CONTRACT DOCUMENTS &

TECHNICAL SPECIFICATIONS

PWC2526058

GRADING FOR THE POINT OF DELIVERY 5

ISSUED FOR BID

DECEMBER 2, 2025

Fayetteville Public Works Commission
Administrative Building
955 Old Wilmington Road
Fayetteville, NC 28301

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SECTION A – PROJECT SPECIFICS GENERAL

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ADVERTISEMENT FOR BID
FAYETTEVILLE PUBLIC WORKS COMMISSION
GRADING FOR POINT OF DELIVERY 5 (POD 5)

Cumberland County
North Carolina

Pursuant to N.C.G.S 143-129, sealed bids are solicited and will be received at Fayetteville Public Works Commission, Administration Building, Conference Room 107, 955 Old Wilmington Road, Fayetteville, NC 28301, until **2:00 p.m., EST Thursday, December 18, 2025**, at which time they will be publicly opened and read.

The Contractor is responsible for furnishing all labor, equipment, materials, and supplies necessary to construct the access drives and substation pad in full accordance with the Specifications and Drawings for Point of Delivery 5 (POD 5). This includes performing all required cutting, filling, grading, compaction, and soil stabilization, as well as grubbing designated road and pad areas and roughening slopes prior to additional land-disturbing activities. The top 0–12 inches of topsoil in the access road and pad areas must be removed and replaced with Owner-approved soil per the Geotechnical Engineering recommendations. The Contractor must hire an approved, licensed North Carolina Geotechnical Engineer to conduct all compaction testing and provide reports to the Owner and Engineer. Although the Drawings reference tree clearing and initial erosion control installations, these activities will be completed by the Owner before the Contractor begins work; however, the Contractor is responsible for maintaining all existing erosion control devices throughout the contract period. All stone required for construction must be installed during the contract, while final removal of erosion control measures and permanent seeding will occur later in coordination with the Owner. All work must comply with the Drawings (CG001–CG603) and meet the performance requirements of the Contract.

The foregoing description shall not be construed as a complete description of all work required. All work shall be done in accordance with PWC technical specifications and standard contract terms.

Questions will be fielded at the pre-bid meeting and all prospective bidders are required to attend the meeting. Individual telephone inquiries are prohibited. PWC assumes no responsibility to fully inform absentees of clarifications not issued by addendum.

Bids must be enclosed in a sealed envelope addressed to Nikole Bohannon, Procurement Manager, Fayetteville Public Works Commission, 955 Old Wilmington Road, Fayetteville, North Carolina 28301. The outside of the envelope must be marked **SEALED BID: GRADING FOR POD 5** and shall indicate the name, address and state license number of the bidder. Bids shall be submitted on the printed forms, or exact copies thereof, contained in the Contract Documents.

Each bid shall be accompanied by a bid bond of five percent (5%) of the bid executed by a surety company licensed under the laws of North Carolina to execute the Contract in accordance with the bid bond and upon failure to forthwith make payment, the surety shall pay the obligee an amount equal to the amount of said bond. Said deposit shall be retained by the Owner as liquidated damages in event of failure of the successful bidder to execute the Contract within ten (10) days after the Notice of Award or give satisfactory surety as required by law.

Performance and Payment Bonds are required in the amount of 100% of the Contract amount and shall be furnished by the Contractor.

All Contractors are notified that North Carolina Statutory provisions as to licensing of Contractors will be followed as applicable in receiving and evaluating bids and in reading and awarding the Contract (Chapter 87 of the North Carolina General Statutes).

The license classification shall be:

Part 1:	North Carolina General Contractor	-	Unlimited
	Highway	-	Unlimited

Plans and Specifications including Contract Documents will be available online for viewing and downloading on or about **Tuesday, December 2, 2025** on the PWC Procurement website at https://www.faypwc.com/purchasing. In addition, the documents will be available from the Fayetteville State University Construction Resource Office (FSU CRO) at https://www.uncfsu.edu/academics/colleges-schools-and-departments/broadwell-college-of-business-and-economics/outreach-centers/construction-resource-office. In collaboration with the North Carolina Institute of Minority Economic Development, the FSU CRO offers services and support to help small, minority, veteran, and women-owned businesses identify and compete for construction-related projects.

At the FSU CRO, potential bidders may:

- Research, view and print project drawings to scale free of charge;
- Use available software to prepare their bid; and
- Receive certification and pre-qualification assistance.

Please email the FSU CRO to make an appointment: fsucro@uncfsu.edu

Fayetteville Public Works Commission reserves the right to reject any and all bids, to waive any and all informalities and irregularities, and to disregard all nonconforming, nonresponsive, or conditional bids. PWC further reserves the right to request additional information from any or all bidders for evaluation purposes; failure or refusal to furnish such information as requested may result in rejection of the bid.

The bid tabulation and announcement of the apparent low bidder at the bid opening do not constitute a binding contract with PWC. No contract will be considered awarded until a formal written Agreement is executed by both PWC and the successful bidder. The award of a contract, if made, will be to the lowest responsible, responsive bidder whose qualifications indicate the award will be in the best interest of PWC.

PWC also reserves the right, at its sole discretion, to re-advertise for bids if deemed in the best interest of PWC.

The bidder to whom the contract may be awarded must comply fully with the requirements of North Carolina General Statutes Section 143-129, as amended.

No bids may be withdrawn after the scheduled Bid Opening for a period of ninety (90) calendar days.

FAYETTEVILLE PUBLIC WORKS COMMISSION
Nikole Bohannon
Procurement Manager

00100 - INSTRUCTIONS TO BIDDERS
FAYETTEVILLE PUBLIC WORKS COMMISSION
GRADING FOR POINT OF DELIVERY 5 (POD 5)

A. DEFINED TERMS

Terms used in these Instructions to Bidders are defined in the Definitions and Terminology sections of PWC General Conditions.

B. COPIES OF BIDDING DOCUMENTS

1. Complete sets of the Bidding Documents as stated in the Invitation to Bidders, may be obtained from the PWC Procurement Department.
2. Complete sets of Bidding Documents shall be used in preparing Bids. PWC assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

C. EXAMINATION OF CONTRACT DOCUMENTS, OTHER RELATED DATA, AND PROJECT SITE

1. Before submitting a Bid, each Bidder shall (a) examine the Contract Documents thoroughly, (b) visit the site and become familiar with the site and any local conditions that may in any manner affect the cost, progress, or performance of the Work, (c) be familiar with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work, and (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) give the PWC Procurement Advisor written notice of all conflicts, errors ordiscrepancies in the Contract Documents.
2. Bidders should consult the Specifications for the identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or reports that otherwise may affect cost, progress, or performance of the Work which may have been utilized in the preparation of the Drawings and Specifications. PWC will make copies of such reports if available at the cost (non-refundable) of reproduction to any Bidder requesting them. These reports are not intended to constitute any explicit or implicit representation as to the nature of the subsurface and latent physical conditions, which may be encountered at the site or to constitute explicit or implicit representations as to any other matter, contained in any report. Such reports are not guaranteed as to accuracy or completeness and are not part of the Contract Documents. Before submitting a Bid, each Bidder will, at its own expense, make such investigations and tests as the Bidder may deem necessary to determine his Bid for the performance of the Work in accordance with the Contract Documents.
3. On request (minimum 48 hours advance notice), PWC will provide each Bidder access to the site to conduct such investigations and tests, as each Bidder deems necessary for submission of its Bid.
4. The lands upon which the Work is to be performed, right-of-way for access thereto, and other lands available for use by the Contractor in performing the Work are identified in the Contract Documents.

5. The submission of a Bid constitutes an incontrovertible representation by the Bidder that it has complied with every requirement of this Section and that the Contract Documents are sufficient in scope and detail to indicate and convey an understanding of all terms and conditions for the performanceof the Work.

D. INTERPRETATIONS AND ADDENDA

1. All questions about the meaning or intent of the bid or Contract Documents shall be submitted in writing to Nikole Bohannon, Procurement Manager, by email to procurement@faypwc.com. In order to receive consideration, questions must be received by Monday, December 8, 2025, 5:00 p.m. Any interpretations of questions so raised, which in the opinion of the Project Engineer require interpretations, will be issued by Addenda via email or posted online by the Owner and/or Project Engineer. An Addendum extending the Bid Opening date may be issued up to five (5) business days before the Bid Opening date. An Addendum withdrawing the Invitation for Bid may be issued any time prior to the Bid Opening date. The Owner and Project Engineer will not be responsible for oral interpretations or clarifications, which anyone presumes to make on their behalf.

Bidders are expressly prohibited from contacting any PWC official or employee associated with this project, except as noted above. Violation of this prohibition is grounds for the immediate disqualification of the bidder.

2. PWC may issue such additional Addenda as may be necessary to clarify, correct, or change the Contract Documents. Such Addenda, if any, will be issued in the manner and within the time stated in Paragraph 1 of this Section.

3. Each Bidder shall be responsible for determining that all Addenda issued by PWC have been received before submitting a Bid for the Work.

4. Each Bidder shall acknowledge the receipt of each Addendum on the Bid Form.

E. VENDOR REGISTRATION VIA ISUPPLIER

1. All vendors interested in doing business with PWC must register as a vendor through the iSupplier Portal using the link below. The iSupplier self-service portal enables vendors to have real-time access to information regarding purchase orders, invoices, and payments through a secure environment. Attach a copy of your W9 to your online registration.

   https://www.faypwc.com/isupplier-doing-business-with-pwc/

F. QUALIFICATION OF CONTRACTORS

1. **Statutory Requirements** – The Bidder shall comply with all federal, state, and local statutes, regulations, and codes as they relate to the Project. Failure to comply with these requirements shall be considered a breach of Contract.

2. Contractor to provide utility references for similar projects completed by identified crews.

G. SUBSTITUTE MATERIAL AND EQUIPMENT

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings orrequired in the Specifications without consideration of possible substitute or "or-equal" items. The procedure for submittal of substitute or “or-equal” items for consideration is

set forth in the PWC General Conditions.

H. CONTRACTOR'S LICENSE

1. No General Contractor shall engage in contracting work in the State of North Carolina unless it has been licensed under in accordance with North Carolina law.
2. Bidders are prohibited from contracting for, or bidding upon, the construction, removal, repair or improvements to or upon real property owned, controlled or leased by Fayetteville Public Works Commission without a North Carolina Contractor's License.
3. Each bidder shall indicate its North Carolina Contractor's License number on the bid envelope and the Bid Form.
4. License Classification shall be:
   - North Carolina General Contractor: Unlimited
   - Highway: Unlimited

I. SUBCONTRACTORS

1. Contractor shall subcontract no more than 49 percent (49%) of the value of the Contract.
2. Each Bidder shall submit to PWC with its bid the List of Subcontractors, Suppliers, other persons, and organizations proposed for those portions of the Work for which such identification is required. If PWC, after due investigation has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, PWC may, before Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute without an increase in the Bid.
3. If the apparent Successful Bidder declines to make such a substitution, PWC may award the Contract to the next lowest responsive, responsible Bidder that proposes to use acceptable Subcontractors, Suppliers, and other persons, and organizations. The declining to make requested substitutions will not constitute grounds for sacrificing the bid security of any Bidder. If PWC does not make written objection to a Bidder's list of Subcontractors, Suppliers, other persons, or organizations prior to giving Notice of Award, the list will be considered acceptable, subject to revocation as provided in the PWC General Conditions.

J. SMALL & DISADVANTAGED BUSINESS ENTERPRISE (SDBE) PROGRAM / SMALL LOCAL SUPPLIER (SLS) PROGRAM

1. Program Commitment: Fayetteville Public Works Commission (PWC) is committed to promoting the utilization of Small and Disadvantaged Business Enterprises (SDBEs) and Small Local Suppliers (SLS) in PWC's procurement of construction contracting. PWC seeks to provide equitable access and opportunity to qualified businesses across its operational areas.

   - The SDBE Program encourages participation from firms certified through recognized third-party agencies, including the NC Department of Administration (HUB Office), NC Department of Transportation (DBE Program), and the U.S. Small Business Administration (SBA).

- The SLS Program continues to promote engagement of small, local firms within the Fayetteville Metropolitan Statistical Area (MSA), consisting of Cumberland, Hoke, and Harnett Counties.

2. Applicability and Bidder Requirements: For procurements of construction exceeding $30,000, Bidders must demonstrate good-faith efforts to engage certified SDBEs and, when applicable, SLSs. This includes outreach to certified firms, solicitation of quotes, and attendance at pre-bid meetings. Documentation must include completed Affidavit forms (A–E) as outlined in the SDBE Compliance Provisions within the Contract Documents. Attendance at the Pre-Bid Meeting is strongly recommended to review program expectations and compliance procedures.

3. Certification and Verification: Certifications recognized under this program include:
   - NC Department of Transportation (NCDOT) Disadvantaged Business Enterprise (DBE)
   - NC Department of Administration (DOA) Historically Underutilized Business (HUB)
   - U.S. Small Business Administration (SBA) certifications, including 8(a), WOSB, SDVOSB, and HUBZone designations

   Firms holding current certifications with these agencies are acceptable for listing in the bidder's submittal and will be counted toward participation goals.
   Vendor directories can be accessed via the following links:
   - NCDOT DBE Directory: https://www.ebs.nc.gov/VendorDirectory
   - NC HUB Directory: https://ncadmin.nc.gov/businesses/hub

K. SUBMISSION OF BIDS

1. All Bidders shall use the enclosed Bid Forms, or exact copies thereof, in submitting their bid prices. Failure to provide full and complete Bid Forms using the form provided herein will result in a bid being deemed non-responsive.

2. PWC will not accept modified Bid Forms, oral Bids, or Bids received by telephone, email, or telecopier (FAX machine) for this Bid.

3. All prices must be F.O.B. delivered to the point as indicated by this Bid. PWC will grant no allowance for boxing, crating, or delivery unless specifically provided for in this Bid.

4. The Bid Form must be completed in black ink. Black or blue pen ink is acceptable if handwritten. Discrepancies between amounts shown in words and amounts shown in figures will be resolved in favor of the amounts shown in words. Discrepancies in the multiplication of units of Work and the unit prices will be resolved in favor of the correct multiplication of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

5. Bid submittals sent by mail should be registered mail. The sealed Bid, marked as indicated above, should be enclosed in an additional sealed envelope similarly marked and addressed to:

   Fayetteville Public Works Commission
   Attn: Nikole Bohannon, Procurement Manager
   955 Old Wilmington Road
   Fayetteville, North Carolina 28301

6. Mark the envelope in the lower left-hand corner with the project title, hour and due date of Bid, and the Bidder's North Carolina contractor registration number.
7. Bids sent by mail and arriving after the time for the opening of Bids shall not be considered valid Bids. In such instances, the Bidders shall have no claim against PWC.
8. All items contained in the Bid Checklist shall be completely filled out and submitted with the bid. Failure to submit any of the items requested with the Bid Form may be just cause for rejection of the Bid by PWC.
9. All erasures, insertions, additions, and other changes made by the Bidder to the Bid Form shall be signed or initialed by the Bidder. Bids containing any conditions, omissions, erasures, alterations, or items not called for in the Bid, may be rejected by PWC as being incomplete or nonresponsive.
10. The Bid Form must be signed in order to be considered. If the Bidder is a corporation, the Bid must be submitted in the name of the corporation, not simply the corporation's trade name. In addition, the Bidder must indicate the corporate title of the individual signing the Bid.
11. The Bid Form, the Bid security, if any, and any other documents required, shall be enclosed in a sealed opaque envelope. Any notation or notations on the exterior of the envelope purporting to alter, amend, modify, or revise the bid contained within the envelope shall be of no effect and shall be disregarded.
12. All Bids received in the Procurement Department by the deadline indicated will be kept sealed until the time and date of the Bid Opening.
13. All late Bids shall be returned unopened to the sender.

L. BID BOND

1. Each Bid shall be accompanied by an acceptable Bid bond in the amount of five percent (5%) of the Bid amount, and made payable to Fayetteville Public Works Commission, North Carolina.
2. The Bid bond is a guarantee that if the contract is awarded by PWC to the Bidder, the Bidder shall enter into the contract with PWC for the work mentioned in this Bid or forfeit the Bid bond to PWC, not as a penalty, but as liquidated damages.
3. No forfeiture under a Bid bond shall exceed the lesser of (a) the difference between the Bid forwhich the Bid bond was written and the next low Bid of another Bidder, or (b) the face amount of the Bid bond.
4. All bonds shall be executed by a surety company selected by the Bidder, which is legally authorized to do business in the State of North Carolina (NCGS §44 A-26), and the bond shall be the same in both form as well as substance as AIA Document A310, Bid Bond.
5. The Bidder shall require the attorney-in-fact, who executed the required bond on behalf of the surety company, to affix thereto a certified and current copy of the power of attorney.

6. The bond premium shall be paid by the Bidder and the cost shall be included in the Bid price.
7. Any inspection of procurement transaction records shall be subject to reasonable restrictions to ensure the security and integrity of the records.

M. OPENING OF BIDS

1. Bids will be opened publicly and read aloud on the date and time set for the Bid Opening in the Notice to Bidders.
2. Any Bidder, upon request, shall be afforded the opportunity to inspect Bid records within a reasonable time after the opening of all Bids but prior to award, except in the event that PWC decides not to accept any of the Bids and to reopen the contract. Otherwise, bid records shall be open to public inspection only after the award of the Contract.
3. Any inspection of procurement transaction records shall be subject to reasonable restrictions to ensure the security and integrity of the records.

N. MODIFICATION OF BIDS

1. A Bid may be modified or withdrawn by the Bidder at any time prior to the time and date set for the Bid Opening. The Bidder shall notify the PWC Procurement Department in writing of its intentions.
2. Modified and withdrawn Bids may be resubmitted to the PWC Procurement Department up to the time and date set for the Bid Opening.

O. WITHDRAWAL OF BID DUE TO ERROR

1. If the Bidder desires to withdraw its Bid, the Bidder must do so before the time fixed for the opening, without prejudice, by communicating its purpose in writing to PWC. After bids are open, bids may only be withdrawn in strict accordance with N.C.G.S. Section 143-129-1

P. BIDS TO REMAIN OPEN

1. All Bids shall remain open for ninety (90) calendar days after the day of the Bid Opening.

Q. AWARD OF CONTRACT

1. PWC reserves the right to reject any and all bids, to waive any and all minor informalities and irregularities, and to disregard all nonconforming, nonresponsive, or conditional bids. PWC further reserves the right to request additional information from any or all bidders for evaluation purposes; failure or refusal to furnish such information as requested may result in rejection of the bid. The bid tabulation and announcement of the apparent low bidder at the bid opening do not constitute a binding contract with PWC. No contract will be considered awarded until a formal written Agreement is executed by both PWC and the successful bidder. The award of a contract, if made, will be to the lowest responsible, responsive bidder whose qualifications indicate the award will be in the best interest of PWC. PWC also reserves the right, at its sole discretion, to re-advertise for bids if deemed in the best interest of PWC.
2. In case of a tie Bid, the tie shall be decided by lot.

3. It is the intent of PWC to recommend the award of this contract to the lowest responsive, responsible Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. In determining the lowest responsible Bidder, PWC may consider, among other criteria, the Bidder's past performance conduct on other contracts, and other information provided by the Bidder as noted below.
4. In determining the lowest responsive Bidder, PWC will evaluate the Bidder’s proposed Bid price and the completeness of the submitted bid in accordance with the requirements of the Contract Documents.
5. PWC may consider the operating costs, maintenance considerations, performance date, and guarantees of materials and equipment.
6. PWC may conduct such investigations as deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders, as well as other considerations, to include but not limited to resources available to the Bidder to perform the work effectively, proposed Subcontractors and other persons and organizations to do the workin accordance with the Contract Documents to PWC’s satisfaction within the prescribed time.
7. PWC reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to PWC’s satisfaction.
8. If the Contract is to be awarded, PWC will give the Successful Bidder a Notice of Award within ninety (90) days after the day of the Bid Opening.
9. The Bidder to whom the contract is awarded shall, within ten (10) days after prescribed documents are presented for signature, execute and deliver the Contract Documents and any otherforms or bonds required by the Bid to PWC.
10. The Bidder is required to complete the attached forms that will allow PWC to verify that the Bidder is qualified to perform the Work described in these Contract Documents. All forms shall be completed and submitted with the Bid. Failure to submit all the required forms shall be considered grounds for PWC to reject the bid.

    PWC will review all of the bids and qualification data to determine the lowest responsive, responsible Bidder. PWC reserves the right to not award the Contract to the lowest bidder if the information provided is not complete, does not meet the satisfaction of PWC, or has been falsified. PWC will not request any additional information in order to allow the Contractor to complete bid.
11. During the evaluation phase, bid submittals will be reviewed to ascertain which bids technically and otherwise address all the requirements of these Contract Documents. Bid submittals determined to be technically non-responsive or not sufficiently responsive may be disqualified.

    The Bidder shall address each of the Evaluation Criteria as requested in the Technical Evaluation Criteria Form located within Section A Project Specifics Bid Submittal Documents. To be considered substantive, the information must respond to all

requirements.

12. PWC may conduct such investigations/verifications as deemed necessary to establish the responsibility, qualification and financial ability of the Bidder. Should PWC find that the apparent low bidder is not the lowest responsive, responsible bidder by integrity of the information furnished, said apparent low bidder will be so notified and its bid bond shall be returned without prejudice. Failure or refusal to furnish any items of information requested by PWC shall be considered as non-responsive and therefore basis for rejection of the bid.

R. TAXES

1. The Successful Bidder shall pay all county, city, state and federal taxes required by laws in effect at the time Bids are received and resulting from the Work or traceable thereto, under whatever name levied.

2. Said taxes shall not be in addition to the contract price between PWC and the Successful Bidder. The taxes shall be an obligation of the Successful Bidder and not of PWC. PWC shall be held harmless from same by the Successful Bidder.

S. PERFORMANCE AND OTHER BONDS

1. The PWC General Conditions set forth PWC's requirements as to Performance and other Bonds.

T. E-VERIFY REQUIREMENTS

1. Contractor hereby acknowledges that “E-Verify” is the federal E-Verify program operated by the US Department of Homeland Security and other federal agencies which is used to verify the work authorization of newly hired employees pursuant to federal law and in accordance with Article 2, Chapter 64 of the North Carolina General Statutes.

2. Contractor further acknowledges that all employers, as defined by Article 2, Chapter 64 of the North Carolina General Statutes, must use E-Verify and after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS §64-26(a).

3. Contractor hereby pledges, attests and warrants through execution of this Agreement that Contractor complies with the requirements of Article 2, Chapter 64 of the North Carolina General Statutes and further pledges, attests and warrants that any subcontractors currently employed by or subsequently hired by Contractor shall comply with any and all E-Verify requirements. Failure to comply with the above requirements shall be considered a breach of this Agreement.

U. IRAN DIVESTMENT ACT

1. As mandated by N.C.G.S. 147-86.59(a), the Contractor hereby certifies that it is not listed on the Final Divestment List created by the North Carolina State Treasurer pursuant to N.C.G.S. 147-86.58. Contractor further certifies that in accordance with N.C.G.S. 146-86.58(b) that it shall not utilize any subcontractor found on the State Treasurer's Final Divestment List. Contractor certifies that the signatory to this Purchase Order authorized by the Contractor to make the foregoing statement.

SECTION A – PROJECT SPECIFICS
BID SUBMITTAL DOCUMENTS

BID SCHEDULE – PERFORMANCE AND DELIVERY
FAYETTEVILLE PUBLIC WORKS COMMISSION
GRADING FOR THE POINT OF DELIVERY 5 (POD 5)

Deadline for Questions from Bidders[1]	5:00 P.M., Monday, December 8, 2025
Deadline for Addenda issued by PWC Procurement Department and Project Engineer[2]	5:00 P.M., Thursday, December 11, 2025
Bid Opening (Submittal Deadline)	2:00 P.M., Thursday, December 18, 2025 Fayetteville Public Works Commission Administrative Building Conference Room 107 955 Old Wilmington Road Fayetteville, NC 28301
Target Commission Meeting	Wednesday, January 14, 2026
Target City Council Meeting	Monday, January 26, 2026
Contract Time:	Six (6) Months
Liquidated Damages:	Insert amount $1,000.00 per day for each day beyond the Final Completion Date
Bid Acceptance Period	Within ninety (90) Calendar Days unless otherwise noted

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1. Questions regarding this bid must be submitted in writing to the attention of Nikole Bohannon, Procurement Manager, by email to procurement@faypwc.com.

   Bidders are expressly prohibited from contacting any FPWC official or employee associated with this Invitation to Bid, except as noted above. Violation of this prohibition is grounds for the immediate disqualification of the bidder.

2. Any addenda to these Contract Documents will be issued by the Project Engineer no later than the date and time stated above.

BID SUBMITTAL CHECKLIST

- ☐ 1. Enter Contractor's License Number where called for in the Bid Form and on the outside of the sealed envelope containing the Bid.
- ☐ 2. Photocopy of Contractor's License.
- ☐ 3. Bid Bond
- ☐ 4. Bid Forms Section 00300.
- ☐ 5. Provide the responsible North Carolina Registered Agent for Insurance Claims. Include contact information.
- ☐ 6. Provide the proposed responsible Bonding Company name. Include contact information.
- ☐ 7. List of proposed Subcontractors and material suppliers exceeding 5% of the Contract Value.
- ☐ 8. Non-Collusive Affidavit.
- ☐ 9. Nondiscrimination Clause.
- ☐ 10. Affidavit of Organization and Authority and Sworn Statement.
- ☐ 11. Equal Employment Opportunity Acknowledgment.
- ☐ 12. Certification regarding Debarment, Proposed Debarment, and other Responsible Matters.
- ☐ 13. FTA Certification Regarding Lobbying.
- ☐ 14. Affidavit A – Listing of Good Faith Efforts, et al.
- ☐ 15. Affidavit B – (Only if the Contractor will perform **ALL ELEMENTS OF THE WORK** on this project with their own forces **AND** will complete **ALL ELEMENTS OF THIS PROJECT WITHOUT THE USE OF SUBCONTRACTORS, MATERIAL SUPPLIERS, OR PROVIDERS OF PROFESSIONAL SERVICES**.
- 16. Affidavit E - Identification of SDBE/Local Participation Form.
- ☐ 17. SDBE. SLS, and Local Disclosure Form.

FAILURE TO SUBMIT THE ABOVE FORMS WITH THE BID FORM PROVIDED HEREIN MAY BE JUST CAUSE FOR REJECTION OF THE BID BY THE OWNER

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00300 - BID FORM

TO: **Fayetteville Public Works Commission**
Attn: Nikole Bohannon, Procurement Manager
955 Old Wilmington Road
Fayetteville, North Carolina 28301

PROJECT: **PWC2526058 – GRADING FOR POINT OF DELIVERY 5 (POD 5)**

FROM: BIDDER _____

ADDRESS _____

_____

DATE OF BID _____ , 20 ____

A. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into a Contract with OWNER in the form included in the Contract Documents to perform and furnish all Work (as that term is defined in the Construction Agreement) specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the Contract Documents.

B. BIDDER accepts all of the terms and conditions of the Instructions to Bidders, including, without limitation, those dealing with the disposition of payment and performance bonds, and insurance certificates. This bid will remain open for ninety (90) calendar days after the day of Bid opening. BIDDER will sign the Contract and submit the Contract Security and other documents required by the Contract Documents within ten (10) days after the date of receipt by the BIDDER.

C. In submitting this Bid, Bidder represents, as more fully set forth in the Contract, that:

1. BIDDER has examined copies of all the Contract Documents and of the following addenda, receipt of all which is acknowledged on the bid summary page:

2. BIDDER has examined the site and locality where the Work is to be performed, the legal requirements (federal, state, and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress of performance of the work and has made such independent investigations as BIDDER deems necessary.

3. BIDDER acknowledges that OWNER does not assume responsibility for the accuracy of dimensions or completeness of information and data shown or indicated in the Bidding Documents with respect to existing facilities.

4. BIDDER has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site of the Work (expect underground facilities) and all drawings of physical conditions in or relating to existing surface or

subsurface structures, pipelines, and utilities at or contiguous to the site are provided within these Contract Documents. Geotechnical Reports and other information regarding subsurface conditions are identified in the attached appendices and detailed in Article V of the PWC General Conditions. BIDDER acknowledges that the OWNER does not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to underground facilities at or contiguous to the site of Work. BIDDER had obtained and carefully studied (or assumes responsibility for have done so) all such additional or supplementary examinations investigations, explorations, tests, studies, and data that are necessary to identify and understand conditions (surface, subsurface, and underground facilities) at or contiguous to the site of Work or otherwise which may affect cost, progress, performance, or furnishing the Work or which relate to any aspect of means, methods, techniques, sequences, and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto. BIDDER waives all rights to claim that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the proper submission of the Bid for the performance and furnishing of the Work in accordance with the Contract Time, Contract Price, and other terms and conditions of the Contract Documents.

5. BIDDER hereby certifies that, if awarded the Contract for construction of the Project, it will take all possible actions to minimize costs to the OWNER which are related to any disruptions in any part of the Work resulting from unforeseeable conditions which may be encountered and work changes or additions which may be made.

6. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, exploration, tests, studies, and data with the Contract Documents.

7. BIDDER has given OWNER written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER has discovered in the Contract Documents and the written resolution thereof by OWNER is acceptable to BIDDER, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.

8. By bidding in response to this invitation, the BIDDER represents that in the preparation and submission of this Bid, said BIDDER did not, either directly or indirectly, enter into any combination or arrangement with any person, firm or corporation or enter into any agreement, participate in any collusion, or otherwise take any action in the restraint of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section 1).

9. Bid form must be completed in blue or black ink or by typewriter. The Bid price of each item on the form must be stated in both words and numerals. In case of a

conflict, words shall take precedence. Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the correct multiplication of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

10. BIDDER understands that the award of contract will be made on the basis of the total Bid amount which will be determined as the sum of the unit price and lump sum Bid Items.

11. BIDDER understands that quantities are estimated and are not guaranteed; they are solely for comparing Bids and establishing the total Bid amount. The Price will be modified by Change Order, and final payment will be based on the quantities of work actually furnished and installed by the successful BIDDER.

12. BIDDER shall complete the Work for the prices indicated on the next page.

- BID SUMMARY-

TOTAL BASE BID **$_____**

The BIDDER has received, acknowledged, and used the following addenda in completing the Bid. (Initial and Date as appropriate).

Addendum No. 1	Date _____
Addendum No. 2	Date _____
Addendum No. 3	Date _____
Addendum No. 4	Date _____
Addendum No. 5	Date _____
Addendum No. 6	Date _____
Addendum No. 7	Date _____

The undersigned BIDDER _____ (Contractor Name) certifies that they are licensed as a Contractor under N.C.G.S **§** 87, and that their license number is_____ (License Number).

The undersigned BIDDER hereby agrees to accept an award of the Contract based on the Total Contract Amount as accepted by the OWNER and as indicated on the Notice of Award.

A. BIDDER agrees that Work shall be completed within the time frame indicated in the Agreement as follow:

    1. All work described herein to be complete, including restoration and all punch list items from Notice to Proceed until the competition date noted in the Notice to Proceed.

    2. The BIDDER acknowledges that time is of the essence in this Contract and that the OWNER will suffer financial loss if the Work is not complete within the time specified in Paragraph D.1 above plus any extensions thereof allowed in accordance with these Contract Documents. BIDDER also recognizes the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by the OWNER if the Work is not complete on time. The Bidder agrees to diligently pursue all available work and complete all work in an expeditious manner.

B. The following documents are attached to and made part of this bid:

    Required Bid Security in the form of either a cashier's check or certified check or Bid Bond in the amount of 5% of maximum Bid price.

C. Communications concerning this Bid shall be addressed to: (CONTRACTOR's Name, Address and Telephone Number)

    _____
    _____
    _____
    _____
    _____

D. The terms used in this Bid which are defined in Definitions and Terminology Section of the PWC General Conditions or as otherwise specifically defined in the Contract Documents have the meanings assigned to them therein, which are incorporated by reference as if fully set forth herein.

E. An individual contractor is required to furnish his social security number and sole proprietorship, partnership and corporation are required to furnish their employer identification numbers to Fayetteville Public Works Commission. Please indicate this information on this Bid Form as follows:

    Social Security Number: _____

    Federal Employer Identification Number: _____

SUBMITTED ON ____day of_____2025

AN **INDIVIDUAL**

BY:_____(SEAL)

(Individual's Name and Signature)

Doing Business as: _____

North Carolina Contractor Registration Number:_____

Business Address:_____

Phone Number: _____

Subscribed and sworn to before me this____day of_____2025

_____

NOTARY PUBLIC

My Commission Expires: _____

A **PARTNERSHIP**

BY:_____(SEAL)

(Firm Name)

(General Partner and Signature)

North Carolina Contractor Registration Number:_____

Business Address:_____

Phone Number: _____

Subscribed and sworn to before me this____day of_____2025

_____

NOTARY PUBLIC

My Commission Expires: _____

A **CORPORATION**

BY: _____ _____

(Corporation Name) (State of Incorporation)

BY: _____ (SEAL)

(Name and Title of Person Authorized to Sign and Signature)

ATTEST: _____

(Secretary or Assistant Secretary and Signature)

North Carolina Contractor Registration Number: _____

Business Address: _____

Phone Number: _____

Subscribed and sworn to before me this ____ day of _____ 2025

_____

NOTARY PUBLIC

My Commission Expires: _____

_____

A **JOINT VENTURE**

BY: _____

(Name and Signature)

Doing Business as: _____

North Carolina Contractor Registration Number: _____

Business Address: _____

Phone Number: _____

Subscribed and sworn to before me this ____ day of _____ 2025

_____

NOTARY PUBLIC

My Commission Expires: _____

(Each joint venturer must sign. The name of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

LIST OF SUBCONTRACTORS

In compliance with the Instructions to Bidders and the Supplementary Conditions, the undersigned submits the following names of Subcontractors to be used in performing the Work.

The Bidder certifies that all Subcontractors listed are eligible to perform the Work and that all Subcontractors performing more than five percent of the work are listed.

Subcontractor's Name	Subcontractor's Work	% of Work
		%
		%
		%
		%
		%

Bidder's Signature

BID BOND

This is a Bid Bond that is subject to the provisions of Article 3 of Chapter 44A of the North Carolina General statutes.

This Bond is executed on _____ , 20 _____ .

The name of the PRINCIPAL is _____ (1)

_____ (2)

The name of the SURETY is _____

_____

Fayetteville Public Works Commission, Fayetteville, North Carolina is the OWNER

The amount of the Bond is _____

_____ (Dollars) ($ _____)

KNOW BY ALL MEN BY THESE PRESENTS, the Principal and Surety above named are hereby held and firmly bound unto the above named OWNER hereinafter called the OWNER in the penal sum of the amount stated above in lawful money of the United States, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to the OWNER a certain Bid, attached hereto and hereby made a part hereof to enter into a Contract in writing, for the construction of:

PWC2526058 – GRADING FOR POINT OF DELIVERY 5 (POD 5)

NOW, THEREFORE

(a) If said Bid shall be rejected, or in the alternate,

(b) If said Bid shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its Bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

ATTEST:

(Principal Secretary) (SEAL)	Principal
	BY: (3)
	(Address)
Witness as to Principal	Surety
(Address)	(Address)

ATTEST:

N.C. Resident Agent
(SEAL)

Witness as to Surety

(Address)

(1) Correct name of Contractor
(2) A Corporation, a Partnership or an Individual, as the case may be
(3) If Contractor is a Partnership, all partners should execute Bond

POWER OF ATTORNEY
(Attach)

AFFIDAVIT OF ORGANIZATION AND AUTHORITY SWORN STATEMENT
PWC2526058 – GRADING FOR POINT OF DELIVERY 5 (POD 5)

STATE OF _____

COUNTY OF _____

_____being the first duly sworn on oath deposes and says that the Bidder on the attached Bid Form id organized as indicated below and that all statements herein made are made on behalf of such Bidder and that this deponent is authorized to make them.

(Fill Out Applicable Paragraph)

1. CORPORATION

The bidder is a corporation organized and existing under the laws of the State of _____ and its President is_____, and its Secretary is _____, and does have a corporate seal. The _____ is authorized to sign construction Contract and Bids for the company by action of its Board of Directors taken _____, a certified copy of which is hereto attached. (Strike out last sentence if not applicable.)

2. PARTNERSHIP

The Bidder is a Partnership consisting of_____ and _____, partners doing business under the name of _____.

3. SOLE TRADER

The Bidder is an individual and if operating under a trade name, such trade name is as follows: _____

4. ADDRESS

The business address of the Bidder is as follows:

_____

_____

_____ Its phone number is _____

_____

Bidder

By: _____

EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this Contract the Contractor agrees as follows:

a. The Contractor will not discriminate against any employee or applicant because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to race, color, religion, sex, or national origin. Such action shall include but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of the nondiscrimination clause.

b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

c. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other Contract understanding, a notice, to be provided, advising the labor union or worker's representative of the Contractor's commitments under the Equal Employment Opportunity Section of this Contract, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

d. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further OWNER Contracts.

e. The Contractor will include the provisions of this section in every subcontract or purchase order unless exempted by rules, regulations, or orders of the OWNER so that such provisions will be binding upon each Subcontractor or vendor.

(Use the following form for signatures by a CORPORATION):

_____
Corporate Name

ATTEST:

_____ _____
(Assistant) Secretary (Vice) President

(CORPORATE SEAL)

(Use the following form for signatures by and INDIVIDUAL):

BY: _____ (Seal)

WITNESS:

_____

(ACKNOWLEDGEMENT OF THE ABOVE SIGNATURE MUST BE NOTARIZED USING FORM ON FOLLOWING PAGE)

NONDISCRIMINATION CLAUSE

It is specifically agreed as part of the consideration of the signing of this Contract that the parties hereto, their agents, officials, employees or servants will not discriminate in any manner on the basis of age, handicap, race, color, creed, sexual orientation or national origin with reference to the subject matter of this Contract, no matter how remote.

This provision being incorporated for the benefit of Fayetteville Public Works Commission, Fayetteville, North Carolina and its residents may be enforced as set out in said ordinances, enforcement of this provision shall be by action for specific performance, injunctive relief, or other remedy as by law provided.

This provision shall be binding on the successors and assigns of the parties hereto with reference to the subject matter of this Contract.

(Use the following form for signatures by a CORPORATION):

_____
Corporate Name

ATTEST:

_____ BY: _____
(Assistant) Secretary (Vice) President

_____ BY: _____
(Printed Name) (Printed Name)

(Corporate Seal)

(Use the following form for signatures by a PARTNERSHIP or INDIVIDUAL):

BY:_____(SEAL)

_____
(Printed Name)

WITNESS:

_____

_____
(Printed Name)

NON-COLLUSIVE AFFIDAVIT

State of_____)
)
County of _____)

_____being first duly sworn, deposes and says that:

(1) He is the_____
(Owner, Partner, Officer, Representative or Agent)
of_____the BIDDER that has submitted the attached BID;

(2) He is fully informed respecting the preparation and contents of the attached BID and of all pertinent circumstances respecting such BID;

(3) Such BID is genuine and is not a collusive or sham BID;

(4) Neither the said BIDDER nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other BIDDER, firm, or person to submit a collusive or sham BID in connection with the Contract for which the attached BID has been submitted; or to refrain from bidding in connection with such Contract; or have in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference with any BIDDER, firm, or person to fix the price or prices in the attached BID or of any other BIDDER, or to fix any overhead, profit, or cost elements of the BID price or the BID price of any other BIDDER, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed Contract;

(5) The price or prices quoted in the attached BID are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the BIDDER or any other of its agents, representatives, owners, employees or parties in interest, including this affidavit.

BY _____

ITS _____
(Title)

Subscribed and sworn to before me this _____ day of _____ , 20 ___ .

_____
Notary Public

My Commission Expires:

_____

END OF AFFIDAVIT

F.T.A. CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

(To be submitted with each bid or offer exceeding $100,000)

The undersigned ____certifies, to the best of his or her knowledge and belief, that:

(1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq* .)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq., apply* to this certification and disclosure, if any.

_____ Signature of Contractor's Authorized Official

_____ Name and Title of Contractor's Authorized Official

_____ Date

*** THIS PAGE WAS INTENTIONALLY LEFT BLANK***

SMALL AND DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

FAYETTEVILLE PUBLIC WORKS COMMISSION'S

SDBE COMPLIANCE PROVISIONS

APPLICATION:

The requirements of Fayetteville Public Works Commission (PWC) Small Disadvantaged Business Enterprise Policy for participation in specific contracts are hereby made part of the Contract Documents. Copies of the Policy may be obtained from:

Fayetteville Public Works Commission
Economic Impact Program
P.O. Box 1089
Fayetteville, North Carolina 28302
Phone (910) 223-4016 Fax (910) 483-1429
E-mail: eiprogram@faypwc.com

NCDOT DBE Directory: www.ebs.nc.gov/VendorDirectory
HUB Directory: https://ncadmin.nc.gov/businesses/hub

SDBE Compliance Requirements:

1. The Bidder shall provide, with their Bid Form, at the time bids are due, the documents set forth below, properly executed. Returning executed copies indicates and establishes that the Bidder understands and agrees to any incorporated SDBE contract provisions.

2. All Bidders must provide, with their Bid Form, at the time bids are due, a properly completed and executed copy of **either:**

   - Affidavit A – Listing of Good-Faith Efforts **OR**
   - Affidavit B – Intent to Self-Perform with Own Workforce.[1]

   Note: Affidavit B should **only** be used if the Contractor will perform **ALL Elements** of the Work on this project with their own forces **AND** will complete **ALL Elements** of this project **WITHOUT** the use of subcontractors, material suppliers, or providers of professional services.

3. Upon being identified as the apparent lowest responsive, responsible Bidder, a Bidder shall, within twenty-four (24) hours of PWC's notification provide a properly completed and executed copy of **either:**

   - Affidavit C – Percentage of SDBE Participation **OR**
   - Affidavit D – Good-Faith Efforts.

4. All Bidders must provide with their Bid Form, at the time bids are due, a properly completed and executed copy of Affidavit E- Identification of SDBE/Local Participation Form

SMALL AND DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

All written statements, certifications, or intentions made by the Bidder shall become a part of the agreement between the Contractor and Fayetteville Public Works Commission for performance of this contract.

SUBCONTRACTOR PAYMENT REQUIREMENTS:

North Carolina General Statutes (N.C.G.S.) 143-134.1 states that the percentage of retainage on payments made by the prime contractor to the subcontractor shall not exceed the percentage of retainage on payments made by the Fayetteville Public Works Commission to the prime contractor. Failure to comply with this provision shall be considered a breach of the contract, and the contract may be terminated in accordance with the termination provisions of the contract.

The Contractor shall provide an itemized statement of payments to each SDBE subcontractor before final payment is processed.

The Contractor shall provide an itemized statement of payments to each NON-SDBE subcontractor before final payment is processed.

_____
Contractor

_____
Signature

_____,_____
Printed Name Title

_____
Date

Affidavit A: Listing of the Good Faith Efforts

Affidavit of _____
(Name of Bidder)

I have made a good faith effort to comply under the following areas checked:

Total Available GFE Points: ***155***		*Expected Number GFE Points* ***Required*****: 50**
Points		
	10	Contacting small-disadvantaged businesses (SDBE) that reasonably could have been expected to submit a quote and that were known to the contractor or available on Federal, State, or local government-maintained lists at least 10 days before the bid or proposal date, and notifying them of the nature and scope of the work to be performed.
	10	Making the construction plans, scope of work, specifications, or requirements available for review by prospective SDBE or providing these documents to them at least 10 days before the bid or proposals are due.
	15	Breaking down or combining elements of work into economically feasible units to facilitate SDBE participation.
	10	Working with SDBE trade, community, or contractor organizations identified by the U.S. Small Business Administration, N.C. Office for Historically Underutilized Businesses, or N.C. Department of Transportation, and included in the bid documents that provide assistance in the recruitment of small, disadvantaged businesses.
	10	Attending any pre-bid meetings scheduled by the public owner.
	20	Providing assistance in getting required bonding or insurance, or providing alternatives to bonding or insurance for subcontractors.
	15	Negotiating in good faith with interested SDBEs and not rejecting them as unqualified without sound reasons based on their capabilities. Any rejection of an SDBE based on a lack of qualification should have the reasons documented in writing.
	25	Providing assistance to an otherwise qualified SDBEs in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisting SDBEs in obtaining the same unit pricing with the bidder's suppliers in order to help SDBEs in establishing credit.
	20	Negotiating joint venture and partnership arrangements with small, disadvantaged businesses to increase opportunities for SDBE participation on a public construction or repair project when possible.
	20	Providing quick pay agreements and policies to enable SDBE contractors and suppliers to meet cash-flow demands.
Total GFE Points (Claimed by Bidder):		***Total GFE Points (Assessed by PWC):***

In accordance with PWC's SDBE Policy and Program Plan, the undersigned will enter into a formal agreement with the firms listed in the Identification of Small Disadvantaged Business Participation schedule, conditional upon execution of a contract with the Owner. Failure to abide by any applicable statutory provision may constitute a breach of the contract. The undersigned hereby certifies that he or she has read the terms of the SDBE business commitment and is authorized to bind the Bidder to the commitment herein set forth.

Date:_____Name of Authorized Officer: _____

SEAL

State of North Carolina, County of _____

Subscribed and sworn to before me this _____day of 20___

Notary Public _____

My commission expires _____

Affidavit B: Intent to Perform Contract with Own Workforce

Affidavit of _____
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the contract:

_____
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform **all elements of the work** on this project with his/her own current workforces; and will complete all elements of this project **without** the use of subcontractors, material suppliers, or providers of professional services.

The Bidder agrees to provide any additional information or documentation requested by the Owner in support of the above statement.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date:_____Name of Authorized Officer: _____

SEAL

State of North Carolina, County of _____

Subscribed and sworn to before me this _____day of 20___

Notary Public _____

My commission expires _____

Affidavit C: Percentage of SDBE Participation

Affidavit of _____
(Name of Bidder)

I hereby certify that on contract: _____
(Name of Project)

$_____
(Dollar Amount of Total Bid)

I will expend a minimum of _____% of the total dollar amount of the contract with Small Disadvantaged Business Enterprises (SDBE). SDBEs will be employed as subcontractors, vendors, or providers of professional services. Such work will be subcontracted to the following firms listed below.

Name, Address, & Phone No.	*SDBE/Certifying Agency	NAICS	Dollar Value	% of Contract

*SDBE categories: Black-African Americans (B), Hispanic-Americans (H), Asian- Americans (A), Native-Americans (I), Women (F), Socially/Economically Disadvantaged (D), Small (S)
*Certifying Agencies: NC DOA (HUB), NC DOT (DBE), U.S. SBA

Pursuant to NCGS 143-128.2(d), the undersigned will enter into a formal agreement with SDBEs for work listed in this schedule, conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the Bidder to the commitment herein set forth.

Date:_____Name of Authorized Officer: _____

SEAL

State of North Carolina, County of _____

Subscribed and sworn to before me this _____day of 20___

Notary Public _____

My commission expires _____

Affidavit D: Good Faith Efforts

If the Owner determines, using reasonable discretion, that Affidavit C is insufficient, Bidder agrees to provide the following information regarding any good-faith efforts.

Name, Address, & Phone No.	*SDBE Category	NAICS	Dollar Value

*SDBE categories: Black-African Americans (B), Hispanic-Americans (H), Asian- Americans (A), Native-Americans (I), Women (F), Socially/Economically Disadvantaged (D)

Bidder may be requested to provide documentation of the Bidder's good-faith efforts. Examples of documentation may include the following:

a. Copies of solicitations for quotes to SDBEs. Each solicitation may include a specific description of the work to be subcontracted, the location where bid documents can be reviewed, the representative of the Prime Bidder to contact, and the location, date, and time when quotes must be received.
b. Copies of quotes or responses received from each firm responding to the solicitation.
c. A telephone log of follow-up calls to each firm sent a solicitation.
d. For subcontracts where an SDBE is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
e. Documentation of any contacts or correspondence to SDBE, community or contractor organizations in an attempt to meet the goal.
f. Copy of pre-bid roster.
g. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for SDBEs.
h. Letter detailing reasons for rejection of an SDBE due to lack of qualification.
i. Letter documenting proposed assistance offered to SDBEs in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive Bidder.

Date:_____Name of Authorized Officer: _____

SEAL

State of North Carolina, County of _____

Subscribed and sworn to before me this _____day of 20___

Notary Public _____

My commission expires _____

Affidavit E: Identification of SDBE/Local Participation

_____
(Name of Bidder)

I hereby certify that on contract: _____

(Name of Project)

We will use the following Small Disadvantaged Business Enterprises (SDBE), and Local (Cumberland, Hoke, Harnett County) as construction subcontractors, vendors, suppliers, or providers of professional or general services.

Name, Address, & Phone No.	*SDBE Category / **Local	NAICS	Dollar Value

*SDBE categories: Black-African Americans (B), Hispanic-Americans (H), Asian- Americans (A), Native-Americans (I), Women (F), Socially/Economically Disadvantaged (D)

**Local: Fayetteville Metropolitan Statistical Area (MSA) comprising Cumberland County, Hoke County, and Harnett County. PWC is requesting this information for reporting purposes only, and the use of local entities will not be considered for compliance with the requirements of the SDBE Policy.

The total value of SDBE/local business contracting will be $_____

Date:_____Name of Authorized Officer: _____

SEAL

State of North Carolina, County of _____

Subscribed and sworn to before me this _____day of 20___

Notary Public _____

My commission expires _____

FAYETTEVILLE PUBLIC WORKS COMMISSION
SDBE ADD / CHANGE FORM

If a SDBE subcontractor fails to complete work under the subcontract for any reason, the recipient must require the prime contractor to employ the good faith efforts set forth in the SDBE Policy if soliciting a replacement or additional subcontractor.

For SDBE Change Request, please provide all information below:

Prime Contractor: _____

Subcontracted Work: _____

Previous Subcontractor: _____

Reason this for change request:

_____

New Subcontractor: _____SDBE Category: _____

To Add SDBE Subcontractor/Subcontracted work:

If this is a new trade being subcontracted or a subcontractor that was not documented in the original Project Bid Information submittal, then good faith efforts to solicit an SDBE must be documented, as the original SDBE instructions indicate. Please provide all good faith efforts below showing all the SDBE firms contacted to perform this work, along with any additional good faith efforts or evidence that there are not reasonably available firms in the work area. PWC's SDBE Policy requires that good faith efforts are to be carried out to the fullest extent practicable. If solicitations were not carried out due to being impracticable, please attach this explanation to this form.

Name, Address, & Contact Information	SBE or DBE and Certifying agency	How was this firm contacted (email, letter, or Phone), and what was the result of the solicitation? *

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

Date:_____Name of Authorized Officer: _____

SEAL

State of North Carolina, County of _____

Subscribed and sworn to before me this _____day of 20___

Notary Public _____

My commission expires _____

SMALL AND DISADVANTAGED BUSINESS (SDBE), SMALL LOCAL SUPPLIER (SLS), AND LOCAL BUSINESS DISCLOSURE FORM

Prime Contractor: _____
Address & Phone: _____
Project: _____
Name: _____
Pay Application # _____

Please complete the form below by providing the necessary information for the payments made to each subcontractor, vendor, or supplier for the work associated with the identified contractor application for payment. This form must be fully completed and attached to each contractor application for payment.

Firm Name	SDBE, SLS, or Local	Construction Trade or Supplies	Payment Amount
Ex. ABC Company *Ex. DEF Enterprise* *Ex. GHI Incorporated*	*SDBE – NC HUB M* *SLS – PWC* *Local – Fayetteville*	*Hauling* *Paint* *Tire Repair*	*$25,000.00* *$600.00* *$2,000.00*

_____
Signature

_____, _____
Printed Name Title

_____
Date

SECTION B - CONTRACT EXECUTION DOCUMENTS

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NOTICE OF AWARD

TO: _____
_____
_____

PROJECT DESCRIPTION: **PWC2526058 – GRADING FOR POINT OF DELIVERY 5 (POD 5)**

The OWNER has considered the BID submitted by you for the above described work in response to its Advertisement for Bids dated _____ and Instructions to Bidders.

You are hereby notified that your BID has been accepted for items in the amount of $_____.

You are required by the Instructions to Bidders to execute the Agreement and furnish the required Performance Bond, Payment Bond, and Certificates of Insurance within ten (10) calendar days from the date of this NOTICE to you.

If you fail to execute said Agreement and to furnish said Bonds within ten (10) days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the OWNER's acceptance of your BID as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____day of _____, 2026.

OWNER: **FAYETTEVILLE PUBLIC WORKS COMMISSION**
FAYETTEVILLE, NC

BY: Nikole Bohannon
TITLE: Procurement Manager

ACCEPTANCE OF AWARD

PWC2526058 – GRADING FOR POINT OF DELIVERY 5 (POD 5)

Receipt of the preceding NOTICE OF AWARD is hereby acknowledged this the _____ day of _____, 2026.

(CONTRACTOR)

By: _____

Title: _____

- END OF SECTION -

State of North Carolina
Cumberland County

CONSTRUCTION AGREEMENT

THIS CONSTRUCTION AGREEMENT ("Agreement" or "Contract") is made by and between the Fayetteville Public Works Commission ("PWC"), a North Carolina public authority, and _____ [PER THE CHARTER (SEE SEC 6A.20), THE CONSTRUCTION CONTRACT, IF MORE THAN $500K, MUST BE BETWEEN THE CITY (BY AND THROUGH PWC) AND THE CONTRACTOR], ("Contractor"), a _____ registered to do business in North Carolina (each of PWC and Contractor is a "Party" and both are collectively the "Parties") as of the date of execution last written below (the "Effective Date"). The Parties agree as follows:

1. The Construction Project. Contractor shall furnish and bear solely the entire cost of all labor and materials necessary for the construction and/or renovation of the Project (defined hereinbelow) as specified in the Contract Documents (defined hereinbelow) and complete all Work on the Project in a Workmanlike manner in strict accordance with the Contract Documents, schedule delivery of the new materials, furnish and bear solely the entire cost of all supervision, contract administration, equipment, tools, and other means necessary to complete the Project, perform every obligation imposed by the Contract Documents, and be solely responsible for the clean-up and disposal of all materials and debris relating to or arising from the construction and renovation, subject to any exceptions that are specifically set forth in the Contract Documents. Except as otherwise specifically provided in the Contract Documents, Contractor is solely responsible for all construction means, methods, techniques, sequences, procedures, safety precautions or programs, supervising, coordinating, and performing all the Work necessary to complete the Project; provided, however, PWC shall have the right, without incurring any liability to the Contractor, to suspend Contractor's performance when a PWC employee, in his or her opinion, observes a safety violation involving a threat to life or imminent danger of bodily injury, and the suspension shall remain in effect until Contractor remedies the safety violation.

2. Terms. Capitalized terms used in this Agreement have the meaning specified below:

"Business Day" means each calendar day that is not a Saturday, Sunday, holiday observed by the federal government for its employees, or holiday observed by the State of North Carolina for its employees.

"Completion of the Project" means: (i) the Project is completed in accordance with this Agreement, except for punch list items; (ii) PWC has received any required temporary or final certificate of occupancy from the governmental agency with jurisdiction over the Project; and (iii) the registered architects or engineers (the "Designer(s)") who designed portions or components of the Project have issued certificates of Completion of the Project as to those portions or components.

"Contract Documents" means the following documents that were either made available to Contractor by PWC during the bid solicitation process (including Drawings) or executed by the Parties or both, which are all incorporated by reference herein:

a. This Agreement
b. General Conditions
c. Bid Submittal Documents
d. Contractor's Submitted Bid
e. Bid Bond
f. [Form of Exceptions]
g. Notice of Award
h. Acceptance of Award
i. Performance Bond
j. Payment Bond
k. Copy of General Contractor's License
l. Power of Attorney
m. Certificate of Insurance
n. Section C – Administrative Provisions
o. Section D - Technical Specifications
p. [Additional Specifications]
q. [Appendices]

The following documents may be delivered or issued on or after the Effective Date of the Agreement and may not be attached to this Agreement, but are considered Contract Documents when executed by the Parties:

r. Notice to Proceed and Acceptance of Notice
s. Work Change Directive(s)
t. Change Order(s)
u. Field Order(s)

There are no Contract Documents other than those identified in this Agreement. The Contract Documents may only be amended, modified, or supplemented as provided in this Agreement in a writing signed by the Parties.

"Fault" means a breach of contract by Contractor, negligent, reckless, or intentional act(s) or omission(s) constituting a tort under applicable statutes or common law by one or more Responsible Persons, or violation(s) of applicable statute(s) or regulation(s) by a Responsible Person.

"Project" means _____ _____, as more specifically set forth in the Contract Documents.

"Responsible Person" means the Contractor and each of its employees, agents, representatives, subcontractors, or other persons and entities for which Contractor may be liable or responsible as a result of any statutory, tort, or contractual duty.

The terms used in this Agreement shall have the meaning as stated herein and in the General Conditions. In the event of a conflict between the terms of this Agreement and any other component(s) of the Contract Documents, the terms of this Agreement shall govern.

3. Contract Price. PWC shall pay Contractor for Completion of the Project in accordance with the Contract Documents the amount identified in the accepted Bid Form of

Contractor, being in the total amount of $_____ (the "Price"). Contractor understands and acknowledges that the Price is derived from a specific appropriation of funds provided for the Project. Contractor agrees and acknowledges the Price is equal to the aggregate cost of all Work to be done on the Project, including all labor, materials, equipment, apparatus, and supplies, set in accordance with the amount specified on the Bid Form submitted by Contractor and accepted by PWC.

4. Contract Times. The Parties shall perform their obligations under this Agreement in compliance with all scheduling deadlines set forth in the Contract Documents. The Contractor shall commence the Work to be performed under this Agreement on a date to be specified in accordance with the Notice to Proceed issued by PWC. Contractor shall achieve Completion of the Project no later than 360 consecutive calendar days from said date plus any modifications thereof allowed in accordance with the Contract Documents (the "Completion Date").

5. Payment. PWC shall pay Contractor in installment payments plus a final payment, as set forth in the Contract Documents. For each applicable installment payment, Contractor shall submit an application for payment in accordance with the Contract Documents. An application for payment will be processed by PWC as provided in the Contract Documents. Such installment payments shall reflect the actual Cost of the Work, not to exceed in total the Price, and the allocable portion of the total Price for said installment. PWC shall make payment to the Contractor, less any applicable retainage set forth in the Contract Documents; provided, however, that PWC may withhold all or a portion of a payment on account of (1) incomplete Work, (2) defective or nonconforming Work, (3) claims filed or a reasonable basis to believe that such claims will be filed imminently, (4) failure of the Contractor to make payments properly for labor, services, materials, equipment or subcontracts, (5) damages caused to PWC or another party by one or more Responsible Persons, or (6) failure to comply with the terms and conditions of this Agreement. In the final payment, PWC shall pay the balance of the Price, including all retained amounts, less any Liquidated Damages and other applicable damage and claim amounts, to Contractor within forty-five (45) days of Completion of the Project; provided, however, that PWC may withhold a reasonable sum from the final payment to ensure correction of any final items or condition on the Project.

6. Retainage. Subject to any restrictions applicable to any federal grant funds that may be utilized for the Project, PWC may, in its discretion, retain up to five percent (5%) of any periodic payment due Contractor; provided, however, when the Project is fifty percent (50%) complete, PWC, with written consent of the surety, shall not retain any further retainage from periodic payments due Contractor if Contractor continues to perform satisfactorily and any nonconforming Work identified in writing prior to that time by PWC or the Designer has been corrected by Contractor and accepted by PWC or the Designer, and provided further that full payment, less authorized deductions, shall also be made for those line item trades that have reached one hundred percent (100%) completion of their contract obligations by or before the Project is fifty percent (50%) complete if Contractor has performed satisfactorily in accordance with G.S. 143-134.1(b2), contingent upon PWC's receipt of an approval or certification from the Designer that the Work performed by the subcontractor is acceptable and in accordance with the Contract Documents. If PWC determines Contractor's performance is unsatisfactory, PWC may, in its discretion, reinstate retainage for each subsequent periodic application for payment as authorized in this Section up to the maximum amount of five percent (5%). The Project shall be deemed fifty percent (50%) complete when Contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed fifty percent (50%) of the Price, except the value of materials stored on-site shall not exceed twenty percent (20%) of Contractor's gross project invoices for the purpose of determining whether the Project is fifty percent (50%)

complete. Within 60 days after the submission of a pay request and one of the following occurs, as specified in the Contract Documents, PWC, with written consent of the surety, shall release to Contractor all retainage on payments held by PWC: (i) PWC receives a certificate of Substantial Completion from the Designer in charge of the Project; or (ii) PWC receives beneficial occupancy or use of the Project; provided, however, PWC may in its discretion retain sufficient funds to secure Completion of the Project or corrections on any Work. If PWC retains funds, the amount retained shall not exceed two and one-half times the estimated value of the Work to be completed or corrected. Any reduction in the amount of the retainage on payments shall be with the consent of Contractor's surety. The existence of any third-party claims against Contractor or any additive change orders to the Construction Documents shall not be a basis for delaying the release of any retainage on payments. Notwithstanding anything in this Section to the contrary, following fifty percent (50%) completion of the Project, PWC shall be authorized to withhold additional retainage from a subsequent periodic payment, not to exceed five percent (5%), in order to allow PWC to retain two and one-half percent (2.5%) total retainage through the Completion of the Project. In the event that PWC elects to withhold additional retainage on any periodic payment subsequent to release of retainage on a line-item of Work pursuant to G.S. 143-134.1(b2), Contractor may also withhold from the subcontractors remaining on the project sufficient retainage to offset the additional retainage held by PWC, notwithstanding the actual percentage of retainage withheld by PWC of the Project as a whole. Neither PWC's nor Contractor's release of retainage on payments as part of a payment in full on a line-item of Work pursuant to G.S. 143-134.1(b2) shall affect any applicable warranties on Work done by Contractor or subcontractor, and the warranties shall not begin to run any earlier than either PWC's receipt of a certificate of Substantial Completion from the Designer in charge of the Project or PWC receives beneficial occupancy.

7. Liquidated Damages. Time is of the essence with respect to performance of each of the Parties' obligations under this Agreement. Contractor recognizes and acknowledges that PWC will suffer financial and other losses if the Project is not completed by the Completion Date. The Parties recognize and agree that the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by PWC if the Project is not completed by the Completion Date. Accordingly, instead of requiring any such proof, Contractor and PWC agree that in the event Contractor fails to achieve Completion of the Project by the Completion Date, Contractor shall pay to PWC as liquidated damages to compensate PWC for damages related to the delayed Completion of the Project one thousand dollars ($1000.00) per day ("Liquidated Damages") for each calendar day Contractor fails to achieve Completion of the Project by the Completion Date.

8. Contractor's Representations and Warranties. In order to induce PWC to enter into this Agreement, Contractor makes the following representations and warranties to PWC:

a. Contractor is duly licensed in the State of North Carolina to complete all Work necessary for the Project, is duly organized, validly existing and in good standing and has all requisite powers, rights, and authority to execute, enter into, and perform this Agreement in accordance with the terms and conditions of this Agreement, and this Agreement constitutes a legal, valid, and binding obligation of Contractor enforceable against it in accordance with its terms.

b. Contractor has read the Contract Documents, and acknowledges and understands all data, materials, specifications, and requirements identified in the Contract Documents.

c. Contractor has visited the site for the Project, conducted a thorough, visual examination of the site and adjacent areas, and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, and performance in completing the Project. Contractor is familiar with and is satisfied as to all laws and regulations that may affect cost, progress, and performance to complete the Project.

d. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the site and all drawings of physical conditions relating to existing surface or subsurface structures at the site that have been identified in the Contract Documents and any accompanying reports and drawings, and (2) reports and drawings relating to hazardous environmental conditions, if any, at or adjacent to the site that have been identified in the Contract Documents and any accompanying reports and drawings.

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

f. Based on the information and observations referred to in subsection e. of this Section, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Price commencing on the commencement date and in accordance with the other terms and conditions of the Contract.

g. Contractor is aware of the general nature of Work to be performed by PWC and others at the Site that relates to the Work as indicated in the Contract Documents.

h. Contractor has given PWC's Designer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by the Designer is acceptable to Contractor.

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

j. Contractor's entry into this Agreement constitutes an incontrovertible representation by Contractor that, without exception, all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

k. Contractor has no business or personal relationship with any PWC Commissioner, officer, director, manager, or supervisor and Contractor covenants to disclose immediately to PWC any such relationship that develops

during the performance of Work on the Project.

9. Contractor's Payment Obligations. Contractor shall pay all of its obligations arising out of or in connection with the Project in a timely manner to all persons supplying materials in the prosecution of the Work and to all laborers and others employed thereon.

10. Performance and Payment Bonds. Contractor shall obtain and deliver to PWC a performance bond in the amount of one hundred percent (100%) of the Price, conditioned upon the faithful performance of the Project and all Work in accordance with the Contract Documents, which bond shall be solely for the protection of PWC. Contractor shall obtain and deliver to PWC a payment bond in the amount of one hundred percent (100%) of the Price, conditioned upon the prompt payment for all labor or materials for which the Contractor or one or more of its subcontractors is liable, which payment bond shall be solely for the protection of the persons furnishing materials or performing labor for which the Contractor is liable. The performance bond and the payment bond shall be executed by one or more surety companies legally authorized to do business in the State of North Carolina, shall become effective upon the awarding of the construction contract by PWC to Contractor, and shall at all times comply with the requirements set forth in Article 3 of North Carolina General Statutes Chapter 44A. In the event PWC deems the surety or sureties upon any bond necessary for this Agreement and the completion of the Project, or if for any reason, such bond ceases to be adequate to cover the performance and/or payment of the Work, Contractor shall, at its expense, within five (5) days after the receipt of notice from PWC, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to PWC. In such event no further payment to Contractor shall be deemed to be due under this Agreement until new or additional security for the performance and payment of the Project shall be furnished in manner and form satisfactory to PWC. Contractor understands and acknowledges that PWC, as a public authority, is not subject to the provisions of Articles 1 and 2 of Chapter 44A of the General Statutes, in accordance with G.S. 44A-34 and applicable law.

11. Contractor's Damage Repair Obligations. Contractor shall be responsible for all damages to the property of the City of Fayetteville and of PWC that may result from the normal procedure of a Responsible Person's actions in the prosecution of the Work or that may be caused by or result from the negligence of a Responsible Person during the progress of or connected with the prosecution of the Work, whether within the limits of the Work or elsewhere. Contractor shall promptly restore all such property so damaged to a condition as good as it was immediately prior to Contractor initiating the Work on the Project.

12. Defective Work. The Project shall be subject to observation and approval by PWC, Designer, and representatives of governmental agencies with jurisdiction over the Project. PWC and Designer shall be entitled to enter at all reasonable times the premises subject to construction or renovation to inspect the Work performed by or on behalf of Contractor, provided that such entry and inspection does not materially interfere with the progress of construction. Contractor shall correct promptly, at no cost to PWC, all Work reasonably rejected by PWC or by its representatives. Should Contractor fail to correct rejected Work, PWC may, acting in its sole discretion, correct such Work and the Contractor shall pay PWC's actual costs of correction and any other applicable amounts identified in the Contract Documents.

