

BRIGHTLEAF BLVD WATER MAIN EXTENSION
SMITHFIELD
JOHNSTON COUNTY, NORTH CAROLINA

MAY 14, 2025

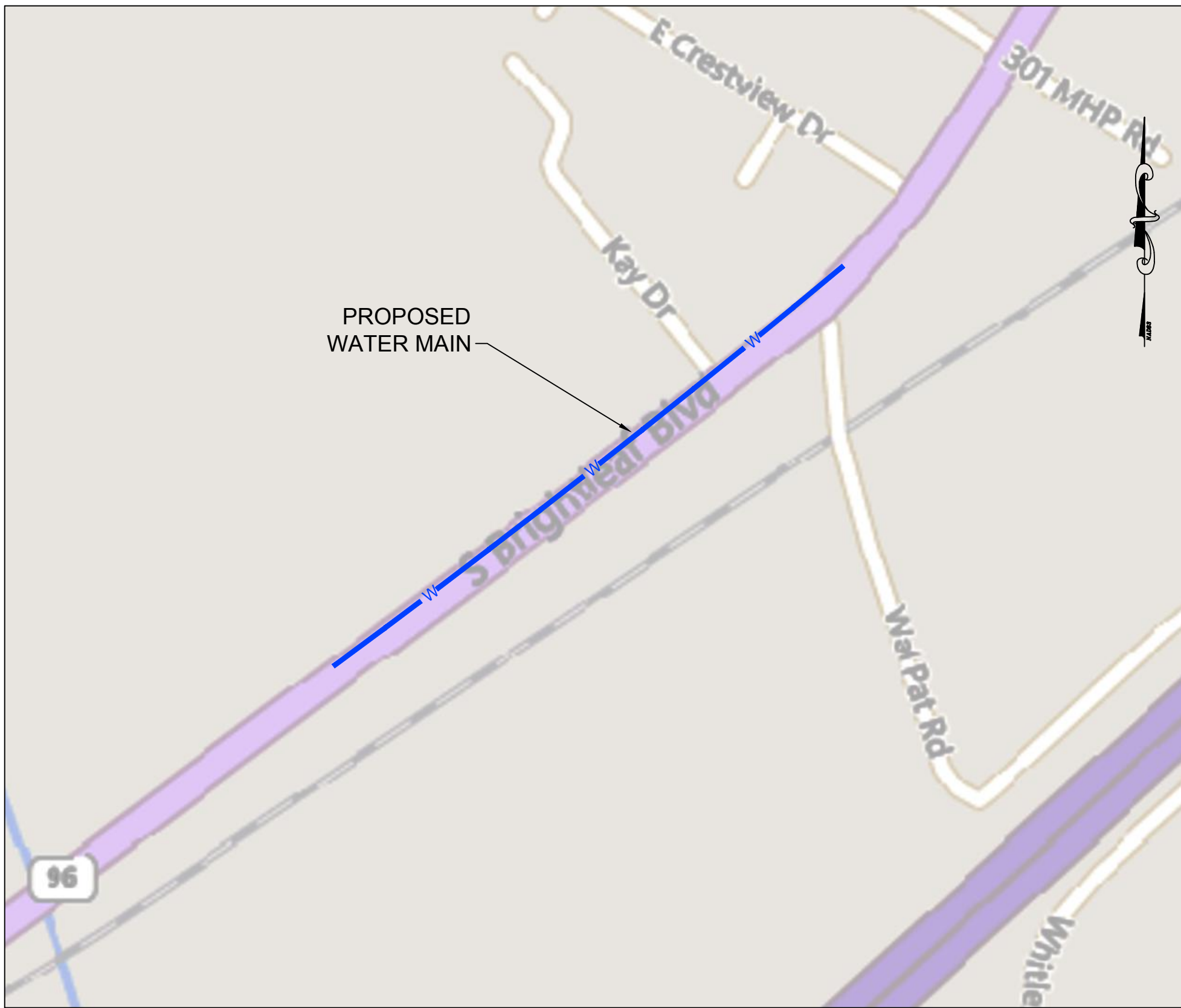
APPROXIMATE MATERIAL QUANTITIES

WATER MAIN	
16" DIP WATER MAIN	610 L.F.
18" HDPE WATER MAIN	925 L.F.
16" BUTTERFLY VALVE	3 EA.
FIRE HYDRANT ASSEMBLY	1 EA.
AIR RELEASE VALVE	1 EA.

PROJECT DATA

OWNER/OPERATOR
TOWN OF SMITHFIELD, NC
SMITHFIELD PUBLIC UTILITIES
230 HOSPITAL ROAD
SMITHFIELD, NC 27577
CONTACT:
PHONE:
EMAIL:

ENGINEERS
TIMMONS GROUP
5410 TRINITY ROAD SUITE 102
RALEIGH, NC 27607
CONTACT: CHRIS PETREE, PE, DBIA
PHONE: (919) 532-3234
EMAIL: CHRIS.PETREE@TIMMONS.COM



VICINITY MAP

SCALE: 1" = 250'



SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
G-1	COVER SHEET
G-2	WATER MAIN NOTES
G-3	WATER MAIN NOTES
G-4	WATER MAIN NOTES AND DETAILS
G-5	WATER MAIN NOTES AND DETAILS
E-1	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
E-2	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
E-3	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
E-4	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
U-1	WATER MAIN PLAN AND PROFILE
U-2	WATER MAIN PLAN AND PROFILE
U-3	WATER MAIN PLAN AND PROFILE

GENERAL NOTES

- ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH TOWN OF SMITHFIELD DESIGN STANDARDS, DETAILS, & SPECIFICATIONS.
- UTILITY SEPARATION REQUIREMENTS
 - WHEN INSTALLING WATER AND/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO THE EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE DIRECTOR OF PUBLIC UTILITIES. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
 - WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANY TIME A SANITARY SEWER PASSES OVER A WATER MAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
 - MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATER MAIN & RCP STORM DRAIN CROSSINGS. MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING A 6" MIN. CLEARANCE.
 - ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
- ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN AND/OR PROFILE BY THE TOWN OF SMITHFIELD PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS UTILITY SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PROCEEDED BY A 24-HR ADVANCE NOTICE TO THE TOWN OF SMITHFIELD DEPARTMENT OF PUBLIC UTILITIES.
- ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM JOHNSTON COUNTY, NCDEQ, USACE, AND/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND AND/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL CAREFULLY SUPPORT AND PROTECT ANY UTILITIES, STRUCTURES, POWER POLES, PIPELINES, AND CONDUITS THAT MAY BE ENCOUNTERED DURING COMPLETION OF THE WORK AT NO ADDITIONAL COST TO THE OWNER. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR OR UTILITY OWNER (WHERE REQUIRED) TO THE SATISFACTION OF THE TOWN OF SMITHFIELD AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL PROCEDURES, PRACTICES, AND METHODS OF CONSTRUCTION AS DICTATED BY THE TOWN OF SMITHFIELD, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, AND NCDEQ.
- EXCAVATIONS INSIDE THE THEORETICAL 1:1 SLOPE FROM THE EDGE OF TRAVEL TO THE BOTTOM OF THE NEAREST EXCAVATION WALL SHALL REQUIRE ACTIVE SHORING.
- CONTRACTOR TO PLACE ALL SPOIL MATERIAL ON THE UPHILL SIDE, AWAY FROM ALL ROAD SIDE DITCHES, CREEKS, AND WATER COURSES DURING CONSTRUCTION.
- ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE PROJECT AND UNTIL A GOOD STAND OF GRASS IS ESTABLISHED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING STORM DRAINAGE DURING CONSTRUCTION, SUCH THAT PRE-EXISTING DRAINAGE CAPACITY IS CONTINUOUSLY PROVIDED. TEMPORARY STORM BASINS, PIPES, AND PUMP S SHOULD BE USED IF NECESSARY. PERMANENT STORM DRAINAGE STRUCTURES AND PIPES SHALL BE REPLACED AS SOON AS POSSIBLE.
- 100-YR FLOOD ELEVATION INFORMATION INDICATED IN PIPE PROFILE AND USED FOR COMPLIANCE TO FEMA FLOOD RULES IS BASED ON THE CURRENT FIRM 100-YR FLOOD BASE ELEVATIONS.



THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 112 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

Site Development | Residential | Infrastructure | Technology

REVISION DESCRIPTION

DATE

08-27-2025

DRAWN BY

C. VALENTINE

DESIGNED BY

C. VALENTINE

CHECKED BY

B. STRICKLAND

SCALE

AS SHOWN

TIMMONS GROUP

BRIGHTLEAF BOULEVARD WATER MAIN EXT.

TOWN OF SMITHFIELD - JOHNSTON COUNTY - NORTH CAROLINA

COVER SHEET

JOB NO.

70209

SHEET NO.

G-1

PLAN IS SUBJECT TO REVISIONS DURING THE "CONSTRUCTION DRAWING APPROVAL PROCESS"

I:\212\70209-brightleaf_wma DWG Sheet\CD\70209-212C-G-2-NTD.rdw | Plotted on 5/20/2025 11:03 AM | by Chad Valentine

SECTION 6.00
POTABLE WATER

6.01 WATER DISTRIBUTION

A. DESIGN

LOCATION: WATER LINES SHALL BE EXTENDED ALONG THE ROADWAY TO THE ADJACENT PROPERTY LINE. ALL PUBLIC WATER MAINS SHALL BE LOCATED WITHIN DEDICATED RIGHT OF WAY OR DEDICATED EASEMENTS WITH A MINIMUM WIDTH OF 20 FEET. SEE SECTION 2.10 FOR LANDSCAPE PLANTINGS WITHIN A TOWN EASEMENT.

SIZING: MAJOR TRANSMISSION LINES SHALL BE SIZED IN ACCORDANCE WITH THE "MASTER WATER PLAN OF THE TOWN OF SMITHFIELD" OR AS DIRECTED BY THE PUBLIC UTILITIES DIRECTOR. IN RESIDENTIAL AREAS, MAINS SHALL BE 6-INCH AND 8-INCH IN DIAMETER. SIX (6) INCH MAINS SHALL BE USED ONLY WHEN A GOOD GRID EXISTS. THE TOTAL MAXIMUM LENGTH OF 6-INCH AND 8-INCH MAIN WITHOUT A CONNECTION TO A LARGER MAIN IS 1200 FEET AND 2000 FEET, RESPECTIVELY. WHERE A GOOD GRID DOES NOT EXIST, LINES SHALL BE UPSIZED TO PROVIDE ADEQUATE FIRE FLOW AS DIRECTED BY THE PUBLIC UTILITIES DIRECTOR.

B. MATERIAL

MATERIALS TO BE UTILIZED SHALL BE THOSE AS SPECIFIED HEREIN, UNLESS AN APPROVED EQUAL IS AUTHORIZED BY THE PUBLIC UTILITIES DIRECTOR. UNLESS OTHERWISE AUTHORIZED, ANY WATER LINE 12" OR LARGER SHALL BE DUCTILE IRON PIPE. DUCTILE IRON PIPE OR C-900 PVC SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH AWWA C150 AND C151 FOR A LAYING CONDITION TYPE 2 AND A WORKING PRESSURE AS FOLLOWS:

3" - 12"	350 PSI
14" - 20"	250 PSI
24"	200 PSI
30" - 54"	150 PSI

PIPE JOINTS SHALL BE OF THE PUSH-ON TYPE AS PER AWWA C111. PIPE LINING SHALL BE CEMENT MORTAR WITH A SEAL COAT OF BITUMINOUS MATERIAL IN ACCORDANCE WITH AWWA C104. GALVANIZED STEEL PIPE WILL NOT BE ALLOWED AS A MATERIAL FOR MAINS OR SERVICES.

C. INSTALLATION

ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 3 FEET MEASURED FORM THE TOP OF THE PIPE TO THE FINISHED SUBGRADE. WHEN WATER LINES ARE INSTALLED ALONG A ROADWAY WHICH DOES NOT HAVE CURB & GUTTER, THE WATER LINE SHALL BE INSTALLED AT EXTRA DEPTH TO PREVENT CONFLICT WITH FUTURE ROAD IMPROVEMENTS OR VERTICAL ALIGNMENT CHANGES.

ALL CONSTRUCTION RELATING TO THE UTILITY IMPROVEMENTS MUST BE PERFORMED BY A CONTRACTOR LICENSED IN NORTH CAROLINA.



