STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

November 10, 2026

Addendum No. 2
RE: Contract # C205223
WBS # 50128.3.1, 50178.3.1, 51704.3.1
FEDERAL-AID NO. NHPP-077-1(220)29, STATE FUNDED, 5170401
Mecklenburg County (I-5715, U-5765, BL-0119)
INTERSECTION AT I-77 AND NC-73, NC-73 FROM SR-5544 TO SR-2316,
PEDESTRIAN BRIDGE OVER NC-73 ON MCDOWELL CREEK GREENWAY

November 17, 2026 Letting

To Whom It May Concern:

Reference is made to the plans and proposal furnished to you on this project.

The following revisions have been made to the proposal.

Page No.	Revision
Proposal Cover	Note added that reads "Includes Addendum No. 2 Dated 11-10-2026".
GT-4.1 thru GT-4.2	The PROJECT SPECIAL PROVISION entitled **THERMAL PROFILE LOGGING** has been revised.
GT-5.1 thru GT-5.18	The PROJECT SPECIAL PROVISION entitled **DRILLED PIERS** has been revised.

Please void the above listed pages in your proposal and staple the revised and new pages thereto.

The following revisions have been made to the I-5715 Structure plans - Walls.

Sheet No.	Revision
W-1, W-6, W-11, W-16, W-21, W-26, W-31, W-36	Revised as reflected in quantity changes below.

Please void the above listed sheets in your plans and staple the revised sheets thereto.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

Website: www.ncdot.gov

On the item sheets the following pay item revisions have been made:

Item	Description	Old Quantity	New Quantity
0492-8801000000-ESP	MSE RETAINING WALL NO 1	5,040 SF	2,755 SF
0495-8801000000-ESP	MSE RETAINING WALL NO 2	5,980 SF	3,214 SF
0496-8801000000-ESP	MSE RETAINING WALL NO 3	6,152 SF	3,366 SF
0497-8801000000-ESP	MSE RETAINING WALL NO 4	4,005 SF	2,236 SF
0498-8801000000-ESP	MSE RETAINING WALL NO 5	4,800 SF	2,608 SF
0499-8801000000-ESP	MSE RETAINING WALL NO 6	5,315 SF	2,885 SF
0500-8801000000-ESP	MSE RETAINING WALL NO 7	4,590 SF	2,504 SF
0501-8801000000-ESP	MSE RETAINING WALL NO 8	5,570 SF	3,014 SF
0524-8096000000-E450	PILE EXCAVATION IN SOIL	166 LF	78 LF

The Contractor's bid must include these pay item revisions.

The electronic bidding form has been updated on Bid Express to reflect these revisions.

The contract will be prepared accordingly.

NOTE: Addendum #1 issued November 2, 2026 contained the following revision notes:

The following revisions have been made to the I-5715 Utility Construction plans.

Sheet No.	Revision
UC-3I	Added Corrosion Test Station Detail
UC-13, UC-18 thru UC-20	Added test station locations

UC-3I is a typo. The Corrosion Test Station Detail has been added on sheet UC-3H. Sheet UC-3I does not exist.

Sincerely,

Signed by:
Jon Weathersbee
E45DA45396074A0...

Jon Weathersbee, PE
State Contract Officer

JHW/jcm
Attachments

cc: Mr. Troy B. Brooks, PE
Mr. Felix A. Obregon, PE
Mr. Ken Kennedy, PE
Mr. Malcolm Bell
Mr. Forrest Dungan, PE
Ms. Jaci Kincaid
Project File (2)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

INCLUDES ADDENDUM No. 2 DATED 11-10-2026

DATE AND TIME OF BID OPENING: **Nov 17, 2026 AT 02:00 PM**

CONTRACT ID	C205223
WBS	50128.3.1, 50178.3.1, 51704.3.1

FEDERAL-AID NO.	NHPP-077-1(220)29, STATE FUNDED, 5170401
COUNTY	MECKLENBURG
T.I.P NO.	I-5715, U-5765, BL-0119
MILES	3.683
ROUTE NO.	NC-73
LOCATION	INTERSECTION AT I-77 AND NC-73, NC-73 FROM SR-5544 TO SR-2316, PEDESTRIAN BRIDGE OVER NC-73 ON MCDOWELL CREEK GREENWAY.
TYPE OF WORK	GRADING, DRAINAGE, PAVING, SIGNALS, AND STRUCTURES.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS $40,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

THERMAL PROFILE LOGGING:

(SPECIAL)

Description

Perform integrity testing using Thermal Profile Logging (TPL) by measuring the heat generated by curing cement (hydration energy) to evaluate the integrity of drilled piers in accordance with ASTM D7949, Method B. Use a prequalified Crosshole Sonic Logging (CSL) Consultant to perform TPL testing and provide TPL reports. Provide TPL reports sealed by an engineer licensed in the State of North Carolina approved as a Project Engineer (key person) for the same CSL Consultant.

Materials

Supply all materials and equipment required to perform TPL testing in accordance with the ASTM D7949, Method B. Attach embedded thermal sensors to the reinforcing cage before drilled pier construction in accordance with ASTM D7949, Method B.

Testing

Perform TPL testing in accordance with ASTM D7949, Method B. Begin recording temperature data to the nearest one-degree Fahrenheit immediately after completing concrete placement. Record temperatures using an hour or smaller interval of time. Continue recording temperatures until at least 24 hours after the peak temperature has passed. If a temperature limit is exceeded, continue monitoring until all temperature values fall below the specified limit, even if the 24-hour requirement has been met.

Reports

Submit each TPL report within 7 working days of completing TPL testing to the Engineer for review and approval. If both TPL testing and CSL testing are conducted on the same drilled pier, provide one report for both tests with a comparison of the results. Include all items required for CSL reports in accordance with Subarticle 411-5(A)(2) of the *Standard Specification* that are applicable to TPL testing and the following TPL testing specific items in the TPL reports:

(A) TPL Results

(i) Graphical displays of all temperatures versus depth including date and time for all readings

(B) Summary/Conclusions

(i) The overall average temperature

(ii) Summary of observed effective radius reduction and local cover

(iii) List of suspected anomalies with corresponding locations (thermal sensor(s) and depth range)

(C) Attachments

(i) Embedded sensor locations, elevations, lengths and identifications

(ii) Description of the data recording unit and software version information

(iii) PDF copy of all TPL data

Measurement and Payment

TPL Testing will be measured and paid in units of each. *TPL Testing* will be measured as one per drilled pier. The contract unit price for *TPL Testing* will be full compensation for performing TPL testing and providing TPL reports. TPL thermal sensors and data loggers associated with TPL testing will be incidental to the contract unit price for *TPL Testing*.

Payment will be made under:

Pay Item	**Pay Unit**
TPL Testing	Each



Signed by:
Daniel Gallo
B93EE4CB3B114E9...
11/03/2026

DRILLED PIERS:

(SPECIAL)

Revise the *Standard Specifications* as follows:

Replace Section 411 with the following:

SECTION 411
DRILLED PIERS

411-1 DESCRIPTION

Construct drilled piers consisting of CIP reinforced concrete cylindrical sections in excavated holes typically stabilized with casings or slurry. Provide permanent casings, standard penetration tests, integrity testing and assistance with the shaft inspection device as noted in the plans. Construct drilled piers with the required resistances and dimensions in accordance with the contract and accepted submittals. Use a prequalified Drilled Pier Contractor to construct drilled piers.

Define "excavation" and "hole" as a drilled pier excavation and "pier" as a drilled pier. Define "permanent casing" as a casing that remains in the excavation and acts as a form for Drilled Pier concrete and "temporary casing" as any casing that is not permanent. Define "rock" as a continuous intact natural material with a standard penetration resistance of 0.1 foot or less per 60 blows or a rock auger penetration rate of less than 2 inches per 5 minutes of drilling at full crowd force or as determined by the Engineer when rock is not encountered as expected based on these criteria. This definition excludes discontinuous loose natural materials such as boulders and man-made materials such as concrete, steel, timber, etc. and is not for measurement and payment purposes. See Article 411-7 for measurement and payment of drilled piers.

411-2 MATERIALS

Refer to Division 10.

Item	Section
Grout, Type 2	1003
Portland Cement Concrete, Class Drilled Pier	1000
Reinforcing Steel	1070

Provide Type 3 material certifications in accordance with Article 106-3 for permanent casings and roller, chair, steel pipe and cap materials. Store steel materials on blocking at least 12 inches above the ground and protect it at all times from damage; and when placing in the work make sure it is free from dirt, dust, loose mill scale, loose rust, paint, oil or other foreign materials. Load, transport, unload and store drilled pier materials so materials are kept clean and free of damage.

(A) Steel Casing

Define "casing" as a temporary or permanent casing. If permanent casing is required for an excavation, the largest diameter casing in the hole is the permanent casing. This does not apply to working casings around permanent casings as approved by the Engineer. Use smooth non-corrugated clean watertight steel casings of ample strength to withstand

handling and installation stresses and pressures imposed by concrete, earth, backfill and fluids.

(1) Temporary Casings

Provide temporary casings with a nominal wall thickness of at least 0.375 inch and an outside diameter equal to or larger than the design pier diameter for which temporary casing is used.

(2) Permanent Casings

Use permanent casings with a yield strength of at least 36 ksi and a nominal wall thickness that meets Table 411-1.

TABLE 411-1
MINIMUM PERMANENT CASING WALL THICKNESS

Casing Diameter	Nominal Wall Thickness
< 48"	0.375"
48" - 78"	0.500"
> 78"	0.625"

Provide permanent casings with an outside diameter equal to the design pier diameter for which permanent casing is used unless larger diameter permanent casings are approved by the Engineer.

(B) Slurry

Define "slurry" as bentonite or polymer slurry. Mix bentonite clay or synthetic polymer with water to make bentonite or polymer slurry.

(1) Bentonite Slurry

Provide bentonite slurry that meets Table 411-2.

TABLE 411-2
BENTONITE SLURRY REQUIREMENTS[A]

Property	ANSI/API RP[B] 13B-1	Requirement
Density[C] (Mud Weight)	Section 4 Mud Balance	64.3 - 72.0 pcf
Viscosity	Section 6.2 Marsh Funnel	28 - 50 sec/qt
Sand Content	Section 9	≤ 4 %[D]
		≤ 2 %[E]
pH	Section 11 Glass Electrode pH Meter[F]	8 - 11

A. Slurry temperature of at least 40°F required
B. American National Standards Institute/American Petroleum Institute Recommended Practice
C. Increase density requirements by 2 pcf in saltwater
D. In tanks before pumping slurry into excavations
E. In excavations immediately before placing concrete
F. pH paper is also acceptable for measuring pH

(2) Polymer Slurry

Use polymer slurry products qualified by the Department. Provide polymer slurry with density, viscosity, sand content and pH properties that meet the product requirements. The polymer slurry QPL with the property requirements for each qualified polymer slurry product is available on the Geotechnical Engineering Unit's website.

(C) Rollers and Chairs

Use rollers and chairs that are non-metallic and resistant to corrosion and degradation. Provide rollers with the necessary dimensions to maintain the minimum required concrete cover shown in the plans and center rebar cages within excavations. Use chairs of sufficient strength to support rebar cages in excavations and of the size necessary to raise cages off bottom of holes to maintain the minimum required distance shown in the plans.

(D) Steel Pipes and Caps

Use Schedule 40 black steel pipes for access tubes for crosshole sonic logging (CSL). Provide CSL tubes with an inside diameter of at least 1.5 inches. Use CSL tubes with a round, regular inside diameter free of defects and obstructions, including any pipe joints, in order to permit free, unobstructed passage of probes for CSL testing. Provide watertight CSL tubes free of corrosion with clean internal and external faces to ensure a good bond between concrete and tubes. Fit CSL tubes with watertight plastic caps on the bottom and removable caps on top.

(E) Drilled Pier Concrete

Use drilled pier concrete material meeting the requirements of Section 1000, except as modified below:

(1) Supplementary Cementitious Materials (SCMs)

Add SCMs to reduce peak concrete hydration temperature, improve thermal performance, and mitigate risk of thermal cracking in Drilled Pier Concrete in accordance with Table 411-3. Use any one or combination of the SCMs that satisfies the required minimum dosages below:

(a) ≥ 25% Class F fly ash that meets ASTM C618
(b) ≥ 35% Class C fly ash that meets ASTM C618
(c) ≥ 35% slag cement that meets ASTM C989/C989M
(d) ≥ 5% silica fume that meets ASTM C1240 with ≥ 25% slag cement
(e) ≥ 5% silica fume that meets ASTM C1240 with ≥ 20% Class F fly ash that meets ASTM C618

Use SCMs found on the Department's approved producer/supplier list. Concrete mixtures containing high alkali cements must also utilize the appropriate SCMs and minimum substitution rates provided in Article 1024-1.

(2) Equivalent Cement Content (ECC)

Determine the ECC on a per cubic yard basis with the following formula:

ECC= 1.0(PC) + 0.5(FAF) + 0.8(FAC) + 1.2(SF) + 1.0(SC)

Where:

PC = Portland cement
FAF = Class F fly ash
FAC = Class C fly ash
SF = Silica fume
SC = Slag cement

All units are in pounds per cubic yard.

ECC shall meet the requirements of Table 411-3 unless otherwise supported by a temperature prediction model in accordance with Subarticle 411-2(E)(3)(b).

(3) Thermal Control

(a) Use appropriate thermal control measures to reduce the peak concrete hydration temperature in Drilled Pier Concrete. Methods for controlling concrete temperature may include, but are not limited to, the following:
(i) Selecting constituent materials that minimize the heat generated by concrete hydration.
(ii) Cooling constituent materials to reduce the temperature of concrete in its plastic state.
(iii) Controlling the rate of concrete placement.
(iv) Other methods proposed by the Contractor and approved by the Engineer.

At a minimum, provide thermal control for Drilled Pier Concrete in accordance with Table 411-3.

TABLE 411-3
THERMAL CONTROL REQUIREMENTS FOR DRILLED PIER CONCRETE

D **Drilled Pier Diameter[A] (ft)**	**SCMs Required? (Yes/No)**	**Max ECC (lb/cy)**	**Max Temp with SCMs[C] (°F)**	**Max Temp without SCMs (°F)**	**Temp Prediction Required? (Yes/No)**	**Temp Monitoring Required? (Yes/No)**
$D \leq 5$	No	N/A	185	158	No	No
$5 < D < 6$	Yes	625		N/A	No	Yes
$D \geq 6$	Yes	B		N/A	Yes	Yes

A. Drilled pier diameter is the largest constructed diameter for any portion of a pier.

B. As determined by temperature prediction model

C. For a list of SCM's allowed see Subarticle 411-2(E)(1)

(b) Temperature Prediction

Use the Schmidt Method or numerical thermal modeling as described in *Concrete: Microstructure, Properties, and Materials* by Mehta and Monteiro (2014) or other method approved by the Engineer to predict concrete hydration temperature. Temperature predictions are required for each Drilled Pier Concrete mix design with a different drilled pier condition. Variations in constructed drilled pier diameter or drilled piers with permanent steel casing are considered different drilled pier conditions. Submit temperature prediction results and any planned thermal control measures at least 30 days before beginning Drilled Pier Concrete placement.

(c) Temperature Monitoring

Monitor concrete hydration temperature for the first drilled pier constructed with each Drilled Pier Concrete mix with a different drilled pier condition as described in Subarticle 411-2(E)(3)(b). Measure temperature at the center of the drilled pier diameter using two redundant thermal sensors inserted at least 1.5 × pier diameters below the top of pier and in accordance with ASTM D7949, Method B. Begin recording temperature data to the nearest one-degree Fahrenheit immediately after completing concrete placement. Record temperatures using an hour or smaller interval of time. Continue recording temperatures until at least 24 hours after the peak temperature has passed. If a temperature limit is exceeded, continue monitoring until all temperature values fall below the specified limit, even if the 24-hour requirement has been met. Submit temperature monitoring data within 24 hours after completing monitoring and before placing another drilled pier under the same conditions.

If temperature limits are exceeded during monitoring, submit a revised thermal control plan including but not limited to revised concrete mix designs, lower concrete placement temperature, or other modifications proposed by the contractor for review by the Engineer. Do not place additional drilled piers under the same conditions until the revised thermal control plan has been reviewed by the Engineer. Drilled piers that exceed the temperature limits established in Table 411-3 are considered unacceptable unless the Contractor demonstrates through an engineering analysis that the drilled pier is acceptable to the Engineer.

(d) Concrete Placement Temperature

For drilled piers with constructed diameters of greater than 5 feet, maintain concrete temperature at time of placement between 40°F and 75°F. Placement temperatures up to 85°F may be permitted when supported by temperature prediction or monitoring as specified in Subarticle 411-2(E)(3)(b) and (c). When placement temperatures above 75°F are permitted based on temperature monitoring, continue monitoring subsequent drilled piers until monitoring demonstrates that the maximum temperature specified in Table 411-3 will not be exceeded at the higher placement temperature.

(4) Concrete Slump Loss

Place concrete within the slump requirements listed in Table 1000-1 and maintain a minimum slump of 5 inches throughout the elapsed time. The elapsed time for placing drilled shaft concrete includes the concrete mixing and transit time, the concrete placement time, and the time required to remove any tremies, temporary casings, etc. Include the estimated elapsed time for concrete placement in the drilled shaft installation plan.

For drilled piers with a theoretical concrete volume of 75 cubic yards or more and an estimated elapsed time greater than 2 hours, perform a field slump loss test. Perform the slump loss test in accordance with the procedure posted on the NCDOT Materials and Tests Unit website and demonstrate to the Engineer, before drilled pier concrete placement, that the concrete will maintain a slump of 5 inches or greater for the estimated elapsed time. Place concrete if it's temperature at the time of placement into the drilled pier is no more than 10°F higher than the slump loss test temperature. Use ice or other concrete-cooling ingredients to lower concrete temperature or run additional slump loss tests at the higher temperatures.

