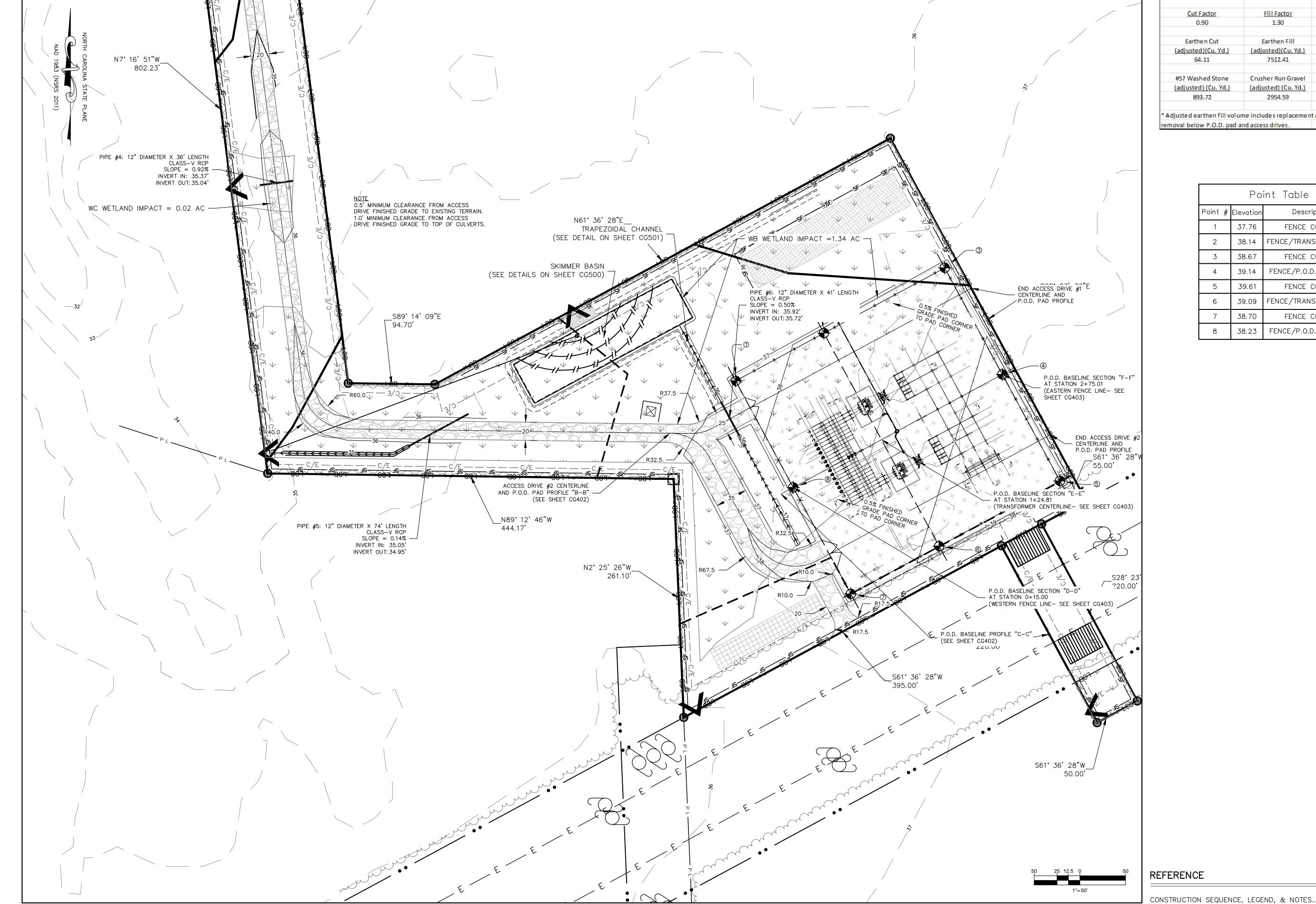


2. Wetland delineation map depicting four jurisdictional wetlands Figure 2





Cut Factor	Fill Factor	
0.90	1.30	
		Earthen Net Total
Earthen Cut	Earthen Fill	Minus Gravel
(adjusted)(Cu. Yd.)	(adjusted)(Cu. Yd.)	(adjusted)(Cu. Yd.)
64.11	7512.41	3600.00 <fill></fill>
#57 Washed Stone	Crusher Run Gravel	
(adjusted) (Cu. Yd.)	(adjusted) (Cu. Yd.)	
893.72	2954.59	

	Point Table					
Point #	Elevation	Description				
1	37.76	FENCE CORNER				
2	38.14	FENCE/TRANSFORMER CL				
3	38.67	FENCE CORNER				
4	39.14	FENCE/P.O.D. BASELINE				
5	39.61	FENCE CORNER				
6	39.09	FENCE/TRANSFORMER CL				
7	38.70	FENCE CORNER				
8	38.23	FENCE/P.O.D. BASELINE				

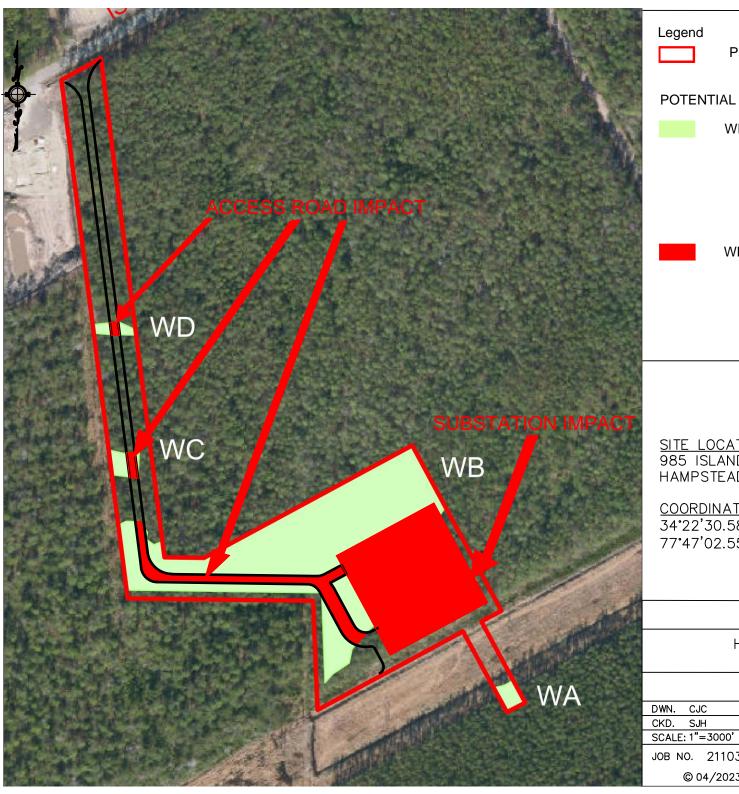
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	~	2	© ©	01	/20)23		_
DATE	—	01/26/205	02/09/205	04/10/2023				
ENG.) Hrs	0 HCS	Hrs	HCS				
REVISIONS	ISSUED FOR PERMIT	CLIENT REVIEW	CIVIL DESIGN REVISIONS FROM P.O.D. SHIFT	USACE AND DEQ COMMENTS				
ON	٨	В	၁	D				

SJH

FILE NUMBER:

CG401

...30602CG002



PROJECT AREA (8.43 ACRES)

POTENTIAL WATERS OF THE US

WETLANDS WA (0.07 ACRES)

> WB (3.72 ACRES) WC (0.09 ACRES)

> (0.08 ACRES) WD

TOTAL 3.96 ACRES

WETLANDS WA (0.00 ACRES)

> WB (1.36 ACRES) WC (0.02 ACRES) WD (0.01 ACRES)

TOTAL 1.39 ACRES

SITE LOCATION 985 ISLAND CREEK ROAD HAMPSTEAD, NC 28443

COORDINATES: 34°22'30.58"N 77°47'02.55"W

FOUR COUNTY EMC BURGAW, NORTH CAROLINA

HAMPSTEAD SUBSTATION WETLAND IMPACT

BA	Booth	&	Associate
~ 7/	7300 Sessanords		Suite NO. Buleion Nº 7760

NO.

	NC F-0221	
DWN. CJC	DATE: 4/14/2023	DWO N
CKD. SJH	APPD. AAI	DWG. N
SCALE: 1"=3000'	FILE: 30602S-1	
JOB NO. 2110333	DATE REVISION	S−1
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HAMPSTEAD POINT OF DELIVERY STATION SITE IMPROVEMENTS

HAMPSTEAD, NORTH CAROLINA

FOR

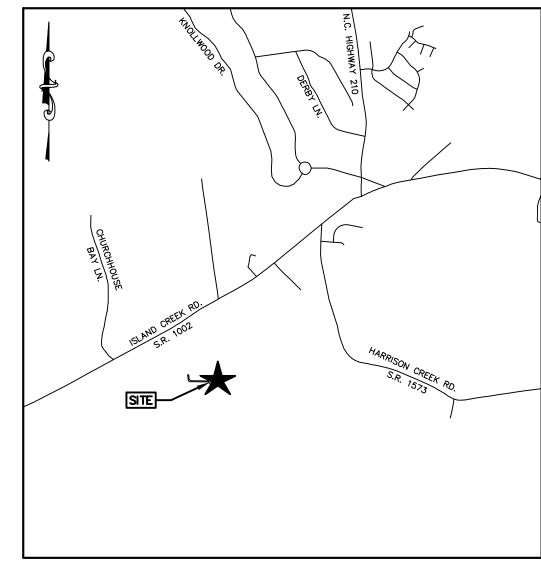
FOUR COUNTY ELECTRIC MEMBERSHIP CORPORATION

BURGAW, NORTH CAROLINA



PREPARED BY:

Booth & Associates, LLC

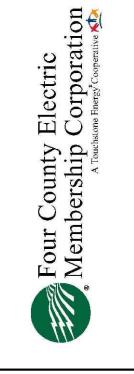


VICINITY MAP
PENDER COUNTY, HAMPSTEAD, NC

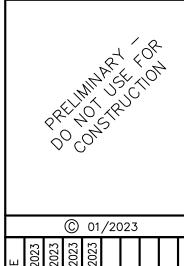
SCALE: 1"=2000'

	SHEET INDEX
CG001	COVER SHEET
CG002	CONSTRUCTION SEQUENCE, LEGEND, AND NOTES
CG003	GROUND STABILIZATION AND MATERIALS HANDLING
CG004	SELF-INSPECTION, RECORD KEEPING, AND RECORDING
CG100	EXISTING SITE CONDITIONS
CG101	PRE-CONSTRUCTION DRAINAGE ANALYSIS
CG102	SITE SOILS
CG200	EROSION AND SEDIMENT CONTROL PLAN - PHASE I
CG201	EROSION AND SEDIMENT CONTROL PLAN - PHASE I
CG202	EROSION AND SEDIMENT CONTROL PLAN — PHASE II
CG203	EROSION AND SEDIMENT CONTROL PLAN - PHASE II
CG204	EROSION AND SEDIMENT CONTROL PLAN - PHASE III
CG205	EROSION AND SEDIMENT CONTROL PLAN - PHASE III
CG300	POST-CONSTRUCTION DRAINAGE ANALYSIS
CG400	GRADING PLAN
CG401	GRADING PLAN
CG402	ACCESS ROAD AND P.O.D. PAD PROFILES
CG403	P.O.D. PAD CROSS SECTIONS
CG500	TEMPORARY SKIMMER BASIN DETAILS
CG501	EROSION CONTROL AND GRADING DETAILS
CG502	EROSION CONTROL AND GRADING DETAILS
CG503	EROSION CONTROL AND GRADING DETAILS









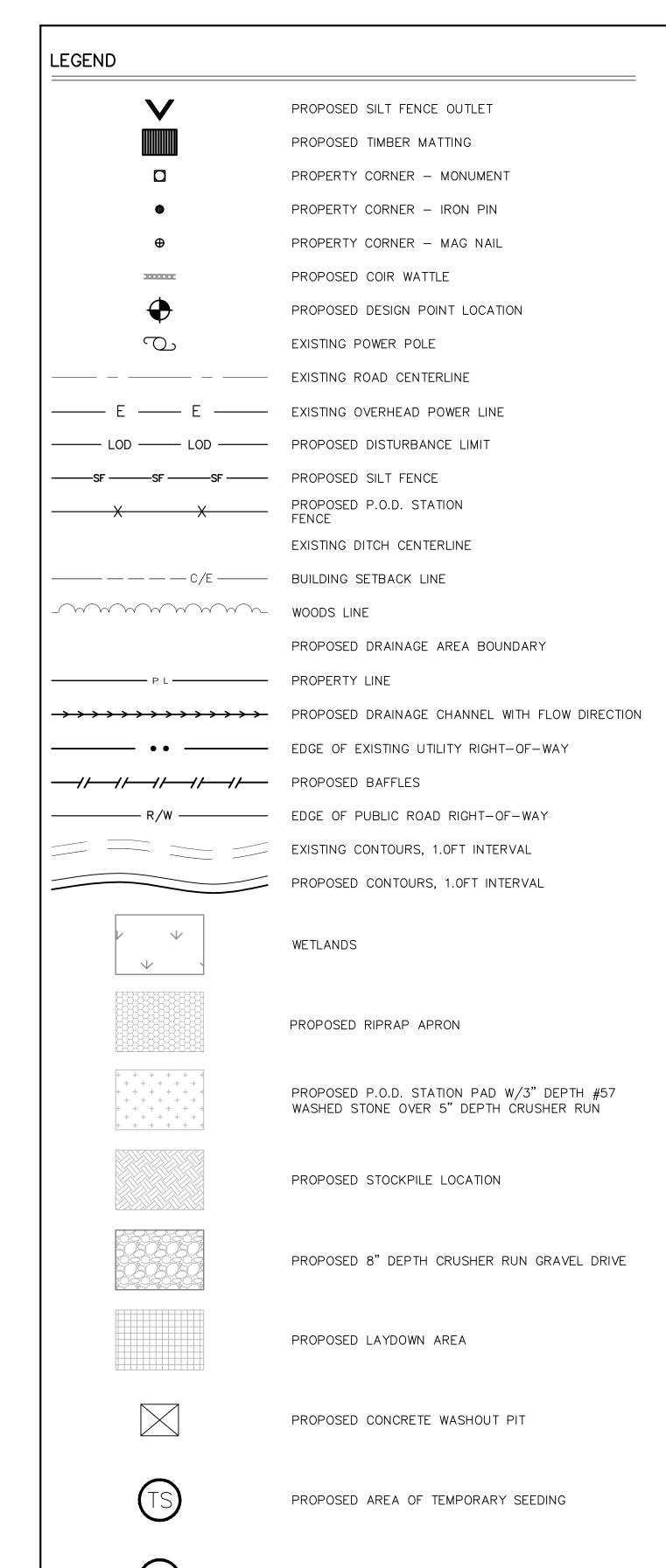
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CHECKED BY: APPROVED BY:

FILE NUMBER:

CG001

01/12/2023



PROPOSED AREA OF PERMANENT SEEDING

CONSTRUCTION SEQUENCE

PHASE 1

- OBTAIN REQUIRED PERMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. OWNERS ENGINEER TO CONTACT WILMINGTON REGIONAL OFFICE AT 910-796-7215 AND NCDOT AT 910-341-2000 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.
- INSTALL CONSTRUCTION ENTRANCE WITH ASSOCIATED, CULVERT, CULVERT INLET PROTECTION, CULVERT RIP RAP APRONS, AND COIR WATTLES PRIOR TO ANY ADDITIONAL LAND DISTURBING ACTIVITIES.
- 6. FLAG CONSTRUCTION LIMITS AND CLEAR WHAT IS NECESSARY TO INSTALL SILT FENCING, SILT FENCE OUTLETS, AND TIMBER MATTING DITCH CROSSINGS.
- 7. INSTALL SILT FENCING, SILT FENCE OUTLETS, AND TIMBER MATTING DITCH CROSSINGS.
- 8. CLEAR AND GRUB WITHIN CONSTRUCTION LIMITS. ALL DEBRIS/SPOILS TO BE REMOVED AND STORED AT A NCDEQ APPROVED LOCATION. TREES CAN BE CUT AND HAULED AWAY OR DISPOSED OF WITH A CONTROLLED BURN.
- 9. ROUGHEN MAIN P.O.D. STATION SITE AND ACCESS ROAD CORRIDORS PRIOR TO ONSET OF LAND DISTURBING (INCLUDING DEMO) ACTIVITIES. DISTURB ONLY WHAT IS NECESSARY TO INSTALL ADDITIONAL EROSION CONTROL MEASURES.
- 10. COMPLETE THE REMAINDER OF THE SITE CLEARING WITHIN THE CONSTRUCTION LIMITS THEN MULCH