13. As-Built Drawings. Contractor shall maintain during the progress of the Project as-built drawings indicating the current status of the Project as actually performed. Upon Completion of the Project, Contractor shall prepare a final version of such as-built drawings and

submit them to PWC for approval.

14. Assignment. This Agreement shall be binding upon and inure to the benefit of the Parties, their legal representatives, successors, and assigns. Contractor may not assign, transfer, convey, or encumber, whether voluntarily or by operation of law, this Agreement or any obligations, rights under, or interests in this Agreement to a third party without the prior written consent of PWC; and, specifically, but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

15. Indemnity. Contractor shall indemnify, defend, and hold harmless PWC and its Commissioners, officers, employees, agents, and representatives and the City of Fayetteville and its elected officials, managers, employees, agents, and representatives and Design Engineer (collectively "Indemnitees") from and against all claims, actions, liabilities, damages, losses, costs, and expenses (including, without limitation, injury to or death of any persons and damage to property, economic and consequential damages and attorneys' fees) asserted by one or more third parties against one or more of the Indemnitees if the Fault of one or more Responsible Persons is a proximate cause of the loss, damage, or expense indemnified. Contractor's obligation to indemnify, defend, and hold harmless the Indemnitees shall survive the termination of this Agreement.

16. Insurance. Contractor shall maintain during the Work and for at least three (3) years following Completion of the Project the insurance coverage set forth in the Contract Documents, which insurance shall be placed with insurance companies authorized to do business in the State of North Carolina and rated A minus VII or better by the current edition of Best's Key Rating Guide or otherwise approved in writing by PWC. Prior to initiating any Work, Contractor shall deliver certificates of insurance confirming each such coverage required by the Contract Documents, and Contractor shall direct its insurers to provide annually to PWC certificates confirming each such coverage during the coverage period. PWC shall be named as an additional insured in the comprehensive automobile and commercial liability insurance policies. Commercial general liability coverage shall be written on an "occurrence" basis. Contractor shall not reduce or allow the required insurance coverages to lapse without PWC's prior written approval. All policies for insurance must be endorsed to contain a provision giving PWC a thirty (30) calendar day prior written notice by certified mail of any cancellation of that policy or material reduction in coverage. Should a notice of cancellation be issued for non-payment of premiums or any part thereof, or should Contractor fail to provide and maintain certificates as set forth herein, PWC shall have the right, but shall not have the obligation, to pay such premium to the insurance company or to obtain such coverage and to deduct such payment from any sums that may be due or become due to Contractor, or to seek reimbursement for said payments from Contractor. Any such sums paid by PWC shall be due and payable immediately by Contractor upon notice from PWC. The insurance provisions of this Agreement shall not be construed as a limitation on Contractor's responsibilities and liabilities pursuant to the terms and conditions of this Agreement. Contractor's obligation to maintain insurance for three (3) years after Completion of the Project shall survive the termination of this Agreement.

17. Warranty. The Contractor hereby grants to PWC a warranty on all materials and Workmanship involved in the Project for a period of one (1) year from the Completion Date and a period of two (2) years from the Completion Date for any latent structural defects. PWC shall

give written notice to Contractor of any claim under this Section within the time specified hereinabove. This warranty shall be in addition to, and not in derogation of, all other rights and privileges which PWC may have under law, equity, or instrument, and shall survive the Completion Date and the final settlement and shall be binding on Contractor notwithstanding any provision in any other writing executed by PWC heretofore or contemporaneous with the execution of the Agreement or prior to the Completion Date.

18. Waiver. No failure on the part of any party to exercise, and no delay in exercising, any right, power, or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right hereunder preclude any other or further cumulative and not exclusive of any remedies provided by law. This Agreement shall be binding upon and inure to the benefit of the parties, their legal representatives, successors, and assigns. This Agreement may not be assigned, transferred, conveyed, or encumbered, whether voluntarily or by operation of law, by either party without the prior written consent of the other party, which consent shall not be unreasonably withheld.

19. Law. THIS AGREEMENT SHALL BE GOVERNED BY AND INTERPRETED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NORTH CAROLINA WITHOUT GIVING EFFECT TO THE CHOICE OF LAW PROVISIONS THEREOF. The Contractor shall at all times comply with all applicable Federal, state, and local laws and building codes in the performance of its obligations under the Agreement.

20. Dispute Resolution. In the event of any dispute, controversy, or claim of any kind or nature arising under or in connection with this Agreement (a “Dispute”) and involving any two or more of the following parties, PWC, Designer, Contractor or any subcontractor of Contractor, the party initiating the Dispute shall serve written notice of a Dispute on the party(ies) to the dispute, and those parties shall endeavor to settle the dispute first through direct, informal discussions between the parties’ selected representatives. Any such representative(s) shall have binding authority to settle the Dispute. In the event the parties do not settle the Dispute within ten (10) days from the date of written notice of the Dispute, any party to the Dispute may, by written notice to the other party(ies), engage a mediator certified under the laws of the State of North Carolina to mediate the Dispute within thirty (30) days of such notice. The parties to the Dispute shall attend mediation in good faith. In the event mediation is unsuccessful, any party to the dispute may initiate arbitration proceedings. Any controversy or claim arising out of or relating to the Contract Documents, or the breach thereof, shall be settled by binding arbitration administered by the American Arbitration Association under its Construction Industry Arbitration Rules, and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. All of the foregoing dispute resolution procedures shall be held in Cumberland County, North Carolina. The costs of the mediator and arbitrator in a dispute resolution process shall be divided equally among the parties to the process; provided, however, PWC shall bear at least one-third of the cost if PWC is a party to the dispute resolution and the remainder of the cost shall be divided equally among the other parties participating in the dispute resolution. PWC shall, in its contractual arrangements with Designer, and Contractor shall, in its contracts with subcontractors and they in their contracts with lower-tier subcontractors authorize and direct such parties to participate in the dispute resolution procedures set forth in this Section. Unless otherwise directed in writing by PWC, Contractor shall continue the Project and maintain compliance with the scheduling deadlines set forth in the Contract Documents during any dispute resolution proceedings. If Contractor continues to perform, PWC shall make payments due for the continued performance in accordance with this Agreement. The provisions of this Section shall not extend any applicable statutes of limitation or repose.

21. Execution; Modification; Entire Agreement; Severability. This Agreement may be executed in counterparts with the same effect as if the signatures to each counterpart were upon a single instrument, and all such counterparts together shall be deemed an original of this Agreement. For purposes of this Agreement, a facsimile copy or scanned copy or photocopy of a party's signature shall be sufficient to bind such party. This Agreement shall be subject to execution by electronic means in accordance with Article 40 of Chapter 66 of the North Carolina General Statutes. No oral communication, promise, understanding, or agreement before, contemporaneous with, or after the execution of this Agreement shall affect or modify any of the terms and conditions and obligations of the Contract Documents. The Contract Documents shall be modified only by a subsequent writing signed by both Parties. The Contract Documents shall be conclusively considered to contain and express all the terms and conditions agreed upon by the Parties, notwithstanding any prior or contemporaneous written communication, promise, understanding or agreement. Should any provision of this Agreement or any of the Contract Documents at any time be in conflict with any law, statute, rule, regulation, order, or ruling and thus be unenforceable, or be unenforceable for any other reason, then the remaining provisions of this Agreement shall remain in full force and effect and the court or arbitrator shall give the offending provision the fullest meaning and effect permitted by law. The titles of the Sections throughout this Agreement are for convenience only and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction, or meaning of the provisions of this instrument.

22. Notices. Any notice which either Party is required or desires to give the other hereunder shall be deemed sufficiently given if, in writing, it is delivered personally, or sent by certified U.S. mail, return-receipt requested, postage prepaid, to the addresses listed herein below, or such other address as either Party shall give to the other Party by written notice in accordance herewith. Any notice given herein by personal delivery shall be deemed delivered when received. Any properly addressed notice given herein by certified mail shall be deemed delivered on third Business Day after the same is deposited in an official United States Post Office, postage prepaid, or if sooner upon the date when the return receipt therefore is signed, or refusal to accept the mailing by the addressee is noted thereon by the postal authorities.

To PWC:
Fayetteville Public Works Commission
Attn: Timothy Bryant, CEO/General Manager
PO Box 1089
Fayetteville, NC 28302

To Contractor:

23. Termination. PWC may terminate this Agreement immediately if during the progress of the Work or during the warranty period, the Contractor:

a. Persistently fails to prosecute the Work properly and in accordance with this contract, including but not limited to include failure to provide sufficient crews, equipment, or resources, or failure to adhere to the schedule;

b. Demonstrates disregard for the policies, procedures, or requirements of PWC;

c. Demonstrates complete disregard of the authority of PWC or its designated representatives; or

d. Violates in any substantial way the provisions and requirements of this Agreement.

Such termination shall be effective upon written notice to Contractor and its surety. PWC may terminate the contract for its convenience by providing Contractor at least seven (7) calendar days prior written notice, in which event Contractor shall be paid for all Work completed, plus other expenses as mutually agreed upon between PWC and Contractor.

24. Compliance. Contractor hereby acknowledges that "E-Verify" is the federal E-Verify program operated by the US Department of Homeland Security and other federal agencies which is used to verify the Work authorization of newly hired employees pursuant to federal law and in accordance with Article 2, Chapter 64 of the North Carolina General Statutes. Contractor further acknowledges that all employers, as defined by Article 2, Chapter 64 of the North Carolina General Statutes, must use E-Verify and after hiring an employee to Work in the United States, shall verify the Work authorization of the employee through E-Verify in accordance with N.C.G.S. §64-26(a). Contractor hereby pledges, attests, and warrants through execution of this Agreement that Contractor complies with the requirements of Article 2, Chapter 64 of the North Carolina General Statutes and further pledges, attests, and warrants that all subcontractors currently employed by or subsequently hired by Contractor shall comply with all E-Verify requirements. Failure to comply with the above requirements shall be considered a breach of this Agreement. Contractor hereby further acknowledges that the execution and delivery of this Agreement constitutes Contractor's certification to PWC and to the North Carolina State Treasurer that, as of the date of the Effective Date of this Agreement, Contractor is not listed on (a) the Final Divestment List created and maintained by the North Carolina Department of State Treasurer pursuant to the Iran Divestment Act of 2015, Chapter 147, Article 6E of the General Statutes of North Carolina (the "Iran Divestment Act"); or (b) the list of companies that the North Carolina State Treasurer determines to be engaged in a boycott of Israel in accordance with Article 6G of Chapter 147 of the General Statutes of North Carolina. Contractor represents and warrants to Commission that Contractor, and all persons and entities owning (directly or indirectly) an ownership interest in it: (i) are not, and will not become, a person or entity with whom a party is restricted from doing business with under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including, but not limited to, those named on OFAC's Specially Designated and Blocked Persons list) or under any statute, executive order (including, but not limited to, the September 24, 2001, Executive Order 13224 Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action; and (ii) are not knowingly engaged in, and will not knowingly engage in, any dealings or transactions or be otherwise associated with such persons or entities described in clause (i) above. Contractor also shall at all times during the term of this Agreement comply with Executive Order 11246, including but not limited to the Equal Opportunity Clause requirements set forth in 41 C.F.R. § 60-1.4. Contractor shall abide by the requirements of 41 CFR 60–300.5(a) and 60–741.5(a) prohibiting discrimination against qualified individuals on the basis of protected veteran status or disability and requiring affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified protected veterans and individuals with disabilities.

IN WITNESS WHEREOF, the Parties have executed this Agreement by their duly authorized representatives.

Fayetteville Public Works Commission

[PER OUR CHARTER (SEE SEC 6A.20), THE CONSTRUCTION CONTRACT, IF MORE THAN $500K, MUST BE BETWEEN THE CITY (BY AND THROUGH PWC) AND THE CONTRACTOR]

By:_____
Timothy Bryant, CEO/GM

Date: _____

CONTRACTOR

By:_____

_____
(Printed Name, Title)

Date: _____

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act (N.C. Gen. Stat. § 159-1 et seq.).

By:_____
Rhonda Haskins, Chief Financial Officer

Approved as to form:

_____
Legal Dept.

GENERAL CONDITIONS FOR
FAYETTEVILLE PUBLIC WORKS COMMISSION

General Conditions

Article I. Definitions and Terminology

Section 1.01 Definitions

Capitalized terms used in the Bid Documents or Contract Documents, including the singular and plural forms, shall have the meaning indicated in the definitions below. In addition to terms specifically defined below, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

(a) Addenda—Written or graphic instruments issued before the opening of Bids which clarify, correct, or change the Bid Documents or other Contract Documents.

(b) Agreement—The written instrument, executed by PWC and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties, designates the specific documents that encompass the Contract Documents, and provides other material provisions that govern the relationship between the parties as it relates to the Project. The Agreement is also referred to, and titled as, the “Construction Agreement.”

(c) Application for Payment—The form that Contractor shall use during the Work in requesting progress or final payments. Any Application for Payment shall be accompanied by such supporting documentation as is required by the Contract Documents.

(d) Bid—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

(e) Bidder—An individual or entity that submits a Bid to PWC for the Project.

(f) Bid Documents—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

(g) Bidding Requirements—The Invitation to Bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bidder’s original Bid with any requisite attachments.

(h) Business Day—each calendar day that is not a Saturday, Sunday, or holiday observed by PWC (New Year’s Day, Martin Luther King, Jr. Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veteran’s Day, Thanksgiving Day (and the day after), and Christmas (2 days) for its employees.

(i) Change Order—A document that is signed by Contractor and PWC, which authorizes an addition, deletion, or revision in the Work, an adjustment in the Contract Price or the Contract Times, a change in the scope of the Project, or other revision to the Agreement, issued on or after the Effective Date of the Agreement.

(j) Change Proposal—A written request by Contractor, submitted in compliance with the procedural requirements set forth in the Contract Documents, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by PWC concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Agreement.

(k) Completion of the Project—Has the meaning as set forth in the Construction Agreement.

(l) Constituent of Concern—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

(m) Contract Price—The money that PWC has agreed to pay Contractor for Completion of the Project in accordance with the Contract Documents. May also be referred to as "Price" throughout the Contract Documents.

(n) Contract Times—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; and (b) Completion of the Project.

(o) Contractor—The individual or entity with which PWC has contracted for performance of the Work and Completion of the Project.

(p) Cost of the Work

A. Costs Included: To determine Cost of the Work when Cost of the Work is a component of the Contract Price, except as otherwise may be agreed to in writing by PWC, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the excluded costs specifically itemized below, and shall include only the following items:

(i) Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

(ii) Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

(iii) Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and

fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this subsection (p).

(iv) Supplemental costs including the following:

a. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

b. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

c. The cost of utilities, fuel, and sanitary facilities at the Site.

d. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

(i) Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications agreed upon by Owner and Contractor. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

(ii) Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

(iii) Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

(iv) Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

(v) Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included herein.

(vi) Contractor's fee.

A. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records of the Cost of Work in accordance with generally accepted accounting practices and submit in a form acceptable to PWC an itemized cost breakdown together with supporting data.

(q) Day—a calendar day of 24 hours measured from midnight to the next midnight. Also referred to throughout the Contract Documents as "days" or "calendar days."

(r) Design Engineer—The Engineering firm identified on the Contract Drawings and their duly authorized employees and agents, such employees and agents acting within the scope of the particular duties entrusted to them in each case.

(s) Drawings—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

(t) Field Order—A written order issued by Project Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

(u) Final Completion—The day the on which any specified Work is complete in accordance with the Contract Documents.

(v) Hazardous Environmental Condition—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract Documents, does not establish a Hazardous Environmental Condition.

(w) Laws and Regulations; Laws or Regulations—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction. Such terms, unless otherwise specified, shall refer to North Carolina laws and regulations.

(x) Milestone—A principal event in the performance of the Work that the Agreement requires Contractor to achieve by an intermediate completion date or by a time prior to Completion of the Project.

(y) Non-Compliance Notice—A written notice issued by PWC to Contractor indicating a violation of any term, provision, or requirement of the Contract Documents.

(z) Notice of Award—The written notice by PWC to a Bidder providing of PWC's acceptance of the Bid upon timely compliance by the Bidder with any conditions precedent provided in the notice.

(aa) Notice to Proceed—A written notice by PWC to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

(bb) Progress Schedule—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

(cc) Project—has the meaning ascribed to it in the Agreement and is as more specifically set forth throughout the Contract Documents. "Project" includes the total undertaking to be accomplished for PWC by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

(dd) Project Engineer—the PWC employee assigned by PWC to coordinate, manage, monitor, and otherwise perform the administration necessary and consistent with PWC's responsibilities for the Completion of the Project. The Project Engineer has authority to coordinate and work with the Design Engineer regarding any engineering questions, concerns, revisions, alterations, deletions, or additions to the Work, and has authority to approve any changes in the scope of the Work. Project Engineer may assign a "Project Coordinator" who will also be an employee of PWC and have the duties and responsibilities set by the Project Engineer.

(ee) PWC—Fayetteville Public Works Commission. PWC may also be referred to in the Contract Documents as "Owner."

(ff) Samples—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

(gg) Schedule of Submittals—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Project Engineer's review of the submittals and the performance of related construction activities.

(hh) Schedule of Values—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

(ii) Shop Drawings—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Contract Drawings and are not Contract Documents.

(jj) Site—Lands or areas indicated in the Contract Documents as being furnished by PWC upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by PWC which are designated for the use of Contractor.

(kk) Specifications—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

(ll) Subcontractor—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

(mm) Substantial Completion—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Project Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

(nn) Successful Bidder—The Bidder whose Bid PWC accepts, and to which PWC provides a Notice of Award.

(oo) Supplementary Conditions—Any part of the Agreement that amends or supplements these General Conditions.

(pp) Supplier—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

(qq) Technical Data—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

(rr) Underground Facilities—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

(ss) Unit Price Work—Work to be paid for on the basis of unit prices.

(tt) Work—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, materials, equipment, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents and necessary to achieve Completion of the Project.

(uu) Work Change Directive—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by PWC and recommended by the Project Engineer, ordering an addition, deletion, or revision in the Work.

Section 1.02 Terminology

The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

(a) Intent of Certain Terms or Adjectives:

(i) The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Project Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Project Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the

Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Project Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions the Contract Documents.

(b) Defective—when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

(i) does not conform to the Contract Documents; or
(ii) does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
(iii) has been damaged prior to Project Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by PWC at Substantial Completion in accordance with the Contract Documents).

(c) Furnish, Install, Perform, Provide

(i) The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
(ii) The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
(iii) The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
(iv) If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

Article II. Preliminary Matters

Section 2.01 Delivery of Bonds and Evidence of Insurance

(a) Bonds: Contractor shall deliver to PWC such bonds as Contractor is required to furnish simultaneously with delivering the executed Agreement to PWC.

(b) Contractor's Insurance: Contractor shall deliver to PWC the certificates and other evidence of the insurance required by the Contract Documents simultaneously with delivering the executed Agreement to PWC.

Section 2.02 Copies of Documents

(a) PWC will furnish to Contractor up to five (5) printed copies of the Contract Documents upon request by Contractor, and one (1) copy in electronic portable document format

(PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

(b) PWC will maintain and safeguard at least one original printed record version of the Agreement, including Drawings and Specifications signed and sealed by Design Engineer or other design professionals as applicable. PWC agrees to make such original printed record version of the Agreement reasonably available to Contractor for review during PWC's normal business hours. PWC may delegate the responsibilities under this provision to Design Engineer.

Section 2.03 Before Starting any Work

(a) Within ten (10) Days after the Contractor receives the Notice of Award from PWC (or as otherwise specifically required by the Contract Documents), Contractor shall submit to PWC for timely review:

(i) a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the identifiable aspects of the Work, including any Milestones specified in the Contract Documents;
(ii) a preliminary Schedule of Submittals; and
(iii) Any Shop Drawings, Samples, and other submittals required by the Contract Documents before the Preconstruction Conference.

Section 2.04 Preconstruction Conference; Designation of Authorized Representatives

(a) Before any Work at the Site is started, a preconstruction conference attended by PWC, Project Engineer, Contractor, Design Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss general Project issues including, but not limited, the following:
(i) The schedules and submittals referred to in Section 2.03;
(ii) Contractor's designated authorized representative as described in Section 2.04(b);
(iii) Safety;
(iv) Procedures for handling Shop Drawings, Samples, and other submittals;
(v) Processing Applications for Payment, electronic or digital transmittals;

(b) At the preconstruction conference Contractor shall designate, in writing, a specific individual to act as its authorized representative with respect to its services and responsibilities under the Contract Documents. Such individual shall have the authority to transmit and receive information, render decisions relative to the requirements of the Contract Documents, and otherwise act on behalf of the Contractor.

Section 2.05 Initial Acceptance of Schedules

(a) At least twenty (20) Days before submission of the first Application for Payment a conference, attended by Contractor, PWC, and others as appropriate, will be held to review for acceptability to Project Engineer as provided below the schedules submitted in accordance with Paragraph 2.03(a). PWC shall have ten (10) Days to review the submission and provide feedback to Contractor. Contractor shall then have ten (10) days to make any corrections and adjustments as indicated by PWC and to complete and resubmit the schedules as necessary. No progress payment shall be made to Contractor until acceptable schedules are submitted to and approved by Project Engineer.

(b) The Progress Schedule will be acceptable to Project Engineer if it provides an orderly progression of the Work to achieve Completion of the Project within the Contract Times. Such acceptance will not impose on Project Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

(c) Contractor's Schedule of Submittals will be acceptable to Project Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

Section 2.06 Electronic Transmittals

(a) Except as otherwise stated elsewhere in the Contract Documents, PWC and Contractor and their authorized agents may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through electronic mail at the address(es) designated by each Party.

(b) When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

Article III. Contract Documents: Intent, Requirements, Reuse

Section 3.01 Intent

(a) The Contract Documents are complementary; what is required by one is as binding as if required by all.

(b) It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.

(c) Project Engineer, Design Engineer, or both, will issue clarifications and interpretations of the Contract Documents as provided herein.

(d) To the extent necessary that Work, construction, or conditions not covered by these General Conditions is required for Contractor to achieve Completion of the Project, "Special Conditions" for such Work will be provided to Contractor and shall be part of the Contract Documents.

(e) In case of any inconsistency, conflict, or ambiguity among the Contract Documents, the documents shall govern in the following order: (1) Change Orders; (2) Addenda; (3) the fully executed Agreement; (4) Special Conditions; (5) any Drawings and Technical Specifications; and (6) General Conditions.

Section 3.02 Reference Standards

(a) Standards Specifications, Codes, Laws and Regulations

(i) Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or North Carolina laws and regulations in effect as of the Effective Date of the Agreement, except as may be otherwise specifically stated in the Contract Documents.

(ii) No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of PWC or Contractor, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to PWC or any of its officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents.

Section 3.03 Reporting and Resolving Discrepancies

(a) Contractor's Verification of Figures and Measurements

(i) Before undertaking any portion of the Work, Contractor shall review all of the Contract Documents to and check and verify all figures and dimensions for the Project. Contractor shall promptly report in writing to Project Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Project Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to these General Conditions.

(ii) If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Project Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as defined hereinafter) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Project Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to these General Conditions.

(b) Resolving Discrepancies:

(i) Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for PWC shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

1) the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
2) the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

Section 3.04 Reuse of Documents

(a) Contractor and its Subcontractors and Suppliers shall not have or acquire any title to or ownership rights in any of the:

(i) Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Design Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of PWC and Design Engineer and specific written verification or adaptation by Design Engineer, where applicable; or

(ii) Contract Documents and shall not reuse any such Contract Documents for any purpose without PWC's express written consent.

(b) The prohibitions of this provision shall survive final payment or termination of the Agreement. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

Article IV. Commencement and Progress of the Work

Section 4.01 Commencement of Work

(a) The Contract Times will commence to run on the day indicated in the Notice to Proceed issued by PWC to Contractor. A Notice to Proceed may be given at any time after the Effective Date of the Contract.

(b) Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date. Contractor's failure to commence the Work within fifteen (15) Days of the date stated in the Notice to Proceed shall be deemed a material breach of the Agreement unless PWC otherwise determines in its sole discretion and agrees in writing to a delay of the Contract Times based on the applicable circumstances.

Section 4.02 Reference Points

(a) Construction staking will be performed by Design Engineer, who will also prepare and furnish construction cut sheets, signed and sealed by a North Carolina professional land surveyor, to PWC and Contractor. Contractor shall not install any utilities without a sheet. All requests for staking shall be made not less than 96 hours in advance.

(b) Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and staking, and shall make no changes or relocations without the prior written approval of Project Engineer. Contractor shall report to Project Engineer whenever any reference point staking is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or staking by professionally qualified personnel.

Section 4.03 Progress Schedule

(a) Contractor shall adhere to the Progress Schedule established in accordance with Section 2.03 as it may be adjusted from time-to-time as provided below. Contractor shall submit to Project Engineer for acceptance any proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article IX.

(b) Contractor shall carry on the Work and adhere to the Progress Schedule during any disputes or disagreements with PWC. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by these General Conditions or as PWC and Contractor may otherwise agree in writing.

Section 4.04 Delays in Contractor's Progress

(a) If PWC, Project Engineer, anyone for whom PWC is responsible, or a Force Majeure Event delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

(b) Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

(c) Contractor must submit any Change Proposal, consistent with the procedure set forth in Article IX, seeking an adjustment in Contract Price or Contract Times under this provision within ten (10) calendar days of the commencement of the event that causes the delay, disruption, or interference with the Work and Contract Times.

Article V. Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions

Section 5.01 Availability of Lands

(a) PWC will be responsible for obtaining any required easements and encroachments, and otherwise furnishing the Site, necessary to complete the Work, except as provided elsewhere in the Contract Documents.

(b) Upon reasonable written request, PWC shall furnish to Contractor a current statement of record legal title and legal description of the lands upon which the Work is to be completed and PWC's interest therein.

(c) Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment necessary to complete the Work. Any and all agreements between the Contractor and any individual property owner(s) shall not obligate PWC, PWC's employees, Project Engineer, or Design

Engineer in any manner, and Contractor shall, before performing any work on any such property, obtain a signed and notarized release of liability of PWC and Design Engineer that is suitable to PWC as confirmed in writing.

(d) Contractor and any of its Subcontractors shall exercise care and caution to avoid damage to any private property. Should any such damage to private property occur, it is Contractor's responsibility to notify the Project Engineer promptly in writing that such damage occurred, the extent of the damage, and Contractor's written plan to remedy the damage. If Contractor fails to timely correct damage to private property, PWC reserves the right to withhold progress payments until damage is corrected and/or to correct damage and back-charge Contractor for costs incurred. At the Completion of the Project, Contractor shall obtain a signed release from all owners of private property to which damage occurred that releases PWC and Design Engineer and acknowledges a settlement for the damage or that such damage was adequately remedied.

Section 5.02 Use of Site and Other Areas

(a) Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site and other adjacent areas permitted by Laws and Regulations and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

(b) Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris during the progress of the Work. Removal and disposal of such debris shall conform to applicable Laws and Regulations.

(c) Prior to Completion of the Project, Contractor shall clean the Site and the Work and make it ready for utilization by PWC. At the completion of all of the Work, Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

(d) Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

Section 5.03 Differing Subsurface or Physical Conditions or Underground Facilities

(a) If Contractor believes that any subsurface or physical condition or Underground Facilities that is uncovered or revealed at the Site either:

(i) is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely is materially inaccurate;
(ii) is of such a nature as to require a change in the Contract Documents;
(iii) differs materially from that shown or indicated in the Contract Documents; or

(iv) is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or Underground Facilities or performing any Work in connection therewith, notify PWC and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement approved by PWC permitting Contractor to do so.

(b) After receipt of Contractor's written notice, Project Engineer will review the subsurface or physical condition or Underground Facilities in question; determine the necessity of PWC obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any of the differing site condition categories in this Section5.03; and obtain any pertinent cost or schedule information from Contractor.

(c) Project Engineer will issue a written statement to Contractor regarding the subsurface or physical condition or Underground Facilities in question, which addresses the resumption of Work in connection with such condition and indicates whether any change in the Contract Documents will be made.

(d) Possible Price and Times Adjustments:

(i) Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition or Underground Facilities, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

1) such condition must fall within at least one of the categories in this Section 5.03; and,
2) Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

(ii) Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition or Underground Facilities if:

1) Contractor knew of the existence of such condition at the time Contractor proffered its Bid to PWC or executed the applicable Agreement for the Project; or
2) the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's Bid; or
3) Contractor failed to give the written notice as required.

(iii) If PWC and Contractor agree regarding Contractor's entitlement to, and the amount or extent of, any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

(iv) Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 calendar days after Project Engineer's written statement to Contractor regarding the

subsurface or physical condition or Underground Facilities in question.

Section 5.04 Underground Utilities

(a) Contractor shall ascertain the location and type of all underground utility lines or structures that may be located within the limits of the Site or any area where Work is to be performed.

(i) The exact location of underground utilities or structures may vary from prior plans, permits, maps, or other documentation, and others may not be designated. The Contractor is fully responsible for verification of the exact location of all underground utility lines or structures within the limits of the Site or the area where the work is to be performed, whether known or unknown by PWC, and for providing necessary protection and/or repair if damage.

(ii) Should uncharted or incorrectly charted piping or other utilities be encountered during excavations, the Contractor shall immediately halt any Work, notify PWC, and await direction from PWC before proceeding with any Work. The Contractor shall fully cooperate with PWC and any other utility company in keeping respective services and facilities in operation.

(b) PWC has used reasonable care to locate and depict existing underground installation on the construction drawings, but the accuracy cannot be guaranteed, and some items may not be shown which exist. Actual horizontal and vertical locations have not been verified. As part of the Work, the Contractor is required to dig up each utility which may conflict with construction in advance to verify locations. The utilities shall be “dug up” a minimum of fourteen (14) Days in advance of actual installation of new utilities to allow PWC an opportunity to adjust grades and alignments, to avoid a conflict, and to address any other issues.

(c) The Contractor shall adhere to the provisions of the North Carolina Underground Utility Safety and Damage Prevention Act. The Contractor shall make a documented request to the North Carolina One Call Center, and/or individual utility owners, in order to locate any facilities within the Site limits or any area where Work is to be performed at least forty-eight (48) hours in advance of the day the Work is scheduled to begin. The Contractor shall include the cost of any coordination and cooperation for utilities in its Bid.

(i) Location assistance requested from PWC by Contractor should include the actual horizontal location, type number, size, and depth of all lines. All costs associated with locating and marking existing utilities or the utilities representatives shall be the responsibility of the Contractor.

(ii) The Owner, Project Engineer, Design Engineer, and/or Consultants shall not be liable to the Contractor for any claims, costs, losses, or damages incurred or sustained on or in connection with locating existing underground installations.

(d) If the Contractor fails to schedule locates or perform advance physical locations in advance of the construction and a conflict arises, the Contractor will be required to make corrective measures as instructed by the Project Engineer at the Contractor’s expense. The Contractor’s failure to advance plan (minimum fourteen (14) days) by physically

uncovering existing utilities in advance of construction shall not be cause for claim of lost time or for additional compensation. No additional payment will be made for re-mobilization required by the utility locator.

(i) The Contractor shall inform all equipment operators, either those employed by him or those employed by his subcontractors, of information obtained from the utility owners prior to initiation of any aspect of any Work.

(e) PWC and Design Engineer shall not be responsible for the accuracy or completeness of any information or data provided to the Contractor with respect to underground facilities.

(f) The entire cost of all of the following will be included in the Contract Price, and Contractor shall bear full responsibilities for all such costs, including but not limited to:

(i) Reviewing and checking all such information and data;

(ii) Locating all underground facilities shown or indicated in the Contract Documents;

(iii) Coordination of the Work with the owners of such underground facilities, including PWC, during any portion of the Work; and

(iv) The safety and protection of all such underground facilities and repairing any damage thereto resulting from the Work.

(g) Contractor shall be responsible for the discovery of existing underground installations, in advance of any excavating or trenching as required in the Contract Documents.

(h) If an underground facility is discovered at or contiguous to the Site that was not shown or indicated in the Contract Documents or of which Contractor was not aware prior to starting that portion of any Work, Contractor shall, immediately after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency), identify the owner of such underground facility and give written notice to PWC. Upon receipt of written notice, PWC will review the pertinent condition, determine the necessity of obtaining additional information, and advise Contractor in writing. During such time, Contractor shall be responsible for the safety and protection of such underground facility. If PWC concludes that a change in the Contract Documents is required, a Change Order will be issued.

(i) The Contract Price and/or the Contract Time, may be adjusted if PWC determines, in its discretion, that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work subject to the following:

1) Facility was not shown or indicated in the Contract Documents, and
2) The Contractor did not know of or could not anticipate the facility.

Section 5.05 Hazardous Environmental Conditions at Site

(a) Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work or Hazardous Environmental Condition was caused by Contractor.

(b) Contractor shall be responsible for controlling, containing, and removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

(c) If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency); and (3) immediately notify Project Engineer (and promptly thereafter confirm such notice in writing). Project Engineer will evaluate such condition or take corrective action, if any. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then PWC may have the Hazardous Environmental Condition removed and remediated and impose a set-off against payments to Contractor to account for the reasonable associated costs.

(d) Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after PWC has delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

(e) If PWC and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within thirty (30) calendar days of PWC's written notice regarding the resumption of Work, Contractor may submit a Change Proposal or PWC may impose a set-off.

(f) If after receipt of such written notice Contractor does not agree to resume such Work based on reasonable evidence it is unsafe or does not agree to resume such Work under such special conditions, then PWC may order the portion of the Work that is in the area affected by such condition to be deleted from the Work.

Article VI. Bonds and Insurance

Section 6.01 Performance and Payment Bonds

(a) Contractor shall obtain and furnish to PWC a performance bond in the amount of one hundred percent (100%) of the Contract Price, conditioned upon the faithful performance of the Project and all Work in accordance with the Contract Documents, which bond shall be

solely for the protection of PWC.

(b) Contractor shall obtain and furnish to PWC a payment bond in the amount of one hundred percent (100%) of the Contract Price, conditioned upon the prompt payment for all labor or materials for which the Contractor or one or more of its subcontractors is liable, which payment bond shall be solely for the protection of the persons furnishing materials or performing labor for which the Contractor is liable.

(c) The performance bond and the payment bond shall be executed by one or more surety companies legally authorized to do business in the State of North Carolina, shall become effective upon the awarding of the construction contract by PWC to Contractor, and shall at all times comply with the requirements set forth in Article 3 of North Carolina General Statutes Chapter 44A.

(d) In the event PWC deems the surety or sureties upon any bond necessary for the Agreement and the completion of the Project, or if for any reason, such bond ceases to be adequate to cover the performance and/or payment of the Work, Contractor shall, at its expense, and within ten (10) days after the receipt of notice from PWC, furnish such additional bond(s) in such form and amount, and with such surety or sureties, as shall be satisfactory to PWC. In such event no further payment to Contractor shall be deemed to be due under this Agreement until new or additional security for the performance and payment of the Project shall be furnished in manner and form satisfactory to PWC.

(e) By executing the Agreement, Contractor understands and acknowledges that PWC, as a public authority, and the City, as a municipal corporation, are not subject to the provisions of Articles 1 and 2 of Chapter 44A of the General Statutes, in accordance with G.S. 44A-34 and applicable law.

Section 6.02 Insurance

(a) Contractor shall maintain during the life of the Agreement and during the completion of any Work the following insurance coverages, which insurance shall be placed with insurance companies authorized to do business in the State of North Carolina and rate A minus VII or better by the current edition of Best's Key Rating Guide or otherwise approved in writing by PWC:

(i) Commercial general liability insurance with limits of $1,000,000 per occurrence, $2,000,000 aggregate other than products/completed operations; $2,000,000 aggregate for products/completed. Commercial general liability coverage shall be written on an "occurrence" basis.

(ii) Automobile liability insurance in an amount not less than $1,000,000 combined single limit per accident for bodily injury and property damage from owned, non-owned, and hired automobiles.

(iii) Workers' compensation insurance as required by the Laws and Regulations. In the event any employee(s), contractor(s), or subcontractor(s) engaged to perform any Work under the Agreement is not protected under the applicable workers' compensation laws, the Contractor shall provide adequate coverage for the protection of such employee(s), contractor(s), or subcontractor(s) not otherwise protected.

(iv) In the event the Project concerns building construction or repair work, Contractor shall purchase and maintain "Builder's Risk" insurance. This insurance shall include the interests of the PWC, Contractor, and any Subcontractor(s) and shall be written on a one hundred percent (100%) completed value basis (full value as of the date that all construction is finished and includes the Contractor's Contract Price), and to remain in force until Completion of the Project.

(v) Regardless of the nature of the work to be performed, coverage must also be provided for the theft or damage of building materials and supplies, which are not permanently attached or stored on Site for any period of time. This coverage shall be an "Installation Floater." If no building construction or repair is involved for the Project, the amount of the coverage shall equal the value of the materials stored on site.

(b) Prior to initiating any Work on the Project, Contractor shall deliver certificates of insurance confirming each such coverage set forth above, and Contractor shall direct its insurers to provide annually to PWC certificates confirming each such coverage during the coverage period.

(c) PWC shall be named as an additional insured in the comprehensive automobile and commercial liability insurance policies.

(d) Contractor shall not reduce or allow the required insurance coverages to lapse without PWC's prior written approval. All policies for insurance must be endorsed to contain a provision giving PWC a thirty (30) calendar day prior written notice by certified mail of any cancellation of that policy or material reduction in coverage. Should a notice of cancellation be issued for non-payment of premiums or any part thereof, or should Contractor fail to provide and maintain certificates as set forth herein, PWC shall have the right, but shall not have the obligation, to pay such premium to the insurance company or to obtain such coverage and to deduct such payment from any sums that may be due or become due to Contractor, or to seek reimbursement for said payments from Contractor. Any such sums paid by PWC shall be due and payable immediately by Contractor upon notice from PWC.

(e) The insurance coverage requirements shall not be construed as a limitation on Contractor's responsibilities and liabilities pursuant to the terms and conditions of this Agreement. Contractor's obligation to maintain insurance for three (3) years after Completion of the Project shall survive the termination of this Agreement.

(f) If Contractor fails to obtain and maintain any required insurance, PWC may exclude Contractor from the Site, impose an appropriate set-off against payment, and exercise PWC's termination rights pursuant to the Contract Documents.

(g) PWC does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.

Article VII. Contractor's Responsibilities

Section 7.01 Supervision and Superintendence

(a) Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention and applying such skills and expertise as may be necessary to

perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction subject to the terms, provisions, and specifications set forth in the Contract Documents.

(b) At all times during the progress of the Work, Contractor shall assign a competent superintendent, satisfactory to Project Engineer, to supervise the Work and to respond to Project Engineer concerning PWC's interests in the Work.

(c) Contractor's superintendent shall have full authority to act on behalf of Contractor and all communications, instructions, directions, and notices given to the superintendent by the Project Engineer shall be binding to the Contractor.

(d) Contractor's superintendent shall be responsible for coordination of the Work with other contractors or subcontractors. The superintendent shall not be replaced without written notice to PWC except under extraordinary circumstances.

(e) Subcontractors

(i) Contractor shall submit the names and references all Subcontractors to the Project Engineer for approval before commencing any Work.

1) In the event Contractor seeks to substitute any Subcontractor that was identified in Contractor's Bid, Contractor shall promptly provide PWC with: (1) the Subcontractor it seeks to substitute; (2) the identity of the Subcontractor to be substituted; and (3) the reason for the requested substitution.

2) PWC will review the requested substitution within five (5) Business Days and provide written approval or denial of the substitution, with such approval not to be unreasonably withheld.

(ii) Contractor's superintendent shall be available to be present at the Site at any time that any Subcontractor(s) is performing any of the Work. Construction activity shall be stopped if the Contractor's superintendent is not available to be at the Site.

Section 7.02 Labor; Working Hours

(a) Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site. Contractor shall remove from the Project any person who appears incompetent, disorderly, or otherwise unsatisfactory. Contractor shall also remove any person who appears in PWC's sole discretion to be incompetent, disorderly, or otherwise unsatisfactory

(b) Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed on Business Days. Contractor will not perform Work on non-Business Days. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with PWC's written consent, which will not be unreasonably withheld. In such circumstances, Contractor shall submit a written request to PWC at least two (2) Business Days prior to any Work that it requests to complete on a

non-Business Day and PWC will, in its sole discretion, approve or deny such request. If such work outside of a Business Day is approved, PWC will set forth the specific parameters that Contractor must follow, including time of work, personnel, and any other issues.8

Section 7.03 Services, Materials, and Equipment

(a) Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and Completion of the Project, whether or not such items are specifically called for in the Contract Documents.

(b) All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise specified in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of PWC. If required by PWC or its designee, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

(c) All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be specified in the Contract Documents.

Section 7.04 "Or Equals"

(a) Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Project Engineer authorize the use of other items of material or equipment under the circumstances described below.

(i) If Project Engineer determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Project Engineer shall deem it an "or equal" item and confirm such in writing to Contractor. A proposed item of material or equipment will be considered functionally equal to an item so named if:

1) in the exercise of reasonable judgment Project Engineer determines that:

a) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
b) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
c) it has a proven record of performance and availability of responsive service; and
d) it is not objectionable to PWC.

2) Contractor certifies that, if approved and incorporated into the Work:

a) there will be no increase in the Contract Price or Contract Times; and

b) it will conform substantially to the detailed requirements of the item specified in the Contract Documents.

(b) Contractor shall provide all data in support of any proposed “or equal” item at Contractor’s expense.

(c) Project Engineer will be allowed a reasonable time to evaluate each “or-equal” request. Project Engineer may require Contractor to furnish additional data about the proposed “or-equal” item. Project Engineer will be the sole judge of acceptability. Contractor shall not order, furnish, install, or utilize any “or-equal” it until Project Engineer has reviewed the request, determined that the proposed item is an “or-equal,” and provided written confirmation to Contractor.

(d) Project Engineer’s denial of an “or-equal” request shall be final and binding and may not be reversed through an appeal under any provision of the Contract Documents.

Section 7.05 Concerning Subcontractors, Suppliers, and Others

(a) Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to PWC.

(b) Contractor shall not subcontract more than forty-nine percent (49%) of the final Contract Price.

(c) Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract Documents.

(d) After the submittal of Contractor’s Bid or final negotiation of the terms of the Agreement, PWC may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work.

(e) Prior to entry into any binding subcontract or purchase order, Contractor shall submit to PWC the identity of the proposed Subcontractor or Supplier (unless PWC has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to PWC unless PWC raises a substantive, reasonable objection within five (5) Business Days.

(f) No acceptance by PWC of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of PWC to the completion of the Work in accordance with the Contract Documents.

(g) Contractor shall be fully responsible to PWC for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor’s own acts and omissions.

(h) Contractor shall be solely responsible for scheduling and coordinating the Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.

(i) Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with PWC, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.

(j) All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of PWC.

(k) PWC may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

(l) Nothing in the Contract Documents:

(i) shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between PWC or Design Engineer and any such Subcontractor, Supplier, or other individual or entity; nor

(ii) shall create any obligation on the part of PWC or Design Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

Section 7.06 Patent Fees and Royalties

(a) Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device that is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of PWC, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by PWC in the Contract Documents.

Section 7.07 Permits

(a) Unless otherwise specified in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses necessary to achieve Completion of the Project. Contractor shall timely seek assistance from PWC if necessary to obtain any permits or licenses; provided that, the Contract Time shall not be extended if PWC determines, in its discretion, that Contractor delayed or otherwise did not act expeditiously in requesting such assistance. PWC shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for Completion of the Project that are applicable at the time of the submission of Contractor's Bid.

Section 7.08 Taxes

(a) Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the applicable Laws and Regulations for the Project and which are applicable during the performance of the Work.

Section 7.09 Laws and Regulations

(a) Contractor shall give all notices required by, and shall comply with, all Laws and Regulations applicable to the Project. Except as otherwise expressly required, PWC shall

not be responsible for monitoring Contractor's compliance with any Laws or Regulations.

(b) Contractor shall bear all resulting costs and losses for any of its actions or inactions that are contrary to Laws or Regulations.

(c) PWC or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under the Agreement) concerning any Laws or Regulations having an effect on the Contract Price or Contract Times, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If PWC and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 calendar days of such notice Contractor may submit a Change Proposal.

Section 7.10 Record Documents

(a) Contractor shall maintain in good order one (1) printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. These record documents, together with all approved Samples, will be available to Project Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to PWC.

Section 7.11 Safety and Protection

(a) Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

(i) all persons on the Site or who may be affected by the Work;
(ii) all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
(iii) other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

(b) Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss, and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify PWC, the owners of adjacent property or Underground Facilities, and other contractors and owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

(c) Contractor shall comply with the requirement of any of PWC's applicable health programs, which may be revised from time to time based on specific circumstances or applicable guidance from the Center for Disease Control or other applicable entity. Such health programs will be identified in the Special Conditions if applicable to the Project.

(d) Contractor shall comply with the requirements of PWC's applicable safety programs. The Special Conditions identify any of PWC's safety programs that are applicable to the Project.

(e) Contractor shall remedy, at its expense, all damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

(f) Contractor's duties and responsibilities for safety and protection shall continue until such time as Completion of the Project is achieved.

(g) Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

(h) Contractor shall designate in writing to PWC a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

Section 7.12 Emergencies

(a) In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to, and shall, act to prevent threatened damage, injury, or loss. Contractor shall give PWC prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused or are required as a result of any emergency. If PWC determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

Section 7.13 Shop Drawings, Samples, and Other Submittals

(a) Contractor shall timely submit Shop Drawings and Samples required by the Contract Documents to Project Engineer for review and approval in accordance with applicable specifications.

(b) Before submitting a Shop Drawing or Sample, Contractor shall have

(i) reviewed the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
(ii) verified all measurements, quantities, dimensions, performance and design criteria, installation requirements, materials, catalog numbers, and similar information;
(iii) verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
(iv) verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

(c) With each submittal, Contractor shall give Project Engineer specific written notice of any

variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to PWC for review and approval of each such variation.

(d) Where a Shop Drawing or Sample is required by the Contract Documents, any related Work performed prior to Project Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

(e) Project Engineer will provide timely review of any required Shop Drawings and Samples. Such review, and subsequent determination of approval, will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

(f) Project Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.

(g) Project Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not change the Contract Times or Contract Price, unless such changes are included in a Change Order.

(h) Project Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall not result in such item becoming a Contract Document.

(i) Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples.

(j) Resubmittal Procedures:

(i) Contractor shall make corrections required by Project Engineer and shall return the required number of corrected copies of Shop Drawings and submit new Samples as required for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by PWC or Project Engineer on previous submittals.

(ii) Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three (3) submittals. If PWC has engaged a Design Engineer for the Project, Design Engineer will record Design Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Design Engineer's charges to PWC for such time. PWC may impose a set-off against payments due to Contractor to secure reimbursement for such charges.

(iii) If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Design Engineer's charges to PWC for its review time, and PWC may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

Section 7.14 Contractor's General Warranty and Guarantee

(a) In order to induce PWC to enter into an Agreement with Contractor for the Project, Contractor warrants and guarantees to PWC that:

(i) Contractor is duly licensed in the State of North Carolina to complete all Work necessary for the Project, is duly organized, validly existing and in good standing and has all requisite powers, rights, and authority to execute, enter into, and perform the Agreement in accordance with the terms and conditions of the Agreement, and the Agreement constitutes a legal, valid, and binding obligation of Contractor enforceable against it in accordance with its terms.

(ii) Contractor has read the Contract Documents, and acknowledges and understands all data, materials, specifications, and requirements identified in the Contract Documents.

(iii) Contractor has visited the site for the Project, conducted a thorough, visual examination of the site and adjacent areas, and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, and performance in completing the Project.

(iv) Contractor is familiar with and is satisfied as to all laws and regulations that may affect cost, progress, and performance to complete the Project.

(v) Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the site and all drawings of physical conditions relating to existing surface or subsurface structures at the site that have been identified in the Detail Specifications and any accompanying reports and drawings, and (2) reports and drawings relating to any Hazardous Environmental Condition at or adjacent to the site that have been identified in the Contract Documents and any accompanying reports and drawings.

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

(vii) Based on the information and observations referred to in subsection "(v)" of this Section, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price and in accordance with the other terms and conditions of the Contract Documents.

(viii) Contractor is aware of the general nature of work to be performed by PWC and others at the Site that relates to the Work as indicated in the Contract Documents.

(ix) Contractor has given PWC written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by PWC is acceptable to Contractor.

(x) The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

(xi) Contractor's entry into this Agreement constitutes an incontrovertible representation by Contractor that, without exception, all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

(xii) Contractor has no business or personal relationship with any PWC Commissioner, officer, director, manager, or supervisor and Contractor covenants to disclose immediately to PWC any such relationship that develops during the performance of Work on the Project.

(b) Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

(i) observations by Project Engineer;
(ii) recommendation by Project Engineer or payment by PWC of any progress or final payment;
(iii) the issuance of a certificate of Substantial Completion by Project Engineer or any payment related thereto by PWC;
(iv) use or occupancy of the Work or any part thereof by PWC;
(v) any review and approval of a Shop Drawing or Sample submittal;
(vi) the issuance of a notice of acceptability by Project Engineer;
(vii) any inspection, test, or approval by others; or
(viii) any correction of defective Work by PWC.

(c) If the Contract Documents requires the Contractor to accept the assignment of a contract entered into by PWC, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to PWC for the Work described in the assigned contract.

Section 7.15 Indemnification

(a) Contractor shall indemnify, defend, and hold harmless PWC and its Commissioners, officers, employees, agents, and representatives and the City and its elected officials, managers, employees, agents, and representatives and Designer (collectively "Indemnitees") from and against all claims, actions, liabilities, damages, losses, costs, and expenses (including, without limitation, injury to or death of any persons and damage to property, economic and consequential damages and attorneys' fees) asserted by one or more third parties against one or more of the Indemnitees if the Fault of one or more Responsible Persons is a proximate cause of the loss, damage, or expense indemnified.

(b) Contractor's obligation to indemnify, defend, and hold harmless the Indemnitees shall survive the termination of the Agreement.

(c) In any and all claims against the Indemnitees of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, Contractor's indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

Section 7.16 Claims Procedure

(a) PWC shall notify the Contractor of all potential claims related to the Work within seven (7) calendar days of receiving notification or having knowledge of such potential claim. Should the Contractor receive a potential claim related to the Work, the Contractor shall notify PWC within seven (7) calendar days of receiving notification. The Contractor shall provide the claimant and PWC with a written response acknowledging receipt of the claim within

seven (7) calendar days.

(b) If the Contractor meets with the Claimant about the claim, a representative designated by PWC shall be present at all times. PWC shall maintain a record of any claim received, and the steps taken to resolve. PWC shall also concurrently investigate each case. The Contractor agrees to furnish PWC any information regarding the claim, the actions which led to the claim and/or the investigation of the claim. Contractor shall provide their proposed response to PWC within thirty (30) calendar days of receiving the claim. Upon receipt of the response PWC and the Contractor will discuss and reach a mutual agreement of the response necessary to send to the Claimant within fifteen (15) calendar days. Once the agreement is made the Contractor shall make a formal written resolution to the claimant.

(c) Failure to act in good faith or respond to a claim in the timelines established by the Contract Documents will constitute a lack of response by the Contractor, therefore validating the claim. PWC will deduct the total amount of the claim from the monthly pay application. Failure to comply with the above requirements for resolving claims may, at the sole discretion of PWC, result in breach of contract.

(d) The Contractor is aware of these claims procedures and understands that it is the PWC's practice to pursue reimbursement/subrogation for any and all claims related expenses, which are incurred as a result of the Contractor's performance under this Contract Documents and allowed within the applicable statute of limitations.

Section 7.17 Delegation of Professional Design Services

(a) Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.

(b) If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, PWC will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to PWC.

(c) PWC shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided PWC has specified to Contractor all performance and design criteria that such services must satisfy.

(d) Pursuant to this Section, PWC's, or its designee's, review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. PWC specifically retains final approval of such

submittals.

(e) Contractor shall not be responsible for the adequacy of the performance or design criteria specified by PWC.

Article VIII. PWC's Responsibilities

(a) In awarding the bid to Contractor and executing the applicable Agreement, PWC acknowledges the following responsibilities:

(i) Except as otherwise provided in these General Conditions, PWC shall issue all communications directly to Contractor or its designee.
(ii) PWC may at its discretion replace Design Engineer and Project Engineer. The replacement Design Engineer or Project Engineer's status under the Contract Documents shall be that of the former Design Engineer or Project Engineer.
(iii) PWC shall promptly furnish the data required of PWC under the Contract Documents.
(iv) PWC shall make payments to Contractor when they are due as provided in the Contract Documents.
(v) PWC shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. PWC will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
(vi) Upon request of Contractor, PWC shall furnish to Contractor reasonable evidence that financial arrangements have been made to satisfy PWC's obligations under the Contract Documents (including obligations under proposed changes in the Work).
(vii) While at the Site, PWC's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which PWC has been informed.
(viii) PWC shall furnish copies of any applicable PWC safety program(s) to Contractor, which Contractor shall review and implement.

Article IX. Amending the Contract Documents; Changes in the Work

Section 9.01 Amending and Supplementing Contract Documents

(a) The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

(i) Change Orders: If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

(ii) Work Change Directives: A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are

unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 9.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. PWC must submit any dispute or request seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

(iii) Field Orders: Project Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on PWC and on Contractor, which shall perform promptly the Work involved. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

Section 9.02 PWC-Authorized Changes in the Work

(a) Without invalidating the Agreement and without notice to any surety, PWC may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Design Engineer's recommendation when applicable and to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work as revised. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

Section 9.03 Unauthorized Changes in the Work

(a) Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented.

Section 9.04 Change of Contract Price

(a) The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of these General Conditions.

(b) An adjustment in the Contract Price will be determined as follows:

(i) where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved; or
(ii) where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit as agreed to in writing by the Parties); or
(iii) where the Work involved is not covered by unit prices contained in the Contract Documents and the Parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work plus a reasonable Contractor's fee for overhead and profit.

(c) Contractor's Fee: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:

(i) a mutually acceptable fixed fee; or
(ii) if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

1) for unit prices, the Contractor's fee shall be fifteen percent (15%);
2) for all other costs incurred, the Contractor's fee shall be five percent (5%);
3) the amount of credit to be allowed by Contractor to PWC for any change that results in a net decrease in the Contract Price will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
4) when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change.

Section 9.05 Change of Contract Times

(a) The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 9.06.

(b) An adjustment of the Contract Times shall be subject to the limitations set forth in these Contract Document as it concerns delays in Contractor's progress.

Section 9.06 Change Proposals

(a) Contractor shall submit a Change Proposal to PWC to request an adjustment in the Contract Times and/or Contract Price. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

(i) Procedures: Contractor shall submit each Change Proposal to PWC promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to PWC within 15 calendar days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.
(ii) PWC Action: PWC will review each Change Proposal and, within 30 calendar days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing to Contractor. If PWC does not take action on the Change Proposal within 30 calendar days, then the Change Proposal is deemed denied, thereby commencing the time for appeal under these General Conditions.
(iii) Binding Decision: PWC's decision will be final and binding unless Contractor appeals the decision.

Section 9.07 Execution of Change Orders

(a) PWC and Contractor shall execute appropriate Change Orders covering:

(i) changes in the Contract Price or Contract Times that are agreed to by the parties, including any undisputed sum or amount of time for Work performed in accordance with a Work Change Directive;
(ii) changes in Contract Price resulting from a PWC set-off, unless Contractor has duly contested such set-off;
(iii) changes in the Work which are: (a) ordered by PWC, (b) required because of PWC's acceptance of defective Work or PWC's correction of defective Work, or (c) agreed to by the parties, subject to the need for Design Engineer's recommendation if the change in the Work involves the design (as set forth in the Contract Documents), or other engineering or technical matters; and
(iv) changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results.

(b) If PWC or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Section, it shall be deemed to be of full force and effect as if fully executed.

Section 9.08 Notification to Surety

(a) If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

Article X. Tests, Inspections, and Approvals; Correction, Removal, or Acceptance of Defective Work

Section 10.01 Access to Work

(a) PWC, Design Engineer, their consultants and other representatives and personnel of PWC, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

Section 10.02 Tests, Inspections, and Approvals

(a) Contractor shall give Project Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

(b) PWC shall retain and pay for the initial services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by PWC, except those costs incurred in connection with tests or inspections of covered Work shall

be governed by the provisions of Paragraph 10.05.

(c) If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish the required certificates of inspection or approval to PWC.

(d) Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

(i) by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to PWC;
(ii) to attain PWC's and Design Engineer's acceptance of materials or equipment to be incorporated in the Work;
(iii) by manufacturers of equipment furnished under the Contract Documents;
(iv) for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
(v) for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to PWC, as confirmed in writing by Project Engineer to Contractor.

(e) If the Contract Documents require the Work (or part thereof) to be approved by PWC or its designee, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

(f) If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Project Engineer, Contractor shall, if requested by Project Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given PWC timely notice of Contractor's intention to cover the same and PWC had not acted with reasonable promptness in response to such notice.

Section 10.03 Defective Work

(a) It is Contractor's obligation to assure that the Work is not defective.

(b) PWC or its designee has the authority to determine whether Work is defective, and to reject defective Work.

(c) Prompt notice of all defective Work of which PWC has actual knowledge will be given to Contractor.

(d) Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if PWC has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

(e) When correcting defective Work, Contractor shall take no action that would void or otherwise impair PWC's special warranty and guarantee, if any, on said Work.

(f) In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against PWC by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if PWC and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then PWC may impose a reasonable set-off against payments due.

Section 10.04 Acceptance of Defective Work

(a) If, instead of requiring correction or removal and replacement of defective Work, PWC prefers to accept it, PWC may do so (subject, if such acceptance occurs prior to final payment, to Design Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles and will not endanger public safety).

(b) Contractor shall pay all claims, costs, losses, and damages attributable to PWC's evaluation of and determination to accept such defective Work (such costs to be approved by PWC as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order.

(c) If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then PWC may impose a reasonable set-off against payments due. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to PWC.

Section 10.05 Uncovering Work

(a) PWC has discretion to require, at its initial cost, additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

(b) If any Work is covered contrary to the written request of PWC, then Contractor shall, if requested by PWC or its designee, uncover such Work for observation, and then replace the covering, all at Contractor's expense.

(c) If PWC considers it necessary or advisable that covered Work be observed by PWC or inspected or tested by others, then Contractor, at PWC's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as PWC may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

(i) If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility PWC shall be entitled to impose a reasonable set-off against payments due.

(ii) If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 calendar days of the determination that the Work is not defective.

Section 10.06 PWC May Stop the Work

(a) If the Work is defective, or Contractor fails to supply sufficiently skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then PWC may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of PWC to stop the Work shall not give rise to any duty on the part of PWC to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

Section 10.07 PWC May Correct Defective Work

(a) If Contractor fails within the time specified by PWC in a written notice from PWC to correct defective Work, or to remove and replace rejected Work as required by PWC, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then PWC may, after seven (7) calendar days written notice to Contractor, correct or remedy any such deficiency.

(b) In exercising the rights and remedies under this Section, PWC shall proceed expeditiously. In connection with such corrective or remedial action, PWC may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which PWC has paid Contractor but which are stored elsewhere. Contractor shall allow PWC and its officers, employees, representatives, agents and other contractors, and Design Engineer and its employees and agents access to the Site to enable PWC to exercise the rights and remedies under this Section.

(c) All claims, costs, losses, and damages incurred or sustained by PWC in exercising the rights and remedies under this Section will be charged against Contractor as set-offs against payments due. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

(d) Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by PWC of PWC's rights and remedies under this Section.

Article XI. Claims

Section 11.01 Claims Process

(a) The following disputes between PWC and Contractor shall be submitted to the Claims process set forth in this Article:

(i) Appeals by PWC or Contractor of Design Engineer's decisions regarding Change Proposals;
(ii) PWC or Contractor's demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
(iii) Disputes that Design Engineer has been unable to address because they do not involve the design (as set forth in the Contract Documents), the acceptability of the Work, or other engineering or technical matters.

Section 11.02 Submittal of Claim

(a) The party submitting a claim shall deliver it directly to the other party to the Agreement promptly (but in no event later than 30 calendar days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 calendar days of the decision under appeal. The responsibility to substantiate a claim shall rest with the party making the claim. In the case of a claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

Section 11.03 Review and Resolution

(a) The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party.

Section 11.04 Dispute Resolution

(a) In the event of any dispute, controversy, or claim of any kindor nature arising under or in connection with this Agreement (a "Dispute") and involving any two or more of the following parties, PWC, Design Engineer, Contractor or any subcontractor of Contractor, the party initiating the Dispute shall serve written notice of a Dispute on the party(ies) to the dispute, and those parties shall endeavor to settle the dispute first through direct, informal discussions between the parties' selected representatives. Any such representative(s) shall have binding authority to settle the Dispute. In the event the parties do not settle the Dispute within ten (10) calendar days from the date of written notice of the Dispute, any party to the Dispute may, by written notice to the other party(ies), engage a mediator certified under the laws of the State of North Carolina to mediate the Dispute within thirty (30) calendar days of such notice. The parties to the Dispute shall attend mediation in good faith. In the event mediation is unsuccessful, any party to the dispute may initiate arbitration proceedings. Any controversy or claim arising out of or relating to the Contract Documents, or the breach thereof, shall be settled by binding arbitration administered by the American Arbitration Association under its Construction Industry Arbitration Rules, and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. All of the foregoing dispute resolution procedures shall be held in Cumberland County, North Carolina. The costs of the mediator and arbitrator in a dispute resolution process shall be divided equally among the parties to the process; provided, however, PWC shall bear at least one-third of the cost if PWC is a party to the dispute resolutionand the remainder of the cost shall be divided equally among the other parties

participating in the dispute resolution. PWC shall, in its contractual arrangements with Design Engineer, and Contractor shall, in its contracts with Subcontractors and they in their contracts with lower-tier subcontractors authorize and direct such parties to participate in the dispute resolution procedures set forth in this Section. Unless otherwise directed in writing by PWC, Contractor shall continue the Project and maintain compliance with the scheduling deadlines set forth in theContract Documents during any dispute resolution proceedings. If Contractor continues to perform, PWC shall make payments due for the continued performance in accordance with this Agreement. The provisions of this Section shall not extend any applicable statutes of limitation or repose.

Article XII. Payments to Contractor; Set-Offs; Completion; Correction Period

Section 12.01 Progress Payments

(a) The Schedule of Values will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the Project Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period. Progress payments for cost-based Work will be based on the Cost of the Work completed by the Contractor during the pay period.

(b) Applications for Payments:

(i) Contractor shall submit to Project Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that PWC has received the materials and equipment free and clear, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect PWC's interest.

(ii) Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

(iii) The amount of retainage for progress payments will be as stipulated in the Contract Documents.

(c) Review of Applications:

(i) Project Engineer will, within ten (10) Business Days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to PWC, or return the Application to Contractor indicating in writing Project Engineer's reason(s) for refusing to recommend payment. In the latter case, the Contractor may make the necessary corrections and resubmit the Application.

(ii) Project Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Project Engineer to PWC, based on Project Engineer's observations of the executed Work, and on Project Engineer's review of the

Application for Payment and the accompanying data and schedules, that to the best of Project Engineer's knowledge, information, and belief:

1) the Work has progressed to the point indicated;
2) the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work, and any other qualifications stated in the recommendation); and
3) the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Project Engineer's responsibility to observe the Work.

(iii) By recommending any such payment Project Engineer will not thereby be deemed to have represented that:

1) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Project Engineer in the Contract Documents; or
2) there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by PWC or entitle PWC to withhold payment to Contractor.

(iv) Neither Project Engineer's review of Contractor's Work for the purposes of recommending payments nor Project Engineer's recommendation of any payment, including final payment, will impose responsibility on Project Engineer:

1) to supervise, direct, or control the Work, or
2) for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
3) for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
4) to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price.

(v) Project Engineer may refuse to recommend the whole or any part of any payment if, in Project Engineer's opinion, it would be incorrect to make the representations to PWC outlined in this Section.

(d) Project Engineer will recommend reductions in payment (set-offs) necessary in Project Engineer's opinion to protect PWC from loss because:

(i) the Work is defective, requiring correction or replacement;
(ii) the Contract Price has been reduced by Change Orders;
(iii) PWC has been required to correct defective Work or has accepted defective Work in accordance with these General Conditions;
(iv) PWC has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
(v) Project Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

(e) Payment Becomes Due:

(i) Twenty (20) Business Days after presentation of the Application for Payment to PWC with Project Engineer's recommendation, the amount recommended (subject to any PWC set offs) will become due, and when due will be paid by PWC to Contractor.

(f) Reductions in Payment by PWC:

(i) In addition to any reductions in payment (set-offs) recommended by Project Engineer, PWC is entitled to impose a set-off against payment based on any of the following:

1) PWC has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
2) Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
3) Contractor has failed to provide and maintain required bonds or insurance;
4) PWC has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
5) PWC has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
6) the Work is defective, requiring correction or replacement;
7) PWC has been required to correct defective Work or has accepted defective Work in accordance with the Contract Documents;
8) the Contract Price has been reduced by Change Orders;
9) an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
10) liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or Completion of the Project; or
11) there are other items entitling PWC to a set off against the amount recommended.

(ii) If PWC imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Project Engineer, PWC will give Contractor immediate written notice stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. PWC shall promptly pay Contractor the amount so withheld, or any adjustment agreed to by PWC and Contractor if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

(iii) Upon a subsequent determination that PWC's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due and subject to interest as provided in the Contract Documents.

Section 12.02 Substantial Completion

(a) When Contractor considers the entire Work ready for its intended use Contractor shall notify PWC and Design Engineer in writing that the entire Work is substantially complete and request that PWC acknowledge in writing that Contractor has met Substantial Completion.

(b) Promptly after Contractor's notification, PWC, Contractor, and Design Engineer shall make an inspection of the Work to determine the status of completion. If PWC does not consider the Work substantially complete, PWC will notify Contractor in writing giving the reasons therefor. PWC shall thereafter submit to Contractor an initial draft of punch list items to be completed or corrected before final payment.

(c) If Design Engineer considers the Work substantially complete, Design Engineer will deliver to PWC a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Design Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. PWC shall have seven (7) Business Days after receipt of the preliminary certificate to make written objection to Design Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, PWC concludes that the Work is not substantially complete, PWC will, within fourteen (14) calendar days after submission of the preliminary certificate to PWC, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor.

(d) At the time of receipt of the preliminary certificate of Substantial Completion, PWC and Contractor will confer regarding PWC's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by PWC. Unless PWC and Contractor agree otherwise in writing, PWC shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon PWC use or occupancy of the Work.

(e) After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment and shall complete such items within the time specified by PWC. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

(f) PWC shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

Section 12.03 Partial Use or Occupancy

(a) Prior to Substantial Completion of all the Work, PWC may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which PWC, Design Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by PWC for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

(i) At any time PWC may request in writing that Contractor permit PWC to use or occupy any such part of the Work that PWC believes to be substantially complete.
(ii) At any time Contractor may notify PWC and Design Engineer in writing that Contractor considers any such part of the Work substantially complete and request Design Engineer

to issue a certificate of Substantial Completion for that part of the Work.

(iii) Within a reasonable time after either such request, PWC, Contractor, and Design Engineer shall make an inspection of that part of the Work to determine its status of completion. If Design Engineer does not consider that part of the Work to be substantially complete, Design Engineer will notify PWC and Contractor in writing giving the reasons therefor.

