FIBERGLASS BRIDGE DRAIN PIPE SYSTEM SPECIFICATIONS from WESTFALL COMPANY, INC.

1. FIBERGLASS PIPES AND FITTINGS

A. Drainage pipes and related fittings shall be a reinforced thermosetting resin pipe system meeting the requirements of ASTM D 2996, **BDP-12EA12122,** with at least 30,000 psi short time rupture strength hoops tensile stress, and the accelerated UV weathering performance requirements of ASTM G154 (D4329-99)

B. All elbows shall be manufactured by using smooth radius steel molds. Elbow shall not be mitered. Filament wound pipe may be used for tees, laterals and crosses.

C. All fiberglass pipes and fittings shall be pigmented resin throughout the wall. Color to be standard concrete-gray or designated color. Paint, gel-coat or exterior coating will not be accepted.

D. A minimum liner of 40-mil resin-rich 1-1/2 ounce glass mat shall be standard for all elbows.

E. Adhesive for bond joint shall be a vinyl ester resin based product with silica filler, polyester pigment, and methyl ethyl ketone peroxide catalyst. The adhesive formulation shall be certified to be proven suitable for the intended application. The resin shall be certified to have no additives that leach out, catalysts that remain active, or other ingredients that could lead to deterioration.

F. The minimum total wall thickness shall be no less than listed on chart below.

Nominal Size		**Wall Thickness**	
(In,)	(mm)	(In.)	(mm)
4	100	.125	3.18
6	150	.125	3.18
8	200	.125	3.18
10	250	.125	3.18
12	300	.125	3.18
14	350	.125	3.18
16	400	.125	3.18
18	450	.125	3.18

G. Where specifically shown as cleanout on runs of pipe and fittings; the removal shall be made with a threaded PVC plug.

H. Adhesive bond joints are acceptable for all joints. Straight runs may use a tee or a reducing saddle bonded to the pipe. Cleanouts shall use a 45-degree reducing saddle bonded to the pipe. No other branch method, such as stab-in and overlay, shall be allowed. Straight sockets shall be used for ease of installation with adhesive joint system.

I. The end run connection may feature a nominal 6-inch female threaded fiberglass outlet. The female outlet shall be filled with a male threaded PVC plug.

J. Runs of pipe shall be supported at spacing not greater than those shown on the drawings. Supports that have point contact or narrow supporting areas shall not be allowed. Standard sling, clamp, and clevis hangers for use with steel pipes shall be used. Supports shall have 120 degrees of contact with the pipe. If support would be less than 120 degrees of contact, a split fiberglass pipe protective sleeve shall be installed, bonded in place with adhesive. (Equal in length to the pipe diameter i.e. 6" Dia. pipe, 6" long split sleeve)

K. Strap width shall be 1-1/2 inch for nominal fiberglass pipe size 6 inch to 10 inch, and 2 inch for nominal fiberglass pipe size 12 inch to 14 inch. Hanger's thickness shall be 3/16 inch. (see chart below)

pipe size	min. strap width
3"	1-1/4"
4"	1-1/4"
6"	1-1/2"
8"	1-1/2"
10"	1-1/2"
12"	2"
14"	2"
16"	2-1/2"

L. All fiberglass pipe, fittings, and expansion joints shall be handled and installed according to the guidelines and procedures recommended in the printed literature of the manufacturer. Pipe and fittings from same manufacturer.

M. Connections to roadway drain scuppers shall not be rigid. The transition shall be made by means of a fiberglass collector assembly. The scupper outlet pipe, with the collector cover attached around it, shall be suspended into a 12 inch by 8 inch (unless otherwise shown) tapered collector.

N. All products to be manufactured in U.S.A. and are available from Westfall Company, Inc. 636-938-3113, www.westfallcompany.com