



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

October 14, 2025

Addendum No. 1

RE: Contract # C205092

WBS # 44677.3.1

STATE FUNDED

Pitt County (**U-5875**)

SR-1203 (ALLEN RD) FROM SR-1467 (STANTONSBURG RD) TO US-13
(DICKINSON AVE EXT)

October 21, 2025 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 Roadway Plans.

Sheet No.	Revision
2A-3	Note for Typical Section 5 corrected

The following revisions have been made to the Transportation Management Plans.

Sheet No.	Revision
TMP-3B	Temporary Shoring Notes were revised
TMP-10	Note regarding closure at Briarcliff Dr. was revised

The following revision has been made to the Utility Construction Plans.

Sheet No.	Revision
UC-3C	Pipe Restraint Charts added

The following revision has been made to the Structure Plans (Culvert).

Sheet No.	Revision
C3-1	Pre-cast option for box culvert removed from notes.

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

Website: www.ncdot.gov

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

The following revisions have been made to the proposal.

Page No.	Revision
Proposal Cover	Note added that reads “Includes Addendum No. 1 Dated 10-14-2025”.
Table of Contents	Table of Contents revised to add Project Special Provision shown below
G-20 & G-23	The Project Special Provision entitled MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE has been revised.
G-50	The Project Special Provision entitled NOTE TO CONTRACTOR has been added.
UC-1-G thru UC-28-G	The Unit Project Special Provision entitled UTILITY CONSTRUCTION Natural Gas Construction has been replaced in its entirety. Changes are extensive throughout the special provision. Bidders are encouraged to read through the entire special provision in order to familiarize themselves with all revisions.

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

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

<u>Item</u>	<u>Description</u>	<u>Old Quantity</u>	<u>New Quantity</u>
0204-5912000000-N SP	UTILITY POLE STABILIZATION	LUMP SUM	DELETED
0311- 5255000000-N 1413	PORTABLE LIGHTING	NEW ITEM	LUMP SUM
0312- 5882000000-N SP	UTILITY POLE STABILIZATION	NEW ITEM	20 EA

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

The electronic bidding file has been updated to reflect these revisions. Please download the Addendum File and follow the instructions for applying the addendum. Bid Express will not accept your bid unless the addendum has been applied.

The contract will be prepared accordingly.

Sincerely,

Signed by:

 52C46046381F443...

Ronald E. Davenport, Jr., PE
 State Contract Officer

RED/jjr

Attachments

cc: Mr. Wiley W. Jones III, PE
Ms. Mary Beth Houston, PE
Mr. Ken Kennedy, PE
Mr. Malcolm Bell
Project File (2)

Mr. Forrest Dungan, PE
Ms. Jaci Kincaid
Mr. Jon Weathersbee, PE

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

PROPOSAL

INCLUDES ADDENDUM No.1 DATED 10-14-2025

DATE AND TIME OF BID OPENING: **Oct 21, 2025 AT 02:00 PM**

CONTRACT ID C205092
WBS 44677.3.1

FEDERAL-AID NO. STATE FUNDED
COUNTY PITT
T.I.P NO. U-5875
MILES 2.406
ROUTE NO. SR-1203
LOCATION SR-1203 (ALLEN RD) FROM SR-1467 (STANTONSBURG RD) TO US-13
(DICKINSON AVE EXT).

TYPE OF WORK GRADING, DRAINAGE, PAVING, SIGNALS, AND CULVERTS.

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 \$30,000 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 & CULVERT PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

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PAYOUT SCHEDULE:

(1-19-10) (Rev. 1-17-12)

108

SP1 G57

Submit an Anticipated Monthly Payout Schedule prior to beginning construction. The Anticipated Monthly Payout Schedule will be used by the Department to monitor funding levels for this project. Include a monthly percentage breakdown (in terms of the total contract amount) of the work anticipated to be completed. The schedule should begin with the date the Contractor plans to begin construction and end with the anticipated completion date. Submit updates of the Anticipated Monthly Payout Schedule on March 15, June 15, September 15, and December 15 of each calendar year until project acceptance. Submit the original Anticipated Monthly Payout Schedule and all subsequent updates to the Resident Engineer with a copy to the State Construction Engineer at 1 South Wilmington Street, 1543 Mail Service Center, Raleigh, NC 27699-1543.

SCHEDULE OF ESTIMATED COMPLETION PROGRESS:

(7-15-08)(Rev. 6-17-25)

108-2

SP1 G58

The Contractor's attention is directed to the Standard Special Provision entitled *Availability of Funds Termination of Contracts* included elsewhere in this proposal. The Department of Transportation's schedule of estimated completion progress for this project as required by that Standard Special Provision is as follows:

	<u>Fiscal Year</u>	<u>Progress (% of Dollar Value)</u>
2026	(7/01/25 - 6/30/26)	22% of Total Amount Bid
2027	(7/01/26 - 6/30/27)	32% of Total Amount Bid
2028	(7/01/27 - 6/30/28)	28% of Total Amount Bid
2029	(7/01/28 - 6/30/29)	18% of Total Amount Bid

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the *Standard Specifications*. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE:

(10-16-07)(Rev. 10-21-25)

102-15(J)

SP1 G66

Description

The purpose of this Special Provision is to carry out the North Carolina Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with State funds.

Definitions

Additional MBE/WBE Subcontractors - Any MBE/WBE submitted at the time of bid that will not be used to meet the Combined MBE /WBE Goal. No submittal of a Letter of Intent is required.

Combined MBE/WBE Goal: A portion of the total contract, expressed as a percentage that is to be performed by committed MBE/WBE subcontractors.

<http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls>

DBE Regular Dealer/Distributor Affirmation Form – Form is used to make a preliminary counting determination for each DBE listed as a regular dealer or distributor to assess its eligibility for 60 or 40 percent credit, respectively of the cost of materials or supplies based on its demonstrated capacity and intent to perform as a regular dealer or distributor, as defined in section 49 CFR 26.55 under the contract at issue. A Contractor will submit the completed form with the Letter of Intent.

<https://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20Regular%20Dealer-Distributor%20Affirmation%20Form%20-%20USDOT%202024.pdf>

Combined MBE/WBE Goal

There is NO MBE/WBE Goal for this project.

100 grams of soil may indicate a high potential for turbidity and should be avoided when dewatering into surface water is proposed.

No additional compensation for monitoring borrow pit discharge will be paid.

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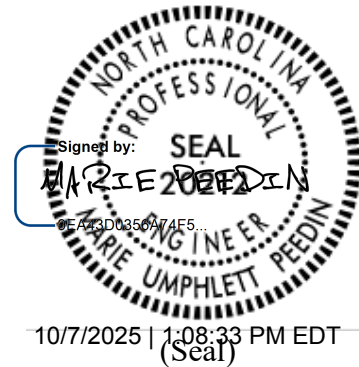
UC-1-G

County: Pitt

PROJECT SPECIAL PROVISIONS
Natural Gas Construction



3508 Trent Road
 Unit A
 New Bern, NC 28562



DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

The utility owner is the Greenville Utilities Commission (GUC) Gas Department. The contact person is Mr. Dillon Wade, and he can be reached by phone at 252-551-1594 or e-mail wadede@guc.com.

The provisions contained within these Utilities Construction Project Special Provisions modify the *Standard Specifications* only for materials used and work performed constructing gas facilities owned by Greenville Utilities Commission.

GENERAL UTILITY REQUIREMENTS
(9-5-23)

Only individuals/ contractors that meet the requirements and Minimum Operator Qualifications outlined in this Special Provision will be allowed to perform work on GUC's Natural Gas Line.

Revise the 2024 *Standard Specifications* as follows:

Page 15-1, Article 1500-2 COOPERATION WITH THE UTILITY OWNER, line 9, add the following paragraphs:

Apply the applicable provisions of the rules and regulations of the Greenville Utilities Commission Gas Department Natural Gas Operations and Maintenance (O&M) Plan, effective date October 18, 2024 and all revisions. The copy of the O&M can be obtained from GUC Gas Department by contacting Mr. Dillon Wade at 252-551-1594 or wadede@guc.com. Alternatively, the copy of the O&M can be downloaded using the following link:
https://xfer.services.ncdot.gov/dsplan/2025%20Highway%20Letting/10-21-25/Plans%20and%20Proposals/PITT_U-5875_C205092/Supplemental%20Information/Greenville%20Utilities%20Commission%20O&M%20Plan.pdf

Prior to commencing any gas construction work, the Resident Engineer shall be contacted to schedule a preconstruction conference with GUC. No construction shall occur until after the

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preconstruction conference is held. Prior to the scheduling of the preconstruction conference all applicable plans, submittals, personnel certifications, proposed phasing, safety plan and agreement paperwork as required by the special provisions and NCDOT specifications shall be submitted to NCDOT and approved by the Greenville Utilities Commission. As a minimum, the NCDOT, GUC, Prime Contractor & Subcontractor shall attend the preconstruction conference.

All work on the natural gas distribution system shall be performed in accordance with:

- a. Title 49 of the Code of Federal Regulations, Chapter I, Part 192 (49 CFR 192), "Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards"
- b. Title 29 of the Code of Federal Regulations, Chapter I (29 CFR 1926), "Occupational Safety and Health Standards for the Construction Industry"
- c. GUC's Operation and Maintenance Plan (the link to the electronic copy is referenced above)
- d. Any other applicable standards which are hereby incorporated into the Specifications by reference.
- e. All employees and visitors to the jobsite are required to wear proper PPE (hard hats, safety vests (Type 2) and safety shoes at a minimum while on site, and fire-resistant rated clothing when necessary).

Although GUC is noted in the GUC Operation and Maintenance Plan and/or these specific special provisions, the Contractor is responsible for coordinating and obtaining approval with NCDOT. All directives and approvals must come from NCDOT and the Resident Engineer, who will coordinate directly with the utility owner – GUC Gas.

Page 15-1, Article 1500-2 COOPERATION WITH THE UTILITY OWNER, line 19, add the following sentences:

The gas utility owner is Greenville Utilities Commission Gas Department (the COMMISSION). The contact person for the COMMISSION is Mr. Dillon Wade who can be reached by phone at 252-551-1594 or e-mail wadede@guc.com.

Page 15-1, Article 1500-2 COOPERATION WITH THE UTILITY OWNER, line 24, add the following paragraphs:

All work in the vicinity of the Carolina Coastal Railway must be coordinated with the railroad owner to minimize service disruptions. Contractor shall provide a written notice to the Carolina Coastal Railway at least two (2) weeks prior to starting any work that might be in conflict or cause interruptions to the normal operations of the railroad. The railroad signal plan is attached at the end of these provisions for information purposes.

Page 15-1, Article 1500-3 UTILITY LOCATIONS AND CONTRACTOR'S RESPONSIBILITY, line 29, add the following paragraphs:

The NC 811 Notification Center shall be contacted by the Excavator (Contractor) prior to

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commencing any excavation in accordance with Section 87-122 (Excavator Responsibilities) of the Underground Utility Safety and Damage Prevention Act. Also, per Section 87-121 Facility Operator Responsibilities: (b) Unless otherwise provided in a written agreement between the operator and the excavator, the operator shall provide to the excavator the information required by subsection (a) of this section within the times provided below:

For a facility, within three (3) full working days after the day notice of the proposed excavation or demolition was provided to the Notification Center.

Page 15-1, Article 1500-4 WEEKEND, NIGHT AND HOLIDAY WORK, line 36, add the following paragraphs:

A (1) one week written notice from the contractor shall be submitted to NCDOT prior to performing work outside of the 8am-5pm weekday timeframe or on holidays. After hours, holiday, or weekend work written notice is only required for tasks that require observation by the Owner's Representative.

Page 15-2, Article 1500-7 SUBMITTALS AND RECORDS, line 25, add the following paragraphs:

Gas Sub Contractor shall provide to NCDOT the Minimum Operator Qualification requirements. The OQ written plan and employee records shall be in accordance with Title 49 of the Code of Federal Regulations, Chapter I, Part 192 (49 CFR 192), Subtitle N, "Qualification of Pipeline Personnel".

Gas Sub Contractor shall be required to re-qualify on certain items such as fusion. Contractor is required to provide a list of all personnel and identify who the Operator Qualified members will be. Contractor's personnel are required to qualify on fusing PE pipe at a mutually agreeable time. The field qualification will be at the GUC Operations Center (3355 NC 43 N). Operators of heat fusion equipment, including butt fusion, saddle fusion and electrofusion, shall be tested and certified in accordance with the requirements of 49 CFR 192. Subpart F, Paragraph 285 along with any and all additional requirements of the specific pipe and/or fitting manufacturer.

Gas Sub Contractor shall provide to NCDOT documentation of participation in a qualified drug-testing program. Prior to performance of covered task and/or tie-in operations, a negative (no evidence of drug use) test must be documented for all employees who will be involved with these operations. This program shall be administered in accordance with Title 49 of the Code of Federal Regulations Chapter I, Part 199 (49 CFR 199), "Drug and Alcohol Testing," and Subtitle A, Part 40, "Procedures for Transportation Workplace Drug and Alcohol Testing Programs." The program must have been in force for no less than 12 months and the contractor must show proof of enforcement to the NCDOT.

Page 15-2, Article 1500-7 SUBMITTALS AND RECORDS, line 25, replace the last paragraph with the following:

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GUC Gas Department shall supply the CONTRACTOR with all materials as listed in the Bill of Materials. Materials furnished by the GUC Gas Department will be available to the CONTRACTOR at GUC's warehouse located at 701 Utility Way, Greenville, North Carolina. The CONTRACTOR shall provide all other materials and equipment required for construction of the pipeline. The Bill of Materials supplied by GUC and needed for this project is included in the UC plan set (see sheet UC-3A). The CONTRACTOR shall make a request for materials to NCDOT a minimum of 30 days prior to distribution. Once the request has been approved the CONTRACTOR shall arrange to pick up the materials between the hours of 9am-4pm Monday through Friday. Once the materials are picked up all materials are the responsibility of the CONTRACTOR. The NCDOT and GUC are not responsible for theft, loss or damage to materials which have been distributed to the CONTRACTOR. Materials shall be signed for by the receiving CONTRACTOR at the time of distribution to confirm receipt.

CONTRACTOR shall submit the following required documentation to NCDOT prior to commencement of work.

(A) General

(1) Operator Qualifications

Contractors are required to provide a current copy of the Company's Operator Qualification (OQ) Plan for natural gas distribution work prior to the preconstruction conference. NCDOT will review the documentation for compliance. Copies of all employee OQ qualifications shall be provided to the Engineer prior to beginning the work. NCDOT will confirm submitted qualifications. The OQ written plan and employee records shall be in accordance with Title 49 of the Code of Federal Regulations, Chapter I, Part 192 (49 CFR 192), Subtitle N, "Qualification of Pipeline Personnel."

Below is a list of Minimum required Operator Qualifications. The referenced tasks are from the ASME B31Q Covered Tasks List.

Steel OQ Tasks :

ASME 0641 – Visually Inspect Pipe and Components Prior to Installation

ASME-0801 – Welding

ASME-0811 – Visual Inspection of Welding and Welds

ASME-0861 – Installation of Steel Pipe in a Ditch

ASME-0871 – Installation of Steel Pipe in a Bore

ASME 0981 - Backfilling

ASME-0991 – Coating Application and Repair: Brushed and Rolled

ASME-1011 – External Coating Application and Repair: Wrapped

ASME-1071 – Repair of Steel Pipe by Grinding

PE OQ Tasks:

ASME-0201 – Visual Inspection of Installed Pipe and Components for Mechanical Damage

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ASME-0211 – Measure and Characterize Mechanical Damage on Installed Pipe and Components

ASME-0301 – Manually Opening and Closing Valves

ASME-0561 – Pressure Test – Non-liquid Medium – MAOP Less Than 100 psi

ASME-0641 – Visually Inspect Pipe and Components Prior to Installation

ASME-0751 – Joining of Plastic Pipe: Butt Heat Fusion: Manual

ASME-0761- Joining of Plastic Pipe: Butt Heat Fusion: Hydraulic Machine

ASME-0771 – Joining of Plastic Pipe: Sidewall Heat Fusion

ASME-0781 – Joining of Plastic Pipe: Electrofusion

ASME-0791 – Joining of Plastic Pipe: Socket Heat Fusion

ASME-0901 – Installation of Plastic Pipe in a Ditch

ASME-0911 – Installation of Plastic Pipe in a Bore

ASME-0921 – Installation of Plastic Pipe Plowing/Pull-in

ASME-0941 – Install Tracer Wire

ASME-0981 – Backfilling

ASME-1081 – Tapping a Pipeline (Tap Diameter 2 in. and Less)

ASME-1091 – Tapping a Pipeline (Tap Diameter Greater Than 2 in.)

ASME-1141 – Squeeze Off Plastic Pipe

ASME-1321 – Damage Prevention During Excavation Activities by or on Behalf of the Operator

ASME-1341 – Provide or Ensure adequate Pipeline support during Operator Initiated Excavation Activities

ASME-1651 – Purge – Flammable or Inert Gas

Recommended Additional:

5011 – Visually Inspect Butt Fused Polyethylene Pipe

5021 – Visually Inspect Socket Fused Polyethylene Pipe

5501 – Visually Inspect Electrofusion Fittings on Polyethylene Pipe

5051/5061 – Verified the Correct Markings of Marked Underground Pipeline Facilities

5681/5691 – Tapping a Plastic Pipeline

5961 – Pipeline Startup and Shutdown

1311 – Inspect Pipeline Surface Conditions: Patrol Right of Way or Easement

0591 – Leak Test at Operating Pressure

5741 – Prevent Accidental Ignition

5751 – Recognize and React to Generic AOCs

5921 – Launch and Receive Distribution Pipeline Pigs

The Contractor shall furnish NCDOT with records of continuous employee qualification for all employees with each monthly progress payment application. Qualification documentation shall be provided for all new employees prior to performing work on the GUC's natural gas system.