(iv) No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements regarding builder's risk or other property insurance.

Section 12.04 Final Inspection

(a) Upon written notice from Contractor that Completion of the Project has been achieved or an agreed portion thereof is complete, PWC will promptly make a final inspection with Project Engineer, Design Engineer, and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

Section 12.05 Final Payment

(a) Application for Payment:

(i) After Contractor has, in the opinion of PWC, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents, and other documents, Contractor may make application for final payment.

(ii) The final Application for Payment shall be accompanied (except as previously delivered) by:

1) all documentation called for in the Contract Documents;
2) consent of the surety, if any, to final payment;
3) satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to PWC free and clear or will so pass upon final payment;
4) a list of all disputes that Contractor believes are unsettled; anD
5) complete and legally effective releases or waivers (satisfactory to PWC) required by the Contract Documents.

(iii) If Design Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Design Engineer will, within ten (10) Business Days after receipt of the final Application for Payment, indicate in writing Design Engineer's recommendation of final payment and present the Application for Payment to PWC for payment. Such recommendation shall account for any set-offs against payment that are necessary in Design Engineer's opinion to protect PWC from loss for the reasons stated above with respect to progress payments. At the same time Design Engineer will also give written notice to PWC and Contractor that the Work is acceptable and that Completion of the Project has been achieved. Otherwise, Design Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

(iv) Within thirty (30) calendar days after the presentation to PWC of the final Application for

Payment and accompanying documentation, the amount recommended by Design Engineer (less any further sum PWC is entitled to set off against Design Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by PWC to Contractor.

Section 12.06 Waiver of Claims

(a) The making of final payment will not constitute a waiver by PWC of claims or rights against Contractor. PWC expressly reserves claims and rights arising from defective Work appearing after final inspection, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from Contractor's indemnification obligations, or from Contractor's continuing obligations under the Contract Documents.

(b) The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against PWC other than those pending matters that have been duly submitted or appealed under the provisions of the Contract Documents.

Section 12.07 Correction Period

(a) If within one (1) year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to PWC and in accordance with PWC's written instructions:

(i) correct the defective repairs to the Site or such other adjacent areas;
(ii) correct such defective Work;
(iii) if the defective Work has been rejected by PWC, remove it from the Project and replace it with Work that is not defective, and
(iv) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.

(b) If Contractor does not promptly comply with the terms of PWC's written instructions, or in an emergency where delay would cause serious risk of loss or damage, PWC may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

(c) In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date only as provided in the Contract Documents.

(d) Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Article XII, the correction period hereunder with

respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

(e) Contractor's obligations under this Article XII are in addition to all other obligations and warranties. The provisions of this Article XII shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

Article XIII. Suspension of Work and Termination

Section 13.01 PWC May Suspend Work

(a) At any time and without cause, PWC may suspend the Work or any portion thereof for a period of not more than 90 consecutive calendar days by written notice to Contractor and Design Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than thirty (30) calendar days after the date fixed for resumption of Work.

Section 13.02 PWC May Terminate for Cause

(a) The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

(i) Contractor's continued failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
(ii) Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
(iii) Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
(iv) Contractor's repeated disregard of the authority of PWC, Project Engineer, or Design Engineer.

(b) If one or more of the events identified in Paragraph 13.02(a) occurs, then after giving Contractor (and any surety) ten (10) calendar days written notice that PWC is considering a declaration that Contractor is in default and termination of the Agreement, PWC may proceed to:

(i) declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
(ii) enforce the rights available to PWC under any applicable performance bond.

(c) Subject to the terms and operation of any applicable performance bond, if PWC has terminated the Contract for cause, PWC may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which PWC has paid Contractor but which are stored elsewhere, and complete the Work as PWC may deem expedient.

(d) PWC may not proceed with termination of the Contract under Paragraph 13.02(b) if Contractor within seven (7) calendar days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure and such efforts

are agreed to by PWC.

(e) If PWC proceeds as provided in Paragraph 13.02(b), Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by PWC, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to PWC. Such claims, costs, losses, and damages incurred by PWC will be reviewed by PWC as to their reasonableness and, when so approved by PWC, incorporated in a Change Order.

(f) Where Contractor's services have been so terminated by PWC, the termination will not affect any rights or remedies of PWC against Contractor then existing or which may thereafter accrue, or any rights or remedies of PWC against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by PWC will not release Contractor from liability.

(g) The provisions of any applicable payment or performance bond shall govern over any inconsistent provisions of this Section.

Section 13.03 PWC May Terminate For Convenience

(a) Upon seven (7) calendar days written notice to Contractor, PWC may, without cause and without prejudice to any other right or remedy of PWC, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

(i) completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
(ii) expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
(iii) other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

(b) Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

Section 13.04 Contractor May Stop Work or Terminate

(a) If, through no act or fault of Contractor, (1) the Work is suspended for more than ninety (90) consecutive calendar days by PWC or under an order of court or other public authority or (2) PWC fails for sixty (60) calendar days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven (7) calendar days written notice to PWC, and provided PWC does not remedy such suspension or failure within that time, terminate the Contract and recover from PWC payment on the same terms as provided in this Article.
(b) In lieu of terminating the Contract and without prejudice to any other right or remedy, if PWC has failed for thirty (30) calendar days to pay Contractor any sum finally determined to be due, Contractor may, seven (7) calendar days after written notice to PWC, stop the Work until payment is made of all such amounts due Contractor, including interest thereon.

The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

Section 13.05 Morality

(a) If, in the sole opinion of PWC, at any time Contractor or any of its owner(s) or employee(s) or agent(s) (each party, owner, employee, and agent is an "Actor") engages in any one or more actions that bring disrepute, contempt, scandal, or public ridicule to the Actor or subject the Actor to prosecution or offend the community or public morals or decency or denigrate individuals or groups in the community served by PWC or are scandalous or inconsistent with community standards or good citizenship or may adversely affect PWC's finances, public standing, image, or reputation or are embarrassing or offensive to PWC or may reflect unfavorably on PWC or are derogatory or offensive to one or more employee(s) or customer(s) of PWC, PWC may immediately upon written notice to Contractor terminate the Agreement, in addition to any other rights and remedies that PWC may have pursuant to the Contract Documents or at law or in equity.

Article XIV. Miscellaneous

Section 14.01 Additional General Terms and Conditions

(a) Contractor shall be subject to any additional terms and conditions for this Project as set forth in the applicable Appendices as specific in the Agreement, which is incorporated by reference as if set forth word-for-word herein.

Section 14.02 Giving Notice

(a) Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

(i) delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended;
(ii) delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice; or
(iii) sent to PWC or Contractor's designee(s) via email, with a confirmation of receipt.

Section 14.03 Computation of Times

(a) When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

Section 14.04 Cumulative Remedies

(a) The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which

are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

Section 14.05 Limitation of Damages

(a) With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither PWC nor Design Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

Section 14.06 No Waiver

(a) A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or any other provision of the Contract Documents.

Section 14.07 Survival of Obligations

(a) All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement or termination of the services of Contractor.

Section 14.08 Controlling Law

(a) The Agreement shall be governed by the law of the State of North Carolina.

Section 14.09 Headings

(a) Article and paragraph headings, numbers, and letters are inserted for convenience only and do not constitute parts of these General Conditions.

DIVISION 1

PERFORMANCE BOND

Date of Execution: _____

Name of Principal: _____

(Contractor)

Name of Surety: _____

Name of Contracting Body: Fayetteville Public Works Commission, Fayetteville, N.C. _____

Amount of Bond: _____

PROJECT: PWC2526058 – GRADING FOR POINT OF DELIVERY 5 (POD 5)

KNOW ALL MEN BY THESE PRESENTS, That We, the Principal and Surety above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these present.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal entered into a certain Contract with the Contracting Body, identified as shown above and hereto attached.

NOW, THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term of said Contract and any extensions there of that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any Guaranty required under the Contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under the several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterparts.

Witness:	CONTRACTOR:
(Proprietorship of Partnership)	(Trade or Corporate Name)
By:	By:
Title:	Title:
(Corporate Secretary or Assistant Secretary, Only)	(Owner, Partner, Corporate President or Vice-President, Only) **(CORPORATE SEAL)**

Witness:	SURETY COMPANY:
	(Surety Company Name)
	By:
Countersigned:	Title:
(N.C. Licensed Resident Agent)	(Attorney in Fact) **(SURETY CORPORATE SEAL)**

PAYMENT BOND

Date of Execution: _____

Name of Principal: _____

(Contractor)

Name of Surety: _____

Name of Contracting Body: Fayetteville Public Works Commission, Fayetteville, N.C.

Amount of Bond: _____

PROJECT: **PWC2526058 – GRADING FOR POINT OF DELIVERY 5 (POD 5)**

KNOW ALL MEN BY THESE PRESENTS, that We, the PRINCIPAL and Surety above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal entered into a certain Contract with the Contracting Body, identified as shown above and hereto attached.

NOW THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under the several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Executed in _____ counterparts.

Witness:	CONTRACTOR:
_____	_____
(Proprietorship of Partnership)	(Trade or Corporate Name)
By:	By:
_____	_____
Title:	Title:
_____	_____
(Corporate Secretary or Assistant Secretary, Only)	(Owner, Partner, Corporate President or Vice-President, Only) **(CORPORATE SEAL)**

Witness:	SURETY COMPANY:
_____	_____
	(Surety Company Name)
	By:
Countersigned:	_____
	Title:
_____	_____
(N.C. Licensed Resident Agent)	(Attorney in Fact) **(SURETY CORPORATE SEAL)**

POWER OF ATTORNEY
(ATTACH)

CERTIFICATE(S) OF INSURANCE
(Attach)

NOTICE TO PROCEED

TO: _____ Date: _____

PROJECT: **PWC2526058 – GRADING FOR POINT OF DELIVERY 5 (POD 5)**

You are hereby notified to commence work in accordance with the Contract dated _____, 2026, on or before _____, 2026, and you are to complete the WORK within the **contract period** thereafter. The date of final completion therefore is _____.

FAYETTEVILLE PUBLIC WORKS COMMISSION

BY: _____

Nikole Bohannon

Procurement Manager

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged this the _____ day of _____, 2026.

(CONTRACTOR)

BY: _____

TITLE: _____

- END OF SECTION –

SECTION C – TECHNICAL SPECIFICATIONS

FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, NORTH CAROLINA

GRADING TECHNICAL SPECIFICATIONS
FOR THE
POINT OF DELIVERY 5

ISSUED FOR BIDS

11/19/2025

Booth & Associates, LLC
Consulting Engineers
2300 Rexwoods Drive, Suite 300
Raleigh, NC 27607
Firm License No.: F-0221

FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, NORTH CAROLINA

GRADING TECHNICAL SPECIFICATIONS FOR THE POINT OF DELIVERY 5

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TECHNICAL SPECIFICATIONS – POINT OF DELIVERY 5

1.0 SCOPE OF WORK

1.1 The work consists of furnishing all labor, equipment, materials, and supplies, necessary for grading and installing the access drives and substation pad, as well as maintaining and later decommissioning temporary erosion control devices in strict accordance with the Specifications and Drawings and subject to the terms and conditions of the Contract. Omission of particular reference to any such item necessary for complete installation and proper operation thereof shall not relieve the Contractor of responsibility of furnishing same. **Please note the site will be cleared and temporary erosion control measures installed by the Owner before work for this Contract begins.**

1.2 The attached Drawings indicate the grading requirements for the Point of Delivery 5. These Drawings are to be considered an integral part of the Technical Specifications as if bound herein.

Drawing	Description
CG001-CG603	POINT OF DELIVERY 5 (POD 5) CIVIL/GRADING BID PLANS

The major items of work to be included in this Proposal are as follows:

a. Furnish all labor and materials required to cut, fill, grade, compact, and re-seed or mulch areas disturbed.

b. Provide labor and materials to maintain silt fence and all other pre-installed erosion control measures and devices as indicated on the Drawings.

c. Please note reference is made in the Drawings to the tree clearing and erosion control installation portions of this work (Sheets CG200 and CG201). This work will be completed by the Owner before work on this Contract starts.

d. Provide all compaction testing services, as per Specifications. **Contractor is responsible for hiring a reputable North Carolina-licensed Geotechnical Engineer that is approved by the Owner to perform testing.** Provide reports to Owner and Engineer.

e. Roughen steep slopes and vegetate as required.

f. **Grub the areas where the road and pad are to be installed.** Roughen main access road corridors prior to onset of remaining land disturbing activities.

g. The top zero to six inches (0″-12″) of topsoil shall be removed and replaced with approved soil throughout the proposed access roads and substation pad. Please follow the recommendations of the Geotechnical Engineering report.

h. All stone to be installed during contract time period. Erosion and sediment control devices to be removed and permanent seeding to be installed at a later time after the rest of construction activities have occurred in coordination with Owner and Booth & Associates, LLC.

i. All contours represent Finished Grade. **The Contractor is only responsible for bringing the Substation Pad to Proposed Subgrade (which is 6" below Finished Grade).** The top of compacted earth for the Substation Pad is to be stabilized with 2" of crusher run. The top of these 2" of crusher run is Proposed Subgrade. See Sheets CG403 and CG404 of the Drawing set for more information.

2.0 GENERAL

2.1 **Contractor to obtain all applicable permits prior to construction (building permits, electrical permits, etc.).**

2.2 North Carolina Department of Environmental Quality (NCDEQ) Erosion Control/NCG01 Permit, North Carolina Department of Transportation (NCDOT) Driveway Permit, Cumberland County Site Plan Approval, Cumberland County Watershed Permit, and City of Fayetteville Driveway Permit to be provided by Owner's Engineer.

2.3 **Contact the NCDEQ Fayetteville Regional Office at 910-433-3300, NCDOT Highway Division 6 District 2 office at 910-364-0601, Cumberland County Planning & Inspections at 910-678-7600, the City of Fayetteville Permitting & Inspections at 910-433-1464, and any other relevant authorities to schedule a Pre-Construction Meeting at least 72 hours prior to project activation.**

2.4 The following must be kept on site until the permits have been closed out with all relevant authorities:

a. 30 Days of self-inspection records (Owner to keep up to one year of records in office),
b. Rain gauge,
c. Copies of all approved permits,
d. Approved drawings.

These items should be located near the main construction entrance. Failure to maintain these items on site violates the permits.

2.5 All stockpiles shall be surrounded by silt fence on all sides except for the ingress/egress (3 sides). All stockpiles must have a minimum 5' separation from stockpile toe to silt fence and other erosion control measures.

2.6 Contractor shall ensure that there is proper cover and protection over the culverts per detail sheet in the Drawings.

2.7 Contractor is responsible for reviewing the Geotechnical Report for pertinent site soils information. The Geotechnical Report is entitled "Report of Subsurface Exploration and Geotechnical Engineering Evaluation" prepared by Froehling & Robertson, Inc. and certified by Brian W. McCarthy, P.E. (License No. 047377) on October 25, 2024.

2.8 Additional pertinent erosion control measures detailed in the Drawings.

2.9 All subgrade, fill, and stone shall be compacted as specified herein.

2.10 **Follow the steps from "Construction – Phase 1" and "Construction – Phase 2" of the Construction Sequence on Sheet CG002 of the Drawings for general process and project phasing.**

2.11 Proposed Area of Disturbance = 31.21 acres

2.12 Proposed contours in the Drawings represent finished elevations.

2.13 All proposed cut/fill side slopes are 3H:1V unless otherwise specified. Dry, well-compacted unreinforced fill slopes built at 3H:1V or flatter are generally stable provided compaction is carried to the face of the slope. Any steeper fill slopes must be properly designed with geosynthetic reinforcement installed. Any water encountered of the face of slopes should be brought to the attention of a Geotechnical Engineer so that necessary provisions can be made.

2.14 Contractor should minimize subgrade disturbance by using light tracked equipment.

2.15 **Site to be graded and stabilized within sixty (60) calendar days.**

2.16 Temporary ground stabilization will be provided for all disturbed areas within 14 calendar days after construction activity is complete, unless construction activity is going to resume within 21 calendar days. Slopes 3H:1V or steeper, perimeter dikes, swales, ditches, and perimeter slopes are to be stabilized within 7 calendar days.

2.17 After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

2.18 Clarifications can be addressed by contacting Laura Harris, P.E. Email: Laura.Harris@booth-assoc.com, Phone: (919) 851-8770.

3.0 GRADING

3.1 The Owner or their Engineer, Booth & Associates, LLC, will provide control point coordinates to the Contractor. Contractor to provide cut and fill stakes for grading based on these control points. The Contractor will be responsible for maintaining these stakes or reference stakes.

3.2 Construction of erosion and sediment control devices is to be carried out and their location is to be as described in the plan. Certain devices are to be constructed before grading operations begin. All devices are to be maintained during construction and temporary ones removed afterward.

3.3 If possible, the site should be graded during a period of warm and dry weather when at least shallow (12 inches or less) unstable soils can be repaired by discing, drying, and recompacting. During an average year, the time period from April through October provides an opportunity for drying, with the period from May through September being most ideal. The most effective means for drying include the use of a large tractor and farm disc capable of turning soils to a depth of twelve (12) inches. If the site is graded during an unfavorable drying period and/or if the Contractor does not provide correct equipment, undercut quantities may increase.

3.4 Grading should begin with the stripping of all surface topsoil and organic soils. All vegetation and debris should be removed from the site. All subgrade soils shall be free of organic material from grading activity, be compacted, and inspected by an **NC licensed Geotechnical Engineer (hired by the Contractor at their expense and approved by the Owner)** prior to the placement of fill material. Any material to be stockpiled on site shall be stockpiled within the construction limits and in designated areas.

3.5 Any off-site borrow and waste required for this project must come from a site with an approved erosion control plan, a site regulated under the Mining Act of 1971, or a landfill regulated by the Division of Waste Management. Trash/debris and other spoils from demolition activities must be disposed of at a facility regulated by the Division of Waste Management. [15A NCAC 4B.0110]

3.6 All grading inside the proposed fenced area shall be carried to a firm subgrade. The subgrade shall not be frozen, saturated, soft, or unstable.

3.7 Exposed subgrade shall be compacted to at least ninety five percent (95%) of the maximum dry density within ±2 from the optimum moisture content as determined by ASTM D698.

3.8 **Compacted subgrade shall be examined by an approved Geotechnical Engineer or certified testing firm, hired by the Contractor at their expense.** Field compaction tests should be conducted every two thousand square feet (2,000 ft^2). Virgin subgrade soils can be proof rolled to detect zones of soft or loose soils. Any reports by Geotechnical Engineer to be forwarded to the Owner and their Engineer.

3.9 **Proof-rolling should be done in the presence of an approved Geotechnical Engineer, hired by the Contractor at their expense.** Proof-rolling may be accomplished with a lightly to moderately loaded dump truck or similar construction equipment. Any soils which continue to rut or deflect excessively under the rolling operations should be undercut to suitable soils and replaced with compacted fill material as recommended by the Geotechnical Engineer. All Geotechnical Engineering reports to be shared with the Owner and their Engineer.

4.0 BACKFILLING

4.1 **Samples of the proposed backfill material should be taken by the approved Geotechnical Engineer (hired by the Contractor at their expense)** before filling operations begin. Any reports by Geotechnical Engineer to be forwarded to the Owner and their Engineer.

4.2 Material for backfill shall be composed of earth free of wood, grass, roots, broken concrete, large stones, trash, or debris of any kind. No rock material larger than six inches (6”) in maximum dimension shall be in the top twenty-four inches (24”) of fill.

4.3 A Standard Proctor Compaction Test shall be performed on the proposed backfill material samples. The samples should be tested to determine the maximum dry density, optimum moisture

content, and natural moisture content. These test results are to be used to ensure proper compaction during backfilling procedures.

4.4 All fill material shall be placed in lifts not to exceed eight inches (8") in un-compacted thickness and be free of all organic material.

a. Fill shall not be placed in heavy rain.

b. Fill shall not be placed on frozen ground and frozen material shall not be used as fill.

4.5 **Field compaction tests shall be taken by the approved Geotechnical Engineer (hired by the Contractor at their expense) from each fill volume measuring 2,000 ft^2 maximum by twelve inches (12") deep.**

4.6 If testing results indicate that compaction does not meet specified requirements, fill materials shall be removed, replaced as required, and compacted and retested until acceptable.

4.7 All fill areas shall be mechanically compacted to at least ninety-five percent (95%) of the maximum dry density within ±2 percent from the optimum moisture content as determined by ASTM D698, except in the final foot which shall be increased to ninety-eight percent (98%).

5.0 BACKFILL MATERIAL

5.1 Material for backfill shall be composed of earth that is free of wood, grass, roots, broken concrete, large stones, trash, or debris of any kind and compacted prior to placement.

5.2 **The Grading Contractor shall be responsible for hiring a reputable Geotechnical Engineering firm, approved by the Owner or Engineer, to perform laboratory and field testing of backfill material at the Contractor's expense.**

5.3 Backfill shall be placed in lifts not to exceed 8" in un-compacted thickness and mechanically compacted to at least 95% of the maximum density at ±2% optimum moisture content according to ASTM D698. Density testing shall be completed and filed for evaluation.

5.4 All fill material used at the site shall utilize a low plasticity soil (liquid limit less than 50, plasticity index less than 25).

5.5 **A Standard Proctor Compaction Test shall be performed by the approved Geotechnical Engineering firm on the material to be used as backfill.**

6.0 DRIVEWAY

6.1 The driveway shall be installed as shown in the Drawings. The drives shall be surfaced per the details in the Drawings.

6.2 The subgrade, directly below access drive and two (2) feet outside of the access drive, shall be mechanically compacted in the top 12" to at least ninety-five percent (95%) of the maximum dry density at optimum moisture content as determined by ASTM D698. The driveway subgrade shall be mechanically compacted directly below only in the top 12" to at least ninety-five percent (95%) of the maximum dry density at optimum moisture content as determined by ASTM D698.

6.3 Minimum construction entrance thickness shall be six inches (6").

6.4 Compaction testing should be performed once per one-hundred lineal feet (100') minimum.

6.5 Access drive as shown on the drawings shall have aggregate base course (ABC) placed in two six-inch (6") layers and compacted to ninety-eight percent (98%) of the maximum dry density at optimum moisture content as determined by ASTM D1557.

6.6 Minimum gravel driveway thickness shall be twelve inches (12"). Aggregate shall be placed in two (2) compacted layers with a minimum lift of six inches (6"), with a tolerance of plus or minus half inch (± 0.5").

7.0 EROSION AND SEDIMENT CONTROL NOTES

7.1 Construction of erosion and sediment control devices is to be carried out as described in the Construction Sequence and their location is to be as shown on the Drawings. Certain devices are to be constructed by the Owner before grading operations begin. All devices are to be maintained by Contractor during construction and temporary ones removed afterward.

7.2 Inspect silt fence outlets weekly after each significant rainfall event of one inch (1") or greater within twenty-four (24) hours. Clear mesh wire of debris or other objects to provide adequate flow for subsequent rains. Take care not to damage or undercut the wire mesh during sediment removal. Replace stone as needed.

7.3 Add additional silt fence sections and silt fence outlets as needed in order to ensure adequate erosion protection and silt fence integrity.

7.4 Add seed and mulch to any disturbed slopes as needed. All seeded areas will be checked regularly to see that a good stand is maintained. Areas will be fertilized and reseeded as needed.

7.5 Add coir wattles throughout site as needed as slope breaks and where excessive storm water velocities and scouring are observed.

7.6 Channels will be checked regularly to see that structural integrity is maintained and run-off is adequately being directed into the temporary skimmer and sediment basins.

7.7 The temporary sediment basins will be checked regularly to ensure that the sediment has not accumulated to one-half (1/2) the design depth. If so, the basin will be restored to its original dimensions.

7.8 Culvert inlets will be checked to ensure that sediment and debris have not accumulated. If so, remove the sediment and debris and stabilize the vicinity immediately.

7.9 Skimmer devices will be inspected to verify condition, orientation, and proper operation. Remove any debris or clogs from skimmer arm or barrel pipe.

7.10 Add rip-rap check dams in site where excessive storm water velocities and scouring are observed.

7.11 All bare soils are to be stabilized under conditions outlined in the current NCDEQ NPDES Permit, or, if in a critical area, by the end of the day.

7.12 Temporary ground stabilization will be provided for all disturbed areas within 14 calendar days after construction activity is complete, unless construction activity is going to resume within 21 calendar days. Slopes 3H:1V or steeper, perimeter dikes, swales, ditches, and perimeter slopes are to be stabilized within 7 calendar days.

7.13 After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

7.14 Perimeter sediment containment devices are to remain in operating condition until permanent vegetation is established and approved by an NCDEQ inspector.

7.15 The contract person responsible for Erosion Control Maintenance for Fayetteville Public Works Commission is David Deschamps. Email: David.Deschamps@faypwc.com, Phone: (910) 263-1453.

8.0 SITE STABILIZATION

8.1 Temporary and Permanent Seeding: Follow the directions as shown within the Drawings.

8.2 Permanent Seeding Maintenance:

a. Inspect seeded areas for failure and make necessary repairs and reseed immediately. Owner to conduct a follow-up survey after one year and replace failed plants where necessary.
b. If vegetative cover is inadequate to prevent rill erosion, overseed and fertilize in accordance with soil test results.
c. If a stand of permanent vegetation has less than 40 percent cover, reevaluate choice of plant materials and quantities of lime and fertilizer.
d. Re-establish the stand following seed bed preparation and seeding recommendations omitting lime and fertilizer in the absence of soil test results.
e. If the season prevents re-sowing, mulch is an effective temporary cover.
f. Final stabilization of the site requires a 70% overall coverage rate. This does not mean that 30% of the site can remain bare. The coverage is defined as looking at a square yard of coverage in which 70% of that square yard is covered with vegetation.

9.0 MAINTENANCE PLAN

9.1 All erosion and sediment control measures will be checked for stability and operation following every runoff-producing rainfall, but in no case less than once every week. Any needed repairs will be made immediately to maintain all devices as designed. The Contractor will be responsible for all repairs (labor and materials) for all devices on site while they are mobilized during Construction Phases 1 and 2. **At any time when the responsibility for erosion control inspections and repairs is to be handed off to another entity, the Contractor shall set up a meeting for an official hand-off. Further information is provided in the Construction Sequence in the Drawings.**

9.2 All public rights-of-way will be maintained and free of construction debris and sediment.

9.3 All disturbed areas will be limed, fertilized, and reseeded as necessary according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.

APPENDICES

APPENDIX A

REPORT OF SUBSURGACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION

FROEHLING & ROBERTSON, INC.

Report of Subsurface Exploration and Geotechnical Engineering Evaluation

Fayetteville Public Works Commission – POD 5 Substation
Fayetteville, North Carolina
F&R Project No. 66C-0109

Prepared For:
McKim & Creed, Inc.
4300 Edwards Mill Road, Suite 200
Raleigh, North Carolina 27612

Prepared By:
Froehling & Robertson, Inc.
310 Hubert Street
Raleigh, North Carolina 27603

October 25, 2024

FROEHLING & ROBERTSON

Engineering Stability Since 1881

October 25, 2024

Mr. Robin Lee
Director of Surveying
McKim & Creed Inc.
4300 Edwards Mill Road, Suite 200
Raleigh, North Carolina C 27612

Subject: Report of Subsurface Exploration & Geotechnical Engineering Evaluation
Fayetteville Public Works Commission – POD 5 Substation
Fayetteville, North Carolina
F&R Project No. 66C-0109

Dear Mr. Lee:

Froehling & Robertson, Inc. (F&R) has completed the authorized subsurface exploration and geotechnical engineering evaluation for the proposed Fayetteville Public Works Commission (FPWC) – POD 5 Substation located in Fayetteville, North Carolina. Our services were performed in general accordance with F&R's Proposal No. 2466-00122 dated July 16, 2024. The attached report presents our understanding of the project, reviews our exploration procedures, describes existing site and general subsurface conditions, and presents geotechnical engineering design and construction recommendations.

We have enjoyed working with you on this project, and are prepared to assist you with the recommended quality assurance observation and testing services during construction. Please contact us if you have any questions regarding this report or if we may be of further service.

Sincerely,
FROEHLING & ROBERTSON, INC.

Brian W. McCarthy, P.E.
Staff Geotechnical Engineer

NORTH CAROLINA PROFESSIONAL SEAL 047377 ENGINEER Brian William McCarthy

Michael S. Sabodish Jr., Ph.D., P.E.
Geotechnical Dept. Manager

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GBA Document “Important Information about Your Geotechnical Engineering Report”

1.0 PURPOSE & SCOPE OF SERVICES

The purpose of the subsurface exploration and geotechnical engineering evaluation was to explore the subsurface conditions in the area of the proposed development and to provide geotechnical engineering recommendations that can be used during the design and construction phases of the project.

F&R's scope of services included the following:

- Completion of nine (9) soil test borings (SB-1 through SB-5, and TB-6 through TB-9) to a depth of 30 feet below the existing ground surface;
- Preparation of typed Boring Logs and development of a Subsurface Profile;
- Performance of geotechnical laboratory testing on representative soil samples;
- Performing a geotechnical engineering evaluation of the subsurface conditions with regard to their suitability for the proposed construction;
- Preparation of this geotechnical report by professional engineers.

2.0 PROJECT INFORMATION

2.1 SITE LOCATION AND DESCRIPTION

The project site consists of two (2) parcels of land with a total plan area of approximately 32 acres in Fayetteville, North Carolina. The parcels are identified with Parcel Identification Number (PINs) 0530-31-2280 and 0530-41-4252 based on information obtained from the Cumberland County online GIS database. The project site is located approximately 400 feet west of the intersection of Arbor Road and Southland Road and currently consists of moderate to heavy wooded land and dense brush. An existing pond is located at the southeast corner of Parcel 0530-31-2280. In addition, and existing overhead power line is present at the southwest corner of the same parcel. Based on the ground surface elevations obtained from Cumberland County topographic data, the project site is relatively flat in the area of the proposed sub-station footprint, with ground surface elevations in this area ranging from EL 236 to EL 240. The land around the sub-station footprint generally slopes to the west, with elevations ranging from EL 202 to EL 236. The site has approximately 38 feet of topographic relief.

2.2 PROPOSED CONSTRUCTION

Based on the provided "Fayetteville Public Works Commission – Specifications for Soil Borings for POD 5 Substation" that was prepared by Booth and Associates, LLC, the site is being explored for possible development of an electric substation. The proposed POD 5 Substation will generally consist of the installation of foundations for the following structures:

- H-Frame Line Terminating Structures: approximately 50 feet tall supported on 4-foot diameter piers (borings SB-1 and SB-2);
- Switch Stand: approximately 20 feet tall supported on 3-foot diameter piers (SB-2);
- Bus Support Stands: approximately 20 feet tall supported on 3-foot diameter piers (SB-2 and SB-3);
- Ten-Bay Distribution Structures: approximately 30 feet tall supported on 3.5-foot diameter piers (SB-4 and SB-5);
- Transmission Poles: approximately 2 to 3 foot in diameter, either directly embedded or on approximately 3.5 to 4.5 foot diameter piers (TB-6 through TB-9);
- Transformer: weighing approximately 175,000 pounds supported on a 20'x16' pad with associated oil containment dimensioned at 32'x24' (SB-3 and SB-5);
- Breakers: each weighing approximately 3,500 pounds and supported by pads with approximate dimensions of 5'x5' (SB-3 through SB-5); and,
- Control House: weighing approximately 80,000 pounds supported on a monolithic pad and footings with dimensions of 12'x22 (SB-5).

3.0 EXPLORATION AND LABORATORY TESTING PROCEDURES

3.1 SUBSURFACE EXPLORATION

F&R advanced a total of nine (9) soil test borings (SB-1 to SB-5, and TB-6 to TB-9) as part of this exploration at the approximate locations requested by Booth & Associates and as shown on the Boring Location Plan presented as Figure No. 2 in Appendix I.

The test boring locations were established in the field by F&R using a hand-held GPS unit. Ground surface elevations at the boring locations were interpolated from Cumberland County GIS topographic information. Given these methods of determination, the boring locations and ground surface elevations should only be considered approximate.

The test borings were advanced with a track-mounted drill rig using 2-1/4" inside diameter (I.D.) hollow stem augers for borehole stabilization. Representative soil samples were obtained using

a standard, two-inch outside diameter (O.D.) split-barrel sampler in general accordance with ASTM D 1586, Penetration Test and Split-Barrel Sampling of Soils (Standard Penetration Test). The number of blows required to drive the split barrel sampler three, consecutive 6-inch increments with an automatic hammer is recorded and the blows of the last two 6-inch increments are added to obtain the Standard Penetration Test (SPT) N-value representing the penetration resistance of the soil. Five (5) Standard Penetration Tests were collected within the top 10 feet and then at a nominal interval of approximately 5 feet thereafter.

A representative portion of the soil was obtained from each SPT sample, sealed in an eight-ounce glass jar, labeled, and transported to our laboratory for final classification and analysis by a geotechnical engineer. The soil samples were classified in general accordance with the Unified Soil Classification System (USCS), using visual-manual identification procedures (ASTM D2488). A Boring Log for each test boring is presented in Appendix II.

Groundwater level measurements were attempted at the termination of drilling and after a stabilization period of approximately 24-hours following the completion of drilling in all of the borings. Temporary piezometers were installed in borings SB-1, SB-2, and TB-6 through TB-9 to facilitate the measurement of stabilized groundwater levels. The temporary piezometers consisted of 1-inch diameter, hand-slotted PVC pipe installed into the completed borings. Following the collection of the stabilized groundwater readings, the temporary piezometers were removed from the borings and all of the boreholes were backfilled with soil cuttings.

3.2 LABORATORY TESTING

F&R selected five (5) representative soil samples and subjected them to routine geotechnical index testing consisting of Natural Moisture Content, Sieve Analysis and Atterberg Limits determinations. The purpose of the index testing was to aid in our classification of the soil samples and development of engineering recommendations. The laboratory testing was performed in general accordance with applicable ASTM standards and are presented in Appendix III of this report.

4.0 REGIONAL GEOLOGY & SUBSURFACE CONDITIONS

4.1 REGIONAL GEOLOGY

The referenced site is located within the Coastal Plain Province of North Carolina. The Coastal Plain Province is a broad, flat plain with widely-spaced and low-rolling hills where the near surface soils have their origin from the deposition of sediments several million years ago during the period that an ocean receded from this area to its present location along the Atlantic coast. It is noted that Coastal Plain soils vary in thickness from only a few feet along the western border (one to two counties north and west of the site) to over ten thousand feet in some areas along the coast. Our test borings were terminated in Coastal Plain soils.

According to the *Geologic Map of North Carolina (1985),* the site is specifically located within an area mapped as Cretaceous-period deposits and is comprised of sedimentary deposits that appear to be located within the Middendorf Formation and an Intrusion from the Cape Fear Formation. The Middendorf Formation is described as sandy deposits that vary in color from gray to orange gray with discontinuous bedding and cross bedding common. The Cape Fear Formation is described as sandstone and sandy mudstone, yellowish gray to bluish gray, mottled red to yellowish orange, indurated, graded and laterally continuous bedding, blocky clay, with faint cross-bedding, feldspar and mica. Both the Middendorf Formation and the Cape Fear Formation contain Coastal Plain soils which are defined as marine sediment from ancient oceans and water bodies in the greater region surrounding the proposed project location that were deposited during the Qaurternary period and Pleistocene epoch.

4.2 SUBSURFACE CONDITIONS

4.2.1 General

The subsurface conditions discussed in the following paragraphs and those shown on the attached Boring Logs represent an estimate of the subsurface conditions based on an interpretation of the boring data using normally-accepted, geotechnical engineering judgments. Although individual soil test borings are representative of the subsurface conditions at the boring locations on the dates shown, they are not necessarily indicative of subsurface conditions at

other locations or at other times. A subsurface profile has been prepared from the boring data to graphically illustrate the subsurface conditions encountered at the site. The subsurface profile is presented as Figure No. 3 in Appendix I. Strata breaks designated on the boring logs and subsurface profile represent approximate boundaries between soil types. The transition from one soil type to another may be gradual or occur between soil samples. More-detailed descriptions of the subsurface conditions at the individual boring locations are presented on the boring logs provided in Appendix II.

4.2.2 Surficial Materials

Surficial Organic Soils were encountered at the surface of the borings and extended to a depth of 0.2 feet below the existing ground surface. The Surficial Organic Soils generally consisted of dark-colored soil material containing roots, fibrous matter, and/or other organic components, and is generally unsuitable for engineering purposes. F&R has not performed any laboratory testing to determine the organic content or other horticultural properties of the observed Surficial Organic Soil materials. Therefore, the term Surficial Organic Soil is not intended to indicate suitability for landscaping and/or other purposes. The Surficial Organic Soil depths provided in this report are based on driller observations and should be considered approximate. We note that the transition from Surficial Organic Soil to underlying materials may be gradual, and therefore the observation and measurement of the Surficial Organic Soil depths is subjective. Actual Surficial Organic Soil depths should be expected to vary.

4.2.3 Coastal Plain Soils

Coastal Plain soils were encountered in all of the borings below the surficial organic soils. The Coastal Plain soils typically consisted of very soft to very stiff, low to high plastic sandy and silty clays (USCS – CL and CH) with SPT N-values ranging from 2 to 16 blows-per-foot (bpf), and very loose to very dense silty and clayey sands (USCS – SM and SC) with SPT N-values ranging from 2 to 67 bpf.

Very soft and soft clay soil layers were encountered in borings SB-2 and SB-4 just below the surficial organic soils and extended to depths of 2 and 3.5 feet below the existing ground surface,

respectively. A deeper layer of very soft to soft clay soils were encountered in boring TB-9 at a depth of 18.5 feet and extended to a depth of 28.5 feet below the existing ground surface.

Very loose sand layers were encountered in six (6) borings (SB-1, SB-3, SB-5, TB-6, TB-7, and TB-9) just below the surficial organic soils and extended to depths ranging from 2 to 6.5 feet below the existing ground surface. A deeper layer of very loose sand was encountered in boring TB-9 at a depth of 6.5 feet and extended to a depth of 8.5 feet in the soil profile.

A deep layer of highly plastic Coastal Plain clays was encountered in borings TB-9 at a depth of 18.5 feet below the ground surface and extended to a depth of 28.5 feet.

4.3 Soil Moisture and Groundwater Conditions

A majority of the recovered soil samples were typically described as being moist (*i.e.*, within 3 percentage points of the estimated optimum moisture content). Shallow wet soil conditions (greater than 3 percentage points over the estimated optimum moisture content) were encountered in the upper 2 feet of the soil profile in boring SB-1. Deeper layers of wet and/or saturated soils were encountered in boring TB-9 at a depth of 8.5 feet and extended to the boring termination depth of 30.0 feet.

Groundwater level measurements were attempted at the termination of drilling in all borings. Immediately after drilling groundwater was encountered in boring TB-9 at a depth of 7.2 feet below the existing ground surface. Additionally, after a stabilization period of approximately 24-hours following completion of drilling, groundwater levels were measured again in all borings. Stabilized groundwater was encountered in boring TB-9 at a depth of 9.0 feet below the existing ground surface. Subsurface water was not encountered in the remaining borings immediately after drilling or after the 24-hour stabilization period.

It should be noted that the groundwater levels fluctuate depending upon seasonal factors such as precipitation and temperature. As such, soil moisture and groundwater conditions at other times may vary from those described in this report. F&R notes that due to the presence of relatively impervious silty and clayey soils, trapped or perched water conditions may be encountered during periods of inclement weather and during seasonally wet periods.

5.0 PRELIMINARY GEOTECHNICAL DESIGN RECOMMENDATIONS

5.1 GENERAL

The geotechnical engineering recommendations contained in this section of the report are based upon the results of the nine soil test borings, the information provided regarding the proposed construction, and our familiarity with geotechnical engineering practices in this area. It is our opinion that the subsurface conditions encountered at the project site are suitable for the proposed construction from a geotechnical engineering perspective provided the recommendations presented in this report are followed throughout the design and construction phases of this project. F&R requests an opportunity to review project structural plans and specifications to confirm that the recommendations presented in this report have been properly interpreted and implemented, and to determine if additional geotechnical recommendations are warranted. Please contact F&R at your earliest convenience if you feel additional recommendations are warranted or if the recommendations in this report need additional clarification.

5.2 Shallow Foundations

The proposed control house, transformers, and breakers can be supported on shallow foundations (i.e., spread footings or mats) bearing on approved subgrades consisting of native soils of at least stiff/medium dense consistency or properly-placed and compacted structural fill (see Section 6.2, Structural Fill Placement and Compaction).

Based on anticipated light structural loads provided in the scope of work, and the subsurface conditions encountered in our test borings, we recommend that the shallow foundations be designed for a net allowable bearing pressure of 2,000 pounds per square foot (psf) for footings bearing on approved subgrades consisting of native soils of at least stiff/medium dense consistency (9 to 15 bpf or higher) or newly placed well compacted structural fill. To reduce the possibility of localized shear failures, spread and strip footings should be a minimum of 3.0 feet and 1.5 feet wide, respectively. We recommend that exterior footing bearing grades be constructed at least 2 feet below adjacent grades in order to bear below normal frost depth.

We envision that an intermittent transient load factor may be helpful during development of the mat foundation design for structures subjected to overturning forces. Intermittent transient loads are loads that are envisioned to be of short duration such that they would not induce additional foundation settlement. We consider wind and seismic loads to fall into this category, but not snow or ice loads, as it is possible that a frozen precipitation load could be in place for an extended period of time during a given winter event. If needed, an intermittent transient load factor of 1.25 can be used for foundation design.

The following friction and passive earth pressure coefficients are provided for use in evaluating the foundation member's resistance to sliding. Based on our experience with similar subsurface conditions, we recommend an allowable coefficient of friction value of 0.3 between the foundation concrete and soil subgrade. For soils similar to well compacted structural fill recommended in this report (see Section 6.2), we recommend a passive earth pressure coefficient of $K_p = 3.0$. Please note that significant movement is required to develop the full passive pressure; therefore, the total calculated passive pressure should be reduced by one-half to two-thirds for design purposes. In addition, the passive pressure should be ignored in the upper 2 feet due to the potential for frost penetration and surface disturbance. A moist unit weight of 120 pounds per cubic feet (pcf) should be used for design purposes. The provided passive pressure requires that backfill against the footing edge is compacted and placed in accordance with the structural fill requirements provided in this report, or that the foundations be neat-line poured against near-vertical excavation walls.

It is recommended that during construction of the proposed structures, an experienced geotechnical engineer or their representative should be on site to confirm that the in-situ bearing conditions at the bottom of each footing excavation is adequate for the design bearing pressure recommended in this report.

5.3 Settlement for Shallow Foundations

Based on the existing site grades, F&R anticipates that approximately 3 to 5 feet of cut and/or fill will be required to establish proposed finished grades within the footprint of station. We estimate that foundation settlements for the structures will be less than one inch with differential settlement

of up to one-half the estimated total settlement. The magnitude of differential settlements will be influenced by the variation in excavation requirements across the structures' footprints, the distribution of loads, and the variability of underlying soils. Actual settlements experienced by the structure and the time required for these soils to settle will be influenced by undetected variations in subsurface conditions, final grading plans, and the quality of fill placement and foundation construction.

5.4 Drilled Shaft Foundations

We understand the H-Frame Line Terminating, Switch Stand, Bus Support Stands, and Distribution Structures as well as the Transmission Poles will utilize deep foundation (i.e. drilled shafts, driven piles etc.) to support these structures. In addition to these structures other lightly loaded structures can also be supported on deep foundations. As such, F&R has provided design parameters for drilled shaft support as discussed below. The tables shown in Appendix IV provide an idealized subsurface profile for drilled shaft soil parameters including Ultimate End Bearing Pressure and Ultimate Skin Friction, and LPILE design parameters for each boring.

The lateral earth pressure coefficient (k_0) values provided in this report are based on empirical correlations and assumed soil properties. No specialized field testing (i.e. Cone Penetration Test (CPT), Dilatometer Test (DMT) etc.) or lab testing (i.e. Triaxial testing) were performed to verify these values, and as such, we recommend the foundation design engineer exercise care and conservatism during deep foundation capacity analysis using these values.

Drilled shafts should initially be drilled to the design elevation or penetration requirements. A minimum spacing of 3 shaft diameters should be used for Drilled Shafts constructed on the same day, i.e. concrete should be allowed to cure for at least 24 hours before drilling at an adjacent (closer than of 3 shaft diameters) drilled shaft location. Casing of each shaft, under full time inspection during installation of the drilled shafts, should be conducted. We recommend the center of the drilled shaft be maintained within a 3-inch radius of its predetermined center. The drilled shaft should be installed straight, and should not be out-of-plumb by more than two percent of the shaft

length. Eccentricities associated with misalignments should be given consideration in the structural design of the drilled shaft.

Please note the tabulated values in Appendix IV are for the given layered models with the understanding the transitions between different soil strata are usually less distinct than those tabulated. Appropriate factors of safety must be applied by the foundation designer. In addition, the foundation designer should consider the potential for layer variations and, *especially with respect to the end-bearing values*, the soil conditions below the planned foundation bottom. The allowable soil bearing pressure may need to be reduced when a weaker layer lies within twice the diameter of a shaft below its planned tip depth.

The actual shaft diameter and depth should be determined by the structural engineer based on axial capacity as well as lateral and torsional load analyses using the actual design loads and/or factored design loads. In addition, we note that different amounts of shaft movement are required to fully mobilize the skin friction and end-bearing values provided in the table in Appendix IV. Therefore, the design should not utilize the full value of both skin friction and end-bearing simultaneously. Construction of the drilled shaft should be performed in accordance with the American Concrete Institute (ACI) Standard Specification for the Construction of Drilled Piers (ACI 336.1).

A structural engineer should establish the required diameter of the drilled pier, the embedment depth, the reinforcing steel, and the concrete strength. The drilled shaft should be field inspected at the time of construction by a geotechnical engineer or a geologist.

5.5 Slab on Grade

If required for the control house, transformers, and/or breakers, floor slabs may be designed as a slab-on-grade supported by newly placed structural fill. Any loose/soft or otherwise unsuitable materials should be remediated as judged necessary by the Geotechnical Engineer. We recommend that a modulus of subgrade reaction (k) of 125 pounds per cubic inch (pci) be used for slab design. The subgrade soils for support of floor slabs should be prepared as outlined in subsequent sections of this report. The floor slab should be supported on at least 4 inches of

NCDOT #57 clean washed stone to provide a uniformly well-compacted material immediately beneath the slab. The floor slab should be underlain by a vapor retarder to reduce the potential for floor slab dampness. Vapor retarder construction should be performed in accordance with applicable ACI guidelines.

Floor slab design and construction should incorporate isolation joints around columns, utility penetrations, and along bearing walls to allow for differential movement to occur without damage to the floor. Final slab design should be determined by the project structural engineer based on actual design loads, building code requirements and other structural considerations.

5.6 Access Road Design Considerations

Due to the presence of some very loose/soft and soft surface soils, unstable subgrade conditions could develop along the access roadway alignment beneath equipment during removal of surficial organic soils. In order to help prevent unstable conditions from occurring, it is recommended that the surficial soils be stabilized prior to roadway grading by undercutting and replacing the very loose soils. F&R anticipates that the subgrade undercut/repair depths will be on the order of 12 to 24 inches. Additional repairs may be recommended at the time of construction. These repairs will be based upon actual field conditions observed by the geotechnical engineer and should be determined based upon proofrolling and/or other subgrade evaluations. If these evaluations reveal unstable conditions, the method of repair should be as directed by the project geotechnical engineer. Methods of repair may include, but are not necessarily limited to: drying and re-compaction; additional undercutting; application of lime; use of geotextiles; or other methods deemed appropriate by the project geotechnical engineer. Any necessary repairs should be made based upon actual field conditions observed by the geotechnical engineer at the time of construction, and should be determined based upon proofrolling and other subgrade evaluations.

We have been informed the entrance driveways will consist of asphalt pavement, with the remaining length of access roads being unpaved. The pavement structure should comply with the minimum standards for roadways as required by the City of Fayetteville. Proofrolling of the

pavement subgrades, placement of ABC base course and asphalt surface courses, should be observed, tested and approved by the project geotechnical engineer. Upon request, F&R would be pleased to provide a site specific pavement design in accordance with the City of Fayetteville requirements based on the actual soil subgrade strength testing (CBR tests) and estimated traffic volumes. However, at this time we believe a preliminary asphalt section consisting of 3 inches of 9.5B asphalt and 8 inches of compacted NCDOT ABC stone would likely be sufficient for the project.

We understand the access roads to the substation will likely consist of compacted gravel. The gravel roadway design should consist of a 12 inch thick well-graded crushed limestone with particle size ranging from ½ inch to ¾ inch over well-compacted subgrade consisting of native soils or approved structural fill. A woven geo-textile (equivalent to Mirafi 500X) should be placed over the subgrade prior to placement of the gravel surface. The subgrade should be confirmed to be stable prior to placement of the geo-textile. However, we emphasize that good drainage is essential for successful performance of the road. The access road should be maintained in a drained condition at all times. Water build-up in the gravel surface could saturate the underlying highly plastic soils and result in softening of the subgrade and premature failures. Proper drainage may be aided by: grading the site such that surface water is directed away from the road, and construction of swales adjacent to the road. The access road should be graded such that surface water is directed towards the outer limits of the road.

6.0 GEOTECHNICAL CONSTRUCTION RECOMMENDATIONS

6.1 SITE PREPARATION

Initial site development should include stripping all surficial organic soils, roots, vegetation and any other deleterious materials from load bearing areas. The stripping should extend a distance of at least 5 feet beyond the structure/foundation perimeters. Following the stripping operations, the exposed subgrade soils at the finished subgrade level and in fill sections should be proofrolled with a loaded tandem axle dump truck, scraper, or other similar type of construction equipment at the option of the geotechnical engineer to confirm the stability of the subgrade soils. The

proofroll operations should be observed by a geotechnical engineer or their representative. If proofrolling reveals unstable conditions, the method of repair should be as directed by the project geotechnical engineer. Methods of repair may include, but are not necessarily limited to drying and re-compaction; undercutting and replacement with suitable structural fill; use of geo-textiles and/or geo-grids with select fill; use of lime stabilization; or other methods deemed appropriate by the project geotechnical engineer. Very loose/soft soils were encountered within 6.5 feet of the ground surface in eight borings and as such, F&R anticipates that subgrade repairs may be required to establish stable subgrades across a majority of the site.

As reported earlier in this report, a layer of highly plastic clay was encountered in one boring. In general, these soils can undergo volume changes (shrink/swell) with changes in moisture content and are generally considered to be poor subgrade and bearing grade materials. Due to the shrink/swell potential of these soils and poor subgrade/bearing grade characteristics, F&R recommends that a minimum of 2.0 feet of separation be maintained between stable highly plastic soils and proposed subgrades for the drive areas and a minimum of 3.0 feet of separation be maintained between stable highly plastic soils and footings for the structures.

6.2 Structural Fill Placement and Compaction

If on-site soils are to be used for structural fill, the low plasticity soils (USCS –CL, SC, and SM) are generally considered fair to good materials for use as structural earth fill. As previously indicated, some of the excavated soils may be wet and moisture conditioning may be required (i.e., drying of wet soils) prior to being used as structural fill. As such, it is recommended that earthwork be performed during the summer months when weather conditions are more conducive to moisture conditioning of fill materials.

Higher plasticity soils (USCS – CH and MH) are generally considered poor material for use as structural fill and are considered poor material for direct support of the building foundations, slabs and roadways. As such, if highly plastic soils are encountered in cut areas, it is generally recommended that they be used in non-load bearing areas or in the lower portion of deeper fills provided they can be properly placed and compacted.

If soils are required to be imported to the site to achieve finished grades, F&R recommends that a qualified geotechnical engineer or engineering technician working under the direction of the geotechnical engineer approve the suitability of the imported soils prior to their delivery to the site. Imported structural fill should consist of low plasticity soil (LL<35, PI<20), have a maximum dry density of at least 100 pcf, and be free of organic and other deleterious materials.

All structural earth fill should be compacted at a moisture content within ±3 percentage points of the optimum moisture content. All structural earth fill (*i.e.,* fill placed in load bearing areas or slopes) should be placed in loose lifts not exceeding 8 inches and be compacted to at least 95 percent of the Standard Proctor maximum dry density as determined by ASTM D-698. All areas requiring grade increases that are steeper than a slope of 4H:1V should be plowed, stepped, and leveled to assure that fill is placed on near-level surfaces. All structural fill material should be placed and compacted under the full-time control and supervision of a qualified geotechnical engineer or engineering technician working under the direction of the geotechnical engineer. The placement and compaction of all fill material should be tested at frequent intervals in order to confirm that the recommended degree of compaction is achieved.

As previously stated, the on-site soils have sufficient fines content to render them moisture sensitive. The on-site soils will become unstable (*i.e.,* pump and rut) during normal construction activities when in the presence of excess moisture. Soils with a moisture content greater than 3 percentage points above the optimum moisture content are generally considered to have excessive moisture, and soil with a moisture content more than 3 percentage points below the optimum moisture content are generally considered to be excessively dry. During earthwork and construction activities, surface-water runoff must be drained away from the construction areas to prevent water from ponding on or saturating the soils within excavations or on subgrades. Due to the moisture sensitivity of the on-site soils and potential for wet conditions, it is typically recommended that earthwork operations be performed during the seasonally-drier months (typically May to October) when weather conditions are more-conducive to moisture conditioning of earth fill (*e.g.,* drying) and achieving proper compaction of structural fill. If earthwork is performed during the seasonally-wet months, additional subgrade undercutting and repair will likely be required and it may be difficult

to properly compact structural fill. All structural fill placement and compaction activities should be monitored on a full-time basis by a geotechnical engineer or qualified engineering technician working under the supervision of the geotechnical engineer.

6.3 Shallow Foundation Construction Considerations

All foundation subgrades should be observed, evaluated, and verified for the design bearing pressure by a qualified geotechnical engineer or their representative after excavation and prior to reinforcement steel placement. The purpose of the engineering observation would be to determine that the foundations bear in suitable soils at the proper embedment depths, and that unsuitable soft or loose materials are undercut and backfilled with approved, structural fill material. Hand auguring and Dynamic Cone Penetrometer (DCP) testing should be performed to test the consistency of the bearing soils and underlying supporting soils. If low consistency soils are encountered during foundation construction, they should be undercut and replaced with approved structural fill as directed by the on-site geotechnical engineer or their representative.

Excavations for foundations should be made in such a way as to provide bearing surfaces that are firm and free of loose, soft, wet, or otherwise disturbed soils. Foundation concrete should not be placed on frozen or saturated subgrades. If such materials are allowed to remain below foundations, settlements will increase. Foundation excavations should be concreted as soon as practicable after they are excavated. If an excavation is left open for an extended period, or may be exposed to inclement weather, a 3 to 4 inch thick mat of lean concrete (minimum 28 day compressive strength of 2,000 psi) should be placed over the exposed soils, but beneath the design footing bottom, to minimize damage to the bearing surface from weather or construction activities. Water should not be allowed to pond in any excavation.

The foundation bearing area should be free of any very loose or soft material, standing water, and debris at the time of concrete placement. Concrete should not be placed on soils that have been softened by precipitation or freezing. Exposure of the subgrade materials to the environment may weaken the soils at the foundation bearing level. If the foundation excavations

remain open for long periods of time, or during inclement weather, re-evaluation of the subgrade materials by F&R should be performed prior to steel, concrete, or stone placement.

6.4 Drilled Shaft Foundation Construction

The drilled shaft contractor should be qualified, experienced and properly equipped to drill shafts of the specified diameters into the soil encountered in the borings and referenced in this report. Drilled shafts should be installed in accordance with the American Concrete Institute (ACI) Standard Specification of the Construction of Drilled Piers (ACI 336.1-01).

If non-slurry drilling or "dry" drilling methods are utilized, temporary steel casing should be installed in the drill hole of each caisson to keep the hole from collapsing, and also to allow workers to safely excavate, clean and inspect the drilled shaft, prior to placement of concrete. Care should be taken to clean out any soft or loose soil at the bottom of the drilled shaft prior to placement of reinforcing steel and concrete.

The steel casing should not be pulled until there is sufficient head of concrete at the bottom of the casing to prevent slurry, water, or loose material from entering the excavation and creating a zone of weakness in the shaft. Typically, this means the casing is extracted as the concrete is placed up to the ground surface. At a minimum, five feet of head should be maintained at all times when pulling the casing. The contractor should prevent concrete from "hanging up" inside the steel casing which can cause a soil intrusion below the steel shell. However, the steel casing should not be moved until the concrete is above the groundwater level.

If drilling fluid is utilized for installation of the drilled shafts, down hole inspection cannot be conducted. We recommend that installation records including drilling effort and drilling times associated with the final 3 feet of installation be recorded.

If slurry is utilized, there should be a minimum delay between drilling and concrete placement. Concrete should be placed with a tremie as soon as possible after drilling (e.g. no more than a few hours) and certainly within the same day as drilling. The concrete should exhibit good flow characteristics. The concrete placement technique should result in complete filling of the

excavation without segregation. We recommend that the concrete placed into the drilled hole be directed through a center chute at the surface to prevent contact with the sides of the hole and any reinforcing steel. This procedure should reduce side flow and segregation of the concrete.

Generally concrete slumps ranging from six to nine inches are recommended for drilled shaft construction. We refer the drilled shaft designer to ACI 336.1-01, for further discussion on concrete slumps. Concrete slumps in this range should usually fill irregularities along the sides and bottom of the hole and displace any water in the borehole. The structural engineer should specify the concrete strength needed, but a minimum strength of 3,000 psi should be used.

Drilled shaft construction should be conducted under full time supervision of the geotechnical engineer or their qualified inspector. The geotechnical engineer and/or inspector should document the shaft diameter, depth, plumbness, and type of bearing material encountered. Significant deviations from the specified or anticipated conditions should be reported immediately to the geotechnical design engineer and structural engineer. Detailed installation records should be maintained for each shaft location.

6.5 Surface/Subsurface Water Control

Subsurface water, for the purposes of this report, is defined as water encountered below the existing ground surface. Based on the measurements listed above in Section 4.3, subsurface water is not likely to be encountered across the site during general site preparation. Stabilized groundwater was only encountered in one boring at a depth of 9.0 feet below the existing ground surface.

We understand that the method of surface water and groundwater control should be determined and designed by the contractor. Temporary and/or permanent open ditches, dewatering and interceptor drains will likely be required to improve site and soil profile drainage, improve soil moisture conditions and aid in draining subsurface water that could be encountered during construction.

It should be noted that if groundwater levels are not effectively maintained during construction, unstable excavations and loosened bearing grade or subgrade conditions could develop. Therefore, efforts should be incorporated in the construction sequence to properly control groundwater levels during construction. Additionally, it is recommended that only excavation contractors experienced in similar excavations and groundwater control should be allowed to perform this work.

An important aspect to consider during development of this site is surface water control. During the construction, we recommend that steps be taken to enhance surface flow away from areas of construction and any excavations, and promote rapid clearing of rainfall and runoff water following rain events. It should be incumbent on the contractor to maintain favorable site drainage during construction to reduce deterioration of otherwise stable subgrades.

6.6 Temporary Excavation Recommendations

Mass excavations and other excavations required for construction of this project must be performed in accordance with the United States Department of Labor, Occupational Safety and Health Administration (OSHA) guidelines (29 CFR 1926, Subpart P, Excavations) or other applicable jurisdictional codes for permissible temporary side-slope ratios and/or shoring requirements. The OSHA guidelines require daily inspections of excavations, adjacent areas and protective systems by a "competent person" for evidence of situations that could result in cave-ins, indications of failure of a protective system, or other hazardous conditions. All excavated soils, equipment, building supplies, etc., should be placed away from the edges of the excavation at a distance equaling or exceeding the depth of the excavation. F&R cautions that the actual excavation slopes will need to be evaluated frequently each day by the "competent person" and flatter slopes or the use of shoring may be required to maintain a safe excavation depending upon excavation specific circumstances. The contractor is responsible for providing the "competent person" and all aspects of site excavation safety. F&R can evaluate specific excavation slope situations if we are informed and requested by the owner, designer or contractor's "competent person".

7.0 CONTINUATION OF SERVICES

As previously discussed, a geotechnical engineer should be retained to monitor and test earthwork activities, and observe subgrade preparations for foundations and pavements. It should be noted that the actual soil conditions at the various subgrade levels and footing bearing grades will vary across this site and thus the presence of the geotechnical engineer and/or their representative during construction will serve to validate the subsurface conditions and recommendations presented in this report.

A geotechnical engineer should be employed to monitor the earthwork, foundation construction, and pile testing performed by others and to report that the recommendations contained in this report are completed in a satisfactory manner. The continued geotechnical engineering involvement on the project will aid in the proper implementation of the recommendations discussed herein. The following is a recommended scope of services:

- Review of project plans and construction specifications to verify that the recommendations presented in this report have been properly interpreted and implemented;
- Observe the earthwork process to document that subsurface conditions encountered during construction are consistent with the conditions anticipated in this report;
- Observe the subgrade conditions before placing structural fill including proofroll observations;
- Observe the placement and compaction of any structural fill and backfill, and perform laboratory and field compaction testing of the fill;
- Observe the installation and testing of drilled shafts for the deep foundation systems; and,
- Observe all foundation excavations and footing bearing grades for compliance with the recommended design soil bearing capacity. We also stress the importance of conducting hand auger and DCP testing at and extending several feet below the footing bearing grade in order to give an indication of the anticipated subsurface conditions and define footings that should be undercut and repaired as outlined in this report.

8.0 LIMITATIONS

This report has been prepared for the exclusive use of McKim & Creed and/or their agents, for specific application to the referenced project in accordance with generally-accepted soil and foundation engineering practices. No other warranty, express or implied, is made. Our evaluations and recommendations are based on design information furnished to us; the data obtained from the previously-described, subsurface exploration program, and generally-accepted geotechnical engineering practice. The evaluations and recommendations do not reflect variations in subsurface conditions, which could exist intermediate of the boring locations or in unexplored areas of the site.

There are important limitations to this and all geotechnical studies. Some of these limitations are discussed in the information prepared by GBA, which is included in Appendix V. We ask that you please review this information.

Regardless of the thoroughness of a subsurface exploration, there is the possibility that conditions between borings will differ from those at the boring locations, that conditions are not as anticipated by the designers, or that the construction process has altered the soil conditions. Therefore, experienced geotechnical engineers should evaluate earthwork, pavement, and foundation construction to verify that the conditions anticipated in design actually exist. Otherwise, we assume no responsibility for construction compliance with the design concepts, specifications, or recommendations.

In the event that changes are made in the design or location of the proposed structures, the recommendations presented in the report shall not be considered valid unless the changes are reviewed by our firm and conclusions of this report modified and/or verified in writing. If this report is copied or transmitted to a third party, it must be copied or transmitted in its entirety, including text, attachments, and enclosures. Interpretations based on only a part of this report may not be valid.

APPENDIX I

FIGURES

Site Vicinity Map

0 375 750 1,500 2,250 3,000 Feet

FROEHLING & ROBERTSON
Engineering Stability Since 1881
310 Hubert Street
Raleigh, North Carolina 27603
T 919.828.3441

Client:	McKim & Creed
Project:	FPWC POD 5 Site
Location	Fayetteville, Cumberland County, NC
Project Number:	66C-0109
Data:	Open Street
Date:	October 2024
Scale:	1 inch = 1,500 feet

FIGURE No.: 1

Boring Location Plan

0 75 150 300 450 600 Feet

N

FROEHLING & ROBERTSON
Engineering Stability Since 1881

310 Hubert Street
Raleigh, North Carolina 27603
T 919.828.3441

Client:	McKim & Creed		
Project:	FPWC POD 5 Site		
Location	Fayetteville, Cumberland County, NC		
Project Number:	66C-0109		FIGURE No.: 2
Data:	NCOne Map Aerial 2021/ Parcel 2024		
Date:	October 2024	Scale: 1 inch = 300 feet	

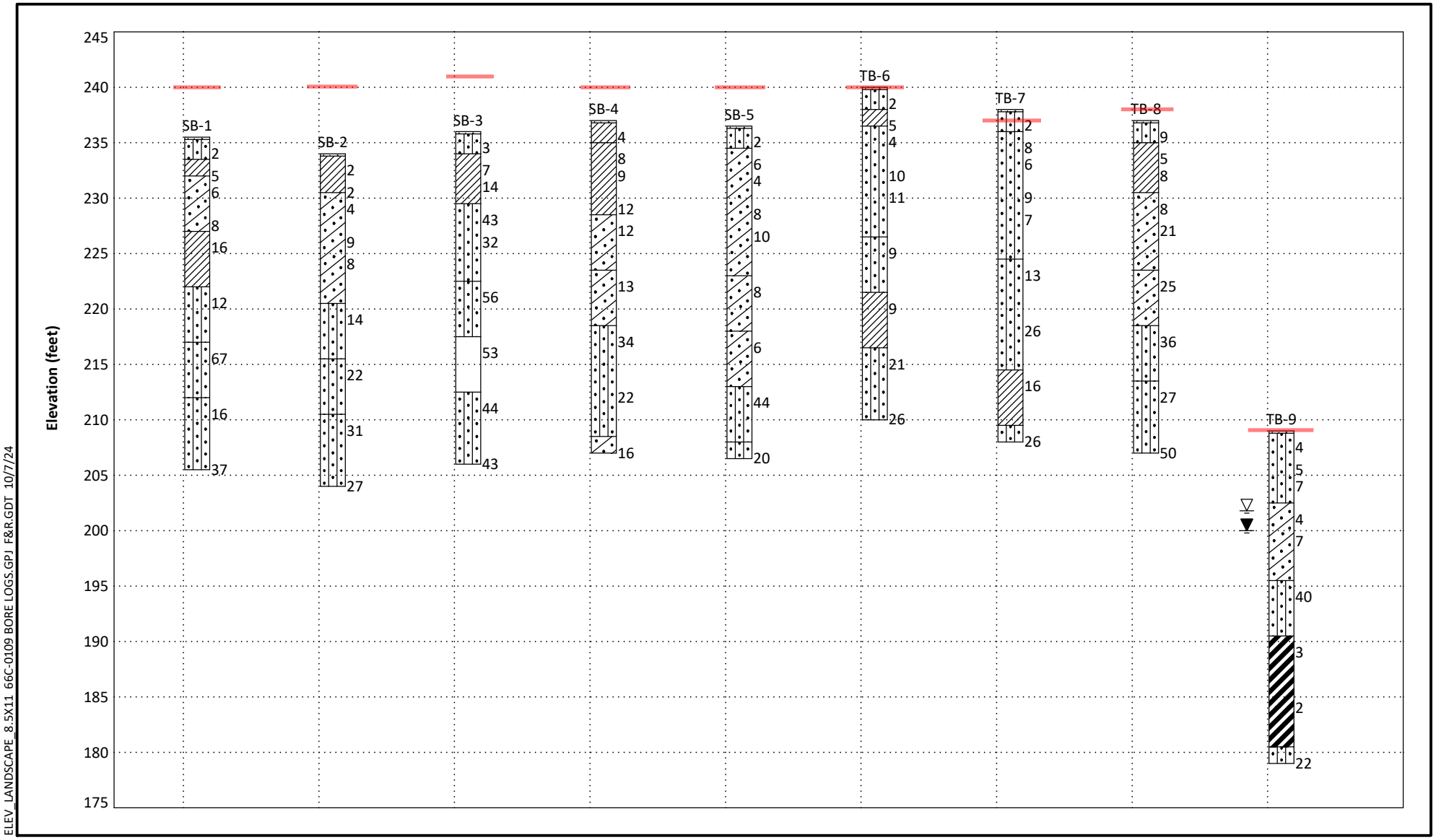
FROEHLING & ROBERTSON
Engineering Stability Since 1881

SUBSURFACE PROFILE

Plot Based on Elevation
Profile Name: Figure No. 3

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

—— = Proposed Site Grades



ELEV_LANDSCAPE_8.5X11 66C-0109 BORE LOGS.GPJ F&R.GDT 10/7/24

APPENDIX II

BORING LOGS

KEY TO SOIL CLASSIFICATION

Correlation of Penetration Resistance with Relative Density and Consistency

Sands and Gravels

No. of Blows, N	Relative Density
0 - 4	Very loose
5 - 10	Loose
11 - 30	Medium dense
31 - 50	Dense
Over 50	Very dense

Silts and Clays

No. of Blows, N	Relative Density
0 - 2	Very soft
3 - 4	Soft
5 - 8	Firm
9 - 15	Stiff
16 - 30	Very stiff
31 - 50	Hard
Over 50	Very hard

Particle Size Identification (Unified Classification System)

Boulders:	Diameter exceeds 8 inches
Cobbles:	3 to 8 inches diameter
Gravel:	**Coarse** - 3/4 to 3 inches diameter **Fine** - 4.76 mm to 3/4 inch diameter
Sand:	**Coarse** - 2.0 mm to 4.76 mm diameter **Medium** - 0.42 mm to 2.0 mm diameter **Fine** - 0.074 mm to 0.42 mm diameter
Silt and Clay:	Less than 0.07 mm (particles cannot be seen with naked eye)

Modifiers

The modifiers provide our estimate of the amount of silt, clay or sand size particles in the soil sample.

