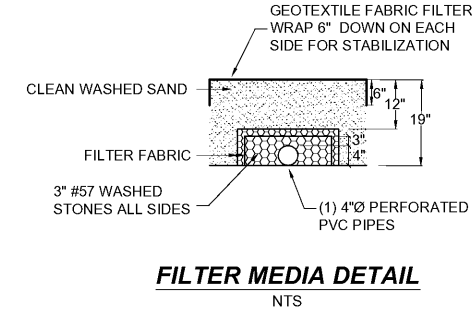


MATERIAL	QTY / LF OF FILTER CHAMBER	SPECIFICATION	SIZE	NOTES
SAND	4.0 CF / LF	CLEAN AASHTO - M - 6 OR ASTM C - 33 CONCRETE SAND	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.
UNDERDRAIN GRAVEL	3.9 CF / LF	WASHED #57 STONE	3/8" TO 3/4"	
GEOTEXTILE FABRIC	5.0 SF / LF / LAYER	ASTM - D4833 (PUNCTURE STRENGTH = 125 LBS.) ASTM - D4632 (TENSILE STRENGTH = 300 LBS.)	0.08" THICK EQUIVALENT OPENING SIZE OF #80 SIEVE	MUST MAINTAIN 125 GPM PER SQ. FT. FLOW RATE. NOTE: A 4" PEA GRAVEL LAYER MAY BE SUBSTITUTED FOR GEOTEXTILES MEANT TO "SEPARATE" SAND/FILTER LAYERS.
UNDERDRAIN PIPING	1.0 FT / LF	F 758, TYPE PS 28 OR AASHTO - H - 278	4" RIGID SCHEDULE 40 PVC OR SDR35	3/4" PERFORATIONS AT 6" ON CENTER, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDER PIPES.



DESIGN SPECIFICATIONS:

- CONCRETE MINIMUM (28-DAY) COMPRESSIVE STRENGTH 5000 PSI.
- REINFORCING DEFORMED BARS CONFORMING TO ASTM A-615 (FY=60 KSI).
- REINFORCING WELDED WIRE FABRIC CONFORMING TO ASTM A-185 OR A-497 (FY=65 KSI).
- DESIGN LIVE LOAD: AASHTO HS-20.
- EARTH COVER: 0'-0" MINIMUM TO 0'-0" MAXIMUM.
- SOIL UNIT WEIGHT 120 PCF.
- STRUCTURE DESIGN CRITERIA TO MEET AASHTO SPECIFICATION FOR HIGHWAY BRIDGES, 16TH EDITION.
- VERTICAL JOINTS TO BE WATERTIGHT.

CONSTRUCTION NOTES:

- PERIMETER SANDFILTER TO BE PRECAST CONCRETE AND SUPPLIED BY ROTONDO ENVIRONMENTAL SOLUTIONS, LLC AT 703-212-4830 OR APPROVED EQUAL.
- WATER TEST TO BE PERFORMED PRIOR TO PLACEMENT OF FILTER MEDIA.
- STRUCTURE TO BE COMPLETELY BACKFILLED PRIOR TO PERFORMING WATER TEST.
- LATERAL PIPE OPENINGS TO BE SAW-CUT OR CORED IN THE FIELD PROCEEDING INSTALLATION AND WATER TEST.
- LATERAL PIPES TO EXTEND INTO THE STRUCTURE BEYOND THE INSIDE WALL AND SEALED WITH GROUT.
- ALL AREAS DRAINING TO THE SANDFILTER SHALL BE STABILIZED PRIOR TO ALLOWING ANY RUNOFF TO ENTER IT.

BEFORE PREPARATION PROCEDURES:

- ALL SLOPES DRAINING TO SAND FILTER SHALL BE STABILIZED PER THE NC STATE EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL BEFORE SAND IS PLACED IN SAND BED.

PRIOR TO INSTALLATION:

- STRUCTURE SUPPLIER SHALL PROVIDE AN EXPERIENCED SITE TECHNICIAN ON SITE DURING THE INSTALLATION TO VERIFY STRUCTURE IS INSTALLED PER MANUFACTURERS SPECIFICATIONS AND GUARANTEE WATERTIGHTNESS OF STRUCTURE.
- LOCATE OUTLET END OF STRUCTURE TO INSURE PROPER ORIENTATION OF STRUCTURE.
- INSTALL OUTLET SECTION IN ACCORDANCE TO APPROVED DRAWINGS. VERIFY LOCATION AND ORIENTATION OF SECTION BEFORE PROCEEDING.
- INSTALL SECOND SECTION AGAINST THE PREVIOUSLY INSTALLED SECTION AND DRAW TOGETHER WITH A BOLTED CONNECTION.
- DRAW SECTIONS TOGETHER UNTIL THEY TOUCH EACH OTHER.
- SPECIAL CARE MUST BE GIVEN NOT TO TRAP DEBRIS FROM THE BEDDING BETWEEN SECTIONS.
- REPEAT PROCEDURE FOR REMAINDER OF SECTIONS.
- INSTALL BOTH PRECAST AND SLABS AND TOP SLABS PER APPROVED DRAWINGS.