Contractors shall make available, upon request, written records of their employee's qualifications. At a minimum these records shall include:

- Identification of qualified individual(s)

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- Identification of covered task(s) each individual is qualified to perform
- Date that current qualification was received
- Method of evaluation used to obtain qualification
- Name of individual or organization for each covered task
- Training program outlines and materials
- List of non-qualified individuals that will be performing tasks on behalf of the GUC while under the direction of a contract qualified individual.

The Contractor shall use only competent and skilled workers for the performance of any and all work on the natural gas distribution system, as specified herein. The workers shall not perform any heat fusion operations or welding operations on any pipe or associated fittings within the system until they have been qualified to perform such operations in accordance with the test requirements specified in (a) Heat Fusion Qualifications and (b) Welding Qualifications.

The Contractor shall furnish evidence, as required by and to the satisfaction of NCDOT, that the specified testing requirements have been met for each employee prior to their utilization on the work.

(a) Heat Fusion Qualifications

Operators of heat fusion equipment, including butt fusion, saddle fusion and electrofusion, shall be tested and certified in accordance with the requirements of 49 CFR 192, Subpart F, Paragraph 285 along with any and all additional requirements of the specific pipe and/or fitting manufacturer.

In addition to and in accordance with the requirements above, all personnel performing heat fusion operations shall be certified by GUC to join polyethylene pipe prior to commencing work, by the following procedures:

Certification: Each technician making joints in polyethylene pipe must provide evidence of current heat fusion certification from an approved pipe manufacturer, pipe vendor, or gas distribution company. Additionally, each technician must be qualified by the Gas Systems Supervisor, or designee, before making joints on polyethylene pipe that will be installed in the gas distribution system operated by GUC.

Testing: Each technician must show proof of satisfactory training and practice in making heat fused joints on polyethylene pipe and fittings. A technician will be tested with the following procedure:

- i) Make a specimen joint by joining material equal to the material being used which passes visual inspection during and after assembly and is found to have the same appearance as an acceptable joint or photograph of an acceptable joint.

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- ii) Specimen is physically tested by cutting into at least three (3) longitudinal strips.

Each strip shall show no voids or discontinuities or any cut surface in the joint area. Each strip shall not be deformed by bending, torque, or impact and if failure occurs, it must not be in the joint area.

- iii) Re-qualification must be completed if during any twelve (12) month period that person:

- 1) Does not make any fusion joints.
- 2) During the course of the work, any employee of the Contractor that cumulatively performs three unsatisfactory fuses for incorporation in the natural gas distribution system that are subsequently determined to be unacceptable to GUC shall not be allowed to perform fusion operations until evidence of re-training from an acceptable source is provided to GUC. If the technician performs unsatisfactorily in the fusion of the joints or fittings for which the technician is approved for as indicated on his fusion permit, GUC reserves the right to revoke his/her permit to fuse polyethylene pipe on the GUC's gas system.

(b) Welding Qualifications

Prior to performing welding of steel pipe on the GUC's natural gas system, personnel responsible for joining steel pipe by welding shall be qualified. All qualification tests shall be conducted under the supervision and direction of a qualified GUC welder or a qualified testing company as approved by GUC.

GUC may require contract welders or welding operators to qualify specifically for welding on the GUC's facilities. If so, all testing and qualification requirements shall match the requirements of the certification process listed below:

Certification: Contractor welders shall provide evidence of being qualified in accordance with the procedures listed in Section 6, Section 12, Appendix A or Appendix B of the API Standard 1104 or Section IX of the ASME Boiler and Pressure Vessel Code, "Welding and Brazing Qualifications". Welds made for the initial qualification shall satisfy destructive test requirements.

Testing:

- i) The welder shall butt weld two sections of twelve (12) inch nominal pipe size placed in a fixed position at an incline of forty-five (45) degrees.

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- 1) The combination of pipe size and position qualifies the welder to perform butt and fillet welds in any position and all pipe diameters.
 - 2) The weld shall be destructively tested in accordance with the requirements of API 110 or Section IX of the ASME Boiler and Pressure Vessel Code. If a weld sample fails this test the welder is not qualified to perform welds on GUC's natural gas system.
- ii) A separate qualification process shall be performed to ensure that the welder can successfully perform a fitting to in-service pipe. Following the successful welder qualification of GUC Personnel and Contractor personnel, Form II.F-4.1 shall be completed and submitted to GUC.

Requalification: After the initial test, a GUC welder or welding operator shall maintain qualification to perform welding operations by the following:

- i) At intervals of each calendar year and not exceeding 15 months between qualifications/requalification, each GUC welder or welding operator shall requalify in accordance with the initial qualification requirements.
- ii) With intervals not to exceed 7 ½ months and at least twice each calendar year; each GUC welder or welding operator shall have a production weld cut out, tested, and found acceptable in accordance with the qualifying test.

(2) Drug and Alcohol Testing

Any and all employees of the Contractor who will be involved with natural gas distribution construction and maintenance operations required by this contract shall be required to participate in an anti-drug/drug and alcohol testing program. This program shall be administered in accordance with Title 49 of the Code of Federal Regulations, Chapter I, Part 199 (49 CFR 199), "Drug and Alcohol Testing," and Subtitle A, Part 40, "Procedures for Transportation Workplace Drug and Alcohol Testing Programs." The program must have been in force for no less than 12 months and the Contractor must show proof of enforcement to the Owner.

The Contractor shall furnish the NCDOT with documentation of participation in a qualified drug-testing program. Prior to the performance of covered tasks and/or tie-in operations, a negative (no evidence of drug use) test must be documented for all employees who will be involved with these operations.

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County: Pitt

(3) Material Tracking and Traceability As-Built Documents

GUC and its staff will collect material as-built information for this project. The Contractor is not responsible for providing as-built drawings of the gas line, but shall allow GUC access to the work during the installations and prior to backfill operations such that the necessary material data collection can be completed. No claims for time extensions or monetary considerations will be allowed for the work required by the material as-built data collection.

GAS LINES

Description:

Provide gas lines suitable for use in transporting natural gas.

Materials:

Medium-density polyethylene (MDPE) Gas Pipe shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

The _" MDPE Gas Pipe, SDR 11.5, 60# WP, steel pipe, fittings, valves/boxes, couplings, tracer wire, tracer boxes and gas vent stacks will be supplied by GUC.

Vent Stack shall not be PE pipe and must extend 7' above ground level outside the clear zone or behind the guardrail as directed by the Engineer.

The use of cast iron materials shall not be permitted.

A 10-gauge, stranded copper wire with 45 mil polyethylene insulation and jacketing shall run continuously along the full length of the pipeline. The wire shall be colored-coded yellow for gas. The locator wire shall be accessible for hook-up at all tracing stations at locations not to exceed 1000 feet. Cost and installation of the locator wire and tracing stations shall be considered incidental to the installation of the 6" MDPE gas main. In the areas where the pipe will be installed by directional bore, two-locator wire shall be attached to the pipe.

Acceptable Wire Connections:

- Set screw pressure type for use with 10-gauge stranded wire, Model #1007-PE45-GN by Kris-Tech Wire Company, Rome NY, or approved equal.
- C-Tap for two way splicing of tracing wire, for use with 10-gauge stranded wire. T&B #54705 or approved equal.

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- Split bolts, three wire type for splicing of tracer wire, for use with 10-gauge stranded wire. ILSCO Catalog #SEL-2S or approved equal.

Tracing Station (flush with the grade)

1. Locating Stations and Valve Boxes

Locating station boxes shall be installed to facilitate the location of the mains. Valve boxes shall be installed to facilitate the operation of the valve.

a. Main Line Valve Boxes and Locating Stations

Locating and valve boxes, extension pieces, collars and covers shall be 2-piece screw type adjustable or 2-piece sliding type adjustable boxes as manufactured by Bingham and Taylor or ENGINEER approved equivalent. Valve box covers shall have the word "GAS" embossed on top. Locating station covers shall have the word "TEST" or "T" embossed on top.

Construction Methods:

This section contains the specifications for the installation of the MDPE Gas pipeline. The installation of the pipeline and all work on the natural gas system shall be in accordance with all applicable sections of Title 49 of the Code of Federal Regulations, Chapter I, Part 192, "Transportation of natural and other gas by pipeline: minimum Federal safety standards". Should there appear to be a conflict between these specifications and Part 192, the Federal standards shall take precedence, and the conflict shall be brought to the attention of the Engineer.

(1) Survey Stakes

Contractor will use survey stakes to determine extent of clearing required on the permanent and temporary construction easements, and to locate the centerline of the proposed pipeline as shown on the plans. The cost of replacing survey stakes that have been destroyed due to the carelessness of Contractor shall be paid by Contractor. Contractor will maintain the survey stakes throughout the construction period of the pipeline. Any property corners, monuments or markers destroyed by Contractor shall be replaced by and at the expense of the Contractor.

(2) Horizontal Directional Drilling

Drilling fluid shall be bentonite slurry. Use admixtures suitable to the site conditions. MDPE Gas Pipe to be fused and tested prior to placement beneath the buffer zones and creeks. Join pipe segments by cutting the ends square, heating and fusing under sufficient pressure to create a single length of pipe sufficient to complete installation in one continuous pulling operation. The pipe manufacturers listing of fusion parameters validated by appropriate testing and the parameters of the contractor's

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fusion system shall be submitted to the Resident Engineer prior to fusing of segments of MDPE Gas Pipe into the pipe string. MDPE Gas Pipe string to be tested in accordance with testing procedure outlined in these specifications under pneumatic testing prior to being placed beneath the buffer zones and creek.

MDPE Gas Pipe to be installed beneath buffer zones and creeks shall be in accordance with Section 1550 of the Standard Specifications for Roads and Structures by boring or drilling a small pilot hole along a parabolic arc beneath the creek and buffer zones. A minimum cover of 3 feet shall be maintained over the MDPE Gas Pipe at all times unless otherwise noted on plans. Enlarge the pilot hole by use of a reamer or reamers to the required diameter. The contractor will pull the pipe string through the hole by the drill string. Cap the pipe string during the pulling operation. Pulling operation to incorporate a swivel connection and weak link to minimize torsional stress imposed upon the pipe string. The weak link can be mechanical or a 3' section of one nominal pipe size smaller than the pipe being installed. Fully support the pipe string before and during pull back so that the pipe string will move freely without damage. MDPE Gas Pipe installed by directional boring shall not be connected to existing pipe or fittings for one week from the time of installation to allow tensional stresses to relax.

Drilling fluid to be re-circulated through the use of a solids control system to remove spoil from drilling fluid surface returns. After cleaning, return the drilling fluid surface returns to the active system. No drilling fluid shall enter the stream.

The Contractor may elect to conduct simultaneously reaming and pulling of the pipe string in one operation at the discretion of the Engineer. The reamer head shall be fitted with a sleeve to prevent possible spalling that may become lodged and prohibit the pull back of the pipe string.

(3) Ditching

The Contractor shall dig the pipeline ditch on the staked survey line or the designed offset provided by Engineer. No deviation from the survey line shall be made unless field conditions necessitate a change in routing, and approval has been obtained from Commission's authorized representative. The Contractor will excavate the ditch such that the pipeline will, upon installation in the ditch, have the finished elevation as shown on the project drawings.

For lateral connections to existing facilities, unless specified otherwise in the job description, special provisions, Commission drawings, and/or Permit Drawings, the pipeline ditch shall be excavated to the minimum width and depth to provide the minimum cover as listed below. The pipe cover shall be measured from the top of the pipe to the graded ground level on each side of the ditch.

Minimum Ditch Requirements

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All pipes shall have a minimum cover of thirty-six inches.

Pipe Dia. In Inches (nominal)	Trench Width in Inches (minimum)	Pipe Dia. In Inches (nominal)	Trench Width in Inches (minimum)
2	12	18	30
4	16	20	32
6	18	22	34
8	20	24	36
10	22	26	38
12	24	30	42
14	26	36	48
16	28		

In the event partial or all rock areas are encountered along the route, the pipeline ditch shall be excavated to a depth to provide the minimum cover as shown in the paragraph above, plus an allowance for the placement of dirt-filled sack benches at 20 foot intervals to support the pipe and maintain a minimum four inches of clearance between the pipe and the bottom of the ditch for subsequent ditch padding.

The Contractor shall excavate the ditch across cultivated or improved land in a manner that will separate and preserve a minimum of 12 inches of topsoil from the remaining excavated subsoil (double ditching) as directed by the Engineer.

The Contractor shall construct temporary bridges or leave dirt plugs in the pipeline ditch in areas along the pipeline route wherever necessary to provide the landowners or tenants safe ingress and egress to their property or residence.

(4) Handling and storage of Pipe and Materials

The contractor shall follow the GUC Operations and Maintenance manual for specific requirements set forth for handling and storage of pipe and materials found at this location GUC - Natural Gas Operations and Maintenance Plan, Chapter: II, Part: F-Construction, Section: F-5, Subject: Construction - Mains, Subpart: 3.4 Transportation, Handling and Storage of Pipe and Fittings.

The Contractor shall make prompt arrangements at his expense for the hauling and proper handling and storage of all pipes, valves, fittings and other materials furnished by Commission (except for storage facilities provided by Commission for materials stockpiled prior to the commencement of the work). The Contractor shall be responsible for loading, unloading and storing of these materials in a manner to prevent damage and loss, and to allow ease for future handling and distribution. All damages or losses of Commission materials incurred after receipt of these materials by the Contractor shall be the Contractor's responsibility to replace. Pipe shall be handled with approved equipment in the manner to prevent damage to the pipe. Appropriate unloading and handling equipment of adequate capacity must be used to unload the truck. Pipe must not be rolled or pushed off the truck.

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Several storage or staging areas along the project may be appropriate. The site should provide protection against physical damage to the pipe. The site shall be large enough to accommodate the pipe, accessories and provides access to equipment to enter and exit the site.

Pipe store in coils shall be placed on wooden pallets that are evenly placed to support the pipe against deformation or damage to the pipe surface. The pipe coils shall be stored at a sufficient height to prevent ground water runoff from enter or touching the pipe. Special handling and laying equipment may be required for coiled pipe. During installation the coiled pipe may require field processing through re-rounding and straightening equipment.

Standard pipe in 40' or 50' sections may be stacked in rows on a platform of adequate strength to prevent pipe deflection. The platform requires blocking on each side to contain the pipe sections. Pipes shall be laid straight, not crossing over or entangled with each other. The platform shall be high enough to prevent any part of the pipe surface from touching the ground or allowing ground runoff water to enter the pipe. The pipe platforms shall be made of padded wood stringers that are properly spaced to evenly support the pipe joints against deformation or damage to the pipe surface. The Contractor shall stack the pipe in an acceptable number of tiers; however, the number of tiers shall be reduced if Commission's Authorized Representative determines that a safety risk exists or that damage to the surface of the pipe or pipe deformation has occurred.

Materials that can be easily lost, or damaged by exposure to rain, humidity or extreme temperatures should be stored in a building.

(5) Hauling and Stringing

The hauling of pipe and other materials shall be performed in compliance with the rules and regulations of the NCDOT, the Interstate Commerce Commission, and any other governmental agencies, which have jurisdiction. Contractor shall obtain from these agencies the necessary permits or licenses required for the hauling operations.

Padded bolsters and nylon straps shall be used by Contractor to protect the pipe from damage during the hauling operations. The pipe shall be adequately supported on the trailers, and the number of tiers shall be kept to an acceptable limit to prevent deformation of the pipe joints and/or damage to the pipe surface.

Careful loading and stringing shall be followed by the Contractor to avoid damage to the pipe. After unloading, the pipe shall be supported above ground, level, and in a manner that will prevent rain runoff water and sediment from entering the pipe.

When applicable, the A-frames of the sideboom tractors (if) used to unload the pipe along the right-of-way shall be sufficiently padded to protect the pipe from damage.

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The Contractor shall string pipe and materials on the right-of-way in a manner that will cause the least interference possible in the normal use of the land that is crossed. The Contractor will string pipe and materials such that property owners or tenants of property adjacent to the right-of-way shall at all times have at least one driveway clear for ingress and egress of vehicles.

(6) Laying

The pipe lay shall proceed along the route of the previously excavated ditch with the lineup and butt fusion of the pipe joints being performed alongside the ditch by the Contractor. The Contractor shall keep the ditching, laying and butt fusion operations within reasonable distance of each other consistent with good pipeline construction practices.

The open ends of the pipe sections that cannot be visually inspected shall be securely closed at the end of each workday to prevent the entrance of animals or foreign matter into the pipe. Canvas or watertight nightcaps shall be used and shall not be removed until the resumption of work.

(7) Inspection

A NCDOT and or GUC's representative will be allowed to inspect all materials for defects prior to installation. All butt fusion joints shall be visually inspected by a GUC representative.