STANDARD DETAIL AND
SPECIFICATIONS MANUAL

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.00_P1

DATE: 06/05/2018

6.02 FIRE HYDRANTS

A. LOCATION: ALL FIRE HYDRANTS SHALL BE INSTALLED ON A WATER LINE WITH A DIAMETER NO SMALLER THAN 6 INCHES. ONLY ONE FIRE HYDRANT MAY BE INSTALLED ON A DEAD END 6-INCH LINE. THERE SHALL BE AT LEAST ONE FIRE HYDRANT AT EACH STREET INTERSECTION. IN RESIDENTIAL DISTRICTS, THE MAXIMUM DISTANCE BETWEEN FIRE HYDRANTS, MEASURED ALONG STREET CENTERLINES, SHALL BE 500 FEET. WHEN RESIDENTIAL INTERSECTIONS ARE NOT MORE THAN 700 FEET APART, NO HYDRANT IS REQUIRED BETWEEN THE INTERSECTIONS. IN BUSINESS, OFFICE AND INSTITUTIONAL, AND INDUSTRIAL DISTRICTS, THE MAXIMUM DISTANCE BETWEEN HYDRANTS, MEASURED ALONG STREET CENTERLINE, SHALL BE 300 FEET. WHEN BUSINESS, OFFICE AND INSTITUTIONAL, AND INDUSTRIAL INTERSECTIONS ARE NOT MORE THAN 450 FEET APART, NO HYDRANT IS REQUIRED BETWEEN INTERSECTIONS. ON MAJOR THOROUGHFARES OR ARTERIALS AND COLLECTOR STREETS WITH ACCESS POINTS ONLY AT STREET INTERSECTIONS, HYDRANTS SHALL BE LOCATED AT EACH STREET INTERSECTION AND AT 1,000 FOOT INTERVALS ALONG THE STREET. WHERE THESE INTERSECTIONS ARE LESS THAN 1,200 FEET APART, NO HYDRANT IS REQUIRED BETWEEN THE INTERSECTIONS. THE MINIMUM ACCEPTABLE FLOW FOR FIRE HYDRANTS IS 1,000 gpm IN RESIDENTIAL AREAS AND 1,500 gpm IN OTHER DISTRICTS. FIRE HYDRANTS SHALL BE PLACED IN A STAGGERED ARRANGEMENTS ON BOTH SIDES OF ANY ROADWAY CLASSIFIED AS A MAJOR OR MINOR THOROUGHFARE WITH THE HYDRANT SPACING AS REFERENCED ABOVE. VALVES ASSOCIATED WITH FIRE HYDRANT ASSEMBLIES SHALL BE LOCATED WITHIN FIFTEEN (15) FEET OF THE FIRE HYDRANT.

WHEN NEW BUILDINGS ARE CONSTRUCTED OR EXISTING BUILDINGS ARE EXPANDED AND CONTAIN 10,000 SQUARE FEET OF FLOOR SPACE (ALL FLOORS OF ALL BUILDINGS, ADDED TOGETHER), HYDRANTS SHALL BE INSTALLED AT 300 FOOT INTERVALS ALONG ALL SIDES OF THE BUILDING THAT ARE ACCESSIBLE TO FIRE PUMPS. THESE HYDRANTS SHALL BE AT LEAST 40 FEET AWAY FROM THE BUILDING. THE TOTAL NUMBER OF HYDRANTS REQUIRED SHALL NOT EXCEED ONE HYDRANT PER SEPARATION OF BUILDINGS PLUS ONE HYDRANT PER 10,000 SQUARE FEET OF FLOOR SPACE.

WHERE SPRINKLER SYSTEMS ARE USED, A FIRE DEPARTMENT CONNECTION SHALL BE PROVIDED ON THE BUILDING. THE FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED WITHIN FIFTY (50) FEET OF A FIRE HYDRANT OR AS OTHERWISE DIRECTED BY THE FIRE MARSHALL. WHERE SPRINKLER SYSTEMS OR A RISER ROOM ARE REQUIRED, OUTSIDE ACCESS IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE SHALL BE PROVIDED. BACKFLOW PREVENTION FOR SPRINKLER SYSTEMS SHALL BE AS SPECIFIED IN SECTION 6.06 OF THESE STANDARDS.

B. SPECIFICATIONS: HYDRANTS SHALL CONFORM TO AWWA C502 WITH A MINIMUM VALVE OPENING OF 4 1/2 INCHES. HYDRANTS SHALL BE FURNISHED WITH A 4 1/2 INCH STEAMER AND DOUBLE 2 1/2 INCH HOSE CONNECTIONS WITH CAPS AND CHAINS, NATIONAL STANDARD THREADS, MECHANICAL JOINT, 1 1/2 INCH PENTAGON OPERATING NUT, OPEN LEFT, PAINTED FIRE HYDRANT RED, BRONZE TO BRONZE SEATING, A MINIMUM 3/4 INCH FOOT BURY DEPTH WITH A BREAK AWAY GROUND LINE FLANGE AND BREAK AWAY ROD COUPLING. THE HYDRANT BONNET WILL BE DESIGNED WITH A SEALED OIL OR GREASE RESERVOIR WITH O-RING SEALS AND A TEFLON THRUST BEARING, AS FURNISHED BY MUELLER "CENTURIUM" (A-421), KENNEDY "GUARDIAN" OR AMERICAN DARLING (MARK 73-S). FIRE HYDRANT CAPS SHALL BE ATTACHED TO THE BODY OF THE HYDRANT WITH A MINIMUM 2/0 TWIST LINK, HEAVY DUTY, NON-KINKING, MACHINE CHAIN.



STANDARD DETAIL AND
SPECIFICATIONS MANUAL

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.00_P2

DATE: 06/05/2018

C. INSTALLATION: HYDRANTS SHALL BE PLUMB, PROPERLY LOCATED WITH THE PUMPER NOZZLE FACING THE CLOSEST STREET. THE BACK OF THE HYDRANT OPPOSITE THE PIPE CONNECTION SHALL BE FIRMLY BLOCKED AGAINST THE VERTICAL FACE OF THE TRENCH WITH 1 CUBIC YARD OF CONCRETE. DOUBLE BRIDLE RODS AND COLLARS SHALL BE CONNECTED FORM THE TEE TO THE HYDRANT. RODS SHALL NOT BE LESS THAN 1/2 INCH DIAMETER STOCK AND COATED WITH BITUMINOUS PAINT. A MINIMUM OF 8 CUBIC FEET OF STONE SHALL BE PLACED AROUND THE DRAINS. THE BACKFILL AROUND THE HYDRANTS SHALL BE THOROUGHLY COMPACTED. HYDRANT INSTALLATION SHALL BE IN ACCORDANCE WITH STANDARD ROD VALVE RODDING DETAIL.

6.03 VALVES AND APPURTENANCES

A. LOCATION: VALVES SHALL BE INSTALLED ON ALL BRANCHES FORM FEEDER MAINS AND HYDRANTS ACCORDING TO THE FOLLOWING SCHEDULE: 3 VALVES AT CROSSES; 2 VALVES AT TEES; AND ONE VALVE ON EACH HYDRANT BRANCH. WHEN A LOOP SECTION OF WATERLINE IS CONNECTED BACK INTO THE FEEDER MAIN WITHIN A DISTANCE OF 200 FEET, OR LESS, ONLY ONE VALVE WILL BE REQUIRED IN THE FEEDER MAIN.

WHERE NO WATERLINE INTERSECTIONS ARE EXISTING, A MAIN LINE VALVE SHALL BE INSTALLED AT EVERY 100 FEET PER 1 INCH DIAMETER MAIN UP TO A DISTANCE OF 2,000 FEET BETWEEN VALVES.

BLOWOFFS SHALL BE INSTALLED AT THE END OF ALL DEAD-END WATERLINES.

COMBINATION AIR VALVES SHALL BE INSTALLED AT ALL HIGH POINTS OF WATERLINES 8 INCHES IN DIAMETER OR LARGER AND AT OTHER LOCATIONS AS DIRECTED BY THE TOWN ENGINEER.

THE WATER MAIN SHALL BE INSTALLED AT A GRADE WHICH WILL ALLOW THE AIR TO MIGRATE TO A HIGHPOINT, WHERE THE AIR CAN BE RELEASED THROUGH AN AIR VALVE. A MINIMUM PIPE SLOPE OF ONE (1) FOOT PER 500 FEET SHOULD BE MAINTAINED. THE SIZE OF THE AIR VALVE SHALL BE DESIGNED BY THE ENGINEER.

B. SPECIFICATIONS: GATE VALVE GREATER THAN 2 INCHES, SHALL MEET ALL REQUIREMENTS OF AWWA C500 FOR A WORKING PRESSURE OF 150 PSI. ALL SHALL BE MECHANICAL JOINT WITH IRON BODY, BRONZE MOUNTING DOUBLE DISC, PARALLEL SEAT TYPE WITH A NON-RISING STEM AND OPEN LEFT, WITH A DOUBLE O-RING SEAL.

GATE VALVES, UP TO AND INCLUDING 12 INCHES, SHALL BE INSTALLED IN A VERTICAL POSITION.

GATE VALVES, 16 INCHES OR LARGER, SHALL BE INSTALLED ONLY UNDER THE SUPERVISION OF THE TOWN ENGINEER AND SHALL BE HORIZONTALLY INSTALLED AND EQUIPPED WITH BEVEL GEARS, GREASE CASE, ROLLERS, TRACKS SCRAPERS, AND A BYPASS LOCATED ON THE SIDE OF THE BODY. FULLY REVOLVING DISC VALVES SHALL NOT REQUIRE ROLLERS.

GATE VALVES, 16 INCHES OR LARGER, INSTALLED IN A VERTICAL POSITION SHALL ONLY BE INSTALLED IN SPECIAL CONDITIONS UNDER THE DIRECTION OF THE TOWN ENGINEER AND SHALL BE EQUIPPED WITH SPUR GEARS ENCLOSED IN A GREASE CASE AND WITH A BYPASS LOCATED ON THE SIDE OF THE BODY.



STANDARD DETAIL AND
SPECIFICATIONS MANUAL

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.00_P3

DATE: 06/05/2018

ALL VALVES 16 (16) INCHES AN GREATER SHALL BE INSTALLED IN A MANHOLE AS SHOWN IN THE STANDARD DETAILS.

RESILIANT SEAT WEDGE GATE VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C509

VALVE BOXES SHALL BE CAST IRON AT THE SCREW OR TELESCOPIC WITH A 5-INCH OPENING WITH "WATER" STAMPED ON THE COVER. VALVE BOX RING ADJUSTMENTS WILL NOT BE ALLOWED.

BUTTERFLY VALVES SHALL BE INSTALLED IN WATERLINES SIXTEEN (16) INCHES, OR GREATER. ALL SHALL MEET THE REQUIREMENTS OF AWWA C504 WITH MECHANICAL JOINTS, 2-INCH OPERATING NUT AND OPEN LEFT. ALL VALVES 16 INCHES AND GREATER SHALL BE INSTALLED IN A MANHOLE AS SHOWN IN STANDARD DETAILS.

BLOW-OFF ASSEMBLIES SHALL BE CONSTRUCTED AS SHOWN IN STANDARD DETAILS. THE VALVE SHALL BE GATE TYPE WITH A NON-RISING STEM AND A 2-INCH OPERATING NUT.

PIPE FITTINGS SHALL BE DUCTILE IRON DESIGNED AND MANUFACTURED AS PER AWWA C110. SIZES OF FITTINGS UP TO AN INCLUDING 12 INCH SHALL BE DESIGNED FOR AN INTERIOR PRESSURE OF 250 PSI. LARGER SIZE FITTINGS SHALL BE DESIGNED FOR AN INTERIOR PRESSURE OF 150 PSI. COMPACT DUCTILE IRON MECHANICAL JOINT FITTINGS ARE ALSO ACCEPTABLE. JOINTS FOR FITTINGS SHALL BE MECHANICAL AND LINED WITH CEMENT MORTAR WITH A SEAL COAT OF BITUMINOUS MATERIAL, ALL IN ACCORDANCE WITH AWWA C104.

REACTION BLOCKING FOR ALL FITTINGS OR COMPONENTS SUBJECT TO HYDROSTATIC THRUST SHALL BE SECURELY ANCHORED BY THE USE OF CONCRETE THRUST BLOCKS POURED IN PLACE. THE REACTION AREAS ARE SHOWN IN STANDARD DETAILS. NO CONCRETE SHALL INTERFERE WITH THE REMOVAL OF FITTINGS. MATERIAL FOR REACTION BLOCKING SHALL BE 3,000 PSI CONCRETE. ALTERNATIVE RESTRAINING METHODS MUST BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA AND APPROVED BY THE TOWN ENGINEER.

TAPPING SLEEVES SHALL BE TWO PIECE SPLIT CAST IRON SLEEVES. THE SLEEVE SHALL BE MECHANICAL JOINT TO THE MAIN LINE AND FLANGED TO THE TAPPING VALVE. STAINLESS STEEL TAPPING SLEEVES SHALL ONLY BE ALLOWED ON ASBESTOS-CEMENT PIPE.

