ADDENDUM NO. 2



TO: Prospective Bidders

FROM: Charlie McGougan, P.E.

DATE: October 26, 2026

PROJECT: Harnett Regional Water
Southwest Wastewater Pump Station & Force Main

BID DATE: November 12, 2026

All Prospective Bidders are hereby notified of the following changes and clarifications to the Contract Documents for the referenced project:

A. GENERAL

1. **Pre-Bid Meeting:** A non-mandatory Pre-Bid meeting was held Wednesday October 14, 2026. The minutes from the meeting are attached.

B. CONTRACT DOCUMENTS

1. **Minority Business Enterprise (MBE) - Women Business Enterprise (WBE) Requirements:**

   The contract documents have been modified to include an MBE-WBE Compliance Supplement package to be completed by all bidders to be considered responsive. The referenced MBE-WBE supplement package is attached.

2. **Build America, Buy America (BABA) Requirements:**

   The contract documents have been modified to include a BABA Compliance Supplement package to be completed by all bidders to be considered responsive. The referenced BABA supplement package is attached.

3. **Bid Form:** The bid form has been modified as follows:

   Section B Unit Pricing Schedules have been modified to include line items for "Bore and Jacks" through "soil" and "rock." Bore and Jacks will be paid for at "rock" prices when the Contractor has demonstrated that special tooling including but not limited to Tungsten Carbide drill bits, Roller Cone drill bits, or tri-cone drill bits are required to advance the casing pipe or HDD. All bores shall be initiated as "soil" until construction conditions indicate otherwise and upon engineers' inspection, at which point the contractor will be paid under the appropriate line item. A copy of the revised Bid Form is attached.

4. Project Drawings:

Bid Drawings for "Section B: 20-INCH PVC Force Main", which include plan & profile sheets PP-1 through PP-19, have been edited and reissued for bid to include general stationing and note changes for clarity. Revised Sheets PP-1 through PP-19 are attached.

C. PROJECT PERMITS

The project manual has been modified to include approved project permits information as follows:

1. NCDOT Encroachment – Harnett County
2. NCDOT Encroachment – Cumberland County
3. NCDEMLR – Erosion Control Plan Certificate of Approval

Copies of the referenced approved permits are attached.

D. PROJECT SPECIFICATIONS

1. Section 11250 "Fiberglass Enclosure" is added to the Specifications. A copy of the specification section is attached.

E. GENERAL CONTRACTOR QUESTIONS

The below questions include contractors' questions we have received as of Addendum No.1, inclusive of questions posed at the pre-bid conference.

1. *PermoxCTF be considered as an alternate as the sewer lining for ductile iron pipe and fittings where "ceramic epoxy lining" is specified in the following section?*
   Yes, PermoxCTF is considered and acceptable "ceramic epoxy lining".
2. *Will Sherwin Williams Dura-Plate 6100 considered as a substitution for the specified manhole/wet-well liner material.*
   Sherwin Williams Dura Plate 6100 is an acceptable manhole and wet well liner material.
3. *Alternative consideration for 20" DR-21 PVC bell-and-spigot carrier pipe with bell restraints and pipe supports in lieu of fusible PVC through steel cased bores.*
   20" DR-21 PVC push-on joint pipe equipped with Ebaa Iron Series 2800 Bell Restraint Harnesses and pipe supports as shown and specified is acceptable as a substitute for Fusible PVC through bore casings.
4. *EJCDC C-200, Article 12, 12.01 states that the bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the work..." Are there such that we should be aware of? Equipment or otherwise?*
   No.
5. *Bid Form, Article 7, 7.01. D. Is there a standard project reference form the owner would like to use?*
   No
6. *Bid Form, Article 7, 7.01. G. Were MBE/WBE requirements stricken from the requirements?*
   MBE/WBE requirements have been reinstated into the contract. Referenced documents are attached.
7. *Are there any allowances for the project?*
   No

8. *Harnett County Vendor Application. If we are already a bonafide vendor, are we established as a bonafide contractor? See question above about qualifications. (7.01.D Bid Form)*
   Bid packages must contain all documents in Article 7 to be considered responsive.
9. *Section 01571, Item 3.1 Environmental Protection Plan. It was our understanding that this has already been completed. Can it be shared as part of the forthcoming addendum so that we may incorporate the features in our estimate?*
   The approved erosion control plan has been implemented into the drawings and drawing details. DEMLR approval documents are attached to Addendum No. 2.
10. *Section 02300, Item 3.11. Testing of backfill. Who bears this expense?*
    The Contractor shall pay for Testing described in Section02300, Par. 3.11.
11. *Follow up, will there be any special considerations for the Federal Government working in/adjacent to the property along NC87?*
    No, refer to appropriate NCDOT encroachment
12. *Section 02316, Section 3.5.6.3 Sod. Is there a requirement for sod in any particular area?*
    No, seeding and mulching to be installed per erosion control plan and permit.
13. *General question. Flow into the Manchester WWTP for both lines that will have Parshall Flume installations?*
    This question will be addressed with Addendum No. 3.
14. *In light of the conversation from Joe McGougan, and the Parshall flumes being installed early, is there a manufacturer that you have in mind, or equal, to avoid a lengthy process in submittal review?*
    The metering manholes do not need to be installed early; however, it would be best to complete the installations and have them in service prior to placing the 20" force main in service. Warminster Fiberglass is considered the standard of quality for metering manholes.
15. *Is there an NCDOT Encroachment Bond Requirement?*
    No
16. *Contract documentation indicates a sub-surface report, is this information available?*
    No
17. *Is there a requirement to provide engineers and contractor office space?*
    No
18. *Will there be an opportunity to visit the pump station site?*
    Yes, scheduled site access has been arranged as follows:
    Melody Lane-SLS-57 PS Location: 10/27/2026 9:00am
    Fort Bragg PS Location: 10/27/2026 10:00am
    Melody Lane-SLS-57 PS Location: 10/29/2026 9:00am
    Fort Bragg PS Location: 10/29/2026 10:00am
19. *Will bypassing be necessary for the Fort Bragg Pump Station Site?*
    Yes.
20. *Do the bid documents include a separate rock price for jack & bores?*
    The bid form has been revised to reflect a separate rock and soil price as part of Addendum No. 2
21. *Can 20" DR21 Fusible PVC be approved for open-cut installation?*
22. *What is the pumping conditions for the sewer pump station (SLS-57)?*
    1700 GPM @ 160' TDH
23. *The existing station has three pumps with 6-inch discharge piping. Is there a required temporary bypass pump configuration, including the number of operating and standby pumps?*
    No.
24. *Are there specific requirements for temporary suction and discharge piping or hoses, including size, material, routing, and connection locations?*
    No.

25. *Will the new 20-inch force main be installed and operational before the pump station bypass is needed?*
    The intent is to keep the existing 16" Force Main in service throughout and after construction. The owner will have the option to send flow through either the 16" or 20"
26. *Are there any noise restrictions, monitoring requirements, or other operational limitations we should account for?*
    No, however, standard working times will apply.
27. *What is the anticipated duration of the temporary bypass operation?*
    Until a time that the existing SLS-57 pump station is back in service and can send flow through the existing 16" FM or proposed 20" FM.
28. *Are there any known groundwater conditions, excavation depths, or specific dewatering requirements that should be considered for the pump station and force main construction?*
    Unknown.
29. *Bid form says Lime Tank is 5,600 gallons; specifications say 8,000 gallons. Please clarify?*
    5,600 Gallons is the correct volume
30. *On sheet G-15, does the water line cap off past the hose bib, or is there distribution beyond that for the Lime System?*
    The WL stops at the hose bib
31. *Please confirm that all construction, piping, coatings, and bypass pumping associated exclusively with the new extended wet well are to be included in Additive Alternate No. 1 and excluded from the Section A Base Bid.*
    Correct.
32. *The AIS question was asked at the pre-con and I did not hear an answer. Could the question be answered?*
    AIS will not apply; however BABA requirements have been incorporated into the project as of Addendum No. 2. (attached)
33. *Sheet PP-22 includes a bedding detail that looks to show stone bedding 4' below to the spring line on the pipeline. Will this be enforced?*
    Backfilling to be completed using clean, "suitable", native fill per Spec. Sect. 2.1.2.
34. *Specs read the steel casing must have an exterior coating. Any exterior coating will be mostly removed by the bore & jack operation. Will it still be needed?*
    Provide steel casing per specification.
35. *Would you clarify which storm drain crossings will require DIP, if any?*
    None.
36. *Would you consider allowing RJDIP to be used in the bore casing instead of FPVC?*
    DR 21 PVC pipe is acceptable with Bell Restraints and spacers. See #3 above.
37. *My MJ fitting take-off using compact weights was nowhere near the bid line item amount. Are fittings C153 or C110?*
    They may be either. The takeoff assumes full body fittings, however compact fittings (C153) are acceptable and preferable.
38. *Will follow-up questions be allowed after the upcoming addendum or answers to questions arrive.*
    Yes, please submit any questions in writing. Questions will be taken until 11/5/2026.

39. *I am having a tough time following the force main portion of the bid plans. At first I thought the callouts on the plan view were just offset due to a revision but I'm not so sure now. One example is the amount of 4" Combination Air Valves called out on plan sheet PP-18. Also, the pipe footage is different between the plan and profile views.*
    Bid Drawings for "Section B: 20-INCH PVC Force Main", which include plan & profile sheets PP-1 through PP-19, have been edited and reissued for bid to include general stationing and note changes for clarity.
40. *Item 10 Miscellaneous Concrete 30 CY. What exactly is this for? Do we need to carry all the blocking concrete for the bends and fittings under this item? Please clarify.*
    Miscellaneous Concrete is intended for thrust blocking, and incidental concrete.
41. *Item 20 Excelsior Matting 12,071 LF. The plans are not clear where this is to be installed. It is based on a LF unit instead of a SY unit. Can we get some clarification on exactly where this is to be installed and what the pay width is for the LF measurement?*
    Payment for Excelsior Matting is based on a 6' width per LF. It is to be installed in disturbed ditch lines, swales, or banks along the alignment.
42. *The clearing qty seems to be off based on what is shown on the plans. Would it be better to make this item LS?*
    The line item unit will remain in Acres.
43. *Can you clarify exactly where the 1,445 SY of milling and overlay is supposed to take place. The plan quantity is a lot less than the bid items.*
    It is anticipated that River Road and the intersection of River & Manchester Road will be damaged as a result of construction activities. These pay items are to restore these areas.
44. *Will there be an allowance for rock excavation or unsuitables?*
    No, direct bury trenching is unclassified.
45. *Is the intent of bid item 11 > Select Fill to cover hauling off unsuitable soils and import of select backfill?*
    Correct
46. *The steel casing dimensions chart in the project specifications (Section 02300-2.2.1) does not show the required thickness for 36" steel casing. This largest diameter of steel casing pipe shown on the chart in the specifications is 34-inches. Please let us know if we need to include 36" steel casing pipe with a 0.375" thickness, or with a 0.500" thickness, in our bid.*
    Use 36" steel casing pipe with minimum 0.50" thickness.

HARNETT REGIONAL WATER
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN

Pre-Bid Conference Meeting Minutes

October 14, 2026

The scheduled pre-bid conference for the "Harnett Regional Water, Southwest Wastewater Pump Station and Force Main" project was held Wednesday October 14, 2026, at the Harnett Regional Water Administration Facility Conference Room. Representatives of Harnett Regional Water (HRW), Weston & Sampson (WSE-Engineer), and prospective bidders attended the meeting. The roster of attendees is attached.

Introduction:

The meeting began with Mr. Conner introducing HRW staff, and WSE staff conducting the meeting. Participants were reminded to complete the sign-in sheet if they hadn't already done so.

Project Description:

Following introductions, the proposed project was introduced and described as summarized below:

Project Location:

The proposed project will take place primarily along NC-Hwy 87, in both Harnett and Cumberland counties, and along the Southern/South-West Corridor of NC-Hwy 87 from Melody Lane to the intersection of Manchester Road and River Road inside Spring Lakes. There are two (2) pump station locations, SLS:57 off Melody Lane, and the site for the proposed pump station improvements, and the "Fort Bragg" pump station, along Manchester Road and the site for the proposed Parshall flume installations.

Project Description:

The project consists of the upgrade of the existing SLS #57 sewer pump station including headworks modifications, replacement of two (2) existing 100 HP submersible pumps, new lime feed system, and electrical, SCADA, and controls and the installation of approximately 26,220 LF of 20" sewer force main, and all appurtenances. The project scope also includes the installation of two (2) Parshall flume meters at the "Fort Bragg Pump Station", location.

Project Permits Include: NCDOT Encroachment, Erosion Control Plan Approval, and ATC from NC DEQ. All required regulatory permitting has been obtained for the project.

The project includes private easements. Mr. Ellen (HRW) indicated all easements have been obtained except for two. Remaining easements are expected to be resolved prior to construction commencement.

Mr. Conner (WSE) noted that the Owner requested the Parshall flume installation begin early in the project.

Mr. C. McGougan (WSE) reiterated that the project consists of one (1) contract with two (2) sections. Contractors are expected to provide pricing for all sections and additive/deductive items for the bid to be acknowledged at responsive.

Phasing/Schedule/Construction Sequence:

Participants were made aware that both pump stations are currently in service and tributary flow to the pump station will continue throughout the duration of the project.

Mr. J. McGougan emphasized construction sequencing and bypass pumping around the SLS-57 (Melody Lane) pump station and encouraged prospective contractors to contact Weston & Sampson in writing with any questions.

Mr. J. McGougan reiterated the SLS-57 pump station upgrades and indicated that Sturgill Engineering is the electrical designer for the project.

Bid Requirements:

General bid requirements were reviewed including the requirements for complete & concise bid forms, 5% bid bond, performance bond, and payment bond.

The project is a locally funded project; therefore MBE requirements do not apply.

General Comments and Questions:

Before opening the floor for general discussion and questions, Mr. Conner and Mr. C. McGougan addressed previous written questions received prior to the pre-bid conference. These questions are summarized as an attachment to "Addendum No. 1".

The meeting was adjourned.

Attachments: Meeting Roster

NC Division of Water Infrastructure MBE/WBE (DBE) Compliance Supplement

Instructions

(This package combines the various aspects of State of NC HUB program requirements and Federal DBE requirements into a single compliance supplement in order to eliminate redundancy and ambiguity)

Item	What to do with it
Good Faith Efforts Form	Provided by all bidders to be responsive Only low bidder's form is submitted to the State
Table A (Summary of firms on job)	Provided by all bidders to be responsive Only low bidder's form is submitted to the State
Table B (per item being subbed)	Provided by low bidder if SRF project or SRP/SEL* that obtains less than 10% M/WBE utilization (see page 2)
Provide documentation of anything you did that is mentioned later in this supplement	- Proof of trade paper advertisement - Printouts of DBE sources used - Solicitation emails and/or letters
~~Additional Forms for SRF Projects~~ (these forms are currently not applicable)	
~~6100-3 (per M/WBE firm)~~	~~Provided by low bidder if SRF project~~
~~6100-2~~	~~Distributed to M/WBE firms if SRF project~~
~~Subs submit concerns on 6100-2 forms to:~~	~~**Michael Pigram**~~ ~~**Region 4, Atlanta Federal Center**~~ ~~**61 Forsyth Street**~~ ~~**Atlanta, GA 30303-8960**~~

NOTES on this Compliance Supplement

Verifiable Goals

- **EPA MBE/WBE participation goals:** MBE 10.9%
WBE 10.4%

These are goals that the State reports against and are not quotas. *The good faith efforts must be adhered to and all forms provided regardless of what percentage utilization is achieved.*

- **State of NC MBE/WBE participation goal:** 10% (combined)

Table B is not required for SRP and SEL projects if you achieve 10% utilization.

DBE (MBE or WBE) Certification

In order for a firm to count towards the goals, a firm must be properly certified. Table A and Table B both provide spaces to note who certified the firm. The North Carolina Department of Administration and North Carolina Department of Transportation are the most common certifications we see listed. Division of Water Infrastructure staff verify all certifications listed.

For SRF projects, please note the EPA's six Good Faith Efforts found in 40 CFR 33
Filling out the Good Faith Efforts Form and providing Table B (if subcontracting is achieved) constitutes compliance with EPA's six good faith efforts.

(1) Ensure MBE/WBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and local Government recipients, this will include placing MBE/WBEs on solicitation lists and soliciting them whenever they are potential sources.
(2) Make information of forthcoming opportunities available to MBE/WBEs and arrange time for contracts and establish delivery schedules, where requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
(3) Consider in the contracting process whether firms competing for large contracts could subcontract with MBE/WBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities in order to increase opportunities for participation by MBE/WBEs in the competitive process.
(4) Encourage contracting with a consortium of MBE/WBEs when a contract is too large for one of these firms to handle individually.
(5) Use the services and assistance of the SBA and the MBDA.
(6) If the prime contractor awards subcontracts, require the prime contractor to take the steps in subparagraphs (1)-(5) of this section.

Pertinent State of North Carolina Administrative Code Regarding M/WBE Compliance. The provisions in this Compliance Supplement constitute compliance with the Rules below.

Owner Requirements	01 NCAC 30I .0306
Contractor Requirements	01 NCAC 30I .0308

Resources

Some sources for identifying MBE/WBE (DBE) firms

- https://www.ips.state.nc.us/vendor/SearchVendor.aspx (NCDOA)
- https://www.ebs.nc.gov/VendorDirectory/default.html (NCDOT)
- http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm (US SBA)

Some sources for finding minority trade papers for potential solicitation advertisements and Federal advertising options

- http://web.sba.gov/subnet/ (US SBA Subnet advertising website)
- https://www.mbda.gov/ (US Dept. of Commerce)
- https://ncadmin.nc.gov/businesses/hub (NC HUB Office)

Good Faith Efforts Form

Attempts to provide subcontracting opportunities for MBE/WBE firms.

Per 01 NCAC 30I .0101, 50 points must be claimed below by the bidder.
(This is identical to State of NC Affidavit A)

☐ **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 providing these documents to them at least 10 days before the bids are due.

☐ **3** – **(15 pts)** Broken down or combined elements of work 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 prebid meetings scheduled by the public owner.

☐ **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)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

Results of Good Faith Efforts Undertaken *(you must check one box below)*

☐ No subcontractors are being used for this contracted work. Fill out Table A listing only the Prime Contractor. (This statement takes the place of State of NC Affidavit B)

☐ Subcontractors are being used. Fill out Table A and B for each trade**. Each Table B lists 3.**

☐ Subcontractors are being used. If any Table B has fewer than 3 solicitations you must also advertise in an M/WBE trade paper and indicate what source of M/WBE firms you used (*must list at least one)*. Some possible papers and sources of M/WBE firms are listed in the Instructions of this Supplement.

Name of the Trade Paper: _____

Submit proof of advertisement with package

M/WBE Sources: Source:_____ Source:_____

Submit printouts from M/WBE source(s)

Certification Statement and Affidavit of Contractor.
The below affidavit constitutes compliance with 01NCAC 30I .0308(7)(a) and (b) and takes the place of State of North Carolina Affidavits C and D.

I have read the information in this compliance supplement and all information provided to the State in this package is accurate and true to the extent of my knowledge including the calculated percentages and the good faith efforts presented herein.

_____ _____

Prime Contractor Company Name (Print) Prime Contractor Representative (Sign & Date)

SEAL

State of_____, County of _____

Subscribed and sworn to before me this _____day of _____ 20____

Notary Public _____

My Commission Expires_____

Certification of Project Owner/Funding Applicant

_____ _____

Funding Applicant (City, Town etc) Applicant Authorized Representative (Sign & Date)

_____

Division of Water Infrastructure Project Number

Table A: Prime Contractor and list of selected subcontractors

List Prime and ALL of the selected subcontractors (both DBE's and non-DBE's) being used on the project. Each Trade listed on this sheet should have a completed Table B: Subcontract Solicitation List showing the DBE firms contacted and given opportunities to bid.

Company Name (list prime first then subs)	Company Address and Phone	Trade (Above) and Price (Below)	MBE or WBE and certifying agency if applicable	(State use only) Listed in EPLS as Debarred?
		$		
		$		
		$		
		$		

Calculate M/WBE utilization as a percent (00.00%) of the prime contract. Limited to 100% even if the Prime is a DBE.

MBE and WBE subs total	**$**	
Prime Contract Price	**$**	**_____%**

Note: Table A substitutes for both the State of NC "Identification of Minority Participation" form and EPA Form 6100-4.

Table B: Subcontract Solicitation List

Table B is required if:

1) Project is Federally funded (**SRF**) OR;
2) Project is a State Reserve Project or State Emergency Loan (**SRP or SEL**) and Utilization % on Table A is less than 10%
3)

Trade: _____(enter the trade being solicited, paving, hauling etc.)

List the firm being used on the project <u>first</u>. If <u>three</u> MBE or WBE firms are not listed, additional information must be provided showing advertisements and/or sources used to identify MBE/WBE subs.

Use as many of these sheets as are necessary to cover every trade being subbed out.

Company Name	Company Address and Phone	MBE or WBE and certifying agency if applicable.	How was this firm contacted (email, letter, phone) and what was the result of the solicitation?*

*****Must submit copies of emails or letters. If phone calls were made this sheet can serve as documentation of calls.

MBE/WBE (DBE) – Change or Add a Subcontractor Form

According to EPA guidance on 40 CFR 33.302

If a DBE subcontractor fails to complete work under the subcontract for any reason, the recipient must require the prime contractor to employ the six good faith efforts described in §33.301 if soliciting a replacement subcontractor.

Please provide the information below **if the subcontracted work in question was included in previously submitted good faith efforts documentation**:

Prime Contractor:			
Subcontracted work:			
Previous Subcontractor:			
Reason this firm did not complete the work:			
New subcontractor and DBE status:	☐MBE	☐WBE	☐N/A

If this is a new trade being subcontracted, or was not documented in the original Project Bid Information submittal to the State then good faith efforts to solicit a DBE firm must be documented. As the original DBE instructions indicate, please provide a Table B from those original instructions, showing all the DBE firms contacted to perform this work. If three (3) firms are not listed on Table B, then additionally you must submit proof of an advertisement in a minority trade paper and evidence that there were not three reasonably available firms in the work area. The EPA provides in 33.301(a) that good faith efforts are to be carried out "…to the fullest extent practicable…". If solicitations were not carried out due to being impracticable, please attach this explanation to this form.

Please follow the steps below for new subcontracted work:

Indicate the new trade being subcontracted:			
Indicate the firm being used and DBE status:	☐MBE	☐WBE	☐N/A
Attach Table B			

(For State Use) Is this sub debarred?	☐Yes	☐No

Project Owner/Applicant: _____

Project Number: _____

Signature of Prime Contractor's Representative: _____

Build America, Buy America (BABA)

Guidance for SRF Projects in North Carolina

Build America, Buy America (BABA) Act expands upon existing American Iron and Steel (AIS) requirements of State Revolving Fund (SRF) funded projects and requires that, in addition to iron and steel, all manufactured products and construction materials for the project be produced in the United States. BABA requirements apply to the following projects:

- All projects funded by the Infrastructure Investment and Jobs Act of 2021 (IIJA) also known as the Bipartisan Infrastructure Act (BIL) which includes Emerging Contaminants and Lead Service Line projects.

- *Selected** projects with SRF agreements executed on or after May 14, 2022 (except the projects that were eligible for an Adjustment Period Waiver in 2022-2023).

  **Each year, the Division of Water Infrastructure (DWI) selects a finite number of projects whose total funding amount is equivalent to the federal capitalization grant afforded to North Carolina through the Environmental Protection Agency (EPA) for that year. DWI will inform the funding recipient of the selection of their project in the Letter of Intent to Fund.*

This document is intended to outline how North Carolina Department of Environmental Quality (NCDEQ), Division of Water Infrastructure (DWI) will satisfy BABA requirements through the SRF program. Additional BABA information and implementation guidance can be found on EPA's website at:

https://www.epa.gov/cwsrf/build-america-buy-america-baba

Recipients of subject SRF awards must submit an executed Certification for SRF Projects and a list of any products that may potentially require a waiver from EPA, with their Bid Information Package. The recipient will not receive any funds if the State has not received these items.

Manufacturers can use the template "Manufacturer's Compliance Certification" to document that their products and materials are "produced in the United States".

Contents

1. Template: Fund Recipient/Contractor Certification for SRF Projects
2. Waiver Instructions
3. Products and Materials covered by BABA
4. Template: Manufacturer's Compliance Certification for Materials Covered by BABA
5. Template: *De Minimis* list

Build America, Buy America (BABA)

Certification for SRF Projects

Recipients of subject SRF awards must submit **this executed form** (and, if applicable, a list of materials/products that will potentially request a project-specific waiver) with their Bid Information package to the State SRF program in order to receive funding.

The _____ certifies that their contractors
(Funding Recipient)

performing construction, alteration, maintenance, and repair of the public treatment works or drinking water systems under project number _____ will comply with Build America, Buy America ("BABA") Act. Pub. L. 117-58, sections 70911-70917. The Act expands the coverage and application of American Iron and Steel requirements in Federal financial assistance programs for infrastructure.

Contractor	Funding Recipient
(print)_____	(print)_____
(sign and date)_____	(sign and date)_____

Build America, Buy America (BABA)

Project-Specific Waiver Instructions

Project-specific waivers may be issued on a case-by-case basis by EPA in coordination with Office of Management and Budget – Made in America Office for the following categories: 1) applying BABA requirements would be inconsistent with the public interest; 2) iron and steel, manufactured products, and construction materials are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or 3) inclusion of iron and steel, manufactured products, and construction materials produced in the US will increase the cost of the overall project by more than 25%.

In its Memorandum titled: *"Build America, Buy America Act Implementation Procedures for EPA Office of Water Federal Financial Assistance Programs"*, released November 3, 2022, the EPA provides answers to questions related to:

- Situations where a project-specific waiver may need to be obtained (cost, unavailability, etc.)
- Who may apply for a waiver
- What a waiver request should include
- The waiver application/approval process

The Memorandum can be found at:

https://www.epa.gov/system/files/documents/2022-11/OW-BABA-Implementation-Procedures-Final-November-2022.pdf

Project-specific waiver requests should generally include:

(1) a brief summary of the project,
(2) a description and explanation of the need for the waiver for the product(s) in question,
(3) a brief summary of the due diligence conducted in search of domestic alternatives (which could include correspondence between assistance recipient and supplier/distributors),
(4) the quantity and materials of the product(s) in question,
(5) all engineering specifications and project design considerations relevant to the product(s) in question,
(6) the approximate unit cost of items (both foreign and domestic) in addition to an estimated cost of the materials and overall project,
(7) the date any products will be needed on site in order to avoid significant project schedule disruptions, and
(8) any other pertinent information relevant to EPA's consideration of the waiver (e.g., if relevant for SRF projects: whether the project is designated as an equivalency project, the date the plans and specifications were submitted to the state, the date of construction initiation, expected date of project completion, any special considerations such as local zoning and building ordinances, seismic requirements, or noise or odor control requirements).

In a typical waiver process, the contractor will have an idea about what products/materials will likely need a waiver prior to bidding. In the bid package, the contractor should submit a list of such potential items. Upon the start of the construction phase, waiver request(s) should be submitted to the DWI designated inspector, who will review the request(s) for completeness, then forward the request(s) to EPA. EPA will conduct a market research, issue a public notice for 15 days, evaluate the request in collaboration with the Made in America Office, then publish the signed waiver on its website and inform the state about the decision.

Funding Recipients, Engineers, and Contractors should be aware of potential schedule impacts when applying for a project-specific waiver.

Once the waiver is received from EPA, funding recipient will need to maintain the waiver for three years after project closeout.

Build America, Buy America (BABA)

Materials and Products Covered by BABA

The following list is not comprehensive.

Products likely made "primarily" of iron and steel to be classified as **Iron and Steel** under **BABA**		
Lined and Unlined Pipe	Lined and Unlined Fittings	Tanks
Flanges	Pipe Clamps and Restraints	Structural Steel
Valves	Hydrants	Pre-Cast, Iron/Steel Reinforced Concrete (of all types, regardless of iron/steel content percentage)
Manhole Covers and other Municipal Castings	Access Hatches	Ballast Screens
Iron or Steel Benches	Bollards	Cast Bases
Cast Iron Hinged Hatches	Cast Iron Riser Rings	Catch Basin Inlets
Cleanout/Monument Boxes	Construction Covers and Frames	Curb and Corner Guards
Curb Boxes	Curb Openings	Curb Stops
Detectable Warning Plates	Downspout Shoes	Drainage Grates
Drainage Grate Frames and Curb Inlets	Inlets	Junction Boxes
Lampposts	Manhole Rings and Frames	Manhole Risers
Meter Boxes	Service Boxes	Steel Hinged Hatches
Steel Riser Rings	Trash Receptacles	Tree Grates
Tree Guards	Trench Grates	Valve Boxes
Valve Box Covers and Risers	Access Ramps	Aeration Pipes and Fittings (separate from aeration/blowers)
Angles	Backflow Preventers/Double Check Valves	Baffle Curtains
Iron or Steel Bar	Bathroom Stalls	Beam Clamps
Cable Hanging Systems	Clarifier Tanks	Coiled Steel
Column Piping	Concrete Reinforcing Bar, Wire, and Fibers	Condensate Sediment Traps
Corrugated Pipe	Couplings	Decking
Digestor Covers	Dome Structures	Door Hardware
Doors	Ductwork	Expansion Joints
Expansion Tanks (diaphragm, surge, and hydropneumatics)	Fasteners	Fencing and Fence Tubing
Fire Escapes	Flanged Pipe	Flap Gates
Framing	Gate Valves	Generic Hanging Brackets
Grating	Ground Testing Boxes	Ground Test Wells
Guardrails	HVAC Registers, Diffusers, and Grilles	Joists
Knife Gates	Ladders	Lifting Hooks, J-bar, Connectors within, and Anchors for Concrete
Lockers	Man Baskets and Material Platforms	Manhole Steps
Mud Valves	Municipal Casting Junctions	Non-mechanical (aka stationary) Louvers and Dampers

Overhead Rolling Doors/ Uplifting Doors (manual open, no motor)	Pipe Connectors	Pipe Hangers
Pipe Pilings (any type of steel piling)	Pipe Spool (pipe, flanges, connectors, etc.)	Pipe Supports
Pitless Adaptors	Pre-fab Steel Buildings/Sheds (simple structure, unfurnished)	Pre-stressed Concrete Cylinder Pipe (PCCP)
Railings	Reduced Pressure Zone (RPZ) Valves	Roofing
Service Saddles	Sheet Piling	Sinks (not part of eyewash systems)
Solenoid Valves	Stairs	Static Mixers
Stationary Screens	Surface Drains	Tapping Sleeves
Telescoping Valves	Tipping Buckets	Trusses
Tubing	Valve Stem Extensions	Valve Stems (excluding handwheels and actuators)
Wall Panels	Wall Sleeves/Floor Sleeves	Welding Rods
Well Casing	Well Screens	Wire
Wire Cloth	Wire Rod	Wire Rope and Cables

The following list is not comprehensive.

Products likely made "primarily" of iron and steel to be classified as **Manufactured Products** under **BABA**		
Actuator Superstructures/ Support Structures	Aeration Nozzles and Injectors	Aerators
Analytical Instrumentation	Analyzers (e.g., ozone, oxygen)	Automated Water Fill Stations
Blowers/Aeration Equipment	Boilers, Boiler Systems	Chemical Feed Systems (e.g., polymer, coagulant, treatment chemicals)
Chemical Injection Quills	Chemical Injectors	Clarifier Mechanisms/Arms
Compressors	Controls and Switches	Conveyors
Cranes	Desiccant Air Dryer Tanks	Dewatering Equipment
Dewatering Roll-offs	Disinfection Systems	Drives (e.g., variable frequency drives)
Electric/Pneumatic/Manual Accessories Used to Operate Valves (such as electric valve actuators)	Electrical Cabinetry and Housings (such as electrical boxes/enclosures)	Electrical Conduit
Electrical Junction Boxes	Electronic Door Locks	Elevator Systems (hydraulic, etc.,)
Emergency Life Systems (including eyewash stations, emergency safety showers, fire extinguishers, fire suppression systems including sprinklers /piping/valves, first aid, etc.)	Exhaust Fans	Fall Protection Anchor Points
Fiberglass Tank w/Appurtenances	Filters (and appurtenances, including underdrains, backwash systems)	Flocculators

Fluidized Bed Incinerators	Galvanized Anodes/Cathodic Protection	Gear Reducers
Generators	Geothermal Systems	Grinders
Heat Exchangers	HVAC (excluding ductwork)	HVAC Dampers (if appurtenances to aerators/blowers)
HVAC Louvers (mechanical)	Intake and Exhaust Grates (if appurtenances to aerators/blowers)	Instrumentation
Laboratory Equipment	Ladder Fall Prevention Systems	Ladder Safety Posts
Lighting Fixtures	Lightning and Grounding Rods	Mechanical or Actuated Louvers/Dampers
Membrane Bioreactor Systems	Membrane Filtration Systems	Metal Office Furniture (fixed)
Meters (including flow, wholesale, water, and service connection)	Motorized Doors (unit)	Motorized Mixers
Motorized Screens (such as traveling screens)	Motors	Pelton Wheels
Pipeline Flash Reactors (similar to injectors)	Plate Settlers	Precast Concrete without Iron/Steel Reinforcement
Furnished Pre-fab Buildings (such as furnished with pumps, mechanics inside)	Presses (including belt presses)	Pressure Gauges
Pump Cans/Barrels and Strainers	Pumps	Mechanical Rakes
Safety Climb Cable	Sampling Stations (unless also act as hydrant)	Scrubbers
Sensors	Sequencing Batch Reactors (SBR)	Steel Shelving (fixed)
Slide and Sluice Gates	Spray Header Units	Steel Cabinets (fixed interior/furniture)
Supervisory Control and Data Acquisition (SCADA) Systems	Tracer Wire	Valve Manual Gears, Actuators, Handles
Voltage Transformer	Water Electrostatic Precipitators (WESP)	Water Heaters
Weir Gates		

Build America, Buy America (BABA)

Manufacturer's Compliance Certification for Materials Covered By BABA

Manufacturer's Company Name:

Company Address:

SRF Project name and project number:

Subject: Build America, Buy America (BABA) Certification

I_____, certify that the following products were produced at the following location, or that steps in the production of the listed products, occurred at the following location:

Location:

Product	Step in production (Final production, melting, bending, etc.)
1)	
2)	
3)	

Therefore, these materials are in full compliance with the Build America, Buy America requirements, as mandated in EPA's State Revolving Fund programs.

_____ _____

(signature and title of company representative) (date)

Build America, Buy America (BABA)

De Minimis General Applicability Waiver* List
(To be used by Contractor)

Item	Cost

Total De Minimis Cost: _____

Total Cost of Project: _____

De Minimis Cost Is _____% of total project cost

*NOTE: The De Minimis General Applicability Waiver, which does not require prior approval by EPA, must not exceed 5% of the total cost of the project. For simplicity, "total project cost" for each contractor is the contract price at the start of construction, re-evaluated at the close of the contract, if requested by the contractor.
The materials that can be listed on this waiver can be ferrous (iron or steel), manufactured products, or construction materials.

BID FORM
FOR CONSTRUCTION CONTRACT

REVISED BY ADDENDUM NO. 2

EJCDC® C-410, Bid Form for Construction Contracts.
Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies,
and American Society of Civil Engineers. All rights reserved.

BID FORM

HARNETT COUNTY, NORTH CAROLINA
HARNETT REGIONAL WATER
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
TABLE OF CONTENTS

Page

ARTICLE 1 – Bid Recipient 1
ARTICLE 2 – Bidder's Acknowledgements 1
ARTICLE 3 – Bidder's Representations 1
ARTICLE 4 – Bidder's Certification 2
ARTICLE 5 – Basis of Bid 3
ARTICLE 6 – Time of Completion 8
ARTICLE 7 – Attachments to this Bid 8
ARTICLE 8 – Defined Terms 8
ARTICLE 9 – Bid Submittal 9

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Harnett County, North Carolina
Harnett Regional Water
Southwest Wastewater Pump Station and Force Main

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for **90 days** after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	Addendum Date

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

SECTION A: SOUTHWEST WASTEWATER PUMP STATION
LUMP SUM BASE BID

Contractor shall provide all labor, tools, equipment, materials, transportation, and other items necessary to complete the upgrade of the SLS #57 Southwest Sewer Pump Station including the following:

BASE BID

1. Demolition of existing components and construction of modifications to the influent headworks structure, including concrete side walls, aluminum slide gates, aluminum access stairs, aluminum grating, stainless steel automatic bar screen, epoxy coating of concrete, and all associated piping, electrical, controls and telemetry components.
2. Provide and install new submersible pump bases for three (3) pumps and install two (2) new submersible pumps, and coat wet well with epoxy coating.
3. Construction of the new SLS #57 Lime Feed System which includes a steel 5,600-gallon storage tank, fiberglass building, concrete containment structure, and all pumps, piping, electrical, controls, and telemetry components.
4. Installation of two (2) new fiberglass metering manholes and Parshall flumes at the existing Fort Bragg Transfer Pump Station Site including electrical and control wiring.
5. All site work, site piping, erosion control, and bypass pumping.
6. All electrical and controls for items listed above.
7. Bypass pumping to construct the Base Bid.

The project shall include all sitework, piping, fittings, valves, appurtenances, and other items required for a complete functioning project as shown on the Contract Drawings and included in the detailed specifications.

Section A Southwest Wastewater Pump Station
Total Lump Sum Base Bid **$** _____

_____

Write Out Total Lump Sum Base Bid in Words

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SECTION B: SOUTHWEST WASTEWATER 20" FORCE MAIN
UNIT PRICE BASE BID

Contractor shall provide all labor, tools, equipment, materials, transportation, and other items necessary to complete the upgrade of the SLS #57 Southwest Sewer Pump Station including the following:

UNIT PRICE BASE BID

1. Erosion control.
2. Clearing, grubbing, and debris removal.
3. Installation of 26,220 LF of 20" sewer force main, fittings, appurtenances, and testing.
4. Site work, roadway/driveway repair, and restoration.
5. Traffic control.

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SECTION B: 20-INCH PVC FORCE MAIN					
	ITEM	UNIT	QTY.	UNIT PRICE	EXTENDED PRICE
1.	Mobilization, Bonds, and Insurance	LS			$
2.	20" DR-21 C905 PVC Force Main (42” Min. Cover)	LF	20,967	$	$
3.	20" DR-21 C905 PVC Force Main (78” Min. Cover)	LF	5,018		
4.	20" DR-21 C905 Fusible PVC In Casing	LF	235	$	$
5.	36" Steel Casing Bored & Jacked Under Road (in Soil)	LF	105	$	$
6.	36” Steel Casing Bored & Jacked Under Road (in Rock)	LF	135	$	$
7.	Cast Iron M.J. Fittings	LBS	24,000	$	$
8.	36" x 20" Tapping Sleeve & Valve	EA	1	$	$
9.	20" Plug Valve	EA	6	$	$
10.	4" Air Release/Vac Valve Assembly w/ 4' MH	EA	13	$	$
11.	Miscellaneous Concrete	CY	30	$	$
12.	Select Fill	CY	500	$	$
13.	Remove & Reinstall 6' Chain Link Fence	LF	130	$	$
14.	Class B Rip Rap Lining w/ Geotextile Underlayment	TN	192	$	$
15.	Gravel Driveway Repair	SY	720	$	$
16.	Asphalt Driveway Repair	SY	208	$	$
17.	Asphalt Road Repair (NCDOT)	SY	545	$	$
18.	NCDOT 1.5" Roadway Milling	SY	1,445	$	$
19.	NCDOT 2" Overlay	SY	1,445	$	$
20	NCDOT Positive Shoring (78” Depth)	LF	468		
21.	Excelsior Matting	LF	12,071	$	$
22.	Silt Fence	LF	4,299	$	$
23.	Inlet Protection	EA	23	$	$
24.	Outlet Protection	EA	11	$	$
25.	Fiber Roll Check Dams	EA	28	$	$
26.	Clearing & Grubbing	AC	2.1	$	$
27.	Seeding & Mulching	AC	18	$	$

Section B Southwest Wastewater 20” Force Main Total Unit Price Base Bid **$** _____

_____

Write Out Total Unit Price Base Bid in Words

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

ADDITIVE ALTERNATE

1. Construction of new precast extended wet well, bypass pumping, and additional piping including epoxy coating of wet well.