411-3 PRECONSTRUCTION REQUIREMENTS

(A) Drilled Pier Construction Plan

Submit the proposed drilled pier construction plan for all drilled piers for acceptance by the Engineer. Provide an electronic copy of this plan at least 30 days before starting drilled pier construction. Do not begin drilled pier construction until a construction plan is accepted by the Engineer. Provide detailed project specific information in the drilled pier construction plan that includes the following:

(1) Overall description and sequence of drilled pier construction;

(2) List and sizes of equipment including cranes, drill rigs, vibratory and downhole hammers, Kelly bars, augers, core barrels, casings (diameters, thicknesses and lengths), cleanout buckets, air lifts, pumps, slurry equipment, tremies, pump pipes and other equipment;

(3) Procedures for casing installation and temporary casing removal including how telescoping temporary casings will be removed;

(4) If applicable, details of slurry testing and use including intended purpose, product information and additives, manufacturer's recommendations for use, name and contact information for slurry manufacturer's technical representative, mixing and handling procedures and how slurry level will be maintained above the highest piezometric head;

(5) Methods for drilling and cleaning holes including how cores will be removed and drilling spoils and slurry will be handled and disposed of;

(6) Details of CSL tubes, caps and joints including pipe size and how tubes will be attached to reinforcing steel;

(7) Procedures for lifting and setting reinforcing steel including how rebar cages will be supported and centralized;

(8) Procedures for placing concrete including how tremies and pump pipes will be controlled and contaminated concrete will be contained;

(9) Concrete mix design that meets Section 1000;

(10) Approved packaged grout or grout mix design that meets Section 1003;

(11) CSL Consultant including Field and Project Engineer; and

(12) Other information shown in the plans or requested by the Engineer.

If alternate construction procedures are proposed or necessary, a revised drilled pier construction plan submittal may be required. If the work deviates from the accepted submittal without prior approval, the Engineer may suspend drilled pier construction until a revised plan is accepted by the Engineer.

(B) Preconstruction Meeting

Before starting drilled pier construction, hold a drilled pier preconstruction meeting to discuss the installation, monitoring and inspection of the drilled piers. Schedule this drilled pier preconstruction meeting with the Engineer after the Drilled Pier Contractor mobilizes to the site. If this meeting occurs before all drilled pier submittals have been accepted by the Engineer, additional drilled pier preconstruction meetings may be required before beginning construction of drilled piers without accepted submittals. The Prime Contractor and Drilled Pier Contractor Superintendent shall attend the drilled pier preconstruction meetings.

411-4 CONSTRUCTION METHODS

Do not excavate holes, install piles or allow equipment loads or vibrations within 20 feet of completed piers until 16 hours after drilled pier concrete reaches initial set.

When drilling from a barge, use a fixed template that maintains hole position and alignment during drilled pier construction. Do not use floating templates or templates attached to barges.

Check for correct drilled pier alignment and location before beginning drilling. Check plumbness of Kelly bars before beginning and frequently during drilling.

For drilled piers constructed with slurry or permanent casings, the pier diameter may be 2 inches less than the design pier diameter shown in the plans. For all other drilled piers, construct piers with the minimum required diameters shown in the plans except for portions of drilled piers in rock which may be 2 inches less than the design pier diameter.

Install drilled piers with tip elevations no higher than shown in the plans or approved by the Engineer. Provide piers with the minimum required tip resistance and, when noted in the plans, penetration into rock.

(A) Excavation

Excavate holes with equipment of the sizes required to construct drilled piers. Use equipment and methods accepted in the drilled pier construction plan or approved by the Engineer. Inform the Engineer of any deviations from the accepted plan.

Use drill rigs with sufficient capacity to drill through soil, rock, boulders, timbers, man-made objects and any other materials encountered and drill 20 feet deeper or 20% longer than the maximum drilled pier length shown in the plans, whichever is greater. Drilling below pier tip elevations shown in the plans may be required to attain sufficient resistance.

Do not use blasting to advance drilled pier excavations. Blasting for core removal is only permitted when approved by the Engineer. See Articles 107-11 and 107-12 for protection of public and private property and control of siltation, dust and air and water pollution from blasting, drilling and excavating with down-the-hole hammers. Contain and dispose of drilling spoils and waste concrete in accordance with Section 802 or as directed by the Engineer. Drilling spoils consist of all materials and fluids removed from excavations.

Stabilize excavations with only casings or slurry and casings except, as approved by the Engineer, portions of excavations in rock. Use casings or slurry in rock if unstable material is anticipated or encountered. Stabilize excavations from beginning of drilling through concrete placement. If excavations become unstable, the Engineer may suspend drilling and require a revised drilled pier construction plan. If it becomes necessary to replace a casing during drilling, backfill the excavation, insert a larger casing around the casing to be replaced or stabilize the excavation with slurry before removing the casing.

When noted in the plans, do not dewater drilled pier excavations. Otherwise, if excavations are in rock, dewater excavations to the satisfaction of the Engineer.

(B) Casings

Provide temporary casings to stabilize holes and protect personnel entering excavations. Permanent casings may be required as noted in the plans. Install permanent casings with tip elevations no deeper than shown in the plans or approved by the Engineer. Additional drilled pier length and reinforcing steel may be required if permanent casings are installed below elevations noted in the plans.

Install casings in continuous sections. Overlap telescoping casings at least 24 inches. Remove portions of permanent casings above the ground line or top of piers, whichever is higher, after placing concrete. Do not cut off permanent casings until Drilled Pier concrete attains a compressive strength of at least 3,000 psi.

When using slurry construction without permanent casings, temporary casings at least 10 feet long are required at top of excavations. Maintain top of casings at least 12 inches above the ground line.

(C) Slurry Construction

Unless noted otherwise in the plans, slurry construction or polymer slurry is at the Contractor's option.

Use slurry and additives to stabilize holes in accordance with the manufacturer's recommendations. Provide a technical representative employed by the slurry manufacturer to assist and guide the Drilled Pier Contractor onsite during the construction of the first drilled pier. If problems are encountered during drilled pier construction, the Engineer may require the technical representative to return to the site.

Provide documentation that mixing water is suitable for slurry. Use slurry equipment that is sufficient for mixing, agitating, circulating and storing slurry. Thoroughly premix slurry with water in tanks before pumping into excavations. Allow bentonite slurry to hydrate at least 24 hours in tanks before use.

Pump slurry into excavations before encountering water. Maintain slurry level at least 5 feet or one pier diameter, whichever is greater, above the highest piezometric head along the drilled pier length. The highest piezometric head is anticipated to be the static water or groundwater elevation. However, the Drilled Pier Contractor is responsible for determining the highest piezometric head for each pier.

Maintain the required slurry properties at all times. Desand or replace slurry as needed to meet the required sand content in tanks before pumping slurry into excavations and in excavations immediately before placing concrete.

(1) Time

Agitate bentonite slurry in holes at least every 4 hours. If this 4-hour time limit is exceeded, the Engineer may require holes to be overreamed at least 1 inch and no more than 3 inches below casings. Overream holes with grooving tools, overreaming buckets or other approved methods.

Construct drilled piers so the maximum time slurry is in contact with uncased portions of holes from drilling through concrete placement does not exceed 36 hours. If this 36 hour time limit is exceeded, the Engineer may require the hole diameter to be enlarged at least 6 inches. If the enlarged hole diameter is greater than the permanent casing diameter, replace casing with a larger permanent casing with an outside diameter equal to the diameter of the enlarged hole.

(2) Slurry Testing

Define a “sample set” as slurry samples collected from mid-height and within 2 feet of the bottom of slurry tanks or holes. Take a sample set from slurry tanks to test slurry before beginning drilling. Do not pump slurry into excavations until both slurry samples from tanks meet the required slurry properties. Take sample sets from excavations to test slurry at least every 4 hours and immediately before placing concrete. Do not place Drilled Pier concrete until both slurry samples from an excavation meet the required slurry properties. If any slurry test results do not meet the requirements, the Engineer may suspend drilling until both samples from a sample set meet the required slurry properties.

Sign, date and submit slurry test reports upon completion of each pier. The Department reserves the right to perform comparison slurry tests at any time.

(3) Disposal

Comply with all Federal, State and local regulations, as well as the project permits and commitments, when disposing of slurry and drilling spoils mixed with slurry. Contain slurry and drilling spoils and keep out of water at all times.

(D) Cleaning and Inspection

Provide clean holes with level bottoms so elevations within bottom of holes do not vary

by more than 12 inches. Remove soft and loose material from bottom of holes using methods accepted in the drilled pier construction plan or approved by the Engineer. When bottom of holes are not hand cleaned, remove sediment from holes with cleanout buckets, air lifts or pumps.

After cleaning is complete, provide all equipment, personnel and assistance required for the Engineer to visually inspect holes from above or by entering excavations. Remove all cleaning and drilling equipment from holes during inspections and do not interfere with inspections.

(1) Tip Resistance

If the Engineer determines that the material below an excavation does not provide the minimum required tip resistance, increase the drilled pier length and lengthen reinforcing steel as directed by the Engineer. One of the following methods may be required to check the conditions and continuity of material below excavations.

(a) Test Hole

If excavations are in rock, drill a 1.5 inch diameter test hole at least 6 feet below bottom of holes to determine the continuity of rock below holes.

(b) Standard Penetration Test

Standard penetration tests (SPT) may be required as noted in the plans. When required, drive a split-barrel sampler 18 inches below bottom of holes or to refusal in accordance with ASTM D1586. Perform SPT in holes at least 12 inches away from casing walls and support drill rods so rods remain vertical and straight. Report the number of blows applied in each 6 inch increment and provide recovered samples to the Engineer. The Engineer will determine the standard penetration resistance required.

(2) Bottom Cleanliness

Holes are clean if at least 50% of bottom of holes has less than 0.5 inch of sediment and no portions of bottom of holes have more than 1.5 inches of sediment. If bottom of holes does not meet this cleanliness criteria, remove sediment from holes until the Engineer determines holes are clean. One or more of the following methods may be required to inspect the bottom cleanliness of holes.

(a) Steel Probe

If drilled pier excavations are not dewatered or as directed by the Engineer, provide a #10 rebar steel probe that is 24 inches long with a flat tip on one end and a non-stretch cable connected to the other end. Provide a cable long enough to lower the steel probe to the bottom of holes for the Engineer to determine the amount of sediment in holes.

(b) Shaft Inspection Device

The Engineer may use the shaft inspection device (SID) as noted in the plans. The Engineer provides the SID and personnel to operate it. Notify the Engineer at least 2 days before finishing holes that will be inspected

with the SID.

Assist the Engineer in handling the SID and associated equipment and supporting the SID during inspections. Provide working areas large enough for the SID, associated equipment and SID personnel within reach of the SID cables and clear view of holes being inspected. If necessary, provide a secure location to store the SID and associated equipment onsite overnight.

Approximately one hour is required to inspect a hole with the SID after the SID and associated equipment are set up. The Engineer will use the SID to measure the amount of sediment at 5 locations around the bottom of holes.

(E) Reinforcing Steel and Concrete

Assemble rebar cages consisting of bar and spiral reinforcing steel shown in the plans. Securely cross tie reinforcing steel at each intersection with double wire. Attach a chair under each reinforcing bar and rollers near the top and bottom of rebar cages and every 10 feet along cages in between. The number of rollers required at each location along rebar cages is one roller per foot of design pier diameter with at least 4 rollers per location. Space rollers equally around rebar cages at each location. Attach rollers so rollers are supported across 2 adjacent reinforcing bars and will freely rotate when rebar cages are lowered into excavations.

If CSL tubes are required, securely attach CSL tubes to spiral reinforcing steel on the inside of rebar cages with at least 3 inches of clearance to vertical reinforcing bars. Extend CSL tubes from 6 inches above pier tip elevations to at least 2 feet above the ground line or top of permanent casings, whichever is greater. The number of CSL tubes required for each drilled pier is one tube per foot of design pier diameter with at least 4 tubes per pier. Space CSL tubes equally around rebar cages so distances between tubes measured around spiral reinforcing steel are uniform. Install CSL tubes as straight and parallel to each other as possible. Fit caps on top and bottom of CSL tubes.

After the Engineer determines that the material below excavations provides the minimum required tip resistance and holes are clean, place rebar cages and then concrete in excavations. Do not rack or distort rebar cages and CSL tubes when lifting and handling cages. Set rebar cages directly on bottom of holes or, as approved by the Engineer, hang cages from permanent casings. When hanging rebar cages, leave devices supporting cages in place until Drilled Pier concrete attains a compressive strength of at least 3,000 psi.

Do not delay placing cages or concrete unless excavations are cased to rock or otherwise approved. If delays occur, the Engineer may require removal of rebar cages to reinspect bottom cleanliness of holes. If bottom of holes does not meet the cleanliness criteria in Subarticle 411-4(D)(2), remove sediment from holes until the Engineer determines holes are clean before resetting rebar cages.

After placing rebar cages with CSL tubes, remove top caps, fill tubes with clean water and reinstall caps before placing concrete. Check for correct cage position before placing concrete and keep rebar cages plumb during concrete placement. Maintain cage position

so rebar cages do not move vertically more than 6 inches and columns or footings have the minimum required concrete cover shown in the plans.

Remove all temporary casings during concrete placement. Do not twist, move or otherwise disturb temporary casings until the concrete depth inside casings is at least 10 feet or half the head, whichever is greater, above the bottom of casing being disturbed. Define "head" as the difference between the highest piezometric head along the drilled pier length and the static water elevation inside the excavation.

When removing temporary casings, maintain the required concrete depth above the bottom of casing being removed except when the concrete level is at or above top of piers. Sustain sufficient concrete depths to overcome pressures imposed by earth, backfill and fluids. As temporary casings are withdrawn, ensure fluids trapped behind casings is displaced upward and discharged out of excavations without contaminating or displacing concrete.

Pour concrete in excavations to form uniform jointless monolithic drilled piers. Do not trap soil, air, fluids or other contaminants in concrete. Remove contaminated concrete from top of piers at time of concrete placement.

Inform the Engineer of the volume of concrete placed for each pier. For piers constructed with slurry or as directed by the Engineer, record a graphical plot of depth versus theoretical and actual concrete volumes.

Dry or wet placement of concrete is at the Contractor's option for piers constructed with only casings if the water inflow rate into excavations is less than 6 inches per half hour after removing any pumps from holes. Wet placement of concrete is required for all other drilled pier construction.

(1) Dry Placement

If holes are filling with water for dry placement of concrete, dewater excavations as much as possible before placing concrete. For drilled piers less than 80 feet long, pour concrete down the center of excavations so concrete does not hit reinforcing steel or excavation sidewalls. For piers longer than 80 feet, place concrete with a tremie or pump pipe down the center of excavations so length of free fall is less than 80 feet.

(2) Wet Placement

For wet placement of concrete, maintain static water or slurry levels in holes before placing concrete. Place concrete through steel tremies or pump pipes. Use tremies with watertight joints and a diameter of at least 10 inches. Pump concrete in accordance with Article 420-5. Use approved devices to prevent contaminating concrete when tremies or pump pipes are initially placed in excavations. Keep tremies or pump pipes embedded into concrete at least 5 feet at all times except when the concrete is initially placed.

When the concrete level reaches the static water elevation inside the excavation, dry placement of concrete is permitted. Before changing to dry placement, pump water or slurry out of holes and remove contaminated concrete from the exposed concrete surface.

411-5 INTEGRITY TESTING

Define "integrity testing" as crosshole sonic logging (CSL) and thermal profile logging (TPL). Integrity testing shall be performed as noted in the plans or as required by the Engineer. Perform TPL testing if required in the contract. The Engineer will determine how many and which drilled piers require integrity testing. For CSL testing, do not test piers until Drilled Pier concrete cures for at least 7 days and attains a compressive strength of at least 3,000 psi.

(A) Crosshole Sonic Logging

If CSL testing is required, use a prequalified CSL Consultant to perform CSL testing and provide CSL reports. Use a CSL Operator approved as a Field Engineer (key person) for the CSL Consultant. Provide CSL reports sealed by an engineer licensed in the State of North Carolina approved as a Project Engineer (key person) for the same CSL Consultant.

(1) CSL Testing

Perform CSL testing in accordance with ASTM D6760. If probes for CSL testing will not pass through to the bottom of CSL tubes, the Engineer may require coring to replace inaccessible tubes. Do not begin coring until core hole size and locations are approved by the Engineer. Core at least 1.5 inches diameter holes the full length of piers. Upon completion of coring, fill holes with clean water and cover to keep out debris. Perform CSL testing in core holes instead of inaccessible tubes.

For piers with 4 or 5 CSL tubes, test all tube pairs. For piers with 6 or more CSL tubes, test all adjacent tube pairs around spiral reinforcing steel and at least 50% of remaining tube pairs selected by the Engineer. Record CSL data at depth intervals of 2.5 inches or less from the bottom of CSL tubes to top of piers.

(2) CSL Reports

Submit each CSL report within 7 days of completing CSL testing. Include the following in CSL reports:

(a) Title Sheet

(i) Department's TIP number and WBS element number

(ii) Project description

(iii) County

(iv) Bridge station number

(v) Pier location

(vi) Personnel

(vii) Report date

(b) Introduction

(c) Site and Subsurface Conditions (including water table elevation)

(d) Pier Details

(i) Pier and casing diameters, lengths and elevations

(ii) Drilled Pier concrete compressive strength

(iii) Installation methods including use of casings, slurry, pumps, tremies, dry or wet placement of concrete, etc.

