and this plan proposes 15% tree save. This area is large enough to provide minimum specimen tree save. However, if the minimum is not required via modification request, mitigation provision must be listed. [Modification request?]
- [ISSUE – TREE SAVE] – **RECOMMEND** even though there is no minimum tree canopy percentage required to be saved in the TND-U district, this area is large enough to provide some canopy-save. The minimum external buffers alone will provide canopy save.
- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] - **RECOMMEND** 40 ft. (min.) buffers along external borders to appropriately transition from abutting large-lot, single-family (to the west) with a density of 0.24 units/acre to proposed subdivision with apartments and townhomes with a density of 8.57 (35 times the existing density).
- [ISSUE – TRANSPORTATION] – **RECOMMEND** add stub to Northwest adjacent property as an extension of cul-de-sac.
- [ISSUE – TRANSPORTATION] – **RECOMMEND** providing on-street parking on both sides of street abutting townhomes.

HC Area (Site Plan B – Sheet RZ-3.2):

- [ISSUE – BUILDING TYPE] – All buildings must front either a public street or an Urban Open space (ZO Art. 8.1). The lagoon and its accessory buildings are amenities that are not Urban Open Space. An ordinance-compliant frontage for the principal use must be identified. [Modification request?]
- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] A berm has been discussed along NC 73 and Westmoreland Road but does not appear on the plans. This would be an appropriate buffer, but the location, size and cross-section of the berm must be provided. No buffer or parking lot screening are shown along east side of Westmoreland Road. These are needed to screen the large parking lot serving the lagoon / clubhouse and sports fields. [Modification request?]
- [ISSUE – PEDESTRIAN CONNECTION] – The applicant stated that a 10 ft.-wide path along east side of Westmoreland would be provided, however, it is not shown. This should be added.
- [ISSUE – TREE SAVE] – Specimen tree save in the HC zone is 30% minimum and this plan proposes 26% tree save. This area is large enough to provide minimum specimen tree save. However, if the minimum is not required via modification request, mitigation provision must be listed. [Modification request?]

- [ISSUE – TREE SAVE] – **RECOMMEND** even though there is no minimum tree canopy percentage required to be saved in the Highway Commercial (HC) district, this area is large enough to provide some canopy-save. The minimum external buffers alone will provide canopy save.
- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] – **RECOMMEND** buffer along Westmoreland Road and Road 9 where the Sports Fields are located. The Sports Fields will generate noise and lights and the adjoining residents, both within the development and those abutting, should have an appropriate level off screening.

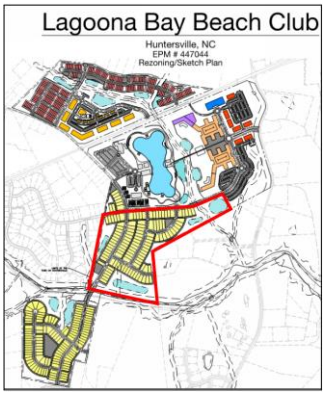


HC & TND-U Area (Site Plan C – Sheet RZ-3.3):

- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] - External property buffers are 20 ft. wide and should be labeled as undisturbed. [Modification request?]
- [ISSUE – BUILDING TYPE] – All buildings that front a public street (including NC 73) must provide pedestrian access to those streets via sidewalk. Indicate this is to be provided. [Modification request?]
- [ISSUE – BUILDING TYPE] – How will the 140,000 sq. ft. of retail be split? Compliance with Highway Commercial requirements must be demonstrated. [Modification request?]
- [ISSUE – BUILDING TYPE] – 100% attached residential units are only permitted in HC zone with special conditions – which have not been demonstrated. This must be provided. [Modification request?]
- [ISSUE – HISTORIC BUILDING] – This building does not have historic protection and may not merit saving (see Item #3 on page 18). What is intent for this building?
- [ISSUE – BUILDING TYPE] – Per ZO Art. 4, all buildings must be developed based on appropriate building type. Building Types must be identified for each structure.
- [ISSUE – OFF-STREET PARKING (ZO Art. 6)] – Multiple large parking lots do not comply with regulations. Parking "rooms" and pedestrian corridors need to be added. Revise site plan and add note that all parking lots will comply with ZO Art. 6. [Modification request?]
- [ISSUE – STREET DESIGN (ZO Art. 5.2)] – Road 9 exceeds the block length limit of 500 ft. for Urban Conditions. Road 9 should also incorporate traffic-calming measures (in addition to on-street parking on both sides of street). This block must either be re-designed or request a modification. [Modification request?]
- [ISSUE – STREET DESIGN (ZO Art. 5.2)] – The retail/apartment buildings and condo buildings have large setbacks from the public right-of-way. What type of streetscape is proposed for this area? Why are large setbacks shown? [Modification request?]
- [ISSUE – OFF-STREET PARKING] – The hotel and convention center do not show loading areas for deliveries and large vehicles. Will there be special parking in close proximity? How will event set-up be accommodated? [Modification request?]
- [ISSUE – URBAN OPEN SPACE (ZO Art. 7.11] – All Urban Open Spaces must be designed at Sketch Plan. Two Plazas between the condos must be generally designed to illustrate Ordinance compliance and for possible merit of Ordinance modification. [Modification request?]

- [ISSUE – TREE SAVE] – Specimen tree save in the TND-U and HC zone is 30% minimum and this plan shows 15% and 26% (respectively) for tree save. This area is large enough to provide minimum specimen tree save. However, if the minimum is not required via modification request, mitigation provision must be listed. IT should be noted that NR tree save is well above the minimum. [Modification request?]
- [ISSUE – BUILDING TYPE (ZO Art. 4] – A six-story hotels is proposed – this height is not permitted in Highway Commercial (HC). This will require a Special Use Permit.
- [ISSUE – TREE SAVE] – **RECOMMEND** even though there is no minimum tree canopy percentage required to be saved in the TND-U zone, this area is large enough to provide some canopy-save. The minimum external buffers alone will provide canopy save.
- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] - **RECOMMEND** 40 ft. (min.) buffers along external borders to appropriately transition from abutting large-lot, single-family (to the west) with a density of 0.24 units/acre to proposed subdivision with apartments and townhomes with a density of 8.57 (35 times the existing density).

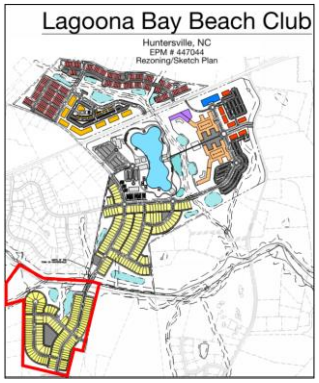
NR Area (Site Plan D – Sheet RZ-3.4):



- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] - External property buffers are 20 ft. wide and should be labeled as undisturbed. In addition, one location is listed as “possible buffer disturbance” – no explanation is provided as to why these are requested. [Modification request?]
- [ISSUE – STREET DESIGN (ZO Art. 5.2)] – Portions of the Block for Westmoreland Road and Road 9 exceed the block length limit of 800 ft. for major subdivisions (when combined with the street portion on abutting plan sheets). These blocks must either be re-designed or request a modification. [Modification request?]
- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] - **RECOMMEND** 40 ft. (min.) buffers along external borders to appropriately transition from Willowbrook subdivision (to the west) with a density of 1.59 units/acre to proposed subdivision with 50 ft. -wide single-family lots with a density of 2.53 and from large-lot, single-family (to the east) with a density of 0.12 units/acre to proposed subdivision with 50 ft. -wide single-family lots with a density of 2.53 (21 times the existing density).
- [ISSUE – CONNECTIVITY (ZO Art. 5.1.2] – **RECOMMEND** shifting connection south to align with the Heath parcel, as there is greater future redevelopment potential based on parcel size and frontage along Black Farm Road.
- [ISSUE – DESIGN] - **RECOMMEND** – there are a large number of lots in the center of this area without a break as the lots run north-to-south. Adding a walkway would break up the block repetition, but also provide pedestrian access from east to west.
- [ISSUE – TRANSPORTATION] – **RECOMMEND** redesign of Westmoreland Road. Even with a traffic circle, Westmoreland Road is too direct a route between NC 73 and McCord Road. This road should be redesigned to create a less-direct route between the two thoroughfares.
- [ISSUE – TRANSPORTATION] – **RECOMMEND** redesign of stub to Willow Grove Way (Willowbrook). The traffic circle at Westmoreland Road will calm traffic, but the stub connection should be a very indirect route between the neighborhoods.

- [ISSUE – TRANSPORTATION] – **RECOMMEND** revision of on-street parking on both sides of Road 9. Aside from providing traffic-calming, is this parking meant to serve the neighborhood primarily, or will it be used by lagoon patrons? In other words, is parking for lagoon-related uses appropriate next to the single-family homes? Parking on one side may be more appropriate.
- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] – **RECOMMEND** buffer along Westmoreland Road and Road 9 where the Sports Fields are located. The Sports Fields will generate noise and lights and the adjoining residents, both within the development and those abutting, should have an appropriate level off screening.

NR Area (Site Plan E – Sheet RZ-3.5):



- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] - External property buffers are 20 ft. wide and should be labeled as undisturbed. In addition, several locations are listed as "possible buffer disturbance" – no explanation is provided as to why these are requested. [Modification request?]
- [ISSUE – STREET DESIGN (ZO Art. 5.2)] – The Block for Road 14 exceeds the block length limit of 800 ft. for major subdivisions. This block must either be re-designed or request a modification – either way, see next bullet item. [Modification request?]
- [ISSUE – STREET DESIGN (ZO Art. 5.2)] – The cross-section for McCord Road shows 4 ft. bike lanes, which NCDOT no longer allows. This should show a 10 ft. sidepath. [Modification request?]
- [ISSUE – URBAN OPEN SPACE (ZO Art. 7.11] – Proposed Urban Open Space "Park" located behind a block of homes does not qualify as Urban Open Space. Site Plan to be re-designed to locate an Urban Open Space along a public street and sited such that every lot is within ¼ mile walk of such Urban Open Space. [Modification request?]
- [ISSUE – STREAM BUFFER PROTECTION (ZO Art. 3] Several alley and lot areas near Ramah Creek encroach into restricted stream buffers – these must be revised.
- [ISSUE – STREET DESIGN] – **RECOMMEND** traffic-calming (mini-circle) at the intersection of Road 13 and Westmoreland Road.
- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] - **RECOMMEND** 40 ft. (min.) buffers along external borders to appropriately transition from abutting large-lot, single-family (to the west) with a density of 0.34 units/acre to proposed subdivision with 40 ft. -wide single-family lots with a density of 2.5 (7.3 times the existing density).
- [ISSUE – CONNECTIVITY (ZO Art. 5.1.2] – **RECOMMEND** a future street stub along the western edge, south of Ramah Creek.
- [ISSUE – DESIGN] - **RECOMMEND** – there are numerous lots along Road 14 without open space. A walkway to the rear alley, a mini park or street stub to the west are options to break-up block.
- [ISSUE – BUFFERS (ZO Art. 7.5] – **RECOMMEND** – Buffer along frontage of McCord Road should be 80 ft. deep to match the widths of other developments along the thoroughfare (ex: Northbrook, Camden, Arborcroft & Belleterre).

- [ISSUE – APPROPRIATE LAND USE TRANSITIONS] – **RECOMMEND** Within same development, there are 50 ft.-wide single-family lots. The largest lots proposed should be placed along the external edge to address transitional lot sizes.

GENERAL COMMENTS:

- Traditional Neighborhood Development – Urban (TND-U) is requested for the residential area north of NC 73 (Site Plan A). TND Districts are provided "for the development of new neighborhoods… which are structured upon a fine network of interconnecting pedestrian-oriented streets and other public spaces. TNDs offer a mixture of housing types and prices, prominently sited civic or community building(s) and stores/offices/workplaces to provide a balanced mix of activities". TND-U also requires the following:
    - Average perimeter of all blocks should not exceed 1,350 ft., with no block greater than 500 ft. without a dedicated alley or pathway providing through access.
        - Applicants need to demonstrate that average perimeter of all blocks does not exceed 1,350 ft. and that regular blocks are between 250 – 500 ft.
- The townhomes along the external boundaries are located only 20 feet (min.) from Rural (R) and Transitional Residential (TR) zoned properties with permitted densities of 0.9 or 1.5 units per acre (respectively). The densities proposed within the TND-U area in close proximity to low-density development are not appropriate as shown.
  STAFF COMMENT: *The average perimeter blocks have not been demonstrated and some blocks exceed maximum block length. Mitigation of the incompatible densities would involve significant spacing or buffering from the adjoining land uses, combined with a development density that "steps-down" as it approaches the outer boundaries. These design elements could provide a means to introduce higher densities into this area. However, the densities proposed, in general, are not supported in this location. The uses in the TND-U area, represent a density of 8.57-units-per-acre located 20 feet from the adjoining Rural and Transitional Residential areas which permit 0.9 and 1.5 units per acre (respectively). Development transitions via "stepping-down" the level of development at the development edges to approximate the permitted densities around the project is the only way to introduce this use and zoning district.*

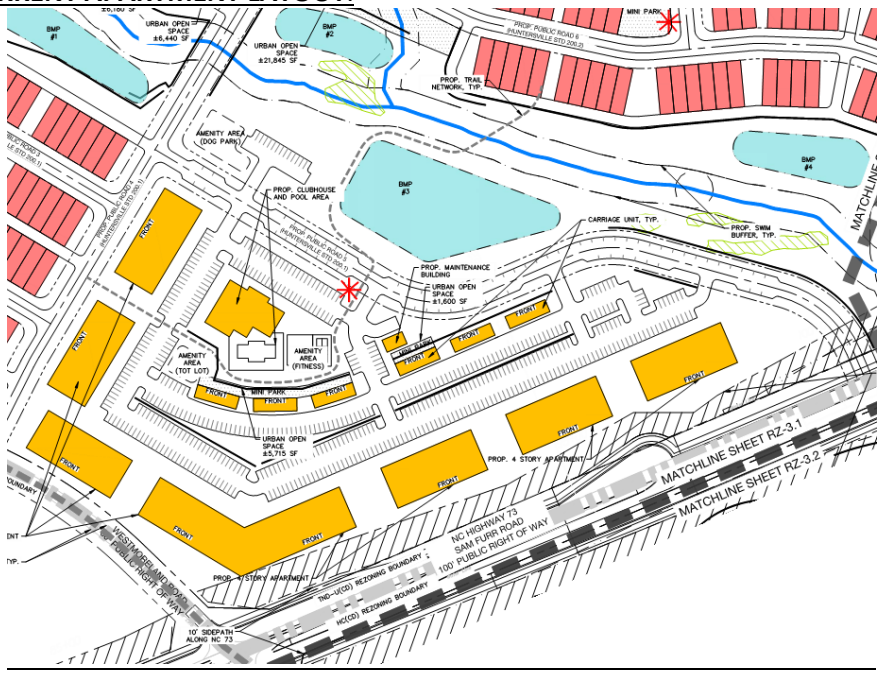
- The apartment layout along NC 73 need to create a pedestrian-oriented residential community.
  STAFF COMMENT: The entire Lagoona Bay Beach Club is proposed to be a pedestrian-oriented, mixed-use development; however, the apartments and townhomes are isolated from the other uses by NC 73, with only a shuttle to provide connection. The large, linear parking lot separates the buildings without pedestrian connections or open spaces.

- Full elevations for the apartments and townhomes along the public street frontages in the TND-U zone must be provided. Elevations for the commercial/retail, hotel, convention center, condos and apartments in the HC zone should be provided.
  STAFF COMMENT: *Per Article 3.2.11.d.3 Traditional Neighborhood Development – General Requirements, "A master plan in compliance with Traditional Neighborhood Development standards shall be provided with the conditional district plan…" The master plan shall include… building elevations, which may be required to evaluate the interior pedestrian environment and conditions at project edges".*

- The apartment layout has several buildings that do not front a street or Urban Open Space.
  STAFF COMMENT: *Most of the apartments are located along an Urban Open Space which, if designed well, could provide an appropriate complement to high-density residential use. Typically, a trade-off for added*

density is well-laid-out open space and compelling building design. Does this site plan provide the enhanced design to merit the addition of higher densities within close proximity to the Rural zoning district.

CURRENT APARTMENT LAYOUT:



- The specimen tree data should be overlaid on the site plan for proper evaluation for each sub-area. Required specimen tree save is 30% for both HC and TND-U zoning.

STAFF COMMENT: *Based on the tree survey provided, it appears there is opportunity to save the Ordinance-required minimum 30% of specimen trees on site. The existing land uses and developments surrounding this project have a high percentage of tree coverage. One of the primary reasons to permit a reduction in tree save is as a trade-off for well-designed, specific open spaces that created activated-spaces, instead of merely preserving a high-percentage of trees. Tree mitigation is a measure in the Ordinance to be utilized only when existing conditions do not permit minimum preservation of trees on site.*

- All parking lots, when located along a public street must be screened.

STAFF COMMENT: *Several parking areas are not adequately screened, per Ordinance.*

- Pedestrian circulation through the proposed parking lots does not meet Article 6 of the Zoning Ordinance.

STAFF COMMENT: *Article 6.D. states that "parking lots shall be designed to allow pedestrians to safely move from their vehicles to the building(s). On larger lots, corridors within the parking area should channel pedestrians from the car to the perimeter of the lot or to the building".*

- Floorplans for the apartments-over-commercial and condos must be provided to understand how these units will function and satisfy the requirements of the Ordinance.

STAFF COMMENT: *Floorplans are the most effective way to illustrate the ground-level units have entrances to the frontage. Floorplans will also show the percentage of non-residential provided on the ground-level to satisfy the requirements of Article 3 of the Zoning Ordinance regarding 100% attached units in the Highway Commercial zone.*

- All external buffers are to be undisturbed.

STAFF COMMENT: *All of the external buffers are labeled as "landscape buffers", which does not preclude the clearing of these areas and re-planting after grading is done. That is not the intent of external development buffers, and they should remain undisturbed and only supplemented where the existing vegetation does not provide adequate buffering.*

- Provide heights in data chart for all use types. [Modification request?]

STAFF COMMENT: *In order to confirm that all structures are adhering to the requirements of the Ordinance, overall heights need to be provided from the public right-of-way grade. The hotel and possibly some apartments, are requesting heights that exceed the Ordinance. Will these requests be through modification or through the Special Use Permit process? This should be discussed with Staff.*

- RECOMMENDATION: The apartment area has limited Urban Open Space and common open spaces for the residents.
  STAFF COMMENT*: As stated previously, higher-density developments can be justified by providing appropriate open spaces for the higher number of residents to utilize for various recreational and passive uses. Recommend increasing the amount of open space throughout.*

- RECOMMENDATION: Expanded pedestrian circulation options to all parts of the development should be provided.
  STAFF COMMENT*: Safe and convenient walkways should be provided to move the high-density, multi-family residents to the lagoon area, and the entire Highway Commercial area south of NC 73. While a shuttle bus is proposed to transport residents throughout the development – that does not replace a well-designed, pedestrian network of sidepaths, sidewalks and trails. Connecting the area north of NC 73 with at-grade crossings of NC 73 (if possible), or other pedestrian crossing technique, would provide connection for the high-density area to the north to the uses to the south.*

- RECOMMENDATION: An 80 ft. buffer should be provided along McCord Road frontage.
  STAFF COMMENT: *Similar to the buffer proposed along Black Farm Road) to continue the development character found at several other developments along McCord Road, including Northbrook, Camden, Arborcroft and Belleterre. This type of wide buffer area also respects the existing land uses along the corridor.*

- RECOMMENDATION: Add a street stub to the west (south of Ramah Creek).
  STAFF COMMENT*: There are approximately 24- acres that have re-development potential to the west of the single-family homes closest to McCord Road. Connectivity with this development should be provided.*

The Conditional District Rezoning Plan does not comply with the **Subdivision Ordinance** in the following ways:

Following Items have not been provided:
- Notes Sheet – Numerous notes are required by Zoning Ordinance and Subdivision Ordinance.
- Phasing Plan – required for rezonings.
- Lot diagrams for each use.
- Building type for every structure.
- Numerous block lengths exceed regulations.
- Note on plan regarding provision of water and sewer service.
- Mail kiosk locations.

- Garbage collection locations in the commercial/retail, hotel, convention center, apartment and condo locations.
- Percentage of impervious coverage allowed and proposed.
- Lot counts, by use.
- All build-to ranges and setbacks.
- Add Sheet LS-2.0 to Landscape Plan set.
- Specimen tree and tree canopy mitigation explanation, if additional trees are not saved.
- Amount and percentage of overall open space.
- Assignment of all open spaces to one of four open space types.
- Note regarding residential lot trees.
- Confirm 10 ft. sidepath is to be provided on both sides of NC 73 and list all other streets that will have sidepaths.
- Design of lot sizes to transition with adjacent development.
- Design of buildings to respect the general spacing of existing structures.
- Compatible or Transitional orientation of adjacent principal structures.
- Requested modification list.

