

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL MATERIAL FOR LAYER 1 STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRONGER MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL MATERIAL FOR LAYER 1 STARTS FROM THE TOP OF THE EMBEDMENT STONE TO LAYER 1 UP TO 480 mm ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER.	AASHTO M140 ¹ A.1, A.2, A.3 OR AASHTO M47 ² 3.307, 4.487, 5.56, 5.7, 6.67, 6.8, 7, 7.8, 8, 8.9, 9, 10	BEGIN COMPACTIONS AFTER 1" (25 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 4" (100 mm) MAX LIFTS TO A MIN. 90% PROCTOR DENSITY FOR WELL GRADED MATERIALS AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER WIDTHS VEHICLE HEIGHT NOT TO EXCEED 30.00 m (99 ft). DYNAMIC FORCE NOT TO EXCEED 20.00 kN (4500 lb).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE OF LAYER 1 TO THE 'C' LAYER ABOVE.	AASHTO M47 ² 3.307, 4.487, 5.56, 5.7	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M47 ² 3.307, 4.487, 5.56, 5.7	PLATE COMPACTION OR ROLL TO ACHIEVE A FLAT SURFACE. ^{3,4}

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR #4 (AASHTO M47) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR A LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 4" (100 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFORMATION TO REQUIREMENTS MAY BE COMPLETED BY CONNECTION FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY FINING OR GRADING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGN, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 1 IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 1 UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOLS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 1 OR 2 AT THE SITE DESIGN ENGINEER'S DISCRETION.

NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F757 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING CAPACITY OF THE SUBGRADE SOLS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND UNLOADING. CHAMBERS SHALL HAVE INTERNAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL. THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH DURING INSTALLATION. AS THE ARCH STIFFNESS CONTINUES TO DEVELOP IN SECTION 4.1.0, THE ACTUAL FACTOR SHALL BE GREATER THAN OR EQUAL TO 1.00 (USING AND 1) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES ABOVE 77 °F (25 °C). CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SC-740 ISOLATOR ROW PLUS DETAIL

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR DEFECTS

- REMOVE GRATES OR INLET GRATES
- REMOVE AND CLEAN FLEETWORK FILTER IF INSTALLED
- USING A FLUORESCENT AND STAINING SOLUTION, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- IF SEDIMENT IS AT OR ABOVE 2" (50 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS

- ATTACHED CLEANING NOZZLE WITH REAR FACING SPRAY OF 40" (1 m) OR MORE IS PREFERRED
- APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLOW WATER IS CLEAN
- VACUUM STRUCTURE BUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT SETTING AND VACUUMING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

SC-740 TECHNICAL SPECIFICATION

NOMINAL CHAMBER SPECIFICATIONS

SIZE (W x H X INSTALLED LENGTH)	WEIGHT (LBS)	WEIGHT (KG)
51" (1300 mm) x 30" (762 mm) x 2160 mm	450.00	204.21
74.8 CUBIC FEET (2.12 m ³)	793.86	359.80

PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "B"

PART #	STUB	A	B	C
SC740PE001 / SC740PE002	6" (150 mm)	10.9" (277 mm)	18.9" (479 mm)	0.9" (23 mm)
SC740PE002 / SC740PE003	8" (200 mm)	12.2" (310 mm)	18.9" (479 mm)	0.9" (23 mm)
SC740PE003 / SC740PE004	10" (250 mm)	13.4" (340 mm)	14.9" (378 mm)	0.9" (23 mm)
SC740PE004 / SC740PE005	12" (300 mm)	14.7" (373 mm)	12.9" (328 mm)	1.2" (30 mm)
SC740PE005 / SC740PE006	14" (350 mm)	16.0" (406 mm)	10.9" (277 mm)	1.2" (30 mm)
SC740PE006 / SC740PE007	16" (400 mm)	17.3" (439 mm)	8.9" (226 mm)	1.2" (30 mm)
SC740PE007 / SC740PE008	18" (450 mm)	18.6" (470 mm)	6.9" (175 mm)	1.2" (30 mm)
SC740PE008 / SC740PE009	20" (500 mm)	19.9" (502 mm)	4.9" (124 mm)	1.2" (30 mm)
SC740PE009 / SC740PE010	24" (600 mm)	22.9" (581 mm)	2.9" (74 mm)	1.2" (30 mm)
SC740PE010 / SC740PE011	30" (750 mm)	29.9" (759 mm)	0.9" (23 mm)	1.2" (30 mm)

ALL STUBS, EXCEPT FOR THE SC740PE001/002, ARE PLACED AT BOTTOM OF END CAP SLUG. THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH 1-888-288-2838.