   A. Extended Wet Well Construction $ _____

   B. Bypass Pumping for Construction of Extended Wet Well $ _____

Total Additive Alternate **$** _____

_____

Write Out Total Additive Alternate in Words

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
TOTAL BID PRICE SUMMARY

BASE BID SECTION A **$_____**

UNIT PRICE BID SECTION B **$_____**

TOTAL BASE BID SECTION A + UNIT PRICE SECTION B **$_____**

_____

WRITE OUT TOTAL BID IN WORDS

ADDITIVE ALTERNATE NO. 1
PRECAST CONCRETE EXTENDED WET WELL **$_____**

_____

WRITE OUT TOTAL ADDITIVE ALTERNATE IN WORDS

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

All specified cash allowances are included in the price(s) set forth above and have been computed in accordance with Paragraph 13.02 of the General Conditions.

Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete within **360** calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **390** calendar days after the date when the Contract Times commence to run.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security;

B. List of Proposed Subcontractors;

C. List of Proposed Suppliers;

D. List of Project References;

E. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

F. Contractor's License No.: _____.

G. Documentation required by the NC Division of Water Infrastructure MBE/WBE (DBE) Guidelines.

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

_____

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

_____

_____

_____

Telephone Number: _____

Fax Number: _____

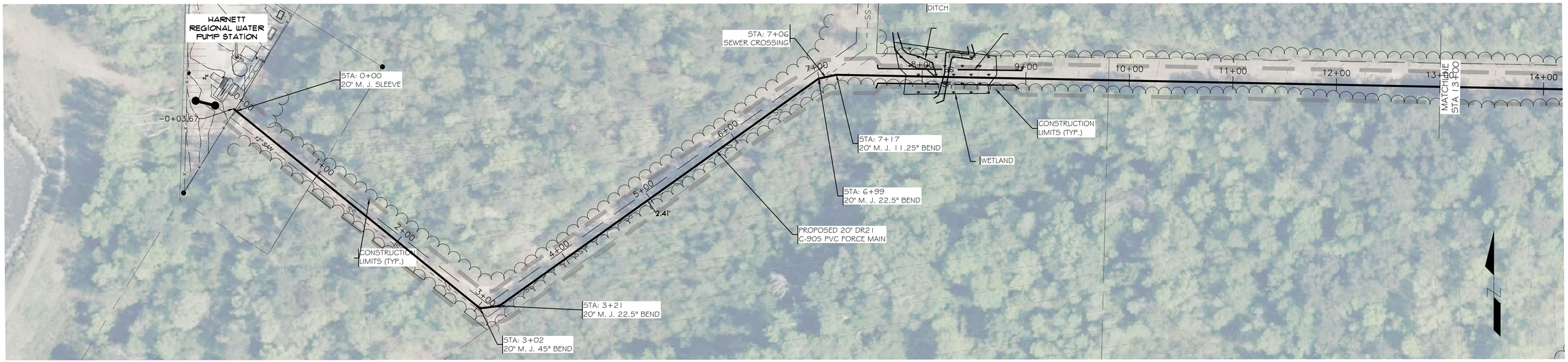
Contact Name and e-mail address: _____

_____

Bidder's License No.: _____
(where applicable)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers. All rights reserved.



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND	
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH	
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS	
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE	
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING	
EXIST. WATER LINE	NEW VALVE	FIBER ROLL	
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION	
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION	
EXIST. COMM LINE	EXIST. MANHOLE		
EXIST. FIBER OPTIC			
OVERHEAD ELEC.			
CHAIN LINK FENCE			

GENERAL NOTES:

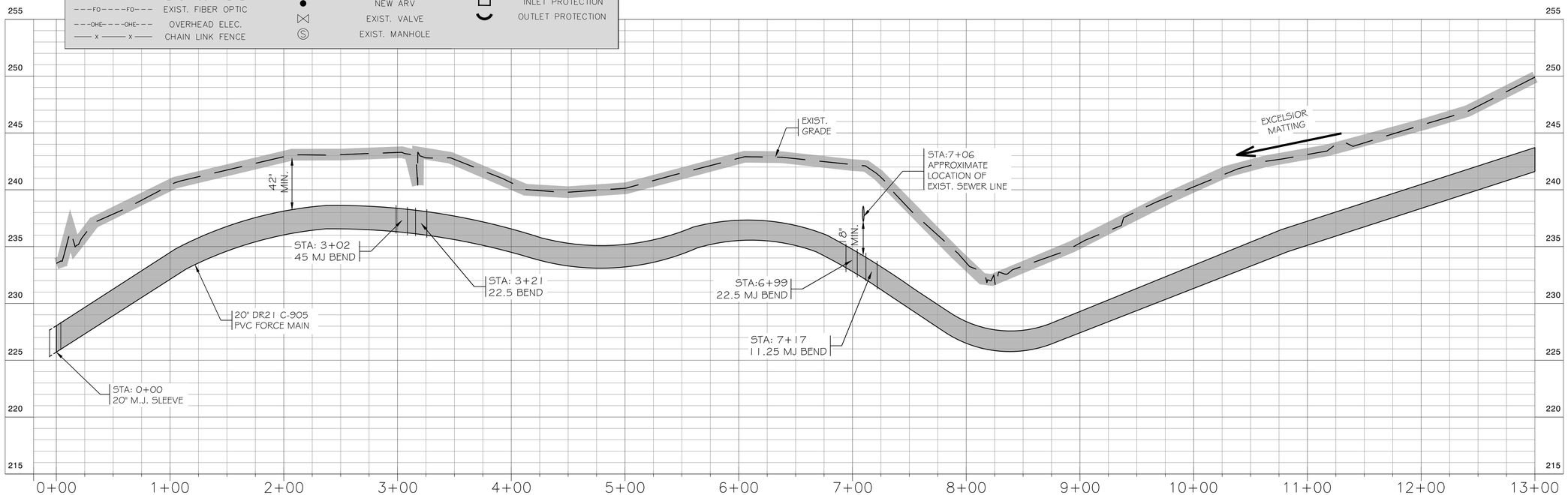
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.
7. TEMPORARY SHORING DESIGN TO BE SUBMITTED TO NCDOT GEOTECHNICAL OPERATIONS ENGINEER AND REQUIRED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 25 (IN FEET) 1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049447 ENGINEER CHARLES McCOLGIN 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 0+00 TO 13+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

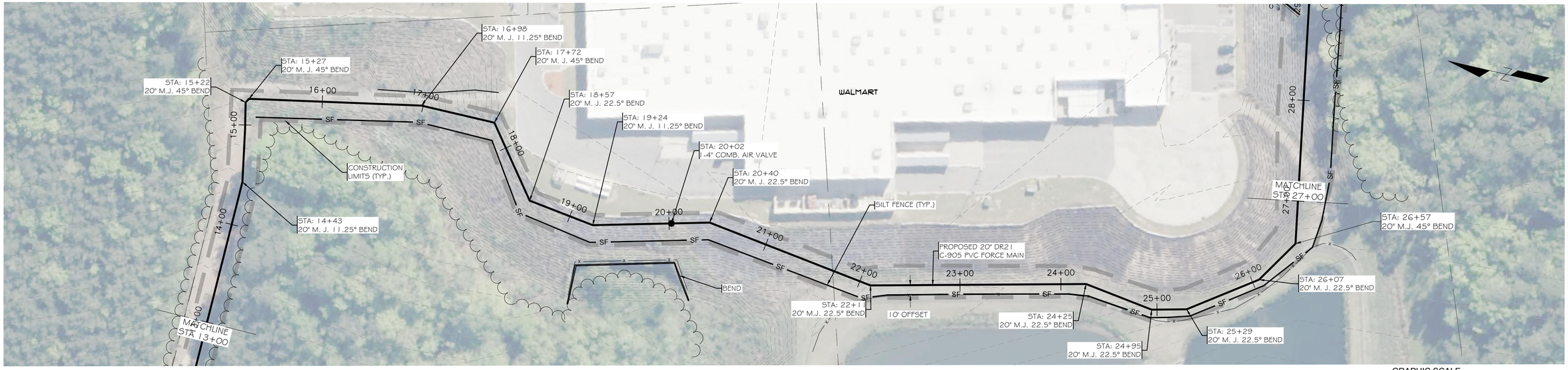
Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-1

Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:42:09pm



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND	
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH	
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS	
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE	
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING	
EXIST. WATER LINE	NEW VALVE	FIBER ROLL	
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION	
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION	
EXIST. COMM LINE	EXIST. MANHOLE		
EXIST. FIBER OPTIC			
OVERHEAD ELEC.			
CHAIN LINK FENCE			

20" FORCE MAIN PLAN AND PROFILE

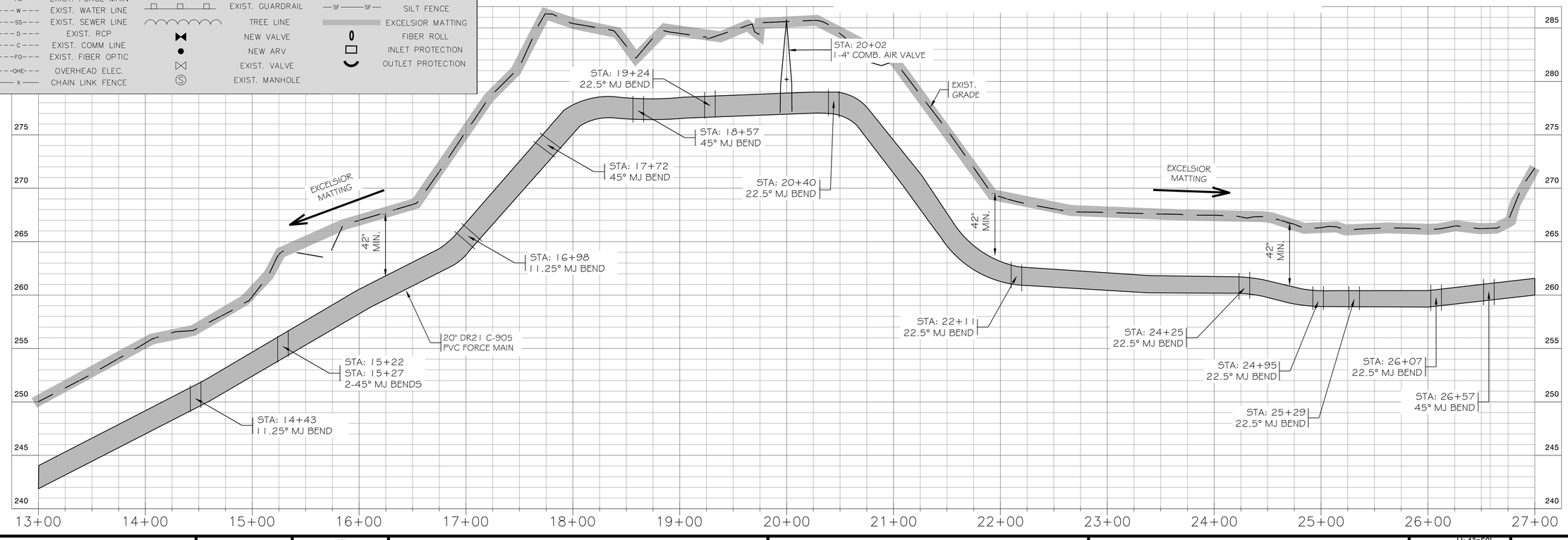
GENERAL NOTES:

1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL
50 0 25 50
(IN FEET)
1 inch = 50 ft.

VERTICAL
6 2.5 0
(IN FEET)
1 inch = 5 ft.



COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:42:29pm

REVISIONS

BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049019 ENGINEER CHARLES McCOLL 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

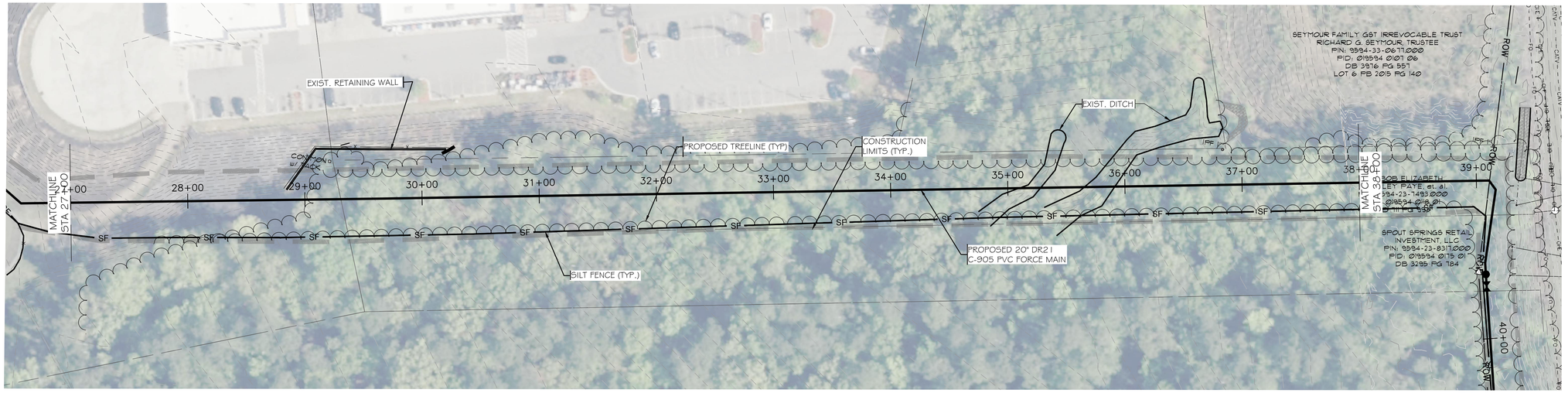
20" FORCE MAIN
PLAN AND PROFILE
STA 13+00 TO 27+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-2

Of: - Version: 1



LEGEND

ROW / PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
NEW EASEMENT	EXIST. DIRT ROAD	**EROSION CONTROLS**
NEW FORCE MAIN	EXIST. GUARDRAIL	SF SILT FENCE
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
EXIST. WATER LINE	NEW VALVE	FIBER ROLL
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
EXIST. COMM LINE	EXIST. MANHOLE	
EXIST. FIBER OPTIC		
OVERHEAD ELEC.		
CHAIN LINK FENCE		

20" FORCE MAIN PLAN AND PROFILE

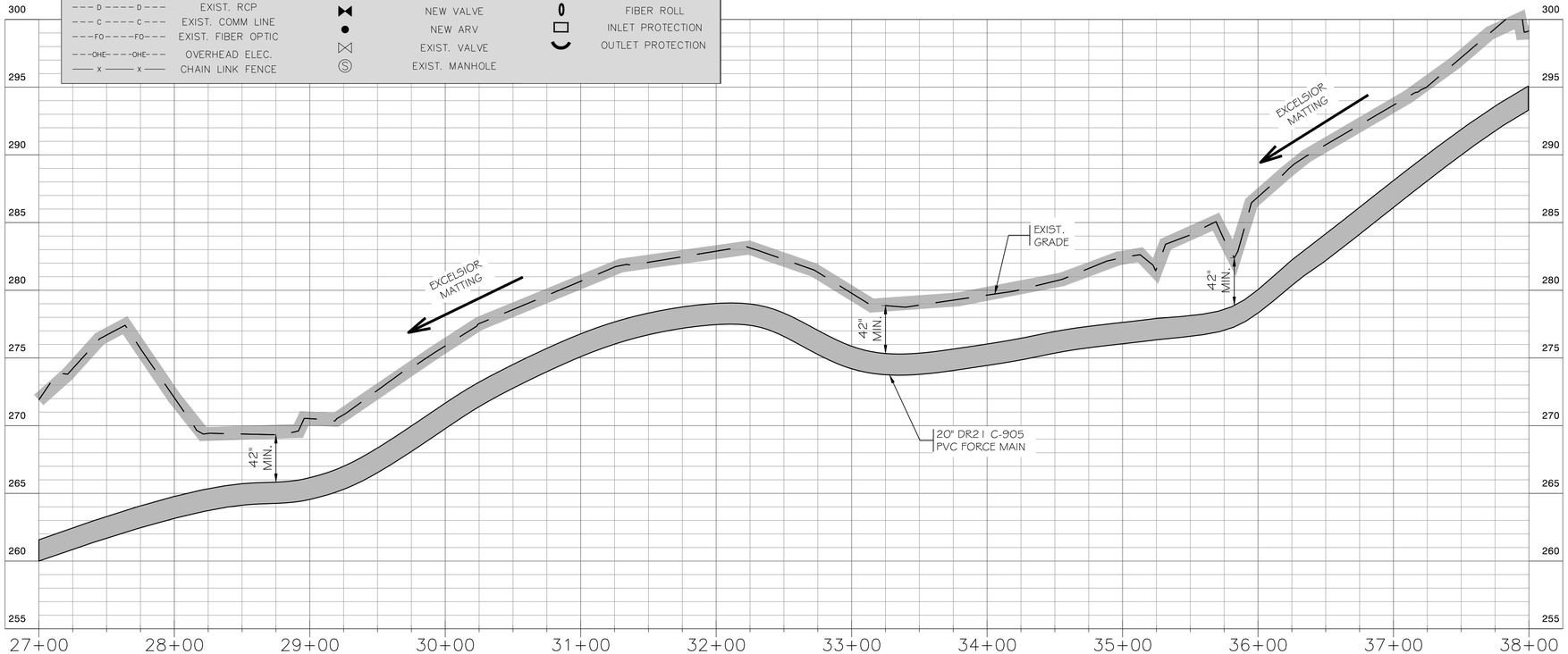
GENERAL NOTES:

1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 2.5 5 (IN FEET) 1 inch = 5 ft.



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049861 ENGINEER KYLE R. PARKER CHARLES McCOLLUM 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 27+00 TO 38+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

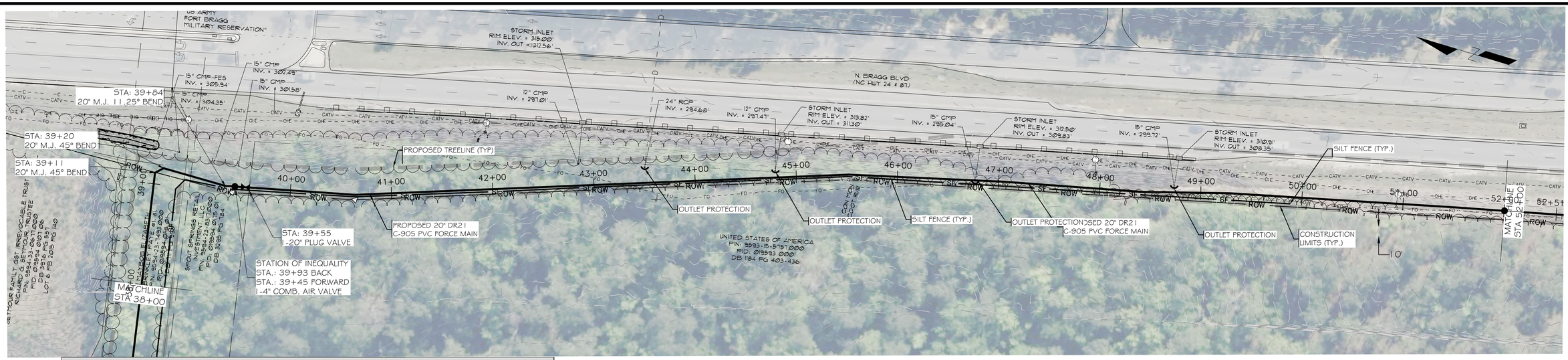
Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-3

Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:42:51pm



LEGEND

ROW	ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
STC ROW	STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
NEW EASEMENT	NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
NEW FORCE MAIN	NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE
FM	EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
W	EXIST. WATER LINE	NEW VALVE	FIBER ROLL
SS	EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
D	EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
C	EXIST. COMM LINE	EXIST. MANHOLE	
FO	EXIST. FIBER OPTIC		
OHE	OVERHEAD ELEC.		
X	CHAIN LINK FENCE		

NOTES:

1. CONTRACTOR SHALL REMOVE TREES WITHIN LIMITS OF DISTURBANCE AS NEEDED FOR FORCE MAIN INSTALLATION. LIMITS OF DISTRBANCE SHALL BE FROM EDGE OF PAVEMENT TO ROAD RIGHT-OF-WAY LINE.
2. IF 10' HORIZONTAL SEPARATION IS NOT AVAILABLE, THE SEWER FORCE MAIN SHALL BE INSTALLED WITH A MINIMUM VERTICAL SEPARATION OF 18 INCHES FROM THE TOP OF THE SEWER FORCE MAIN TO THE BOTTOM OF THE FIBER OPTIC LINE. CONTRACTOR SHALL COORDINATE WITH FO PROVIDER TO ENSURE NO DAMAGE TO CABLE DURING FM INSTALLATION.

GENERAL NOTES:

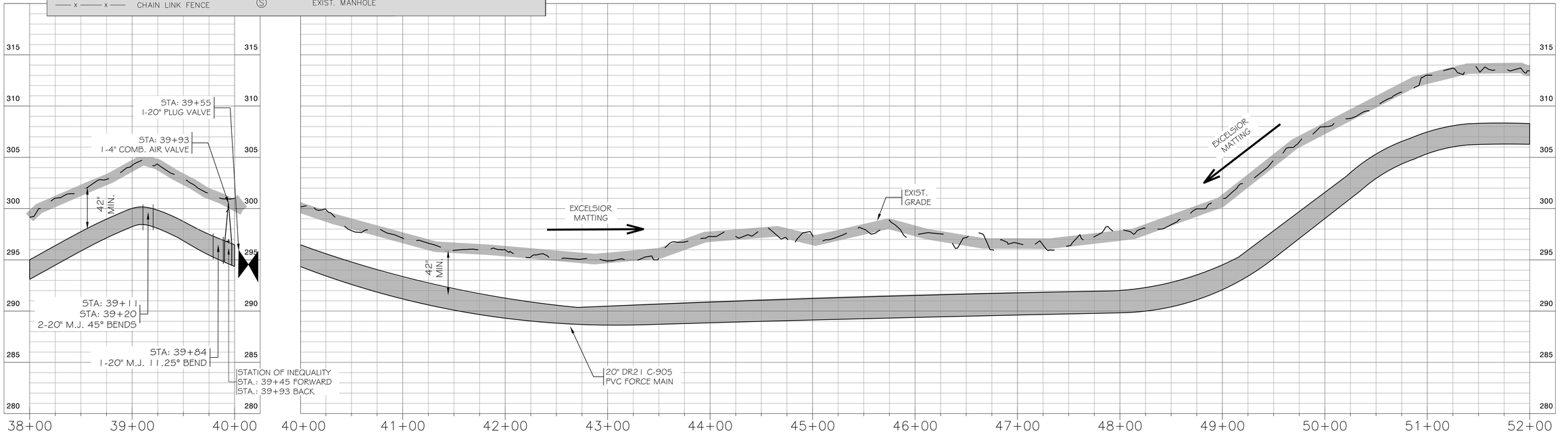
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 25 0 (IN FEET) 1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



COPYRIGHT 2013 WESTON & SAMPSON

Monday, Oct 26, 2026 - 10:21:34am

REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 042911 ENGINEER CHARLES McGOUGH 10.26.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

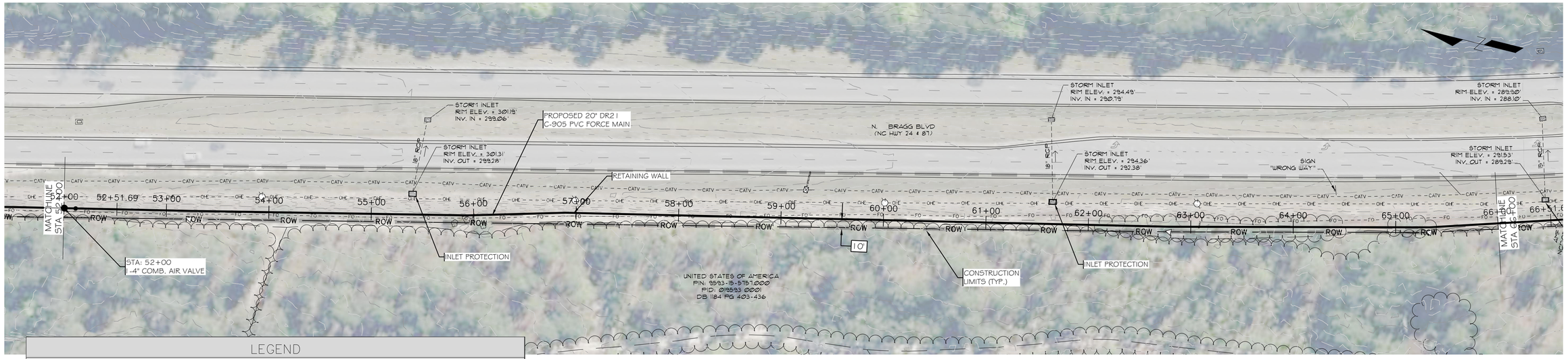
20" FORCE MAIN
PLAN AND PROFILE
STA 38+00 TO 52+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-4

Of: - Version: 1



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND	
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH	
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS	
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE	
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING	
EXIST. WATER LINE	NEW VALVE	FIBER ROLL	
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION	
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION	
EXIST. COMM LINE	EXIST. MANHOLE		
EXIST. FIBER OPTIC			
OVERHEAD ELEC.			
CHAIN LINK FENCE			

NOTES:

1. IF 10' HORIZONTAL SEPARATION IS NOT AVAILABLE, THE SEWER FORCE MAIN SHALL BE INSTALLED WITH A MINIMUM VERTICAL SEPARATION OF 18 INCHES FROM THE TOP OF THE SEWER FORCE MAIN TOT THE BOTTOM OF THE FIBER OPTIC LINE. CONTRACTOR SHALL COORDINATE WITH FO PROVIDER TO ENSURE NO DAMAGE TO CABLE DURING FM INSTALLATION.

GENERAL NOTES:

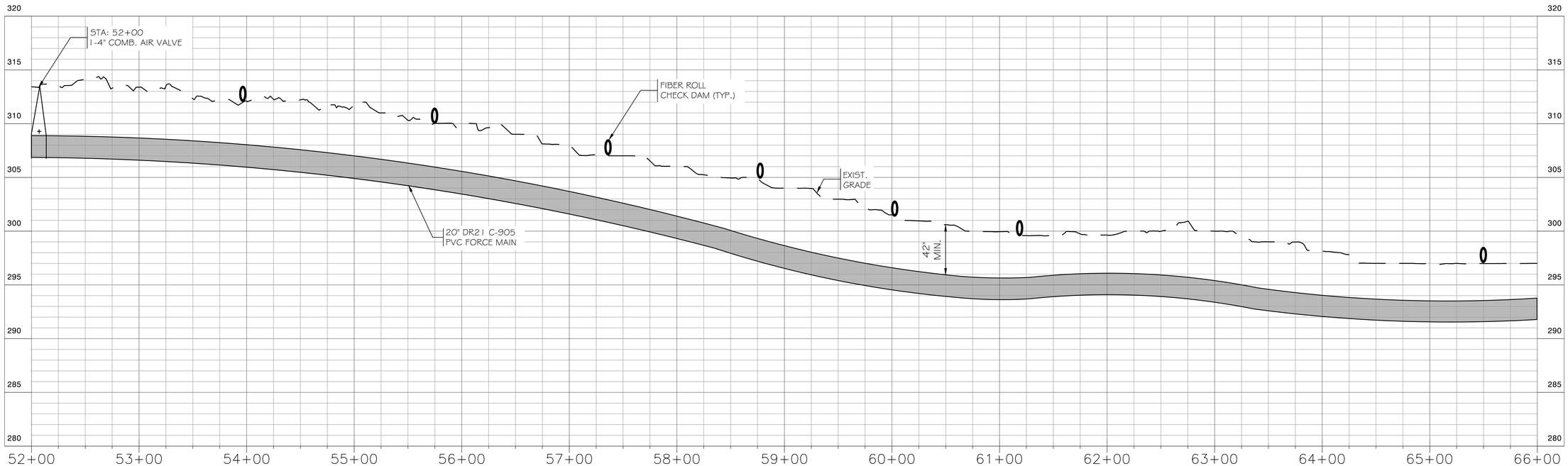
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL
50 0 25 50
(IN FEET)
1 inch = 50 ft.

VERTICAL
0 2.5
(IN FEET)
1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049102 ENGINEER CHARLES McGOLDRICK 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 52+00 TO 66+00

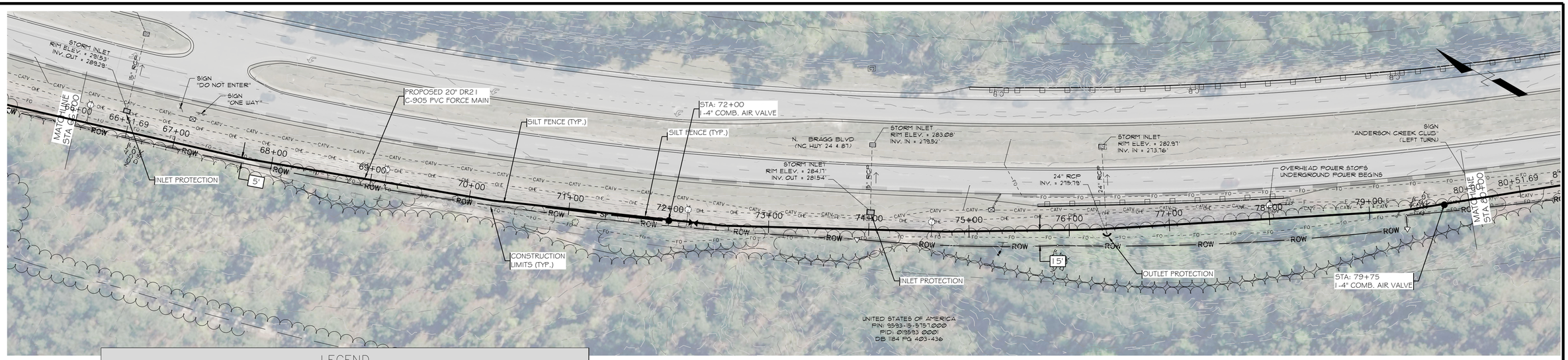
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-5
Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:43:39pm



LEGEND

ROW	ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
	STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
	NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
	NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE
FM	EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
W	EXIST. WATER LINE	NEW VALVE	FIBER ROLL
SS	EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
D	EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
C	EXIST. COMM LINE	EXIST. MANHOLE	
FO	EXIST. FIBER OPTIC		
OHE	OVERHEAD ELEC.		
X	CHAIN LINK FENCE		

GENERAL NOTES:

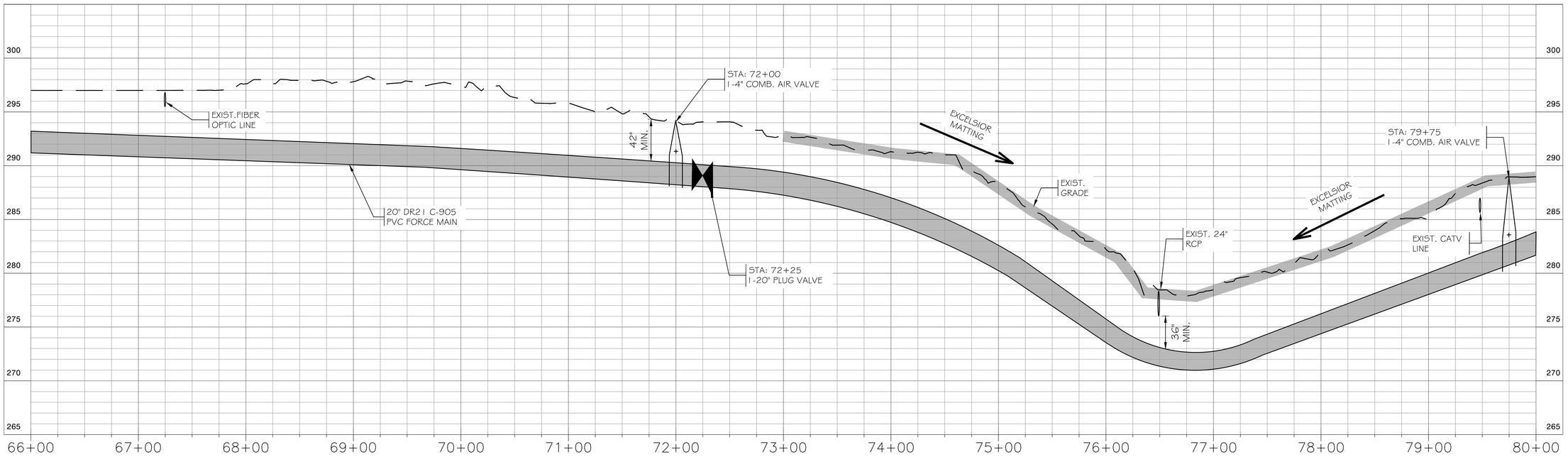
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL
50 0 25 50
(IN FEET)
1 inch = 50 ft.

VERTICAL
0 25 50
(IN FEET)
1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049471 ENGINEER CHARLES McCOLLUM
10.24.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 66+00 TO 80+00

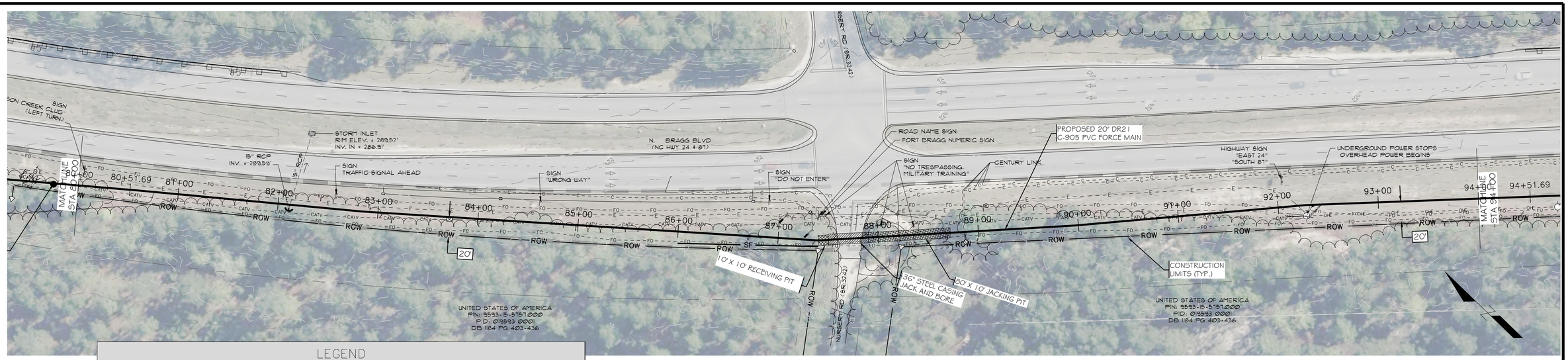
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-6
Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Monday, Oct 26, 2026 - 10:23:14am



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND	
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH	
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS	
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE	
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING	
EXIST. WATER LINE	NEW VALVE	FIBER ROLL	
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION	
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION	
EXIST. COMM LINE	EXIST. MANHOLE		
EXIST. FIBER OPTIC			
OVERHEAD ELEC.			
CHAIN LINK FENCE			

GENERAL NOTES:

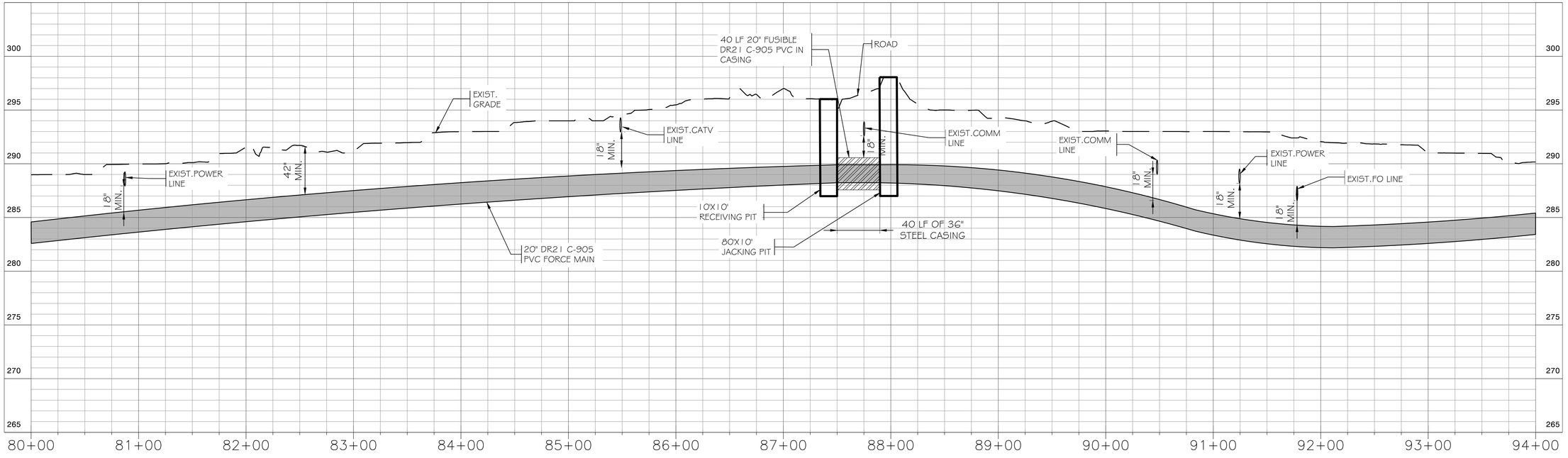
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL
50 0 25 50
(IN FEET)
1 inch = 50 ft.

VERTICAL
0 2.5 5
(IN FEET)
1 inch = 5 ft.