Approximate Content	Modifiers
≤ 5%:	Trace
5% to 12%:	Slightly silty, slightly clayey, slightly sandy
12% to 30%:	Silty, clayey, sandy
30% to 50%:	Very silty, very clayey, very sandy

Field Moisture Description	
Saturated:	Usually liquid; very wet, usually from below the groundwater table
Wet:	Semisolid; requires drying to attain optimum moisture
Moist:	Solid; at or near optimum moisture
Dry:	Requires additional water to attain optimum moisture

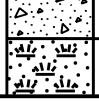
Ground Water

▽ Water Level in Bore Hole Immediately after Drilling

▼ Static Water Level after 24 Hours

SINCE F&R 1881

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISION				TYPICAL NAMES
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve	CLEAN GRAVEL (little or no fines)		GW	Well graded gravels
			GP	Poorly graded gravels
	GRAVELS with fines		GM	Silty gravels
			GC	Clayey gravels
SANDS More than 50% of coarse fraction smaller than No. 4 sieve	CLEAN SAND (little or no fines)		SW	Well graded sands
			SP	Poorly graded sands
	SAND with fines		SM	Silty sands, sand/silt mixtures
			SC	Clayey sands, sand/clay mixtures
SILTS AND CLAYS Liquid Limit is less than 50			ML	Inorganic silts, sandy and clayey silts with slightly plasticity
			CL	Sandy or silty clays of low to medium plasticity
			OL	Organic silts of low plasticity
SILTS AND CLAYS Liquid Limit is greater than 50			MH	Inorganic silts, sandy micaceous or clayey elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils
MISCELLANEOUS MATERIALS				PWR (Partially Weathered Rock)
				Rock
				Asphalt
				ABC Stone
				Concrete
				Surficial Organic Soil

FROEHLING & ROBERTSON
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BORING LOG

Boring: SB-1 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 235.5 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/5/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
235.3	0.2	SURFICIAL ORGANIC SOILS	1-1-1	0.0		GROUNDWATER DATA:
		COASTAL PLAIN: Very Loose, Brown, Wet, Silty Fine to Medium SAND (SM) with Trace Roots		1.5	2	0 Hr: Dry inside PVC
233.5	2.0	Firm, Brown and Orange, Wet, Fine Sandy CLAY (CL)	2-2-3	2.0		24 Hrs: Dry inside PVC
232.0	3.5	Loose, Brown and Orange, Moist, Clayey Fine SAND (SC)	3-3-3	3.5	5	
				5.0	6	
			2-4-4	6.5		
				8.0	8	
227.0	8.5	Very Stiff, Red-Brown, Brown, and Yellow, Moist, Fine Sandy CLAY (CL)	6-8-8	8.5		
				10.0	16	
222.0	13.5	Medium Dense, Mottled Gray and Tan, Moist, Silty Fine SAND (SM)	5-5-7	13.5		
				15.0	12	
217.0	18.5	Very Dense, White-Gray, Moist, Silty Fine SAND (SM)	15-29-38	18.5		
				20.0	67	
212.0	23.5	Medium Dense to Dense, Mottled Gray, Yellow and Pink, Moist, Silty Fine to Medium SAND (SM)	8-8-8	23.5		
				25.0	16	
			13-17-20	28.5		
205.5	30.0	Boring Terminated at 30.0 feet.		30.0	37	

BORING_LOG 66C-0109 BORE LOGS.GPJ F&R.GDT 10/21/24

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

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Engineering Stability Since 1881

BORING LOG

Boring: SB-2 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 234 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/4/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
233.8	0.2	SURFICIAL ORGANIC SOILS	2-1-1	0.0		GROUNDWATER DATA:
		COASTAL PLAIN: Very Soft, Orange-Brown and Gray, Moist, Fine Sandy CLAY (CL)		1.5	2	0 Hr: Dry inside PVC
			1-1-1	2.0		24 Hrs: Dry inside PVC
230.5	3.5	Very Loose to Loose, Orange-Brown, Moist, Clayey Fine SAND (SC)	2-2-2	3.5	2	
				5.0	4	
			2-3-6	6.5		
				8.0	9	
			2-3-5	8.5		
				10.0	8	
220.5	13.5	Medium Dense, Red-Brown, Gray, and Orange, Moist, Silty Fine SAND (SM)	4-6-8	13.5		
				15.0	14	
215.5	18.5	Medium Dense, Mottled Gray and Red-Brown, Moist, Silty Fine SAND (SM)	9-11-11	18.5		
				20.0	22	
210.5	23.5	Medium Dense to Dense, Gray and Tan, Moist, Silty Fine to Medium SAND (SM)	10-14-17	23.5		
				25.0	31	
			11-13-14	28.5		
204.0	30.0	Boring Terminated at 30.0 feet.		30.0	27	

BORING_LOG 66C-0109 BORE LOGS.GPJ F&R.GDT 10/21/24

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

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BORING LOG

Boring: SB-3 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 236 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/4/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
235.8	0.2	SURFICIAL ORGANIC SOILS	1-1-2	0.0		GROUNDWATER DATA:
		COASTAL PLAIN: Very Loose, Brown, Moist, Silty Fine to Medium SAND (SM)		1.5	3	0 Hr: Dry, Caved at 25.3'
234.0	2.0	Firm to Stiff, Orange-Brown, Moist, Fine Sandy CLAY (CL)	2-3-4	2.0		24 Hrs: Dry, Caved at 25.2'
				3.5	7	
			4-6-8			
				5.0	14	
229.5	6.5	Dense, Orange-Brown, Moist, Silty Fine to Coarse SAND (SM)	12-19-24	6.5		
				8.0	43	
			16-16-16	8.5		
				10.0	32	
222.5	13.5	Very Dense, Orange-Brown, Brown, and Yellow, Moist, Silty Fine SAND (SM)	13-32-24	13.5		
				15.0	56	
217.5	18.5	No Sample Recovered	27-19-34	18.5		
				20.0	53	
212.5	23.5	Dense, Mottled Gray and Tan, Silty Fine SAND (SM)	16-20-24	23.5		
				25.0	44	
			12-19-24	28.5		
206.0	30.0	Boring Terminated at 30.0 feet.		30.0	43	

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

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BORING LOG

Boring: SB-4 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 237 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/3/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
236.8	0.2	SURFICIAL ORGANIC SOILS	1-2-2	0.0	4	GROUNDWATER DATA:
		COASTAL PLAIN: Soft, Orange-Brown and Gray, Moist, Fine Sandy CLAY (CL)		1.5		0 Hr: Dry, Caved at 25.6'
235.0	2.0	Firm to Stiff, Orange-Brown, Moist, Fine Sandy CLAY (CL)	2-4-4	2.0	8	24 Hrs: Dry, Caved at 25.5'
			3-4-5	3.5	9	
				5.0		
			4-5-7	6.5	12	
				8.0		
228.5	8.5	Medium Dense, Orange-Brown, Moist, Clayey Fine SAND (SC)	4-6-6	8.5	12	
				10.0		
223.5	13.5	Medium Dense, Mottled Gray and Yellow-Brown, Moist, Clayey Fine SAND (SC)	4-5-8	13.5	13	
				15.0		
218.5	18.5	Medium Dense to Dense, Gray and Orange-Brown, Moist, Silty Fine to Coarse SAND (SM)	12-17-17	18.5	34	
				20.0		
			9-10-12	23.5	22	
				25.0		
208.5	28.5	Medium Dense, Purple, Moist, Clayey Fine SAND (SC)	4-5-11	28.5	16	
207.0	30.0	Boring Terminated at 30.0 feet.		30.0		

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

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Engineering Stability Since 1881

BORING LOG

Boring: SB-5 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 236.5 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/4/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
236.3	0.2	SURFICIAL ORGANIC SOILS	1-1-1	0.0		GROUNDWATER DATA:
		COASTAL PLAIN: Very Loose, Brown, Moist, Silty Fine to Medium SAND (SM)		1.5	2	0 Hr: Dry, Caved at 25.1'
234.5	2.0	Very Loose to Loose, Orange-Brown, Moist, Clayey Fine SAND (SC)	2-3-3	2.0		24 Hrs: Dry, Caved at 25.1'
				3.5	6	
			2-2-2		4	
				5.0		
			2-3-5	6.5		
				8.0	8	
			3-5-5	8.5		
				10.0	10	
223.0	13.5	Loose, Tan and Orange, Moist, Clayey Fine SAND (SC)	3-4-4	13.5		
				15.0	8	
218.0	18.5	Loose, Orange, Purple, and Gray, Moist, Clayey Fine SAND (SC)	3-3-3	18.5		
				20.0	6	
213.0	23.5	Dense, Tan-Gray, Moist, Silty Fine to Medium SAND (SM)	5-20-24	23.5		
				25.0	44	
208.0	28.5	Medium Dense, Purple and Gray, Moist, Silty Fine SAND (SM) with Trace Clay	9-9-11	28.5		
206.5	30.0	Boring Terminated at 30.0 feet.		30.0	20	

BORING_LOG 66C-0109 BORE LOGS.GPJ F&R.GDT 10/21/24

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

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BORING LOG

Boring: TB-6 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 240 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/3/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
239.8	0.2	SURFICIAL ORGANIC SOILS	WOH-1-1	0.0		GROUNDWATER DATA:
		COASTAL PLAIN: Very Loose, Brown, Moist, Silty Fine to Medium SAND (SM)		1.5	2	0 Hr: Dry inside PVC
238.0	2.0	Firm, Orange-Brown, Moist, Fine Sandy CLAY (CL)	2-2-3	2.0		24 Hrs: Dry inside PVC
236.5	3.5	Very Loose to Medium Dense, Red-Brown, Moist, Silty Fine SAND (SM)	2-2-2	3.5	5	
				5.0	4	
			2-4-6	6.5		
				8.0	10	
			4-4-7	8.5		
				10.0	11	
226.5	13.5	Loose, Red-Brown, Gray, and Orange, Moist, Silty Fine SAND (SM)	6-4-5	13.5		
				15.0	9	
221.5	18.5	Stiff, Mottled Gray and Yellow-Brown, Moist, Fine Sandy CLAY (CL)	4-3-6	18.5		
				20.0	9	
216.5	23.5	Medium Dense, Gray and Tan, Moist, Silty Fine to Coarse SAND (SM)	4-10-11	23.5		
				25.0	21	
			7-11-15	28.5		
210.0	30.0	Boring Terminated at 30.0 feet.		30.0	26	

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

FROEHLING & ROBERTSON
Engineering Stability Since 1881

BORING LOG

Boring: TB-7 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 238 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/5/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
237.8	0.2	SURFICIAL ORGANIC SOILS	1-1-1	0.0		GROUNDWATER DATA:
		COASTAL PLAIN: Very Loose, Brown, Moist, Silty Fine to Medium SAND (SM) with Trace Roots		1.5	2	0 Hr: Dry inside PVC
236.0	2.0	Loose, Orange and Red-Brown, Moist, Silty Fine SAND (SM)	2-4-4	2.0		24 Hrs: Dry inside PVC
				3.5	8	
			3-3-3			
				5.0	6	
				6.5		
			3-4-5		9	
				8.0		
				8.5		
			3-3-4		7	
				10.0		
224.5	13.5	Medium Dense, Gray and Pink, Moist, Silty Fine to Medium SAND (SM)	5-5-8	13.5		
				15.0	13	
				18.5		
			8-10-16		26	
				20.0		
214.5	23.5	Very Stiff, Dark Gray, Purple and Gray, Moist, Fine Sandy CLAY (CL) with Trace Roots	9-8-8	23.5		
				25.0	16	
209.5	28.5	Medium Dense, Gray and Pink, Moist, Silty Fine SAND (SM)	10-10-16	28.5		
208.0	30.0	Boring Terminated at 30.0 feet.		30.0	26	

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

FROEHLING & ROBERTSON
Engineering Stability Since 1881

BORING LOG

Boring: TB-8 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 237 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/4/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
236.8	0.2	SURFICIAL ORGANIC SOILS	4-6-3	0.0	9	GROUNDWATER DATA: 0 Hr: Dry inside PVC 24 Hrs: Dry inside PVC
235.0	2.0	COASTAL PLAIN: Loose, Brown, Moist, Silty Fine SAND (SM)		1.5		
		Firm, Orange-Brown, Moist, Fine Sandy CLAY (CL) with Trace Roots	2-2-3	2.0	5	
			3-4-4	3.5	8	
				5.0		
230.5	6.5	Loose to Medium Dense, Orange-Brown, Moist, Clayey Fine SAND (SC)	4-4-4	6.5	8	
				8.0		
			6-9-12	8.5	21	
				10.0		
223.5	13.5	Medium Dense, Mottled Gray and Red-Brown, Moist, Clayey Fine SAND (SC)	13-10-15	13.5	25	
				15.0		
218.5	18.5	Dense, Yellow and Gray, Moist, Silty Fine SAND (SM)	14-16-20	18.5	36	
				20.0		
213.5	23.5	Medium Dense to Dense, Purple and Gray, Moist, Silty Fine to Medium SAND (SM)	8-12-15	23.5	27	
				25.0		
			16-24-26	28.5	50	
207.0	30.0	Boring Terminated at 30.0 feet.		30.0		

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

FROEHLING & ROBERTSON
Engineering Stability Since 1881

BORING LOG

Boring: TB-9 (1 of 1)

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC

Elevation: 209 ±
Total Depth: 30.0'
Boring Location: See Boring Location Plan

Drilling Method: 2.25" ID HSA
Hammer Type: Automatic
Date Drilled: 9/5/24
Driller: A. Sturchio

Elevation	Depth	Description of Materials (Classification)	* Sample Blows	Sample Depth (feet)	N-Value (blows/ft)	Remarks
208.8	0.2	SURFICIAL ORGANIC SOILS	1-2-2	0.0		GROUNDWATER DATA:
		COASTAL PLAIN: Very Loose to Loose, Brown and Gray, Moist, Silty Fine to Medium SAND (SM)		1.5	4	0 Hr: 7.2' inside PVC
			2-2-3	2.0		24 Hrs: 9.0' inside PVC
				3.5	5	
			2-3-4		7	
				5.0		
202.5	6.5	Very Loose to Loose, Orange-Brown and Gray, Moist to Wet, Clayey Fine SAND (SC)	2-2-2	6.5	4	
				8.0		
		Wet 8.5'-13.5'	4-3-4	8.5	7	
				10.0		
195.5	13.5	Dense, Orange and Gray, Saturated, Silty Fine to Coarse SAND (SM)	10-19-21	13.5	40	
				15.0		
190.5	18.5	Very Soft to Soft, Gray, Wet, Fine Sandy CLAY (CH)	2-2-1	18.5	3	
				20.0		
			1-1-1	23.5	2	
				25.0		
180.5	28.5	Medium Dense, Orange-Brown and Gray, Wet, Silty Fine to Medium SAND (SM)	9-10-12	28.5	22	
179.0	30.0	Boring Terminated at 30.0 feet.		30.0		

*Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the second and third increments of penetration is termed the standard penetration resistance, N-Value.

APPENDIX III

LABORATORY TESTING REULTS

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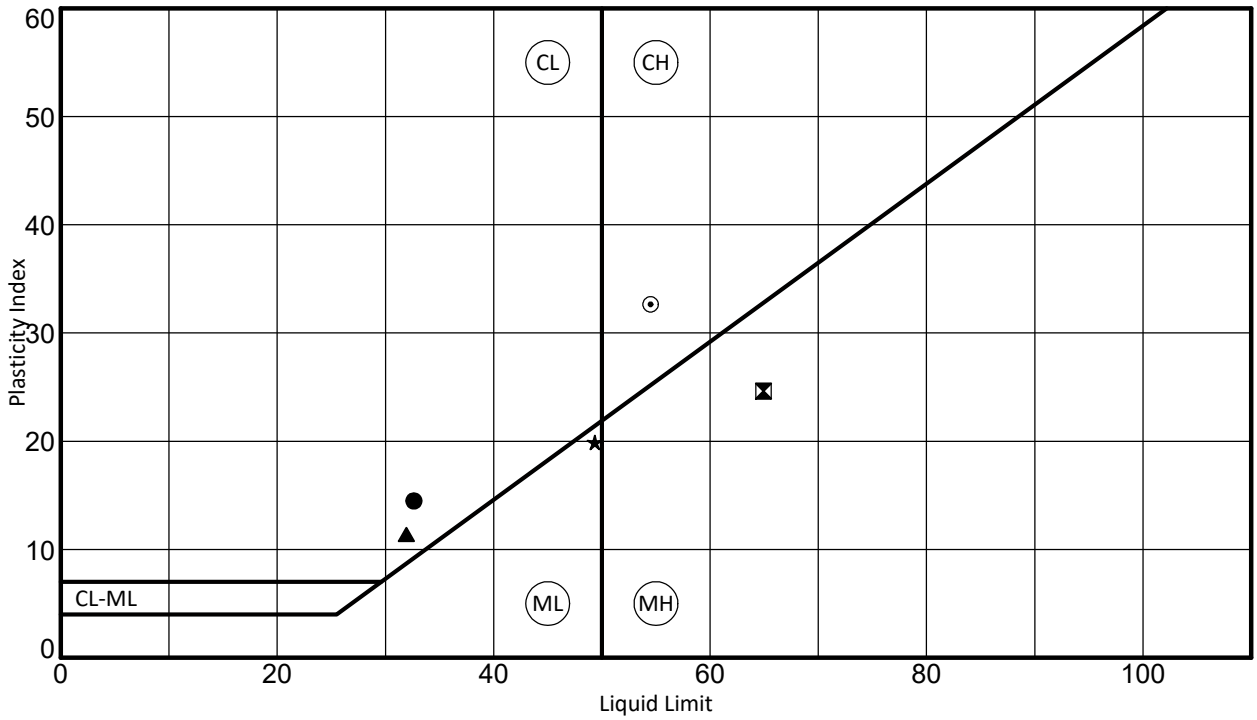
ATTERBERG LIMITS

Sheet: 1 of 1

Project No: 66C-0109
Client: McKim & Creed
Project: FPWC POD 5 Site
City/State: Fayetteville, NC



Boring No.	Depth	LL	PL	PI	% PASSING #200	Classification	% Natural Water Content
● SB-1	3.5' - 5.0'	33	18	15	42.0	CLAYEY SAND (SC)	14.6
⊠ SB-3	6.5' - 8.0'	65	40	25	29.7	SILTY SAND (SM)	13.7
▲ SB-5	13.5' - 15.0'	32	21	11	39.8	CLAYEY SAND (SC)	14.0
★ TB-7	6.5' - 8.0'	49	29	20	43.6	SILTY SAND (SM)	17.5
⊙ TB-9	18.5' - 20.0'	54	22	32	61.0	SANDY FAT CLAY (CH)	37.8

APPENDIX IV

DEEP FOUNDATION SOIL PARAMETERS

L-PILE PARAMETERS

Deep Foundation Soil Parameters

TABLE 2: Idealized Subsurface Profile

Depth (feet)		Soil Type	SPT N-Values	Field Corrected SPT Blow Count (N_{60})	Effective Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	Ultimate End Bearing Pressure (psf)	Ultimate Skin Friction (psf)	USCS
Top	Bottom						Strain ε_{50}	Static Soil Modulus, K (pci)				
0	3.5	Sandy Clay	2	3	105	200	0.02	30	--	1,250	--	CL
3.5	6.5	Clayey Sand	4	5	115	--	--	25	29	3,650	--	SC
6.5	13.5	Clayey Sand	9	12	115	--	--	25	29	8,300	700	SC
13.5	18.5	Silty Sand	13	17	120	--	--	90	31	12,000	1,700	SM
18.5	23.5	Silty Sand	24	32	120	--	--	90	34	22,100	2,100	SM
23.5	33.5	Silty Sand	27	36	125	--	--	90	35	24,900	2,600	SM
33.5	40	Sandy Clay	2	3	43	200	0.02	30	--	1,500	100	CH

Assumed ground water table at EL 200 feet.

TABLE 3: L Pile Parameters – SB-1

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	3.5	Silty Sand/Sandy Clay	110	100	0.02	25	27	SM/CL
3.5	8.5	Clayey Sand	115	-	-	25	29	SC
8.5	13.5	Sandy Clay	120	800	0.005	500	29	CL
13.5	18.5	Silty Sand	120	-	-	90	30	SM
18.5	23.5	Silty Sand	125	-	-	225	41	SM
23.5	30	Silty Sand	120	-	-	90	34	SM

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

TABLE 4: L Pile Parameters – SB-2

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	6.5	Sandy Clay/Clayey Sand	110	100	0.02	30	25	CL/SC
6.5	13.5	Clayey Sand	115	-	-	25	29	SC
13.5	18.5	Silty Sand	120	-	-	90	31	SM
18.5	23.5	Silty Sand	120	-	-	90	32	SM
23.5	30	Silty Sand	125	-	-	90	35	SM

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

TABLE 5: L Pile Parameters – SB-3

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	2.0	Silty Sand	110	-	-	25	28	SM
2.0	6.5	Sandy Clay	120	500	0.007	500	26	CL
6.5	13.5	Silty Sand	125	-	-	225	38	SM
13.5	23.5	Silty Sand	125	-	-	225	40	SM
23.5	30	Silty Sand	125	-	-	225	39	SM

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

TABLE 6: L Pile Parameters – SB-4

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	2.0	Sandy Clay	115	200	0.01	100	25	CL
2.0	8.5	Sandy Clay	115	450	0.01	100	26	CL
8.5	18.5	Clayey Sand	120	-	-	90	31	SC
18.5	23.5	Silty Sand	125	-	-	225	37	SM
23.5	30	Silty Sand/Clayey Sand	120	-	-	90	33	SM/SC

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

TABLE 7: L Pile Parameters – SB-5

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	6.5	Silty Sand/Clayey Sand	115	-	-	25	28	SM/SC
6.5	23.5	Clayey Sand	115	-	-	25	29	SC
23.5	28.5	Silty Sand	125	-	-	225	38	SM
28.5	30	Silty Sand	120	-	-	90	32	SM

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

TABLE 8: L Pile Parameters – TB-6

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	2.0	Silty Sand	105	-	-	25	26	SM
2.0	6.5	Sandy Clay/Silty Sand	115	100	0.02	25	27	CL/SM
6.5	18.5	Silty Sand	120	-	-	90	29	SM
18.5	23.5	Sandy Clay	115	450	0.01	100	26	CL
23.5	30	Silty Sand	120	-	-	90	33	SM

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

TABLE 9: L Pile Parameters – TB-7

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	2.0	Silty Sand	105	-	-	25	27	SM
2.0	13.5	Silty Sand	115	-	-	25	29	SM
13.5	23.5	Silty Sand	120	-	-	90	31	SM
23.5	28.5	Sandy Clay	120	800	0.007	500	28	CL
28.5	30	Silty Sand	125	-	-	90	34	SM

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

TABLE 10: L Pile Parameters – TB-8

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	2.0	Silty Sand	115	-	-	25	29	SM
2.0	8.5	Sandy Clay/Clayey Sand	115	300	0.01	25	26	CL
8.5	18.5	Clayey Sand	120	-	-	90	33	SC
18.5	28.5	Silty Sand	125	-	-	90	36	SM
28.5	30	Silty Sand	125	-	-	225	40	SM

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

TABLE 11: L Pile Parameters – TB-9

Depth (feet)		Soil Type	Total Unit Weight (pcf)	Cohesive Strength (psf)	L-Pile 5.0 Design Parameters		Friction Angle (degrees)	USCS
Top	Bottom				Strain ε_{50}	Static Soil Modulus, K (pci)		
0	6.5	Silty Sand	115	-	-	25	29	SM
6.5	13.5	Clayey Sand	115	-	-	25	29	SC
13.5	18.5	Silty Sand	125	-	-	125	38	SM
18.5	28.5	Sandy Clay	105	200	0.02	30	-	CH
28.5	30	Silty Sand	120	-	-	60	32	SM

Notes:
1. All depths are from existing grade and should be adjusted based on the top of foundation elevation.
2. The soil parameters in the above tables are based on correlations with the SPT values.

APPENDIX V

GBA DOCUMENT

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled*. No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be*, and, in general, *if you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying it. A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed*. The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old.*

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration.*** Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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e-mail: info@geoprofessional.org www.geoprofessional.org

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APPENDIX B

POINT OF DELIVERY 5 (POD5)
CIVIL / GRADING BID PLANS

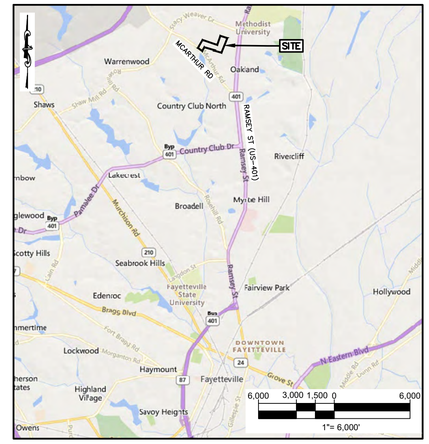
POINT OF DELIVERY 5 (POD 5)
CIVIL/GRADING BID PLANS

FAYETTEVILLE, NORTH CAROLINA
FOR
FAYETTEVILLE PUBLIC WORKS COMMISSION

FAYETTEVILLE, NORTH CAROLINA

PREPARED BY:

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0221



VICINITY MAP
FAYETTEVILLE,CUMBERLAND COUNTY,NC

SCALE: 1"=6,000'

PROJECT DATA

PROPERTY DATA:	CITY OF FAYETVILLE, BY AND THROUGH FAYETTEVILLE PUBLIC WORKS COMMISSION 0530-41-4252 DB 11353, PG 845 PB 147, PG 166 +/- 25.31 ACRES PER CUMBERLAND COUNTY GIS REID: 0530414252000 CITY OF FAYETVILLE, BY AND THROUGH FAYETTEVILLE PUBLIC WORKS COMMISSION 0530-31-2280 DB 11353, PG 845 PB 147, PG 166 +/- 7.61 ACRES PER CUMBERLAND COUNTY GIS REID: 0530312280000
PROPOSED DISTURBANCE AREA:	31.21 ACRES
SITE ADDRESS:	28311 SOUTHLAND DRIVE FAYETTEVILLE, NC 28311 (NORTH ENTRANCE) 700 MCARTHUR ROAD FAYETTEVILLE, NC 28311 (SOUTH ENTRANCE)
COUNTY:	CUMBERLAND COUNTY
12-DIGIT HUC WATERSHED:	CROSS CREEK 030300040704
10-DIGIT HUC WATERSHED:	CROSS CREEK-CAPE FEAR 0303000407
8-DIGIT HUC WATERSHED:	UPPER CAPE FEAR 03030004
CUMBERLAND COUNTY ZONING:	CUMBERLAND R5A (RESIDENTIAL); FAYETTEVILLE (MIXED RESIDENTIAL 5)
OVERLAY DISTRICT INFORMATION:	PROPERTY SHOWN ON THIS PLAN/PLAT IS NOT WITHIN A CUMBERLAND COUNTY OVERLAY DISTRICT
PROPOSED USE:	ELECTRIC UTILITY SUBSTATION

SETBACKS:	R5A (CUMBERLAND)	MR-5 (FAYETTEVILLE)
FRONT:	25'	25'
SIDE 1 STORY:	10'	10'
SIDE 2 STORY:	12'	10'
REAR	30'	30'

ADDITIONAL REQUIREMENTS:	100' SETBACK FOR SUBSTATION (PER FAYETTEVILLE ORDINANCE 30-4.C.3.j)
DEVELOPER:	FAYETTEVILLE PUBLIC WORKS COMMISSION
CONTACT:	DAVID DESCHAMPS 955 OLD WILMINGTON ROAD FAYETTEVILLE, NC 28301 910-263-1453 DAVID.DESCHAMPS@FAYPWC.COM
ENGINEER:	LAURA R. HARRIS, PE (NC PE LICENSE NO. 056748) BOOTH & ASSOCIATES, LLC (COMPANY LICENSE NO. NC-F-0221) 2300 REXWOODS DRIVE, SUITE 300 RALEIGH, NC 27607 919-851-8770 LAURA.HARRIS@BOOTH-ASSOC.COM
LAT/LONG	35.12789662554405, -78.88365631932585

PROJECT NARRATIVE

FAYETTEVILLE PUBLIC WORKS COMMISSION (FAYETTEVILLE PWC) PLANS TO CONSTRUCT A POINT OF DELIVERY STATION ON A SITE OFF MCARTHUR ROAD IN FAYETTEVILLE, NC. THIS DRAWING SET IS FOR THE CONSTRUCTION PORTION OF THE POINT OF DELIVERY SUBSTATION. PERMIT COVERAGE FOR THE TREE CLEARING PHASE IS BEING PERMITTED SEPARATELY FROM THE REST OF THE POINT OF DELIVERY SUBSTATION CONSTRUCTION. NPDES GENERAL CONSTRUCTION PERMIT (EROSION CONTROL) CERTIFICATE OF COVERAGE NO. NCC251124 WAS OBTAINED ON 04/14/2025, JUST FOR THE TREE CLEARING. THE EROSION AND SEDIMENT CONTROL MEASURES WILL BE MAINTAINED AND STABILIZED THROUGHOUT THE LIFE OF THE PROJECT UNTIL PERMANENT SEEDING AND STABILIZATION HAS BEEN ACCOMPLISHED.

SHEET INDEX

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Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS

11/19/2025

DO NOT USE FOR CONSTRUCTION

NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: COVER SHEET

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	AS SHOWN
FILE NUMBER:	12522SCG

SHEET: CG001

LEGEND

✿	PROPOSED STREETSCAPE TREES
——→→→→	PROPOSED GUY ANCHOR COMBINATION
ø	PROPOSED UTILITY POLE
⊙	EXISTING POWER POLE
MH	EXISTING SEWER MANHOLE
V	SILT FENCE OUTLET
◀	CULVERT OUTLET PROTECTION
C	CULVERT INLET PROTECTION
——	EDGE OF PAVED ROAD
— EOx — EOx —	EXISTING OVERHEAD POWER LINE
— EOp — EOp —	PROPOSED OVERHEAD POWER LINE
— SF — SF — SF —	SILT FENCE
—○—○—	PRIVACY FENCE
—○—○—	PROPOSED SUBSTATION CHAIN LINK FENCE
→→→→→→	DITCH CENTERLINE
— — — — C/E —	BUILDING SETBACK LINE
—— – —— – ——	ADJOINING PARCEL LINE
—— X ——	PERIMETER CHAIN LINK FENCE
⌒⌒⌒⌒⌒	WOODS LINE
—— P L ——	PROPERTY LINE
— · · — · · —	EDGE OF UTILITY EASEMENT
—— WM ——	EXISTING WATER MAIN
—— SS ——	EXISTING SANITARY SEWER
—LOD—LOD—LOD—	DISTURBANCE LIMIT
▬ ▬ ▬ ▬	DRAINAGE AREA BOUNDARY
━━━━	SITE SOILS BOUNDARY
—//—//—//—	BAFFLE
—— R/W ——	EDGE OF PUBLIC ROAD RIGHT-OF-WAY
5 1	EXISTING CONTOURS, 1.0FT INTERVAL
5 1	PROPOSED CONTOURS, 1.0FT INTERVAL
▒	PROPOSED 5' WIDE CITY SIDEWALK
▨	TREE CLEARING LIMITS
▩	CONSTRUCTION ENTRANCE
▩	RIPRAP APRON
░	POD GRAVEL PAD
▩	GRAVEL ACCESS ROAD
■	POST-CONSTRUCTION ASPHALT APRON
▦	STOCKPILE LOCATION
░	LAY DOWN AREA
⁘	EXISTING POND
▽ ▽ ▽	50' UNDISTURBED WETLAND BUFFER
▧	PROPOSED VEGETATED SCREENING BUFFER
TS	AREA OF TEMPORARY SEEDING
PS	AREA OF PERMANENT SEEDING

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CONSTRUCTION SEQUENCE

TREE CLEARING PHASES 1 AND 2 ARE NOT PART OF THIS CONTRACT AND ARE SHOWN FOR REFERENCE ONLY.

TREE CLEARING AND INITIAL EROSION CONTROL MEASURE INSTALLATION TO TAKE PLACE BEFORE CONSTRUCTION OF THE SUBSTATION AND IS BEING COVERED UNDER NPDES GENERAL CONSTRUCTION PERMIT (EROSION CONTROL) CERTIFICATE OF COVERAGE NO. NCC251124 WAS OBTAINED ON 04/14/2025. STABILIZATION AND MAINTENANCE PROCEDURES WILL CONTINUE THROUGH PHASE 1–2 OF THE CONSTRUCTION PHASE UNTIL REMOVAL OR DECOMISSIONING IS INSTRUCTED.

CONSTRUCTION – PHASE 1

1. CONTRACTOR TO OBTAIN REQUIRED PERMITS (E.G., BUILDING PERMITS) PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS OTHER THAN THOSE OBTAINED BY OWNER AND ENGINEER (SEE GENERAL NOTES FOR A LIST OF PERMITS OBTAINED BY OWNER AND ENGINEER). HEREIN "OWNER" REFERS TO FAYETTEVILLE PUBLIC WORKS COMMISSION AND "ENGINEER" REFERS TO BOOTH & ASSOCIATES, LLC.
2. UNDERGROUND UTILITIES NOT SHOWN ON THIS DRAWING MAY EXIST; CONTRACTOR SHALL VERIFY LOCATION OF BURIED UTILITIES PRIOR TO START OF CONSTRUCTION.
3. SITE TO BE CLEARED BY OWNER BEFORE START OF CONSTRUCTION.
4. THE RESPONSIBILITY FOR EROSION CONTROL INSPECTIONS AND REPAIRS SHALL BE TRANSFERRED FROM THE OWNER TO THE GRADING CONTRACTOR WHEN THE OWNER'S TREE CLEARING CONTRACTOR DEMOBILIZES. IT IS THE RESPONSIBILITY OF THE OWNER TO HOLD A MEETING WITH THE GRADING CONTRACTOR AT THIS TIME TO PROVIDE ALL INFORMATION AND DOCUMENTATION THAT IS REQUIRED TO COMPLETE THESE INSPECTIONS AND REPAIRS. IF THERE IS A GAP BETWEEN DEMOBILIZATION OF THE OWNER'S TREE CLEARING CONTRACTOR AND MOBILIZATION OF THE GRADING CONTRACTOR, THE OWNER WILL REMAIN RESPONSIBLE FOR CONTINUING EROSION CONTROL INSPECTIONS AND REPAIRS UNTIL THESE RESPONSIBILITIES CAN BE TRANSFERRED TO THE GRADING CONTRACTOR, OR A SECOND PARTY WITH OWNER PERMISSION.
5. CONTRACTOR TO CONTACT NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) FAYETTEVILLE REGIONAL OFFICE AT 910–433–3300, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) HIGHWAY DIVISION 6 AT 910–364–0600, AND CUMBERLAND COUNTY PLANNING & INSPECTIONS AT 910–678–7600 TO INVITE TO THE PRE–CONSTRUCTION MEETING AT LEAST 72 HOURS PRIOR TO PROJECT ACTIVATION.
6. CONDUCT ONSITE PRE–CONSTRUCTION MEETING WITH OWNER, ENGINEER, AND RELEVANT AGENCIES/AUTHORITIES IN ATTENDANCE.
7. INSTALL PERMIT INSPECTION BOX WITH RAIN GAUGE, SELF–INSPECTION RECORDS, COPIES OF EACH PERMIT, AND THE CONSTRUCTION DRAWING SETS. THE INSPECTION BOX WILL BE PLACED IN A PROMINENT LOCATION BY THE MAIN ROAD AND DRIVEWAY. THE SELF–INSPECTION RECORDS FOR LAND DISTURBING ACTIVITIES PER G.S. 113A–54.1 MUST BE COMPLETED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL (ONE INCH OR GREATER WITHIN TWENTY–FOUR HOURS). THIRTY (30) DAYS OF SELF–INSPECTION REPORTS SHALL BE MAINTAINED IN THE INSPECTION BOX AT ALL TIMES. EXTRA COPIES OF THE SELF–INSPECTION FORMS SHOULD BE PLACED IN THE INSPECTION BOX.
8. INSPECT EXISTING CONSTRUCTION ENTRANCE, TEMPORARY SEEDING, STABILIZATION MEASURES, SEDIMENT BASINS, DIVERSION SWALES, DIVERSION BERMS, SILT FENCE, AND SILT FENCE OUTLETS FOR PROPER OPERATION AND REPLACE OR REMEDIATE AS NECESSARY.
9. THE OWNER OR THEIR SURVEYOR WILL PROVIDE CONTROL POINT COORDINATES TO THE CONTRACTOR. CONTRACTOR TO STAKE/FLAG BASED ON THESE CONTROL POINTS. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING GRADE STAKES AND REFERENCE STAKES.
10. ALL EROSION AND SEDIMENT CONTROL PROPERTIES WILL BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (ONE INCH OR GREATER WITHIN TWENTY–FOUR HOURS). NEEDED REPAIRS WILL BE MADE IMMEDIATELY.
11. GRUB, UNDERCUT AND REMOVE THE EXISTING TOPSOIL IN THE AREA OF THE PROPOSED ACCESS DRIVES AND SUBSTATION PAD. TOPSOIL THAT IS TO BE REUSED IS TO BE STOCKPILED IN THE DESIGNATED AREAS SHOWN IN THE DRAWINGS.
12. STOCKPILE EXCESS SOILS AND PROTECT WITH SILT FENCE AROUND PERIMETER. STABILIZE STOCKPILE SIDE SLOPES WITHIN 7 CALENDAR DAYS. STOCKPILES TO BE A MINIMUM OF 50 FEET AWAY FROM BASINS, CHANNELS, AND DIVERSIONS.
13. BEGIN ROUGH GRADING SITE PER GRADING PLAN TO REQUIRED SUBGRADES.
14. CONTRACTOR TO HIRE A REPUTABLE NORTH CAROLINA LICENSED GEOTECHNICAL ENGINEER AT THE CONTRACTOR'S EXPENSE TO PERFORM TESTING ON THE ACCESS DRIVE, BACKFILL MATERIAL, AND SUBGRADE TO ENSURE CONFORMANCE WITH TECHNICAL SPECS.
15. ALL AREAS OF FILL SHALL BE INSTALLED IN LIFTS, COMPACTED AND TESTED AS OUTLINED IN THE GRADING SPECIFICATIONS AND AT THE APPROVAL OF THE GEOTECHNICAL ENGINEER.
16. FINALIZE THE INSTALLATION OF THE ACCESS DRIVES AND SUBSTATION PAD (INCLUDING THE CRUSHER RUN) AND COMPLETE GRADING.
17. INSTALL CONCRETE WASHOUT PIT.
18. STABILIZE SITE WITH LIME, SEED, FERTILIZER, STRAW, AND TACK ACCORDING TO THE APPROVED TEMPORARY SEEDING APPLICATION RATES AND SPEC (SEE SHEET CG601). STABILIZE GRADED SLOPES AND DENUDED AREAS FOLLOWING INITIAL SOIL DISTURBANCE.
19. ONCE TEMPORARY STABILIZATION HAS BEEN ADEQUATELY ACHIEVED FOR THE SITE, CONTRACTOR (REFERRED TO AS "GRADING CONTRACTOR" IN THE REMAINDER OF THIS STEP TO DISTINGUISH FROM ELECTRICAL CONTRACTOR) SHALL DEMOBILIZE. ELECTRICAL CONTRACTOR(S) HIRED BY THE PROJECT OWNER SHALL THEN MOBILIZE ONSITE FOR THE INSTALLATION OF THE PERIMETER FENCE, FOUNDATIONS, STEEL, ELECTRICAL LINES AND ASSOCIATED EQUIPMENT. THE RESPONSIBILITY FOR EROSION CONTROL INSPECTIONS AND REPAIRS SHALL BE TRANSFERRED FROM THE GRADING CONTRACTOR TO THE PRIMARY ELECTRICAL CONTRACTOR WHEN THE GRADING CONTRACTOR DEMOBILIZES. IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR TO HOLD A MEETING WITH THE ELECTRICAL CONTRACTOR AT THIS TIME TO PROVIDE ALL INFORMATION AND DOCUMENTATION THAT IS REQUIRED TO COMPLETE THESE INSPECTIONS AND REPAIRS. IF THERE IS A GAP BETWEEN DEMOBILIZATION OF THE GRADING CONTRACTOR AND MOBILIZATION OF THE ELECTRICAL CONTRACTOR, THE GRADING CONTRACTOR WILL REMAIN RESPONSIBLE FOR CONTINUING EROSION CONTROL INSPECTIONS AND REPAIRS UNTIL THESE RESPONSIBILITIES CAN BE TRANSFERRED TO THE PROJECT OWNER, ELECTRICAL CONTRACTOR, OR A THIRD PARTY WITH PROJECT OWNER PERMISSION.
20. ONCE ALL ELECTRICAL EQUIPMENT HAS BEEN INSTALLED AND IS FUNCTIONAL, CONTRACTOR MAY PROCEED TO PHASE 2.

CONSTRUCTION – PHASE 2

21. THE CONTRACTOR (REFERRED TO AS "GRADING CONTRACTOR" IN THE REMAINDER OF THIS STEP TO DISTINGUISH FROM ELECTRICAL CONTRACTOR) SHALL BE NOTIFIED BY THE PROJECT OWNER OR A REPRESENTATIVE THEREOF ONCE THE INSTALLATION OF ALL ELECTRICAL AND RELATED EQUIPMENT HAS BEEN COMPLETED. GRADING CONTRACTOR THEN TO REMOBILIZE ONSITE TO PERFORM THE PHASE TASKS AS OUTLINED BELOW. RESPONSIBILITY OF EROSION CONTROL INSPECTIONS AND REPAIRS SHALL BE TRANSFERRED BACK TO THE GRADING CONTRACTOR AT THIS TIME; IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR FOR SETTING A MEETING WITH THE ELECTRICAL CONTRACTOR FOR THIS TRANSFER OF RESPONSIBILITIES.
22. REMOVE THE CONSTRUCTION ENTRANCE STONE AND INSTALL THE POST–CONSTRUCTION PAVED APRONS LOCATED AT THE PROJECT ENTRANCES & CITY SIDEWALKS AS DETAILED ON SHEET CG603. CONTRACTOR TO COORDINATE WITH NCDOT AND ARRANGE FOR FINAL DRIVEWAY INSPECTION BY NCDOT.
23. STABILIZE THE SITE PER THE APPROVED PERMANENT SEEDING APPLICATION RATES AND SPEC (SEE SHEET CG601). EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT VEGETATION IS ESTABLISHED (APPROXIMATELY 80% COVERAGE, 100% ON 3H:1V+ SLOPES). CONTRACTOR'S SCOPE SHALL INCLUDE REPAIRS, RESEEDING, & REVEGETATING UNTIL THIS COVERAGE REQUIREMENT HAS BEEN MET, AS DETERMINED BY OWNER, ENGINEER, AND NCDEQ. CONTRACTOR TO CONTACT NCDEQ AND ARRANGE FOR VEGETATIVE COVERAGE INSPECTION AND APPROVAL.
24. AFTER SITE STABILIZATION IS APPROVED BY NCDEQ, OWNER, AND ENGINEER, REMOVE THE TEMPORARY SEDIMENT BASIN, TRAPEZOIDAL DRAINAGE CHANNELS, AND TEMPORARY DIVERSIONS. DECOMMISSION THE BASINS USING THE STEPS BELOW.

    DECOMMISSIONING A SKIMMER/SEDIMENT BASIN

    24.1 IF THE BASINS HAVE WATER IN THEM, THE WATER MUST BE PUMPED OUT FROM THE SURFACE INTO A FILTER BAG ON A LEVEL AREA FREE OF DEBRIS.

    24.2 REMOVE SKIMMERS, RISER, BARREL, AND ALL BAFFLE MATERIALS.

    24.3 IF THERE IS SEDIMENT/SILT IN THE BOTTOM OF THE BASINS TO BE HAULED OFF, MIX WITH DRY MATERIAL OR SET ASIDE TO DRY THEN HAUL OFF.

    24.4 FILL BASINS TO MATCH PRE–EXISTING GROUND ELEVATIONS.

    24.5 SEED AND STABILIZE THE AREA OF THE REMOVED BASIN WITH ROLLED EROSION CONTROL PRODUCT WITHIN 7 CALENDAR DAYS.
25. INSTALL LANDSCAPING BUFFERS, PRIVACY FENCE, AND STREETSCAPE AS SPECIFIED IN DETAILS ON SHEETS CG203 AND CG601.
26. HAUL AWAY OR DISPOSE OF ANY ADDITIONAL EXCESS SOILS NOT NEEDED TO BALANCE SITE.
27. AFTER FINAL GRADING HAS BEEN COMPLETED, THE REMAINING DISTURBED AREAS MUST BE STABILIZED WITH LIME, SEED, FERTILIZER, STRAW AND TACK ACCORDING TO THE APPROVED PERMANENT SEEDING APPLICATION RATES AND SPEC (SEE SHEET CG601). CONTRACTOR'S SCOPE SHALL INCLUDE REPAIRS, RESEEDING, & REVEGETATING UNTIL THIS COVERAGE REQUIREMENT HAS BEEN MET FOR THE ENTIRE SITE AS DETERMINED BY OWNER, ENGINEER, AND, AS APPLICABLE, NCDEQ.
28. REMOVE SILT FENCE AND ANY OTHER REMAINING EROSION CONTROL MEASURES.
29. CONTRACTOR IS RESPONSIBLE FOR ARRANGING FOR ANY INSPECTIONS REQUIRED BY ANY AGENCIES, INCLUDING, BUT NOT LIMITED TO, NCDEQ, NCDOT, AND CUMBERLAND COUNTY.
30. CONDUCT FINAL SITE DEMOBILIZATION.
31. WHEN THE PROJECT IS COMPLETE, AND PERMANENT GROUND COVER IS SUFFICIENT TO RESTRAIN EROSION HAS BEEN ESTABLISHED, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITTEE SHALL VISIT HTTPS://WWW.DEQ.NC.GOV/NCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (E–NOT). A $120 ANNUAL GENERAL PERMIT GEE WILL BE CHARGED UNTIL THE E–NOT HAS BEEN FILLED OUT.
32. ALL FINAL INSPECTION DOCUMENTS SHALL BE PROVIDED TO OWNER AND ENGINEER FOR PERMIT CLOSE OUT. ALL AS–BUILT DEVIATIONS FROM THE DESIGN SHOWN IN THE APPROVED PLAN SET SHALL BE CAPTURED IN INITIALED RED–LINE MARKUPS OF ALL PLAN SHEETS AND PROVIDED TO OWNER AND ENGINEER FOR RECORD DRAWING ISSUANCE.
33. CONTRACTOR'S SCOPE OF WORK NOT TO BE CONSIDERED COMPLETE UNTIL ALL OF THE ABOVE ITEMS HAVE BEEN SATISFACTORILY COMPLETED.

34 FOR ADDITIONAL INFORMATION OR QUESTIONS ON THE SEQUENCING PLEASE CONTACT LAURA HARRIS, P.E. AT 919–851–8770 OR AT LAURA.HARRIS@BOOTH–ASSOC.COM.

GENERAL NOTES

1. OBTAIN ALL APPLICABLE PERMITS PRIOR TO CONSTRUCTION OTHER THAN THOSE OBTAINED BY THE OWNER AND THE OWNER'S ENGINEER. A LIST OF THESE PERMITS AREA AS FOLLOWS:
2. THE FOLLOWING PERMITS ARE TO BE OBTAINED BY OWNER OR THEIR ENGINEER. ALL OTHER PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
    - 2.1. NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) EROSION CONTROL PLAN APPROVAL.
    - 2.2. NCDEQ NCG01 PERMIT CERTIFICATE OF COVERAGE
    - 2.3. NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) DRIVEWAY PERMIT
    - 2.4. NCDOT ENCROACHMENT PERMIT FOR OVERHEAD UTILITY
    - 2.5. CUMBERLAND COUNTY SITE PLAN APPROVAL
    - 2.6. CUMBERLAND COUNTY WATERSHED PERMIT/POST–CONSTRUCTION STORMWATER PERMIT
    - 2.7. CITY OF FAYETTEVILLE DRIVEWAY STREET AND COMMERCIAL DRIVEWAY ACCESS PERMIT
3. CONTRACTOR TO CONTACT NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) FAYETTEVILLE REGIONAL OFFICE AT 910–433–3300, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) HIGHWAY DIVISION 6 AT 910–364–0600, CUMBERLAND COUNTY PLANNING & INSPECTIONS AT 910–678–7600, AND THE CITY OF FAYETTEVILLE PLANNING AND ZONING DIVISION AT 910–433–1612 TO INVITE TO THE PRE–CONSTRUCTION MEETING AT LEAST 72 HOURS PRIOR TO PROJECT ACTIVATION.
4. THE FOLLOWING MUST BE KEPT ON SITE UNTIL THE END OF CONSTRUCTION:
    - 4.1. RAIN GAUGE,
    - 4.2. 30 DAYS OF SELF–INSPECTION RECORDS,
    - 4.3. COPIES OF EACH PERMIT,
    - 4.4. CONSTRUCTION DRAWING SETS.

    THESE ITEMS SHOULD BE LOCATED NEAR THE MAIN CONSTRUCTION ENTRANCE. FAILURE TO MAINTAIN THESE ITEMS ON SITE VIOLATES THE EROSION CONTROL PERMIT.
5. PROPOSED CUT/FILL SIDE SLOPES ARE 3H:1V UNLESS OTHERWISE SPECIFIED. DRY, WELL–COMPACTED UN–REINFORCED FILL SLOPES BUILT AT 3H:1V OR FLATTER ARE GENERALLY STABLE PROVIDED COMPACTION IS CARRIED TO THE FACE OF THE SLOPE. ANY STEEPER FILL SLOPES MUST BE PROPERLY DESIGNED WITH GEOSYNTHETIC REINFORCEMENT INSTALLED. ALL CUT SLOPES SHOULD BE 3H:1V OR FLATTER. ANY WATER ENCOUNTERED OF THE FACE OF SLOPES SHOULD BE BROUGHT TO THE ATTENTION OF A GEOTECHNICAL ENGINEER SO THAT NECESSARY PROVISIONS CAN BE MADE.
6. CONTRACTOR SHOULD MINIMIZE SUBGRADE DISTURBANCE BY USING LIGHT TRACKED EQUIPMENT.
7. ALL STOCKPILES SHALL BE SURROUNDED BY SILT FENCE ON ALL SIDES EXCEPT FOR THE INGRESS/EGRESS. (3 SIDES) ALL STOCKPILES MUST HAVE A MINIMUM 5–FOOT SEPARATION FROM STOCKPILE TOE TO SILT FENCE AND OTHER EROSION CONTROL MEASURES.
8. CONTRACTOR IS RESPONSIBLE TO REVIEW ANY GEOTECHNICAL REPORT ATTACHED TO THE GRADING SPECIFICATIONS FOR SITE SOILS INFORMATION.
9. SITE TO BE GRADED AND STABILIZED WITHIN SIXTY (60) CALENDAR DAYS.
10. PERMANENT GROUND COVER WILL BE PROVIDED FOR ALL DISTURBED AREAS WITHIN 14 WORKING DAYS OR NO MORE THAN 90 CALENDAR DAYS, WHICHEVER IS SHORTER. G.S. 113A–57(3).
11. STABILIZATION WILL BE PROVIDED FOR ALL DISTURBED AREAS WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY IS COMPLETE UNLESS CONSTRUCTION ACTIVITY IS GOING TO RESUME WITHIN 21 DAYS, SLOPES 3H:1V OR STEEPER TO BE STABILIZED WITHIN 7 DAYS.
12. ADDITIONAL PERTINENT EROSION CONTROL MEASURES TO BE DETAILED IN OVERALL SITE GRADING AND EROSION CONTROL PLAN, PHASES 2.
13. ALL SUBGRADE, FILL, AND STONE SHALL BE COMPACTED AS SPECIFIED IN THE GRADING SPECIFICATIONS.
14. FOLLOW CONSTRUCTION SEQUENCE NOTES FOR GENERAL PROCESS AND PROJECT PHASING.
15. LAT/LONG COORDINATES SHOWN IN THIS PLAN SET WERE DERIVED FROM NORTH CAROLINA STATE PLANE COORDINATE SYSTEM. (NAD83, US SURVEY FEET) DISTANCES SHOWN ARE US SURVEY FOOT GRID DISTANCES. ALL VERTICAL DATUM USED WERE DERIVED FROM NAVD 88.
16. ADJOINER AND PROPERTY INFORMATION SHOWN ARE BASED ON A RECOMBINATION SURVEY PROVIDED TO BOOTH BY FAYETTEVILLE PUBLIC WORKS COMMISSION PERFORMED BY 4D SITE SOLUTIONS TITLED "RECOMBINATION SURVEY OR RIDDLE PARCELS & EASEMENT MAP", BEARING A DATE OF NOVEMBER 24, 2021.
17. EXISTING WATER AND SEWER MAIN LOCATIONS SHOWN ARE APPROXIMATE AND WERE OBTAINED FROM DRAWINGS PROVIDED TO BOOTH BY FAYETTEVILLE PUBLIC WORKS COMMISSION TITLED "McARTHUR ROAD WATER AND SANITARY SEWER PLANS" BEARING A DATE OF JULY 15, 1980 AND "SOUTHLAND DRIVE 60' R/W 29 PVT. (ROLL CURB)" BEARING A DATE OF AUGUST, 1985.
18. EXISTING WETLANDS AND SURFACE WATERS SHOWN WERE OBTAINED FROM A WETLAND DELINEATION REPORT PERFORMED BY CZR ENVIRONMENTAL CONSULTANTS TITLED "RECONNAISSANCE AND DELINEATION OF POTENTIAL SECTION 401/404 JURISDICTIONAL AREAS AND PEDESTRIAN SURVEY FOR PRESENCE OF POTENTIAL HABITAT FOR, OR INDIVIDUALS OF, PROTECTED SPECIES (FEDERAL OR STATE LISTED ENDANGERED OR THREATENED) ON A 33–ACRE SITE (PIN #0530312280 AND 0530414252) IN FAYETTEVILLE, NC", PERFORMED ON JULY 9, 2024.
19. PROPOSED AREA OF DISTURBANCE = 31.21 ACRES
20. PROPOSED CONTOURS REPRESENT FINISHED ELEVATIONS.
21. TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS CAN BE FOUND IN THE SITE IMPROVEMENT PLAN DRAWINGS ON SHEET CG601.
22. CLARIFICATIONS CAN BE ADDRESSED BY CONTACTING LAURA HARRIS, P.E.
    EMAIL: LAURA.HARRIS@BOOTH–ASSOC.COM / PHONE: (919) 851–8770 X 179

EROSION AND SEDIMENT CONTROL NOTES

1. CONSTRUCTION OF EROSION AND SEDIMENT CONTROL DEVICES IS TO BE CARRIED OUT AS DESCRIBED IN THE CONSTRUCTION SEQUENCE AND THEIR LOCATION IS TO BE AS SHOWN ON THE DRAWINGS. CERTAIN DEVICES ARE TO BE CONSTRUCTED BEFORE GRADING OPERATIONS BEGIN. ALL DEVICES ARE TO BE MAINTAINED DURING CONSTRUCTION AND TEMPORARY ONES REMOVED AFTERWARD.
2. INSPECT SILT FENCE OUTLETS WEEKLY AFTER EACH SIGNIFICANT RAINFALL EVENT (ONE INCH OR GREATER WITHIN TWENTY–FOUR HOURS). CLEAR MESH WIRE OF DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.
3. ADD ADDITIONAL SILT FENCE SECTIONS AS NEEDED TO ENSURE ADEQUATE EROSION PROTECTION AND SILT FENCE INTEGRITY.
4. ADD SEED AND MULCH TO ANY DISTURBED SLOPES AS NEEDED. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS WILL BE FERTILIZED AND RESEEDED AS NEEDED.
5. ADD COIR WATTLES THROUGHOUT SITE AS NEEDED AS SLOPE BREAKS AND WHERE EXCESSIVE STORM WATER
    VELOCITIES AND SCOURING ARE OBSERVED.
6. ALL BASINS WILL BE CHECKED REGULARLY TO ENSURE THAT THE SEDIMENT HAS NOT ACCUMULATED TO ONE–HALF ($\frac{1}{2}$) THE DESIGN DEPTH. IF SO, THE BASIN WILL BE RESTORED TO ITS ORIGINAL DIMENSIONS.
7. CULVERT INLETS WILL BE CHECKED TO ENSURE THAT THE SEDIMENT AND DEBRIS HAVE NOT ACCUMULATED. IF SO, REMOVE THE SEDIMENT AND DEBRIS AND STABILIZE THE VICINITY IMMEDIATELY.
8. SKIMMER DEVICE WILL BE INSPECTED TO VERIFY CONDITION, ORIENTATION, AND PROPER OPERATION. REMOVE ANY DEBRIS OR CLOGS FROM SKIMMER ARM OR BARREL PIPE.
9. ADD RIPRAP CHECK DAMS IN SITE WHERE EXCESSIVE STORM WATER VELOCITIES AND SCOURING ARE OBSERVED.
10. ALL BARE SOILS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED BELOW, OR, IF IN A CRITICAL AREA, BY THE END OF THE DAY. ALL DISTURBED AREAS FLATTER THAN 3:1 TO BE STABILIZED WITHIN 14 DAYS. SLOPES 3:1 OR STEEPER TO BE STABILIZED WITHIN 7 DAYS.
11. PERMANENT GROUNDCOVER TO BE INSTALLED IN ACCORDANCE WITH NCDEQ CONSTRUCTION GENERAL PERMIT NCG010000 FOR ALL DISTURBED AREAS WITHIN 14 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
12. PERIMETER SEDIMENT CONTAINMENT DEVICES ARE TO REMAIN IN OPERATING CONDITION UNTIL PERMANENT VEGETATION IS ESTABLISHED.

BACKFILL MATERIAL

1. MATERIAL FOR BACKFILL SHALL BE COMPOSED OF EARTH THAT IS FREE OF WOOD, GRASS, ROOTS, BROKEN CONCRETE, LARGE STONES, TRASH, OR DEBRIS OF ANY KIND AND COMPACTED PRIOR TO PLACEMENT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING A REPUTABLE NORTH CAROLINA LICENSED GEOTECHNICAL ENGINEERING FIRM, APPROVED BY THE OWNER OR ENGINEER, TO PERFORM LABORATORY AND FIELD TESTING OF BACKFILL MATERIAL AT THE CONTRACTOR'S EXPENSE.
3. BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" IN UN–COMPACTED THICKNESS AND MECHANICALLY COMPACTED TO AT LEAST 95% OF THE MAXIMUM DENSITY AT ±2% OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698. DENSITY TESTING SHALL BE COMPLETED AND FILED FOR EVALUATION.
4. ALL FILL MATERIAL USED AT THE SITE SHALL UTILIZE A LOW PLASTICITY SOIL. (LIQUID LIMIT LESS THAN 50, PLASTICITY INDEX LESS THAN 25).
5. A STANDARD PROCTOR COMPACTION TEST SHALL BE PERFORMED BY THE APPROVED GEOTECHNICAL ENGINEERING FIRM ON THE MATERIAL TO BE USED AS BACKFILL.

GRADING NOTES

1. THE OWNER OR THEIR SURVEYOR WILL PROVIDE CONTROL POINT COORDINATES TO THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR STAKING AND FLAGGING BASED ON THESE CONTROL POINTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THESE FLAGS AND STAKES.
2. CONSTRUCTION OF EROSION AND SEDIMENT CONTROL DEVICES IS TO BE CARRIED OUT AS DESCRIBED IN THE CONSTRUCTION SEQUENCE AND THEIR LOCATION IS TO BE AS SHOWN ON THE DRAWINGS. CERTAIN DEVICES ARE TO BE CONSTRUCTED BEFORE GRADING OPERATIONS BEGIN. ALL DEVICES ARE TO BE MAINTAINED DURING CONSTRUCTION AND TEMPORARY ONES REMOVED AFTERWARD.
3. IF POSSIBLE, THE SITE SHOULD BE GRADED DURING A PERIOD OF WARM AND DRY WEATHER WHEN AT LEAST SHALLOW (12 INCHES OR LESS) UNSTABLE SOILS CAN BE REPAIRED BY DISCING, DRYING, AND RECOMPACTING. DURING AN AVERAGE YEAR, THE TIME PERIOD FROM APRIL THROUGH OCTOBER PROVIDES AN OPPORTUNITY FOR DRYING, WITH THE PERIOD FROM MAY THROUGH SEPTEMBER BEING THE MOST IDEAL. THE MOST EFFECTIVE MEANS FOR DRYING INCLUDE THE USE OF A LARGE TRACTOR AND FARM DISC CAPABLE OF TURNING SOILS TO A DEPTH OF TWELVE (12) INCHES. IF THE SITE IS GRADED DURING AN UNFAVORABLE DRYING PERIOD AND/OR IF THE CONTRACTOR DOES NOT PROVIDE CORRECT EQUIPMENT, UNDERCUT QUANTITIES MAY INCREASE.
4. GRADING SHOULD BEGIN WITH THE STRIPPING OF ALL SURFACE TOPSOIL AND ORGANIC SOILS. ALL VEGETATION AND DEBRIS SHOULD BE REMOVED FROM THE SITE. ALL SUBGRADE SOILS SHALL BE FREE OF ORGANIC MATERIAL FROM GRADING ACTIVITY. SUBGRADE SHALL BE COMPACTED AND INSPECTED BY AN NC LICENSED GEOTECHNICAL ENGINEER (HIRED BY THE GRADING CONTRACTOR AND APPROVED BY THE OWNER) PRIOR TO THE PLACEMENT OF FILL MATERIAL. ANY MATERIAL TO BE STOCKPILED ON SITE SHALL BE STOCKPILED WITHIN THE CONSTRUCTION LIMITS AND IN DESIGNATED AREAS.
5. ALL GRADING INSIDE THE PROPOSED FENCED AREA SHALL BE CARRIED TO A FIRM SUBGRADE. THE SUBGRADE SHALL NOT BE FROZEN, SATURATED, SOFT, OR UNSTABLE.
6. EXPOSED SUBGRADE EVALUATIONS SHOULD CONSIST OF PROOFROLLING WITH A LOADED DUMP TRUCK AND PERFORMING HAND AUGER BORINGS. REPAIRS SHOULD BE PERFORMED AS DIRECTED BY A GEOTECHNICAL ENGINEER. UNDERCUT/STABILIZATION DEPTHS WILL TYPICALLY VARY FROM 0 TO 12 INCHES FOLLOWING STRIPPING. UNDERCUT/STABILIZATION SHOULD BE PERFORMED UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER. EXPOSED SUBGRADE SHALL BE COMPACTED TO AT LEAST NINETY FIVE PERCENT (95%) OF THE MAXIMUM DRY DENSITY WITHIN ±2 FROM THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.
7. COMPACTED SUBGRADE SHALL BE EXAMINED BY AN APPROVED GEOTECHNICAL ENGINEER OR CERTIFIED TESTING FIRM. FIELD COMPACTION TESTS SHOULD BE CONDUCTED EVERY TWO THOUSAND SQUARE FEET (2,000 FT2). VIRGIN SUBGRADE SOILS CAN BE PROOFROLLED TO DETECT ZONES OF SOFT OR LOOSE SOILS. ANY REPORTS BY GEOTECHNICAL ENGINEER TO BE FORWARDED TO BOOTH & ASSOCIATES, LLC ENGINEER.
8. PROOFROLLING SHOULD BE DONE IN THE PRESENCE OF AN APPROVED GEOTECHNICAL ENGINEER. PROOFROLLING MAY BE ACCOMPLISHED BY WITH A LIGHTLY TO MODERATELY LOADED DUMP TRUCK OR SIMILAR CONSTRUCTION EQUIPMENT. ANY SOILS WHICH CONTINUE TO RUT OR DEFLECT EXCESSIVELY UNDER THE ROLLING OPERATIONS SHOULD BE UNDERCUT TO SUITABLE SOILS AND REPLACED WITH COMPACTED FILL MATERIAL AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
9. THE ON–SITE SOILS, EXCLUDING TOPSOIL AND ANY HIGHLY PLASTIC SOILS, WILL BE SUITABLE FOR REUSE AS STRUCTURAL FILL PROVIDED THE AREA WITHIN AN ACCEPTABLE RANGE OF THE OPTIMUM MOISTURE CONTENT AT THE TIME OF PLACEMENT. THIS COULD REQUIRE SOME MOISTURE CONDITIONING (WETTING OR DRYING) OF THE EXISTING SOILS. ANY ROCK USED AS FILL SHOULD BE PROCESSED TO A PARTICLE SIZE OF THREE (3) INCHES OR LESS WHICH IMPLIES THAT MOST OF THESE MATERIALS WILL LIKELY HAVE TO BE RUN THROUGH A CRUSHER PRIOR TO USE. IF ROCK IS NOT PROCESSED PROPERLY IT CANNOT BE USED AS STRUCTURAL FILL. TYPICALLY, PROCESSED ROCK REQUIRES THE ADDITION OF WATER TO ACHIEVE PROPER COMPACTION MOISTURE.
10. OFF–SITE BORROW SHOULD CONSIST OF SILTY AND CLAYEY SANDS OR LOW PLASTICITY SILTS AND CLAYS HAVING UNIFIED SOIL CLASSIFICATIONS OF SM, SC, ML, OR CL. ALL FILL MATERIALS SHOULD BE COMPACTED TO NOT LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY EXCEPT IN THE FINAL FOOT WHERE THIS REQUIREMENT SHOULD BE INCREASED TO 98% OF THE STANDARD PROCTOR MAXIMUM. FILL SHOULD BE PLACED WITHIN ABOUT 2% OF THE OPTIMUM MOISTURE CONTENT.
11. ANY OFF–SITE BORROW AND WASTE REQUIRED FOR THIS PROJECT MUST COME FROM A SITE WITH AN APPROVED EROSION CONTROL PLAN, A SITE REGULATED UNDER THE MINING ACT OF 1971, OR A LANDFILL REGULATED BY THE DIVISION OF SOLID WASTE MANAGEMENT. TRASH/DEBRIS AND OTHER SPOILS FROM DEMOLITION ACTIVITIES MUST BE DISPOSED OF AT A FACILITY REGULATED BY THE DIVISION OF SOLID WASTE MANAGEMENT [15A NCAC 4B.0110].
12. CONTRACTOR SHALL PREPARE SITE TO HAVE THREE AND A HALF (3.5) FEET OF EXCAVATABLE MATERIAL BELOW SUBSTATION PAD DESIGN GRADE.