(e) CSL Results

(i) Logs with plots of signal arrival times and energy vs. depth for all tube pairs tested

(f) Summary/Conclusions

(i) Table of first arrival time (FAT) increases greater than 30% of the local average FAT value with corresponding locations (tube pair(s) and depth ranges) for all tube pairs tested

(ii) Table of relative energy reductions 9 dB greater than the local average relative energy value with corresponding locations (tube pair(s) and depth ranges) for all tube pairs tested

(iii) List of suspected anomalies with corresponding locations (tube pair(s) and depth ranges)

(g) Attachments

(i) Boring log(s)

(ii) Field inspection forms and concrete curves (from Engineer)

(iii) CSL tube locations, elevations, lengths and identifications

(iv) CSL hardware model and software version information

(v) PDF copy of all CSL data

(B) Drilled Pier Evaluation

Define "drilled pier evaluation" as any additional testing, excavation or coring following integrity testing. Based on concrete placement and CSL results, the Engineer will determine if drilled piers require evaluation within 7 days of receiving CSL reports, in accordance with Table 411-4.

TABLE 411-4
DRILLED PIER EVALUATION CRITERIA

FAT Increase	Relative Energy Reduction	Evaluation Required?
≤ 30%	≤ 9 dB	No
> 30%	≤ 9 dB	Yes
≤ 30%	> 9 dB	Yes
> 30%	> 9 dB	Yes

If a drilled pier evaluation is necessary, use one or more of the following methods, or any other methods approved by the Engineer to investigate the pier.

(1) CSL Tomography

Use CSL testing as described in Subarticle 411-5(A) and perform testing with

probes vertically offset in CSL tubes. CSL offset data will typically be required for all locations (tube pair and depth) where first arrival time increases are greater than 30% and relative energy reduction exceeds 9 dB. Record offset data at depths, intervals and angles needed to completely delineate anomalies.

Provide CSL reports that meet Subarticle 411-5(A)(2). When CSL offset data is recorded, perform tomographic analysis and provide 3 dimensional color coded tomographic images of piers showing locations and sizes of anomalies.

(2) Excavation

Excavate around piers and remove permanent casing as needed to expose Drilled Pier concrete. Do not damage piers when excavating or removing casings. The Engineer will determine the portions of piers to expose.

(3) Coring

Core piers and provide PQ size cores that meet ASTM D2113. The Engineer will determine the number, location and depth of core holes required based on CSL tomography. Handle, log and store concrete cores with methods acceptable to the Engineer. Use a consultant with an engineer licensed in the State of North Carolina to log cores and use a qualified NCDOT laboratory to test strength of the selected core specimens.

Submit to the Engineer the investigation results in a drilled pier evaluation report sealed by an engineer licensed in the State of North Carolina for review and approval.

(C) Drilled Pier Remediation

If the Engineer determines a drilled pier is unacceptable, remediation is required. Remediation may include, but is not limited to hydroblasting and pressure grouting, utilizing micropiles within the drilled pier to transfer load above and below a defect, removing part or all of unacceptable drilled piers, modifying drilled pier design or providing replacement or additional drilled piers, micropiles, and/or driven piles within a pier footing or bent cap.

Submit a drilled pier remediation report including the working drawings and design calculations for acceptance in accordance with Article 105-2. Ensure the drilled pier remediation report is designed, detailed and sealed by an engineer licensed in the State of North Carolina. Do not begin remediation work until remediation plans are approved by the Engineer. When repairing unacceptable piers, perform post repair verification testing to gauge success of the repair.

411-6 DRILLED PIER ACCEPTANCE

Drilled pier acceptance is based in part on the following criteria:

(A) Temporary casings and drilling tools are removed from the drilled pier excavation or the Engineer determines that a temporary casing may remain in the excavation.

(B) Drilled Pier concrete is properly placed and does not have any evidence of segregation, intrusions, contamination, structural damage or inadequate consolidation (honeycombing) and meets compressive strength required in Table 1000-1.

(C) Center of pier is within 3 inches of plan location and 2% of plumb. Top of pier is within 1 inch above and 3 inches below the elevation shown in the plans or approved by the Engineer.

(D) Rebar cage is properly placed and top and center of cage is within tolerances for center of pier. Tip of permanent casing does not extend below the elevation noted in the plans or approved by the Engineer.

(E) CSL report meeting Subarticle 411-5(A)(2).

(F) Drilled pier evaluation report meeting Subarticle 411-5(B).

(G) Drilled pier remediation report meeting Subarticle 411-5(C).

Do not grout CSL tubes or core holes, backfill around a pier or perform any work on a drilled pier until the Engineer accepts the pier. If the drilled pier is accepted by the Engineer, dewater and grout CSL tubes and core holes, and backfill around the pier with approved material to finished grade. No extension of completion date or time will be allowed for remediation of unacceptable drilled piers or post repair testing.

411-7 MEASUREMENT AND PAYMENT

____ *Dia. Drilled Piers in Soil*, ____ *Dia. Drilled Piers Not in Soil* and ____ *Dia. Drill Piers* will be measured and paid in linear feet. Acceptable drilled piers will be measured as the difference between the specified top of pier and pier tip elevations or revised elevations approved by the Engineer.

For bents with a not in soil pay item shown in the plans, drilled piers will be paid as ____ *Dia. Drilled Piers in Soil* and ____ *Dia. Drilled Piers Not in Soil*. Define "not in soil" as material with a rock auger penetration rate of less than 2 inches per 5 minutes of drilling at full crowd force. When not in soil is encountered, seams, voids and weathered rock less than 3 feet thick with a rock auger penetration rate of greater than 2 inches per 5 minutes of drilling at full crowd force will be paid at the contract unit price for ____ *Dia. Drilled Piers Not in Soil*. Seams, voids and weathered rock greater than 3 feet thick will be paid at the contract unit price for ____ *Dia. Drilled Piers in Soil* where not in soil is no longer encountered. For bents with a not in soil pay item shown in the plans, drilled piers through air or water will be paid at the contract unit price for ____ *Dia. Drilled Piers in Soil*.

For bents without a not in soil pay item shown in the plans, drilled piers will be paid as ____ *Dia. Drill Piers*. The contract unit price for ____ *Dia. Drilled Piers* will be full compensation for drilling through any materials encountered.

The contract unit prices for ____ *Dia. Drilled Piers in Soil*, ____ *Dia. Drilled Piers Not in Soil* and ____ *Dia. Drill Piers* will also be full compensation for spoils and slurry containment and disposal, supplying and placing Drilled Pier concrete, material and testing requirements in Subarticle 411-2(E), temporary casing and slurry construction including a slurry manufacturer representative and overreaming and enlarging piers and any concrete removal, miscellaneous grading and excavation. No additional payment will be made for excess Drilled Pier concrete due to caving or sloughing holes or telescoping casings.

Reinforcing steel will be measured and paid in accordance with Article 425-6.

Permanent Steel Casing for ____ Dia. Drilled Pier will be measured and paid in linear feet. Permanent casings will only be paid for when required by the Engineer or shown in the plans. Permanent casings will be measured as the difference between the ground line or specified top of pier elevation, whichever is higher, and the specified permanent casing tip elevation or revised elevation approved by the Engineer. If a permanent casing cannot be installed to the casing tip elevation shown in the plans, up to 3 feet of casing cut-off will be paid at the contract unit price for *Permanent Steel Casing for ____ Dia. Drilled Pier*.

SID Inspections will be measured and paid in units of each. *SID Inspections* will be measured as one per pier. The contract unit price for *SID Inspections* will be full compensation for inspecting holes with the SID the first time. No additional payment will be made for subsequent inspections of the same hole.

The Contractor is responsible for any damage to the SID equipment due to the Contractor's fault or negligence. Replace any damaged equipment at no additional cost to the Department.

SPT Testing will be measured and paid in units of each. *SPT Testing* will be measured as the number of standard penetration tests performed except no payment will be made for *SPT Testing* to determine if temporary casing is necessary.

CSL Testing will be measured and paid in units of each. *CSL Testing* will be measured as one per pier. The contract unit price for *CSL Testing* will be full compensation for performing initial CSL testing and providing CSL reports. Subsequent CSL testing of and CSL reports for the same pier without tomography analysis will be incidental to the contract unit price for *CSL Testing*. No separate payment will be made for CSL tubes. CSL tubes including coring for inaccessible tubes and grouting will be incidental to the contract unit prices for drilled piers.

No payment will be made for stuck temporary casings that cannot be removed from drilled pier excavations or additional drilled pier length and reinforcing steel required due to temporary casings that remain in excavations. Drilled pier evaluations of piers that are acceptable based on drilled pier evaluation reports will be paid as extra work in accordance with Article 104-7. No payment will be made for drilled pier evaluations of unacceptable drilled piers, drilled pier remediation or post repair testing.

Payment will be made under:

Pay Item	**Pay Unit**
____ Dia. Drilled Piers in Soil	Linear Foot
____ Dia. Drilled Piers Not in Soil	Linear Foot
____ Dia. Drilled Piers	Linear Foot
Permanent Steel Casing for ____ Dia. Drilled Piers	Linear Foot
SID Inspections	Each
SPT Testing	Each
CSL Testing	Each



Signed by:
Daniel Gallo 11/03/2026
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County: MECKLENBURG