20" FORCE MAIN
PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 025946 ENGINEER CHARLES McGOUGH 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 80+00 TO 94+00

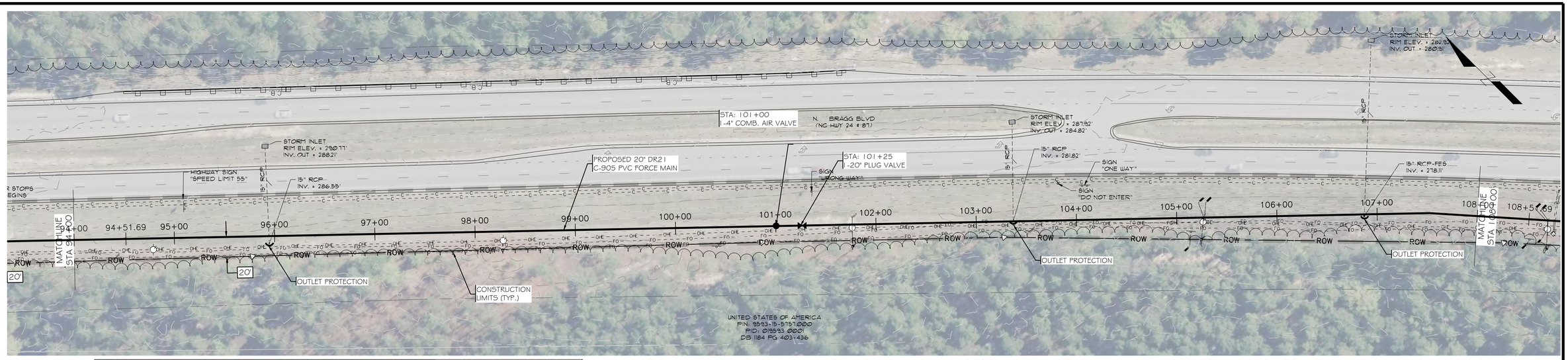
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-7
Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:44:29pm



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND	
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH	
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS	
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE	
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING	
EXIST. WATER LINE	NEW VALVE	FIBER ROLL	
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION	
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION	
EXIST. COMM LINE	EXIST. MANHOLE		
EXIST. FIBER OPTIC			
OVERHEAD ELEC.			
CHAIN LINK FENCE			

GENERAL NOTES:

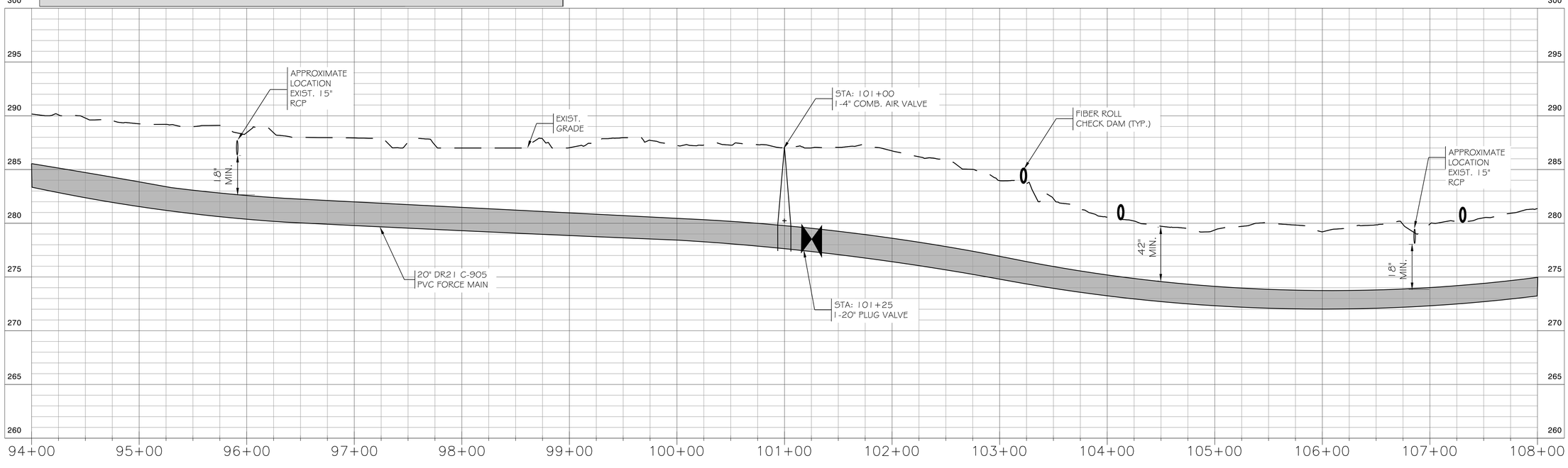
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 — (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 2.5 5 — (IN FEET) 1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049750 ENGINEER CHARLES McGOUGH 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 94+00 TO 108+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

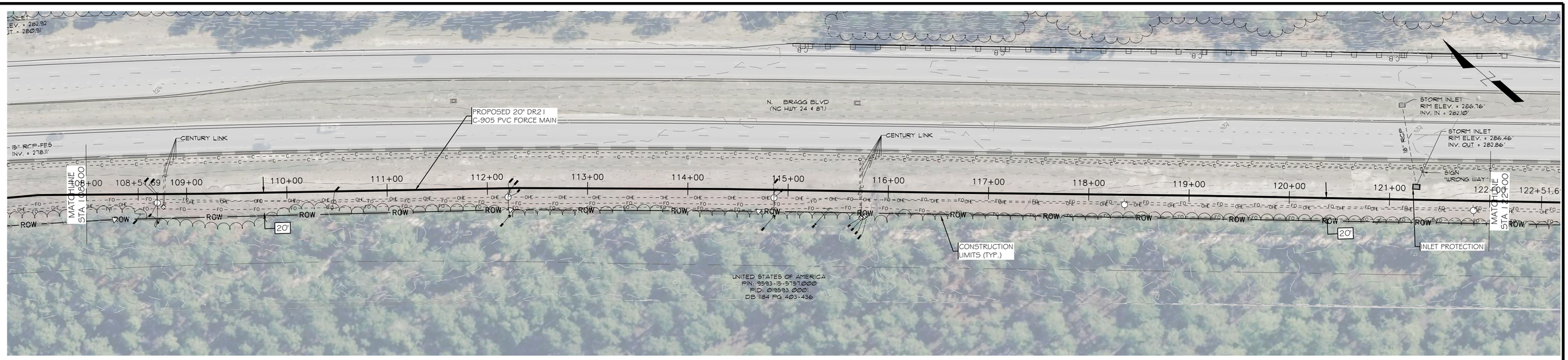
Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-8

Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:44:50pm



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
EXIST. WATER LINE	NEW VALVE	FIBER ROLL
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
EXIST. COMM LINE	EXIST. MANHOLE	
EXIST. FIBER OPTIC		
OVERHEAD ELEC.		
CHAIN LINK FENCE		

20" FORCE MAIN PLAN AND PROFILE

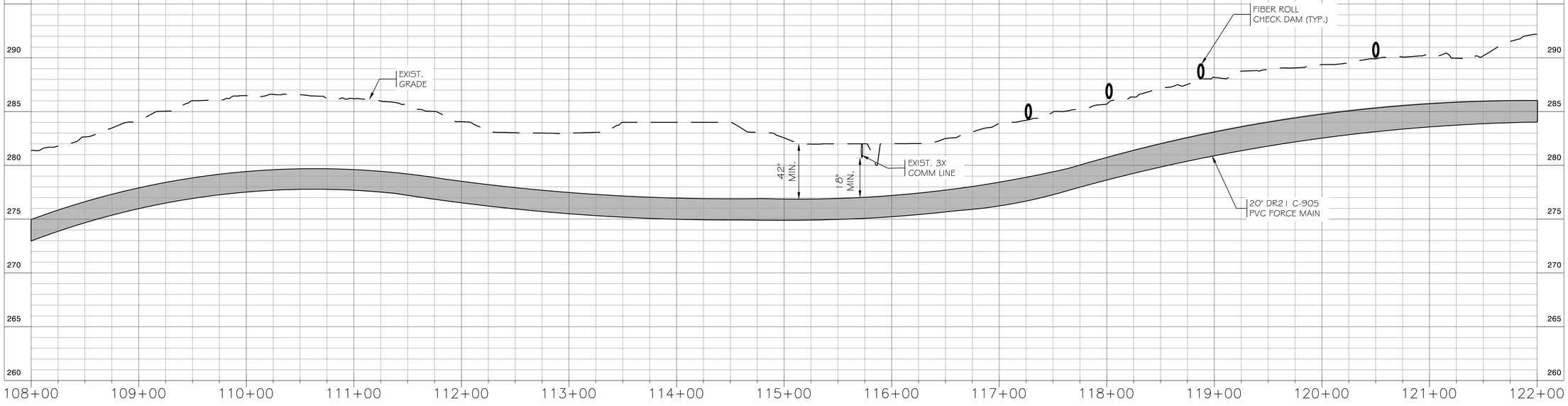
GENERAL NOTES:

1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 — (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 25 50 — (IN FEET) 1 inch = 5 ft.



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 76394 ENGINEER CHARLES McGOUGH — 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 108+00 TO 122+00

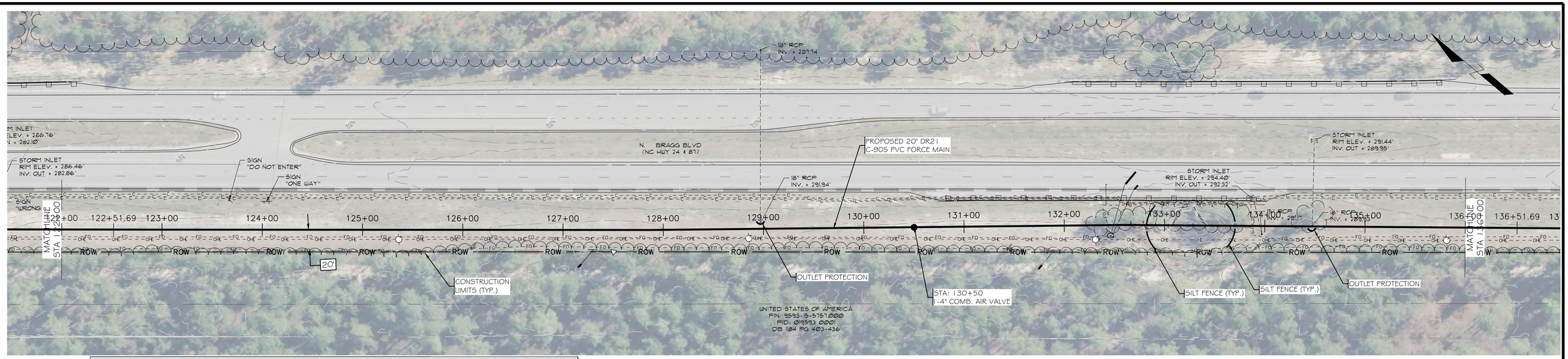
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-9
Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:45:12pm



LEGEND

ROW	ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
	STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
	NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
	NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE
FM	EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
W	EXIST. WATER LINE	NEW VALVE	FIBER ROLL
SS	EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
D	EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
C	EXIST. COMM LINE	EXIST. MANHOLE	
FO	EXIST. FIBER OPTIC		
OHE	OVERHEAD ELEC.		
X	CHAIN LINK FENCE		

GENERAL NOTES:

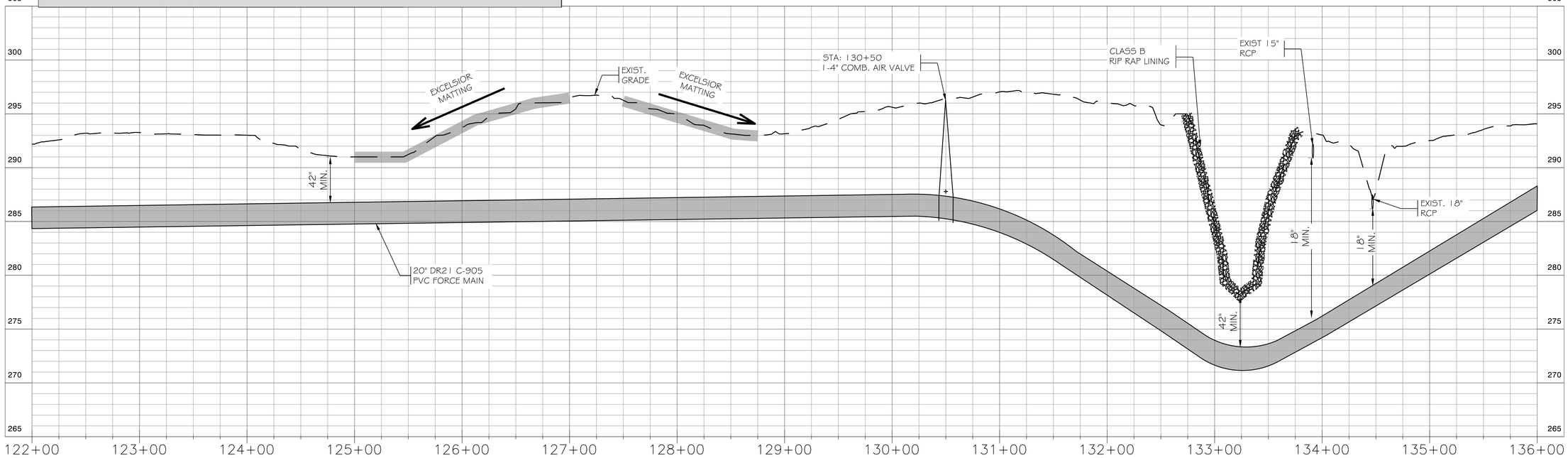
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50
(IN FEET)
1 inch = 50 ft.

VERTICAL: 0 2.5 5
(IN FEET)
1 inch = 5 ft.

20" FORCE MAIN
PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049662 ENGINEER CHARLES McGOLDRICK 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 122+00 TO 136+00

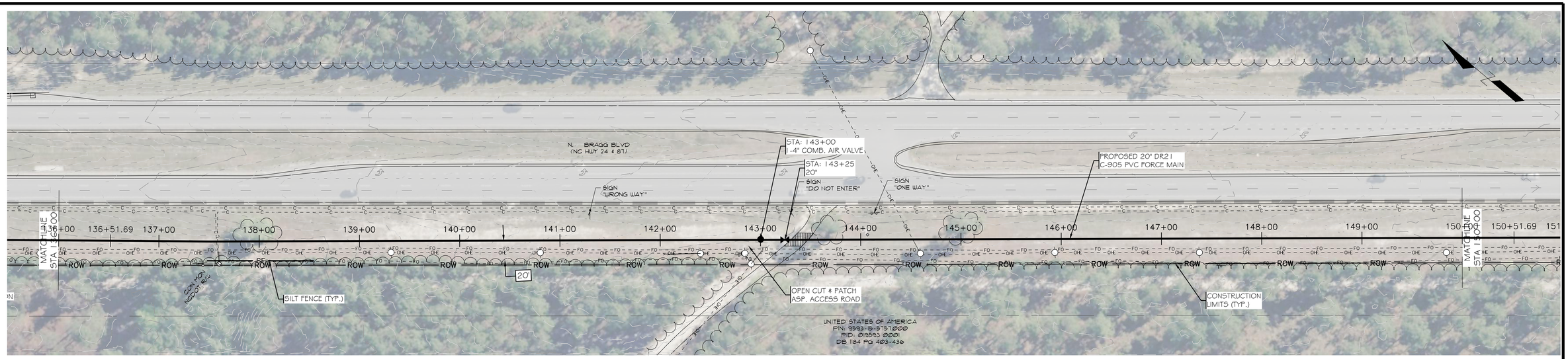
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-10
Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:45:33pm



LEGEND

ROW	ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
STC ROW	STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
NEW EASEMENT	NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
NEW FORCE MAIN	NEW FORCE MAIN	EXIST. GUARDRAIL	SF SILT FENCE SF
FM FM	EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
W W	EXIST. WATER LINE	NEW VALVE	FIBER ROLL
SS SS	EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
D D	EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
C C	EXIST. COMM LINE	EXIST. MANHOLE	
FO FO	EXIST. FIBER OPTIC		
OHE OHE	OVERHEAD ELEC.		
X X	CHAIN LINK FENCE		

GENERAL NOTES:

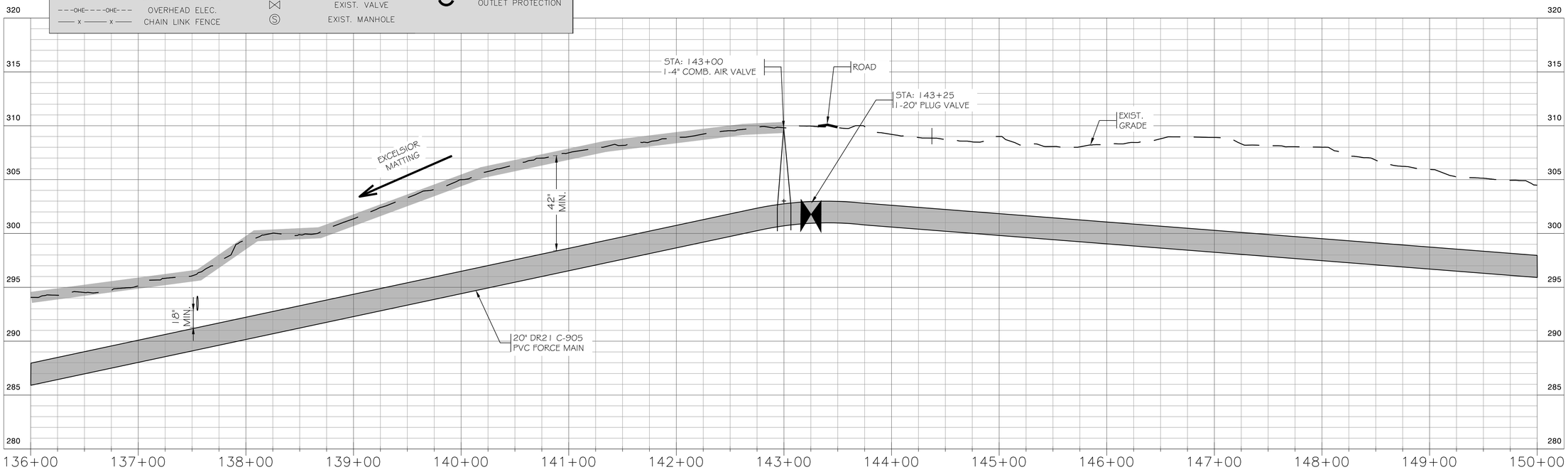
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 2.5 5 (IN FEET) 1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER CHARLES McGOUGH 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 136+00 TO 150+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

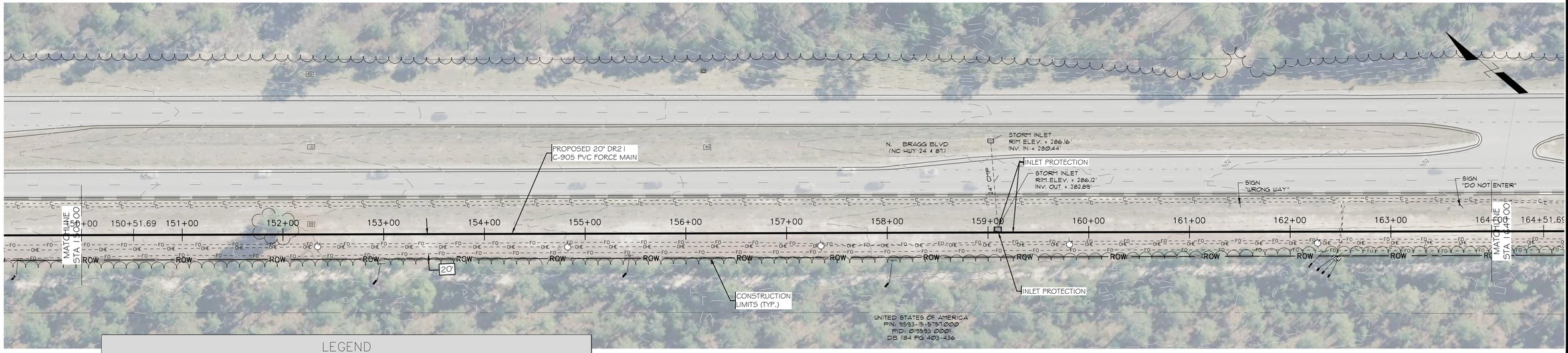
Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-11

Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:54:09pm



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND	
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH	
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS	
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE	SF
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING	
EXIST. WATER LINE	NEW VALVE	FIBER ROLL	0
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION	
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION	
EXIST. COMM LINE	EXIST. MANHOLE		
EXIST. FIBER OPTIC			
OVERHEAD ELEC.			
CHAIN LINK FENCE			

GENERAL NOTES:

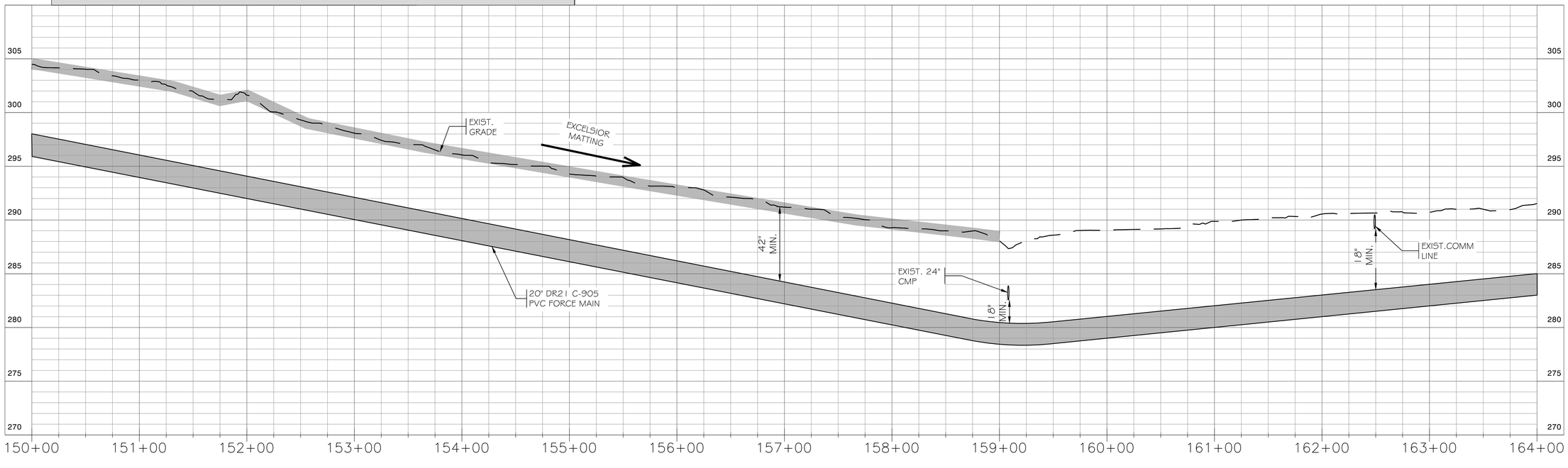
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 25 0 (IN FEET) 1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:54:29pm

REVISIONS

BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049021 ENGINEER CHARLES McGOUGH 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

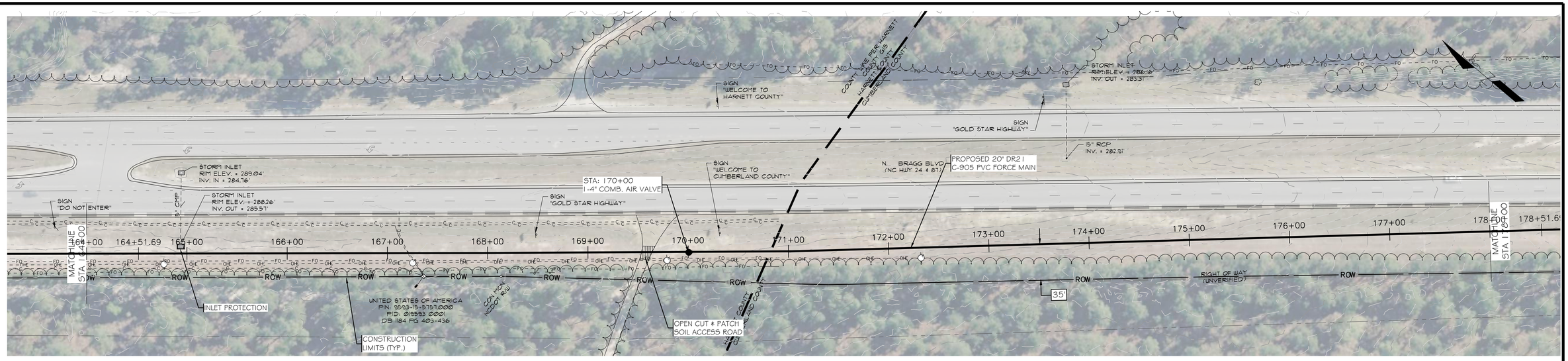
20" FORCE MAIN
PLAN AND PROFILE
STA 150+00 TO 164+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-12

Of: - Version: 1



LEGEND

ROW	ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
STC ROW	STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
NEW EASEMENT	NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
NEW FORCE MAIN	NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE
FM	EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
W	EXIST. WATER LINE	NEW VALVE	FIBER ROLL
SS	EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
D	EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
C	EXIST. COMM LINE	EXIST. MANHOLE	
FO	EXIST. FIBER OPTIC		
OHE	OVERHEAD ELEC.		
X	CHAIN LINK FENCE		

NCDOT NOTE:

1. 13,260 LF 20" FORCE MAIN HARNETT COUNTY
2. 8,199 LF 20" FORCE MAIN CUMBERLAND COUNTY

GENERAL NOTES:

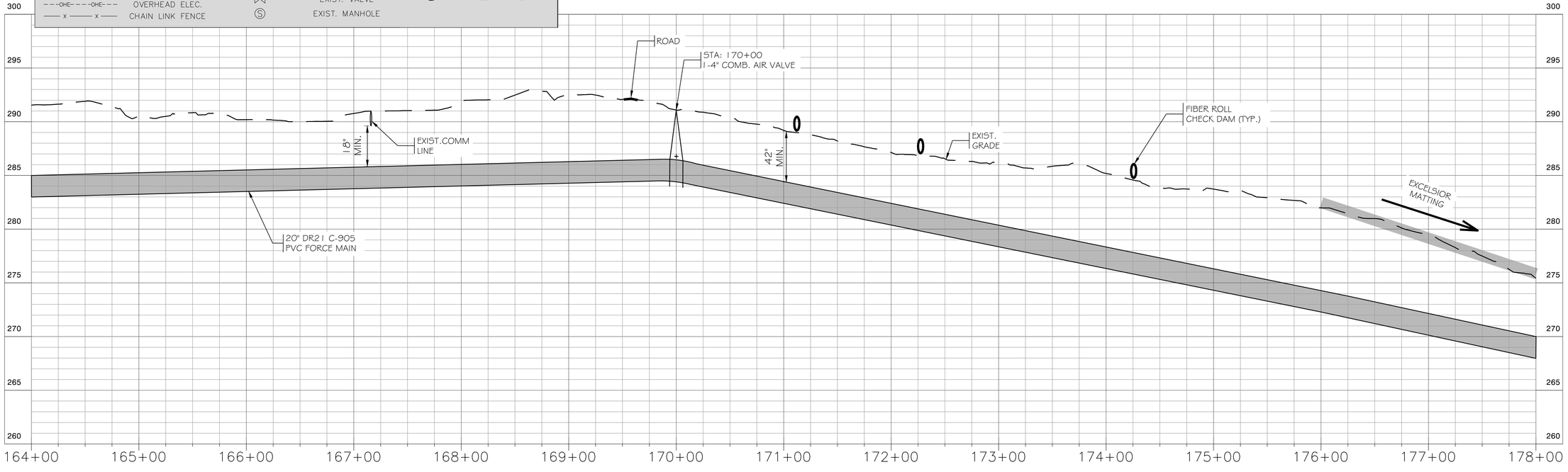
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 2.5 5 (IN FEET) 1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS

BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052846 CHARLES McGOUGH 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 164+00 TO 178+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

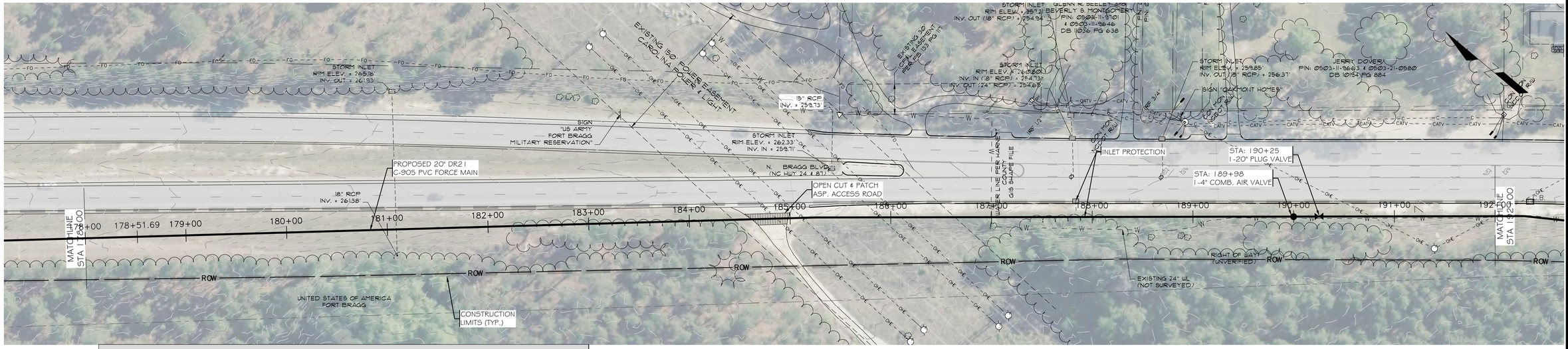
Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-13

Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:54:50pm



LEGEND

ROW	ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
	STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
	NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
	NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE
FM	EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
W	EXIST. WATER LINE	NEW VALVE	FIBER ROLL
SS	EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
D	EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
C	EXIST. COMM LINE	EXIST. MANHOLE	
FO	EXIST. FIBER OPTIC		
OHE	OVERHEAD ELEC.		
X	CHAIN LINK FENCE		

GENERAL NOTES:

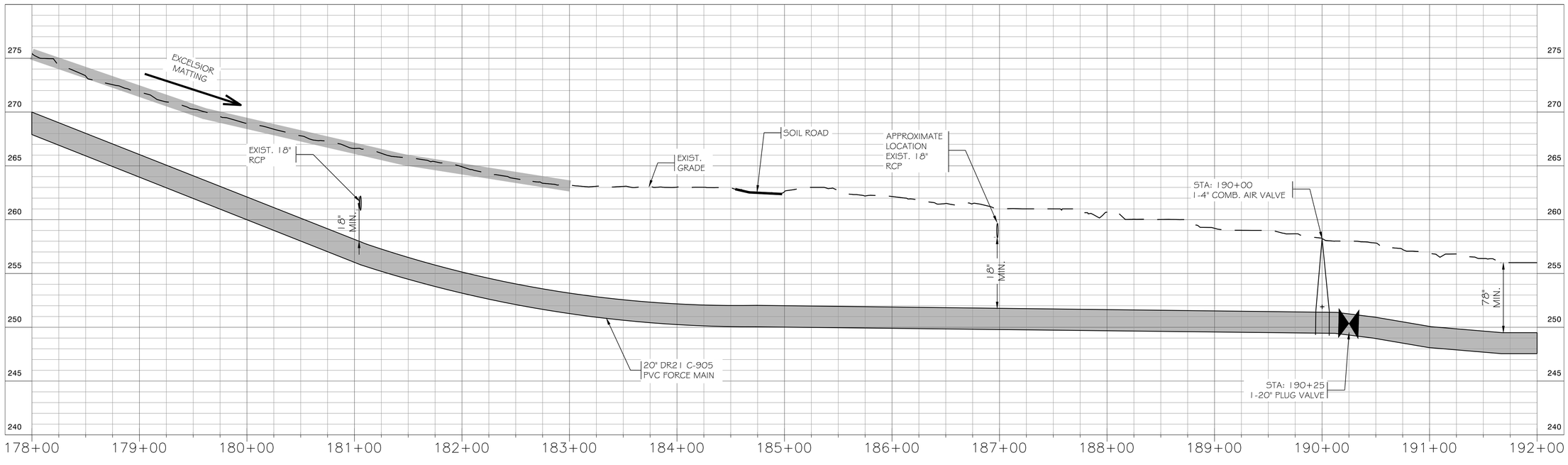
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 2.5 5 (IN FEET) 1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049010 CHARLES McGOUGH 10.26.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 178+00 TO 192+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

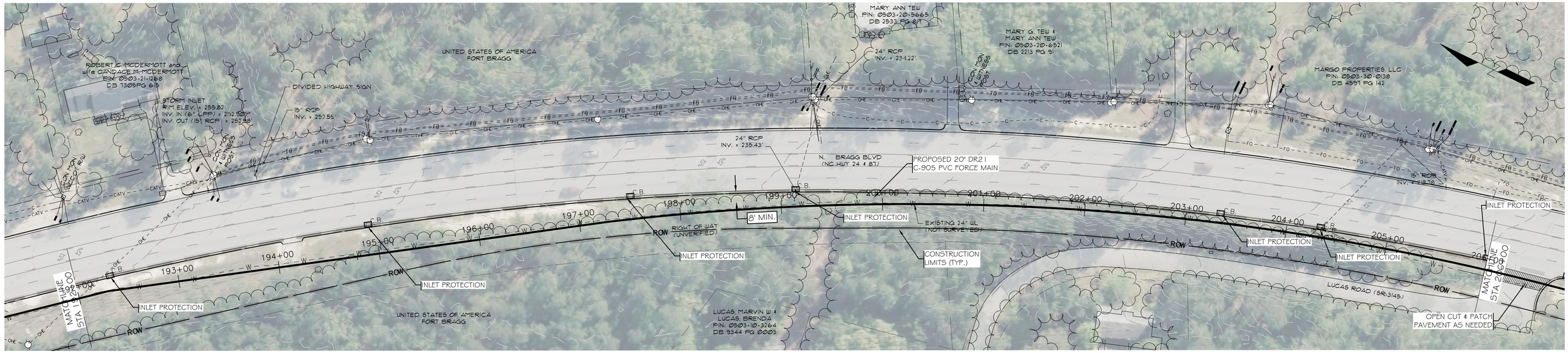
Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-14

Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Monday, Oct 26, 2026 - 10:24:51am



GENERAL NOTES:

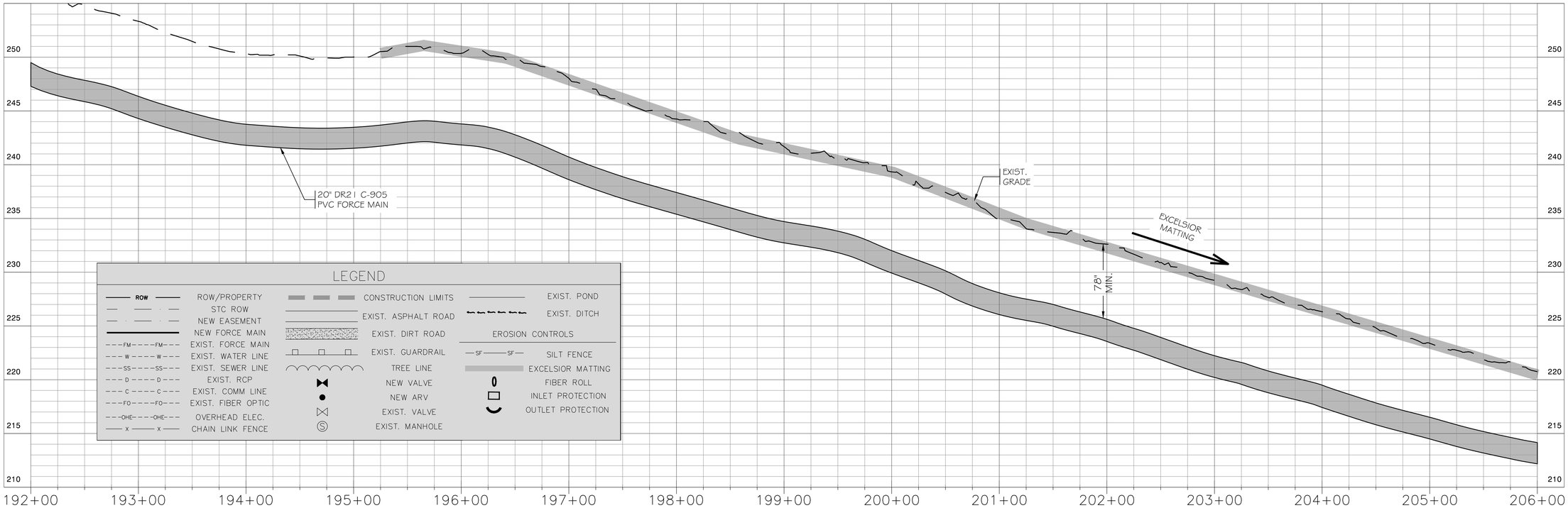
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL
50 0 25 50
(IN FEET)
1 inch = 50 ft.

VERTICAL
0 25
(IN FEET)
1 inch = 5 ft.

20" FORCE MAIN
PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 029942 ENGINEER CHARLES McCOLLUM
10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 192+00 TO 206+00

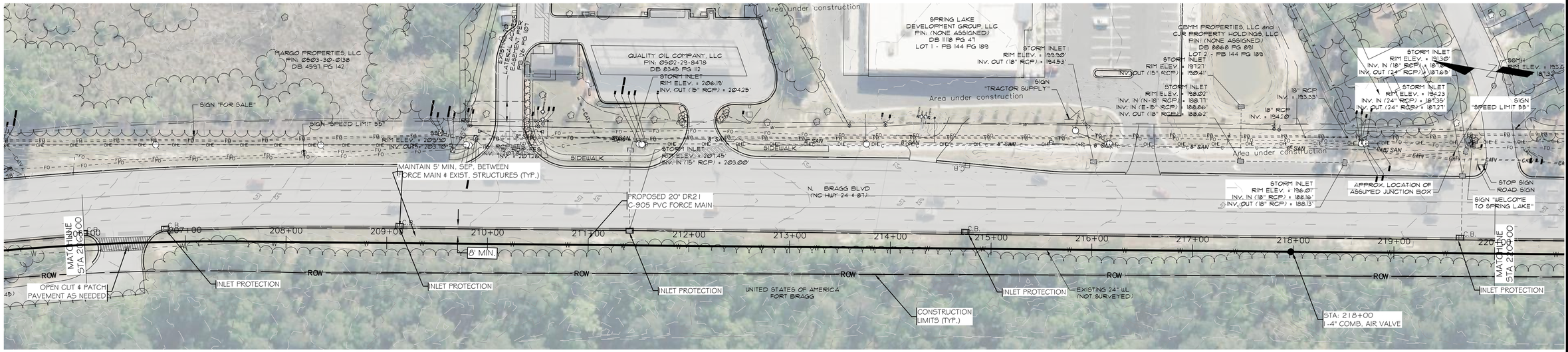
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-15
Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:55:32pm



GENERAL NOTES:

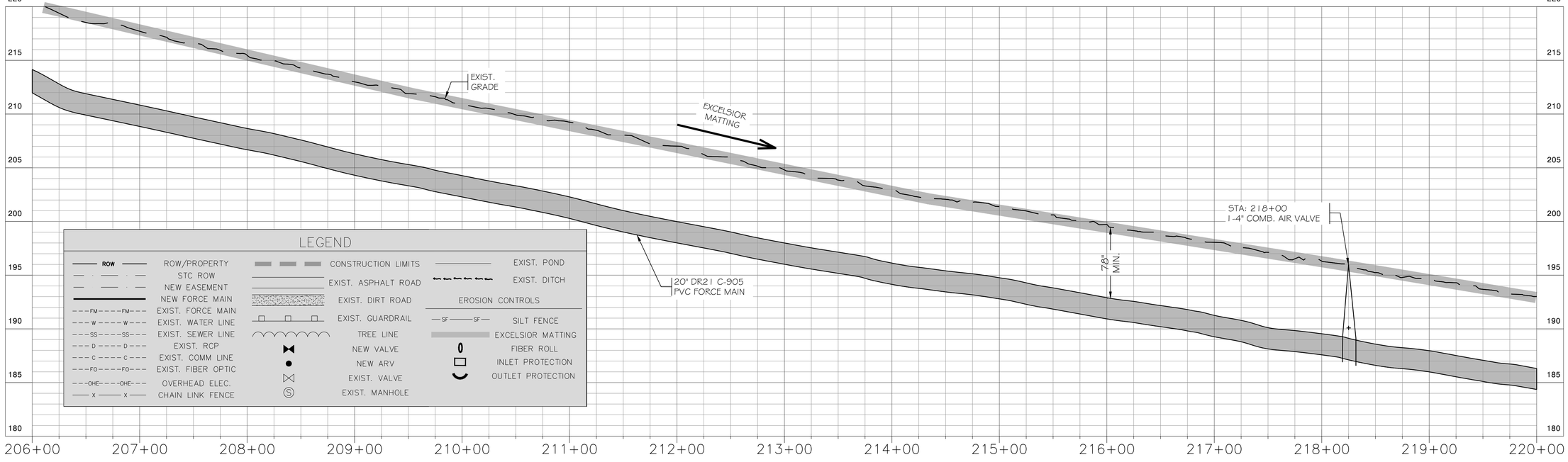
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

HORIZONTAL
50 0 25 50
(IN FEET)
1 inch = 50 ft.