*FOR THE SC740PE008/SC740PE009/010/011 STUBS BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm), BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE 12" STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL.

PROPOSED LAYOUT

NOTES

- MANHOLE SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL # 430 FOR MANHOLE SIZING GUIDANCE.
- THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COMPILE ADDITIONAL PIPE TO STANDARD MANHOLE DIMENSIONS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSTALLED BASE STONE. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.

PROPOSED ELEVATIONS

67.427	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
67.599	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
67.448	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
67.448	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
67.448	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
67.141	TOP OF STONE
66.989	TOP OF SC-740 CHAMBER
67.141	300 mm BOTTOM CONNECTION INVERT
66.225	600 mm ISOLATOR ROW PLUS INVERT
66.225	BOTTOM OF SC-740 CHAMBER
66.075	BOTTOM OF STONE

SC-740 6" (150 mm) INSPECTION PORT DETAIL

INSPECTION & MAINTENANCE

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STANDARD DETAIL NOT FOR CONSTRUCTION

GENERAL NOTES

- MAXIMUM SURFACE LOADING RATE (BLR) INTO LOWER CHAMBER THROUGH DROP PIPE IS 1135 L/min/m² (27.9 gpm/ft²) FOR STORMCEPTOR EFA AND S35 (L/min/m²) (3.1 gpm/ft²) FOR STORMCEPTOR EFA COL CAPTURE CONFIGURATION. WEIR HEIGHT IS 150 mm (6 INCH) FOR EFA. ALL DIMENSIONS INDICATED ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.
- STORMCEPTOR STRUCTURE INLET AND OUTLET PIPE SIZE AND ORIENTATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
- UNLESS OTHERWISE NOTED, BYPASS INFRASTRUCTURE, SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES, OR PIPE CONDUITS CONNECTING TO COMPLETE THE STORMCEPTOR SYSTEM SHALL BE PROVIDED AND ADDRESS SEPARATELY.
- DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO ENGINEERS UTILITY PLAN FOR STRUCTURE ORIENTATION.
- NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED TO DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES

- REINFORCE SUB-BASE BACKFILL DEPTH AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC. DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, WATER TIGHT OR FLEXIBLE BOOT).
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT THE DEVICE FROM CONSTRUCTION RELATED EROSION RUNOFF.
- DEVICE ACTIVATION BY CONTRACTOR SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE STORMCEPTOR UNIT IS CLEAN AND FREE OF DEBRIS.

SITE SPECIFIC DATA REQUIREMENTS

STORMCEPTOR MODEL	EFA
STRUCTURE ID	
WATER QUALITY FLOW RATE (L/s)	*
PEAK FLOW RATE (L/s)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
DRAINAGE AREA (HA)	*
DRAINAGE AREA IMPERVIOUSNESS (%)	*

PIPE DATA:

PIPE DATA	I.E.	MATL.	DIA.	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

* PER ENGINEER OF RECORD

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THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE OF ALL DIMENSIONS. DO NOT SCALE THE DRAWING. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO BLANCHARD LETENDRE ENGINEERING LTD. WITHOUT DELAY. THE CONTRACTOR'S ALL DESIGN AND DRAWINGS ARE THE PROPERTY OF BLANCHARD LETENDRE ENGINEERING LTD. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY BLANCHARD LETENDRE ENGINEERING LTD. IS STRICTLY PROHIBITED.

ENGINEERING STAMP

CLIENT:
12213559 CANADA INC.
996-B ST. AUGUSTIN RD.
EMBRUN, ON

PROJECT:
NEW MULTIPURPOSE DEVELOPMENT
6497 MANOTICK MAIN ST.
MANOTICK, ON

DRAWING:
DETAILS

PAPER FORMAT:	24x36
DRAWN BY:	BF + GB
CHECKED BY:	GB
DATE:	07-2021
SCALE:	1:250
PROJECT NUMBER:	20-261

PAGE:
C500