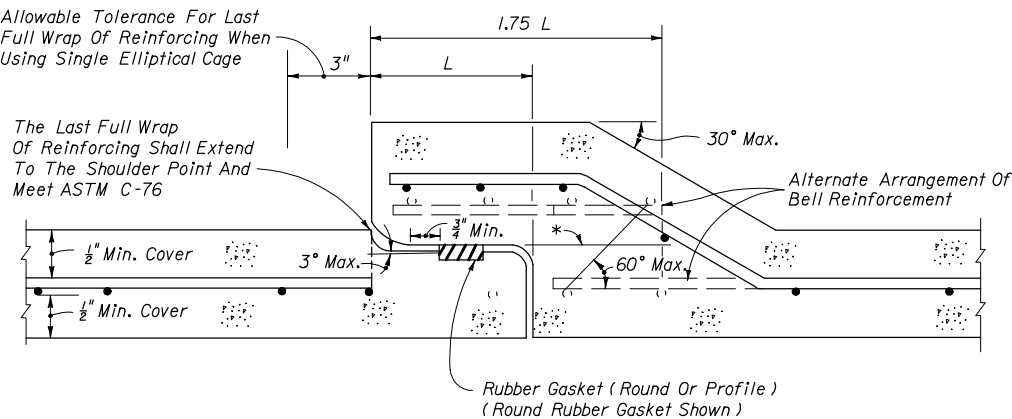


SCHEDULE OF BELL REINFORCEMENT
Classes II, III, IV, V; Wall A, B, C

Nominal Pipe Diameter	Design Bell Reinforcement SQ. IN. PER FOOT	Maximum Reinforcement Under Tolerance SQ. IN. PER FOOT
15"	0.07	0.010
18"	0.07	0.010
24"	0.09	0.010
30"	0.12	0.010
36"	0.14	0.010
42"	0.16	0.010
48"	0.19	0.011
54"	0.21	0.012
60"	0.23	0.0135
66"	0.26	0.015
72"	0.28	0.0165
78"	0.30	0.018
84"	0.33	0.0195
90"	0.35	0.021
96"	0.37	0.0225
102"	0.40	0.024
108"	0.42	0.0255

Allowable Tolerance For Last Full Wrap Of Reinforcing When Using Single Elliptical Cage



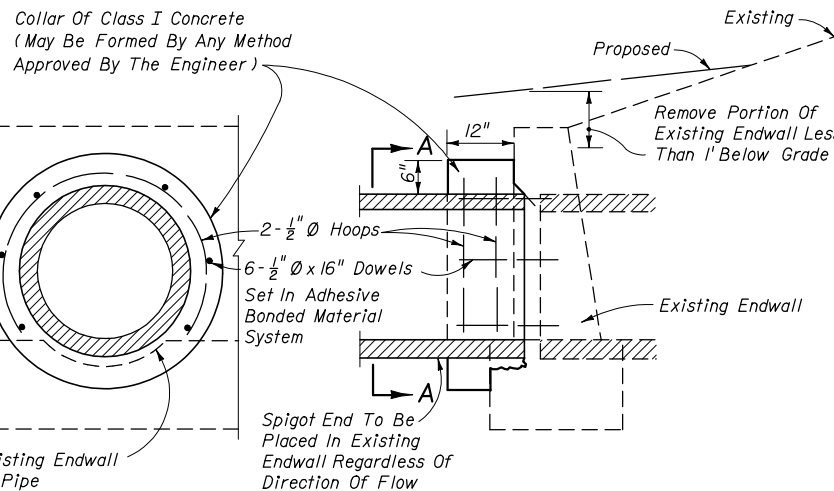
The Last Full Wrap Of Reinforcing Shall Extend To The Shoulder Point And Meet ASTM C-76

Rubber Gasket (Round Or Profile)
(Round Rubber Gasket Shown)

*All circumferential steel located above this line within 1.75 L is defined as bell reinforcement.

ROUND RUBBER GASKET SHOWN

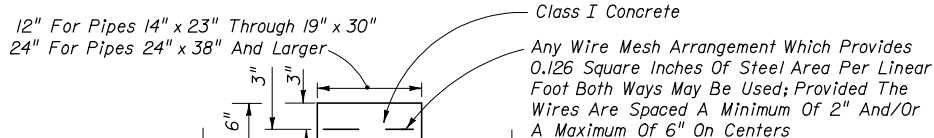
DETAIL OF BELL & SPIGOT CONCRETE PIPE JOINT USING ROUND OR PROFILE RUBBER GASKET



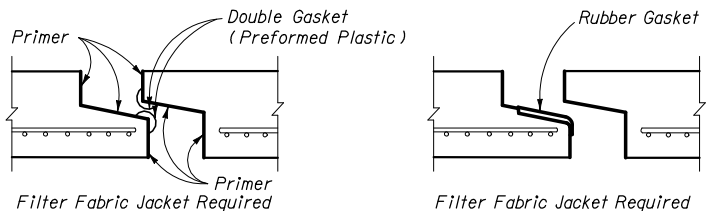
SECTION AA LONGITUDINAL SECTION

Note: Cost for removal and disposal of portions of top and toe of existing endwall and cost of concrete, reinforcing steel and construction of collar to be included in the contract unit price for pipe culvert.