VERTICAL
0 25
(IN FEET)
1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS

BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 045947 ENGINEER CHARLES McCOLLUM
10.26.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 206+00 TO 220+00

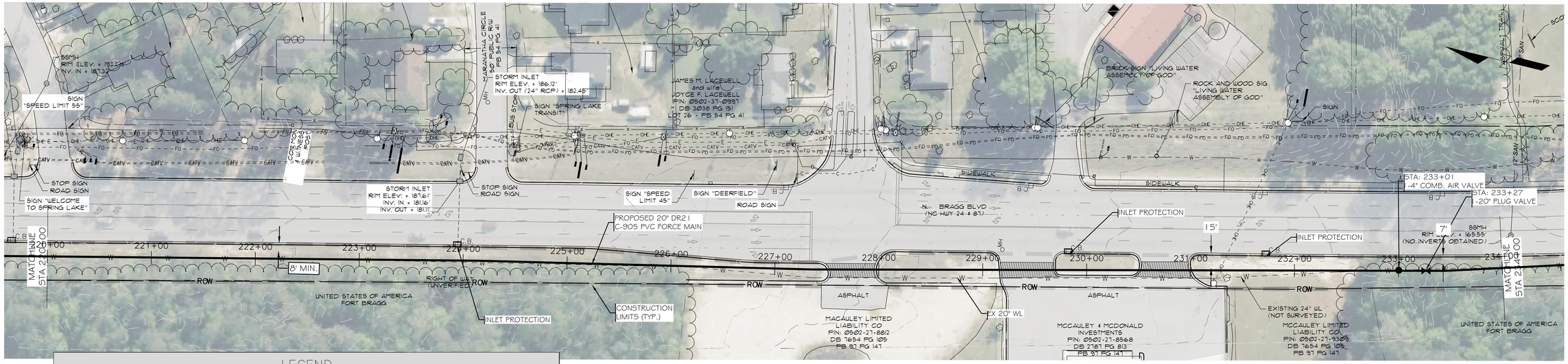
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-16
Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Monday, Oct 26, 2026 - 10:26:24am



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND	
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH	
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS	
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE	SF
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING	
EXIST. WATER LINE	NEW VALVE	FIBER ROLL	
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION	
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION	
EXIST. COMM LINE	EXIST. MANHOLE		
EXIST. FIBER OPTIC			
OVERHEAD ELEC.			
CHAIN LINK FENCE			

GENERAL NOTES:

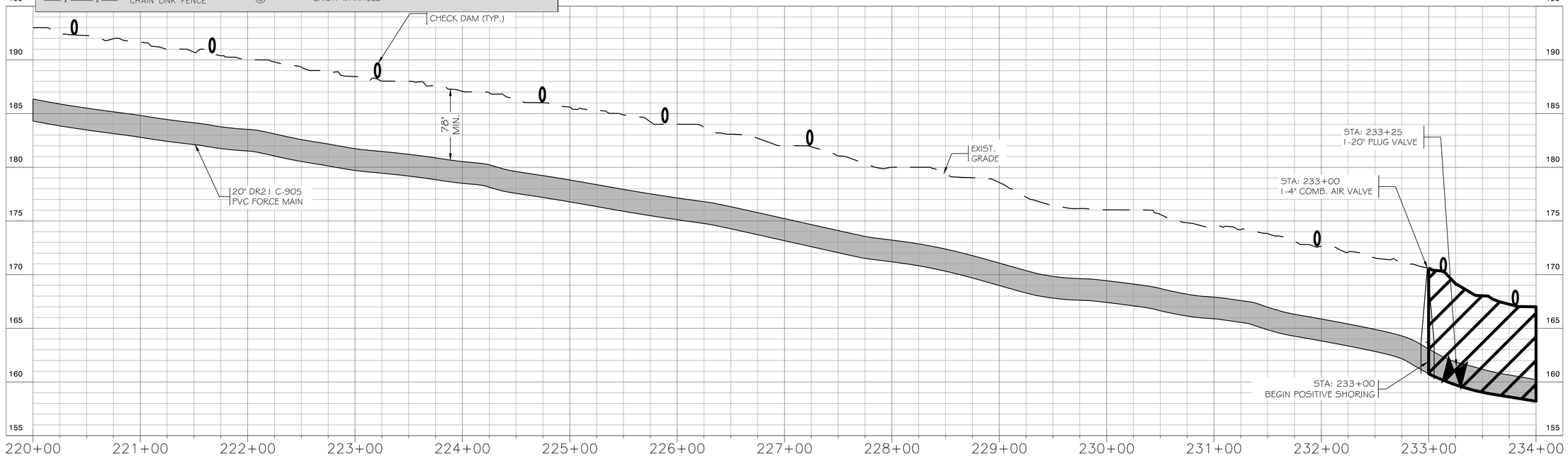
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.
7. TEMPORARY SHORING DESIGN TO BE SUBMITTED TO NCDOT GEOTECHNICAL OPERATIONS ENGINEER AND REQUIRED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION

GRAPHIC SCALE

HORIZONTAL
50 0 25 50
(IN FEET)
1 inch = 50 ft.

VERTICAL
0 2.5 5
(IN FEET)
1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	05/20/26	ADD POSITIVE SHORING LIMITS	2
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 049102 ENGINEER CHARLES McGOUGH
10.28.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 220+00 TO 234+00

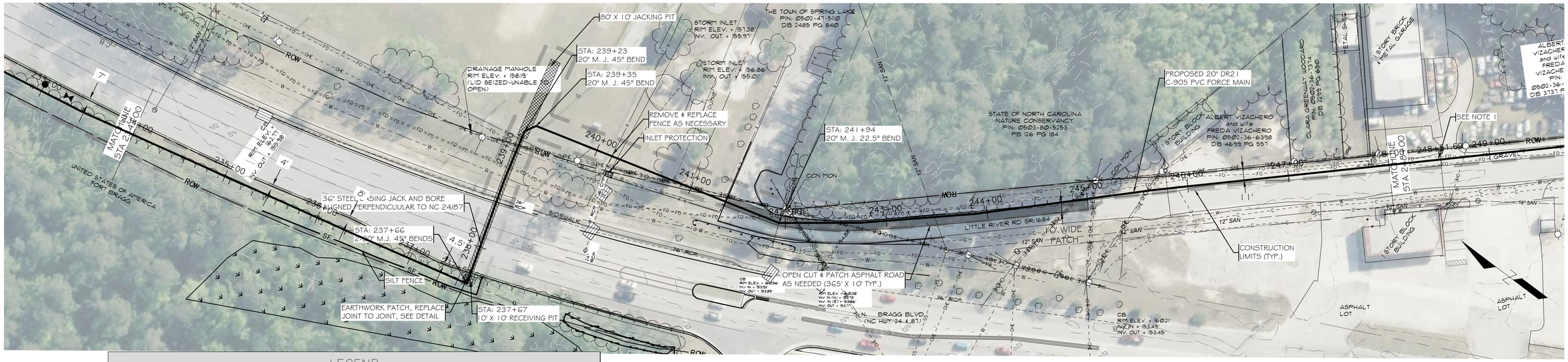
SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-17
Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Monday, Oct 26, 2026 - 10:28:07am



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
EXIST. WATER LINE	NEW VALVE	FIBER ROLL
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
EXIST. COMM LINE	EXIST. MANHOLE	
EXIST. FIBER OPTIC		
OVERHEAD ELEC.		
CHAIN LINK FENCE		

20" FORCE MAIN PLAN AND PROFILE

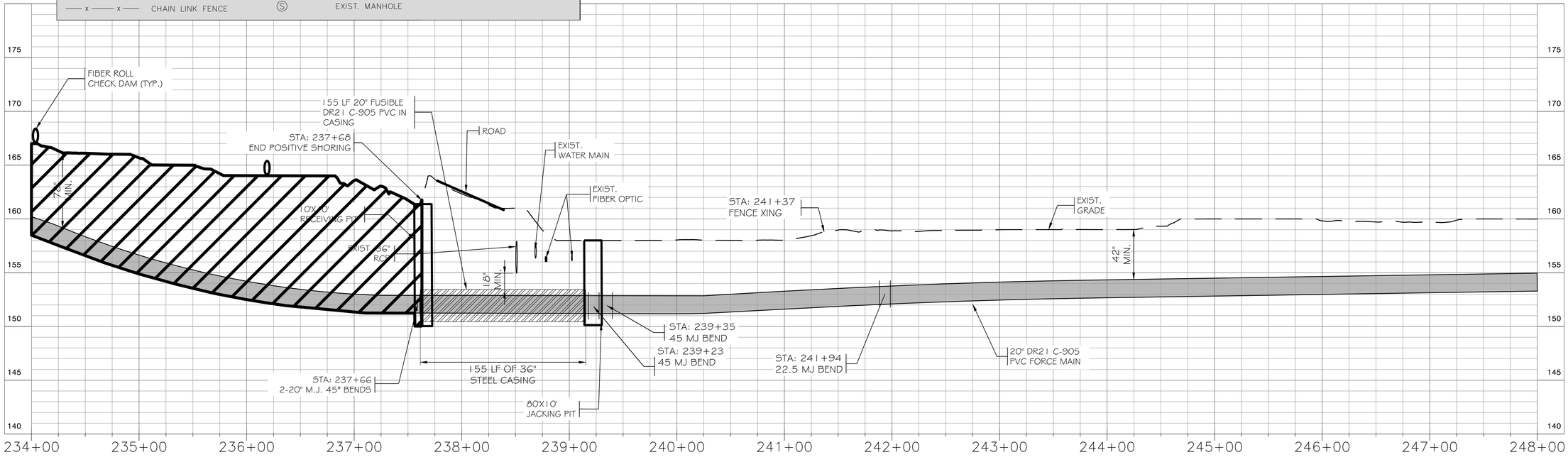
GENERAL NOTES:

1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.
7. TEMPORARY SHORING DESIGN TO BE SUBMITTED TO NCDOT GEOTECHNICAL OPERATIONS ENGINEER AND REQUIRED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 25 (IN FEET) 1 inch = 5 ft.



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	05/20/26	ADD POSITIVE SHORING LIMITS & NOTES	2
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL ENGINEER CHARLES McGOUGH 049944 10.23.26

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 234+00 TO 248+00

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

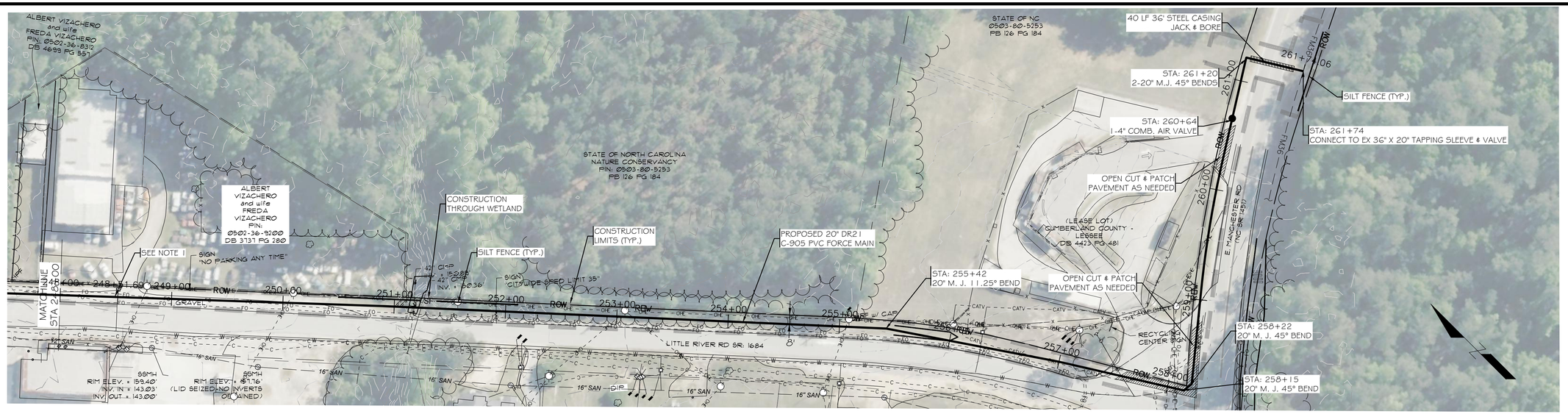
Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-18

Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Tuesday, Oct 20, 2026 - 11:56:36pm



LEGEND

ROW/PROPERTY	CONSTRUCTION LIMITS	EXIST. POND
STC ROW	EXIST. ASPHALT ROAD	EXIST. DITCH
NEW EASEMENT	EXIST. DIRT ROAD	EROSION CONTROLS
NEW FORCE MAIN	EXIST. GUARDRAIL	SILT FENCE
EXIST. FORCE MAIN	TREE LINE	EXCELSIOR MATTING
EXIST. WATER LINE	NEW VALVE	FIBER ROLL
EXIST. SEWER LINE	NEW ARV	INLET PROTECTION
EXIST. RCP	EXIST. VALVE	OUTLET PROTECTION
EXIST. COMM LINE	EXIST. MANHOLE	
EXIST. FIBER OPTIC		
OVERHEAD ELEC.		
CHAIN LINK FENCE		

NOTES:

1. IF 18" HORIZONTAL SEPARATION IS NOT AVAILABLE, THE SEWER FORCE MAIN SHALL BE INSTALLED WITH A MINIMUM VERTICAL SEPARATION OF 18 INCHES FROM THE TOP OF THE SEWER FORCE MAIN TO THE BOTTOM OF THE FIBER OPTIC LINE. CONTRACTOR SHALL COORDINATE WITH FO PROVIDER TO ENSURE NO DAMAGE TO CABLE DURING FM INSTALLATION.

GENERAL NOTES:

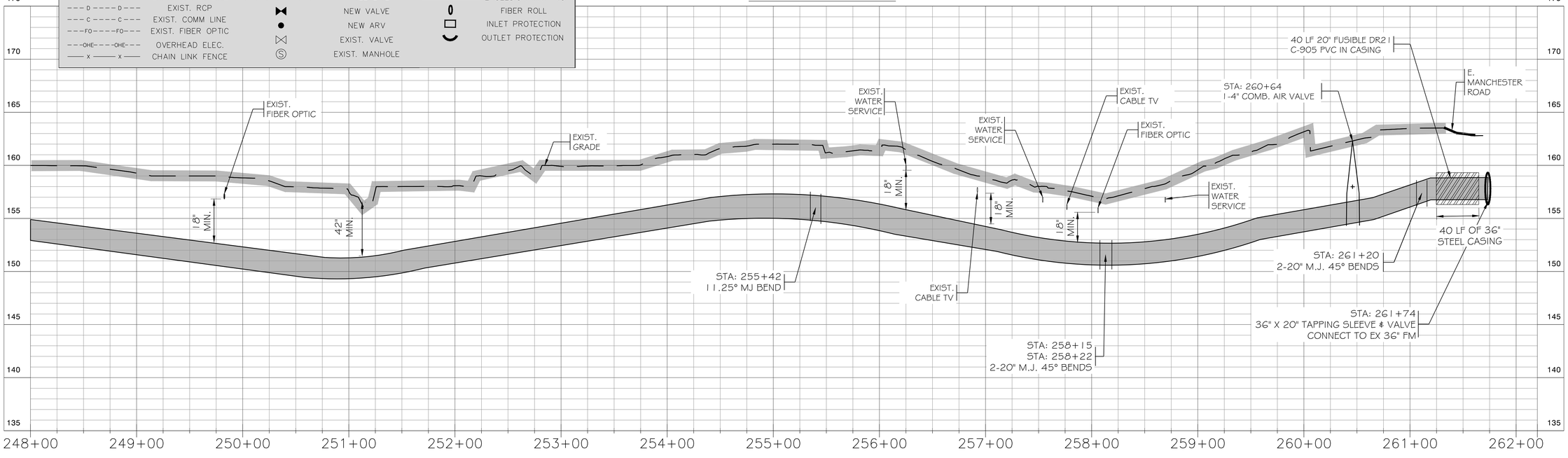
1. EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2. CONTRACTOR SHALL FOLLOW PROPER LOCATING PROCEDURES FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. LIMITS OF CONSTRUCTION ARE AS INDICATED.
4. HARNETT REGIONAL WATER AND ENGINEER ARE TO BE NOTIFIED 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION.
5. TRAFFIC CONTROL DEVICES, AND EROSION CONTROL DEVICES MUST BE IMPLEMENTED PRIOR TO EXCAVATION.
6. ALL PAVED DRIVEWAYS ARE TO BE OPEN AND PATCHED UNLESS OTHERWISE NOTED.
7. TEMPORARY SHORING DESIGN TO BE SUBMITTED TO NCDOT GEOTECHNICAL OPERATIONS ENGINEER AND REQUIRED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION

GRAPHIC SCALE

HORIZONTAL: 50 0 25 50 (IN FEET) 1 inch = 50 ft.

VERTICAL: 0 25 (IN FEET) 1 inch = 5 ft.

20" FORCE MAIN PLAN AND PROFILE



REVISIONS			
BY	DATE	DESCRIPTION	SYM.
	02/06/26	20" FM RELOCATION UPDATE	1
JCM	07/20/26	20" FM RELOCATION UPDATE	
JCM	10/20/26	NOTE/STA. REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 42944 ENGINEER CHARLES McCOLLUM 10-23-2

Weston & Sampson
WSE of North Carolina, PC
340 Commerce Ave., Suite 3
Southern Pines, NC 28387
N.C. License No. C-4647
910.915.8200 800.SAMPSON
www.westonandsampson.com

20" FORCE MAIN
PLAN AND PROFILE
STA 248+00 TO END

SOUTHWEST WASTEWATER PUMP STATION AND FORCE MAIN
HARNETT COUNTY, NORTH CAROLINA

Scale:	H: 1"=50' V: 1"=5'
Date:	SEPT. 2026
Drawn:	SOB
Checked:	KRP
Job No.:	ENG24-0788

Sheet No.: PP-19

Of: - Version: 1

COPYRIGHT 2013 WESTON & SAMPSON

Wednesday, Oct 21, 2026 - 12:07:45am

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

June 25, 2026

Mr. Tommy Burns, Director
Harnett Regional Water
700 McKinney Parkway
Lillington, NC 27546

SUBJECT: Encroachment Agreement along NC Highway 24-87 (Bragg Boulevard), and SR 1117 (Nursery Road) in Harnett County (E062-043-26-00316).

Dear Sir:

Attached is an approved R/W form 16.1 and plans for the installation of ①13,235'± of 20"Φ DR-21 C-905 PVC sewer force main, two (2) 45 degree bends, four (4) 20"Φ plug valves, and eight (8) 4"Φ combination air valves by open shoulder cut methods for tie-in and related appurtenances along NC Highway 24-87. ②40'± of 20"Φ Fusible DR-21 C-905 PVC sewer force main encased in 40'± of 36"Φ steel encasement by jack & bore and open shoulder cut methods for tie-in and related appurtenances beneath SR 1117 (Nursery Road) in Harnett County as shown on attached plans. (Southwest Wastewater Pump Station and Force Main – Harnett County, North Carolina).

Location:

Route	**At a point**	**Towards**
①NC 24-87	3,600'± south of the intersection of NC 24-87 (Bragg Boulevard) and SR 2482 (Sawyer Road)	SR 1117
②SR 1117	At the intersection of 1117 (Nursery Road) and NC 24-87 (Bragg Boulevard)	SR 3145

This encroachment is approved subject to the following:

Pre-Construction
Contact Offices & Outside Agency issues/contacts/info

1. Approval may be rescinded upon failure to follow any of the provisions in this permit and may be considered a violation of the encroachment agreement.
2. **The Encroaching party or their contractor shall provide the following notices prior to construction activity within the NCDOT Right of Way:**
   a. **Three (3) business days advance phone call Mr. Christopher L. Jones, Assistant District Engineer at telephone (910) 364-0601 or email to cljones5@ncdot.gov to the District Engineer's office.**

   Failure to provide these notifications prior to beginning construction is subject to the Division Engineer's discretion to cease construction activity for this encroachment. NCDOT reserves the right to cease any construction or maintenance work associated with this installation by the encroaching party until the construction or maintenance meets the satisfaction of the Division Engineer or their representative.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
DIVISION SIX / DISTRICT TWO
POST OFFICE BOX 1150
FAYETTEVILLE, NC 28302

Telephone: (910) 364-0601
Fax: (910) 437-2529
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
600 SOUTHERN AVENUE
FAYETTEVILLE, NC 28306

3. Prior to beginning work, it is the requirement of the Encroaching Party to contact the appropriate Utility Companies involved and make arrangements to adjust or relocate any utilities that conflict with the proposed work.
4. It shall be the responsibility of the encroaching party to determine the location of utilities within the encroachment area. NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act requires underground utilities to be located by calling 811 prior to construction. The encroaching party shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and maintain access to them.
5. The encroaching party shall notify the appropriate municipal office prior to beginning any work within the municipality's limits of jurisdiction.
6. **Excavation within 1000 feet of a signalized intersection will require notification by the encroaching party to the Division Traffic Engineer at telephone number (910) 364-0606 no less than one week prior to beginning work. All traffic signal or detection cables must be located prior to excavation. Cost to replace or repair NCDOT signs, signals, pavement markings or associated equipment and facilities shall be the responsibility of the encroaching party.**
7. At the option of the District Engineer, a preconstruction meeting including representatives of NCDOT, the encroaching party, contractors and municipality, if applicable, shall be required. A pre-construction conference held between a municipality (or other facility owner) and a contractor without the presence of NCDOT personnel with subsequent construction commencing may be subject to NCDOT personnel ceasing any work on NCDOT right-of-way related to this encroachment until such meeting is held. Contact the District office to schedule.
8. **A NOTIFICATION FOR UTILITY / NON-UTILITY ENCROACHMENT WITHIN NCDOT R/W form (See corresponding attachment) with the scheduled pre-construction meeting and associated construction schedule details must be completed and submitted to the District Engineer's office a minimum of one week prior to construction.**
9. **A qualified NCDOT inspector shall be on the site at all times during construction. The encroaching party (not the utility contractor) shall make arrangements to have a qualified inspector, under the supervision of a Professional Engineer registered in North Carolina, on site at all times during construction. The registered Professional Engineer shall be required to submit a signed and PE sealed certification that the utility was installed in accordance with the encroachment agreement.**
10. **An NCDOT inspector shall be on site during any boring operations beneath all state maintained roadways. Utility installation beneath state maintained roadways performed without the presence of the required NCDOT inspector will be subject to removal and the direction to cease any construction or maintenance work associated with any associated encroachment agreement(s).**

Legal & Right-of-Way Issues

11. This approval and associated plans and supporting documents shall not be interpreted to allow any design change or change in the intent of the design by the Owner, Design Engineer, or any of their representatives. Any revisions or changes to these approved plans or intent for construction must be obtained in writing from the Division Engineer's office or their representative prior to construction or during construction if an issue arises during construction to warrant changes.
12. NCDOT does not guarantee the right of way on this road, nor will it be responsible for any claim for damages brought about by any property owner by reason of this installation. It is the responsibility of the encroaching party to verify the right of way.
13. Encroaching party shall be responsible for obtaining all necessary permanent and/or temporary construction, drainage, utility and/or sight distance easements.
14. All Right of Way and easements necessary for construction and maintenance shall be dedicated to NCDOT with proof of dedication furnished to the District Engineer prior to beginning work.
15. No commercial advertising shall be allowed within NCDOT Right of Way.
16. The encroaching party shall obtain proper approval from all affected pole owners prior to attachment to any pole.
17. This agreement does not authorize installations within nor encroachment onto railroad rights of way. Permits for installations within railroad right of way must be obtained from the railroad and are the responsibility of the encroaching party.

Work Zone Traffic

18. Traffic control shall be coordinated with the District Engineer and the Division Traffic Engineer at telephone (910) 364-0606, prior to construction.
19. <u>WORK ZONE TRAFFIC CONTROL QUALIFICATIONS AND TRAINING PROGRAM</u>

    All personnel performing any activity inside the highway right of way are required to be familiar with the NCDOT Maintenance / Utility Traffic Control Guidelines (MUTCG). No specific training course or test is required for qualification in the Maintenance /Utility Traffic Control Guidelines (MUTCG).

    All flagging, spotting, or operating Automated Flagger Assist Devices (AFAD) inside the highway right of way requires qualified and trained Work Zone Flaggers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

    All personnel involved with the installation of Work Zone Traffic Control devices inside the highway right of way are required to be qualified and trained Work Zone Installers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

    All personnel in charge of overseeing work zone Temporary Traffic Control operations and installations inside the highway right of way are required to be qualified and trained Work Zone Supervisors. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

    For questions and/or additional information regarding this training program please refer to https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx or call the NCDOT Work Zone Traffic Control Section (919) 814-5000.

20. The party of the second part shall employ traffic control measures that are in accordance with the prevailing federal, state, local, and NCDOT policies, standards, and procedures. These policies, standards, and procedures include, but are not limited to the following:
    a. Manual on Uniform Traffic Control Devices (MUTCD) – North Carolina has adopted the MUTCD to provide basic principles and guidelines for traffic control device design, application, installation, and maintenance. North Carolina uses the MUTCD as a minimum requirement where higher supplemental standards specific to North Carolina are not established. Use fundamental principles and best practices of MUTCD (Part 6, Temporary Traffic Control).
    b. NCDOT Maintenance / Utility Traffic Control Guidelines – This document enhances the fundamental principles and best practices established in MUTCD Part 6, Temporary Traffic Control, incorporating NCDOT-specific standards and details. It also covers important safety knowledge for a wide range of work zone job responsibilities.
21. If the Traffic Control Supervisor determines that portable concrete barrier (PCB) is required to shield a hazard within the clear zone, then PCB shall be designed and sealed by a licensed North Carolina Professional Engineer. PCB plans and design calculations shall be submitted to the District Engineer for review and approval prior to installation.
22. Ingress and egress shall be maintained to all businesses and dwellings affected by the project. Special attention shall be paid to police, EMS and fire stations, fire hydrants, secondary schools, and hospitals.
23. Traffic shall be maintained at all times. All lanes of traffic are to be open during the hours of 7:00 A.M. to 9:00 A.M. and from 4:00 P.M. to 6:00 P.M. Monday through Friday, during any time of inclement weather, **or as directed by the District Engineer**. If the location of work calls for a rolling roadblock on Interstates and divided highway US routes, the restriction is to work only on Sunday from 1:00 A.M. to 10:00 A.M, **or as Directed by the District Engineer**. Any violation of these hours will result in ceasing any further construction by the Encroaching Party or their contractor.
24. Nighttime and weekend operations will NOT be allowed unless written approval is received from the District Engineer. If nighttime or weekend work is allowed or required, all signs must be retro-reflective, and a work zone lighting plan must be submitted for approval prior to construction.
25. Two-way traffic shall be maintained at all times unless designated by the District Engineer. Traffic shall not be rerouted or detoured without the prior written approval from the District Engineer. No utility work will be allowed on state holidays from 7:00 PM the night before through 9:00 AM the day prior to, following or during local events without prior approval from the District Engineer. If the construction is within 1000 feet of a school location or on a designated bus route, the construction shall be coordinated with the school start and end times to avoid traffic delays.
26. Work requiring lane or shoulder closures shall not be performed on both sides of the road simultaneously within the same area.
27. Any work requiring equipment or personnel within 5 feet of the edge of any travel lane of an undivided facility and within 10 feet of the edge of any travel lane of a divided facility shall require a lane closure with appropriate tapers per current *NCDOT Roadway Standard Drawings or MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.*

28. At the discretion of the District Engineer, a traffic control plan shall be developed and submitted under the seal and signature of a Licensed North Carolina Professional Engineer prior to construction. The plan shall be specific to the site and adequately detailed. Issues such as the close proximity to intersections shall be addressed.
29. Temporary and final pavement markings are the responsibility of the encroaching party. Final pavement markings and sign plans shall be submitted with the encroachment request to the Division Traffic Engineer prior to construction. Final pavement markings shall be thermoplastic unless otherwise directed by the Division Traffic Engineer or District Engineer.
30. Any pavement markings that are damaged or obliterated shall be restored by the encroaching party at no expense to NCDOT.
31. Sidewalk closures shall be installed as necessary. Pedestrian traffic shall be detoured around these closures and shall be signed appropriately and in accordance with The American with Disabilities Act Accessibility Guidelines. The encroaching party must adhere to the guidelines for accommodating pedestrians in encroachment work zones as described in the NCDOT Pedestrian Work Zone Accommodations Training found at https://www.youtube.com/watch?v=AOuYa5IW3dg&feature=youtu.be

Roadside Environmental

32. The encroaching party shall comply with all applicable Federal, State and local environmental regulations and shall obtain all necessary Federal, State and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species and historical sites. Additional information can be obtained by contacting the NCDOT Roadside Environmental Engineer regarding the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services. Contact the Division Roadside Environmental Engineer's Office at (910) 364-0603.
33. When surface area in excess of one acre will be disturbed, the Encroacher shall submit a Sediment and Erosion Control Plan which has been approved by the appropriate regulatory agency or authority prior to beginning any work on the Right of Way. Failure to provide this information shall be grounds for suspension of operations. Proper temporary and permanent measures shall be used to control erosion and sedimentation in accordance with the approved sediment and erosion control plan.
34. The Verification of Compliance with Environmental Regulations (VCER-1) form is required for all non-utility encroachment agreements or any utility encroachments when land disturbance within NCDOT right of way exceeds 1 acre. When required, the VCER-1 form must be PE sealed by a NC registered professional engineer who has verified that all appropriate environmental permits (if applicable) have been obtained and all applicable environmental regulations have been followed.

35. All erosion control devices and measures shall be constructed, installed, maintained, and removed by the Encroacher in accordance with all applicable Federal, State, and Local laws, regulations, ordinances, and policies. Permanent vegetation shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer. All areas disturbed (shoulders, ditches, removed accesses, etc.) shall be graded and seeded in accordance with the latest *NCDOT Standards Specifications for Roads and Structures* and within 15 calendar days with an approved NCDOT seed mixture (all lawn type areas shall be maintained and reseeded as such). Seeding rates per acre shall be applied according to the Division Roadside Environmental Engineer. Any plant or vegetation in the NCDOT planted sites that is destroyed or damaged as a result of this encroachment shall be replaced with plants of like kind or similar shape.
36. No trees within NCDOT right of way shall be cut without authorization from the Division Roadside Environmental Engineer. An inventory of trees measuring greater than 4 caliper inches (measured 6" above the ground) is required when trees within C/A right of way will be impacted by the encroachment installation. Mitigation is required and will be determined by the Division Roadside Environmental Engineer's Office.
37. Prior to installation, the Encroaching Party shall contact the District Engineer to discuss any environmental issues associated with the installation to address concerns related to the root system of trees impacted by boring or non-utility construction of sidewalk, roadway widening, etc.
38. The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. The applicant is responsible for complying with any river or stream Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ or the USACE.
39. The contractor shall not begin the construction until after the traffic control and erosion control devices have been installed to the satisfaction of the Division Engineer or their agent.
40. The contractor shall perform all monitoring and record keeping and any required maintenance of erosion and sediment control measures to maintain compliance with stormwater regulations.

Bonds

41. ~~A Performance and Indemnity Bond in the amount of ****** was posted with the District Engineer's Office on 02/21/2024 by the Party of the Second Part prior to beginning any work within the NCDOT Right of Way. The bond shall be held for a minimum of one year after a satisfactory final inspection of the installation by NCDOT. The bond may be held for a period longer than one year after completion if, in the opinion of NCDOT, the size or complexity of the installation warrants a longer period.~~

42. The release of the bond is subject to a final inspection by NCDOT. Contact the District office to schedule a Final Inspection and to request release of the bond.

43. When a Continuing Indemnity bond is on file with the central Raleigh office, the cashing of that bond may be used to fund any necessary repairs by NCDOT forces for unaddressed defects in workmanship by the encroaching party and/or by their contractor.

Control of Access

44. No access to the job site, parking or material storage shall be allowed along or from the **Control of Access Roadway.**

45. The installation within the Control of Access fence shall not adversely affect the design, construction, maintenance, stability, traffic safety or operation of the controlled access highway, and the utility must be serviced without access from the through-traffic roadways or ramps.

46. The resetting of the Control of Access fence shall be in accordance with the applicable NCDOT standard and as directed by the Division Engineer or their representative.

STIP (or Division Managed) Projects

47. **State Transportation Improvement Project (STIP) HP-0011 is scheduled for future construction. Any encroachment determined to be in conflict with the construction of this NCDOT project shall be removed and/or relocated at the encroaching party's expense.**

Construction

General

48. An executed copy of the encroachment agreement, provisions and approved plans shall be present at the construction site at all times. If safety or traffic conditions warrant such an action, NCDOT reserves the right to further limit, restrict or suspend operations within the right of way.

49. If the approved method of construction is unsuccessful and other means are required, prior approval must be obtained through the District Engineer before construction may continue.

50. Any REVISIONS marked in RED on the attached non-PE sealed plans shall be incorporated into and made part of the approved encroachment agreement.

51. All disturbed areas are to be fully restored to current NCDOT minimum roadway standards or as directed by the Division Engineer or their representative. Disturbed areas within NCDOT Right-of-Way include, but not limited to, any excavation areas, pavement removal, drainage or other features.

52. The encroaching party shall notify the Division Engineer or their representative immediately in the event any drainage structure is blocked, disturbed or damaged. All drainage structures disturbed, damaged or blocked shall be restored to its original condition as directed by the Division Engineer or their representative.
53. At points where the utility is placed under existing storm drainage, the trench will be backfilled with excavatable flowable fill up to the outside diameter of the existing pipe.
54. Unless specified otherwise, during non-working hours, equipment shall be located away from the job site or parked as close to the right of way line as possible and be properly barricaded in order not to have any equipment obstruction within the Clear Zone. Also, during non-working hours, no parking or material storage shall be allowed along the shoulders of any state-maintained roadway.
55. The Encroaching Party and/or their Contractor shall comply with all OSHA requirements. If OSHA visits the work area associated with this encroachment, the District Office shall be notified by the encroaching party immediately if any violations are cited.
56. Any guardrail removed or damaged during construction shall be replaced or repaired to its original condition, meeting current NCDOT standards or as directed by the Division Engineer or their representative.
57. Right of Way monuments disturbed during construction shall be referenced by a registered Land Surveyor and reset after construction.
58. All Traffic signs moved during construction shall be reinstalled as soon as possible to the satisfaction of the Division Engineer or their representative.
59. Detection tape, where required by NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act, shall be buried in the trench approximately 1 foot above the installed facility. Where conduit is installed in the right of way and is not of ferrous material, locating tape or detection wire shall be installed with the conduit.
60. All driveways disturbed during construction shall be returned to a state comparable with the condition of the driveways prior to construction.
61. Conformance with driveway permit review should be required in conjunction with this encroachment agreement. In the event there is a conflict between the driveway permit and the encroachment agreement, the District Engineer should resolve the conflict and notify the parties involved.

Engineering

62. All traffic control, asphalt mixes, structures, construction, workmanship and construction methods, and materials shall be in compliance with the most-recent versions of the following resources: *ASTM Standards*, *Manual on Uniform Traffic Control Devices, NCDOT Utilities Accommodations Manual, NCDOT Standard Specifications for Roads and Structures, NCDOT Roadway Standard Drawings,* NCDOT *Asphalt Quality Management System* manual, **and the approved plans.**
63. Regulator stations, metering stations, cathodic test stations, and anode beds are not permitted within NCDOT right of way. Header wires are permitted.

64. Non-Utility Communication and Data Transmission installations (ground mounted type or Small Cell pole-mounted type) must adhere to guidelines in the Utilities Accommodations Manual and, when located within municipal jurisdictions, are subject to review and approval by municipal ordinances and any additional municipal approval for proximity to historic districts and landmarks. All wiring and related telecommunications work shall conform to the latest regulations by the Federal Communications Commission.
65. All wiring and related electrical work shall conform to the latest edition of the National Electrical Safety Code.
66. Prior approval for any blasting must be obtained from the Division Engineer or their representative.

Location within R/W

67. **The utility shall be installed within five (5) feet of the right of way line**.
68. All utility access points, such as manholes, vaults, handholes, splice boxes and junction boxes shall be located as close to the right of way line as possible and shall not be placed in the ditch line, side slopes of the ditches or in the pavement. All manholes, handholes, splice boxes, junction boxes and vaults and covers shall be flush with the ground when located within the vehicle clear zone. Slack loops for telecommunications in industry standard housing units shall be buried a minimum of 18 inches when buried or meet minimum NCDOT vertical and horizontal clearances when installed aerially.
69. Any utility markers, cabinets, pedestals, meter bases and services for meter reading required shall be as close to the Right of Way line as possible. If it is not feasible to install at or near Right of Way line, then written approval shall be obtained from NCDOT prior to installation.
70. Fire Hydrants shall be of the breakaway type. Hydrants shall be placed near the right of way line. In curb and gutter sections with written approval from the District, the hydrants may be placed at 6' behind the back of the curb or minimum 2’ back of sidewalk.
71. Hot box (aka ASSE 1060) or Safe-T-Cover type enclosures covering utility main pipe joints, backflow preventers, valves, vent pipes, cross connections, pumps, grinders, irrigation assemblies, transformers, generators, and other similar large appurtenances shall be located outside sight distance triangles and off of the NCDOT Right-of-Way.
72. Sprinkler heads shall be located a minimum of 10 feet from the edge of pavement, edge of shoulder, or back of curb whichever is greater and shall be directed so that water does not spray or drain on the roadway surface, sidewalk, or passing vehicles at any time. Upon completion of the installation and prior to activation of the system, the Encroacher shall contact the District Engineer to schedule a test of the system to verify the spray pattern. Sprinkler systems shall not be operated during periods of high wind or freezing weather, or to the extent that the subgrade adjacent to the pavement structure becomes saturated. NCDOT reserves the right to require immediate termination and removal of any sprinkler system which in its judgement and opinion adversely affects safety, maintenance, or operation of the roadway.

73. Luminaire and/or utility poles and guy wires shall be set as close to the Right of Way line as practical and outside the Clear Zone in accordance with the latest version of the AASHTO Roadside Design Guide (See corresponding attachment) or made breakaway in accordance with the requirements of NCHRP Report 350. Any relocation of the utility poles from the original design due to Clear Zone requirements shall require a re-submittal for the utility design.

74. Luminaire and/or utility poles shall be set a minimum of 5'-6" behind face of any guardrail or otherwise sufficiently protected. However, standard placement may be reduced to 3'-6" behind face of guardrail when posts are spaced 3'-1 ½", or where speed limit is less than 55 MPH.

75. **Any cabinets, pedestals, vents or any other aboveground utility appurtenances installed as part of the underground system extending more than four (4) inches above the ground shall be of breakaway type, located at or near the right of way line, outside the clear zone, outside sight distance triangles and shall not interfere with ADA requirements.**

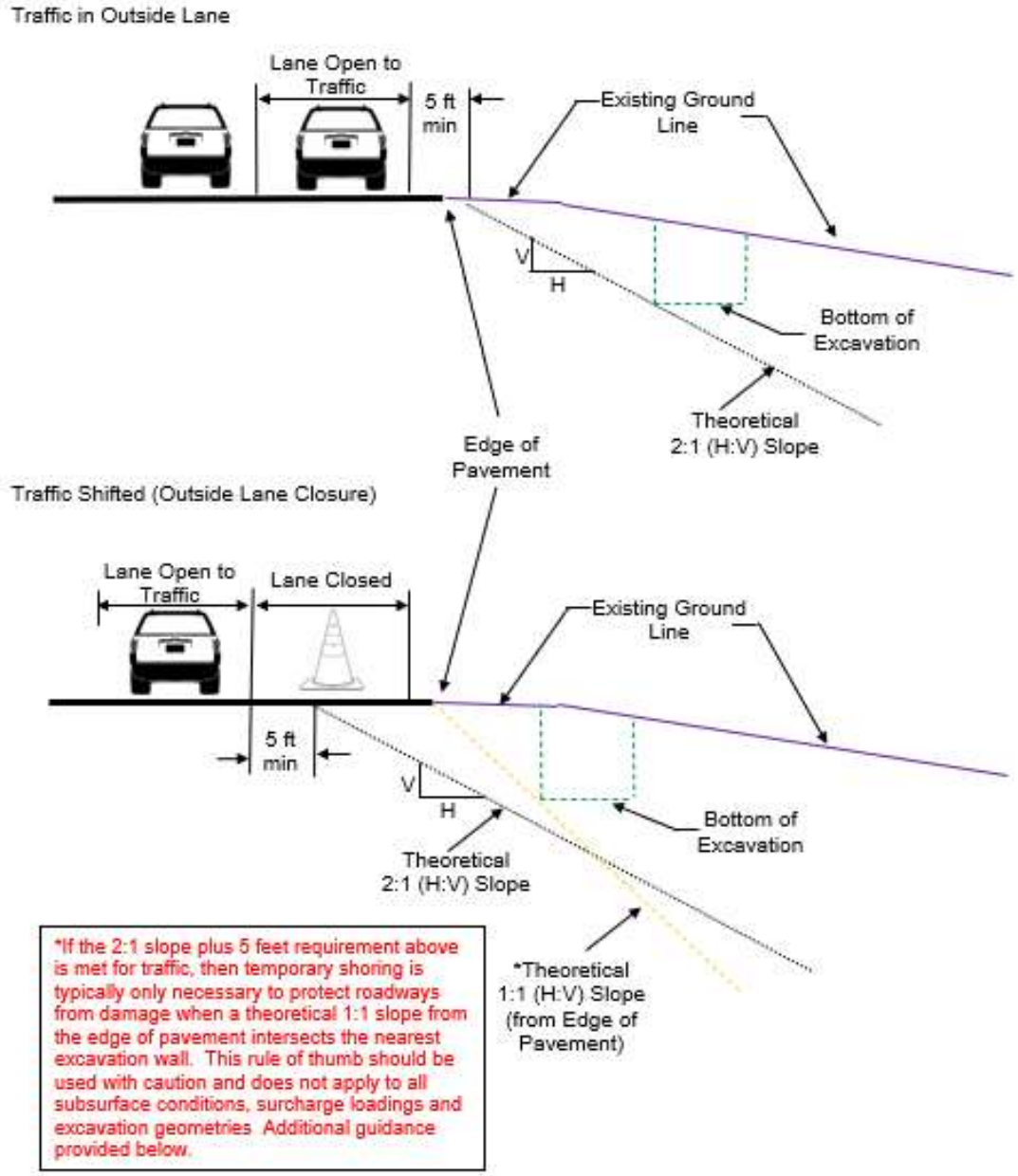
76. **A minimum of two (2) feet clearance is required for utility installations beneath drainage pipes 54"Φ and below (or equivalent pipe sizes), headwalls, and a minimum of two (2) feet clearance below the flowline of streams. A minimum of five (5) feet clearance is required for utility installations beneath or near drainage pipes 54"Φ and above (or equivalent pipe sizes) as well as box culverts. If directional drilling, a minimum ten (10) foot clearance distance is required from drainage structures.**

Excavation

77. Excavation material shall not be placed on pavement.

78. It is the responsibility of the encroaching party or their contractor to prevent any mud/dirt from tracking onto the roadway. Any dirt which may collect on the roadway pavement from equipment and/or truck traffic on site shall be immediately removed to avoid any unsafe traffic conditions.