TAPPING SADDLES SHALL BE USED ON MAINS 16 INCHES AND LARGER. SADDLES SHALL BE MADE OF DUCTILE IRON PROVIDING A FACTOR OF SAFETY OF 2.5 WITH A WORKING PRESSURE OF 250 PSI. SADDLES SHALL BE EQUIPPED WITH A AWWA C110 FLANGE CONNECTION ON THE BRANCH. SEALING GASKETS SHALL BE O-RING TYPE, HIGH QUALITY MOLDED RUBBER, HAVING APPROXIMATELY 70 DUROMETER HARDNESS, PLACED INTO A GROOVE ON THE CURVED SURFACE OF THE SADDLES. STRAPS SHALL BE ALLOY STEEL.

THE MAXIMUM SIZED SADDLE OUTLET FOR EACH SIZE OF PIPE TO BE TAPPED SHALL BE AS FOLLOWS:

SIZE PIPE TO BE TAPPED	MAXIMUM SIZE SADDLE OUTLET
16"	8"
18"	8"
20"	10"
24" AND LARGER	12"



STANDARD DETAIL AND
SPECIFICATIONS MANUAL

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.00_P4

DATE: 06/05/2018

COMBINATION AIR VALVES SHALL BE OF THE SINGLE HOUSING STYLE THAT COMBINES THE OPERATION OF BOTH AN AIR/VACUUM AND AIR RELEASE VALVE. THE VALVE SHALL BE MANUFACTURED FOR A 150 PSIG WORKING PRESSURE AND BE SIZED BY THE ENGINEER. THE VALVE MUST MEET THE REQUIREMENTS OF AWWA C512 AND BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS.

C. INSTALLATION: VALVES SHALL BE PROPERLY LOCATED, OPERABLE AND AT THE CORRECT ELEVATION. ALL VALVES AND REDUCERS SHALL BE RODDED TO THE TEE OR CROSS IF ONE IS LOCATED WITHIN TEN (10) FEET, AS SHOWN IN STANDARD DETAILS. IF REDUCERS CANNOT BE RODDED, CONCRETE BLOCKING OR OTHER RESTRAINING METHODS WILL BE REQUIRED. THE VALVE BOX SHALL BE CENTERED OVER THE WRENCH NUT AND SEATED ON COMPACTED BACKFILL WITHOUT TOUCHING THE VALVE ASSEMBLY. ALL VALVE BOXES IN ROADWAYS SHALL BE ENCASED IN A TROWEL FINISHED 2'x 2'x 6" PAD OF 3,000 PSI CONCRETE BENEATH THE ASPHALT WITH THE COVER FLUSH WITH THE TOP OF THE PAVEMENT OR FLUSH WITH THE FINISHED GRADE. PRECAST CONCRETE VALVE BOX ENCASEMENTS MAY BE USED FOR VALVE BOX ENCASEMENTS OUTSIDE THE PAVED AREAS. THE MAXIMUM DEPTH OF THE VALVE NUT SHALL BE FIVE (5) FEET. WHEN VALVE EXTENSION KITS ARE USED, THEY MUST BE MANUFACTURED BY THE SAME COMPANY WHICH MANUFACTURED THE VALVE.

6.04 WATER SERVICE TAPS

A. MATERIALS

CORPORATION STOPS SHALL BE BRASS, COMPLETE WITH A FLARED COUPLING AND AWWA STANDARD THREADS AS PER AWWA C800. TAPS SHALL BE LOCATED AT 10:00 OR 2:00 ON THE CIRCUMFERENCE OF THE PIPE. SERVICE TAPS SHALL BE STAGGERED, ALTERNATING FROM ONE SIDE OF THE WATER MAIN TO THE OTHER AND A T LEAST 12 INCHES APART. THE TAPS MUST BE A MINIMUM OF 24 INCHES APART IF THEY ARE ON THE SAME SIDE OF THE PIPE.

THE MAXIMUM SIZE OF DIRECT TAPS WITHOUT A FITTING, TAPPING SLEEVE, OR SADDLE FOR DUCTILE IRON WATER MAINS SHALL BE AS FOLLOWS:

SIZE PIPE TO BE TAPPED	MAXIMUM SIZE TAP
4"	3/4"
6"	1"
8"	1-1/4"
10"	1-1/2"
12"	2"

NO BURNED TAPS WILL BE ALLOWED AND EACH CORPORATION STOP WILL BE WRAPPED WITH TEFLON TAPE FOR DUCTILE IRON PIPE WATER MAINS.

SERVICE SADDLES SHALL BE BRONZE BODY (85-5-5 WATERWORKS BRASS) AND DOUBLE STRAP FOR TAPS OVER 1 INCH WITH SILICON BRONZE NUTS CONFORMING TO ASTM A98 AND FACTORY INSTALLED GRADE 60 RUBBER GASKETS.

COPPER SERVICE TUBING SHALL BE TYPE K SOFT COPPER TUBING PER ASTM B88. THE LONGEST AVAILABLE LENGTH OF SERVICE LINE SHOULD BE USED WITH NO UNIONS, AS AN EXAMPLE, FOR A 3/4 INCH SERVICE CONNECTION, NO UNION SHALL BE USED IN THE INSTALLATION OF 100 FEET OR LESS. FOR 3/4 INCH, ONLY ONE (1) UNION WILL BE ALLOWED FOR EACH 100 FOOT SECTION OF FRACTION THEREOF. UNIONS SHALL BE MADE WITH FLARE TYPE COUPLINGS.



STANDARD DETAIL AND
SPECIFICATIONS MANUAL

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.00_P5

DATE: 06/05/2018

METER BOXES FOR 3/4 INCH SERVICES SHALL BE CAST IRON AND A COMPLETE UNIT (LESS METER) FOR SETTING A 5/8 INCH BY 3/4 INCH WATER METER. METER STOPS SHALL BE O-RING SEALED AND HAVE AN INSET ANGLE OF 90 DEGREES WITH A LOCKING LID. RESIDENTIAL SERVICE METERS SHALL BE INSTALLED BY THE TOWN OF SMITHFIELD. METER BOX GRADE ADJUSTER RINGS ARE NOT ACCEPTABLE.

METER BOXES FOR 1 INCH SERVICES SHALL BE CAST IRON BOX AND COVER WITH A METER YOKE AND A COPPER RESETTER.

METER BOXES FOR 1-1/2 AND 2 INCH SERVICES SHALL BE LIGHT WEIGHT POLYMER CONCRETE AS INDICATED IN STANDARD DETAILS. PIPING FOR 1-1/2 AND 2 INCH SERVICES SHALL BE CONSTRUCTED FROM BRASS AND COPPER TUBING AND SHALL BE EQUIPPED WITH ANGLED CHECK VALVE OUTLETS AND BY-PASS FLANGED VALVE OR BY-PASS FLANGED BALL VALVE INLETS

WATER SERVICES GREATER THAN 2 INCHES SHALL BE MADE BY A PRIVATE CONTRACTOR OF THE PROPERTY OWNER OR DEVELOPER. A STRAINER SHALL BE PROVIDED UPSTREAM OF THE METER ON LINES GREATER THAN 2 INCHES.

METER VAULTS WITHIN STREET RIGHT-OF-WAY SHALL MEET HS-20 LOADING REQUIREMENTS AND SHALL BE LOCATED OUTSIDE OF TRAVEL AREAS. THE ACCESS DOOR SHALL BE ALUMINUM WITH A FLUSH DROP LIFT HANDLE. STAINLESS STEEL HINGES & BOLTS, STAINLESS STEEL SLAM LOCK, AN AUTOMATIC HOLD OPEN ARM, AND COMPRESSION SPRINGS TO ALLOW FOR EASY OPENING. POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL METER VAULTS.

B. INDIVIDUAL WATER SERVICES SHALL BE PROVIDED FROM THE MAIN TO EACH WATER METER FOR SINGLE FAMILY RESIDENCES IN ACCORDANCE WITH STANDARD DETAILS. CONNECTIONS TO EXISTING MAINS SHALL BE MADE BY WET TAPS.

SERVICE CONNECTIONS SHALL BE MADE PERPENDICULAR FROM THE MAIN LINE AND SHALL RUN STRAIGHT TO THE METER WHICH SHALL BE LOCATED AT THE EDGE OF THE SERVICED LOT'S RIGHT-OF-WAY, OR EASEMENT. NO WATER METER BOX OR VAULT SHALL BE LOCATED IN STREETS, SIDEWALKS, OR PARKING AREAS IN RESIDENTIAL AREAS. IN NON-RESIDENTIAL AREAS, METER LOCATION SHALL BE CONSIDERED ON A CASE-BY-CASE BASIS. PROVISIONS FOR BACKFLOW PREVENTION SHALL BE AS SPECIFIED IN SECTION 6.06 OF THESE STANDARDS.

SERVICE TAPS TO WATER MAINS SHALL BE MADE BY A LICENSED UTILITY CONTRACTOR THAT IS LICENSED IN NORTH CAROLINA AND SHALL BE THE RESPONSIBILITY OF THE OWNER OR DEVELOPER. TAPS SHALL BE INSPECTED BY THE TOWN OF SMITHFIELD UTILITY DEPARTMENT AND SHALL BE IN ACCORDANCE WITH STANDARD DETAILS.

THE WATER METER SHALL BE SIZED BASED ON THE WATER DEMAND. WATER METER SIZE CAN BE DETERMINED AS FOLLOWS:

TABLE 5.1 WATER METER SIZING FOR FLUSH TANKS		
METER SIZE (INCHES)	LOAD RANGE (FIXTURES)	FLOW RANGE (FIXTURES)
3/4" PD	1 - 22	0 - 20
1" PD	22 - 140	20 - 50
1-1/2" PD	140 - 450	50 - 100
2" PD	450 - 1000	100 - 200
3" T or C	1000 - 2500	200 - 400
4" T or C	2500 - 5000	400 - 600



STANDARD DETAIL AND
SPECIFICATIONS MANUAL

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.00_P6

DATE: 06/05/2018



THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 112 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

Site Development | **Residential** | **Infrastructure** | **Technology**

REVISION DESCRIPTION

DATE

08-27-2025

DRAWN BY
C. VALENTINE

DESIGNED BY
C. VALENTINE

CHECKED BY
B. STRICKLAND

SCALE
AS SHOWN

BRIGHTLEAF BULEVARD WATER MAIN EXT.

TOWN OF SMITHFIELD - JOHNSTON COUNTY - NORTH CAROLINA

WATER MAIN NOTES

JOB NO.
70209

SHEET NO.
G-2

These plans and associated documents are the exclusive property of TIMMONS GROUP and may not be reproduced in whole or in part and shall not be used for any purpose whatsoever, inclusive, but not limited to construction, bidding, and/or construction staking without the express written consent of TIMMONS GROUP.

