

())) Stantec

STANTEC CONSULTING SERVICES INC. 4969 CENTRE POINTE DRIVE, SUITE 200 NORTH CHARLESTON, SC 29417 TEL 843.740.7700

CLIENT: GEORGETOWN COUNTY **108 SCREVEN STREET** GEORGETOWN, SC 29442 TRACY JONES | 843-545-3258

GARDEN CI DRAINAGE IMPROVEMENTS SITE 1 GEORGETOWN COUNTY, SOUTH CAROLINA



Know what's below. Call before you dig.

PROJECT NUMBER: 178420927



SHEET NO.

C0-00			
C0-01			
C1-00			
C2-00			
C3-00			
C3-01	to	C3-	-02
C4-00			
C4-01			
C4-02	to	C4	-04
C5-00			
C5-01			

PROJECT CONTACTS					
SERVICE	MUNICIPALITY/UTILITY PROVIDER	CONTACT	PHONE		
PLANNING & ZONING	GEORGETOWN COUNTY DEPARTMENT OF PLANNING	BOYD JOHNSON	(843) - 545-3158		
STORMWATER	GEORGETOWN COUNTY STORMWATER DIVISION	TRACY JONES	(843) - 545-3524		
WATER AND SEWER	GEORGETOWN COUNTY WATER AND SEWER DISTRICT	ERNIE FUNDERBURK	(843) - 907-1535		
POWER	SANTEE COOPER	JIM POSTON	(843) - 347-3399		
IRRIGATION	WACCAMAW MANAGEMENT	MIKE JACOBS	(843)-241-6234		
ROAD	SCDOT	BENJI SMITH	(843)-661-4710 Ext. 201		



Revision		Ву	Appd	YYYY.MM.DD
PER COUNTY COMMENTS FOR PERMIT REVIEW		TN/SC TN By	BK SC	2019.10.29 2019.09.18 YYYY MM DD
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD
Permit/Seal				
STANTEC CONSULTING SERVICES, INC. No. CO2310	FOR	BDD A A A A A A A A A A A A A A A A A A	ING	ONLY

<u>GENERAL NOTES:</u>				
1.	OWNER:	GEORGETOWN COUNTY		

TRACY JONES 108 SCREVEN STREET GEORGETOWN, SC 29442 (843) 545-3258

- 2. ENGINEER: STANTEC CONSULTING SERVICES, INC BRYAN KIZER, P.E. 4969 CENTRE POINTE DR, SUITE 200 NORTH CHARLESTON, SC 29418 TEL: (843) 740-7700
- BOUNDARY, TOPOGRAPHIC & EXISTING CONDITIONS INFORMATION TAKEN FROM "TOPOGRAPHIC SURVEY OF A PORTION OF GARDEN CITY BEACH SITE 1. PREPARED FOR GEORGETOWN COUNTY," BY COX SURVEYING, DATED JANUARARY, 2019. VERTICAL DATUM USED WAS NAVD 88.
- CRITICAL LINE FLAGGED BY CYGNUS ENVIRONMENTAL
- WETLANDS, CRITICAL AREAS, OTHER INDICATED ENVIRONMENTALLY SENSITIVE AREAS AND UNDISTURBED BUFFERS SHALL NOT BE DISTURBED EXCEPT WHERE SPECIFICALLY INDICATED WITHIN THESE CONSTRUCTION DOCUMENTS AND/OR AS AUTHORIZED BY THE USACE AND SCDHEC-OCRM.
- GEORGETOWN COUNTY WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY EASEMENTS.
- . ALL DRAINAGE EASEMENTS TO BE DEDICATED TO GEORGETOWN COUNTY.
- CONTRACTOR IS TO VERIFY ALL INFORMATION CONTAINED HEREIN PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OR OWNER OF ANY DISCREPANCY PRIOR TO CONSTRUCTION.
- ALL CONSTRUCTION, METHODS, MATERIALS, AND WORKMANSHIP, NOT OTHERWISE INDICATED IN THESE PLANS, SHALL CONFORM TO GEORGETOWN COUNTY SPECIFICATIONS, LATEST EDITION. WHERE CONFLICT OCCURS BETWEEN CONSTRUCTION PLANS, SPECIFICATIONS, AND/OR FIELD CONDITIONS, CONTRACTOR IS TO CONTACT ENGINEER OR OWNER FOR CLARIFICATION PRIOR TO CONSTRUCTION.
- 10. CONTRACTOR TO COORDINATE WITH OWNER AND ENSURE ALL APPLICABLE CONSTRUCTION AND LAND DISTURBANCE PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCING ANY WORK.
- . CONTRACTOR TO NOTIFY GEORGETOWN COUNTY WATER & SEWER A MINIMUM OF 48 HOURS BEFORE ANY WATER OR SEWER WORK IS TO BEGIN.

TRAFFIC NOTES:

LANE CLOSURES ARE REQUIRED FOR ALL WORK WITHIN ONE FOOT OF THE TRAVEL WAY. SHOULDER CLOSURES ARE REQUIRED FOR ALL WORK FROM ONE FOOT TO FIFTEEN FEET FROM THE TRAVEL WAY.

SAFETY NOTES:

- DURING THE CONSTRUCTION AND MAINTENANCE OF THE THIS PROJECT, ALL SAFETY REGULATIONS SHALL BE ENFORCED. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE CONTROL AND SAFETY OF THE TRAVELING PUBLIC AND THE SAFETY OF HIS PERSONNEL
- 2. THE CONTRACTOR'S MAINTENANCE OF TRAFFIC PLAN MUST BE SUBMITTED AND APPROVED BY THE SCDOT AND APPLICABLE LOCAL AGENCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION
- 3. LABOR SAFETY REGULATIONS SHALL CONFORM TO THE PROVISIONS SET FORTH BY OSHA IN THE FEDERAL REGISTER OF THE DEPARTMENT OF TRANSPORTATION
- 4. CONTRACTOR SHALL PROVIDE AND MAINTAIN HIS OWN SAFETY EQUIPMENT IN ACCORDANCE WITH HIS HEALTH AND SAFETY PROGRAM AND ALL OTHER APPLICABLE LEGAL AND HEALTH AND SAFETY REQUIREMENTS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROVIDING IT'S EMPLOYEES AND SUB CONTRACTORS WITH ADEQUATE INFORMATION AND TRAINING TO ENSURE THAT ALL EMPLOYEES AND SUB CONTRACTORS AND SUB CONTRACTOR'S EMPLOYEES COMPLY WITH ALL APPLICABLE REQUIREMENTS CONTRACTOR SHALL REMAIN IN COMPLIANCE WITH ALL OCCUPATION SAFETY AND HEALTH REGULATIONS AS WELL AS THE ENVIRONMENTAL PROTECTION LAWS. THE FOLLOWING IS NOT TO BE PERCEIVED AS THE ENTIRE SAFETY PROGRAM BUT JUST BASIC REQUIREMENTS
- 5. ALL EXCAVATIONS BY THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF THE DEPARTMENT OF LABOR'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION RULES AN REGULATIONS. PARTICULAR ATTENTION MUST BE PAID TO THE CONSTRUCTION STANDARDS FOR EXCAVATIONS, 29 CFR PART 1926, SUBPART P.
- 6. THE MINIMUM STANDARDS AS SET FORTH IN THE CURRENT EDITION OF "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) BE FOLLOWED IN THE DESIGN APPLICATION. INSTALLATION. MAINTENANCE AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES WARNING DEVICES AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKMEN FROM HAZARDS WITHIN THE PROJECT LIMITS
- 7. ALL TRAFFIC CONTROL MARKINGS AND DEVICES SHALL CONFORM TO THE PROVISIONS SET FORTH IN THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE US DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION. ALL SOUTH CAROLINA AMENDMENTS SHALL APPLY
- ABOVE INFORMATION HAS BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY AND DOES NOT IMPLY THAT THE OWNER OR ENGINEER WILL INSPECT AND/OR ENFORCE SAFETY REGULATION. 9 THE CONTRACTOR SHALL EXERCISE EXTREME CALITION IN AREAS OF BURIED LITH THES AND SHALL PROVIDE AT LEAST 48 HOURS
- NOTICE TO THE UTILITY COMPANIES PRIOR TO CONSTRUCTION TO OBTAIN FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED BY THE CONTRACTOR CALLED FOR IN THIS CONTRACT.

CLEARING AND DEMOLITION:

- 1 THE CONTRACTOR SHALL CLEAR AND GRUB ONLY THOSE PORTIONS OF THE SITE NECESSARY FOR CONSTRUCTION DISTURBED AREAS WILL BE SEEDED, MULCHED, SODDED OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.
- 2. THE TOP 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER OR THE OWNER'S ENGINEER, UNLESS OTHERWISE DIRECTED BY THE OWNER OR THE OWNER'S ENGINEER. THE REMAINING EARTHWORK THAT RESULTS FROM CLEARING AND GRUBBING OR SITE EXCAVATION IS TO BE UTILIZED ON-SITE IF REQUIRED PROVIDED THAT THE MATERIAL IS DEEMED SUITABLE FOR CONSTRUCTION BY THE OWNER'S SOILS TESTING COMPANY. EXCESS MATERIAL IS TO BE EITHER STOCKPILED ON THE SITE AS DIRECTED BY THE OWNER, OR REMOVED FROM THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS THAT ARE NECESSARY FOR REMOVING EXCESS EARTHWORK FROM THE SITE.
- 3. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATORY AGENCY REQUIREMENTS OR AS DIRECTED BY THE OWNER.