PHASE 2

- 11. INSTALL THE TEMPORARY SKIMMER BASIN AND TRAPEZOIDAL DRAINAGE CHANNELS #1 & #2. IMMEDIATELY STABILIZE BASIN SIDE SLOPES AND CHANNELS WITH ROLLED EROSION CONTROL PRODUCT
- 12. INSTALL STOCKPILE LOCATION AND ASSOCIATED PERIMETER SILT FENCE.
- 13. INSTALL ACCESS ROADS WITH ALL ASSOCIATED CULVERTS, CULVERT INLET PROTECTION, AND RIP RAP APRONS.
- 14. INSTALL P.O.D. STATION PAD.
- 15. THE EXISTING TOPSOIL SHALL BE UNDERCUT TO A DEPTH OF 0.5 (1/2) FOOT AND REMOVED IN THE AREA OF THE PROPOSED ACCESS ROADS AND PROPOSED P.O.D. STATION PAD.
- 16. TOPSOIL TO BE REUSED IN AREAS TO BE LANDSCAPED OR SEEDED MAY BE STOCKPILED WITHIN THE CONSTRUCTION LIMITS. THE STOCKPILE LOCATION SHALL BE SURROUNDED ON THREE (3) SIDES BY SILT FENCE WITH ONE (1) SIDE OPEN TO EARTH MOVING EQUIPMENT. ALL TOPSOIL, VEGETATION, DEBRIS, AND OTHER UNSUITABLE MATERIAL SHOULD BE REMOVED FROM THE SITE TO A NCDEQ PERMITTED LOCATION OR HAULED AWAY BY THE CONTRACTOR.
- 17. SUBGRADE SOILS SHALL BE INSPECTED AND COMPACTED PER THE GRADING SPECIFICATIONS PRIOR TO THE PLACEMENT OF FILL MATERIAL.
- 18. PROOF—ROLL SUBGRADE SOILS PRIOR TO THE PLACEMENT OF FILL MATERIAL WITH A GEOTECHNICAL ENGINEER PRESENT TO CERTIFY COMPACTION.
- 19. FINALIZE THE INSTALLATION OF ACCESS ROADS AND P.O.D. PAD. COMPLETE GRADING, AND STABILIZE ALL DISTURBED AREAS BY SEEDING AND MULCHING.
- 20. AFTER FINAL GRADING HAS BEEN COMPLETED, AREA MUST BE STABILIZED WITH LIME, SEED, FERTILIZER, STRAW AND TACK ACCORDING TO THE APPROVED SEEDING APPLICATION RATES AND SPEC. SOIL STABILIZATION MEASURES SHALL BE COMPLETED IMMEDIATELY FOLLOWING ESTABLISHING OF P.O.D. STATION PAD. SEED GRADED SLOPES AND DENUDED AREAS FOLLOWING INITIAL SOIL DISTURBANCE, WITH THE EXCEPTION OF THE FENCED STATION AREA. AFTER FINAL USE, THE SOILS AREA SHALL BE RESTORED AND SEEDED.
- 21. SEEDING MUST BE DONE WITHIN 7 DAYS FOR SLOPES 3:1 OR GREATER AND 14 DAYS FOR ALL OTHERS.
- 22. INSTALL CONCRETE WASHOUT PIT.
- 23. 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.
- 24. 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).
- 25. SUBMIT ALL DOCUMENTATION REQUIRED UNDER THE SITE NPDES STORM WATER PERMIT TO STORM WATER CONTROL INSPECTIONS THROUGHOUT THE PROJECT.

PHASE 3

- 26. AFTER CONSTRUCTION IS OVER AND THE SITE IS STABILIZED, INSTALL PERMANENT VEGETATION ON DISTURBED AREAS. THE PERIMETER SILT FENCING AND SILT FENCE OUTLETS SHALL REMAIN UNTIL PERMANENT VEGETATION IS ESTABLISHED (APPROXIMATELY 80% COVERAGE, 100% ON 3:1+ SLOPES).
- 27. THE POST—CONSTRUCTION ASPHALT APRON LOCATED AT THE STATION ACCESS DRIVE ENTRANCE SHALL BE INSTALLED AFTER THE DELIVERY OF THE MAJOR TRANSFORMERS AND IN COORDINATION WITH BOOTH & ASSOCIATES, LLC.

GENERAL NOTES

- 1. PERMITS PENDING.
- 2. CONTACT NCDEQ WILMINGTON REGIONAL OFFICE AT 910-796-7215 AND NCDOT AT 910-341-2000 TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST 72 HOURS PRIOR TO PROJECT ACTIVATION.
- 3. THE FOLLOWING MUST BE KEPT ON SITE UNTIL THE E.S.C. PLAN HAS BEEN CLOSED OUT BY LAND QUALITY:
 - 3.1.1.1. 30 DAYS OF SELF INSPECTION RECORDS,
- 3.1.1.2. RAIN GAUGE, 3.1.1.3. APPROVAL CERTIFICATE/LETTER,
- 3.1.1.4. APPROVED PLAN AND NPDES PERMIT.
- THESE ITEMS SHOULD BE LOCATED NEAR THE MAIN CONSTRUCTION ENTRANCE. FAILURE TO MAINTAIN THESE ITEMS ON SITE VIOLATES THE NPDES PERMIT.
- 4. P.O.D. STATION AND TRANSMISSION EQUIPMENT AND FENCES SHOWN IN THIS DRAWING ARE PROPOSED AND FOR ILLUSTRATIVE PURPOSES ONLY.
- 5. PROPOSED CONTOURS REPRESENT FINISHED ELEVATIONS.
- 6. PROPOSED P.O.D. STATION LINEAR CORNER-TO-CORNER PAD GRADE = 0.50%.
- 7. PROPOSED CUT/FILL SIDE SLOPES ARE 3H:1V.
- 8. 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.
- 9. CONTRACTOR SHALL ENSURE THAT THERE IS PROPER COVER AND PROTECTION OVER ALL CULVERTS.
- 10. CONTRACTOR IS RESPONSIBLE TO REVIEW THE GEOTECHNICAL REPORT ATTACHED TO THE GRADING SPECIFICATIONS FOR SITE SOILS INFORMATION.
- 11. CONTRACTOR SHOULD MINIMIZE SUBGRADE DISTURBANCE BY USING LIGHT TRACKED EQUIPMENT.
- 12. SITE TO BE CLEARED, GRADED AND STABILIZED WITHIN SIXTY (60) CALENDAR DAYS.
- 13. ALL BARE SOILS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE NPDES PERMIT, OR, IF IN A CRITICAL AREA, BY THE END OF THE DAY.
- 14. 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).
- 15. 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.
- 16. ADDITIONAL PERTINENT EROSION CONTROL MEASURES TO BE DETAILED IN OVERALL SITE GRADING AND EROSION
- CONTROL PLAN, PHASES I—III.

 17. ALL SUBGRADE, FILL, AND STONE SHALL BE COMPACTED AS SPECIFIED IN THE GRADING SPECIFICATIONS.
- 18. FOLLOW CONSTRUCTION SEQUENCE NOTES FOR GENERAL PROCESS.
- 19. COORDINATES SHOWN IN THIS PLAN SET ARE REFERENCED TO NORTH CAROLINA STATE PLANE (NAD83/2011, US SURVEY FEET). DISTANCES SHOWN ARE US SURVEY FOOT GRID DISTANCES. COORDINATES SHOWN ARE INCLUDED ON THIS DRAWING AT THE BEHEST OF FOUR COUNTY EMC AND ARE NOT THE RESULT OF A CERTIFIED SURVEY BY BOOTH & ASSOCIATES, LLC. BY PROVIDING THESE LOCATION COORDINATES, BOOTH MAKES NO CERTIFICATION ABOUT THE COORDINATE BASE UPON WHICH THEY ARE DERIVED; WHETHER STATE PLANE GRID OR PROJECT SITE SPECIFIC. IT IS THE RESPONSIBILITY OF USERS OF THIS DRAWING TO PROPERLY LOCATE AT THE PROJECT SITE THOSE ELEMENTS SHOWN WITH COORDINATES HEREON.
- 20. SITE DATA WAS DERIVED FROM A SUBDIVISION SURVEY TITLED "EXPEDITED SUBDIVISION FOR FOUR COUNTY EMC OF THE ISLAND CREEK ROAD SUBSTATION SITE "PREPARED BY ROBERT H. GOSLEE & ASSOCIATES, PA, 317 E. MURRAY ST., WALLACE, NC, 28466; BEARING A SEAL DATE OF OCTOBER 21, 2021.
- 21. THE DEVELOPER IS RESPONSIBLE FOR THE CONTROL OF SEDIMENT ON-SITE. IF THE APPROVED EROSION AND SEDIMENTATION CONTROL MEASURES PROVE INSUFFICIENT, THE DEVELOPER MUST TAKE THOSE ADDITIONAL STEPS NECESSARY TO STOP SEDIMENT FROM LEAVING THIS SITE (NCGS 113A-57(3)). EACH SEDIMENT STORAGE DEVICE MUST BE INSPECTED AFTER EACH STORM EVENT (NCGS 113A-54.1(E)). MAINTENANCE AND/OR CLEAN OUT IS NECESSARY ANYTIME THE DEVICE IS AT 50% CAPACITY. ALL SEDIMENT STORAGE MEASURES WILL REMAIN ON SITE AND FUNCTIONAL UNTIL ALL GRADING AND FINAL LANDSCAPING OF THE PROJECT IS COMPLETE (15A NCAC 04B .0113). THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND APPROVALS NECESSARY FOR THE DEVELOPMENT OF THIS PROJECT PRIOR TO THE COMMENCEMENT OF THIS LAND DISTURBING ACTIVITY. THIS COULD INCLUDE OUR STORMWATER REGULATIONS AND THE DIVISION OF WATER RESOURCES' ENFORCEMENT REQUIREMENTS WITHIN SECTION 401 OF THE CLEAN WATER ACT, THE U.S. ARMY CORPS OF ENGINEERS' JURISDICTION OF SECTION 404 OF THE CLEAN WATER ACT, THE DIVISION OF COASTAL MANAGEMENT'S CAMA REQUIREMENTS, THE DIVISION OF SOLID WASTE MANAGEMENT'S LANDFILL REGULATIONS, THE ENVIRONMENTAL PROTECTION AGENCY AND/OR THE U.S. ARMY CORPS OF ENGINEERS JURISDICTION OF THE CLEAN WATER ACT. LOCAL COUNTY OR MUNICIPALITIES' ORDINANCES. OR OTHERS THAT MAY BE REQUIRED. THIS APPROVAL CANNOT SUPERSEDE ANY OTHER PERMIT OR APPROVAL. ADEQUATE AND APPROPRIATE MEASURES MUST BE PROPERLY INSTALLED DOWNSTREAM, WITHIN THE LIMITS OF DISTURBANCE, OF ANY LAND DISTURBING ACTIVITY TO PREVENT SEDIMENT FROM LEAVING THE LIMITS OF DISTURBANCE, ENTERING EXISTING DRAINAGE SYSTEMS, IMPACTING AN ON-SITE NATURAL WATERCOURSE OR ADJOINING PROPERTY. (NCGS
 - CLARIFICATIONS CAN BE ADDRESSED BY CONTACTING MRS. BRIANA EDDY Email: EDDYBD@BOOTH-ASSOC.COM / Phone: (919) 851-8770

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 IN ORDER 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. 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.
- 6. ADD COIR WATTLES THROUGHOUT SITE AS NEEDED AS SLOPE BREAKS AND WHERE EXCESSIVE STORM WATER VELOCITIES AND SCOURING ARE OBSERVED.
- 7. ALL BARE SOILS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT, 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.
- 8. PERMANENT GROUNDCOVER TO BE INSTALLED IN ACCORDANCE WITH NCDEQ CONSTRUCTION STORMWATER GENERAL PERMIT NCG010000 FOR ALL DISTURBED AREAS WITHIN 14 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- 9. PERIMETER SEDIMENT CONTAINMENT DEVICES ARE TO REMAIN IN OPERATING CONDITION UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- 10. THE CONTACT PERSON RESPONSIBLE FOR EROSION CONTROL MAINTENANCE FOR FOUR COUNTY ELECTRIC MEMBERSHIP CORPORATION IS GREGG COHN. (910) 259-1852 GREGGCOHN@FOURCTY.ORG

GRADING NOTES

- 1. THE OWNER OR OWNER'S ENGINEER WILL PROVIDE CUT AND FILL STAKES FOR GRADING. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THESE STAKES OR REFERENCE STAKES. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OR THEIR ENGINEER IF ANY STAKES ARE LOST OR DESTROYED AS THE RESULT OF VANDALISM OR ACTIONS TAKEN BY SOMEONE OTHER THAN THE CONTRACTOR. UPON NOTIFICATION, THE OWNER OR THE ENGINEER WILL REPLACE THESE 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.
- ALL VEGETATION AND DEBRIS SHOULD BE REMOVED FROM THE SITE. ALL SUBGRADE SOILS SHALL BE FREE OF ORGANIC MATERIAL FROM GRADING ACTIVITY COMPACTED, AND INSPECTED BY AN APPROVED GEOTECHNICAL ENGINEER 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.

 4. ALL GRADING INSIDE THE PROPOSED FENCED AREA SHALL BE CARRIED TO A FIRM SUBGRADE. THE SUBGRADE SHALL NOT BE FROZEN, SATURATED, SOFT, OR UNSTABLE.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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]

DRIVEWAY NOTES

- 1. THE DRIVEWAYS SHALL BE INSTALLED AS SHOWN IN THE PROFILES ON SHEET CG401. THE DRIVES SHALL BE SURFACED PER THE DETAILS ON SHEET CG502.
- 2. THE SUBGRADE, DIRECTLY BELOW THE P.O.D. STATION DRIVEWAY AND TWO (2) FEET OUTSIDE OF THE P.O.D. STATION DRIVEWAY, 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. ACCESS DRIVE AS SHOWN ON THE DRAWINGS SHALL HAVE CRUSHER RUN PLACED IN TWO FOUR INCH (4") LAYERS AND COMPACTED TO NINETY-EIGHT PERCENT (98%) OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557.
- 4. MINIMUM GRAVEL DRIVEWAY THICKNESS SHALL BE EIGHT INCHES (8"). AGGREGATE SHALL BE PLACED IN TWO (2) COMPACTED LAYERS WITH A MINIMUM LIFT OF FOUR INCHES (4"), WITH A TOLERANCE OF PLUS OR MINUS HALF INCH (± 0.5")
- 5. COMPACTION TESTING SHOULD BE PERFORMED ONCE PER ONE-HUNDRED LINEAL FEET (100') MINIMUM.
- 6. COORDINATE PAVING OF ASPHALT APRON WITH NCDOT AT END OF CONSTRUCTION PER SHEET CG503 DETAIL.

BACKFILL NOTES

- . 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 BOOTH & ASSOCIATES, LLC. 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 (TYP). 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 SUB GRADE SHALL BE APPROVED FOR 3,000 LBS PER SQUARE FOOT BEARING CAPACITY BY GEOTECHNICAL ENGINEER.

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 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. 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.