\\212\70209-brightleaf_wma\DWG\Sheet\CD\70209-212C-G-2-NTD1.dwg | Plotted on 5/20/2025 11:04 AM | by Ched Valentine

EROSION AND SEDIMENT CONTROL NOTES

- LIMITS OF DISTURBANCE: 0.20 ACRES
- PROVISIONS TO PREVENT EROSION OF THE SOIL FROM THE SITE SHALL CONFORM TO THE REQUIREMENTS OF THE "NORTH CAROLINA SEDIMENTATION POLLUTION CONTROL ACT OF 1973" AS SHOWN HEREIN AND STIPULATED IN THE "EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" BY VARIOUS AGENCIES WITHIN THE STATE OF NORTH CAROLINA. INSTALLATION SHALL BE IN A MANNER SO AS TO MINIMIZE EROSION OF THE DISTURBED AREAS AND PREVENT SEDIMENT FROM LEAVING THE SITE.
- TEMPORARY VEGETATIVE COVER SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6, SECTION 10 AND 11 OF THE "PLANNING AND DESIGN MANUAL" AS DESCRIBED IN NOTE NO. 1 ABOVE.
- EROSION CONTROL INSPECTOR CAN BE REACHED AT THE NCDENR MOORESVILLE REGIONAL OFFICE AT 704-235-2100.
- EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS. THE PLANS AND DETAILS ARE BASED ON THE NC EROSION AND SEDIMENT PLANNING DRAWINGS, AND THE PROJECT SPECIFICATIONS.
- ALL SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE INSPECTED BY THE CONTRACTOR AT LEAST ONCE EVERY SEVEN (7) DAYS AND AFTER ANY STORM EVENT OF 1" OR GREATER PRECIPITATION DURING 24 HOUR PERIOD. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AND OWNER WITH COPIES OF HIS INSPECTION REPORT AND SHALL HAVE 5 DAYS TO REPAIR AND/OR CORRECT DEFICIENCIES. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED AS NECESSARY.
- ALL DISTURBED AREAS WHERE CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH GRASSING AS SOON AS PRACTICABLE AND IN NO CASE EXCEED THE TIME AS DESCRIBE IN THE "STABILIZATION TIMEFRAME", ATTACHED TO THIS SHEET (PER NPDES STORMWATER GENERAL PERMIT NCG010000).
- ALL CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT (NCG010000). THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING, RECORDING, AND SUBMITTING THE REQUIRED SELF-INSPECTION REPORTS TO THE APPROPRIATE AGENCIES. PERMIT DOCUMENTATION CAN BE FOUND IN THE PROJECT SPECIAL CONDITIONS.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION, AS DETERMINED BY THE ENGINEER OR EROSION CONTROL INSPECTOR.
- THE CONTRACTOR SHALL TAKE NECESSARY ACTION TO MINIMIZE TRACKING OF MUD ONTO PAVED ROADWAY SURFACE FROM CONSTRUCTION AREAS, INCLUDING BUT NOT LIMITED TO EXTENDING THE MUD MAT. THE CONTRACTOR SHALL REMOVE MUD AND SOIL FROM THE PAVEMENT ON A DAILY BASIS. NO ADDITIONAL PAYMENT WILL BE MADE.
- THE CONTRACTOR SHALL SCHEDULE AND PERFORM A CONTINUOUS CONSTRUCTION OPERATION AT ALL DRAINAGE DITCHES AND STREAM CROSSINGS IN ORDER TO MINIMIZE THE TIME WORKING IN THE DRAINAGE OR STREAM.
- IF FILL MATERIALS ARE TO BE BROUGHT ON TO THIS PROJECT OR WASTE MATERIALS ARE TO BE TAKEN FROM THIS PROJECT, THIS INFORMATION MUST BE DISCLOSED AND SHOWN ON THE EROSION CONTROL AND GRADING PLAN. BORROWED AREAS AND DUMP SITES ARE CONSIDERED TO BE PART OF THIS PROJECT AND THE OWNER IS RESPONSIBLE FOR STABILIZATION AND EROSION CONTROL MEASURES AT THESE SITES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARATION AND APPROVAL OF THE EROSION CONTROL PLAN FOR ANY OFF SITE BORROW OR DUMP SITES.
- SEE EROSION CONTROL PLANS FOR LIMITS OF DISTURBANCE.
- SILT FENCE OUTLETS SHALL BE CONSTRUCTED IN LOW LYING AREAS AND AREAS OF CONCENTRATED FLOW ALONG THE LENGTH OF TEMPORARY SILT FENCING. IF LOCATIONS ARISE DURING THE COURSE OF CONSTRUCTION WHERE THE TEMPORARY SILT FENCE BECOMES OVERWHELMED WITH FLOW AND FAILS, THE CONTRACTOR SHALL REPAIR THESE AREAS WITH SILT FENCE OUTLETS.
- WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE. THE ROAD SURFACE SHALL BE CLEANED IMMEDIATELY AND CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

SEQUENCE OF CONSTRUCTION

- OBTAIN COPIES OF PLAN APPROVAL AND OTHER APPLICABLE PERMITS, THE NOTICE OF INTENT (NOI) AND THE EROSION AND SEDIMENT CONTROL (ES&C) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES (INCLUDING TIMBERING AND DEMOLITION) OCCUR.
- THE CONTRACTOR SHALL CONTACT THE NCDENR LAND QUALITY SECTION MOORESVILLE REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO COMMENCING THE LAND DISTURBING ACTIVITY AT 704-663-6040, PRIOR TO ANY LAND DISTURBANCE ACTIVITY, TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES FROM NCDENR, CONTRACTOR, ENGINEER, AND OWNER.
- HOLD PRECONSTRUCTION CONFERENCE AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION. FLAG THE WORK LIMITS AND MARK ITEMS TO BE PROTECTED, SUCH AS TREES AND EXISTING UTILITIES THAT ARE TO REMAIN.
- PER NPDES REQUIREMENTS, A RAIN GAUGE, SELF-INSPECTIONS RECORDS, PERMIT, CERTIFICATE OF COVERAGE, AND E&SC PLAN ARE REQUIRED TO BE MAINTAINED ON SITE AND ACCESSIBLE DURING INSPECTION. IT IS RECOMMENDED THAT THESE ITEMS BE PLACED AT THE BEGINNING OR ENTRANCE OF THE PROJECT.
- SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT GREATER THAN 1 INCH. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED. WATTLES AND WATER BARS ARE TO BE REPAIRED OR RE-INSTALLED DAILY IF REMOVED. ALL E&SC MEASURES SHALL BE MAINTAINED AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT SITE FOR MONITORING.
- INSTALL TEMPORARY CONSTRUCTION ENTRANCES AS SHOWN.
- REMOVE TREES AND OTHER VEGETATION, AS NECESSARY, FOR THE INSTALLATION OF SILT FENCE AND OTHER EROSION CONTROL MEASURES. ALL DIVERSIONS OR DITCHES WILL BE LINED TO THE TOP OF THE BANK.
- INSTALL SEDIMENT FENCE AND STONE OUTLETS AS NEEDED.
- BEGIN WATER LINE INSTALLATION ONLY AFTER ALL EROSION CONTROL DEVICES ARE INSTALLED AND AREAS DOWNSTREAM OF WORK LIMITS ARE PROTECTED.
- ANY DEWATERING IS TO BE DONE THROUGH A SILT BAG WITH A FLOATING INTAKE THAT IS CONSTANTLY MONITORED WHILE IN USE.
- ANY BYPASS PUMPING IS TO BE MONITORED ²⁴/₇ UNTIL BANKS ARE COMPLETELY STABILIZED AND FLOW RETURNED TO THE CHANNEL.
- TO FACILITATE IN CLEANUP OF PAVED SURFACES, A LAYER OF SAND, SCREENINGS, OR FINES WILL BE PLACED BEFORE DEPOSITION OF ANY EXCAVATED MATERIAL OR USE BY EQUIPMENT/VEHICLES ASSOCIATED WITH THE PROJECT.
- EXISTING GRADE IS TO BE MAINTAINED FOR THE SITE UNLESS OTHERWISE NOTED ON THE PLANS. WITHIN 7 DAYS OF COMPLETING A SECTION OF THE PROJECT WHERE NO FURTHER LAND DISTURBANCE IS NECESSARY, CLOSE OUT, SEED AND STABILIZE AREA TO PREVENT FURTHER EROSION. SEED AREAS ACCORDING TO THE SEED SPECIFICATIONS.
- PER THE NPDES PERMIT, GROUND STABILIZATION WILL BE APPLIED WITHIN 14 CALENDAR DAYS FROM LAST LAND DISTURBING ACTIVITY. FOR STEEP SLOPES, THAT AREA MUST BE STABILIZED WITHIN 7 CALENDAR DAYS.
- AFTER SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES, SEED AND MULCH REMAINING DISTURBED AREAS.
- WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN.

EROSION CONTROL MAINTENANCE:

- SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1 INCH. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY TO MAINTAIN MEASURES AS DESIGNED.
- ALL DRAINAGE INLETS DOWN SLOPE OF THE CONSTRUCTION WORK AREA SHALL PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE LAID IN SUCH A WAY THAT GOOD CONTACT WITH THE GROUND IS ESTABLISHED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT REACHED 0.5 FEET DEEP AT THE SILT FENCE. SHOULD THE SILT FENCE FABRIC COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. REPLACE IT PROMPTLY AND REMOVE SEDIMENT DEPOSITS AS NECESSARY TO REDUCE PRESSURE ON THE FENCE. AVOID UNDERMINING SILT FENCE DURING CLEAN OUT.
- CHECK STONE SILT FENCE OUTLETS FOR EROSION, PIPING AND ROCK DISPLACEMENT WEEKLY AND AFTER EVERY RAIN EVENT. REMOVE SEDIMENT DEPOSITS, STRAW, LIMBS AND DEBRIS FROM BEHIND TEMPORARY ROCK SILT CHECK AS NECESSARY TO PREVENT CHANNEL CLOGGING. ADD STONES AS NECESSARY TO MAINTAIN DESIGN HEIGHT.
- ALL IMPERVIOUS DIKS SHALL BE CONSTRUCTED FROM NON-ERODIBLE MATERIALS (E.G. RIP RAP, SANDBAGS, CONCRETE AND ETC.) IN ACCORDANCE WITH DETAILS PROVIDED.
- SEDIMENT REMOVED FOR ANY TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURE DURING REGULAR MAINTENANCE SHALL BE REMOVED FROM SITE.
- AFFECTED ROADS SHALL BE CLEANED DAILY OR MORE FREQUENTLY IF OTHERWISE REQUIRED BY THE ENGINEER OR OWNER.
- CONSTRUCTION EQUIPMENT AND VEHICLES WITH THE WORK AREA SHALL BE PROPERLY MAINTAINED AND INSPECTED, PARTICULARLY FOR IDENTIFICATION AND REPAIR OF VEHICLES LEAKING PETROLEUM PRODUCTS THAT COULD ENTER ADJACENT STORMWATER DRAINAGE FACILITIES.
- ALL SEEDED AREA SHALL BE FERTILIZED, RESEEDDED, AND MULCHED AS NECESSARY TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER, THROUGH THE ONE-YEAR WARRANTY PERIOD.

PLANNED EROSION AND SEDIMENT CONTROL MEASURES

- SILT FENCE: SILT FENCE SHALL BE INSTALLED AND LOCATED ALONG THE PROPOSED LIMITS OF DISTURBANCE, AROUND THE SOIL STOCKPILE AREAS AND AS DIRECTED BY THE ENGINEER.
- SURFACE STABILIZATION: SURFACE STERILIZATIONS WILL BE ACCOMPLISHED WITH VEGETATION, AND MULCH, MATTING, AND EROSION CONTROL STONE AS INDICATED ON THE PLANS.
- TEMPORARY CONSTRUCTION ENTRANCE: TEMPORARY STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED FOR ACCESS TO AND FROM THE CONSTRUCTION SITE. WASH-DOWN WATER AND RUNOFF FROM THE CONSTRUCTION ENTRANCES SHALL BE DIRECTED TO APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.
- CATCH BASIN INLET PROTECTION: A FILTER PLACED WITHIN AN INLET THAT CATCHES SEDIMENT, TRASH, AND OTHER DEBRIS FROM ENTERING THE STORM SEWER SYSTEM.
- STAGING AND LAYDOWN AREAS: STAGING AND LAYDOWN AREAS FOR VEHICLES, EQUIPMENT, AND CONSTRUCTION MATERIALS, SHALL BE LOCATED ON STABILIZED PORTIONS OF THE SITE. VEHICLES AND EQUIPMENT SHALL BE WASHED DOWN IN STABILIZED AREAS PRIOR TO EXISTING THE SITE.
- DUST CONTROL: SHOULD EXCESSIVE DUST BE GENERATED, IT SHALL BE CONTROLLED BY SPRINKLING.
- DEWATERING: TEMPORARY DEWATERING PRACTICES SHALL BE USED TO PREVENT PONDING OF RAIN WATER OR GROUNDWATER DURING CONSTRUCTION OF EXCAVATED AREA SUCH AS LAUNCH PITS, RECEIVING PITS, AND OTHER AREAS WHERE THE WATER TABLE IS EXPOSED DUE TO EXCAVATION.
- WATTLES: WATTLES SHALL BE INSTALLED AS DITCH CHECKS AND ALONG THE LIMITS OF DISTURBANCE AS NOTED ON THE PLANS TO CAPTURE AND TEMPORARILY STORE RUNOFF FROM DISTURBED AREA PRIOR TO DISCHARGE FROM THE SITE.
- RIP RAP SILT SCREEN: SMALL DAM STRUCTURE THAT REDUCES WATER VELOCITY AND PROVIDES SUFFICIENT CAPACITY TO TRAP SILT IN EXISTING AND PROPOSED DITCHES.
- A HORSESHOE SHAPED ROCK DAM STRUCTURE AT A PIPE INLET WITH A SEDIMENT STORAGE AREA AROUND THE OUTSIDE PERIMETER OF THE PIPE 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.