SHOP DRAWING SUBMITTAL

- 1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE OWNER'S ENGINEER; 2 SETS OF HARD COPIES AND 1 ELECTRONIC FOR REVIEW.
- 1.1. THE CONTRACTOR, OR THE CONTRACTORS SUPPLIER, MUST INCLUDE WITH THE SHOP DRAWING SUBMITTAL A REFERENCE TO THE GOVERNING MUNICIPALITIES STANDARDS SHOWING COMPLIANCE WITH SAID MUNICIPALITIES REQUIREMENTS.
- ie. SHOP DRAWING SUBMITTAL FOR A FIRE HYDRANT SHALL INCLUDE A REFERENCE TO "CHARLESTON WATER 1.1.1. SYSTEM - MINIMUM STANDARDS FOR THE DESIGN AND CONSTRUCTION OF WATER AND SANITARY SEWER SYSTEM - SECTION 10.B.1.o". OR MORE SIMPLY "CWS - 10.B.1.o" 1.1.2. THIS SHALL BE COMPLETED FOR EVERY SUBMITTAL TO ASSURE AN EXPEDITED REVIEW OF SHOP DRAWINGS.
- 2. SHOP DRAWINGS WILL BE REVIEWED AND RETURNED TO THE CONTRACTOR WITHIN 15 BUSINESS DAYS FROM CONFIRMED RECEIPT BY THE OWNER OR THE OWNERS ENGINEER
- 3. SHOP DRAWINGS NOT RECEIVED IN THE PROPER FORMAT WILL BE RETURNED TO THE CONTRACTOR FOR REVISIONS PRIOR TO REVIEW.

AS-BUILT NOTE:

THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF THE SITE (TIED TO THE STATE PLANE COORDINATE SYSTEM). TO INCLUDE ALL STORM DRAINAGE LINES, BOTH EXISTING AND NEWLY INSTALLED. SURVEY SHALL ALSO INCLUDE THE PIPE SIZE, MATERIAL, AND INVERT ELEVATIONS, IN COMPLIANCE WITH THE GEORGETOWN COUNTY REQUIREMENTS AND NPDES PERMIT

<u>NO GEOTECHNICAL REPOR</u>

1. ASPHALT/PAVEMENT SECTIONS SHOWN ON PLANS AND DETAILS ARE ASSUMED AND SHALL BE VERIFIED WITH GEOTECHNICAL ANALYSIS BY THE CONTRACTOR PRIOR TO INSTALLATION. 2. CONTRACTOR TO ASSUME 12 INCHES OF UNDERCUT AND BACKFILL TO BRING TO GRADE.

ORIGINAL SHEET - ARCH D

8. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY AND ENFORCE ALL APPLICABLE SAFETY REGULATION. THE

PAVING AND GRADING

ENGINEER

1. ALL DELETERIOUS SUBSURFACE MATERIAL (I.E. MUCK, PEAR, BURIED DEBRIS) IS TO BE EXCAVATED IN ACCORDANCE WITH THESE PLANS OR AS DIRECTED BY THE OWNER. THE OWNER'S ENGINEER, OR OWNER'S SOIL TESTING COMPANY, DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER OR THE OWNER'S ENGINEER. EXCAVATED AREAS TO BE BACKFILLED WITH APPROVED MATERIALS AND COMPACTED AS SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY PERMITS THAT ARE NECESSARY FOR REMOVING DELETERIOUS MATERIAL FROM THE SITE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING SHEETING OR SHORING AS NECESSARY. DEWATERING METHODS SHALL BE USED AS REQUIRED TO KEEP TRENCHES DRY WHILE PIPE AND APPURTENANCES ARE

BEING PLACED 3. ALL NECESSARY FILL AND EMBANKMENT THAT IS PLACED DURING CONSTRUCTION SHALL CONSIST OF MATERIAL SPECIFIED BY THE OWNER'S SOIL TESTING COMPANY OR ENGINEER AND BE PLACED AND COMPACTED ACCORDING TO THESE PLANS OR THE REFERENCED SOILS REPORT

4. PROPOSED SPOT ELEVATIONS REPRESENT FINISHED PAVEMENT OR GROUND SURFACE GRADE UNLESS OTHERWISE NOTED ON DRAWINGS

5. UNLESS OTHERWISE NOTED, ALL GRADING, ROCKING AND PAVING TO CONFORM TO SCDOT STANDARD SPECIFICATIONS, LATEST EDITION. 6. CLEAR AND GRUB WITHIN WORK LIMITS ALL SURFACE VEGETATION, TREES, STUMPS, BRUSH, ROOTS, ETC. DO NOT DAMAGE OR REMOVE TREES

EXCEPT AS APPROVED BY THE APPROPRIATE MUNICIPAL AUTHORITY OR AS SHOWN ON THE DRAWINGS. PROTECT ALL ROOTS. 7. STRIP WORK LIMITS, REMOVING ALL ORGANIC MATTER WHICH CANNOT BE COMPACTED INTO A STABLE MASS. ALL TREES, BRUSH AND DEBRIS

ASSOCIATED WITH CLEARING, STRIPPING OR GRADING SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR. 8. IMMEDIATELY FOLLOWING FINE GRADING OPERATIONS, COMPACT SUBGRADE TO 95% OF THE MAXIMUM DRY DENSITY PER AASHTO T-180.

9. ALL FILLS WITHIN PUBLIC RIGHT-OF-WAYS AND EASEMENTS SHALL BE ENGINEERED, ADDITIONALLY, ANY FILLS OUTSIDE OF PUBLIC RIGHT-OF-WAYS WHICH ARE OVER 2 FEET IN DEPTH SHALL BE ENGINEERED. ENGINEERED FILLS SHALL BE CONSTRUCTED IN 6" LIFTS. EACH LIFT SHALL BE COMPACTED TO 95 % OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD (MODIFIED PROCTOR).

10. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, STRAIGHT GRADES SHALL BE RUN BETWEEN ALL FINISH GRADE ELEVATIONS AND/OR FINISH CONTOUR LINES SHOWN. FINISH PAVEMENT GRADES AT TRANSITION TO EXISTING PAVEMENT SHALL MATCH EXISTING PAVEMENT GRADES OR BE FEATHERED PAST JOINTS WITH EXISTING PAVEMENT AS REQUIRED TO PROVIDE A SMOOTH, FREE DRAINING SURFACE. 11. CRUSHED ROCK SHALL CONFORM TO THE REQUIREMENTS OF SECTION 02630 (BASE AGGREGATE) SCDOT STANDARD SPECIFICATIONS. COMPACT TO 95% OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD (MODIFIED PROCTOR), A.C. PAVEMENT SHALL CONFORM TO SECTION 00745

(ASPHALT CONCRETE PAVEMENT) SCDOT STANDARD SPECIFICATIONS FOR STANDARD DUTY MIX. A.C. PAVEMENT SHALL BE COMPACTED TO A /INIMUM OF 91% OF MAXIMUM DENSITY AS DETERMINED BY THE RICE STANDARD METHOD. 12. ALL EXISTING OR CONSTRUCTED MANHOLES, CLEANOUTS, MONUMENTS, GAS VALVES, WATER VALVES AND SIMILAR STRUCTURES SHALL BE

- ADJUSTED TO MATCH FINISH GRADE OF THE PAVEMENT, SIDEWALK, LANDSCAPED AREA WHEREIN THEY LIE. 13. IF WIND EROSION BECOMES SIGNIFICANT DURING CONSTRUCTION, THE CONTRACTOR SHALL STABILIZE THE AFFECTED AREA USING SPRINKLING, IRRIGATION OR OTHER ACCEPTABLE METHODS.
- 14. ENGINEERED FILL MATERIAL SHALL NOT CONTAIN ROCKS OR HARD LUMPS GREATER THAN 3 INCHES IN MAXIMUM DIMENSIONS AND SHALL BE FREE OF VEGETATION, ORGANIC MATTER, DEBRIS, RUBBLE AND OTHER UNSUITABLE MATERIALS AND SHALL BE APPROVED BY GEOTECHNICAL
- 15. IMPORTED SOILS FOR USE AS ENGINEERED FILL SHALL BE NON-EXCLUSIVE MATERIALS AND SHALL NOT CONTAIN ROCKS OR HARD LUMPS GREATER THAN 3 INCHES IN MAXIMUM DIMENSIONS AND SHALL BE FREE OF VEGETATION, ORGANIC MATTER, DEBRIS, RUBBLE, AND OTHER UNSULTABLE MATERIALS.

16. AGGREGATE BASE MATERIAL SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS

	SIEVE SIZE (PER ASTM D422)	PERCENT PASSING BY WEIGHT
	1 INCH	100
	3/4	90-100
	No. 8	35-55
	No. 200	0-8
17. ALL AREAS TO REC	EIVE FILL, AND AREAS OF STRUCTURES AND PAVEME	NTS, SHALL BE STRIPPED OF VEGETATION, ORGANIC

RUBBLE, AND OTHER UNSUITABLE MATERIALS. STRIPPED SOILS SHALL NOT BE USED IN ENGINEERED FILL, BUT MAY BE USED IN LANDSCAPE ENGINEERED FILL MATERIAL SHALL BE COMPACTED TO AT LEAST THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY AND OPTIMUM

MOIOTONE CONTE				
	ENGINEERED FILL MATERIAL	MINIMUM PERCENT COMPACTION	MOISTURE CONTENT (RANGE)	
	NATIVE SOIL	90%	OPTIMUM TO OPTIMUM PLUS 3%	
	ENGINEERED FILL UNDER STRUCTURES AND BEHIND RETAINING WALLS	95%	OPTIMUM TO OPTIMUM PLUS 3%	
	ENGINEERED FILL UNDER PAVEMENTS	95%	OPTIMUM TO OPTIMUM PLUS 2%	
	FILL IN LANDSCAPE AREAS	95%	2 TO 5% ABOVE OPTIMUM	
AGGREGATE BAS MOISTURE CONTE	E COURSE SHALL BE COMPACTED TO AT LEA NT, PER AASHTO T180 (MODIFIED PROCTOR)	ST THE FOLLOWIN	NG PERCENTAGES OF MAXIMUM DRY DENSIT	Y AND (
	ENGINEERED FILL MATERIAL	MINIMUM PERCENT COMPACTION	MOISTURE CONTENT (RANGE)	
	AGGREGATE BASE MATERIAL OR			

18. ENGINEERED FILL SHALL BE PLACED IN LIFTS NO GREATER THAN 6 INCHES THICK (LOOSE).

19. THE TOP 6 INCHES OF SOIL EXPOSED AT THE BOTTOM OF THE EXCAVATIONS SHALL BE COMPACTED, SCARIFIED AND COMPACTED AS ENGINEERED FILL PRIOR TO PLACEMENT OF ADDITIONAL FILI 20. IF SOFT OR LOOSE SOIL IS PRESENT AT THE BASE OF EXCAVATIONS, IT SHALL BE EXCAVATED AND/OR COMPACTED AS ENGINEERED FILL OR AS

21. IF SUBGRADE SOILS EXHIBIT PUMPING DURING COMPACTION, THE AREA SHALL BE ALLOWED TO DRY UNTIL THE SOLIDS BECOME WORKABLE

VITHOUT PUMPING. THE MOISTURE CONTENT OF THE SOILS SHALL BE ADJUSTED TO PREVENT PUMPING 22. EXPOSURE TO THE ENVIRONMENT MAY REDUCE THE STRENGTH OF SOILS IN PAVED AREAS. IF THIS OCCURS, THE SOFTENED SOILS SHALL BE REMOVED AND REWORKED IMMEDIATELY PRIOR TO CONCRETE PLACEMENT. IF RAINFALL IS EXPECTED AT A TIME WHEN BEARING SOILS IN FOOTING AREAS ARE EXPOSED, A 2 TO 4 INCH THICK LAYER OF LEAN CONCRETE MAY BE PLACED IN SUCH AREA.