PART 3: TRANSPORTATION ISSUES

Traffic Impact Analysis (TIA)

A TIA for the Lagoona Bay Beach Club CD Rezoning will be reviewed by North Carolina Dept. of Transportation (NCDOT), as all of the impacted roads are state-maintained roads. A revised scoping package for this TIA was submitted to NCDOT on 5/10/23. As of 5/25/23, NCDOT approved the scope, however roadway improvements have not been identified by NCDOT or committed to by the developer.

Additional transportation issues:

- Adequate turnarounds should be provided at several public road stubs and dead-end alley conditions.
- Traffic-calming measures should be provided at several locations as specified by Town Staff.
- Most recent NC 73 plan set should be referenced into the development plan to show specific ROW and easement locations.
- Minimum requirements for roadway geometry (curve radii and road grades) are not being met on several proposed public streets.
- ROW widths for several public streets are inconsistent with corresponding typical sections.
- Alleys have not been designed to accommodate appropriate design vehicle(s), i.e., garbage truck.
- Disturbances of SWIM and Post Construction buffers shown on plans at alley locations.
- 100’ stem length not provided between McCord Rd ROW and first alley.
- Some areas of the proposed storm drainage system do not meet engineering standards.
- Several typical street sections are inconsistent, inadequate or not provided.
-

PART 4: REZONING CRITERIA

Article 11.4.7(d) of the Zoning Ordinance states that “in considering any petition to reclassify property, the Planning Board in its recommendation and the Town Board in its decision shall take into consideration any identified relevant adopted land-use plans for the area including, but not limited to, comprehensive plans, strategic plans, district plans, area plans, neighborhood plans, corridor plans, and other land-use policy documents”.

NOTE: The following references to the 2040 Community Plan's policies that relate to the Lagoona Bay Beach Club Rezoning Plan are divided into two sections - policies that SUPPORT the Plan as presented and policies that DO NOT support the plan.

Policies from the 2040 Huntersville Community Plan that SUPPORT this project:

- **Policy LU-9: New residential development should follow appropriate housing design principles.**
  - **LU 9.1: In higher intensity areas including Mixed Use Centers, Activity Centers, the Town Core, and Moderate Density areas neighborhoods should adhere to the following design principles**:
    - All homes must front a public street or open space.
    - Front porches and recessed garages are encouraged.
    - On-street parking is required in new developments that have lot widths below 60'. Alley-loading is also encouraged in these cases.

  STAFF COMMENT: *If the Town approves the rezoning thereby amending the 2040 Land Use Plan Map for higher intensity development, the developer is proposing all rear loaded alley access garages for the single-family development.*

- **Policy LU-10: Encourage a diversity of housing options.**
  - **LU 10.1: Align housing options with resident needs and promote attainable housing options**.
    - Accommodate a mix of housing by type, tenure and location to serve a growing and increasingly diverse population. Housing offerings should align with workforce opportunities, including management, professional positions and service positions.

  STAFF COMMENT: *The development contains a variety of housing options, including single-family homes, townhomes, condos and apartments.*

- **Policy EV-1: Support a balanced economy through job growth in target industry sectors.**
  - **EV 1.2: Focus economic development in areas that support growth**.
    - Preserve areas suitable for business and industrial development, along with a mixture of support uses, to ensure an adequate inventory of land for future growth and development, with increases to this inventory as required. These areas should have proximity to existing or future activity centers, have access to transportation options and utility service, and offer amenities.

  STAFF COMMENT: *The developer proposes a 200-room hotel, 36,000 sq. ft. convention center, 210,000 sq. ft. of retail, and a full-service 41-acre resort style recreational area to augment 1,162 proposed dwelling units. The hotel, convention center, retail and resort area will diversify the tax base. However, there is concern that being 3 miles from Interstate I-77 and not being located at the intersection of two major thoroughfares could make it difficult to achieve full build-out. By example, Huntersville East was initially approved in February 2009 with up to 181,827 sq. ft. of commercial floor area and they have/will build 82,460 sq. ft. of commercial floor area to date. Davidson East in Davidson was approved June 2007 with 404,680 sq. ft. of office & retail approved and to date, no non-residential floor area has been built.*

- **Policy EV-2: Encourage existing economic assets and entrepreneurial business development.**
  - **EV 2.1: Promote and encourage local businesses, particularly small businesses**.
    - Foster a dynamic, diversified, and inclusive business climate that highlights why the Town of Huntersville can support private investment and locally expanding businesses.
- STAFF COMMENT: *The developer proposes to diversify the non-residential development options by including a 200-room hotel, 36,000 sq. ft. convention center, 210,000 sq. ft. of retail, and a full-service 41-acre resort style recreational area.*
-

- **Policy EOS-5: Protect water quality.**
    - EOS 5.3: Encourage Low Impact Development (LID).
        - Continue to promote usage of sand filters, bioretention, rain gardens, green roofs, pervious pavements, stormwater planters and other LID features.
        - Fine tune design of stormwater features and relationship to open space.
- *STAFF COMMENT: The development will comply with Low Impact water quality standards.*

- **Policy EOS-8: Improve access to parks.**
    - **EOS-8.2:** Work toward the goal of 100% of residents within a 10-minute walking distance of a park, formalized or curated natural area, publicly accessible passive open space area, or greenway access point.

  STAFF COMMENT: *The development will dedicate the entire Ramah Creek floodplain to Mecklenburg County for preservation and for the future extension of the greenway network. Westmoreland Road is proposed to have a 10 ft. sidepath that will offer access to the future greenway. The development's 41-acre recreational amenities (with membership) will offer additional options to the area.*

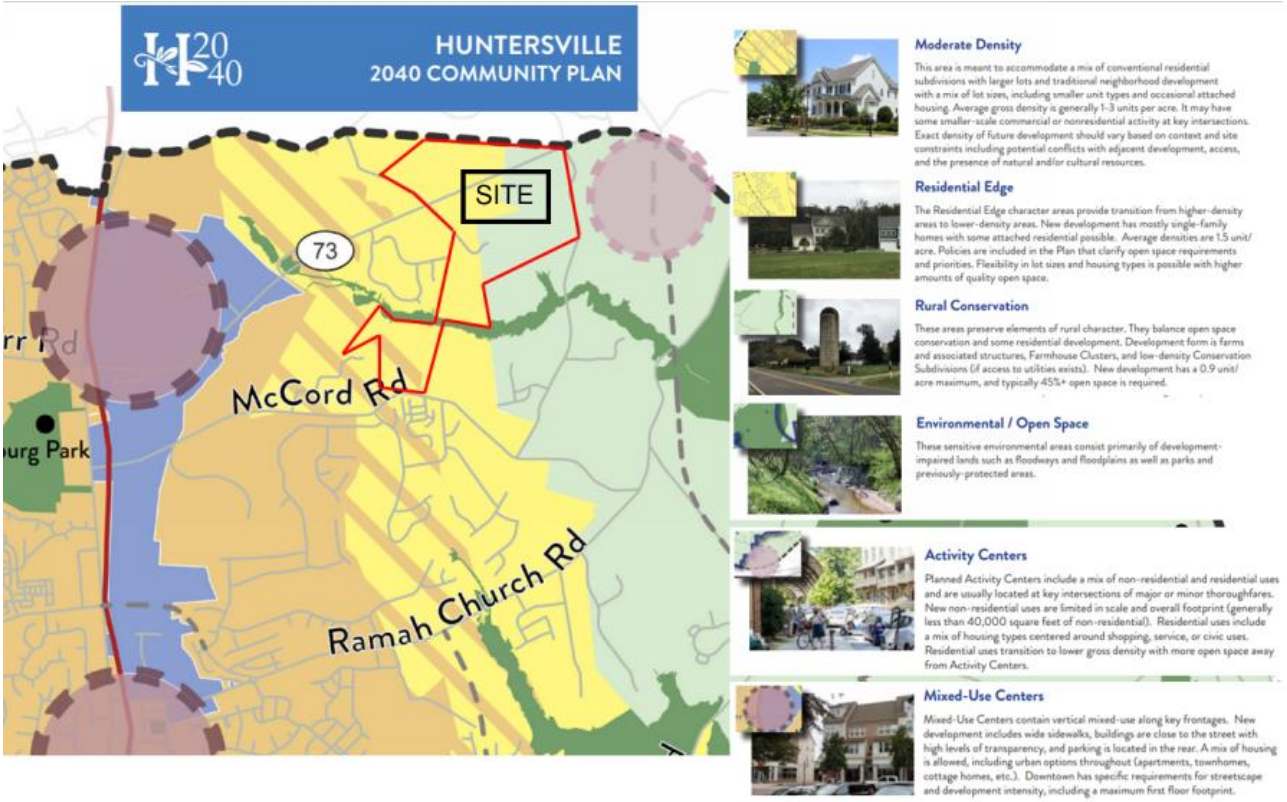
- **EOS-10: Improve bicycle and pedestrian facilities throughout Town.**
    - **Implement the Bicycle and Pedestrian Committee's 30 x 30 plan.**
        - Connect all parks, schools, neighborhoods and major shopping into the Greenway System by 2030 incrementally over the next 10 years.
        - Include greenways, sidewalks, multi-use paths, trails and dirtways.

  STAFF COMMENT: *All public streets have sidewalks along both sides and generally provide pedestrian circulation throughout. 10 t. wide sidepaths are proposed, however, it is not clear where they will be located.*

Policies from the 2040 Huntersville Community Plan that DO NOT SUPPORT this project:

- **Policy LU-1: Encourage a development pattern that follows the Future Land Use Map.**
    - **LU 1.1: Utilize the Future Land Use Map during development approval process to ensure compatibility with long-range plans.**

  STAFF COMMENT: *This rezoning does not follow the Future Land Use Map by placing high-density development in the Moderate Density, Residential Edge and Rural Conservation area. If approved, the Future Land Use Map will be modified, and a decision needs to be made as to potential designations for the properties surrounding the Lagoona Bay Beach Club's 263-acres. The Future Land Use Map area is as follows:*



The Rural Conservation designation indicates areas to "preserve elements of rural character". "New development has a 0.9 unit /acre and typically 45% open space." The area of the rezoning plan that corresponds to the Rural Conservation area is proposed for Highway Commercial zoning with a mixed-use development with 112 apartments, 300 condominium units, 210,000 sq. ft. of commercial (retail), 200-room hotel and a 36,000 sq. ft. convention center and a 41-acre lagoon amenity. These proposed uses are not in alignment with the Rural Conservation designation.
The Residential Edge areas "provide transition from higher-density areas to lower density area. New development has mostly single-family homes with some attached residential possible. Average densities are 1.5 units/acre. Flexibility in lot sizes and housing types is possible with higher amounts of quality open space." The area of the rezoning that corresponds to the Residential Edge area is proposed for Traditional Neighborhood Development (TND-U), Highway Commercial (HC) and Neighborhood Residential (NR) zoning with 180 Townhomes, 320 Apartments, (portion of) the 41-acre lagoon amenity and (portion of) the single-family homes.

- **Policy LU-2:** Encourage residential development that follows the pattern outlined in the future land use map.
    - **Policy LU-2.1:** Higher intensity residential uses will be focused generally within two miles of the I-77/NC-115 corridor and <u>future activity centers</u> in the eastern and western areas of the Huntersville zoning jurisdiction.

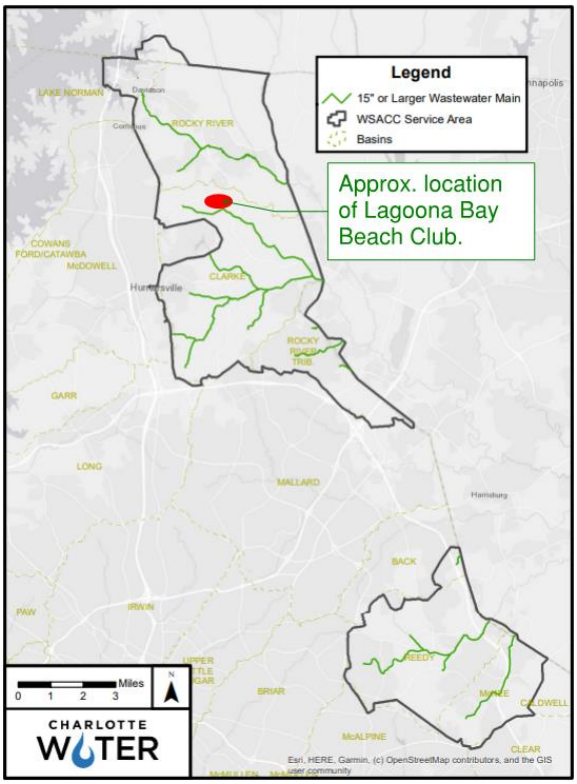
<u>STAFF COMMENT:</u> *The Lagoona Bay Beach Club rezoning does not follow the Future Land Use Map by placing high density development in the Residential Edge and Rural Conservation area. If approved, the Future Land Use Map will be modified, and a decision needs to be made as to potential designations for the properties surrounding the project's 263-acres.*

- **Policy LU 3.1**: **Manage residential growth in the eastern and western parts of Huntersville's planning jurisdiction.**
    - **LU 3.1**: **Discourage rezonings to higher intensity residential districts in the Residential Edge and Rural Conservation future land use character areas**.
        - There is constant pressure to rezone to higher-density districts on the edges of town. Growth management was the #1 priority for survey response. There needs to be a concerted effort to uphold previous policy decisions to limit density and increase open space preservation in the more undeveloped areas outside of the Town Core.

  STAFF COMMENT: *The rezoning does not manage growth in the eastern part of Huntersville. Under current TR and R zoning, 340 single-family homes could be built. The rezoning would allow 1,162 residential units (single-family, townhomes, condos and apartments) a 200-room hotel, a conference center and up to 240,000 ft of commercial/retail. If the development is permitted not to match the permitted densities of the surrounding zoning districts, then appropriate transitions should be created by revising the location of uses, sizes and densities along external boundaries and increase buffers along the edges, as well.*

- **Policy LU-5: Focus more intense development in locations that can support growth**.
    - LU 5.1: Allow more intense development only where transportation infrastructure and utilities already exist.

  STAFF COMMENT: *This area was designated for low-density development. While NC 73 is planned to widen to four-lanes starting in 2026, and Charlotte Water is in the process of increasing sewer capacity in this area (see below), this development will consume capacity intended for the region and will reduce capacity designated for higher intensity development (see Attachment E). Further, designating the 263-acres for higher intensity development will result in additional demand for higher intensity development on adjacent properties and surrounding land. Adopted long-range plans are the basis for infrastructure planning and were referenced by NCDOT (for NC 73), Charlotte Water & Sewer and Charlotte-Mecklenburg Schools. Lastly, until NCDOT provides input based on the TIA, a full analysis of transportation impacts cannot be provided at this time.*



- **Policy LU-6: Support a mix of land uses in key locations.**
  - LU 6.1: A mix of land uses is encouraged in Mixed Use Centers, Activity Centers, Employment Centers identified on the Future Land Use Map.
  - LU 6.2: Commercial uses are encouraged in the Town Core and as specified in adopted Small Area Plans. LU 6.3: Small scale, neighborhood-serving commercial and office uses may be allowed in Town Core and Moderate Density areas specified on the Future Land Use map at key locations if designed in a context sensitive manner.

  STAFF COMMENT: *The rezoning does not follow the Future Land Use Map by placing high density development in the Residential Edge and Rural Conservation areas, rather than in designated mixed-use centers.*

- **Policy LU-7: Require new development to follow design principles that reinforce the vision for the Town as expressed in this plan and other adopted plans.** The town has committed to traditional town planning and urban design principles that are meant to preserve the character of the town. This commitment is noted in adopted plans and the zoning ordinance and has been expressed in new development over the last 25 years.
  - **LU 7.1: Require all new development to adhere to the following design principles**:
    - In Mixed-Use Centers, Activity Centers, Town Core, and Moderate Density Areas, streets and sidewalks are meant to be attractive and inviting. New development in these areas shall follow these principles:
    - All buildings shall front a public street or open space.
    - Streets should be connected, have short blocks and sidewalks on both sides of streets.
    - Improve connectivity, particularly for pedestrians and vehicles.
    - Parking lots, if required, should be predominately located behind buildings screened from view and larger lots should be broken by buildings and or landscape features.
    - Accommodate a mix of uses and/or housing types.

STAFF COMMENT: *The applicant is requesting the Town designate this area for higher intensity development, although it is not clear what Future Land Use Classification will apply. Based on the intensity of development proposed, the Mixed-Use Center is closest to the rezoning plan. If the Town modifies the Future Land Use Map to allow higher intensity development, there are some sections of the development that follow the above design principles and some sections that do not that are highlighted in yellow. While a mix of housing types are proposed, they are clustered and should more-fully integrate within the Activity Center limits.*

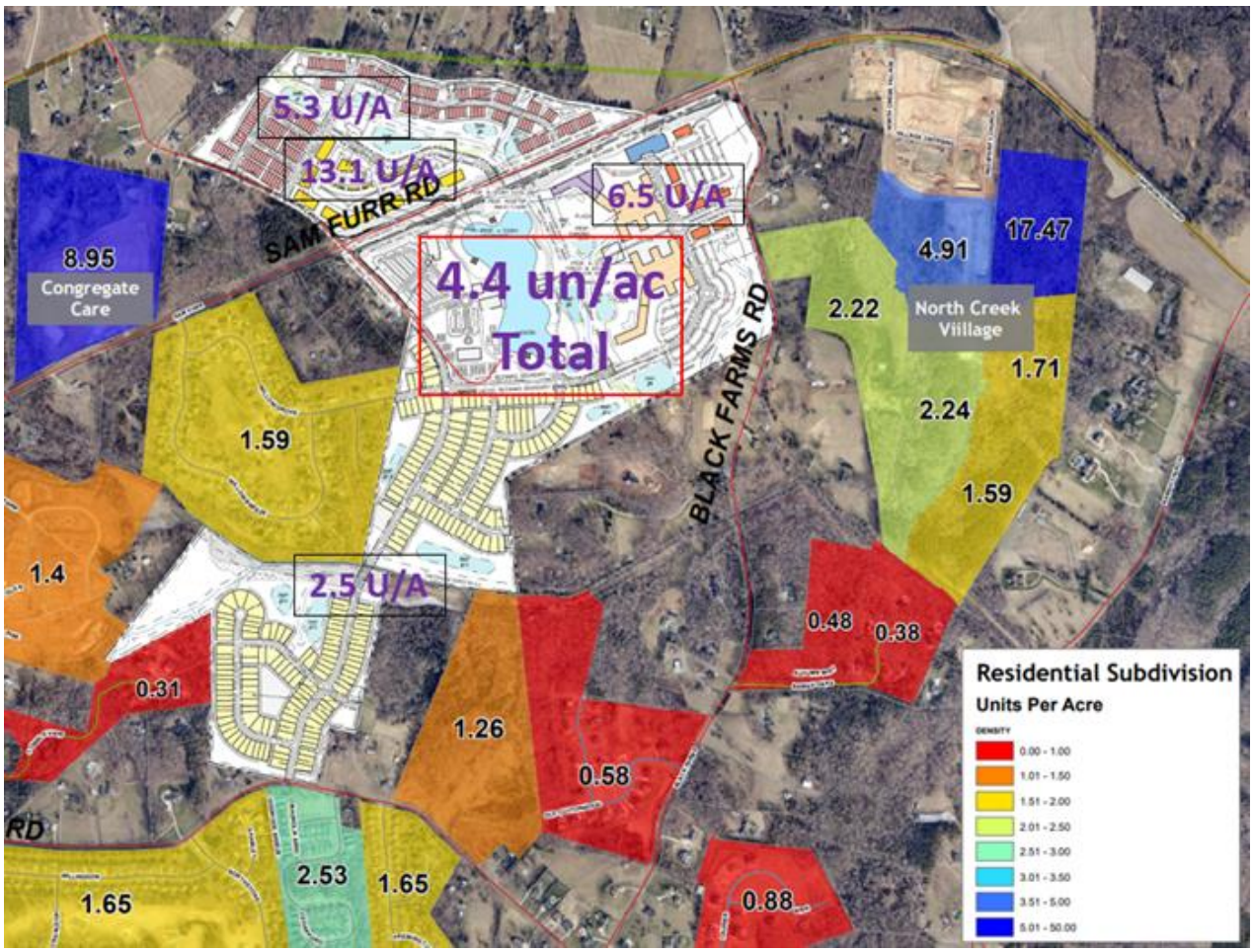
- **Policy LU-9: New residential development should follow appropriate housing design principles.**
    - LU 9.2: Within lower intensity areas including Moderate Density, Residential Edge, Rural Conservation, and Critical Watershed areas conservation design & farmhouse clusters are encouraged.
        - Scenic nature of roadways should be preserved.
        - Development should be clustered away from key natural features.
        - Site design should minimize grading and maximize preservation of existing stands of mature, native trees.