SITE CLEARING AND EROSION CONTROL NOTES:

- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS GOVERNING THIS WORK. THE CONTRACTOR SHALL COORDINATE WITH APPLICABLE AGENCIES, UTILITY COMPANIES, AND/OR SUB-CONTRACTORS.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CLEARING AND GRUBBING OF SITE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ANY DAMAGE AND/OR RESTORE ANY INTERRUPTION TO ANY UTILITY SERVICE THAT MAY BE CAUSED BY THE CONTRACTOR'S CONSTRUCTION OR EQUIPMENT, AT THE CONTRACTOR'S EXPENSE, WITH NO ADDITIONAL COST TO THE OWNER.
- ALL EXISTING SEWER, GAS, WATER, AND ECLECTIC UTILITY LINES, AS WELL AS STRUCTURES WITHIN THE CONTRACT AREA SHALL REMAIN, UNLESS REMOVAL IS SPECIFICALLY NOTES. IF ABANDONED PIPES ARE ENCOUNTERED DURING EXCAVATION, THEN THE CONTRACTOR SHALL DOCUMENT IN AS-BUILT DRAWINGS AND REMOVE PIPE IN OF EXCAVATION AND PLUG PIPE AT EACH END OF EXCAVATION. CONTRACTOR SHALL ENSURE THAT PIPE IS ABANDONED BEFORE ATTEMPTING THIS OPERATION.
- THE CONTRACTOR SHALL USE CARE DURING CONSTRUCTION TO AVOID DISTURBING ADJACENT ABOVE-GRADE OR SUBGRADE STRUCTURES, FACILITIES, CURBS, PAVEMENTS, ROADWAYS, AND PERIMETER FENCING. ANY DAMAGE RESULTING FROM THIS WORK SHALL BE RESTORED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TAKE CARE TO PROTECT ROOT SYSTEMS OF EXISTING TREES THAT ARE TO REMAIN. BULK MATERIAL, EQUIPMENT, OR VEHICLES SHALL NOT BE STOCKPILED OR PARKED WITHIN DRIPLINE OF ANY TREE THAT IS TO REMAIN.
- WHEN NECESSARY, THE CONTRACTOR SHALL EXCAVATE BY HAND WITHIN THE DRIPLINE OF EXISTING TREES THAT ARE TO REMAIN, OR AS DIRECTED BY THE ENGINEER.
- BELOW-GRADE STRUCTURES TO BE REMOVED SHALL BE EXCAVATED TO A DEPTH OF 4'-0" BELOW FINISHED GRADE AND BACKFILLED WITH APPROVED SUITABLE FILL MATERIAL.
- THE CONTRACTOR SHALL DISPOSE OF ALL ITEMS AND MATERIALS REMOVED AND NOT SALVAGED, INCLUDING ALL EXCAVATED MATERIAL, OFF-SITE AND IN LEGAL MANNER.

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
<ul style="list-style-type: none">TEMPORARY GRASS SEED COVERED WITH STRAW OR OTHER MULCHES AND TACKIFIERS AT A TACK RATE OF 400/GAL ACREHYDROSEEDINGROLLED EROSION CONTROL PRODUCTS WITH OR WITHOUT TEMPORARY GRASS SEEDAPPROPRIATELY APPLIED STRAW OR OTHER MULCHPLASTIC SHEETING	<ul style="list-style-type: none">PERMANENT GRASS SEED COVERED WITH STRAW OR OTHER MULCHES AND TACKIFIERSGEOTEXTILE FABRICS SUCH AS PERMANENT SOIL REINFORCEMENT MATTINGHYDROSEEDINGSHRUBS OR OTHER PERMANENT PLANTINGS COVERED WITH MULCHUNIFORM AND EVENLY DISTRIBUTED GROUND COVER SUFFICIENT TO RESTRAIN EROSIONSTRUCTURAL METHODS SUCH AS CONCRETE, ASPHALT OR RETAINING WALLSROLLED EROSION CONTROL PRODUCTS WITH GRASS SEED

TEMPORARY SEEDING AND MULCHING

TEMPORARY MULCH MAY BE USED FOR THE PREVENTION OF EXCESSIVE SOIL EROSION DURING CONSTRUCTION OPERATIONS WHERE IT IS IMPOSSIBLE OR IMPRACTICAL TO PERFORM SEEDING AND MULCHING BECAUSE OF WEATHER CONDITIONS. TEMPORARY MULCH SHALL BE PLACED PROMPTLY WHEN DIRECTED BY THE ENGINEER.

TEMPORARY MULCHES MAY BE STRAW, FIBER MATS, NETTING, BARK, WOOD CHIPS, OR OTHER SUITABLE MATERIAL ACCEPTABLE TO THE ENGINEER AND SHALL BE REASONABLY CLEAN AND FREE OF NOXIOUS WEEDS AND DELETERIOUS MATERIAL. MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA BY HAND OR BY MEANS OF APPROPRIATE MECHANICAL SPREADERS OR BLOWERS TO OBTAIN AN APPLICATION SATISFACTORY TO THE ENGINEER. THE CONTRACTOR SHALL APPLY A SUFFICIENT AMOUNT OF ASPHALT OR OTHER TYPE MATERIAL TO ASSURE THAT THE TEMPORARY MULCH IS PROPERLY HELD IN PLACE.

SEED
ALL SEED SHALL BE MIXED BY A WHOLESALE SEED SUPPLIER IN ORDER TO OBTAIN THE SPECIFIED MIXTURE AND APPLICATION RATE REQUIRED BY ENGINEER. ALL SEED SHALL CONFORM TO ALL CURRENT STATE AND FEDERAL REGULATIONS AND SHALL BE SUBJECT TO THE TESTING PROVISIONS OF THE ASSOCIATION OF OFFICIAL SEED ANALYSTS. ALL SEED AND SEED MIXES SHALL BE FURNISHED IN BAGS OR CONTAINERS CLEARLY LABELED TO SHOW THE NAME AND ADDRESS OF THE SUPPLIER, THE COMMON, SCIENTIFIC, AND VARIETY NAME(S) OF THE SEED(S), THE LOT NUMBER, POINT OF ORIGIN, NET WEIGHT, PERCENT OF WEED CONTENT, AND THE GUARANTEED PERCENTAGE OF PURITY AND GERMINATION. ALL SEED SHALL BE GUARANTEED FOR PURITY AND GERMINATION, FREE OF NOXIOUS WEED SEED AND SUPPLIED ON A PURE LIVE SEED (PLS) BASIS.

FERTILIZER
FERTILIZER SHALL BE AS SHOWN ON THE DRAWINGS. ALL FERTILIZER SHALL BE A STANDARD COMMERCIAL PRODUCT OF UNIFORM COMPOSITION, FREE FLOWING AND CONFORMING TO APPLICABLE STATE AND FEDERAL LAWS.

MULCH
THE TYPE OF MULCHING MATERIAL TO BE USED SHALL BE CRIMPED WEED-FREE STRAW. AT LEAST SEVENTY PERCENT (70%) OF THE MUCH BY WEIGHT SHALL BE TEN (10) INCHES OR MORE IN LENGTH. MULCH SHALL NOT CONTAIN ANY NOXIOUS WEED, MUST, MOLD, CAKE, OR DECAY. NO HAY MAY BE USED ON THE PROJECT.

ESTABLISHING VEGETATION
THE WORK INCLUDES SEEDBED PREPARATION, LIMING, FERTILIZING, SEEDING AND MULCHING OF ALL DISTURBED AREAS. LIME SHALL BE DOLOMITIC AGRICULTURAL GROUND LIMESTONE CONTAINING NOT LESS THAN TEN PERCENT MAGNESIUM

FERTILIZER SHALL BE STANDARD COMMERCIAL PRODUCT. ALL FERTILIZER SHALL BE DELIVERED IN BAGS BEARING THE MANUFACTURER'S NAME, THE CHEMICAL ANALYSIS OF THE PRODUCT AND THE WEIGHT. IF NOT USED IMMEDIATELY AFTER DELIVERY, THE FERTILIZER SHALL BE STORED IN A MANNER WHICH WILL NOT ALLOW IT TO HARDEN OR DESTROY ITS EFFECTIVENESS.

GRASS SEED SHALL BE AN APPROVED MIXTURE BASED ON REGIONAL AND SEASONAL CONSIDERATIONS. PURITY OF SEED SHALL BE A MINIMUM OF NINETY PERCENT AND THE GERMINATION SHALL BE A MINIMUM OF EIGHTY-- FIVE PERCENT. THE SEED LABEL SHALL BE A "CERTIFIED SEED" LABEL.
MULCH SHALL CONSIST OF DRY, SMALL GRAIN STRAW, DRY HAY, AND OTHER SUITABLE AND APPROVED MATERIAL.

ESTABLISHING TEMPORARY VEGETATION

THE TEMPORARY SEEDING OF DENUDED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 WORKING DAYS BUT LESS THAN ONCE YEAR SHALL BE IN ACCORDANCE WITH THE PREVIOUS SPECIFICATIONS AND THE FOLLOWING APPROPRIATE TEMPORARY SEEDING SCHEDULE.

TEMPORARY SEEDING SCHEDULES FOR THE PIEDMONT AREAS ARE AS FOLLOWS:					
APPLICATION RATES(LB/A/C)					
RECOMMENDED	SPECIES	SEED	10-10-10	AGRICULTURAL	STRAW
SEEDING DATES			FERTILIZER	LIMESTONE	
JAN 1 -- MAY 1	RYE GRAIN ANNUAL	120	750	2000	4,000
	LESPEDEZA (KOBÉ)	50			4,000
MAY 1 -- AUG 15	GERMAN MILLET	40	750	2000	4,000
AUG 15 -- DEC 30	RYE GRAIN	120	1000	2000	4,000

MAINTENANCE AND RESEEDING

THE CONTRACTOR SHALL MAINTAIN ALL SEEDED AREAS UNTIL ACCEPTANCE OF THE WORK, BY WATERING, MOWING, AND WEEDING. ANY AREAS WHICH FAIL TO SHOW A SATISFACTORY STAND, FOR ANY REASON WHATSOEVER, SHALL BE RETREATED FOLLOWING THE GRASSING PROCEDURE SPECIFIED HEREIN. DAMAGE, RESULTING FROM EROSION, GULLIES, WASHOUTS, OR OTHER CAUSES PRIOR TO ACCEPTANCE, SHALL BE REPAIRED BY REFILLING WITH TOPSOIL AND RETREATED FOLLOWING THE GRASSING PROCEDURE SPECIFIED HEREIN.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- NEVER BURY OR BURN WASTE. PLACE LITTER AND DEBRIS IN APPROVED WASTE CONTAINERS.
- 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.
- COVER WASTE CONTAINERS AT THE END OF EACH DAY 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.

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 HIGH FOOT TRAFFIC AREAS.
- MONITOR PORTABLE TOILETS FOR LEAKING AND PROPERLY DISPOSE IF ANY LEAKED MATERIAL. UTILIZE A LICENSED SANITARY WASTE HAULER TO REMOVE LEAKING PORTABLE TOILERS AND REPLACE WITH PROPERLY OPERATING UNIT.

SEEDING WETLANDS, BANKFULL NATURAL CHANNELS, AND NATURAL CHANNEL BUFFERS

TEMPORARY SEEDING:

- MIX 2 SPECIES TOGETHER.
- FERTILIZER TO BE DETERMINED BY SOIL TESTING PROVIDED BY CONTRACTOR AND APPROVED BY ENGINEER/OWNER.
- TEMPORARY GRASS TO BE CUT PRIOR TO PERMANENT SEEDING.

PERIOD	SEED SPECIES	APPLICATION RATE RATE (LBS/ACRE)
SUMMER (5/15-8/15)	GERMAN MILLET BROWNTOP MILLET	10 10
WINTER (8/15-5/15)	RYE GRAIN WHEAT	40 30

PERMANENT SEEDING:

- MIX 4 SPECIES TOGETHER.
- FERTILIZER TO BE DETERMINED BY SOIL TESTING PROVIDED BY CONTRACTOR AND APPROVED BY ENGINEER/OWNER.
- TEMPORARY GRASS TO BE CUT PRIOR TO PERMANENT SEEDING.

PERIOD	SEED SPECIES	APPLICATION RATE RATE (LBS/ACRE)
FALL (9/1-11/1)	GERMAN MILLET SOFT RUSH SHALLOW SEDGE FOX SEDGE	5 2 2 2
WINTER (12/1-4/1)	SWITCH GRASS DEERTONGUE SWEET WOODREED RICE CUTGRASS SOFT RUSH SHALLOW SEDGE FOX SEDGE	3 5 2 5 2 2 2



THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trimly Road, Suite 112 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION. ACHIEVED THROUGH OURS.

Site Development | **Residential** | **Infrastructure** | **Technology**

REVISION DESCRIPTION

DATE

DATE

08-27-2025

DRAWN BY

DESIGNED BY

C. VALENTINE

CHECKED BY

B. STRICKLAND

SCALE

AS SHOWN

TIMMONS GROUP

BRIGHTLEAF BOULEVARD WATER MAIN EXT.