23. THE SITE SHALL BE GRADED TO TRANSPORT SURFACE RUNOFF AWAY FROM THE PAVED AREAS. WATER SHALL NOT BE ALLOWED TO ACCUMULATE

(POND) ON PAVED AREAS. 24. BACKFILL AND FILL SHALL CONFORM TO THE GENERAL REQUIREMENTS FOR SOIL MATERIALS ABOVE AND SHALL BE CLASSIFIED AS GW, GP, GM, GC,

SW SP SM SC ML CL BY ASTM D2487 AND SHALL CONFORM TO THE FOLLOWING 24.1. SHALL BE CAPABLE OF BEING COMPACTED TO THE SPECIFIED DEGREE OF COMPACTION WHEN THE MOISTURE CONTENT IS WITHIN 3 PERCENTAGE POINTS OF THE OPTIMUM PERCENT MOISTURE.

24.2. LIQUID LIMIT SHOULD NOT EXCEED 40 PERCENT WHEN TESTED IN ACCORDANCE WITH ASTM D4318.

24.3. PLASTICITY INDEX SHOULD NOT BE GREATER THAN 30 PERCENT WHEN TESTED IN ACCORDANCE WITH ASTM D4318

24.4. NO MORE THAN 75 PERCENT BY WEIGHT SHALL BE FINER THAN NO. 200 SIEVE WHEN TESTED IN ACCORDANCE WITH ASTM D1140. 25. UNSUITABLE SOIL SHALL BE ANY SOIL MATERIALS DETERMINED BY THE INDEPENDENT GEOTECHNICAL LABORATORY AS NOT CONFORMING TO THE REQUIREMENTS DESCRIBED ABOVE FOR BACKFILL AND FILL. A MOISTURE CONTENT WHICH IS MORE THAN 3 PERCENTAGE POINTS FROM OPTIMUM SHALL NOT BE CONSIDERED UNSUITABLE IF SUCH MATERIALS WOULD OTHERWISE BE SUITABLE IF THE MOISTURE CONTENT WERE ADJUSTED ADJUSTMENTS TO THE SOIL MOISTURE CONTENT BY DRYING, MIXING, ADDING WATER, OR OTHER MEANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

26 MEASUREMENT OF LINSUITABLE MATERIAL: THE VOLUME OF LINSUITABLE MATERIAL EXCAVATION SHALL BE DETERMINED BY A LICENSED SURVEYOR BY THE AVERAGE END AREA METHOD. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SCALED PLAN WITH SUFFICIENT ELEVATION POINTS TO ACCURATELY DEFINE THE VOLUME OF UNSUITABLE MATERIAL EXCAVATED. THE EXTENT OF UNSUITABLE MATERIAL EXCAVATION SHALL BE DETERMINED BY THE INDEPENDENT GEOTECHNICAL LABORATORY

DRAINAGE NOTES:

- 2. ALL REINFORCED CONCRETE PIPE SHALL, AT A MINIMUM, BE ASTM C76, CLASS III.
- SECURELY WRAPPED WITH FILTER FABRIC 18" IN WIDTH
- JOINTS SHALL BE SECURELY WRAPPED WITH FILTER FABRIC 18" IN WIDTH.
- FABRIC 18" IN WIDTH

DRAINAGE EASEMENT

- - THICK
 - 13 MORTAR SHALL BE TYPE S OR M

15. REINFORCING STEEL SHALL BE DEFORMED AND SHALL CONFORM TO AASHTO M 31, GRADE 60. WIRE MESH SHALL CONFORM TO AASHTO M 55 AND M 221 16. IF STRUCTURE DEPTH EXCEEDS 4'-6", METAL STEPS ARE TO BE PLACED ON WALL. SEE STEP STANDARD DRAWING 719-16.

MET, AND ARE ON SCOOT LIST OF APPROVED SUPPLIERS.

d. STRENGTH REQUIREMENTS OF STEEL GRATES AND FRAMES MUST MEET FEDERAL SPECIFICATION RR-F-621 (LATEST EDITION). 18. THE LONGEST DIMENSIONS OF THE OPENING IN THE IRON GRATE SHOULD BE ORIENTED IN THE DIRECTION OF FLOW IF PRACTICAL. 19. AS SHOWN BY THIS DRAWING THE FRAME IS SET LEVEL, BUT THE ENGINEER MAY SET SAME ON SLOPE AS REQUIRED BY LOCAL DRAINAGE CONDITIONS

22. THE SOFFIT (INSIDE TOP OF PIPE) OF THE OUTLET PIPE SHOULD BE NO HIGHER THAN THE SOFFIT OF THE INLET PIPE, UNLESS OTHERWISE SHOWN ON PLANS

EROSION CONTROL NOTES:

CEASED, EXCEPT AS STATED BELOW. OF THE SITE.

IDENTIFICATION

ANY WATERS OF THE STATE.

MAY BE REQUIRED.

8 TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS. 9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE

DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL

CONSTRUCTION

ALL NEW STORM PIPES. BEDDING. TRENCHING. STORM BOXES. ETC. IN THE RIGHTS-OF-WAY AND/OR CITY OWNED AND MAINTAINED DRAINAGE EASEMENTS SHALL BE INSTALLED PER CURRENT SCDOT SPECIFICATIONS, LOCATED ON THE INTERNET AT http://www.scdot.org/doing/construction_standardspec.aspx. STANDARD SCDOT DETAIL DRAWINGS CAN BE LOCATED AT THE FOLLOWING WEBSITE, http://www.scdot.org/doing/sd book.aspx.

3. REINFORCED CONCRETE PIPE INSTALLED UNDER PAVEMENT AND/OR PARALLEL TO THE EDGE OF PAVEMENT IN PUBLIC RIGHTS-OF-WAY SHALL HAVE O-RING JOINTS IN ACCORDANCE WITH ASTM C443 AND/OR AASHTO M315. THE JOINTS SHALL BE

4. SUBMERGED DRAINAGE SYSTEMS SHALL HAVE O-RING JOINTS IN ACCORDANCE WITH ASTM C C443 AND/OR AASHTO M315. THE

5. WHERE TONGUE AND GROOVE STORM PIPE IS ALLOWED, REINFORCED CONCRETE PIPE SHALL BE PER ASTM C 76, CLASS III, JOINTS SHALL BE SEALED WITH RAMNECK OR EQUIVALENT PER AASHTO M198. THE JOINTS SHALL BE SECURELY WRAPPED WITH FILTER

6. ALL NEW STORM DRAINAGE LINES SHALL BE LAID UPGRADE AFTER CONFIRMATION OF EXISTING INVERT ELEVATION. 7. GEORGETOWN COUNTY MAINTAINS THE RIGHT TO ALLOW ALTERNATE PIPE INSTALLATIONS OR TYPE OF PIPE FOR ALL PROJECTS ON A CASE-BY-CASE BASIS FOR ANY PIPES TO BE INSTALLED IN AN EXISTING OR PROPOSED CITY ROAD RIGHT-OF-WAY AND-OR

8. PIPE LENGTHS SHOWN ARE APPROXIMATE AND CENTER TO CENTER ON DRAINAGE STRUCTURES OR TO END OF PIPE. CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO SUBMITTAL OF BID.

9. ALL STORM DRAIN PIPING SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL. CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE INSPECTIONS 10. THE CONTRACTOR SHALL MAINTAIN AND PROTECT FROM MUD, DIRT, DEBRIS, ETC THE STORM DRAINAGE SYSTEM UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE CONTRACTOR MAY BE REQUIRED TO RECLEAN PIPES AND INLETS FOR THESE PURPOSES

11. FOR CONSTRUCTION OF THE DROP INLET WALLS EITHER BRICK MASONRY OR CLASS 3000 CONCRETE MAY BE USED. FOR CONCRETE THE WALLS ARE TO BE 6" THICK WITH A REINFORCING STEEL AREA OF 0.20 SQ. INCH PER FT. FOR BRICK THE WALLS ARE TO BE 8"

12. THE BOTTOM SLAB OF THE BOX SHALL BE A MINIMUM OF 6 IN. THICK CLASS 3000 CONCRETE WITH A REINFORCING STEEL AREA OF 0.20 SQ, INCH PER ET, WIRE MESH MAY BE USED IN LIEU OF STEEL BARS PROVIDED A MINIMUM OF 0.20 SQ, IN, PER ET, IS MET

14. IF DESIRED THESE ITEMS MAY BE PRECAST PRIOR TO INSTALLATION IN LIEU OF BEING CAST IN PLACE. THE USE OF PRECAST UNITS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING SATISFACTORY INSTALLATIONS. SEE SCDOT STANDARD DRAWINGS FOR PRECAST CONCRETE DRAINAGE BOX FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

17. CASTING SHALL CONFORM TO AASHTO M 105, CLASS 35B AND THE ALTERNATE LOAD TEST OF AASHTO M 306. CASTINGS SHALL ALSO

MEET THE LOADING REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-621 (LATEST EDITION). a. STEEL GRATES AND FRAME MAY BE USED IN LIEU OF CAST IRON AS LONG AS THE LOADING AND HYDRAULIC REQUIREMENTS ARE

b. STEEL GRATES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111.

c. STEEL GRATES AND FRAMES SHALL BE DIMENSIONED TO BE INTERCHANGEABLE WITH EACH PIECE OF THE CAST IRON GRATE AND FRAME SHOWN, MUST HAVE A POSITIVE MEANS TO RETAIN THE GRATE IN THE FRAME.

