



## 1.0 General

1.1 The StormKeeper chambers are designed to control storm water runoff. The StormKeeper chambers function as a subsurface retention and detention structure. As a retention structure the StormKeeper chambers store water allowing infiltration of excess runoff from storm events into the soil. As a detention structure the StormKeeper chambers detain storm water and provide controlled release of the storm water into the receiving waters.

## 2.0 StormKeeper SK180 Chambers

- 2.1 The StormKeeper SK180 chambers shall be injection molded and constructed of polypropylene resin resistant to environmental stress cracking (ESCR) and with ability to maintain adequate stiffness through the construction and service life of the chamber
- 2.2 The nominal dimensions of the StormKeeper SK180 shall be 45.5 inches tall, 77.8 inches wide, and 88.7 inches long.
- 2.3 The chamber shall be curved to form an arch and shall be continuously curved.
- 2.4 The chamber shall be open bottomed.
- 2.5 Joining of chambers shall be accomplished by overlapping the corrugations of longitudinally adjacent chambers allowing long lengths of chambers.
- 2.6 The nominal storage volume of a StormKeeper SK180 chamber shall be 113.6 cubic feet per chamber when installed in accordance with the manufacturer's recommendations. Volume including stone at 40% porosity shall be 180.0 cubic feet per chamber. The volume of storage per linear foot of chamber including stone at 40% porosity shall be 25.17 cubic feet.
- 2.7 The chamber shall have vent locations near the top to allow for the escape of air during filling so that the full chamber can be used for the storage of water. Vent locations shall also allow the installation of an inspection port.
- 2.8 The chamber shall have both ends open to allow for unobstructed flow of water throughout joined chambers. This will also allow visual inspection for the entire length of the chamber row.
- 2.9 The chamber shall have 8 corrugations.
- 2.10 The chamber shall have lifting handles to facilitate the unloading, and installation of the chambers.
- 2.11 The chamber shall be designed utilizing AASHTO methods for Thermoplastic Culverts in accordance with the LRFD Bridge Design Specifications. Design Live load shall be an AASHTO H 20 truck. The design shall consider dead and live loads for the minimum to maximum depth of fill specified. The chamber design shall comply with the requirements of ASTM F2787.
- 2.12 The chamber shall be manufactured in an ISO 9001 certified facility.
- 2.13 The chamber shall meet or exceed the requirements of ASTM F2418.



### 3.0 End Caps

- 3.1 The end cap shall be rotational or injection molded from polypropylene resin.
- 3.2 The end cap shall be designed to fit into any corrugation along the length of the chamber providing the ability to trim a chamber and cap it at any desired length along with segmenting rows into chambers of varying lengths.
- 3.3 The end cap shall have guides to allow easy cutting of various diameters of pipe that may be used to inlet water into the system. The guides will be integrated as part of the end cap manufacturing process.
- 3.4 The end cap shall have adequate structural capacity to allow the end cap inlets to be cut at any invert elevation.
- 3.5 The face of the endcap shall be curved.
- 3.6 The end cap shall be manufactured at an ISO 9001 certified facility.