TOWN OF SMITHFIELD - JOHNSTON COUNTY - NORTH CAROLINA

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

JOB NO.

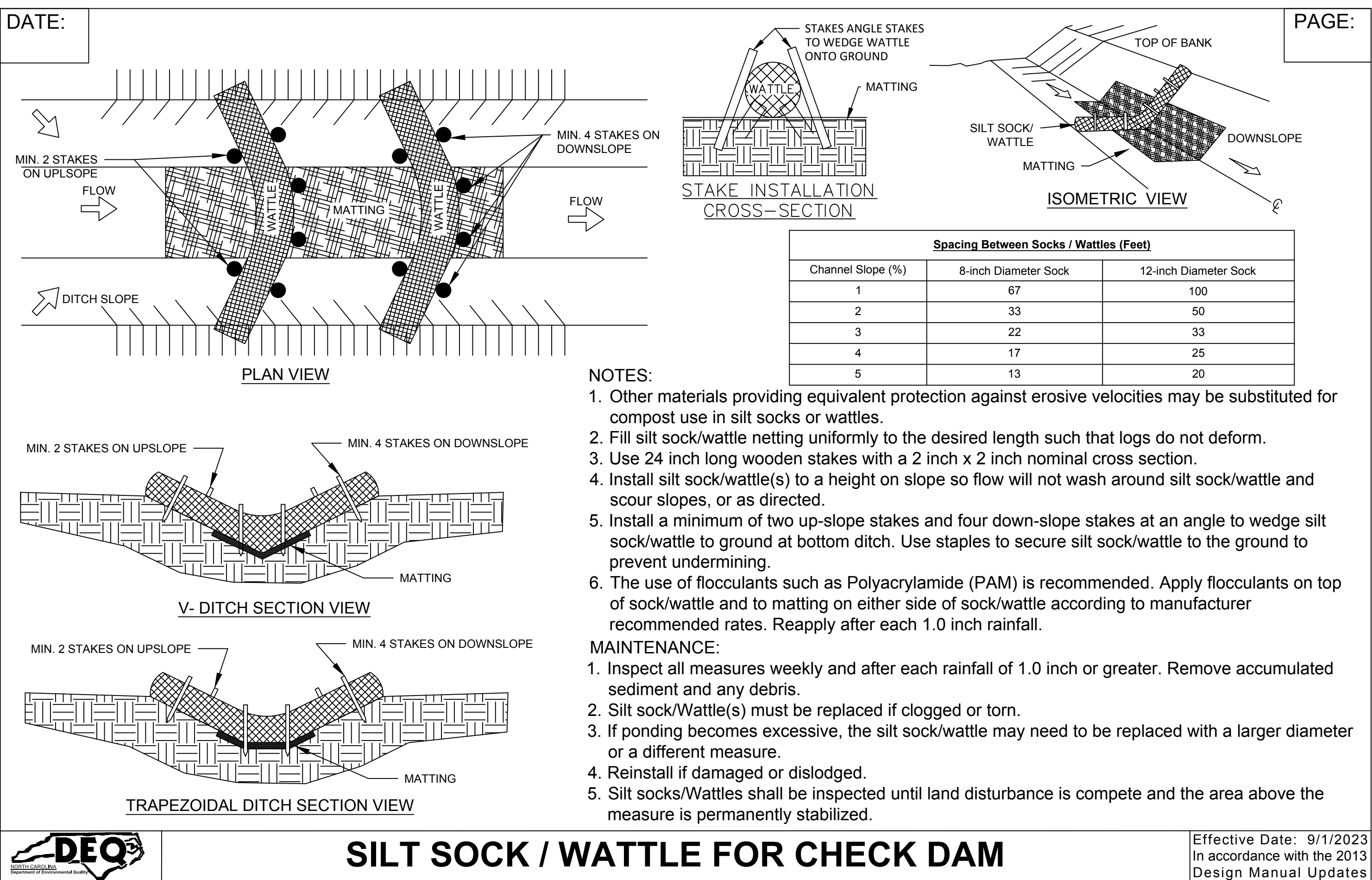
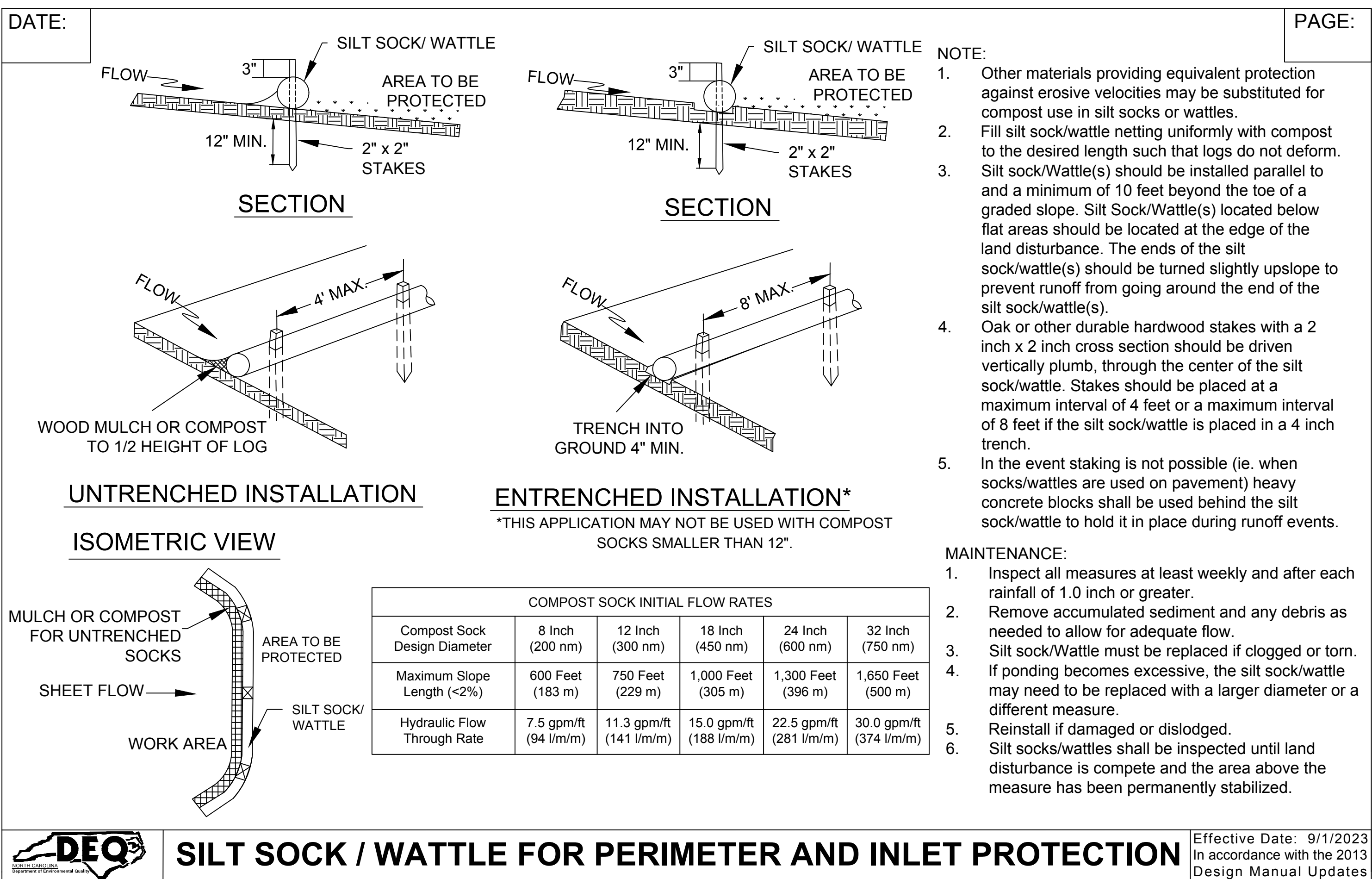
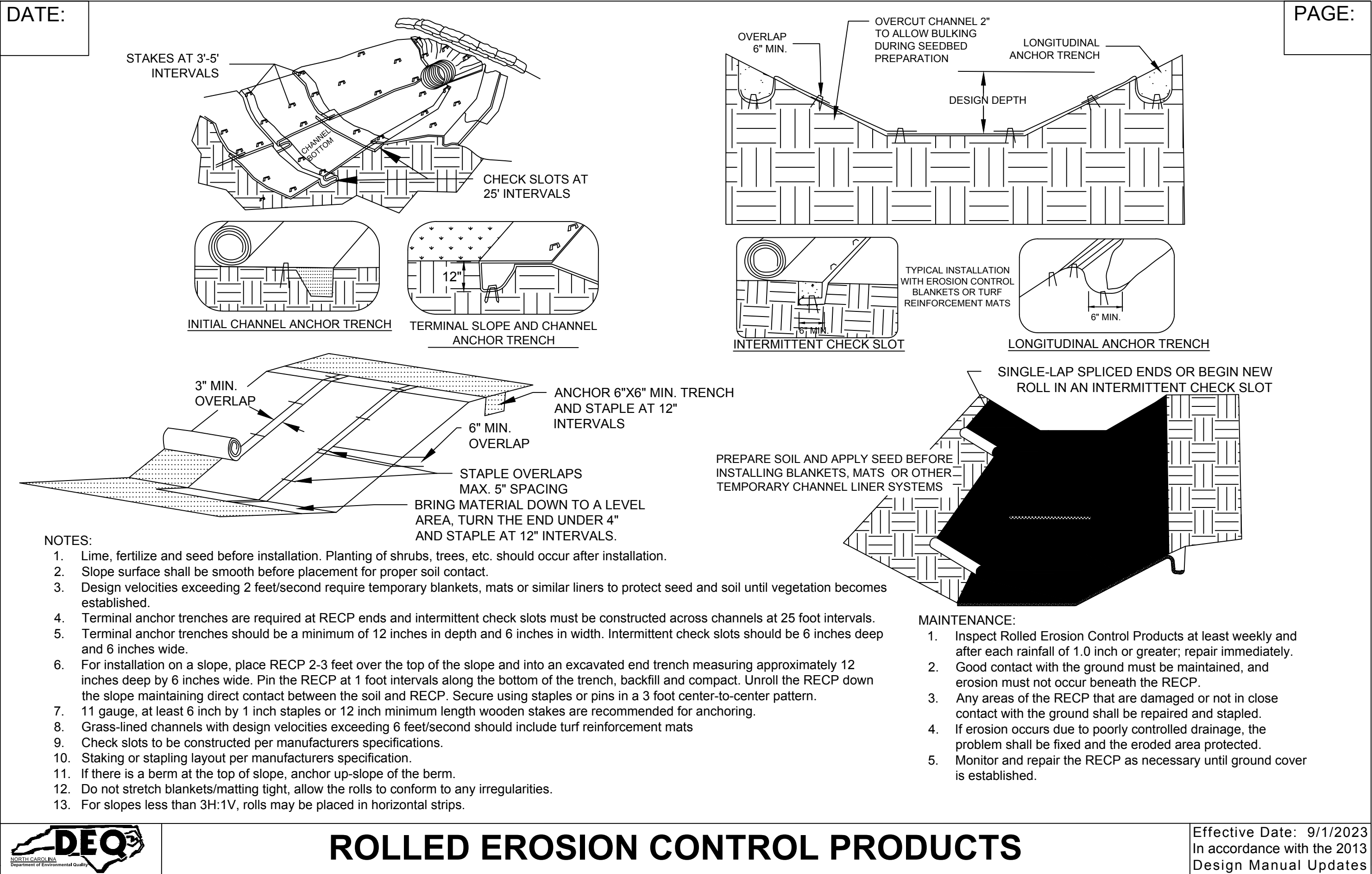
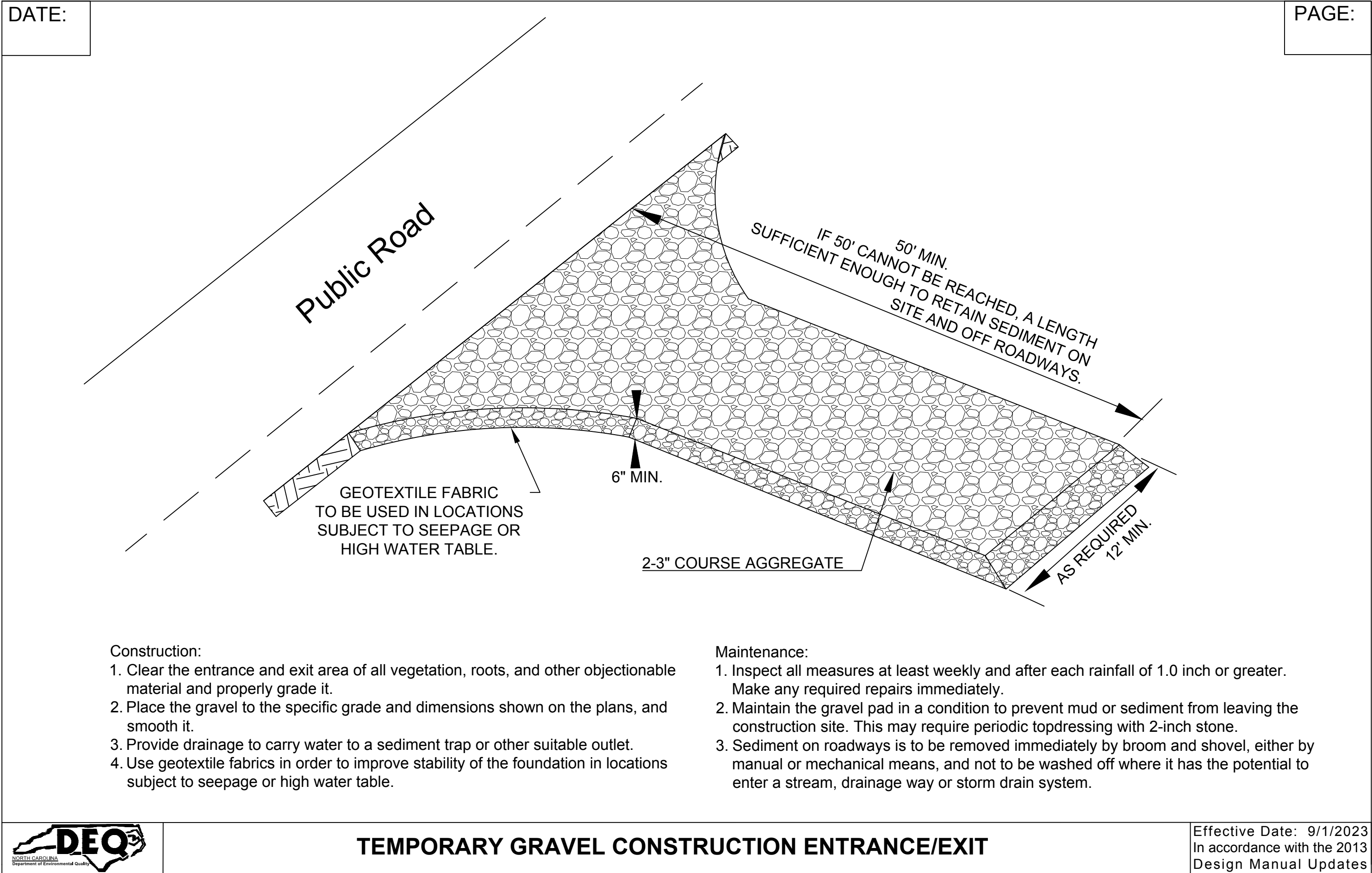
70209