STAFF COMMENT: If the Town does not modify the 2040 plan map, the proposed development will not meet Policy LU 9.2.

- **LU 10.2: Continue to encourage a mix of lot sizes in new developments**.
  STAFF COMMENT: *The 100-acre single-family development with 250 homes offers two lot widths of 40 ft. and 50 ft. This is very limited given the size/number of single-family homes and the low density of adjacent development.*

- **Policy LU-11: Protect Exiting Housing Stock**.
    - LU 11.1: Protect and enhance the unique character of Huntersville's neighborhoods by using planning tools to safeguard from potentially negative impacts of development and redevelopment.
        - Promote quality design and neighborhood improvements including increasing access to parks and recreation and mobility options.
        - Encourage coordination with neighborhoods to address infrastructure needs such as sidewalks and drainage.
    - LU 11.2: Along existing streets, encourage new buildings to respect the general spacing of structures, building mass and scale, and street frontage relationships of existing buildings.

  STAFF COMMENT**:** *Existing residential development north of NC 73 consists of low density, large lot single-family dwellings. The proposal for 180 townhomes and seven 320-unit four-story apartments is not in keeping with protecting the existing housing stock. Further, existing residential development south of NC 73 is low density moderate to large lot single-family development ranging from .38 acre lots to 3 acre lots. The proposal is for lots starting at .12 acres and alleys serving those lots to be located within 20' of existing residential lots. In one area near McCord Road, there are three existing large lot homes adjoining 20 proposed single-family dwellings with alleys 20' from the existing residential property. The proposed development is not in keeping with protecting existing housing stock.*



Appropriate buffers along state roads and external boundaries provide transitions between new development patterns and existing land uses. A recent example is North Creek Village, located to the east and south of the NC 73 & Davidson-Concord Road intersection. This development is located within a designated Activity Center – which encouraged higher densities - near areas designated for more Rural and Transitional Residential-type development (low density). That project presented a land use arrangement that "stepped-down" the density and uses so that the proposed uses are more compatible with adjacent R and TR development. The project has 40 ft. and 50 ft. buffers and densities at the edges are only slightly higher than TR's 1.5 units per acre. The area of the North Creek Village plan with apartments (and the highest density) has the widest buffer abutting Rural Zoning and was adequate for Town approval. Lastly, the "vegetated buffers" should be undisturbed buffers that only add vegetation where existing vegetation is not adequate, per the Zoning Ordinance.

- **Policy LU-12: Preserve historic structures and landscapes in Huntersville.**
    - **LU 12.3:** Blend new development with existing neighborhoods, structures and landscapes through the use of transitions in building types and placement of open space, buffers, and other site features.

STAFF COMMENT: *A large percentage of this development does not blend well with the existing neighborhoods, in that the housing types, the scale and intensity are not in keeping with the existing land use patterns. One way to create transitions from one use type to another are appropriately sized buffers. The Town of Huntersville recently addressed the need for adequate buffers between developments by doubling the minimum required buffer for projects if the new development was (at least) double the density of the adjoining land use, in that condition, buffers would be increased from 20 ft. to 40 ft. (min.). In many instances around the Lagoona Bay*

Beach Club development, the density discrepancies far exceed double the density, and yet only 20 ft. buffers are offered. The only exception to this is the 80 ft. buffer offered along Black Farm Road, which is appropriate and consistent with the 2040 Community Plan.

- **Policy EOS-1: Support the preservation and enhancement of the natural environment, along with its scenic and cultural assets.**
    - **EOS 1.1: Support and enhance regulations pertaining to open space design and protection**.
        - Continue to encourage the preservation of floodplains, wetlands, scenic views, wildlife habitat and prominent natural and historical features.
        - Continue to encourage contiguous and interconnected open space in new developments.
        - Enhance open space design criteria by prioritizing the following:
        - Water quality protection (land within 100-300 feet of streams, and uplands adjacent to floodplains or sensitive watersheds
        - Mature forest, especially large tracts of contiguous, native forest cover
        - Future greenway corridors
        - Areas contiguous with surrounding existing or planned open space.
        - Historic landscapes and notable structures

  STAFF COMMENT: Unless the 2040 Plan is modified by the Town, the proposed development will not protect the scenic views along NC 73 and will result in removal of more vegetation than if current zoning remained.

- **Policy EOS-2: Encourage conservation subdivision design in Residential Edge and Rural Conservation areas.**
    - **EOS 2.1: Continue to require and incentivize open space reservation in Moderate Density, Residential Edge, Rural Conservation, and Critical Watershed areas**.
        - Encourage new development to have at least 40% open space in new development in these areas.
        - The Residential Edge and Rural Conservation areas on the Future Land Use map are associated with the Transitional and Rural zoning districts. These zoning districts offer a sliding scale in allowable density depending on the amount of open space preserved.
    - EOS 2.2: In the Transitional and Rural zoning districts, consider allowing additional flexibility in site design in exchange for more quality open space preservation, which promotes conservation of natural resources.
        - Residential Edge: (TR Zoning area) Consider revising average & minimum lot size requirement and providing a mechanism for attached units (i.e., 10-20%)
        - Rural Conservation: (R Zoning), revisit average and minimum lot size requirements and consider up to 10% attached allowance (could be incentive-based on open space design)

  STAFF COMMENT: Unless the 2040 Plan is modified by the Town, the proposed development will not protect the scenic views along NC 73 and will result in removal of more vegetation than if current zoning remained.

- **Policy EOS-3: Prioritize tree canopy preservation in the lower intensity areas (Residential Edge, Rural Conservation, and Critical Watershed areas).**
    - **EOS 3.1: Make mature, native forest an open space priority, especially near streams.**
        - Review and update tree preservation and open space requirements to prioritize natural open space and specifically stands of native, mature forest, especially those forests located proximal to streams.

  STAFF COMMENT: Unless the 2040 Plan is modified by the Town, the proposed will result in removal of more vegetation than if current zoning remained.

- **Policy EOS-6: Preserve elements of rural character.**
    - EOS 6.1: Enforce existing standards and evaluate new design standards to preserve the character of scenic country roads.
        - McCauley Road, Black Farms Road, Beatties Farm Road, and Ramah Church Road have been identified as scenic resources and should have corridor-specific design controls that preserve scenic beauty.
        - Additional controls might include view-shed protections, additional landscaping buffers or open space or screening requirements, use restrictions, density restrictions, or higher setbacks along the roadway.

  STAFF COMMENT: *To date, as development has occurred along Black Farm Road, the typical road cross-section has not been installed to preserve the rural character of the corridor. New developments along Black Farm Road have not been large-scale, and impacts have been minimized (see North Creek Villages' reduced density along Black Farm Road and a 100 ft. buffer along the road frontage). The Lagoona Bay Beach Club project is providing an 80 ft. buffer along Black Farm Road which will help preserve this corridor. NCDOT has not commented on the TIA, and a development of this scale and density may (and should) require dramatic road improvements. If the character of Black Farm Road is to be preserved, developments that require significant road improvements would not be appropriate.*

- **Policy PS-9: Coordinate with Charlotte Water on water and sewer provision in the planning area.**
    - **PS 9.1: Prioritize in infrastructure upgrades for future commercial, industrial and mixed-use development.**
        - Replace waterlines and upgrade sewer infrastructure as needed to serve future development in Downtown other Mixed-Use Centers and Employment Center areas identified on the Future Land Use Map.

  STAFF COMMENT: The proposed development is not located in a future high density growth area identified to Charlotte Water via the Town's long-range plans.

- **Policy T-1: Link land-use with transportation using the mobility framework.**
    - **T 1.2: Prioritize connecting Mixed-Use Centers to Activity Centers and other destinations throughout Town with transit**.
    - T 1.3: Encourage transit-supportive development within Mixed-Use Centers and the Community Core areas to expand existing Express Bus Routes.

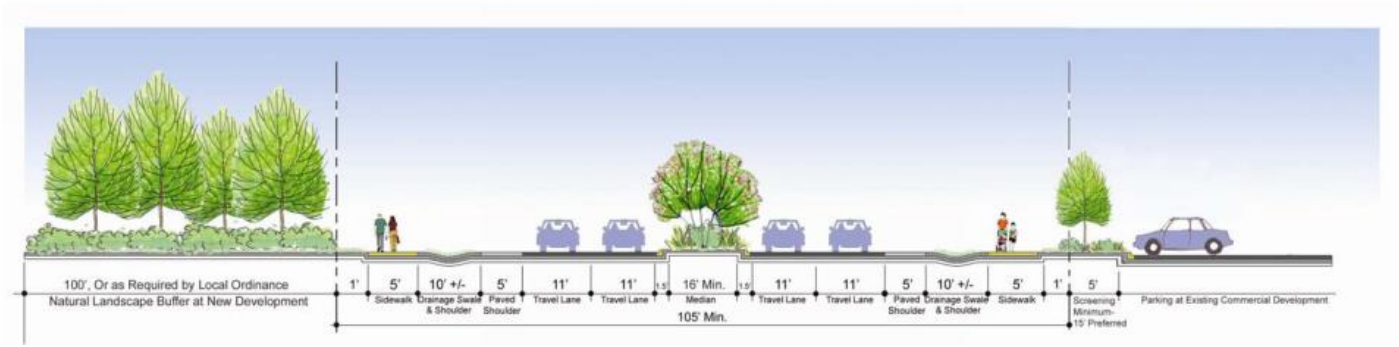
  STAFF COMMENT: The proposed development is located well outside of where transit is provided in proximity of I-77 and NC 115.
-
- **Policy T-3: Improve connectivity throughout the study area.**
    - T 3.1: Continue to require street connectivity among residential, commercial, employment, recreational and institutional uses.
    - Context-sensitive street design should be applied.

  STAFF COMMENT: *The proposed development provides a connection between NC 73 and McCord Road and into the existing public street stub in the Willowbrook subdivision.*

The **NC 73 Transportation / Land Use Corridor Plan** identifies the area around the Lagoona Bay Beach Club project as both a Rural and Transitional District with no new driveways on NC 73. The improvement to NC 73 was identified as a "4

Lane Rural Boulevard" that has since been superseded by the "Super Street / Reduced Conflict Intersection (RCI)" concept. No matter the name, the emphasis of the plan was to eliminate new driveways along the corridor and to provide significant buffers where development does not currently exist. All new development would be located behind the buffer as well.

Road Typologies – 4 Lane Rural Boulevard



Article 11 Section 11.4.7(e) of the Zoning Ordinance states that: "in considering any petition to reclassify property the Planning Board in its recommendation and the Town Board in its decision should consider:

1. **Whether the proposed reclassification is consistent with the overall character of existing development in the immediate vicinity of the subject property.**
   STAFF COMMENT: *The proposed Conditional District Rezoning for the Lagoona Bay Beach Club Mixed-Use Conditional District Rezoning is not supported by the 2040 Comprehensive Plan. The main issues of concern are the increased level of density and the location of the structures relative the abutting zoning and land uses and the lack of appropriate transitions to those Rural and Transitional Residential zones.*

2. **The adequacy of public facilities and services intended to serve the subject property, including but not limited to roadways, transit service, parks and recreational facilities, police and fire protection, hospitals and medical services, schools, storm water drainage systems, water supplies, and wastewater and refuse disposal.**
   STAFF COMMENT:
   - *A Transportation Impact Analysis was required – see Part 3 of this report.*
   - *Storm water plan approval and refuse disposal note, must be provided.*
   - *Charlotte Water has provided a memo of capacity availability and necessary requirements to provide those services. This memo will serve as a Willingness-to-serve indication from Charlotte Water. However, it should be noted that "current projections of wastewater flow from this rezoning boundary, developing under existing Huntersville Rural (R)and Transitional Residential (TR) zoning range from 19,941 to 59,823 Gallons Per Day (GPD). The Lagoona Bay Beach Club represents a multi-fold increase ranging from 347,600 to 397,600 GPD – roughly 11% of the capacity for the Water and Sewer Authority of Cabarrus County (WSACC), that serves the Towns of Huntersville, Cornelius, Davidson, as well as certain areas of the City of Charlotte (see Attachment E).*
   - *The Conditional District Rezoning site plan was reviewed by Charlotte-Mecklenburg School District (CMS). CMS indicates the schools that would serve the proposed development are currently over-crowded and would add approximately 272 students to the schools in this area. In addition, they state that approval of the project "may increase overcrowding and/or reliance upon mobile classrooms at the schools listed". (see below & see Attachment D for the full CMS report).*

This development may add 272 students to the schools in this area.

The following data is as of 20th Day of the 2022-23 school year.

Schools Affected	*Total Classroom Teachers*	*Building Classrooms/ Teacher Stations*	*20th Day, Enrollment (non-ec)*	*Building Classroom/ Adjusted Capacity (Without Mobiles)*	*20th Day, Building Utilization (Without Mobiles)*	*Additional Students As a result of this development*	*Utilization As of result of this development (Without Mobiles)*
J V WASHAM ELEMENTARY	46.50	39	810	679	119%	127	**135%**
FRANCES BAILEY MIDDLE	66.5	57	1326	1137	117%	67	**122%**
WILLIAM AMOS HOUGH HIGH	120.3	100	2518	2093	120%	78	**124%**

The total estimated capital cost of providing the additional school capacity for this new development is $10,229,000; calculated as follows:

Elementary School: **127** x $34,000 = $4,318,000
Middle School: **67** x $37,000 = $2,479,000
High School: **78** x $44,000 = $3,432,000

RECOMMENDATION
Adequacy of existing school capacity is a significant problem. We are particularly concerned about a case where school utilization exceeds 100% since the proposed development may exacerbate the situation. Approval of this petition may increase overcrowding and/or reliance upon mobile classrooms at the schools listed above.

3. **Whether the proposed reclassification will adversely affect a known archeological, environmental, historical or cultural resource."**
   STAFF COMMENT: The Lunsford-Knox Farm is located at 15401 Black Farms Road and is identified by the Historic Landmarks Commission as an intact farm. However, according to the Commission's representative, protection is not being sought and would not be sought, unless the owners were seeking designation, and even then, the Commission would look critically at whether it merited protection status. *Planning staff has no indication that the request would adversely affect any other known archeological, environmental, or cultural resources*.

PART 5: STAFF RECOMMENDATION

Staff **recommendation for the Lagoona Bay Beach Club Conditional District rezoning is denial** based on the following issues:

- The Lagoona Bay Beach Club site plan is not consistent with the 2040 Community Plan or the NC 73 Corridor Plan;
- The overall density, and per zoning area densities, are not supported by the 2040 Community Plan;
- The overall plan does not comply with numerous regulations for the zoning districts requested;
- TIA requirements from NCDOT have not been received. All recommendations from TIA to be added;
- Charlotte Water indicates capacity is available, however, this project will utilize 11% of the remaining capacity until the year 2050.

- Provide tree survey overlaid on site plan to facilitate tree-save analysis;
- Tree save data does not indicate min. tree save in the TND-U and HC areas. No mitigation is offered.
- Plan Sheets listed as "Elevations" are illustrative plans – they do not have enough detail to be used in plans.
- All buffers should be "undisturbed".
- Buffers shown are only 20 ft. wide. Depending on densities, 40 (+) ft., undisturbed buffers along external boundaries should be utilized.
- Landscape Plans do not show double row of street trees along NC 73 or McCord Road.
- Parking lots along Westmoreland Road do not have landscape screening (per ZO Art. 6).
- Parking lots along Road 9 do not have landscape screening (per ZO Art. 6).
- See Parts 2 – 4 of this report for full summary of issues. Significant issues include:
    - TND-U – Sheet RZ-3.1:
        - The layout of the Apartment block (Sheet RZ-3.1) should be re-visited to create a walkable, pedestrian-oriented residential area with adequate open space and access to all other uses.
        - Demonstrate that average block perimeters in the TND-U sections do not exceed 1,350 ft. (see page 3 of this report).
        - Reduce block lengths that exceed 500 ft. in length in the TND-U areas.
        - Provide elevations for townhomes and apartments.
        - Provide 30% specimen tree save in TND-U area.
        - Several buildings in Apts. area do not have frontage on street or Urban Open Space – must provide.
        - Cul-de-sac exceeds standard – revise or request modification.
        - Frontage along Westmoreland Road does not meet Ord. requirements.
        - RECOMMEND providing on-street parking on both sides of all townhome streets where units exist on both sides.
        - RECOMMEND 10 ft. sidepath along Westmoreland Road.
    - HC – Sheet RZ-3.2:
        - All buildings must front a street or Urban Open Space.
        - A berm or other screening should be provided along NC 73 and Westmoreland Road.
        - The parking in the corner of NC 73 & Westmoreland Road must be relocated or screened.
        - A 10 ft. sidepath has been discussed along Westmoreland Road, but is not shown.
        - Provide 30% specimen tree save in HC area.
        - Provide pedestrian connection under/across NC 73.
        - Sports fields should be adequately screened.

    - HC / TND - U RZ-3.3:
        - Six-story hotel requires a Special Use Permit.
        - Provide floorplans & elevations (as needed) to show Ord. compliance for commercial/retail, hotel, convention center, condos and apartments-over-retail.
        - Compliance with requirements of HC has not been demonstrated.
        - Building type is not provided for each structure.
        - Block length standards are not being met.
        - Provide 30% specimen tree save in HC area.
        - Urban Open Spaces are not generally designed.
        - Parking areas along public streets must be screened.

  - NR – RZ-3.4:
    - External buffers should be increased.
    - Reduce block lengths that exceed 800 ft. in length in the Neighborhood Residential areas.
    - Shift street stub for Road 12 to align with Heath property.
  - NR – RZ-3.5:
    - Reduce block lengths that exceed 800 ft. in length in the Neighborhood Residential areas.
    - Appropriate Urban Open Space should be provided within the Single-Family area north of McCord Road.
    - External buffers should be increased.
- All outstanding Transportation Comments must be addresses (see Part 3);
- All outstanding redline comments must be addressed.
- RECOMMENDATION: a pedestrian crossing technique for NC 73 should be provided from the TND-U area (townhomes & apartments) to the mixed-use HC area (condos, hotel, convention center);

PART 6: PUBLIC HEARING COMMENTS

Public Hearing scheduled for Monday, June 5, 2023.

PART 7: PLANNING BOARD RECOMMENDATION

Planning Board scheduled to review on June 27, 2023.

PART 8: ATTACHMENTS/ENCLOSURES

Attachments

A – Rezoning Application.
B – Lagoona Bay Beach Club CD Rezoning / Sketch Plan (4 parts).
C - Community Meeting Report from April 26, 2023.
D – CMS Report – Lagoona Bay Beach Club.
E – Area Density Map.
F – Charlotte Water Memo
G – Staff Report Response Sheet From Applicant

Brian Richards

From: jpalillo@aol.com
Sent: Tuesday, July 11, 2023 5:34 PM
To: Brian Richards; Jack Simoneau; Anthony Roberts; Nolan Groce; Paul Pennell; III Charles L. Travis; Alberto Villa Cevallos
Subject: Lagoona Bay Project

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Brian

Its changing again.

The new plan will be as follows;

We are keeping the current plan as presented with the same zoning areas keeping the highway commercial.

The following changes

Apartments are 300 units and all 3 story buildings

The 180 townhomes are now 90 front load 52 ft wide patio homes

The lagoon is 8 acres and the beach club is the same

we are keeping 227 single family homes all rear load 40, 50 and 60 ft wide

The Highway commercial area.

We are removing the hotel and convention center. This area will be left open and well landscaped for the future and require rezoning if we add anything

The single buildings will all be one story retail, we are removing the units above

The mixed use buildings will be 3 story instead of 4 and we are reducing the condos to 200 units instead of 300

summary

210,000 sq ft of retail
200 condos
lagoona bay beach club
227 single family custom homes
300 apartments
90 patio homes lots 52 ft wide front load

total 817 dwelling units down from 1182 units 365 less units

What is the process to do this?

Do we go back to the planning board and then Town Board?

Do we need another public hearing or just the Planning Board ?