20. AFTER THE FRAME IS SET IN ITS FINAL POSITION. IT IS TO BE ENCASED WITH CONCRETE AS SHOWN BY DRAWING 21. THE INSIDE OF THE OUTLET PIPE SHALL BE FLUSH WITH FLOOR OF BASIN, UNLESS OTHERWISE SHOWN ON PLANS (SUMP).

23. SHOULD THE CONTRACTOR ENCOUNTER UNSUITABLE MATERIAL, THEN THE CONTRACTOR WILL ENGAGE AN INDEPENDENT GEOTECHNICAL ENGINEER TO VERIFY UNSUITABLE MATERIAL AND MAKE RECOMMENDATIONS ON THE REMOVAL AND THE PLACEMENT AND TYPE OF NEW BEDDING AND BACKELL MATERIAL. THE RECOMMENDATIONS BY THE INDEPENDENT GEOTECHNICA ENGINEER SHALL BE SUBMITTED TO THE OWNER AND CIVIL ENGINEER FOR CONCURRENCE PRIOR TO PROCEEDING WITH WORK.

1 JE NECESSARY, SLOPES WHICH EXCEED FIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE

STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS

-WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURE MUST BE INITIATED AS SOON AS PRACTICABLI -WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION

3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED. THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF

PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE SEDIMENT BEFORE BEING PUMPED BACK INTO

5. 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. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS

RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 ET SEQ. AND SCR100000.

10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.

11 A COPY OF THE SWPPP, INSPECTIONS RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS. FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.

12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES AVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS. 13. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.

14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE

15. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.). 16. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:

-WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL; -WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER MATERIALS -FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; -SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING

17. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE. 18. IF EXISTING BMP'S NEED TO BE MODIFIED OR IF ADDITIONAL BMP'S ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.

19. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.



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Dwn. Dsgn. Chkd. YYYY.MM.DD

Client/Project Logo

Client/Project GEORGETOWN COUNTY

GARDEN CITY DRAINAGE IMPROVEMENTS

MURRELLS INLET, SOUTH CAROLINA

Title **PROJECT NOTES**

Project No. 178420927 Scale

Revision Sheet Drawing No







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TREE REMOVAL

DEMOLISH STRUCTURE

Revisior BID SET 2020.03.26 2019.10.29 2019.09.18 PER COUNTY COMMENTS FOR PERMIT REVIEW TN/SC BK Appd YYYY.MM.DD Issued SGCSGCBKDwn.Dsgn.Chkd.YYYY.MM.DD File Name: 927_DEMO_SITE_01 Permit/Seal





Client/Project Logo

Client/Project GEORGETOWN COUNTY

GARDEN CITY DRAINAGE IMPROVEMENTS SITE 1

MURRELLS INLET, SOUTH CAROLINA

Title

DEMOLITION AND TREE REMOVAL PLAN

Project No. 178420927

Revision Sheet

Scale

DeetDrawing No.4 of 14C2-00





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PERMANENT STABILIZATION (SEE LANDSCAPE PLANS)

TEMPORARY SEEDING

MULCHING

DUST CONTROL

LIMITS OF DISTURBANCE LIMITS OF DISTURBANCE AND SILT FENCE

LIMITS OF DISTURBANCE

TREE PROTECTION

SILT FENCE

SEDIMENT TUBE

TYPE A INLET PROTECTION

FILTER BAG INLET PROTECTION





PER COUNTY COMMENTS FOR PERMIT REVIEW

Appd YYYY.MM.DD SGC SGC BK Dwn. Dsgn. Chkd. YYYY.MM.DD

TN/SC BK 2019.10.29 TN SC 2019.09.18

Permit/Seal

File Name: 927_ESC_SITE_01





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Client/Project GEORGETOWN COUNTY

GARDEN CITY DRAINAGE IMPROVEMENTS SITE 1

MURRELLS INLET, SOUTH CAROLINA

Title

TREE PROTECTION AND EROSION CONTROL PLAN

Project No. 178420927

Scale

Drawing No. 5 of 14 C3-00



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			0			
ICE - PO posts must physical char	ST REQUIREM be 48-inch long steel acteristics.	ENTS posts that meet, at a m	ninimum, the	SILT F 1. The k regula	FENCE - INSPE key to functional silt fe ar sediment removal.	CTION of the concernet

Composed of a high strength steel with a minimum yield strength of - Include a standard "T" section with a nominal face width of 1.38-inches and a nominal "T" length of 1.48-inches. Weigh 1.25 pounds per foot $(\pm 8\%)$ Posts shall be equipped with projections to aid in fastening of filter fabric.

Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17-square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.

Install posts to a minimum of 24-inches. A minimum height of 1- to 2- inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained Post spacing shall be at a maximum of 6-feet on center.

SILT FENCE - FABRIC REQUIREMENTS Silt fence must be composed of woven geotextile filter fabric that consists of the

following requirements: - Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other; - Free of any treatment or coating which might adversely alter its physical properties after installation: - Free of any defects or flaws that significantly affect its physical and/or

- Have a minimum width of 36-inches.

Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.

12-inches of the fabric should be placed within excavated trench and toed in when the

Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier

Filter Fabric shall be installed at a minimum of 24-inches above the ground

& MAINTENANCE kly inspections, routine maintenance, and

- 2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation
- 3. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessarv.
- 4. Remove accumulated sediment when it reaches 1/3 the height of the silt
- 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- 6. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie-backs and/or reinstall silt fence, as necessary
- 7. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
- 8. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

South Car Health and I	olina Department of Environmental Contro
SI	LT FENCE
STANDARD DRAWING NO.	SC-03 PAGE 2 of 2
GENERA	LNOTES TEBRUARY 2014

TYPE A - INSPECTION & MAINTENANCE 1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.

- 2. Regular inspections of inlet protection shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
- 3. Attention to sediment accumulations along the filter fabric is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
- 4. Remove accumulated sediment when it reaches 1/3 the height of the filter fabric. When a sump is installed in front of the fabric, sediment should be removed when it fills approximately 1/3 the depth of the sump.
- 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- 6. Check for areas where stormwater runoff has eroded a channel beneath the filter fabric, or where the fabric has sagged or collapsed due to runoff overtopping the inlet protection.
- 7. Check for tears within the filter fabric, areas where fabric has begun to decompose, and for any other circumstance that may render the inlet protection ineffective. Removed damaged fabric and reinstall new filter fabric immediately
- 8. Inlet protection structures should be removed after all the disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet structure crest. Stabilize all bare areas immediately.

2. Posts shall be equipped with projections to aid in fastening of filter 3. Install posts to a minimum of 24—inches. A minimum height of 1— to 2- inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.

4. Post spacing shall be at a maximum of 3-feet on center.

South Carolina Department of Health and Environmental Contro Type A FILTER FABIC INLET PROTECTION SC-07 PAGE 2 of 2 ANDARD DRAWING NO. GENERAL NOTES DATE

SEDIMENT TUBES - GENERAL NOTES

Sediment tubes may be installed along contours, in drainage conveyance channels, and around inlets to help prevent off-site discharge of sediment-laden stormwater runoff.

Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch-filled sediment tubes are not

The outer netting of the sediment tube should consist of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable material.

Sediment tubes, when used as checks within channels, should range between 18-inches and 24-inches depending on channel dimensions. Diameters outside this range may be allowed where necessary when approved.

Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.

6. Sediment tubes should be staked using wooden stakes (2-inch X 2-inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48-inches in length placed on 2-foot centers.

Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufacturer's recommendations should always be consulted before

The ends of adjacent sediment tubes should be overlapped 6-inches to prevent flow and sediment from passing through the field joint.

Sediment tubes should not be stacked on top of one another, unless recommended by manufacturer.

D. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube. Sediment tubes should continue up the side slopes a minimum of 1-foot above the design flow depth of the channel.

12. Install stakes at a diagonal facing incoming runoff.

SEDIMENT TUBES - INSPECTION & MAINTENANCE 1. The key to functional sediment tubes is weekly inspections, routine maintenance, and regular sediment removal.

- 2. Regular inspections of sediment tubes shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
- 3. Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
- 4. Remove accumulated sediment when it reaches 1/3 the height of the sediment tube.
- 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- 6. Large debris, trash, and leaves should be removed from in front of tubes when found.
- 7. If erosion causes the edges to fall to a height equal to or below the height of the sediment tube, repairs should be made immediately to prevent runoff from bypassing tube.

NDARD DRAWING NO.

8. Sediment tubes should be removed after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which sediment tubes have been removed.

> South Carolina Department of Health and Environmental Control SEDIMENT TUBES

> > SC-05 PAGE 2 of 2 $\begin{array}{c} \text{GENERAL NOTES} & \frac{\text{FEBRUARY 2014}}{\text{DATE}} \end{array}$

1.25 LB./LINEAR FT. STEEL POSTS



6 of 14 C.3-01

OBKREDHAALSHIFEET ARREHAD



SEEDING SCHEDULE

SPECIES	RATE (LBS/AC)	OPTIMUM DATES TO PLANT	REMARKS
BROWNTOP MILLET (ALONE)	40	APRIL 20 - AUGUST 15	QUICK, DENSE COVER
BROWNTOP MILLET (MIX)*	10	APRIL 20 - AUGUST 15	QUICK, DENSE COVER
RYE GRAIN (ALONE)	56	FEBRUARY - MARCH, AUGUST 15 - NOVEMBER 20	QUICK COVER
RYE GRAIN (MIX)*	10	FEBRUARY - MARCH, AUGUST 15 - NOVEMBER 20	QUICK COVER
RYE GRASS (ALONE)	50	AUGUST 10 - OCTOBER 10	COMPETITIVE, DENSE
RYE GRASS (MIX)*	8	AUGUST 10 - OCTOBER 10	COMPETITIVE, DENSE

* FOR DETAILS ON MIXES CONSULT THE CLEMSON UNIVERSITY HOME AND GARDEN INFORMATION CENTER AT (888)

TEMPORARY VEGETATION SCHEDULE

656-9988 OR AT HTTP://HGIC.CLEMSON.EDU.