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	Lump Sum	L.S.	
0004	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUBBING	3 ACR		
0005	0022000000-E	225	UNCLASSIFIED EXCAVATION	75,100 CY		
0006	0036000000-E	225	UNDERCUT EXCAVATION	8,710 CY		
0007	0106000000-E	230	BORROW EXCAVATION	385,800 CY		
0008	0134000000-E	240	DRAINAGE DITCH EXCAVATION	7,310 CY		
0009	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	58,190 SY		
0010	0163000000-E	250	REMOVAL OF EXISTING CONCRETE PAVEMENT	230 SY		
0011	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	6,590 SY		
0012	0195000000-E	265	SELECT GRANULAR MATERIAL	4,010 CY		
0013	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	6,370 SY		
0014	0199000000-E	SP	TEMPORARY SHORING	15,360 SF		
0015	0223000000-E	275	ROCK PLATING	1,720 SY		
0016	0248000000-N	SP	GENERIC GRADING ITEM TYPE 1 BRIDGE APPROACH FILL, STATION 15+46.20 -GW-	Lump Sum	L.S.	
0017	0248000000-N	SP	GENERIC GRADING ITEM TYPE 1 BRIDGE APPROACH FILL, STATION 29+90 -Y2-	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0018	0248000000-N	SP	GENERIC GRADING ITEM TYPE 1 BRIDGE APPROACH FILL, STATION 32+59 -Y2-	Lump Sum	L.S.	
0019	0248000000-N	SP	GENERIC GRADING ITEM TYPE 2 BRIDGE APPROACH FILL, STATION 12+88 -Y3-	Lump Sum	L.S.	
0020	0248000000-N	SP	GENERIC GRADING ITEM TYPE 2 BRIDGE APPROACH FILL, STATION 15+54 -Y3-	Lump Sum	L.S.	
0021	0248000000-N	SP	GENERIC GRADING ITEM TYPE 2 BRIDGE APPROACH FILL, STATION 19+30 -Y1-	Lump Sum	L.S.	
0022	0248000000-N	SP	GENERIC GRADING ITEM TYPE 2 BRIDGE APPROACH FILL, STATION 23+44 -Y1-	Lump Sum	L.S.	
0023	0255000000-E	SP	GENERIC GRADING ITEM HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	50 TON		
0024	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	3,140 TON		
0025	0321000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	9,840 SY		
0026	0335100000-E	305	12" DRAINAGE PIPE	28 LF		
0027	0343000000-E	310	15" SIDE DRAIN PIPE	1,100 LF		
0028	0344000000-E	310	18" SIDE DRAIN PIPE	132 LF		
0029	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	2,128 LF		
0030	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	760 LF		
0031	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	1,020 LF		
0032	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	828 LF		
0033	0390000000-E	310	36" RC PIPE CULVERTS, CLASS III	468 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0034	0396000000-E	310	42" RC PIPE CULVERTS, CLASS III	52 LF		
0035	0414000000-E	310	60" RC PIPE CULVERTS, CLASS III	28 LF		
0036	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (60")	480 LF		
0037	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	14,936 LF		
0038	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	4,156 LF		
0039	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	692 LF		
0040	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	112 LF		
0041	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	596 LF		
0042	0448700000-E	310	42" RC PIPE CULVERTS, CLASS IV	180 LF		
0043	0449000000-E	310	**" RC PIPE CULVERTS, CLASS V (24")	36 LF		
0044	0449000000-E	310	**" RC PIPE CULVERTS, CLASS V (36")	332 LF		
0045	0449000000-E	310	**" RC PIPE CULVERTS, CLASS V (96")	408 LF		
0046	0582000000-E	310	15" CS PIPE CULVERTS, 0.064" THICK	564 LF		
0047	0600000000-E	310	30" CS PIPE CULVERTS, 0.079" THICK	56 LF		
0048	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (15", 0.064")	18 EA		
0049	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (30", 0.079")	2 EA		
0050	0973100000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B IN SOIL (36", 0.625")	46 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0051	0973100000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B IN SOIL (60", 0.750")	148 LF		
0052	0973300000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B NOT IN SOIL (36", 0.625")	46 LF		
0053	0973300000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B NOT IN SOIL (60", 0.750")	148 LF		
0054	0995000000-E	340	PIPE REMOVAL	8,619 LF		
0055	1011000000-N	500	FINE GRADING	Lump Sum	L.S.	
0056	1099500000-E	505	SHALLOW UNDERCUT	7,770 CY		
0057	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	28,863 TON		
0058	1110000000-E	510	STABILIZER AGGREGATE	800 TON		
0059	1112000000-E	505	GEOTEXTILE FOR SUBGRADE STABILIZATION	52,525 SY		
0060	1220000000-E	545	INCIDENTAL STONE BASE	900 TON		
0061	1297000000-E	607	MILLING ASPHALT PAVEMENT, ***" DEPTH (1-1/2")	78,760 SY		
0062	1297000000-E	607	MILLING ASPHALT PAVEMENT, ***" DEPTH (3")	40,200 SY		
0063	1308000000-E	607	MILLING ASPHALT PAVEMENT, ***" TO ******" (1-1/2" TO 3")	5,020 SY		
0064	1330000000-E	607	INCIDENTAL MILLING	3,050 SY		
0065	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	48,383 TON		
0066	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	36,710 TON		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0067	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	610 TON		
0068	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	28,010 TON		
0069	1524200000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5D	13,510 TON		
0070	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	5,630 TON		
0071	1577000000-E	620	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX	785 TON		
0072	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	2,113 TON		
0073	1841000000-E	665	GENERIC PAVING ITEM MILLED RUMBLE STRIPS (ASPHALT CONCRETE), (16")	13,400 LF		
0074	2022000000-E	815	SUBDRAIN EXCAVATION	782.6 CY		
0075	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	3,494 SY		
0076	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	587.2 CY		
0077	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	3,494 LF		
0078	2070000000-N	815	SUBDRAIN PIPE OUTLET	8 EA		
0079	2077000000-E	815	6" OUTLET PIPE	48 LF		
0080	2190000000-N	828	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE	1 EA		
0081	2209000000-E	838	ENDWALLS	6.8 CY		
0082	2253000000-E	840	PIPE COLLARS	2.4 CY		
0083	2275000000-E	SP	FLOWABLE FILL	395 CY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0084	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	359 EA		
0085	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	62.06 CY		
0086	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	240.7 LF		
0087	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	35 EA		
0088	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	55 EA		
0089	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.22	17 EA		
0090	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	4 EA		
0091	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	16 EA		
0092	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	22 EA		
0093	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	103 EA		
0094	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	97 EA		
0095	2396000000-N	840	FRAME WITH COVER, STD 840.54	21 EA		
0096	2440000000-N	852	CONCRETE TRANSITIONAL SECTION FOR CATCH BASIN	1 EA		
0097	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	40 EA		
0098	2535000000-E	846	**" X **" CONCRETE CURB (8" X 18")	970 LF		
0099	2542000000-E	846	1'-6" CONCRETE CURB & GUTTER	11,350 LF		
0100	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	29,790 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0101	2556000000-E	846	SHOULDER BERM GUTTER	1,831 LF		
0102	2591000000-E	848	4" CONCRETE SIDEWALK	5,850 SY		
0103	2605000000-N	848	CONCRETE CURB RAMPS	149 EA		
0104	2612000000-E	848	6" CONCRETE DRIVEWAY	60 SY		
0105	2619000000-E	850	4" CONCRETE PAVED DITCH	80 SY		
0106	2647000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)	1,940 SY		
0107	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	4,510 SY		
0108	2703000000-E	854	CONCRETE BARRIER, TYPE ******* (T2)	2,770 LF		
0109	2724000000-E	857	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	1,410 LF		
0110	2738000000-E	SP	GENERIC PAVING ITEM 12" CONCRETE TRUCK APRON	3,380 SY		
0111	2738000000-E	SP	GENERIC PAVING ITEM 4" CONCRETE MULTI-USE PATH	16,680 SY		
0112	2738100000-E	SP	GENERIC PAVING ITEM DETECTABLE WARNING SURFACE	210 SF		
0113	2752000000-E	SP	GENERIC PAVING ITEM 1'-6" CONCRETE CURB & GUTTER, CLASS AA CONCRETE	1,560 LF		
0114	2753000000-E	846	GENERIC PAVING ITEM 1'-6" CONCRETE CURB & GUTTER (SPECIAL)	640 LF		
0115	2753000000-E	846	GENERIC PAVING ITEM 2'-6" CONCRETE CURB & GUTTER (SPILL CURB)	210 LF		
0116	2761000000-E	848	GENERIC PAVING ITEM 6" CONCRETE SIDEWALK	70 SY		
0117	2800000000-N	858	ADJUSTMENT OF CATCH BASINS	1 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0118	2815000000-N	858	ADJUSTMENT OF DROP INLETS	2 EA		
0119	2830000000-N	858	ADJUSTMENT OF MANHOLES	6 EA		
0120	2845000000-N	858	ADJUSTMENT OF METER BOXES OR VALVE BOXES	1 EA		
0121	2860000000-N	859	CONVERT EXISTING CATCH BASIN TO JUNCTION BOX	2 EA		
0122	2905000000-N	859	CONVERT EXISTING DROP INLET TO JUNCTION BOX	4 EA		
0123	2920000000-N	859	CONVERT EXISTING DROP INLET TO CATCH BASIN	1 EA		
0124	2995000000-N	SP	GENERIC DRAINAGE ITEM ADJUSTMENT OF JUNCTION BOXES	1 EA		
0125	3001000000-N	SP	IMPACT ATTENUATOR UNITS, TYPE TL-3	1 EA		
0126	3030000000-E	862	STEEL BEAM GUARDRAIL	14,450 LF		
0127	3045000000-E	862	STEEL BEAM GUARDRAIL, SHOP CURVED	950 LF		
0128	3145000000-E	862	EXTRA LENGTH GUARDRAIL POST (**' STEEL) (8')	100 EA		
0129	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	30 EA		
0130	3195000000-N	862	GUARDRAIL END UNITS, TYPE AT-1	4 EA		
0131	3210000000-N	862	GUARDRAIL END UNITS, TYPE CAT-1	30 EA		
0132	3215000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE III	20 EA		
0133	3287000000-N	862	GUARDRAIL END UNITS, TYPE TL-3	19 EA		
0134	3288000000-N	862	GUARDRAIL END UNITS, TYPE TL-2	9 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0135	3317000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE B-77	6 EA		
0136	3360000000-E	863	REMOVE EXISTING GUARDRAIL	5,661 LF		
0137	3380000000-E	862	TEMPORARY STEEL BEAM GUARDRAIL	100 LF		
0138	3389150000-N	862	TEMPORARY GUARDRAIL END UNITS, TYPE ***** (CAT-1)	1 EA		
0139	3389160000-N	862	TEMPORARY ADDITIONAL GUARDRAIL POSTS	5 EA		
0140	3420000000-E	SP	GENERIC GUARDRAIL ITEM WOOD RUB RAIL	700 LF		
0141	3536000000-E	866	CHAIN LINK FENCE, 48" FABRIC	47 LF		
0142	3542000000-E	866	METAL LINE POSTS FOR 48" CHAIN LINK FENCE	4 EA		
0143	3548000000-E	866	METAL TERMINAL POSTS FOR 48" CHAIN LINK FENCE	2 EA		
0144	3575000000-E	SP	GENERIC FENCING ITEM 48" BLACK METAL DECORATIVE FENCE	8,960 LF		
0145	3575000000-E	SP	GENERIC FENCING ITEM BICYCLE/PEDESTRIAN SAFETY RAIL	50 LF		
0146	3575000000-E	SP	GENERIC FENCING ITEM PEDESTRIAN SAFETY RAIL	2,790 LF		
0147	3575000000-E	SP	GENERIC FENCING ITEM PROTECTIVE COATING FOR PEDESTRIAN SAFETY RAIL	2,790 LF		
0148	3628000000-E	876	RIP RAP, CLASS I	180 TON		
0149	3635000000-E	876	RIP RAP, CLASS II	4,350 TON		
0150	3649000000-E	876	RIP RAP, CLASS B	1,340 TON		
0151	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	10,570 SY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0152	4048000000-E	902	REINFORCED CONCRETE SIGN FOUNDATIONS	12 CY		
0153	4054000000-E	902	PLAIN CONCRETE SIGN FOUNDATIONS	3 CY		
0154	4057000000-E	SP	OVERHEAD FOOTING	376 CY		
0155	4060000000-E	903	SUPPORTS, BREAKAWAY STEEL BEAM	4,686 LB		
0156	4066000000-E	903	SUPPORTS, SIMPLE STEEL BEAM	8,269 LB		
0157	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	5,009 LF		
0158	4096000000-N	904	SIGN ERECTION, TYPE D	7 EA		
0159	4102000000-N	904	SIGN ERECTION, TYPE E	261 EA		
0160	4108000000-N	904	SIGN ERECTION, TYPE F	18 EA		
0161	4109000000-N	904	SIGN ERECTION, TYPE *** (OVERHEAD) (A)	42 EA		
0162	4109000000-N	904	SIGN ERECTION, TYPE *** (OVERHEAD) (B)	10 EA		
0163	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	11 EA		
0164	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (D)	5 EA		
0165	4114000000-N	904	SIGN ERECTION, MILEMARKERS	11 EA		
0166	4116000000-N	904	SIGN ERECTION, OVERLAY (GROUND MOUNTED)	2 EA		
0167	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (A)	8 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0168	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (10+60 -Y2RPB-)	Lump Sum	L.S.	
0169	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (10+60-Y1RPD-)	Lump Sum	L.S.	
0170	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (14+60 -Y50-)	Lump Sum	L.S.	
0171	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (19+82 -Y2RPB-)	Lump Sum	L.S.	
0172	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (22+07 -Y49-)	Lump Sum	L.S.	
0173	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (22+75 -Y2-)	Lump Sum	L.S.	
0174	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (28+50 -Y2-)	Lump Sum	L.S.	
0175	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (37+50 -Y2-)	Lump Sum	L.S.	
0176	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (803+50 -L3NB-)	Lump Sum	L.S.	
0177	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (835+61 -L3NB-)	Lump Sum	L.S.	
0178	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (843+92 -L3NB-)	Lump Sum	L.S.	
0179	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (852+23 -L3NB-)	Lump Sum	L.S.	
0180	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (860+46 -L3NB-)	Lump Sum	L.S.	
0181	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (872+25 -L3NB-)	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0182	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (881+24 -L3NB-)	Lump Sum	L.S.	
0183	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (898+95 -L3NB-)	Lump Sum	L.S.	
0184	4138000000-N	907	DISPOSAL OF SUPPORT, STEEL BEAM	26 EA		
0185	4149000000-N	907	DISPOSAL OF SIGN SYSTEM, OVERHEAD	7 EA		
0186	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	60 EA		
0187	4234000000-N	907	DISPOSAL OF SIGN, A OR B (OVERHEAD)	2 EA		
0188	4238500000-N	907	DISPOSAL OF SIGN, MILEMARKER	11 EA		
0189	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	1,277 SF		
0190	4402000000-E	SP	HIGH VISIBILITY STATIONARY SIGNS	148 SF		
0191	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	1,407 SF		
0192	4407000000-E	SP	HIGH VISIBILITY PORTABLE SIGNS	1,041 SF		
0193	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	391 SF		
0194	4415000000-N	1115	FLASHING ARROW BOARD	17 EA		
0195	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	22 EA		
0196	4430000000-N	1130	DRUMS	1,201 EA		
0197	4432000000-N	SP	HIGH VISIBILITY DRUMS	1,035 EA		
0198	4434000000-N	1140	SEQUENTIAL FLASHING WARNING LIGHTS	1,035 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0199	4435000000-N	1135	CONES	100 EA		
0200	4445000000-E	1145	BARRICADES (TYPE III)	420 LF		
0201	4447000000-E	SP	PEDESTRIAN CHANNELIZING DEVICES	3,616 LF		
0202	4455000000-N	1150	FLAGGER	79 DAY		
0203	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	22 EA		
0204	4470000000-N	1160	REMOVE & RESET TEMPORARY CRASH CUSHION	43 EA		
0205	4480000000-N	1165	TMA	14 EA		
0206	4485000000-E	1170	PORTABLE CONCRETE BARRIER	5,286 LF		
0207	4490000000-E	1170	PORTABLE CONCRETE BARRIER (ANCHORED)	16,759 LF		
0208	4500000000-E	1170	REMOVE AND RESET PORTABLE CONCRETE BARRIER	9,349 LF		
0209	4505000000-E	1170	REMOVE & RESET PORTABLE CONCRETE BARRIER (ANCHORED)	23,287 LF		
0210	4507000000-E	1170	WATER FILLED BARRIER	566 LF		
0211	4508000000-E	1170	REMOVE AND RESET WATER FILLED BARRIER	227 LF		
0212	4510000000-N	1190	LAW ENFORCEMENT	272 HR		
0213	4516000000-N	1180	SKINNY DRUM	232 EA		
0214	4520000000-N	1266	TUBULAR MARKERS (FIXED)	1,500 EA		
0215	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM AUDIBLE WARNING DEVICES	20 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0216	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM PEDESTRIAN TRANSPORT SERVICE	20 EA		
0217	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	2,819 EA		
0218	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	30,439 LF		
0219	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	76,672 LF		
0220	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	7,798 LF		
0221	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	5,921 LF		
0222	4709000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	7,056 LF		
0223	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	58 EA		
0224	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	277 EA		
0225	4770000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)	3,362 LF		
0226	4775000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (6") (II)	1,773 LF		
0227	4800000000-N	1205	COLD APPLIED PLASTIC PAVEMENT MARKING CHARACTER, TYPE ** (II)	1 EA		
0228	4805000000-N	1205	COLD APPLIED PLASTIC PAVEMENT MARKING SYMBOL, TYPE ** (II)	12 EA		
0229	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	232,184 LF		
0230	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	16,760 LF		
0231	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	9,330 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0232	4840000000-N	1205	PAINT PAVEMENT MARKING CHARACTER	52 EA		
0233	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	693 EA		
0234	4847300000-N	1205	IN LANE ROUTE SHIELDS	2 EA		
0235	4847400000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 4"	28,732 LF		
0236	4847500000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 6"	40,694 LF		
0237	4847600000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 12"	2,738 LF		
0238	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	148,307 LF		
0239	4855000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (6")	39,165 LF		
0240	4860000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (8")	2,622 LF		
0241	4865000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (12")	1,207 LF		
0242	4870000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (24")	1,535 LF		
0243	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	169 EA		
0244	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 24"	433 LF		
0245	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 8"	2,137 LF		
0246	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM YIELD LINE PAINT PAVEMENT MARKING (24")	161 LF		
0247	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM YIELD LINE THERMOPLASTIC PAVEMENT MARKING (24", 90 MILS)	319 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0248	4895000000-N	SP	GENERIC PAVEMENT MARKING ITEM INLAID CRADLE MARKERS	1,365 EA		
0249	5010000000-E	1401	100' HIGH MOUNT STANDARD	4 EA		
0250	5015000000-E	1401	120' HIGH MOUNT STANDARD	10 EA		
0251	5020000000-N	1401	PORTABLE DRIVE UNIT	1 EA		
0252	5025000000-E	SP	HIGH MOUNT FOUNDATIONS	122 CY		
0253	5030000000-N	SP	HIGH MOUNT LUMINAIRES ******** (560W LED)	104 EA		
0254	5120000000-N	1407	ELECTRIC SERVICE POLE ********** (30' CLASS 4)	2 EA		
0255	5125000000-E	1407	ELECTRIC SERVICE LATERAL ********** (3 #1/0 USE)	50 LF		
0256	5140000000-N	1408	LIGHT CONTROL EQUIPMENT, TYPE SP ********** (240/480 V)	2 EA		
0257	5150000000-E	1409	ELECTRICAL DUCT, TYPE **, SIZE ***** (TL, 3")	420 LF		
0258	5150000000-E	1409	ELECTRICAL DUCT, TYPE **, SIZE ***** (TL, 4")	575 LF		
0259	5155000000-E	1409	ELECTRICAL DUCT, TYPE BD, SIZE ***** (2")	740 LF		
0260	5180000000-E	1410	** #4 W/G FEEDER CIRCUIT (2)	720 LF		
0261	5185000000-E	1410	** #2 W/G FEEDER CIRCUIT (2)	845 LF		
0262	5205000000-E	1410	** #8 W/G FEEDER CIRCUIT IN *****" CONDUIT (2, 1-1/2")	640 LF		
0263	5215000000-E	1410	** #4 W/G FEEDER CIRCUIT IN *****" CONDUIT (2, 1-1/2")	18,050 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0264	5220000000-E	1410	** #2 W/G FEEDER CIRCUIT IN ******" CONDUIT (2, 1-1/2")	22,360 LF		
0265	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (CS36)	2 EA		
0266	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (HM18)	9 EA		
0267	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (HM36)	5 EA		
0268	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (IG18)	13 EA		
0269	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (IG36)	13 EA		
0270	5255000000-N	1413	PORTABLE LIGHTING	Lump Sum	L.S.	
0271	5260000000-N	SP	GENERIC LIGHTING ITEM DECORATIVE LIGHT POSTS	Lump Sum	L.S.	
0272	5260000000-N	SP	GENERIC LIGHTING ITEM ILLUMINATED PEDESTRIAN RAILING SYSTEM	Lump Sum	L.S.	
0273	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE 100' HIGH MOUNT STANDARD	4 EA		
0274	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE 100' HIGH MOUNT STANDARD FOUNDATION	4 EA		
0275	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE CONTROL SYSTEM - SALVAGE	1 EA		
0276	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE LIGHT STANDARD - DISPOSE	31 EA		
0277	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE LIGHT STANDARD - SALVAGE	15 EA		
0278	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE LIGHT STANDARD FOUNDATION	46 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0279	5325000000-E	1510	**" WATER LINE (36")	8,280 LF		
0280	5325600000-E	1510	6" WATER LINE	1,050 LF		
0281	5325800000-E	1510	8" WATER LINE	3,049 LF		
0282	5326200000-E	1510	12" WATER LINE	8,736 LF		
0283	5327400000-E	1510	24" WATER LINE	3,251 LF		
0284	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	212,267 LB		
0285	5534000000-E	1515	**" VALVE (36")	8 EA		
0286	5540000000-E	1515	6" VALVE	3 EA		
0287	5546000000-E	1515	8" VALVE	16 EA		
0288	5558000000-E	1515	12" VALVE	31 EA		
0289	5559400000-E	1515	24" VALVE	10 EA		
0290	5562000000-E	1515	**" INSERTION VALVE (8")	2 EA		
0291	5606000000-E	1515	2" BLOW OFF	1 EA		
0292	5606400000-E	1515	4" BLOW OFF	1 EA		
0293	5643000000-E	1515	**" WATER METER (1")	8 EA		
0294	5643000000-E	1515	**" WATER METER (5/8")	4 EA		
0295	5643150000-E	1515	1-1/2" WATER METER	5 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0296	5643200000-E	1515	2" WATER METER	6 EA		
0297	5643300000-E	1515	3" WATER METER	1 EA		
0298	5643400000-E	1515	4" WATER METER	1 EA		
0299	5643600000-E	1515	6" WATER METER	6 EA		
0300	5649000000-N	1515	RECONNECT WATER METER	24 EA		
0301	5666000000-N	1515	FIRE HYDRANT	6 EA		
0302	5673000000-E	1515	FIRE HYDRANT LEG	92 LF		
0303	5678600000-E	1515	8" LINE STOP	4 EA		
0304	5679000000-E	1515	12" LINE STOP	3 EA		
0305	5684800000-E	1515	10" LINE STOP WITH BYPASS	1 EA		
0306	5686000000-E	1515	**" WATER SERVICE LINE (2")	168 LF		
0307	5686000000-E	1515	**" WATER SERVICE LINE (3")	53 LF		
0308	5686000000-E	1515	**" WATER SERVICE LINE (4")	30 LF		
0309	5686000000-E	1515	**" WATER SERVICE LINE (6")	191 LF		
0310	5686500000-E	1515	WATER SERVICE LINE	377 LF		
0311	5691000000-E	1520	**" SANITARY GRAVITY SEWER (15")	175 LF		
0312	5691300000-E	1520	8" SANITARY GRAVITY SEWER	997 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0313	5691700000-E	1520	18" SANITARY GRAVITY SEWER	728 LF		
0314	5775000000-E	1525	4' DIA UTILITY MANHOLE	8 EA		
0315	5776000000-E	1525	5' DIA UTILITY MANHOLE	8 EA		
0316	5801000000-E	1530	ABANDON 8" UTILITY PIPE	2,963 LF		
0317	5802000000-E	1530	ABANDON 10" UTILITY PIPE	3,105 LF		
0318	5804000000-E	1530	ABANDON 12" UTILITY PIPE	5,694 LF		
0319	5815500000-N	1530	REMOVE FIRE HYDRANT	10 EA		
0320	5835000000-E	1540	**" ENCASEMENT PIPE (54")	584 LF		
0321	5835700000-E	1540	16" ENCASEMENT PIPE	47 LF		
0322	5835800000-E	1540	18" ENCASEMENT PIPE	153 LF		
0323	5836000000-E	1540	24" ENCASEMENT PIPE	608 LF		
0324	5836400000-E	1540	36" ENCASEMENT PIPE	399 LF		
0325	5872500000-E	1550	BORE AND JACK OF **" (16")	47 LF		
0326	5872500000-E	1550	BORE AND JACK OF **" (18")	153 LF		
0327	5872500000-E	1550	BORE AND JACK OF **" (24")	334 LF		
0328	5872500000-E	1550	BORE AND JACK OF **" (36")	213 LF		
0329	5872500000-E	1550	BORE AND JACK OF **" (54")	207 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0330	5882000000-N	SP	GENERIC UTILITY ITEM CORROSION TEST STATION	34 EA		
0331	5882000000-N	SP	GENERIC UTILITY ITEM HIGH VELOCITY FIRE HYDRANT	39 EA		
0332	5882000000-N	SP	GENERIC UTILITY ITEM RELOCATE 1-1/2" BACKFLOW PREVENTOR	1 EA		
0333	5882000000-N	SP	GENERIC UTILITY ITEM RELOCATE 2" BACKFLOW PREVENTOR	1 EA		
0334	5882000000-N	SP	GENERIC UTILITY ITEM RELOCATE 6" BACKFLOW PREVENTOR	1 EA		
0335	5888000000-E	SP	GENERIC UTILITY ITEM FIRE HYDRANT LEG (HIGH VELOCITY FH LEG 8")	392 LF		
0336	5888000000-E	SP	GENERIC UTILITY ITEM FIRE HYDRANT LEG (RECONNECT FIRE HYDRANT)	53 LF		
0337	5912000000-N	SP	GENERIC UTILITY ITEM TEMPORARY SANITARY SEWER BYPASS PUMPING	Lump Sum	L.S.	
0338	6000000000-E	1605	TEMPORARY SILT FENCE	58,175 LF		
0339	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	2,960 TON		
0340	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	7,395 TON		
0341	6012000000-E	1610	SEDIMENT CONTROL STONE	7,680 TON		
0342	6015000000-E	1615	TEMPORARY MULCHING	88.5 ACR		
0343	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	4,400 LB		
0344	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	25.5 TON		
0345	6024000000-E	1622	TEMPORARY SLOPE DRAINS	6,475 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0346	6029000000-E	SP	SAFETY FENCE	1,680 LF		
0347	6030000000-E	1630	SILT EXCAVATION	35,270 CY		
0348	6036000000-E	1631	MATTING FOR EROSION CONTROL	118,060 SY		
0349	6037000000-E	1629	COIR FIBER MAT	4,190 SY		
0350	6042000000-E	1632	1/4" HARDWARE CLOTH	18,610 LF		
0351	6043000000-E	1644	LOW PERMEABILITY GEOTEXTILE	700 SY		
0352	6045000000-E	SP	**" TEMPORARY PIPE (48")	48 LF		
0353	6046000000-E	1636	TEMPORARY PIPE FOR STREAM CROSSING	50 LF		
0354	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	365 SY		
0355	6070000000-N	1639	SPECIAL STILLING BASINS	13 EA		
0356	6071002000-E	1642	FLOCCULANT	2,820 LB		
0357	6071010000-E	1642	WATTLE	800 LF		
0358	6071012000-E	1642	COIR FIBER WATTLE	3,000 LF		
0359	6071030000-E	1640	COIR FIBER BAFFLE	5,650 LF		
0360	6071050000-E	1644	**" SKIMMER (1-1/2")	17 EA		
0361	6071050000-E	1644	**" SKIMMER (2")	8 EA		
0362	6071050000-E	1644	**" SKIMMER (2-1/2")	2 EA		