Please advise asap

Thanks
Jake

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Nathan Farber, Planner I

Date: July 17, 2023

Subject: Petition #TA23-03 Minor Subdivisions Limit

EXPLAIN REQUEST:
Consider decision on petition #TA23-03 a request by the Huntersville Planning Department to amend Article 2 of the Subdivision Ordinance and Article 7.5 of the Zoning Ordinance to limit Minor Subdivisions to five lots or less and to require a 10' buffer for Minor Subdivisions within the Rural and Transitional Residential zoning districts.

ACTION RECOMMENDED:
Consider Final Action

FINANCIAL IMPLICATIONS:
NA

ATTACHMENTS:
1. Staff Report TA 23-03 TB
2. Attachment 1 Application
3. Attachment 2 Proposed Ordinance
4. Attachment 3 HOAB Minutes

TA23-03 – Minor Subdivisions

PART 1: DESCRIPTION

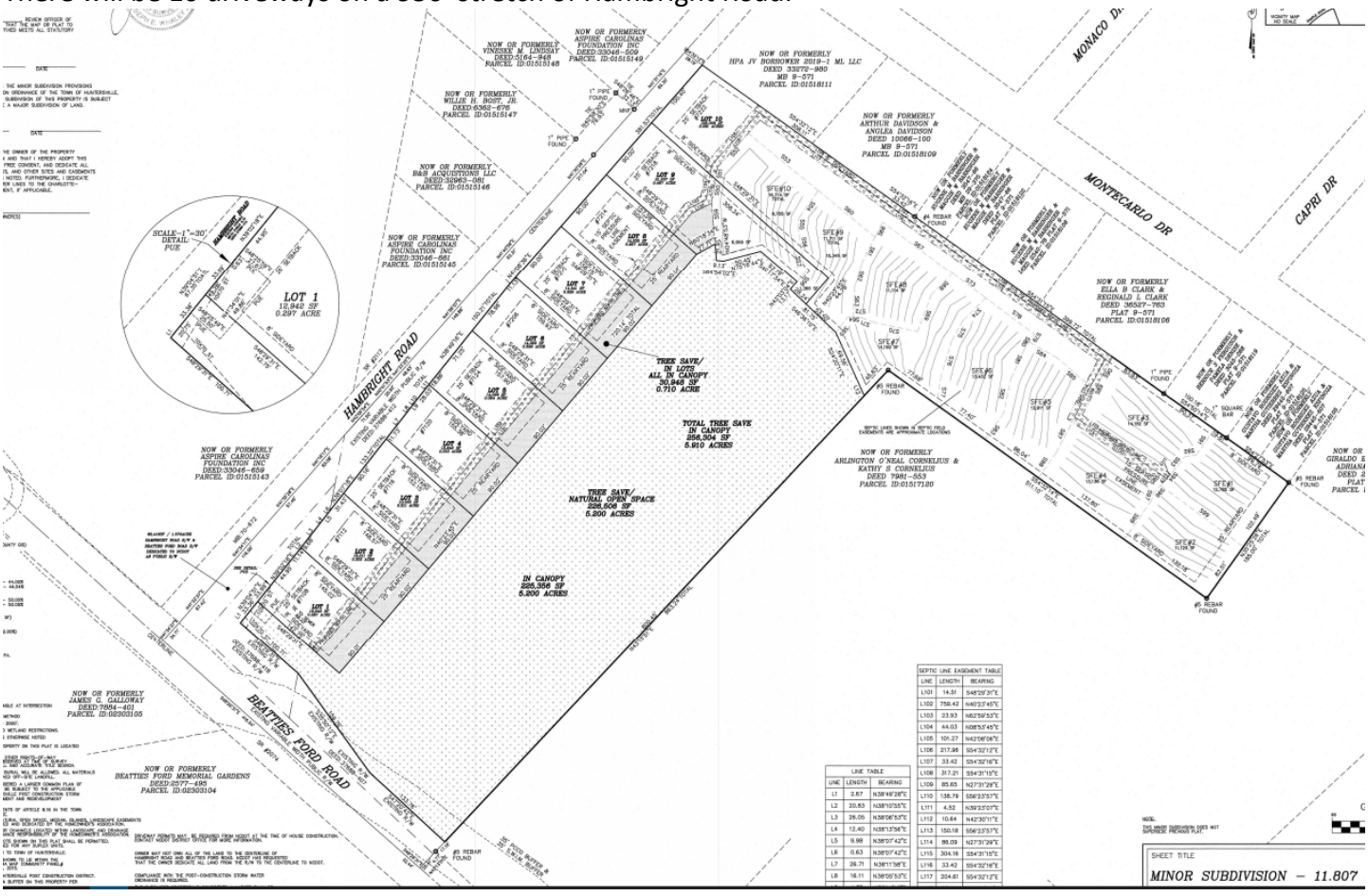
TA23-03 is a text amendment request by the Town of Huntersville Planning Department to amend Subdivision Ordinance Article 2 “Definitions: Subdivision, Minor” and Zoning Ordinance Article 7.5 “Buffer Yards”. Staff proposes limiting minor subdivisions to five lots or less and requiring minor residential subdivisions within the rural (R) and transitional residential (TR) zoning districts to provide a minimum ten-foot buffer.

PART 2: BACKGROUND

A Minor Subdivision is anything that does not qualify as a major subdivision. Importantly, a minor subdivision cannot involve the creation of any new public streets. Therefore, minor subdivisions involve the creation of new lots along existing streets. In the past, this has typically involved the creation of a few lots along a public street.

However, recently staff has seen larger tracts of land being subdivided under minor subdivision provisions resulting in multiple lots created along thoroughfares. The concern is that there will be multiple driveway cuts on thoroughfares with lot layouts based on minimizing development costs versus the creation of a quality subdivision.

Below is an example of an 11.8-acre tract at the northeast corner of Hambright Road and Beatties Ford Road. There will be 10 driveways on a 950’ stretch of Hambright Road.



Staff recommends a limit of 5 lots for a minor subdivision to provide higher quality development and to better align with recommendations from Huntersville 2040 Community Plan. Below is a review of minor subdivision lot limits from other Mecklenburg County towns.

Mecklenburg County municipalities with a limit on the number of lots allowed within a Minor subdivision	Number of Lots Allowed
Mint Hill	4 Lots
Cornelius	4 Lots
Mathews	9 Lots
Pineville	5 Lots
Davidson	10 Lots

Staff is also proposing that any new residential minor subdivision within the R and TR zoning district be required to provide a minimum ten-foot buffer. This buffer would require any existing trees and shrubs to remain, while not requiring new vegetation to be planted to not add any unnecessary burdens to the subdivision. This buffer would help ensure that neighbors are protected from losing any existing visual buffers and further preserve elements of rural character and sensitive environmental areas.

PART 3: RELEVANT SECTIONS OF THE HUNTERSVILLE 2040 COMMUNITY PLAN

- **LU 7.1**: Require all new development to adhere to the following design principles:
  - In lower intensity areas (including MD, RE, RC, CW) preservation of rural character and natural resources are prioritized.
  - In these areas, structures can be set back further from the road and should blend into the landscape and the scenic nature of roadways should be preserved.

  STAFF COMMENT: This policy supports the text amendment as minor subdivisions would now only allow a max of five driveway connections and require a buffer along property lines helping to reduce disturbances to the natural resources and protect the rural character of the property and street.

- **LU 9.2**: Within lower intensity areas including Moderate Density, Residential Edge, Rural Conservation, and Critical Watershed areas conservation design & farmhouse clusters are encouraged.
  - Scenic nature of roadways should be preserved
  - Development should be clustered away from key natural features.
  - Site design should minimize grading and maximize preservation of existing stands of mature, native trees.

  STAFF COMMENT: This policy supports the text amendment as smaller subdivisions and increased vegetative buffers will allow for further preservation of existing trees and ensure less disruption to the scenic nature of roadways.

- **LU 11.1**: Protect and enhance the unique character of Huntersville's neighborhoods by using planning tools to safeguard from potentially negative impacts of development and redevelopment.
  - Promote quality design and neighborhood improvements including increasing access to parks and recreation and mobility options.
  - Encourage coordination with neighborhoods to address infrastructure needs such as sidewalks and drainage.

  STAFF COMMENT: This policy supports the text amendment as providing a 10' buffer will help protect existing developments from the impacts of new developments and preserve existing vegetation.

- **EOS 1.1**: Support and enhance regulations pertaining to open space design and protection.
  - Continue to encourage the preservation of floodplains, wetlands, scenic views, wildlife habitat and prominent natural and historical features
  - Continue to encourage contiguous and interconnected open space in new developments
  - Enhance open space design criteria by prioritizing the following:
  - Water quality protection (land within 100-300 feet of streams, and uplands adjacent to floodplains or sensitive watersheds
  - Mature forest, especially large tracts of contiguous, native forest cover
  - Future greenway corridors
  - Areas contiguous with surrounding existing or planned open space
  - Historic landscapes and notable structures

  STAFF COMMENT: This policy supports the text amendment as smaller subdivisions and increased vegetative buffers help preserve natural land. A max of five lots helps to cut down on the amount of land along rural and scenic roads that will be disturbed for driveway access.

- **EOS 6.1**: Enforce existing standards and evaluate new design standards to preserve the character of scenic country roads.
  - McCauley Road, Black Farms Road, Beatties Farm Road, and Ramah Church Road have been identified as scenic resources and should have corridor-specific design controls that preserve scenic beauty.
  - Current regulations require a preserved buffer of trees in some areas and open space requirements encourage the protection of key features, such as views, fields and historical structures.
  - Additional controls might include viewshed protections, additional landscaping buffers or open space or screening requirements, use restrictions, density restrictions, or higher setbacks along the roadway.
  - Planned roadway improvements should be evaluated for adherence to previous planning efforts
  - For instance, the planned cross-section for Beatties Ford Road includes a 100ft buffer and multi-use trail

  STAFF COMMENT: This policy supports the text amendment as smaller subdivisions and increased vegetative buffers help preserve natural land. A max of five lots helps to cut down on the amount of land along rural and scenic roads that will be disturbed for driveway access.

- **T 4.1**: Become a Vision Zero Community
  - Vision Zero is an international road safety initiative that aims to achieve a road system with zero fatalities or serious injuries.
- **T 4.3**: Emphasize access management strategies as part of public and private sector improvements to improve safety and operations.
  STAFF COMMENT: This policy supports the text amendment as the possible reduction in the number of driveways will help reduce the number of conflicting interactions between road users.

PART 4: STAFF RECOMMENDATION

Staff recommends approval of the proposed text amendment TA23-03 based on consistency with policies LU 7.1, LU 9.1, LU 11.1, EOS 1.1, EOS 6.1, T 4.1, and T 4.3 of the Huntersville 2040 Community Plan.

PART 5: HUNTERSVILLE ORDINANCE ADVISORY BOARD

On April 6, 2023, The Huntersville Ordinances Advisory Board (HOAB) recommended approval with a vote of 7-1 with M. Jones opposed. (See Attachment 3)

PART 6: PUBLIC HEARING

The Public Hearing occurred on June 5, 2023.

PART 7: PLANNING BOARD RECOMMENDATION

On June 27, 2023, the Planning Board recommended approval with a vote of 8-0.

PART 8: ATTACHMENTS

1. Text Amendment Application
2. Proposed Ordinance
3. HOAB Minutes

PART 9: STATEMENT OF CONSISTENCY – TA23-03

Planning Department	Planning Board	Board of Commissioners
APPROVAL: In considering the proposed amendment TA23-03, Planning Staff recommends approval based on consistency with policies LU 7.1, LU 9.1, LU 11.1, EOS 1.1, EOS 6.1, T 4.1, and T 4.3 of the Huntersville 2040 Community Plan. It is reasonable and in the public interest to amend the Zoning Ordinance because it will result in higher quality development that is safer for the community.	**APPROVAL:** In considering the proposed amendment TA23-03, the Planning Board recommends approval based on the amendment being consistent policies LU7.1, LU9.1, LU11.1, EOS 1.1, EOS 6.1, T4.1, and T4.3 of the Huntersville 2040 Community Plan. It is reasonable and in the public interest to amend the Zoning Ordinance because it will result in a higher quality development that will protect the character of Huntersville and is safer for the community. S. Hensley seconded the motion. **Vote:** The motion passed unanimously (8-0).	**APPROVAL:** In considering the proposed amendment TA23-03, the Town Board recommends approval based on the amendment being consistent with **(insert applicable plan reference)** It is reasonable and in the public interest to amend the Zoning Ordinance because*…(Explain)*
DENIAL: N/A	**DENIAL:** N/A	**DENIAL:** In considering the proposed amendment TA23-03, the Town Board recommends denial based on the amendment being **(consistent OR inconsistent)** with **(insert applicable plan reference).** It is not reasonable and in the public interest to amend the

		Zoning Ordinance because…. *(Explain)*

Text Amendment
Application

Date of Application 2/27/2023

Fee

See Current Town of Huntersville Fee Schedule for Text Amendment to the Zoning/Subdivision Ordinance

Type of Change

X New Addition to text of Zoning Ordinance / Subdivision Ordinance / Other

X Revision/Modification to text of Zoning Ordinance / Subdivision Ordinance / Other

Description of Change

Proposed text amendment will affect the following:

Ordinance(s): See Attached Article(s): See Attached Section(s): See Attached

Current Ordinance

See Attached

Proposed Text

See Attached

Reason for Proposed Change

To cap the number of lots permitted in a minor subdivision and to provide a vegetative buffer to all minor subdivisions in R and TR zoning districts.

Attach additional pages if needed.

NOTE: If the proposed text amendment effects property located along Hwy 73; is 2000 feet from an adjoining municipality, and/or the Mountain Island and Lake Norman Watersheds, additional peer review is required.

Applicant

Printed Name Town of Huntersville Planning Department

☐ Corporation ☐Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature Nathan Farber Digitally signed by Nathan Farber DN: C=US, E=nfarber@icloud.com, O=Huntersville, OU=Planning Department, CN=Nathan Farber Date: 2023.02.27 15:22:29-05'00' Date 2/27/2023

Title Nathan Farber, Planner II Email nfarber@huntersville.org

Address of Applicant 105 Gilead Rd, Floor 3

Property Owner (if different than applicant)

* Printed Name _____

☐ Corporation ☐Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature _____ Date _____

Title _____ Email _____

Address of Property Owner _____

* Property owner hereby grants permission to the Town of Huntersville personnel to enter the subject property for any purpose required in processing this application.

Every owner of each parcel included in this application, or the owner (s) duly authorized agent, must sign this application. If signed by an agent on behalf of the Owner, this petition MUST be accompanied by a Limited Power of Attorney signed by the property owner (s) and notarized, specifically authorizing the agent to act on the owner (s) behalf in signing this application. Failure of each owner, or their duly authorized agent, to sign, or failure to include the authority of the agent signed by the property owner, will result in an INVALID APPLICATION. **If additional space is needed for signatures, attach the Town of Huntersville Signature Addendum Form.**

Contact Information

Town of Huntersville
Planning Department
PO Box 664
Huntersville, NC 28070

Phone: 704-875-7000
Fax: 704-875-6546
Physical Address: 105 Gilead Road, Third Floor, Huntersville, NC 28078
Website: https://www.huntersville.org/228/Planning-Department

Date Received By Planning Department: _____

Staff Initials: _____

TA23-03: Minor Subdivision Changes

Currently, Minor Subdivisions can have any number of lots created as long as it complies with the rest of the requirements of the zoning ordinance. This allows a loophole to get around the Major subdivision ordinance and thus having to provide infrastructure such as sidewalks and street trees. This also creates situations where long stretches of road are disrupted by a high number of curb cuts for driveways which disrupts the often rural characteristics of our roads, while also posing safety issues to drivers.

The Town of Huntersville is one of the few remaining Towns in Mecklenburg County that currently does not have any limitations on the number of lots allowed within a minor subdivision. Planning staff are proposing to limit Minor Subdivisions to no more than 5 lots. This ensures that property owners still have the full ability to subdivide their lots without going through the Major Subdivision process while also placing a safeguard against larger subdivisions avoiding the Major Subdivision process.

Planning Staff is also proposing an amendment to Article 7.5 “Buffer Yards” that would require all minor subdivisions within the Rural and Transitional Residential zoning districts to provide a 10’ vegetative buffer. This 10’ buffer would only require the subdivision to keep any existing vegetation while not requiring new vegetation if none is currently existing. We believe doing this helps to protect next door neighbors from loosing visual buffers while also not adding unnecessary burdens to the subdivision.

AN ORDINANCE AMENDING ARTICLE 2 DEFINITIONS; SUBDIVISION, MINOR OF THESUBDIVISION ORDINANCE AND MINOR BUFFERS IN THE ZONING ORDINANCE

Section 1. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 2 "Definitions: Subdivision, Minor" of the Subdivision Ordinance be amended as follows:

Subdivision, Minor. A subdivision that is **not more than 5 lots**, not otherwise exempt from the provisions of this ordinance and that is not a "Major Subdivision" as that term is defined in this Ordinance.

For purposes of these regulations, Farmhouse Cluster developments are considered a minor subdivision, except as provided below. Farmhouse Cluster developments do not require a Sketch Plan, except as specifically set out hereinbelow. A Farmhouse Cluster Plan shall demonstrate compliance with requirements of the Zoning Ordinance and include the following: an "Existing Features (Site Analysis) Plan" as detailed in Section 6.300 (1)(1-14), (2), and (3) of this Ordinance; a Four-Step Process as detailed in Section 6.300 (3) of this Ordinance; and a Preliminary Plan as detailed in Section 6.400 of this Ordinance.

Section 2. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 7.5 "Buffer Yards" of the Zoning Ordinance be amended as follows:

Description	**Condition where Buffer required**	**Width**	**Trees[1]**	**Shrubs[1]**
I-77 Buffer	Any property abutting I-77 right-of-way	50 feet, greater if required by the district	5 trees per 1000 sq/ft of buffer area; 75% large maturing; 50% evergreen	8 shrubs per 1000 sq/ft 75% evergreen
CI, CB and SP	Any property zoned CI, CB, or SP[2]	80 feet abutting street right-of-way and property lines[2]	4 trees per 1000 sq/ft of buffer area; 75% large maturing; 50% evergreen; 25% small maturing	5 shrubs per 1000 sq/ft 75% evergreen
Non-residential uses not otherwise listed	Any developing non-residential use abutting a lesser intense use and/or district when not internal to a planned development[3, 5]	30 feet [6]	4 trees per 1000 sq/ft of buffer area; 50% large maturing; 25% small maturing; 50% evergreen	7 shrubs per 1000 sq/ft 100% evergreen

Civic Uses • schools • religious institutions • govn't bldgs. • libraries	Any civic use abutting a property zoned residential or current use is residential [3, 5]	30 feet [6]	4 trees per 1000 sq/ft of buffer area; 50% large maturing ; 25% small maturing; 50% evergreen	7 shrubs per 1000 sq/ft 100% evergreen
Residential	Any major residential subdivision abutting a property zoned residential or developed residential, not internal to a planned community[4]	20 feet	3 trees per 1000 sq/ft of buffer area; 25% large maturing; 25% small maturing; 25% evergreen	10 shrubs per 1000 sq/ft 100% evergreen
R/ TR	**Any minor residential subdivision**	**10 feet**	**Any existing trees located within the required buffer**	**Any existing shrubs located within the required buffer**

Huntersville Ordinance Advisory Board: July 7, 2022

Public Hearing Date: August 1, 2022

Planning Board Meeting: August 23, 2022

Town Board Meeting: September 19, 2022

TA 23-03: Minor Subdivisions and Misc.

AN ORDINANCE AMENDING ARTICLE 2 DEFINITIONS; SUBDIVISION, MINOR OF THESUBDIVISION ORDINANCE

Section 1. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 2 "Definitions: Subdivision, Minor" of the Subdivision Ordinance be amended as follows:

Subdivision, Minor. A subdivision that is **five (5) lots or less**, not otherwise exempt from the provisions of this ordinance and that is not a "Major Subdivision" as that term is defined in this Ordinance.

For purposes of these regulations, **notwithstanding the preceding definition of minor subdivisions** Farmhouse Cluster developments are considered a minor subdivision, except as provided below. Farmhouse Cluster developments do not require a Sketch Plan, except as specifically set out hereinbelow. A Farmhouse Cluster Plan shall demonstrate compliance with requirements of the Zoning Ordinance and include the following: an "Existing Features (Site Analysis) Plan" as detailed in Section 6.300 (1)(1-14), (2), and (3) of this Ordinance; a Four-Step Process as detailed in Section 6.300 (3) of this Ordinance; and a Preliminary Plan as detailed in Section 6.400 of this Ordinance.