INSTALLATION PROCEDURES:

- STRUCTURE SUPPLIER SHALL PROVIDE AN EXPERIENCED SITE TECHNICIAN ON SITE DURING THE INSTALLATION TO VERIFY STRUCTURE IS INSTALLED PER MANUFACTURERS SPECIFICATIONS AND GUARANTEE WATERTIGHTNESS OF STRUCTURE.
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- REPEAT PROCEDURE FOR REMAINDER OF SECTIONS.
- INSTALL BOTH PRECAST AND SLABS AND TOP SLABS PER THE APPROVED DRAWINGS.

NOTE: CONTRACTOR IS TO VERIFY THAT ALL INFORMATION SHOWN ON DRAWINGS HAS BEEN THOROUGHLY CHECKED, COMPLIES WITH THE CONTRACT DOCUMENTS, AND IS ADEQUATE TO MEET THE FIELD CONDITIONS.

BACKFILL PROCEDURES:

- THE EXCAVATION MUST BE DEWATERED UNTIL THE CHAMBER HAS BEEN COMPLETELY BACKFILLED TO ELIMINATE POSSIBILITY OF FLOTATION.
- THE ENDS OR SHORT WALLS OF STRUCTURE MUST BE COMPLETELY BACKFILLED PRIOR TO LONG WALLS TO COMPRESS JOINTS AND INSURE A TIGHT SEAL.
- BACKFILL STRUCTURE WITH GRANULAR MATERIAL FREE FROM LARGE STONES, ROCKS, PAVEMENT, ETC. EXPANSIVE SOIL MATERIAL SHALL NOT BE USED AS BACKFILL AROUND THE STRUCTURE.
- BACKFILLING SHALL BE ACHIEVED BY USING EVEN LIFTS ON BOTH SIDES OF STRUCTURE TO THE REQUIRED COMPACTION.
- COMPACTION OF SOIL AROUND THE STRUCTURE SHALL BE ACHIEVED USING SMALL WALK-BEHIND COMPACTION EQUIPMENT. AT NO TIME SHALL LARGE COMPACTION EQUIPMENT COME WITHIN 5'-6" OF THE EXTERIOR WALLS OF THE STRUCTURE.

SANDFILTER MAINTENANCE NOTES:

- THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED / REPAIRED WHEN DRAWDOWN TIMES WITHIN THE CHAMBER EXCEED 36 HOURS. TRASH AND DEBRIS SHALL BE REMOVED AS NECESSARY.
- SEDIMENT SHOULD BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF MORE THAN SIX INCHES.
- WHEN THE FILTERING CAPACITY OF THE FILTER DIMINISHES SUBSTANTIALLY (E.G. WHEN WATER PONDING ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS), THE TOP FEW INCHES OF DISCOLORED MATERIAL SHOULD BE REMOVED AND SHALL BE REPLACED WITH FRESH MATERIAL. THE REMOVED SEDIMENT SHOULD BE DISPOSED IN AN ACCEPTABLE MANNER (E.G. LANDFILL) / SEDIMENT SHOULD BE REMOVED FROM THE FILTER BED WHEN THE ACCUMULATION EXCEEDS 12 INCH.

TESTING:

- THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE CE GROUP SO A REPRESENTATIVE CAN BE ON-SITE TO VERIFY TESTING.
- STRUCTURE TO BE FILLED TO A SPECIFIC LEVEL. AFTER THE STRUCTURE HAS BEEN BACKFILLED, ALLOW 24 HOURS FOR THE WATER LEVEL TO STABILIZE BEFORE MONITORING THE TEST. THE CONCRETE WILL ABSORB SOME AMOUNT OF WATER. ONCE THE WATER LEVEL HAS STABILIZED REFILL THE STRUCTURE TO THE LEVEL SPECIFIED AND MONITOR FOR A FURTHER 24 HOUR PERIOD. WATER LOSS SHOULD NOT EXCEED 10% OF TOTAL VOLUME DURING THE TESTING PERIOD.

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**FINAL DESIGN
NOT RELEASED
FOR CONSTRUCTION**

CITY OF DURHAM PUBLIC WORKS DEPARTMENT APPROVED	
ENGINEERING _____	DATE _____
STORM WATER _____	DATE _____
TRANSPORTATION _____	DATE _____

NO.	REVISIONS	DATE

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www.cegroupinc.com
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LOT 6 CONSTRUCTION PLANS
FOR
WESTPOINT AT 751
NC HIGHWAY 751 SOUTH, TRIANGLE TOWNSHIP, DURHAM, NC 27713
SAND FILTER DETAILS

Date:	MARCH, 2017
Scale:	N/A
Drawn:	JPD
Checked:	MPA
Project No.:	200-103
Computer Dwg. Name:	200-103_Sht-14-Sand-Filter-031617