79. The utility shall be installed within 5 feet of the right of way line and outside the 5-foot minimum from travel lane plus theoretical 2:1 slope from the edge of pavement to the bottom of the nearest excavation wall for temporary shoring. Temporary shoring is required when a theoretical 2:1 slope from the bottom of excavation will intersect the existing ground line less than 5 feet from the outside edge of an open travel lane as shown in the figure below or when a theoretical 2:1 slope from the bottom of excavation will intersect any existing structure, support, utility, property, etc. to be protected.



If the 2:1 slope plus 5 feet requirement above is met for traffic, then temporary shoring is typically only necessary to protect roadways from damage when a theoretical 1:1 slope from the edge of pavement intersects the nearest excavation wall. This rule of thumb should be used with caution and does not apply to all subsurface conditions, surcharge loadings and excavation geometries. Situations where this 1:1 slope is not recommended include groundwater depth is above bottom of excavation or excavation is deeper than 10 feet or in Type B or C soils as defined by OSHA Technical Manual. Temporary shoring may be avoided by locating trenches, bore pits, and other excavations far enough away from the open travel lane, edge of pavement and any existing structure, support, utility, property, etc. to be protected.

Temporary shoring shall be designed and constructed in accordance with current NCDOT Standard Temporary Shoring provisions (refer to https://connect.ncdot.gov/resources/Specifications/Pages/2018-Specifications-and-Special-Provisions.aspx and see SP11 R002

a. Temporary excavation shoring, such as sheet piling, shall be installed. The design of the shoring shall include the effects of traffic loads. The shoring system shall be designed and sealed by a licensed North Carolina Professional Engineer. Shoring plans and design calculations shall be submitted to the Division Engineer for review and approval prior to construction. (See NCDOT *Utilities Accommodations Manual* for more information on requirements for shoring plans, design calculations, and subsurface investigation report.) **Trench boxes shall not be accepted as temporary shoring and will not be approved for use in instances where shoring is required to protect the highway, drainage structure, and/or supporting pavement or structure foundation**.

b. All trench excavation inside the limits of the theoretical two-to-one slope plus 5 feet requirement, as defined by the policy, shall be completely backfilled and compacted at the end of each construction day. No portion of the trench shall be left open overnight. Any excavation that is not backfilled by the end of the workday must address any safety and traveling public concerns including accommodations for bicycles, pedestrians and persons with disabilities.

c. The trench backfill material shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-7 of the latest *NCDOT Standard Specifications for Roads and Structures,* which basically requires the backfill material to be placed in layers not to exceed 6 inches loose and compacted to at least 95% of the density obtained by compacting a sample in accordance with AASHTO T99 as modified by DOT.

d. At the discretion of the Division Engineer, a qualified NCDOT inspector shall be on the site at all times during construction. The encroaching party shall reimburse NCDOT for the cost of providing the inspector. If NCDOT cannot supply an inspector, the encroaching party (not the utility contractor) should make arrangements to have a qualified inspector, under the supervision of a licensed North Carolina Professional Engineer, on the site at all times. The Professional Registered Engineer shall certify that the utility was installed in accordance with the encroachment agreement and that the backfill material meets the Statewide Borrow Criteria.

e. The length of parallel excavation shall be limited to the length necessary to install and backfill one joint of pipe at a time, not to exceed twenty-five (25) feet.

80. All material to a depth of 8 inches below the finished surface of the subgrade shall be compacted to a density equal to at least 100% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. The subgrade shall be compacted at a moisture content which is approximately that required to produce the maximum density indicated by the above test method. The contractor shall dry or add moisture to the subgrade when required to provide a uniformly compacted and acceptable subgrade. The option to backfill any trenches with dirt or either #57 stone or #78 stone with consolidation with a plate tamp and without a conventional density test may be pursued with the written consent of the District Engineer. If this option is exercised, then roadway ABC stone and asphalt repair as required will also be specified by the District Engineer.

Boring

81. Boring equipment will be provided of a type and size to facilitate boring in the local geologic conditions and shall be able to facilitate the encroachment work.

82. When Horizontal Directional Drilling (HDD) is used, the following stipulations apply:

    a. Use drilling fluids as appropriate for the type soils but use of water alone is prohibited. Pump drilling fluids only while drilling or reaming. Directional boring using jetting with a Bentonite (or equivalent material) slurry is recommended. Monitor flow rates to match the amount leaving the bore hole and do not increase pressure or flow to free stuck drill heads, reamers or piping. Open cutting to retrieve stuck drill heads is not allowed without prior permission from the District Engineer.

    b. The minimum depth shall adhere to the table below for transverse (under non-controlled access, partial controlled access, or limited controlled access roadway) installations and refers to maximum diameter of hole drilled and not the dimension of the carrier or encasement pipe.

Diameter of Drilled Hole (Backream)	Minimum Depth of Cover
2" to 6”	5 feet
>6” to 15”	12 times hole diameter (e.g. 6-inch hole means 6 feet minimum depth)
>15” to 36”	15 feet or greater

    c. Under fully controlled access roadway installations, the minimum depth for transverse crossings shall be 15 feet under any pavement (ramps or thru lanes)

    d. An overbore (backream diameter) shall not be more than 1.5 times the outside diameter of the pipe or encasement under any highway for pipes 12 inches in diameter or less. For pipes with outer diameter larger than 12 inches, the overbore may be no larger than outer diameter of pipe plus 6 inches. An overbore exceeding 1.5 times greater than the outside diameter of the pipe or encasement may be considered if the encroachment agreement includes a statement signed and sealed by a licensed North Carolina Professional Engineer indicating that an overbore in excess of 1.5 times the outside diameter of the pipe or encasement will appropriately arch and no damage will be done to the pavement or sub-grade.

    e. Directional boring is allowed beneath embankment material in naturally occurring soil.

    f. Any parallel installation utilizing the directional boring method shall be made at a minimum depth of three (3’) feet (cover) below the ground surface and outside the theoretical 1:1 slope from the existing edge of pavement except where the parallel installation crosses a paved roadway.

    g. All directional bores shall maintain ten (10) feet minimum (clear) distance from the nearest part of any structure, including but not limited to bridges, footings, pipe culverts or box culverts. Directional bores are not allowed beneath bridge footings, culvert wingwall footings, slope protection or retaining walls.

h. The tip of the drill string shall have a cutter head.
i. Detection wire shall be installed with non-ferrous material.
j. HDPE pipe installed by directional boring shall not be connected to existing pipe or fittings for one (1) week from the time of installation to allow tensional stresses to relax.

Aerial clearances

83. Vertical clearance of overhead power and communication lines shall meet the National Electrical Safety Code requirements except the minimum vertical clearance shall be 18' for crossings over NCDOT roadways (24' over Fully Controlled Access roadways) and 16' for parallel installations.

84. When applicable for aerial installations, in relation to the bridge, the utility line shall be located with minimum clearances as indicated in Figure 3-3 in the Utilities Accommodations Manual for NCDOT **Required Clearances for Aerial Installations by Encroachment Near Bridge Structures**.

Pavement Detail and Repair

85. The paving of this roadway shall be in accordance with the latest version of NCDOT Standard Specifications, Sections 610, 1012 and 1020. The Contractor shall follow all procedures of the latest Quality Management System (QMS) Asphalt Manual for asphalt pavement - Maintenance Version (see https://connect.ncdot.gov/resources/Materials/MaterialsResources/Forms/Default.aspx) to find the most recent version. The Contractor must adhere to all testing requirements and quality control requirements specified. The Contractor shall contact the NCDOT Division QA Supervisor prior to producing plant mix and make the Supervisor aware that the mix is being produced for a future NCDOT road. Contact the District Engineer to determine the NCDOT Division QA Supervisor. Only NCDOT approved mix designs will be acceptable. A Quality Control Plan shall be submitted (as Directed by the District Engineer) to the District Engineer's Office prior to asphalt production utilizing form QMS-MV1. Failing mixes and/or densities are subject to penalties including monetary payments or removal and replacement. To minimize traffic queuing in construction areas, the possibility of traffic detours may be considered when working on high traffic routes even if traffic control is used. The District Engineer may require traffic detours.

86. When paving beyond utility installation is involved, a Roadway certification report sealed by a Professional Engineer shall be submitted to the District Engineer's office indicating the following:
    - Pavement thickness by type
    - Pavement density, core and/or test locations
    - Base thickness
    - Base density
    - Subgrade density

    Test frequency and method shall be in conformance with the NCDOT *Materials and Tests Manual*. Test must be performed by a Certified Technician including name and Certification number on report.

87. **"Potholing" (or "daylighting") pavement cores to expose existing utilities shall be made with a circular minimum 6" to maximum 18" diameter "test" hole to a maximum depth of 12 inches.** Pavement core locations shall not be placed in the wheel path whenever possible. Vacuum excavation shall be utilized to expose underground utilities below pavement subgrade. Displaced dirt and rock debris must be suctioned away from the excavation area through a large hose to a vacuum truck and disposed by the encroaching party. Avoid using mechanized equipment in the proximity of all exposed underground utility lines. Pavement cores shall be repaired within the same working day. The pavement core shall be retained and evaluated for reuse to fill the core hole.

    The excavation shall be backfilled and compacted with select material to the bottom of the existing pavement structure or as indicated by the District Engineer. If in good condition, the retained core shall be placed in the hole and secured with a waterproof, mechanical joint. If the pavement core is damaged and cannot be re-used, the core may be replaced with the surface mix, S 9.5 C. The asphalt patch shall match the thickness of the existing asphalt or four inches, whichever is greater and the use of NCDOT approved sealant applied to the cracks to fill the voids. All materials must be listed on the NCDOT Approved Products List (APL) found at: https://apps.ncdot.gov/vendor/approvedproducts/.

88. All open cuts **(if permitted)** on primary routes will require full depth patching with 5.0" of B 25.0 B (ACBC) Asphalt Concrete Base Course, 3.0" of I 19.0 B (ACIC) Asphalt Concrete Intermediate Course and 2.0" of S 9.5 B (ACSC) Asphalt Concrete Surface Course the same day as cut is made. It will also be required to mill the existing pavement surface at a depth of 2.0" and a width of 1.0' on each side of the cut and transversely across the width of the travel lane to key in the patch with the existing pavement surface in accordance with the attached detail.

89. All open cuts **(if permitted)** on secondary routes will require full depth patching with 4.0" of B 25.0 C (ACBC) Asphalt Concrete Base Course and 3.0" of S 9.5 C (ACSC) Asphalt Concrete Surface Course the same day as cut is made. It will also be required to mill the existing pavement surface at a depth of 1.5" and a width of 1.0' on each side of the cut and transversely across the width of the travel lane to key in the patch with the existing pavement surface in accordance with the attached detail.

90. Eight inches of ABC will be used as the base. Compaction test shall be performed at the location of every open cut that crosses NCDOT roadways. The owner will be required to have an approved laboratory furnish the District Office a copy of the test results.

91. Pavement cuts shall be repaired the same day the cuts are made unless an asphalt patch cannot be accomplished the same day due to material availability or time restrictions. When the asphalt patch is not feasible, the following apply:
    a. The pavement cut shall be filled to the surface with ABC stone or Flowable Fill per NCDOT's Standards and Specifications.
    b. Once the cut is filled, a minimum ¾-inch steel plate shall be placed and pinned to prevent moving. Plates shall be designed large enough to span a minimum of 1-foot on all sides on the pavement cut.
    c. When flowable fill is used, it shall cure for 24 hours prior to any asphalt material placement. Flowable fill bleed water shall not be present during paving operations. Paving shall not cause damage (shoving, distortion, pumping, etc.) to the flowable fill.
    d. Install and leave "BUMP" signs according to MUTCD until the steel plate has been removed. Once the flowable fill has cured, remove the steel plate, and mill/fill according to the directions of the District Engineer.
    e. All pavement cuts must be sealed with NCDOT approved sealant to prevent future pavement separation or cracking.
92. **Any pavement damaged because of settlement of the pavement or damaged by equipment used to perform encroachment work, shall be re-surfaced to the satisfaction of the District Engineer. This may include the removal of pavement and a 50' mechanical overlay. All pavement work and pavement markings (temporary and final) are the responsibility of the Encroaching Party.**
93. All concrete installed within NCDOT rights of way shall be constructed in accordance with the latest NCDOT **Standard Specifications for Roads and Structures** and **Roadway Standard Drawings** and Amendments or Supplementals thereto. All concrete shall be an approved NCDOT Class B mix. All materials testing results shall be provided to the District Engineer upon completion of the project.
94. All concrete sidewalk installed within NCDOT rights of way shall be constructed in accordance with the latest NCDOT **Standard Specifications for Roads and Structures** and **Roadway Standard Drawings** (Std. Dwg. No. 846.01 and 848.01) and Amendments or Supplementals thereto. All concrete shall be an approved NCDOT Class B mix. All materials testing results shall be provided to the District Engineer upon completion of the project.
95. All ADA compliant curb ramps shall be constructed in accordance with the latest NCDOT **Standard Specifications for Roads and Structures** and **Roadway Standard Drawings** (Std. Dwg. No. 848.06) and Amendments or Supplementals thereto including but not limited to the Alternate Curb Ramp Designs (Curb Ramp Details - Parallel Ramps). All concrete shall be an approved NCDOT Class B mix. All materials testing results shall be provided to the District Engineer upon completion of the project.
96. All 30" curb and gutter within NCDOT rights of way shall be constructed with Class B concrete in accordance with Section 846 of the latest NCDOT **Standard Specifications for Roads and Structures** and **Roadway Standard Drawings** (Std. Dwg. No. 846.01) and Amendment or Supplemental thereto or as directed by the engineer. All concrete testing results shall be provided to the District Engineer's office at time of project completion.

Post Construction

Close out/ Inspection

97. The Encroaching party shall notify the District Engineer's office within 2 business days after construction is complete. The District Engineer may perform a construction inspection. Any deficiencies may be noted and reported to the encroaching party to make immediate repairs or resolve any issues to restore the right-of-way to a similar condition prior to construction, including pavement, signage, traffic signals, pavement markings, drainage, structures/pipes, or other highway design features.

98. At the discretion of the District Engineer, a final inspection report may be provided to the encroaching party upon satisfactory completion of the work.

99. A written acknowledgement of the completed work by the District Engineer's office begins the one-year warranty period associated with the performance bond.

100. **A copy of the "as-built" plan shall be submitted to the District Engineer's office (online encroachment database) in a PDF format and in a current ESRI GIS format within 4 weeks of construction along with an executed Certification Memo. The As-Built drawing(s) shall depict the horizontal and vertical locations of all utilities and associated appurtenances.**

101. A copy (in PDF format) of the completed ground water analysis shall be given to the District Engineer, including detailed drawings of the "as-built" wells showing location, depth and water level in well.

If further information or assistance is needed in reference to this project, please feel free to call Mr. Lee R. Hines, Jr. (Richie), PE, District Engineer at (910) 364-0601.

Initial

Sincerely,

Signed by:

Wallace "Lee" Jernigan, Jr.

Wallace "Lee" Jernigan, Jr., PE
Division Engineer

WLJ:csm:eab

cc: https://connect.ncdot.gov/site/Permits/Pages/All-Submissions.aspx

ROUTE HWY 24/87 PROJECT SOUTHWEST WW PUMP STATION & FORCE MAIN COUNTY OF HARNETT

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

-AND-

HARNETT REGIONAL WATER
700 McKinney Parkway
Lillington, NC 27546

RIGHT OF WAY ENCROACHMENT AGREEMENT
PRIMARY AND SECONDARY HIGHWAYS

THIS AGREEMENT, made and entered into this the 25 ~~12th~~ day of June ~~MARCH~~ 20 26 ~~26~~ by and between the Department of Transportation, party of the first part; and HARNETT REGIONAL WATER party of the second part,

WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) NC HWY 24/87 (BRAGG BLVD.), located BEGINNING IN HARNETT COUNTY AND ENTERING NCDOT ROW APPROXIMATELY 3,155 LF SOUTH OF SR:3237(MELODY LANE), AND RUNNING SOUTH ALONG THE SOUTHERN CORRIDOR OF HWY 24/87 TO THE HARNETT/CUMBERLAND COUNTY LINE.

with the construction and/or erection of: APPROXIMATELY 13,275 LF OF 20" PVC SEWER FORCEMAIN PIPING, FITTINGS, AIR RELEASE VALVES, LINE VALVES AND ALL APPURTENANCES.

See Approval Letter

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the installation, operation, and maintenance of the above described facility will be accomplished in accordance with the party of the first part's latest UTILITIES ACCOMMODATIONS MANUAL, and such revisions and amendments thereto as may be in effect at the date of this agreement. Information as to these policies and procedures may be obtained from the Division Engineer or State Utilities Manager of the party of the first part.

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to the installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the construction site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

During the performance of this contract, the second party, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

a. Compliance with Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the U. S. Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

b. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials

and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

c. Solicitations for Subcontracts, including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

d. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

e. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to,

(1) withholding of payments to the contractor under the contract until the contractor complies, and/or
(2) cancellation, termination or suspension of the contract, in whole or in part.

f. Incorporation of Provisions: The contractor shall include the provisions of paragraphs "a" through "f" in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Department of Transportation to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

R/W (161) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

Initial

BY: Wallace "Lee" Jernigan, Jr.

DIVISION ENGINEER

ATTEST OR WITNESS:

Amberly Ives

Amberly Ives

Administrative Assistant

Tommy Burns

Director - Harnett Regional Water

Second Party

INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the State Utilities Manager. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the existing and/or proposed encroachment.
4. Length, size and type of encroachment.
5. Method of installation.
6. Dimensions showing the distance from the encroachment to edge of pavement, shoulders, etc.
7. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
8. Drainage structures or bridges if affected by encroachment (show vertical and horizontal dimensions from encroachment to nearest part of structure).
9. Method of attachment to drainage structures or bridges.
10. Manhole design.
11. On underground utilities, the depth of bury under all traveled lanes, shoulders, ditches, sidewalks, etc.
12. Length, size and type of encasement where required.
13. On underground crossings, notation as to method of crossing - boring and jacking, open cut, etc.
14. Location of vents.

GENERAL REQUIREMENTS

1. Any attachment to a bridge or other drainage structure must be approved by the State Utilities Manager in Raleigh prior to submission of encroachment agreement to the Division Engineer.
2. All crossings should be as near as possible normal to the centerline of the highway.
3. Minimum vertical clearances of overhead wires and cables above all roadways must conform to clearances set out in the National Electric Safety Code.
4. Encasements shall extend from ditch line to ditch line in cut sections and 5' beyond toe of slopes in fill sections.
5. All vents should be extended to the right of way line or as otherwise required by the Department.
6. All pipe encasements as to material and strength shall meet the standards and specifications of the Department.
7. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
8. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.

TRAFFIC CONTROL AND WORK ZONE SAFETY

The Contractor shall maintain traffic during construction and provide, install, and maintain all traffic control devices in accordance with these project guidelines, the Project Special Provisions, the latest North Carolina Department of Transportation Standard Specifications for Roads and Structures, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall utilize complete and proper traffic controls and traffic control devices during all operations. All traffic control and traffic control devices required for any operation shall be functional and in place prior to the commencement of that operation. Signs for temporary operations shall be removed during periods of inactivity. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists.

Traffic movements through lane closures on roads with two way traffic shall be controlled by flaggers stationed at each end of the work zone. In situations where sight distance is limited, the Contractor shall provide additional means of controlling traffic, including, but not limited to, two-way radios, pilot vehicles, or additional flaggers. Flaggers shall be competent personnel, adequately trained in flagging procedures, and furnished with proper safety devices and equipment, including, but not limited to, safety vests and stop/slow paddles.

All personnel when working in traffic areas or areas in close proximity to traffic shall wear an approved safety vest, or shirt or jacket which meets the color requirements of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall comply with all applicable Federal, State, and local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

Failure to comply with any of the requirements for safety and traffic control of this contract shall result in suspension of work as provided in subarticle 108-7(2) of the Standard Specifications.

SPECIFICATIONS FOR EROSION CONTROL

The Contractor shall seed all disturbed areas as directed by the Engineer, in accordance with Section 1660 of the Standard Specifications. Seeding and mulching shall immediately follow shoulder construction operations and in no case shall shoulder construction operations exceed seeding and mulching operations by more than two weeks without written permission of the Engineer. Failure to meet this requirement shall be cause to cease all operations until it can be met.

Seeding and Mulching: (East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined by the Engineer. All rates are in pounds per acre.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		**September 1 - February 28**	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		**September 1 - February 28**	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

2nd Millennium	Duster	Magellan	Rendition
Avenger	Endeavor	Masterpiece	Scorpion
Barlexas	Escalade	Matador	Shelby
Barlexas II	Falcon II, III, IV & V	Matador GT	Signia
Barrera	Fidelity	Millennium	Silverstar
Barrington	Finesse II	Montauk	Southern Choice II
Biltmore	Firebird	Mustang 3	Stetson
Bingo	Focus	Olympic Gold	Tarheel
Bravo	Grande II	Padre	Titan Ltd
Cayenne	Greenkeeper	Paraiso	Titanium
Chapel Hill	Greystone	Picasso	Tomahawk
Chesapeake	Inferno	Piedmont	Tacer
Constitution	Justice	Pure Gold	Trooper
Chipper	Jaguar 3	Prospect	Turbo
Coronado	Kalahari	Quest	Ultimate
Coyote	Kentucky 31	Rebel Exeda	Watchdog
Davinci	Kitty Hawk	Rebel Sentry	Wolfpack
Dynasty	Kitty Hawk 2000	Regiment II	
Dominion	Lexington	Rembrandt	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on this project.

CRIMPING STRAW MULCH

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8".

Within seven (7) calendar days to fourteen (14) calendar days of completion of any phase of grading, all disturbed areas shall be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion. The Erosion and Sediment Control plan will identify the areas that require seven (7) and/or fourteen (14) calendar day ground stabilization. The Contractor is herein advised to follow all current regulations set forth by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) as defined in the *General Stormwater Permit for Construction Activities NCG-010000*.

U.S. Customary Units

Design Speed (mph)	Design ADT	Foreslopes			Backslopes		
		1V:6H or flatter	1V:5H to 1V:4H	1V:3H	1V:3H	1V:5H to 1V:4H	1V:6H or flatter
≤40	UNDER 750[c]	7–10	7–10	[b]	7–10	7–10	7–10
	750–1500	10–12	12–14	[b]	12–14	12–14	12–14
	1500–6000	12–14	14–16	[b]	14–16	14–16	14–16
	OVER 6000	14–16	16–18	[b]	16–18	16–18	16–18
45–50	UNDER 750[c]	10–12	12–14	[b]	8–10	8–10	10–12
	750–1500	14–16	16–20	[b]	10–12	12–14	14–16
	1500–6000	16–18	20–26	[b]	12–14	14–16	16–18
	OVER 6000	20–22	24–28	[b]	14–16	18–20	20–22
55	UNDER 750[c]	12–14	14–18	[b]	8–10	10–12	10–12
	750–1500	16–18	20–24	[b]	10–12	14–16	16–18
	1500–6000	20–22	24–30	[b]	14–16	16–18	20–22
	OVER 6000	22–24	26–32[a]	[b]	16–18	20–22	22–24
60	UNDER 750[c]	16–18	20–24	[b]	10–12	12–14	14–16
	750–1500	20–24	26–32[a]	[b]	12–14	16–18	20–22
	1500–6000	26–30	32–40[a]	[b]	14–18	18–22	24–26
	OVER 6000	30–32[a]	36–44[a]	[b]	20–22	24–26	26–28
65–70[d]	UNDER 750[c]	18–20	20–26	[b]	10–12	14–16	14–16
	750–1500	24–26	28–36[a]	[b]	12–16	18–20	20–22
	1500–6000	28–32[a]	34–42[a]	[b]	16–20	22–24	26–28
	OVER 6000	30–34[a]	38–46[a]	[b]	22–24	26–30	28–30

Notes:

a) When a site-specific investigation indicates a high probability of continuing crashes or when such occurrences are indicated by crash history, the designer may provide clear-zone distances greater than the clear zone shown in Table 3-1. Clear zones may be limited to 30 ft for practicality and to provide a consistent roadway template if previous experience with similar projects or designs indicates satisfactory performance.

b) Because recovery is less likely on the unshielded, traversable 1V:3H fill slopes, fixed objects should not be present in the vicinity of the toe of these slopes. Recovery of high-speed vehicles that encroach beyond the edge of the shoulder may be expected to occur beyond the toe of slope. Determination of the width of the recovery area at the toe of slope should consider right-of-way availability, environmental concerns, economic factors, safety needs, and crash histories. Also, the distance between the edge of the through traveled lane and the beginning of the 1V:3H slope should influence the recovery area provided at the toe of slope. While the application may be limited by several factors, the foreslope parameters that may enter into determining a maximum desirable recovery area are illustrated in Figure 3-2. A 10-ft recovery area at the toe of slope should be provided for all traversable, non recoverable fill slopes.

c) For roadways with low volumes it may not be practical to apply even the minimum values found in Table 3-1. Refer to Chapter 12 for additional considerations for low volume roadways and Chapter 10 for additional guidance for urban applications.

d) When design speeds are greater than the values provided, the designer may provide clear-zone distances greater than those shown in Table 3-1.

NCDOT Required Clearances for Aerial Installations Near Bridge Structures

NOT TO SCALE

Any variation to this detail must be approved by the Division Engineer and/or State Utilities Manager.

Published by NCDOT Utilities Unit
June 2020

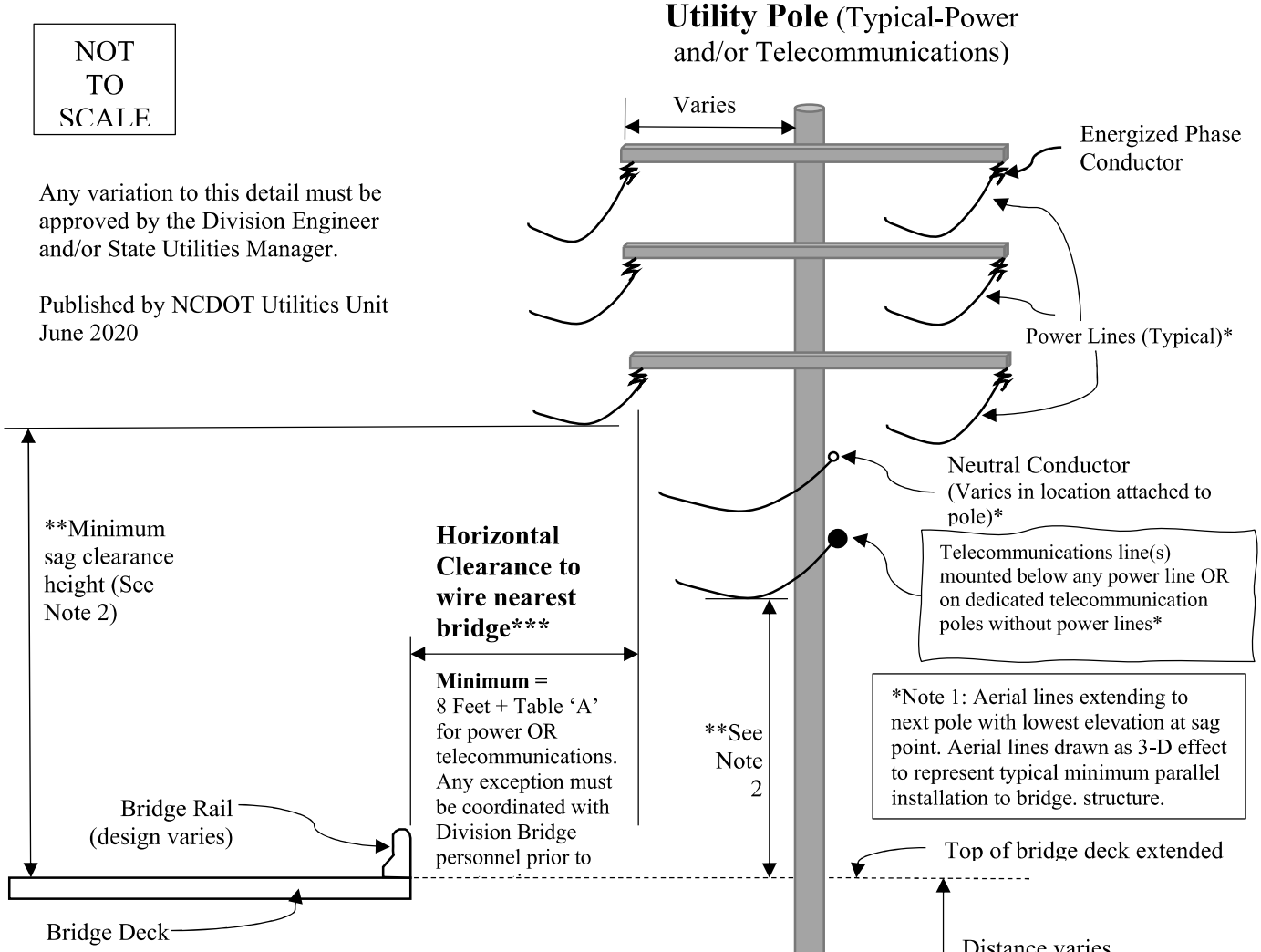
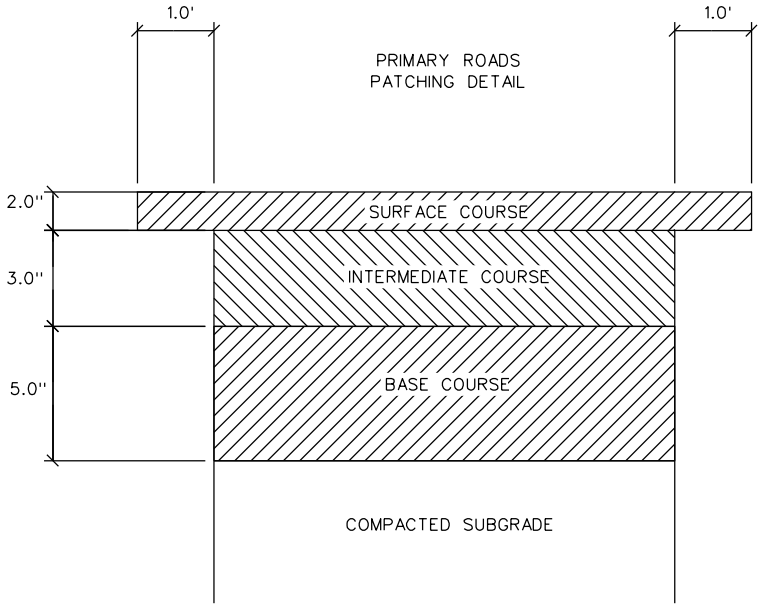


Table A – Minimum Horizontal Clearance Distances to POWER Lines (from OSHA)	
VOLTAGE (nominal, kV, alternating current)	MINIMUM CLEARANCE (feet)
Up to 50	10
Over 50 to 200	15
Over 200 to 350	20
Over 350 to 500	25
Over 500 to 750	35
Over 750 to 1000	45
Over 1000	As established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution

Note 2- **MINIMUN SAG CLEARANCE HEIGHT is 25 feet (applies to telecommunications AND power).

***Note 3: HORIZONTAL CLEARANCE EXCEPTION. If vertical sag clearance height for power above bridge deck is ≥ 45 feet AND voltage is ≤ 350kV, then Minimum Horizontal Clearance may be reduced to 3 feet. Any telecommunications attachment to power pole allowed in this exception must have a minimum 25 feet sag clearance height above bridge deck.



PAVEMENT SCHEDULE

MILLING REQUIRED ONE FOOT AT DEPTH OF 2.0''
ON EACH SIDE OF PAVEMENT CUT AND TRANSVERSELY
ACROSS THE THE WIDTH OF THE TRAVEL LANE.

MATCH EXISTING PAVEMENT DEPTHS OR WHICHEVER IS GREATER.

2.0'' S 9.5 C

3.0'' I 19.0 C

5.0'' B 25.0 C

DRAWING IS NOT TO SCALE

North Carolina Department of Transportation
Subdivision Road Construction, Driveway Access, and
Encroachment Installation Certification Memo

_____
(Date)

_____
_____
_____
_____
(District Engineer Name & Address)

RE: CONSTRUCTION CERTIFICATION
County: _____
Driveway Permit #: _____
and/or Subdivision I.D. #: _____
and/or Encroachment #: _____
Recording Information *(if applicable)*: _____
Route(s) and/or Street(s): _____
_____
_____
Project Name/Phase/Description: _____
_____
_____

I, _____, have reviewed the construction withinthe right-of-way and/or easements required under subject project(s) for the above development and in accordance with the design drawings approved by the North Carolina Department of Transportation (NCDOT) on the following dates:

Driveway Permit #: _____ Date: _____
and/or Subdivision I.D. #: _____ Date: _____
and/or Encroachment #: _____ Date: _____

My inspection and attached testing report(s) and/or supporting documentation indicate the construction within the right-of-way and/or easements have been constructed in accordance with the standards established by current NCDOT Standard Specifications for Roads and Structures, and with the approved plans.

Name: _____

NC PE #: _____

Signature: _____

SEAL

Received by NCDOT: _____

ATTACHMENT FORM

NOTIFICATION FOR UTILITY / NON-UTILITY ENCROACHMENT WITHIN NCDOT R/W

Instructions for use:
This form must be completed in its entirety and submitted directly to the designated personnel in the District Engineer's office via email, fax or hand delivery a minimum of one week prior to construction for the encroachment. If the designated NCDOT personnel names are unknown by the person completing this form, please contact the District Engineer's office to determine that contact info.

Date: _____ Submitted by Name: _____

To: District Personnel Name: _____
District Personnel Email: _____
District Fax No.: _____

This notification is to inform you that we (encroaching party or their contractor) will begin construction work on the following project in a minimum of one week.

Encroachment number
(assigned by NCDOT) for the project: _____

Construction start date: _____

Approximate ending date: _____

Contact NCDOT inspector a minimum of 72 hrs. in advance to set-up Preconstruction meeting in the District Engineer's office or other location as directed by the District Engineer

Preconstruction meeting date & time: _____

Preconstruction meeting address: _____
_____

Type of project: _____
[Examples: power, telecommunication, water, sewer, gas, petroleum, other (describe)]

Contact Info for this project:

Contractor Company Name:
_____
Contractor Contact Name:
_____
Contractor Phone Number:
_____
Contractor Email:
_____

NCDOT Utility Inspector Name:
_____
NCDOT Utility Inspector Phone:
_____
NCDOT Utility Inspector Email:
_____
NCDOT Utility Project Manager Name:
_____
NCDOT Utility Project Manager Phone:
_____
NCDOT Utility Project Manager Email:
_____

TRAFFIC CONTROL AND WORK ZONE SAFETY

The Contractor shall maintain traffic during construction and provide, install, and maintain all traffic control devices in accordance with these project guidelines, the Project Special Provisions, the latest North Carolina Department of Transportation Standard Specifications for Roads and Structures, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall utilize complete and proper traffic controls and traffic control devices during all operations. All traffic control and traffic control devices required for any operation shall be functional and in place prior to the commencement of that operation. Signs for temporary operations shall be removed during periods of inactivity. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists.

Traffic movements through lane closures on roads with two way traffic shall be controlled by flaggers stationed at each end of the work zone. In situations where sight distance is limited, the Contractor shall provide additional means of controlling traffic, including, but not limited to, two-way radios, pilot vehicles, or additional flaggers. Flaggers shall be competent personnel, adequately trained in flagging procedures, and furnished with proper safety devices and equipment, including, but not limited to, safety vests and stop/slow paddles.

All personnel when working in traffic areas or areas in close proximity to traffic shall wear an approved safety vest, or shirt or jacket which meets the color requirements of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall comply with all applicable Federal, State, and local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

Failure to comply with any of the requirements for safety and traffic control of this contract shall result in suspension of work as provided in subarticle 108-7(2) of the Standard Specifications.

SPECIFICATIONS FOR EROSION CONTROL

The Contractor shall seed all disturbed areas as directed by the Engineer, in accordance with Section 1660 of the Standard Specifications. Seeding and mulching shall immediately follow shoulder construction operations and in no case shall shoulder construction operations exceed seeding and mulching operations by more than two weeks without written permission of the Engineer. Failure to meet this requirement shall be cause to cease all operations until it can be met.

Seeding and Mulching: (East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined by the Engineer. All rates are in pounds per acre.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		**September 1 - February 28**	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		**September 1 - February 28**	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

2nd Millennium	Duster	Magellan	Rendition
Avenger	Endeavor	Masterpiece	Scorpion
Barlexas	Escalade	Matador	Shelby
Barlexas II	Falcon II, III, IV & V	Matador GT	Signia
Barrera	Fidelity	Millennium	Silverstar
Barrington	Finesse II	Montauk	Southern Choice II
Biltmore	Firebird	Mustang 3	Stetson
Bingo	Focus	Olympic Gold	Tarheel
Bravo	Grande II	Padre	Titan Ltd
Cayenne	Greenkeeper	Paraiso	Titanium
Chapel Hill	Greystone	Picasso	Tomahawk
Chesapeake	Inferno	Piedmont	Tacer
Constitution	Justice	Pure Gold	Trooper
Chipper	Jaguar 3	Prospect	Turbo
Coronado	Kalahari	Quest	Ultimate
Coyote	Kentucky 31	Rebel Exeda	Watchdog
Davinci	Kitty Hawk	Rebel Sentry	Wolfpack
Dynasty	Kitty Hawk 2000	Regiment II	
Dominion	Lexington	Rembrandt	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on this project.

CRIMPING STRAW MULCH

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8".

Within seven (7) calendar days to fourteen (14) calendar days of completion of any phase of grading, all disturbed areas shall be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion. The Erosion and Sediment Control plan will identify the areas that require seven (7) and/or fourteen (14) calendar day ground stabilization. The Contractor is herein advised to follow all current regulations set forth by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) as defined in the *General Stormwater Permit for Construction Activities NCG-010000*.

Attachment # 1

Special Provisions

Untrenched Construction

Under no condition shall jetting or wet boring, with water, or utility pipelines or encasements under pavements be allowed.

Boring and Jacking

Smooth wall or spiral weld steel pipe may be jacked through dry bores slightly larger than the pipe bored progressively ahead of the leading edge of the advancing pipe as spoil is mucked by the auger back through the pipe. As the dry boring operation progresses, each new section of the encasement pipe shall be butt-welded to the section previously jacked into place. Encasements shall extend at shoulder sections as shown on Attachment # 2. Encasements shall extend to a point outside of the 1:1 projection from three (3) feet behind curbs to the bottom of the nearest pit excavation wall in curb and gutter sections as shown on Attachment # 3.

If voids are encountered or occur outside the encasement pipe, grout holes shall be installed in the top section of the encasement pipe at ten (10) foot centers and the voids filled with 1:3 Portland Cement Grout at sufficient pressure to prevent settlement in the roadway.

In the event an obstruction is encountered during boring and jacking operations, the auger is to be withdrawn and the excessive pipe is to be cut off, capped and filled with 1:3 Portland Cement Grout at sufficient pressure to fill all voids before moving to another site.

Size and wall thickness (3' min. to 10' max. cover) of smooth wall or spiral welded encasement pipe for boring and jacking is as follows:

Pipe Sizes (O.D.)	Wall Thickness
4' to 12-3/4"	0.188
16" to 24"	0.250
30"	0.312
36"	0.375
48"	0.500

The Engineer on record is responsible for the encasement pipe design for cover greater than 10'.