Section 2. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 7.5 "Buffer Yards" of the Zoning Ordinance be amended as follows:

Description	**Condition where Buffer required**	**Width**	**Trees[1]**	**Shrubs[1]**
I-77 Buffer	Any property abutting I-77 right-of-way	50 feet, greater if required by the district	5 trees per 1000 sq/ft of buffer area; 75% large maturing; 50% evergreen	8 shrubs per 1000 sq/ft 75% evergreen
CI, CB and SP	Any property zoned CI, CB, or SP[2]	80 feet abutting street right-of-way and property lines[2]	4 trees per 1000 sq/ft of buffer area; 75% large maturing; 50% evergreen; 25% small maturing	5 shrubs per 1000 sq/ft 75% evergreen
Non-residential uses not otherwise listed	Any developing non-residential use abutting a lesser intense use and/or district when not internal to a planned development[3, 5]	30 feet [6]	4 trees per 1000 sq/ft of buffer area; 50% large maturing; 25% small maturing; 50% evergreen	7 shrubs per 1000 sq/ft 100% evergreen
Civic Uses • schools • religious institutions • govn't bldgs. • libraries	Any civic use abutting a property zoned residential or current use is residential [3, 5]	30 feet [6]	4 trees per 1000 sq/ft of buffer area; 50% large maturing ; 25% small maturing; 50% evergreen	7 shrubs per 1000 sq/ft 100% evergreen
Residential	Any major residential subdivision abutting a property zoned residential or developed residential, not internal to a planned community[4]	20 feet	3 trees per 1000 sq/ft of buffer area; 25% large maturing; 25% small maturing; 25% evergreen	10 shrubs per 1000 sq/ft 100% evergreen
R/ TR	**Any minor residential subdivision**	**10 feet**	**Preserve any existing trees located within the required buffer**	**Preserve any existing shrubs located within the required buffer**

Section 3. This ordinance shall become effective upon adoption.

Huntersville Ordinance Advisory Board: April 6, 2023 (Approval)

Public Hearing Date: June 5, 2023

Planning Board Meeting: June 27, 2023

Town Board Meeting: July 17, 2023

Minutes of the Town of Huntersville Ordinance Advisory Board

The Town of Huntersville Ordinance Advisory Board met in person at 3:30 p.m. on Thursday, April 6, 2023.

Item 4B: Consider recommendation on petition #TA23-03 Minor Subdivision Changes, a request by the Town of Huntersville Planning Department for a text amendment to Article 2 Definitions: "Subdivision, Minor" to cap the amount of lots allowed within a minor subdivision and to Article 7.5 "Buffer Yards" to require buffers for minor subdivisions located within the R and TR zoning districts.

N. Farber, Planner II presented the proposed amendment as included in the attached exhibits. The proposed amendment would limit minor subdivisions to a maximum of 5 lots in all zoning districts. The goal of this amendment is to reduce large scale minor subdivisions which can strip out the length of the roads and remove a large quantity of trees and extend curb cuts for driveways. Additionally, a 10-foot buffer would be proposed to provide a separation for minor subdivisions within the Rural (R) and Transitional Residential (TR) zoning districts to assist with the maintain the rural nature of these areas.

M. Jones discussed the current density and open space requirements of R and TR zoning districts and commented that he does not see the need to buffer residential from residential which can increase untaxed property and affect housing affordability. Staff responded that the open space requirement is up to 45% and often times minor subdivisions do not get anywhere near that. The buffer requirement would allow existing vegetation or trees to protect existing adjacent neighbors.

J. Palillo asked why the responsibility to buffer does not fall on the existing land owners to buffer themselves versus the developer to buffer when developing the land. Staff responded that in the example shown here land is not always developed at the same time or under the same ordinances. In this case buffers were not required when the existing land was developed.

Motion: K. Jones made a Motion to Approve TA23-03 Minor Subdivision changes a request by the Town Planning Department for a text amendment to Article 12 definitions, subdivision, minor to cap the amount of lots allowed within a minor subdivision and to Article 7.5 buffer yards to require buffers for minor subdivisions located within the R and TR zoning districts as written by staff. F. Gammon seconded the motion.

Vote: The motion passed (7-1) with M. Jones opposed.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Nathan Farber, Planner I

Date: July 17, 2023

Subject: Petition #TA23-04 Solar Energy Facilities

EXPLAIN REQUEST:
Consider decision on Petition #TA23-04, a request by the Huntersville Planning Department to amend Article 9.54 Solar Energy Facilities to further clarify the text for simplicity.

ACTION RECOMMENDED:
Consider Final Action.

FINANCIAL IMPLICATIONS:
N/A

ATTACHMENTS:
1. TA23-04 Staff Report TB
2. Attachment 1 Application
3. Attachment 2 Proposed Ordinance
4. Attachment 3 HOAB Minutes

TA23-04 – Solar Energy Facilities

PART 1: DESCRIPTION

TA23-04 is a text amendment request by the Town of Huntersville Planning Department to amend Zoning Ordinance Article 9.54.1(c)1 and 9.54.2 "Major Solar Energy Facilities". Staff is proposing changes to Article 9.54.1(c)1 that would remove the reference to N.C.G.S § 160D-914(c)(3) to simplify the language as this state statute does not apply to non-residential property. Staff is also proposing changes to Article 9.54.2 "Major Solar Energy Facilities" to create a more precise and clearer ordinance.

PART 2: BACKGROUND

In May of last year, the Town Board approved changes to Solar Energy Facilities Article 9.54 removing Special Use Permit requirements for Minor Solar facilities bringing the ordinance into compliance with State Statute 160D. Planning staff is requesting minor adjustments mainly to the major solar energy facilities section. Currently, the ordinance splits Major facilities into residential and non-residential sections. Since major solar facilities cannot be located on existing residential property, that provision will be dropped. All the previously used general requirements still apply and the SUP process is still required.

The HOAB recommended to further clean up Article 9.54.1(c)1 to remove language that is not necessary to the section. N.C.G.S § 160D-914(c)(3) does not apply to non-residential property so for the sake of simplicity staff has agreed to remove it. The reference was originally provided to make residential and non-residential solar panel locations the same. The new proposed language does not change where a minor solar energy facility can go on a residential or non-residential property.

PART 3: RELEVANT SECTIONS OF THE HUNTERSVILLE 2040 COMMUNITY PLAN

EOS-9.1: Promote the use of energy efficient building design and neighborhood design.
Comment: The proposed text amendment serves to further clarify and simplify the ordinance language, therefore, making it easier to interpret and install solar panels throughout the Town.

PART 4: STAFF RECOMMENDATION

Staff recommends approval of the proposed text amendment TA23-04 based on consistency EOS 9.1 of the Huntersville 2040 Community Plan.

PART 5: HUNTERSVILLE ORDINANCE ADVISORY BOARD-

On April 6, 2023, The Huntersville Ordinances Advisory Board (HOAB) recommended approval with a vote of 8-0 with a recommendation to remove the reference to N.C.G.S § 160D-914(c)(3) within Article 9.54.1(c)1. (See Attachment 3)

PART 6: PUBLIC HEARING

The Public Hearing occurred on June 5, 2023.

PART 7: PLANNING BOARD RECOMMENDATION

On June 27, 2023, The Planning Board recommended approval with a vote of 8-0.

PART 8: ATTACHMENTS

1. Text Amendment Application
2. Proposed Ordinance
3. HOAB Minutes

PART 9: STATEMENT OF CONSISTENCY – TA23-03

Planning Department	Planning Board	Board of Commissioners
APPROVAL: In considering the proposed amendment TA23-04, Planning Staff recommends approval based on consistency with EOS-9.1 of the Huntersville 2040 Community Plan. It is reasonable and in the public interest to amend the Zoning Ordinance because it will provide further clarification to the language.	**APPROVAL:** In considering the proposed amendment TA23-04, the Planning Board recommends approval based on the amendment being consistent with policies EOS 9.1 of the Huntersville 2040 Community Plan. It is reasonable and in the public interest to amend the Zoning Ordinance because it will encourage the use of solar and clarify language regarding the use of residential solar panels. C. Boyd seconded the motion. **Vote:** The motion passed unanimously (8-0).	**APPROVAL:** In considering the proposed amendment TA23-04, the Town Board recommends approval based on the amendment being consistent with **(insert applicable plan reference)** It is reasonable and in the public interest to amend the Zoning Ordinance because*…(Explain)*
DENIAL: N/A	**DENIAL:** N/A	**DENIAL:** In considering the proposed amendment TA23-04, the Town Board recommends denial based on the amendment being **(consistent OR inconsistent)** with **(insert applicable plan reference).** It is not reasonable and in the public interest to amend the Zoning Ordinance because…. *(Explain)*

Text Amendment
Application

Date of Application 2/27/2023

Fee

See Current Town of Huntersville Fee Schedule for Text Amendment to the Zoning/Subdivision Ordinance

Type of Change

_____ New Addition to text of Zoning Ordinance / Subdivision Ordinance / Other

X
_____ Revision/Modification to text of Zoning Ordinance / Subdivision Ordinance / Other

Description of Change

Proposed text amendment will affect the following:

Ordinance(s): See Attached Article(s): See Attached Section(s): See Attached

Current Ordinance

See Attached

Proposed Text

See Attached

Reason for Proposed Change

Make revisions to the Major Solar Facility section in order to simplify the language.

Attach additional pages if needed.

NOTE: If the proposed text amendment effects property located along Hwy 73; is 2000 feet from an adjoining municipality, and/or the Mountain Island and Lake Norman Watersheds, additional peer review is required.

Applicant

Printed Name Town of Huntersville Planning Department

☐ Corporation ☐Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature Nathan Farber Digitally signed by Nathan Farber DN: C=US, E=nfarber@icloud.com, O=Huntersville, OU=Planning Department, CN=Nathan Farber Date: 2023.02.27 15:12:05-05'00' Date 2/27/2023

Title Nathan Farber, Planner II Email nfarber@huntersville.org

Address of Applicant 105 Gilead Rd, Floor 3

Property Owner (if different than applicant)

* Printed Name _____

☐ Corporation ☐Limited Liability Company ☐ Trust ☐ Partnership ☐ Other: _____

Signature _____ Date _____

Title _____ Email _____

Address of Property Owner _____

* Property owner hereby grants permission to the Town of Huntersville personnel to enter the subject property for any purpose required in processing this application.

Every owner of each parcel included in this application, or the owner (s) duly authorized agent, must sign this application. If signed by an agent on behalf of the Owner, this petition MUST be accompanied by a Limited Power of Attorney signed by the property owner (s) and notarized, specifically authorizing the agent to act on the owner (s) behalf in signing this application. Failure of each owner, or their duly authorized agent, to sign, or failure to include the authority of the agent signed by the property owner, will result in an INVALID APPLICATION. **If additional space is needed for signatures, attach the Town of Huntersville Signature Addendum Form.**

Contact Information

Town of Huntersville
Planning Department
PO Box 664
Huntersville, NC 28070

Phone: 704-875-7000
Fax: 704-875-6546
Physical Address: 105 Gilead Road, Third Floor, Huntersville, NC 28078
Website: https://www.huntersville.org/228/Planning-Department

Date Received By Planning Department: _____

Staff Initials: _____

TA 23-04: Solar Energy Facilities

TA23-04: Solar Energy Facilities Fix

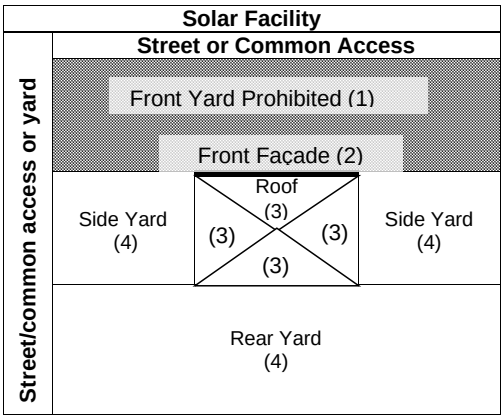
In May of last year, the Town Board approved changes to Solar Energy Facilities Article 9.54 which removed SUP requirements for Minor Solar facilities and brought the ordinance into compliance with 160D. Planning Staff is now back again in order to make minor adjustments to the Major Solar facilities section of the ordinance. Currently the ordinance splits Major facilities into residential and non-residential sections. What we overlooked was that this was repetitive and unnecessary as Major Solar facilities are already permitted in some residential zoning districts and by adding a residential section, we made it harder for stand alone solar facilities to exist. This text amendment merely removes the residential and non-residential sections and treats major solar energy facilities as standalone uses. All of the previously used general requirements still apply and the SUP process is still required.

TA 23-04: Solar Energy Facilities

AN ORDINANCE AMENDING ARTICLE 9.54 SOLAR ENERGY FACILITIES

Section 1. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 9.54 Solar Energy Facilities of the Zoning Ordinance be amended as follows:

Any major or minor solar energy facility shall require approval from all applicable state and federal agencies as well as the affected energy provider.



.1 Minor Solar Energy Facilities (refer to illustration).

a. General Requirements for Minor Solar Energy Facilities.

1. All minor free-standing facilities must comply with accessory structure setbacks and spacing as set forth in Article 8.8.

2. All minor free-standing facilities shall be a maximum of five (5) feet in height as measured from the grade at the base of the structure to the apex of the structure. This provision shall be waived for minor-free standing facilities on residential property if its application would prevent the reasonable use of a solar collector for the residential property.

All minor rooftop solar energy facilities shall not be considered as rooftop equipment on any building type, and therefore, do not require screening and are not subject to any architectural standards that would prohibit reflective materials.

b. Residential Property.

1. Front yard placement is prohibited pursuant to N.C.G.S. § 160D-914(c)(3)) when the placement would cause the solar facility to be visible by a person on the ground.

2. Placement on the façade of a structure that faces areas open to common or public access is permitted as a by-right accessory use in all districts subject to the issuance of a zoning permit.

3. Placement on the roof is permitted as by-right accessory use in all districts subject to the issuance of a zoning permit.

4. Side and rear yard placement is permitted as by-right accessory use in all districts subject to the issuance of a zoning permit.

c. Non-Residential Property.

1. Front yard placement is prohibited pursuant to N.C.G.S. § 160D-914(c)(3) when the placement would cause the solar facility to be visible by a person on the ground.

2. Placement of minor free-standing solar facilities on non-residential property in locations other than the front is permitted as a by-right accessory use in all districts subject to the issuance of a zoning permit.

3. Minor rooftop solar facilities on non-residential property are allowed on all roof slopes.

.2 Major Solar Energy Facilities ~~(refer to illustration)~~.

a. ~~General Requirements for Major Solar Energy Facilities~~ Major solar energy shall require the issuance of a Special Use Permit in accordance with the requirements set forth in Article 11.4.10

1. The minimum lot size requirement for major solar facilities is 10 acres.

2. Setbacks for major solar energy facilities shall:
   (1) meet the minimum required setbacks for the underlying zoning district for installations in the R and TR zoning districts.
   (2) be a minimum of 20 feet from any property line in the SP zoning district.

3. Free standing major solar facilities shall be a maximum of eight (8) feet in height as measured from the grade at the base of the structure to the apex of the structure. This

Commented [ES1]: Match statute. Leave in

provision shall be waived for major-free standing facilities on residential property if its application would prevent the reasonable use of a solar collector for the residential property.

4. Town of Huntersville to be given copies of any lease agreement and plan for removal of facility/equipment.
5. Major Solar Energy Facilities shall be exempt from any parking requirements in the Huntersville Zoning Ordinance if there is no commercial or office building component.
6. An existing features plan as described in Article 6.300.1.14 of the Subdivision Ordinance must be submitted with the application for the above-described Special Use Permit. Placement of solar panels shall be based on preserving existing features to the extent practical.

~~b. Residential Property~~

~~Major solar energy facilities on residential property shall require the issuance of a Special Use Permit in accordance with the requirements set forth in Article 11.4.10.~~

~~1. An existing features plan as described in Article 6.300.1.14 of the Subdivision Ordinance must be submitted with the application for the above-described Special Use Permit. Placement of solar panels shall be based on preserving existing features to the extent practical. Front yard placement is prohibited pursuant to N.C.G.S. § 160D-914(c)(3) when the placement would cause the solar facility to be visible by a person on the ground.~~

~~2. Placement on the façade of a structure that faces areas open to common or public access is prohibited pursuant to N.C.G.S. § 160D-914(c)(1) when the placement would cause the solar facility to be visible by a person on the ground.~~

~~3. Front roof slope placement that slopes downward is prohibited pursuant to N.C.G.S. § 160D-914(c)(2) when the placement would cause the solar facility to be visible by a person on the ground.~~

~~Notwithstanding this subsection, a Special Use Permit shall be granted if the regulations have the effect of preventing the reasonable use of a major solar energy facility on a residential property, except as provided in N.C.G.S. § 160D-914.~~

~~c. Non-Residential Property.~~

~~Major solar energy facilities on non-residential property shall require the issuance of a Special Use Permit in accordance with the requirements set forth in Article 11.4.10.~~

TA 23-04: Solar Energy Facilities

Huntersville Ordinance Advisory Board: July 7, 2022

Public Hearing Date: August 1, 2022

Planning Board Meeting: August 23, 2022

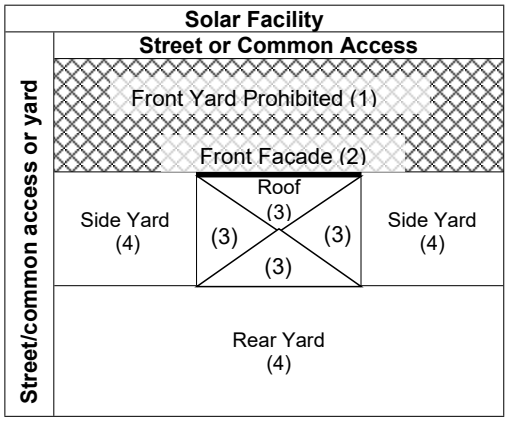
Town Board Meeting: September 19, 2022

TA 23-04: Solar Energy Facilities

AN ORDINANCE AMENDING ARTICLE 9.54 SOLAR ENERGY FACILITIES

Section 1. Be it ordained by the Board of Commissioners of the Town of Huntersville that Article 9.54 Solar Energy Facilities of the Zoning Ordinance be amended as follows:

Any major or minor solar energy facility shall require approval from all applicable state and federal agencies as well as the affected energy provider.



.1 Minor Solar Energy Facilities (refer to illustration).

a. General Requirements for Minor Solar Energy Facilities.

1. All minor free-standing facilities must comply with accessory structure setbacks and spacing as set forth in Article 8.8.

2. All minor free-standing facilities shall be a maximum of five (5) feet in height as measured from the grade at the base of the structure to the apex of the structure. This provision shall be waived for minor-free standing facilities on residential property if its application would prevent the reasonable use of a solar collector for the residential property.

All minor rooftop solar energy facilities shall not be considered as rooftop equipment on any building type, and therefore, do not require screening and are not subject to any architectural standards that would prohibit reflective materials.

b. Residential Property.

1. Front yard placement is prohibited pursuant to N.C.G.S. § 160D-914(c)(3)) when the placement would cause the solar facility to be visible by a person on the ground.

2. Placement on the façade of a structure that faces areas open to common or public access is permitted as a by-right accessory use in all districts subject to the issuance of a zoning permit.

3. Placement on the roof is permitted as by-right accessory use in all districts subject to the issuance of a zoning permit.

4. Side and rear yard placement is permitted as by-right accessory use in all districts subject to the issuance of a zoning permit.

c. Non-Residential Property.

~~1. Front yard placement is prohibited pursuant to N.C.G.S. § 160D-914(c)(3) when the placement would cause the solar facility to be visible by a person on the ground.~~

1. Front yard placement, as depicted by area (1) in the above illustration, is prohibited when the placement would cause the solar facility to be visible by a person on the ground.

2. Placement of minor free-standing solar facilities on non-residential property in locations other than the front is permitted as a by-right accessory use in all districts subject to the issuance of a zoning permit.

3. Minor rooftop solar facilities on non-residential property are allowed on all roof ~~slopes~~ surfaces.

.2 Major Solar Energy Facilities ~~(refer to illustration)~~.

a. ~~General Requirements for Major Solar Energy Facilities~~ Major solar energy shall require the issuance of a Special Use Permit in accordance with the requirements set forth in Article 11.4.10

1. The minimum lot size requirement for major solar facilities is 10 acres.

2. Setbacks for major solar energy facilities shall:
   (1) meet the minimum required setbacks for the underlying zoning district for installations in the R and TR zoning districts.

Commented [ES1]: Match statute. Leave in

(2) be a minimum of 20 feet from any property line in the SP zoning district.