PERMANENT VEGETATION SCHEDULE

BINDING WIRE

FEBRUARY 2014

SPECIES	RATE (LBS/AC)	OPTIMUM DATES TO PLANT	REMARKS
BERMUDA GRASS (HULLED) (ALONE)	8-12	APRIL - JULY 15	QUICK COVER, SOD FORMING, PARTIAL WINTER KILL
BERMUDA GRASS (HULLED) (MIX)*	4-6	APRIL - JULY 15	QUICK COVER, SOD FORMING, PARTIAL WINTER KILL
FESCUE, TALL (KY31) ALONE	40	AUGUST 15 - OCTOBER	SELDOM SEEDED ALONE, NOT FOR DRY OR WET SITES
FESCUE, TALL (KY31) MIX*	20	AUGUST 15 - OCTOBER	SELDOM SEEDED ALONE, NOT FOR DRY OR WET SITES
ANNUAL RYE GRASS	15	AUGUST 15 - FEBRUARY	GOOD FOR SUPPRESSING WEEDS. DO NOT USE ITALIAN RYE GRASS.
CENTIPEDE	10	MARCH 1 - APRIL 15	REQUIRES LOW MAINTENANCE AND FEWER CUTS.

* FOR DETAILS ON MIXES CONSULT THE CLEMSON UNIVERSITY HOME AND GARDEN INFORMATION CENTER AT (888) 656-9988 OR AT HTTP://HGIC.CLEMSON.EDU.



1. 2	RECEIVE NPDES COVERAGE FROM SCDHEC.	11.	REPLACE AND LAND
2. 3.	NOTIFY DHEC EQC REGIONAL OFFICE 48 HOURS PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.	12.	MAINTENA CONTROL SITE IS PE CONTROL
4.	INSTALLATION OF TREE PROTECTION, PERIMETER SILT FENCE, AND EROSION CONTROL MEASURES.	13.	
5.	POTHOLE UTILITY LOCATIONS AS SHOWN ON THE PLANS, LOCATE SEWER SERVICES FOR EACH RESIDENCE, AND NOTIFY OWNER/ENGINEER OF CONFLICTS.		AS-BUILT, BE SUBMI REQUIRED
6.	INSTALLATION OF COFFERDAMS (AS REQUIRED)	14.	REMOVAL CONTROL
7.	INSTALLATION OF NEW STORMWATER PIPES AND STRUCTURES.		RECOMME OWNER/O
8.	CONSTRUCT DIVERSION SWALES AS NECESSARY TO CONVEY THE STORM WATER BEFORE THE		REMOVAL
	PROPOSED STORM DRAINAGE SYSTEM IS FULLY FUNCTIONAL, INSTALLING SEDIMENT TUBES IF NECESSARY.	15.	SUBMIT TO FINAL STA
9.	INSTALL PERIMETER SILT FENCE WHERE SEDIMENT IS OBSERVED TO BE LEAVING CONSTRUCTION		

AREAS. MAINTAIN PERIMETER SILT FENCE,

DIVERSIONS, AND SEDIMENT TUBES.

10. PERMANENT/FINAL STABILIZATION OF

SEQUENCE OF CONSTRUCTION:



N.T.S.

DITCHES/SWALES WITH SEEDING AND/OR SOD.

DAMAGED OR DEMOLISHED HARDSCAPE DSCAPE IN-KIND AS REQUIRED.

ANCE OF SEDIMENT AND EROSION L MEASURES MUST CONTINUE UNTIL THE ERMANENTLY STABILIZED AND THE LS ARE REMOVED.

T GEORGETOWN COUNTY FOR FINAL ION AND CLOSE-OUT OF PROJECT. , VIDEO AND CLOSE-OUT APPLICATION TO ITTED FOR REVIEW AND APPROVAL AS D BY GEORGETOWN COUNTY.

L OF TEMPORARY SEDIMENT AND EROSION L MEASURES AFTER ENTIRE WORK AREA IS STABILIZED (THE DEPARTMENT ENDS THAT THE PROJECT

OPERATOR HAVE THE SWPPP PREPARER OR ATION EQUIVALENT APPROVE THE L OF TEMPORARY STRUCTURES).

O DHEC FOR N.O.T. WITHIN 30 DAYS OF ABILIZATION.





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Project No. 178420927 Revision Sheet Scale

Drawing No. 7 of 14 C3-02





1.3.

Know what's **below. Call** before you dig.



INLINE CHECKVALVE STORAGE NOTES: TO PRESERVE THE VALVE AND ASSURE A TROUBLE-FREE INSTALLATION: 1.1. STORE IN A CLEAN, COOL, DRY LOCATION. AVOID EXPOSURE TO

LIGHT, ELECTRIC MOTORS, DIRT, OR CHEMICALS.1.2. STORE VALVE VERTICALLY ON FLOOR OR PALLET.

AVAILABLE AT TIME OF INSTALLATION.

CHECK SLEEVE TO PREVENT POSSIBLE DAMAGE.

1.4. STORE THIS MANUAL WITH THE VALVE, SO THAT IT IS READILY

TO INSTALLATION, THE FOLLOWING STORAGE GUIDELINES WILL HELP

STORE VALVE TO PREVENT OTHER ITEMS FROM CONTACTING

REMOVED. ALSO INSERT PINS TO ENSURE THEY ARE TIGHT. 1. IF YOUR CHECKMATE®, IS TO BE STORED FOR A PERIOD OF TIME PRIOR

BUILDUP OF DEBRIS. THE FREQUENCY OF THE INSPECTIONS SHOULD BE DETERMINED BY THE SEVERITY OF THE SERVICE AND THE ENVIRONMENT IN WHICH IT OPERATES. THE CLAMPS SHOULD BE CHECKED FOR PROPER TENSION, AND BE SURE THAT THE INSIDE OF THE VALVE IS FREE OF DEBRIS. SOFT MARINE GROWTH IS NORMAL ON VALVES IN SUBMERGED APPLICATIONS. BECAUSE HARD MARINE GROWTH SUCH AS BARNACLES WILL NOT BOND WELL TO THE CHECKMATE®, THEY CAN BE EASILY

1. INSPECTION VALVES SHOULD OCCASIONALLY BE INSPECTED FOR DAMAGE, WEAR, AND

PRIOR TO INSTALLATION. THE VALVE SHOULD BE INSERTED FULLY INTO THE MATERIAL) THAT WILL PROVIDE A SMOOTH I.D. FOR SMOOTH WALL PIPE, IT

PIPE SO THAT NO PART OF THE CUFF OR BILL EXTENDS OUTSIDE THE PIPE. IS RECOMMENDED THAT THE VALVE BE PINNED.

INSTALLATION BOLT TORQUE ON THE END FLANGE BOLTS ARE LISTED IN THE MANUFACTURERS INSTALLATION PROCEDURES. INLINE CHECKVALVE MAINTENANCE NOTES:

13. FLANGED VALVE BOLT TORQUES THE VALVE END WITH THE RUBBER FLANGE SHALL BE INSTALLED USING THE BACKUP RINGS PROVIDED. THE SLEEVE SPLIT SHOULD BE INSTALLED SEE BELOW. FOUR PRE-DRILLED HOLES ARE PROVIDED IN EACH EXPANSION FACING DOWNSTREAM, WITH THE SPLIT IN THE VERTICAL POSITION. THE

THE IMAGE TO THE RIGHT FOR THE SUGGESTED POSITIONING AND USAGE OF THE EXCAVATOR'S SHOVEL ASSISTANCE FOR LARGER-SIZED CHECKMATE® VALVES. CLAMPS MUST BE INSTALLED TO PREVENT DAMAGE TO CUFF. THE CHECKMATE® VALVE USES EXPANDING CLAMP(S) TO EXERT PRESSURE 12. CORRUGATED PIPE AND SMOOTH WALL (PVC, HDPE) PIPE INSTALLATION FOR INSTALLATION ON CORRUGATED PIPE, IT IS RECOMMENDED THAT THE THE PIPE. THE WALLS OF THE PIPE SHOULD BE CLEAN AND FREE OF DEBRIS CORRUGATIONS BE FILLED WITH HYDRAULIC CEMENT (OR SIMILAR

11. PALLET PUSH FOR LARGER CHECKMATE® VALVES LARGER CHECKMATE® VALVES CAN BE PUSHED INTO THE PIPE UTILIZING THE SHIPPING PALLET. THE PALLET SHOULD BE PLACED PERPENDICULAR TO THE VALVE BEING INSERTED INTO THE PIPE. THEN, WITH ASSISTANCE FROM AN EXCAVATOR, PUSH WITH CONSISTENT EVEN FORCE AGAINST THE SHIPPING PALLET TO INSERT THE CHECKMATE® VALVE INTO THE PIPE. SEE

10. INSERTION INTO PIPE CLAMP TO SUPPORT THE SHAPE OF THE CUFF SHOULD BE HAND TIGHT AND SHOULD BE EXTENDED OUTWARD, BUT ONLY TIGHT ENOUGH TO LOOSELY KEEP THE SHAPE OF THE CUFF DURING INSTALLATION.

9. VALVE ORIENTATION THE CHECKMATE® VALVE MUST BE INSTALLED IN A HORIZONTAL PIPE. VALVES 4" - 18" (NOMINAL) ARE SUPPLIED WITH A SINGLE CLAMP. THE CLAMP TURNBUCKLE SHOULD BE ORIENTED AT TOP DEAD CENTER AS DELINATED BY THE PLUMB LINE. VALVES 20" - 60" (NOMINAL) ARE SUPPLIED WITH TWO CLAMPS. THE TURNBUCKLES SHOULD BE ORIENTED 45° FROM THE TOP CENTER PLUMB LINE. THE 72" IS SUPPLIED WITH THREE CLAMPS. THE TURNBUCKLE FOR ONE CLAMP TO BE AT TOP CENTER. THE OTHER CLAMPS TO BE 45° TO EACH SIDE OF TOP CENTER.