Materials, joints, protective coating, grouting, wall thickness of carrier pipe, welds and cathodic protection shall be in accordance with the applicable industry or governmental codes, as well as the specifications of the Department of Transportation.

Casing pipe shall be sealed at the ends to prevent flowing water and debris from entering the annular space between the casing and the carrier. Plug with concrete, brick link seal, or other material approved by the District Engineer. Ensure drainage of encasement by leaving a 1 inch diameter weep hole in the seal of the lower end of the encasement.

Pump or place flowable fill into the annular void between the carrier pipe and casing pipe 36 inches or larger.

The grade of the top of the pipe or casing within rights-of-way should provide minimum bury as follows:

A.	Longitudinal installations	3'
B.	Crossings under roadways	3' (Below travel surface)
C.	Crossings under ditches (Paved & unpaved)	2'

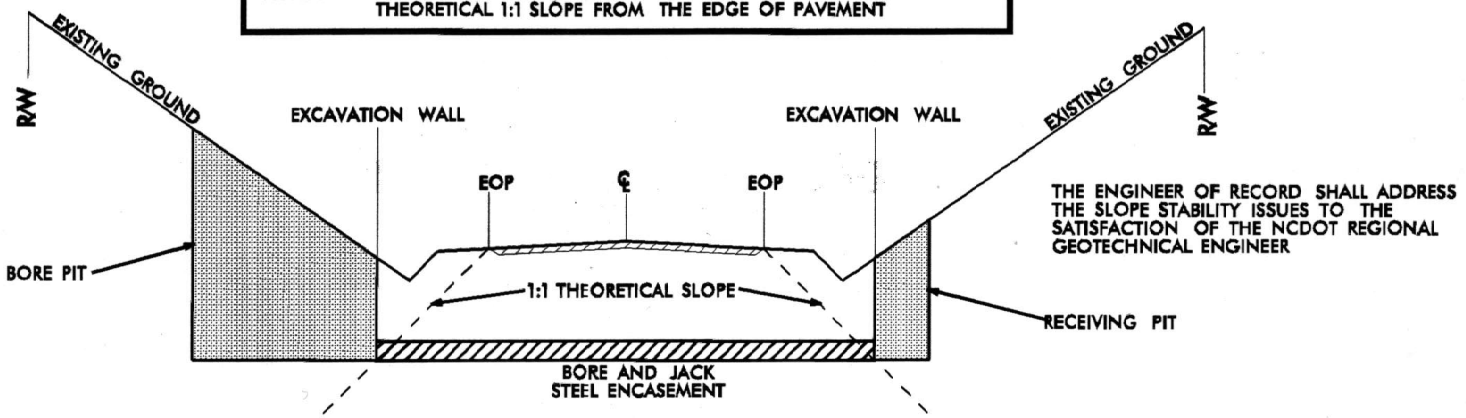
Pipelines carrying flammable, corrosive, expansive energized or unstable transmittants must comply with State, Federal and Utility Codes. In no case shall the depth of bury be less than as indicated above.

REV. 3/11/09

SHOULDER SECTIONS

ATTACHMENT # 2

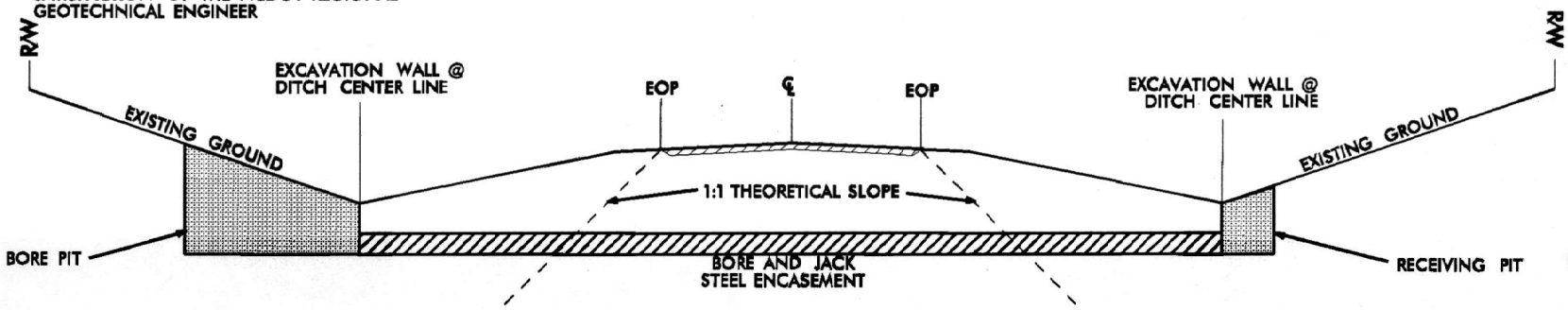
TYPICAL BORE AND JACK INSTALLATION IN ROADWAY CUT SECTION OUTSIDE THEORETICAL 1:1 SLOPE FROM THE EDGE OF PAVEMENT



THE ENGINEER OF RECORD SHALL ADDRESS THE SLOPE STABILITY ISSUES TO THE SATISFACTION OF THE NCDOT REGIONAL GEOTECHNICAL ENGINEER

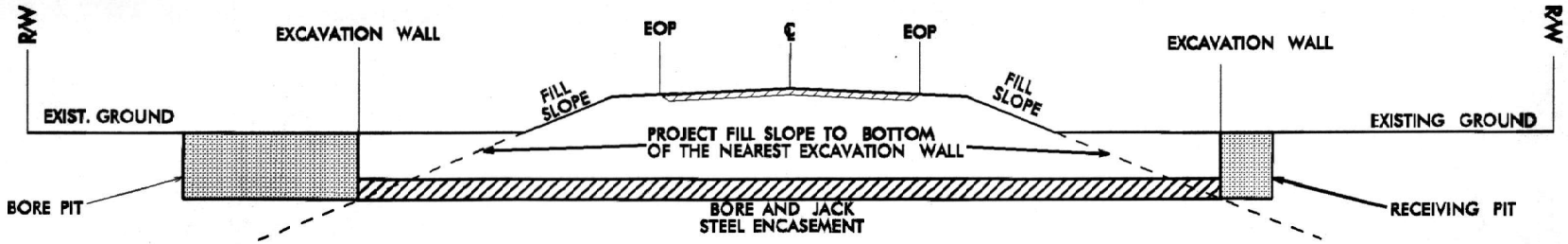
TYPICAL BORE AND JACK INSTALLATION IN ROADWAY CUT SECTION WITH DITCHES OUTSIDE THEORETICAL 1:1 SLOPE FROM THE EDGE OF PAVEMENT

THE ENGINEER OF RECORD SHALL ADDRESS THE SLOPE STABILITY ISSUES TO THE SATISFACTION OF THE NCDOT REGIONAL GEOTECHNICAL ENGINEER



TYPICAL BORE AND JACK INSTALLATION IN ROADWAY IN FILL SECTION

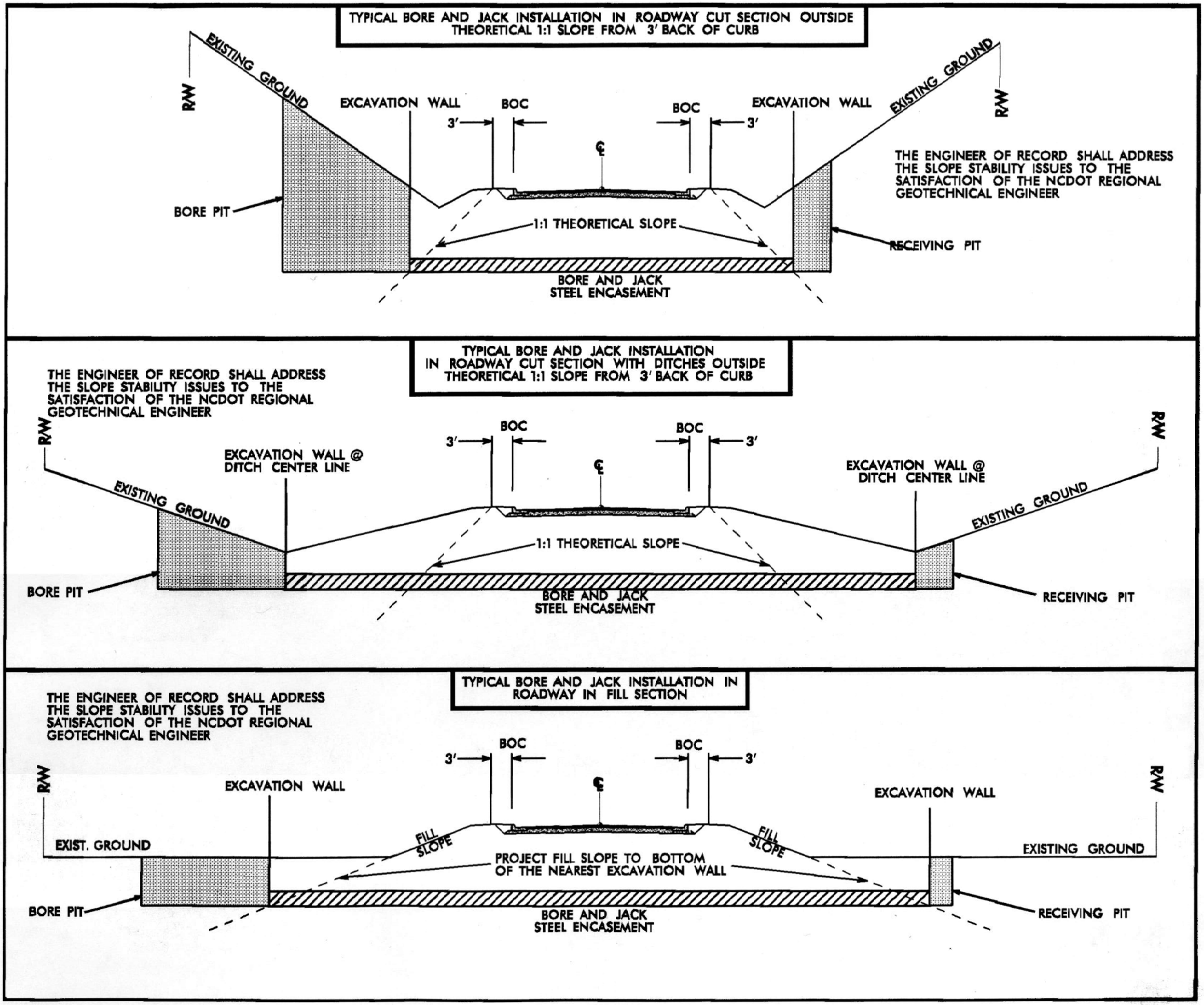
THE ENGINEER OF RECORD SHALL ADDRESS THE SLOPE STABILITY ISSUES TO THE SATISFACTION OF THE NCDOT REGIONAL GEOTECHNICAL ENGINEER



Rev 3/11/09

CURB AND GUTTER SECTIONS

ATTACHMENT # 3



REV. 3/11/09

U.S. Customary Units

Design Speed (mph)	Design ADT	Foreslopes			Backslopes		
		1V:6H or flatter	1V:5H to 1V:4H	1V:3H	1V:3H	1V:5H to 1V:4H	1V:6H or flatter
≤40	UNDER 750[c]	7–10	7–10	[b]	7–10	7–10	7–10
	750–1500	10–12	12–14	[b]	12–14	12–14	12–14
	1500–6000	12–14	14–16	[b]	14–16	14–16	14–16
	OVER 6000	14–16	16–18	[b]	16–18	16–18	16–18
45–50	UNDER 750[c]	10–12	12–14	[b]	8–10	8–10	10–12
	750–1500	14–16	16–20	[b]	10–12	12–14	14–16
	1500–6000	16–18	20–26	[b]	12–14	14–16	16–18
	OVER 6000	20–22	24–28	[b]	14–16	18–20	20–22
55	UNDER 750[c]	12–14	14–18	[b]	8–10	10–12	10–12
	750–1500	16–18	20–24	[b]	10–12	14–16	16–18
	1500–6000	20–22	24–30	[b]	14–16	16–18	20–22
	OVER 6000	22–24	26–32[a]	[b]	16–18	20–22	22–24
60	UNDER 750[c]	16–18	20–24	[b]	10–12	12–14	14–16
	750–1500	20–24	26–32[a]	[b]	12–14	16–18	20–22
	1500–6000	26–30	32–40[a]	[b]	14–18	18–22	24–26
	OVER 6000	30–32[a]	36–44[a]	[b]	20–22	24–26	26–28
65–70[d]	UNDER 750[c]	18–20	20–26	[b]	10–12	14–16	14–16
	750–1500	24–26	28–36[a]	[b]	12–16	18–20	20–22
	1500–6000	28–32[a]	34–42[a]	[b]	16–20	22–24	26–28
	OVER 6000	30–34[a]	38–46[a]	[b]	22–24	26–30	28–30

Notes:

a) When a site-specific investigation indicates a high probability of continuing crashes or when such occurrences are indicated by crash history, the designer may provide clear-zone distances greater than the clear zone shown in Table 3-1. Clear zones may be limited to 30 ft for practicality and to provide a consistent roadway template if previous experience with similar projects or designs indicates satisfactory performance.

b) Because recovery is less likely on the unshielded, traversable 1V:3H fill slopes, fixed objects should not be present in the vicinity of the toe of these slopes. Recovery of high-speed vehicles that encroach beyond the edge of the shoulder may be expected to occur beyond the toe of slope. Determination of the width of the recovery area at the toe of slope should consider right-of-way availability, environmental concerns, economic factors, safety needs, and crash histories. Also, the distance between the edge of the through traveled lane and the beginning of the 1V:3H slope should influence the recovery area provided at the toe of slope. While the application may be limited by several factors, the foreslope parameters that may enter into determining a maximum desirable recovery area are illustrated in Figure 3-2. A 10-ft recovery area at the toe of slope should be provided for all traversable, non recoverable fill slopes.

c) For roadways with low volumes it may not be practical to apply even the minimum values found in Table 3-1. Refer to Chapter 12 for additional considerations for low volume roadways and Chapter 10 for additional guidance for urban applications.

d) When design speeds are greater than the values provided, the designer may provide clear-zone distances greater than those shown in Table 3-1.

NCDOT Required Clearances for Aerial Installations Near Bridge Structures

NOT TO SCALE

Any variation to this detail must be approved by the Division Engineer and/or State Utilities Manager.

Published by NCDOT Utilities Unit
June 2020

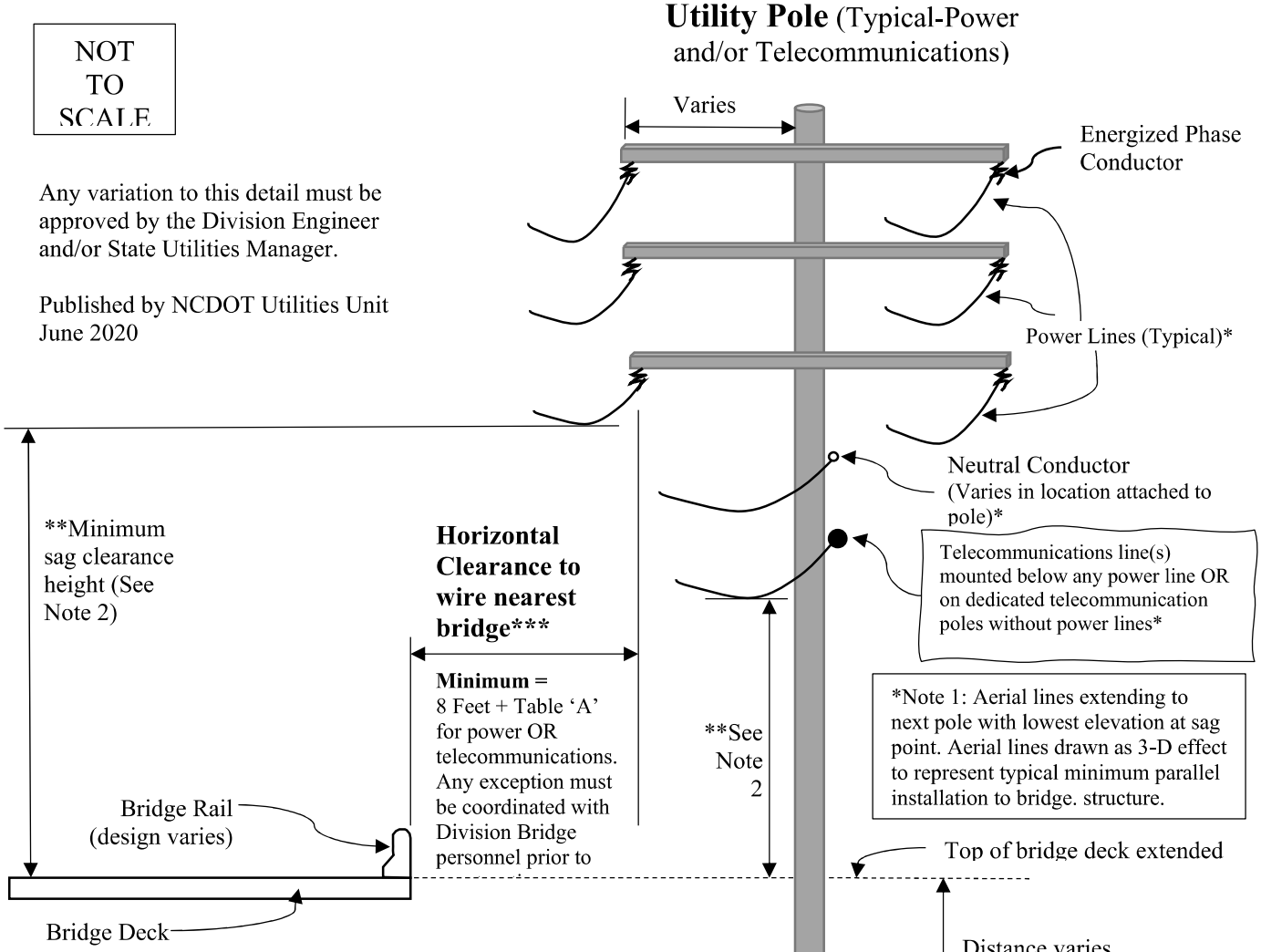
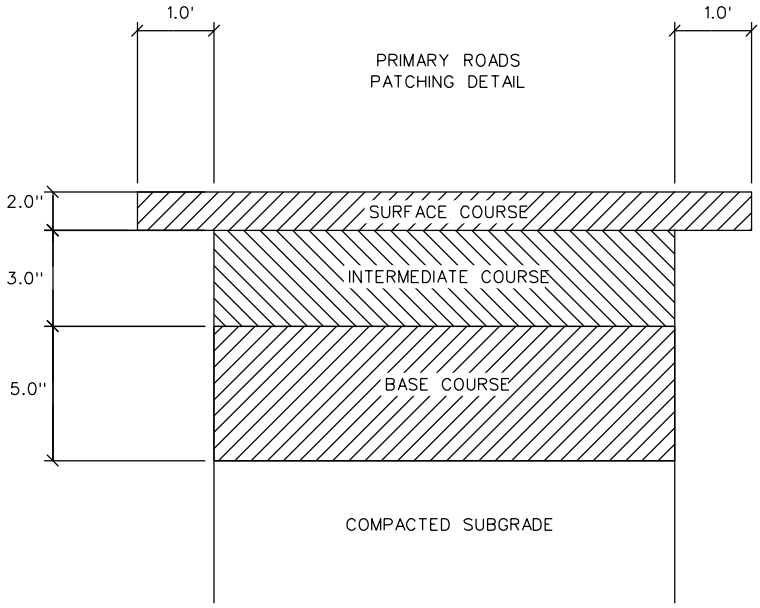


Table A – Minimum Horizontal Clearance Distances to POWER Lines (from OSHA)	
VOLTAGE (nominal, kV, alternating current)	MINIMUM CLEARANCE (feet)
Up to 50	10
Over 50 to 200	15
Over 200 to 350	20
Over 350 to 500	25
Over 500 to 750	35
Over 750 to 1000	45
Over 1000	As established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution

Note 2- **MINIMUN SAG CLEARANCE HEIGHT is 25 feet (applies to telecommunications AND power).

***Note 3: HORIZONTAL CLEARANCE EXCEPTION. If vertical sag clearance height for power above bridge deck is ≥ 45 feet AND voltage is ≤ 350kV, then Minimum Horizontal Clearance may be reduced to 3 feet. Any telecommunications attachment to power pole allowed in this exception must have a minimum 25 feet sag clearance height above bridge deck.



PAVEMENT SCHEDULE

MILLING REQUIRED ONE FOOT AT DEPTH OF 2.0''
ON EACH SIDE OF PAVEMENT CUT AND TRANSVERSELY
ACROSS THE THE WIDTH OF THE TRAVEL LANE.

MATCH EXISTING PAVEMENT DEPTHS OR WHICHEVER IS GREATER.

2.0'' S 9.5 C

3.0'' I 19.0 C

5.0'' B 25.0 C

DRAWING IS NOT TO SCALE

North Carolina Department of Transportation
Subdivision Road Construction, Driveway Access, and
Encroachment Installation Certification Memo

_____
(Date)

_____
_____
_____
_____
(District Engineer Name & Address)

RE: CONSTRUCTION CERTIFICATION
County: _____
Driveway Permit #: _____
and/or Subdivision I.D. #: _____
and/or Encroachment #: _____
Recording Information *(if applicable)*: _____
Route(s) and/or Street(s): _____
_____
_____
Project Name/Phase/Description: _____
_____
_____

I, _____, have reviewed the construction withinthe right-of-way and/or easements required under subject project(s) for the above development and in accordance with the design drawings approved by the North Carolina Department of Transportation (NCDOT) on the following dates:

Driveway Permit #: _____ Date: _____
and/or Subdivision I.D. #: _____ Date: _____
and/or Encroachment #: _____ Date: _____

My inspection and attached testing report(s) and/or supporting documentation indicate the construction within the right-of-way and/or easements have been constructed in accordance with the standards established by current NCDOT Standard Specifications for Roads and Structures, and with the approved plans.

Name: _____

NC PE #: _____

Signature: _____

SEAL

Received by NCDOT: _____

ATTACHMENT FORM

NOTIFICATION FOR UTILITY / NON-UTILITY ENCROACHMENT WITHIN NCDOT R/W

Instructions for use:
This form must be completed in its entirety and submitted directly to the designated personnel in the District Engineer's office via email, fax or hand delivery a minimum of one week prior to construction for the encroachment. If the designated NCDOT personnel names are unknown by the person completing this form, please contact the District Engineer's office to determine that contact info.

Date: _____ Submitted by Name: _____

To: District Personnel Name: _____
District Personnel Email: _____
District Fax No.: _____

This notification is to inform you that we (encroaching party or their contractor) will begin construction work on the following project in a minimum of one week.

Encroachment number
(assigned by NCDOT) for the project: _____

Construction start date: _____

Approximate ending date: _____

Contact NCDOT inspector a minimum of 72 hrs. in advance to set-up Preconstruction meeting in the District Engineer's office or other location as directed by the District Engineer

Preconstruction meeting date & time: _____

Preconstruction meeting address: _____
_____

Type of project: _____
[Examples: power, telecommunication, water, sewer, gas, petroleum, other (describe)]

Contact Info for this project:

Contractor Company Name:
_____
Contractor Contact Name:
_____
Contractor Phone Number:
_____
Contractor Email:
_____

NCDOT Utility Inspector Name:
_____
NCDOT Utility Inspector Phone:
_____
NCDOT Utility Inspector Email:
_____
NCDOT Utility Project Manager Name:
_____
NCDOT Utility Project Manager Phone:
_____
NCDOT Utility Project Manager Email:
_____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

June 25, 2026

Mr. Tommy Burns, Director
Harnett Regional Water
700 McKinney Parkway
Lillington, NC 27546

SUBJECT: Encroachment Agreement along NC Highway 24-87 (Bragg Boulevard), SR 1684 (Little River Road), and SR 1451 (East Manchester Road) in Harnett County (E062-026-26-00317).

Dear Sir:

Attached is an approved R/W form 16.1 and plans for the installation of ①6,863'± of 20"Φ DR-21 C-905 PVC sewer force main, 155'± of 20"Φ Fusible DR-21 C-905 PVC sewer force main encased in 155'± of 36"Φ steel encasement, four (4) 45 degree bends, two (2) 20"Φ plug valves, and three (3) 4"Φ combination air valves by jack & bore and open shoulder cut methods for tie-in and related appurtenances along and beneath NC Highway 24-87. Temporary shoring shall be designed and constructed in accordance with current NCDOT Standard Temporary Shoring Provisions from station 233+00 to station 239+00. ②1,700'± of 20"Φ DR-21 C-905 PVC sewer force main, two (2) 45 degree bends, one (1) 22.5 degree bend, and one (1) 11.25 degree bend by open shoulder cut methods for tie-in and related appurtenances along SR 1684 (Little River Road). ③332'± of 20"Φ DR-21 C-905 PVC sewer force main, 40'± of 20"Φ Fusible DR-21 C-905 PVC sewer force main encased in 40'± of 36"Φ steel encasement, two (2) 45 degree bends, one (1) 4"Φ combination air valve, and one (1) 36"x 20"Φ tapping sleeve and valve by jack & bore and open shoulder cut methods for tie-in and related appurtenances along and beneath SR 1451 (East Manchester Road) in Harnett County as shown on attached plans. (Southwest Wastewater Pump Station and Force Main – Cumberland County, North Carolina).

Location:

Route	**At a point**	**Towards**
①NC 24-87	1.5 miles ± southeast of the intersection of NC 24-87 (Bragg Boulevard) and SR 1117 (Nursery Road)	SR 3145
②SR 1684	3,319'± south of the intersection of SR 3145 (Lucas Road) and NC 24-87 (Bragg Boulevard)	SR 1451
③SR 1451	At the intersection of SR 1451 (East Manchester Road) and SR 1684 (Little River Road)	NC 210

This encroachment is approved subject to the following:

Pre-Construction
Contact Offices & Outside Agency issues/contacts/info

1. Approval may be rescinded upon failure to follow any of the provisions in this permit and may be considered a violation of the encroachment agreement.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
DIVISION SIX / DISTRICT TWO
POST OFFICE BOX 1150
FAYETTEVILLE, NC 28302

Telephone: (910) 364-0601
Fax: (910) 437-2529
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
600 SOUTHERN AVENUE
FAYETTEVILLE, NC 28306

2. **The Encroaching party or their contractor shall provide the following notices prior to construction activity within the NCDOT Right of Way:**
   a. **Three (3) business days advance phone call Mr. Troy L. Baker, Senior Assistant District Engineer at telephone (910) 364-0601 or email to tlbaker2@ncdot.gov to the District Engineer's office.**

   Failure to provide these notifications prior to beginning construction is subject to the Division Engineer's discretion to cease construction activity for this encroachment. NCDOT reserves the right to cease any construction or maintenance work associated with this installation by the encroaching party until the construction or maintenance meets the satisfaction of the Division Engineer or their representative.
3. Prior to beginning work, it is the requirement of the Encroaching Party to contact the appropriate Utility Companies involved and make arrangements to adjust or relocate any utilities that conflict with the proposed work.
4. It shall be the responsibility of the encroaching party to determine the location of utilities within the encroachment area. NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act requires underground utilities to be located by calling 811 prior to construction. The encroaching party shall be responsible for notifying other utility owners and providing protection and safeguards to prevent damage or interruption to existing facilities and maintain access to them.
5. The encroaching party shall notify the appropriate municipal office prior to beginning any work within the municipality's limits of jurisdiction.
6. **Excavation within 1000 feet of a signalized intersection will require notification by the encroaching party to the Division Traffic Engineer at telephone number (910) 364-0606 no less than one week prior to beginning work. All traffic signal or detection cables must be located prior to excavation. Cost to replace or repair NCDOT signs, signals, pavement markings or associated equipment and facilities shall be the responsibility of the encroaching party.**
7. At the option of the District Engineer, a preconstruction meeting including representatives of NCDOT, the encroaching party, contractors and municipality, if applicable, shall be required. A pre-construction conference held between a municipality (or other facility owner) and a contractor without the presence of NCDOT personnel with subsequent construction commencing may be subject to NCDOT personnel ceasing any work on NCDOT right-of-way related to this encroachment until such meeting is held. Contact the District office to schedule.
8. **A NOTIFICATION FOR UTILITY / NON-UTILITY ENCROACHMENT WITHIN NCDOT R/W form (See corresponding attachment) with the scheduled pre-construction meeting and associated construction schedule details must be completed and submitted to the District Engineer's office a minimum of one week prior to construction.**
9. **A qualified NCDOT inspector shall be on the site at all times during construction. The encroaching party (not the utility contractor) shall make arrangements to have a qualified inspector, under the supervision of a Professional Engineer registered in North Carolina, on site at all times during construction. The registered Professional Engineer shall be required to submit a signed and PE sealed certification that the utility was installed in accordance with the encroachment agreement.**

10. **An NCDOT inspector shall be on site during any boring operations beneath all state maintained roadways. Utility installation beneath state maintained roadways performed without the presence of the required NCDOT inspector will be subject to removal and the direction to cease any construction or maintenance work associated with any associated encroachment agreement(s).**

Legal & Right-of-Way Issues

11. This approval and associated plans and supporting documents shall not be interpreted to allow any design change or change in the intent of the design by the Owner, Design Engineer, or any of their representatives. Any revisions or changes to these approved plans or intent for construction must be obtained in writing from the Division Engineer's office or their representative prior to construction or during construction if an issue arises during construction to warrant changes.
12. NCDOT does not guarantee the right of way on this road, nor will it be responsible for any claim for damages brought about by any property owner by reason of this installation. It is the responsibility of the encroaching party to verify the right of way.
13. Encroaching party shall be responsible for obtaining all necessary permanent and/or temporary construction, drainage, utility and/or sight distance easements.
14. All Right of Way and easements necessary for construction and maintenance shall be dedicated to NCDOT with proof of dedication furnished to the District Engineer prior to beginning work.
15. No commercial advertising shall be allowed within NCDOT Right of Way.
16. The encroaching party shall obtain proper approval from all affected pole owners prior to attachment to any pole.
17. This agreement does not authorize installations within nor encroachment onto railroad rights of way. Permits for installations within railroad right of way must be obtained from the railroad and are the responsibility of the encroaching party.

Work Zone Traffic

18. Traffic control shall be coordinated with the District Engineer and the Division Traffic Engineer at telephone (910) 364-0606, prior to construction.

19. WORK ZONE TRAFFIC CONTROL QUALIFICATIONS AND TRAINING PROGRAM

    All personnel performing any activity inside the highway right of way are required to be familiar with the NCDOT Maintenance / Utility Traffic Control Guidelines (MUTCG). No specific training course or test is required for qualification in the Maintenance /Utility Traffic Control Guidelines (MUTCG).

    All flagging, spotting, or operating Automated Flagger Assist Devices (AFAD) inside the highway right of way requires qualified and trained Work Zone Flaggers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

    All personnel involved with the installation of Work Zone Traffic Control devices inside the highway right of way are required to be qualified and trained Work Zone Installers. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

    All personnel in charge of overseeing work zone Temporary Traffic Control operations and installations inside the highway right of way are required to be qualified and trained Work Zone Supervisors. Training for this certification is provided by NCDOT approved training resources and by private entities that have been pre-approved to train themselves.

    For questions and/or additional information regarding this training program please refer to https://connect.ncdot.gov/projects/WZTC/Pages/Training.aspx or call the NCDOT Work Zone Traffic Control Section (919) 814-5000.

20. The party of the second part shall employ traffic control measures that are in accordance with the prevailing federal, state, local, and NCDOT policies, standards, and procedures. These policies, standards, and procedures include, but are not limited to the following:

    a. Manual on Uniform Traffic Control Devices (MUTCD) – North Carolina has adopted the MUTCD to provide basic principles and guidelines for traffic control device design, application, installation, and maintenance. North Carolina uses the MUTCD as a minimum requirement where higher supplemental standards specific to North Carolina are not established. Use fundamental principles and best practices of MUTCD (Part 6, Temporary Traffic Control).
    b. NCDOT Maintenance / Utility Traffic Control Guidelines – This document enhances the fundamental principles and best practices established in MUTCD Part 6, Temporary Traffic Control, incorporating NCDOT-specific standards and details. It also covers important safety knowledge for a wide range of work zone job responsibilities.

21. If the Traffic Control Supervisor determines that portable concrete barrier (PCB) is required to shield a hazard within the clear zone, then PCB shall be designed and sealed by a licensed North Carolina Professional Engineer. PCB plans and design calculations shall be submitted to the District Engineer for review and approval prior to installation.

22. Ingress and egress shall be maintained to all businesses and dwellings affected by the project. Special attention shall be paid to police, EMS and fire stations, fire hydrants, secondary schools, and hospitals.

23. Traffic shall be maintained at all times. All lanes of traffic are to be open during the hours of 7:00 A.M. to 9:00 A.M. and from 4:00 P.M. to 6:00 P.M. Monday through Friday, during any time of inclement weather, **or as directed by the District Engineer**. If the location of work calls for a rolling roadblock on Interstates and divided highway US routes, the restriction is to work only on Sunday from 1:00 A.M. to 10:00 A.M, **or as Directed by the District Engineer**. Any violation of these hours will result in ceasing any further construction by the Encroaching Party or their contractor.
24. Nighttime and weekend operations will NOT be allowed unless written approval is received from the District Engineer. If nighttime or weekend work is allowed or required, all signs must be retro-reflective, and a work zone lighting plan must be submitted for approval prior to construction.
25. Two-way traffic shall be maintained at all times unless designated by the District Engineer. Traffic shall not be rerouted or detoured without the prior written approval from the District Engineer. No utility work will be allowed on state holidays from 7:00 PM the night before through 9:00 AM the day prior to, following or during local events without prior approval from the District Engineer. If the construction is within 1000 feet of a school location or on a designated bus route, the construction shall be coordinated with the school start and end times to avoid traffic delays.
26. Work requiring lane or shoulder closures shall not be performed on both sides of the road simultaneously within the same area.
27. Any work requiring equipment or personnel within 5 feet of the edge of any travel lane of an undivided facility and within 10 feet of the edge of any travel lane of a divided facility shall require a lane closure with appropriate tapers per current *NCDOT Roadway Standard Drawings or MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.*
28. At the discretion of the District Engineer, a traffic control plan shall be developed and submitted under the seal and signature of a Licensed North Carolina Professional Engineer prior to construction. The plan shall be specific to the site and adequately detailed. Issues such as the close proximity to intersections shall be addressed.
29. Temporary and final pavement markings are the responsibility of the encroaching party. Final pavement markings and sign plans shall be submitted with the encroachment request to the Division Traffic Engineer prior to construction. Final pavement markings shall be thermoplastic unless otherwise directed by the Division Traffic Engineer or District Engineer.
30. Any pavement markings that are damaged or obliterated shall be restored by the encroaching party at no expense to NCDOT.
31. Sidewalk closures shall be installed as necessary. Pedestrian traffic shall be detoured around these closures and shall be signed appropriately and in accordance with The American with Disabilities Act Accessibility Guidelines. The encroaching party must adhere to the guidelines for accommodating pedestrians in encroachment work zones as described in the NCDOT Pedestrian Work Zone Accommodations Training found at https://www.youtube.com/watch?v=AOuYa5IW3dg&feature=youtu.be

Roadside Environmental

32. The encroaching party shall comply with all applicable Federal, State and local environmental regulations and shall obtain all necessary Federal, State and local environmental permits, including but not limited to, those related to sediment control, stormwater, wetland, streams, endangered species and historical sites. Additional information can be obtained by contacting the NCDOT Roadside Environmental Engineer regarding the North Carolina Natural Heritage Program or the United States Fish and Wildlife Services. Contact the Division Roadside Environmental Engineer's Office at (910) 364-0603.
33. When surface area in excess of one acre will be disturbed, the Encroacher shall submit a Sediment and Erosion Control Plan which has been approved by the appropriate regulatory agency or authority prior to beginning any work on the Right of Way. Failure to provide this information shall be grounds for suspension of operations. Proper temporary and permanent measures shall be used to control erosion and sedimentation in accordance with the approved sediment and erosion control plan.
34. The Verification of Compliance with Environmental Regulations (VCER-1) form is required for all non-utility encroachment agreements or any utility encroachments when land disturbance within NCDOT right of way exceeds 1 acre. When required, the VCER-1 form must be PE sealed by a NC registered professional engineer who has verified that all appropriate environmental permits (if applicable) have been obtained and all applicable environmental regulations have been followed.
35. All erosion control devices and measures shall be constructed, installed, maintained, and removed by the Encroacher in accordance with all applicable Federal, State, and Local laws, regulations, ordinances, and policies. Permanent vegetation shall be established on all disturbed areas in accordance with the recommendations of the Division Roadside Environmental Engineer. All areas disturbed (shoulders, ditches, removed accesses, etc.) shall be graded and seeded in accordance with the latest *NCDOT Standards Specifications for Roads and Structures* and within 15 calendar days with an approved NCDOT seed mixture (all lawn type areas shall be maintained and reseeded as such). Seeding rates per acre shall be applied according to the Division Roadside Environmental Engineer. Any plant or vegetation in the NCDOT planted sites that is destroyed or damaged as a result of this encroachment shall be replaced with plants of like kind or similar shape.
36. No trees within NCDOT right of way shall be cut without authorization from the Division Roadside Environmental Engineer. An inventory of trees measuring greater than 4 caliper inches (measured 6" above the ground) is required when trees within C/A right of way will be impacted by the encroachment installation. Mitigation is required and will be determined by the Division Roadside Environmental Engineer's Office.
37. Prior to installation, the Encroaching Party shall contact the District Engineer to discuss any environmental issues associated with the installation to address concerns related to the root system of trees impacted by boring or non-utility construction of sidewalk, roadway widening, etc.

38. The applicant is responsible for identifying project impacts to waters of the United States (wetlands, intermittent streams, perennial streams and ponds) located within the NCDOT right-of-way. The discharge of dredged or fill material into waters of the United States requires authorization from the United States Army Corps of Engineers (USACE) and certification from the North Carolina Division of Water Quality (NCDWQ). The applicant is required to obtain pertinent permits or certification from these regulatory agencies if construction of the project impacts waters of the United States within the NCDOT right-of-way. The applicant is responsible for complying with any river or stream Riparian Buffer Rule as regulated by the NCDWQ. The Rule regulates activity within a 50-foot buffer along perennial streams, intermittent streams and ponds. Additional information can be obtained by contacting the NCDWQ or the USACE.
39. The contractor shall not begin the construction until after the traffic control and erosion control devices have been installed to the satisfaction of the Division Engineer or their agent.
40. The contractor shall perform all monitoring and record keeping and any required maintenance of erosion and sediment control measures to maintain compliance with stormwater regulations.

Bonds

41. ~~A Performance and Indemnity Bond in the amount of ****** was posted with the District Engineer's Office on 02/21/2024 by the Party of the Second Part prior to beginning any work within the NCDOT Right of Way. The bond shall be held for a minimum of one year after a satisfactory final inspection of the installation by NCDOT. The bond may be held for a period longer than one year after completion if, in the opinion of NCDOT, the size or complexity of the installation warrants a longer period.~~
42. The release of the bond is subject to a final inspection by NCDOT. Contact the District office to schedule a Final Inspection and to request release of the bond.
43. When a Continuing Indemnity bond is on file with the central Raleigh office, the cashing of that bond may be used to fund any necessary repairs by NCDOT forces for unaddressed defects in workmanship by the encroaching party and/or by their contractor.

Control of Access

44. No access to the job site, parking or material storage shall be allowed along or from the **Control of Access Roadway.**
45. The installation within the Control of Access fence shall not adversely affect the design, construction, maintenance, stability, traffic safety or operation of the controlled access highway, and the utility must be serviced without access from the through-traffic roadways or ramps.
46. The resetting of the Control of Access fence shall be in accordance with the applicable NCDOT standard and as directed by the Division Engineer or their representative.