3. Free standing major solar facilities shall be a maximum of eight (8) feet in height as measured from the grade at the base of the structure to the apex of the structure. This provision shall be waived for major-free standing facilities on residential property if its application would prevent the reasonable use of a solar collector for the residential property.
4. Town of Huntersville to be given copies of any lease agreement and plan for removal of facility/equipment.
5. Major Solar Energy Facilities shall be exempt from any parking requirements in the Huntersville Zoning Ordinance if there is no commercial or office building component.
6. An existing features plan as described in Article 6.300.1.14 of the Subdivision Ordinance must be submitted with the application for the above-described Special Use Permit. Placement of solar panels shall be based on preserving existing features to the extent practical.

~~b. Residential Property~~

~~Major solar energy facilities on residential property shall require the issuance of a Special Use Permit in accordance with the requirements set forth in Article 11.4.10.~~

~~An existing features plan as described in Article 6.300.1.14 of the Subdivision Ordinance must be submitted with the application for the above-described Special Use Permit. Placement of solar panels shall be based on preserving existing features to the extent practical.~~

~~1. Front yard placement is prohibited pursuant to N.C.G.S. § 160D-914(c)(3) when the placement would cause the solar facility to be visible by a person on the ground.~~

~~2. Placement on the façade of a structure that faces areas open to common or public access is prohibited pursuant to N.C.G.S. § 160D-914(c)(1) when the placement would cause the solar facility to be visible by a person on the ground.~~

~~3. Front roof slope placement that slopes downward is prohibited pursuant to N.C.G.S. § 160D-914(c)(2) when the placement would cause the solar facility to be visible by a person on the ground.~~

~~Notwithstanding this subsection, a Special Use Permit shall be granted if the regulations have the effect of preventing the reasonable use of a major solar energy facility on a residential property, except as provided in N.C.G.S. § 160D-914.~~

~~c. Non-Residential Property.~~

~~Major solar energy facilities on non-residential property shall require the issuance of a Special Use Permit in accordance with the requirements set forth in Article 11.4.10.~~

~~An existing features plan as described in Article 6.300.1.14 of the Subdivision Ordinance must be submitted with the application for the above-described Special Use Permit. Placement of solar panels shall be based on preserving existing features to the extent practical.~~

Section 2. This ordinance shall become effective upon adoption.

Huntersville Ordinance Advisory Board: April 6, 2023

Public Hearing Date: June 5, 2023

Planning Board Meeting: June 27, 2023

Town Board Meeting: July 17, 2023

Minutes of the Town of Huntersville Ordinance Advisory Board

The Town of Huntersville Ordinance Advisory Board met in person at 3:30 p.m. on Thursday, April 6, 2023.

Item 4C: Consider recommendation on petition #TA23-04, a request by the Huntersville Planning Department for text amendment to Article 9.54 Solar Energy Facilities to clean up the language.

N. Farber, Planner II presented the proposed amendment as included in the attached exhibits. Staff mentioned that the previous amendment TA22-06 brought the solar requirements in compliance with NC State Statute 160d changes. This amendment would address the definition of major and minor solar facilities.

F. Gammon asked if a developer built a green development and installed a major solar farm to provide that development with power, how would the ordinances apply? Staff responded if it is a separate facility on a separate parcel then it would be considered a major solar farm. If it was installed as an accessory use on each parcel, then it would not.

J. Palillo asked how parking lot shelters with solar panels on the roof are addressed. Staff stated that they would be considered an accessory use.

Motion: M. Jones made a motion to Approve TA23-04 with the following changes, part C. 1. delete reference to general statute in the section under non-residential property because that statute only applies to residential and in section C.3. replace the word slope with surfaces. J. Palillo seconded the motion.

E. Sloop responded that the general statute reference in part C.1. are appropriate because we want the same location limitations to apply as there is no limitation to how the non-residential can be regulated. F. Gammon commented that the goal is to make the regulation mirror the statute. E. Sloop recommended removal of the language, 'pursuant to.'

Amendment: F. Gammon proposed an amendment to the motion for staff to study and resolve the use of the general statute in part C.1. M. Jones and J. Palillo accepted the amendment.

Vote: The motion passed unanimously (8-0)

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Ada Jenkins FY24 Budget Amendment

EXPLAIN REQUEST:
Ada Jenkins has requested from the Town of Huntersville an appropriation of $55,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of .

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Angels and Sparrows FY24 Budget Amendment

EXPLAIN REQUEST:
Angels and Sparrows has requested from the Town of Huntersville an appropriation of $50,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of .

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Arts and Science Council FY24 Budget Amendment

EXPLAIN REQUEST:
Arts and Science Council has requested from the Town of Huntersville an appropriation of $15,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of .

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Bags of Hope FY24 Budget Amendment

EXPLAIN REQUEST:
Bags of Hope has requested from the Town of Huntersville an appropriation of $26,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of .

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Caterpillar Ministries FY24 Budget Amendment

EXPLAIN REQUEST:
Caterpillar Ministries has requested from the Town of Huntersville an appropriation of $30,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of .

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Hope House FY24 Budget Amendment.

EXPLAIN REQUEST:
Hope House has requested from the Town of Huntersville an appropriation of $20,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of $.

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: North Mecklenburg CrimeStoppers FY24 Budget Amendment

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EXPLAIN REQUEST:
North Mecklenburg CrimeStoppers has requested from the Town of Huntersville an appropriation of $5,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of .

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Seasons of Giving FY24 Budget Amendment

EXPLAIN REQUEST:
Seasons of Giving has requested from the Town of Huntersville an appropriation of $3,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of $.

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: North Carolina League of Municipalities FY24 Budget Amendment

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EXPLAIN REQUEST:
North Carolina League of Municipalities has invoiced the Town of Huntersville $38,803 for the 2023-2024 Service Fee and Southern City subscriptions. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of $38,803.

FINANCIAL IMPLICATIONS:
Reduction in fund balance of $38,803.

ATTACHMENTS:
1. FY 24 Request pre-meeting
2. Sales Invoice I00044858
3. 2023 Renewal Memo to Members - 4-7-23

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

North Carolina League of Municipalities
PO Box 603776
Charlotte, NC 28260-3776

Invoice Number: I00044858
Invoice Date: 4/6/2023
Page: 1

INVOICE

Bill To: Town Of Huntersville
Attn: Accounts Payable
PO Box 664
Huntersville, NC 28070

Ship To: Town Of Huntersville
Attn: Accounts Payable
PO Box 664
Huntersville, NC 28070

Customer ID **M000309**
Due Date 7/31/2023
Terms Net Due In 30 Days

Description	Quantity	Unit Price	Total Price
Service Fee FY 2023-2024 61840	1	38,777.00	38,777.00
Southern City Subscriptions	13	2.00	26.00

Name _____ TITLE _____

Post Office rules require this form be signed. Please return one copy with payment. Subscription prices are included in dues and may not be deducted from the total. Please call Danise Hobson if you have questions (919) 715-2916

Amount Subject to Sales Tax	Amount Exempt from Sales Tax	Subtotal:	38803.00
0.00	38777.00	Sales Tax:	0.00

CUSTOMER COPY

NCLM
NC LEAGUE OF MUNICIPALITIES

To: NCLM Membership

From: Scott Neisler, President, North Carolina League of Municipalities Board of Directors

Rose Williams, Executive Director, North Carolina League of Municipalities

Date: April 7, 2023

Subject: N.C. League of Municipalities' Membership Service Fee – Fiscal Year 2023-2024

Enclosed please find your municipality's fiscal year 2023-2024 invoice for the NC League of Municipalities (League) membership service fees.

The League Board of Directors (Board) voted and unanimously approved a five percent increase in membership service fees for the upcoming fiscal year during their meeting on February 23, 2023.

The Board takes raising dues very seriously—there has not been an increase in the League's membership service fees in six years. Expenses continue to increase, however. One such increasing expense is the increased costs related to attracting and retaining talent needed to continue providing a high level of service to our members. We know you understand the importance of employing top-notch staff members—your municipality brings that same commitment to excellence in serving your own community.

Like you, the League takes pride in the services we provide. Whether it's through our lobbying and advocacy work where we represent the interests of cities and towns before state and federal lawmakers; conducting needed data reports, research and revenue projections; providing consulting services in finance, risk control, employment liability and other areas; convening municipal leaders for education and networking; providing law enforcement training; or recovering unpaid municipal fees through our Debt Setoff program, the League strives to help our members better serve their residents and improve quality of life.

We look forward to serving you in fiscal year 2023-2024 and continuing to help North Carolina's municipalities work as one to advance all.

If you have questions or concerns regarding your fiscal year 2023-2024 invoice, please contact Bryan Leaird at bleaird@nclm.org.

Thank you for your continued support and engagement.

NCLM
NC LEAGUE OF MUNICIPALITIES

2022 NCLM HIGHLIGHTS

LEGAL

200+ legal consultations from 120 cities and towns

WORKERS' COMPENSATION

- 470+ Workers' Comp Trust Members
- Managed 1,830+ claims
- 469 Premium Audits completed

MEMBER ENGAGEMENT

- 550+ member contacts by Business Service Reps
- 530+ attendees traveled to Wilmington for the first post-COVID CityVision
- 900+ members participated in on-demand and live AML classes
- 500,000+ visits to nclm.org
- 11,350+ social followers with more than 175,000 impressions
- 150+ newsletters, 4 Southern City magazines and 12 Municipal Equation podcasts

TECHNICAL ASSISTANCE & ARP

- Published COLA and salary surveys, quarterly revenue reports and the Annual Revenue Projection Report
- 430+ Municipal Operations consultations
- 4 ARP tour events with 500+ members attending
- 400+ ARP phone calls to members

GOVERNMENT AFFAIRS

- Legislative Goals Planning held virtually and in-person for the 2023-24 Legislative Biennium; 10 goals developed & voted on
- Town & State Dinner saw nearly 350 members and legislators gathering together
- Nearly 100 members attended 2 Congressional luncheons

HEALTH BENEFITS TRUST

- 400+ member groups with 10,000+ lives for medical and/or dental and vision
- 175 members attended 2 dental benefit webinars

PROPERTY & CASUALTY

- 420 Property and Casualty Trust Members
- Managed 2,700+ claims
- 50+ Members took advantage of the Employment Liability Pre-loss program and accessed free legal consultation.

RISK CONTROL SERVICES

- 1,470+ one-on-one risk management and HR consultations
- Held 30+ live trainings for members on flagger training, safe driving, OSHA compliance and more
- 16,000+ NeoGov online yrisk reduction classes completed
- Held law enforcement trainings for 70 departments and 250+ officers
- 17 police agencies took part in the Risk Review process
- Launched Fire Department Risk Review process and saw 14 departments take part

Visit www.nclm.org/annual-report to view the full NCLM 2022 Annual Report.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Hugh Torance House and Store FY24 Budget Amendment

EXPLAIN REQUEST:
Hugh Torance House and Store has requested from the Town of Huntersville an appropriation of $20,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of .

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Pattie McGinnis, Finance Director

Date: July 17, 2023

Subject: Rural Hill FY24 Budget Amendment

EXPLAIN REQUEST:
Rural Hill has requested from the Town of Huntersville an appropriation of $20,000 for FY 2024. However, the Board can designate any amount they deam appropriate. If a different amount is designated by the Board, that amount should be designated in the motion approving the budget amendment. The approval of this budget amendment would fund the appropriation.

ACTION RECOMMENDED:
Approve budget amendment of .

FINANCIAL IMPLICATIONS:
Reduction in fund balance of .

ATTACHMENTS:
1. FY 24 Request pre-meeting

FY 2024 Budget Request

External Agencies	FY 2022 Budget Approved	FY 2023 Budget Requested	FY 2023 Budget Approved	FY 2024 Budget Requested	ARPA funds Received
General Fund					
Ada Jenkins	20,000	45,000	35,000	55,000	363,746
Angels & Sparrows	5,000	40,000	35,000	50,000	793,562
Arts and Science	-	-	-	15,000	543,087
Bags of Hope	-	20,000	20,000	26,000	-
Caterpillar Ministries	15,000	20,000	20,000	30,000	-
Hope House	10,000	20,000	20,000	20,000	-
North Meck Crime Stoppers	2,000	2,000	5,000	5,000	-
Seasons of Giving	-	-	-	3,000	-
NC League of Municipalities	37,143	36,689	36,869	38,803	
	89,143	183,689	171,869	242,803	1,700,395
Tourism					
Carolina Raptor	20,000	20,000	5,000	-	-
Hugh Torance	12,000	15,000	15,000	20,000	-
Rural Hill	20,000	20,000	20,000	20,000	-
	52,000	55,000	40,000	40,000	-
Total	141,143	238,689	211,869	282,803	1,700,395

FY 2024 Budget Request
Attend Pre-meeting on April 3rd

External Agencies

General Fund

Ada Jenkins	Yes - Harold
Angels & Sparrows	Yes - Cindy
Bags of Hope	Yes - Nicole
Caterpillar Ministries	Yes - Sarah
Hope House	Yes - Debbie

North Meck Crime Stoppers

Tourism

Carolina Raptor	
Hugh Torrance	Yes - Bill
Rural Hill	

Total

Did not fund in FY 23:

Arts and Science	Yes

New Agency:

Center for Prevention Services (1)
Seasons of Giving (2)

(1) E. Sloop does not qualify.
(2) Approved by E. Sloop.

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Stephen Trott, Director of Engineering

Date: July 17, 2023

Subject: Dellwood/Central Sidewalk Discussion

EXPLAIN REQUEST:
Discuss next steps and direction for the project.

ACTION RECOMMENDED:
Direction for the project

FINANCIAL IMPLICATIONS:
None

ATTACHMENTS:
None

Town of Huntersville
Town Board
July 17, 2023

To: Town Board

From: Anthony Roberts, Town Manager

Date: July 17, 2023

Subject: 13409 Ramah Church Road Purchase Agreement

EXPLAIN REQUEST:
Consider approving a purchase agreement to purchase approximately 24.81 acres located at 13409 Ramach Church Road in Huntersville, North Carolina to build a new fire station.

ACTION RECOMMENDED:
Approve Agreement.

FINANCIAL IMPLICATIONS:
Purchase price is $2,555,430.00

ATTACHMENTS:
1. Offer to Purchase 13409 Ramach Church Road
2. EXHIBIT A- Addendum

OFFER TO PURCHASE AND CONTRACT - VACANT LOT/LAND
[Consult "Guidelines" (Form 12G) for guidance in completing this form]

NOTE: If seller is selling less than the entire parcel of land owned, then compliance with subdivision regulation and/or an adequate legal description of the land being sold must be considered. This contract should not be used to sell property by reference to, exhibition of, or any other use of a plat showing a subdivision of the property before the plat has been properly approved and recorded with the register of deeds as of the date of the contract. If a preliminary plat has been approved, this contract may be used if an addendum drafted by a North Carolina real estate attorney addressing certain statutory requirements is attached. See NC General Statutes Section 160D-807 for more details and possible exceptions. If Buyer is contemplating a subdivision of the land as a condition of purchase, Buyer should first consult with an NC real estate attorney.

NOTE FOR NEW CONSTRUCTION: If Seller is Buyer's builder or has engaged a builder and the sale involves the construction of a new single-family dwelling prior to closing, use the standard Offer to Purchase and Contract-New Construction (Form 800-T) or, if the construction is completed, use the Offer to Purchase and Contract (Form 2-T) with the New Construction Addendum (Form 2A3-T).

For valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, Buyer offers to purchase and Seller upon acceptance agrees to sell and convey the Property on the terms and conditions of this Offer To Purchase and Contract and any addendum or modification made in accordance with its terms (together the "Contract").

1. TERMS AND DEFINITIONS: The terms listed below shall have the respective meaning given them as set forth adjacent to each term.

(a) **"Seller":** **George S. Nance, as Trustee of the George S. Nance Revocable Trust.** Dated September 22, 1998

(b) **"Buyer":** **Town of Huntersville, a North Carolina municipal corporation**

(c) **"Property":** The Property shall include all that real estate described below together with all appurtenances thereto including the improvements located thereon.

The Property ☐ will ☒ will not include a manufactured (mobile) home(s). (If a manufactured home(s) is included, Buyer and Seller should include the Manufactured (Mobile) Home provision in the Additional Provisions Addendum (Standard Form 2A11-T) with this offer.)

Street Address: **13409 Ramah Church Road**
City: **Huntersville** Zip: **28078**
County: **MECKLENBURG** , North Carolina

NOTE: Governmental authority over taxes, zoning, school districts, utilities and mail delivery may differ from address shown.

Legal Description: (Complete *ALL* applicable)
Plat Reference: Lot/Unit _____ , Block/Section _____ , Subdivision/Condominium _____
_____ , as shown on Plat Book/Slide _____ at Page(s) _____
The PIN/PID or other identification number of the Property is: _____
Other description: **24.81 +- Acres**
Some or all of the Property may be described in Deed Book **30705** at Page **851**

(d) **"Purchase Price":**

$ **2,555,430.00** paid in U.S. Dollars upon the following terms:

$ _____ BY DUE DILIGENCE FEE made payable and delivered to Seller by the Effective Date by ☐ cash ☐ personal check ☐ official bank check ☐ wire transfer ☐ electronic transfer (*specify payment service*: _____)

$ **1,000.00** BY INITIAL EARNEST MONEY DEPOSIT made payable and delivered to Escrow Agent named in Paragraph 1(f) by ☒ cash ☐ personal check ☒ official bank check ☐ wire transfer, ☐ electronic transfer within five (5) days of the Effective Date of this Contract.

$ _____	BY (ADDITIONAL) EARNEST MONEY DEPOSIT made payable and delivered to Escrow Agent named in Paragraph 1(f) no later than 5 p.m. on _____, ***TIME BEING OF THE ESSENCE*** by ☐ cash ☐ official bank check ☐ wire transfer ☐ electronic transfer
$ _____	BY ASSUMPTION of the unpaid principal balance and all obligations of Seller on the existing loan(s) secured by a deed of trust on the Property in accordance with the attached Loan Assumption Addendum (Standard Form 2A6-T).
$ _____	BY SELLER FINANCING in accordance with the attached Seller Financing Addendum (Standard Form 2A5-T).
$ **2,554,430.00**	BALANCE of the Purchase Price in cash at Settlement (some or all of which may be paid with the proceeds of a new loan).

NOTE: If the parties agree that Buyer will pay any fee or deposit described above by electronic or wire transfer, Seller agrees to cooperate in effecting such transfer, including the establishment of any necessary account and providing any necessary information to Buyer, provided, however, Buyer shall be responsible for additional costs, if any, associated with such transfer.

Should Buyer fail to deliver either the Due Diligence Fee or any Initial Earnest Money Deposit by their due dates, or should any check or other funds paid by Buyer be dishonored, for any reason, by the institution upon which the payment is drawn, Buyer shall have one (1) banking day after written notice to deliver cash, official bank check, wire transfer or electronic transfer to the payee. In the event Buyer does not timely deliver the required funds, Seller shall have the right to terminate this Contract upon written notice to Buyer, and Seller shall be entitled to recover the Due Diligence Fee together with all Earnest Money Deposit paid or to be paid in the future. In addition, Seller may be entitled to recover reasonable attorney fees and court costs. See paragraph 21 for a party's right to attorneys' fees incurred in collecting the Earnest Money Deposit or Due Diligence Fee.

(e) **"Earnest Money Deposit":** The Initial Earnest Money Deposit, the Additional Earnest Money Deposit and any other earnest monies paid or required to be paid in connection with this transaction, collectively the "Earnest Money Deposit", shall be deposited promptly and held in escrow by Escrow Agent until Closing, at which time it will be credited to Buyer, or until this Contract is otherwise terminated. In the event: (1) this offer is not accepted; or (2) a condition of any resulting contract is not satisfied, then the Earnest Money Deposit shall be refunded to Buyer. See paragraph 21 for a party's right to the Earnest Money Deposit, and attorneys' fees incurred in collecting the Earnest Money Deposit, in the event of breach of this Contract by the other party.

(f) **"Escrow Agent"** (insert name): **RE/MAX Executive**
Buyer and Seller consent to disclosure by the Escrow Agent of any material facts pertaining to the Earnest Money Deposit to the parties to this transaction, their real estate agent(s) and Buyer's lender(s).

NOTE: In the event of a dispute between Seller and Buyer over the disposition of the Earnest Money Deposit held in escrow, a licensed real estate broker ("Broker") is required by state law (and Escrow Agent, if not a Broker, hereby agrees) to retain the Earnest Money Deposit in the Escrow Agent's trust or escrow account until Escrow Agent has obtained a written release from the parties consenting to its disposition or until disbursement is ordered by a court of competent jurisdiction. Alternatively, if a Broker or an attorney licensed to practice law in North Carolina ("Attorney") is holding the Earnest Money Deposit, the Broker or Attorney may deposit the disputed monies with the appropriate clerk of court in accordance with the provisions of N.C.G.S. §93A-12.