DRIVEWAY NOTES

1. THE ACCESS DRIVES SHALL BE SURFACED PER THE DETAIL ON SHEET CG603.
2. THE SUBGRADE, DIRECTLY BELOW ACCESS DRIVE AND TWO (2) FEET OUTSIDE OF THE DRIVEWAYS SHALL BE MECHANICALLY COMPACTED IN THE TOP 12" TO AT LEAST NINETY–FIVE PERCENT (95%) OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698. THE DRIVEWAY SUBGRADE SHALL BE MECHANICALLY COMPACTED DIRECTLY BELOW ONLY IN THE TOP 12" TO AT LEAST NINETY–FIVE PERCENT (95%) OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.
3. MINIMUM CONSTRUCTION ENTRANCE THICKNESS SHALL BE SIX INCHES (6").
4. ACCESS DRIVES AS SHOWN ON THE DRAWINGS SHALL HAVE AGGREGATE BASE COURSE (ABC) PLACED IN TWO SIX INCH (6") LAYERS AND COMPACTED TO NINETY–EIGHT PERCENT (98%) OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557.
5. MINIMUM GRAVEL DRIVEWAY THICKNESS SHALL BE TWELVE INCHES (12"). AGGREGATE SHALL BE PLACED IN TWO (2) COMPACTED LAYERS WITH A MINIMUM LIFT OF SIX INCHES (6"), WITH A TOLERANCE OF PLUS OR MINUS HALF INCH (± 0.5")
6. COMPACTION TESTING SHOULD BE PERFORMED ONCE PER ONE–HUNDRED LINEAL FEET (100') MINIMUM.
7. COORDINATE PAVING OF ASPHALT APRONS WITH NCDOT AT END OF CONSTRUCTION PER SHEET CG603 DETAIL.

BACKFILL NOTES

1. SAMPLES OF THE PROPOSED BACKFILL MATERIAL SHOULD BE TAKEN BY THE APPROVED GEOTECHNICAL ENGINEER BEFORE FILLING OPERATIONS BEGIN. ANY REPORTS BY GEOTECHNICAL ENGINEER TO BE FORWARDED TO OWNER AND THEIR ENGINEER.
2. MATERIAL FOR BACKFILL SHALL BE COMPOSED OF EARTH FREE OF WOOD, GRASS, ROOTS, BROKEN CONCRETE, LARGE STONES, TRASH, OR DEBRIS OF ANY KIND. NO ROCK MATERIAL LARGER THAN SIX INCHES (6") IN MAXIMUM DIMENSION SHALL BE IN THE TOP TWENTY–FOUR INCHES (24") OF FILL.
3. A STANDARD PROCTOR COMPACTION TEST SHALL BE PERFORMED ON THE PROPOSED BACKFILL MATERIAL SAMPLES. THE SAMPLES SHOULD BE TESTED TO DETERMINE THE MAXIMUM, DRY DENSITY, OPTIMUM MOISTURE CONTENT AND NATURAL MOISTURE CONTENT. THESE TEST RESULTS ARE TO BE USED TO ENSURE PROPER COMPACTION DURING BACKFILLING PROCEDURES.
4. ALL FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT INCHES (8″) IN UN–COMPACTED THICKNESS AND BE FREE OF ALL ORGANIC MATERIAL.
    - 4.1. FILL SHALL NOT BE PLACED IN HEAVY RAIN.
    - 4.2. FILL SHALL NOT BE PLACED ON FROZEN GROUND AND FROZEN MATERIAL SHALL NOT BE USED AS FILL.
5. FIELD COMPACTION TESTS SHALL BE TAKEN BY THE APPROVED GEOTECHNICAL ENGINEER OR CERTIFIED TESTING FIRM FROM EACH FILL VOLUME MEASURING 2,000 SQUARE FEET MAXIMUM BY TWELVE INCHES (12″) DEEP.
6. IF TESTING RESULTS INDICATE THAT COMPACTION DOES NOT MEET SPECIFIED REQUIREMENTS, FILL MATERIALS SHALL BE REMOVED, REPLACED AS REQUIRED, AND COMPACTED AND RETESTED UNTIL ACCEPTABLE.
7. ALL FILL AREAS SHALL BE MECHANICALLY COMPACTED TO AT LEAST NINETY–FIVE PERCENT (95%) OF THE MAXIMUM DRY DENSITY WITHIN ±2 PERCENT FROM THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698, EXCEPT IN THE FINAL FOOT WHICH SHALL BE INCREASED TO NINETY–EIGHT PERCENT (98%).
8. COMPACTED SUBGRADE SHALL BE APPROVED FOR 3,000 LBS PER SQUARE FOOT BEARING CAPACITY BY GEOTECHNICAL ENGINEER.

PWC
Fayetteville's
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B&A

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SEAL
056748
LAURA R. HARRIS
11/19/2025

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NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME:
POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE:
CONSTRUCTION SEQUENCE, LEGEND, AND NOTES

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	N.T.S.
FILE NUMBER:	12522SCG

SHEET:
CG002

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

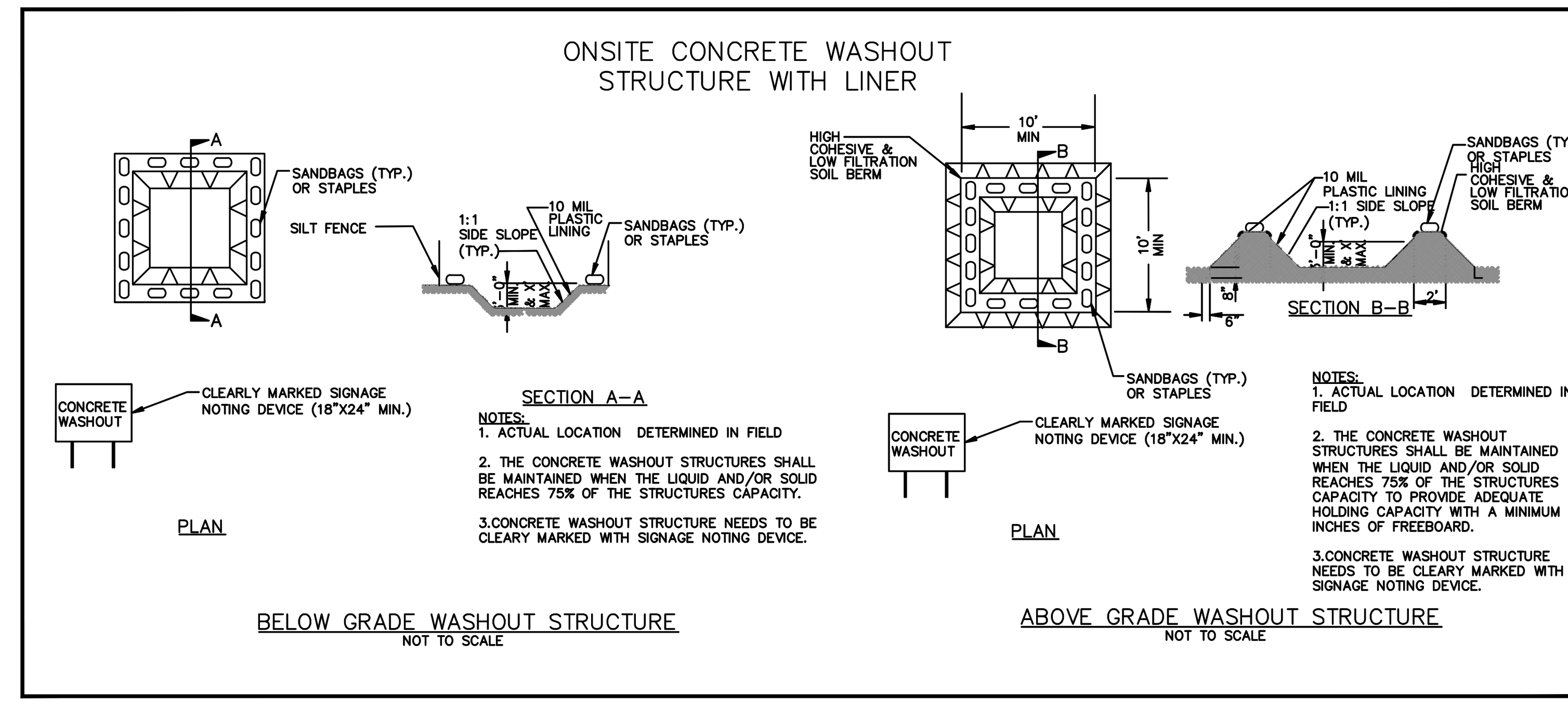
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC-F-0221

–ISSUED FOR BID–

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 056748 LAURA R. HARRIS 11/19/2025

DO NOT USE FOR CONSTRUCTION

NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: GROUND STABILIZATION AND MATERIALS HANDLING

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	N.T.S.
FILE NUMBER:	12522SCG

SHEET: CG003

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event $\geq$ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event $\geq$ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event $\geq$ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event $\geq$ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:

- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,

(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,

(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,

(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,

(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and

(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

—ISSUED FOR BID—
NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS
11/19/2025
DO NOT USE FOR CONSTRUCTION
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NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: SELF-INSPECTION, RECORD KEEPING, AND RECORDING

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
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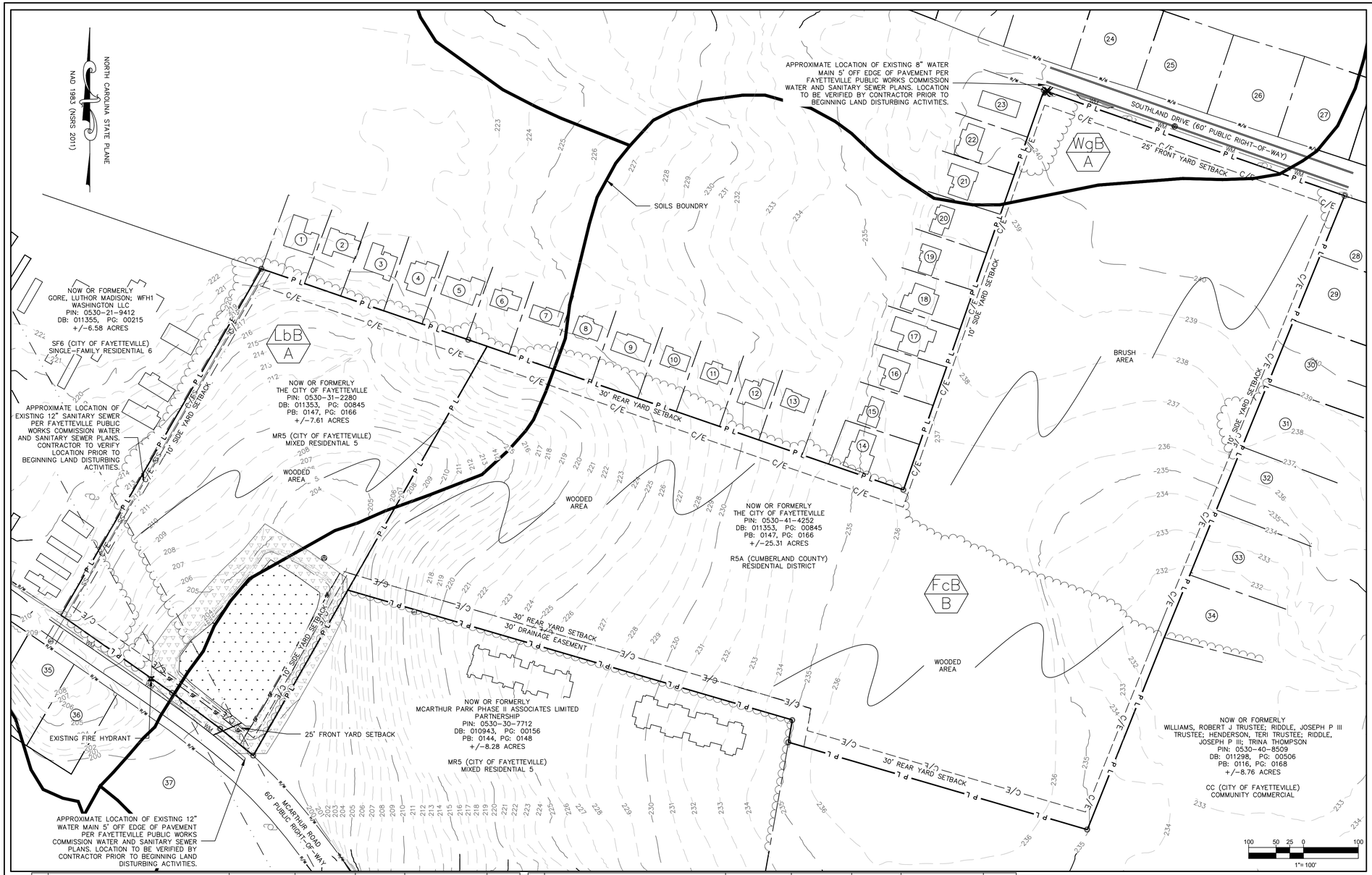
SHEET:	CG004



#	OWNER	PIN	DB/PG	PB/PG	ZONING/FAYETTEVILLE	ACRES
1	FRANCIS, KATHLEEN A	0530-31-3637	008292/ 0795	0086/ 0018	SF10	0.26
2	HAYWOOD, BRENDA	0530-31-4605	006693/ 0140	0086/ 0018	SF10	0.23
3	BEST INVESTMENT REALTY LLC	0530-31-4672	011909/ 0054	0086/ 0018	SF10	0.26
4	THOMPSON, JOSEPH E; THOMPSON, ERLINDA D	0530-31-5640	004420/ 0847	0088/ 0028	SF10	0.24
5	KING, JOSEPH P; KING, DEBRA L	0530-31-6527	004417/ 0613	0088/ 0028	SF10	0.27
6	MITCHELL, JUSTIN ZAMAR	0530-31-7504	011074/ 0855	0088/ 0028	SF10	0.24
7	RUIZ, BENJAMIN TOMAS	0530-31-7572	011360/ 0824	0088/ 0028	SF10	0.25
8	LYNCH, JOHN A	0530-31-8459	004427/ 0045	0088/ 0028	SF10	0.25
9	LIGHTFOOT, ANDREW; MAGER-LIGHTFOOT, STEPHANI	0530-31-9436	011639/ 0265	0088/ 0028	SF10	0.28
10	PARRISH, JAMES J; PARRISH, MICHELLE R	0530-41-0414	004776/ 0274	0088/ 0028	SF10	0.24
11	MACK, LONNIE B; MACK, SHEILA J	0530-41-0481	004444/ 0487	0088/ 0028	SF10	0.27
12	DAUGHTRY, THOMAS W III	0530-41-1368	005856/ 0229	0088/ 0028	SF10	0.23
13	MITCHELL, CHASE J; MITCHELL, BRANDA E	0530-41-2336	009715/ 0099	0088/ 0028	SF10	0.26
14	RUIZ, EDGAR H.	0530-41-3288	010693/ 0519	0088/ 0028	SF10	0.29
15	SMITH, JAMES ROBERT	0530-41-4306	011110/ 0631	0088/ 0028	SF10	0.26
16	ARNOLD, CARROL E	0530-41-4433	007286/ 0001	0088/ 0028	SF10	0.26
17	HENDERSON, ROBERT; DELORES, H	0530-41-4550	004415/ 0447	0088/ 0028	SF10	0.26
18	WHITE, JAMES O	0530-41-4587	005645/ 0552	0084/ 0132	SF10	0.26
19	AKINS, STEVE M; AKINS, BREGETTE C	0530-41-5604	004834/ 0707	0084/ 0132	SF10	0.26

#	OWNER	PIN	DB/PG	PB/PG	ZONING/FAYETTEVILLE	ACRES
20	MITCHELL, QYDEARIA	0530-41-5731	011909/ 0054	0084/ 0132	SF10	0.26
21	CUMMINGS, TARIK LYNN	0530-41-5758	010523/ 0159	0084/ 0132	SF10	0.26
22	GREENE, RHONDA M	0530-41-5885	005425/ 0132	0084/ 0132	SF10	0.26
23	MATHIS, BEATRICE MCBRIDE	0530-41-6912	011756/ 0462	0084/ 0132	SF10	0.31
24	COATES, BRANDY S	0530-42-8024	011076/ 0571	0020/ 0058	SF10	0.50
25	BIERMAN, MEGAN L	0530-42-9050	011342/ 0004	0020/ 0058	SF10	0.46
26	BARBOUR, CAROLYNP; BARBOUR, HAROLD W	0530-51-0985	009562/ 0809	0020/ 0058	SF10	0.46
27	SABIA, ANTHONY M; SABIA, PATRICIA A	0530-51-2901	006162/ 0246	0020/ 0058	SF10	0.46
28	ALLAN, MARVIN	0530-51-3607	008529/ 0109	0020/ 0058	SF10	0.48
29	SMITH, MATTHEW A.	0530-51-2566	010915/ 0819	0020/ 0058	SF10	0.52
30	DAHL, SHANNON M.	0530-51-2414	011108/ 0329	0020/ 0058	SF10	0.52
31	GHULAM, GUHIR A	0530-51-1363	010380/ 0006	0020/ 0058	SF10	0.53
32	JAMES, GABRIELE	0530-51-1221	008456/ 0774	0020/ 0058	SF10	0.53
33	GORE, LUTHOR M III; GORE, SHARON KENDALL	0530-51-0079	003980/ 0845	0020/ 0058	SF10	0.53
34	JONES, RONNIE Q; JONES, STACY K BURNEY-JONES	0530-50-0928	008007/ 0446	0020/ 0058	SF10	0.50
35	WESTON, JOSEPH F; WESTON, JEAN	0530-20-8836	004243/ 0003	N/A	SF10	0.39
36	WESTON, JOSEPH F; WESTON, ALMA JEAN	0530-20-9810	008306/ 0478	N/A	OI	0.39
37	CRYSTAL LAKE OWNER LLC	0439-39-0892	011432/ 0740	0132/ 0041	MR5	33.27

CUMBERLAND COUNTY, NORTH CAROLINA

MAP UNIT SYMBOL	MAP UNIT NAME	ACRES IN AOI	PERCENT OF AOI
FcB	FACEVILE-URBAN LAND COMPLEX, 0 TO 6 PERCENT SLOPES	23.01	74.51%
LbB	LAKELAND-URBAN LAND COMPLEX, 1 TO 8 PERCENT SLOPES	6.63	21.47%
WgB	WAGRAM-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	1.24	4.02%
TOTALS FOR ARE OF INTEREST		30.88	100.00%

SOIL TYPES

CaD A — SOIL TYPE IDENTIFIER; HYDROLOGIC SOIL GROUP

NOTES:

1. LAND BOUNDARIES, PROPERTY LINES, AND POINTS ARE FOR REFERENCE ONLY
2. PROPERTY IS SUBJECT TO ALL EASEMENTS OF RECORD.
3. COORDINATES FROM CONTROL POINTS SHOWN ARE BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD 1983/2011) AND ARE GROUND COORDINATES.
4. ADJOINER AND PROPERTY INFORMATION SHOWN ARE BASED ON A RECOMBINATION SURVEY PROVIDED TO BOOTH BY FAYETTEVILLE PUBLIC WORKS COMMISSION PERFORMED BY 4D SITE SOLUTIONS TITLED "RECOMBINATION SURVEY OF RIDDLE PARCELS & EASEMENT MAP", BEARING A DATE OF NOVEMBER 24, 2021.
5. EXISTING WATER AND SEWER MAIN LOCATIONS SHOWN ARE APPROXIMATE AND WERE OBTAINED FROM DRAWINGS PROVIDED TO BOOTH BY FAYETTEVILLE PUBLIC WORKS COMMISSION TITLED "MCARTHUR ROAD WATER AND SANITARY SEWER PLANS" BEARING A DATE OF JULY 15, 1980 AND "SOUTHLAND DRIVE 60' R/W 29 PVT. (ROLL CURB)" BEARING A DATE OF AUGUST, 1985.
6. EXISTING SURFACE WATERS SHOWN HEREON WERE OBTAINED FROM AN UPDATE TO A REPORT ENTITLED "REQUEST FOR PRELIMINARY JURISDICTIONAL DETERMINATION FOR 700 McARTHUR RD/231 SOUTHLAND DR, CUMBERLAND COUNTY, FAYETTEVILLE, NC", PREPARED BY CZR ENVIRONMENTAL CONSULTANTS. THIS ORIGINAL REPORT IS DATED 09/21/2024. THE UPDATE, WHICH IS DEPICTED HEREON, IS THAT SHOWN ON A MAP ENTITLED "POTENTIAL WATERS OF THE US FAYETTEVILLE PODS SUBSTATION SITE", UPDATED BY CZR ENVIRONMENTAL CONSULTANTS AT THE REQUEST OF THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND DATED 11/21/2024. WETLAND CONCURRENCE WAS ISSUED TO CZR BY USACE ON 11/23/2024 (REFERENCE ID: SAW-2024-01993). NO WETLANDS WERE FOUND ONSITE. EXISTING TREELINE SHOWN IS BASED ON MICROSOFT BING AERIAL IMAGERY. EXISTING TOPOGRAPHY IS FROM CUMBERLAND COUNTY GIS.
7. THE SUBJECT TRACT IS WITHIN AN AREA OF MINIMAL FLOOD HAZARD (ZONE X) ACCORDING TO FEMA INSURANCE RATE MAP 3720053000J, WITH AN EFFECTIVE DATE OF 01/05/2007.
8. NO WATER OR SEWER LINES ARE PROPOSED FOR THIS PROJECT. EXISTING WATER AND SEWER LINES SHOWN ARE APPROXIMATE LOCATIONS PER FAYETTEVILLE PUBLIC WORKS COMMISSION WATER AND SANITARY SEWER PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN AND NOT SHOWN IN THE PLANS PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES.

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1221

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS

11/19/2025

DO NOT USE FOR CONSTRUCTION

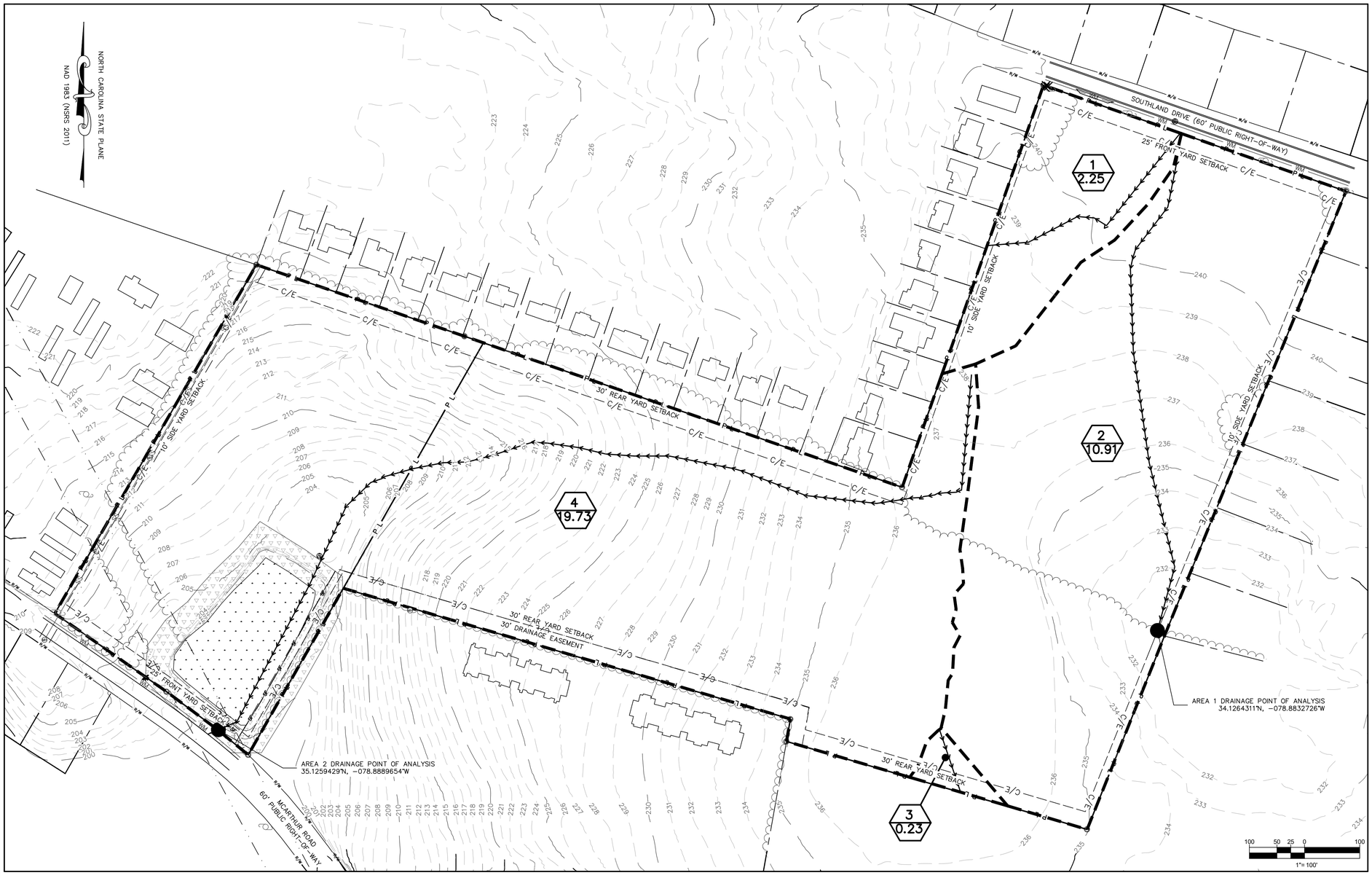
NO.	REVISIONS	ENG	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: EXISTING SITE CONDITIONS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG100



DRAINAGE AREAS

1 — DRAINAGE AREA No.
4.95 — AREA (ACRES)
DRAINAGE AREA BOUNDARY

PRE-CLEARING DRAINAGE SUMMARY

Drainage Area	Size (Acres)	Runoff Coefficient (C) (Unitless)	Time of Concentration (Tc) (Minutes)	Length of Travel (ft)	Height of Most Remote Point Above Outlet (ft)	Average Slope (ft/ft)	Percent Impervious
1	2.25	0.15	5.69	442.00	3.18	0.7%	0.00%
2	10.91	0.15	8.92	936.00	9.39	1.0%	0.00%
3	0.23	0.15	4.73	119.00	0.10	0.1%	0.00%
4	19.73	0.22	11.20	1817.00	38.00	2.1%	0.00%

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1321

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS
11/19/2025

DO NOT USE FOR CONSTRUCTION

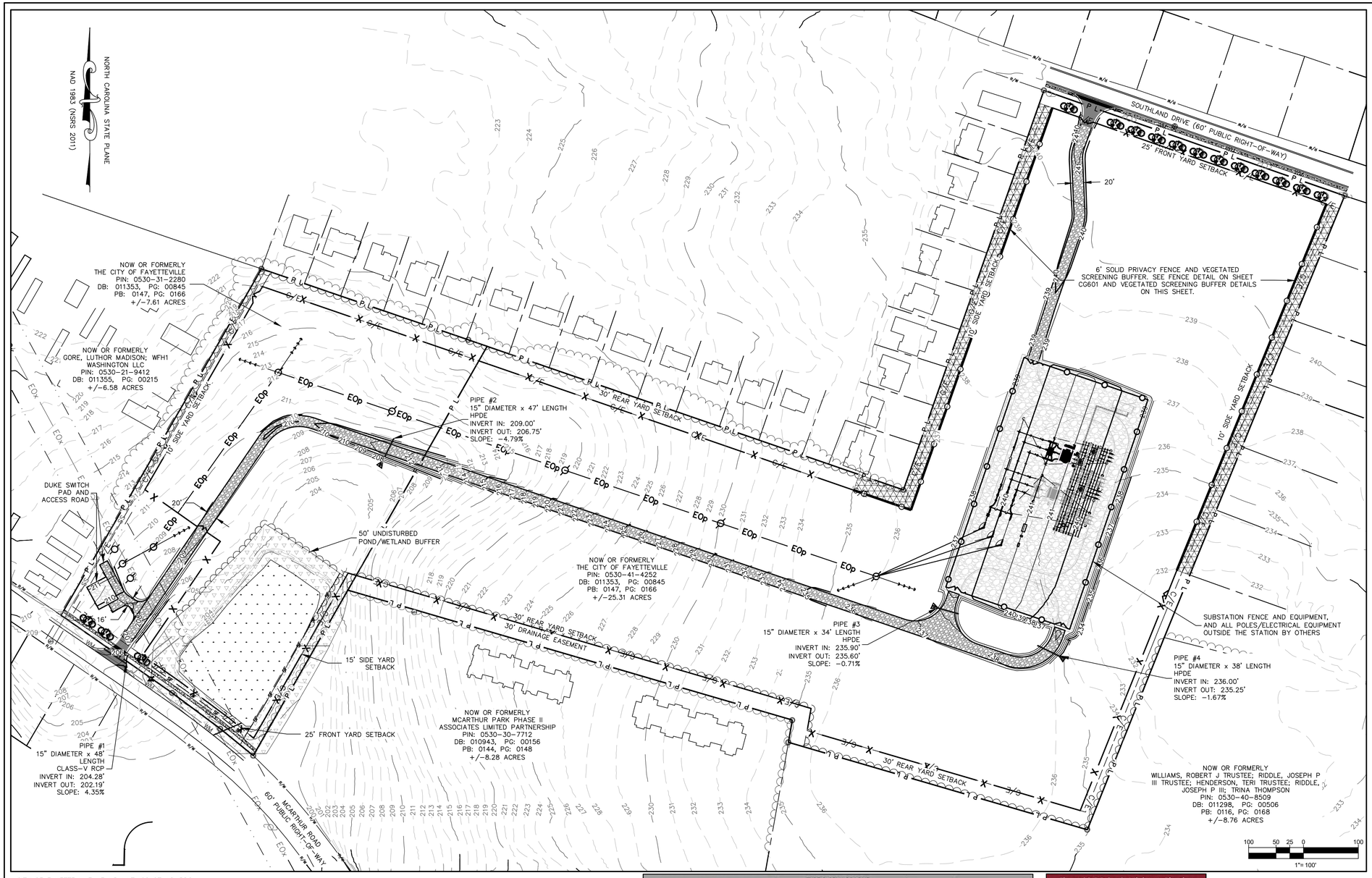
NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: PRE-CLEARING PROJECT DRAINAGE ANALYSIS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG101



LEGEND

- PROPOSED STREETSCAPE TREES
- PROPOSED GUY ANCHOR COMBINATION
- PROPOSED UTILITY POLE
- EXISTING POWER POLE
- EXISTING SEWER MANHOLE
- CULVERT OUTLET PROTECTION
- EDGE OF PAVED ROAD
- EXISTING OVERHEAD POWER LINE
- PROPOSED OVERHEAD POWER LINE
- PRIVACY FENCE
- PROPOSED SUBSTATION CHAIN LINK FENCE
- BUILDING SETBACK LINE
- ADJOINING PARCEL LINE
- PERIMETER CHAIN LINK FENCE
- EXISTING WOODS LINE PER AERIAL IMAGERY
- PROPOSED WOODS LINE
- PROPERTY LINE
- EDGE OF UTILITY EASEMENT
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER
- EDGE OF PUBLIC ROAD RIGHT-OF-WAY
- EXISTING CONTOURS, 1.0FT INTERVAL
- PROPOSED CONTOURS, 1.0FT INTERVAL
- PROPOSED 5' WIDE CITY SIDEWALK
- POD GRAVEL PAD
- GRAVEL ACCESS ROAD
- POST-CONSTRUCTION ASPHALT APRON
- EXISTING POND
- 50' UNDISTURBED WETLAND BUFFER
- PROPOSED VEGETATED SCREENING BUFFER

SITE PLAN NOTES:

1. LAND BOUNDARIES, PROPERTY LINES, AND POINTS ARE FOR REFERENCE ONLY
2. PROPERTY IS SUBJECT TO ALL EASEMENTS OF RECORD.
3. COORDINATES FROM CONTROL POINTS SHOWN ARE BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD 1983/2011) AND ARE GROUND COORDINATES.
4. ADJOINER AND PROPERTY INFORMATION SHOWN ARE BASED ON A RECOMBINATION SURVEY PROVIDED TO BOOTH BY FAYETTEVILLE PUBLIC WORKS COMMISSION PERFORMED BY 4D SITE SOLUTIONS TITLED "RECOMBINATION SURVEY OF RIDDLE PARCELS & EASEMENT MAP", BEARING A DATE OF NOVEMBER 24, 2021.
5. EXISTING WETLANDS AND SURFACE WATERS SHOWN WERE OBTAINED FROM THE CUMBERLAND COUNTY OPEN DATA WEBSITE. EXISTING TREELINE SHOWN IS BASED OF AERIAL IMAGERY.
6. THE SUBJECT TRACT IS WITHIN AN AREA OF MINIMAL FLOOD HAZARD (ZONE X) ACCORDING TO FEMA INSURANCE RATE MAP 3720053000J, WITH AN EFFECTIVE DATE OF 01/05/2007.
7. PER CUMBERLAND COUNTY ONLINE GIS MAP, THERE ARE NO EXISTING WATER OR SEWER MAINS ON THE SITE, NOR ARE THERE ANY PROPOSED WATER OR SEWER LINES FOR THIS PROJECT.
8. ANY NOISE GENERATED ON SITE WILL ONLY BE GENERATED DURING TREE CLEARING AND WILL ADHERE TO A TYPICAL WORK DAY BETWEEN THE HOURS OF 8 AM TO 5 PM DURING A TYPICAL WORKWEEK FROM MONDAY TO FRIDAY. NOISE GENERATED ONCE CONSTRUCTION IS COMPLETED WILL NOT BECOME A NUISANCE TO NEIGHBORING PROPERTIES AND WILL ADHERE TO CUMBERLAND COUNTY'S NOISE ORDINANCE.

CITY OF FAYETTEVILLE NEW PLANTINGS STANDARDS:

1. THE CITY SHALL MAINTAIN AND MAKE AVAILABLE, A LIST OF RECOMMENDED PLANT MATERIAL HARDY TO THE FAYETTEVILLE AREA AND A PLANT LIST MAINTAINED BY PWC FOR MATERIALS SUITABLE FOR PLANTING UNDER POWER LINES. PLANT MATERIAL NOT ON THE LIST MAY BE APPROVED BY THE CITY AND THE UTILITY PROVIDER ON A CASE-BY-CASE BASIS. IN THE ABSENCE OF A LIST FOR THE CITY, THE LIST PUBLISHED BY THE NORTH CAROLINA COOPERATIVE EXTENSION SERVICE SHALL SERVE AS THE LIST OF RECOMMENDED TREES. PLANTINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS (SEE FIGURE 30-5.B.3.E.2, MINIMUM PLANTING STANDARDS FOR NEW PLANTINGS):
   a. DECIDUOUS CANOPY TREES SHALL BE A MINIMUM OF TWO INCHES IN CALIPER AT THE TIME OF PLANTING, AS DETERMINED IN THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-2004, AS AMENDED, AND SHALL BE A MINIMUM OF EIGHT FEET IN HEIGHT ABOVE GROUND LEVEL AT THE TIME OF PLANTING.
   b. UNDERSTORY OR ORNAMENTAL TREES SHALL HAVE A CALIPER OF ONE AND-ONE-HALF INCHES AT TIME OF PLANTING, AS DETERMINED IN THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-FAYETTEVILLE, NC 4 2004, AS AMENDED, AND SHALL BE A MINIMUM OF EIGHT FEET IN HEIGHT ABOVE GROUND LEVEL AT THE TIME OF PLANTING.
   c. EVERGREEN TREES, EXCEPT LONGLEAF PINES, SHALL BE A MINIMUM OF SIX FEET IN HEIGHT AT THE TIME OF PLANTING. LONGLEAF PINES SHALL BE A MINIMUM OF THREE FEET IN HEIGHT AT TIME OF PLANTING.
   d. AT LEAST 50 PERCENT OF THE SHRUBS SHALL BE A MINIMUM FIVE-GALLON CONTAINER SIZE AT TIME OF PLANTING. DECIDUOUS SHRUBS, WHICH ARE UPRIGHT IN NATURE SHALL BE A MINIMUM OF 24 INCHES IN HEIGHT AT THE TIME OF PLANTING, AND EVERGREEN SHRUBS SHALL BE A MINIMUM OF 18 INCHES IN HEIGHT AT THE TIME OF PLANTING.
   e. IN CASES WHERE APPLICATION OF THE REQUIREMENTS IN THIS SUBSECTION RESULT IN A FRACTION IN THE NUMBER OF SHRUBS TO BE PROVIDED, THE MINIMUM NUMBER OF SHRUBS OR TREES TO BE PROVIDED SHALL BE ROUNDED UPWARDS TO THE NEXT HIGHEST WHOLE NUMBER.
   f. ALL LANDSCAPE PLANT MATERIALS SHALL CONFORM TO THE LATEST VERSION OF THE AMERICAN STANDARD OF NURSERY STOCK (ANSI Z60.1, AS AMENDED). PLANT MATERIAL SHALL BE OF SPECIMEN QUALITY OR BETTER, TRUE TO NAME AND TYPE OF SPECIES OR VARIETY.
   g. THE USE OF NATIVE, DROUGHT TOLERANT VEGETATION IS ENCOURAGED TO REDUCE DEPENDENCY UPON IRRIGATION. FIFTY PERCENT OF ALL NEW TREES PLANTED SHALL BE NATIVE.
   h. TO CURTAIL THE SPREAD OF DISEASE OR INSECT INFESTATION IN A PLANT SPECIES, AND TO ADD INTEREST TO THE LANDSCAPE, SPECIES VARIETY SHALL BE IN PROPORTION TO THE NUMBER OF TREES AND SHRUBS PLANTED. NOTHING IN THIS SUBSECTION SHALL BE CONSTRUED SO AS TO PREVENT THE UTILIZATION OF A LARGER NUMBER OF DIFFERENT SPECIES THAN SPECIFIED IN TABLE 30-5.B.3.E.2.H
   i. ALL PLANTING MATERIALS SHALL CORRESPOND TO THE CITY'S APPROVED SPECIES LIST, UNLESS ALTERNATIVE MATERIALS ARE PROPOSED AS PART OF AN ALTERNATIVE LANDSCAPE PLAN (SECTION 30-5.B.4.F).

TYPE C: SEMI-OPAQUE

This perimeter buffer functions as a semi-opaque screen from the ground to at least a height of six feet.

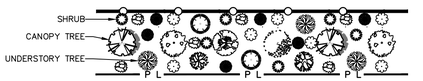
Six canopy trees + seven understory trees + 25 shrubs per 100 linear feet

One 4-foot-high berm or one 4-foot-high solid fence + two canopy trees + eight understory trees + 10 shrubs per 100 linear feet

TYPE D: OPAQUE

Table 30-5.B.3.e.2.h: Species Variety

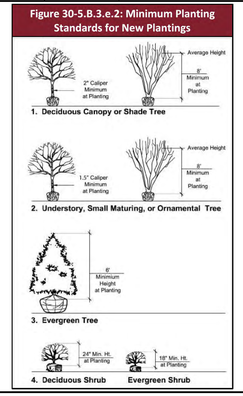
REQUIRED NUMBER OF TREES OR SHRUBS	MINIMUM NUMBER OF SPECIES
1-10	1
11-20	2
21-30	3
31+	4

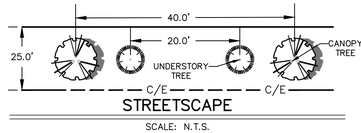


VEGETATED SCREENING BUFFER

SCALE: N.T.S.

Figure 30-5.B.3.e.2: Minimum Planting Standards for New Plantings





STREETSCAPE

SCALE: N.T.S.

NOTES: PER CITY OF FAYETTEVILLE PART II CODE OF ORDINANCES, CHAPTER 30-UNIFIED DEVELOPMENT ORDINANCE, ARTICLE 30-5: DEVELOPMENT STANDARDS, SECTION 30-5.B.4. LANDSCAPING REQUIREMENTS

1. STREET TREES SHALL BE LOCATED TO AVOID UTILITIES (BOTH OVERHEAD AND UNDERGROUND), IN ACCORDANCE WITH THE UTILITY'S REQUIREMENTS FOR CLEARANCE, UNLESS SPECIFIC WRITTEN CONSENT FROM THE UTILITY OWNER IS PROVIDED.
2. STREET TREES SHALL BE CANOPY TREES EXCEPT BENEATH OVERHEAD UTILITIES OR OTHER PROJECTIONS INTO THE PUBLIC RIGHT-OF-WAY, WHERE UNDERSTORY TREES SHALL BE USED INSTEAD.
3. IN LOCATIONS DIRECTLY UNDER OVERHEAD UTILITY LINES, TWO UNDERSTORY TREES MAY BE SUBSTITUTED FOR EACH REQUIRED CANOPY TREE.
4. ALL TREES PLANTED ALONG NCDOT RIGHT-OF-WAY SHALL CONFORM TO NCDOT GUIDELINES.
5. UNDERSTORY TREES SHALL BE SPACED BETWEEN 15 TO 25 FEET ON CENTER, DEPENDING UPON THE SPECIES SIZE AT MATURITY.
6. CANOPY TREES SHALL BE SPACED BETWEEN 25 TO 40 FEET ON CENTER, DEPENDING ON THE SPECIES AT MATURITY.
7. WHEREVER POSSIBLE, SMALL AND MEDIUM TREES SHALL BE PLACED BETWEEN LARGE TREES TO ACCOMMODATE THE CANOPY GROWTH OF LARGE TREES OVER TIME.
8. ALTERNATIVE LAYOUT MAY BE CONSIDERED THROUGH THE ALTERNATIVE LANDSCAPE PLAN PROCEDURE IN SECTION 30-5.B.4.f

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive, Suite 300, Raleigh NC 27607
NC F-1321

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS

11/19/2025

DO NOT USE FOR CONSTRUCTION

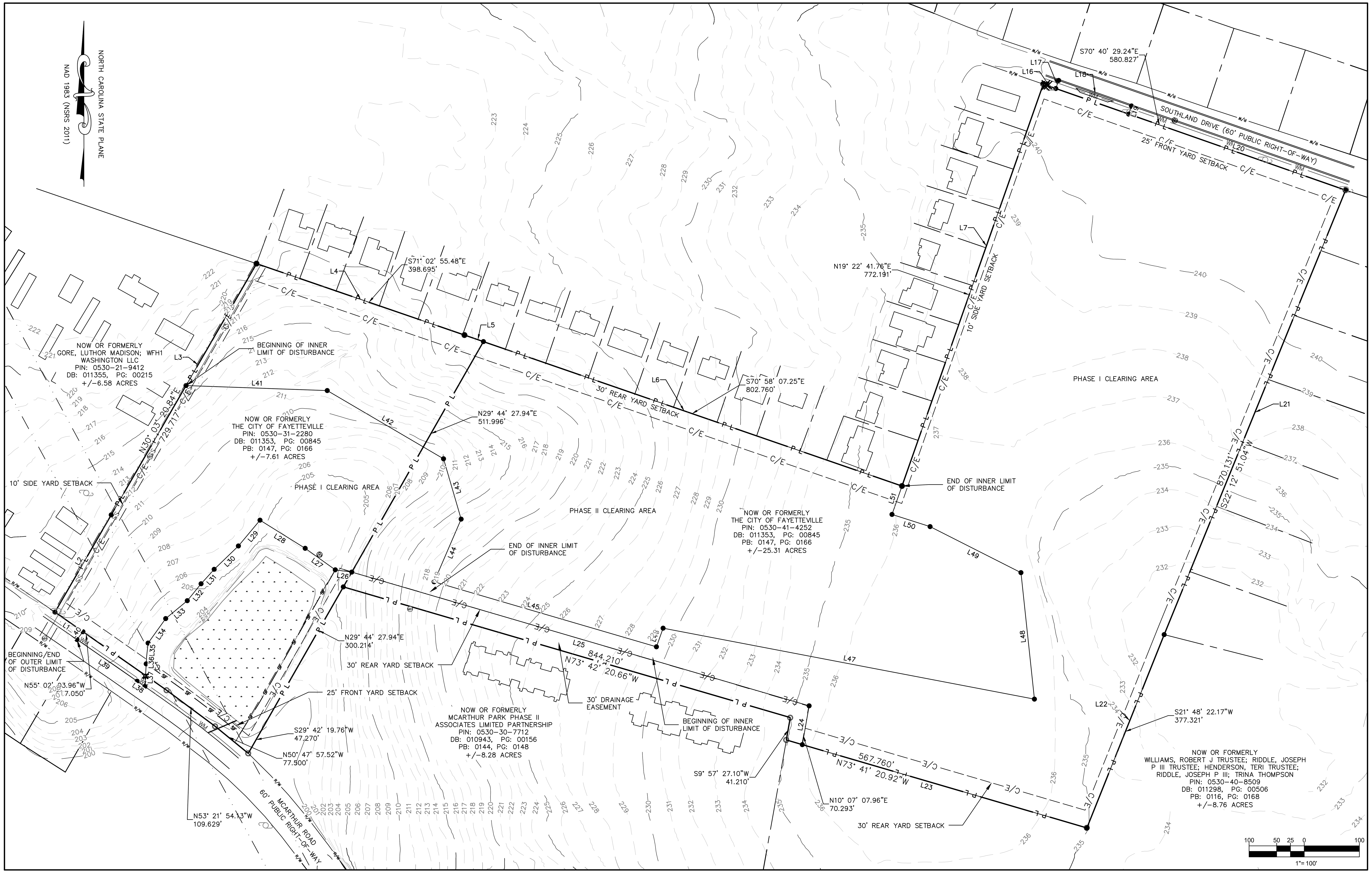
NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: SITE PLAN

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG102



LOD LINE TABLE		
Line #	Length	Direction
L1	61.96	N55° 02' 03.96"W
L2	203.63	N30° 03' 06.72"E
L3	526.12	N30° 03' 06.72"E
L4	398.69	S71° 02' 55.48"E
L5	36.30	S70° 54' 43.15"E
L6	802.76	S70° 58' 07.25"E
L7	772.19	N19° 22' 41.76"E
L16	24.03	S70° 40' 29.24"E
L17	15.47	N19° 19' 30.76"E
L18	140.00	S70° 43' 19.73"E
L19	15.58	S19° 19' 30.76"W
L20	416.80	S70° 40' 29.24"E
L21	870.13	S22° 12' 51.04"W

LOD LINE TABLE		
Line #	Length	Direction
L22	377.36	S21° 47' 57.69"W
L23	537.57	N73° 41' 20.92"W
L24	71.40	N9° 57' 27.10"E
L25	863.89	N73° 42' 20.66"W
L26	30.20	N82° 12' 11.40"W
L27	67.05	N54° 24' 48.55"W
L28	96.52	N58° 07' 09.29"W
L29	60.95	S39° 59' 19.92"W
L30	61.00	S46° 02' 48.49"W
L31	35.37	S42° 10' 58.48"W
L32	39.55	S39° 10' 58.74"W
L33	50.83	S50° 21' 41.13"W
L34	54.72	S35° 45' 04.43"W

LOD LINE TABLE		
Line #	Length	Direction
L35	24.57	S6° 10' 19.62"W
L36	20.56	S3° 17' 33.90"W
L37	33.83	S3° 17' 33.90"W
L38	17.12	N55° 26' 11.23"W
L39	132.54	N55° 19' 23.32"W
L40	17.87	N37° 20' 17.54"E
L41	256.25	S87° 58' 15.52"E
L42	244.42	S59° 36' 43.62"E
L43	113.90	S16° 14' 57.68"E
L44	123.72	S23° 17' 43.07"W
L46	35.87	N19° 40' 39.27"E
L47	685.39	S79° 11' 09.29"E
L48	230.56	N6° 04' 05.76"W

LOD LINE TABLE		
Line #	Length	Direction
L49	184.65	N63° 09' 13.72"W
L50	72.55	N72° 16' 08.02"W
L51	54.59	N19° 22' 41.76"E

NOTES

TREE CLEARING PHASES 1 AND 2 ARE NOT PART OF THIS CONTRACT AND ARE SHOWN FOR REFERENCE ONLY.

TREE CLEARING AND INITIAL EROSION CONTROL MEASURE INSTALLATION TO TAKE PLACE BEFORE CONSTRUCTION OF THE SUBSTATION AND IS BEING COVERED UNDER NPDES GENERAL CONSTRUCTION PERMIT (EROSION CONTROL) CERTIFICATE OF COVERAGE NO. NCC251124 WAS OBTAINED ON 04/14/2025. STABILIZATION AND MAINTENANCE PROCEDURES WILL CONTINUE THROUGH PHASE 1-2 OF THE CONSTRUCTION PHASE UNTIL REMOVAL OR DECOMISSIONING IS INSTRUCTED.

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES..................CG002

PWC Fayetteville's HOMETOWN UTILITY

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2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 056748 LAURA R. HARRIS 11/19/2025

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NO.	DATE	ENG.	REVISIONS
0	11/19/2025	LRH	ISSUED FOR BID

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: LIMIT OF DISTURBANCE METES AND BOUNDS - TREE CLEARING PHASE

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG
SHEET:	CG103

NOTES

TREE CLEARING PHASES 1 AND 2 ARE NOT PART OF THIS CONTRACT AND ARE SHOWN FOR REFERENCE ONLY.

TREE CLEARING AND INITIAL EROSION CONTROL MEASURE INSTALLATION TO TAKE PLACE BEFORE CONSTRUCTION OF THE SUBSTATION AND IS BEING COVERED UNDER NPDES GENERAL CONSTRUCTION PERMIT (EROSION CONTROL) CERTIFICATE OF COVERAGE NO. NCC251124 WAS OBTAINED ON 04/14/2025. STABILIZATION AND MAINTENANCE PROCEDURES WILL CONTINUE THROUGH PHASE 1-2 OF THE CONSTRUCTION PHASE UNTIL REMOVAL OR DECOMISSIONING IS INSTRUCTED.

LOD LINE TABLE		
Line #	Length	Direction
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L3	526.12	N30° 03' 06.72"E
L4	398.69	S71° 02' 55.48"E
L5	36.30	S70° 54' 43.15"E
L6	802.76	S70° 58' 07.25"E
L7	772.19	N19° 22' 41.76"E
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L19	15.58	S19° 19' 30.76"W
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L32	39.55	S39° 10' 58.74"W
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L37	33.83	S3° 17' 33.90"W
L38	17.12	N55° 26' 11.23"W
L39	132.54	N55° 19' 23.32"W
L40	17.87	N37° 20' 17.54"E

LOD LINE TABLE		
Line #	Length	Direction
L52	46.70	S55° 02' 03.96"E
L53	109.63	S53° 21' 54.13"E
L54	77.50	S50° 47' 57.52"E
L55	17.11	N29° 42' 19.76"E
L56	330.38	N29° 44' 16.24"E
L57	30.85	N29° 44' 27.94"E
L58	30.20	N82° 12' 11.40"W
L59	193.74	S29° 44' 40.22"W
L60	85.65	S29° 50' 13.57"W
L61	64.65	S31° 59' 25.44"W
L62	24.56	N50° 05' 03.49"W
L63	38.88	N51° 31' 48.80"W
L64	33.42	N52° 55' 49.92"W

LOD LINE TABLE		
Line #	Length	Direction
L65	25.11	N53° 40' 00.15"W
L66	32.46	N54° 26' 13.17"W
L67	57.71	N54° 59' 15.21"W

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

PWC Fayetteville's HOMETOWN UTILITY

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NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS
11/19/2025

DO NOT USE FOR CONSTRUCTION

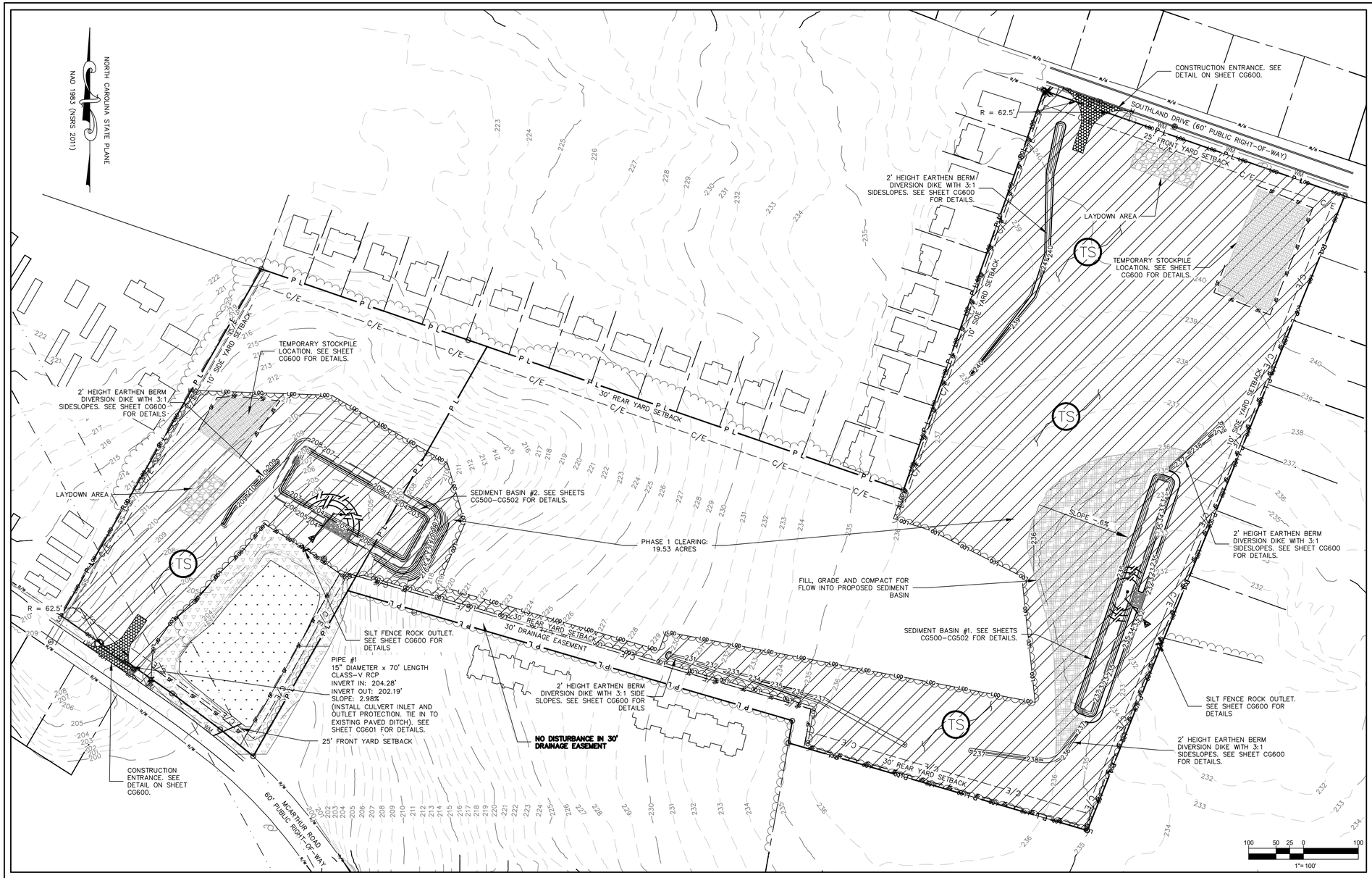
NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: LIMIT OF DISTURBANCE METES AND BOUNDS - CONSTRUCTION PHASE

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG104



CONSTRUCTION SEQUENCE

TREE CLEARING PHASES 1 AND 2 ARE NOT PART OF THIS CONTRACT AND ARE SHOWN FOR REFERENCE ONLY.

TREE CLEARING AND INITIAL EROSION CONTROL MEASURE INSTALLATION TO TAKE PLACE BEFORE CONSTRUCTION OF THE SUBSTATION AND IS BEING COVERED UNDER NPDES GENERAL CONSTRUCTION PERMIT (EROSION CONTROL) CERTIFICATE OF COVERAGE NO. NCC251124 WAS OBTAINED ON 04/14/2025. STABILIZATION AND MAINTENANCE PROCEDURES WILL CONTINUE THROUGH PHASE 1-2 OF THE CONSTRUCTION PHASE UNTIL REMOVAL OR DECOMISSIONING IS INSTRUCTED.

TREE CLEARING – PHASE 1

1. PRIOR TO COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS EXCEPT THOSE OBTAINED BY BOOTH & ASSOCIATES. PERMITS OBTAINED BY BOOTH & ASSOCIATES ARE PROVIDED ON COVER SHEET OF THIS PLAN SET. CONTRACTOR TO CONTACT NCDEQ FAYETTEVILLE REGIONAL OFFICE AT 910-433-3300 AND NCDOT HIGHWAY DIVISION 6 AT 910-364-0600 TO INVITE TO THE PRE-CONSTRUCTION MEETING AT LEAST 72 HOURS PRIOR TO PROJECT ACTIVATION.
2. UNDERGROUND UTILITIES NOT SHOWN ON THIS DRAWING MAY EXIST; CONTRACTOR SHALL VERIFY LOCATION OF BURIED UTILITIES PRIOR TO START OF CONSTRUCTION.
3. INSTALL STORM WATER INSPECTION BOX WITH RAIN GAUGE, STORM WATER INSPECTION REPORT, AND A COPY OF THE PERMITS. THE INSPECTION BOX WILL BE PLACED IN A PROMINENT LOCATION BY THE MAIN ROAD AND DRIVEWAY. THE SELF-INSPECTION RECORDS FOR LAND DISTURBING ACTIVITIES PER G.S. 113A-54.1 MUST BE COMPLETED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL (ONE INCH OR GREATER WITHIN TWENTY-FOUR HOURS). THIRTY (30) DAYS OF SELF-INSPECTION REPORTS SHALL BE MAINTAINED IN THE INSPECTION BOX AT ALL TIMES. EXTRA COPIES OF THE SELF-INSPECTION FORMS SHOULD BE PLACED IN THE INSPECTION BOX.
4. SITE TO BE CLEARED, GRADED, AND STABILIZED WITHIN SIXTY (60) CALENDAR DAYS.
5. ALL EROSION AND SEDIMENT CONTROL PROPERTIES WILL BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT. NEEDED REPAIRS WILL BE MADE IMMEDIATELY, WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (ONE INCH OR GREATER WITHIN TWENTY-FOUR HOURS).
6. INSTALL CONSTRUCTION ENTRANCES PRIOR TO ANY OTHER LAND DISTURBING ACTIVITIES.
7. FLAG LIMIT OF DISTURBANCE AND INITIAL TREE CLEARING LIMITS AS SHOWN ON SHEET CG200. CLEAR AND GRUB WITHIN INITIAL TREE CLEARING LIMITS. ALL DEBRIS/SPOILS TO BE STORED ON SITE OF REMOVED AND STORED AT AN NCDEQ APPROVED LOCATION. DEBRIS/SPOILS PILES SHOULD NOT BE WITHIN 50' OF ANY STREAM, CHANNEL, BASIN, OR POND, AND SHOULD BE SURROUNDED ON THE THREE DOWNSLOPE SIDES BY SILT FENCE. TREES CAN BE CUT AND HAULED AWAY OR DISPOSED OF OF WITH A CONTROLLED BURN. CONTRACTOR TO OBTAIN BURN PERMITS FROM THE CITY AND COUNTY BEFORE CONDUCTING A CONTROLLED BURN.
8. INSTALL PERIMETER SILT FENCING AS SHOWN ON PLANS AND THE ASSOCIATED SILT FENCE OUTLETS.
9. INSTALL SEDIMENT BASINS #1, AND #2, AND THEIR RESPECTIVE DIVERSION BERMS. STABILIZE BASIN SIDE SLOPES AND DIVERSIONS WITH ROLLED EROSION CONTROL PRODUCT WITHIN SEVEN (7) CALENDAR DAYS OF INSTALLATION. PLACE AND COMPACT FILL UPSLOPE OF SEDIMENT BASIN #1 TO AVOID PONDING IN FRONT OF THE BASIN AND ENSURE POSITIVE DRAINAGE.
10. INSTALL STOCKPILE AREAS AND THEIR ASSOCIATED PERIMTER SILT FENCE.
11. STABILIZE CLEARED AREAS WITH LIME, SEED, FERTILIZER, STRAW, AND TACK ACCORDING TO THE APPROVED SEEDING APPLICATION RATES AND SPEC.
12. SEEDING MUST BE DONE WITHIN 7 DAYS FOR SLOPES 3:1 OR GREATER AND 14 DAYS FOR ALL OTHERS.

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2330 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1321

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS
11/19/2025
DO NOT USE FOR CONSTRUCTION

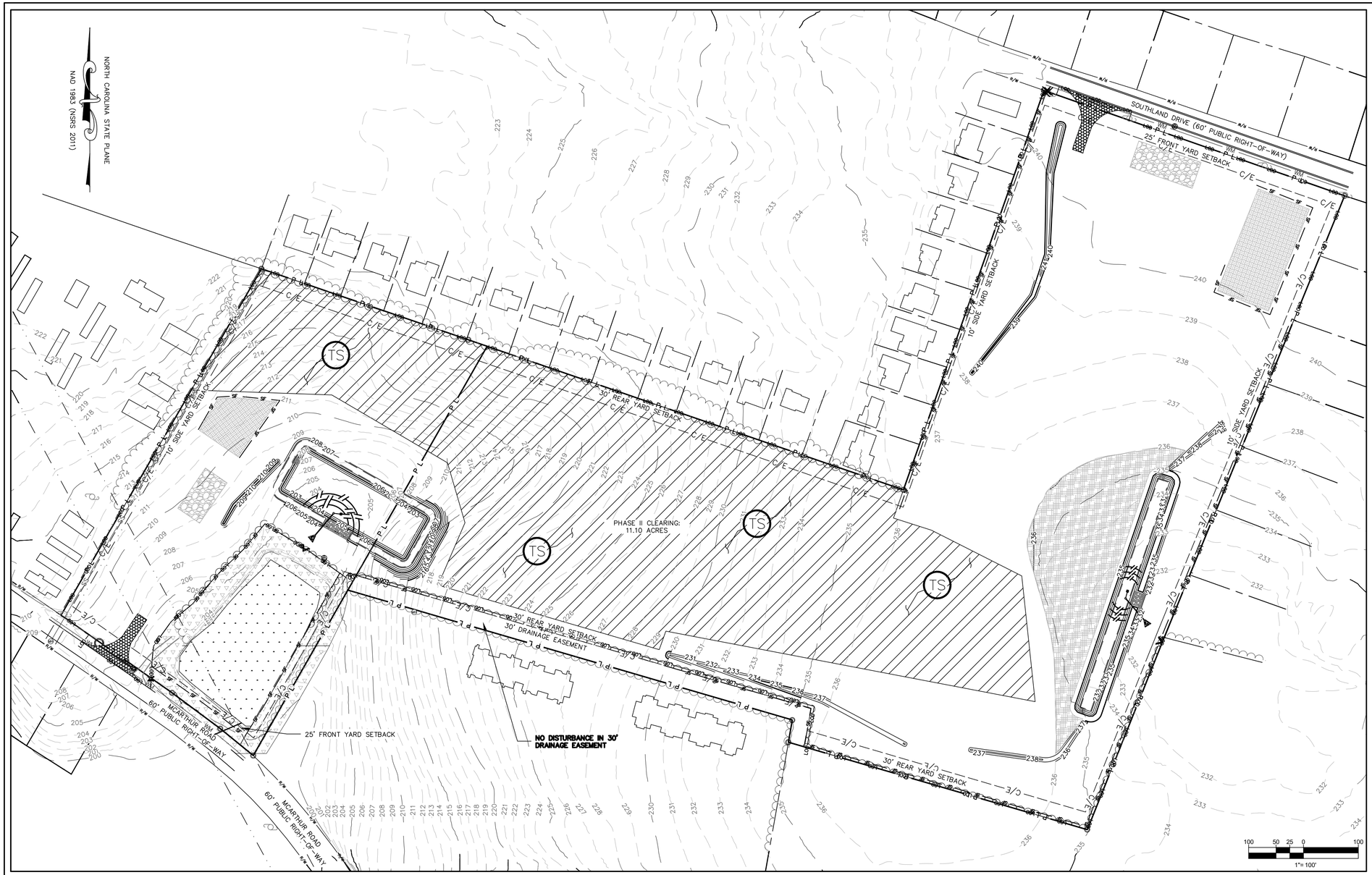
NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: EROSION AND SEDIMENT CONTROL PLAN – TREE CLEARING PHASE 1

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG200



CONSTRUCTION SEQUENCE

TREE CLEARING PHASES 1 AND 2 ARE NOT PART OF THIS CONTRACT AND ARE SHOWN FOR REFERENCE ONLY.

TREE CLEARING AND INITIAL EROSION CONTROL MEASURE INSTALLATION TO TAKE PLACE BEFORE CONSTRUCTION OF THE SUBSTATION AND IS BEING COVERED UNDER NPDES GENERAL CONSTRUCTION PERMIT (EROSION CONTROL) CERTIFICATE OF COVERAGE NO. NCC251124 WAS OBTAINED ON 04/14/2025. STABILIZATION AND MAINTENANCE PROCEDURES WILL CONTINUE THROUGH PHASE 1-2 OF THE CONSTRUCTION PHASE UNTIL REMOVAL OR DECOMISSIONING IS INSTRUCTED.