The size and shape of the external fusion beads indicate if a proper joint has been made. The double bead width should be 2 to 2 ½ times the bead height from the pipe surface. The beads should be uniform in size and shape all around the joint and the depth of the v-groove between the beads must not be more than half the bead height. If the v-groove is too deep, a "cold" fusion may have occurred. Cold fusion results when most of the melt is pressed out of the joint.

(8) Lowering-In

Before the pipe is lowered, the Contractor will confirm the following:

- a) Large rocks or material that could damage the pipe have been removed.
- b) Any rock bed areas have been removed.
- c) The ditch bottom shall have an even and continuous grade, so that the pipe has a substantial and continuous bearing.
- d) Wherever possible when lowering pipe into the trench, vertical bends shall be lowered first and anchored with backfill material. Horizontal bends shall be placed to bear against the outside wall of the trench. All vertical bends shall fit the ditch, it being the intent to lower the pipe in such a manner that will cause the pipeline to be installed without tension.

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- e) During the lowering-in operations, the pipe shall be handled at all times with wide canvas or nylon slings to prevent damage pipe. Bare wire rope slings, chains, hooks or metal bars will not be permitted for handling the pipe sections.
- f) Lowering-in and backfilling operations shall not be permitted until the Contractor has notified Commission's authorized representative and obtained his approval to proceed. Should lowering-in or backfilling be performed without the approval or presence of Commission's authorized representative, Contractor may then be required to uncover that section of line for inspection at Contractor's expense.
- g) The distance between the lowering-in operation and the backfill operation shall not exceed one thousand feet, or as approved by the engineer.

(9) Backfilling

Backfilling shall follow the laying and lowering of the pipe as closely as possible and shall be done so that no excavated material remains undistributed on adjoining ground.

Sections of the ditch that have been "double-ditched" shall be backfilled with subsoil to within 12 inches of the ground level, or top of subsoil and compacted. Topsoil shall be placed in the ditch for the top 12 inches and the topsoil backfill shall be heaped over the center of the ditch to a height that will insure complete filling of the ditch after settlement. Backfill through cultivated field or fields suitable for cultivation shall be rounded off so as not to interfere with farming operations.

Where the right-of-way has been graded or leveled to facilitate the operation of ditching machines or other equipment, the backfill shall be completed so that the original contour of the ground will be restored unless otherwise directed by the Engineer.

Excavated rocks whose largest dimension is not larger than six (6) inches may be returned to the ditch, however, no rocks larger than 1 1/2 inches in diameter will be permitted to be placed directly on top of or around the pipe. Rocks returned to the pipe ditch shall be prevented from contacting the pipe by the use of rock shield or padding. Rocks that are six (6) inches or larger in diameter can be placed in cuts in the pipeline right-of-way providing the cuts are backfilled with soil and graded back to their original contours. Excavated rock not returned to the ditch shall in no case be left in cultivated fields or fields suitable for cultivation. When rock shield is not used, the pipe shall be protected by earth bedding and padding of not less than four (4) inches around the entire pipe circumference. No barrels, cans, drums, stumps, rubbish, waste or refuse shall be placed in the ditch.

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The backfilling shall be performed with care to prevent damage to the external coating of the pipe, fittings or other appurtenances. Hand backfilling shall be used where necessary.

Where additional backfill material is required, beyond that available from the ditch excavation, such material shall be paid for by NCDOT as "Borrow".

Any backfilling omitted because of installation of taps, tie-in connections, test stations, valves, concrete foundations, etc., shall be performed after such installations have been completed and approved.

Any drainage ditches that have been disturbed as a consequence of the installation of the pipeline shall be restored by the Contractor to their original elevation during the backfilling operation.

(10) Stream and Buffer Zone Crossings

Stream and buffer water line and gas line crossings shall be in accordance with Section 1550 of the Standard Specifications for Roads and Structures, 2024.

(11) Material Tracking and Traceability As-Built Documents

GUC and its staff will collect material as-built information for this project. The Contractor shall allow GUC access to the work during the installations and prior to backfill operations such that the necessary material data collection can be completed. No claims for time extensions or monetary considerations will be allowed for the work required by the material as-built data collection.

(A) Valves, Taps, and Connectors

All designated valves, taps other appurtenances shall be installed by the Contractor at the locations shown on the plans or as directed by Commission's authorized representative. Installation shall be in accordance with the detailed drawings and applicable sections of these Specifications.

Unless shown otherwise on the plans, or as directed by the Engineer, placement and tie-in of all valves, taps and other appurtenances shall be performed by the Contractor in conjunction with the laying of the pipeline, prior to the cleaning and testing of the completed pipeline sections.

In the event hot cuts are required to connect the newly installed pipeline to an existing pipeline which is in service, then Commission shall make arrangements to have this work performed by others under the direct supervision and scheduling of Commission's authorized representative only after the location of the work and schedule have been approved by the Engineer.

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Special care shall be taken by the Contractor while performing the necessary backfill operations at valve, tap, etc., installations to prevent movement of the pipeline adjacent to these installations which might result in added tensile and bending stresses to the pipe.

(B) Internal Pipe Cleaning

Pigging Line: After a section of pipeline is lowered and backfilled and prior to pressure testing, Contractor shall run a cleaning pig through the section to clean the line and check for obstructions.

Cutting out Pig: In the event the pig lodges in the line, Contractor shall cut the line, remove the obstruction, butt fuse the pipe joint and repeat the pigging operation until a successful run of the pig has been completed, at no additional cost to the Commission.

Commission's authorized representative must be present when Contractor inserts pig in the line, removes such pig from the opposite end of the pipe section or cuts out obstructions and repairs line, or the cleaning operations will not be accepted, and such cleaning operations not witnessed by Commission's authorized representative shall be repeated at no additional cost to NCDOT or the owner.

Contractor shall supply all pigs for cleaning the test sections.

The intent of these specifications is not to cover every aspect of the cleaning process, but is to provide specific requirements that are necessary for this particular job. Contractor shall be solely responsible for the cleaning operation and shall pursue the work in a diligent manner so as to complete the work in the least possible amount of time.

(C) Testing

Upon completion of the line or a substantial part thereof, sections of the line shall be cleaned and tested in accordance with the procedure specified herein. Contractor shall give three (3) days' notice prior to testing any section of the pipeline in order that proper notification can be made by Commission to other parties.

The Commission shall specify the test procedure and the test pressures, including test pressures for special construction, valve assemblies and other installations as designated in the Special Provisions, in the plans, or by Commission's authorized representative.

(1) Test Equipment, Materials and Labor Furnished by Contractor:

Contractor shall provide air compressor(s) capable of increasing line pressure to the specified test pressure.

Contractor shall furnish test fittings, manifold piping, valves, high pressure hose,

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temperature and pressure recorders, gauges, squeegees, brush pigs, swabs, sizing plates, charts and all other test apparatus including calibration reports for instruments as may be required by Commission's authorized representative.

Fittings, pipe, valves, etc. shall be of proper rating for the test pressure specified.

(2) Determining Test Pressures and Test Sections:

Contractor shall notify Commission's authorized representative three (3) days in advance concerning plans for testing any section of the pipeline. Contractor shall furnish all materials (except materials furnished by Commission) and fabricate and install manifolds required for testing in accordance with the applicable drawings or to the satisfaction of Commission's authorized representative.

The test pressure for the 6" MDPE Gas Pipe, SDR 11.5, 60# WP shall be 90 psig.

(3) Pretest Procedures:

The Contractor shall install manifolds at agreed points. The installation of the manifolds shall be in strict accordance with MDPE pipe manufacturer standards.

The test section shall be backfilled throughout its entire length, except at valve settings and necessary tie-in locations approved by Commission's authorized representative.

All main line valve assemblies shall be installed in the line prior to main line testing.

The Contractor shall install all test instrument lines. All lines shall be either high pressure tubing or hose.

(4) Pressuring Procedures:

The Contractor shall pressure the pipeline test section as described below:

(a) Pressuring Operations

The Contractor shall increase the pressure to the specified test pressure in small increments. The pressure sensing point shall be at each end point in the test section.

When testing at pressures above the system design pressure, the maximum test duration shall be eight hours. If the test is not completed due to leakage, equipment failure, or any other reason, depressurize the test section completely, and allow it to relax for at least eight (8) hours before pressurizing the test section again. All thermoplastic pipes have reduced strength at elevated temperatures. Test pressure must be reduced

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when the test section is at elevated temperature either from service conditions or from environmental conditions. The maximum test pressure is measured at the lowest elevation in the test section. See pipe manufacturer specifications for elevated temperature test pressure adjustments. The pneumatic test should be gradually increased to not more than one-half of the test pressure and then increase in small increments until the test pressure is reached. The contractor shall stop the compressor when pressure in the pipe test section reaches the test pressure. A pressure chart or recorder, which produces permanent pressure record, will be attached to the pipeline in order to monitor the pressure of the test section. The recording device shall be of a type that continuously records the pressure for a period of see Table 1 and shall be approved by the Commission's Authorized Representative. The test shall be considered successful if the specified test pressure is maintained for the specified test duration, with allowances for changes in temperature. However, the success of the test shall be determined by Commission's authorized representative.

Table 1. Test Durations Gas Pipe

Length of pipe	Test Duration
0-250 feet	15 min
251-500 feet	30 min
501-1000 feet	1 hour
Over 1000 ft	8 hours (with a recording gauge)

(b) Procedure for Locating and Repairing Leaks or Failures during Pneumatic Testing

(i) Should the procedure outlined in Paragraph (1) above indicate that a leak exists, the Contractor shall then check all possible sources of leaks by inspecting all valves, instrument lines, exposed piping and test equipment. Should no leaks be found, an underground leak is then evident.

(ii) At this point, the Contractor shall furnish labor and equipment to locate the leak or failure. The Contractor shall repair all leaks and failures. After repairs are made and the pipe is depressurized for 8 hours, the Contractor shall restore the pressure to the specified test section.

(iii) Should a leak be due to faulty workmanship by the Contractor, or due to failure or negligence on the part of the Contractor, then the Contractor shall be responsible for locating and repairing the leak.

(iv) Should a leak be due to faulty or defective material furnished to the Contractor by the Commission, then the Commission shall reimburse the Contractor for all costs incurred for locating and repairing the leak, and for

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the cost to bring the testing operation back to the point attained at the time the leak was detected.

(v) Upon detecting that a leak exists in any test section, the Contractor shall then proceed to locate the leak using the initial list of equipment and personnel approved by the Commission prior to commencing the testing program. Commission's authorized representative shall be furnished the following information prior to proceeding to locate and repair the leak:

- 1) The list of approved equipment to be used in locating the leak.
- 2) A list of approved personnel, including names and classifications, to be utilized in locating the leak.
- 3) Proper records shall be kept in accordance with the requirements of the Standard Specifications.
- 4) Procedure after the repair of the leak or failure and the pipe has been depressurized for 8 hours, the Contractor shall repeat the pressure testing procedure as outlined previously and then proceed as follows:

- The Contractor shall then pressurize the pipeline section to the specified test pressure. Contractor shall terminate the pressure operations when the specified test pressure is reached.
- The Contractor shall hold the test pressure for a continuous period of see table 1 and providing a continuous test recording for the duration of the test. If depressurization occurs during the test, then the pressure shall be allowed to stabilize. At such time as the test pressure stabilizes for a period of one (1) hour, the Contractor shall then pressurize the test section back to the test pressure in accordance with the test procedure. The test period shall begin again after any re-pressure. No re-pressuring shall be performed during the test period. Immediately following completion of the pressure test, all data shall be analyzed by Commission's authorized representative to determine the acceptability of the test.

(c) Change in Pressure:

In the event a continuous decrease in pressure is observed, the Contractor shall re-pressure the section to the specified test pressure after an elapsed time of two (2) hours. If a continuation of pressure decay is observed within the next two (2) hour period, a leak is evident. Therefore, the Contractor shall discontinue the testing until the leak has been located and subsequent repair (or repairs) made. If the pressure stabilizes within these four (4) hours, the Contractor shall re-pressure to the specified test pressure and proceed with the test program. Contractor shall not permit the pressure during the test to increase in excess of 50 psig above the test pressure.

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(5) Records:

The Contractor shall keep an accurate report of all data obtained. The Contractor shall complete the approved test form for each section. All records shall reflect, but not be limited to the following:

- Tests shall be numbered by test sections, i.e., Test #1, #2, #3, etc.
- Commission's name.
- Date and time the test starts.
- Date and time the test ends.
- Test pressure.
- Test medium.
- Certification by the Contractor.
- Certification by Commission.
- Explanation of any discontinuity in pressure on any chart.
- Continuous pressure recording charts for each test section.

Should a leak occur in any test section, in addition to the above information, the following will also be furnished:

- Location of the leak by engineering station.
- Pressure at time leak was detected (furnish chart).
- Date and time leak was detected.
- Date and time leak was found.
- Date and time leak was repaired.
- Cause of leak (split seam, crack or other, etc.).

Note: After each leak, the entire test procedure is to be repeated, starting with a new chart.

All records shall be provided to the Engineer who will in turn provide copies to the Commission.

(D) Purging and Introducing Natural Gas

Purging air from the pipeline prior to introducing natural gas shall be accomplished by using a slug of nitrogen gas to keep air and natural gas from mixing. Contractor is to supply all materials and equipment necessary to perform the purging operation. The specific procedures to be followed shall be supplied by the Commission prior to the activity. In general, however, the purging and gas up process will take place as follows:

- (a) Notification shall be given to proper authorities at least three days in advance of the procedure taking place.
- (b) Contractor will attach purging and venting connections on opposite ends of the completed pipeline.

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(c) The Contractor will introduce the specified amount of nitrogen into the pipeline.

(d) Immediately following the nitrogen introduction, natural gas will be introduced, at the same location, in such a manner as to push the nitrogen slug towards the end of the pipeline that has the vent installed.

(e) Contractor will employ a combustible gas indicator to sample the gas venting from the vent stack. When it is determined that 100% natural gas is venting the pipeline, the venting operation will cease.

The pipeline will be pressured with natural gas, and Contractor will cap the purging connections.

Page 15-10, Article 1500-10 MEASUREMENT AND PAYMENT, line 3, add the following sub-sections:

Measurement and Payment:

Gas line for installation on this project shall be supplied and installed in accordance with these provisions or as directed by the Engineer. Gas line shall be measured and paid for by the linear foot at “_____” Gas Line” and shall include all incidental items, including but not limited to end caps, ells, tees, tapping tees, couplings, reducers, etc. necessary for a complete installation in accordance with these provisions and the utility construction plans.

Gas valves shall be provided and installed in accordance with these provisions and the project plans or as directed by the Engineer. Gas valves shall be measured and paid for per each for “___” Gas Valve” and shall include all incidental items necessary for a complete installation in accordance with these provisions and the utility construction plans.

Gas casing vents shall be provided and installed in accordance with these provisions and the project plans or as directed by the Engineer. Gas casing vents shall be measured and paid for per each for “Gas Casing Vent” and shall include all incidental items necessary for a complete installation in accordance with these provisions and the utility construction plans.

GUC is to supply gas pipe, valves, ells, tees, end caps, vents, couplings, tapping tees, reducers, and other miscellaneous items to the Contractor. Refer to sheet UC-3A for the full list of GUC provided materials. The Contractor is responsible for installation and testing of gas main and all necessary appurtenances. The Contractor shall be compensated for the installation of gas main, and all work associated with gas main installation shall be paid under “_ “Gas Line” pay item. The Contractor shall be compensated for the installation of valves, taps, couplings, reducers, etc. The compensation shall include all costs associated with hauling, transporting, loading, unloading, and storing GUC provided materials and the work required to fabricate, pre-test and install these appurtenances where shown on the plans and shall be incidental to the unit price to install the gas main.

Payment will be made under:

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Pay Item

_” Gas Line
 _” Gas Valve

Pay Unit

Liner Foot
 Each

GAS CASING VENT**Materials:**

Refer to Materials section of GAS LINES for vent material information.

Construction Methods:

Sealed casings shall have at least one two (2) inch vent welded on the casing before the carrier pipe is inserted. The vent(s) shall be coated with an approved coating below ground and painted above ground and provided with a gas warning sign near the vent opening. The vents shall be located to protect against accidental vehicular damage and other similar causes. The vent opening shall have a screened opening turned downward.

Measurement and Payment:

The quantity of gas casing vents will be measured and paid for at the contract unit price per each for *Gas Casing Vent*. All labor, excavation, removal, stockpiling, and incidentals necessary to complete the work as required are incidental to *Gas Casing Vent*.

Pay Item:

Gas Casing Vent

Pay Unit

Each

GAS SERVICE LINE**Materials:**

Refer to Materials section of GAS LINES for gas service line material information.

Construction Methods:

Refer to Construction Methods of GAS LINES for gas service line installation and testing information.

Measurement and Payment:

Gas service line for installation on this project shall be supplied and installed in accordance with these provisions or as directed by the Engineer. Gas line shall be measured and paid for by the linear foot at “_____” Gas Service Line” and shall include all incidental items necessary for a complete installation in accordance with these provisions and the utility construction plans.

Pay Item:

_” Gas Service Line

Pay Unit

Linear Foot

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RECONNECT GAS SERVICE**Materials:**

Refer to Materials section of GAS LINES for gas service line material information.

Construction Methods:

Refer to Construction Methods of GAS LINES for gas service line installation and testing information.