THE PARTIES AGREE THAT A REAL ESTATE BROKERAGE FIRM ACTING AS ESCROW AGENT MAY PLACE THE EARNEST MONEY DEPOSIT IN AN INTEREST BEARING TRUST ACCOUNT AND THAT ANY INTEREST EARNED THEREON SHALL BE DISBURSED TO THE ESCROW AGENT MONTHLY IN CONSIDERATION OF THE EXPENSES INCURRED BY MAINTAINING SUCH ACCOUNT AND RECORDS ASSOCIATED THEREWITH.

(g) **"Effective Date":** The date that: (1) the last one of Buyer and Seller has signed or initialed this offer or the final counteroffer, if any, and (2) such signing or initialing is communicated to the party making the offer or counteroffer, as the case may be. The parties acknowledge and agree that the initials lines at the bottom of each page of this Contract are merely evidence of their having reviewed the terms of each page, and that the complete execution of such initials lines shall not be a condition of the effectiveness of this Agreement.

(h) **"Due Diligence":** Buyer's opportunity to investigate the Property and the transaction contemplated by this Contract, including but not necessarily limited to the matters described in Paragraph 2 below, to decide whether Buyer, in Buyer's sole discretion, will proceed with or terminate the transaction.

(i) **"Due Diligence Fee":** A negotiated amount, if any, paid by Buyer to Seller with this Contract for Buyer's right to terminate the Contract for any reason or no reason during the Due Diligence Period. It shall be the property of Seller upon the Effective Date and

shall be a credit to Buyer at Closing. The Due Diligence Fee shall be non-refundable except in the event of a material breach of this Contract by Seller, or if this Contract is terminated under Paragraph 21(b) or as otherwise provided in any addendum hereto. Buyer and Seller each expressly waive any right that they may have to deny the right to conduct Due Diligence or to assert any defense as to the enforceability of this Contract based on the absence or alleged insufficiency of any Due Diligence Fee, it being the intent of the parties to create a legally binding contract for the purchase and sale of the Property without regard to the existence or amount of any Due Diligence Fee. See paragraph 21 for a party's right to attorneys' fees incurred in collecting the Due Diligence Fee.

(j) **"Due Diligence Period":** The period beginning on the Effective Date and extending through 5:00 p.m. on **October 17, 2023** ***TIME BEING OF THE ESSENCE.***

(k) **"Settlement":** The proper execution and delivery to the closing attorney of all documents necessary to complete the transaction contemplated by this Contract, including the deed, settlement statement, deed of trust and other loan or conveyance documents, and the closing attorney's receipt of all funds necessary to complete such transaction.

(l) **"Settlement Date":** The parties agree that Settlement will take place on **October 24, 2023** (the "Settlement Date"), unless otherwise agreed in writing, at a time and place designated by Buyer.

NOTE: See paragraph 10, **DELAY IN SETTLEMENT/CLOSING** for conditions under which Settlement may be delayed.

(m) **"Closing":** The completion of the legal process which results in the transfer of title to the Property from Seller to Buyer, which includes the following steps: (1) the Settlement (defined above); (2) the completion of a satisfactory title update to the Property following the Settlement; (3) the closing attorney's receipt of authorization to disburse all necessary funds; and (4) recordation in the appropriate county registry of the deed(s) and deed(s) of trust, if any, which shall take place as soon as reasonably possible for the closing attorney after Settlement. Upon Closing, the proceeds of sale shall be disbursed by the closing attorney in accordance with the settlement statement and the provisions of Chapter 45A of the North Carolina General Statutes. If the title update should reveal unexpected liens, encumbrances or other title defects, or if the closing attorney is not authorized to disburse all necessary funds, then the Closing shall be suspended and the Settlement deemed delayed under Paragraph 10 (Delay in Settlement/Closing).

WARNING: The North Carolina State Bar has determined that the performance of most acts and services required for a closing constitutes the practice of law and must be performed only by an attorney licensed to practice law in North Carolina. State law prohibits unlicensed individuals or firms from rendering legal services or advice. Although non-attorney settlement agents may perform limited services in connection with a closing, they may not perform all the acts and services required to complete a closing. A closing involves significant legal issues that should be handled by an attorney. Accordingly it is the position of the North Carolina Bar Association and the North Carolina Association of REALTORS® that all buyers should hire an attorney licensed in North Carolina to perform a closing.

(n) **"Special Assessments":** A charge against the Property by a governmental authority in addition to ad valorem taxes and recurring governmental service fees levied with such taxes, or by an owners' association in addition to any regular assessment (dues), either of which may be a lien against the Property.

NOTE: Buyer's and Seller's respective responsibilities for the payment of Special Assessments are addressed in paragraphs 4(a) and 6(k).

2. **BUYER'S DUE DILIGENCE PROCESS:**

WARNING: BUYER IS STRONGLY ENCOURAGED TO CONDUCT DUE DILIGENCE DURING THE DUE DILIGENCE PERIOD. If Buyer is not satisfied with the results or progress of Buyer's Due Diligence, Buyer should terminate this Contract, *prior to the expiration of the Due Diligence Period*, unless Buyer can obtain a written extension from Seller. SELLER IS NOT OBLIGATED TO GRANT AN EXTENSION. Although Buyer may continue to investigate the Property following the expiration of the Due Diligence Period, Buyer's failure to deliver a Termination Notice to Seller prior to the expiration of the Due Diligence Period will constitute a waiver by Buyer of any right to terminate this Contract based on any matter relating to Buyer's Due Diligence. Provided however, following the Due Diligence Period, Buyer may still exercise a right to terminate if Seller fails to materially comply with any of Seller's obligations under paragraph 6 of this Contract or for any other reason permitted under the terms of this Contract or North Carolina law.

(a) **Loan:** Buyer, at Buyer's expense, shall be entitled to pursue qualification for and approval of the Loan if any.

NOTE: There is no loan or appraisal contingency in this Offer To Purchase and Contract. Therefore, Buyer is advised to consult with Buyer's lender prior to signing this offer to assure that the Due Diligence Period allows sufficient time for the loan process and for Buyer's lender to provide Buyer sufficient information to decide whether to proceed with or terminate the transaction.

(b) **Property Investigation:** Buyer or Buyer's agents or representatives, at Buyer's expense, shall be entitled to conduct all desired tests, surveys, appraisals, investigations, examinations and inspections of the Property as Buyer deems appropriate, including but NOT limited to the following:

(i) **Soil And Environmental:** Reports to determine whether the soil is suitable for Buyer's intended use and whether there is any environmental contamination, law, rule or regulation that may prohibit, restrict or limit Buyer's intended use.

(ii) **Septic/Sewer System:** Any applicable investigation(s) to determine: (1) the condition of an existing sewage system, (2) the costs and expenses to install a sewage system approved by an existing Improvement Permit, (3) the availability and expense to connect to a public or community sewer system, and/or (4) whether an Improvement Permit or written evaluation may be obtained from the County Health Department for a suitable ground absorption sewage system.

(iii) **Water:** Any applicable investigation(s) to determine: (1) the condition of an existing private drinking water well, (2) the costs and expenses to install a private drinking water well approved by an existing Construction Permit, (3) the availability, costs and expenses to connect to a public or community water system, or a shared private well, and/or (4) whether a Construction Permit may be obtained from the County Health Department for a private drinking water well.

(iv) **Review of Documents:** Review of the Declaration of Restrictive Covenants, Bylaws, Articles of Incorporation, Rules and Regulations, and other governing documents of any applicable owners' association and/or subdivision. If the Property is subject to regulation by an owners' association, it is recommended that Buyer review the completed Owners' Association And Addendum (Standard Form 2A12-T) provided by Seller prior to signing this offer. It is also recommended that the Buyer determine if the owners' association or its management company charges fees for providing information required by Buyer's lender or confirming restrictive covenant compliance.

(v) **Appraisals:** An appraisal of the Property.

(vi) **Survey:** A survey to determine whether the property is suitable for Buyer's intended use and the location of easements, setbacks, property boundaries and other issues which may or may not constitute title defects.

(vii) **Zoning and Governmental Regulation:** Investigation of current or proposed zoning or other governmental regulation that may affect Buyer's intended use of the Property, adjacent land uses, planned or proposed road construction, and school attendance zones.

(viii) **Flood Hazard:** Investigation of potential flood hazards on the Property, and/or any requirement to purchase flood insurance in order to obtain the Loan.

(ix) **Utilities and Access:** Availability, quality, and obligations for maintenance of utilities including electric, gas, communication services, storm water management, and means of access to the Property and amenities.

(x) **Streets/Roads:** Investigation of the status of the street/road upon which the Property fronts as well as any other street/road used to access the Property, including: (1) whether any street(s)/road(s) are public or private, (2) whether any street(s)/road(s) designated as public are accepted for maintenance by the State of NC or any municipality, or (3) if private or not accepted for public maintenance, the consequences and responsibility for maintenance and the existence, terms and funding of any maintenance agreements.

NOTE: NC General Statutes Section 136-102.6(f) (the "Statute") requires that under circumstances described in the Statute, a buyer must be provided a subdivision streets disclosure statement prior to entering into an agreement to buy subdivided property described in the Statute. If Buyer or Seller are uncertain whether the sale of the Property described in this Contract is subject to the Statute, consult a NC real estate attorney.

(xi) **Special Assessments:** Investigation of the existence of Special Assessments that may be under consideration by a governmental authority or an owners' association.

(c) **Sale/Lease of Existing Property:** As noted in paragraph 3(b), this Contract is not conditioned upon the sale/lease or closing of other property owned by Buyer. Therefore, if Buyer must sell or lease other real property in order to qualify for a new loan or to otherwise complete the purchase of the Property, Buyer should seek to close on Buyer's other property prior to the end of the Due Diligence Period or be reasonably satisfied that closing on Buyer's other property will take place prior to the Settlement Date of this Contract.

(d) **Buyer's Obligation to Repair Damage:** Buyer shall, at Buyer's expense, promptly repair any damage to the Property resulting from any activities of Buyer and Buyer's agents and contractors, but Buyer shall not be responsible for any damage caused by accepted practices applicable to any N.C. licensed professional performing reasonable appraisals, tests, surveys, examinations and inspections of the Property. This repair obligation shall survive any termination of this Contract.

(e) **Indemnity:** Buyer will indemnify and hold Seller harmless from all loss, damage, claims, suits or costs, which shall arise out of any contract, agreement, or injury to any person or property as a result of any activities of Buyer and Buyer's agents and contractors relating to the Property except for any loss, damage, claim, suit or cost arising out of pre-existing conditions of the Property and/or out of Seller's negligence or willful acts or omissions. This indemnity shall survive this Contract and any termination hereof.

(f) **Buyer's Right to Terminate:** Provided that Buyer has delivered any agreed-upon Due Diligence Fee, Buyer shall have the right to terminate this Contract for any reason or no reason, by delivering to Seller written notice of termination (the "Termination Notice") during the Due Diligence Period (or any agreed-upon written extension of the Due Diligence Period), ***TIME BEING OF THE ESSENCE.*** If Buyer timely delivers the Termination Notice, this Contract shall be terminated and the Earnest Money Deposit shall be refunded to Buyer.

(g) **CLOSING SHALL CONSTITUTE ACCEPTANCE OF THE PROPERTY IN ITS THEN EXISTING CONDITION UNLESS PROVISION IS OTHERWISE MADE IN WRITING.**

3. **BUYER REPRESENTATIONS:**

(a) **Funds to complete purchase:**

[X] *(Check if applicable)* Cash. Buyer intends to pay cash in order to purchase the Property and does not intend to obtain a loan or funds from sources other than Buyer's own assets. Verification of cash available for Settlement is [ ] is not [ ] attached.

NOTE: If Buyer does not intend to obtain a new loan(s) and/or funds from sources other than Buyer's own assets, Seller is advised, prior to signing this offer, to obtain documentation from Buyer which demonstrates that Buyer will be able to close on the Property without the necessity of obtaining a loan or funds from sources other than Buyer's own assets.

OR:

[ ] *(Check if applicable)* Loan(s)/Other Funds: Buyer intends to obtain a loan(s) and/or other funds to purchase the Property from the following sources *(check all applicable sources)*:

[ ] First Mortgage Loan:

Buyer intends to obtain a first mortgage loan of the following type in order to purchase the Property: [ ] Conventional [ ] USDA [ ] Other type: _____

_____

in the principal amount of _____ .

[ ] Second Mortgage Loan:

Buyer intends to obtain a second mortgage loan of the following type in order to purchase the Property: _____

[ ] Other funds:

Buyer intends to obtain funds from the following other source(s) in order to purchase the Property: _____

_____

_____

NOTE: Buyer's obligations under this Contract are not conditioned upon obtaining any loan(s) or other funds from sources other than Buyer's own assets. Some mortgage loan programs and other programs providing funds for the purchase of property selected by Buyer may impose repair obligations and/or additional conditions or costs upon Seller or Buyer, and more information may be needed.
Material changes with respect to funding the purchase of the Property that affect the terms of the contract are material facts that must be disclosed.

(b) **Other Property:** Buyer [ ] DOES [X] DOES NOT have to sell or lease other real property in order to qualify for a new loan or to complete the purchase. ***(Complete the following only if Buyer DOES have to sell or lease other real property:)***
Other Property Address: _____

[ ] **(*Check if applicable*)** Buyer's other property IS under contract as of the date of this offer, and a copy of the contract has either been previously provided to Seller or accompanies this offer. *(Buyer may mark out any confidential information, such as the purchase price and the buyer's identity, prior to providing a copy of the contract to Seller.)* Failure to provide a copy of the contract shall not prevent this offer from becoming a binding contract; however, SELLER IS STRONGLY ENCOURAGED TO OBTAIN AND REVIEW THE CONTRACT ON BUYER'S PROPERTY PRIOR TO ACCEPTING THIS OFFER.

[ ] **(*Check if applicable*)** Buyer's other property IS NOT under contract as of the date of this offer. Buyer's property (*check only ONE of the following options*):

[ ] is listed with and actively marketed by a licensed real estate broker.
[ ] will be listed with and actively marketed by a licensed real estate broker.
[ ] Buyer is attempting to sell/lease the Buyer's Property without the assistance of a licensed real estate broker.

NOTE: This Contract is NOT conditioned upon the sale/lease or closing of Buyer's other property. If the parties agree to make this Contract conditioned on a sale/lease or closing of Buyer's other property, an appropriate contingency addendum should be drafted by a North Carolina real estate attorney and added to this Contract.

(c) **Performance of Buyer's Financial Obligations:** To the best of Buyer's knowledge, there are no other circumstances or conditions existing as of the date of this offer that would prohibit Buyer from performing Buyer's financial obligations in accordance with this Contract, except as may be specifically set forth herein.

4. **BUYER OBLIGATIONS:**

(a) **Responsibility for Special Assessments:** Buyer shall take title subject to all Special Assessments that may be approved following Settlement.

(b) **Responsibility for Certain Costs:** Buyer shall be responsible for all costs with respect to:

(i) any loan obtained by Buyer;
(ii) charges by an owners' association or a management company/vendor as agent of the association under paragraph 7(b) of this Contract;
(iii) appraisal;
(iv) title search;
(v) title insurance;
(vi) any fees charged by the closing attorney for the preparation of the Closing Disclosure, Seller Disclosure and any other settlement statement;
(vii) recording the deed; and
(viii) preparation and recording of all instruments required to secure the balance of the Purchase Price unpaid at Settlement.

(c) **Authorization to Disclose Information:** Buyer authorizes the Buyer's lender(s), the parties' real estate agent(s) and closing attorney: (1) to provide this Contract to any appraiser employed by Buyer or by Buyer's lender(s); and (2) to release and disclose any buyer's closing disclosure, settlement statement and/or disbursement summary, or any information therein, to the parties to this transaction, their real estate agent(s) and Buyer's lender(s).

5. **SELLER REPRESENTATIONS:**

(a) **Ownership:** Seller represents that Seller:

[X] has owned the Property for at least one year.
[ ] has owned the Property for less than one year.
[ ] does not yet own the Property.

(b) **Owners' Association(s) and Dues:** To best of Seller's knowledge, ownership of the Property [ ] subjects [X] does not subject Buyer to regulation by one or more owners' association(s) and governing documents, which impose various mandatory covenants, conditions and restrictions upon the Property and Buyer's enjoyment thereof, including but not limited to obligations to pay regular assessments (dues) and Special Assessments. If there is an owners' association, then an Owners' Association Disclosure and Addendum For Properties Exempt from Residential Property Disclosure Statement (Standard Form 2A12-T) shall be completed by Seller, at Seller's expense, and must be attached as an addendum to this Contract.

(c) **Sewage System Permit:** ([ ] Applicable [X] Not Applicable) Seller warrants that the sewage system described in the Improvement Permit attached hereto has been installed, which representation survives Closing, but makes no further representations as to the system.

(d) **Private Drinking Water Well Permit:** ([ ] Applicable [X] Not Applicable) Seller warrants that a private drinking water well has been installed, which representation survives Closing, but makes no further representations as to the well. (If well installed after July 1, 2008, attach Improvement Permit hereto.)

6. **SELLER OBLIGATIONS:**

(a) **Evidence of Title, Payoff Statement(s) and Non Foreign Status:**

(i) Seller agrees to use best efforts to provide to the closing attorney as soon as reasonably possible after the Effective Date, copies of all title information in possession of or available to Seller, including but not limited to: title insurance policies, attorney's opinions on title, surveys, covenants, deeds, notes and deeds of trust, leases, and easements relating to the Property.
(ii) Seller shall provide to the closing attorney all information needed to obtain a written payoff statement from any lender(s) regarding any security interest in the Property as soon as reasonably possible after the Effective Date, and Seller designates the closing attorney as Seller's agent with express authority to request and obtain on Seller's behalf payoff statements and/or short-pay statements from any such lender(s).
(iii) If Seller is not a foreign person as defined by the Foreign Investment in Real Property Tax Act, Seller shall also provide to the closing attorney a non-foreign status affidavit (pursuant to the Foreign Investment in Real Property Tax Act). In the event Seller shall not provide a non-foreign status affidavit, Seller acknowledges that there may be withholding as provided by the Internal Revenue Code.

(b) **Authorization to Disclose Information:** Seller authorizes: (1) any attorney presently or previously representing Seller to release and disclose any title insurance policy in such attorney's file to Buyer and both Buyer's and Seller's agents and attorneys; (2) the Property's title insurer or its agent to release and disclose all materials in the Property's title insurer's (or title insurer's agent's) file to Buyer and both Buyer's and Seller's agents and attorneys, and (3) the closing attorney to release and disclose any seller's closing disclosure, settlement statement and/or disbursement summary, or any information therein, to the parties to this transaction, their real estate agent(s) and Buyer's lender(s).

(c) **Access to Property:** Seller shall provide reasonable access to the Property through the earlier of Closing or possession by Buyer, including, but not limited to, allowing the Buyer and/or Buyer's agents or representatives an opportunity to (i) conduct Due Diligence, (ii) verify the satisfactory completion of negotiated repairs/improvements, and (iii) conduct a final walk-through inspection of the Property. Seller's obligation includes providing existing utilities operating at Seller's cost including any connections and dewinterizing. To the extent applicable, Seller shall also be responsible for timely clearing that portion of the Property required by the County to perform tests, inspections and/or evaluations to determine the suitability of the Property for a sewage system and/or private drinking water well.

NOTE: See WARNING in paragraph 2 above for limitation on Buyer's right to terminate this Contract as a result of Buyer's continued investigation of the Property following the expiration of the Due Diligence Period.

d) **Removal of Seller's Property:** Seller shall remove from the Property, by the date possession is delivered, (i) all personal property which is not a part of the purchase and (ii) unless otherwise agreed, all garbage and debris.

(e) **Affidavit and Indemnification Agreement:** Seller shall furnish at Settlement an affidavit(s) and indemnification agreement(s) in form satisfactory to Buyer and Buyer's title insurer, if any, executed by Seller and any person or entity who has performed or furnished labor, services, materials or rental equipment to the Property within 120 days prior to the date of Settlement and who may be entitled to claim a lien against the Property as described in N.C.G.S. §44A-8 verifying that each such person or entity has been paid in full and agreeing to indemnify Buyer, Buyer's lender(s) and Buyer's title insurer against all loss from any cause or claim arising therefrom.

(f) **Designation of Lien Agent, Payment and Satisfaction of Liens:** If required by N.C.G.S. §44A-11.1, Seller shall have designated a Lien Agent, and Seller shall deliver to Buyer as soon as reasonably possible a copy of the appointment of Lien Agent. All deeds of trust, deferred ad valorem taxes, liens and other charges against the Property, not assumed by Buyer, must be paid and satisfied by Seller prior to or at Settlement such that cancellation may be promptly obtained following Closing. Seller shall remain obligated to obtain any such cancellations following Closing.