TREE CLEARING – PHASE 2

13. CLEAR AND GRUB WITHIN REMAINDER OF CLEARING LIMITS. ALL DEBRIS/SPOILS TO BE STORED ONSITE OR REMOVED AND STORED AT AN NCDEQ APPROVED LOCATION. DEBRIS/SPOILS PILES SHOULD NOT BE WITHIN 50' OF ANY STREAM, CHANNEL, BASIN OR POND, AND SHOULD BE SURROUNDED ON THE THREE DOWNSLOPE SIDES BY SILT FENCE. TREES CAN BE CUT AND HAULED AWAY OR DISPOSED OF WITH A CONTROLLED BURN. CONTRACTOR TO OBTAIN BURN PERMITS FROM THE CITY AND COUNTY BEFORE CONDUCTING A CONTROLLED BURN.
14. STABILIZE CLEARED AREAS WITH LIME, SEED, FERTILIZER, STRAW, AND TACK ACCORDING TO THE APPROVED SEEDING APPLICATION RATES AND SPEC.
15. SEEDING MUST BE DONE WITHIN 7 DAYS FOR SLOPES 3:1 OR GREATER AND 14 DAYS FOR ALL OTHERS
16. HAUL AWAY OR DISPOSE OF ANY EXCESS SOILS NOT NEEDED TO BALANCE SITE. IF ANY TOPSOIL IS TO REMAIN STOCKPILED, PROTECT WITH SILT FENCING AROUND PERIMETER.
17. AFTER CESSATION OF TREE CLEARING ACTIVITIES AND THE FULL TEMPORARY STABILIZATION OF THE SITE, CONTRACTOR TO DEMOBILIZE. EROSION CONTROL INSPECTIONS AND MAINTENANCE SHALL CONTINUE UNTIL PERMIT COVERAGE CAN BE TRANSFERRED FROM PERMIT COVERAGE FOR TREE CLEARING TO FUTURE PERMIT COVERAGE FOR POINT OF DISTRIBUTION (P.O.D.) STATION. CONTRACTOR AND OWNER TO DETERMINE DIVISION OF RESPONSIBILITIES FOR INSPECTIONS AND MAINTENANCE UNTIL P.O.D. CONSTRUCTION BEGINS.
18. IF THE LAND DISTURBING ACTIVITY FOR THE P.O.D. STATION DOES NOT COMMENCE WITHIN 90 CALENDAR DAYS AFTER TREE CLEARING ACTIVITIES CEASE, SITE IS TO BE STABILIZED WITH PERMANENT GROUND COVER PER SEEDING RATES AND SPEC. OWNER AND CONTRACTOR TO DETERMINE RESPONSIBILITY OF PERMANENT STABILIZATION ACTIVITIES. SITE MUST ACHIEVE SEVENTY PERCENT (70%) PERMANENT VEGETATIVE COVERAGE FOR THE EROSION CONTROL PERMIT TO BE CLOSED OUT.
19. A NOTICE OF TERMINATION OF THE EROSION CONTROL PERMIT IS TO BE SUBMITTED TO NCDEQ BY OWNER OR OWNER'S ENGINEER ONCE EITHER THE EROSION CONTROL PERMIT FOR THE P.O.D. HAS BEEN ISSUED OR THE SITE HAS ACHIEVED SEVENTY PERCENT (70%) PERMANENT VEGETATIVE COVERAGE.

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2330 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1221

–ISSUED FOR BID–

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS

11/19/2025

DO NOT USE FOR CONSTRUCTION

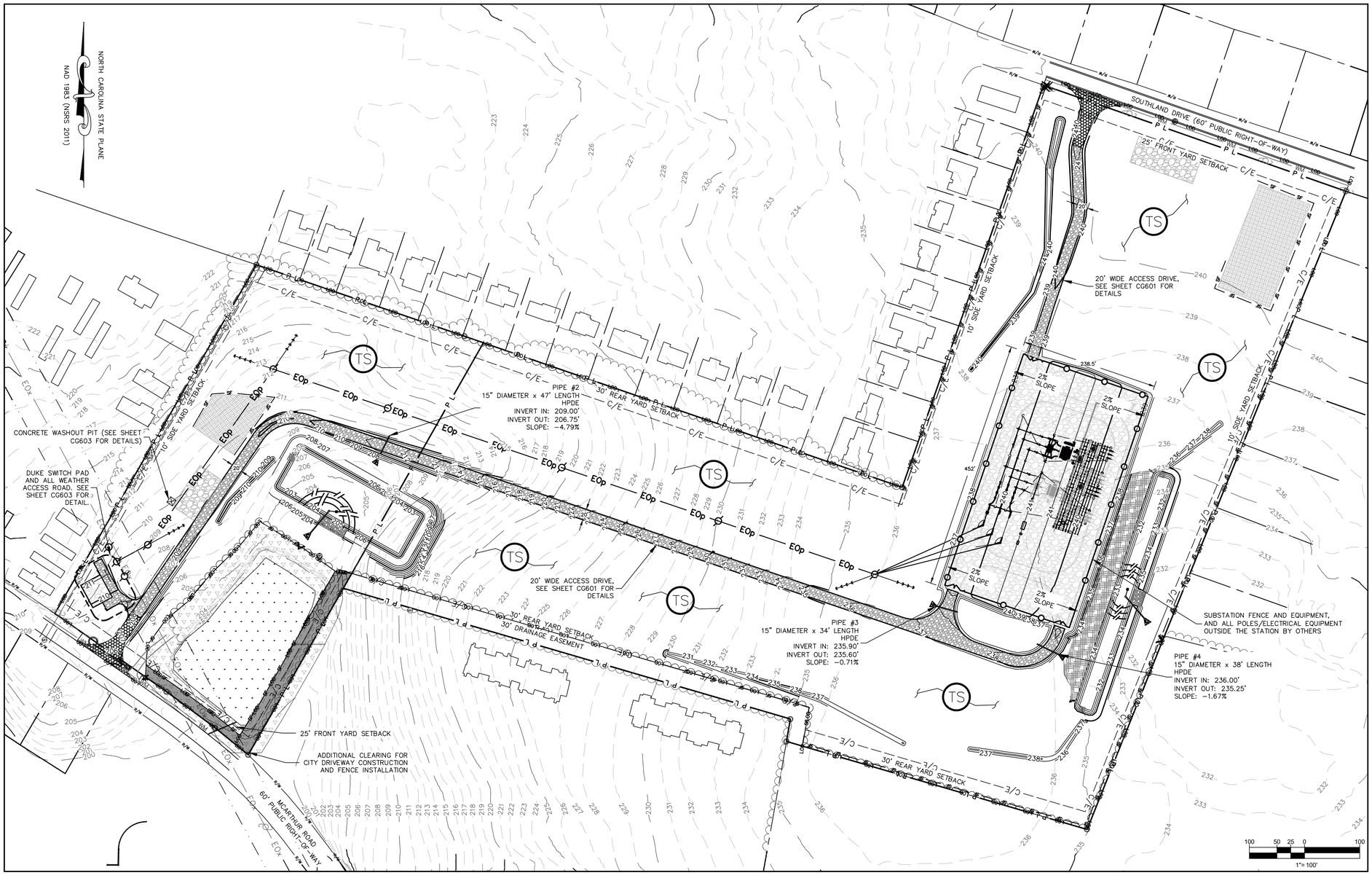
NO.	REVISIONS	ENG	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: EROSION AND SEDIMENT CONTROL PLAN – TREE CLEARING PHASE 2

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG201



CONSTRUCTION SEQUENCE

CONSTRUCTION – PHASE 1

1. CONTRACTOR TO OBTAIN REQUIRED PERMITS (E.G., BUILDING PERMITS) PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS OTHER THAN THOSE OBTAINED BY OWNER AND ENGINEER (SEE GENERAL NOTES FOR A LIST OF PERMITS OBTAINED BY OWNER AND ENGINEER). HEREIN "OWNER" REFERS TO FAYETTEVILLE PUBLIC WORKS COMMISSION AND "ENGINEER" REFERS TO BOOTH & ASSOCIATES, LLC.
2. UNDERGROUND UTILITIES NOT SHOWN ON THIS DRAWING MAY EXIST; CONTRACTOR SHALL VERIFY LOCATION OF BURIED UTILITIES PRIOR TO START OF CONSTRUCTION.
3. SITE TO BE CLEARED BY OWNER BEFORE START OF CONSTRUCTION.
4. THE RESPONSIBILITY FOR EROSION CONTROL INSPECTIONS AND REPAIRS SHALL BE TRANSFERRED FROM THE OWNER TO THE GRADING CONTRACTOR WHEN THE OWNER'S TREE CLEARING CONTRACTOR DEMOBILIZES. IT IS THE RESPONSIBILITY OF THE OWNER TO HOLD A MEETING WITH THE GRADING CONTRACTOR AT THIS TIME TO PROVIDE ALL INFORMATION AND DOCUMENTATION THAT IS REQUIRED TO COMPLETE THESE INSPECTIONS AND REPAIRS. IF THERE IS A GAP BETWEEN DEMOBILIZATION OF THE OWNER'S TREE CLEARING CONTRACTOR AND MOBILIZATION OF THE GRADING CONTRACTOR, THE OWNER WILL REMAIN RESPONSIBLE FOR CONTINUING EROSION CONTROL INSPECTIONS AND REPAIRS UNTIL THESE RESPONSIBILITIES CAN BE TRANSFERRED TO THE GRADING CONTRACTOR, OR A SECOND PARTY WITH OWNER PERMISSION.
5. CONTRACTOR TO CONTACT NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) FAYETTEVILLE REGIONAL OFFICE AT 910-433-3300, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) HIGHWAY DIVISION 6 AT 910-364-0600, AND CUMBERLAND COUNTY PLANNING & INSPECTIONS AT 910-678-7600 TO INVITE TO THE PRE-CONSTRUCTION MEETING AT LEAST 72 HOURS PRIOR TO PROJECT ACTIVATION.
6. CONDUCT ONSITE PRE-CONSTRUCTION MEETING WITH OWNER, ENGINEER, AND RELEVANT AGENCIES/AUTHORITIES IN ATTENDANCE.
7. INSTALL PERMIT INSPECTION BOX WITH RAIN GAUGE, SELF-INSPECTION RECORDS, COPIES OF EACH PERMIT, AND THE CONSTRUCTION DRAWING SETS. THE INSPECTION BOX WILL BE PLACED IN A PROMINENT LOCATION BY THE MAIN ROAD AND DRIVEWAY. THE SELF-INSPECTION RECORDS FOR LAND DISTURBING ACTIVITIES PER G.S. 113A-54.1 MUST BE COMPLETED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL (ONE INCH OR GREATER WITHIN TWENTY-FOUR HOURS). THIRTY (30) DAYS OF SELF-INSPECTION REPORTS SHALL BE MAINTAINED IN THE INSPECTION BOX AT ALL TIMES. EXTRA COPIES OF THE SELF-INSPECTION FORMS SHOULD BE PLACED IN THE INSPECTION BOX.
8. INSPECT EXISTING CONSTRUCTION ENTRANCE, TEMPORARY SEEDING, STABILIZATION MEASURES, SEDIMENT BASINS, DIVERSION SWALES, DIVERSION BERMS, SILT FENCE, AND SILT FENCE OUTLETS FOR PROPER OPERATION AND REPLACE OR REMEDIATE AS NECESSARY.
9. THE OWNER OR THEIR SURVEYOR WILL PROVIDE CONTROL POINT COORDINATES TO THE CONTRACTOR. CONTRACTOR TO STAKE/FLAG BASED ON THESE CONTROL POINTS. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING GRADE STAKES AND REFERENCE STAKES.
10. ALL EROSION AND SEDIMENT CONTROL PROPERTIES WILL BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (ONE INCH OR GREATER WITHIN TWENTY-FOUR HOURS). NEEDED REPAIRS WILL BE MADE IMMEDIATELY.
11. GRUB, UNDERCUT AND REMOVE THE EXISTING TOPSOIL IN THE AREA OF THE PROPOSED ACCESS DRIVES AND SUBSTATION PAD. TOPSOIL THAT IS TO BE REUSED IS TO BE STOCKPILED IN THE DESIGNATED AREAS SHOWN IN THE DRAWINGS.
12. STOCKPILE EXCESS SOILS AND PROTECT WITH SILT FENCE AROUND PERIMETER. STABILIZE STOCKPILE SIDE SLOPES WITHIN 7 CALENDAR DAYS. STOCKPILES TO BE A MINIMUM OF 50 FEET AWAY FROM BASINS, CHANNELS, AND DIVERSIONS.
13. BEGIN ROUGH GRADING SITE PER GRADING PLAN TO REQUIRED SUBGRADES.
14. CONTRACTOR TO HIRE A REPUTABLE NORTH CAROLINA LICENSED GEOTECHNICAL ENGINEER AT THE CONTRACTOR'S EXPENSE TO PERFORM TESTING ON THE ACCESS DRIVE, BACKFILL MATERIAL, AND SUBGRADE TO ENSURE CONFORMANCE WITH TECHNICAL SPECS.
15. ALL AREAS OF FILL SHALL BE INSTALLED IN LIFTS, COMPACTED AND TESTED AS OUTLINED IN THE GRADING SPECIFICATIONS AND AT THE APPROVAL OF THE GEOTECHNICAL ENGINEER.
16. FINALIZE THE INSTALLATION OF THE ACCESS DRIVES AND SUBSTATION PAD (INCLUDING THE CRUSHER RUN) AND COMPLETE GRADING.
17. INSTALL CONCRETE WASHOUT PIT.
18. STABILIZE SITE WITH LIME, SEED, FERTILIZER, STRAW, AND TACK ACCORDING TO THE APPROVED TEMPORARY SEEDING APPLICATION RATES AND SPEC (SEE SHEET CG601). STABILIZE GRADED SLOPES AND DENUDED AREAS FOLLOWING INITIAL SOIL DISTURBANCE.
19. ONCE TEMPORARY STABILIZATION HAS BEEN ADEQUATELY ACHIEVED FOR THE SITE, CONTRACTOR (REFERRED TO AS "GRADING CONTRACTOR" IN THE REMAINDER OF THIS STEP TO DISTINGUISH FROM ELECTRICAL CONTRACTOR) SHALL DEMOBILIZE. ELECTRICAL CONTRACTOR(S) HIRED BY THE PROJECT OWNER SHALL THEN MOBILIZE ONSITE FOR THE INSTALLATION OF THE PERIMETER FENCE, FOUNDATIONS, STEEL, ELECTRICAL LINES AND ASSOCIATED EQUIPMENT. THE RESPONSIBILITY FOR EROSION CONTROL INSPECTIONS AND REPAIRS SHALL BE TRANSFERRED FROM THE GRADING CONTRACTOR TO THE PRIMARY ELECTRICAL CONTRACTOR WHEN THE GRADING CONTRACTOR DEMOBILIZES. IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR TO HOLD A MEETING WITH THE ELECTRICAL CONTRACTOR AT THIS TIME TO PROVIDE ALL INFORMATION AND DOCUMENTATION THAT IS REQUIRED TO COMPLETE THESE INSPECTIONS AND REPAIRS. IF THERE IS A GAP BETWEEN DEMOBILIZATION OF THE GRADING CONTRACTOR AND MOBILIZATION OF THE ELECTRICAL CONTRACTOR, THE GRADING CONTRACTOR WILL REMAIN RESPONSIBLE FOR CONTINUING EROSION CONTROL INSPECTIONS AND REPAIRS UNTIL THESE RESPONSIBILITIES CAN BE TRANSFERRED TO THE PROJECT OWNER, ELECTRICAL CONTRACTOR, OR A THIRD PARTY WITH PROJECT OWNER PERMISSION.
20. ONCE ALL ELECTRICAL EQUIPMENT HAS BEEN INSTALLED AND IS FUNCTIONAL, CONTRACTOR MAY PROCEED TO PHASE 2.

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2330 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1221

–ISSUED FOR BID–

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS

11/19/2025

DO NOT USE FOR CONSTRUCTION

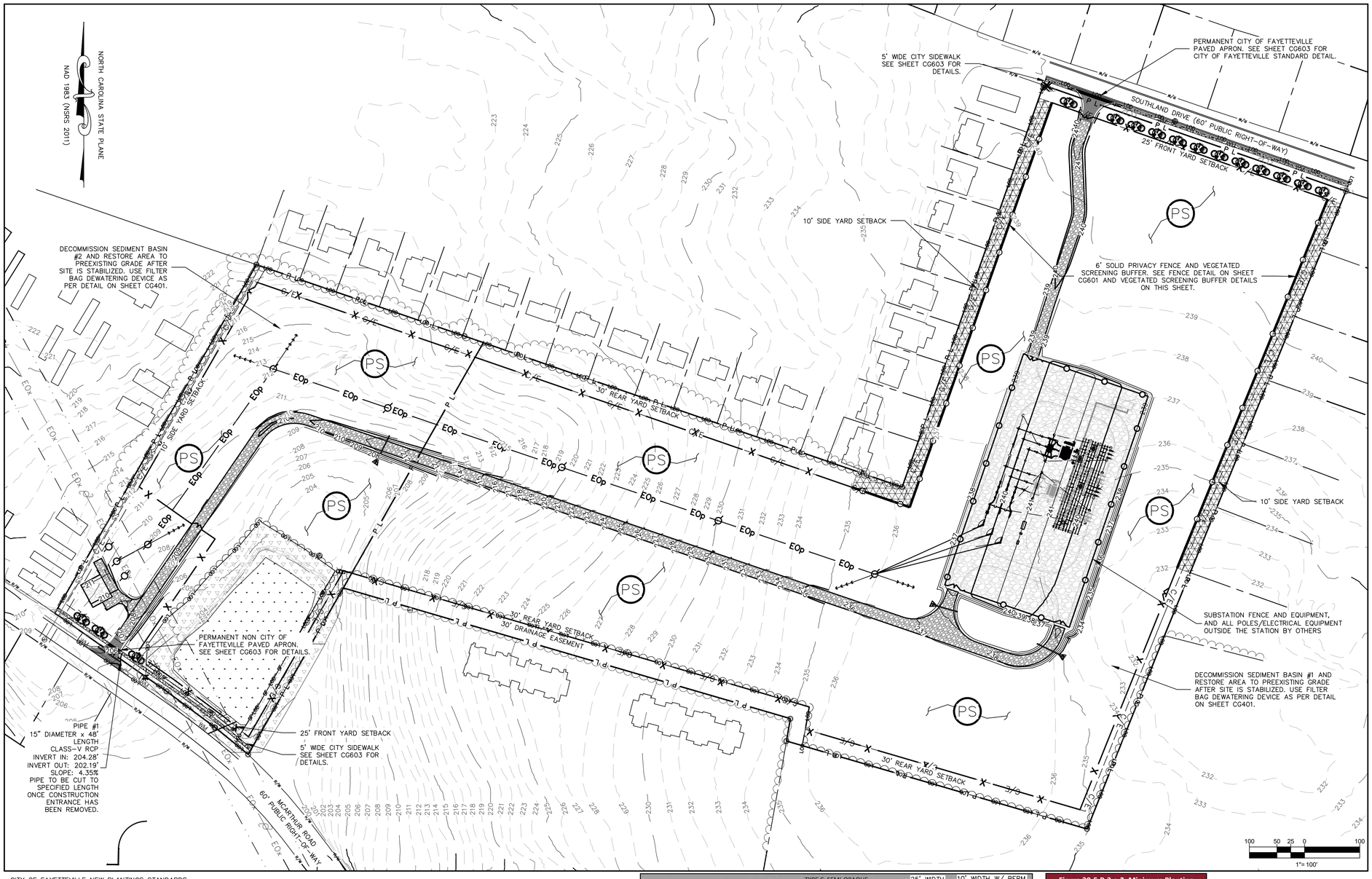
NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: EROSION AND SEDIMENT CONTROL PLAN - CONSTRUCTION PHASE 1

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG202



CONSTRUCTION SEQUENCE

CONSTRUCTION – PHASE 2

21. THE CONTRACTOR (REFERRED TO AS "GRADING CONTRACTOR" IN THE REMAINDER OF THIS STEP TO DISTINGUISH FROM ELECTRICAL CONTRACTOR) SHALL BE NOTIFIED BY THE PROJECT OWNER OR A REPRESENTATIVE THEREOF ONCE THE INSTALLATION OF ALL ELECTRICAL AND RELATED EQUIPMENT HAS BEEN COMPLETED. GRADING CONTRACTOR THEN TO REMOBILIZE ONSITE TO PERFORM THE PHASE TASKS AS OUTLINED BELOW. RESPONSIBILITY OF EROSION CONTROL INSPECTIONS AND REPAIRS SHALL BE TRANSFERRED BACK TO THE GRADING CONTRACTOR AT THIS TIME; IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR FOR SETTING A MEETING WITH THE ELECTRICAL CONTRACTOR FOR THIS TRANSFER OF RESPONSIBILITIES.

22. REMOVE THE CONSTRUCTION ENTRANCE STONE AND INSTALL THE POST-CONSTRUCTION PAVED APRONS LOCATED AT THE PROJECT ENTRANCES & CITY SIDEWALKS AS DETAILED ON SHEET CG603. CONTRACTOR TO COORDINATE WITH NCDOT AND ARRANGE FOR FINAL DRIVEWAY INSPECTION BY NCDOT.

23. STABILIZE THE SITE PER THE APPROVED PERMANENT SEEDING APPLICATION RATES AND SPEC (SEE SHEET CG601). EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT VEGETATION IS ESTABLISHED (APPROXIMATELY 80% COVERAGE, 100% ON 3H:1V+ SLOPES). CONTRACTOR'S SCOPE SHALL INCLUDE REPAIRS, RESEEDING, & REVEGETATING UNTIL THIS COVERAGE REQUIREMENT HAS BEEN MET, AS DETERMINED BY OWNER, ENGINEER, AND NCDEQ. CONTRACTOR TO CONTACT NCDEQ AND ARRANGE FOR VEGETATIVE COVERAGE INSPECTION AND APPROVAL.

24. AFTER SITE STABILIZATION IS APPROVED BY NCDEQ, OWNER, AND ENGINEER, REMOVE THE TEMPORARY SEDIMENT BASIN, TRAPEZOIDAL DRAINAGE CHANNELS, AND TEMPORARY DIVERSIONS. DECOMMISSION THE BASINS USING THE STEPS BELOW.

    DECOMMISSIONING A SKIMMER/SEDIMENT BASIN

    24.1 IF THE BASINS HAVE WATER IN THEM, THE WATER MUST BE PUMPED OUT FROM THE SURFACE INTO A FILTER BAG ON A LEVEL AREA FREE OF DEBRIS.

    24.2 REMOVE SKIMMERS, RISER, BARREL, AND ALL BAFFLE MATERIALS.

    24.3 IF THERE IS SEDIMENT/SILT IN THE BOTTOM OF THE BASINS TO BE HAULED OFF, MIX WITH DRY MATERIAL OR SET ASIDE TO DRY THEN HAUL OFF.

    24.4 FILL BASINS TO MATCH PRE-EXISTING GROUND ELEVATIONS.

    24.5 SEED AND STABILIZE THE AREA OF THE REMOVED BASIN WITH ROLLED EROSION CONTROL PRODUCT WITHIN 7 CALENDAR DAYS.

25. INSTALL LANDSCAPING BUFFERS, PRIVACY FENCE, AND STREETSCAPE AS SPECIFIED IN DETAILS ON SHEETS CG203 AND CG601.

26. HAUL AWAY OR DISPOSE OF ANY ADDITIONAL EXCESS SOILS NOT NEEDED TO BALANCE SITE.

27. AFTER FINAL GRADING HAS BEEN COMPLETED, THE REMAINING DISTURBED AREAS MUST BE STABILIZED WITH LIME, SEED, FERTILIZER, STRAW AND TACK ACCORDING TO THE APPROVED PERMANENT SEEDING APPLICATION RATES AND SPEC (SEE SHEET CG601). CONTRACTOR'S SCOPE SHALL INCLUDE REPAIRS, RESEEDING, & REVEGETATING UNTIL THIS COVERAGE REQUIREMENT HAS BEEN MET FOR THE ENTIRE SITE AS DETERMINED BY OWNER, ENGINEER, AND, AS APPLICABLE, NCDEQ.

28. REMOVE SILT FENCE AND ANY OTHER REMAINING EROSION CONTROL MEASURES.

29. CONTRACTOR IS RESPONSIBLE FOR ARRANGING FOR ANY INSPECTIONS REQUIRED BY ANY AGENCIES, INCLUDING, BUT NOT LIMITED TO, NCDEQ, NCDOT, AND CUMBERLAND COUNTY.

30. CONDUCT FINAL SITE DEMOBILIZATION.

31. WHEN THE PROJECT IS COMPLETE, AND PERMANENT GROUND COVER IS SUFFICIENT TO RESTRAIN EROSION HAS BEEN ESTABLISHED, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITTEE SHALL VISIT HTTPS://WWW.DEQ.NC.GOV/NCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (E-NOT). A $120 ANNUAL GENERAL PERMIT GEE WILL BE CHARGED UNTIL THE E-NOT HAS BEEN FILLED OUT.

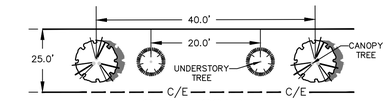
32. ALL FINAL INSPECTION DOCUMENTS SHALL BE PROVIDED TO OWNER AND ENGINEER FOR PERMIT CLOSE OUT. ALL AS-BUILT DEVIATIONS FROM THE DESIGN SHOWN IN THE APPROVED PLAN SET SHALL BE CAPTURED IN INITIALED RED-LINE MARKUPS OF ALL PLAN SHEETS AND PROVIDED TO OWNER AND ENGINEER FOR RECORD DRAWING ISSUANCE.

33. CONTRACTOR'S SCOPE OF WORK NOT TO BE CONSIDERED COMPLETE UNTIL ALL OF THE ABOVE ITEMS HAVE BEEN SATISFACTORILY COMPLETED.

34 FOR ADDITIONAL INFORMATION OR QUESTIONS ON THE SEQUENCING PLEASE CONTACT LAURA HARRIS, P.E. AT 919-851-8770 OR AT LAURA.HARRIS@BOOTH-ASSOC.COM.

NOTE:

1. SEE PERMANENT SEEDING SCHEDULE AND SPECIFICATIONS ON SHEET CG601.
2. PERMANENT SEEDING TO BE A MIX OF BAHIAGRASS & WHITE CLOVER AT THE RATES GIVEN ON SHEET CG601. SEED MIXES OR RATES VARYING FROM THOSE PROVIDED WILL REQUIRE APPROVAL FROM OWNER & OWNER'S ENGINEER. SHEET CG601 ALSO PROVIDES GENERAL PERMANENT SEEDING RECOMMENDATIONS.



STREETSCAPE

SCALE: N.T.S.

NOTES: PER CITY OF FAYETTEVILLE PART II CODE OF ORDINANCES, CHAPTER 30-UNIFIED DEVELOPMENT ORDINANCE, ARTICLE 30-5: DEVELOPMENT STANDARDS, SECTION 30-5.B.4. LANDSCAPING REQUIREMENTS

1. STREET TREES SHALL BE LOCATED TO AVOID UTILITIES (BOTH OVERHEAD AND UNDERGROUND), IN ACCORDANCE WITH THE UTILITY'S REQUIREMENTS FOR CLEARANCE, UNLESS SPECIFIC WRITTEN CONSENT FROM THE UTILITY OWNER IS PROVIDED.
2. STREET TREES SHALL BE CANOPY TREES EXCEPT BENEATH OVERHEAD UTILITIES OR OTHER PROJECTIONS INTO THE PUBLIC RIGHT-OF-WAY, WHERE UNDERSTORY TREES SHALL BE USED INSTEAD.
3. IN LOCATIONS DIRECTLY UNDER OVERHEAD UTILITY LINES, TWO UNDERSTORY TREES MAY BE SUBSTITUTED FOR EACH REQUIRED CANOPY TREE.
4. ALL TREES PLANTED ALONG NCDOT RIGHT-OF-WAY SHALL CONFORM TO NCDOT GUIDELINES.
5. UNDERSTORY TREES SHALL BE SPACED BETWEEN 15 TO 25 FEET ON CENTER, DEPENDING UPON THE SPECIES SIZE AT MATURITY.
6. CANOPY TREES SHALL BE SPACED BETWEEN 25 TO 40 FEET ON CENTER, DEPENDING ON THE SPECIES AT MATURITY.
7. WHEREVER POSSIBLE, SMALL AND MEDIUM TREES SHALL BE PLACED BETWEEN LARGE TREES TO ACCOMMODATE THE CANOPY GROWTH OF LARGE TREES OVER TIME.
8. ALTERNATIVE LAYOUT MAY BE CONSIDERED THROUGH THE ALTERNATIVE LANDSCAPE PLAN PROCEDURE IN SECTION 30-5.B.4.f

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

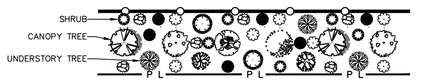
CITY OF FAYETTEVILLE NEW PLANTINGS STANDARDS:

1. THE CITY SHALL MAINTAIN AND MAKE AVAILABLE, A LIST OF RECOMMENDED PLANT MATERIAL HARDY TO THE FAYETTEVILLE AREA AND A PLANT LIST MAINTAINED BY PWC FOR MATERIALS SUITABLE FOR PLANTING UNDER POWER LINES. PLANT MATERIAL NOT ON THE LIST MAY BE APPROVED BY THE CITY AND THE UTILITY PROVIDER ON A CASE-BY-CASE BASIS. IN THE ABSENCE OF A LIST FOR THE CITY, THE LIST PUBLISHED BY THE NORTH CAROLINA COOPERATIVE EXTENSION SERVICE SHALL SERVE AS THE LIST OF RECOMMENDED TREES. PLANTINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS (SEE FIGURE 30-5.B.3.E.2, MINIMUM PLANTING STANDARDS FOR NEW PLANTINGS):
    a. DECIDUOUS CANOPY TREES SHALL BE A MINIMUM OF TWO INCHES IN CALIPER AT THE TIME OF PLANTING, AS DETERMINED IN THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1–2004, AS AMENDED, AND SHALL BE A MINIMUM OF EIGHT FEET IN HEIGHT ABOVE GROUND LEVEL AT THE TIME OF PLANTING.
    b. UNDERSTORY OR ORNAMENTAL TREES SHALL HAVE A CALIPER OF ONE AND-ONE-HALF INCHES AT TIME OF PLANTING, AS DETERMINED IN THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1–FAYETTEVILLE, NC 4 2004, AS AMENDED, AND SHALL BE A MINIMUM OF EIGHT FEET IN HEIGHT ABOVE GROUND LEVEL AT THE TIME OF PLANTING.
    c. EVERGREEN TREES, EXCEPT LONGLEAF PINES, SHALL BE A MINIMUM OF SIX FEET IN HEIGHT AT THE TIME OF PLANTING. LONGLEAF PINES SHALL BE A MINIMUM OF THREE FEET IN HEIGHT AT TIME OF PLANTING.
    d. AT LEAST 50 PERCENT OF THE SHRUBS SHALL BE A MINIMUM FIVE-GALLON CONTAINER SIZE AT TIME OF PLANTING. DECIDUOUS SHRUBS, WHICH ARE UPRIGHT IN NATURE SHALL BE A MINIMUM OF 24 INCHES IN HEIGHT AT THE TIME OF PLANTING, AND EVERGREEN SHRUBS SHALL BE A MINIMUM OF 18 INCHES IN HEIGHT AT THE TIME OF PLANTING.
    e. IN CASES WHERE APPLICATION OF THE REQUIREMENTS IN THIS SUBSECTION RESULT IN A FRACTION IN THE NUMBER OF SHRUBS TO BE PROVIDED, THE MINIMUM NUMBER OF SHRUBS OR TREES TO BE PROVIDED SHALL BE ROUNDED UPWARDS TO THE NEXT HIGHEST WHOLE NUMBER.
    f. ALL LANDSCAPE PLANT MATERIALS SHALL CONFORM TO THE LATEST VERSION OF THE AMERICAN STANDARD OF NURSERY STOCK (ANSI Z60.1, AS AMENDED). PLANT MATERIAL SHALL BE OF SPECIMEN QUALITY OR BETTER, TRUE TO NAME AND TYPE OF SPECIES OR VARIETY.
    g. THE USE OF NATIVE, DROUGHT TOLERANT VEGETATION IS ENCOURAGED TO REDUCE DEPENDENCY UPON IRRIGATION. FIFTY PERCENT OF ALL NEW TREES PLANTED SHALL BE NATIVE.
    h. TO CURTAIL THE SPREAD OF DISEASE OR INSECT INFESTATION IN A PLANT SPECIES, AND TO ADD INTEREST TO THE LANDSCAPE, SPECIES VARIETY SHALL BE IN PROPORTION TO THE NUMBER OF TREES AND SHRUBS PLANTED. NOTHING IN THIS SUBSECTION SHALL BE CONSTRUED SO AS TO PREVENT THE UTILIZATION OF A LARGER NUMBER OF DIFFERENT SPECIES THAN SPECIFIED IN TABLE 30-5.B.3.E.2.H
    i. ALL PLANTING MATERIALS SHALL CORRESPOND TO THE CITY'S APPROVED SPECIES LIST, UNLESS ALTERNATIVE MATERIALS ARE PROPOSED AS PART OF AN ALTERNATIVE LANDSCAPE PLAN (SECTION 30-5.B.4.F).

TYPE C: SEMI-OPAQUE	25' WIDTH	10' WIDTH W/ BERM
	This perimeter buffer functions as a semi-opaque screen from the ground to at least a height of six feet.	Six canopy trees + seven understory trees + 25 shrubs per 100 linear feet	One 4-foot-high berm or one 4-foot-high solid fence + two canopy trees + eight understory trees + 10 shrubs per 100 linear feet
TYPE D: OPAQUE			

Table 30-5.B.3.e.2.h: Species Variety

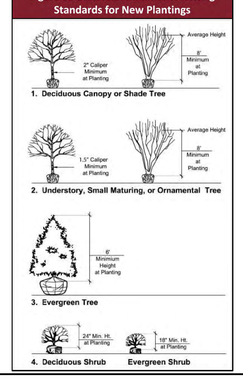
REQUIRED NUMBER OF TREES OR SHRUBS	MINIMUM NUMBER OF SPECIES
1–10	1
11–20	2
21–30	3
31+	4



VEGETATED SCREENING BUFFER

SCALE: N.T.S.

Figure 30-5.B.3.e.2: Minimum Planting Standards for New Plantings



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11/19/2025

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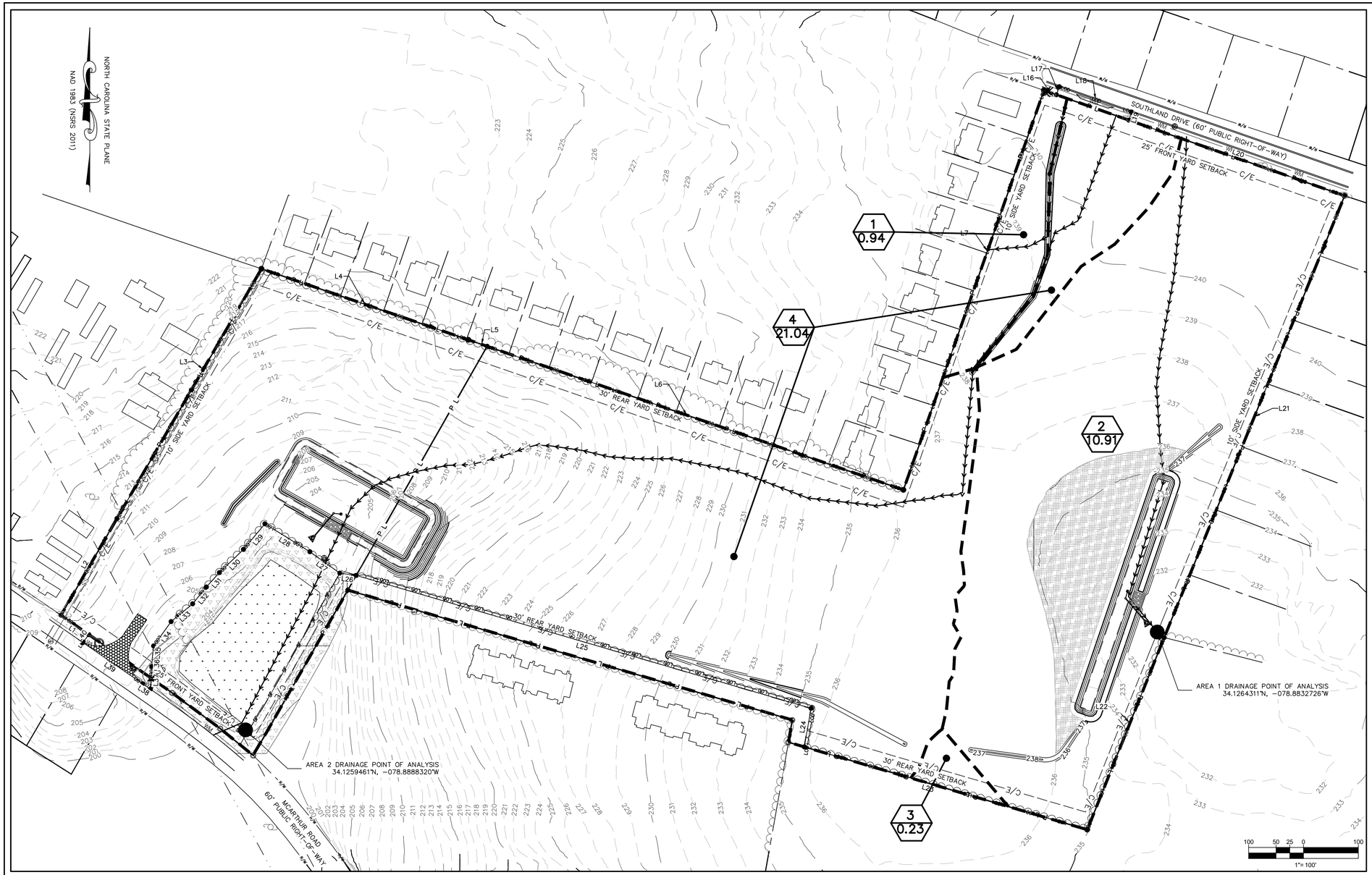
NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: EROSION AND SEDIMENT CONTROL PLAN - CONSTRUCTION PHASE 2

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG203



DRAINAGE AREAS

1 — DRAINAGE AREA No.
4.95 — AREA (ACRES)
DRAINAGE AREA BOUNDARY

POST-CLEARING DRAINAGE SUMMARY

Drainage Area	Size (Acres)	Runoff Coefficient (C) (Unitless)	Time of Concentration (Tc) (Minutes)	Length of Travel (ft)	Height of Most Remote Point Above Outlet (ft)	Average Slope (ft/ft)	Percent Impervious
1	0.94	0.10	4.57	366.00	3.18	0.9%	0.00%
2	10.91	0.10	8.92	936.00	9.39	1.0%	0.46%
3	0.23	0.10	4.73	119.00	0.10	0.1%	0.00%
4	21.04	0.16	11.20	1817.00	38.00	2.1%	1.14%

POST-CLEARING LAND COVER AREA TABLE

Drainage Area	Size (Acres)	Land Cover (Acres) Grass	Trees	Pond	Gravel (Crusher Run)
1	0.94	0.94	0.00	0.00	0.00
2	10.91	10.86	0.00	0.00	0.05
3	0.23	0.23	0.00	0.00	0.00
4	21.04	18.33	1.23	1.24	0.24
TOTAL	**33.12**	**30.36**	**1.23**	**1.24**	**0.29**

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

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11/19/2025

NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: POST-CLEARING PROJECT DRAINAGE ANALYSIS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

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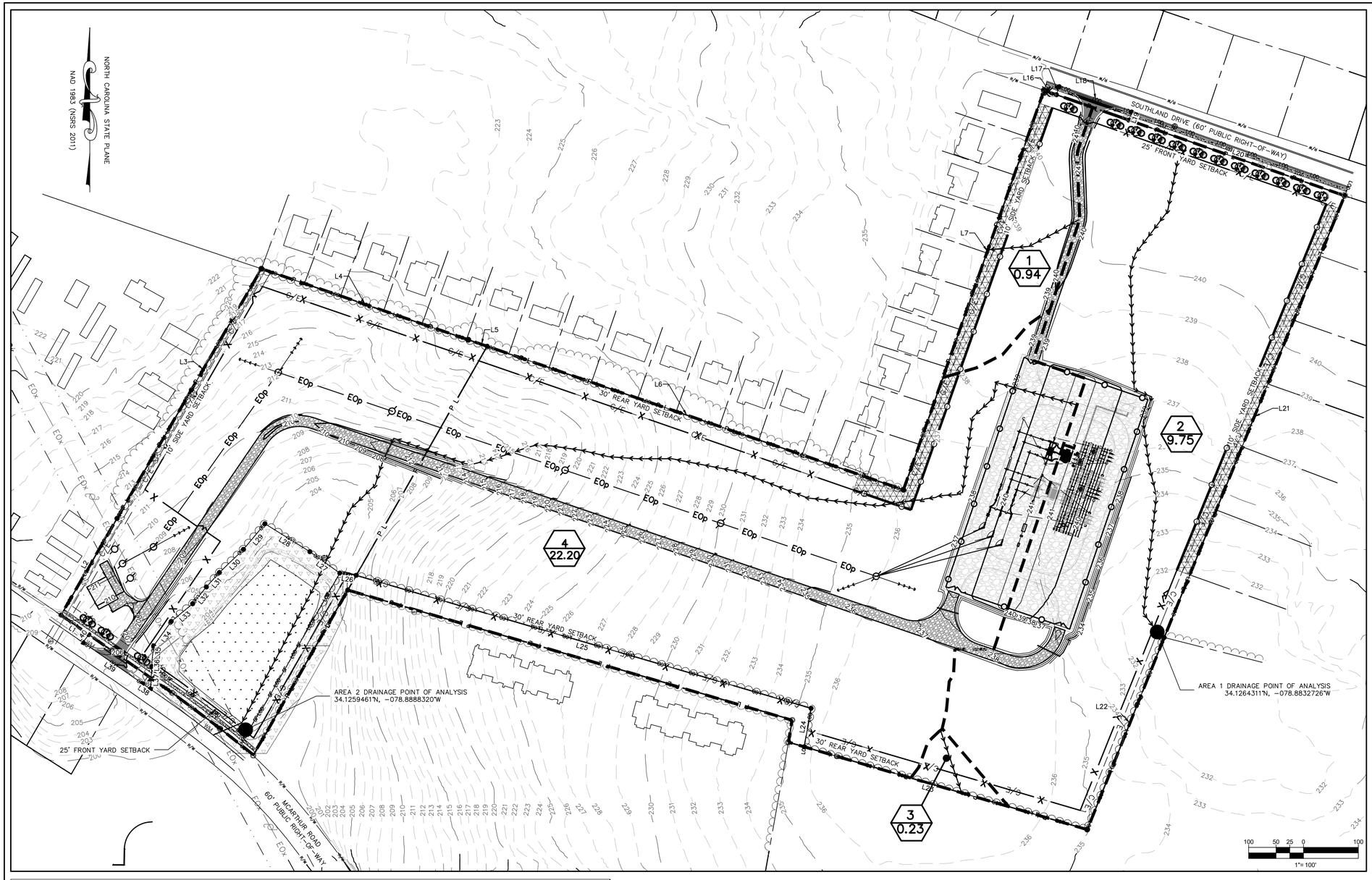
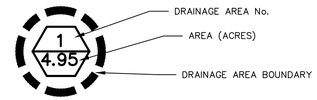


DRAINAGE AREAS



POST-CONSTRUCTION DRAINAGE SUMMARY

Drainage Area	Size (Acres)	Runoff Coefficient (C) (Unitless)	Time of Concentration (Tc) (Minutes)	Length of Travel (ft)	Height of Most Remote Point Above Outlet (ft)	Average Slope (ft/ft)	Percent Impervious
1	1.40	0.18	0.41	176.00	2.45	1.4%	6.43%
2	10.06	0.96	1.13	933.00	9.28	1.0%	14.81%
3	0.23	0.02	0.56	119.00	0.10	0.1%	0.00%
4	21.43	3.19	1.61	2032.00	41.38	2.0%	16.80%

POST-CONSTRUCTION LAND COVER AREA TABLE

		Land Cover (Acres)					
Drainage Area	Size (Acres)	Grass	Trees	Pond	Asphalt/Concrete	Gravel (Crusher Run)	#57 Stone (Impervious)
1	1.40	1.01	0.30	0.00	0.01	0.08	0.00
2	10.06	8.09	0.48	0.00	0.01	0.18	1.30
3	0.23	0.23	0.00	0.00	0.00	0.00	0.00
4	21.43	16.61	1.22	1.24	0.06	1.02	1.28
TOTAL	**33.12**	**25.94**	**2.00**	**1.24**	**0.08**	**1.28**	**2.58**

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

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PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: POST-CONSTRUCTION PROJECT DRAINAGE ANALYSIS

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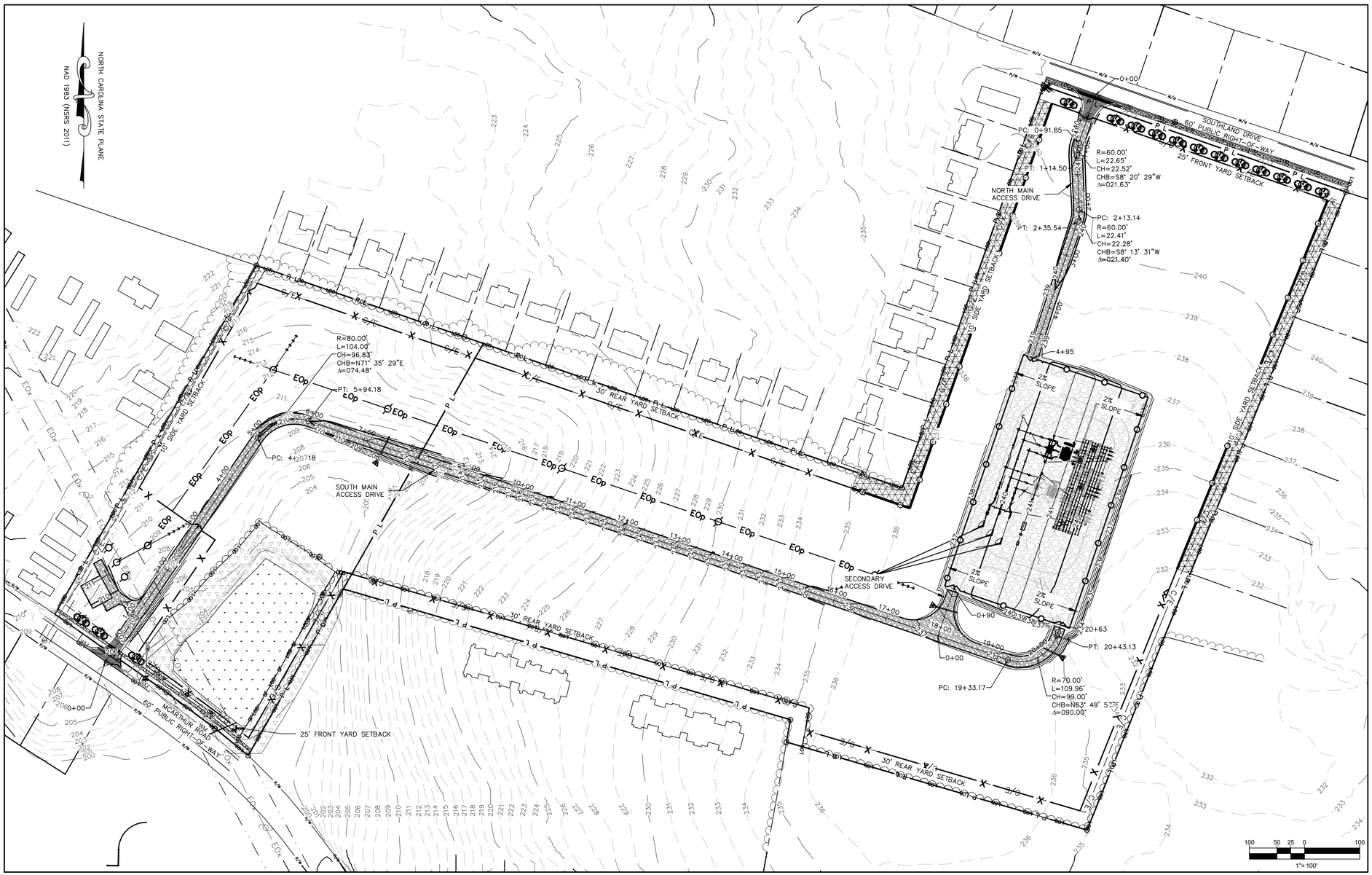
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG301



REFERENCES

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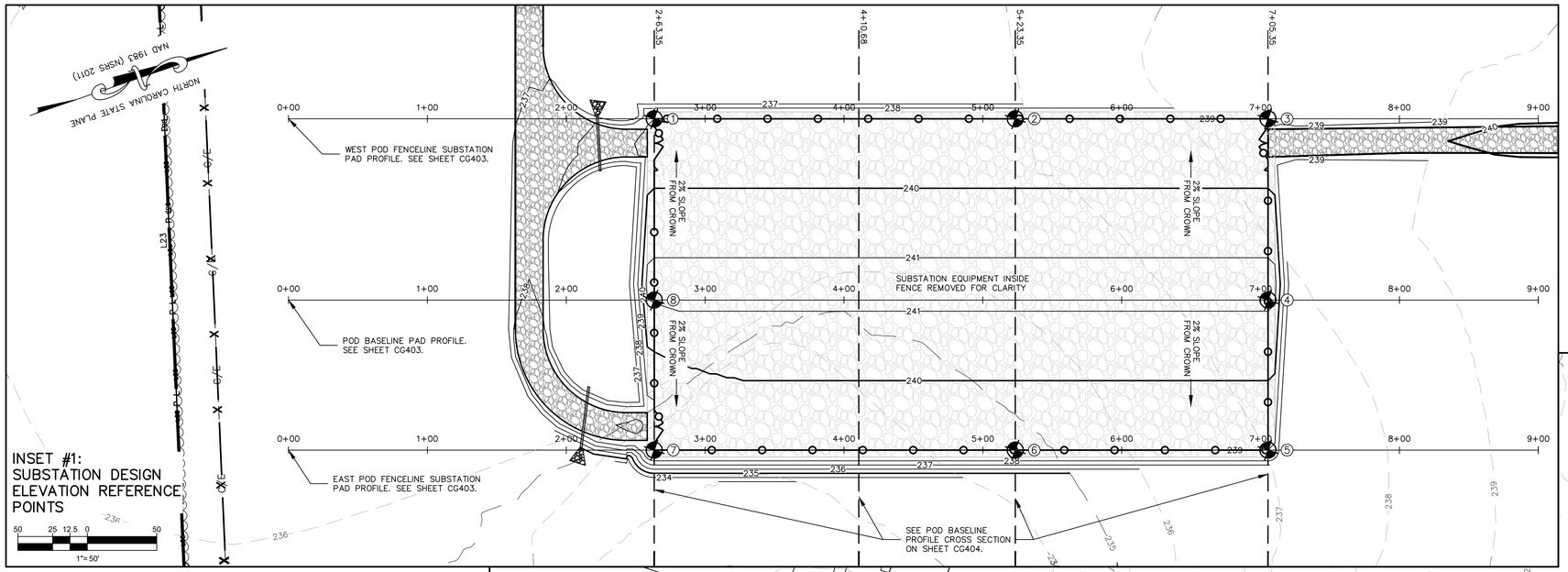
PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

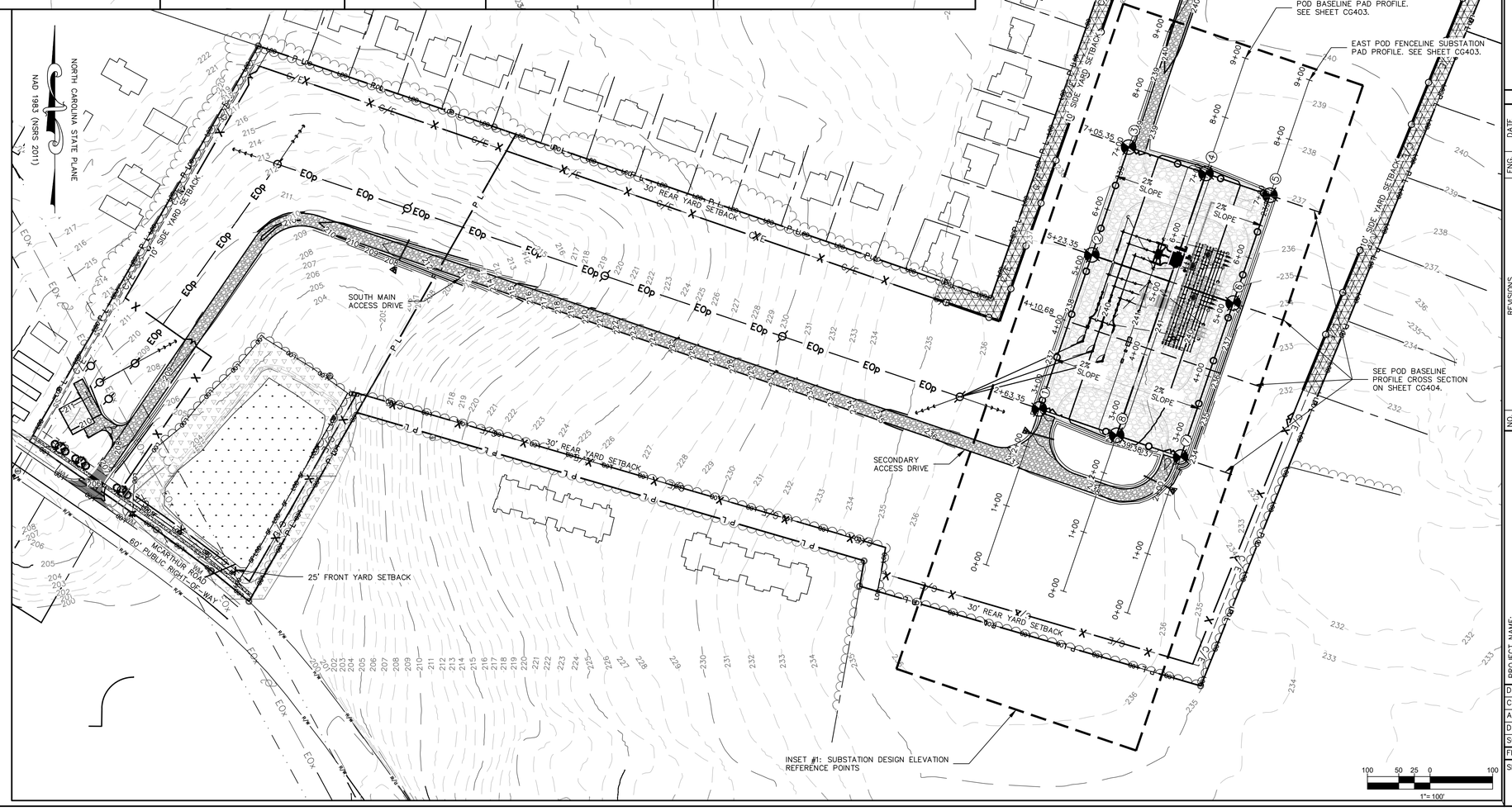
DRAWING TITLE: GRADING PLAN – ACCESS DRIVES

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG400



Point Table		
Point #	Elevation	Description
1	239.00	FENCE CORNER
2	239.00	FENCE/P.O.D. BASELINE
3	239.00	FENCE CORNER
4	241.16	FENCE/TRANSFORMER CL
5	239.00	FENCE CORNER
6	239.00	FENCE/P.O.D. BASELINE
7	239.00	FENCE CORNER
8	241.16	FENCE/TRANSFORMER CL



REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

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PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: GRADING PLAN – SUBSTATION

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

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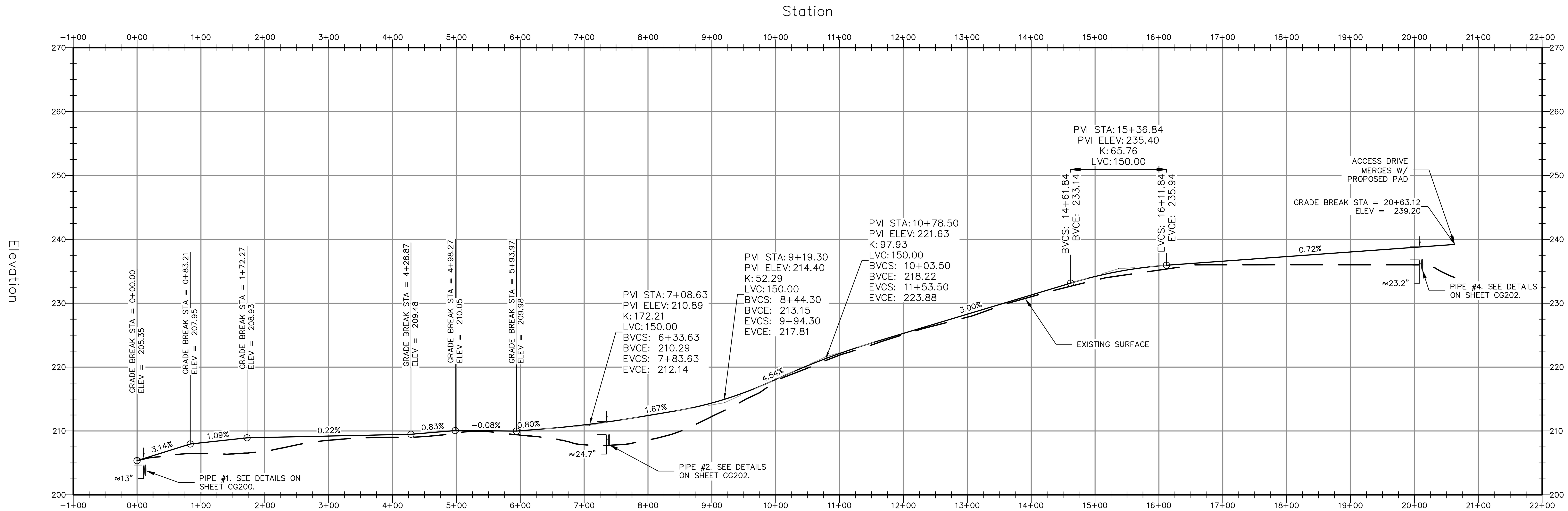
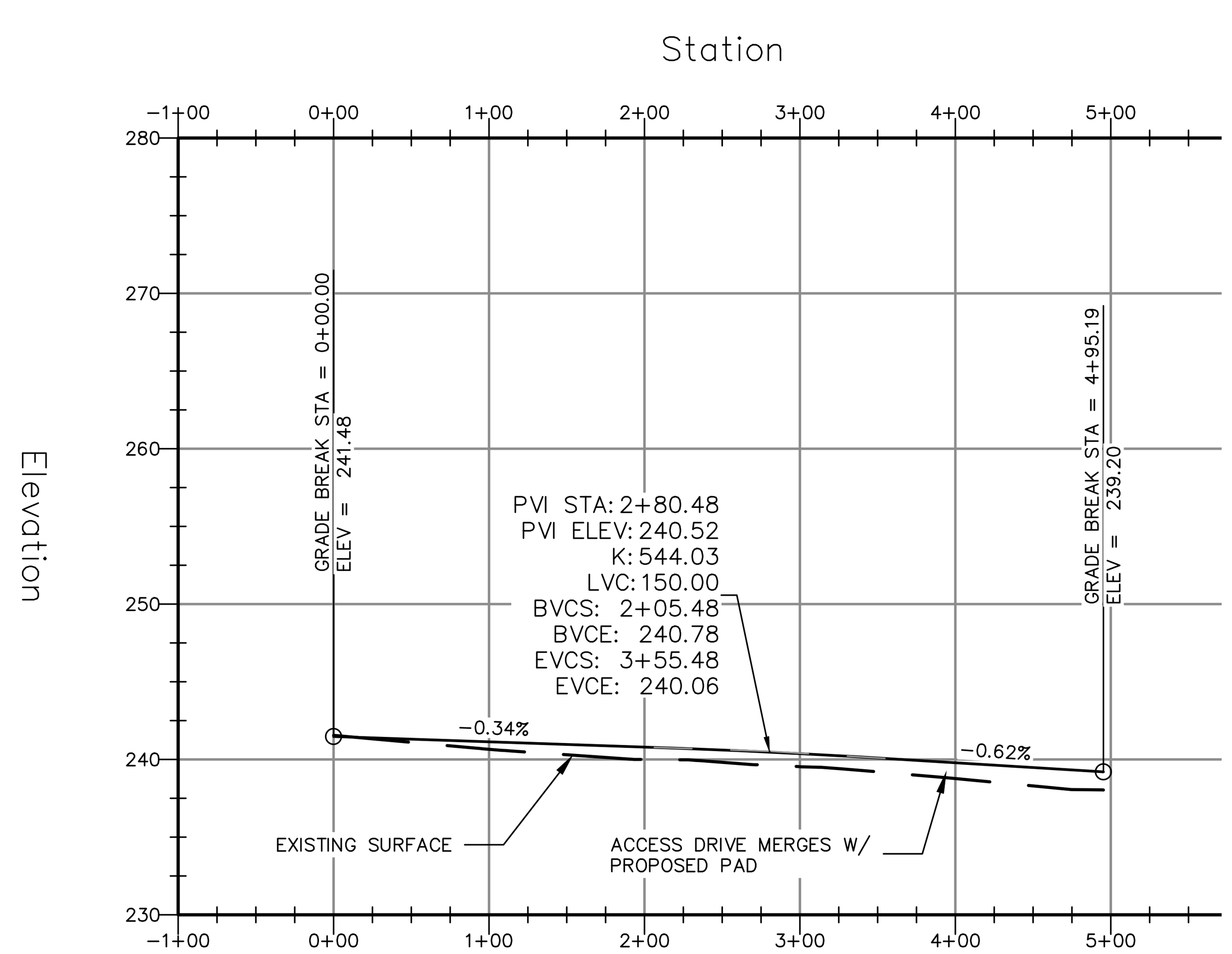


SOUTH MAIN ACCESS DRIVE
CENTERLINE PROFILE
STA. 0+00.00 THRU STA. 21+40.64

SCALE: 1"=100' HORIZONTAL, 1"=10' VERTICAL

100 50 25 0 100
1"= 100'



NORTH MAIN ACCESS DRIVE
CENTERLINE PROFILE
STA. 0+00.00 THRU STA. 3+94.18

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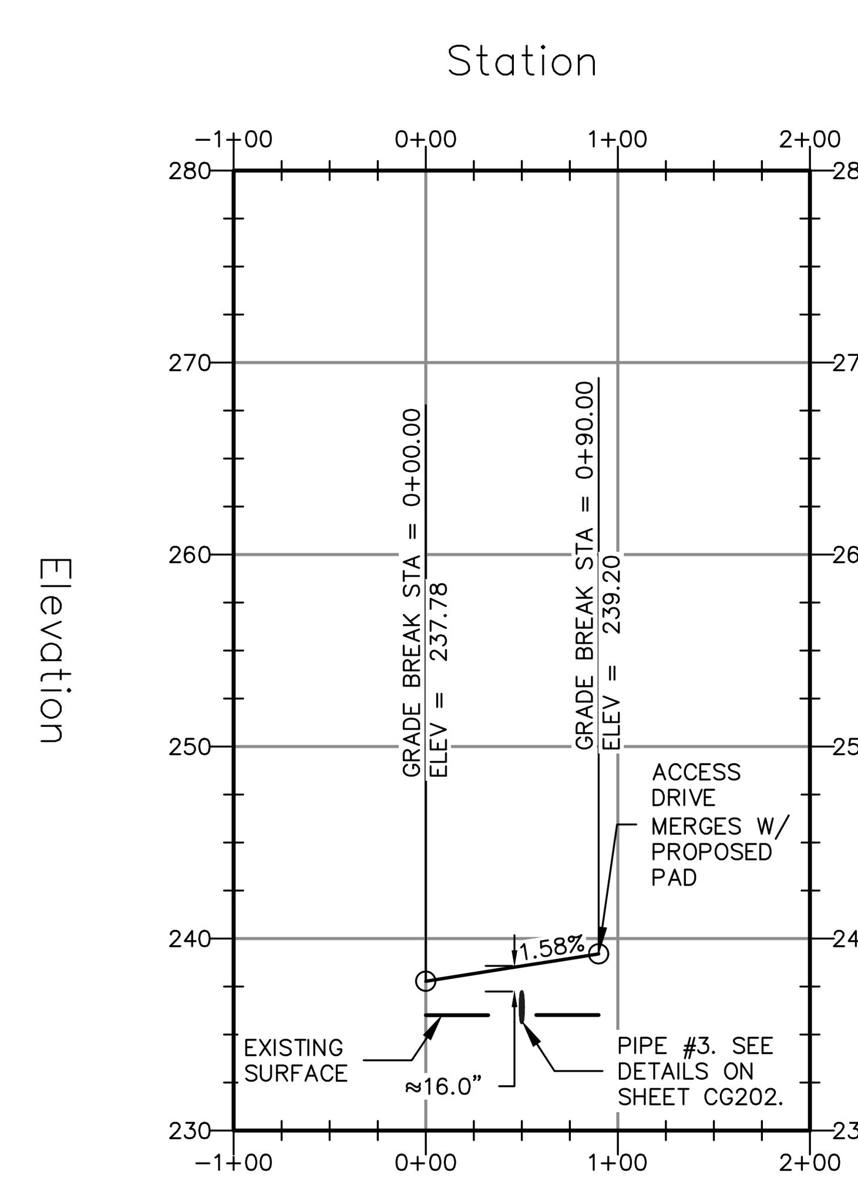
1"= 100'



SECONDARY DRIVE
CENTERLINE PROFILE
STA. 0+00.00 THRU STA. 0+83.80

SCALE: 1"=100' HORIZONTAL, 1"=10' VERTICAL

100 50 25 0 100
1"= 100'

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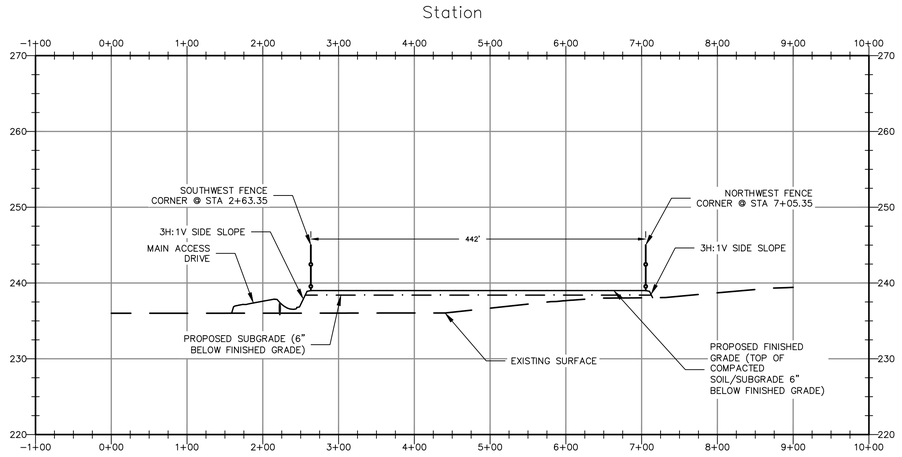
PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: ACCESS DRIVE PROFILES

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	1" = 100'
FILE NUMBER:	12522SCG