Measurement and Payment:

The quantity of gas services to be reconnected will be measured and paid for at the contract unit price per each for *Reconnect Gas Service*. All labor, excavation, removal, stockpiling, and incidentals necessary to complete the work as required are incidental to *Reconnect Gas Service*.

Pay Item:

Reconnect Gas Service

Pay Unit

Each

ABANDON GAS PIPE**Materials:****Item**

Inert Gas

Section

49 CFR §192.727

Inert Gas may be required for purging, depending on pipe contents and location. Refer to 49 CFR §192.727 for federal safety standards.

Construction Methods:

Contractor is responsible for completely purging the gas line to be abandoned. All gas from pipelines is to be removed using inert gas (e.g. nitrogen) to prevent combustion. Contractor is then to purge the line with a slug of air. Contractor is to record a reading of the purged line and ensure no combustible mixture is present, provide reading results to NCDOT and GUC in writing, and then cap both ends of the pipe to be abandoned. Gas main is to be capped with a PE Fused Cap. Where the gas line to be abandoned is in conflict with proposed utilities, structures, or roadway, the Contractor is to remove the gas pipe in conflict and dispose of it.

Measurement and Payment:

The quantity of gas utility pipe to be abandoned will be paid for lump sum as *Abandon Gas Pipe*. All labor, excavation, removal, stockpiling, purge, clean, certify purge and provide certification prior to removal and incidentals necessary to complete the work as required are incidental to *Abandon Gas Pipe*.

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Pay Item:

Abandon Gas Pipe

Pay Unit

Lump Sum

1500-11 OPERATION OF EXISTING FACILITIES

The Contractor performing gas work shall contact NCDOT representative whenever operation of the GUC's valves is necessary to request scheduling of such operation. GUC shall require the Contractor to estimate the length of time service will be interrupted and the number of customers to be affected.

Facilities and equipment belonging to GUC may not be operated or adjusted without the express permission of the Commission's Representative. In the case of any emergency, the Contractor shall be allowed to take such steps as necessary for the protection of life and property.

Gas valves which control networks not yet accepted but which are connected to the existing system shall be considered system valves. Valves within a network not yet accepted and which do not control flow between new and existing systems are not considered system valves and do not require permission to operate.

Notification to NCDOT and GUC must be made by the Contractor upon breakage of any GUC maintained gas line or appurtenance thereof. Repair of the GUC's facilities shall be made by the Contractor upon approval of the Department Engineer. Any repairs made with GUC forces will be billed to the Contractor at cost.

Where interruption of gas service is required, GUC shall be notified in writing at least 5 business days prior to such interruption to request approval and subsequent scheduling of such interruption. GUC shall notify the affected customers should the interruption be approved. A minimum (forty-eight) 48-hour notice shall be given the affected customers.

1500-12 PROJECT CLOSE-OUT**(A) Pre-Final Inspection**

Upon completion of gas line construction, the Contractor or Developer shall contact NCDOT's Representative to schedule a pre-final inspection. At the scheduled pre-final inspection, the GUC's Representative shall perform a visual inspection of the work in the presence of the Contractor. Any deficiencies discovered shall be recorded by the GUC's Representative and the Contractor. Any defective items noted shall be corrected prior to the final inspection.

(B) Final Inspection

Upon completion of the items on the pre-final punch list, the Contractor shall contact NCDOT to schedule the final inspection. The final inspection will not be scheduled until the following requirements are met:

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1. The work completed in accordance with the requirements of GUC.
2. A copy of the final estimate has been submitted and approved by NCDOT

At the scheduled final inspection, the GUC's Representative shall perform a visual inspection in the presence of representatives of the Contractor and NCDOT. The Engineer or his representative shall prepare a detailed punch list of any deficiencies discovered and provide copies to the Contractor and the Utility Owner. Any defective items noted shall be corrected prior to acceptance. No service shall be provided prior to project acceptance.

UTILITY POLE STABILIZATION

Description:

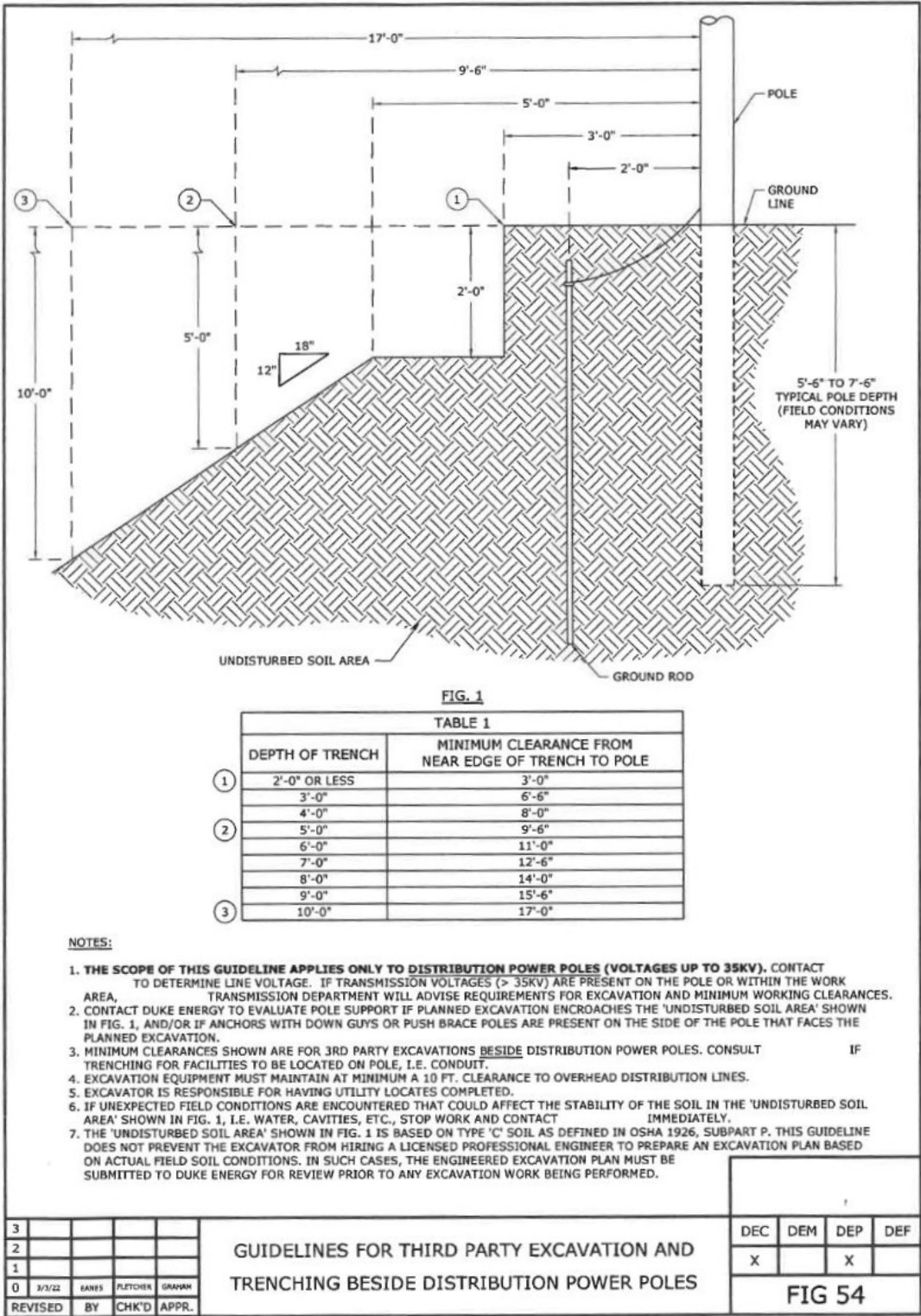
The contractor is responsible for implementing appropriate safety measures to prevent pole movement or collapse during construction activities. The contractor shall conduct site assessments to determine necessary stabilization methods based on Figure 54 "Guidelines for Third Party Excavation and Trenching Beside Distribution Power Poles" shown below. For evaluation of necessary pole support if planned excavation encroaches the undisturbed soil area, and/or if anchors with down guys or push brace poles are present on the side of the pole that faces the planned excavation the contractor shall contact Greenville Utilities' Electric Department. The Department's contact person is Kyle Brown, Electric Planning Engineer, he can be reached by phone 252-551-1484 or e-mail brownk@gu.com.

The requirement to utilize a digger-derrick truck with adequate lateral stabilization (outriggers) and attachment ability to support the pole to prevent horizontal and vertical deflection. Contractor will be required to submit equipment and attachment placement/procedures for approval by the utility owner prior to commencing this operation.

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Measurement and Payment:

The quantity of utility pole stabilization will be measured and paid for at the contract per Each price for *Utility Pole Stabilization*. All labor, excavation, removal, stockpiling, and incidentals necessary to complete the work as required are incidental to *Utility Pole Stabilization*. The unit for each will be measured per pole location, regardless of the duration or the amount of equipment necessary to stabilize.

Pay Item:

Utility Pole Stabilization

Pay Unit

Each

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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	1 ACR		
0005	0015000000-N	205	SEALING ABANDONED WELLS	2 EA		
0006	0022000000-E	225	UNCLASSIFIED EXCAVATION	38,000 CY		
0007	0036000000-E	225	UNDERCUT EXCAVATION	1,500 CY		
0008	0106000000-E	230	BORROW EXCAVATION	48,000 CY		
0009	0134000000-E	240	DRAINAGE DITCH EXCAVATION	216 CY		
0010	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	12,100 SY		
0011	0195000000-E	265	SELECT GRANULAR MATERIAL	1,500 CY		
0012	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	3,700 SY		
0013	0199000000-E	SP	TEMPORARY SHORING	4,700 SF		
0014	0223000000-E	275	ROCK PLATING	45 SY		
0015	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	2,660 TON		
0016	0321000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	8,360 SY		
0017	0335100000-E	305	12" DRAINAGE PIPE	124 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0018	0335200000-E	305	15" DRAINAGE PIPE	892 LF		
0019	0335300000-E	305	18" DRAINAGE PIPE	620 LF		
0020	0335400000-E	305	24" DRAINAGE PIPE	532 LF		
0021	0335500000-E	305	30" DRAINAGE PIPE	176 LF		
0022	0335600000-E	305	36" DRAINAGE PIPE	56 LF		
0023	0335700000-E	305	42" DRAINAGE PIPE	20 LF		
0024	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	2,024 LF		
0025	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	576 LF		
0026	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	1,476 LF		
0027	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	96 LF		
0028	0390000000-E	310	36" RC PIPE CULVERTS, CLASS III	104 LF		
0029	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (60")	92 LF		
0030	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	6,996 LF		
0031	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	5,198 LF		
0032	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	1,488 LF		
0033	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	496 LF		
0034	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	168 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0035	0448700000-E	310	42" RC PIPE CULVERTS, CLASS IV	180 LF		
0036	0449000000-E	310	*** RC PIPE CULVERTS, CLASS V (15")	2,104 LF		
0037	0449000000-E	310	*** RC PIPE CULVERTS, CLASS V (18")	860 LF		
0038	0449000000-E	310	*** RC PIPE CULVERTS, CLASS V (24")	380 LF		
0039	0449000000-E	310	*** RC PIPE CULVERTS, CLASS V (36")	160 LF		
0040	0449000000-E	310	*** RC PIPE CULVERTS, CLASS V (42")	180 LF		
0041	0570000000-E	310	6" CS PIPE CULVERTS, 0.064" THICK (SPRING BOX)	80 LF		
0042	0995000000-E	340	PIPE REMOVAL	6,316 LF		
0043	1011000000-N	500	FINE GRADING	Lump Sum	L.S.	
0044	1077000000-E	SP	#57 STONE	91 TON		
0045	1099500000-E	505	SHALLOW UNDERCUT	14,050 CY		
0046	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	39,750 TON		
0047	1111000000-E	SP	CLASS IV AGGREGATE STABILIZATION	500 TON		
0048	1112000000-E	505	GEOTEXTILE FOR SUBGRADE STABILIZATION	61,170 SY		
0049	1121000000-E	520	AGGREGATE BASE COURSE	100 TON		
0050	1220000000-E	545	INCIDENTAL STONE BASE	500 TON		
0051	1297000000-E	607	MILLING ASPHALT PAVEMENT, **** DEPTH (1-1/2")	700 SY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0052	1330000000-E	607	INCIDENTAL MILLING	6,100 SY		
0053	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	26,900 TON		
0054	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	24,800 TON		
0055	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	520 TON		
0056	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	24,300 TON		
0057	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	3,870 TON		
0058	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	1,200 TON		
0059	2021000000-N	SP	GENERIC GRADING ITEM RESET RIGHT OF WAY MARKERS	10 EA		
0060	2022000000-E	815	SUBDRAIN EXCAVATION	1,736 CY		
0061	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	7,750 SY		
0062	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	1,302 CY		
0063	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	7,750 LF		
0064	2070000000-N	815	SUBDRAIN PIPE OUTLET	16 EA		
0065	2077000000-E	815	6" OUTLET PIPE	96 LF		
0066	2209000000-E	838	ENDWALLS	5 CY		
0067	2220000000-E	838	REINFORCED ENDWALLS	5.6 CY		
0068	2253000000-E	840	PIPE COLLARS	4.15 CY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0069	2275000000-E	SP	FLOWABLE FILL	11 CY		
0070	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	348 EA		
0071	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	18.49 CY		
0072	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	77 LF		
0073	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	78 EA		
0074	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	29 EA		
0075	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	9 EA		
0076	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	43 EA		
0077	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	104 EA		
0078	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	87 EA		
0079	2396000000-N	840	FRAME WITH COVER, STD 840.54	6 EA		
0080	2440000000-N	852	CONCRETE TRANSITIONAL SECTION FOR CATCH BASIN	4 EA		
0081	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	75 EA		
0082	2535000000-E	846	*** X *** CONCRETE CURB (8" X 18")	60 LF		
0083	2538000000-E	846	***-*** CONCRETE CURB & GUTTER (2'-9")	2,600 LF		
0084	2542000000-E	846	1'-6" CONCRETE CURB & GUTTER	8,700 LF		
0085	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	29,800 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0086	2570000000-N	SP	MODIFIED CONCRETE FLUME	1 EA		
0087	2591000000-E	848	4" CONCRETE SIDEWALK	14,300 SY		
0088	2605000000-N	848	CONCRETE CURB RAMPS	52 EA		
0089	2612000000-E	848	6" CONCRETE DRIVEWAY	1,500 SY		
0090	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	8,000 SY		
0091	2752000000-E	SP	GENERIC PAVING ITEM BLOCK WALL RECONSTRUCTION	30 LF		
0092	2830000000-N	858	ADJUSTMENT OF MANHOLES	1 EA		
0093	2845000000-N	858	ADJUSTMENT OF METER BOXES OR VALVE BOXES	69 EA		
0094	2905000000-N	859	CONVERT EXISTING DROP INLET TO JUNCTION BOX	1 EA		
0095	3030000000-E	862	STEEL BEAM GUARDRAIL	850 LF		
0096	3140000000-E	862	25' CLEAR SPAN GUARDRAIL SECTIONS	1 EA		
0097	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	10 EA		
0098	3210000000-N	862	GUARDRAIL END UNITS, TYPE CAT-1	6 EA		
0099	3287000000-N	862	GUARDRAIL END UNITS, TYPE TL-3	6 EA		
0100	3360000000-E	863	REMOVE EXISTING GUARDRAIL	50 LF		
0101	3575000000-E	SP	GENERIC FENCING ITEM PEDESTRIAN SAFETY RAIL	520 LF		
0102	3628000000-E	876	RIP RAP, CLASS I	222 TON		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0103	3649000000-E	876	RIP RAP, CLASS B	339 TON		
0104	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	3,758 SY		
0105	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	2,700 LF		
0106	4096000000-N	904	SIGN ERECTION, TYPE D	7 EA		
0107	4102000000-N	904	SIGN ERECTION, TYPE E	156 EA		
0108	4108000000-N	904	SIGN ERECTION, TYPE F	10 EA		
0109	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	67 EA		
0110	4237000000-N	907	STOCKPILE SIGN, D, E OR F	1 EA		
0111	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	1,035 SF		
0112	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	400 SF		
0113	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	292 SF		
0114	4415000000-N	1115	FLASHING ARROW BOARD	6 EA		
0115	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	2 EA		
0116	4430000000-N	1130	DRUMS	900 EA		
0117	4434000000-N	1140	SEQUENTIAL FLASHING WARNING LIGHTS	20 EA		
0118	4435000000-N	1135	CONES	50 EA		
0119	4445000000-E	1145	BARRICADES (TYPE III)	240 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0120	4447000000-E	SP	PEDESTRIAN CHANNELIZING DEVICES	150 LF		
0121	4455000000-N	1150	FLAGGER	240 DAY		
0122	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	6 EA		
0123	4470000000-N	1160	REMOVE & RESET TEMPORARY CRASH CUSHION	6 EA		
0124	4480000000-N	1165	TMA	4 EA		
0125	4485000000-E	1170	PORTABLE CONCRETE BARRIER	900 LF		
0126	4490000000-E	1170	PORTABLE CONCRETE BARRIER (ANCHORED)	650 LF		
0127	4507000000-E	1170	WATER FILLED BARRIER	250 LF		
0128	4510000000-N	1190	LAW ENFORCEMENT	48 HR		
0129	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	330 EA		
0130	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	57,859 LF		
0131	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	9,909 LF		
0132	4704000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (16", 90 MILS)	210 LF		
0133	4709000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	1,200 LF		
0134	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	56 EA		
0135	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	225 EA		
0136	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	21,610 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0137	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	455 LF		
0138	4825000000-E	1205	PAINT PAVEMENT MARKING LINES (12")	75 LF		
0139	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	50 LF		
0140	4840000000-N	1205	PAINT PAVEMENT MARKING CHARACTER	20 EA		
0141	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	20 EA		
0142	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	3,600 LF		
0143	4860000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (8")	300 LF		
0144	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM YIELD LINE THERMOPLASTIC PAVEMENT MARKING (24", 90 MILS)	35 LF		
0145	4895000000-N	SP	GENERIC PAVEMENT MARKING ITEM INLAID CRADLE MARKERS	1,173 EA		
0146	5325600000-E	1510	6" WATER LINE	274 LF		
0147	5325800000-E	1510	8" WATER LINE	2,192 LF		
0148	5326000000-E	1510	10" WATER LINE	13 LF		
0149	5326200000-E	1510	12" WATER LINE	89 LF		
0150	5327400000-E	1510	24" WATER LINE	11,666 LF		
0151	5328000000-E	1510	30" WATER LINE	763 LF		
0152	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	88,230 LB		
0153	5536000000-E	1515	2" VALVE	3 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0154	5540000000-E	1515	6" VALVE	33 EA		
0155	5546000000-E	1515	8" VALVE	16 EA		
0156	5552000000-E	1515	10" VALVE	1 EA		
0157	5558000000-E	1515	12" VALVE	2 EA		
0158	5559400000-E	1515	24" VALVE	14 EA		
0159	5571600000-E	1515	6" TAPPING SLEEVE & VALVE	1 EA		
0160	5573000000-E	1515	20" TAPPING SLEEVE & VALVE	1 EA		
0161	5573400000-E	1515	24" TAPPING SLEEVE & VALVE	2 EA		
0162	5588000000-E	1515	*** AIR RELEASE VALVE (24")	7 EA		
0163	5648000000-N	1515	RELOCATE WATER METER	20 EA		
0164	5649000000-N	1515	RECONNECT WATER METER	19 EA		
0165	5666000000-N	1515	FIRE HYDRANT	31 EA		
0166	5673000000-E	1515	FIRE HYDRANT LEG	152 LF		
0167	5686000000-E	1515	*** WATER SERVICE LINE (2")	384 LF		
0168	5686500000-E	1515	WATER SERVICE LINE	2,820 LF		
0169	5691000000-E	1520	*** SANITARY GRAVITY SEWER (14")	177 LF		
0170	5691500000-E	1520	12" SANITARY GRAVITY SEWER	162 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0171	5775000000-E	1525	4' DIA UTILITY MANHOLE	4 EA		
0172	5781000000-E	1525	UTILITY MANHOLE WALL 4' DIA	26 LF		
0173	5800000000-E	1530	ABANDON 6" UTILITY PIPE	715 LF		
0174	5801000000-E	1530	ABANDON 8" UTILITY PIPE	1,813 LF		
0175	5804000000-E	1530	ABANDON 12" UTILITY PIPE	492 LF		
0176	5813000000-E	1530	ABANDON 24" UTILITY PIPE	12,228 LF		
0177	5815500000-N	1530	REMOVE FIRE HYDRANT	5 EA		
0178	5816000000-N	1530	ABANDON UTILITY MANHOLE	1 EA		
0179	5828000000-N	1530	REMOVE UTILITY MANHOLE	3 EA		
0180	5835000000-E	1540	*** ENCASEMENT PIPE (48")	686 LF		
0181	5835600000-E	1540	12" ENCASEMENT PIPE	303 LF		
0182	5835700000-E	1540	16" ENCASEMENT PIPE	961 LF		
0183	5836200000-E	1540	30" ENCASEMENT PIPE	203 LF		
0184	5872500000-E	1550	BORE AND JACK OF *** (12")	303 LF		
0185	5872500000-E	1550	BORE AND JACK OF *** (16")	595 LF		
0186	5872500000-E	1550	BORE AND JACK OF *** (30")	203 LF		
0187	5872500000-E	1550	BORE AND JACK OF *** (48")	531 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0188	5872600000-E	1550	DIRECTIONAL DRILLING OF *** (30")	763 LF		
0189	5872600000-E	1550	DIRECTIONAL DRILLING OF *** (4")	214 LF		
0190	5872600000-E	1550	DIRECTIONAL DRILLING OF *** (6")	632 LF		
0191	5879200000-E	SP	2" GAS LINE	746 LF		
0192	5879400000-E	SP	4" GAS LINE	1,662 LF		
0193	5879600000-E	SP	6" GAS LINE	12,994 LF		
0194	5879800000-E	SP	8" GAS LINE	218 LF		
0195	5880200000-E	SP	2" GAS VALVE	8 EA		
0196	5880400000-E	SP	4" GAS VALVE	2 EA		
0197	5880600000-E	SP	6" GAS VALVE	9 EA		
0198	5882000000-N	SP	GENERIC UTILITY ITEM GAS CASING VENT	2 EA		
0199	5882000000-N	SP	GENERIC UTILITY ITEM RECONNECT GAS SERVICE	10 EA		
0200	5888000000-E	SP	GENERIC UTILITY ITEM 2" GAS SERVICE LINE	140 LF		
0201	5888000000-E	SP	GENERIC UTILITY ITEM 3/4" GAS SERVICE LINE	896 LF		
0202	5894000000-E	SP	GENERIC UTILITY ITEM ANTI-SEEP PIPE COLLAR	1 CY		
0203	5912000000-N	SP	GENERIC UTILITY ITEM ABANDON GAS PIPE	Lump Sum	L.S.	
0205	6000000000-E	1605	TEMPORARY SILT FENCE	91,660 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0206	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	1,680 TON		
0207	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	4,110 TON		
0208	6012000000-E	1610	SEDIMENT CONTROL STONE	5,590 TON		
0209	6015000000-E	1615	TEMPORARY MULCHING	145 ACR		
0210	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	7,000 LB		
0211	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	35.5 TON		
0212	6024000000-E	1622	TEMPORARY SLOPE DRAINS	465 LF		
0213	6029000000-E	SP	SAFETY FENCE	380 LF		
0214	6030000000-E	1630	SILT EXCAVATION	31,960 CY		
0215	6036000000-E	1631	MATting FOR EROSION CONTROL	22,770 SY		
0216	6037000000-E	1629	COIR FIBER MAT	415 SY		
0217	6042000000-E	1632	1/4" HARDWARE CLOTH	14,700 LF		
0218	6043000000-E	1644	LOW PERMEABILITY GEOTEXTILE	900 SY		
0219	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	100 SY		
0220	6070000000-N	1639	SPECIAL STILLING BASINS	12 EA		
0221	6071002000-E	1642	FLOCCULANT	2,000 LB		
0222	6071012000-E	1642	COIR FIBER WATTLE	3,180 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0223	6071014000-E	1642	COIR FIBER WATTLE BARRIER	3,630 LF		
0224	6071030000-E	1640	COIR FIBER BAFFLE	295 LF		
0225	6071050000-E	1644	*** SKIMMER (1-1/2")	4 EA		
0226	6071050000-E	1644	*** SKIMMER (2")	8 EA		
0227	6071050000-E	1644	*** SKIMMER (2-1/2")	10 EA		
0228	6071050000-E	1644	*** SKIMMER (3")	2 EA		
0229	6084000000-E	1660	SEEDING & MULCHING	102 ACR		
0230	6087000000-E	1660	MOWING	93 ACR		
0231	6090000000-E	1661	SEED FOR REPAIR SEEDING	1,500 LB		
0232	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	4 TON		
0233	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	2,450 LB		
0234	6102000000-E	1664	SODDING	8,569 SY		
0235	6105000000-E	1664	WATER	432 M/G		
0236	6108000000-E	1665	FERTILIZER TOPDRESSING	73.25 TON		
0237	6111000000-E	SP	IMPERVIOUS DIKE	1,056 LF		
0238	6114500000-N	1667	SPECIALIZED HAND MOWING	10 MHR		
0239	6117000000-N	1675	RESPONSE FOR EROSION CONTROL	100 EA		