County: MECKLENBURG

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0363	6071050000-E	1644	**" SKIMMER (4")	1 EA		
0364	6084000000-E	1660	SEEDING & MULCHING	84 ACR		
0365	6087000000-E	1660	MOWING	66 ACR		
0366	6090000000-E	1661	SEED FOR REPAIR SEEDING	900 LB		
0367	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	4 TON		
0368	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	1,975 LB		
0369	6108000000-E	1665	FERTILIZER TOPDRESSING	59 TON		
0370	6111000000-E	SP	IMPERVIOUS DIKE	2,220 LF		
0371	6114500000-N	1667	SPECIALIZED HAND MOWING	55 MHR		
0372	6114800000-N	SP	MANUAL LITTER REMOVAL	42 MHR		
0373	6114900000-E	SP	LITTER DISPOSAL	6 TON		
0374	6117000000-N	1675	RESPONSE FOR EROSION CONTROL	200 EA		
0375	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	8 EA		
0376	6120000000-E	SP	CULVERT DIVERSION CHANNEL	59 CY		
0377	6123000000-E	1670	REFORESTATION	1.25 ACR		
0378	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION CLEANOUT	1,020 EA		
0379	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION, TYPE 1	260 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0380	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION, TYPE 2	80 EA		
0381	6132000000-N	SP	GENERIC EROSION CONTROL ITEM PREFABRICATED CONCRETE WASHOUT	45 EA		
0382	6141000000-E	SP	GENERIC EROSION CONTROL ITEM COIR FIBER MAT (SPECIAL)	400 SY		
0383	6141000000-E	SP	GENERIC EROSION CONTROL ITEM PERMANENT SOIL REINFORCEMENT MAT, TYPE 3	80 SY		
0384	6890000000-E	SP	CONCRETE STEPS	15 CY		
0385	6895000000-E	SP	HANDRAIL ON STEPS	58 LF		
0386	7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	88 EA		
0387	7060000000-E	1705	SIGNAL CABLE	37,713 LF		
0388	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	227 EA		
0389	7132000000-E	1705	VEHICLE SIGNAL HEAD (12", 4 SECTION)	26 EA		
0390	7144000000-E	1705	VEHICLE SIGNAL HEAD (12", 5 SECTION)	7 EA		
0391	7180000000-N	1706	BACKPLATE	165 EA		
0392	7229000000-N	SP	APS DETECTOR STATION	70 EA		
0393	7230000000-N	SP	CENTRAL CONTROL UNIT APS DETECTOR STATION	18 EA		
0394	7252000000-E	1710	MESSENGER CABLE (1/4")	1,140 LF		
0395	7264000000-E	1710	MESSENGER CABLE (3/8")	1,905 LF		
0396	7279000000-E	1715	TRACER WIRE	13,936 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0397	7288000000-E	1715	PAVED TRENCHING (**********) (2, 2")	80 LF		
0398	7300000000-E	1715	UNPAVED TRENCHING (**********) (1, 4")	100 LF		
0399	7300000000-E	1715	UNPAVED TRENCHING (**********) (1, 5")	1,070 LF		
0400	7300000000-E	1715	UNPAVED TRENCHING (**********) (2, 2")	15,870 LF		
0401	7300000000-E	1715	UNPAVED TRENCHING (**********) (2, 2-1/4")	100 LF		
0402	7300000000-E	1715	UNPAVED TRENCHING (**********) (3, 1-1/4")	100 LF		
0403	7300000000-E	1715	UNPAVED TRENCHING (**********) (3, 2")	315 LF		
0404	7300000000-E	1715	UNPAVED TRENCHING (**********) (3, 2-1/4")	100 LF		
0405	7300000000-E	1715	UNPAVED TRENCHING (**********) (4, 1-1/4")	1,070 LF		
0406	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 2")	225 LF		
0407	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 4")	785 LF		
0408	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 5")	930 LF		
0409	7301000000-E	1715	DIRECTIONAL DRILL (**********) (2, 2")	6,255 LF		
0410	7301000000-E	1715	DIRECTIONAL DRILL (**********) (2, 2-1/4")	100 LF		
0411	7301000000-E	1715	DIRECTIONAL DRILL (**********) (3, 1-1/4")	785 LF		
0412	7301000000-E	1715	DIRECTIONAL DRILL (**********) (3, 2")	165 LF		
0413	7301000000-E	1715	DIRECTIONAL DRILL (**********) (4, 1-1/4")	930 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0414	7312000000-N	1716	JUNCTION BOX (**********) (SPECIAL OVERSIZED, HEAVY DUTY)	13 EA		
0415	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	99 EA		
0416	7348000000-N	1716	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	53 EA		
0417	7360000000-N	1720	WOOD POLE	29 EA		
0418	7372000000-N	1721	GUY ASSEMBLY	54 EA		
0419	7420000000-E	1722	2" RISER WITH WEATHERHEAD	28 EA		
0420	7432000000-E	1722	2" RISER WITH HEAT SHRINK TUBING	1 EA		
0421	7456100000-E	1726	LEAD-IN CABLE (14-2)	4,300 LF		
0422	7481000000-N	SP	SITE SURVEY	6 EA		
0423	7516000000-E	1730	COMMUNICATIONS CABLE (** FIBER) (24)	9,668 LF		
0424	7516000000-E	1730	COMMUNICATIONS CABLE (** FIBER) (48)	3,345 LF		
0425	7528000000-E	1730	DROP CABLE	8,311 LF		
0426	7540000000-N	1731	SPLICE ENCLOSURE	12 EA		
0427	7541000000-N	1731	MODIFY SPLICE ENCLOSURE	7 EA		
0428	7552000000-N	1731	INTERCONNECT CENTER	13 EA		
0429	7566000000-N	1733	DELINEATOR MARKER	60 EA		
0430	7574500000-N	SP	FURNISH WIRELESS RADIO MODEM	2 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0431	7575000000-N	SP	FIBER-OPTIC TRAINING	Lump Sum	L.S.	
0432	7575142010-N	1736	900MHZ SERIAL/ETHERNET SPREAD SPECTRUM RADIO	10 EA		
0433	7575142060-N	1737	MODIFY RADIO INSTALLATION	5 EA		
0434	7575160000-E	1734	REMOVE EXISTING COMMUNICATIONS CABLE	6,675 LF		
0435	7575170000-E	1738	BACK PULL FIBER OPTIC CABLE	415 LF		
0436	7588000000-N	SP	METAL POLE WITH SINGLE MAST ARM	24 EA		
0437	7590000000-N	SP	METAL POLE WITH DUAL MAST ARM	7 EA		
0438	7613000000-N	SP	SOIL TEST	36 EA		
0439	7614100000-E	SP	DRILLED PIER FOUNDATION	200.2 CY		
0440	7630000000-N	SP	METAL STRAIN POLE DESIGN	4 EA		
0441	7631000000-N	SP	MAST ARM WITH METAL POLE DESIGN	31 EA		
0442	7636000000-N	1745	SIGN FOR SIGNALS	101 EA		
0443	7642100000-N	1743	TYPE I POST WITH FOUNDATION	27 EA		
0444	7642200000-N	1743	TYPE II PEDESTAL WITH FOUNDATION	73 EA		
0445	7684000000-N	1750	SIGNAL CABINET FOUNDATION	16 EA		
0446	7696000000-N	1751	CONTROLLERS WITH CABINET (**********) (2070LX, BASE MOUNTED)	4 EA		
0447	7901000000-N	1753	CABINET BASE EXTENDER	16 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0448	7948000000-N	1757	TRAFFIC SIGNAL REMOVAL	4 EA		
0449	7960000000-N	SP	METAL POLE FOUNDATION REMOVAL	15 EA		
0450	7972000000-N	SP	METAL POLE REMOVAL	15 EA		
0451	7980000000-N	SP	GENERIC SIGNAL ITEM 10KVA TRANSFORMER	2 EA		
0452	7980000000-N	SP	GENERIC SIGNAL ITEM 5/8" X 10' GROUNDING ELECTRODE	12 EA		
0453	7980000000-N	SP	GENERIC SIGNAL ITEM CABINET WITH CONTROLLER (2070LX)	12 EA		
0454	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV CAMERA LOWERING SYSTEM	1 EA		
0455	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV OR MVD METAL POLE	4 EA		
0456	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV WOOD POLE	1 EA		
0457	7980000000-N	SP	GENERIC SIGNAL ITEM EQUIPMENT CABINET DISCONNECT	3 EA		
0458	7980000000-N	SP	GENERIC SIGNAL ITEM ETHERNET EDGE SWITCH	16 EA		
0459	7980000000-N	SP	GENERIC SIGNAL ITEM INSTALL I-77 MP PROVIDED ITS CABINETS	1 EA		
0460	7980000000-N	SP	GENERIC SIGNAL ITEM LUMINAIRE ARMS	26 EA		
0461	7980000000-N	SP	GENERIC SIGNAL ITEM MICROWAVE VEHICLE DETECTOR - MULTIPLE ZONES	13 EA		
0462	7980000000-N	SP	GENERIC SIGNAL ITEM MICROWAVE VEHICLE DETECTOR - MULTIPLE ZONES (APPROACH)	23 EA		
0463	7980000000-N	SP	GENERIC SIGNAL ITEM MICROWAVE VEHICLE DETECTOR - MULTIPLE ZONES (PRESENCE)	31 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0464	7980000000-N	SP	GENERIC SIGNAL ITEM MODIFY EXISTING ELECTRICAL SERVICE	2 EA		
0465	7980000000-N	SP	GENERIC SIGNAL ITEM NON-INTRUSIVE DETECTION SYSTEM PROCESSOR	12 EA		
0466	7980000000-N	SP	GENERIC SIGNAL ITEM PORTABLE TRAFFIC SIGNAL SYSTEM (ACTUATED)	1 EA		
0467	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR DUAL MAST ARM POLE (RAL 9005 JET BLACK)	5 EA		
0468	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR LUMINAIRE ARMS (RAL 9005 JET BLACK)	26 EA		
0469	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR SINGLE MAST ARM POLE (RAL 9005 JET BLACK)	23 EA		
0470	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR TYPE I PUSHBUTTON POST (RAL 9005 JET BLACK)	27 EA		
0471	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR TYPE II SIGNAL PEDESTAL (RAL 9005 JET BLACK)	73 EA		
0472	7980000000-N	SP	GENERIC SIGNAL ITEM RELOCATE EXISTING TRS BACKUP GENERATOR	1 EA		
0473	7980000000-N	SP	GENERIC SIGNAL ITEM REMOVE EXISTING JUNCTION BOX	35 EA		
0474	7980000000-N	SP	GENERIC SIGNAL ITEM TEMPORARY PORTABLE ITS TRAILER	2 EA		
0475	7980000000-N	SP	GENERIC SIGNAL ITEM TRS CABINET AND GENERATOR FOUNDATION	1 EA		
0476	7980000000-N	SP	GENERIC SIGNAL ITEM VARIABLE SPEED DRILL	1 EA		
0477	7985000000-N	SP	GENERIC SIGNAL ITEM I-77 MOBILITY PARTNERS COORDINATION	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0478	7985000000-N	SP	GENERIC SIGNAL ITEM REMOVE AND RELOCATE EXISTING ITS EQUIPMENT CABINETS	Lump Sum	L.S.	
0479	7985000000-N	SP	GENERIC SIGNAL ITEM TRAINING FOR NON-INTRUSIVE DETECTION	Lump Sum	L.S.	
0480	7990000000-E	SP	GENERIC SIGNAL ITEM #4 SOLID BARE COPPER GROUNDING CONDUCTOR	240 LF		
0481	7990000000-E	SP	GENERIC SIGNAL ITEM 3-WIRE COPPER FEEDER CONDUCTORS	9,725 LF		
0482	7990000000-E	SP	GENERIC SIGNAL ITEM 4-WIRE COPPER FEEDER CONDUCTORS	1,490 LF		
			CULVERT ITEMS			
0483	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (19+43.12 -Y2-)	Lump Sum	L.S.	
0484	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (20+03.15 -Y2RPB-)	Lump Sum	L.S.	
0485	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (20+52.99 -Y2RPA-)	Lump Sum	L.S.	
0486	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (21+58.00 -Y49-)	Lump Sum	L.S.	
0487	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (463+27.43 -L2-)	Lump Sum	L.S.	
0488	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (468+34.19 -L2-)	Lump Sum	L.S.	
0489	8133000000-E	414	FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	640 TON		
0490	8196000000-E	420	CLASS A CONCRETE (CULVERT)	1,438.5 CY		
0491	8245000000-E	425	REINFORCING STEEL (CULVERT)	212,831 LB		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			WALL ITEMS			
0492	8801000000-E	SP	MSE RETAINING WALL NO **** (1)	2,755 SF		
0493	8801000000-E	SP	MSE RETAINING WALL NO **** (10)	985 SF		
0494	8801000000-E	SP	MSE RETAINING WALL NO **** (11)	924 SF		
0495	8801000000-E	SP	MSE RETAINING WALL NO **** (2)	3,214 SF		
0496	8801000000-E	SP	MSE RETAINING WALL NO **** (3)	3,366 SF		
0497	8801000000-E	SP	MSE RETAINING WALL NO **** (4)	2,236 SF		
0498	8801000000-E	SP	MSE RETAINING WALL NO **** (5)	2,608 SF		
0499	8801000000-E	SP	MSE RETAINING WALL NO **** (6)	2,885 SF		
0500	8801000000-E	SP	MSE RETAINING WALL NO **** (7)	2,504 SF		
0501	8801000000-E	SP	MSE RETAINING WALL NO **** (8)	3,014 SF		
0502	8801000000-E	SP	MSE RETAINING WALL NO **** (9)	3,687 SF		
0503	8802040000-E	453	CIP GRAVITY RETAINING WALLS	1,717 SF		
0504	8847000000-E	SP	GENERIC RETAINING WALL ITEM ARCHITECTURAL CONCRETE SURFACE TREATMENT	3,687 SF		
0505	8892000000-E	SP	GENERIC STRUCTURE ITEM ARCHITECTURAL SURFACE TREATMENT (SOUND BARRIER WALL NO NW1)	14,772 SF		
0506	8892000000-E	SP	GENERIC STRUCTURE ITEM SOUND BARRIER WALL	16,916 SF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			STRUCTURE ITEMS			
0507	3642000000-E	876	RIP RAP, CLASS A	39 TON		
0508	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (29+87.44 -Y2-)	Lump Sum	L.S.	
0509	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (31+15.82 -Y2-)	Lump Sum	L.S.	
0510	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (32+53.16 -Y2-)	Lump Sum	L.S.	
0511	8065000000-N	SP	ASBESTOS ASSESSMENT	Lump Sum	L.S.	
0512	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (1, 20+08.83 -Y1-)	Lump Sum	L.S.	
0513	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (1, 29+87.44 -Y2-)	Lump Sum	L.S.	
0514	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (1, 32+53.16 -Y2-)	Lump Sum	L.S.	
0515	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (10, 15+46.20 -GW-)	Lump Sum	L.S.	
0516	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (2, 15+46.20 -GW-)	Lump Sum	L.S.	
0517	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (2, 29+87.44 -Y2-)	Lump Sum	L.S.	
0518	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (2, 32+53.16 -Y2-)	Lump Sum	L.S.	
0519	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (3, 15+46.20 -GW-)	Lump Sum	L.S.	
0520	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (6, 15+46.20 -GW-)	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0521	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (7, 15+46.20 -GW-)	Lump Sum	L.S.	
0522	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (8, 15+46.20 -GW-)	Lump Sum	L.S.	
0523	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (9, 15+46.20 -GW-)	Lump Sum	L.S.	
0524	8096000000-E	450	PILE EXCAVATION IN SOIL	78 LF		
0525	8097000000-E	450	PILE EXCAVATION NOT IN SOIL	42 LF		
0526	8105500000-E	411	**'-**" DIA DRILLED PIERS IN SOIL (5'-6")	96.5 LF		
0527	8105560000-E	411	4'-0" DIA DRILLED PIERS IN SOIL	21 LF		
0528	8105600000-E	411	**'-**" DIA DRILLED PIERS NOT IN SOIL (5'-6")	16.5 LF		
0529	8105660000-E	411	4'-0" DIA DRILLED PIERS NOT IN SOIL	8 LF		
0530	8113000000-N	411	SID INSPECTIONS	2 EA		
0531	8115000000-N	411	CSL TESTING	2 EA		
0532	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (15+46.20 -GW-)	Lump Sum	L.S.	
0533	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	47,412 SF		
0534	8156000000-E	SP	CONCRETE WEARING SURFACE	7,069 SF		
0535	8161000000-E	420	GROOVING BRIDGE FLOORS	44,198 SF		
0536	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	1,133.1 CY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0537	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (12+72.18 -Y3-)	Lump Sum	L.S.	
0538	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (15+46.20 -GW-)	Lump Sum	L.S.	
0539	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (15+64.95 -Y3-)	Lump Sum	L.S.	
0540	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (20+08.83 -Y1-)	Lump Sum	L.S.	
0541	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (23+39.87 -Y1-)	Lump Sum	L.S.	
0542	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (29+87.44 -Y2-)	Lump Sum	L.S.	
0543	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (32+53.16 -Y2-)	Lump Sum	L.S.	
0544	8217000000-E	425	REINFORCING STEEL (BRIDGE)	202,236 LB		
0545	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	12,898 LB		
0546	8278000000-E	430	FIB **" PRESTRESSED CONCRETE GIRDERS (63")	1,196.31 LF		
0547	8280000000-E	440	APPROX ..... LBS STRUCTURAL STEEL	1,454,026 LS		
0548	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 12 X 53)	170 EA		
0549	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 14 X 73)	93 EA		
0550	8364000000-E	450	HP 12 X 53 STEEL PILES	6,705 LF		
0551	8384000000-E	450	HP 14 X 73 STEEL PILES	6,145 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0552	8475000000-E	460	TWO BAR METAL RAIL	2,147.98 LF		
0553	8517000000-E	460	1'-**" X *****" CONCRETE PARAPET (1'-2" X 2'-6")	2,248.95 LF		
0554	8517000000-E	460	1'-**" X *****" CONCRETE PARAPET (1'-2" X 3'-2 3/4")	859 LF		
0555	8517000000-E	460	1'-**" X *****" CONCRETE PARAPET (1'-5" X 1'-0")	1,250.2 LF		
0556	8531000000-E	462	4" SLOPE PROTECTION	985.3 SY		
0557	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	130 SY		
0558	8654000000-N	SP	DISC BEARINGS	Lump Sum	L.S.	
0559	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	
0560	8692000000-N	SP	FOAM JOINT SEALS	Lump Sum	L.S.	
0561	8753000000-E	430	3'-0" X 2'-3" PRESTRESSED CONC BOX BEAMS	2,799 LF		
0562	8860000000-N	SP	GENERIC STRUCTURE ITEM FOUNDATION PREPARTION FOR PEDESTRIAN BRIDGE END BENT 2	Lump Sum	L.S.	
0563	8860000000-N	SP	GENERIC STRUCTURE ITEM PREFABRICATED FULL-THROUGH ARCH TRUSS PEDESTRIAN BRIDGE	Lump Sum	L.S.	
0564	8860000000-N	SP	GENERIC STRUCTURE ITEM SPECIAL APPROACH SLAB	Lump Sum	L.S.	
0565	8860000000-N	SP	GENERIC STRUCTURE ITEM TOWN OF HUNTERSVILLE "H" LOGO WITH BACKLIGHTING	Lump Sum	L.S.	
0566	8867000000-E	SP	GENERIC STRUCTURE ITEM 120" POLYCARBONATE BARRIER	360 LF		
0567	8867000000-E	SP	GENERIC STRUCTURE ITEM MODIFIED TWO BAR METAL RAIL	852.74 LF		
0568	8897000000-N	SP	GENERIC STRUCTURE ITEM TPL TESTING	2 EA		