(g) **Good Title, Legal Access:** Seller shall execute and deliver a GENERAL WARRANTY DEED for the Property in recordable form no later than Settlement, which shall convey fee simple marketable and insurable title, without exception for mechanics' liens, and free of any other liens, encumbrances or defects, including those which would be revealed by a current and accurate survey of the Property, except: ad valorem taxes for the current year (prorated through the date of Settlement); utility easements and unviolated covenants, conditions or restrictions that do not materially affect the value of the Property; and such other liens, encumbrances or defects as may be assumed or specifically approved by Buyer in writing. The Property must have legal access to a public right of way.

NOTE: Buyer's failure to conduct a survey or examine title of the Property prior to the expiration of the Due Diligence Period does not relieve the Seller of their obligation to deliver good title under this paragraph.

NOTE: If any sale of the Property may be a "short sale," consideration should be given to attaching a Short Sale Addendum (Standard Form 2A14-T) as an addendum to this Contract.

(h) **Deed, Taxes, and Fees:** Seller shall pay for preparation of a deed and all other documents necessary to perform Seller's obligations under this Contract, and for state and county excise taxes, and any deferred, discounted or rollback taxes, and local conveyance fees required by law. The deed is to be made to: **Town of Huntersville, a North Carolina municipal corporation** _____.

(i) **Agreement to Pay Buyer Expenses:** Seller shall pay at Settlement $ _____ toward any of Buyer's expenses associated with the purchase of the Property, at the discretion of Buyer and/or lender, if any, including any FHA/VA lender and inspection costs that Buyer is not permitted to pay.

(j) **Owners' Association Fees/Charges:** Seller shall pay any charges by an owners' association or a management company/vendor as agent of the association under paragraph 7(a) of this Contract.

(k) **Payment of Special Assessments:** Seller shall pay, in full at Settlement, all Special Assessments that are approved prior to Settlement, whether payable in a lump sum or future installments, provided that the amount thereof can be reasonably determined or estimated. The payment of such estimated amount shall be the final payment between the Parties.

(l) **Late Listing Penalties:** All property tax late listing penalties, if any, shall be paid by Seller.

(m) **Owners' Association Disclosure and Condominium Resale Statement Addendum** (Standard Form 2A12-T): If applicable, Seller shall provide the completed Owners' Association Disclosure and Condominium Resale Statement Addendum to Buyer on or before the Effective Date.

(n) **Seller's Breach of Contract:** See paragraph 21 for Buyer's remedies in the event of breach of this Contract.

7. **CHARGES BY OWNERS' ASSOCIATION:** Responsibility for payment of charges by an owners' association or a management company/vendor as agent of the association shall be allocated between Buyer and Seller as follows:

(a) **Seller shall pay:**
(i) fees incurred by Seller in completing resale or other certificates related to a proposed sale of the Property;
(ii) fees required for confirming Seller's account payment information on owners' association dues or assessments for payment or proration, including any expedite fee permitted under N.C. Gen. Stat. § 47F-3-102 that is charged in connection with providing such information;
(iii) any fees charged for transferring or updating ownership records of the association; and
(iv) any fees other than those fees specifically required to be paid by Buyer under paragraph 7(b) below.

(b) **Buyer shall pay:**
(i) charges for providing information required by Buyer's lender;
(ii) working capital contributions, membership fees, or charges imposed for Buyer's use of the common elements and/or services provided to Buyer in connection with Buyer taking possession of the Property, such as “move-in fees”; and
(iii) determining restrictive covenant compliance.

8. **PRORATIONS AND ADJUSTMENTS:** Unless otherwise agreed, the following items shall be prorated, with Seller responsible for the prorated amounts of any taxes and dues through the date of Settlement, and Seller entitled to the amount of prorated rents through the date of Settlement, and either adjusted between the parties or paid at Settlement:

(a) **Taxes on Real Property:** Ad valorem taxes and recurring governmental service fees levied with such taxes on real property shall be prorated on a calendar year basis;

(b) **Rents:** Rents, if any, for the Property;

(c) **Dues:** Owners' association regular assessments (dues) and other like charges.

9. **CONDITION OF PROPERTY/RISK OF LOSS:**

(a) **Condition of Property at Closing:** If the Property is not in substantially the same or better condition at Closing as on the date of this offer, reasonable wear and tear excepted, Buyer may terminate this Contract by written notice delivered to Seller and the Due Diligence Fee and Earnest Money Deposit shall be refunded to Buyer. If the Property is not in such condition and Buyer does NOT elect to terminate this Contract, Buyer shall be entitled to receive, in addition to the Property, the proceeds of any insurance claim filed by Seller on account of any damage or destruction to the Property.

(b) **Risk of Loss:** The risk of loss or damage by fire or other casualty prior to Closing shall be upon Seller. Seller is advised not to cancel existing insurance on the Property until after confirming recordation of the deed.

10. **DELAY IN SETTLEMENT/CLOSING:** This paragraph shall apply if one party is ready, willing and able to complete Settlement on the Settlement Date (“Non-Delaying Party”) but it is not possible for the other party to complete Settlement by the Settlement Date (“Delaying Party”). In such event, the Delaying Party shall be entitled to a delay in Settlement and shall give as much notice as possible to the Non-Delaying Party and closing attorney. If the Delaying Party fails to complete Settlement and Closing within seven (7) days of the Settlement Date (including any amended Settlement Date agreed to in writing by the parties), then the Delaying Party shall be in breach and the Non-Delaying Party may terminate this Contract and shall be entitled to enforce any remedies available to such party under this Contract for the breach.

11. **POSSESSION:** Unless otherwise provided herein, possession, including all means of access to the Property (keys, codes including security codes, gate openers, electronic devices, etc.) shall be delivered at Closing as defined in Paragraph 1(m). No alterations, excavations, tree or vegetation removal or other such activities may be done before possession is delivered.

12. **ADDENDA:** CHECK ALL STANDARD ADDENDA THAT MAY BE A PART OF THIS CONTRACT, IF ANY, AND ATTACH HERETO. ITEMIZE ALL OTHER ADDENDA TO THIS CONTRACT, IF ANY, AND ATTACH HERETO.

- ☐ Additional Provisions Addendum (Form 2A11-T)
- ☐ Additional Signatures Addendum (Form 3-T)
- ☐ Back-Up Contract Addendum (Form 2A1-T)
- ☐ Loan Assumption Addendum (Form 2A6-T)
- ☐ Owners' Association Disclosure Addendum (Form 2A12-T)
- ☐ Seller Financing Addendum (Form 2A5-T)
- ☐ Short Sale Addendum (Form 2A14-T)

☒ Identify other attorney or party drafted addenda: **Exhibit A**

NOTE: UNDER NORTH CAROLINA LAW, REAL ESTATE BROKERS ARE NOT PERMITTED TO DRAFT ADDENDA TO THIS CONTRACT.

13. **ASSIGNMENTS:** This Contract may not be assigned without the written consent of all parties except in connection with a tax-deferred exchange, but if assigned by agreement, then this Contract shall be binding on the assignee and assignee's heirs and successors.

14. **TAX-DEFERRED EXCHANGE:** In the event Buyer or Seller desires to effect a tax-deferred exchange in connection with the conveyance of the Property, Buyer and Seller agree to cooperate in effecting such exchange; provided, however, that the exchanging party shall be responsible for all additional costs associated with such exchange, and provided further, that a non-exchanging party shall not assume any additional liability with respect to such tax-deferred exchange. Buyer and Seller shall execute such additional documents, including assignment of this Contract in connection therewith, at no cost to the non-exchanging party, as shall be required to give effect to this provision.

15. **PARTIES:** This Contract shall be binding upon and shall inure to the benefit of Buyer and Seller and their respective heirs, successors and assigns. As used herein, words in the singular include the plural and the masculine includes the feminine and neuter genders, as appropriate.

16. **SURVIVAL:** If any provision herein contained which by its nature and effect is required to be observed, kept or performed after the Closing, it shall survive the Closing and remain binding upon and for the benefit of the parties hereto until fully observed, kept or performed.

17. **ENTIRE AGREEMENT:** This Contract contains the entire agreement of the parties and there are no representations, inducements or other provisions other than those expressed herein. All changes, additions or deletions hereto must be in writing and signed by all parties. Nothing contained herein shall alter any agreement between a REALTOR® or broker and Seller or Buyer as contained in any listing agreement, buyer agency agreement, or any other agency agreement between them.

18. **CONDUCT OF TRANSACTION:** The parties agree that any action between them relating to the transaction contemplated by this Contract may be conducted by electronic means, including the signing of this Contract by one or more of them and any notice or communication given in connection with this Contract. Any written notice or communication may be transmitted to any mailing address, e-mail address or fax number set forth in the "Notice Information" section below. Any notice or communication to be given to a party herein, any fee, deposit of other payment to be delivered to a party herein, may be given to the party or to such party's agent. Delivery of any notice to a party via means of electronic transmission shall be deemed complete at such time as the sender performs the final act to send such transmission, in a form capable of being processed by the receiving party's system, to any electronic address provided for such party in the "Notice Information" section below. Seller and Buyer agree that the "Notice Information" and "Acknowledgment of Receipt of Monies" sections below shall not constitute a material part of this Contract, and that the addition or modification of any information therein shall not constitute a rejection of an offer or the creation of a counteroffer.

19. **EXECUTION:** This Contract may be signed in multiple originals or counterparts, all of which together constitute one and the same instrument.

20. **COMPUTATION OF DAYS/TIME OF DAY:** Unless otherwise provided, for purposes of this Contract, the term "days" shall mean consecutive calendar days, including Saturdays, Sundays, and holidays, whether federal, state, local or religious. For the purposes of calculating days, the count of "days" shall begin on the day following the day upon which any act or notice as provided in this Contract was required to be performed or made. Any reference to a date or time of day shall refer to the date and/or time of day in the State of North Carolina.

21. **REMEDIES:**

(a) **Breach by Buyer:** In the event of material breach of this Contract by Buyer, any Earnest Money Deposit shall be paid to Seller. The payment of any Earnest Money Deposit and any Due Diligence Fee to Seller (without regard to their respective amounts, including zero) together shall serve as liquidated damages ("Liquidated Damages") and as Seller's sole and exclusive remedy for such breach, but without limiting Seller's rights under Paragraphs 2(d) and 2(e) for damage to the Property. It is acknowledged by the parties that the amount of the Liquidated Damages is compensatory and not punitive, such amount being a reasonable estimation of the actual loss that Seller would incur as a result of a breach of this Contract by Buyer. The payment to Seller of the Liquidated Damages shall not constitute a penalty or forfeiture but actual compensation for Seller's anticipated loss, both parties acknowledging the difficulty determining Seller's actual damages for such breach.

(b) **Breach by Seller:** In the event of material breach of this Contract by Seller, Buyer may (i) elect to terminate this Contract as a result of such breach, and shall be entitled to return of both the Earnest Money Deposit and the Due Diligence Fee, together with the reasonable costs actually incurred by Buyer in connection with Buyer's Due Diligence ("Due Diligence Costs"), or (ii) elect not to terminate and instead treat this Contract as remaining in full force and effect and seek the remedy of specific performance.

(c) **Attorneys' Fees:** If legal proceedings are brought by Buyer or Seller against the other to collect the Earnest Money Deposit, Due Diligence Fee, or Due Diligence Costs, the parties agree that a party shall be entitled to recover reasonable attorneys' fees to the extent permitted under N.C. Gen. Stat. § 6-21.2. The parties acknowledge and agree that the terms of this Contract with respect to entitlement to the Earnest Money Deposit, Due Diligence Fee, or Due Diligence Costs each constitute an "evidence of indebtedness" pursuant to N.C. Gen. Stat. § 6-21.2.

NOTE: A party seeking recovery of attorneys' fees under N.C. Gen. Stat. § 6-21.2 must first give written notice to the other party that they have five (5) days from the mailing of the notice to pay the outstanding amount(s) without the attorneys' fees.

[THIS SPACE INTENTIONALLY LEFT BLANK]

THE NORTH CAROLINA ASSOCIATION OF REALTORS®, INC. AND THE NORTH CAROLINA BAR ASSOCIATION MAKE NO REPRESENTATION AS TO THE LEGAL VALIDITY OR ADEQUACY OF ANY PROVISION OF THIS FORM IN ANY SPECIFIC TRANSACTION. IF YOU DO NOT UNDERSTAND THIS FORM OR FEEL THAT IT DOES NOT PROVIDE FOR YOUR LEGAL NEEDS, YOU SHOULD CONSULT A NORTH CAROLINA REAL ESTATE ATTORNEY BEFORE YOU SIGN IT.

This offer shall become a binding contract on the Effective Date. Unless specifically provided otherwise, Buyer's failure to timely deliver any fee, deposit or other payment provided for herein shall not prevent this offer from becoming a binding contract, provided that any such failure shall give Seller certain rights to terminate the contract as described herein or as otherwise permitted by law.

Date: _____

Buyer: _____
Town of Huntersville, a North Carolina municipal corporation

Date: _____

Buyer: _____

Date: _____

Seller: _____
George S. Nance, as Trustee of the George S. Nance Revocable Trust.
Dated September 22, 1998

Date: _____

Seller: _____

Entity Buyer:

_____
(Name of LLC/Corporation/Partnership/Trust/etc.)

By: _____

Name: _____
Print Name

Title: _____

Date: _____

Entity Seller:

George S Nance Revocable Trust
(Name of LLC/Corporation/Partnership/Trust/etc.)

By: _____

Name: **David S Nance**
Print Name

Title: _____

Date: _____

WIRE FRAUD WARNING

TO BUYERS: BEFORE SENDING ANY WIRE, YOU SHOULD CALL THE CLOSING ATTORNEY'S OFFICE TO VERIFY THE INSTRUCTIONS. IF YOU RECEIVE WIRING INSTRUCTIONS FOR A DIFFERENT BANK, BRANCH LOCATION, ACCOUNT NAME OR ACCOUNT NUMBER, THEY SHOULD BE PRESUMED FRAUDULENT. DO NOT SEND ANY FUNDS AND CONTACT THE CLOSING ATTORNEY'S OFFICE IMMEDIATELY.

TO SELLERS: IF YOUR PROCEEDS WILL BE WIRED, IT IS RECOMMENDED THAT YOU PROVIDE WIRING INSTRUCTIONS AT CLOSING IN WRITING IN THE PRESENCE OF THE ATTORNEY. IF YOU ARE UNABLE TO ATTEND CLOSING, YOU MAY BE REQUIRED TO SEND AN ORIGINAL NOTARIZED DIRECTIVE TO THE CLOSING ATTORNEY'S OFFICE CONTAINING THE WIRING INSTRUCTIONS. THIS MAY BE SENT WITH THE DEED, LIEN WAIVER AND TAX FORMS IF THOSE DOCUMENTS ARE BEING PREPARED FOR YOU BY THE CLOSING ATTORNEY. AT A MINIMUM, YOU SHOULD CALL THE CLOSING ATTORNEY'S OFFICE TO PROVIDE THE WIRE INSTRUCTIONS. THE WIRE INSTRUCTIONS SHOULD BE VERIFIED OVER THE TELEPHONE VIA A CALL TO YOU INITIATED BY THE CLOSING ATTORNEY'S OFFICE TO ENSURE THAT THEY ARE NOT FROM A FRAUDULENT SOURCE.

WHETHER YOU ARE A BUYER OR A SELLER, YOU SHOULD CALL THE CLOSING ATTORNEY'S OFFICE AT A NUMBER THAT IS INDEPENDENTLY OBTAINED. TO ENSURE THAT YOUR CONTACT IS LEGITIMATE, YOU SHOULD NOT RELY ON A PHONE NUMBER IN AN EMAIL FROM THE CLOSING ATTORNEY'S OFFICE, YOUR REAL ESTATE AGENT OR ANYONE ELSE.

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NOTICE INFORMATION

NOTE: INSERT AT LEAST ONE ADDRESS AND/OR ELECTRONIC DELIVERY ADDRESS EACH PARTY AND AGENT APPROVES FOR THE RECEIPT OF ANY NOTICE CONTEMPLATED BY THIS CONTRACT. INSERT "N/A" FOR ANY WHICH ARE NOT APPROVED.

BUYER NOTICE ADDRESS:

Mailing Address: **N/A**

Buyer Fax #: _____

Buyer E-mail: _____

SELLER NOTICE ADDRESS:

Mailing Address: **N/A**

Seller Fax #: _____

Seller E-mail: _____

CONFIRMATION OF AGENCY/NOTICE ADDRESSES

Selling Firm Name: _____
Acting as ☐ Buyer's Agent ☐ Seller's (sub)Agent ☐ Dual Agent

Firm License #: _____

Mailing Address: _____

Individual Selling Agent: _____
☐ Acting as a Designated Dual Agent (check only if applicable)

Selling Agent License#: _____

Selling Agent Phone#: _____

Selling Agent Fax#: _____

Selling Agent E-mail: _____

Listing Firm Name: **RE/MAX Executive**
Acting as ☒ Seller's Agent ☐ Dual Agent

Firm License #: **C22734**

Mailing Address: **19600 W Catawba Ave Ste B101 , Cornelius , NC 28031**

Individual Listing Agent: **Danny Edwards**
☐ Acting as a Designated Dual Agent (check only if applicable)

Listing Agent License#: **189750**

Listing Agent Phone#: **(704)996-0117**

Listing Agent Fax#: _____

Listing Agent E-mail: **dedwards@remax.net**

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ACKNOWLEDGMENT OF RECEIPT OF MONIES

Seller: **George S. Nance, as Trustee of the George S. Nance Revocable Trust.** Dated September 22, 1998 ("Seller")

Buyer: **Town of Huntersville, a North Carolina municipal corporation** ("Buyer")

Property Address: **13409 Ramah Church Road , Huntersville , NC 28078** ("Property")

☐ **LISTING AGENT ACKNOWLEDGMENT OF RECEIPT OF DUE DILIGENCE FEE**

Paragraph 1(d) of the Offer to Purchase and Contract between Buyer and Seller for the sale of the Property provides for the payment to Seller of a Due Diligence Fee in the amount of $ _____ , receipt of which Listing Agent hereby acknowledges.

Date: _____ Firm: **RE/MAX Executive**

By: _____
(Signature)

Danny Edwards
(Print name)

☐ **SELLER ACKNOWLEDGMENT OF RECEIPT OF DUE DILIGENCE FEE**

Paragraph 1(d) of the Offer to Purchase and Contract between Buyer and Seller for the sale of the Property provides for the payment to Seller of a Due Diligence Fee in the amount of $ _____ , receipt of which Seller hereby acknowledges.

Date: _____ Seller: _____
(Signature)
George S. Nance, as Trustee of the George S. Nance Revocable Trust.

Date: _____ Seller: _____
(Signature)

☐ **ESCROW AGENT ACKNOWLEDGMENT OF RECEIPT OF INITIAL EARNEST MONEY DEPOSIT**

Paragraph 1(d) of the Offer to Purchase and Contract between Buyer and Seller for the sale of the Property provides for the payment to Escrow Agent of an Initial Earnest Money Deposit in the amount of $ **1,000.00** . Escrow Agent as identified in Paragraph 1(f) of the Offer to Purchase and Contract hereby acknowledges receipt of the Initial Earnest Money Deposit and agrees to hold and disburse the same in accordance with the terms of the Offer to Purchase and Contract.

Date: _____ Firm: **RE/MAX Executive**

By: _____
(Signature)

_____
(Print name)

☐ **ESCROW AGENT ACKNOWLEDGMENT OF RECEIPT OF (ADDITIONAL) EARNEST MONEY DEPOSIT**

Paragraph 1(d) of the Offer to Purchase and Contract between Buyer and Seller for the sale of the Property provides for the payment to Escrow Agent of an (Additional) Earnest Money Deposit in the amount of $ _____ . Escrow Agent as identified in Paragraph 1(f) of the Offer to Purchase and Contract hereby acknowledges receipt of the (Additional) Earnest Money Deposit and agrees to hold and disburse the same in accordance with the terms of the Offer to Purchase and Contract.

Date: _____ Firm: **RE/MAX Executive**

Time: _____ ☐ AM. ☐ PM By: _____
(Signature)

_____
(Print name)

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EXHIBIT A

Addendum to Purchase and Sale Agreement for 24.81 +/- acres located at 13409 Ramah Church Road.

- The purchase price set forth in the purchase agreement is subject to appraisal.
- The purchase agreement is subject to approval by the Town of Huntersville Board of Commissioners

Buyer Signature_____ Date: _____

Seller Signature_____ Date: _____