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APPROVED BY: SJH
DATE: 01/12/2023
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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							
Si	te 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 	Permanent grass seed covered with straw or
other mulches and tackifiers	other mulches and tackifiers
Hydroseeding	Geotextile fabrics such as permanent soil
 Rolled erosion control products with or 	reinforcement matting
without temporary grass seed	Hydroseeding
 Appropriately applied straw or other mulch 	Shrubs or other permanent plantings covered
Plastic sheeting	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

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging
- 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.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- 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

- 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.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- 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.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

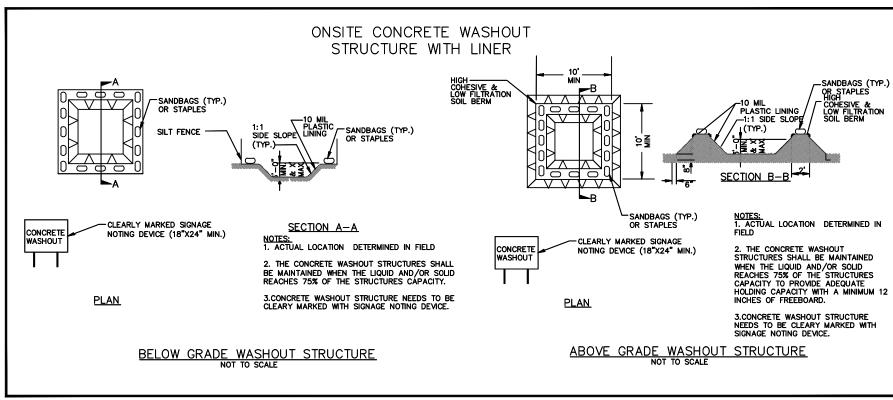
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- 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.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- 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

- 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
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- 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

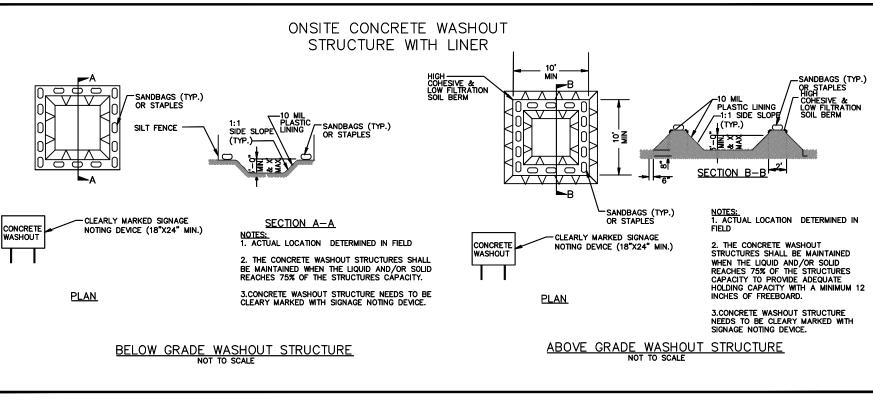
- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- 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
- 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.
- 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.
- 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.
- 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.
- 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

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- 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.
- 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.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground



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PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended 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 ≥ 1.0 inch in 24 hours	 Identification of the measures inspected, Date and time of the inspection, Name of the person performing the inspection, Indication of whether the measures were operating properly, Description of maintenance needs for the measure, 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	 Identification of the discharge outfalls inspected, Date and time of the inspection, Name of the person performing the inspection, Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, Indication of visible sediment leaving the site, Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	 If visible sedimentation is found outside site limits, then a record of the following shall be made: Actions taken to clean up or stabilize the sediment that has left the site limits, Description, evidence, and date of corrective actions taken, and An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	 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). 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 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.

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	Within 24 hours, an oral or electronic notification.
deposition in a	Within 7 calendar days, a report that contains a description of the
stream or wetland	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	 Within 24 hours, an oral or electronic notification. The notification
release of	shall include information about the date, time, nature, volume and
hazardous	location of the spill or release.
substances per Item	
1(b)-(c) above	
(c) Anticipated	 A report at least ten days before the date of the bypass, if possible.
bypasses [40 CFR	The report shall include an evaluation of the anticipated quality and
122.41(m)(3)]	effect of the bypass.
(d) Unanticipated	 Within 24 hours, an oral or electronic notification.
bypasses [40 CFR	 Within 7 calendar days, a report that includes an evaluation of the
122.41(m)(3)]	quality and effect of the bypass.
(e) Noncompliance	 Within 24 hours, an oral or electronic notification.
with the conditions	 Within 7 calendar days, a report that contains a description of the
of this permit that	noncompliance, and its causes; the period of noncompliance,
may endanger	including exact dates and times, and if the noncompliance has not
health or the	been corrected, the anticipated time noncompliance is expected to
environment[40	continue; and steps taken or planned to reduce, eliminate, and
CFR 122.41(I)(7)]	prevent reoccurrence of the noncompliance. [40 CFR 122.41(I)(6).
	 Division staff may waive the requirement for a written report on a
	case-by-case basis.









	NO. REVISIONS ENG. DATE	A ISSUED FOR PERMIT SJH 01/12/2023	B CLIENT REVIEW SJH 01/26/2023	C CIVIL DESIGN REVISIONS FROM P.O.D. SHIFT SJH 02/09/2023	D USACE AND DEQ COMMENTS SJH 03/23/2023 S	020 020 020 020 020 020	(DING	
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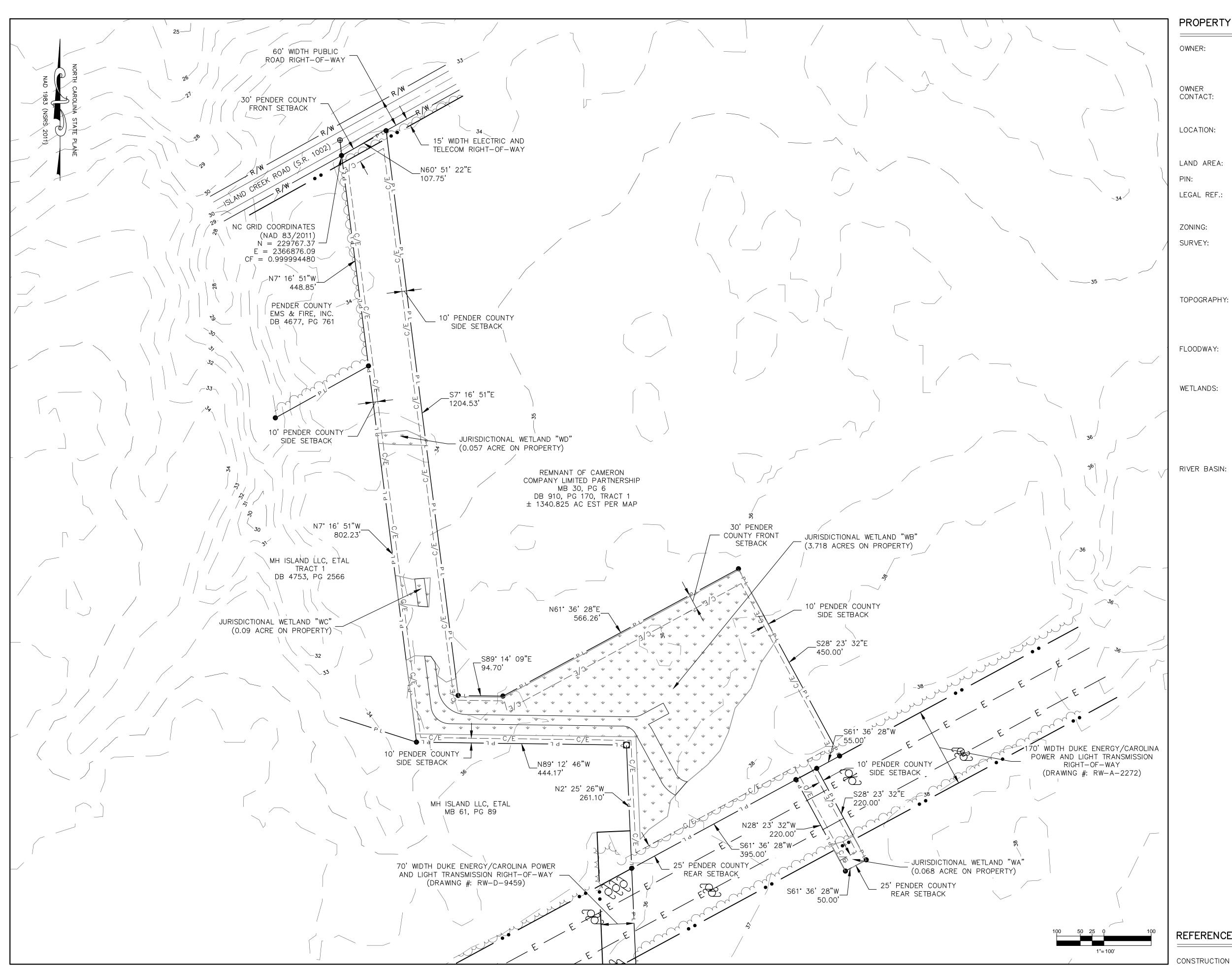
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DATE: 01/12/2023

SCALE: N.T.S

FILE NUMBER: 30602CG



PROPERTY DATA

FOUR COUNTY ELECTRIC MEMBERSHIP CORPORATION 1822 NC HIGHWAY 53 WEST

BURGAW, NC 28425 (910) 259-2171

GREGG COHN

(910) 259-1852 GREGGCOHN@FOURCTY.ORG

LOCATION: 985 ISLAND CREEK ROAD (SR 1002) HAMPSTEAD, NC 28443

(PROPOSED ENTRANCE @ 34.3752463°, -077.7840177°)

LAND AREA: +/- 8.428 ACRES (367,099.08 SQUARE FEET)

3262-78-4633-0000

LEGAL REF.: PENDER COUNTY, NC

DEED BOOK 4771, PAGE 679 MAP BOOK 68, PAGE 131

RESIDENTIAL PERFORMANCE (RP)

SITE DATA DERIVED FROM A SUBDIVISION SURVEY

TITLED "EXPEDITED SUBDIVISION FOR FOUR COUNTY EMC OF THE ISLAND CREEK ROAD SUBSTATION SITE"

PREPARED BY ROBERT H. GOSLEE & ASSOCIATES, PA, 317 E. MURRAY ST., WALLACE, NC, 28466; BEARING A SEAL DATE OF OCTOBER 21, 2021.

TOPOGRAPHY: TOPOGRAPHIC DATA DERIVED FROM NORTH CAROLINA DEPARTMENT OF TRANSPORTATION LIDAR DATA FOR PENDER COUNTY AT

> HTTP: //DOTW-XFER01.DOT.STATE.NC.US/GISDOT/ DOTCONTOURS2/LIDAR_DWG/DWG_PENDER_02.ZIP

FLOODWAY: NO PORTION OF THE PROPERTY LIES WITHIN A FLOODWAY AS PER FLOOD INSURANCE RATE MAP NUMBER 3720326200K; EFFECTIVE DATE FEBRUARY

16, 2007.

WETLANDS: 3.93 ACRES OF JURISDICTIONAL SECTION 404 WETLANDS EXIST ON THE PROPERTY ACCORDING TO THE PRELIMINARY JURISDICTIONAL DETERMINATION

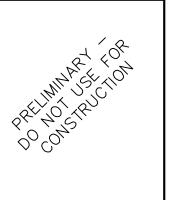
REPORT TITLED "REQUEST FOR PRELIMINARY JURISDICTIONAL DETERMINATION FOR 1450-1622 ISLAND CREEK ROAD, PENDER COUNTY, NC" PREPARED BY CZR ENVIRONMENTAL CONSULTANTS, 4709 COLLEGE

ACCESS DRIVE, SUITE 2, WILMINGTON, NC, 28403; BEARING A DATE OF JANUARY 18, 2022.

RIVER BASIN: CAPE FEAR VIA HARRISONS CREEK

Electric
Corporation Four County Membership

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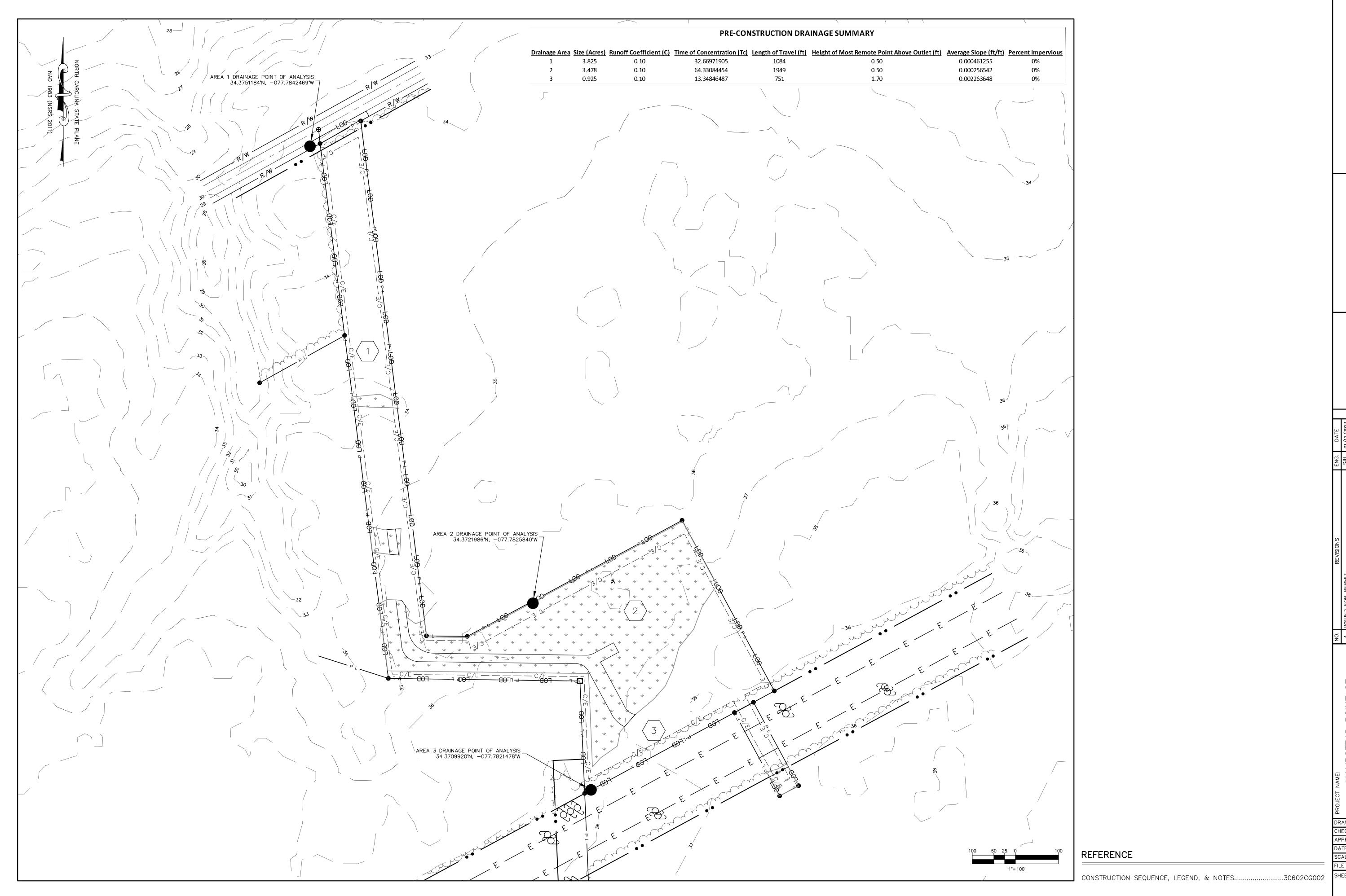
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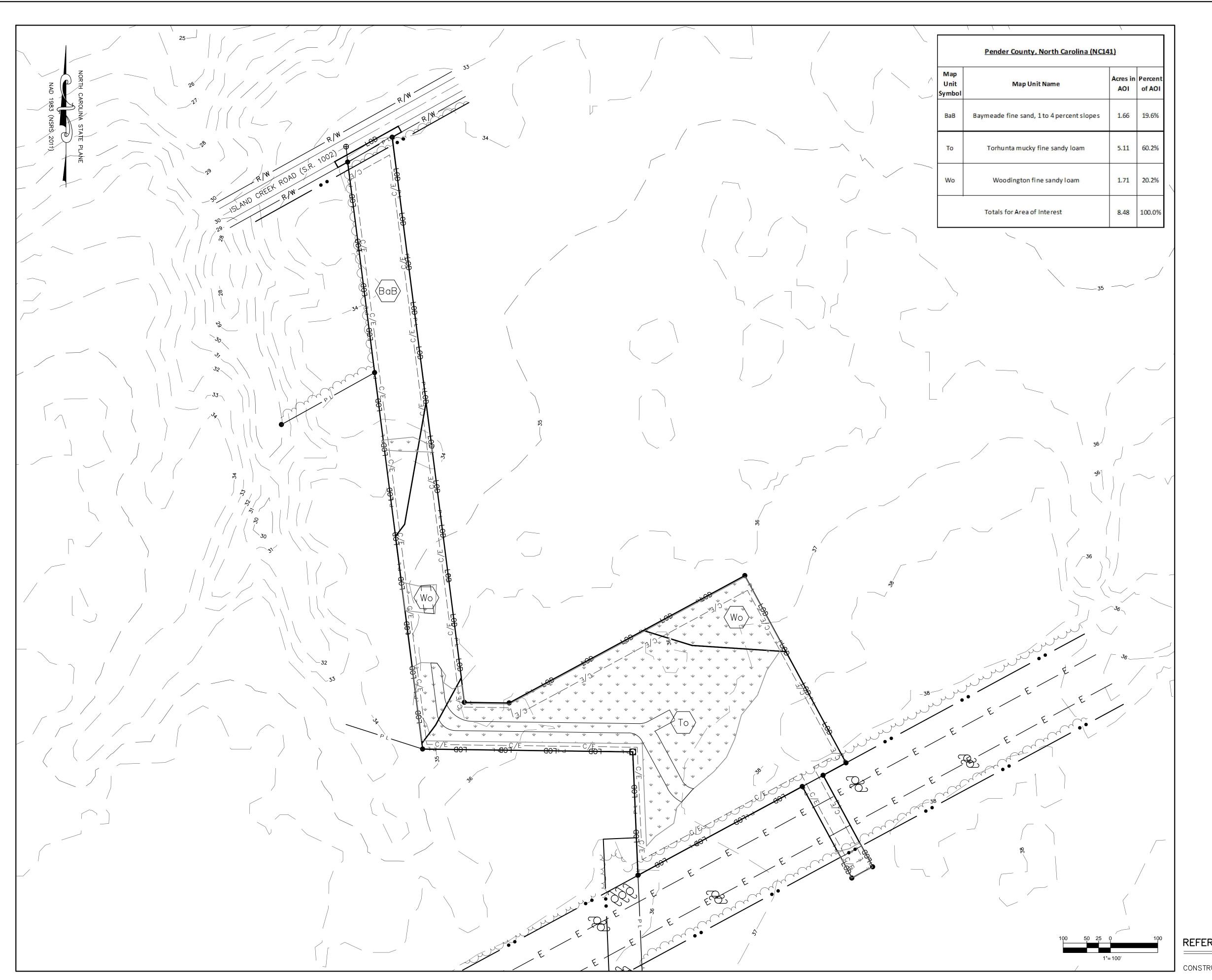
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CONSTRUCTION SEQUENCE, LEGEND, & NOTES..