LUBRICATE TO AID INSERTION. 8. PLUMB LINES AND ARROWS THE CHECKMATE® VALVE ARRIVES WITH A "TOP" ARROW, "FLOW" ARROW AND PLUMB LINES, MARKED IN WHITE, AT THE 12:00 AND 6:00 POSITION OF THE VALVE. UTILIZE THIS MARKING TO ORIENT THE VALVE IN THE PIPE, AS WELL AS TO ENSURE THE VALVE IS ORIENTED CORRECTLY IN PIPE SECTION.

7. LUBRICATION THE OUTSIDE OF THE VALVE CAN BE LUBRICATED WITH A WATER-BASED LUBRICANT PRIOR TO INSERTING THE VALVE INTO THE PIPE. IF THE TAPING

PROCEDURE HAS BEEN USED, THE SURFACE OF THE TAPE CAN BE

SEALANT SHOULD BE USED TO SEAL BOLTS.

CONTRACTOR TO SOD ENTIRE DISTURBED AREA, INCLUDING BUFFER

DROP INLET NOTE: 1. CONTRACTOR TO ADD 12" CONCRETE APRON AROUND DROP INLET, TIE

VALVE SIZES 2" - 18" ARE FURNISHED WITH ONE CLAMP. VALVES 20" - 60"

NOTE: A CLAMP IS INSTALLED ON EACH END OF THE VALVE TO KEEP THE

VALVE'S SHAPE DURING TRANSIT AND STORAGE. ONCE THE INSTALLATION

ORIENTATION IS DETERMINED THE CHECKMATE® VALVE WILL BE CLAMPED

FROM EITHER THE UPSTREAM OR DOWNSTREAM SIDE. FOR VALVES WITH

DO NOT USE SHARP TOOLS WHEN UNPACKING THIS PRODUCT AS IT MAY

DAMAGE THE VALVE. FOR LARGER CHECKMATE® VALVES, THE VALVE

DO NOT PLACE AN OBJECT THROUGH THE VALVE IN ORDER TO LIFT.

DAMAGED AREAS. THE INSIDE SURFACE SHOULD BE UNIFORM AND

DIAMETER FOR THE LENGTH OF VALVE AND SHOULD NOT BE OUT OF

CHECKMATE® VALVE SHOULD BE ORDERED TO THE SMALLEST PIPE I.D.. THEN. RUBBER ADHESIVE STRIP CAN BE APPLIED TO BOTH CHECKMATE®

WHEN VALVE O.D. IS SMALLER THAN THE PIPE I.D., ONE-SIDED RUBBER

ADHESIVE STRIP IS USED TO BUILD UP THE O.D. OF BOTH CHECKMATE®

OUTWARDS ON THE WALLS OF THE VALVE TO WEDGE IT IN PLACE WITHIN

POINTING UPWARDS OR DOWNWARDS. THE VALVE CENTERLINE SHOULD BE

RECOMMENDS PINNING THE CHECKMATE® VALVE ON ALL INSTALLATIONS.

HOLES CAN BE DRILLED THROUGH THE VALVE AND PIPE, AND A BOLT RUN

THROUGH SECURED WITH A NUT. FOR BURIED PIPE, SILICON OR SIMILAR

INLINE CHECK VALVE SHALL BE RED VALVE 18" CHECKMATE MODEL

MANUFACTURERS SPECIFICATIONS AND INSTALLATION PROCEDURES.

CMCBUF-180. THERE IS NO APPROVED EQUAL OR SUBSTITUTE.

CONTRACTOR SHALL NOTIFY MANUFACTURER OF INSTALLATION

CONTRAGTOR SHALL INSTALL CHECK VALVE ACCORDING TO

RED VALVE CONTACT: ALEX GORDON | 412-848-1720 |

CLAMP. AT LEAST ONE CLAMP SHOULD BE PINNED. ON EXPOSED PIPE,

ENSURE THAT THE VALVE IS NOT SLANTED AT AN ANGLE WITH THE BILL

PARALLEL TO THE PIPE CENTERLINE. TIDEFLEX® TECHNOLOGIES

ROUND. WHEN THERE IS A +/- TOLERANCE ON THE PIPE I.D., THE

CUFFS TO BUILD THE CUFF O.D. UP TO THE ACTUAL PIPE I.D.

ATTEMPT TO INSTALL A CHECKMATE® IN A SMALLER PIPE I.D.

TWO OR THREE CLAMPS, THEY CAN BE INSTALLED ONTO THE SAME SIDE OF

SHOULD BE LIFTED WITH EITHER A SLING OR WITH SUPPORTS AROUND THE

O.D. AT EACH SIDE OF THE VALVE TO EASE THE INSTALLATION PROCEDURE.

CHECK THE INSIDE DIAMETER (I.D.) OF THE PIPE SECTION FOR ROUGH OR

RELATIVELY SMOOTH. LONG GOUGES OR CRACKS IN THE PIPE MAY ALLOW

THE PIPE I.D. IS TO BE CHECKED IN THE FIELD. IT SHOULD BE A CONSISTENT

WATER TO PASS AND SHOULD BE FILLED PRIOR TO INSTALLATION. DO NOT

SHIP WITH TWO CLAMPS. 72" VALVES SHIP WITH THREE CLAMPS.

AREA BETWEEN ROAD AND SIDEWALK (~4000 SQ. FT.)

TO SIDEWALK AND EDGE OF PAVEMENT.

INLINE CHECKVALVE INSTALLATION NOTES:

THE VALVE AND OFFSET FROM EACH OTHER.

_ANDSCAPING NC

. PRODUCT SHIPPING

2. UNPACKING & LIFTING

3. INSPECTION OF PIPE I.D.

4. PIPE I.D. MEASUREMENTS

5. RUBBER ADHESIVE STRIP BUILD UP

CUFFS TO THE ACTUAL PIPE I.D.

INLINE CHECKVALVE NOTES:

BEFORE CONSTRUCTION BEGINS.

AGORDON@REDVALVE.COM

6. PREPARATION

A1 (CB)

ORIGINAL SHEET - ARCH D



—— DSF ——	DOUBLE ROW SIL
	MILL AND OVERLA
-1-	DRAINAGE FLOW
	SPOT ELEVATION





2. ALL JOINT CONNECTIONS SHALL BE SEALED WITH "O-RING" GASKETS IN ACCORDANCE WITH ASTM 361.

ORIGINAL SHEET - ARCH D

SIDEWALK IS WITHIN MINIMUM COVER OF TOP OF PIPE, XTEND STRUCTURAL BACKFIL UP TO BOTTOM OF ROADWAY SUBBASE, DRIVE, OR SIDEWALK GEOTEXTILE NOT SHOW DETAIL MINIMUM COVER INSTALLATION (UNDER ROADWAY, DRIVE, SIDEWALK, ETC.) 1. SEE SHEET 714-005-00, 714-020-00, 714-105-00, & 714-120-00 FOR GENERAL NOTES, AND TRENCH INSTALLATION REQUIREMENTS. USE B WALL PIPE FOR SIZES AND CLASSES INDICATED IN TABLES 714-205A & 714-205B. C WALL PIPE MAY BE SUBSTITUTED FOR B WALL PIPE ONLY FOR SIZES AND CLASSES INDICATED IN TABLES 714-205A & 714-205B. 4. USE PIPE AND JOINT MATERIAL FROM A MANUFACTURER COMBINATION SHOWN ON QUALIFIED PRODUCT LIST 69. WHEN DEFORMED BILLET STEEL REBAR IS USED FOR CUSTOM PIPE, OBTAIN REBAR FROM A MANUFACTURER USTED ON SCOOT QUALIFIED PRODUCT LIST 60. FOLLOW INSTRUCTIONAL BULLETIN 2010-01 AND ENGINEER OF RECORD RECOMMENDATIONS TO DETERMINE LOADING FOR CUSTOM PIPE. CASE 3: MINIMUM COVER FOR CONSTRUCTION VEHICLE [FT] (AASHTO 27.5.4.4) CASE 4: UNIVERSAL DRIVEWAY MINIMUM COVER [FT] NOT FOR USE IN ROADWAY CASE 6: MAXIMUM COVER MTH INVERT AT 2 X O.D. BELOW GROUNDWATER; [FT] CLASS III CLASS IV CLASS V CLASS III CLASS IV CLASS V CLASS III CLASS IV CLASS V 0 (B) 0 (B) 0 (B) 0 (B)





							REFERENCES		
ų		<u></u>	<u>n kilongan</u>				NATIONAL DOCUMENTS		
						AASHILO M32, M55, M170, M198, M221, M225, M295, M302, M315, T96, T104, ASTM A706			
(AS NOTED)									
SES 1, Z, AND 4.							SCDOT_DOCUMENTS		
_				SPECIFICATION, SC-M-714 ENGINEERING DIRECTIVE MEMO 24					
Т	79	04	00	06	409	420	OUALIFIED PRODUCT LIST 60, 69 SCDOT TO ACPA (MARCH 14, 2012		
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	IV	IV	CUSTOM	CUSTOM	CUSTOM	CUSTOM	0 3/2009 HJC NEW STANDARD		
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Stantec

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Tel: 843.740.7700

Kevisioi

PER COUNTY COMMENTS FOR PERMIT REVIEW		TN/SC TN	BK SC	2019.10.29 2019.09.18
Issued		Ву	Appd	YYYY.MM.DD
File Name: 927_GRADING_DETAILS_SITE_01	SGC	SGC	ВК	
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal





Client/Project Logo

Client/Project GEORGETOWN COUNTY

GARDEN CITY DRAINAGE IMPROVEMENTS SITE 1

MURRELLS INLET, SOUTH CAROLINA

Title

GRADING AND DRAINAGE DETAILS

Project No. 178420927

Scale

Revision Sheet 10°f 14 C4-02

Drawing No.



