



## ECOCHAMBER STORMWATER CHAMBER SPECIFICATIONS

### **1.0 GENERAL**

1.1 ECOCHAMBER CHAMBERS ARE DESIGNED TO CONTROL STORMWATER RUNOFF. AS A SUBSURFACE RETENTION SYSTEM, ECOCHAMBER CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL. AS A SUBSURFACE DETENTION SYSTEM, ECOCHAMBER CHAMBERS DETAIN AND ALLOW FOR THE METERED FLOW OF WATER TO AN OUTFALL.

### **2.0 CHAMBER PARAMETERS**

2.1 THE CHAMBER SHALL BE MOLDED OF HIGH DENSITY POLYETHYLENE RESIN MEETING OR EXCEEDING THE MATERIAL REQUIREMENT OF AASHTO M294 CORRUGATED HDPE PIPE. CHAMBERS SHALL HAVE 50% OR MORE RECYCLED HDPE CONTENT MEETING ASTM D3350 MINIMUM CELL CLASSIFICATION 445500. AVERAGE STRESS CRACK RESISTANCE FOR FINISHED PRODUCT TESTING SHALL BE 24 HRS WITH NO TEST RESULT LESS THAN 17 HRS, WHEN TESTED IN ACCORDANCE WITH ASTM F 2136.

2.2 THE NOMINAL CHAMBER DIMENSIONS OF THE ECOCHAMBER ECO-3052 SHALL BE 30.5 INCHES TALL, 52.0 INCHES WIDE AND 92 INCHES LONG. THE INSTALLED LENGTH OF A JOINED CHAMBER SHALL BE 75 INCHES. THE NOMINAL CHAMBER DIMENSIONS OF THE ECOCHAMBER ECO-2036 SHALL BE 20.0 INCHES TALL, 36.0 INCHES WIDE AND 91.4 INCHES LONG. THE INSTALLED LENGTH OF A JOINED CHAMBER SHALL BE 76 INCHES.

2.3 THE CHAMBER SHALL BE OPEN-BOTTOMED.

2.4 THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CORRUGATION JOINT SYSTEM TO ALLOW CHAMBER ROWS OF ALMOST ANY LENGTH TO BE CREATED. THE OVERLAPPING CORRUGATION JOINT SYSTEM SHALL BE EFFECTIVE WHILE ALLOWING A CHAMBER TO BE TRIMMED TO SHORTEN ITS OVERALL LENGTH.

2.5 THE NOMINAL STORAGE VOLUME OF A JOINED ECOCHAMBER ECO-3052 CHAMBER SHALL BE 11.3 CUBIC FEET PER LINEAR FOOT OF CHAMBER WHEN INSTALLED PER ECOCHAMBER'S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 2.3 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED. THE NOMINAL



- STORAGE VOLUME OF AN INSTALLED ECO-2036 CHAMBER SHALL BE 5.8 CUBIC FEET PER LINER FOOT OF CHAMBER WHEN INSTALLED PER ECOCHAMBER'S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 1.95 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED.
- 2.6 THE ECO-3052 CHAMBER SHALL HAVE 5.4 SQUARE INCHES PER LINEAR FOOT OF INSTALLED CHAMBER LENGTH PENETRATING THE SIDEWALLS TO ALLOW FOR LATERAL CONVEYANCE OF WATER.
- 2.7 THE CHAMBER SHALL HAVE INTEGRAL ENDS.
- 2.8 THE CHAMBER SHALL HAVE 15 CORRUGATIONS.
- 2.9 THE CHAMBER SHALL HAVE A CIRCULAR, PREFORMED INDENTED, FLAT SURFACE ON THE TOP OF THE CHAMBER FOR AN OPTIONAL 4-INCH INSPECTION PORT. HOLES SHALL NOT BE CUT INTO THE SIDE WALL OR PENETRATE A CORRUGATION.
- 2.10 THE CHAMBER SHALL BE ANALYZED AND DESIGNED USING AASHTO METHODS FOR THERMOPLASTIC CULVERTS CONTAINED IN THE LRFD BRIDGE DESIGN FINITE ELEMENT METHOD USING THE CULVERT ANALYSIS AND DESIGN (CANDE-2007) SOFTWARE DEVELOPED FOR AASHTO. DESIGN LIVE LOAD SHALL BE THE AASHTO HS20 TRUCK. DESIGN SHALL CONSIDER EARTH AND LIVE LOADS AS APPROPRIATE FOR THE MINIMUM TO MAXIMUM SPECIFIED DEPTH OF FILL.
- 2.11 THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.
- 3.0 END SECTION PARAMETERS**
- 3.1 END SECTIONS SHALL BE INTEGRALLY MOLDED INTO THE CHAMBER TO ENSURE STRUCTURAL INTEGRITY.
- 3.2 THE END SECTION SHALL ALLOW EASY CUTTING FOR VARIOUS DIAMETERS OF PIPE THAT MAY BE USED TO INLET THE SYSTEM.
- 3.3 THE PRIMARY FACE OF AN END SECTION SHALL INCLUDE MOLDED REINFORCING PROFILES TO RESIST HORIZONTAL LOADS GENERATED NEAR THE EDGES OF BEDS.