1123/Nov09/Q4677937.79/D2936090588070/E568 **Total Amount Of Bid For Entire Project :**

MSE RETAINING WALL NO.1 PLAN

PROJECT REFERENCE NO.	SHEET NO.
I-5715	W-1

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037998 ENGINEER THOMAS R. WELLS

Signed by: Thomas R. Wells 11/09/2026
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SIGNATURE DATE

ENGINEER

SIGNATURE DATE

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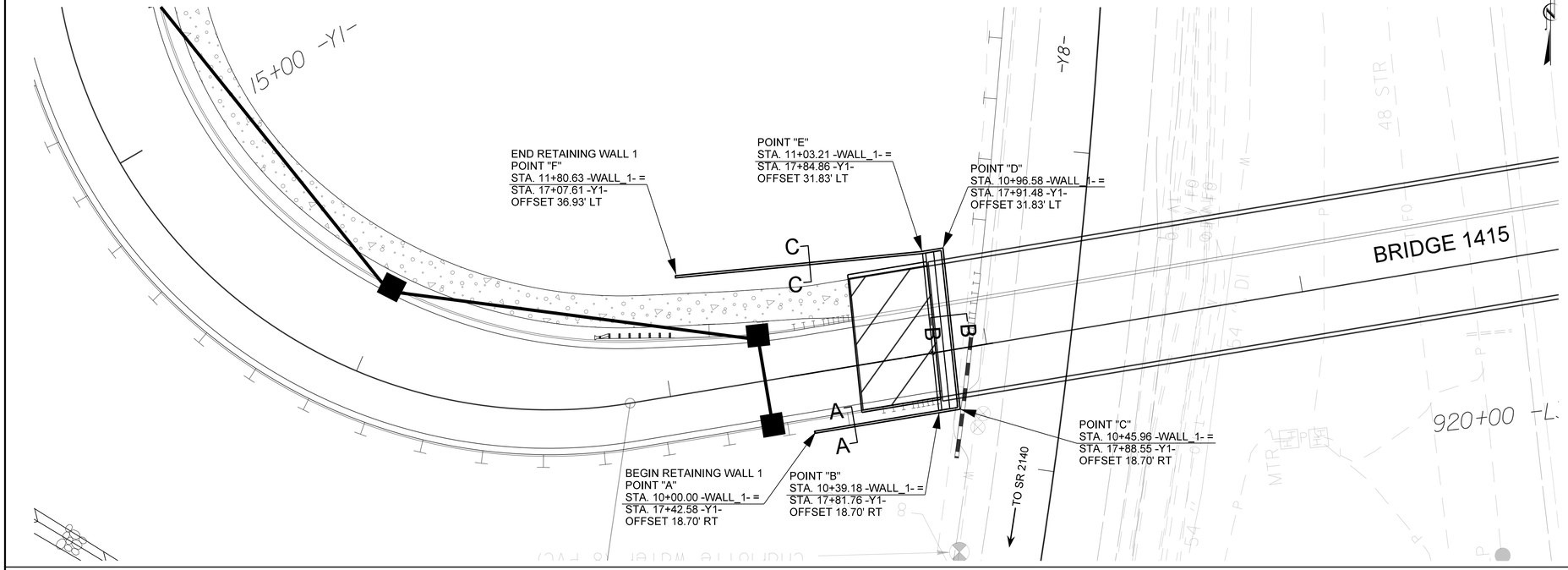
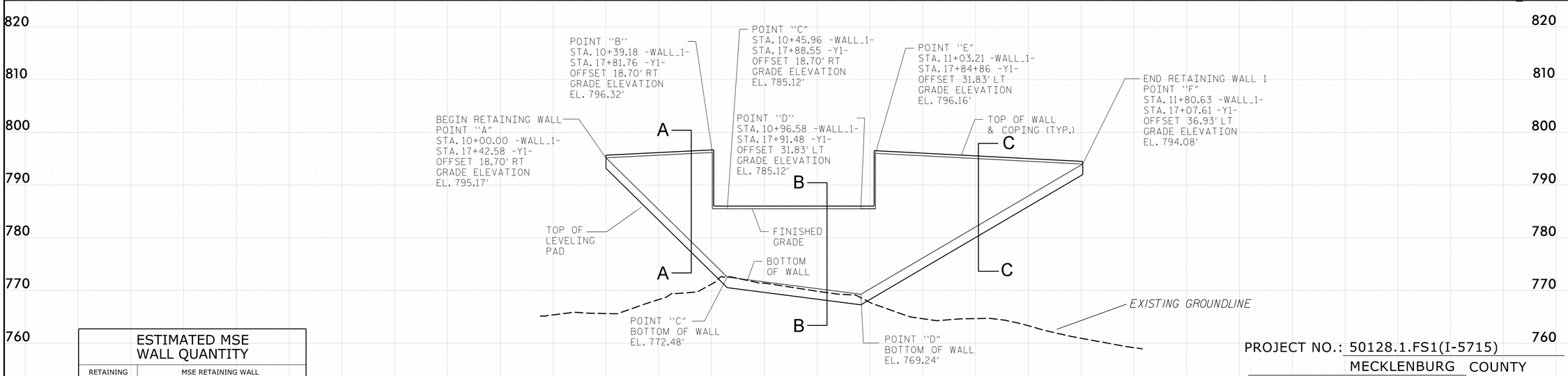


MSE RETAINING WALL NO.1 ENVELOPE



ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
1	2,755
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT	

PROJECT NO.: 50128.1.FS1(I-5715)
MECKLENBURG COUNTY
STATION: STA. 17+42.58 TO 17+07.61 -Y1-
SHEET 1 OF 5 WALL ID WALL 1

PREPARED BY: T. WELLS	DATE: 11/25
REVIEWED BY: D. CORLEY	DATE: 11/25

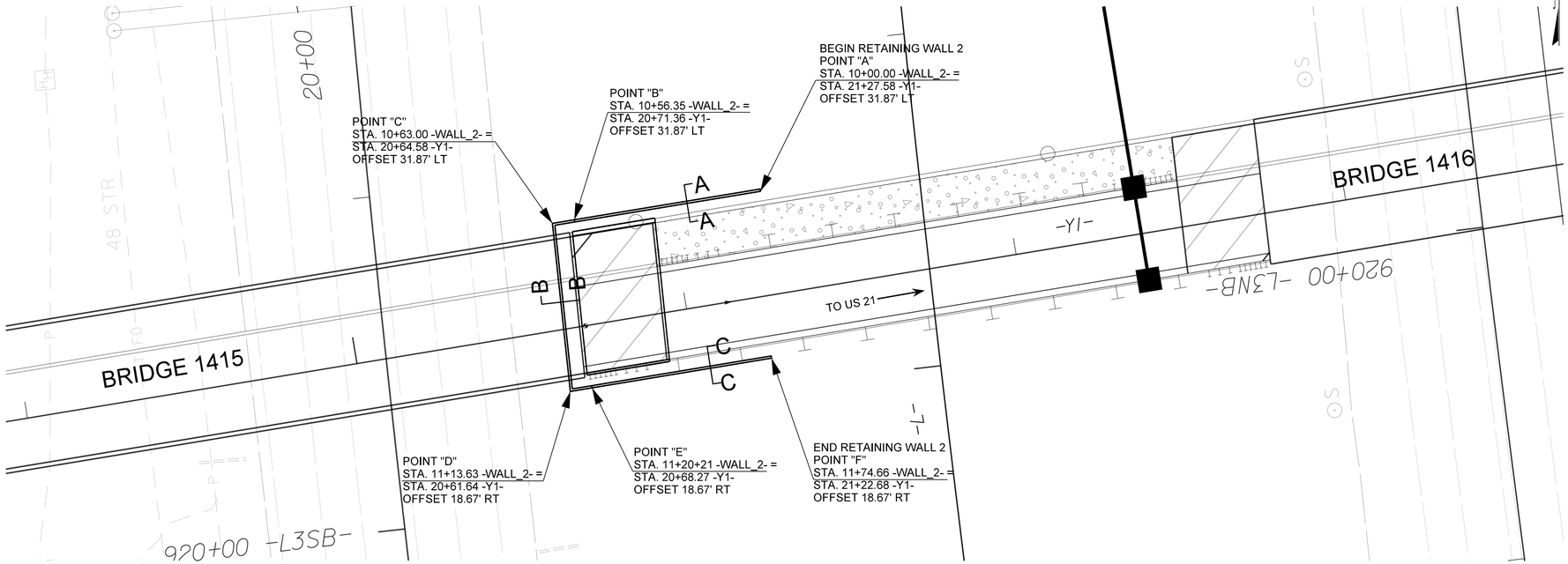
Prepared in the Office of:
Terracon
7327-G W. FRIENDLY AVE.,
GREENSBORO, NORTH CAROLINA 27410
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL NO.1 PLAN AND ENVELOPE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	T. WELLS	11/26	3			W-1
2			4			

MSE RETAINING WALL NO.2 PLAN



PROJECT REFERENCE NO.	SHEET NO.
I-5715	W-6

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037998 ENGINEER THOMAS R. WELLS

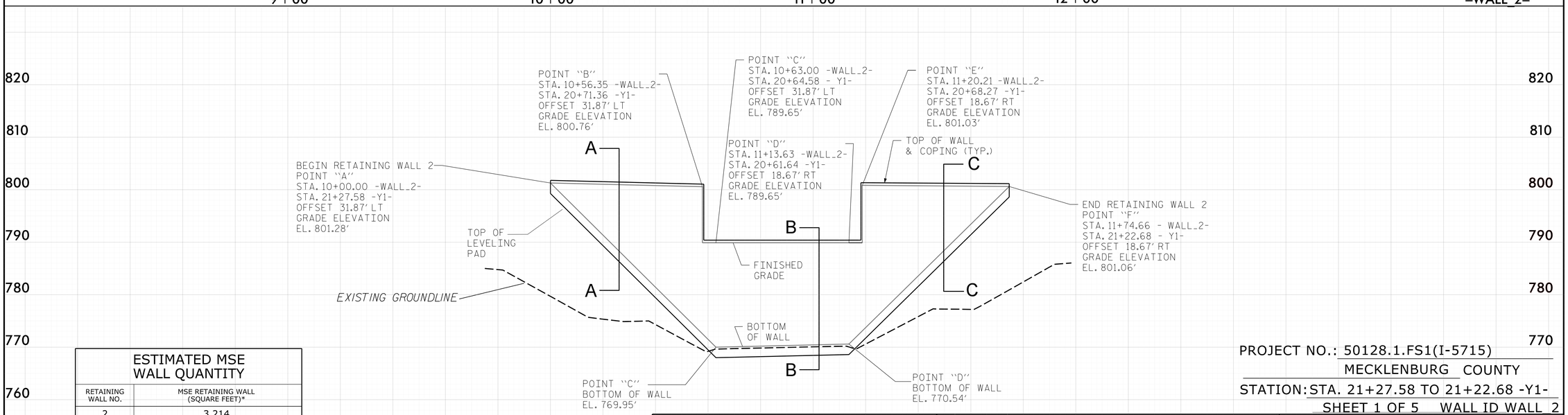
Signed by: Thomas R. Wells 11/09/2026
F38C777458854EA...
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE RETAINING WALL NO.2 ENVELOPE



ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
2	3,214
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT	

PROJECT NO.: 50128.1.FS1(I-5715)

MECKLENBURG COUNTY

STATION: STA. 21+27.58 TO 21+22.68 -Y1-

SHEET 1 OF 5 WALL ID WALL 2

PREPARED BY: T. WELLS	DATE: 11/25
REVIEWED BY: D. CORLEY	DATE: 11/25

Prepared in the Office of:

Terracon

7327-G W. FRIENDLY AVE.,
GREENSBORO, NORTH CAROLINA 27410
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

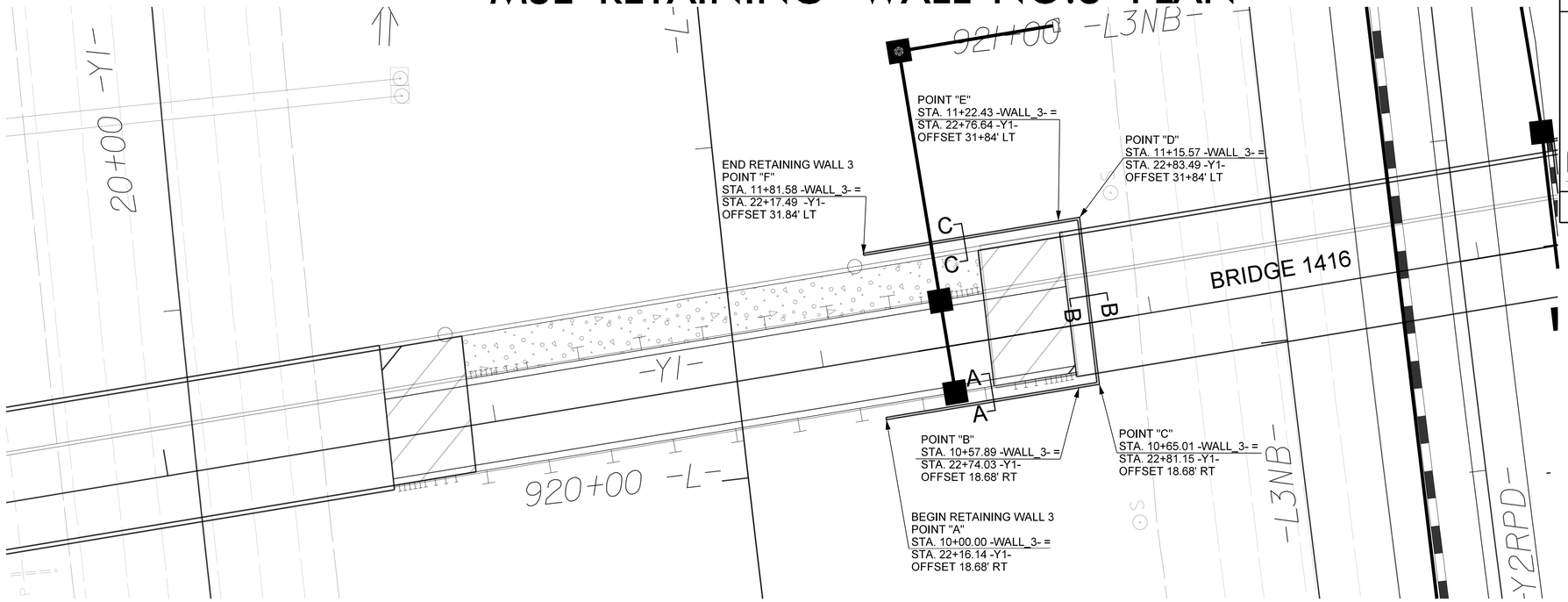
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