24 7 DIMENSION BUILT IN PLACE OPTIO A 8" B 36"

SEE STD. DRAWING 719-305-00 AND 719-310-00 (2'X3'XH) PRECAST E

EE STD. DRAWING 719-305-00 AND 719-310-00 (2'X3'XH) PRECAST

 TABLE 719-110A STANDARD PC ITEWS FOR DROP INLET

 719-1100-01
 (24"X36") DROP INLET BOTTOM SLAB (PC OR CIP 40"X52"X6") SEE ALSO STO. DRAWING 719-310-00 OR 719-305-00

EFFECTIVE LETTING DATE MAY 2008 THIS DRAWING IS NOT TO SCALE

ORIGINAL SHEET - ARCH D



REFERENCES NATIONAL DOCUMENTS SHTO M199, ASTM A706 OT DOCUMENT QUALIFIED PRODUCT LIST 14 QUALIFIED PRODUCT LIST 13 TED DRAWINGS & KEYWOF 19-110-01 TO 719-110-02, 719-001-04, 19-09-04, 719-110-02, 719-420-00, 19-009-04, 719-110-02, 719-420-00, 19-505-03, 719-305-02, 719-105-01, 19-310-00, 719-305-00, 719-315-00 PRECONSTRUCTION SUPPORT ENGINEER TH CARI ICRETE_COMPONENTS FOR DRAINAGE ITEMS AT NGLE SOURCE PRECAST MANUFACTURER THAT HAS NOVED BY THE MATERIALS AND RESEARCH ITERCHANGEABLE PRECAST PARTS DN ENTIRE OURCE MANUFACTURER LISTED ON QUALIFIED APPROVED BY RCE. ITEMS FROM MULTIFIED T BE INSTALLED IN INDIVIDUAL LOCATIONS. HND. 8858 2 UNITS WILL NOT RELIEVE THE CONTRACTOR OF BTAINING SATISFACTORY INSTALLATIONS. SEE RECAST CONCRETE DRAINAGE BOX OR STRUCTURE AND SPECIFICATIONS. SICHATURE TOR MAY SUBMIT DESIGN DRAWINGS AND CALCULATIONS FOR S TO THIS ITEM ON A PROJECT BY PROJECT BASIS. S TO THESE ITEMS WILL NOT BE LISTED ON ANY QUALIFIED . SUBMIT ALL PROPOSALS FOR PROJECT SPECIFIC S TO THE RESIDENT ENGINEER FOR REVIEW BY THE ENGINEER MARCH 3, 2008

T UNIT PRICE FOR DROP INLETS WITH STANDARD BOX E COST OF FURNISHING ALL MATERIALS, INCLUDING NLET SYSTEM, AND DRAINAGE BOX, AND WORK E CONSTRUCTION OF THE STRUCTURE COMPLETE IN PLACE ROANCE WITH THE SCOOT STANDARD SPECIFICATIONS FOR TION (LATEST EDITION).

372008 DSO GENERAL REVISIONS

SCE)

DESIGN STANDARDS OFFICE 955 PARK STREET ROOM 405 COLUMBIA, SC 29201

STANDARD DRAWING

DROP_INLET (24"X36") INLET_ADAPTOR

719-110-02

ECTIVE LETTING DATE

30. THE PAY ITEM SHALL BE: DROP INLET (24"X36")_____

26. PIPES AND BOX SHALL BE BACKFILLED AND COMPACTED AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS. 27. ANY LOCATION WHERE THE ABOVE REQUIREMENTS CANNOT BE MET SHALL BE COMPLETED USING CAST IN PLACE MATERIALS MEETING THE REQUIREMENTS OF THIS STANDARD DRAWING, ANY ADDITIONAL MATERIALS OR COSTS ASSOCIATED WITH THE USE OF PRECAST SHALL BE PAID FOR BY THE CONTRACTOR AND MAY NOT BE CHARGED TO SCDOT. INIT PRICE FOR DROP INLETS SHALL INCLUDE THE COST OF FURNISHING ALL IN PLACE OR PRECASTS, AND WORK INCIDENTAL TO THE CONSTRUCTION OF THE IN PLACE AS SHOWN, INCLUDING THE CURB AND CUTTER, IN ACCORDANCE WIT SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST FOILTON). 29. PRECAST CONCRETE CIRCULAR STRUCTURES (AS SHOWN ON 719-420-00) ARE REQUIRED FOR THE FOLLOWING APPLICATIONS UNLESS PROHIBITED BY THE PLANS OR SPECIAL PROVISIONS. (a) ON DRAINAGE STRUCTURES WITHA A DEPTH EQUAL TO OR GREATER THAN 12 FEET.

USE SHEETS 719-110-01 THROUGH 719-110-02 FOR THIS ITEM.

DRAINAGE ACCESS MANHOLE

HEAVY DUTY CASTING

719-505-03

EFFECTIVE LETTING DATE MAY 200

23. BED SHALL BE PREPARED AND COMPACTED FOR PRECAST DRAINAGE STRUCTURE AS REQUIRED BY SCOOT STANDARD SPECIFICATIONS FOR PRECAST ITEMS. ELEVATION OF BEDDING MATERIAL SHALL BE APPROPRIATE TO ACCOMMODATE ELEVATION OF ALL PIPES AND REQUIRED BOX TOP FLEVATION.

22: JOINTS BETWEEN INSTALLED PIECES AND PRECAST ITEMS TO BE PLACED SHALL BE SEALED WITH A'2" GROUT LIFT OR AN APPROPRIATE PLASTIC PREFORMED GASKET (FROM QUALIFIED PRODUCT LIST 13.)

18. LIFT HOLES AND/OR DEVICES MAY BE PLACED AS NECESSRY, ALL LIFT HOLES SHALL BE GROUTED SHUT PRIOR TO COMPLETION OF THE INSTALLATION. ALL LIFTING METHODS MUST MEET OSHA REGULATIONS. 19. THE CONTRACTOR SHALL USE A SINGLE SOURCE MANUFACTURER CHOSEN FROM THE LIST ON OUALIFIED PRODUCT LIST 14 FOR PRECAST ITEMS ON THIS DRAWING. 20. FOLLOW QUALIFIED PRODUCT POLICY 14 IN ORDER TO BE LISTED ON QUALIFIED PRODUCT LIST 14. 21. CONTRACTOR MAY SUBMIT DESIGN DRAWINGS AND CALCULATIONS FOR MODIFICATIONS TO THIS ITEM ON A PROJECT BY PROJECT BASIS. MODIFICATIONS TO THESE ITEMS WILL NOT BE LISTED ON ANY QUALIFIED PRODUCT LIST. SUBMIT ALL PROPOSALS FOR PROJECT SPECIFIC MODIFICATIONS TO THE RESIDENT ENGINEER FOR REVIEW BY THE ENGINEER DF RECORD.

13. THE LONGEST DIMENSIONS OF THE OPENING IN THE IRON GRATE SHOULD BE ORIENTED IN THE DIRECTION OF FLOW. IF PRACTICABLE. THIS GRATE IS NOT SUITABLE FOR PEDESTRIAN TRAFFIC BECAUSE GRATE OPENINGS EXCFEDUR. 14. AS SHOWN BY THIS DRAWING, THE FRAME IS SET LEVEL, BUT THE RESIDENT CONSTRUCTION ENGINEER MAY SET SAME ON SLOPE AS REQUIRED BY LOCAL DRAINAGE CONDITIONS. 15. AFTER THE FRAME IS SET IN ITS FINAL POSITION. IT IS TO BE ENCASED WITH CONCRETE AS SHOWN BY DRAWING. 16. ALL MANUFACTURING PROCESSES FOR THE FRAME AND GRATE MUST OCCUR IN THE UNITED STATES. 17. THE USE OF PRECAST UNITS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING SATISFACTORY INSTALLATIONS. SEE STANDARD DRAWINGS FOR PRECAST CONCRETE DRAINAGE BOX OR STRUCTURE FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

11. ALL CASTINGS SHALL CONFORM TO AASHTO M 105. CLASS 358 AND THE SPECIFICATIONS OF AASHTO M 306 12. (d) STEEL GRATES AND FRAME MAY BE USED IN LIEU OF CAST IRON AS LONG AS THE LOADING (NOTE 12d) AND HYDRAULIC REQUIREMENTS ARE MET, AND ARE ON THE DEPARTMENT'S LIST OF APPROVEN SUPPLIERS. (GUALIFICD PRODUCT LIST 45) TES SHALL BE HOT DIP GALVALIZED IN ACCORDANCE WITH ASSHTO M 111. TES AND TRAMES SHALL BE DIMENSIONED TO BE INTERCHANGEABLE WITH EACH PIECE. ON GRAFE AND FRAME SHOWN. STEEL GRATES MUST HAVE POSITIVE MEANS TO BE RETAINED IN THE FRAME. (4) STRENGTH REQUIREMENTS OF STEEL GRATES AND FRAMES MUST MEET AASHTO M 306 (6) MANUFACTURERS DESIRING TO BE PLACED ON THE DEPARTMENT'S OUALFIED PRODUCT LIST HOULD CONTACT THE MATERIALS AND RESEARCH ENGINEER FOR PROCEDURES.

8. LOCATION AND SIZE OF PIPES ARE SITE SPECIFIC, (SEE DRAINAGE PLANS). THE BOTTOM OF THE CATCH BASIN IS TO BE GROUTED TO THE LOWEST FLOW LINE ELEVATION OF ALL PIPES. BOTTOM SLAB IS CAST IN PLACE WITH PIPES INSTALLED, BOTTOM SLAB THICKNESS MUST BE ACHIEVED BEYOND PIPE OUTSIDE DIAMETER. 9. THE FLOOR OF THE BASIN MUST SLOPE IN THE DIRECTION OF THE OUTLET PIPE AS SHOWN AND THE INSIDE OF OUTLET PIPE SHALL BE FLUSH WITH FLOOR OF BASIN. 10. SEE STANDARD DRAWING 719-305-00 OR 719-310-00 FOR MAXIMUM PIPE DIAMETERS. THE PIPE SIZES SHOWN ARE MAXIMUM FOR BRICK AND PRECAST BOXES WHEN PIPE ENTERS PERPENDICULAR AND AT THE CENTER OF THE BOX WALL. CONTRACTOR SHOULD CONFIRM THAT PIPE USED FITS APPROPRIATELY INTO BOX.

7. SEE STANDARD DRAWINGS 719-420-00 AND 719-425-00 FOR DEPTHS GREATER THAN 12', PRECAST CONCRETE CIRCULAR DRAINAGE STRUCTURES ARE REQUIRED WHEN THE DEPTH FROM THE TOP DF TH E DRAINAGE BUS BOILOW SLAB TU THE TOP DF THE GROUND EXCEEDS 12'-0'.