County: PITT

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0240	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	3 EA		
0241	6120000000-E	SP	CULVERT DIVERSION CHANNEL	1,786 CY		
0242	6123000000-E	1670	REFORESTATION	1 ACR		
0243	6132000000-N	SP	GENERIC EROSION CONTROL ITEM PREFABRICATED CONCRETE WASHOUT	18 EA		
0244	6255000000-N	1670	CHIONANTHUS VIRGINICUS, FRINGE TREE, (B&B,1-1/2" CAL)	65 EA		
0245	6390000000-N	1670	ILEX VOMITORIA, YAUPON HOLLY, (B&B,1-1/2" CAL)	83 EA		
0246	6455000000-N	1670	LIRIOPE MUSCARI, BIG BLUE LIRIOPE, (1 GAL)	52 EA		
0247	6640000000-N	1670	GENERIC PLANTING ITEM MUHLENBERGIA CAPILLARIUS 'GULF COAST', GULF COAST PINK MUHLY GRASS	649 EA		
0248	6640000000-N	1670	GENERIC PLANTING ITEM SCHIZACHYRIUM SCOPARIUM, THE LITTLE BLUESTEM	414 EA		
0249	6650000000-E	1670	MULCH FOR PLANTING	447 CY		
0250	6900000000-E	SP	TOPSOIL	1,329 CY		
0251	7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	20 EA		
0252	7060000000-E	1705	SIGNAL CABLE	14,464 LF		
0253	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	64 EA		
0254	7132000000-E	1705	VEHICLE SIGNAL HEAD (12", 4 SECTION)	19 EA		
0255	7240000000-E	1710	MESSENGER CABLE (*****) (1/4")	27,540 LF		

County: PITT

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0256	7264000000-E	1710	MESSENGER CABLE (3/8")	2,999 LF		
0257	7279000000-E	1715	TRACER WIRE	2,530 LF		
0258	7288000000-E	1715	PAVED TRENCHING (*****) (1, 2")	100 LF		
0259	7300000000-E	1715	UNPAVED TRENCHING (*****) (1, 2")	1,292 LF		
0260	7300000000-E	1715	UNPAVED TRENCHING (*****) (2, 2")	607 LF		
0261	7300000000-E	1715	UNPAVED TRENCHING (*****) (4, 2")	32 LF		
0262	7301000000-E	1715	DIRECTIONAL DRILL (*****) (2, 2")	838 LF		
0263	7312000000-N	1716	JUNCTION BOX (***** (SPECIAL SIZED)	2 EA		
0264	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	18 EA		
0265	7348000000-N	1716	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	19 EA		
0266	7360000000-N	1720	WOOD POLE	9 EA		
0267	7372000000-N	1721	GUY ASSEMBLY	58 EA		
0268	7408000000-E	1722	1" RISER WITH WEATHERHEAD	2 EA		
0269	7420000000-E	1722	2" RISER WITH WEATHERHEAD	6 EA		
0270	7432000000-E	1722	2" RISER WITH HEAT SHRINK TUBING	9 EA		
0271	7456100000-E	1726	LEAD-IN CABLE (14-2)	4,590 LF		
0272	7516000000-E	1730	COMMUNICATIONS CABLE (** FIBER) (48)	30,030 LF		

County: PITT

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0273	7528000000-E	1730	DROP CABLE	4,310 LF		
0274	7540000000-N	1731	SPLICE ENCLOSURE	8 EA		
0275	7541000000-N	1731	MODIFY SPLICE ENCLOSURE	1 EA		
0276	7552000000-N	1731	INTERCONNECT CENTER	9 EA		
0277	7564000000-N	1732	FIBER-OPTIC TRANSCEIVER, DROP & REPEAT	5 EA		
0278	7566000000-N	1733	DELINEATOR MARKER	18 EA		
0279	7575160000-E	1734	REMOVE EXISTING COMMUNICATIONS CABLE	1,680 LF		
0280	7575170000-E	1738	BACK PULL FIBER OPTIC CABLE	1,370 LF		
0281	7576000000-N	SP	METAL STRAIN SIGNAL POLE	8 EA		
0282	7588000000-N	SP	METAL POLE WITH SINGLE MAST ARM	1 EA		
0283	7590000000-N	SP	METAL POLE WITH DUAL MAST ARM	1 EA		
0284	7613000000-N	SP	SOIL TEST	10 EA		
0285	7614100000-E	SP	DRILLED PIER FOUNDATION	100 CY		
0286	7631000000-N	SP	MAST ARM WITH METAL POLE DESIGN	2 EA		
0287	7636000000-N	1745	SIGN FOR SIGNALS	24 EA		
0288	7642200000-N	1743	TYPE II PEDESTAL WITH FOUNDATION	18 EA		
0289	7684000000-N	1750	SIGNAL CABINET FOUNDATION	3 EA		

County: PITT

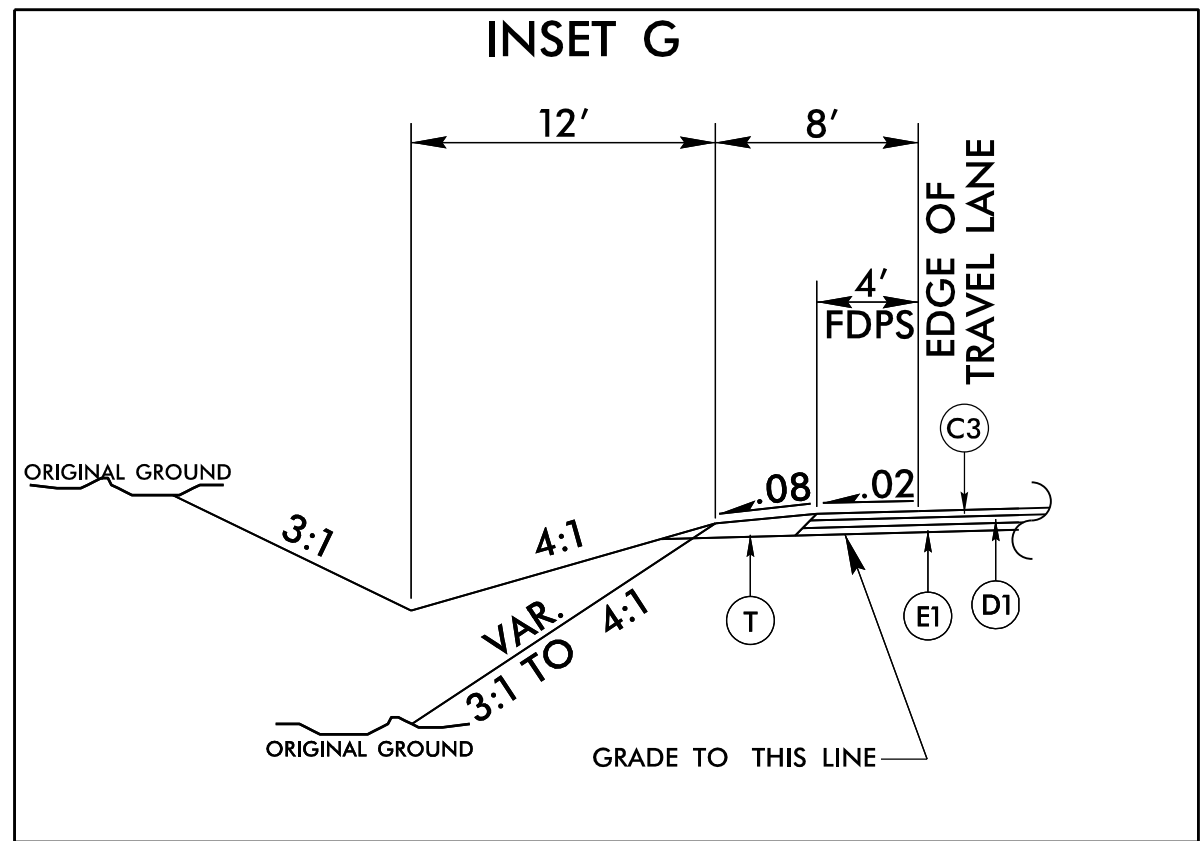
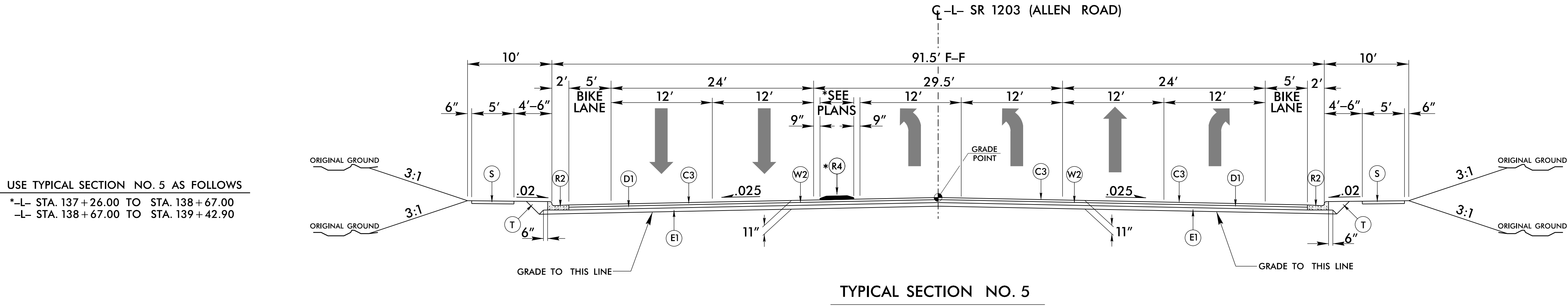
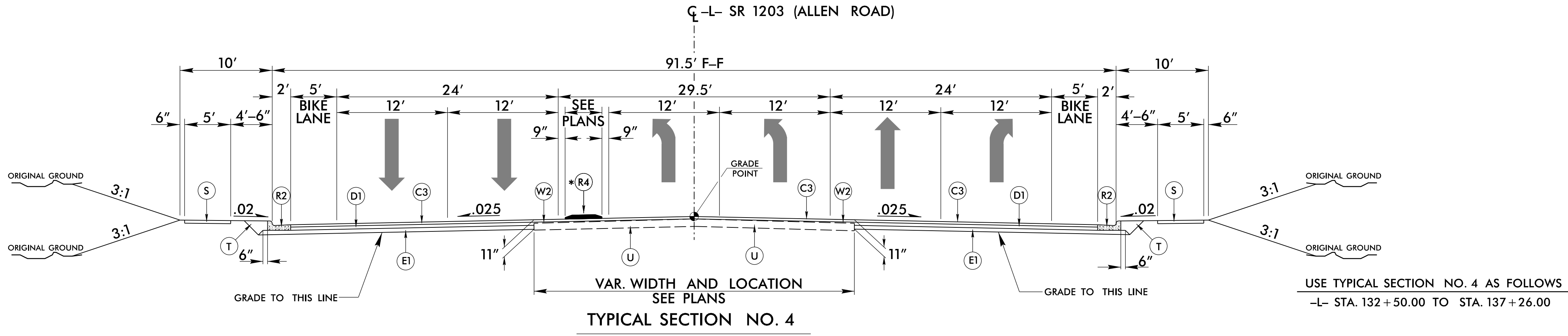
Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0290	7696000000-N	1751	CONTROLLERS WITH CABINET (*****) (TYPE 2070LX, BASE MOUNTED)	4 EA		
0291	7901000000-N	1753	CABINET BASE EXTENDER	3 EA		
0292	7980000000-N	SP	GENERIC SIGNAL ITEM CABINET WITHOUT CONTROLLER (TYPE 170)	3 EA		
0293	7980000000-N	SP	GENERIC SIGNAL ITEM ETHERNET EDGE SWITCH	4 EA		
0294	7980000000-N	SP	GENERIC SIGNAL ITEM INSTALL DEPARTMENT SUPPLIED 2070 CONTROLLER	3 EA		
0295	7980000000-N	SP	GENERIC SIGNAL ITEM MICROWAVE VEHICLE DETECTION SYSTEM - MULTIPLE ZONES	43 EA		
0296	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR DUAL MAST ARM POLE (BLACK)	1 EA		
0297	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR SINGLE MAST ARM POLE (BLACK)	1 EA		
0298	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR STRAIN POLE (BLACK)	8 EA		
0299	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR TYPE II SIGNAL PEDESTAL (BLACK)	18 EA		
0311	5255000000-N	1413	PORTABLE LIGHTING	Lump Sum	L.S.	
0312	5882000000-N	SP	GENERIC UTILITY ITEM UTILITY POLE STABILIZATION	20 EA		
CULVERT ITEMS						
0300	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (127+58.00 -L-)	Lump Sum	L.S.	
0301	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (26+44.00 -L-)	Lump Sum	L.S.	