Four County Electric Membership Corporation

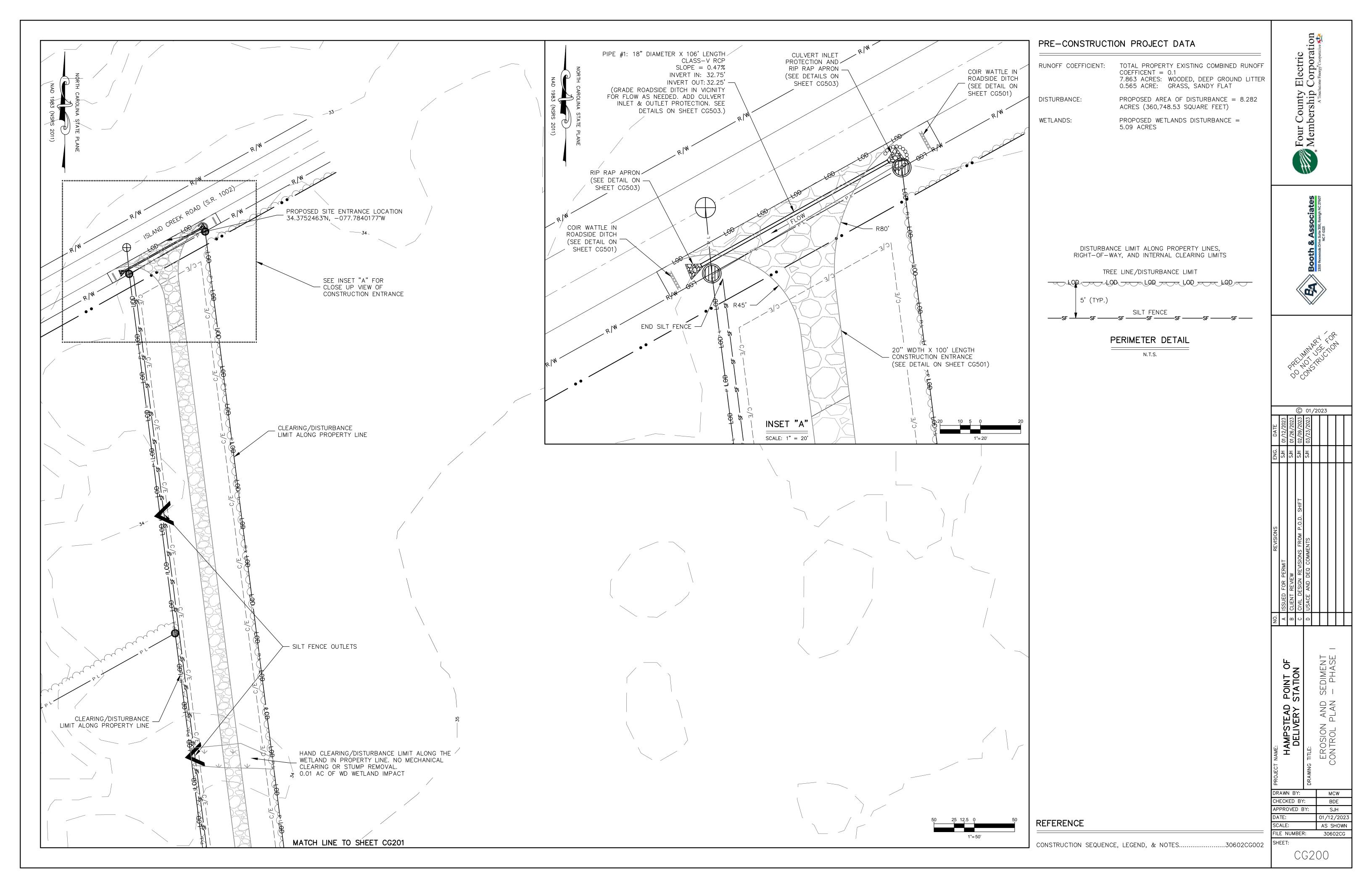


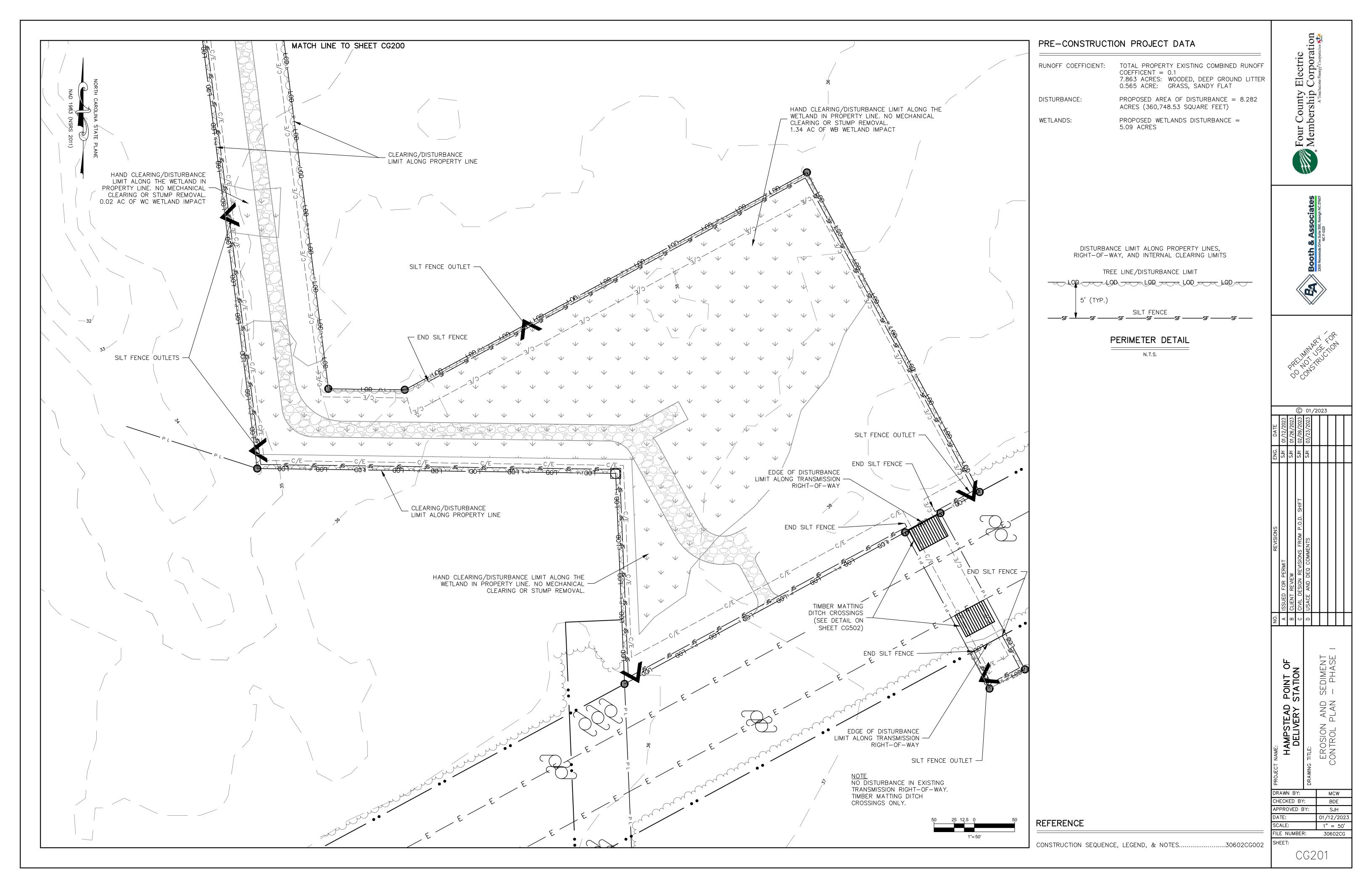
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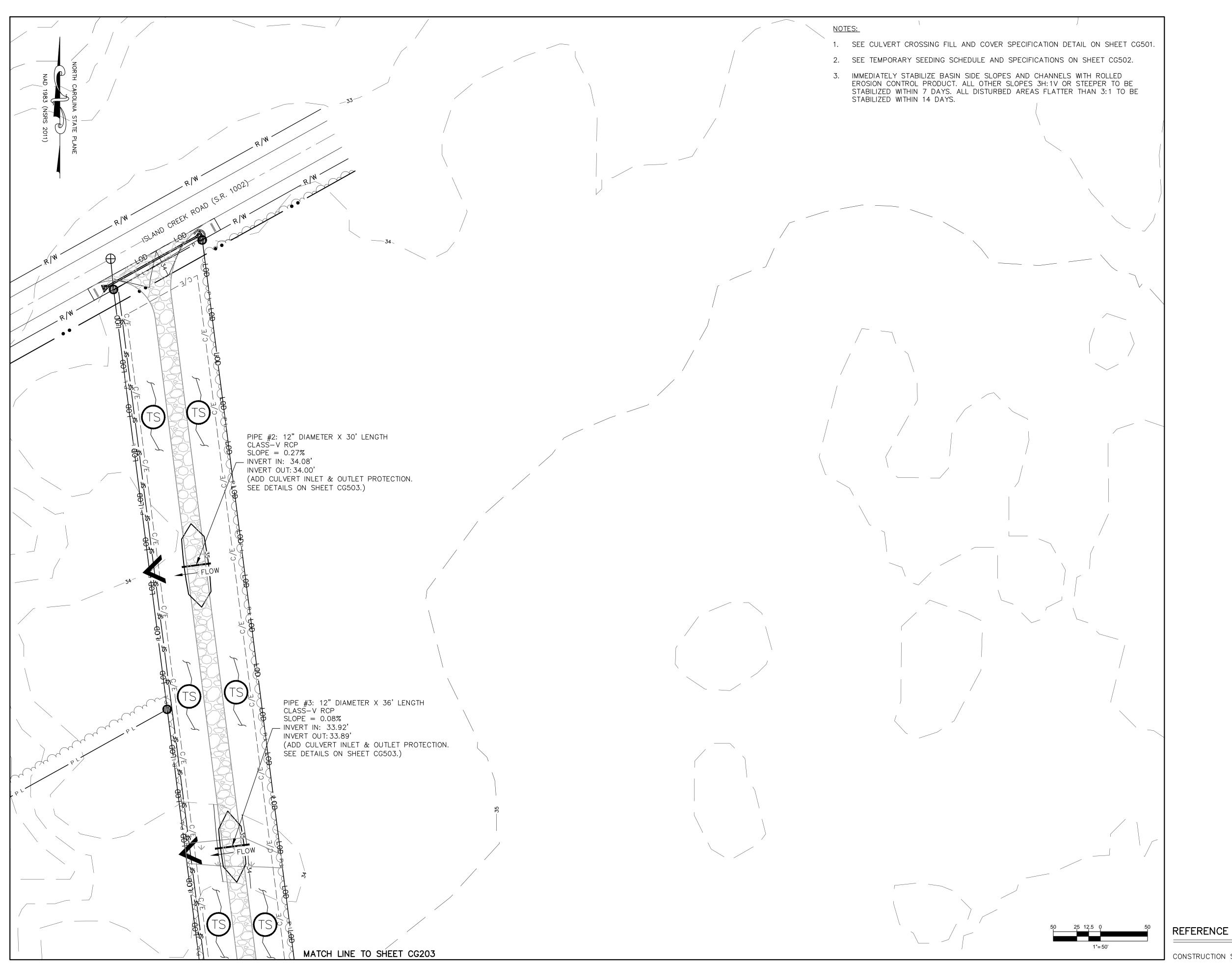
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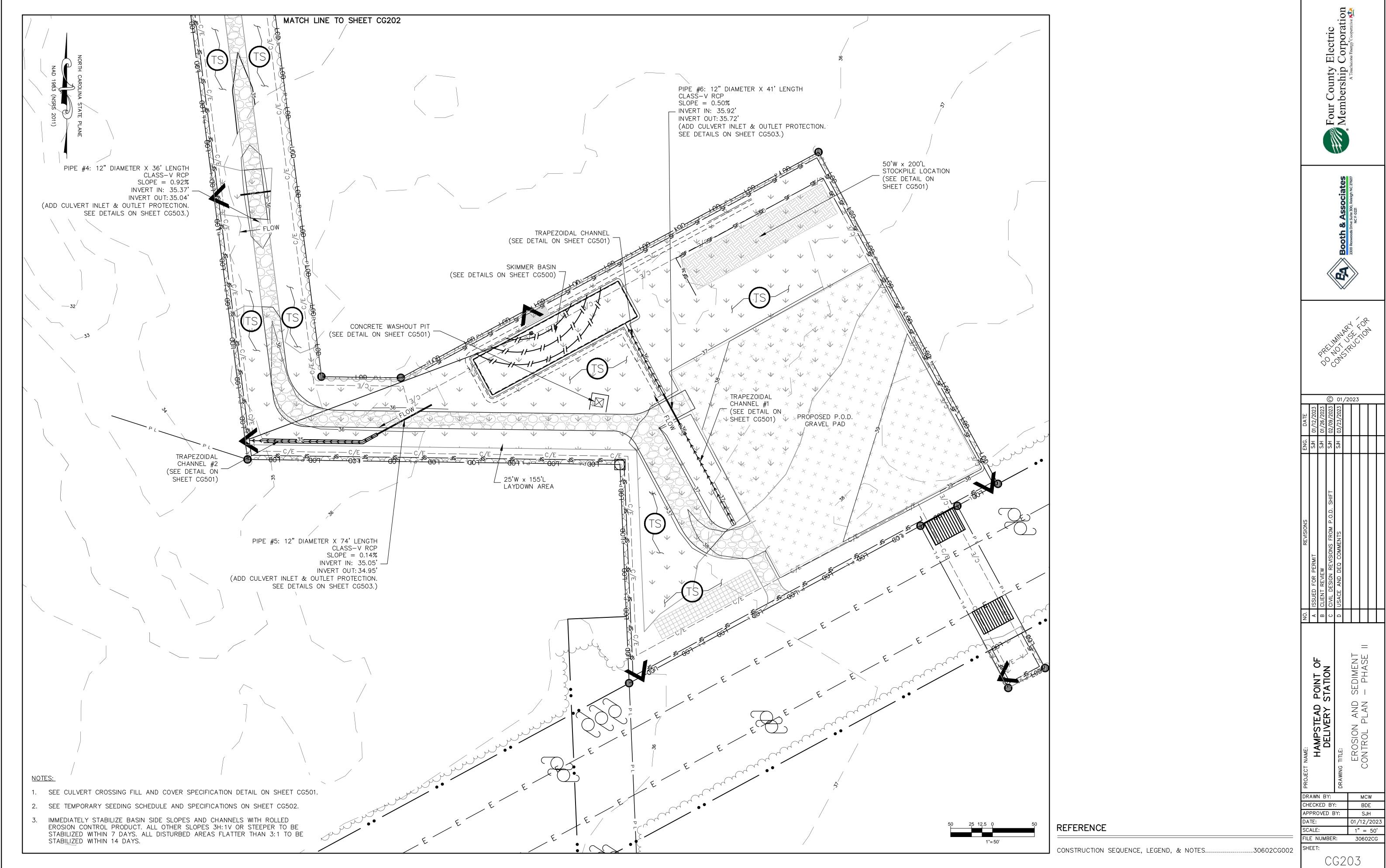