SHEET: CG402

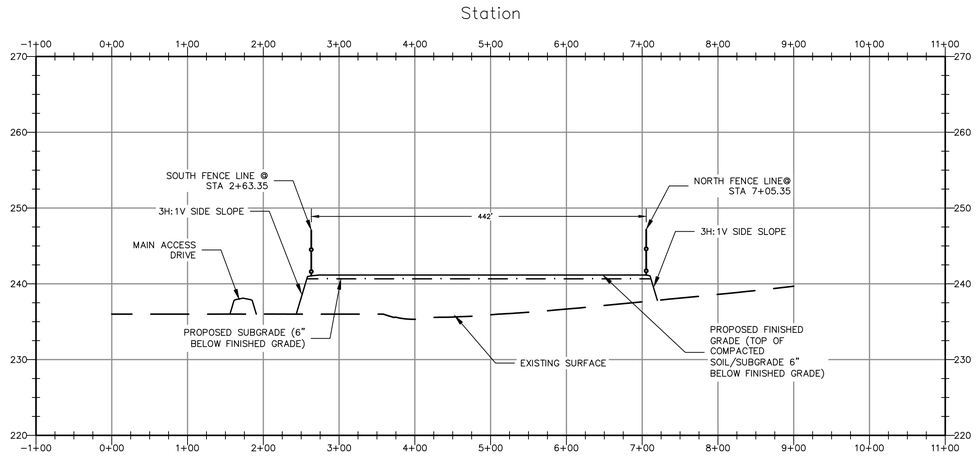


WEST POD FENCELINE
SUBSTATION PAD PROFILE

SCALE: 1"=100' HORIZONTAL, 1"=10' VERTICAL

100 50 25 0 100

1"= 100'



POD BASELINE
PAD PROFILE

SCALE: 1"=100' HORIZONTAL, 1"=10' VERTICAL

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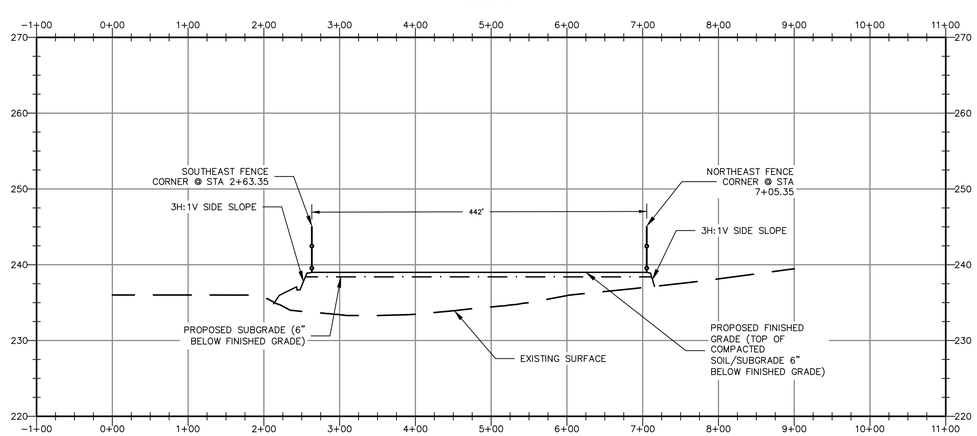
1"= 100'



EAST POD FENCELINE
SUBSTATION PAD PROFILE

SCALE: 1"=100' HORIZONTAL, 1"=10' VERTICAL

100 50 25 0 100

1"= 100'

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PROJECT NAME: **POINT OF DELIVERY 5 (POD 5)**

DRAWING TITLE: SUBSTATION PAD PROFILES

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
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FILE NUMBER:	12522SCG

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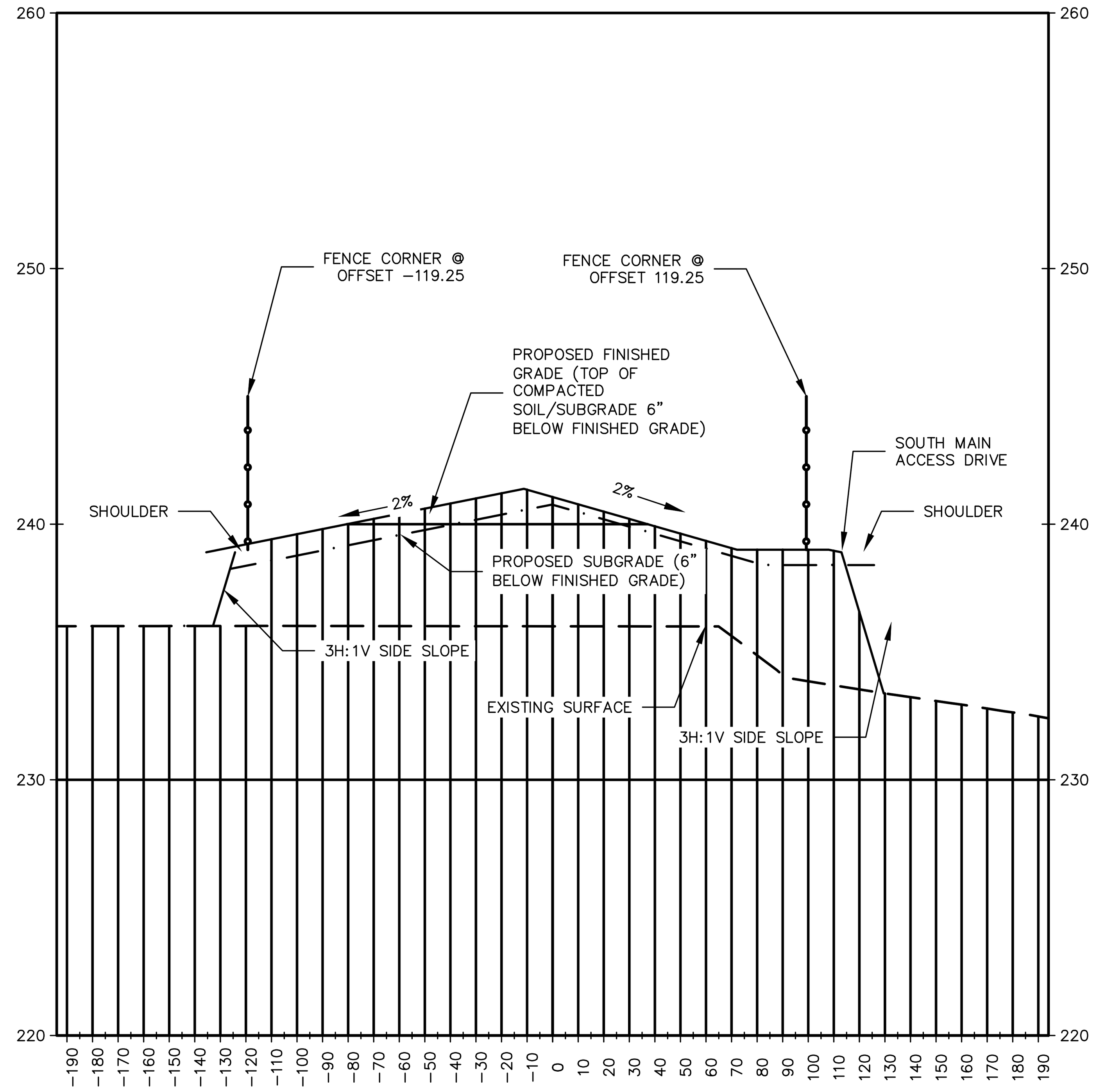
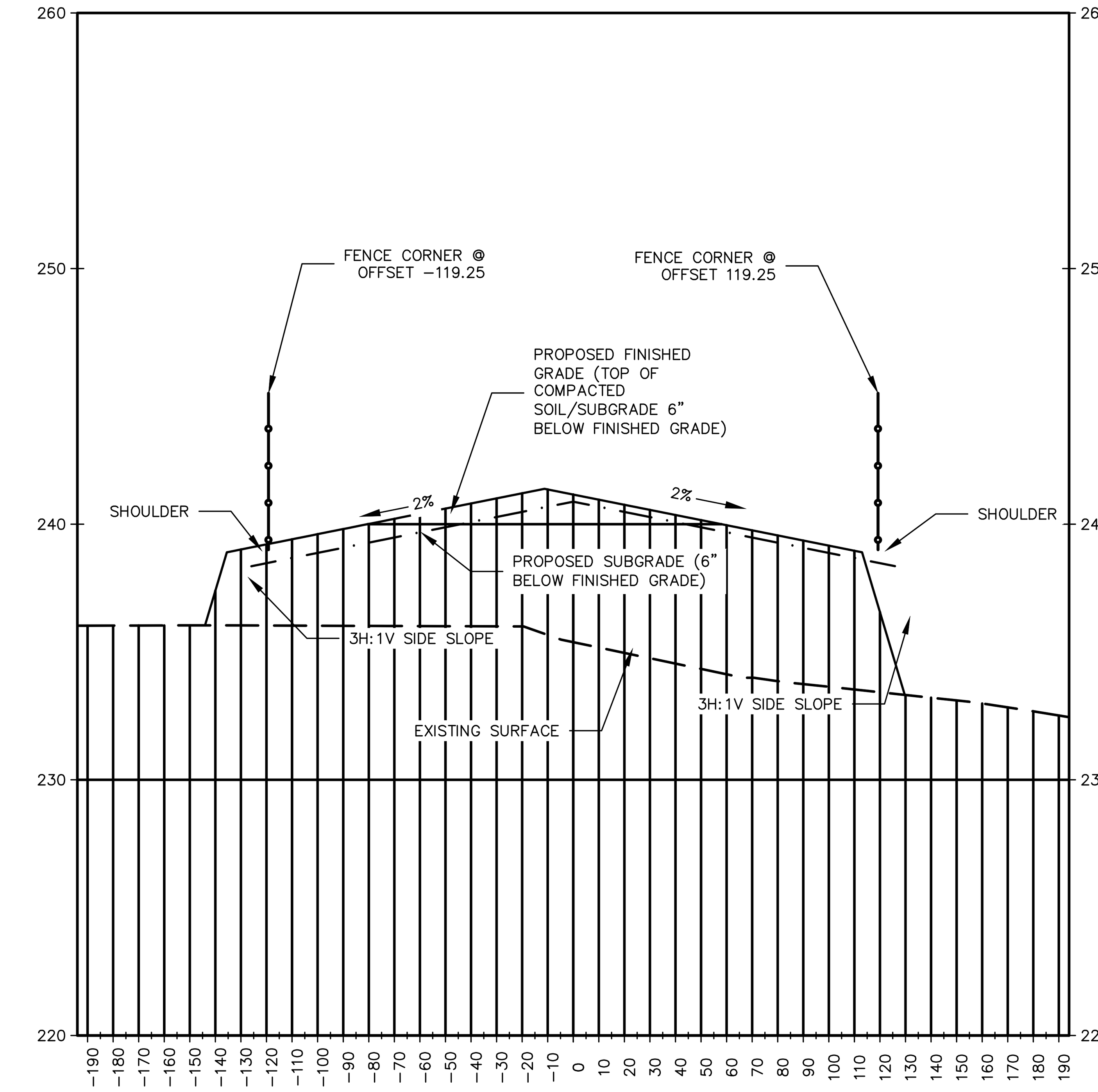


POD STATION BASELINE CROSS SECTION - STA. 2+63.55 SOUTHERN FENCE LINE

SCALE: 1"=50' HORIZONTAL, 1"=5' VERTICAL



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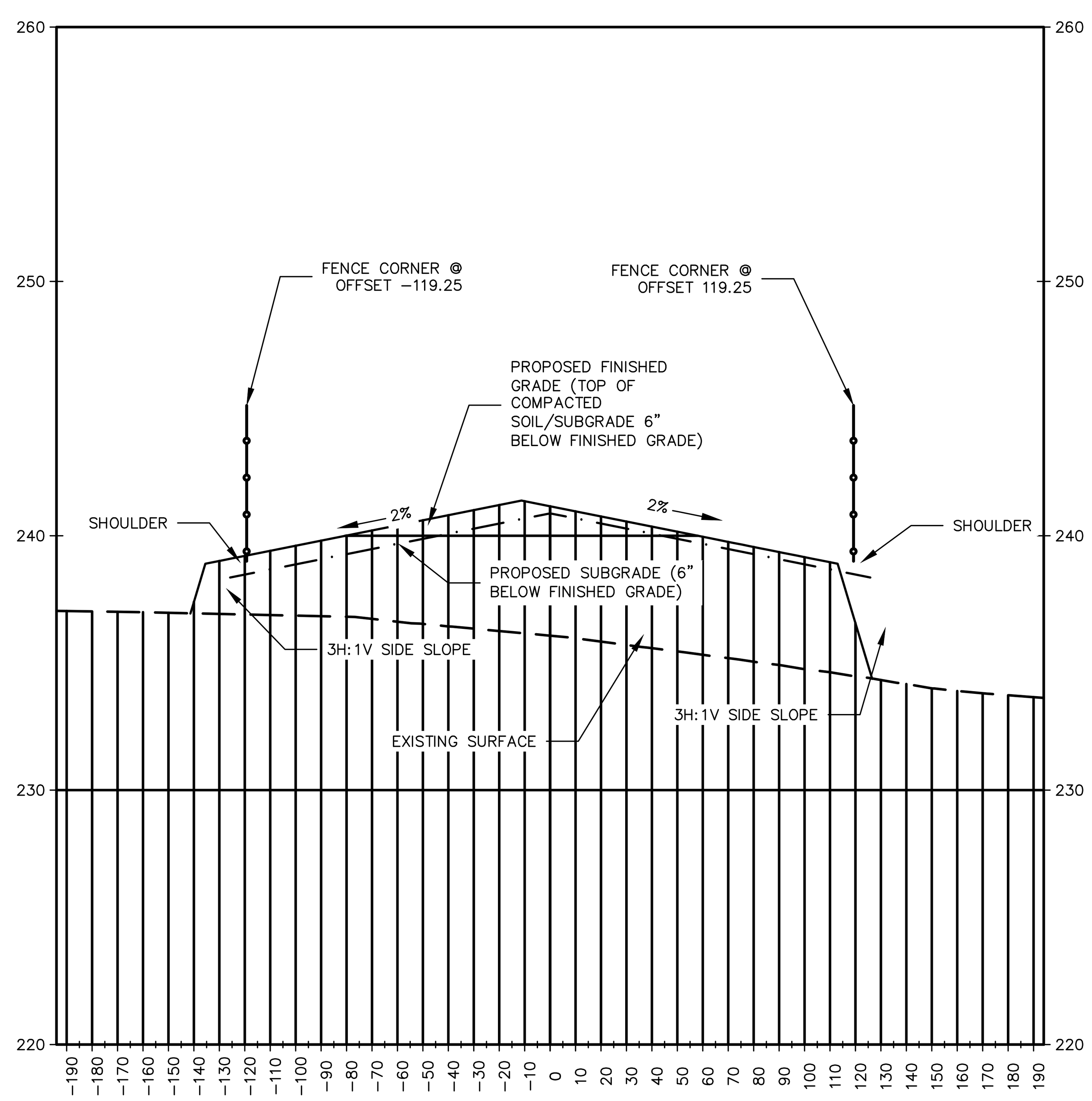

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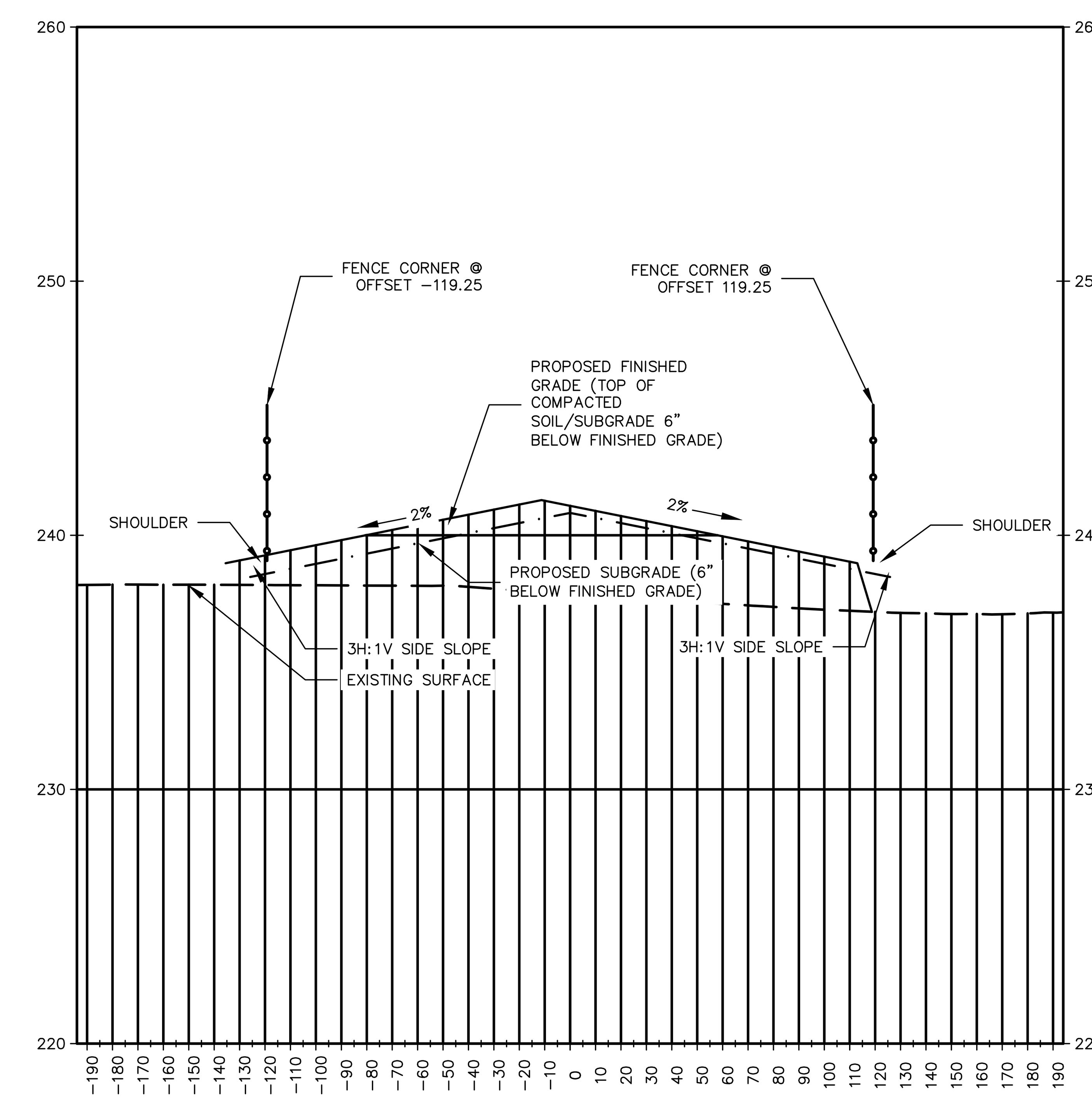

POD STATION BASELINE CROSS SECTION - STA. 7+05.35 SOUTHERN FENCE LINE

SCALE: 1"=50' HORIZONTAL, 1"=5' VERTICAL

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PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: SUBSTATION PAD CROSS-SECTIONS

DRAWN BY:	REA
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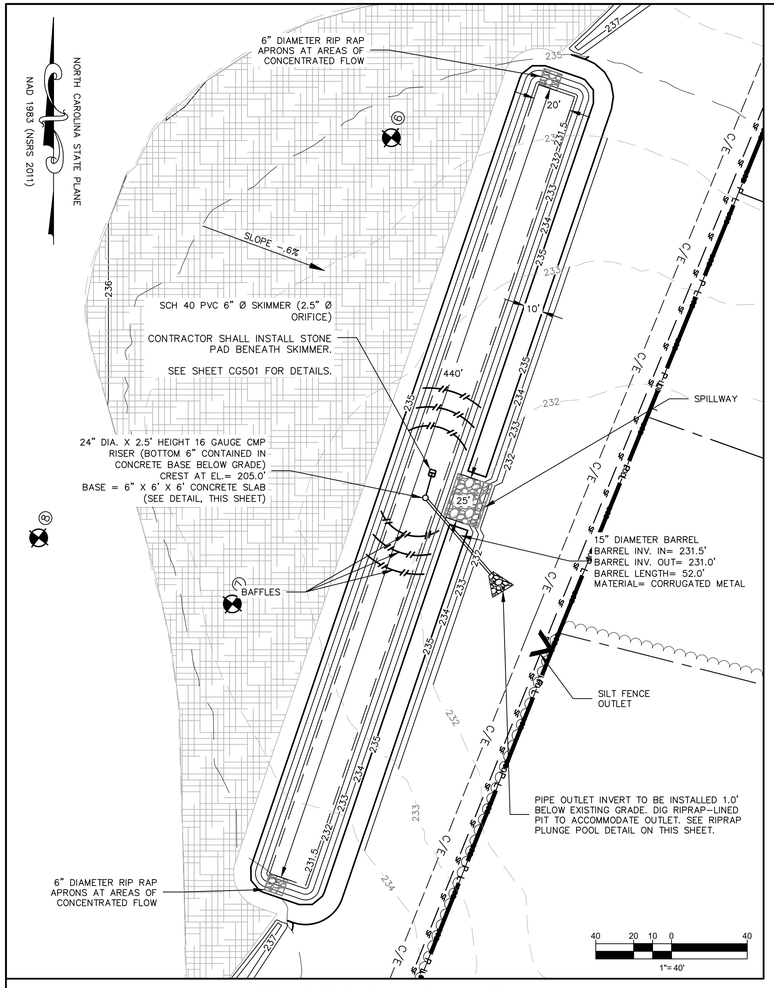
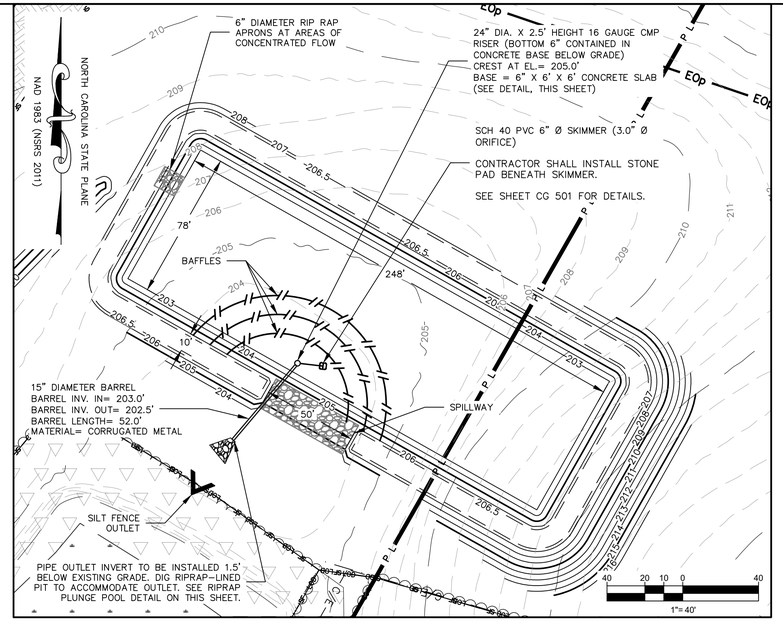


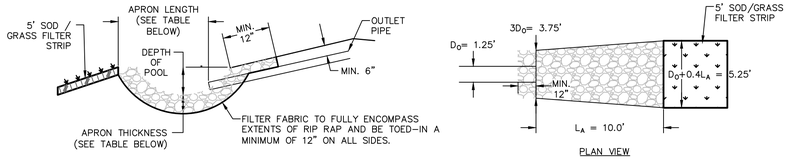
SEDIMENT BASIN #1 PLAN VIEW

SCALE: 1" = 40'



SEDIMENT BASIN #2 PLAN VIEW

SCALE: 1" = 40'

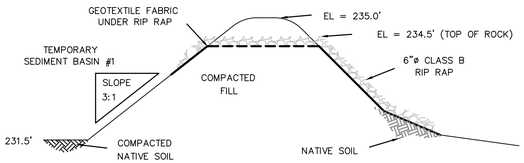


MAINTENANCE
RIPRAP SHOULD BE INSPECTED PERIODICALLY FOR SCOUR OR DISLODGED STONES. CONTROL OF WEED AND BRUSH GROWTH MAY BE NEEDED IN SOME LOCATIONS.

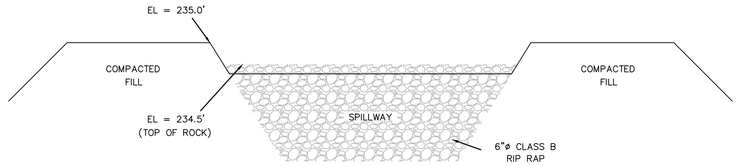
LOCATION	PIPE DIAMETER (IN)	DISCHARGE (CFS)	VELOCITY (FT/S)	AVG. RIPRAP DIAMTER	MIN APRON LENGTH (FT)	APRON WIDTH AT PIPE OUTLET (FT)	APRON WIDTH AT OUTLET END (FT)	APRON THICKNESS	DEPTH OF POOL
BASIN #1	15	0.104	0.150	6"	10'	3.75	5.25	13.5"	1.0'
BASIN #4	15	0.150	0.210	6"	10'	3.75	5.25	13.5"	1.5'

RIP RAP PLUNGE POOL

N.T.S.



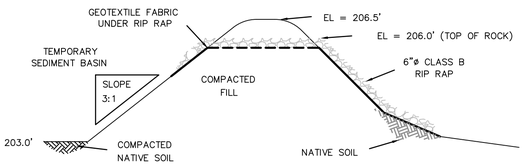
EMBANKMENT/SPILLWAY CROSS SECTION



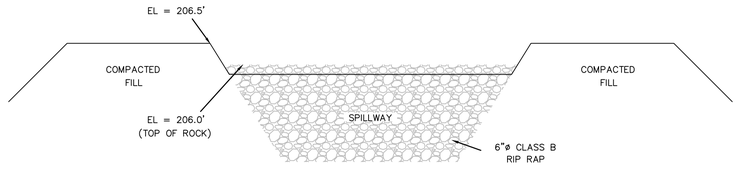
EMBANKMENT/SPILLWAY PROFILE VIEW

SEDIMENT BASIN #1
EMBANKMENT/SPILLWAY DETAILS

N.T.S.



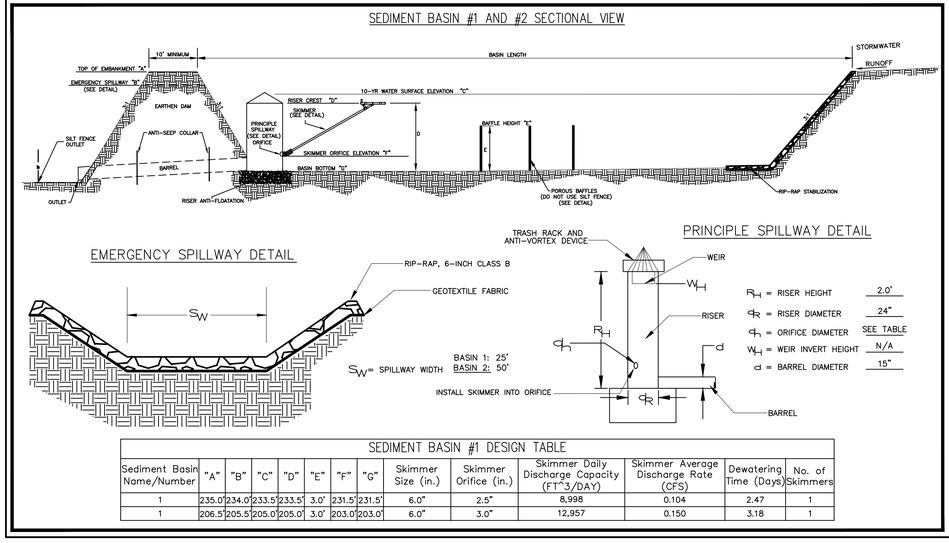
EMBANKMENT/SPILLWAY CROSS SECTION



EMBANKMENT/SPILLWAY PROFILE VIEW

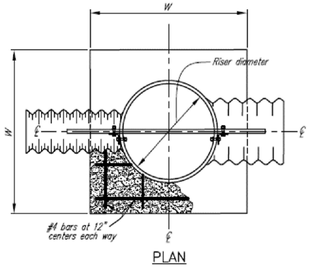
SEDIMENT BASIN #2
EMBANKMENT/SPILLWAY DETAILS

N.T.S.



SEDIMENT BASIN #1 DESIGN TABLE

Sediment Basin Name/Number	"A"	"B"	"C"	"D"	"E"	"F"	"G"	Skimmer Size (in.)	Skimmer Orifice (in.)	Skimmer Daily Discharge Capacity (FT^3/DAY)	Skimmer Average Discharge Rate (CFS)	Dewatering Time (Days)	No. of Skimmers
1	235.0'	234.0'	233.5'	233.5'	3.0'	231.5'	231.5'	6.0"	2.5"	8,998	0.104	2.47	1
1	206.5'	205.5'	205.0'	205.0'	3.0'	203.0'	203.0'	6.0"	3.0"	12,957	0.150	3.18	1



POND 1 RISER

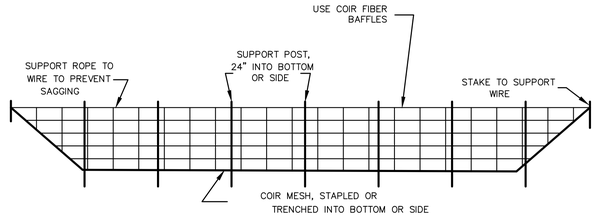
Results:	
Build base to W =	**6.0** ft
Concrete Volume =	**2.00** cu yd
Steel bar Length =	**5.50** ft
Number of bars =	**12**

POND 2 RISER

Results:	
Build base to W =	**6.0** ft
Concrete Volume =	**2.00** cu yd
Steel bar Length =	**5.50** ft
Number of bars =	**12**

RISER SLAB DETAIL

N.T.S.



MAINTENANCE
INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REPAIRS IMMEDIATELY. BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF THE BAFFLES COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEANOUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH. AFTER THE CONTRIBUTING DRAINAGE HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE AND STABILIZE IT.

BAFFLE DETAIL

N.T.S.

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES.....CG002

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1221

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS

11/19/2025

DO NOT USE FOR CONSTRUCTION

NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

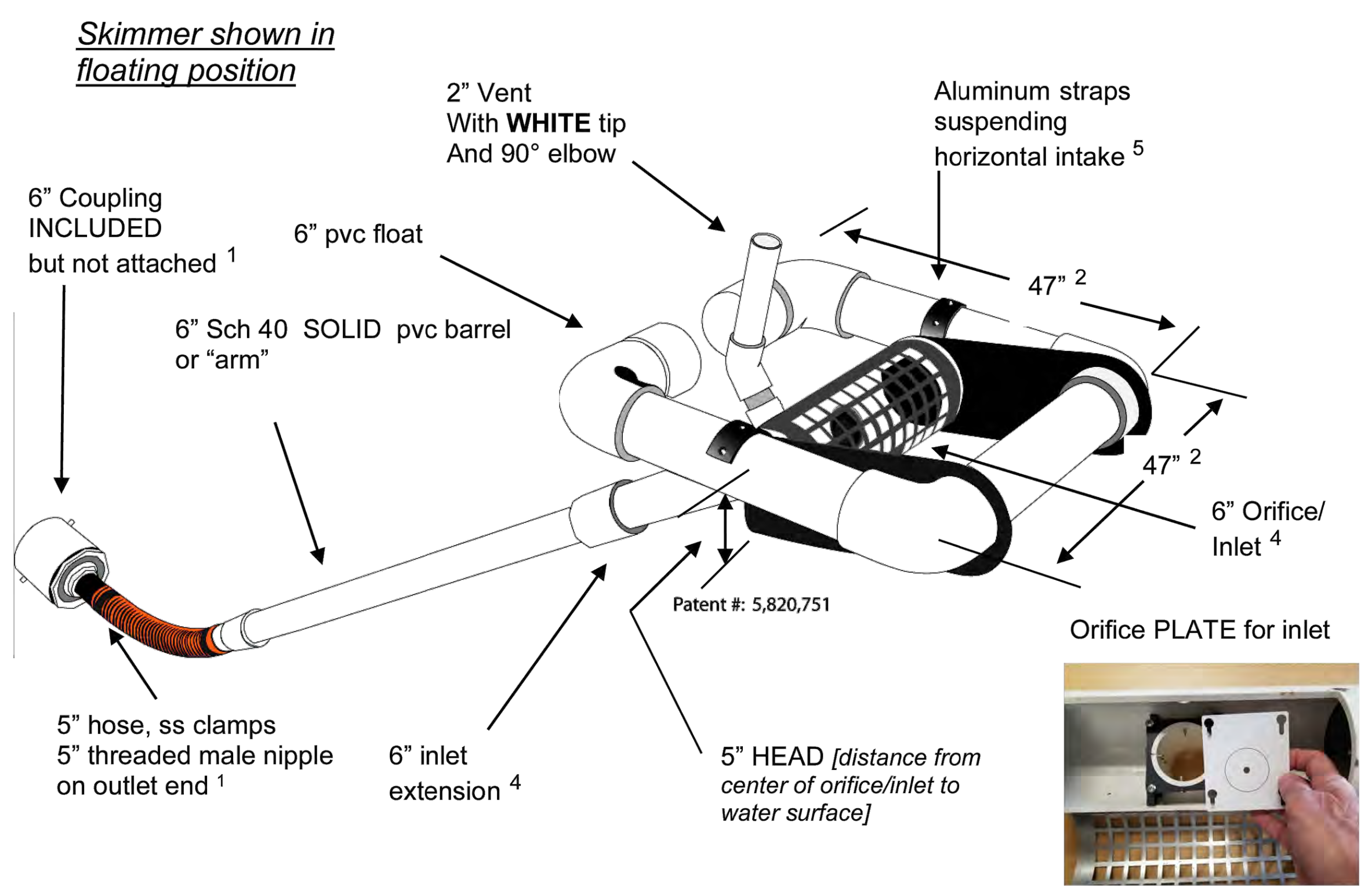
DRAWING TITLE: BASIN DETAILS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	AS SHOWN
FILE NUMBER:	12522SCG

SHEET: CG500

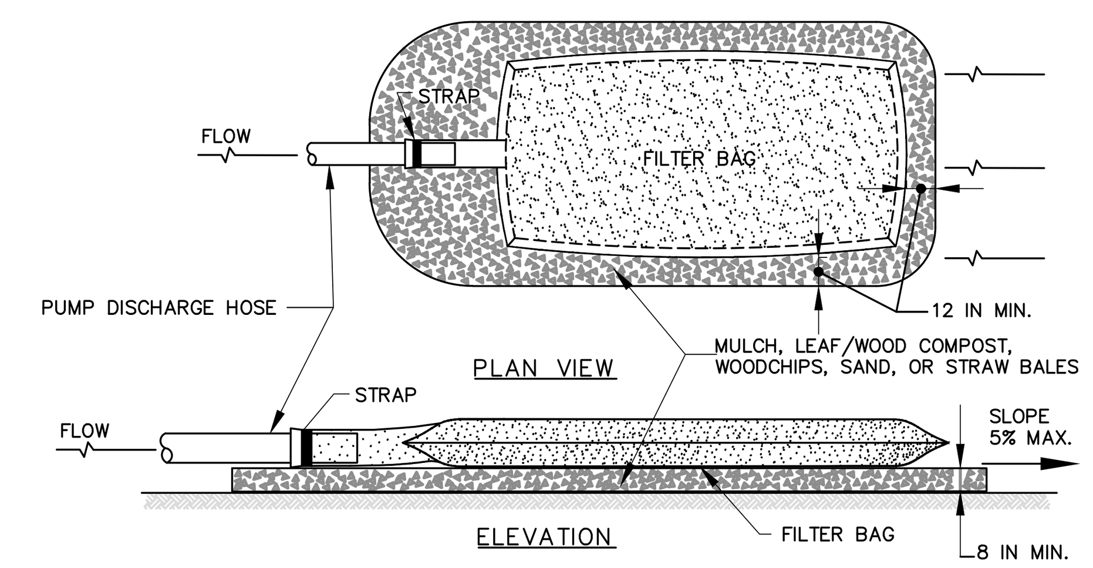
6" *Faircloth Skimmer®* Cut Sheet

www.FairclothSkimmer.com



1. Hose can be attached to outlet using the threaded 5" nipple. Typical methods used: a) a metal structure with a steel stub out welded on the side at the bottom with a 5" threaded coupling or reducer(s); b) a concrete structure with a hole or orifice at the bottom - use a steel plate with a hole and coupling welded to it that will fit over the hole in the concrete and bolted to the structure with sealant.
2. Dimensions are approximate, not intended as plans for construction.
3. Barrel (solid, not foam core pipe) should be 1.4 times the depth of water with a minimum length of 8' so the inlet can be pulled to the side for maintenance. If more than 12' long, weight may have to be added to inlet to counter the increased buoyancy.
4. Orifice/Inlet tapers down from 6" maximum inlet to a 5" flex hose. The orifice/inlet can be reduced using the plate and cutter provided to control the outflow rate – see # 6.
5. Horizontal intake is 10" pipe between the straps with slots cut in the inlet and aluminum screen door (smaller than shown in illustration) for access to the 6" inlet and orifice inside.
6. **Capacity**: 51,840 cubic feet per day maximum with 6" inlet and 5" head. Inlet can be reduced by installing a smaller orifice using the plate and cutter provided to adjust flow rate for the particular drawdown time required. Please use the sizing template at www.fairclothskimmer.com .
7. Ships assembled. User glues inlet extension and barrel, installs vent, cuts orifice in plate and attaches to outlet pipe or structure. Includes float, flexible hose, rope, and orifice plate and cutter. User supplies 6" Sch 40 PVC barrel.

FILTER BAG



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE – 2011

FILTER BAG DEWATERING DEVICE

N.T.S.

Practice Standards and Specifications

- Dewatering—Allow the maximum reasonable detention period before the basin is completely dewatered (at least 48 hours).
- Inflow rate—Reduce the inflow velocity and divert all sediment-free runoff.

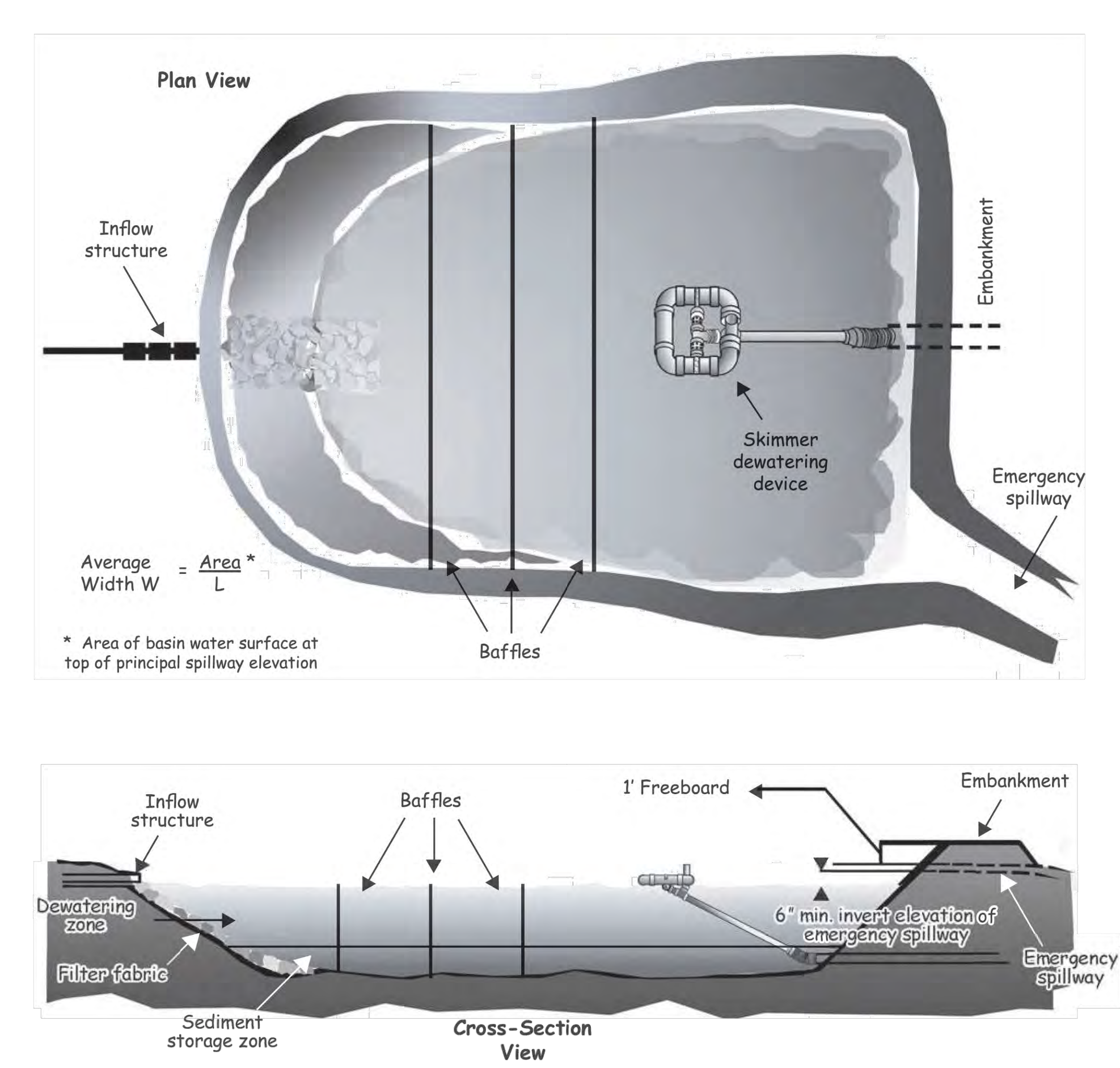
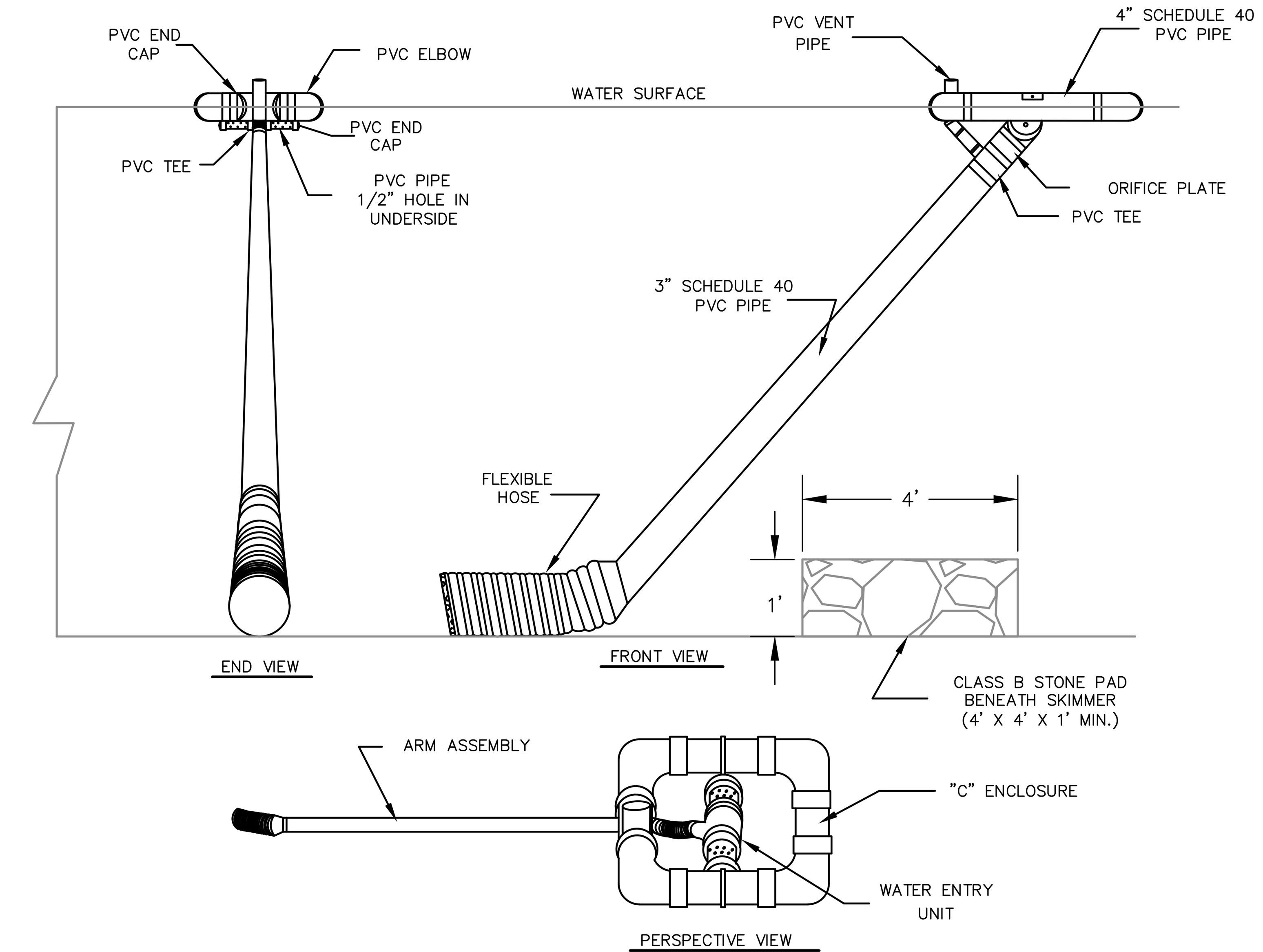


Figure 6.64c Example of a sediment basin with a skimmer outlet and emergency spillway. From Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

Rev. 5/13 6.64.7

SEDIMENT BASIN (TYP.)

N.T.S.



CONSTRUCTION SPECIFICATIONS:

1. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER AND STOCKPILE OR DISPOSE OF IT PROPERLY. HAUL ALL OBJECTIONABLE MATERIAL TO THE DESIGNATED DISPOSAL AREA. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW BASIN AS NEEDED.
2. ENSURE THAT FILL MATERIAL FOR THE EMBANKMENT IS FREE OF ROOTS, WOODY VEGETATION, ORGANIC MATTER, AND OTHER OBJECTIONABLE MATERIAL. PLACE THE FILL IN LIFTS NOT TO EXCEED 9 INCHES, AND MACHINE COMPACT IT. OVER FILL THE EMBANKMENT 6 INCHES TO ALLOW FOR SETTLEMENT.
3. SHAPE THE BASIN TO THE SPECIFIED DIMENSIONS. PREVENT THE SKIMMING DEVICE FROM SETTLING INTO THE MUD BY EXCAVATING A SHALLOW PIT UNDER THE SKIMMER OR PROVIDING A LOW SUPPORT UNDER THE SKIMMER OF STONE AND TIMBER.
4. PLACE THE BARREL (TYP. 4" SCH. 40 PVC PIPE) ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NOT USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE AS BACKFILL AROUND THE PIPE. PLACE THE FILL MATERIAL AROUND THE PIPE SPILLWAY IN 4" LAYERS AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. CARE MUST BE TAKEN NOT TO RAISE THE PIPE FROM THE FIRM CONTACT WITH ITS FOUNDATION WHEN COMPACTING UNDER THE PIPE HAUNCHES. PLACE A MINIMUM DEPTH OF 2' OF COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. IN NO CASE SHOULD BE PIPE CONDUIT BE INSTALLED BY CUTTING A TRENCH THROUGH THE DAM AFTER THE EMBANKMENT IS COMPLETE.
5. ASSEMBLE THE SKIMMER FOLLOWING THE MANUFACTURER'S INSTRUCTIONS, OR AS DESIGNED.
6. LAY THE ASSEMBLED SKIMMER ON THE BOTTOM OF THE BASIN WITH THE FLEXIBLE JOIN AT THE INLET OF THE BARREL PIPE. ATTACH THE FLEXIBLE JOINT TO THE BARREL PIPE AND POSITION THE SKIMMER OVER THE EXCAVATED PIT OR SUPPORT. BE SURE TO ATTACH A ROPE TO THE SKIMMER AND ANCHOR IT TO THE SIDE OF THE BASIN. THIS WILL BE USED TO PULL THE SKIMMER TO THE SIDE FOR MAINTENANCE.
7. EARTHEN SPILLWAYS – INSTALL THE SPILLWAY IN UNDISTURBED SOIL TO THE GREATER EXTENT POSSIBLE. THE ACHIEVEMENT OF PLANNED ELEVATIONS, GRADE, DESIGN WIDTH, AND ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE SPILLWAY. THE SPILLWAY SHOULD BE LINED WITH LAMINATED PLASTIC OR IMPERMEABLE GEOTEXTILE FABRIC. THE FABRIC MUST BE WIDE AND LONG ENOUGH TO COVER THE BOTTOM AND SIDES AND EXTEND ONTO THE TOP OF THE DAM FOR ANCHORING IN A TRENCH. THE EDGES MAY BE SECURED WITH 8" STAPLES OR PINS. THE FABRIC MUST BE LONG ENOUGH TO EXTEND DOWN THE SLOPE AND EXIT ONTO STABLE GROUND. THE WIDTH OF THE FABRIC MUST BE ONE PIECE, NOT JOINED OR SPLICED; OTHERWISE WATER CAN GET UNDER THE FABRIC. IF THE LENGTH OF THE FABRIC IS INSUFFICIENT FOR THE ENTIRE LENGTH OF THE SPILLWAY, MULTIPLE SECTIONS, PLANNING THE COMPLETE WIDTH, MAY BE USED. THE UPPER SECTION(S) SHOULD OVERLAP THE LOWER SECTION(S) SO THAT WATER CANNOT FLOW UNDER THE FABRIC. SECURE THE UPPER EDGE AND SIDES OF THE FABRIC IN A TRENCH WITH STAPLES OR PINS.
8. INLETS – DISCHARGE WATER INTO THE BASIN IN A MANNER TO PREVENT EROSION. USE TEMPORARY SLOPE DRAINS OR DIVERSIONS WITH OUTLET PROTECTION TO DIVERT SEDIMENT-LADEN WATER TO THE UPPER END OF THE POOL AREA TO IMPROVE BASIN TRAP EFFICIENCY.
9. EROSION CONTROL – CONSTRUCT THE STRUCTURE SO THAT THE DISTURBED AREA IS MINIMIZED. DIVERT SURFACE WATER AWAY FROM BARE AREAS. COMPLETE THE EMBANKMENT BEFORE THE AREA IS CLEARED. STABILIZE THE EMERGENCY SPILLWAY EMBANKMENT AND ALL OTHER DISTURBED AREAS ABOVE THE CREST OF THE PRINCIPAL SPILLWAY IMMEDIATELY AFTER CONSTRUCTION.
10. INSTALL POROUS BAFFLES AS SPECIFIED IN BAFFLE DETAIL.
11. AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, MOVE THE STRUCTURE AND ALL THE UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND STABILIZE PROPERLY.

MAINTENANCE NOTES:

1. INSPECT SKIMMER SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND THE SKIMMER OR THE FIRST CELL. MAKE SURE THE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.
2. REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.
3. IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO REMOVE THE DEBRIS.
4. IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.
5. CHECK THE FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.
6. FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

SKIMMER DEWATERING DEVICE

N.T.S.

REFERENCES

CONSTRUCTION SEQUENCE, LEGEND, AND NOTES..................CG002

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NCF-0221

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 056748 LAURA R. HARRIS 11/19/2025

DO NOT USE FOR CONSTRUCTION

NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: BASIN DETAILS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	N.T.S.
FILE NUMBER:	12522SCG
SHEET:	CG501

Sediment Basin #1 — POD 5

Value	Item	Check		Calculation
10.91	Drainage Area (acres)			
26.40	Peak Flow from 10-year Storm (cfs)			
19637	Required Volume (ft^3)		<------------	Required Volume = 10.91 * 1800
11482	Suggested Surface Area (ft^2)		<------------	Suggested Surface Area = 26.4 * 435
76	Suggested Width (ft)		<------------	Suggested Width = √(11482 / 2)
152	Suggested Length (ft)		<------------	Suggested Length = 76 * 2
32	Trial Top Width at Impoundment Level (ft)			
452	Trial Top Length at Impoundment Level (ft)			
3	Trial Side Slope Ratio Z:1 (ft)			
2	Trial Depth (ft)			
20	Bottom Width (ft)		<------------	Bottom Width = 32 - (3 * 2 * 2)
440	Bottom Length (ft)		<------------	Bottom Width = 452 - (3 * 2 * 2)
8800	Bottom Area (ft^2)		<------------	Bottom Area = 20 * 440
23031	Actual Volume (ft^3)	Okay	<------------	Volume = 1/3 * 2 * ((8800 + 14464) + (√ (8800 + 14464)))
14464	Actual Surface Area (ft^2)	Okay	<------------	Surface Area = 32 * 452
25	Trial Weir Length (ft)			
0.5	Trial Depth of Flow (ft)			
26.5	Spillway Capacity (cfs)	Okay	<------------	Q = 3 * 25 * (0.5^1.5), Capacity>Peak Flow = Okay
6	Skimmer Size (in)			
0.417	Head on Skimmer (ft)			
2.5	Orifice Size (1/4 inch increments)			
2.47	Dewatering Time (days)	Okay		

Skimmer Size (Inches)	Head on Skimmer (Feet)
1.5	0.125
2	0.167
2.5	0.167
3	0.25
4	0.333
5	0.333
6	0.417
8	0.5

Site Data Inputs

Drainage Area Into Basin (ft^2)	475207
C total (Runoff coeff.)	0.31
Longest Channel Into Basin (ft)	936
Drainage Area Elev. Change (ft)	9.39
Time of Concentration (min)	8.92
Intensity (in/hr, 10-yr)	7.9

Note: Use Basin Riser & Spillway Calc To Determine Spillway Width

Blue = Inputs
Red = Calculated Values

Sediment Basin #2 — POD 5

Value	Item	Check		Calculation
21.04	Drainage Area (acres)			
50.69	Peak Flow from 10-year Storm (cfs)			
37878	Required Volume (ft^3)		<------------	Required Volume = 21.04 * 1800
22051	Suggested Surface Area (ft^2)		<------------	Suggested Surface Area = 50.69 * 435
105	Suggested Width (ft)		<------------	Suggested Width = √(22051 / 2)
210	Suggested Length (ft)		<------------	Suggested Length = 105 * 2
90	Trial Top Width at Impoundment Level (ft)			
260	Trial Top Length at Impoundment Level (ft)			
3	Trial Side Slope Ratio Z:1 (ft)			
2	Trial Depth (ft)			
78	Bottom Width (ft)		<------------	Bottom Width = 90 - (3 * 2 * 2)
248	Bottom Length (ft)		<------------	Bottom Width = 260 - (3 * 2 * 2)
19344	Bottom Area (ft^2)		<------------	Bottom Area = 78 * 248
42680	Actual Volume (ft^3)	Okay	<------------	Volume = 1/3 * 2 * ((19344 + 23400) + (√ (19344 + 23400)
23400	Actual Surface Area (ft^2)	Okay	<------------	Surface Area = 90 * 260
50	Trial Weir Length (ft)			
0.5	Trial Depth of Flow (ft)			
53.0	Spillway Capacity (cfs)	Okay	<------------	Q = 3 * 50 * (0.5^1.5), Capacity>Peak Flow = Okay
6	Skimmer Size (in)			
0.417	Head on Skimmer (ft)			
3	Orifice Size (1/4 inch increments)			
3.18	Dewatering Time (days)	Okay		

Skimmer Size (Inches)	Head on Skimmer (Feet)
1.5	0.125
2	0.167
2.5	0.167
3	0.25
4	0.333
5	0.333
6	0.417
8	0.5

Site Data Inputs

Drainage Area Into Basin (ft^2)	916654
C total (Runoff coeff.)	0.30
Longest Channel Into Basin (ft)	1817
Drainage Area Elev. Change (ft)	38
Time of Concentration (min)	11.20
Intensity (in/hr, 10-yr)	7.9

Note: Use Basin Riser & Spillway Calc To Determine Spillway Width

Blue = Inputs
Red = Calculated Values

PWC Fayetteville's HOME TOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

–ISSUED FOR BID–

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS
11/19/2025

DO NOT USE FOR CONSTRUCTION

NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

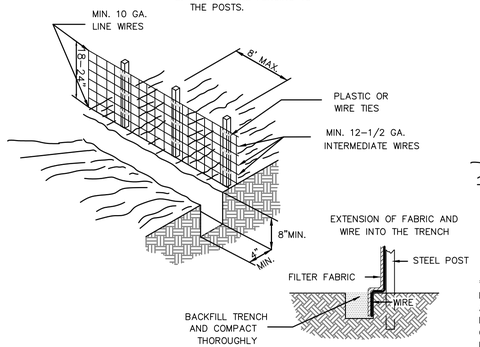
PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

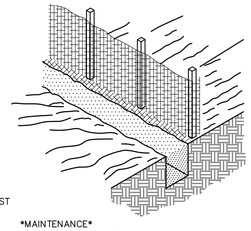
DRAWING TITLE: SEDIMENT BASIN CALCULATIONS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	N.T.S.
FILE NUMBER:	12522SCG
SHEET:	CG502

CONSTRUCTION SPECIFICATIONS

1. SET STEEL POSTS 2'–0" DEEP AND EXCAVATE A 4" X 8" TRENCH UPSLOPE ALONG THE LINE OF POSTS.
2. ATTACH WIRE FENCING TO THE POSTS.
3. ATTACH THE SILT FENCE GEOTEXTILED FABRIC TO THE SECOND WIRE FROM THE TOP ON THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.
4. THE END OF THE SILT FENCE NEEDS TO BE TURNED UPHILL
5. BACKFILL AND COMPACT THE EXCAVATED SOIL.





MAINTENANCE
INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

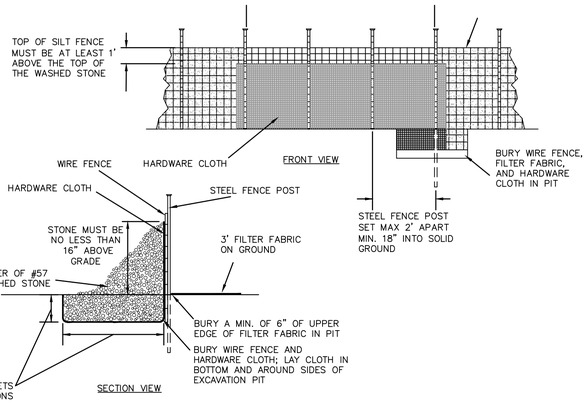
CONSTRUCTION OF A SILT FENCE

N.T.S.

CONSTRUCTION SPECIFICATIONS:

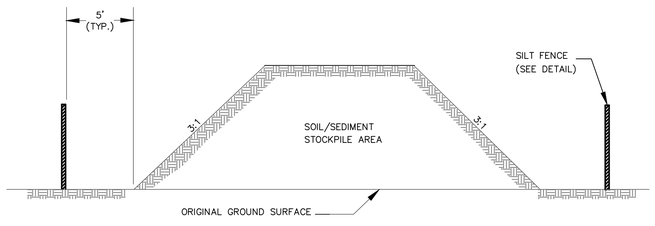
1. SET STEEL POSTS 2' DEEP AND EXCAVATE A PIT UPSLOPE ALONG THE LINE OF POSTS. (SEE PLAN SHEETS FOR INDIVIDUAL PIT DIMENSIONS.)
2. ATTACH WIRE FENCING TO THE POSTS.
3. ATTACH THE SILT FENCE FILTER FABRIC AND HARDWARE CLOTH TO THE SECOND WIRE FROM THE TOP ON THE WIRE FENCE AND EXTEND IT INTO THE PIT.
4. THE END OF THE SILT FENCE NEEDS TO BE TURNED UPHILL.
5. FILL THE PIT WITH #57 WASHED STONE.
6. PLACE AT LEAST 16" OF #57 WASHED STONE IN FRONT OF THE HARDWARE CLOTH.

MAINTENANCE
1. INSPECT SILT FENCE OUTLETS AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. SHOULD THE CLOTH COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
5. REPLACE STONE IF ANY EROSION HAS OCCURRED AROUND OR BELOW THE STONE, OR IF STONES HAVE BECOME DISLODGED.
6. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



SILT FENCE OUTLET

N.T.S.

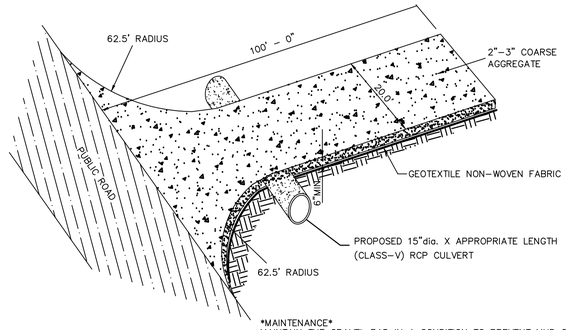


NOTES:

1. SILT FENCE TO EXTEND AROUND THREE SIDES OF ANY STOCKPILE, OR IF STOCKPILE AREA IS LOCATED ON/NEAR A SLOPE THE SILT FENCE IS TO EXTEND ALONG CONTOURS OF THE DOWN–GRADIENT AREA.
2. IF STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, TEMPORARY STABILIZATION MEASURES MUST BE IMPLEMENTED.
3. STOCKPILE SILT FENCE SHALL BE MAINTAINED UNTIL STOCKPILE AREA HAS EITHER BEEN REMOVED OR PERMANENTLY STABILIZED.
4. THE KEY TO FUNCTIONAL TEMPORARY STOCKPILE AREAS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

TEMPORARY STOCKPILE

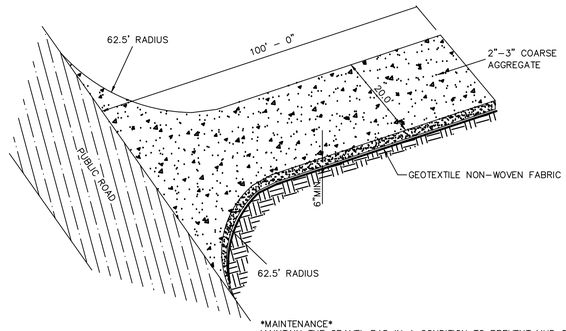
N.T.S.



MAINTENANCE
MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2–INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

TEMPORARY CONSTRUCTION ENTRANCE DETAIL (SOUTH ENTRANCE)

N.T.S.



MAINTENANCE
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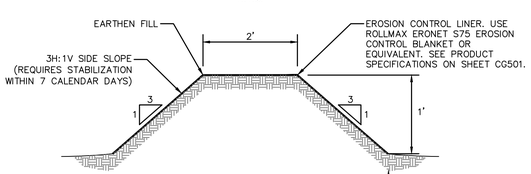
TEMPORARY CONSTRUCTION ENTRANCE DETAIL (NORTH ENTRANCE)

N.T.S.

N.T.S.



EARTHEN BERM

N.T.S.

Practice Standards and Specifications

6.22 → PD →

DIVERSION DIKE (Perimeter Protection)

Definition A dike or dike and channel constructed along the perimeter of a disturbed construction area.

Purpose To prevent storm runoff from entering the work area, or to prevent sediment-laden runoff from leaving the construction site.

Conditions Where Practice Applies Diversion dikes may be located at the upslope side of a construction site to prevent surface runoff from entering the disturbed area or at the downslope side of the work area to divert sediment-laden runoff to on-site sediment traps or basins. Diversion dikes do not usually encircle the entire area.

The upslope dike can improve working conditions at the construction site and prevent erosion. The downslope dike assures that sediment-laden runoff will not leave the site without treatment.

Planning Considerations A diversion dike is a special application of a temporary or permanent diversion. It differs from other diversions in that the location and grade are usually fixed, and the cross section and stabilization requirements are based on the existing grade of the work boundary. Hence, the design cross section may vary significantly throughout the length. Give special care to avoid erosive velocities in steep areas. Identify areas where sedimentation will occur since they are often subject to overtopping.

Immediately vegetate diversion dikes after construction, but make sure channel flow area is stabilized during construction. Exercise caution in diverting flow to be certain that the diverted water is released through a stable outlet and that the flow will not cause flood damage. Diversion dikes may be either temporary or permanent depending on site conditions (Figure 6.22a).

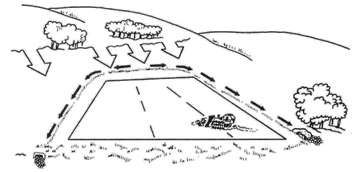


Figure 6.22a Perimeter dikes prevent surface runoff from entering construction sites.

6.22.1

6

Design Criteria

Drainage area—5 acres or less.

Capacity—consistent with the hazard involved and design life and with a 10 year peak runoff minimum.

Velocity—See Table 8.05a, *Appendix 8.05*.

Dike design—
- side slope: 2:1 or flatter; 3:1 or flatter where vehicles must cross
- width: 2.0 feet minimum top width
- height: 1.5 feet minimum
- freeboard: 0.5 feet minimum
- settlement: 10% of total fill height minimum

Channel design—
- shape: parabolic, trapezoidal, or V-shaped
- side slope: 2:1 or flatter; 3:1 or flatter where vehicles must cross
- stabilization: based on velocity by reaches

Grade—Dependent on site topography. Channel should have positive grade.

Outlet—Divert sediment-laden water into a temporary sediment trap or sediment basin. Runoff from undisturbed areas should empty into an outlet protection device such as a level spreader or riprap outlet structure unless well stabilized natural outlets exist.

Construction Specifications

1. Remove and properly dispose of all trees, brush, stumps, and other objectionable material. Fill and compact, to natural ground level or above, all ditches and gullies that will be crossed by machinery.

2. Disk the base of the dike before placing fill.

3. Ensure that the constructed cross section meets all design requirements.

4. Compact the dike by tracking with construction equipment.

5. Ensure that the top of the dike is not lower at any point than the design elevation plus the specified settlement after it has been compacted.

6. Leave sufficient area along the dike to permit machine re-grading and cleanout.

7. Immediately seed and mulch the dike after its construction, and stabilize the flow portion in accordance with design requirements.

Maintenance Inspect diversion dikes once a week and after every rainfall. Immediately remove sediment from the flow area and repair the dike.

Check outlets, and make timely repairs as needed to avoid gully formation. When the area above the temporary diversion dike is permanently stabilized, remove the dike, and fill and stabilize the channel to blend with the natural surface.

6.22.2

EARTHEN BERM DIVERSION DIKE

N.T.S.

PWC Fayetteville's HOME TOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1581

–ISSUED FOR BID–

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS

11/19/2025

DO NOT USE FOR CONSTRUCTION

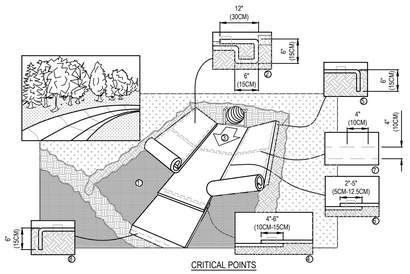
NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: GRADING AND EROSION CONTROL DETAILS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	N.T.S.
FILE NUMBER:	12522SCG

SHEET: CG600



CRITICAL POINTS

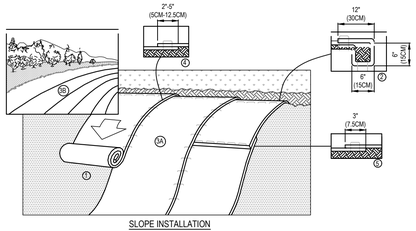
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOMSIDE SLOPE VERTICES

* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

ROLLED EROSION CONTROL PRODUCT



SLOPE INSTALLATION

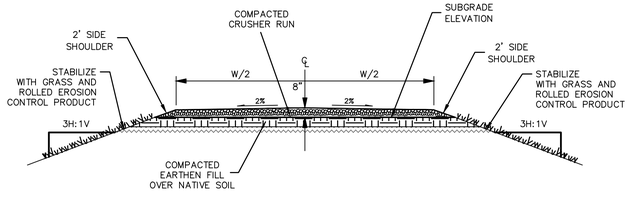
CONSTRUCTION SPECIFICATIONS:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15CM) DEEP X 6" (15CM) WIDE TRENCH WITH APPROXIMATELY 12" (30CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/ STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5CM-12.5CM) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30CM) APART ACROSS ENTIRE BLANKET WIDTH.