County: PITT

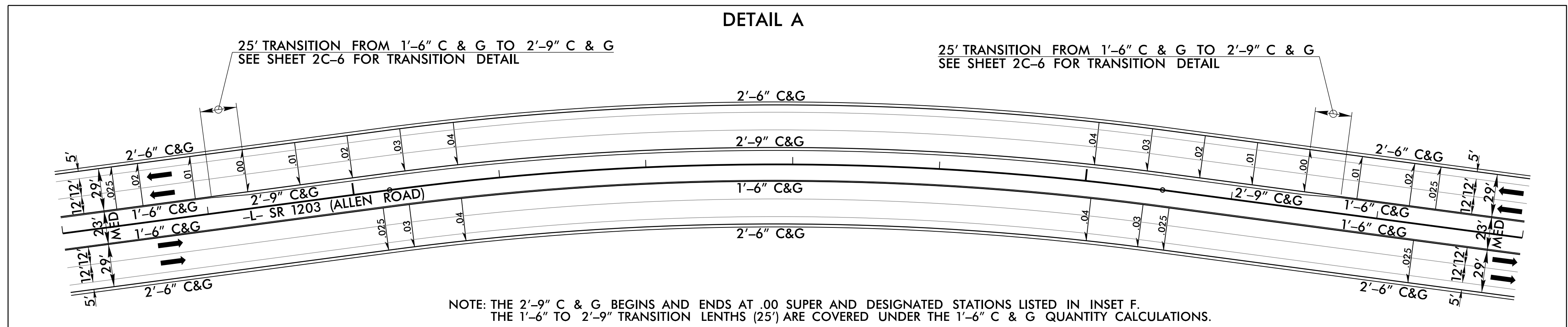
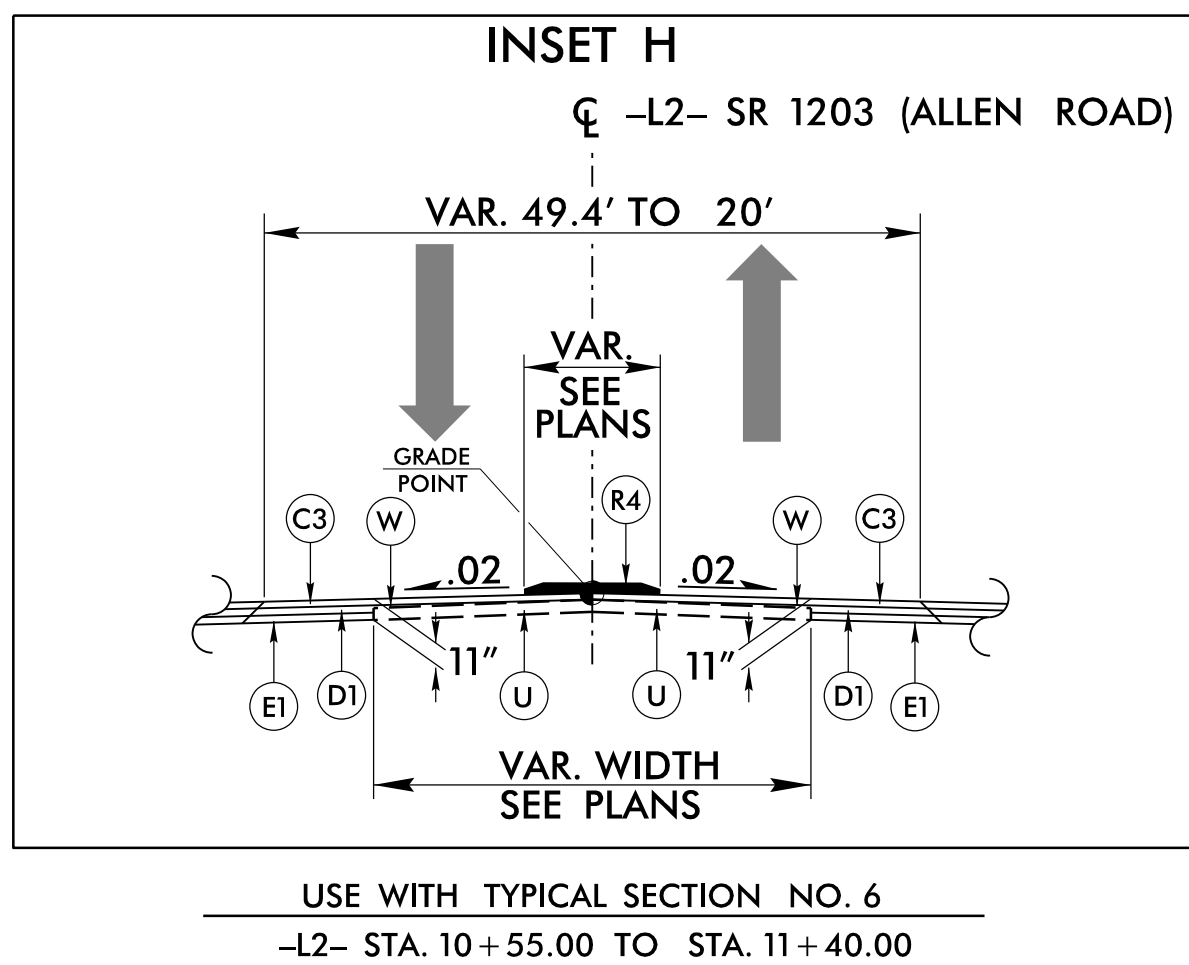
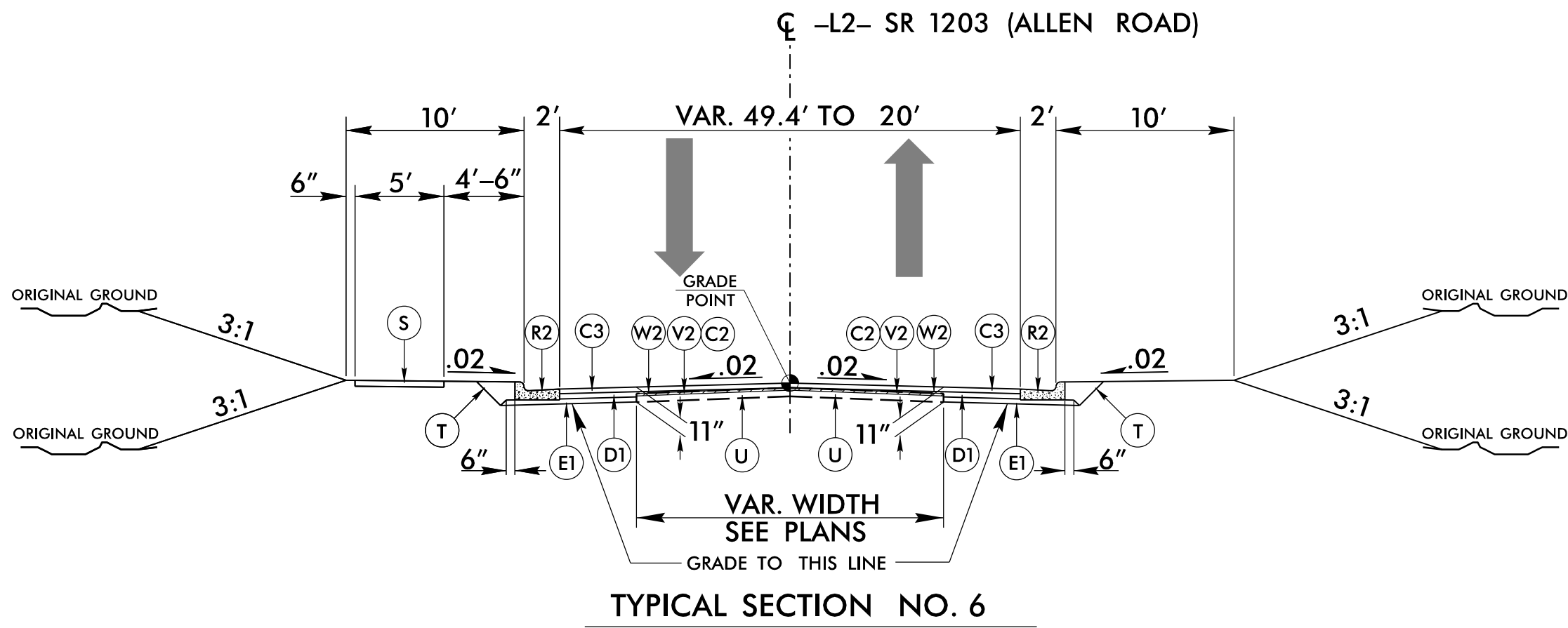
Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0302	8056000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** (64+00.00 -L-)	Lump Sum	L.S.	
0303	8130000000-N	414	BOX CULVERT EXCAVATION, STA ***** (127+58.00 -L-)	Lump Sum	L.S.	
0304	8130000000-N	414	BOX CULVERT EXCAVATION, STA ***** (26+44.00 -L-)	Lump Sum	L.S.	
0305	8130000000-N	414	BOX CULVERT EXCAVATION, STA ***** (64+00.00 -L-)	Lump Sum	L.S.	
0306	8133000000-E	414	FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	623 TON		
0307	8196000000-E	420	CLASS A CONCRETE (CULVERT)	908.4 CY		
0308	8245000000-E	425	REINFORCING STEEL (CULVERT)	126,317 LB		
0309	8590000000-E	876	RIP RAP, CLASS ** (I)	625 TON		
0310	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	625 SY		

0954/Oct14/Q1129204.39/D1424517288000/E311

Total Amount Of Bid For Entire Project :



USE WITH TYPICAL SECTION NO. 6
-L2- STA. 11 + 84.68 TO STA. 13 + 16.67 LT.



PROJECT REFERENCE NO.	SHEET NO.
U-5875	2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
10/1/2025 NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 52550 WILLIAM A. WILSON E08B74EC7914CC	10/1/2025 NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044590 D. WILSON E08B74EC7914CC
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TRANSYSTEMS 1 Glenwood Avenue Raleigh, NC 27603 Tel: 919.789.9977 Fax: 919.789.9591 License: F-0453	
PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	1.5" S9.5C
C3	3" S9.5C
C4	VAR. DEPTH S9.5C
C5	2" DEPTH S9.5C
D1	4" I19.0C
D2	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J	PROP. 6" ABC
K	CL. IV STABILIZATION
N	GEOTEXTILE STABILIZATION
R1	1'-6" C & G
R2	2'-6" C & G
R3	2'-9" C & G
R4	5" MONO. ISLAND (KEYED IN)
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	INCIDENTAL MILLING
V2	MILLING, 1.5" DEPTH
W1	VAR. DEPTH WEDGING NO. 1
W2	VAR. DEPTH WEDGING NO. 2
W3	VAR. DEPTH WEDGING NO. 3

TEMPORARY SHORING NOTES

SHORING LOCATION NO. 1

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 26+20±, 5* LT, TO STATION -L- 26+68±, 5* LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (φ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 67.5 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 26+20±, 5*LT, TO STATION -L- 26+68±, 5*LT.

AT THE CONTRACTOR* OPTION AND WHEN APPLICABLE, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 26+20±, 5*LT, TO STATION -L- 26+68±, 5*LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

SHORING LOCATION NO. 2

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 26+20±, 2* RT, TO STATION -L- 26+68±, 2* RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (φ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 67.5 FT ±

SHORING LOCATION NO. 3

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 63+64±, 8* LT, TO STATION -L- 64+37±, 7* LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (φ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 56.5 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 63+64±, 8*LT, TO STATION -L- 64+37±, 7*LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 63+64±, 8*LT, TO STATION -L- 64+37±, 7*LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO. 4

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 63+64±, 2* LT, TO STATION -L- 64+37±, 2* LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (φ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 56.5 FT ±

SHORING LOCATION NO. 5

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 127+29±, 2* LT, TO STATION -L- 127+87±, 1* LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
UNIT WEIGHT (γ) = 105 LB/CF
FRICTION ANGLE (φ) = 28 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 61.0 FT ±

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 127+29±, 2*LT, TO STATION -L- 127+87± 1*LT.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- 127+29±, 2*LT, TO STATION -L- 127+87± 1*LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION

SHORING LOCATION NO. 6

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

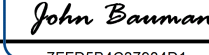
DESIGN TEMPORARY SHORING FROM STATION -L- 127+29±, 5* RT, TO STATION -L- 127+87±, 5* RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (φ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 61.0 FT ±

THE GEU RECOMMENDS INCLUDING THE TEMPORARY SHORING (SP11 R02) PROVISION IN THE CONTRACT FOR THE REFERENCED PROJECT. GEU WILL INCLUDE THE STANDARD SHORING PROVISION, TEMPORARY SOIL NAIL WALLS PROVISION AND GEOTECHNICAL STANDARD DETAIL NO. 1801.01 IN THE CONTRACT. PLEASE CONTACT JINYOUNG PARK, PH.D., P.E. AT (984) 920-8908 IF THERE ARE ANY QUESTIONS CONCERNING THIS MEMORANDUM.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM NCDOT GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO TRANSYSTEMS ON OCTOBER 13, 2025 AND SEALED BY A PROFESSIONAL ENGINEER, JINYOUNG PARK, Ph.D., P.E. LICENSE # 032171

10/13/2025
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jbauman

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel:919.789.9977
Fax:919.789.9591
License: F-0453