SHEET NO.

E-1

These plans and associated documents are the exclusive property of TIMMONS GROUP and may not be reproduced in whole or in part and shall not be used for any purpose whatsoever, inclusive, but not limited to construction, bidding, and/or construction staking without the express written consent of TIMMONS GROUP.

I:\212\70209-brightleaf- wme DWG Sheet\CD-70209-212C-G-2-INT1.dwg | Plotted on 5/20/2025 11:04 AM | by Chad Valentine



THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 112 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

Site Development | Residential | Infrastructure | Technology

REVISION DESCRIPTION

DATE

08-27-2025

DRAWN BY

C. VALENTINE

DESIGNED BY

C. VALENTINE

CHECKED BY

B. STRICKLAND

SCALE

AS SHOWN

TIMMONS GROUP

BRIGHTLEAF BOULEVARD WATER MAIN EXT.

TOWN OF SMITHFIELD - JOHNSTON COUNTY - NORTH CAROLINA

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

These plans and associated documents are the exclusive property of TIMMONS GROUP and may not be reproduced in whole or in part and shall not be used for any purpose whatsoever, inclusive, but not limited to construction, bidding, and/or construction staking without the express written consent of TIMMONS GROUP.

JOB NO.

70209

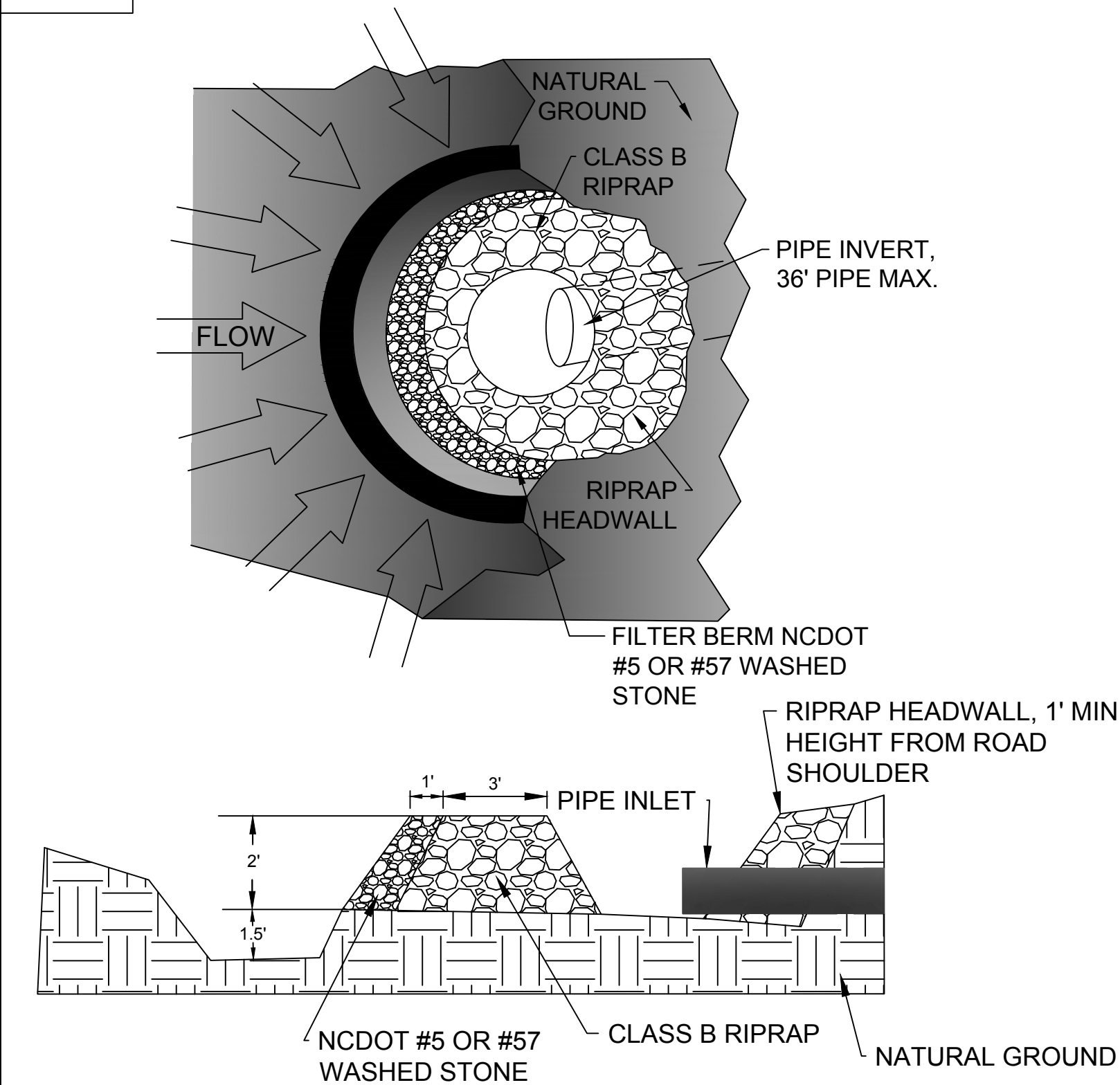
SHEET NO.

E-2

I:\212\70209-brightleaf_wma\DWG\Sheet\CD\70209-212C-G-2-INTD1.dwg | Plotted on 5/20/2025 11:04 AM | by Chad Valentine

DATE:

PAGE:



NOTES:

1. Clear the area of all debris that might hinder excavation and disposal of spoil.
2. Install the Class B or Class 1 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 embankment of 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 contributing drainage area has been stabilized, remove the pipe and rock, fill depression, establish final grading elevations, compact the area properly, and stabilize with ground cover.

MAINTENANCE:

1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater and repair immediately.
2. 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.
3. Place the sediment that is removed in the designated disposal area and replace the contaminated part of the gravel facing.
4. Check the structure for damage. Any riprap displaced from the stone horseshoe must be replaced immediately.
5. 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.

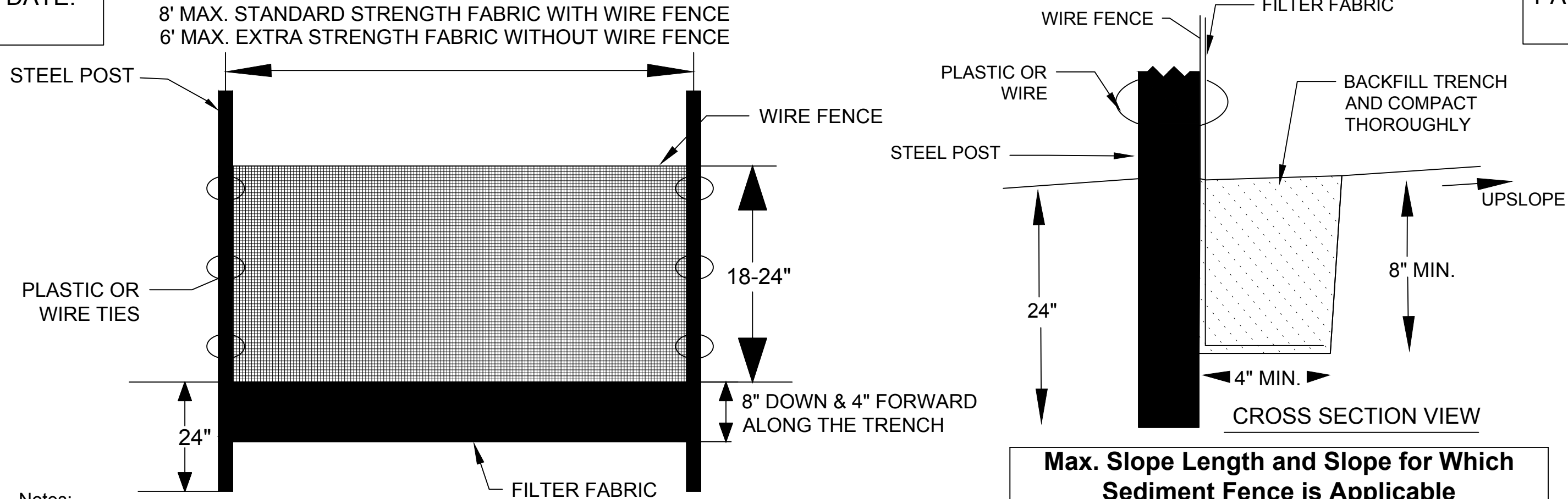


ROCK PIPE INLET PROTECTION

Effective Date: 9/1/2023
In accordance with the 2013
Design Manual Updates

DATE:

PAGE:



Notes:

1. Construct the sediment barrier of standard strength or extra strength synthetic filter fabrics.
2. Ensure that the height of the sediment fence does not exceed 24 inches above the ground. (Higher fences may impound volumes of water sufficient to cause failure of the structure)
3. Construct the filter fabric from a continuous roll cut to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with 4 feet minimum overlap to the next post.
4. Support standard strength filter fabric by wire mesh fastened securely to the upslope side of the posts. Extend the wire mesh support to the bottom of the trench. Fasten the wire reinforcement, then fabric on the upslope side of the fence post. Wire or plastic zip ties should have a minimum 50 pound tensile strength.
5. When a wire mesh support fence is used, space posts a maximum of 8 feet apart. Supports should be driven securely into the ground a minimum of 24 inches. Wire mesh should be a minimum 14-gauge with 6 inch mesh spacing.
6. Extra strength filter fabric with 6 foot post spacing does not require a wire mesh support fence. Securely fasten the filter fabric directly to posts. Wire or plastic zip ties should have a minimum of 50 pound tensile strength.
7. Excavate the trench approximately 4 inches wide and 8 inches deep along the proposed line of the posts and upslope from the barrier.
8. Place 12 inches of fabric along the bottom and side of the trench.
9. Backfill the trench with soil placed over the filter fabric and compact. Thorough compaction of the backfill is critical to silt fence performance.
10. Do not attach filter fabric to existing trees.
11. Do not place across ditches, streams, or any other areas of concentrated flow.