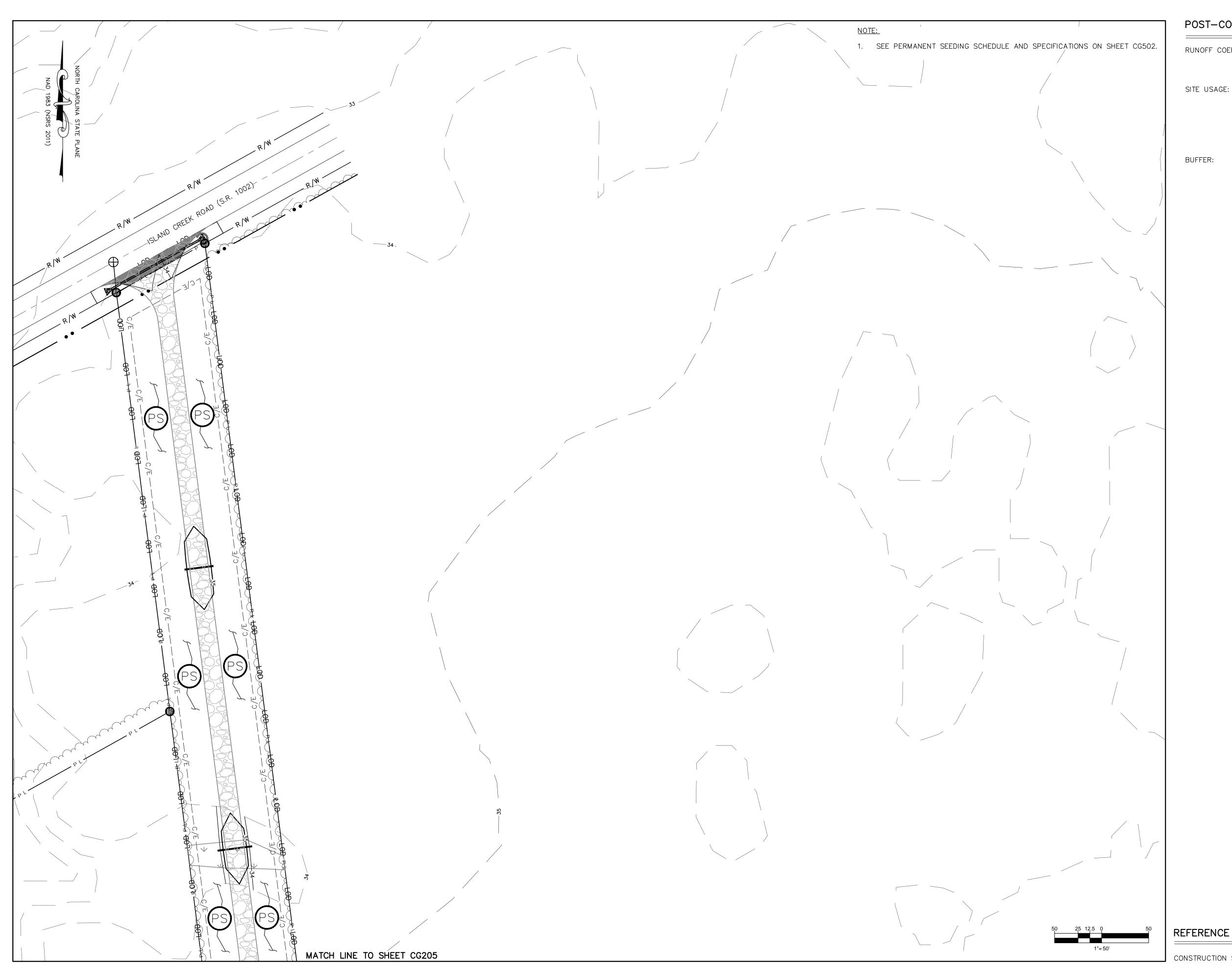
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POST-CONSTRUCTION PROJECT DATA

TOTAL PROPERTY PROPOSED COMBINED RUNOFF COEFFICENT = 0.231 5.676 ACRES: GRASS, SANDY FLAT 2.752 ACRES: GRAVELED AREA RUNOFF COEFFICIENT:

SITE USAGE: NO WATER OR SEWER CONNECTIONS

NO WATER OR SEWER CONNECTIONS
REQUIRED FOR PROPERTY USE.
PROPERTY TO BE UNMANNED WITH NO
PARKING REQUIRED. MINIMAL ADDITIONAL
TRAFFIC WILL BE GENERATED BY
PROPERTY USE. NO IMPACT EXPECTED
WITH RESPECT TO NOISE, VIBRATION,
GLARE, ODOR, OR DUST.

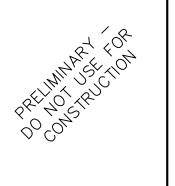
BUFFER:

A VEGETATIVE BUFFER IS NOT INCLUDED AS A PART OF PROPOSED SITE LAYOUT AS SURROUNDING VEGETATION UP TO PROPERTY LINES MEETS OR EXCEEDS THE REQUIREMENTS OF PENDER COUNTY ORDINANCES REGARDING VEGETATIVE BUFFERS.

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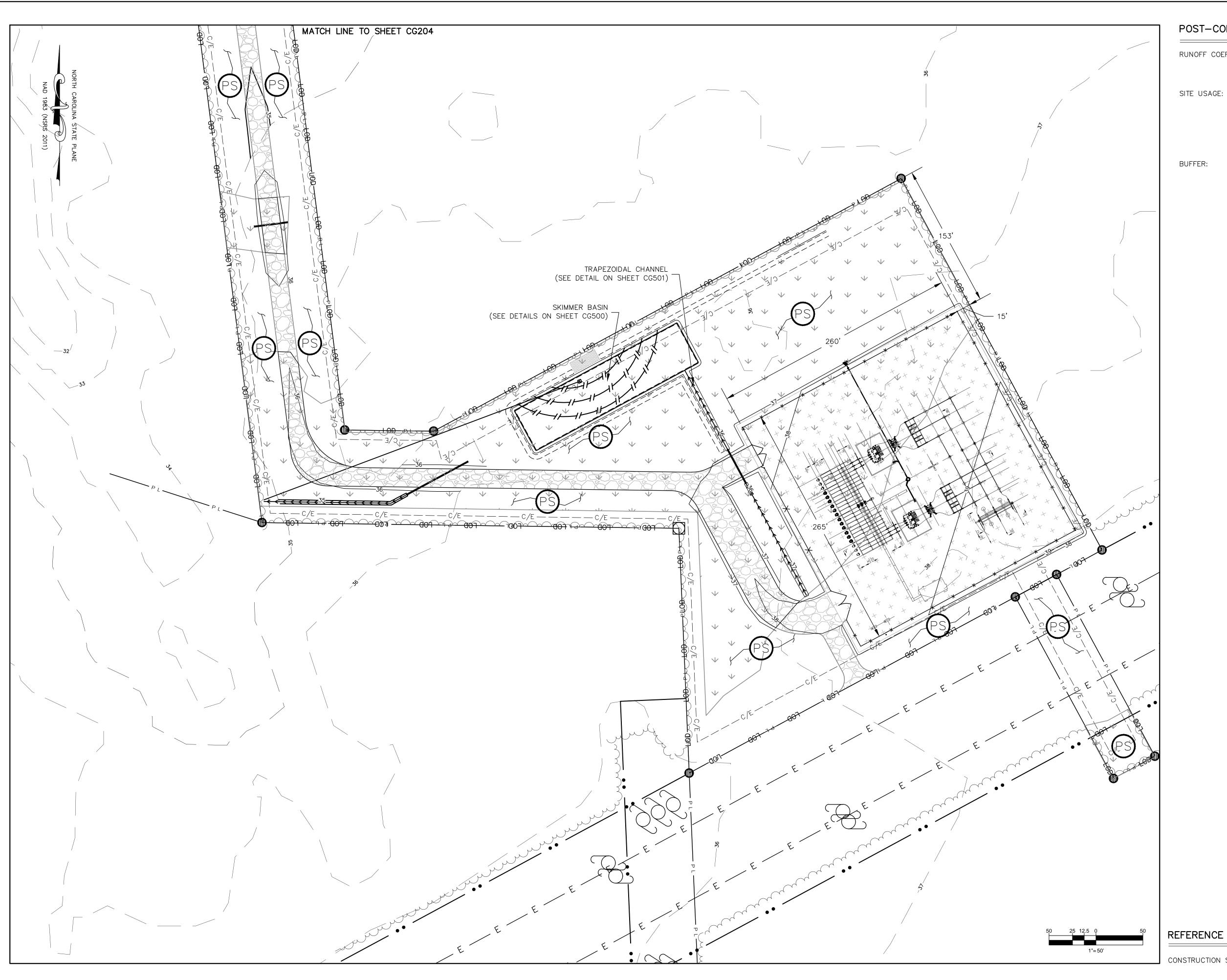
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WITH RESPECT TO NOISE, VIBRATION,
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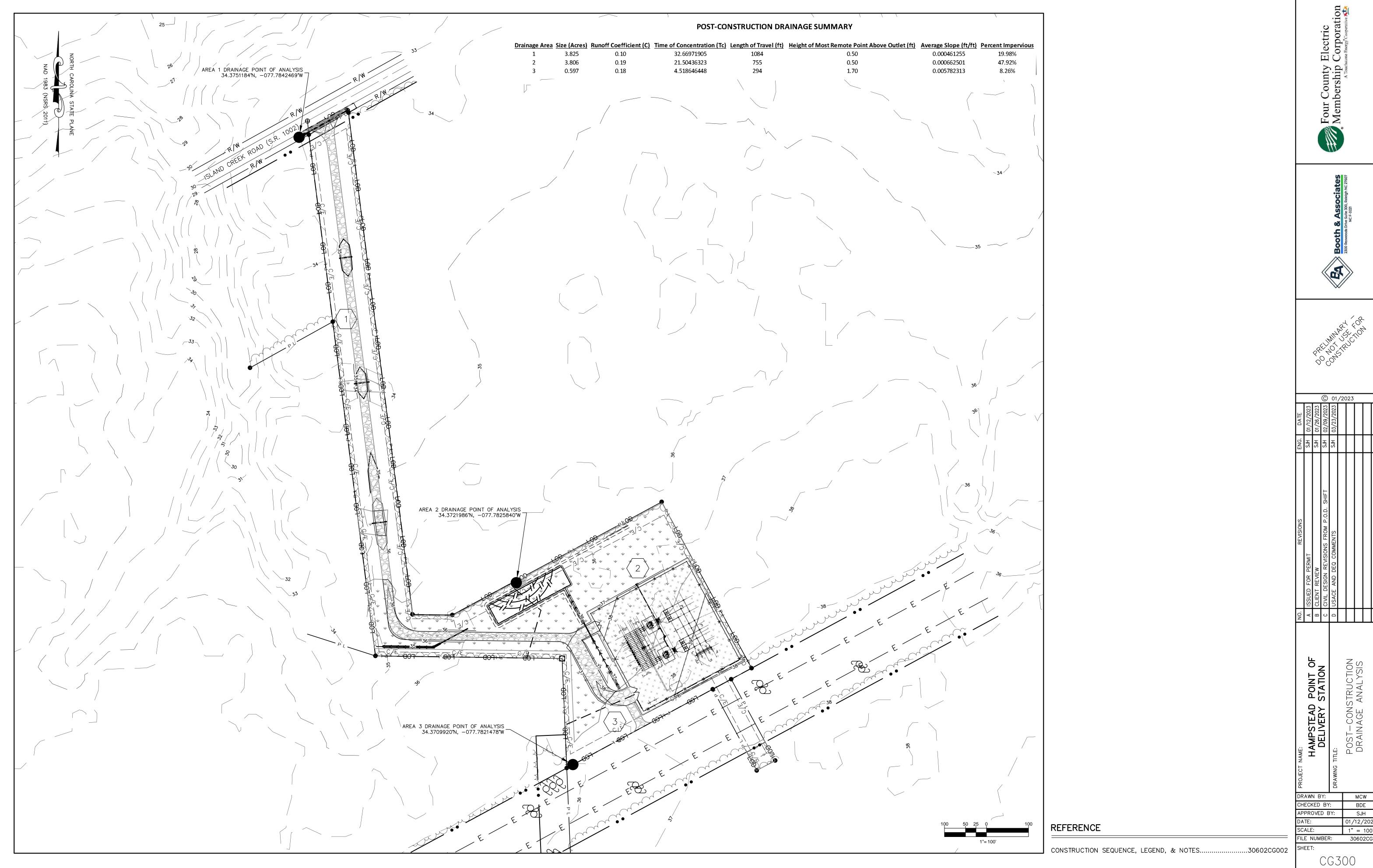