STIP (or Division Managed) Projects

47. **State Transportation Improvement Project (STIP) HP-0020 is scheduled for future construction. Any encroachment determined to be in conflict with the construction of this NCDOT project shall be removed and/or relocated at the encroaching party's expense.**

Construction

General

48. An executed copy of the encroachment agreement, provisions and approved plans shall be present at the construction site at all times. If safety or traffic conditions warrant such an action, NCDOT reserves the right to further limit, restrict or suspend operations within the right of way.
49. If the approved method of construction is unsuccessful and other means are required, prior approval must be obtained through the District Engineer before construction may continue.
50. Any REVISIONS marked in RED on the attached non-PE sealed plans shall be incorporated into and made part of the approved encroachment agreement.
51. All disturbed areas are to be fully restored to current NCDOT minimum roadway standards or as directed by the Division Engineer or their representative. Disturbed areas within NCDOT Right-of-Way include, but not limited to, any excavation areas, pavement removal, drainage or other features.
52. The encroaching party shall notify the Division Engineer or their representative immediately in the event any drainage structure is blocked, disturbed or damaged. All drainage structures disturbed, damaged or blocked shall be restored to its original condition as directed by the Division Engineer or their representative.
53. At points where the utility is placed under existing storm drainage, the trench will be backfilled with excavatable flowable fill up to the outside diameter of the existing pipe.
54. Unless specified otherwise, during non-working hours, equipment shall be located away from the job site or parked as close to the right of way line as possible and be properly barricaded in order not to have any equipment obstruction within the Clear Zone. Also, during non-working hours, no parking or material storage shall be allowed along the shoulders of any state-maintained roadway.
55. The Encroaching Party and/or their Contractor shall comply with all OSHA requirements. If OSHA visits the work area associated with this encroachment, the District Office shall be notified by the encroaching party immediately if any violations are cited.
56. Any guardrail removed or damaged during construction shall be replaced or repaired to its original condition, meeting current NCDOT standards or as directed by the Division Engineer or their representative.
57. Right of Way monuments disturbed during construction shall be referenced by a registered Land Surveyor and reset after construction.
58. All Traffic signs moved during construction shall be reinstalled as soon as possible to the satisfaction of the Division Engineer or their representative.
59. Detection tape, where required by NCGS § 87-115 through § 87-130 of the Underground Utility Safety and Damage Prevention Act, shall be buried in the trench approximately 1 foot above the installed facility. Where conduit is installed in the right of way and is not of ferrous material, locating tape or detection wire shall be installed with the conduit.
60. All driveways disturbed during construction shall be returned to a state comparable with the condition of the driveways prior to construction.

61. Conformance with driveway permit review should be required in conjunction with this encroachment agreement. In the event there is a conflict between the driveway permit and the encroachment agreement, the District Engineer should resolve the conflict and notify the parties involved.

Engineering

62. All traffic control, asphalt mixes, structures, construction, workmanship and construction methods, and materials shall be in compliance with the most-recent versions of the following resources: *ASTM Standards*, *Manual on Uniform Traffic Control Devices, NCDOT Utilities Accommodations Manual, NCDOT Standard Specifications for Roads and Structures, NCDOT Roadway Standard Drawings,* NCDOT *Asphalt Quality Management System* manual, **and the approved plans.**
63. Regulator stations, metering stations, cathodic test stations, and anode beds are not permitted within NCDOT right of way. Header wires are permitted.
64. Non-Utility Communication and Data Transmission installations (ground mounted type or Small Cell pole-mounted type) must adhere to guidelines in the Utilities Accommodations Manual and, when located within municipal jurisdictions, are subject to review and approval by municipal ordinances and any additional municipal approval for proximity to historic districts and landmarks. All wiring and related telecommunications work shall conform to the latest regulations by the Federal Communications Commission.
65. All wiring and related electrical work shall conform to the latest edition of the National Electrical Safety Code.
66. Prior approval for any blasting must be obtained from the Division Engineer or their representative.

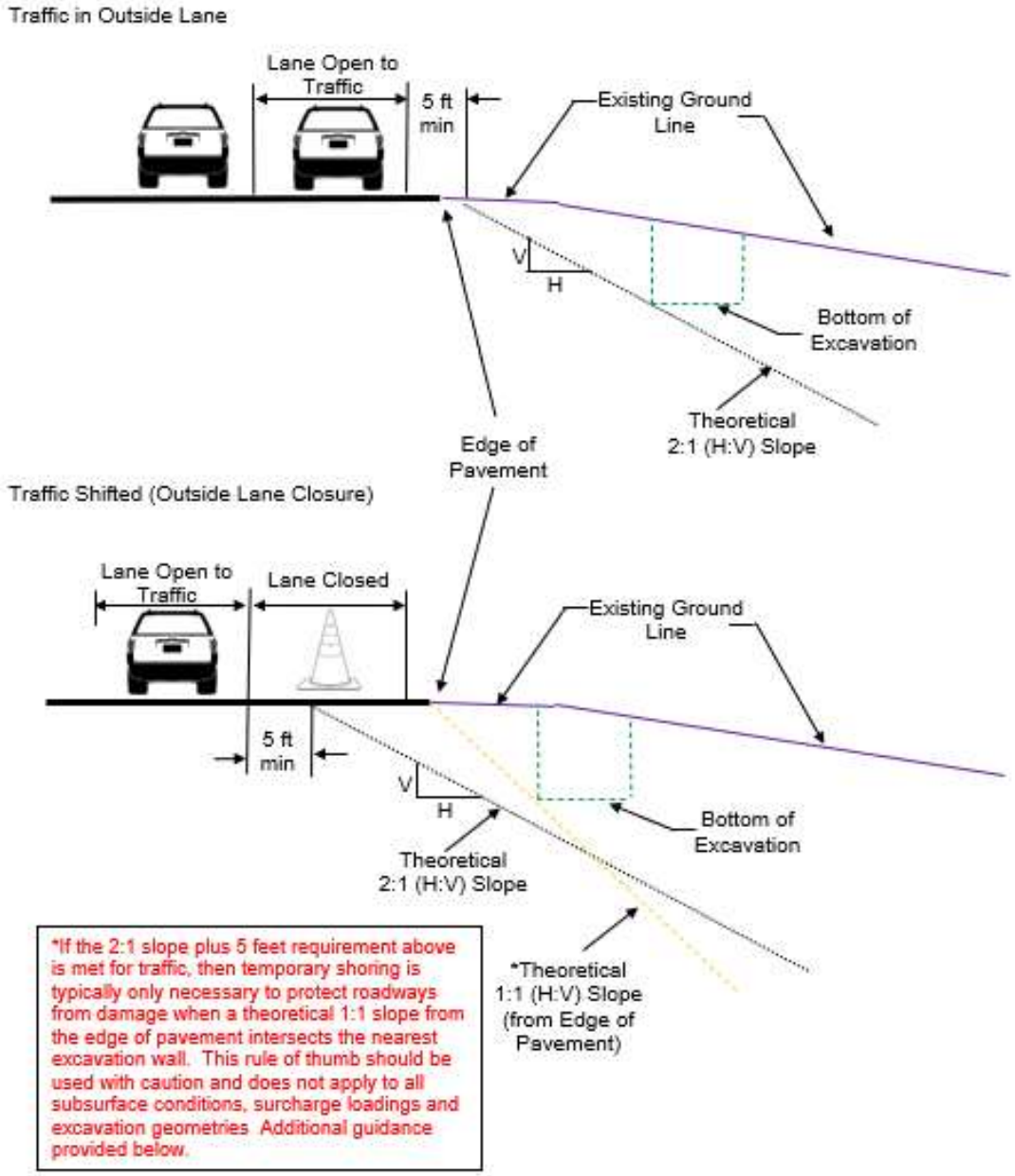
Location within R/W

67. **The utility shall be installed within five (5) feet of the right of way line**.
68. All utility access points, such as manholes, vaults, handholes, splice boxes and junction boxes shall be located as close to the right of way line as possible and shall not be placed in the ditch line, side slopes of the ditches or in the pavement. All manholes, handholes, splice boxes, junction boxes and vaults and covers shall be flush with the ground when located within the vehicle clear zone. Slack loops for telecommunications in industry standard housing units shall be buried a minimum of 18 inches when buried or meet minimum NCDOT vertical and horizontal clearances when installed aerially.
69. Any utility markers, cabinets, pedestals, meter bases and services for meter reading required shall be as close to the Right of Way line as possible. If it is not feasible to install at or near Right of Way line, then written approval shall be obtained from NCDOT prior to installation.
70. Fire Hydrants shall be of the breakaway type. Hydrants shall be placed near the right of way line. In curb and gutter sections with written approval from the District, the hydrants may be placed at 6' behind the back of the curb or minimum 2' back of sidewalk.
71. Hot box (aka ASSE 1060) or Safe-T-Cover type enclosures covering utility main pipe joints, backflow preventers, valves, vent pipes, cross connections, pumps, grinders, irrigation assemblies, transformers, generators, and other similar large appurtenances shall be located outside sight distance triangles and off of the NCDOT Right-of-Way.

72. Sprinkler heads shall be located a minimum of 10 feet from the edge of pavement, edge of shoulder, or back of curb whichever is greater and shall be directed so that water does not spray or drain on the roadway surface, sidewalk, or passing vehicles at any time. Upon completion of the installation and prior to activation of the system, the Encroacher shall contact the District Engineer to schedule a test of the system to verify the spray pattern. Sprinkler systems shall not be operated during periods of high wind or freezing weather, or to the extent that the subgrade adjacent to the pavement structure becomes saturated. NCDOT reserves the right to require immediate termination and removal of any sprinkler system which in its judgement and opinion adversely affects safety, maintenance, or operation of the roadway.
73. Luminaire and/or utility poles and guy wires shall be set as close to the Right of Way line as practical and outside the Clear Zone in accordance with the latest version of the AASHTO Roadside Design Guide (See corresponding attachment) or made breakaway in accordance with the requirements of NCHRP Report 350. Any relocation of the utility poles from the original design due to Clear Zone requirements shall require a re-submittal for the utility design.
74. Luminaire and/or utility poles shall be set a minimum of 5'-6" behind face of any guardrail or otherwise sufficiently protected. However, standard placement may be reduced to 3'-6" behind face of guardrail when posts are spaced 3'-1 ½", or where speed limit is less than 55 MPH.
75. **Any cabinets, pedestals, vents or any other aboveground utility appurtenances installed as part of the underground system extending more than four (4) inches above the ground shall be of breakaway type, located at or near the right of way line, outside the clear zone, outside sight distance triangles and shall not interfere with ADA requirements.**
76. **A minimum of two (2) feet clearance is required for utility installations beneath drainage pipes 54"Φ and below (or equivalent pipe sizes), headwalls, and a minimum of two (2) feet clearance below the flowline of streams. A minimum of five (5) feet clearance is required for utility installations beneath or near drainage pipes 54"Φ and above (or equivalent pipe sizes) as well as box culverts. If directional drilling, a minimum ten (10) foot clearance distance is required from drainage structures.**

Excavation

77. Excavation material shall not be placed on pavement.
78. It is the responsibility of the encroaching party or their contractor to prevent any mud/dirt from tracking onto the roadway. Any dirt which may collect on the roadway pavement from equipment and/or truck traffic on site shall be immediately removed to avoid any unsafe traffic conditions.
79. The utility shall be installed within 5 feet of the right of way line and outside the 5-foot minimum from travel lane plus theoretical 2:1 slope from the edge of pavement to the bottom of the nearest excavation wall for temporary shoring. Temporary shoring is required when a theoretical 2:1 slope from the bottom of excavation will intersect the existing ground line less than 5 feet from the outside edge of an open travel lane as shown in the figure below or when a theoretical 2:1 slope from the bottom of excavation will intersect any existing structure, support, utility, property, etc. to be protected.



If the 2:1 slope plus 5 feet requirement above is met for traffic, then temporary shoring is typically only necessary to protect roadways from damage when a theoretical 1:1 slope from the edge of pavement intersects the nearest excavation wall. This rule of thumb should be used with caution and does not apply to all subsurface conditions, surcharge loadings and excavation geometries. Situations where this 1:1 slope is not recommended include groundwater depth is above bottom of excavation or excavation is deeper than 10 feet or in Type B or C soils as defined by OSHA Technical Manual. Temporary shoring may be avoided by locating trenches, bore pits, and other excavations far enough away from the open travel lane, edge of pavement and any existing structure, support, utility, property, etc. to be protected.

Temporary shoring shall be designed and constructed in accordance with current NCDOT Standard Temporary Shoring provisions (refer to https://connect.ncdot.gov/resources/Specifications/Pages/2018-Specifications-and-Special-Provisions.aspx and see SP11 R002

a. Temporary excavation shoring, such as sheet piling, shall be installed. The design of the shoring shall include the effects of traffic loads. The shoring system shall be designed and sealed by a licensed North Carolina Professional Engineer. Shoring plans and design calculations shall be submitted to the Division Engineer for review and approval prior to construction. (See NCDOT *Utilities Accommodations Manual* for more information on requirements for shoring plans, design calculations, and subsurface investigation report.) **Trench boxes shall not be accepted as temporary shoring and will not be approved for use in instances where shoring is required to protect the highway, drainage structure, and/or supporting pavement or structure foundation**.

b. All trench excavation inside the limits of the theoretical two-to-one slope plus 5 feet requirement, as defined by the policy, shall be completely backfilled and compacted at the end of each construction day. No portion of the trench shall be left open overnight. Any excavation that is not backfilled by the end of the workday must address any safety and traveling public concerns including accommodations for bicycles, pedestrians and persons with disabilities.

c. The trench backfill material shall meet the Statewide Borrow Criteria. The trench shall be backfilled in accordance with Section 300-7 of the latest *NCDOT Standard Specifications for Roads and Structures,* which basically requires the backfill material to be placed in layers not to exceed 6 inches loose and compacted to at least 95% of the density obtained by compacting a sample in accordance with AASHTO T99 as modified by DOT.

d. At the discretion of the Division Engineer, a qualified NCDOT inspector shall be on the site at all times during construction. The encroaching party shall reimburse NCDOT for the cost of providing the inspector. If NCDOT cannot supply an inspector, the encroaching party (not the utility contractor) should make arrangements to have a qualified inspector, under the supervision of a licensed North Carolina Professional Engineer, on the site at all times. The Professional Registered Engineer shall certify that the utility was installed in accordance with the encroachment agreement and that the backfill material meets the Statewide Borrow Criteria.

e. The length of parallel excavation shall be limited to the length necessary to install and backfill one joint of pipe at a time, not to exceed twenty-five (25) feet.

80. All material to a depth of 8 inches below the finished surface of the subgrade shall be compacted to a density equal to at least 100% of that obtained by compacting a sample of the material in accordance with AASHTO T99 as modified by the Department. The subgrade shall be compacted at a moisture content which is approximately that required to produce the maximum density indicated by the above test method. The contractor shall dry or add moisture to the subgrade when required to provide a uniformly compacted and acceptable subgrade. The option to backfill any trenches with dirt or either #57 stone or #78 stone with consolidation with a plate tamp and without a conventional density test may be pursued with the written consent of the District Engineer. If this option is exercised, then roadway ABC stone and asphalt repair as required will also be specified by the District Engineer.

Boring

81. Boring equipment will be provided of a type and size to facilitate boring in the local geologic conditions and shall be able to facilitate the encroachment work.

82. When Horizontal Directional Drilling (HDD) is used, the following stipulations apply:

    a. Use drilling fluids as appropriate for the type soils but use of water alone is prohibited. Pump drilling fluids only while drilling or reaming. Directional boring using jetting with a Bentonite (or equivalent material) slurry is recommended. Monitor flow rates to match the amount leaving the bore hole and do not increase pressure or flow to free stuck drill heads, reamers or piping. Open cutting to retrieve stuck drill heads is not allowed without prior permission from the District Engineer.

    b. The minimum depth shall adhere to the table below for transverse (under non-controlled access, partial controlled access, or limited controlled access roadway) installations and refers to maximum diameter of hole drilled and not the dimension of the carrier or encasement pipe.

Diameter of Drilled Hole (Backream)	Minimum Depth of Cover
2" to 6”	5 feet
>6” to 15”	12 times hole diameter (e.g. 6-inch hole means 6 feet minimum depth)
>15” to 36”	15 feet or greater

    c. Under fully controlled access roadway installations, the minimum depth for transverse crossings shall be 15 feet under any pavement (ramps or thru lanes)

    d. An overbore (backream diameter) shall not be more than 1.5 times the outside diameter of the pipe or encasement under any highway for pipes 12 inches in diameter or less. For pipes with outer diameter larger than 12 inches, the overbore may be no larger than outer diameter of pipe plus 6 inches. An overbore exceeding 1.5 times greater than the outside diameter of the pipe or encasement may be considered if the encroachment agreement includes a statement signed and sealed by a licensed North Carolina Professional Engineer indicating that an overbore in excess of 1.5 times the outside diameter of the pipe or encasement will appropriately arch and no damage will be done to the pavement or sub-grade.

    e. Directional boring is allowed beneath embankment material in naturally occurring soil.

    f. Any parallel installation utilizing the directional boring method shall be made at a minimum depth of three (3’) feet (cover) below the ground surface and outside the theoretical 1:1 slope from the existing edge of pavement except where the parallel installation crosses a paved roadway.

    g. All directional bores shall maintain ten (10) feet minimum (clear) distance from the nearest part of any structure, including but not limited to bridges, footings, pipe culverts or box culverts. Directional bores are not allowed beneath bridge footings, culvert wingwall footings, slope protection or retaining walls.

h. The tip of the drill string shall have a cutter head.
i. Detection wire shall be installed with non-ferrous material.
j. HDPE pipe installed by directional boring shall not be connected to existing pipe or fittings for one (1) week from the time of installation to allow tensional stresses to relax.

Aerial clearances

83. Vertical clearance of overhead power and communication lines shall meet the National Electrical Safety Code requirements except the minimum vertical clearance shall be 18' for crossings over NCDOT roadways (24' over Fully Controlled Access roadways) and 16' for parallel installations.

84. When applicable for aerial installations, in relation to the bridge, the utility line shall be located with minimum clearances as indicated in Figure 3-3 in the Utilities Accommodations Manual for NCDOT **Required Clearances for Aerial Installations by Encroachment Near Bridge Structures**.

Pavement Detail and Repair

85. The paving of this roadway shall be in accordance with the latest version of NCDOT Standard Specifications, Sections 610, 1012 and 1020. The Contractor shall follow all procedures of the latest Quality Management System (QMS) Asphalt Manual for asphalt pavement - Maintenance Version (see https://connect.ncdot.gov/resources/Materials/MaterialsResources/Forms/Default.aspx) to find the most recent version. The Contractor must adhere to all testing requirements and quality control requirements specified. The Contractor shall contact the NCDOT Division QA Supervisor prior to producing plant mix and make the Supervisor aware that the mix is being produced for a future NCDOT road. Contact the District Engineer to determine the NCDOT Division QA Supervisor. Only NCDOT approved mix designs will be acceptable. A Quality Control Plan shall be submitted (as Directed by the District Engineer) to the District Engineer's Office prior to asphalt production utilizing form QMS-MV1. Failing mixes and/or densities are subject to penalties including monetary payments or removal and replacement. To minimize traffic queuing in construction areas, the possibility of traffic detours may be considered when working on high traffic routes even if traffic control is used. The District Engineer may require traffic detours.

86. When paving beyond utility installation is involved, a Roadway certification report sealed by a Professional Engineer shall be submitted to the District Engineer's office indicating the following:
    - Pavement thickness by type
    - Pavement density, core and/or test locations
    - Base thickness
    - Base density
    - Subgrade density

    Test frequency and method shall be in conformance with the NCDOT *Materials and Tests Manual*. Test must be performed by a Certified Technician including name and Certification number on report.

87. **"Potholing" (or "daylighting") pavement cores to expose existing utilities shall be made with a circular minimum 6" to maximum 18" diameter "test" hole to a maximum depth of 12 inches.** Pavement core locations shall not be placed in the wheel path whenever possible. Vacuum excavation shall be utilized to expose underground utilities below pavement subgrade. Displaced dirt and rock debris must be suctioned away from the excavation area through a large hose to a vacuum truck and disposed by the encroaching party. Avoid using mechanized equipment in the proximity of all exposed underground utility lines. Pavement cores shall be repaired within the same working day. The pavement core shall be retained and evaluated for reuse to fill the core hole.

    The excavation shall be backfilled and compacted with select material to the bottom of the existing pavement structure or as indicated by the District Engineer. If in good condition, the retained core shall be placed in the hole and secured with a waterproof, mechanical joint. If the pavement core is damaged and cannot be re-used, the core may be replaced with the surface mix, S 9.5 C. The asphalt patch shall match the thickness of the existing asphalt or four inches, whichever is greater and the use of NCDOT approved sealant applied to the cracks to fill the voids. All materials must be listed on the NCDOT Approved Products List (APL) found at: https://apps.ncdot.gov/vendor/approvedproducts/.

88. All open cuts **(if permitted)** on primary routes will require full depth patching with 5.0" of B 25.0 B (ACBC) Asphalt Concrete Base Course, 3.0" of I 19.0 B (ACIC) Asphalt Concrete Intermediate Course and 2.0" of S 9.5 B (ACSC) Asphalt Concrete Surface Course the same day as cut is made. It will also be required to mill the existing pavement surface at a depth of 2.0" and a width of 1.0' on each side of the cut and transversely across the width of the travel lane to key in the patch with the existing pavement surface in accordance with the attached detail.

89. All open cuts **(if permitted)** on secondary routes will require full depth patching with 4.0" of B 25.0 C (ACBC) Asphalt Concrete Base Course and 3.0" of S 9.5 C (ACSC) Asphalt Concrete Surface Course the same day as cut is made. It will also be required to mill the existing pavement surface at a depth of 1.5" and a width of 1.0' on each side of the cut and transversely across the width of the travel lane to key in the patch with the existing pavement surface in accordance with the attached detail.

90. Eight inches of ABC will be used as the base. Compaction test shall be performed at the location of every open cut that crosses NCDOT roadways. The owner will be required to have an approved laboratory furnish the District Office a copy of the test results.

91. Pavement cuts shall be repaired the same day the cuts are made unless an asphalt patch cannot be accomplished the same day due to material availability or time restrictions. When the asphalt patch is not feasible, the following apply:
    a. The pavement cut shall be filled to the surface with ABC stone or Flowable Fill per NCDOT's Standards and Specifications.
    b. Once the cut is filled, a minimum ¾-inch steel plate shall be placed and pinned to prevent moving. Plates shall be designed large enough to span a minimum of 1-foot on all sides on the pavement cut.
    c. When flowable fill is used, it shall cure for 24 hours prior to any asphalt material placement. Flowable fill bleed water shall not be present during paving operations. Paving shall not cause damage (shoving, distortion, pumping, etc.) to the flowable fill.
    d. Install and leave "BUMP" signs according to MUTCD until the steel plate has been removed. Once the flowable fill has cured, remove the steel plate, and mill/fill according to the directions of the District Engineer.
    e. All pavement cuts must be sealed with NCDOT approved sealant to prevent future pavement separation or cracking.
92. **Any pavement damaged because of settlement of the pavement or damaged by equipment used to perform encroachment work, shall be re-surfaced to the satisfaction of the District Engineer. This may include the removal of pavement and a 50' mechanical overlay. All pavement work and pavement markings (temporary and final) are the responsibility of the Encroaching Party.**
93. All concrete installed within NCDOT rights of way shall be constructed in accordance with the latest NCDOT **Standard Specifications for Roads and Structures** and **Roadway Standard Drawings** and Amendments or Supplementals thereto. All concrete shall be an approved NCDOT Class B mix. All materials testing results shall be provided to the District Engineer upon completion of the project.
94. All concrete sidewalk installed within NCDOT rights of way shall be constructed in accordance with the latest NCDOT **Standard Specifications for Roads and Structures** and **Roadway Standard Drawings** (Std. Dwg. No. 846.01 and 848.01) and Amendments or Supplementals thereto. All concrete shall be an approved NCDOT Class B mix. All materials testing results shall be provided to the District Engineer upon completion of the project.
95. All ADA compliant curb ramps shall be constructed in accordance with the latest NCDOT **Standard Specifications for Roads and Structures** and **Roadway Standard Drawings** (Std. Dwg. No. 848.06) and Amendments or Supplementals thereto including but not limited to the Alternate Curb Ramp Designs (Curb Ramp Details - Parallel Ramps). All concrete shall be an approved NCDOT Class B mix. All materials testing results shall be provided to the District Engineer upon completion of the project.
96. All 30" curb and gutter within NCDOT rights of way shall be constructed with Class B concrete in accordance with Section 846 of the latest NCDOT **Standard Specifications for Roads and Structures** and **Roadway Standard Drawings** (Std. Dwg. No. 846.01) and Amendment or Supplemental thereto or as directed by the engineer. All concrete testing results shall be provided to the District Engineer's office at time of project completion.

Post Construction

Close out/ Inspection

97. The Encroaching party shall notify the District Engineer's office within 2 business days after construction is complete. The District Engineer may perform a construction inspection. Any deficiencies may be noted and reported to the encroaching party to make immediate repairs or resolve any issues to restore the right-of-way to a similar condition prior to construction, including pavement, signage, traffic signals, pavement markings, drainage, structures/pipes, or other highway design features.

98. At the discretion of the District Engineer, a final inspection report may be provided to the encroaching party upon satisfactory completion of the work.

99. A written acknowledgement of the completed work by the District Engineer's office begins the one-year warranty period associated with the performance bond.

100. **A copy of the "as-built" plan shall be submitted to the District Engineer's office (online encroachment database) in a PDF format and in a current ESRI GIS format within 4 weeks of construction along with an executed Certification Memo. The As-Built drawing(s) shall depict the horizontal and vertical locations of all utilities and associated appurtenances.**

101. A copy (in PDF format) of the completed ground water analysis shall be given to the District Engineer, including detailed drawings of the "as-built" wells showing location, depth and water level in well.

If further information or assistance is needed in reference to this project, please feel free to call Mr. Lee R. Hines, Jr. (Richie), PE, District Engineer at (910) 364-0601.

Sincerely,

Initial TLB

Signed by: Wallace "Lee" Jernigan, Jr.
572B91E4382441A...

Wallace "Lee" Jernigan, Jr., PE
Division Engineer

WLJ:tlb:eab

cc: https://connect.ncdot.gov/site/Permits/Pages/All-Submissions.aspx

ROUTE HWY 24/87, SR:1684, SR:1451 PROJECT SOUTHWEST WW PUMP STATION & FORCE MAIN COUNTY OF HARNETT/CUMBERLAND STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

-AND-

HARNETT REGIONAL WATER
700 McKinney Parkway
Lillington, NC 27546

RIGHT OF WAY ENCROACHMENT AGREEMENT
PRIMARY AND SECONDARY HIGHWAYS

THIS AGREEMENT, made and entered into this the 25 ~~12th~~ day of June ~~MARCH~~ 20 26 ~~26~~ by and between the Department of Transportation, party of the first part; and HARNETT REGIONAL WATER party of the second part,

WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) NC HWY 24/87 (BRAGG BLVD.), SR:1684 (LITTLE RIVER RD.) SR:1451 (E MANCHESTER RD) , located BEGINNING AT THE HARNETT COUNTY/CUMBERLAND COUNTY LINE AND ALONG THE SOUTHERN CORRIDOR OF HWY 24/87 and SR 1684 (Little River Rd.) BEFORE ENDING ON SR 1451 (E. MANCHESTER RD.) APROXIMATELY 325 LF NORTH OF THE INTERSECTION WITH SR:1684(LITTLE RIVER RD).

with the construction and/or erection of: APPROXIMATELY 9,090 LF OF 20" PVC SEWER FORCEMAIN PIPING, FITTINGS, AIR RELEASE VALVES, LINE VALVES AND ALL APPURTENANCES, INCLUDING A 195 LINEAR FOOT BORE AND JACK UNDER HWY. 87.

See Approval Letter

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the installation, operation, and maintenance of the above described facility will be accomplished in accordance with the party of the first part's latest UTILITIES ACCOMMODATIONS MANUAL, and such revisions and amendments thereto as may be in effect at the date of this agreement. Information as to these policies and procedures may be obtained from the Division Engineer or State Utilities Manager of the party of the first part.

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to the installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the construction site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

During the performance of this contract, the second party, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

a. Compliance with Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the U. S. Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

b. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials

and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

c. Solicitations for Subcontracts, including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

d. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

e. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to,

(1) withholding of payments to the contractor under the contract until the contractor complies, and/or
(2) cancellation, termination or suspension of the contract, in whole or in part.

f. Incorporation of Provisions: The contractor shall include the provisions of paragraphs "a" through "f" in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Department of Transportation to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

R/W (161) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

Initial TLB

BY: Signed by: Wallace "Lee" Jernigan, Jr.
DocuSigned by:
DIVISION ENGINEER

ATTEST OR WITNESS:

Amberly Ives
Amberly Ives
Administrative Assistant

DocuSigned by:
Tommy Burns
Tommy Burns

Director - Harnett Regional Water
Second Party

INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the State Utilities Manager. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the existing and/or proposed encroachment.
4. Length, size and type of encroachment.
5. Method of installation.
6. Dimensions showing the distance from the encroachment to edge of pavement, shoulders, etc.
7. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
8. Drainage structures or bridges if affected by encroachment (show vertical and horizontal dimensions from encroachment to nearest part of structure).
9. Method of attachment to drainage structures or bridges.
10. Manhole design.
11. On underground utilities, the depth of bury under all traveled lanes, shoulders, ditches, sidewalks, etc.
12. Length, size and type of encasement where required.
13. On underground crossings, notation as to method of crossing - boring and jacking, open cut, etc.
14. Location of vents.

GENERAL REQUIREMENTS

1. Any attachment to a bridge or other drainage structure must be approved by the State Utilities Manager in Raleigh prior to submission of encroachment agreement to the Division Engineer.
2. All crossings should be as near as possible normal to the centerline of the highway.
3. Minimum vertical clearances of overhead wires and cables above all roadways must conform to clearances set out in the National Electric Safety Code.
4. Encasements shall extend from ditch line to ditch line in cut sections and 5' beyond toe of slopes in fill sections.
5. All vents should be extended to the right of way line or as otherwise required by the Department.
6. All pipe encasements as to material and strength shall meet the standards and specifications of the Department.
7. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
8. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.

TRAFFIC CONTROL AND WORK ZONE SAFETY

The Contractor shall maintain traffic during construction and provide, install, and maintain all traffic control devices in accordance with these project guidelines, the Project Special Provisions, the latest North Carolina Department of Transportation Standard Specifications for Roads and Structures, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall utilize complete and proper traffic controls and traffic control devices during all operations. All traffic control and traffic control devices required for any operation shall be functional and in place prior to the commencement of that operation. Signs for temporary operations shall be removed during periods of inactivity. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists.

Traffic movements through lane closures on roads with two way traffic shall be controlled by flaggers stationed at each end of the work zone. In situations where sight distance is limited, the Contractor shall provide additional means of controlling traffic, including, but not limited to, two-way radios, pilot vehicles, or additional flaggers. Flaggers shall be competent personnel, adequately trained in flagging procedures, and furnished with proper safety devices and equipment, including, but not limited to, safety vests and stop/slow paddles.

All personnel when working in traffic areas or areas in close proximity to traffic shall wear an approved safety vest, or shirt or jacket which meets the color requirements of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall comply with all applicable Federal, State, and local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

Failure to comply with any of the requirements for safety and traffic control of this contract shall result in suspension of work as provided in subarticle 108-7(2) of the Standard Specifications.

SPECIFICATIONS FOR EROSION CONTROL

The Contractor shall seed all disturbed areas as directed by the Engineer, in accordance with Section 1660 of the Standard Specifications. Seeding and mulching shall immediately follow shoulder construction operations and in no case shall shoulder construction operations exceed seeding and mulching operations by more than two weeks without written permission of the Engineer. Failure to meet this requirement shall be cause to cease all operations until it can be met.

Seeding and Mulching: (East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined by the Engineer. All rates are in pounds per acre.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		**September 1 - February 28**	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		**September 1 - February 28**	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

2nd Millennium	Duster	Magellan	Rendition
Avenger	Endeavor	Masterpiece	Scorpion
Barlexas	Escalade	Matador	Shelby
Barlexas II	Falcon II, III, IV & V	Matador GT	Signia
Barrera	Fidelity	Millennium	Silverstar
Barrington	Finesse II	Montauk	Southern Choice II
Biltmore	Firebird	Mustang 3	Stetson
Bingo	Focus	Olympic Gold	Tarheel
Bravo	Grande II	Padre	Titan Ltd
Cayenne	Greenkeeper	Paraiso	Titanium
Chapel Hill	Greystone	Picasso	Tomahawk
Chesapeake	Inferno	Piedmont	Tacer
Constitution	Justice	Pure Gold	Trooper
Chipper	Jaguar 3	Prospect	Turbo
Coronado	Kalahari	Quest	Ultimate
Coyote	Kentucky 31	Rebel Exeda	Watchdog
Davinci	Kitty Hawk	Rebel Sentry	Wolfpack
Dynasty	Kitty Hawk 2000	Regiment II	
Dominion	Lexington	Rembrandt	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on this project.

CRIMPING STRAW MULCH

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8".

Within seven (7) calendar days to fourteen (14) calendar days of completion of any phase of grading, all disturbed areas shall be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion. The Erosion and Sediment Control plan will identify the areas that require seven (7) and/or fourteen (14) calendar day ground stabilization. The Contractor is herein advised to follow all current regulations set forth by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) as defined in the *General Stormwater Permit for Construction Activities NCG-010000*.

U.S. Customary Units

Design Speed (mph)	Design ADT	Foreslopes			Backslopes		
		1V:6H or flatter	1V:5H to 1V:4H	1V:3H	1V:3H	1V:5H to 1V:4H	1V:6H or flatter
≤40	UNDER 750[c]	7–10	7–10	[b]	7–10	7–10	7–10
	750–1500	10–12	12–14	[b]	12–14	12–14	12–14
	1500–6000	12–14	14–16	[b]	14–16	14–16	14–16
	OVER 6000	14–16	16–18	[b]	16–18	16–18	16–18
45–50	UNDER 750[c]	10–12	12–14	[b]	8–10	8–10	10–12
	750–1500	14–16	16–20	[b]	10–12	12–14	14–16
	1500–6000	16–18	20–26	[b]	12–14	14–16	16–18
	OVER 6000	20–22	24–28	[b]	14–16	18–20	20–22
55	UNDER 750[c]	12–14	14–18	[b]	8–10	10–12	10–12
	750–1500	16–18	20–24	[b]	10–12	14–16	16–18
	1500–6000	20–22	24–30	[b]	14–16	16–18	20–22
	OVER 6000	22–24	26–32[a]	[b]	16–18	20–22	22–24
60	UNDER 750[c]	16–18	20–24	[b]	10–12	12–14	14–16
	750–1500	20–24	26–32[a]	[b]	12–14	16–18	20–22
	1500–6000	26–30	32–40[a]	[b]	14–18	18–22	24–26
	OVER 6000	30–32[a]	36–44[a]	[b]	20–22	24–26	26–28
65–70[d]	UNDER 750[c]	18–20	20–26	[b]	10–12	14–16	14–16
	750–1500	24–26	28–36[a]	[b]	12–16	18–20	20–22
	1500–6000	28–32[a]	34–42[a]	[b]	16–20	22–24	26–28
	OVER 6000	30–34[a]	38–46[a]	[b]	22–24	26–30	28–30

Notes:

a) When a site-specific investigation indicates a high probability of continuing crashes or when such occurrences are indicated by crash history, the designer may provide clear-zone distances greater than the clear zone shown in Table 3-1. Clear zones may be limited to 30 ft for practicality and to provide a consistent roadway template if previous experience with similar projects or designs indicates satisfactory performance.

b) Because recovery is less likely on the unshielded, traversable 1V:3H fill slopes, fixed objects should not be present in the vicinity of the toe of these slopes. Recovery of high-speed vehicles that encroach beyond the edge of the shoulder may be expected to occur beyond the toe of slope. Determination of the width of the recovery area at the toe of slope should consider right-of-way availability, environmental concerns, economic factors, safety needs, and crash histories. Also, the distance between the edge of the through traveled lane and the beginning of the 1V:3H slope should influence the recovery area provided at the toe of slope. While the application may be limited by several factors, the foreslope parameters that may enter into determining a maximum desirable recovery area are illustrated in Figure 3-2. A 10-ft recovery area at the toe of slope should be provided for all traversable, non recoverable fill slopes.

c) For roadways with low volumes it may not be practical to apply even the minimum values found in Table 3-1. Refer to Chapter 12 for additional considerations for low volume roadways and Chapter 10 for additional guidance for urban applications.

d) When design speeds are greater than the values provided, the designer may provide clear-zone distances greater than those shown in Table 3-1.

NCDOT Required Clearances for Aerial Installations Near Bridge Structures

NOT TO SCALE

Any variation to this detail must be approved by the Division Engineer and/or State Utilities Manager.

Published by NCDOT Utilities Unit
June 2020

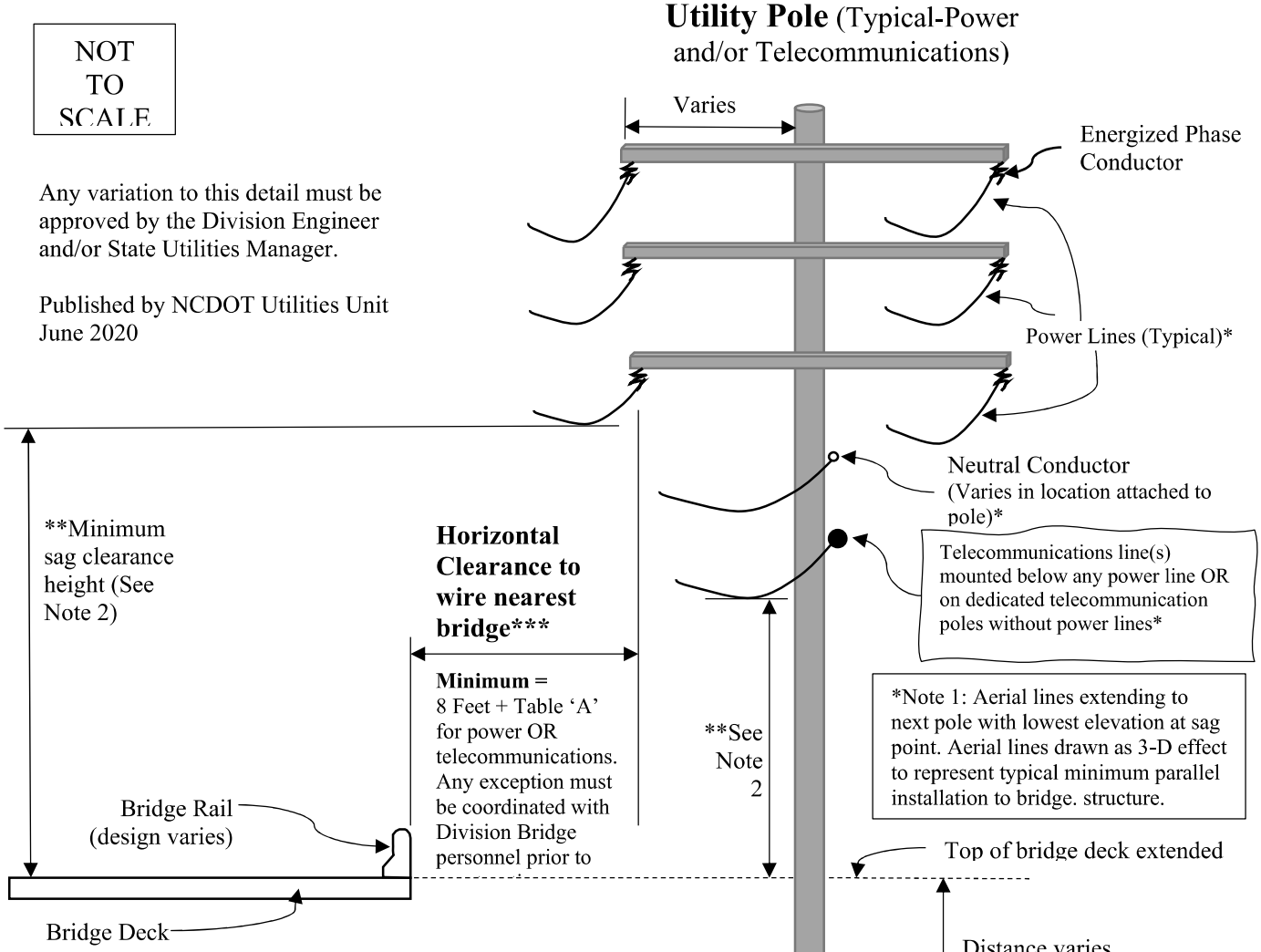
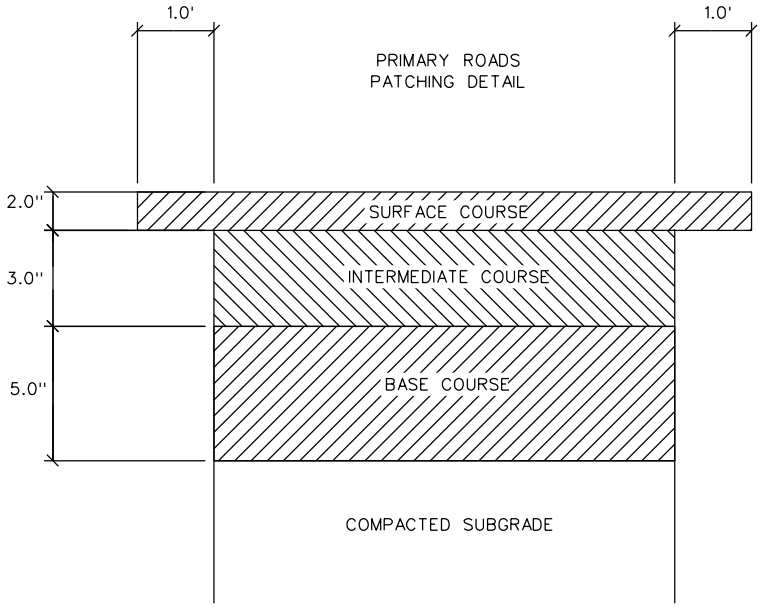


Table A – Minimum Horizontal Clearance Distances to POWER Lines (from OSHA)	
VOLTAGE (nominal, kV, alternating current)	MINIMUM CLEARANCE (feet)
Up to 50	10
Over 50 to 200	15
Over 200 to 350	20
Over 350 to 500	25
Over 500 to 750	35
Over 750 to 1000	45
Over 1000	As established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution

Note 2- **MINIMUN SAG CLEARANCE HEIGHT is 25 feet (applies to telecommunications AND power).