APPROVED: 
DATE: 10/13/2025

SEAL



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



TEMPORARY
SHORING
NOTES

MESSAGE NO. 1	MESSAGE NO. 2
BRIARCLIFF WILL BE CLOSED	STARTING (DAY) (TIME)
CHANGEABLE MESSAGE SIGN	

MESSAGE NO. 1	MESSAGE NO. 2
BRIARCLIFF CLOSED FROM	(DAY) TO (DAY)
CHANGEABLE MESSAGE SIGN	

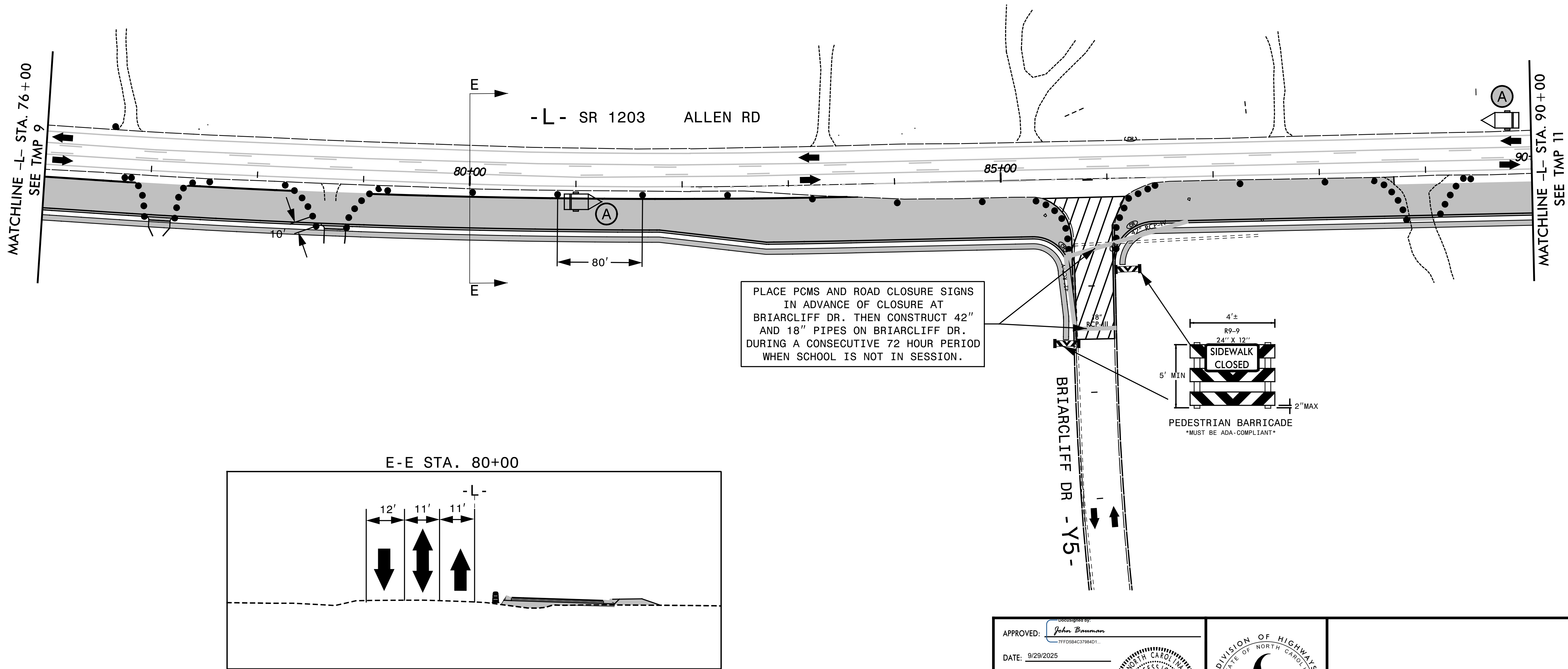


* DISPLAY MESSAGE TWO WEEKS PRIOR TO ROAD CLOSURE

▲ DISPLAY MESSAGE DURING ROAD CLOSURE

SEE NOTE H. TMP-2

ALL PAVEMENT MARKINGS ARE EXISTING
UNLESS OTHERWISE CALLED OUT

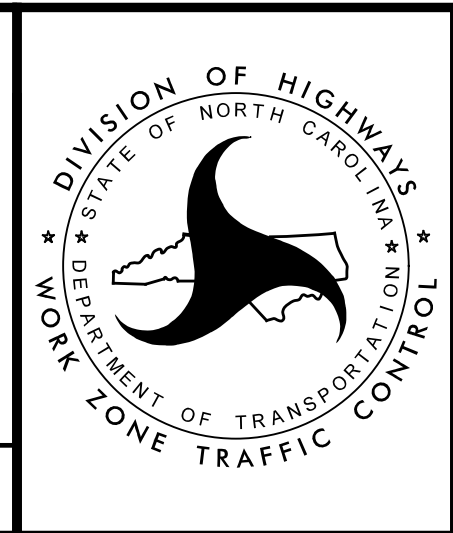


9/29/2025
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jbauman

TRANSYSTEMS
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: F-0453

APPROVED: *John Bauman*
DATE: 9/29/2025
SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
052428
ENGINEER
JOHN BAUMAN

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



PHASE I

GREENVILLE UTILITIES COMMISSION PROJECT SPECIFIC DETAILS: WATER

PROJECT REFERENCE NO.
U-5875

SHEET NO.
UC-3C

DESIGNED BY: **SSD**

DRAWN BY: **ND**

CHECKED BY: **JDN**

APPROVED BY: **MUP**

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

10/3/2025 10:07 AM EDT

UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151

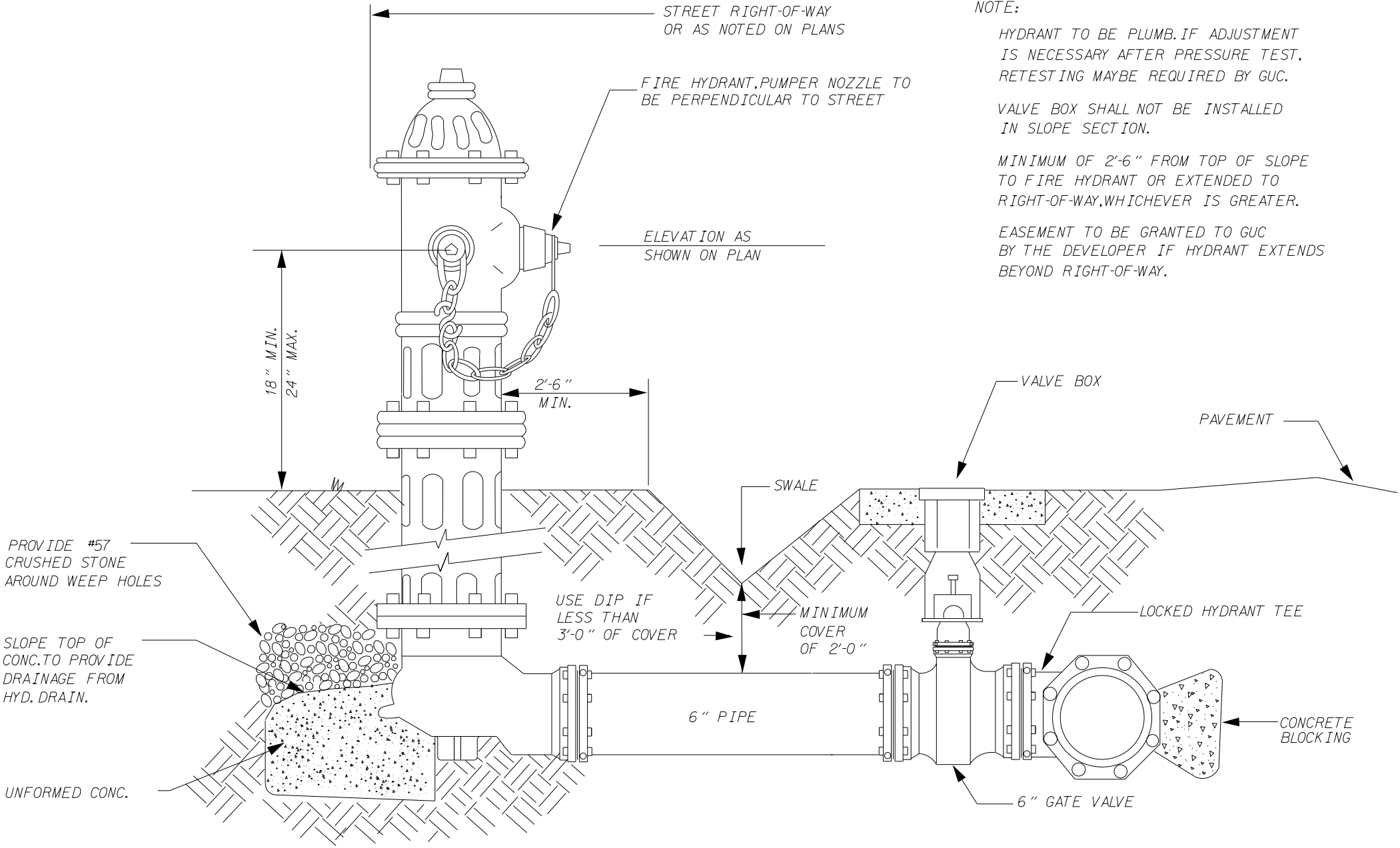
UTILITY CONSTRUCTION
PLANS ONLY

SEAL
20212

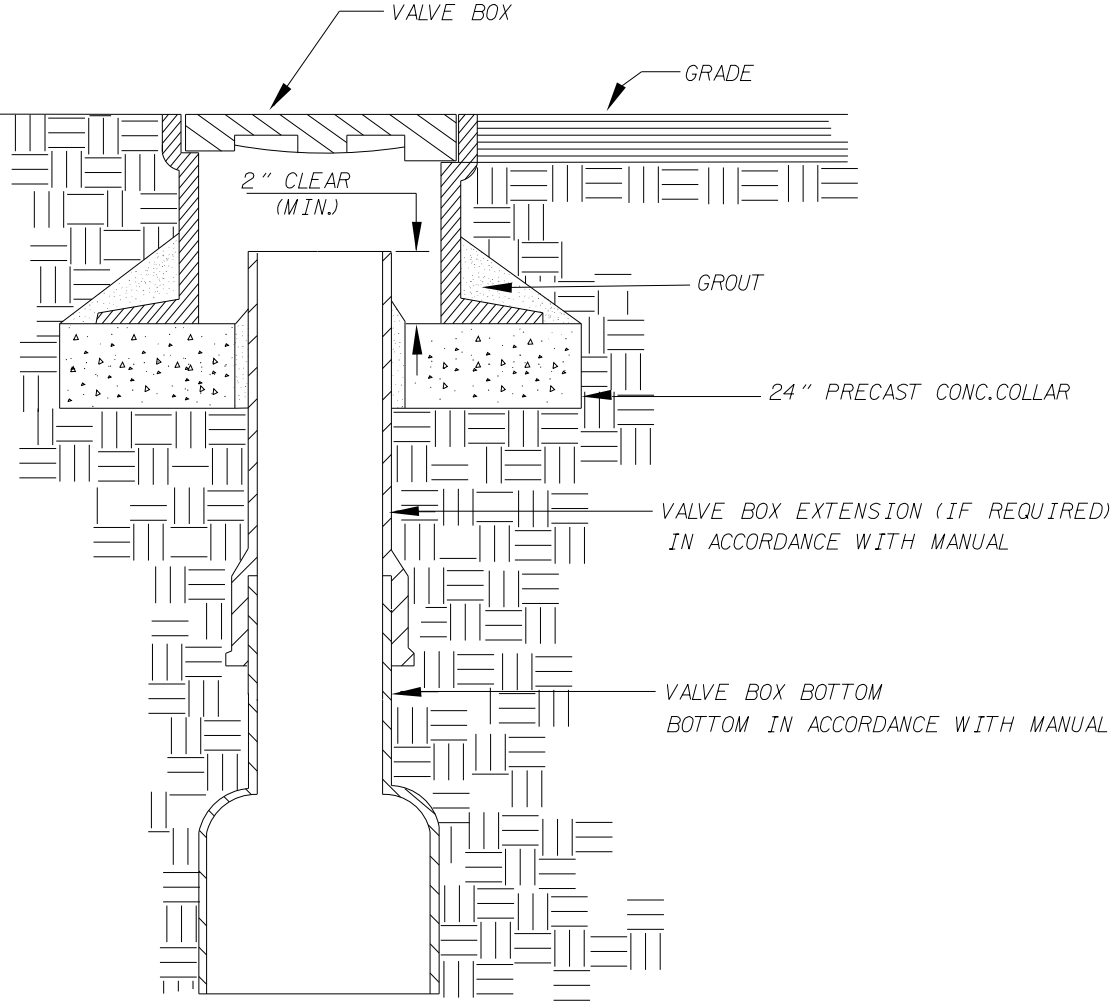
Professional Engineer
North Carolina
No. 10000

UTILITY CONSTRUCTION
PLANS ONLY

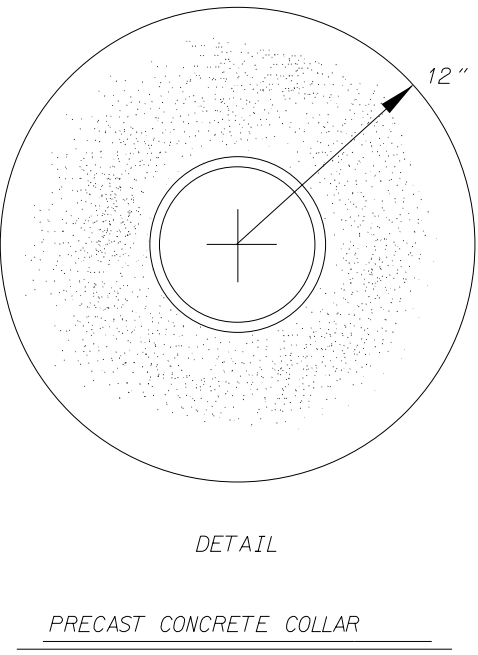
UTILITY CONSTRUCTION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



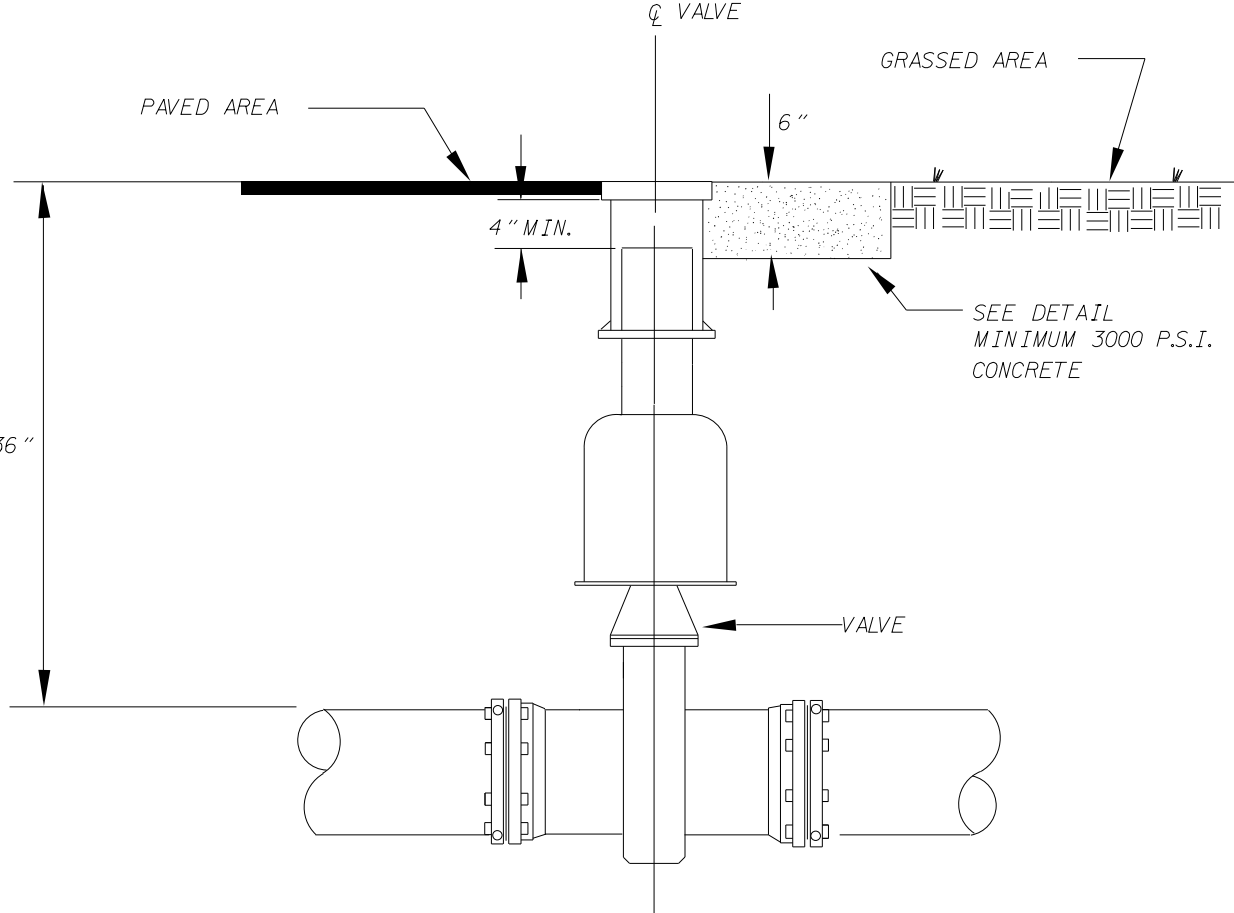
**FIRE HYDRANT INSTALLATION
(FOR AREAS WITHOUT CURB AND GUTTER)**
NOT TO SCALE
(GREENVILLE UTILITIES STANDARD DETAIL W-5, REVISED 3-12-99)