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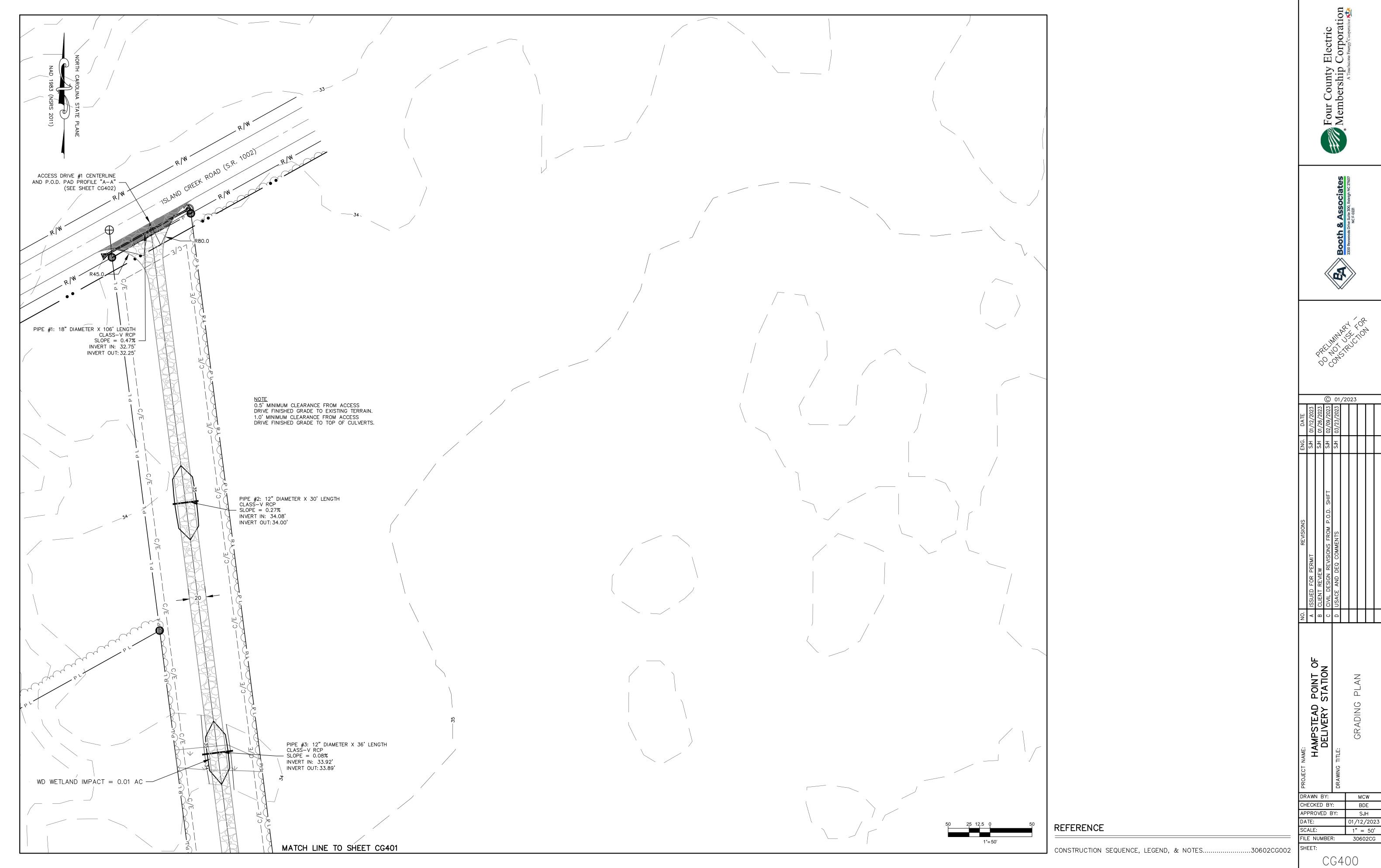
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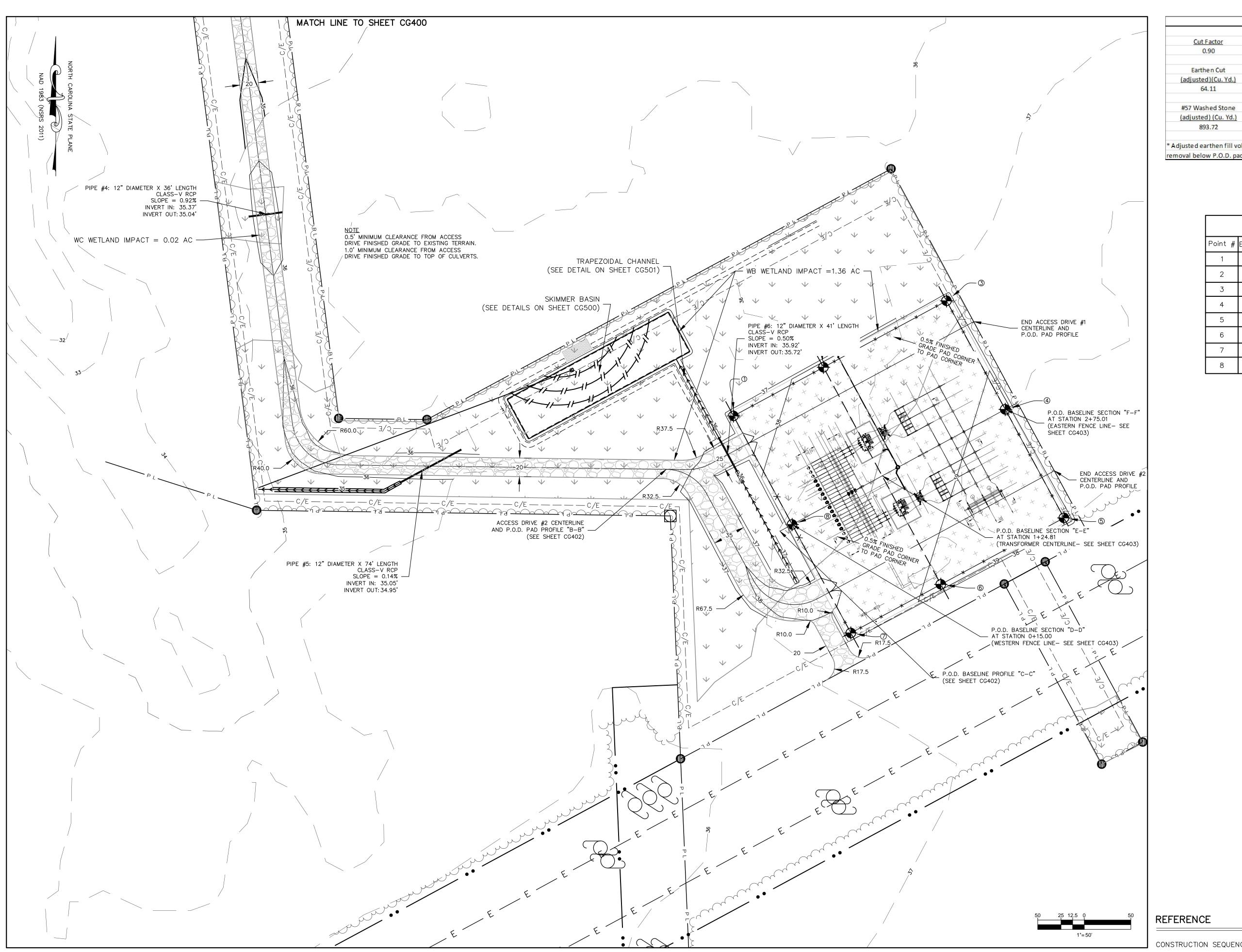


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	Grading Volumes Summar	у
<u>Cut Factor</u>	Fill Factor	
0.90	1.30	
		Earthen Net Total
Earthen Cut	Earthen Fill	Minus Gravel
(adjusted)(Cu. Yd.)	(adjusted)(Cu. Yd.)	(adjusted)(Cu. Yd.
64.11	7512.41	3600.00 <fill></fill>
#57 Washed Stone	Crusher Run Gravel	
(adjusted) (Cu. Yd.)	(adjusted) (Cu. Yd.)	
893.72	2954.59	

	Crusher Run Gravel	
	(adjusted) (Cu. Yd.)	
	2954.59	
olu	me includes replacemer	t of 0.5' depth topsoil
ad a	nd access drives.	

	Ро	int Table
Point #	Elevation	Description
1	37.76	FENCE CORNER
2	38.14	FENCE/TRANSFORMER CL
3	38.67	FENCE CORNER
4	39.14	FENCE/P.O.D. BASELINE
5	39.61	FENCE CORNER
6	39.09	FENCE/TRANSFORMER CL
7	38.70	FENCE CORNER
8	38.23	FENCE/P.O.D. BASELINE

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th & Associates	oods Drive Suite 300, Raleigh NC 27607 NC F-0221

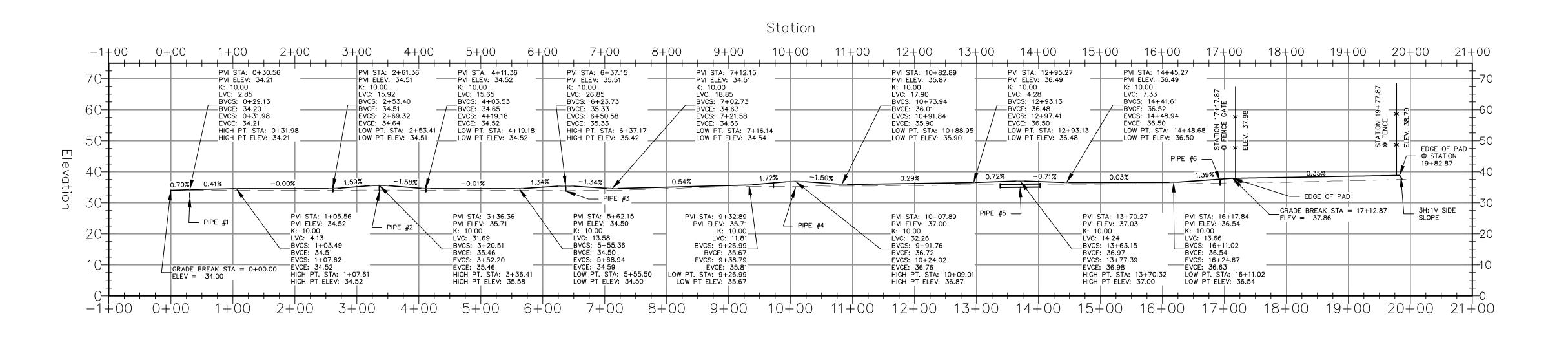
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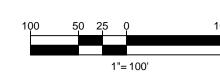
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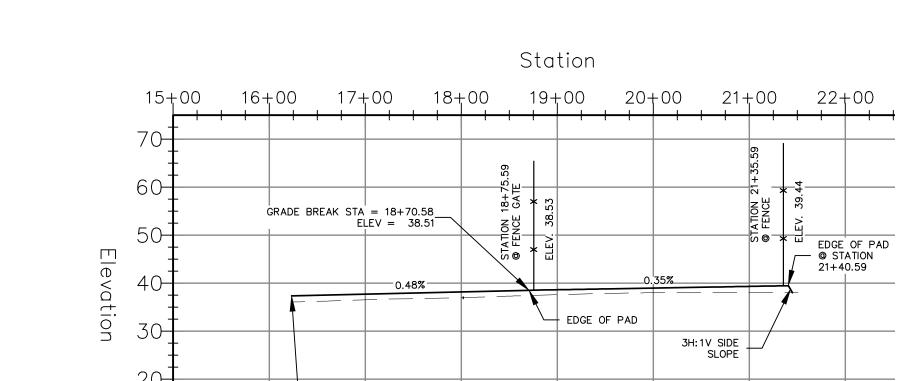
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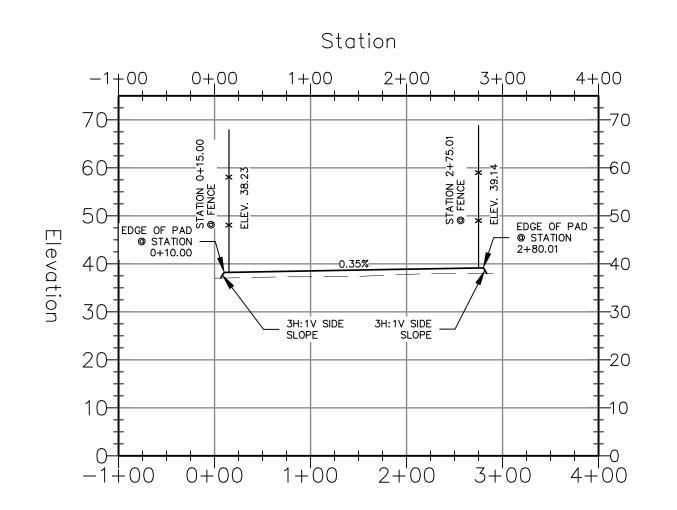
ACCESS DRIVE #1
CENTERLINE AND P.O.D.
PAD PROFILE "A-A"
scale: 1"=100' horizontal, 1"=20' vertical





15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

__GRADE BREAK STA = 16+23.28 ELEV = 37.32 ACCESS DRIVE #2
CENTERLINE AND P.O.D.
PAD PROFILE "B-B"
scale: 1"=100' horizontal, 1"=20' vertical

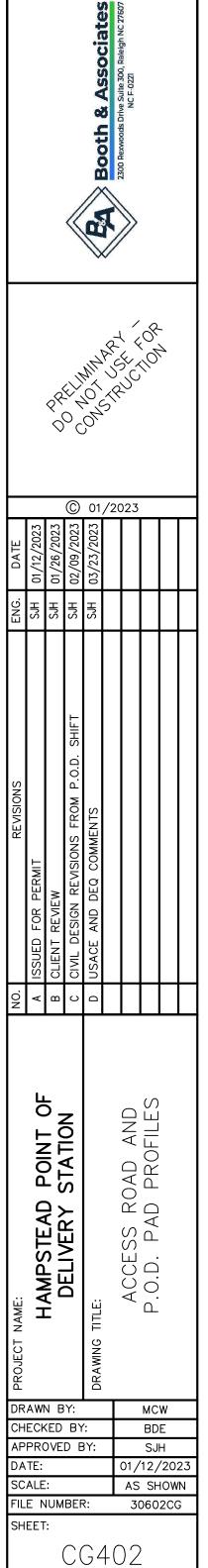


P.O.D. BASELINE
PROFILE "C-C"

SCALE: 1"=100' HORIZONTAL, 1"=20' VERTICAL

100 50 25 0 100

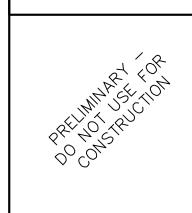
1"=100'

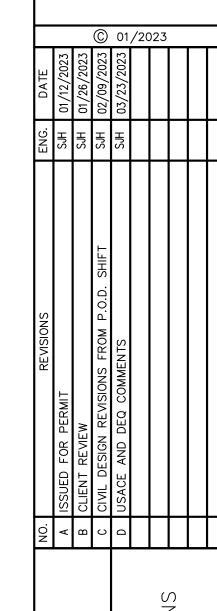


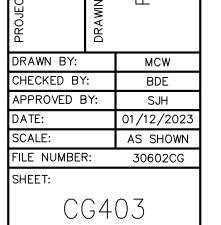
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OFFSET -132.5

© FENCE
ELEV. 37.76

OFFSET 132.5

© FENCE
ELEV. 38.70

OFFSET 137.5

© EDGE OF PAD

O.35%

30

3H: 1V SIDE
SLOPE

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OCCUPANCE
SLOPE

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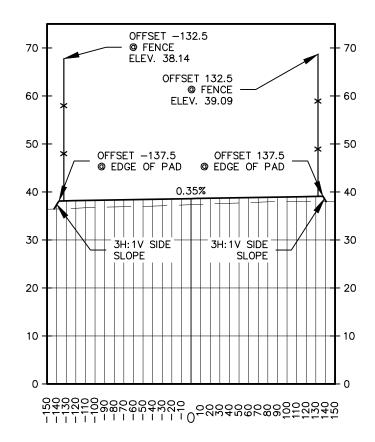
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P.O.D. BASELINE
SECTION "D-D" AT
STATION 0+15.00
(WESTERN FENCE LINE)

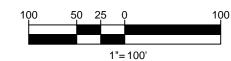
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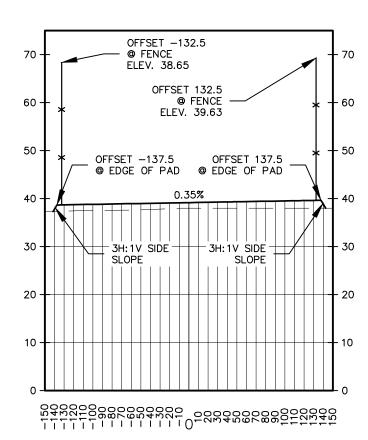




P.O.D. BASELINE
SECTION "E-E" AT
STATION 1+24.81
(TRANSFORMER CENTERLINE)

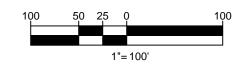
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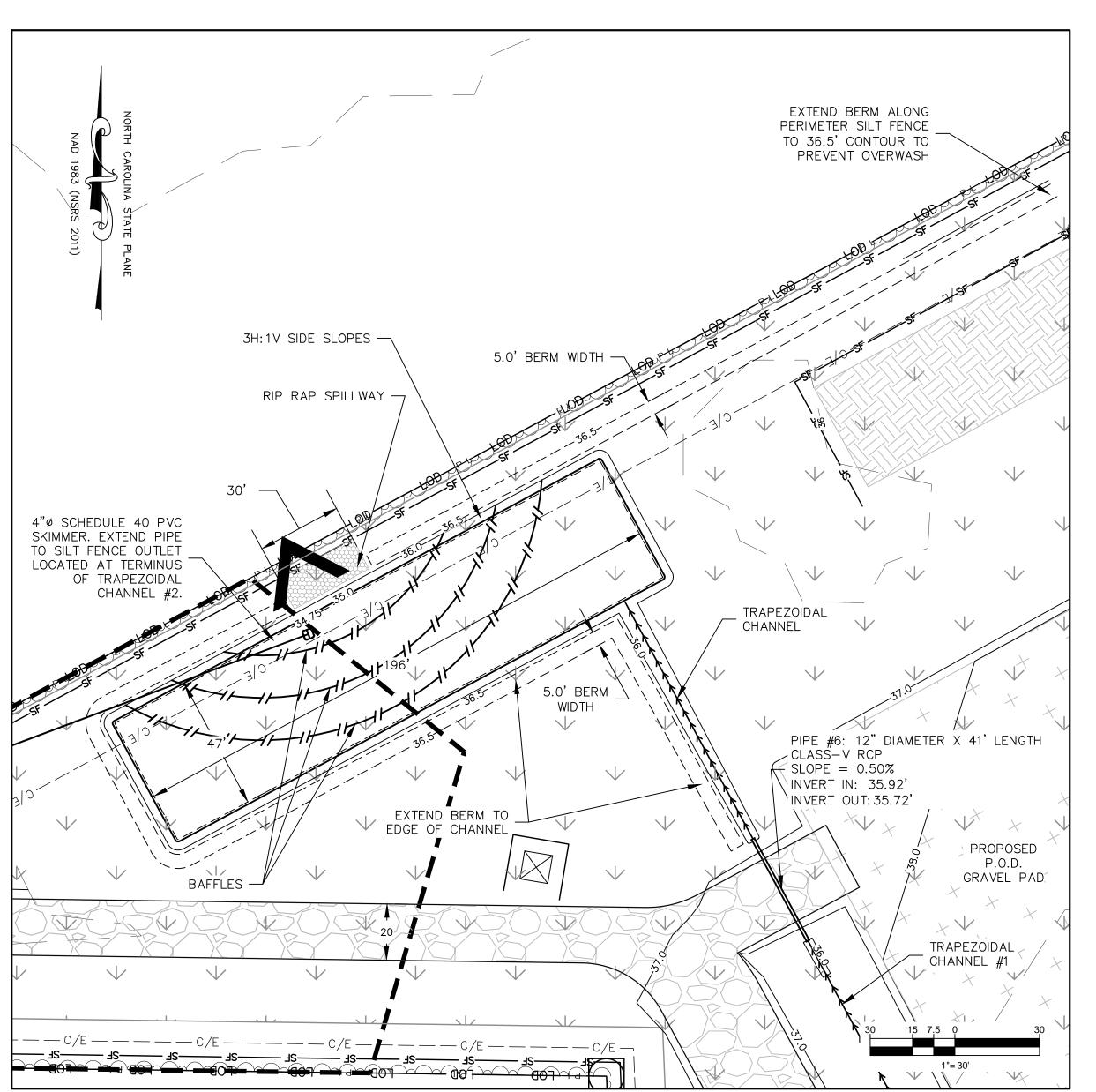




