Evaluation Table

PEP ID:	**XXXXX**
Manufacturer:	**Name of Manufacturer**
Product Name:	**Name of Product**

501 Pipe
501 Type SP Corrugated HDPE: Perforated Drainage Plastic Tubing
Additional Specification: AASHTO M252 (4-10 inch), ASTM D3350 Cell Classification 424420C (4-10 inch)
Responsible Section: Roadway Group

Product Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
Extruded Pipe and Blow Molded Fittings	AASHTO M252 ASTM D3350 ASTM D4218	Pipe and fittings shall be made of virgin PE resin compounds meeting the requirements of ASTM D3350 and cell classification 424420C, except that the carbon black content shall not exceed 4 percent when tested in accordance with D4218. Resins that have higher cell classifications in one or more properties are acceptable provided product requirements are met.		
Rotational Molded Fittings and Couplings	AASHTO M252 ASTM D3350 ASTM D4218	Fittings and couplings shall be made of virgin PE resins meeting the requirements of ASTM D3350 and cell classification 213320C, except that the carbon black content shall not exceed 4 percent when tested in accordance with D4218. Resins that have higher cell classifications in one or more properties are acceptable provided product requirements are met.		
Injection Molded Fittings and Couplings	AASHTO M252 ASTM D3350 ASTM D4218	Fittings and couplings shall be made of virgin PE resins meeting the requirements of ASTM D3350 and cell classification 424420C, except that the carbon black content shall not exceed 4 percent when tested in accordance with D4218. Resins that have higher cell classifications in one or more properties are acceptable provided product requirements are met.		
Reworked Material	AASHTO M252	In lieu of virgin PE, clean reworked material may be used, provided that it meets the cell class requirements described above.		

Product Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
Workmanship	AASHTO M252	The pipe and fittings shall be free of foreign inclusions and visible defects as defined herein. The ends of the pipe shall be cut squarely and cleanly so as not to adversely affect joining or connecting.		
Visible Defects	AASHTO M252	Cracks, creases, delamination, and unpigmented or non-uniformly pigmented pipe are not permissible in the pipe or fittings as furnished. There shall be no evidence of cracking or delamination when tested in accordance with AASHTO M252 Section 9.2.		
Nominal Size	AASHTO M252	Nominal diameters shall be sized for Type SP pipe in not less than 2 in. (50mm) increments from 4 to 10 in. (100 to 250mm).		
Liner Thickness	AASHTO M252	For Type SP pipe, the liner shall have a minimum thickness of 0.02 in. (0.5mm) for pipe of 4 in. (100mm) and 6 in. (150mm) nominal size and a minimum thickness of 0.025 in. (0.6mm) for pipe of 8 in. (200mm) and 10 in. (250mm) nominal size, when measured in accordance with AASHTO M252 Section 9.5.4.		
Inside Diameter Tolerances	AASHTO M252	The tolerance on the specified inside diameter shall be +4.5, -1.5 percent when measured in accordance with AASHTO M252 Section 9.5.2.		
Fitting and Coupling Dimensions	AASHTO M252	The maximum allowable gap between fitting or coupling and pipe shall not exceed 0.1 in. (3mm) unless otherwise specified.		
Fitting and Coupling Dimensions	AASHTO M252	All fittings and couplings shall be within an overall length dimensional tolerance of ±0.5 in. (12mm) of the manufacturer's specified dimensions.		
Perforations	AASHTO M252	The perforations shall be cleanly cut so as not to restrict the inflow of water. When circular perforations are preferred, the drill shall not penetrate the side walls of the corrugations. Pipe connected by couplings or bands may be unperforated within 4 in. (100mm) of each end of each length of pipe.		

Product Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
Class 1 Perforations	AASHTO M252	The perforations shall be approximately circular and shall have nominal diameters of not more than 0.2 in. (5mm) for 4- and 6-in. (100 and 150mm) diameter pipe and not greater than 0.4 in. (10mm) for 8- and 10-in. (200 and 250mm) diameter pipe. The holes shall be arranged in rows parallel to the axis of the pipe. The location of the perforations shall be in the valley of the outside corrugation and in each corrugation. The rows of perforations shall be arranged in two equal groups placed symmetrically on either side of the lower unperforated segment corresponding to the flow line of the pipe. The spacing of the rows shall be uniform. The distance of the centerlines of the uppermost rows above the bottom of the invert and the inside chord lengths of the unperforated segments illustrated in AASHTO M252 Figure 1 shall be as specified in AASHTO M 252 Table 1. All measurements shall be made in accordance with AASHTO M252 Section 9.5.3.		
Class 2 Perforations	AASHTO M252	Circular and slotted perforations shall conform to the maximum dimensions as shown in AASHTO M252 Table 2. Perforations shall be placed uniformly in the outside valleys of the corrugations. The water inlet area shall be a minimum of 1 $in.^2/ft$ (20 cm^2/m) of pipe. All measurements shall be made in accordance with AASHTO Section 9.5.3.		
Pipe Flattening	AASHTO M252	There shall be no visual evidence of buckling (a decrease or downward deviation in the load-deflection curve), cracking, splitting, or delamination when the pipe is tested in accordance with AASHTO M252 Section 9.2.		
Environmental Stress Cracking	AASHTO M252	There shall be no cracking of the pipe when tested in accordance with AASHTO M252 Section 9.3.		
Brittleness	AASHTO M252	There shall be no cracking of the pipe wall or liner when tested in accordance with AASHTO M252 Section 9.4.		

Product Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
Fitting and Coupling Requirements	AASHTO M252	The fittings and couplings shall not reduce or impair the overall integrity or function of the pipe line.		
Fitting and Coupling Requirements	AASHTO M252	Fittings and couplings shall not reduce the inside diameter of the pipe being joined by more than 5 percent of the nominal inside diameter. Reducer fittings shall not reduce the cross-sectional area of the smaller size.		
Fitting and Coupling Requirements	AASHTO M252	The coupling shall not crack or crease when tested in accordance with AASHTO M252 Section 9.6.2.		
Fitting and Coupling Requirements	AASHTO M252	The design of the couplers shall be such that when connected with the pipe, the axis of the assembly will be level and true when tested in accordance with AASHTO M252 Section 9.6.3.		
Marking	AASHTO M252	All pipe shall be clearly marked at intervals of not more than 11.5 ft (3.5m), and fittings and couplings shall be clearly marked, as follows: 1. Manufacturer's name or trademark 2. Nominal size 3. The specification designation AASHTO M252 4. The plant designation code 5. The date of manufacture or an appropriate code. If a date code is used, a durable manufacturer sticker that identifies the actual date of manufacture shall be adhered to the inside of each length of pipe.		