**VALVE BOX DETAIL
FOR VALVES 12\"/>**



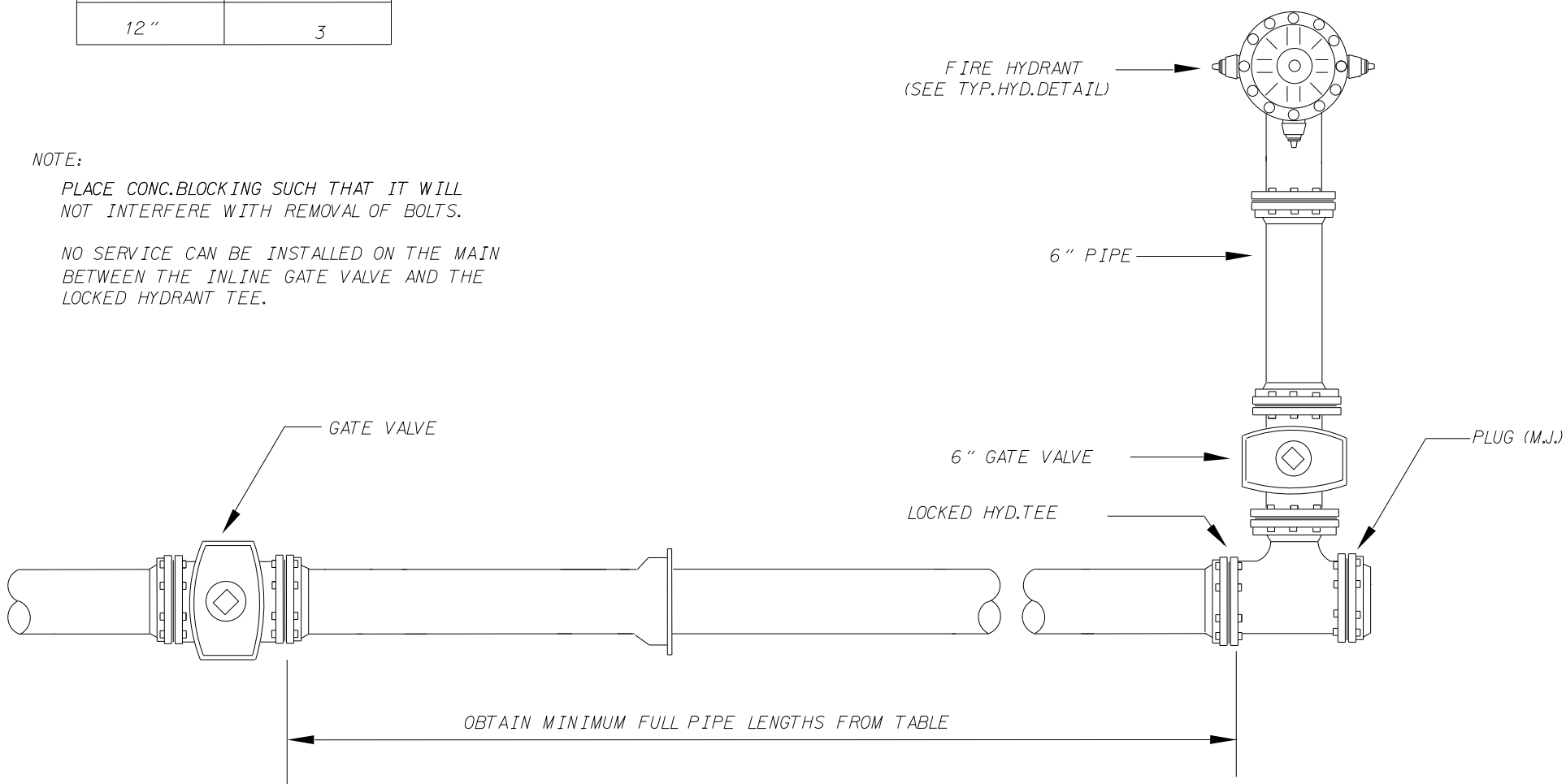
NOTE:
VALVE BOX SHALL NOT BE INSTALLED
IN CURB AND GUTTER.
VALVE BOX SHALL BE IN ACCORDANCE
WITH MANUAL.
VALVE BOX SHALL BE CENTERED AND
PLUMBED OVER VALVE.



**VALVE BOX DETAIL
FOR VALVES SMALLER THAN 12\"/>**

PIPE DIA. (IN.)	MIN. FULL PIPE LENGTHS
6"	2
8"	3
10"	3
12"	3

NOTE:
PLACE CONC.BLOCKING SUCH THAT IT WILL NOT INTERFERE WITH REMOVAL OF BOLTS.
NO SERVICE CAN BE INSTALLED ON THE MAIN BETWEEN THE INLINE GATE VALVE AND THE LOCKED HYDRANT TEE.



TERMINATION OF 6" - 12" WATER MAIN
NOT TO SCALE
(GREENVILLE UTILITIES STANDARD DETAIL W-8, REVISED 3-12-99)

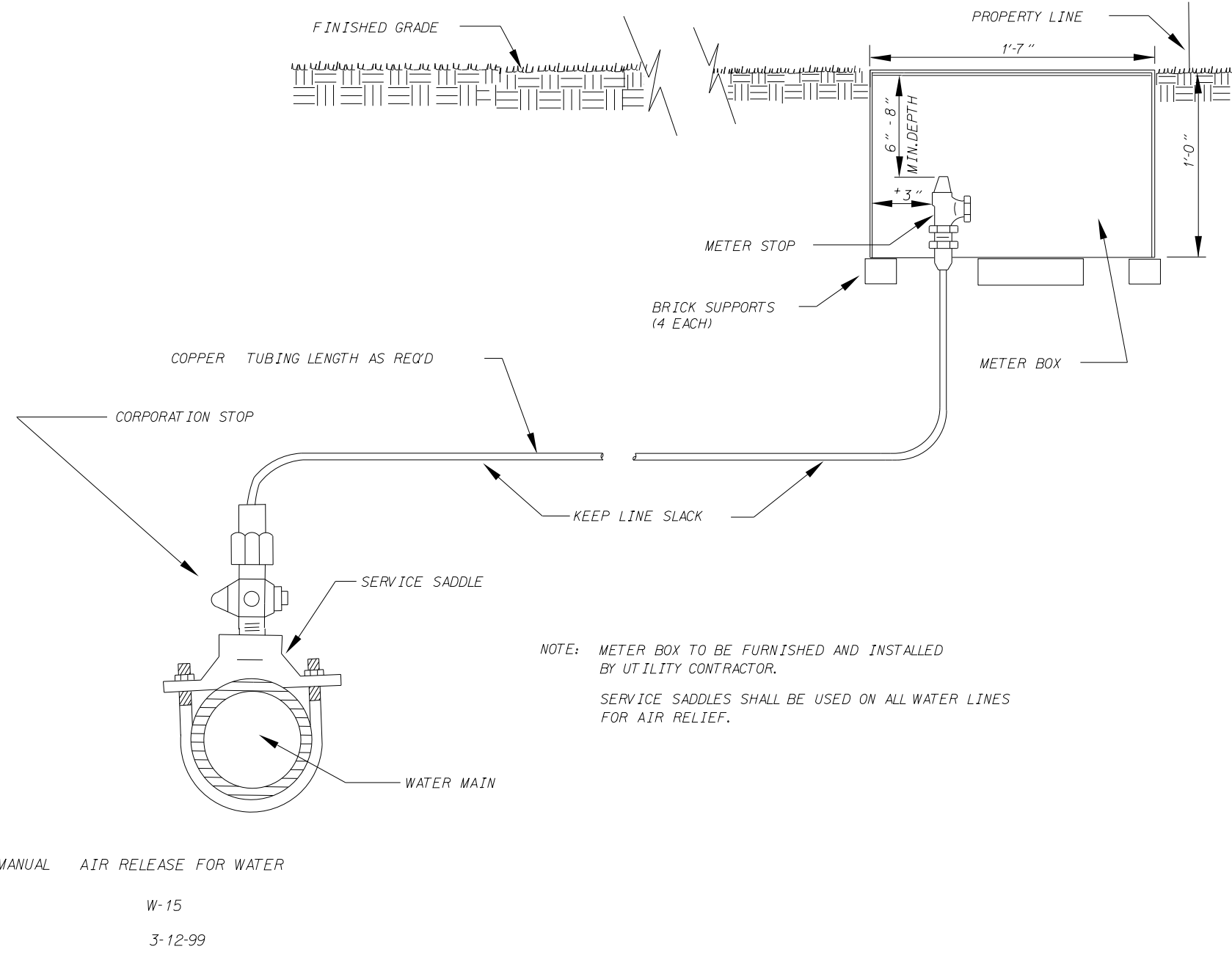
Pipe Restraint Charts

Horizontal & Vertical Up Bends				
Pipe Size (inch)	Bend	Angle	Pipeline Restraint Req. (feet)	
16"	11.25	7		
	22.5	13		
	45	27		
	90	65		
24"	11.25	9		
	22.5	18		
	45	37		
	90	90		

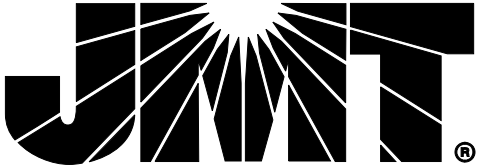
Vertical Down Bends		
Pipe Size (inch)	Bend Angle	Pipeline Restraint Req. (feet)
16"	11.25	14
	22.5	28
	45	58
	90	139
24"	11.25	20
	22.5	20
	45	81
	90	194

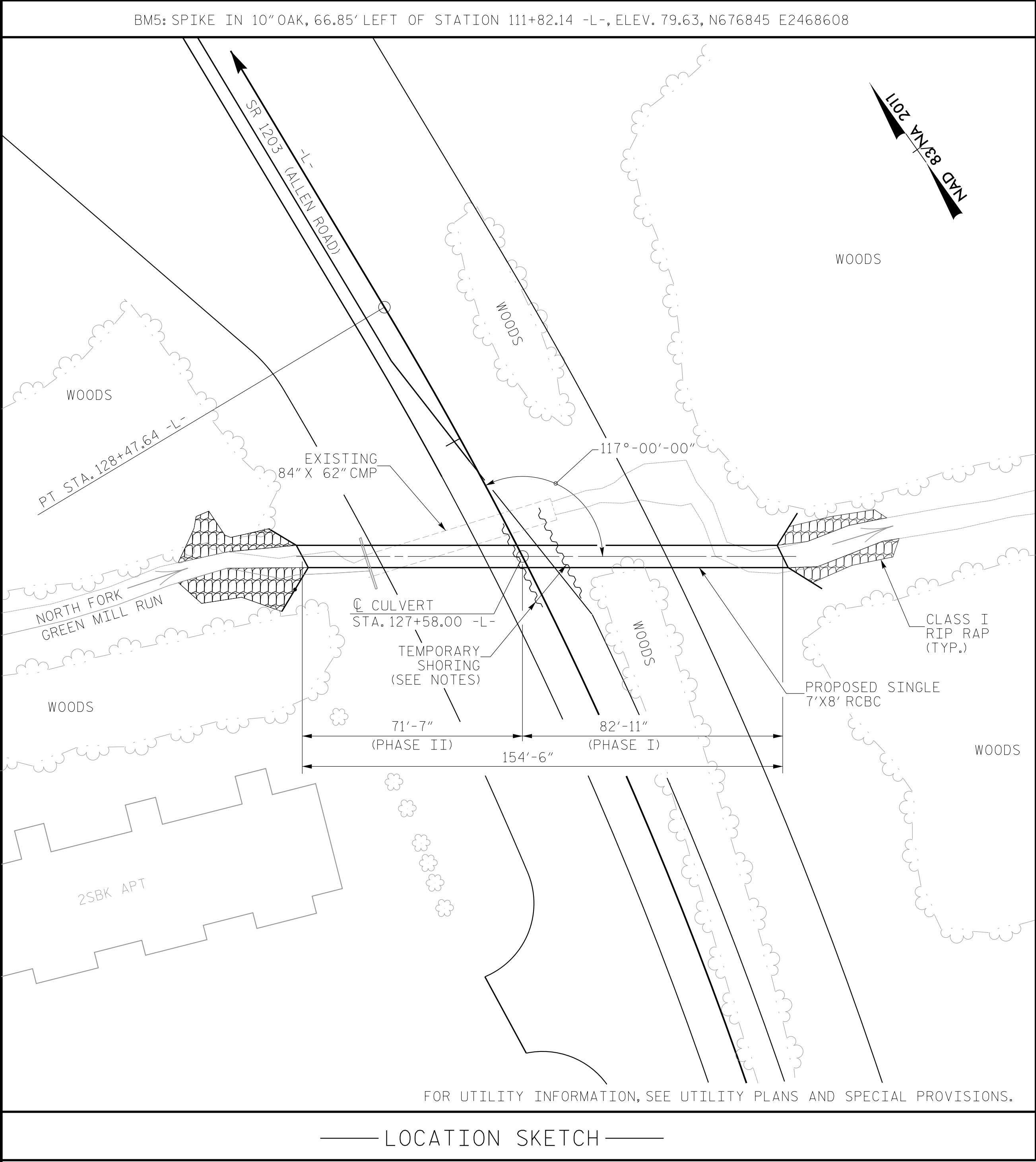
Tees, Reducer, Caps

Fitting Type	Size (inch)	Pipeline Restraint Req. (feet)
Tee	16	131
	24	186
	16x4	128
	16x6	117
Reducer	16x8	101
	16x10	82
	16x12	59
	24x4	187
	24x6	180
	24x8	170
	24x10	160
	24x12	143
Cap	24x16	106
	16	139
	24	194



MANUAL AIR RELEASE FOR WATER
NOT TO SCALE
(GREENVILLE UTILITIES STANDARD DETAIL W-15, REVISED 3-12-99)





NOTES

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC MANAGEMENT PLAN.
FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.
A THREE FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

ASSUMED LIVE LOAD -----HL-93 OR ALTERNATE LOADING.
DESIGN FILL----- 7'-6" MAX, 3'-10" MIN.
FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
3"Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:
1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.
THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

TOTAL STRUCTURE QUANTITIES		
CLASS A CONCRETE - PHASE I		
BARREL @ 0.97 CY/FT	80.3	C.Y.
WING ETC.	20.7	C.Y.
SILL	0.3	C.Y.
CLASS A CONCRETE - PHASE II		
BARREL @ 0.97 CY/FT	69.4	C.Y.
WING ETC.	23.9	C.Y.
SILL	0.3	C.Y.
TOTAL	194.9	C.Y.
REINFORCING STEEL - PHASE I		
BARREL	10,554	LBS.
WINGS ETC.	1,083	LBS.
REINFORCING STEEL - PHASE II		
BARREL	9,128	LBS.
WINGS ETC.	1,311	LBS.
TOTAL	22,076	LBS.
FOUNDATION CONDITIONING MAT'L. 72 TONS PHASE I		
FOUNDATION CONDITIONING MAT'L. 62 TONS PHASE II		
TOTAL	134	TONS
CLASS I RIP RAP (2'-0" THICK) PHASE I 75 TONS		
CLASS I RIP RAP (2'-0" THICK) PHASE II 75 TONS		
TOTAL	150	TONS
GEOTEXTILE FOR DRAINAGE PHASE I 100 SQ. YDS.		
GEOTEXTILE FOR DRAINAGE PHASE II 100 SQ. YDS.		
TOTAL	200	SQ. YDS.
REMOVAL OF EXISTING STRUCTURE	LUMP SUM	
CULVERT EXCAVATION	LUMP SUM	

GRADE DATA

GRADE POINT ELEV. @ -L- STA. 127+58.00 = 72.66'
BED ELEV. @ -L- STA. 127+58.00 = 58.63'
ROADWAY SLOPES 3:1

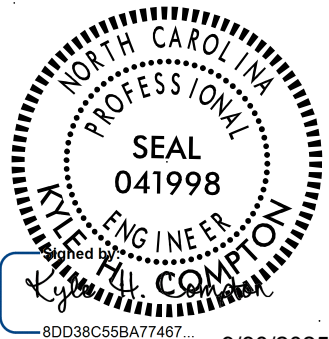
HYDRAULIC DATA

DESIGN DISCHARGE = 420 CFS
FREQUENCY OF DESIGN DISCHARGE = 50 YRS
DESIGN HIGH WATER ELEVATION = 68.7 FT
DRAINAGE AREA = 595 AC
BASE DISCHARGE (Q100) = 470 CFS
BASE HIGH WATER ELEVATION = 69.6 FT

OVERTOPPING DATA

OVERTOPPING DISCHARGE = 700 CFS
FREQUENCY OF OVERTOPPING = 500 (+) YRS
OVERTOPPING ELEVATION = 73.93 * FT

* HIGH SHOULDER AT STA. 129+75 -L-



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DSG. ENG. OF RECORD: KHC			
DWN. BY: WDC	DATE: 7/18		
CHKD. BY: RRL	DATE: 8/18		

PROJECT NO. U-5875
PITT COUNTY
STATION: 127+58.00 -L-

SHEET 1 OF 10

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SINGLE 7' X 8'
CONCRETE BOX CULVERT
ON NORTH FORK GREEN MILL RUN
UNDER SR 1203 (ALLEN ROAD) BETWEEN
US 13 AND SR 1467

REVISIONS						SHEET NO. C3-1
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 10
2			4			