P.O.D. BASELINE
SECTION "F-F" AT
STATION 2+75.01
(EASTERN FENCE LINE)

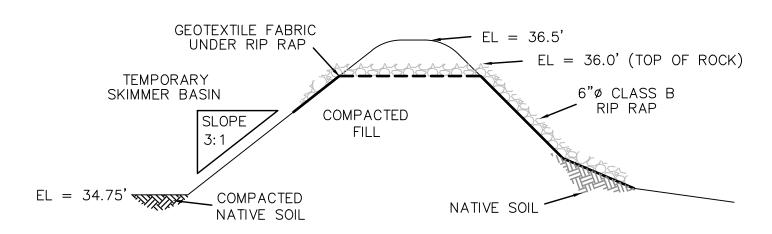
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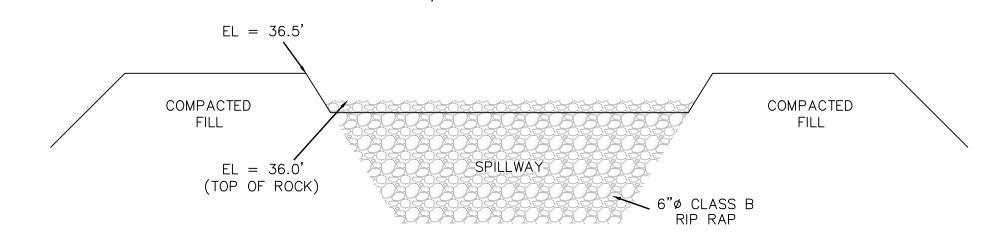


SKIMMER SEDIMENT BASIN PLAN VIEW

SCALE: 1" = 30'



EMBANKMENT/SPILLWAY CROSS SECTION

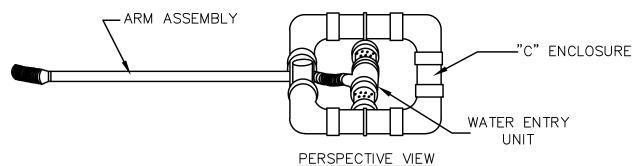


EMBANKMENT/SPILLWAY PROFILE VIEW

SKIMMER BASIN EMBANKMENT/SPILLWAY DETAILS

N.T.S.

4" SCHEDULE 40 PVC PIPE PVC VENT PIPE WATER SURFACE PVC TEE-(1.25" CONTROL ORIFICE) ORIFICE PLATE —PVC TEE SCHEDULE 40 BOTTOM SURFACE FRONT VIEW



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

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. SHAPE THE BASIN TO THE SPECIFIED DIMENSIONS. PREVENT THE SKIMMING DEVICE FROM SETTLING INTO THE MUD BY EXCAVATING A SHALLOW

ENSURE THAT FILL MATERIAL FOR THE EMBANKMENT IS FREE OF ROOTS, WOODY VEGETATION, ORGANIC MATTER, AND OTHER OBJECTIONABLE

PIT UNDER THE SKIMMER OR PROVIDING A LOW SUPPORT UNDER THE SKIMMER OF STONE AND TIMBER. 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.

ASSEMBLE THE SKIMMER FOLLOWING THE MANUFACTURER'S INSTRUCTIONS, OR AS DESIGNED. 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. 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. 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 TEH UPPER END OF THE POOL AREA TO IMPROVE BASIN TRAP EFFICIENCY. EROSION CONTROL - CONSTRUCT THE STRUCTURE SO THAT THE DISTURBED AREA IS MINIMIZED. DIVERT SURFACE WATER AWAY FROM BARE AREAS. COMPLETE THE EMBANKMENT BVEFORE THE AREA IS CLEARED. STABILIZE THE EMERGENCY SPILLWAY EMBANKMENT AND ALL OTHER DISTURBED AREAS ABOVE TEH CRFEST OF THE PRINCIPAL SPILLWAY IMMEDIATELY AFTER CONSTRUCTION.

AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, MOVE TEH STRUCTURE AND ALL THE UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND STABILIZE PROPERLY.

MAINTENANCE NOTES:

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.

REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM. 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.

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. 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.

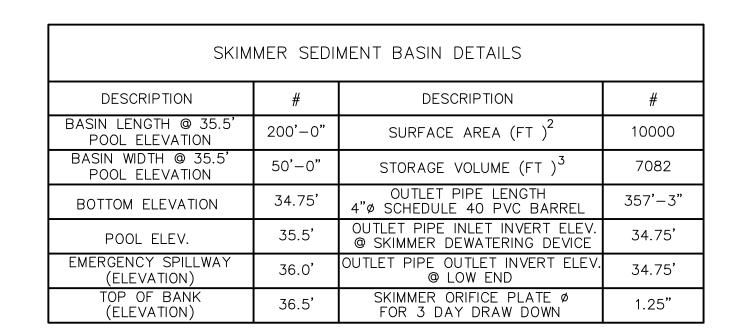
FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT

THE SKIMMER FROM PLUGGING WITH ICE.

10. INSTALL POROUS BAFFLES AS SPECIFIED IN BAFFLE DETAIL.

SKIMMER 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 Plan View structure Width W * Area of basin water surface at top of principal spillway elevation

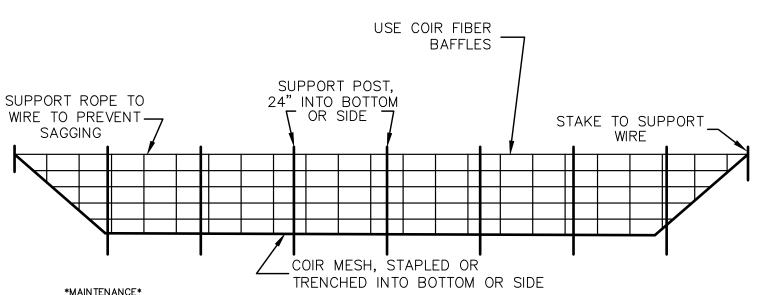
Cross-Section

Erosion and Sediment Pollution Control Manual, March, 2000.

Figure 6.64c Example of a sediment basin with a skimmer outlet and emergency spillway. From Pennsylvania

SKIMMER SEDIMENT BASIN

N.T.S.



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.

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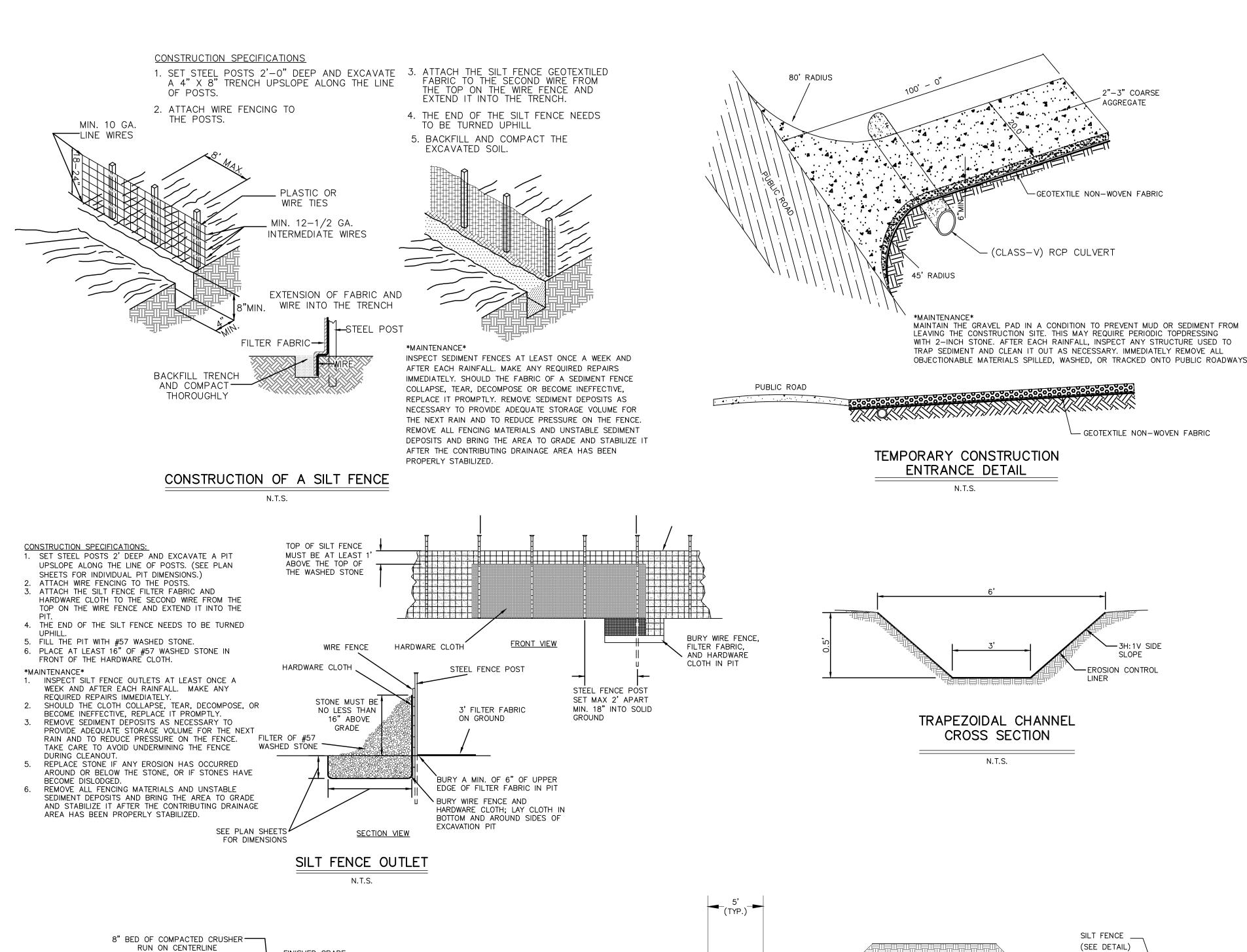
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RARY SKIMMER IN DETAILS POINT STATION HAMPSTEAD DELIVERY

DRAWN BY: MCW CHECKED BY: BDE APPROVED BY: SJH 01/12/2023 AS SHOWN FILE NUMBER: 30602C0

SHEET: CG500



(SEE DETAIL) SOIL/SEDIMENT STOCKPILE AREA ORIGINAL GROUND SURFACE

1. SILT FENCE TO EXTEND AROUND THREE SIDES OF ANY STOCKPILE, OR IF STOCKPILE AREA IS LOCATED ON/NEAR A SLOPE

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

4. THE KEY TO FUNCTIONAL TEMPORARY STOCKPILE AREAS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR

THE SILT FENCE IS TO EXTEND ALONG CONTOURS OF THE DOWN-GRADIENT AREA.

NOTES:

12" MIN. COVER

- 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.

FINISHED GRADE

4. UNDERCUT UNSUITABLE MATERIAL AS DIRECTED BY THE ENGINEER AND BACKFILL WITH STONE OR OTHER APPROVED MATERIAL.

INITIAL LIFT: 12" MAX.

(STANDARD PROCTOR)

—NO. 5, 57, OR 67 STONE

NON TRAFFIC AREAS: 12" MAX. LIFTS

COMPACTION: 95% MAX. DRY DENSITY

NOTES:

STABILIZED.

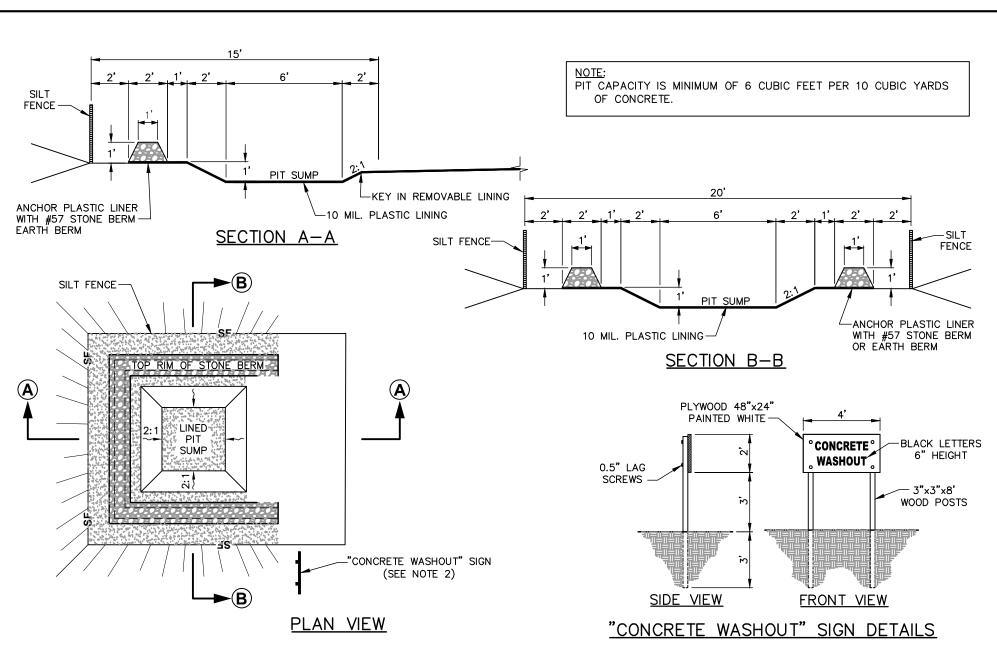
SEDIMENT REMOVAL.

TRAFFIC AREAS: 6" MAX. LIFTS

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 SPECIFICATION

N.T.S.



CONSTRUCTION SPECIFICATIONS AND MAINTENANCE NOTES:

1. INSTALL CONCRETE WASHOUT PIT AT LOCATION(S) SHOWN ON PLANS.

4. ALLOW WATER TO EVAPORATE COMPLETELY PRIOR TO EXCAVATING PIT.

- 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.
- 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.

PROFILE VIEW

- 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
- 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

CONSTRUCTION SPECIFICATIONS USE MINIMUM 18 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE. WATTLES_SHALL BE FILLED_WITH_STRAW OR_OTHER APPROVED_MATERIAL USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION. INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO THE GROUND.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF
WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
SPACE WATTLES PER PLAN SHEETS UNLESS SITE CONDITIONS DEEM WOODEN STAKE WITH WATTLE 18" DIAMETER STRAW FILTER FABRIC ANCHORED TO THE TOP FILLED WATTLE OR DITCH LINER 18" DIAMETER STRAW FILLED WATTLE FASTENED TO WOODEN STAKE WOODEN STAKE BY NAIL OR STAPLE DITCHLINE FILTER FABRIC OR DITCH LINER 12" FABRIC STAPLE

> WATTLES SHOULD BE INSPECTED REGULARLY AND AFTER EACH SIGNIFICANT RAINFALL. SEDIMENT, DEBRIS, STRAW, AND OTHER ITEMS SHOULD BE REMOVED FROM THE WATTLE. IF THE NATURAL FIBERS OF THE WATTLE BECOME TOO SATURATED WITH DEBRIS AND SEDIMENT AND REMOVAL OF THE ITEMS IS NOT POSSIBLE THEN THE WATTLE SHOULD BE REPLACED. VERIFY PROPER INSTALLATION OF ANCHORS TO SECURE WATTLES TO THE GROUND TO PREVENT SCOURING AND WASHOUT DURING STORM EVENTS.