***Note 3: HORIZONTAL CLEARANCE EXCEPTION. If vertical sag clearance height for power above bridge deck is ≥ 45 feet AND voltage is ≤ 350kV, then Minimum Horizontal Clearance may be reduced to 3 feet. Any telecommunications attachment to power pole allowed in this exception must have a minimum 25 feet sag clearance height above bridge deck.



PAVEMENT SCHEDULE

MILLING REQUIRED ONE FOOT AT DEPTH OF 2.0''
ON EACH SIDE OF PAVEMENT CUT AND TRANSVERSELY
ACROSS THE THE WIDTH OF THE TRAVEL LANE.

MATCH EXISTING PAVEMENT DEPTHS OR WHICHEVER IS GREATER.

2.0'' S 9.5 C

3.0'' I 19.0 C

5.0'' B 25.0 C

DRAWING IS NOT TO SCALE

North Carolina Department of Transportation
Subdivision Road Construction, Driveway Access, and
Encroachment Installation Certification Memo

_____
(Date)

_____
_____
_____
_____
(District Engineer Name & Address)

RE: CONSTRUCTION CERTIFICATION
County: _____
Driveway Permit #: _____
and/or Subdivision I.D. #: _____
and/or Encroachment #: _____
Recording Information *(if applicable)*: _____
Route(s) and/or Street(s): _____
_____
_____
Project Name/Phase/Description: _____
_____
_____

I, _____, have reviewed the construction withinthe right-of-way and/or easements required under subject project(s) for the above development and in accordance with the design drawings approved by the North Carolina Department of Transportation (NCDOT) on the following dates:

Driveway Permit #: _____ Date: _____
and/or Subdivision I.D. #: _____ Date: _____
and/or Encroachment #: _____ Date: _____

My inspection and attached testing report(s) and/or supporting documentation indicate the construction within the right-of-way and/or easements have been constructed in accordance with the standards established by current NCDOT Standard Specifications for Roads and Structures, and with the approved plans.

Name: _____

NC PE #: _____

Signature: _____

SEAL

Received by NCDOT: _____

ATTACHMENT FORM

NOTIFICATION FOR UTILITY / NON-UTILITY ENCROACHMENT WITHIN NCDOT R/W

Instructions for use:
This form must be completed in its entirety and submitted directly to the designated personnel in the District Engineer's office via email, fax or hand delivery a minimum of one week prior to construction for the encroachment. If the designated NCDOT personnel names are unknown by the person completing this form, please contact the District Engineer's office to determine that contact info.

Date: _____ Submitted by Name: _____

To: District Personnel Name: _____
District Personnel Email: _____
District Fax No.: _____

This notification is to inform you that we (encroaching party or their contractor) will begin construction work on the following project in a minimum of one week.

Encroachment number
(assigned by NCDOT) for the project: _____

Construction start date: _____

Approximate ending date: _____

Contact NCDOT inspector a minimum of 72 hrs. in advance to set-up Preconstruction meeting in the District Engineer's office or other location as directed by the District Engineer

Preconstruction meeting date & time: _____

Preconstruction meeting address: _____
_____

Type of project: _____
[Examples: power, telecommunication, water, sewer, gas, petroleum, other (describe)]

Contact Info for this project:

Contractor Company Name:
_____
Contractor Contact Name:
_____
Contractor Phone Number:
_____
Contractor Email:
_____

NCDOT Utility Inspector Name:
_____
NCDOT Utility Inspector Phone:
_____
NCDOT Utility Inspector Email:
_____
NCDOT Utility Project Manager Name:
_____
NCDOT Utility Project Manager Phone:
_____
NCDOT Utility Project Manager Email:
_____

TRAFFIC CONTROL AND WORK ZONE SAFETY

The Contractor shall maintain traffic during construction and provide, install, and maintain all traffic control devices in accordance with these project guidelines, the Project Special Provisions, the latest North Carolina Department of Transportation Standard Specifications for Roads and Structures, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall utilize complete and proper traffic controls and traffic control devices during all operations. All traffic control and traffic control devices required for any operation shall be functional and in place prior to the commencement of that operation. Signs for temporary operations shall be removed during periods of inactivity. The Contractor is required to leave the project in a manner that will be safe to the traveling public and which will not impede motorists.

Traffic movements through lane closures on roads with two way traffic shall be controlled by flaggers stationed at each end of the work zone. In situations where sight distance is limited, the Contractor shall provide additional means of controlling traffic, including, but not limited to, two-way radios, pilot vehicles, or additional flaggers. Flaggers shall be competent personnel, adequately trained in flagging procedures, and furnished with proper safety devices and equipment, including, but not limited to, safety vests and stop/slow paddles.

All personnel when working in traffic areas or areas in close proximity to traffic shall wear an approved safety vest, or shirt or jacket which meets the color requirements of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall comply with all applicable Federal, State, and local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

Failure to comply with any of the requirements for safety and traffic control of this contract shall result in suspension of work as provided in subarticle 108-7(2) of the Standard Specifications.

SPECIFICATIONS FOR EROSION CONTROL

The Contractor shall seed all disturbed areas as directed by the Engineer, in accordance with Section 1660 of the Standard Specifications. Seeding and mulching shall immediately follow shoulder construction operations and in no case shall shoulder construction operations exceed seeding and mulching operations by more than two weeks without written permission of the Engineer. Failure to meet this requirement shall be cause to cease all operations until it can be met.

Seeding and Mulching: (East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined by the Engineer. All rates are in pounds per acre.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		**September 1 - February 28**	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		**September 1 - February 28**	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

2nd Millennium	Duster	Magellan	Rendition
Avenger	Endeavor	Masterpiece	Scorpion
Barlexas	Escalade	Matador	Shelby
Barlexas II	Falcon II, III, IV & V	Matador GT	Signia
Barrera	Fidelity	Millennium	Silverstar
Barrington	Finesse II	Montauk	Southern Choice II
Biltmore	Firebird	Mustang 3	Stetson
Bingo	Focus	Olympic Gold	Tarheel
Bravo	Grande II	Padre	Titan Ltd
Cayenne	Greenkeeper	Paraiso	Titanium
Chapel Hill	Greystone	Picasso	Tomahawk
Chesapeake	Inferno	Piedmont	Tacer
Constitution	Justice	Pure Gold	Trooper
Chipper	Jaguar 3	Prospect	Turbo
Coronado	Kalahari	Quest	Ultimate
Coyote	Kentucky 31	Rebel Exeda	Watchdog
Davinci	Kitty Hawk	Rebel Sentry	Wolfpack
Dynasty	Kitty Hawk 2000	Regiment II	
Dominion	Lexington	Rembrandt	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on this project.

CRIMPING STRAW MULCH

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8".

Within seven (7) calendar days to fourteen (14) calendar days of completion of any phase of grading, all disturbed areas shall be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion. The Erosion and Sediment Control plan will identify the areas that require seven (7) and/or fourteen (14) calendar day ground stabilization. The Contractor is herein advised to follow all current regulations set forth by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) as defined in the *General Stormwater Permit for Construction Activities NCG-010000*.

Attachment # 1

Special Provisions

Untrenched Construction

Under no condition shall jetting or wet boring, with water, or utility pipelines or encasements under pavements be allowed.

Boring and Jacking

Smooth wall or spiral weld steel pipe may be jacked through dry bores slightly larger than the pipe bored progressively ahead of the leading edge of the advancing pipe as spoil is mucked by the auger back through the pipe. As the dry boring operation progresses, each new section of the encasement pipe shall be butt-welded to the section previously jacked into place. Encasements shall extend at shoulder sections as shown on Attachment # 2. Encasements shall extend to a point outside of the 1:1 projection from three (3) feet behind curbs to the bottom of the nearest pit excavation wall in curb and gutter sections as shown on Attachment # 3.

If voids are encountered or occur outside the encasement pipe, grout holes shall be installed in the top section of the encasement pipe at ten (10) foot centers and the voids filled with 1:3 Portland Cement Grout at sufficient pressure to prevent settlement in the roadway.

In the event an obstruction is encountered during boring and jacking operations, the auger is to be withdrawn and the excessive pipe is to be cut off, capped and filled with 1:3 Portland Cement Grout at sufficient pressure to fill all voids before moving to another site.

Size and wall thickness (3' min. to 10' max. cover) of smooth wall or spiral welded encasement pipe for boring and jacking is as follows:

Pipe Sizes (O.D.)	Wall Thickness
4' to 12-3/4"	0.188
16" to 24"	0.250
30"	0.312
36"	0.375
48"	0.500

The Engineer on record is responsible for the encasement pipe design for cover greater than 10'.

Materials, joints, protective coating, grouting, wall thickness of carrier pipe, welds and cathodic protection shall be in accordance with the applicable industry or governmental codes, as well as the specifications of the Department of Transportation.

Casing pipe shall be sealed at the ends to prevent flowing water and debris from entering the annular space between the casing and the carrier. Plug with concrete, brick link seal, or other material approved by the District Engineer. Ensure drainage of encasement by leaving a 1 inch diameter weep hole in the seal of the lower end of the encasement.

Pump or place flowable fill into the annular void between the carrier pipe and casing pipe 36 inches or larger.

The grade of the top of the pipe or casing within rights-of-way should provide minimum bury as follows:

A.	Longitudinal installations	3'
B.	Crossings under roadways	3' (Below travel surface)
C.	Crossings under ditches (Paved & unpaved)	2'

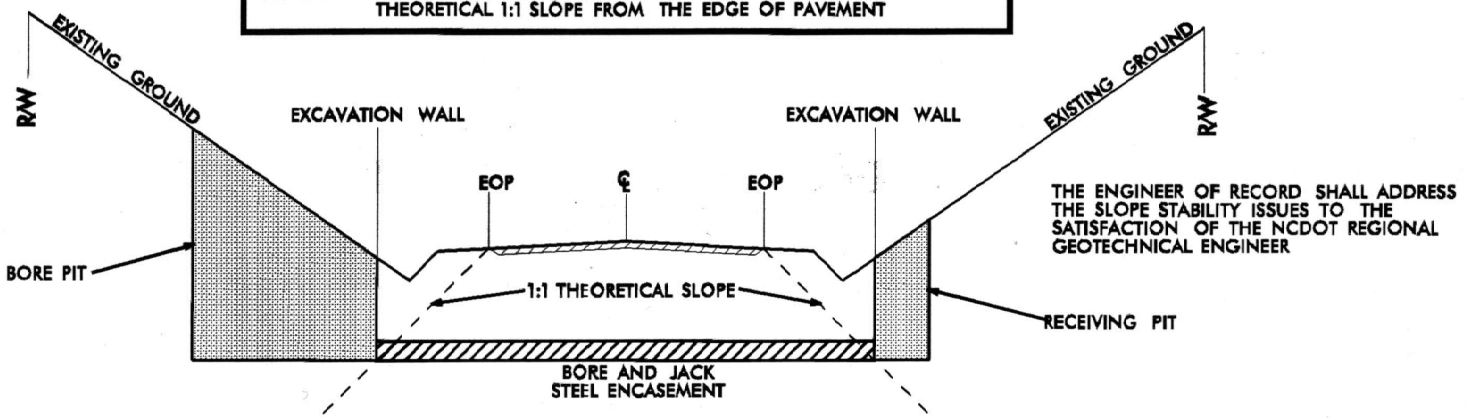
Pipelines carrying flammable, corrosive, expansive energized or unstable transmittants must comply with State, Federal and Utility Codes. In no case shall the depth of bury be less than as indicated above.

REV. 3/11/09

SHOULDER SECTIONS

ATTACHMENT # 2

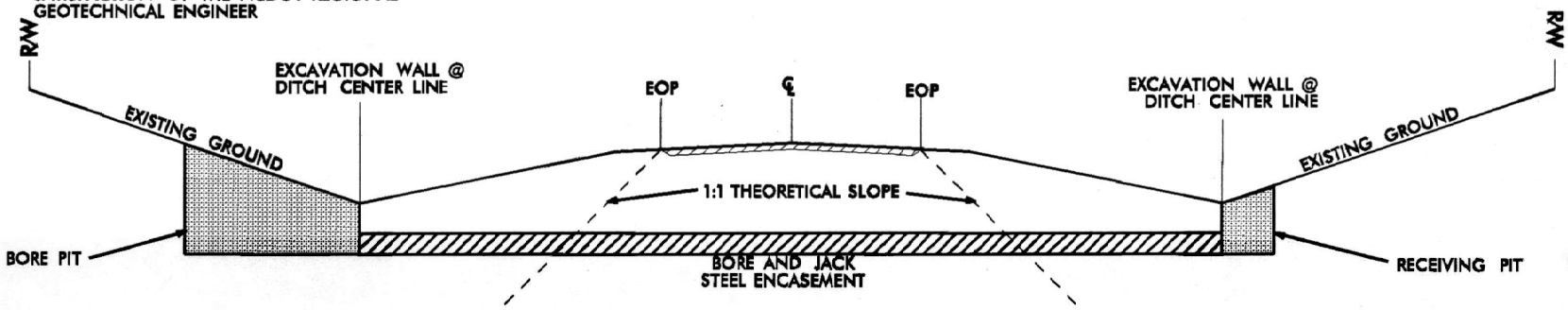
TYPICAL BORE AND JACK INSTALLATION IN ROADWAY CUT SECTION OUTSIDE THEORETICAL 1:1 SLOPE FROM THE EDGE OF PAVEMENT



THE ENGINEER OF RECORD SHALL ADDRESS THE SLOPE STABILITY ISSUES TO THE SATISFACTION OF THE NCDOT REGIONAL GEOTECHNICAL ENGINEER

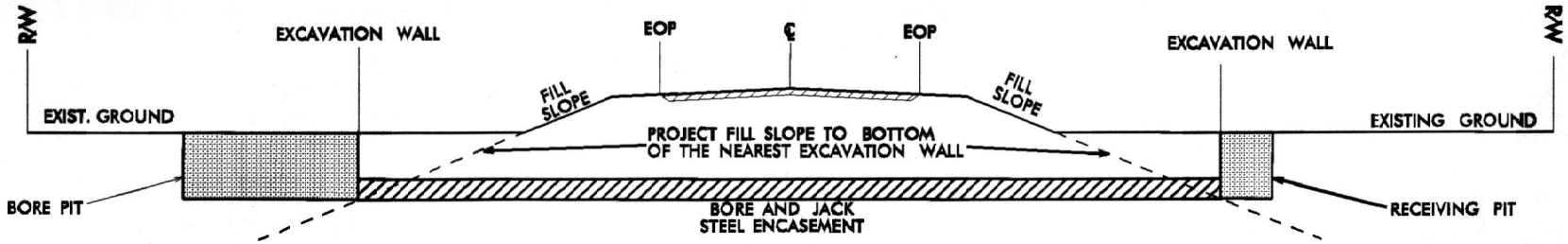
TYPICAL BORE AND JACK INSTALLATION IN ROADWAY CUT SECTION WITH DITCHES OUTSIDE THEORETICAL 1:1 SLOPE FROM THE EDGE OF PAVEMENT

THE ENGINEER OF RECORD SHALL ADDRESS THE SLOPE STABILITY ISSUES TO THE SATISFACTION OF THE NCDOT REGIONAL GEOTECHNICAL ENGINEER



TYPICAL BORE AND JACK INSTALLATION IN ROADWAY IN FILL SECTION

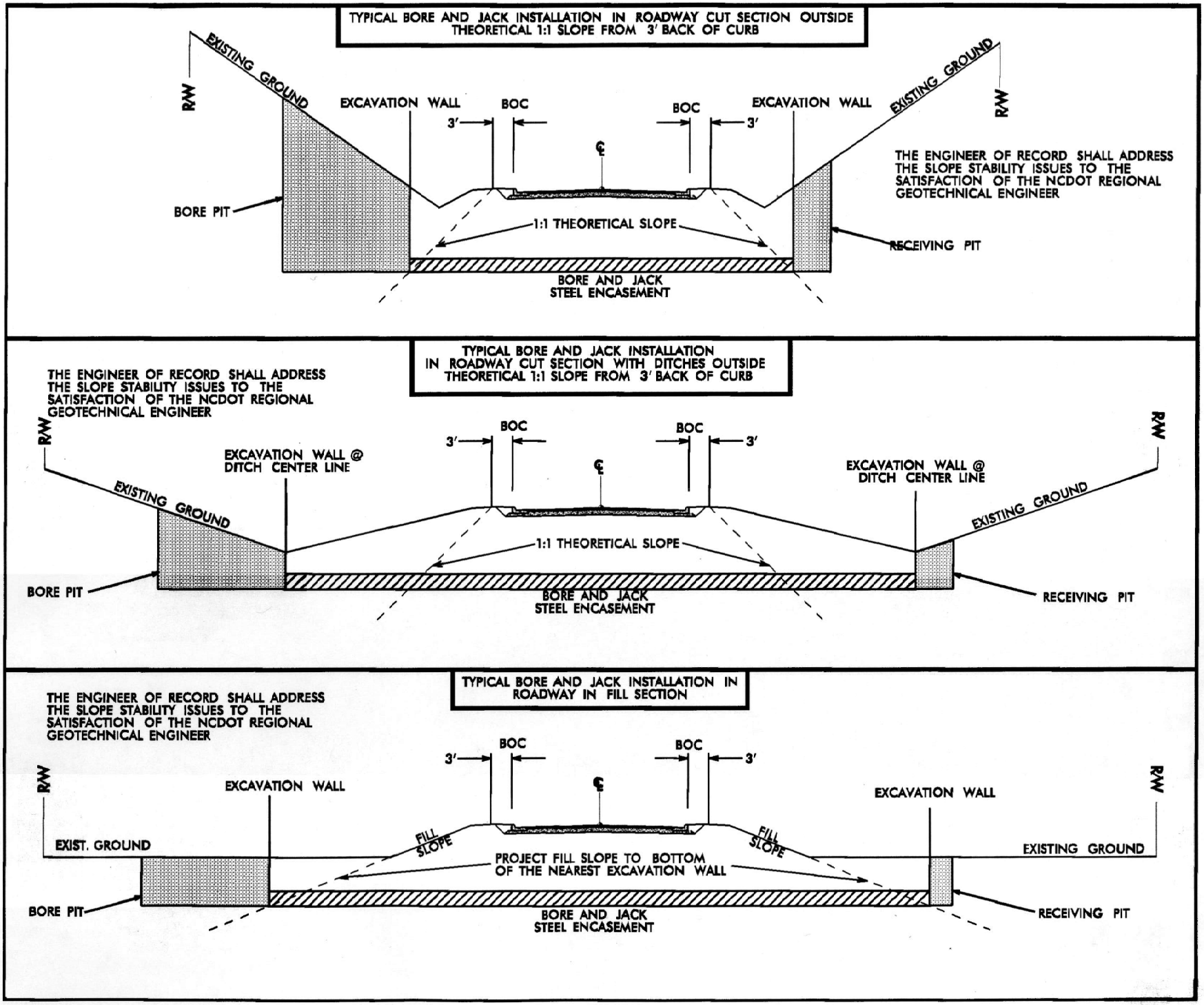
THE ENGINEER OF RECORD SHALL ADDRESS THE SLOPE STABILITY ISSUES TO THE SATISFACTION OF THE NCDOT REGIONAL GEOTECHNICAL ENGINEER



Rev 3/11/09

CURB AND GUTTER SECTIONS

ATTACHMENT # 3



REV. 3/11/09

U.S. Customary Units

Design Speed (mph)	Design ADT	Foreslopes			Backslopes		
		1V:6H or flatter	1V:5H to 1V:4H	1V:3H	1V:3H	1V:5H to 1V:4H	1V:6H or flatter
≤40	UNDER 750[c]	7–10	7–10	[b]	7–10	7–10	7–10
	750–1500	10–12	12–14	[b]	12–14	12–14	12–14
	1500–6000	12–14	14–16	[b]	14–16	14–16	14–16
	OVER 6000	14–16	16–18	[b]	16–18	16–18	16–18
45–50	UNDER 750[c]	10–12	12–14	[b]	8–10	8–10	10–12
	750–1500	14–16	16–20	[b]	10–12	12–14	14–16
	1500–6000	16–18	20–26	[b]	12–14	14–16	16–18
	OVER 6000	20–22	24–28	[b]	14–16	18–20	20–22
55	UNDER 750[c]	12–14	14–18	[b]	8–10	10–12	10–12
	750–1500	16–18	20–24	[b]	10–12	14–16	16–18
	1500–6000	20–22	24–30	[b]	14–16	16–18	20–22
	OVER 6000	22–24	26–32[a]	[b]	16–18	20–22	22–24
60	UNDER 750[c]	16–18	20–24	[b]	10–12	12–14	14–16
	750–1500	20–24	26–32[a]	[b]	12–14	16–18	20–22
	1500–6000	26–30	32–40[a]	[b]	14–18	18–22	24–26
	OVER 6000	30–32[a]	36–44[a]	[b]	20–22	24–26	26–28
65–70[d]	UNDER 750[c]	18–20	20–26	[b]	10–12	14–16	14–16
	750–1500	24–26	28–36[a]	[b]	12–16	18–20	20–22
	1500–6000	28–32[a]	34–42[a]	[b]	16–20	22–24	26–28
	OVER 6000	30–34[a]	38–46[a]	[b]	22–24	26–30	28–30

Notes:

a) When a site-specific investigation indicates a high probability of continuing crashes or when such occurrences are indicated by crash history, the designer may provide clear-zone distances greater than the clear zone shown in Table 3-1. Clear zones may be limited to 30 ft for practicality and to provide a consistent roadway template if previous experience with similar projects or designs indicates satisfactory performance.

b) Because recovery is less likely on the unshielded, traversable 1V:3H fill slopes, fixed objects should not be present in the vicinity of the toe of these slopes. Recovery of high-speed vehicles that encroach beyond the edge of the shoulder may be expected to occur beyond the toe of slope. Determination of the width of the recovery area at the toe of slope should consider right-of-way availability, environmental concerns, economic factors, safety needs, and crash histories. Also, the distance between the edge of the through traveled lane and the beginning of the 1V:3H slope should influence the recovery area provided at the toe of slope. While the application may be limited by several factors, the foreslope parameters that may enter into determining a maximum desirable recovery area are illustrated in Figure 3-2. A 10-ft recovery area at the toe of slope should be provided for all traversable, non recoverable fill slopes.

c) For roadways with low volumes it may not be practical to apply even the minimum values found in Table 3-1. Refer to Chapter 12 for additional considerations for low volume roadways and Chapter 10 for additional guidance for urban applications.

d) When design speeds are greater than the values provided, the designer may provide clear-zone distances greater than those shown in Table 3-1.

NCDOT Required Clearances for Aerial Installations Near Bridge Structures

NOT TO SCALE

Any variation to this detail must be approved by the Division Engineer and/or State Utilities Manager.

Published by NCDOT Utilities Unit
June 2020

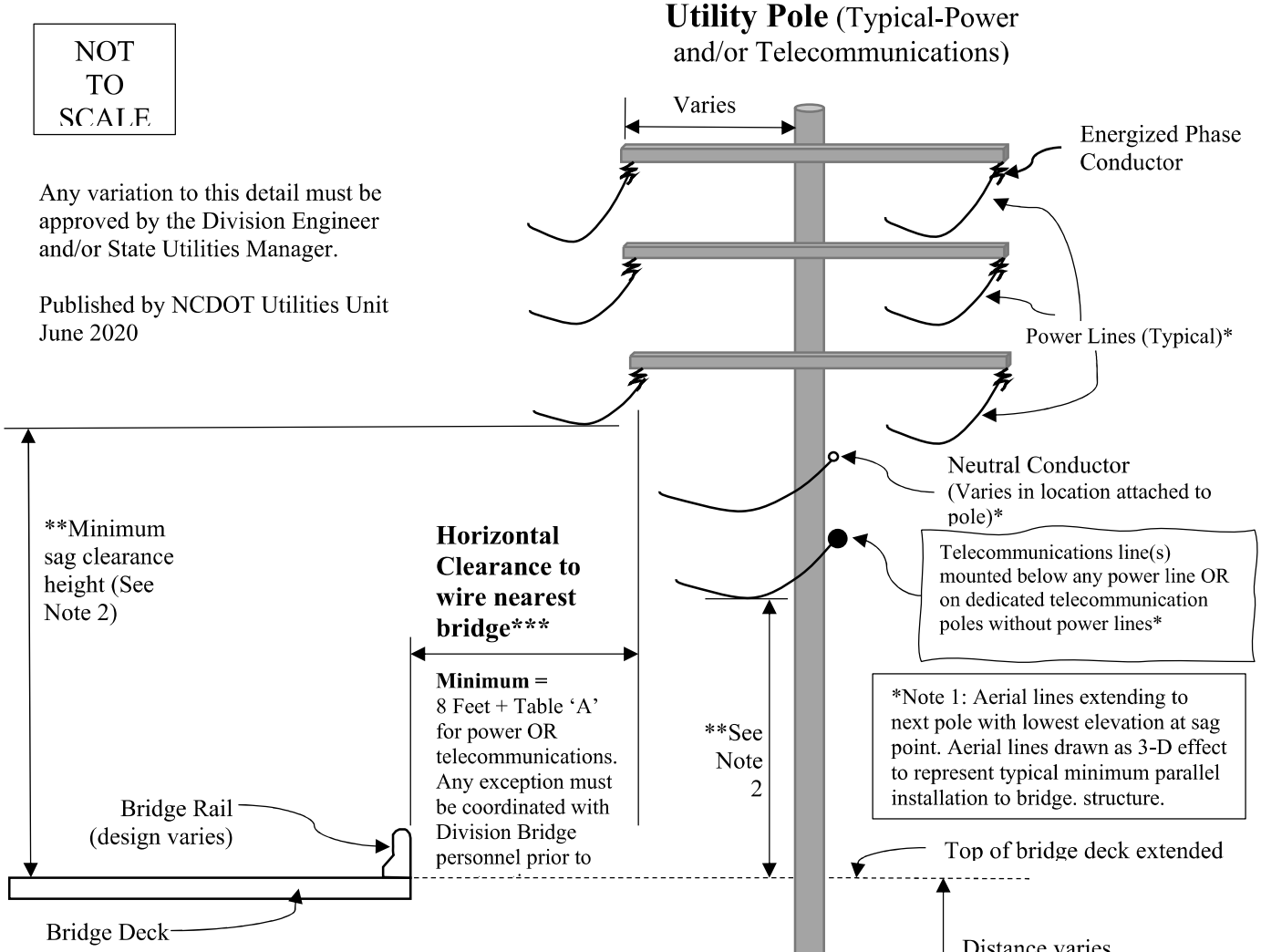
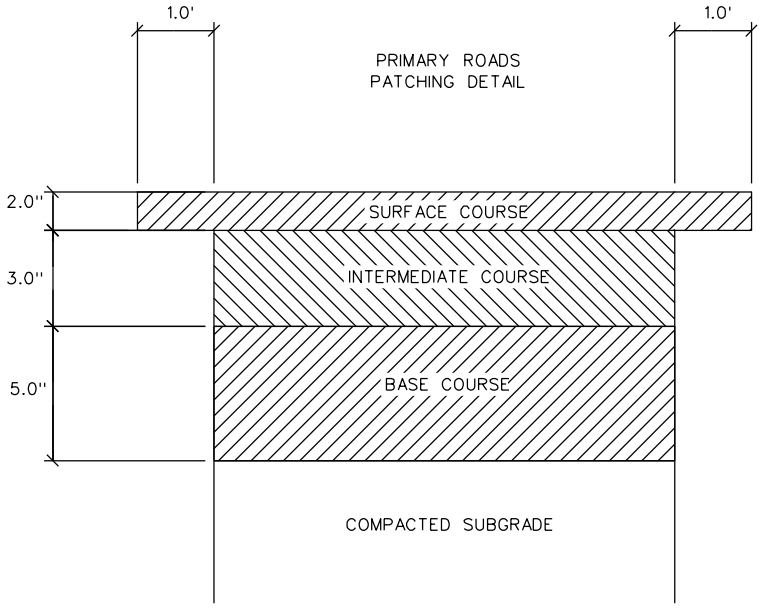


Table A – Minimum Horizontal Clearance Distances to POWER Lines (from OSHA)	
VOLTAGE (nominal, kV, alternating current)	MINIMUM CLEARANCE (feet)
Up to 50	10
Over 50 to 200	15
Over 200 to 350	20
Over 350 to 500	25
Over 500 to 750	35
Over 750 to 1000	45
Over 1000	As established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution

Note 2- **MINIMUN SAG CLEARANCE HEIGHT is 25 feet (applies to telecommunications AND power).

***Note 3: HORIZONTAL CLEARANCE EXCEPTION. If vertical sag clearance height for power above bridge deck is ≥ 45 feet AND voltage is ≤ 350kV, then Minimum Horizontal Clearance may be reduced to 3 feet. Any telecommunications attachment to power pole allowed in this exception must have a minimum 25 feet sag clearance height above bridge deck.



PAVEMENT SCHEDULE

MILLING REQUIRED ONE FOOT AT DEPTH OF 2.0''
ON EACH SIDE OF PAVEMENT CUT AND TRANSVERSELY
ACROSS THE THE WIDTH OF THE TRAVEL LANE.

MATCH EXISTING PAVEMENT DEPTHS OR WHICHEVER IS GREATER.

2.0'' S 9.5 C

3.0'' I 19.0 C

5.0'' B 25.0 C

DRAWING IS NOT TO SCALE

North Carolina Department of Transportation
Subdivision Road Construction, Driveway Access, and
Encroachment Installation Certification Memo

_____
(Date)

_____
_____
_____
_____
(District Engineer Name & Address)

RE: CONSTRUCTION CERTIFICATION
County: _____
Driveway Permit #: _____
and/or Subdivision I.D. #: _____
and/or Encroachment #: _____
Recording Information *(if applicable)*: _____
Route(s) and/or Street(s): _____
_____
_____
Project Name/Phase/Description: _____
_____
_____

I, _____, have reviewed the construction withinthe right-of-way and/or easements required under subject project(s) for the above development and in accordance with the design drawings approved by the North Carolina Department of Transportation (NCDOT) on the following dates:

Driveway Permit #: _____ Date: _____
and/or Subdivision I.D. #: _____ Date: _____
and/or Encroachment #: _____ Date: _____

My inspection and attached testing report(s) and/or supporting documentation indicate the construction within the right-of-way and/or easements have been constructed in accordance with the standards established by current NCDOT Standard Specifications for Roads and Structures, and with the approved plans.

Name: _____

NC PE #: _____

Signature: _____

SEAL

Received by NCDOT: _____

ATTACHMENT FORM

NOTIFICATION FOR UTILITY / NON-UTILITY ENCROACHMENT WITHIN NCDOT R/W

Instructions for use:
This form must be completed in its entirety and submitted directly to the designated personnel in the District Engineer's office via email, fax or hand delivery a minimum of one week prior to construction for the encroachment. If the designated NCDOT personnel names are unknown by the person completing this form, please contact the District Engineer's office to determine that contact info.

Date: _____ Submitted by Name: _____

To: District Personnel Name: _____
District Personnel Email: _____
District Fax No.: _____

This notification is to inform you that we (encroaching party or their contractor) will begin construction work on the following project in a minimum of one week.

Encroachment number
(assigned by NCDOT) for the project: _____

Construction start date: _____

Approximate ending date: _____

Contact NCDOT inspector a minimum of 72 hrs. in advance to set-up Preconstruction meeting in the District Engineer's office or other location as directed by the District Engineer

Preconstruction meeting date & time: _____

Preconstruction meeting address: _____
_____

Type of project: _____
[Examples: power, telecommunication, water, sewer, gas, petroleum, other (describe)]

Contact Info for this project:

Contractor Company Name:
_____
Contractor Contact Name:
_____
Contractor Phone Number:
_____
Contractor Email:
_____

NCDOT Utility Inspector Name:
_____
NCDOT Utility Inspector Phone:
_____
NCDOT Utility Inspector Email:
_____
NCDOT Utility Project Manager Name:
_____
NCDOT Utility Project Manager Phone:
_____
NCDOT Utility Project Manager Email:
_____

CERTIFICATE OF PLAN APPROVAL

The posting of this certificate certifies that an erosion and sedimentation control plan has been approved for this project by the North Carolina Department of Environmental Quality in accordance with North Carolina General Statute 113A – 57 (4) and 113A – 54 (d) (4) and North Carolina Administrative Code, Title 15A, Chapter 4B.0107 (c). This certificate must be posted at the primary entrance of the job site before construction begins and until establishment of permanent groundcover as required by North Carolina Administrative Code, Title 15A, Chapter 4B.0127 (b).

Harnett Regional Water: Southwest Wastewater Pump Station & Force Main
NC 24-87 Little River Road; E. Manchester Road Spring Lake, NC 28390

03/31/2026	HARNE-2026-0424
Date of Plan Approval	**Project Identifier**

Certificate of Coverage Number: _____

SECTION 11243

FIBERGLASS ENCLOSURE

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING & MATERIALS (ASTM)

ASTM C518	(2010) Standard Test Method for Steady-State Heat Flux Measurements
ASTM D256	(2010) Standard Test Method for Determining the Pendulum Impact Resistance
ASTM D638	(2014) Standard Test Methods for Tensile Properties of Plastics.
ASTM D732	(2010) Standard Test Method for Shear Strength of Plastics by Punch Tool
ASTM D790	(2010) Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
ASTM D792	(2013) Standard Test Method for Specific Gravity (Relative Density) and Density of Plastics by Displacement
ASTM D1622	(2014) Standard Test Method for Apparent Density of Rigid Cellular Plastics
ASTM D2583	(2013) Standard Test Method for Indentation Hardness of Rigid Plastics By means of a Barcol Impressor
ASTM E84	(2015) Standard Test Method for Surface Burning Characteristics of Building Materials

1.2 SCOPE OF WORK

The Contractor shall furnish and install a factory-fabricated, pre-engineered fiberglass structure to withstand 125 mile per hour wind load and 30 PSF snow-load.

1.3 SUBMITTALS

Submit six (6) copies of the following in accordance with the requirements as set forth in Section 4 of the General Requirements.

1.3.1 Shop Drawings

Submit drawings showing layout, dimensions, anchorages, and accessories.

1.3.2 Product Data

- Provide manufacturer's standard details and catalog.
- Data demonstrating compliance with referenced standards.
- Provide installation instructions.

1.4 QUALITY CONTROL

The manufacturer shall maintain a continuous quality control program and upon request shall furnish to the engineer certified test results of the physical properties.

PART 2 PRODUCTS

2.1 MANUFACTURER

As manufactured by Warminster Fiberglass Company or Equal.

2.2 MATERIALS

2.2.1 Molded composite

Exterior and interior resin-fiberglass laminate with foam core.

2.2.1.1 Laminate

- Polyester resin and chopped strand fiberglass; minimum glass content of 25%.
- Exterior surface: White gel coat with low luster finish, smooth and free from fiber pattern, roughness, or other irregularities.
- Exterior laminate: 1/8 inch thick, minimum, chemically bonded to gel coat. Interior laminate to be 1/8 inch thick, minimum.
- Interior laminate: White color, encapsulate core in place.
- Laminate properties: (Choose flame spread a, b, or c)
  - Tensile strength (ASTM D 638): 11,000 PSI
  - Flexural strength (ASTM D 790): 18,000 PSI
  - Shear strength (ASTM D 732): 12,000 PSI
  - Barcol hardness (ASTM D 2583): 40.
  - Impact (ASTM D 256): 12 ft lbs/per inch.
  - Density/specific gravity (ASTM D 792): 93.6 PCF/1.5.
  - Surface burning characteristics (ASTM E 84): Class A flame spread.

2.2.1.2 Core

- Rigid closed cell, self extinguishing, polyisocyanurate foam with a density of 2.0 pounds per cubic foot.
  - 2-inch thick with a minimum insulation value o R 14.

- Core Properties
  - Thermal conductivity (ASTM C 518): 0.13 BTU Inch/ Hr. SF F.
  - Density/specific gravity (ASTM D 1622): 2.0 PCF/ .03.

- Surface burning characteristics (ASTM E 84):
- Flame spread, 35 smoke density, 240.

2.3 COMPONENTS

2.3.1 Door

One-piece, resin transfer molded (RTM) in matched metal molds to produce an industrial quality door, which exhibits a smooth finished, seamless, monolithic, warp-free composite consisting of a gelcoat, fiberglass reinforcement, polyester resin, insulating core, and internal reinforcements with all mortises, openings, recesses, and pockets molded in place. Mount door with continuous stainless-steel hinge. Provide neoprene sponge rubber bulb type gasket with flexible lock to retain permanent grip.

2.3.2 Latch

Provide single-point keyed stainless steel cylindrical latch and cadmium plated door stop with chain. Provide the point latch with stainless steel padlock hoop, and cadmium plated door stop with chain. Provide doors with stainless steel panic hardware.

2.3.3 Base Mounting Flange Gasket

¼" inch thick by 4 inches wide closed cell neoprene sponge rubber to provide weather tight seal around the building perimeter.

2.3.4 Louvers

Provide two, 6-inch diameter PVC wall louvers with manually adjustable damper and insect screen.

2.3.5 Lifting Eye Bolts

Provide 3/4-inch stainless steel eye bolts in roof.

2.3.6 Floor

Floor shall have load rating of 100 post and shall be one piece molded fiberglass with skid resistant surface. Floor shall be 2-1/2" thick with 2 inches thick polyisocyanurate foam core. The insulation value shall be R-14. 3/8" diameter stainless steel bolts shall attach walls to fiberglass floor.

2.4 PRE-ENGINEERED ONE-PIECE FIBERGLASS COMPOSITE ENCLOSURE

Fabricate enclosure of one-piece molded construction with composite walls and roof. Form a continuous, one-piece molded composite structure with an integral 4-inch-wide internal mounting flange around the perimeter. Pre-drill flange on 12-inch centers with 7/16-inch diameter holes for bolting to floor. Provide a structural fiberglass floor. Concrete pad shall be as indicated and specified in Section 3, Vertical Steel Tank. Width and length shall be as indicated by the drawings.

2.5 EXPANSION ANCHORS

3/8" diameter stainless steel expansion anchors.

2.6 FINISHES

Color: White

PART 3 EXECUTION

3.1 INSTALLATION

Layout anchor bolt pattern according to drawings. Drill holes of depth and diameter required by anchor bolt manufacturer. Install structure in accordance with manufacturer's instructions. Erect structures true to line and plumb, free of twist and warp. Install and test accessories in accordance with manufacturer's instructions.

3.2 WARRANTY

The Contractor shall guarantee the work provided under this section against defective design, workmanship or materials for a period of one year from the date of substantial completion. If notified within this period, the Contractor shall repair any defects at no cost to the Owner. All guarantees for materials, equipment and accessories provided under this section shall be obtained by the Contractor and submitted.

--End of Section--