3. THE BOTTOM SLAB OF THE BOX SHALL BE A MINIMUM OF 6" THICK REINFORCED CONCRETE (CLASS 3000 OR 4000P) WITH A REINFORCING STEEL AREA OF 0.20 SQUARE INCHES PER FOOT. WIRE MESH BE USED IN LIEU OF STEEL BARS PROVIDED A MINIMUM OF 0.20 SQUARE INCHES PER FOOT I S MET. 5. REINFORCING STEEL SHALL BE ASTM A=706, LOW=ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT, GRADE 60, WIRE MESH SHALL CONFORM TO AASHTO M 55 AND M. 6. SEE STANDARD DRAWING 719-550-00 FOR STEPS, WHICH ARE REQUIRED WHEN STRUCTURE DEPTH EXCEEDS 47-67-

1. SEE 119-105-01 FOR DROP INLET (24X24). FOR BUILT IN PLACE CONSTRUCTION OF THE CATCH BASIN WALLS, EITHER BRICK MASONRY (WALLS DNLY) OR CIP CLASS 3000 CONCRETE MAY BE USED. FOR PRECAST CONSTRUCTION, A MINIMUM OF CLASS 4000P CONCRETE SHALL BE USED. 2. CONCRETE WALLS ARE TO BE 6" THICK WITH A MINIMUM REINFORCING STEEL AREA 0.20 SOUARE INCHES PER FOOT UNLESS NOTED. FOR BRICK, THE WALLS ARE TO BE 8" THICK CONCRETE BRICK AND SIMILAR SOLID UNITS SHALL CONFORM TO THE REOURREMENTS OF ASTM C 55, GRADE S-11. THE INTERIOR DIMENSIONS ARE TO REMAIN AS SHOWN FOR EITHER TYPE OF





1. FOR BUILT IN PLACE CONSTRUCTION OF THE MANHOLE, EITHER BRICK MASDNRY (WALLS DNLY) DR CLASS 3000 CONCRETE MAY BE USED. FOR PRECAST CONSTRUCTION, A MINIMUM DF CLASS 4000P CONCRETE SHALL BE USED (SEE STD. DRAWING 719-420-00). 2. BRICK WALLS ARE TO BE 8" THICK. CONCRETE BRICK AND SIMILAR SOLID UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 55. GRADE S-II.

3. CORBELLING (RACKING) OF BRICK MASONRY FOR MANHOLES SHALL BE AT A MIN. RATE OF 2.5:1. 4. THE BOTTOM SLAB OF THE BOX SHALL BE A MINIMUM OF 6" THICK REINFORCED CONCRETE (CLASS 3000 OR 4000P) CONCRETE WITH A REINFORCING STEEL AREA OF 0.20 SQUARE INCHES PER FOOT. WIRE MESH MAY BE USED IN LIEU OF STEEL BARS PROVIDED A MINIMUM OF 0.20 SQUARE INCHES PER FOOT IS MET.

NOTES:

5. MORTAR SHALL BE TYPE S OR M. 6. REINFORCING STEEL SHALL BE ASTM A=706, LOW-ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT, GRADE 60. WIRE MESH SHALL CONFORM TO AASHTO M 55 AND M

7. SEE STANDARD DRAWING 719-550-00 FOR STEPS, which are required when structure depth exceeds $4^{\prime}-6^{\prime}$.

8. SEE STANDARD DRAWINGS 719-420-00 AND 719-425-00 FOR DEPTHS GREATER THAN 12'. PRECAST CONCRETE CIRCULAR DRAINAGE STRUCTURES ARE REQUIRED WHEN THE DEPTH FROM THE TOP OF THE DRAINAGE BOX BOTTOM SLAB TO THE TOP OF THE GROUND EXCEEDS 12'-0'. 9. LOCATION AND SIZE OF PIPES ARE SITE SPECIFIC (SEE DRAINAGE PLANS). THE BOTTOM OF THE CATCH BASIN IS TO BE GROUTED TO THE LOWEST FLOW LINE ELEVATION OF ALL PIPES. IF BOTTOM SLAB IS CAST IN PLACE WITH PIPES INSTALLED, BOTTOM SLAB THICKNESS MUST BE ACHIEVED BEYOND PIPE OUTSIDE DIAMETER. 10. FOR CONCENTRIC AND ECCENTRIC CONES REFER TO STD. DRAWINGS 719-420-00. 11. CASTINGS SHALL CONFORM TO AASHTO M 105, CLASS 35 B. CASTING SHALL MEET LOAD TEST OF AASHTO M 306.

12. CASTINGS SHALL BE MANUFACTURED SO AS TO PREVENT THE COVER FROM RATTLING UNDER TRAFFIC. 13. ONLY ONE VENT HOLE (1 dia.) SHALL BE MANUFACTURED IN COVER WITH 2 PICK HOLES (MAX 1 DIA.).

14. ALTERNATE COVER FACES THAT MEET THE ABOVE SPECIFICATION ARE ACCEPTABLE. MANHOLE SHALL BE LINED UP WITH THE INTERIOR OF THE BOX AS SHOWN. 15. ALL MANUFACTURING PROCESSES FOR THE MANHOLE COVER AND RING MUST OCCUR IN THE UNITED STATES.

16. THE CONTRACT UNIT PRICE FOR MANHOLES SHALL INCLUDE THE COST OF FURNISHING ALL MATERIALS (BUILT IN PLACE OR PRECAST) AND WORK INCIDENTAL TO THE CONSTRUCTION OF THE STRUCTURE COMPLETE IN PLACE AS SHOWN IN ACCORDANCE WITH THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION). 17. THE USE OF PRECAST UNITS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING SATISFACTORY INSTALLATIONS. SEE STANDARD DRAWINGS FOR PRECAST CONCRETE DRAINAGE STRUCTURE FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

18. LIFT HOLES AND/OR DEVICES MAY BE PLACED AS NECESSARY. ALL LIFT HOLES SHALL BE GROUTED SHUT PRIOR TO COMPLETION OF THE INSTALLATION ALL LIFTING METHODS MUST MEET OSHA REGULATIONS.

19. THE CONTRACTOR SHALL USE A SINGLE SOURCE MANUFACTURER LISTED ON QUALIFIED PRODUCT LIST 14 FOR PRECAST ITEMS ON THIS DRAWING. 20. PRECAST MANUFACTURER MUST MEET ALL OTHER REQUIREMENTS OF QUALIFIED PRODUCT POLICY 14.

21. PRECAST ITEMS MODIFIED FROM THIS STANDARD SHALL NOT BE LISTED ON QUALIFIED PRODUCT LIST 14. HOWEVER, CONTRACTION MAY SUBMIT DESIGN DRAWINGS AND CALCULATIONS TO THE ENGINEER OF RECORD FOR REVIEW. 22. JOINTS BETWEEN INSTALLED PIECES AND PRECAST ITEMS TO BE PLACED SHALL BE SEALED WITH A $1/2^{\prime\prime}$ GROUT LIFT OR AN APPROPRIATE PLASTIC PREFORMED GASKET (FROM QUALIFIED PRODUCT LIST (3.)

PRECAST INSTALLATION NOTES: 23. BED SHALL BE PREPARED AND COMPACTED FOR PRECAST DRAINAGE STRUCTURE AS REQUIRED BY SCOOT STANDARD SPECIFICATIONS FOR PRECAST ITEMS. ELEVATION OF BEDDING MATERIAL SHALL BE APPROPRIATE TO ACCOMMODATE ELEVATION OF ALL PIPES AND REQUIRED TOP ELEVATION.

24. PLACE AND LEVEL PRECAST CIRCULAR DRAINAGE STRUCTURE. 25. PIPES SHALL BE INSTALLED AND GROUTED IN PLACE.

26. PIPES AND CIRCULAR DRAINAGE STRUCTURE SHALL BE BACKFILLED AND COMPACTED AS REQUIRED BY SCOOT STANDARD SPECIFICATIONS (LATEST EDITION). 27. ANY LOCATION WHERE THE ABOVE REQUIREMENTS CANNOT BE MET SHALL BE COMPLETED USING CAST IN PLACE MATERIALS MEETING THE REQUIREMENTS OF THIS STANDARD DRAWING. ANY ADDITIONAL MATERIALS OR COSTS ASSOCIATED WITH THE USE OF PRECAST SHALL BE PAID FOR BY THE CONTRACTOR AND MAY NOT BE CHARGED TO SCODI. 28. PRECAST CONCRETE CIRCULAR STRUCTURES (AS SHOWN ON 719-420-00) ARE REQUIRED FOR THE FOLLOWING APPLICATIONS UNLESS PROHIBITED BY THE PLANS OR SPECIAL (d) ON DRAINAGE STRUCTURES WITH A DEPTH EQUAL TO OR GREATER THAN 12 FEET. (b) ON DRAINAGE STRUCTURES WHERE THE FLOW LINE ELEVATION OF THE INLET PIPE IS EQUAL TO OR HIGHER THAN THE INSIDE TOP (SOFFIT) OF THE OUTLET PIPE. (c) AS REQUIRED BY THE PROJECT PLANS.

29. THE PAY ITEM SHALL BE: MANHOLE_____EA

719-505-04 EFFECTIVE LETTING DATE JAN., 2013



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Consultant

Legend



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Client/Project Logo

Client/Project **GEORGETOWN COUNTY**

GARDEN CITY DRAINAGE IMPROVEMENTS SITE 1

MURRELLS INLET, SOUTH CAROLINA

Title

GRADING AND DRAINAGE DETAILS

Project No. 178420927

Revision Sheet

Scale

Drawing No. 11^{× of} 14 C4-03





QRARGHINAA ISHAEET ARROTHOD

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS

SPACING INTERVALS

25 FEET

50 FEET

SPEED LIMIT

40 - 55 MPH

≤ 35 MPH

CEMENT INTERVALS				
LIMIT	*			
D	200			
iph Te speed	350			
D	500			
POSTED SPEED LIMIT PRIOR TO ORK				

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Consultant

Legend

Revisior

Title

TRAFFIC CONTROL DETAILS

Project No. 178420927

Revision Sheet

Scale

Drawing No. 14 of 14 C5-01