COIR FIBER WATTLE DETAIL







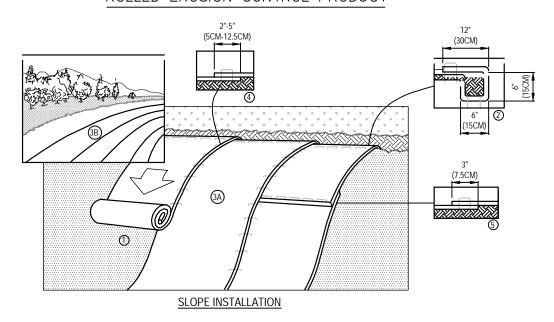


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FILE NUMBER SHEET: CG501

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. ROLLED EROSION CONTROL PRODUCT



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

- 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
- 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

INSPECT ROLLED EROSION CONTROL PRODUCTS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1 INCH OR GREATER) RAIN FALL EVENT REPAIR IMMEDIATELY.

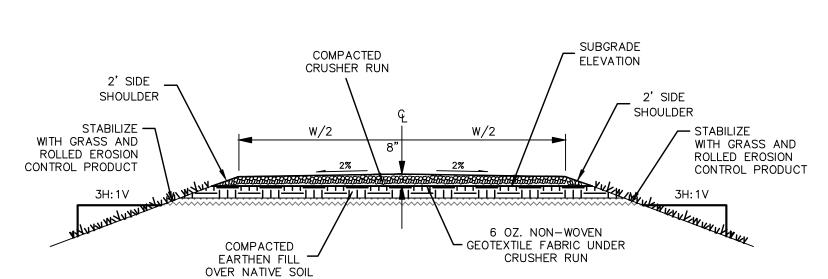
- GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE RECP. ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND
- CHECK FOR GENERAL SIGNS OF EROSION, INCLUDING VOIDS BENEATH THE MAT. IF VOIDS ARE APPARENT, FILL THE VOID WITH SUITABLE SOIL AND REPLACE THE EROSION CONTROL BLANKET, FOLLOWING THE APPROPRIATE STAKING
- CHECK FOR DAMAGED OR LOOSE STAKES AND SECURE LOOSE PORTIONS OF THE BLANKET. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA
- 6. MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

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

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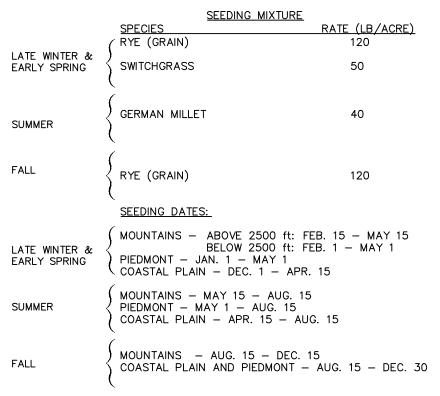


INSPECT CONSTRUCTION ROADS AND PARKING AREAS PERIODICALLY FOR CONDITION OF SURFACE. TOPDRESS WITH NEW GRAVEL AS NEEDED. CHECK ROAD DITCHES AND OTHER SEEDED AREAS FOR EROSION AND SEDIMENTATION AFTER RUNNOFF-PRODUCING RAINS. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION. SEDIMENT-PRODUCING AREAS SHOULD BE TREATED IMMEDIATELY.

GRAVEL ACCESS DRIVE DETAIL

N.T.S.

TEMPORARY SEEDING IN NORTH CAROLINA



SOIL AMENDMENTS FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LBS/ACRE 10-10-10 FERTILIZER.

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT OR

MAINTENANCE REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

NOTE
IN LATE WINTER AND EARLY SPRING, OMIT SWITCHGRASS WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE. IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

SEEDBED PREPARATION

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

SEEDING SCHEDULE FOR WETLANDS AND BUFFERS

- 1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- 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 BFLOW*).
- 5. CONTINÚE 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.
- 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.

AGRICULTURAL LIMESTONE - 3 TONS/ACRE

AS PROMPTLY AS POSSIBLE.

FERTILIZER - 750 lb/ACRE - 10-10-10 MULCH - 2 TONS/ACRE (5,000 Ib/ACRE FOR STEEP SLOPES) - SMALL GRAIN STRAW TACKING METHOD - BIODEGRADABLE NETTING (NO PLASTIC NETTING)

PERMANENT SEEDING IN NORTH CAROLINA

SEEDING NOTES

1. AFTER AUGUST 15 USE UNSCARIFIED SWITCHGRASS AND SPLITBEARD BLUESTEM SEED. TO EXTEND SPRING SEEDING DATES INTO JUNE, ADD 15 LB/ACRE HULLED

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).

POSSIBLE AUGUST 25 - SEPTEMBER 15 FALL: AUGUST 20 - OCTOBER 25 FUBRUARY 15 - MARCH 21 FEBRUARY 1 - APRIL 15 LATE WINTER: FALL IS BEST FOR ALL FESCUE AND LATE WINTER FOR SWITCHGRASS AND SPLITBEARD

BLUESTEM. OVER SEEDING OF SWTICHGASS AND SWITCHBEARD BLUESTEM WITH OVER-SEEDED TALL FESCUE IN FALL IS VERY EFFECTIVE.

- SEEDING SCHEDULE CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
- 4. APPLY AGRICULTURAL LIME, FERTILIZER, AND UNIFORMLY MIX WITH SOIL (SEE
- BELOW*).
- SEEDBED IS PREPARED.
- EQUIPMENT OR CULTIPACK. MULCH IMMEDIATELY AFTER SEEDING.

* APPLY: AGRICULTURAL LIMESTONE - 3 TONS/ACRE

SUPERPHOSPHATE - 500 lb/ACRE - 20% ANALYSIS

SEEDING MIXTURE	
SPECIES	RATE (LB/ACRE)
SWITCHGRASS (CARTHAGE CULTIVAR)	3.5
DEERTONGUE	6.0
SWEET WOODREED	2.5
SOFT RUSH	2.5

EXPECTED RATES. BETWEEN MAY 1 AND AUGUST 15, ADD 10 LB/ACRE GERMAN MILLET.

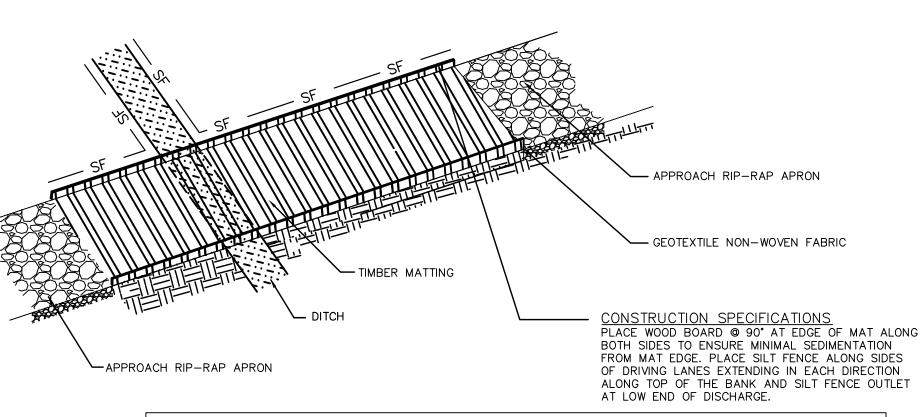
SWITCHGRASS: DEERTONGUE: MAY 1 - APRIL 1

DECEMBER 1 - MAY 1, SEPTEMBER 1 - NOVEMBER 1

NOTE: NO FESCUE GRASS TO BE USED IN WETLANDS OR BUFFERS.

SEEDING DETAILS

N.T.S.



MAINTENANCE

MAINTAIN THE TIMBER MAT IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. 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 TIMBER MATTING DITCH CROSSING

SCALE: N.T.S.

SEEDING MIXTURE	
SPECIES	RATE (LB/ACRE)
TALL FESCUE	. 80
SWITCHGRASS	20
SPLITBEARD BLUESTEM	10

BERMUDAGRASS. HOWEVER, AFTER MID-APRIL IT IS PREFERABLE TO SEED TEMPORARY

NURSE PLANTS

SEEDING DATES

- REMOVE ALL LOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- 5. CONTINÚE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM
- SEED ON A FRESHLY PREPARED SEEDBED AND SEED LIGHTLY WITH 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.

FERTILIZER - 1,000 lb/ACRE - 10-10-10

MULCH - 2 TONS/ACRE (5,000 Ib/ACRE FOR STEEP SLOPES) - SMALL GRAIN STRAW ANOTHER - ASPHALT EMULSION @ 400 GAL/ACRE

PERMANENT SEEDING FOR WETLANDS AND BUFFERS

<u>SEEDING MIXTURE</u>	
SPECIES	RATE (LB/ACRE)
SWITCHGRASS (CARTHAGE CULTIVAR)	3.5
DEERTONGUE	6.0
SWEET WOODREED	2.5
SOFT RUSH	2.5

NURSE PLANTS
ONLY ADD NURSE PLANTS IF NATIVE SPECIES LISTED ABOVE ARE NOT DEVELOPING AT PRIOR TO MAY 1 OR AFTER AUGUST 15 ADD 40 LB/ACRE RYE (GRAIN).

SEEDING DATES

DECEMBER 1 - APRIL 1

SWEET WOODREED: DECEMBER 1 - APRIL 1

— STATION FENCE ABC CRUSHER RUN -(COMPACTED) #57 WASHED STONE (BY OTHERS) STATION FINISHED GRADE COMPACTED SUBGRADE (INCLUDES REPLACEMENT OF ABC CRUSHER 0.5' OF EXCAVATED TOPSOIL) RUN THIS CONTRACT INSITU SOILS

FILL SECTION - FINAL GRADE STATION

PAD TYPICAL CROSS SECTION

N.T.S.

- SUBGRADE ELEVATION

STATION FINISHED GRADE

3" #57 WASHED STONE -

(BY OTHERS)

3" ABC CRUSHER RUN -

2" ABC CRUSHER RUN -(THIS CONTRACT)

SUBGRADE FILL -

REPLACEMENT

EXISTING GRADE -

(INCLUDES

OF 0.5' OF

EXCAVATED

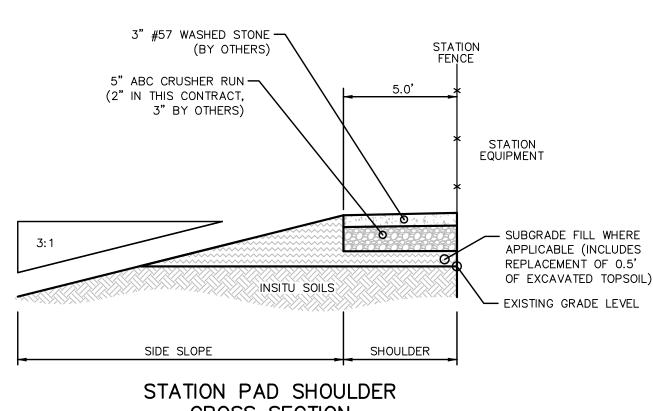
TOPSOIL)

INSITU SOILS -

(BY OTHERS)

FINISHED ACCESS DRIVE STATION ENTRY DETAIL

PROFILE VIEW



CROSS SECTION N.T.S.

CHEC APPR DATE: SCALE FILE I

(3" BY OTHERS)

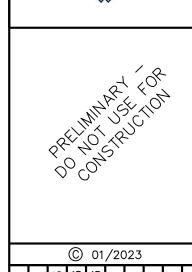
EDGE OF

STATION PAD

llectric lorporation Four County Membership







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POST-CONSTRUCTION PAVED ENTRANCE DETAIL N.T.S.

L = THE LENGTH OF THE RIPRAP APRON

THE RIP RAP AND SOIL FOUNDATION.

TIMES

INNER

DIAMETER (I.D.) = 4.5'

TOP OF THE BANK, WHICHEVER IS LESS.

4. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO 6 INCHES ABOVE THE MAXIMUM TAILWATER DEPTH OR THE

← L=8' ← ►

APRON D₅₀=6"

FILTER FABRIC

PLAN VIEW

SECTION 'A-A'

MAINTENANCE:
INSPECT RIPRAP STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. 2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6 IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE. 3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN

VEGETATION.

PIPE INLET/OUTLET PROTECTION (RIP-RAP)

N.T.S.

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. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.

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

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

SEE SHEET CG201 FOR INLET/OUTLET PROTECTION LOCATIONS.

DETAIL F-4 FILTER BAG ⊠FB PUMP DISCHARGE HOSE -_MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES 5% MAX. ← FILTER BAG **ELEVATION** CONSTRUCTION SPECIFICATIONS . TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE. . 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. . 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 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. . 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: 250 LB 150 LB GRAB TENSILE ASTM D-4632 ASTM D-4833 PUNCTURE FLOW RATE 70 GAL/MIN/FT² ASTM D-4491 PERMITTIVITY (SEC-1) 1.2 SEC-1 ASTM D-4491 70% STRENGTH @ 500 HOURS ASTM D-4355 UV RESISTANCE ASTM D-4751 APPARENT OPENING SIZE (AOS) 0.15-0.18 MM SEAM STRENGTH ASTM D-4632 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 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

STANDARD SYMBOL

FILTER BAG DETAIL

N.T.S.

CONSTRUCTION SPECIFICATIONS: 1. CLEAR THE AREA OF ALL DEBRIS THAT MIGHT

- HINDER EXCAVATION AND DISPOSAL OF SPOIL. 2. GRADE SHALLOW DEPRESSION UNIFORMLY TOWARDS THE INLET WITH SIDE SLOPES NO GREATER THAN 2:1. GRADE A 1-FOOT WIDE LEVEL AREA SET 4 INCHES BELOW THE AREA
- ADJACENT TO THE INLET. 3. INSTALL THE CLASS B OR CLASS I RIPRAP IN A CIRCLE AROUND THE INLET. THE MINIMUM CREST WIDTH OF THE RIPRAP SHOULD BE 18 INCHES, WITH A MINIMUM BOTTOM WIDTH OF 7.5 FEET. THE MINIMUM HEIGHT OF THE STONE IS 2 FEET.
- 4. THE OUTSIDE FACE OF THE RIPRAP IS THEN LINED WITH 12 INCHES OF NCDOT #5 OR #57 WASHED STONE.

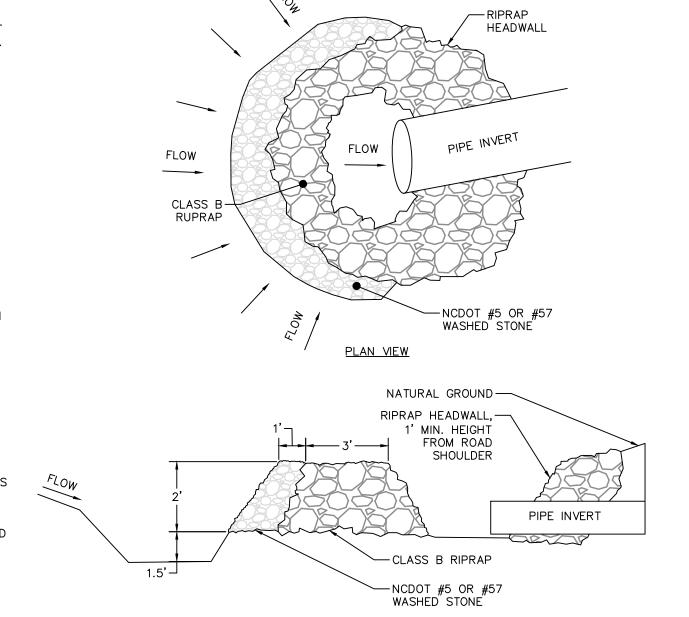
MAINTENANCE

- 1. INSPECT ROCK DOUGHNUT INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1 INCH OR GREATER) RAINFALL
- EVENT AND REPAIR IMMEDIATELY. 2. TO PROVIDE SATISFACTORY INLET PROTECTION EFFICIENCY, REMOVE SEDIMENT FROM THE SEDIMENT POOL AREA WHEN THE VOLUME IS DECREASED BY HALF. THIS WILL HELP PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN. STABILIZE EXCAVATED
- MATERIAL APPROPRIATELY. 3. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE STRUCTURE DURING SEDIMENT REMOVAL. 4. REMOVE DEBRIS FROM THE INLET AND
- WAS COVERED WITH WIRE MESH THE MESH SHOULD BE CLEANED OF DEBRIS. 5. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN ADEQUATELY STABILIZED, REMOVE ALL MATERIALS AND DISPOSE OF SEDIMENT

PROPERLY. BRING THE DISTURBED AREA TO

REPLACE STONE AS NEEDED. IF THE INLET

THE GRADE OF THE DROP INLET. SMOOTH AND COMPACT IT AS NEEDED. 6. APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET WITH GROUND COVER.



CROSS-SECTION VIEW

PIPE INLET PROTECTION (PLYWOOD & STONE)

Four County Membership



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HAMPSTEAD DELIVERY

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