PRODUCT MAINTENANCE
1. INSPECT ROLLED EROSION CONTROL PRODUCTS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1 INCH OR GREATER) RAIN FALL EVENT REPAIR IMMEDIATELY.
2. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE RECP. ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
3. CHECK FOR GENERAL SIGNS OF EROSION, INCLUDING VOIDS BENEATH THE MAT. IF VOIDS ARE APPARENT, FILL THE VOID WITH SUITABLE SOIL AND REPLACE THE EROSION CONTROL BLANKET, FOLLOWING THE APPROPRIATE STAKING PATTERN.
4. CHECK FOR DAMAGED OR LOOSE STAKES AND SECURE LOOSE PORTIONS OF THE BLANKET.
5. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
6. MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. IN LOOSE SOIL CONDITIONS THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.
3. NO PLASTIC LINER IS TO BE USED IN WETLANDS OR RIPARIAN BUFFERS.

ROLLED EROSION CONTROL PRODUCT INSTALLATION

N.T.S.



MAINTENANCE
INSPECT CONSTRUCTION ROADS AND PARKING AREAS PERIODICALLY FOR CONDITION OF SURFACE. TOPDRESS WITH NEW GRAVEL AS NEEDED. CHECK ROAD DITCHES AND OTHER SEEDED AREAS FOR EROSION AND SEDIMENTATION AFTER RUNNOFF-PRODUCING RAINS. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION. SEDIMENT-PRODUCING AREAS SHOULD BE TREATED IMMEDIATELY.

GRAVEL ACCESS DRIVE DETAIL

N.T.S.

TEMPORARY SEEDING IN NORTH CAROLINA

SEEDING MIXTURE

	SPECIES	RATE (LB/ACRE)
SUMMER	GERMAN MILLET	40
FALL, LATE WINTER, & EARLY SPRING	RYE (GRAIN)	120

SEEDING DATES:

LATE WINTER & EARLY SPRING	MOUNTAINS – ABOVE 2500 ft: FEB. 15 – MAY 15 BELOW 2500 ft: FEB. 1 – MAY 1 PIEDMONT – JAN. 1 – MAY 1 COASTAL PLAIN – DEC. 1 – APR. 15
SUMMER	MOUNTAINS – MAY 15 – AUG. 15 PIEDMONT – MAY 1 – AUG. 15 COASTAL PLAIN – APR. 15 – AUG. 15
FALL	MOUNTAINS – AUG. 15 – DEC. 15 COASTAL PLAIN AND PIEDMONT – AUG. 15 – DEC. 30

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT OR NETTING.

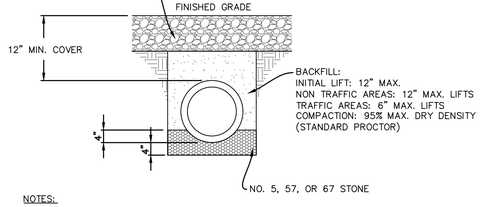
MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

SEEDBED PREPARATION

MAINTENANCE:
NEW SEEDLINGS SHOULD BE INSPECTED FREQUENTLY AND MAINTENANCE PERFORMED AS NEEDED. IF RILLS ANG GULLIES DEVELOP, THEY MUST BE FILLED, RE-SEEDED, AND MULCHED AS SOON AS POSSIBLE. DIVERSIONS MAY BE NEEDED UNTIL NEW PLANTS TAKE HOLD.

DAMAGE TO VEGETATION FROM DISEASE, INSECTS, TRAFFIC, ETC., CAN OCCUR AT ANY TIME. HERBICIDES AND REGULAR MOWING MAY BE NEEDED TO CONTROL WEEDS. DUST AND SPRAYS MAY BE NEEDED TO CONTROL INSECTS.

WEAK OR DAMAGED SPOTS MUST BE RELIMED, FERTILIZED, MULCHED, AND RESEEDED AS PROMPTLY AS POSSIBLE.



NOTES:
1. EXCAVATE TO 4 INCHES BELOW THE PROPOSED PIPE ELEVATION.
2. PROVIDE 4 INCHES STONE BEDDING AND 4 INCHES STONE BACKFILL.
3. WHERE BELL AND SPIGOT PIPE IS USED, PROVIDE RECESSES TO RECEIVE PIPE BELL.
4. UNDERCUT UNSUITABLE MATERIAL AS DIRECTED BY THE ENGINEER AND BACKFILL WITH STONE OR OTHER APPROVED MATERIAL.
5. WHERE NECESSARY, TEMPORARILY DIVERT SURFACE WATER TO MAINTAIN A DRY CONDITION IN THE PIPE FOUNDATION. DIRECT THIS TEMPORARY FLOW INTO SUITABLE EROSION CONTROL DEVICES.

CULVERT CROSSING FILL AND COVER DETAIL

N.T.S.

PERMANENT SEEDING IN NORTH CAROLINA

SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
BAHIAGRASS	80
WHITE CLOVER	4

PLANT A MIX OF BAHIAGRASS AND WHITE CLOVER FOR THE ENTIRE SITE AT THE PROVIDED RATES. ANY CHANGE IN SEEDING MIX OR RATES WILL REQUIRE NOTIFICATION AND APPROVAL FROM OWNER AND OWNER'S ENGINEER.

NURSE PLANTS
BETWEEN MAY 1 AND AUGUST 15, ADD 10 LB/ACRE GERMAN MILLET OR 15LB/ACRE SUDANGRASS. PRIOR TO MAY 1 OR AFTER AUGUST 15 ADD 40 LB/ACRE RYE (GRAIN).

SEEDING DATES

	BEST	POSSIBLE
FALL:	AUGUST 25 – SEPTEMBER 15	AUGUST 20 – OCTOBER 25
LATE WINTER:	FUBRUARY 15 – MARCH 21	FEBRUARY 1 – APRIL 15

SEEDING SCHEDULE

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
3. REMOVE ALL LOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND UNIFORMLY MIX WITH SOIL (SEE BELOW*).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED.
6. SEED ON A FRESHLY PREPARED SEEDBED AND SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK.
7. MULCH IMMEDIATELY AFTER SEEDING.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. SHOULD AREAS BE OVER 60% DAMAGED, REESTABLISH ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

* APPLY:
AGRICULTURAL LIMESTONE – 3 TONS/ACRE
FERTILIZER – 1,000 lb/ACRE – 10-10-10
SUPERPHOSPHATE – 500 lb/ACRE – 20% ANALYSIS
MULCH – 2 TONS/ACRE (5,000 lb/ACRE FOR STEEP SLOPES) – SMALL GRAIN STRAW ANOTHER – ASPHALT EMULSION @ 400 GAL/ACRE

ROLLMAX™
ROLLED EROSION CONTROL

Specification Sheet
EroNet™ S75® Erosion Control Blanket

DESCRIPTION

The short-term single net erosion control blanket shall be a machine-produced mat of 100% agricultural straw with a functional longevity of up to 12 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with a lightweight photodegradable polypropylene netting having an approximate 0.50 x 0.50 in. (1.27 x 1.27 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

The S75 shall meet Type 2.C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17

Material Content		
Matrix	100% Straw Fiber	0.5 lbs/sq yd (0.27 kg/sm)
Netting	Top side only, lightweight photodegradable	1.5 lb/1000 sq ft (0.73 kg/100 sm)
Thread	Degradable	

Standard Roll Sizes			
Width	6.67 ft (2.03 m)	8.0 ft (2.4 m)	16 ft (4.87 m)
Length	108 ft (32.92 m)	112 ft (34.14 m)	112 ft (34.14 m)
Weight ± 10%	40 lbs (18.14 kg)	50 lbs (22.68 kg)	100 lbs (45.36 kg)
Area	80 sq yd (66.9 sm)	100 sq yd (83.61 sm)	200 sq yd (167.22 sm)

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.28 in. (7 mm)
Resiliency	ECTC Guidelines	78.8%
Water Absorbancy	ASTM D1117	301%
Mass/Unit Area	ASTM D6475	9.76 oz/sy (332 g/sm)
Swell	ECTC Guidelines	15%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	6.31 oz-in
Light Penetration	ASTM D6567	6.0%
Tensile Strength - MD	ASTM D6818	122.4 lbs/ft (1.81 kN/m)
Elongation - MD	ASTM D6818	36.1%
Tensile Strength - TD	ASTM D6818	79.2 lbs/ft (1.17 kN/m)
Elongation - TD	ASTM D6818	26.8%
Biomass Improvement	ASTM D7322	301%

Design Permissible Shear Stress	
Unvegetated Shear Stress	1.55 psf (74 Pa)
Unvegetated Velocity	5.00 fps (1.52 m/s)

Slope Design Data: C Factors			
Slope Gradients (S)			
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.029	N/A	N/A
20-50 ft	0.11	N/A	N/A
≥ 50 ft (15.2 m)	0.19	N/A	N/A

NTPEP Large-Scale Slope Testing
ASTM D6459 - C-factor = 0.012

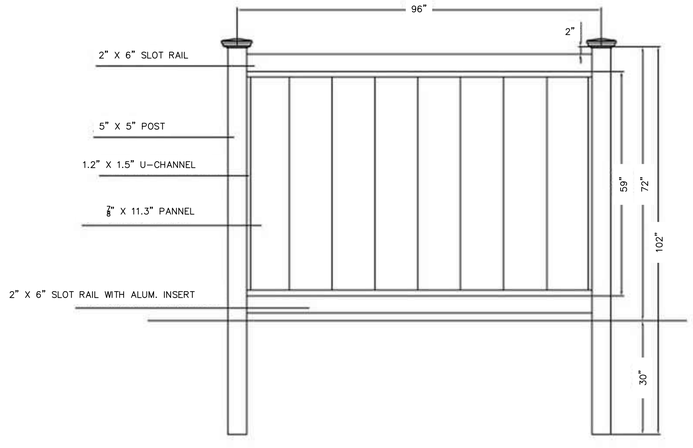
Roughness Coefficients – Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.055
0.50 – 2.0 ft	0.055-0.021
≥ 2.0 ft (0.60 m)	0.021

NORTH AMERICAN GREEN®
Western Green
4609 E. Boonville-New Harmony Rd.
Evansville, IN 47725
nagreen.com
800-772-2040

EC_RMX_MPD5_S75_7.20

ROLLED EROSION CONTROL PRODUCT SPECIFICATIONS

N.T.S.



PRIVACY FENCE DETAIL (PVC)

N.T.S.

PWC Fayetteville's HOMETOWN UTILITY
Booth & Associates
2330 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1581

-ISSUED FOR BID-

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS

11/19/2025

DO NOT USE FOR CONSTRUCTION

NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: GRADING AND EROSION CONTROL DETAILS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	N.T.S.
FILE NUMBER:	12522SCG

SHEET: CG601

6.41

OUTLET STABILIZATION STRUCTURE

Definition A structure designed to control erosion at the outlet of a channel or conduit.

Purpose To prevent erosion at the outlet of a channel or conduit by reducing the velocity of flow and dissipating energy.

Conditions Where Practice Applies This practice applies where the discharge velocity of a pipe, box culvert, diversion, open channel, or other water conveyance structure exceeds the permissible velocity of the receiving channel or disposal area.

Planning Considerations The outlets of channels, conduits, and other structures are points of high erosion potential because they frequently carry flows at velocities that exceed the allowable limit for the area downstream. To prevent scour and undermining, an outlet stabilization structure is needed to absorb the impact of the flow and reduce the velocity to non-erosive levels. A riprap-lined apron is the most commonly used practice for this purpose because of its relatively low cost and ease of installation. The riprap apron should be extended downstream until stable conditions are reached even though this may exceed the length calculated for design velocity control.

Riprap-stilling basins or plunge pools reduce flow velocity rapidly. They should be considered in lieu of aprons where pipe outlets are cantilevered or where high flows would require excessive apron length (Figure 6.41a). Consider other energy dissipaters such as concrete impact basins or paved outlet structures where site conditions warrant.

Alternative methods of energy dissipation can be found in Hydraulic Design of Energy Dissipaters for Culverts and Channels, Hydraulic Engineering Circular No. 14, U.S. Department of Transportation, Federal Highway Administration.

The installation of a culvert in a stream is subject to the conditions of a U.S. Army Corps of Engineers 404 Permit and a N.C. Division of Water Quality 401 Certification. These permit conditions may not allow the use of a riprap apron, and may require that the bottom of the culvert be buried below the natural stream bed elevation. A pre-formed scour pool or plunge pool should be considered in these situations. Plunge pool designs in streams should not use a cantilevered outlet because it would pose a barrier to migration of aquatic life through the culvert. Reducing the outlet velocity may require a combination of techniques, including a culvert with a flat bottom, a downstream cross vane to create tail-water at the pipe outlet, and/or a preformed scour pool.

Design Criteria **Capacity**—10-year, peak runoff or the design discharge of the water conveyance structure, whichever is greater.

Tail-water depth—Determine the tail-water depth immediately below the culvert or pipe outlet based on the design discharge. The ratio of tail-water depth to pipe diameter must be determined in order to select the appropriate riprap apron or plunge pool design method.

Plunge Pools—Two plunge pool methods are presented in Appendix 8.06, the USDA Plunge Pool Design at Submerged Pipe Spillway Outlets, and the USDA Riprap Lined Plunge Pool for Cantilevered Outlet. Software from the Federal Highway Administration can be downloaded at http://www.fhwa.dot.gov/engineering/hydraulics/software.cfm. Excel spreadsheets for the USDA methods are available through the Land Quality web-site at http://www.dlr.enr.state.nc.us/pages/links.htm.

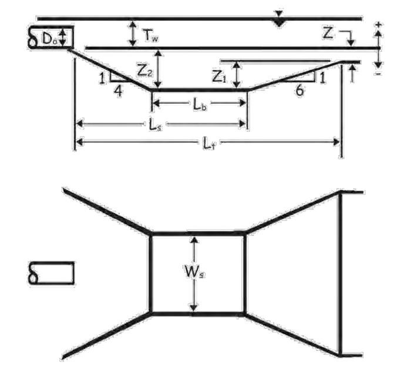


Figure 6.41a Typical plunge pool design showing variable dimensions.

Riprap Aprons size—The apron length and width can be determined according to the tail-water condition. If the water conveyance structure discharges directly into a well-defined channel, extend the apron across the channel bottom and up the channel banks to an elevation of 0.5 foot above the maximum tail-water depth or to the top of the bank, whichever is less (Figure 6.41c).

Determine the maximum allowable velocity for the receiving stream, and design the riprap apron to reduce flow to this velocity before flow leaves the apron. Calculate the apron length for velocity control or use the length required to meet stable conditions downstream, whichever is greater.

Grade—Ensure that the apron has zero grade. There should be no overfall at the end of the apron; that is, the elevation of the top of the riprap at the downstream end should be the same as the elevation of the bottom of the receiving channel or the adjacent ground if there is no channel.

Alignment—The apron should be straight throughout its entire length, but if a curve is necessary to align the apron with the receiving stream, locate the curve in the upstream section of riprap.

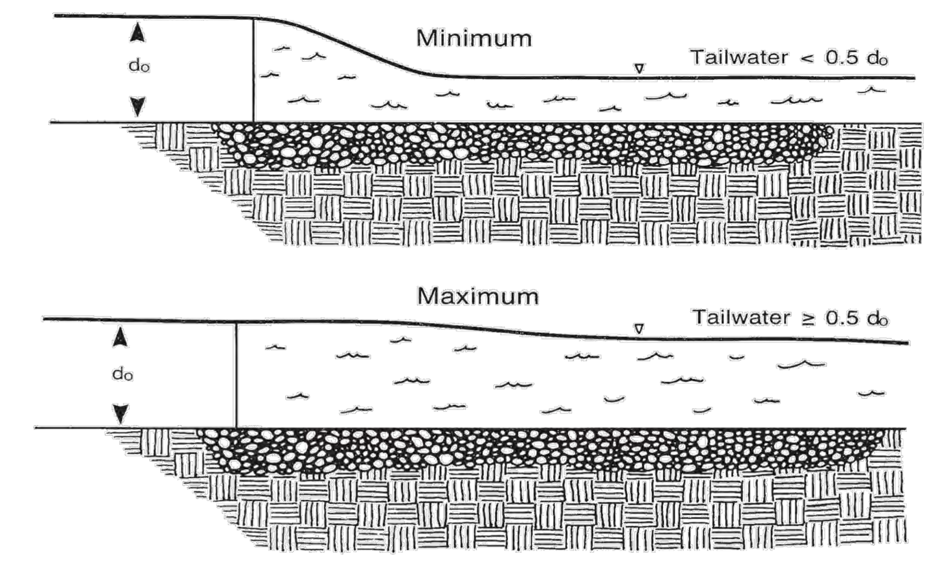


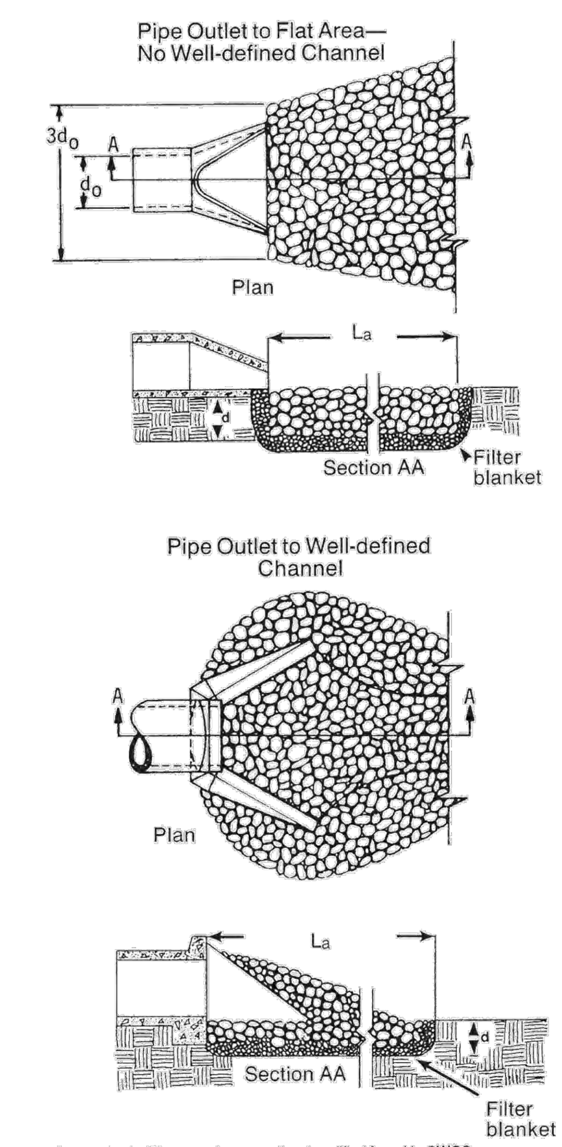
Figure 6.41b Stage showing maximum and minimum tailwater condition.

Materials—Ensure that riprap consists of a well-graded mixture of stone. Larger stone should predominate, with sufficient smaller sizes to fill the voids between the stones. The diameter of the largest stone size should be no greater than 1.5 times the d_{50} size.

Thickness—Make the minimum thickness of riprap 1.5 times the maximum stone diameter.

Stone quality—Select stone for riprap from field stone or quarry stone. The stone should be hard, angular, and highly weather-resistant. The specific gravity of the individual stones should be at least 2.5.

Filter—Install a filter to prevent soil movement through the openings in the riprap. The filter should consist of a graded gravel layer or a synthetic filter cloth. Design filter blankets by the method described in Practice 6.15, *Riprap*.



Notes

1. L_a is the length of the riprap apron.
2. d = 1.5 times the maximum stone diameter but not less than 6″.
3. In a well-defined channel extend the apron up the channel banks to an elevation of 6″ above the maximum tailwater depth or to the top of the bank, whichever is less.
4. A filter blanket or filter fabric should be installed between the riprap and soil foundation.

Figure 6.41c Riprap outlet protection (modified from Va SWCC).

Construction Specifications

1. Ensure that the subgrade for the filter and riprap follows the required lines and grades shown in the plan. Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
2. The riprap and gravel filter must conform to the specified grading limits shown on the plans.
3. Filter cloth, when used, must meet design requirements and be properly protected from punching or tearing during installation. Repair any damage by removing the riprap and placing another piece of filter cloth over the damaged area. All connecting joints should overlap so the top layer is above the downstream layer a minimum of 1 foot. If the damage is extensive, replace the entire filter cloth.
4. Riprap may be placed by equipment, but take care to avoid damaging the filter.
5. The minimum thickness of the riprap should be 1.5 times the maximum stone diameter.
6. Riprap may be field stone or rough quarry stone. It should be hard, angular, highly weather-resistant and well graded.
7. Construct the apron on zero grade with no overfill at the end. Make the top of the riprap at the downstream end level with the receiving area or slightly below it.
8. Ensure that the apron is properly aligned with the receiving stream and preferably straight throughout its length. If a curve is needed to fit site conditions, place it in the upper section of the apron.
9. Immediately after construction, stabilize all disturbed areas with vegetation (Practices 6.10, *Temporary Seeding*, and 6.11, *Permanent Seeding*).

Maintenance Inspect riprap outlet structures weekly and after significant (1/2 inch or greater) rainfall events to see if any erosion around or below the riprap has taken place, or if stones have been dislodged. Immediately make all needed repairs to prevent further damage.

References

Surface Stabilization
6.10, Temporary Seeding
6.11, Permanent Seeding
6.15, Riprap

Appendix
8.06, Design of Riprap Outlet Protection

Rice, C.E., Kadavy, K.C "Riprap Design for Pipe Spillways at $-1 \leq TW/D \leq 0.7$" Presented at the December 13, 1994 International Winter Meeting, American Society of Agricultural Engineers, Paper Number 942541.

Rice, C.E. and K.C. Kadavy. 1994, Plunge Pool Design at Submerged Pipe Spillway Outlets. Transactions of the ASAE 37(4):1167-1173.

FHWA. 1983. Hydralic Design of Energy Dissipaters for Culverts and Channels. Hydraulic Engineering Circular Number 14.

RIPRAP OUTLET PROTECTION

N.T.S.

6.55

ROCK PIPE INLET PROTECTION

Definition A horseshoe shaped rock dam structure at a pipe inlet with a sediment storage area around the outside perimeter of the structure.

Purpose To prevent sediment from entering, accumulating in and being transferred by a culvert or storm drainage system prior to stabilization of the disturbed drainage area. This practice allows early use of the storm drainage system.

Conditions Where Practice Applies Rock pipe inlet protection may be used at pipes with a maximum diameter of 36 inches. This inlet protection may be used to supplement additional sediment traps or basins at the pipe outlet, or used in combination with an excavated sediment storage area to serve as a temporary sediment trap. Pipe inlet protection should be provided to protect the storm drainage system and downstream areas from sedimentation until permanent stabilization of the disturbed drainage area.

Do not install this measure in an intermittent or perennial stream.

Planning Considerations When construction on a project reaches a stage where culverts and other storm drainage structures are installed and many areas are brought to the desired grade, there is a need to protect the points where runoff can leave the site through culverts or storm drains. Similar to drop and curb inlets, culverts receiving runoff from disturbed areas can convey large amounts of sediment to lakes or streams. Even if the pipe discharges into a sediment trap or basin, the pipe or pipe system itself may clog with sediment.

Design Criteria When used in combination with an excavated sediment storage area to serve as a temporary sediment trap, the design criteria for temporary sediment traps must be satisfied. The maximum drainage area should be 5 acres, and 3600 cubic feet of sediment storage per acre of disturbed drainage area should be provided.

The minimum stone height should be 2 feet, with side slopes no steeper than 2:1. The stone "horseshoe" around the pipe inlet should be constructed of Class B or Class I riprap, with a minimum crest width of 3 feet. The outside face of the riprap should be coved with a 12-inch thick layer of #5 or #57 washed stone.

In preparing plans for rock pipe inlet protection, it is important to protect the embankment over the pipe from overtopping. The top of the stone should be a minimum of 1 foot below the top of the fill over the pipe. The stone should tie into the fill on both sides of the pipe. The inside toe of the stone should be no closer than 2 feet from the culvert opening to allow passage of high flows.

The sediment storage area should be excavated upstream of the rock pipe inlet protection, with a minimum depth of 18 inches below grade.

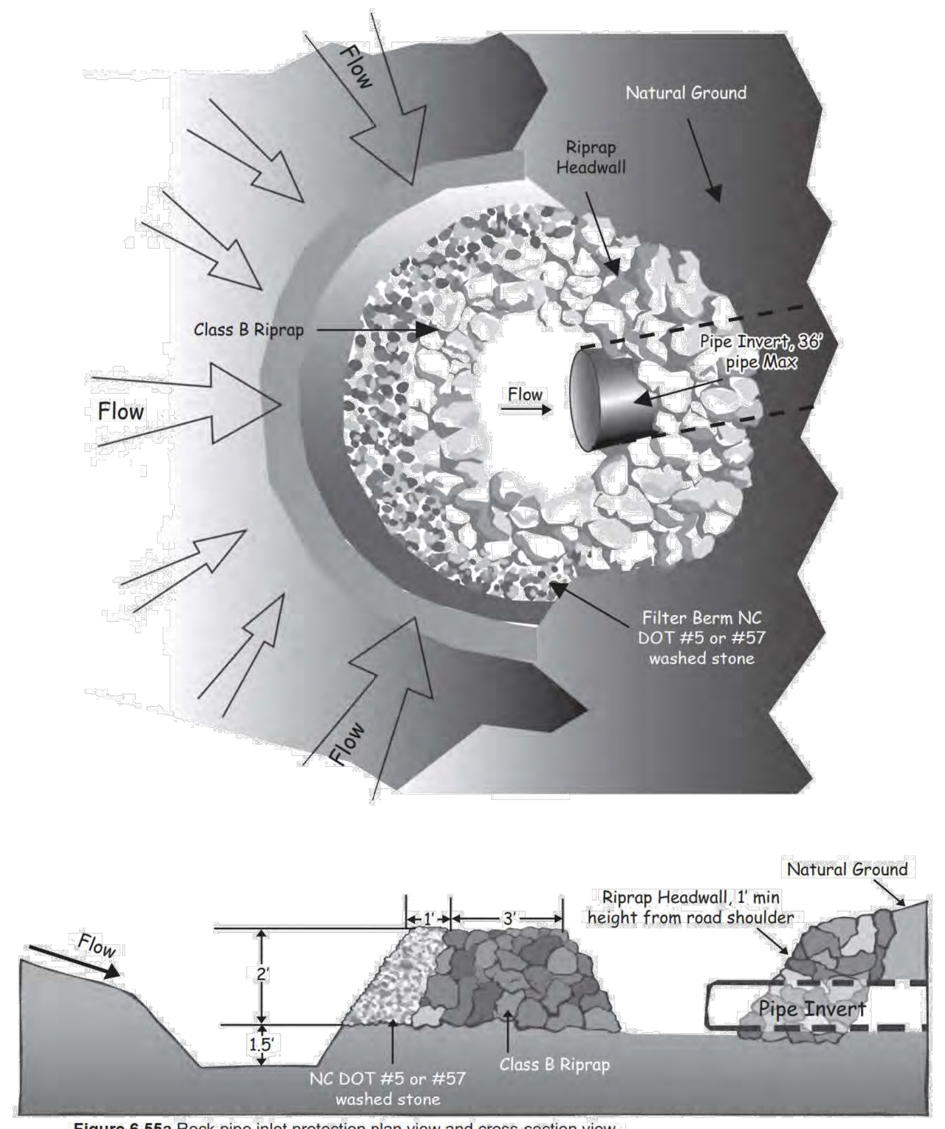


Figure 6.55a Rock pipe inlet protection plan view and cross-section view

Construction Specifications

1. Clear the area of all debris that might hinder excavation and disposal of spoil.
2. Install the Class B or Class I riprap in a semi-circle around the pipe inlet. The stone should be built up higher on each end where it ties into the embankment. The minimum crest width of the riprap should be 3 feet, with a minimum bottom width of 11 feet. The minimum height should be 2 feet, but also 1 foot lower than the shoulder of the embankment or diversions.
3. A 1 foot thick layer of NC DOT #5 or #57 stone should be placed on the outside slope of the riprap.
4. The sediment storage area should be excavated around the outside of the stone horseshoe 18 inches below natural grade.
5. When the contributing drainage area has been stabilized, fill depression and establish final grading elevations, compact area properly, and stabilize with ground cover.

Maintenance Inspect rock pipe inlet protection at least weekly and after each significant (½ inch or greater) rainfall event and repair immediately. Remove sediment and restore the sediment storage area to its original dimensions when the sediment has accumulated to one-half the design depth of the trap. Place the sediment that is removed in the designated disposal area and replace the contaminated part of the gravel facing.

Check the structure for damage. Any riprap displaced from the stone horseshoe must be replaced immediately.

After all the sediment-producing areas have been permanently stabilized, remove the structure and all the unstable sediment. Smooth the area to blend with the adjoining areas and provide permanent ground cover (*Surface Stabilization*).

References

Inlet protection
6.52, Block and Gravel Inlet Protection (Temporary)

Sediment Trap and Barriers
6.60, Temporary Sediment Trap

Surface Stabilization
6.15, Riprap

North Carolina Department of Transportation
Erosion & Sedimentation Guidelines for Division Maintenance Operation, 1993.

Virginia Erosion and Sediment Control Handbook. 1992. STD & SPEC 3.08, Culvert Inlet Protection. pages III-46 - III-51 (Culvert Inlets Sediment Trap).

INLET PROTECTION

N.T.S.

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

—ISSUED FOR BID—

NORTH CAROLINA PROFESSIONAL SEAL 056748 ENGINEER LAURA R. HARRIS 11/19/2025

DO NOT USE FOR CONSTRUCTION

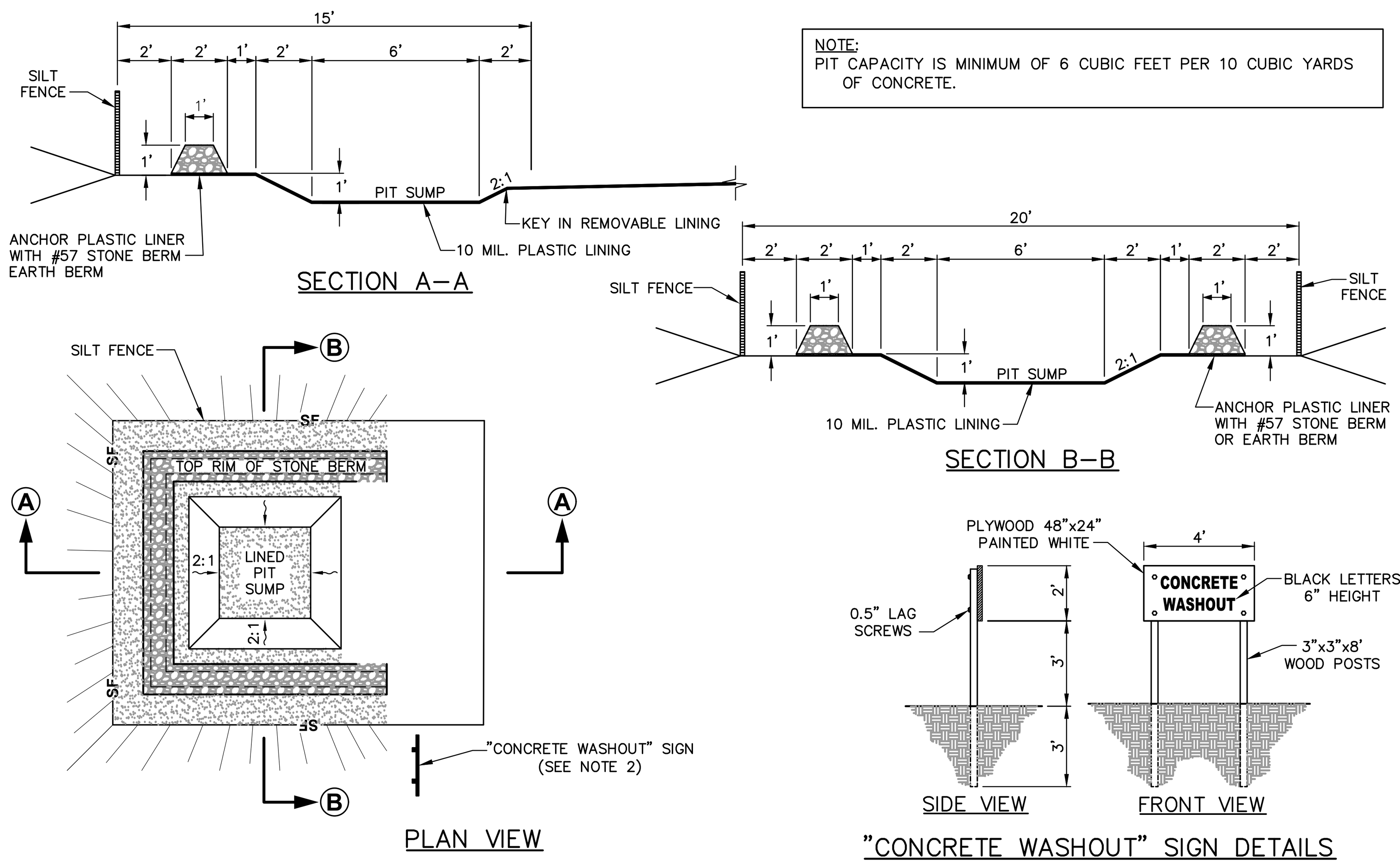
NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: GRADING AND EROSION CONTROL DETAILS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	N.T.S.
FILE NUMBER:	12522SCG

SHEET: CG602



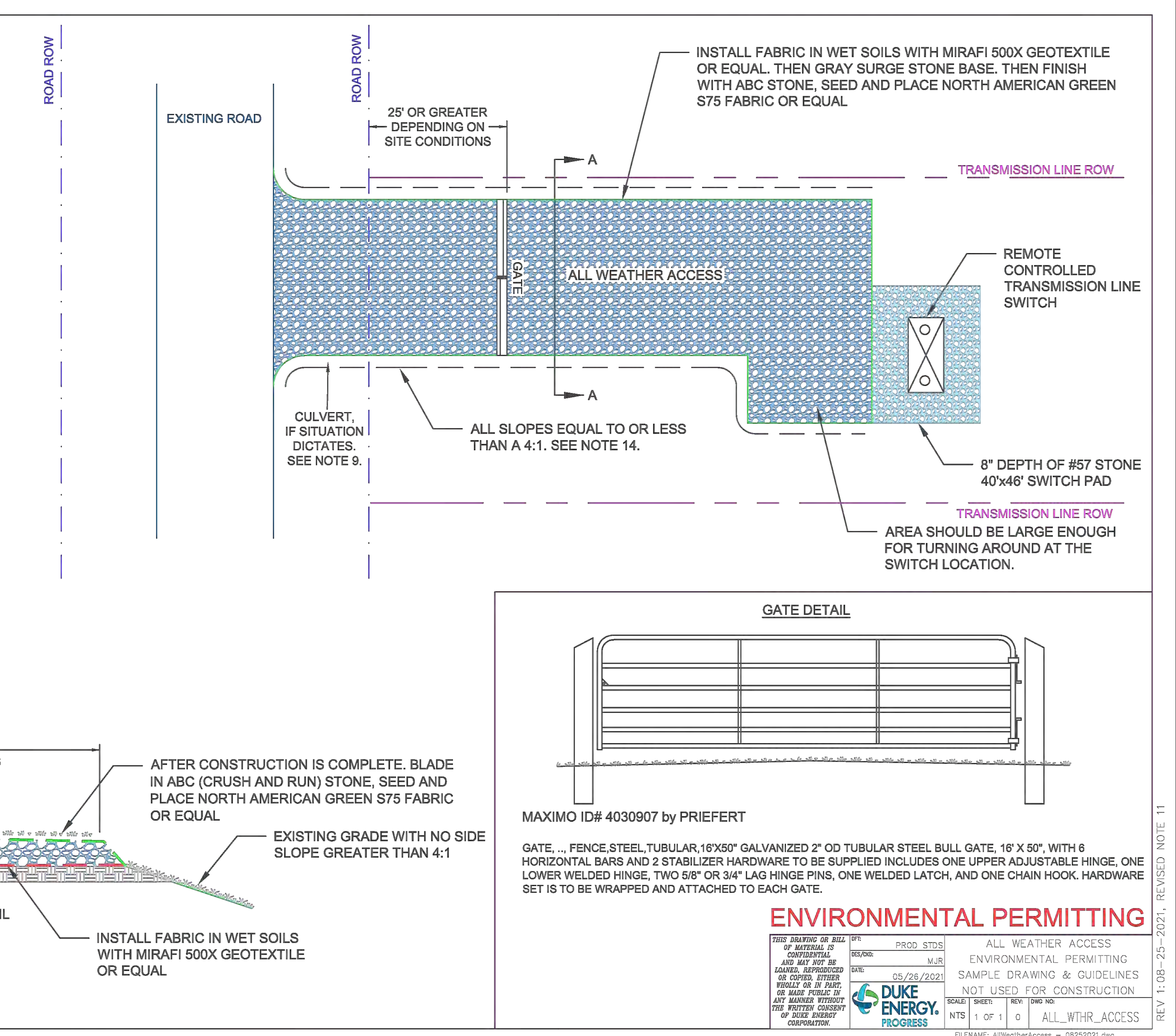
CONSTRUCTION SPECIFICATIONS AND MAINTENANCE NOTES:

1. INSTALL CONCRETE WASHOUT PIT AT LOCATION(S) SHOWN ON PLANS.
2. LINE PIT WITH IMPERVIOUS FABRIC OR POLYETHYLENE SHEET. ANCHOR FABRIC INTO GROUND OUTSIDE PIT AS SHOWN.
3. MAXIMUM WATER AND SEDIMENT DEPTH IS 12". PIT MUST BE EXCAVATED AND RE–LINED WHEN DEPTH OF SEDIMENT REACHES 12" OR COMBINED WATER/SEDIMENT DEPTH EXCEEDS 12" FOLLOWING WASHOUT OF CONCRETE TRUCK.
4. ALLOW WATER TO EVAPORATE COMPLETELY PRIOR TO EXCAVATING PIT.
5. WASHOUT PIT MAY BE LOCATED NO CLOSER THAN 50' TO DRAINS, INLETS, OR SURFACE WATERS. CONCRETE MATERIALS ONSITE, INCLUDING EXCESS CONCRETE, MUST BE CONTROLLED AND MANAGED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS OR BUFFERS. NO CONCRETE OR CEMENT SLURRY SHALL BE DISCHARGED FROM THE SITE.
6. ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK–PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10MIL POLYETHYLENE SHEETING, OR SIMILAR–STRENGTH MATERIAL, AND FREE OF HOLES OR TEARS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
7. ALL WASHOUT OPERATIONS MUST BE AT LEAST 50 FEET FROM STORM DRAINS OR WATERBODIES UNLESS INDIVIDUAL SITE DIFFICULTIES MAKE THIS REQUIREMENT IMPRACTICAL. A REDUCTION OF THIS DISTANCE REQUIREMENT WILL BE ALLOWED ON A CASE–BY–CASE BASIS IF THE PERMITTING AUTHORITY DETERMINES THAT THE WASHOUT FACILITY WITH A REDUCED BUFFER WILL ADEQUATELY PROTECT THE WATER QUALITY IN ADJACENT STREAMS.
8. WASHOUT OF CONCRETE TRUCKS SHALL BE PERFORMED DESIGNATED AREAS ONLY.
9. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS ABOUT THE REQUIREMENT TO USE THE FACILITY.
10. THE HARDENED RESIDUE FROM THE CONCRETE WASHOUT WILL BE DISPOSED OF IN THE SAME MANNER AS OTHER NON–HAZARDOUS CONSTRUCTION WASTE MATERIALS OR MAY BE BROKEN UP AND USED ON SITE AS DEEMED APPROPRIATE BY THE CONTRACTOR. MAINTENANCE OF THE WASHOUT IS TO INCLUDE REMOVAL OF HARDENED CONCRETE. FACILITY SHALL HAVE SUFFICIENT VOLUME TO CONTAIN ALL THE CONCRETE WASTE RESULTING FROM WASHOUT AND A MINIMUM FREEBOARD OF 12 INCHES. FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY AND SHALL BE CLEANED OUT ONCE 75% FULL UNLESS A NEW FACILITY IS CONSTRUCTED.
11. PORTABLE, REMOVABLE CONTAINERS MAY BE USED AS ABOVE GRADE CONCRETE WASHOUTS PROVIDED TRUCK OPERATORS ARE ABLE TO WASH INDIVIDUAL CHUTE SECTIONS OUT OVER THE WASHOUT.
12. IF STORED LIQUIDS HAVE NOT EVAPORATED AND THE WASHOUT IS NEARING CAPACITY, THE LIQUIDS MAY BE VACUUMED AND DISPOSED OF OFF–SITE IN A LEGALLY ACCEPTABLE MANNER OR DISPOSED ON ON–SITE IN A MANNER AND LOCATION THAT IT WILL NOT REACH STREAMS AND OTHER BODIES OF WATER. ON–SITE PITS AND OTHER INFILTRATION DEVICES WILL BE ACCEPTABLE IF THE DEVICE IS DESIGNED TO INFILTRATE THE ANTICIPATED VOLUME OF WATER AND APPROVED PRIOR TO ITS USE BY THE PERMITTING AUTHORITY.

CONCRETE WASHOUT PIT

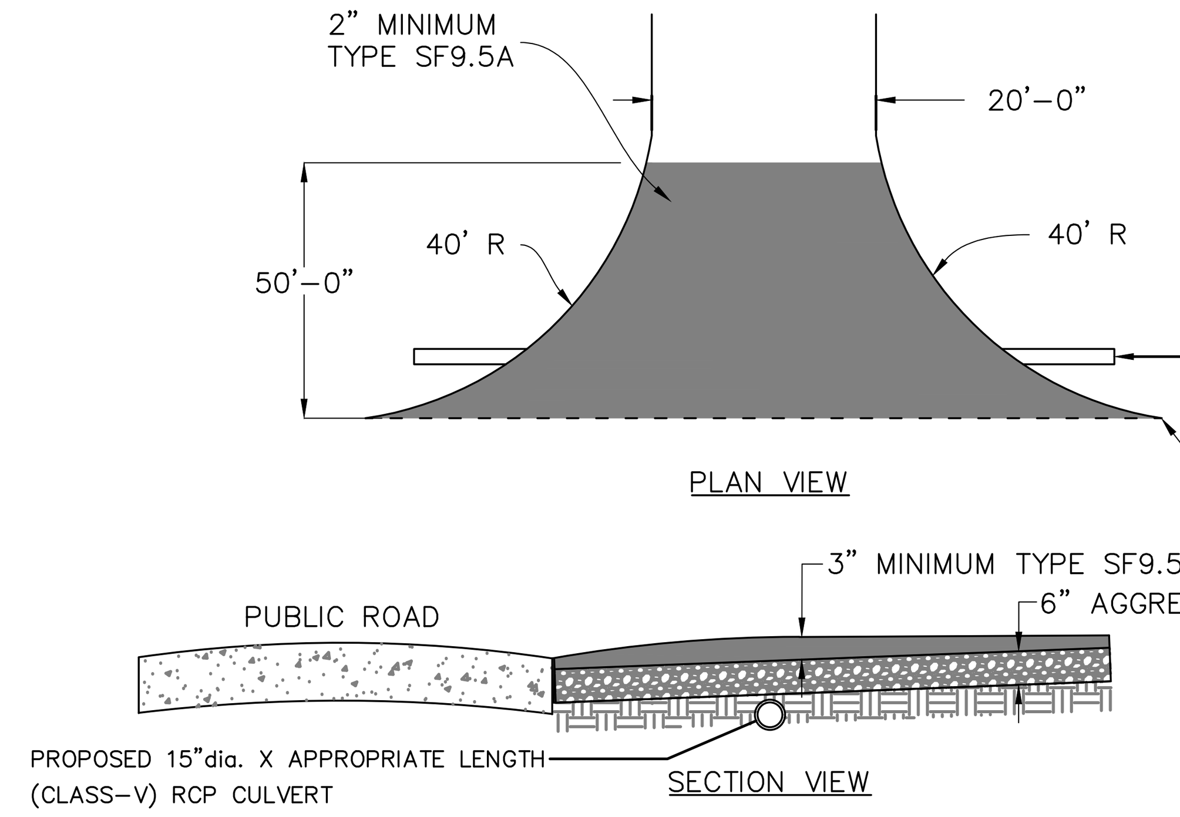
N.T.S.

NOTES:
1. ALL WEATHER ACCESS SHOULD ONLY BE INSTALLED WHEN REGULAR ACCESS WITH A TWO-WHEEL DRIVE VEHICLE CANNOT ACCESS THE SWITCH LOCATION DURING HEAVY RAIN SEASONS.
3. ALL REQUIRED DOCUMENTATION INCLUDING 3RD PARTY ACCESS AGREEMENTS AND ACCESS EASEMENT SHALL BE FILED WITH THE APPROPRIATE PARTIES (PROJECT MANAGEMENT, TRANSMISSION ASSET PROTECTION, LAND SERVICES, AND SITING & ENVIRONMENTAL PERMITTING).
5. ALL AGREEMENTS PERTAINING TO ALL WEATHER ACCESS MUST BE OBTAINED PRIOR TO CONSTRUCTION CLOSEOUT. IN SOME CASES, MULTIPLE AGREEMENTS MAY NEED TO BE ACQUIRED FROM ALL LAND OWNERS.
7. ALL ENVIRONMENTAL PERMITTING SHALL BE OBTAINED PRIOR TO START OF CONSTRUCTION.
8. DESIGNS FOR "ALL WEATHER ACCESS" TO TRANSMISSION LINE SWITCHES MUST BE REVIEWED BY TRANSMISSION ASSET PROTECTION PRIOR TO ISSUING FOR CONSTRUCTION.
9. CULVERTS SHALL BE INSTALLED AS NEEDED AS REQUIRED TO ALLOW PROPER DRAINAGE. ALL CULVERT DESIGNS SHALL BE ABLE TO WITHSTAND UP TO 80K LBS GVWR.
10. AT LOCATION OF CULVERTS, A DEPRESSION SHALL BE CUT INTO THE SURFACE OF THE ACCESS AREA TO ALLOW WATER TO FLOW OVER THE DURING FLOODS (TO BE DETERMINED BY CIVIL ENGINEER).
11. PUBLIC ENGAGEMENT INVOLVEMENT MAY BE NEEDED. LAND SERVICES TO VERIFY EASEMENT RIGHTS BEFORE CONSTRUCTION. (COPY PROJECT MANAGER ON ANY CORRESPONDENCE WITH LAND OWNER).
12. ALL PERMITS MUST BE OBTAINED BEFORE CONSTRUCTION TO BEGIN.
13. ALL WEATHER ACCESS PHYSICAL BOUNDARIES SHALL BE CONTAINED WITHIN DEP ROW LIMITS. IF THIS IS NOT POSSIBLE. ADDITIONAL RIGHTS FROM THE LANDOWNER WILL NEED TO BE ACQUIRED.
14. ALL SLOPES SHALL BE EQUAL TO OR LESS THAN A 4:1 SLOPE RATIO.
10. ALL WEATHER ACCESS TOP TO BE FINISHED WITH; ABC STONE, SEED AND NORTH AMERICAN GREEN S75 FABRIC OR EQUAL TO BE INSTALLED, AFTER ALL CONSTRUCTION HEAVY EQUIPMENT IS REMOVED FROM THE CONSTRUCTION SITE.
11. PERMANENT GRASSING MUST BE INITIATED PRIOR TO CONSTRUCTION CLOSEOUT.



DUKE ALL WEATHER ACCESS PAD AND DRIVE

N.T.S.



POST–CONSTRUCTION PAVED ENTRANCE DETAIL (SOUTH ENTRANCE)

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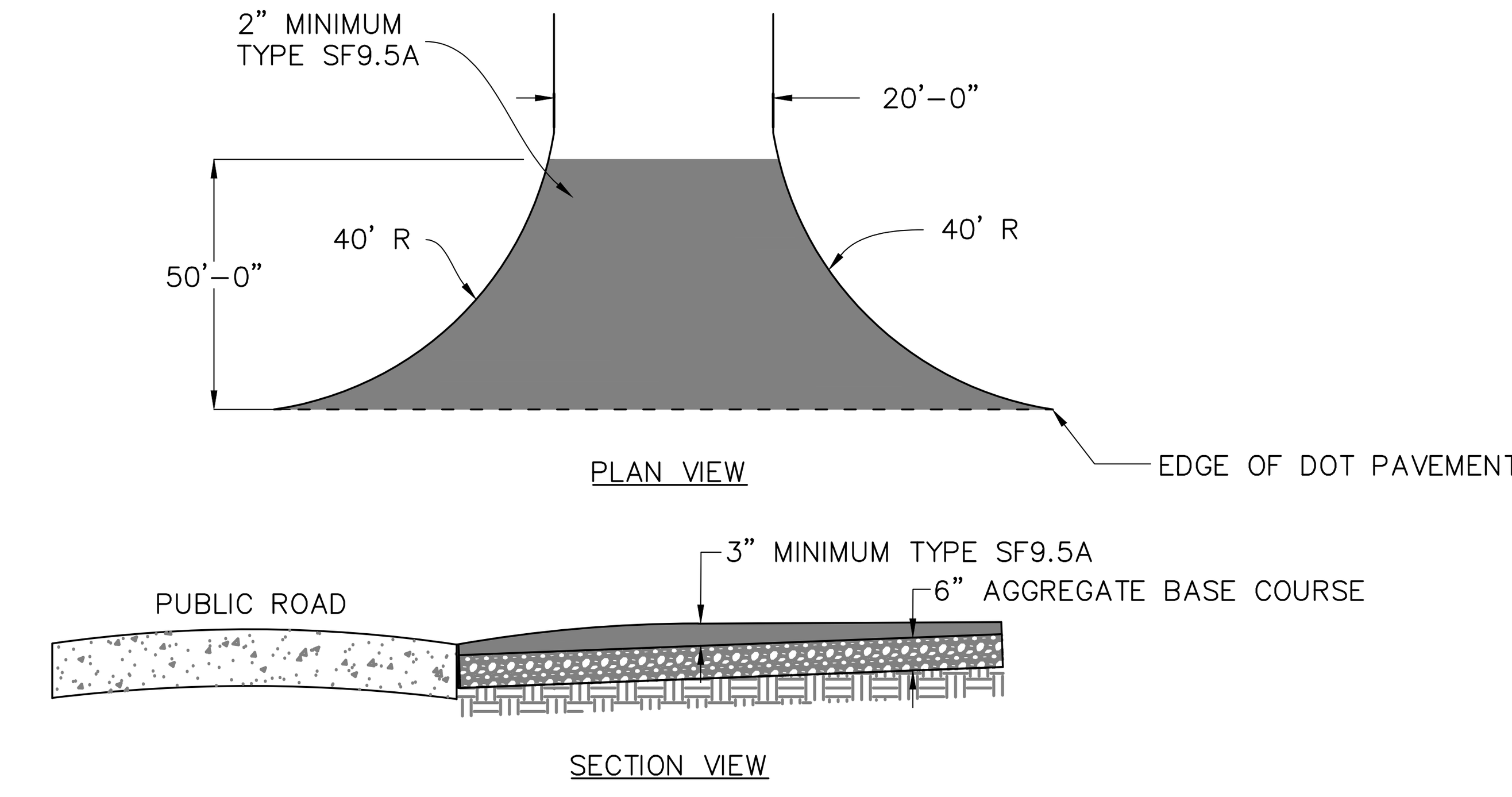

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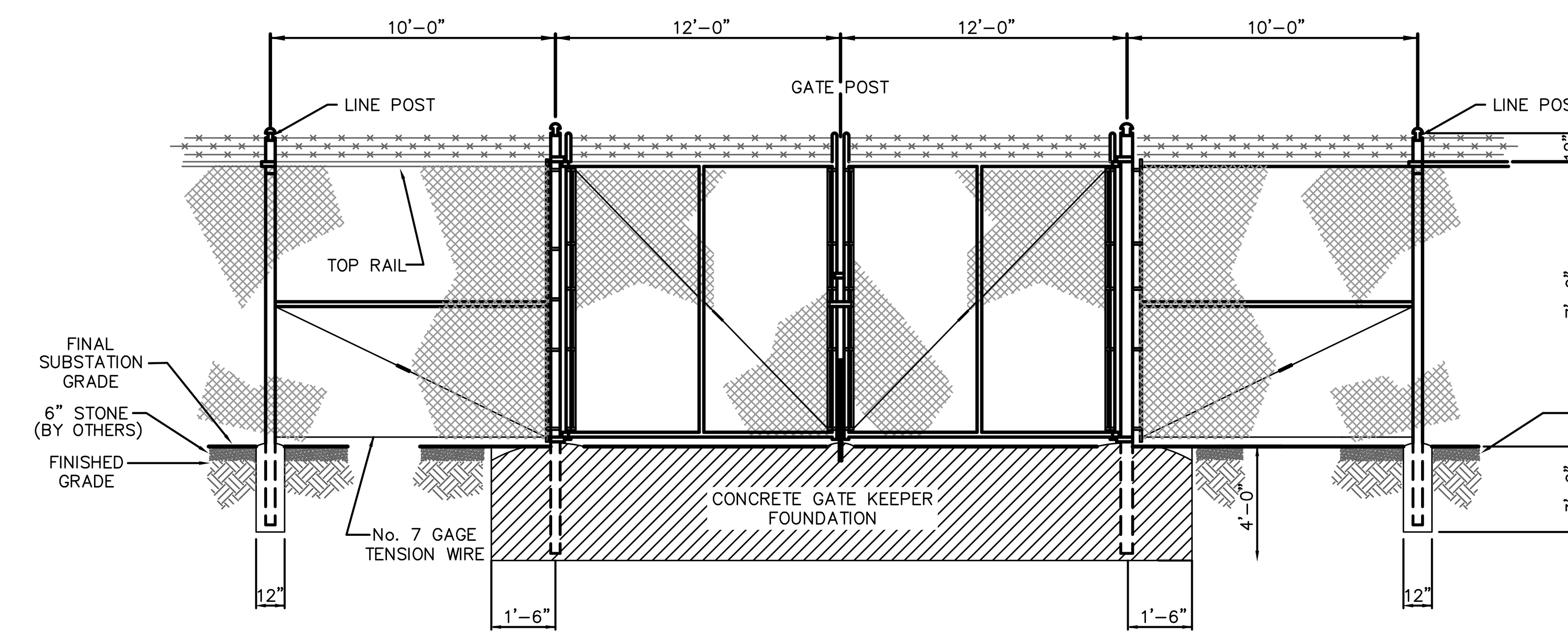

TYPICAL CHAIN LINK FENCE GATE & LINE POST DETAIL

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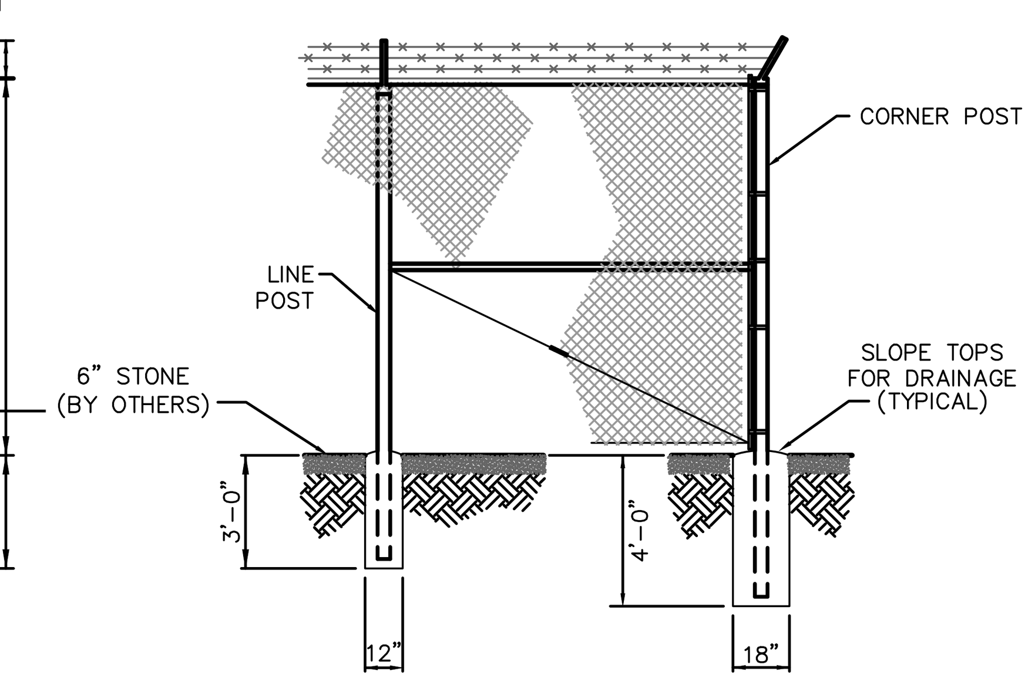

TYPICAL CORNER POST DETAIL

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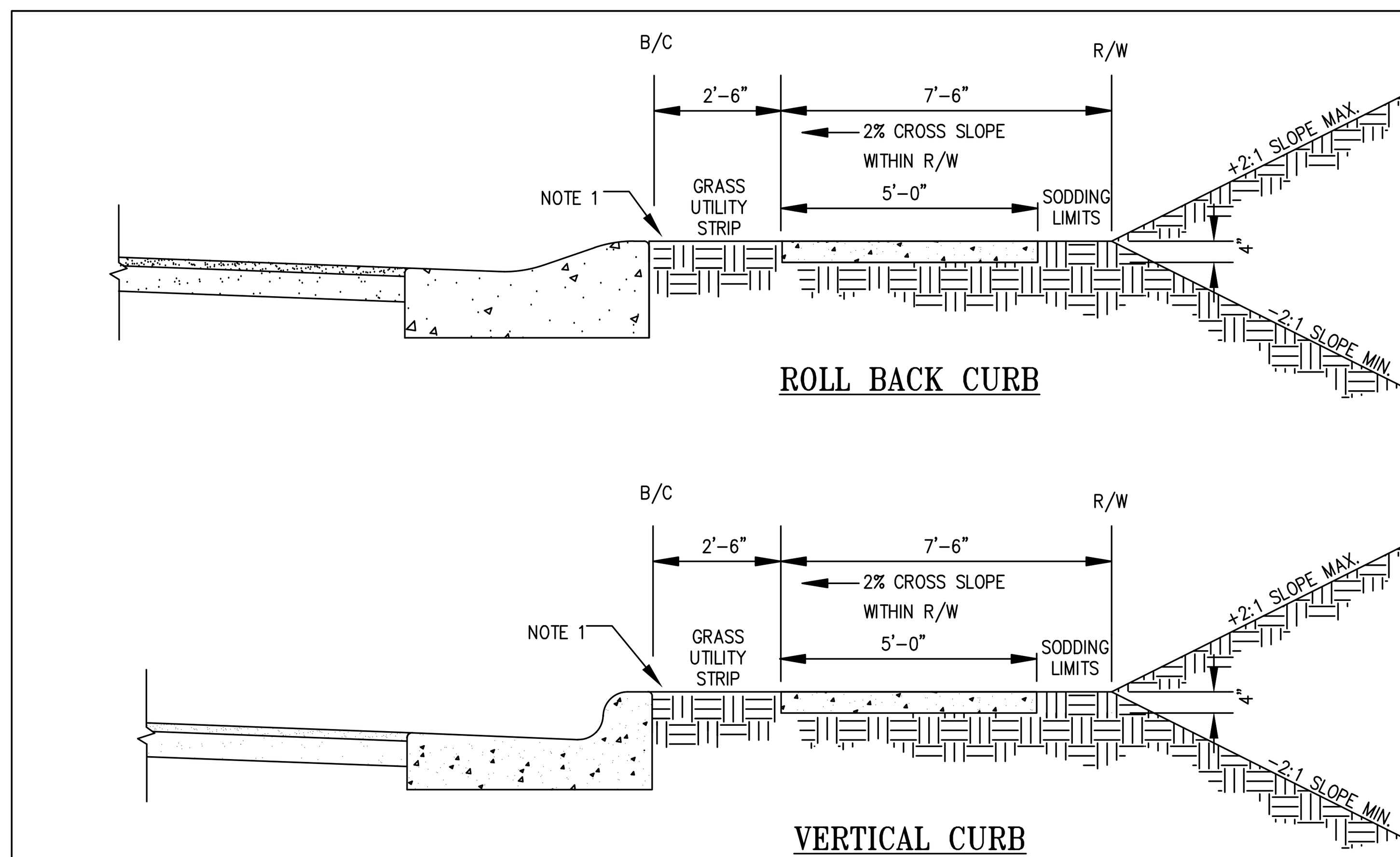


NOTES:

1. VERTICAL CURB – GRASS UTILITY STRIP MAY BE REMOVED UPON APPROVAL OF THE CITY ENGINEER. IF NO GRASS UTILITY STRIP, INSTALL 1/2" EXPANSION JOINT MATERIAL BETWEEN BACK OF CURB AND SIDEWALK.
2. SEE DETAIL SD–3 CONTRACTION AND EXPANSION JOINT.
3. SEE DETAIL SD–9 TYPICAL RESIDENTIAL DRIVEWAY APRON AND DETAIL SD–9.1 TYPICAL COMMERCIAL DRIVEWAY APRON.
4. SODDING LIMITS INCLUDE THE GRASS UTILITY STRIP BETWEEN THE BACK OF CURB AND THE SIDEWALK AS WELL AS 2'6" BEYOND THE SIDEWALK.
5. SEE TECHNICAL SPECIFICATION SECTION 00455, PART 3, SUB–SECTION 3.02, SUB–PART F.

FAYETTEVILLE! ENGINEERING DIVISION
433 HAY ST. 28301
(910) 433–1656
http://www.fayettevillenc.gov

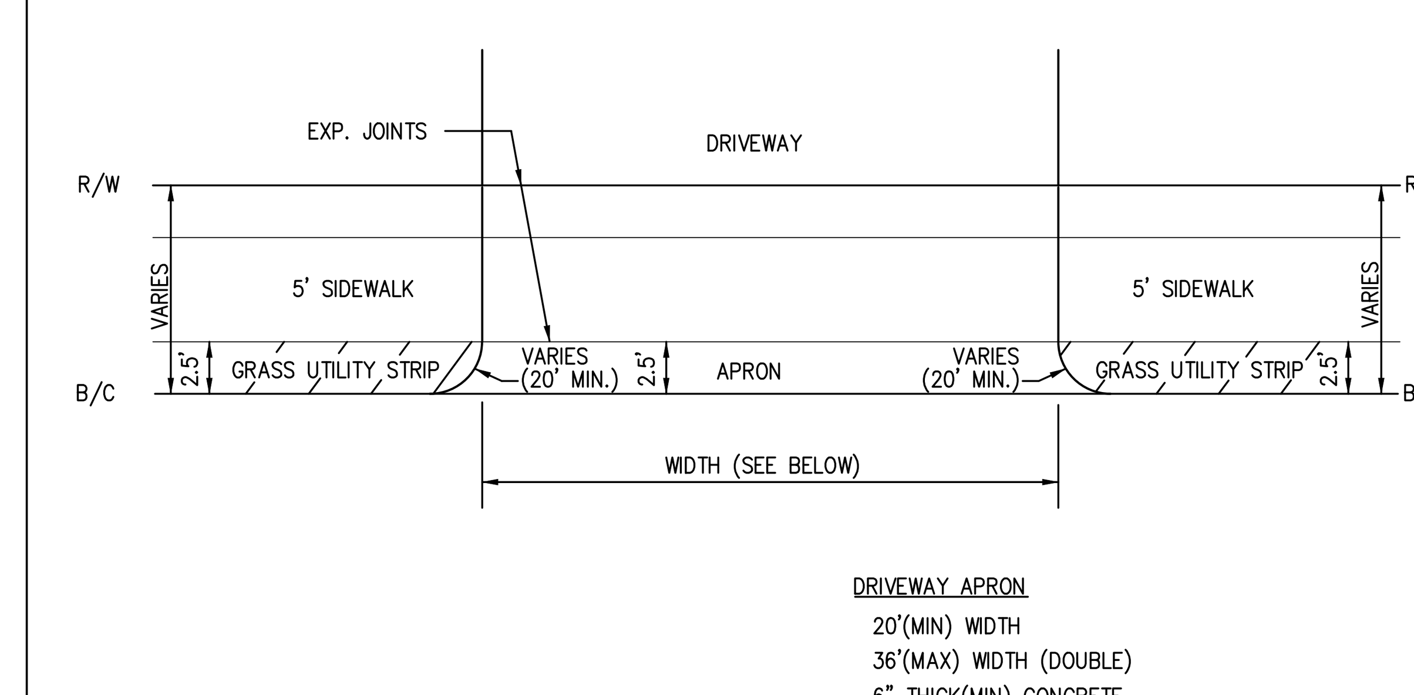
TYPICAL SIDEWALK SECTION & SODDING LIMTS

Rev. Date: 26 JAN 21
Not to Scale
Review Date: 26 JAN 21

SD–12

CITY OF FAYETTEVILLE TYPICAL SIDEWALK SECTION

N.T.S.



DRIVEWAY APRON
20'(MIN) WIDTH
36'(MAX) WIDTH (DOUBLE)
6" THICK(MIN) CONCRETE

NOTE: DISTANCE FROM B/C TO R/W VARIES ON DIFFERENT STREETS.

FAYETTEVILLE! ENGINEERING DIVISION
433 HAY ST. 28301
(910) 433–1656
http://www.fayettevillenc.gov

TYPICAL COMMERCIAL DRIVEWAY APRON

Rev. Date: 26 JAN 21
Not to Scale
Review Date: 26 JAN 21

SD–9.1

CITY OF FAYETTEVILLE TYPICAL DRIVEWAY APRON

N.T.S.

PWC Fayetteville's HOMETOWN UTILITY

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

–ISSUED FOR BID–

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 056748 LAURA R. HARRIS 11/19/2025

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NO.	REVISIONS	ENG.	DATE
0	ISSUED FOR BID	LRH	11/19/2025

PROJECT NAME: POINT OF DELIVERY 5 (POD 5)

DRAWING TITLE: GRADING AND EROSION CONTROL DETAILS

DRAWN BY:	REA
CHECKED BY:	BDE
APPROVED BY:	LRH
DATE:	11/04/2024
SCALE:	N.T.S.
FILE NUMBER:	12522SCG
SHEET:	CG603