MSE RETAINING WALL NO.2
PLAN AND ENVELOPE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	T. WELLS	11/26	3			W-6
2			4			

MSE RETAINING WALL NO.3 PLAN



PROJECT REFERENCE NO.	SHEET NO.
I-5715	W-11

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037998 ENGINEER THOMAS R. WELLS

Signed by: Thomas R. Wells F38C7774588545EA... 11/09/2026

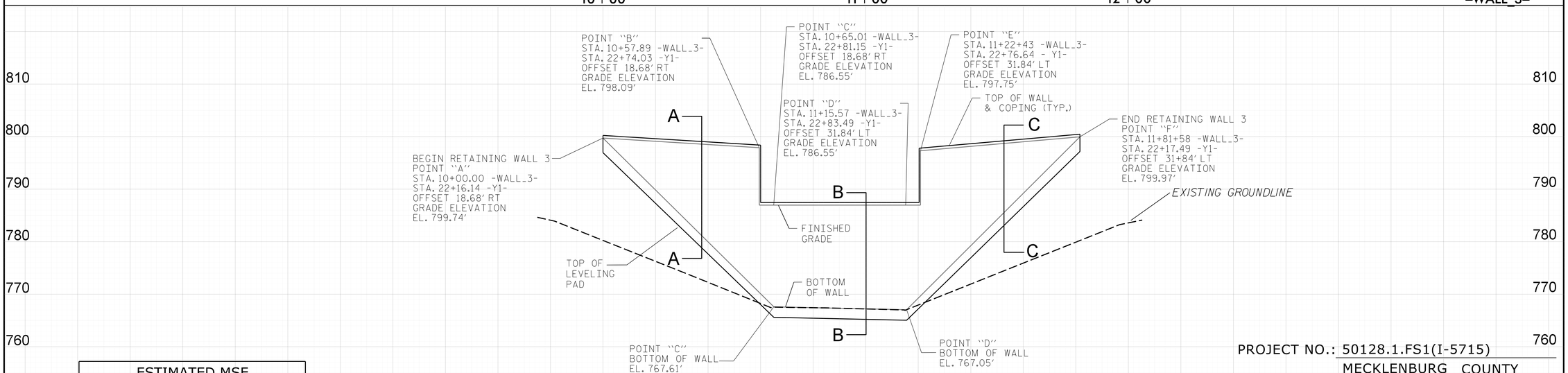
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE RETAINING WALL NO.3 ENVELOPE



ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
3	3,366
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT	

PROJECT NO.: 50128.1.FS1(I-5715)

MECKLENBURG COUNTY

STATION: STA. 22+16.14 TO 22+17.49 -Y1-

SHEET 1 OF 5 WALL ID WALL_3

PREPARED BY: T. WELLS	DATE: 11/25
REVIEWED BY: D. CORLEY	DATE: 11/25

Prepared in the Office of:

Terracon

7327-G W. FRIENDLY AVE.
GREENSBORO, NORTH CAROLINA 27410
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

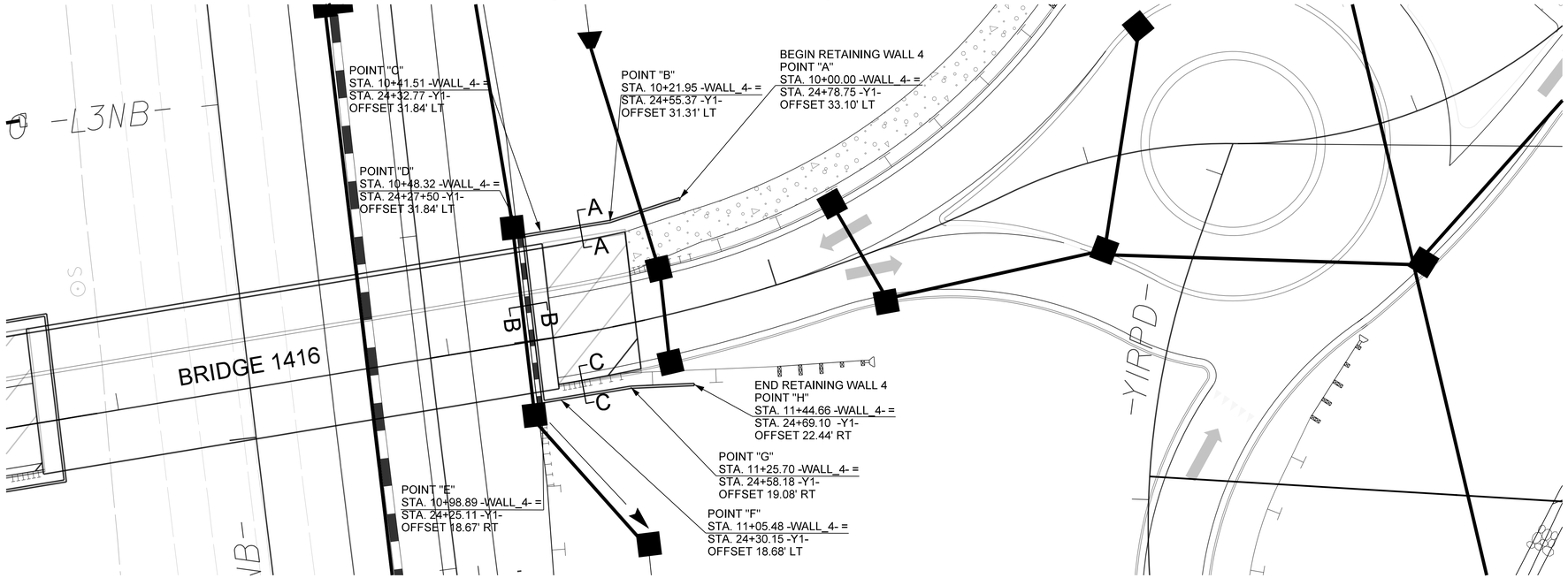
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL NO.3 PLAN AND ENVELOPE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	T. WELLS	11/26	3			W-11
2			4			

MSE RETAINING WALL NO.4 PLAN



PROJECT REFERENCE NO.	SHEET NO.
I-5715	W-16

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037998 ENGINEER THOMAS R. WELLS

Signed by: Thomas R. Wells 11/09/2026

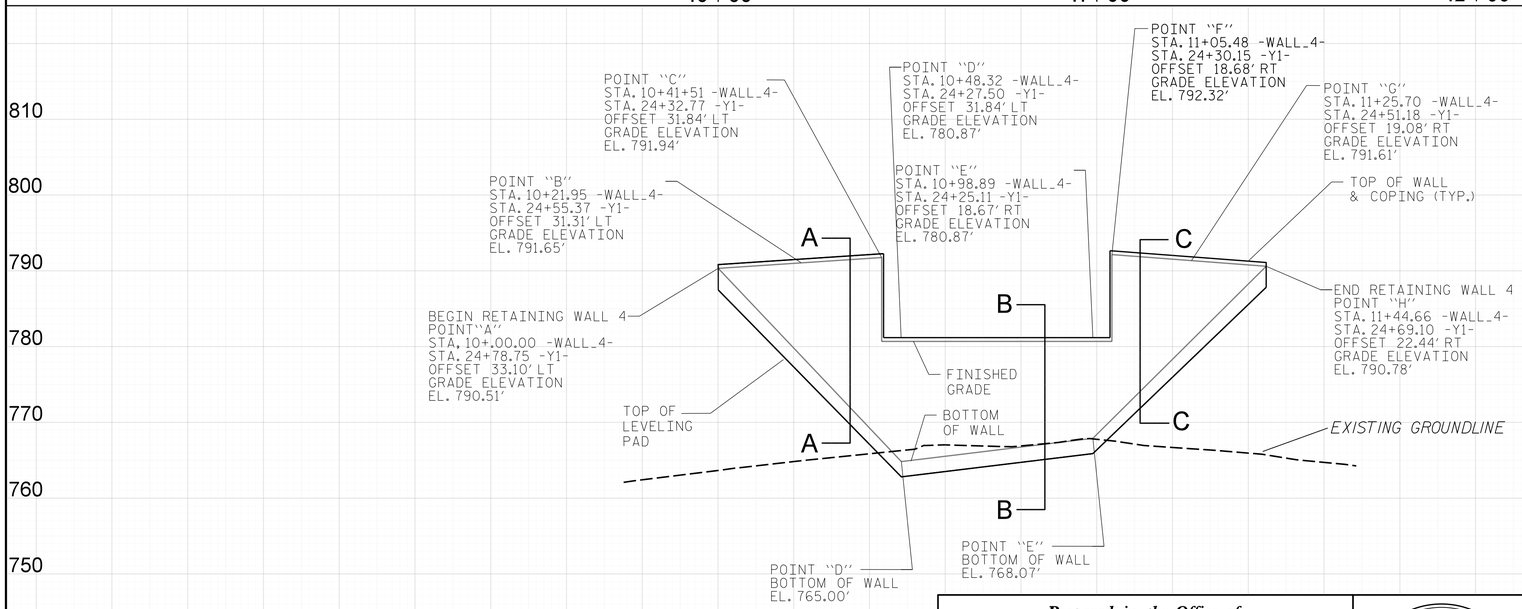
F38C7774585845A... SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE RETAINING WALL NO.4 ENVELOPE



ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
4	2,236
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT	

PROJECT NO.: 50128.1.FS1(I-5715)

MECKLENBURG COUNTY

STATION: STA. 24+78.75 TO 24+69.10 -Y1-

SHEET 1 OF 5 WALL ID WALL_4

PREPARED BY: T. WELLS	DATE: 11/25
REVIEWED BY: D. CORLEY	DATE: 11/25

Prepared in the Office of:

Terracon

7327-G W. FRIENDLY AVE.
GREENSBORO, NORTH CAROLINA 27410
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

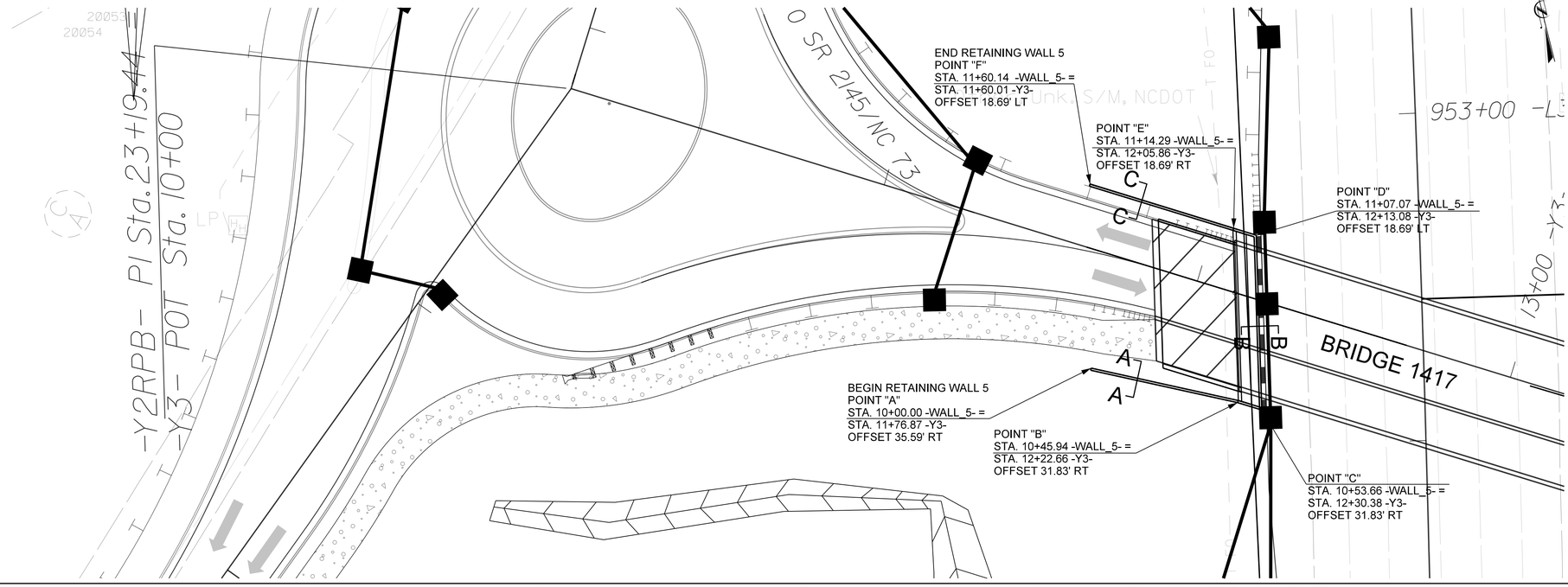
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL NO.4 PLAN AND ENVELOPE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	T. WELLS	11/26	3			W-16
2			4			

MSE RETAINING WALL NO.5 PLAN



PROJECT REFERENCE NO.	SHEET NO.
I-5715	W-21

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037998 ENGINEER THOMAS R. WELLS

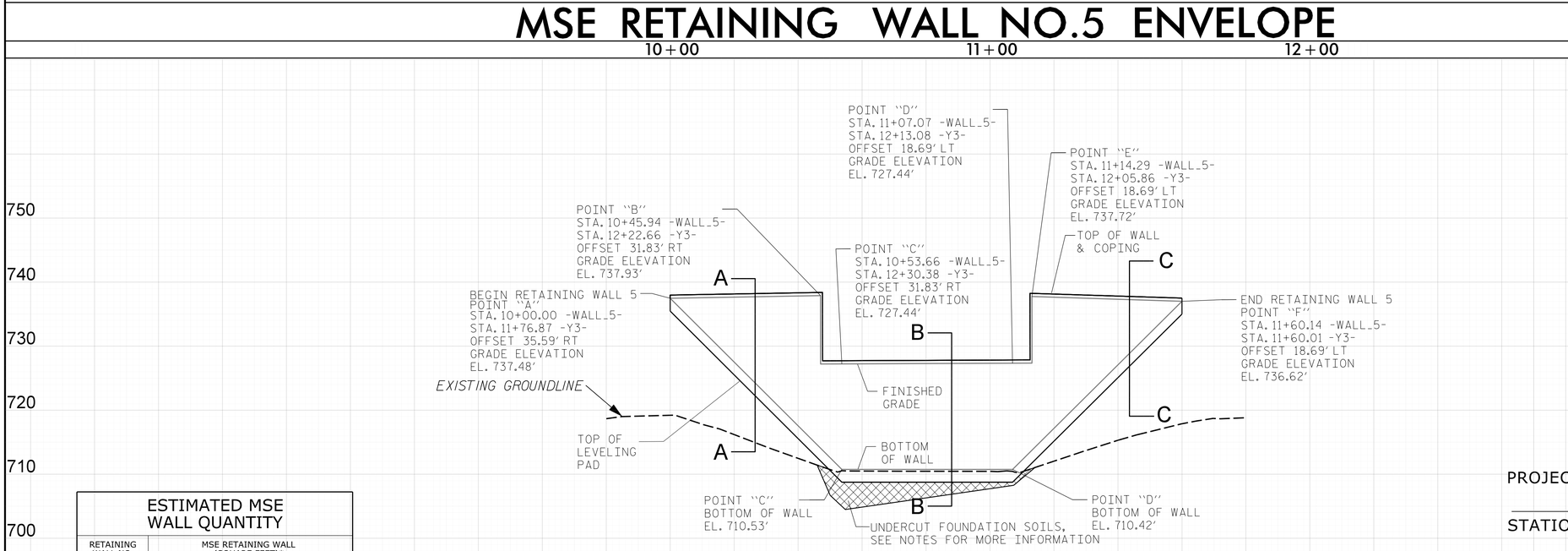
Signed by: Thomas R. Wells 11/09/2026
F38C7774588545A... SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE RETAINING WALL NO.5 ENVELOPE



ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
5	2,608
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT	

PROJECT NO.: 50128.1.FS1(I-5715)

MECKLENBURG COUNTY

STATION: STA. 11+76.87 TO 11+60.01 -Y3-

SHEET 1 OF 5 WALL ID WALL_5

PREPARED BY: T. WELLS	DATE: 11/25
REVIEWED BY: D. CORLEY	DATE: 11/25

Prepared in the Office of:

Terracon

7327-G W. FRIENDLY AVE.
GREENSBORO, NORTH CAROLINA 27410
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

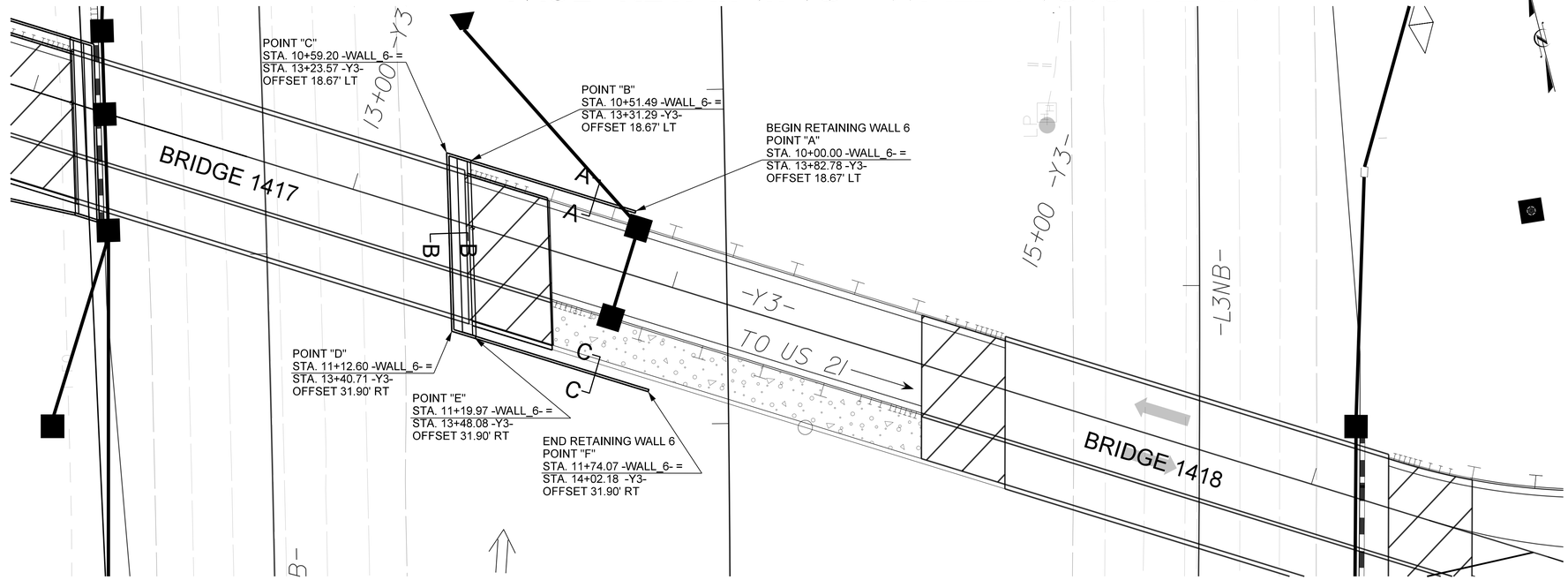
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL NO.5 PLAN AND ENVELOPE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	T. WELLS	11/26	3			W-21
2			4			

MSE RETAINING WALL NO.6 PLAN



PROJECT REFERENCE NO.	SHEET NO.
I-5715	W-26

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037998 ENGINEER THOMAS R. WELLS

Signed by: Thomas R. Wells F38C777458854EA... 11/09/2026

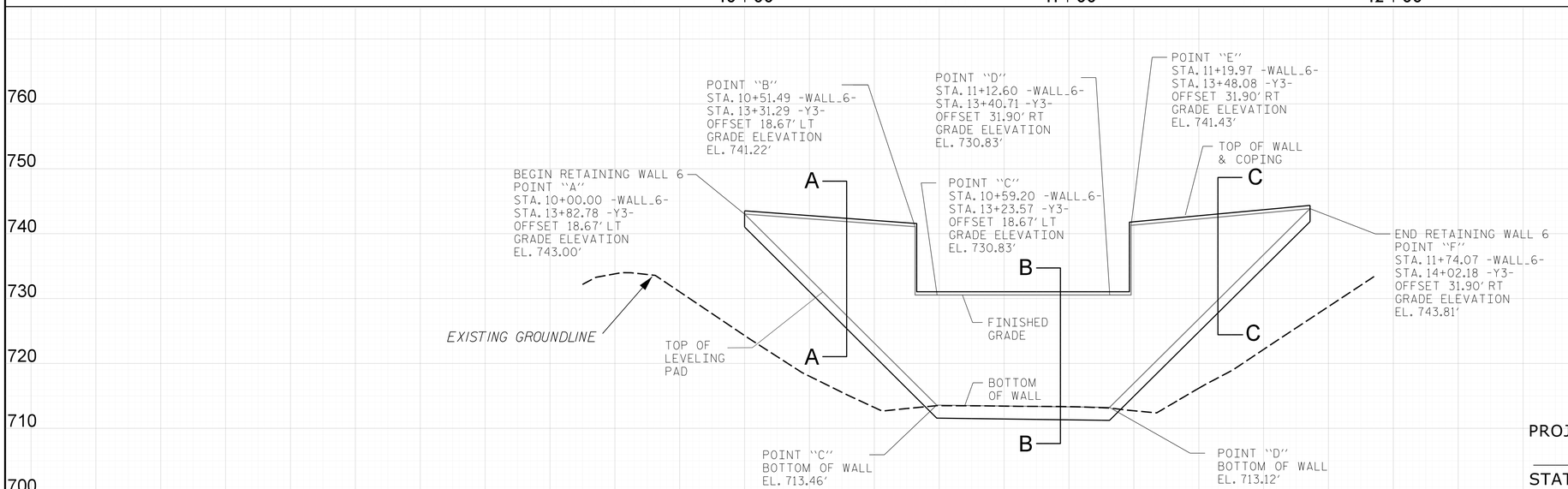
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE RETAINING WALL NO.6 ENVELOPE



ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
6	2,885
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT	

PROJECT NO.: 50128.1.FS1(I-5715)

MECKLENBURG COUNTY

STATION: STA. 13+82.78 TO 14+02.18 -Y3-

SHEET 2 OF 5 WALL ID WALL_6

PREPARED BY: T. WELLS	DATE: 11/25
REVIEWED BY: D. CORLEY	DATE: 11/25

Prepared in the Office of:

Terracon

7327-G W. FRIENDLY AVE.
GREENSBORO, NORTH CAROLINA 27410
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

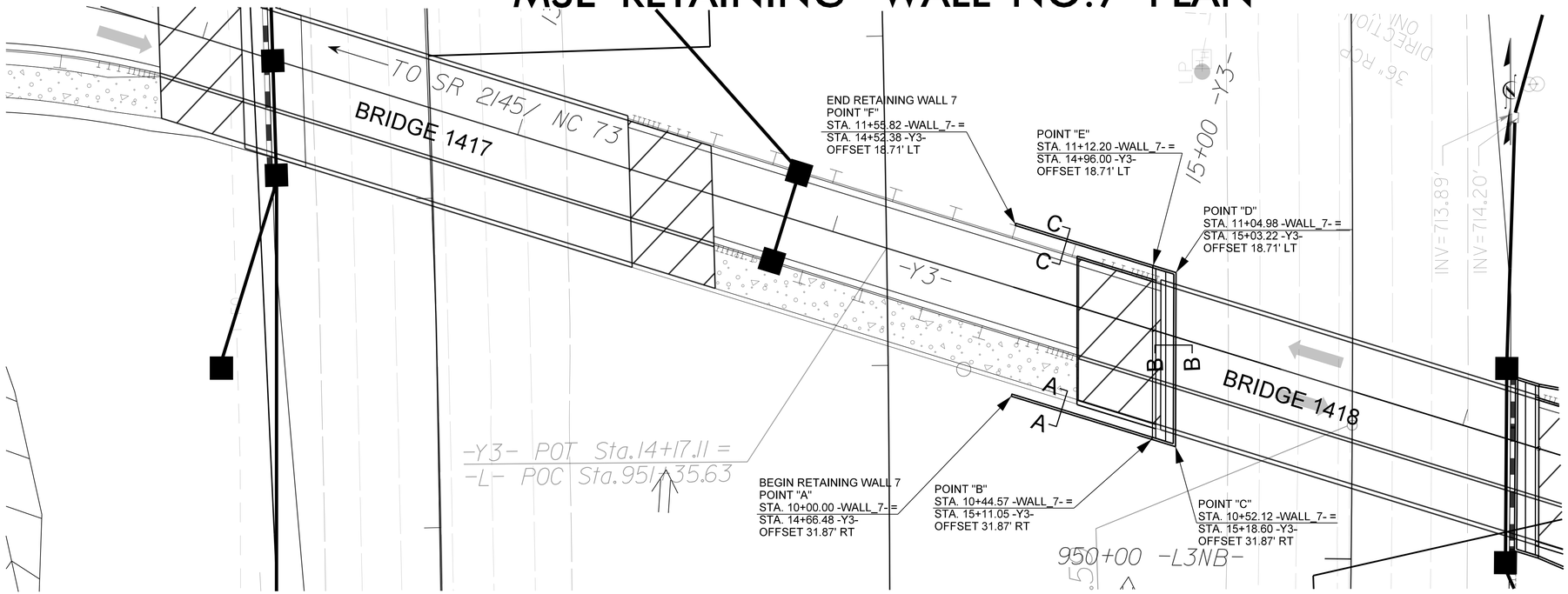
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL NO.6 PLAN AND ENVELOPE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	T. WELLS	11/26	3			W-26
2			4			

MSE RETAINING WALL NO.7 PLAN



PROJECT REFERENCE NO.	SHEET NO.
I-5715	W-31

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037998 ENGINEER THOMAS R. WELLS

Signed by: Thomas R. Wells F38C777458854EA... 11/09/2026

SIGNATURE DATE

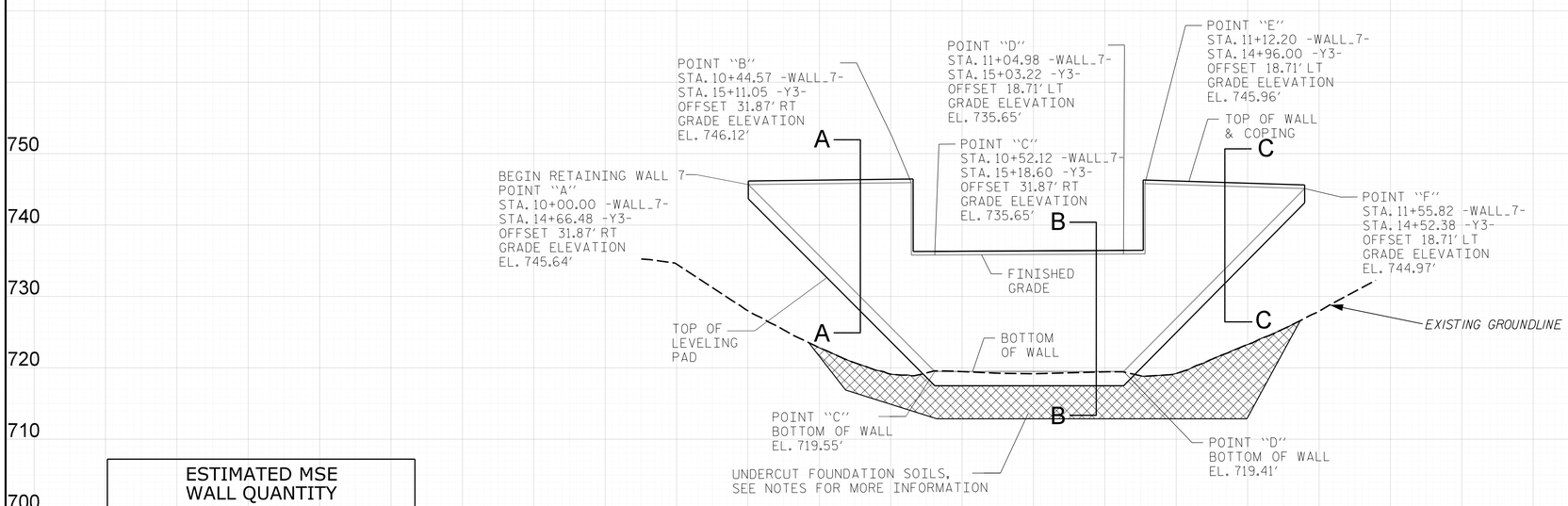
ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE RETAINING WALL NO.7 ENVELOPE

9+00 10+00 11+00 12+00 –WALL_7–



ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
7	2,504
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT	

PROJECT NO.: 50128.1.FS1(I-5715)

MECKLENBURG COUNTY

STATION: STA. 14+66.48 TO 14+52.38 -Y3-

SHEET 1 OF 5 WALL ID WALL_7

PREPARED BY: T. WELLS	DATE: 11/25
REVIEWED BY: D. CORLEY	DATE: 11/25

Prepared in the Office of:

Terracon

7327-G W. FRIENDLY AVE.
GREENSBORO, NORTH CAROLINA 27410
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

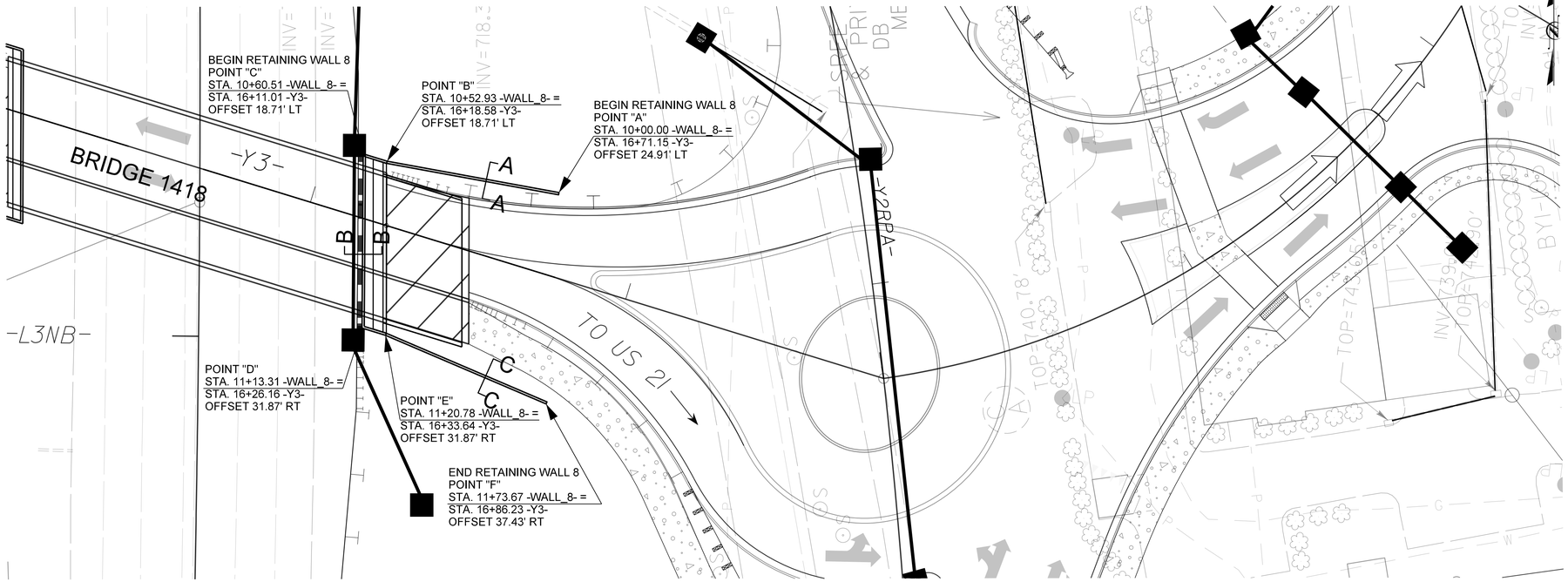
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL NO. 7 PLAN AND ENVELOPE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	T. WELLS	11/26	3			W-31
2			4			

MSE RETAINING WALL NO.8 PLAN



PROJECT REFERENCE NO.	SHEET NO.
I-5715	W-36

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037998 ENGINEER THOMAS R. WELLS

Signed by: Thomas R. Wells F38C777458854EA... 11/09/2026

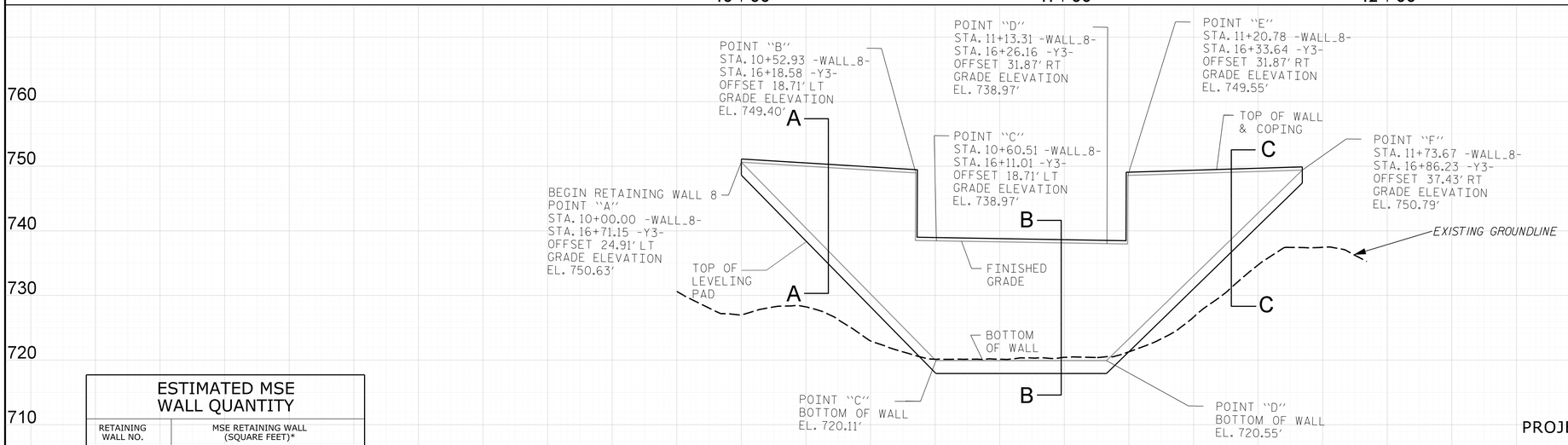
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE RETAINING WALL NO.8 ENVELOPE



ESTIMATED MSE WALL QUANTITY	
RETAINING WALL NO.	MSE RETAINING WALL (SQUARE FEET)*
8	3,014
* INCLUDES MINIMUM EXTENSION AND EMBEDMENT	

PROJECT NO.: 50128.1.FS1(I-5715)

MECKLENBURG COUNTY

STATION: STA. 16+71.15 TO 16+86.23 -Y3-

SHEET 1 OF 5 WALL ID WALL_8

PREPARED BY: T. WELLS	DATE: 11/25
REVIEWED BY: D. CORLEY	DATE: 11/25

Prepared in the Office of:

Terracon

7327-G W. FRIENDLY AVE.
GREENSBORO, NORTH CAROLINA 27410
NC REGISTERED ENGINEERING FIRM: F-0869
NC REGISTERED GEOLOGIC FIRM: C-367

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL NO. 8 PLAN AND ENVELOPE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	T. WELLS	11/26	3			W-36
2			4			