SEDIMENT FENCE

Effective Date: 9/1/2023
In accordance with the 2013
Design Manual Updates

Max. Slope Length and Slope for Which Sediment Fence is Applicable		
Slope	Slope Length (ft)	Max. Area (ft ²)
<2%	100	10,000
2 to 5%	75	7,500
5 to 10%	50	5,000
10 to 20%	25	2,500
>20%	15	1,500

Maintenance:

1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make any required repairs immediately.
2. Should the fabric of a sediment fence 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 reduce pressure on the fence. Take care to avoid undermining the fence during cleanouts.
4. 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.



THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 112 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

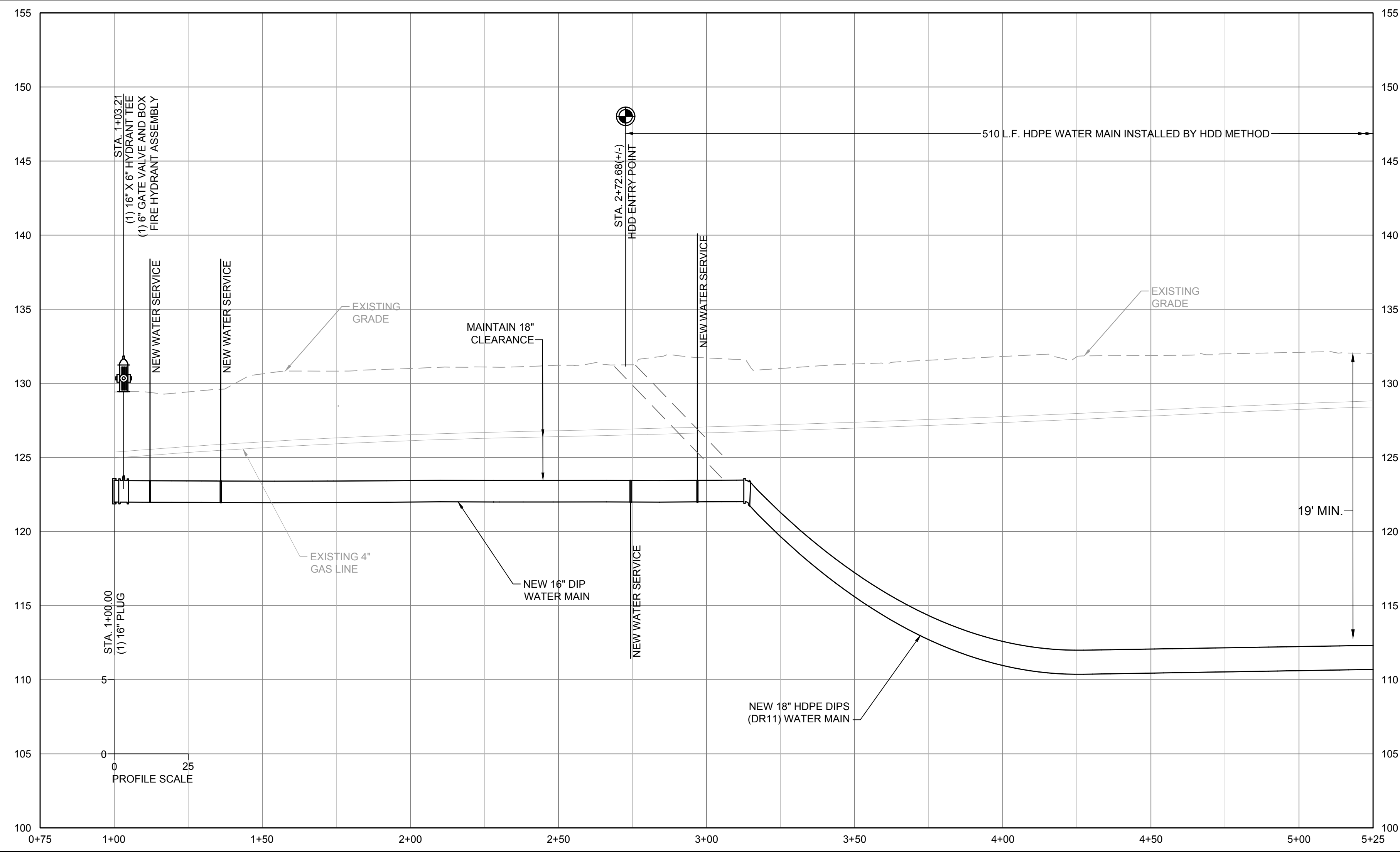
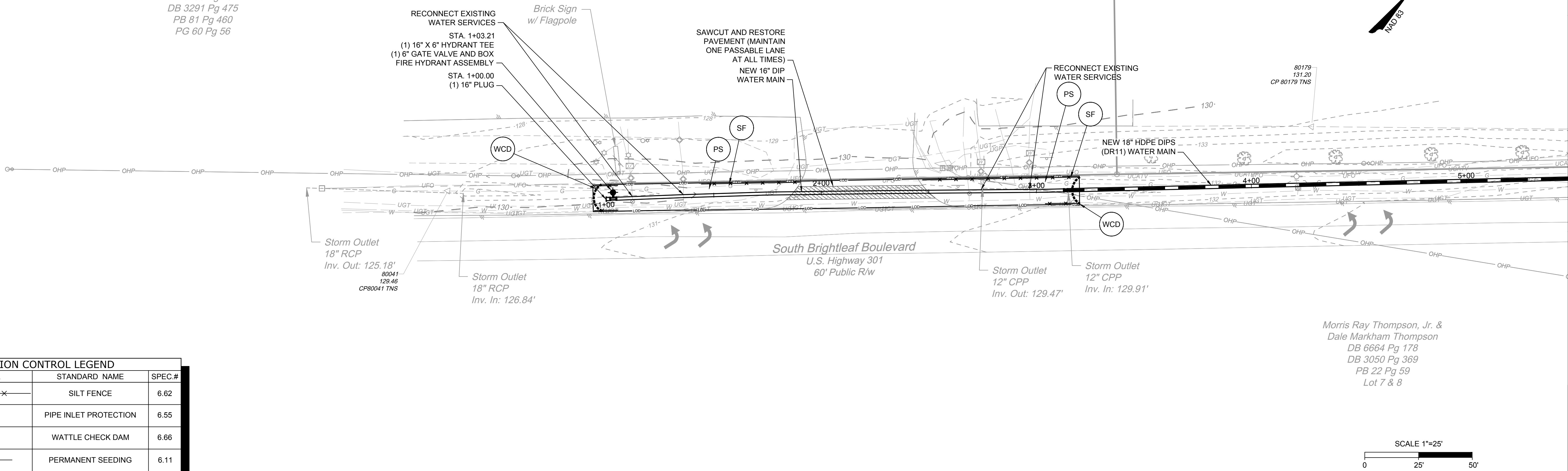
Site Development | Residential | Infrastructure | Technology

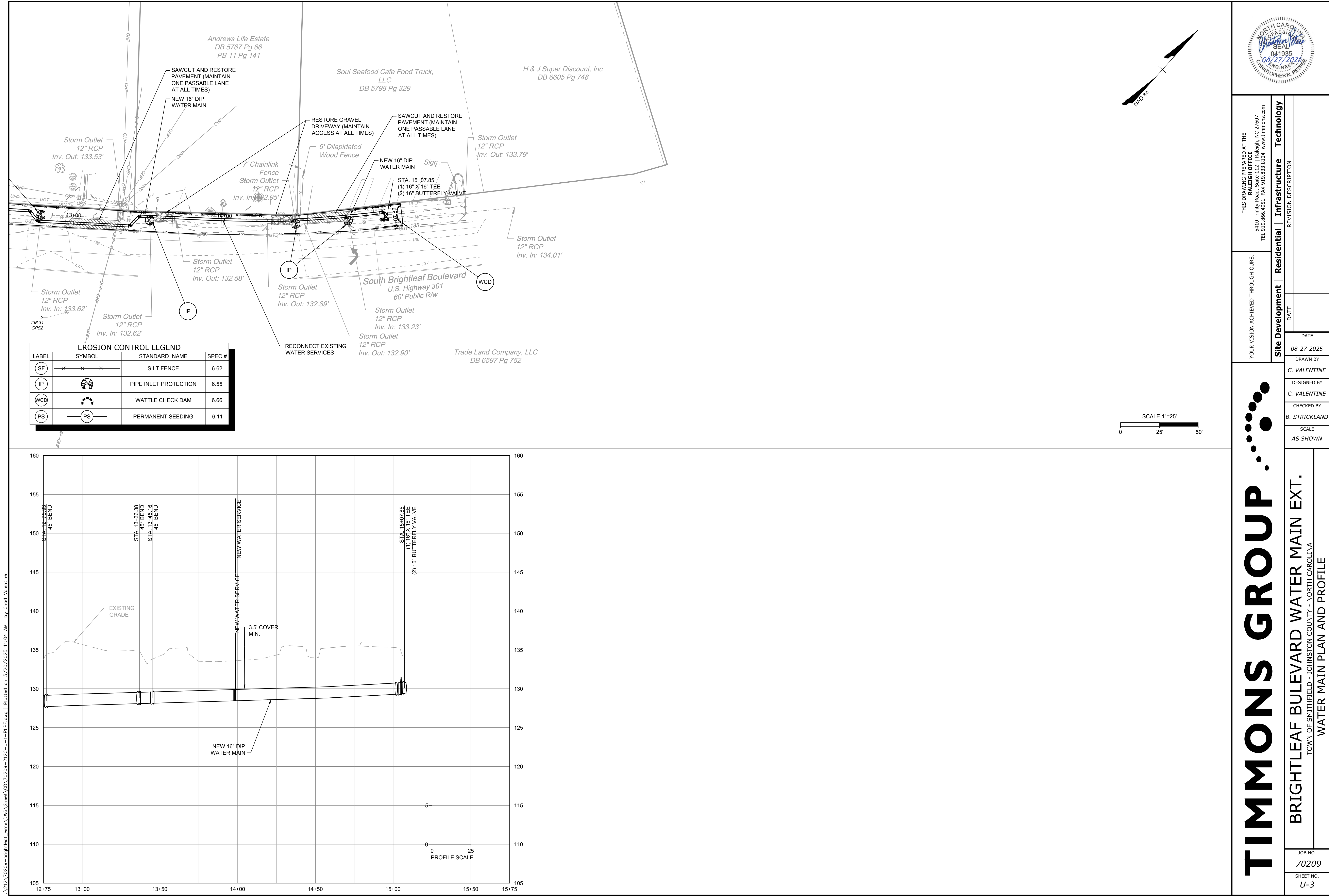
REVISION DESCRIPTION

DATE	DRAWN BY	DESIGNED BY	CHECKED BY	SCALE
08-27-2025	C. VALENTINE	C. VALENTINE	B. STRICKLAND	AS SHOWN

I:\212\70209-brightleaf_wma\DWG\Sheet\CD\70209-212C-U-1-PLUF.dwg | Plotted on 5/20/2025 11:04 AM | by Chad Valentine

EROSION CONTROL LEGEND			
LABEL	SYMBOL	STANDARD NAME	SPEC.#
(SF)		SILT FENCE	6.62
(IP)		PIPE INLET PROTECTION	6.55
(WCD)		WATTLE CHECK DAM	6.66
(PS)		PERMANENT SEEDING	6.11





I:\212\70209-brightleaf_wma\DWG\Sheet\CD\70209-212C-U-1-PLPF.dwg | Plotted on 5/20/2025 11:04 AM | by Chad Valentine



THIS DRAWING PREPARED AT THE RALEIGH OFFICE 5410 Trinity Road, Suite 112 Raleigh, NC 27607 TEL 919.866.4951 FAX 919.833.8124 www.timmons.com	
YOUR VISION ACHIEVED THROUGH OURS.	Technology
Site Development	Infrastructure
Residential	Revision Description
DATE	DATE
08-27-2025	
DRAWN BY	
C. VALENTINE	
DESIGNED BY	
C. VALENTINE	
CHECKED BY	
B. STRICKLAND	
SCALE	
AS SHOWN	

TIMMONS GROUP

BRIGHTLEAF BOULEVARD WATER MAIN EXT.
TOWN OF SMITHFIELD - JOHNSTON COUNTY - NORTH CAROLINA
WATER MAIN PLAN AND PROFILE

JOB NO.	70209
SHEET NO.	U-3

These plans and associated documents are the exclusive property of TIMMONS GROUP and may not be reproduced in whole or in part and shall not be used for any purpose whatsoever, inclusive, but not limited to construction, bidding, and/or construction staking without the express written consent of TIMMONS GROUP.