CONCRETE COLLAR FOR EXTENSION OF EXISTING PIPE CULVERTS



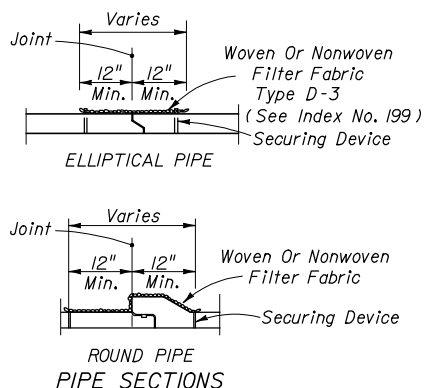
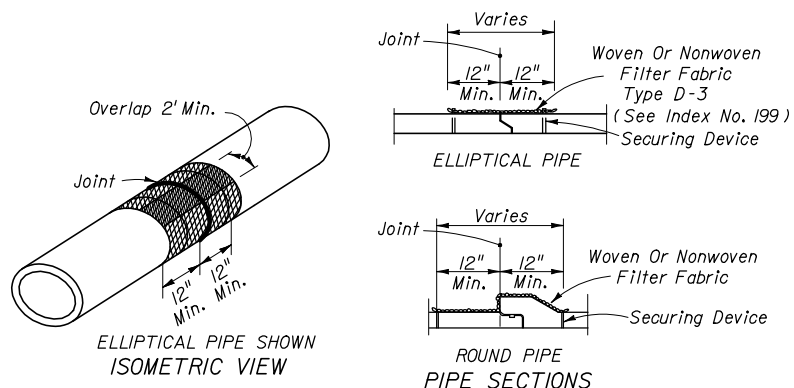
CONCRETE JACKET



PREFORMED PLASTIC JOINT (BEFORE PULL-UP) PROFILE RUBBER GASKET (BEFORE PULL-UP)

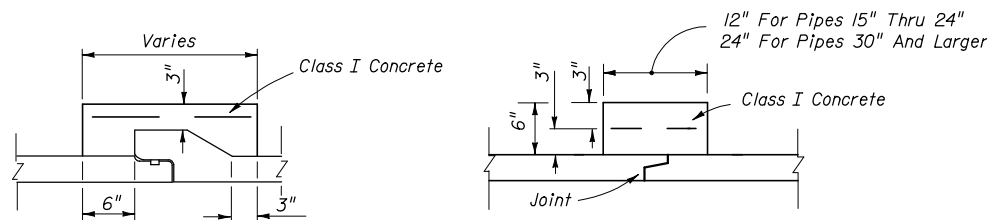
Cost of concrete jacket or filter fabric jacket to be included in cost of elliptical concrete pipe culverts.

ELLIPTICAL CONCRETE PIPE JOINTS



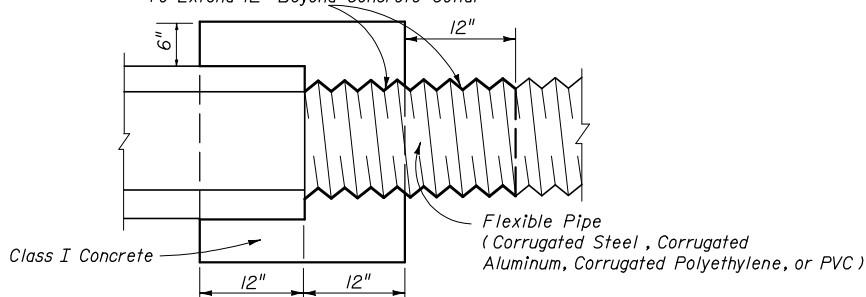
Cost of filter fabric jacket to be included in cost of pipe culverts.

FOR ALL PIPE TYPES - CONCRETE PIPE SHOWN
FILTER FABRIC JACKET



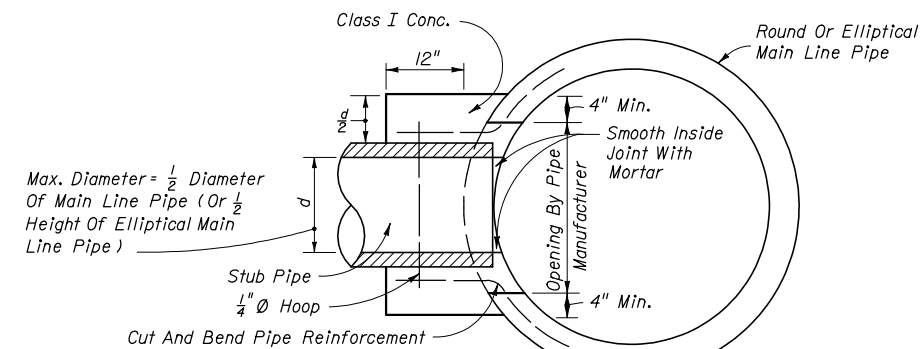
BELL AND SPIGOT TONGUE & GROOVE DISSIMILAR JOINTS

Bituminous Coating Required For CMP (Any Suitable Bituminous Material May Be Field Applied) Bituminous Coating To Extend 12" Beyond Concrete Collar



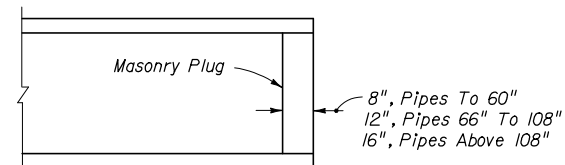
Note: Cost of concrete and bituminous coating to be included in contract unit price for either new pipe or Mitered End Section. A concrete jacket shall not be used to join:
(a) metal pipe of dissimilar materials
(b) flexible pipe when the minimum cover required in accordance with Index No. 205 cannot be obtained

CONCRETE JACKET FOR CONNECTING DISSIMILAR TYPES OF PIPE AND CONCRETE PIPES WITH DISSIMILAR JOINTS



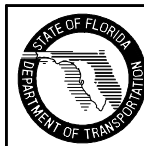
Cost of concrete and steel to be included in contract unit price for pipe culvert.

CONCRETE COLLAR FOR JOINING MAINLINE PIPE AND STUB PIPE



Note: Unless otherwise called for in the plans, the cost of plugging pipes to be included in contract unit price for new pipe.

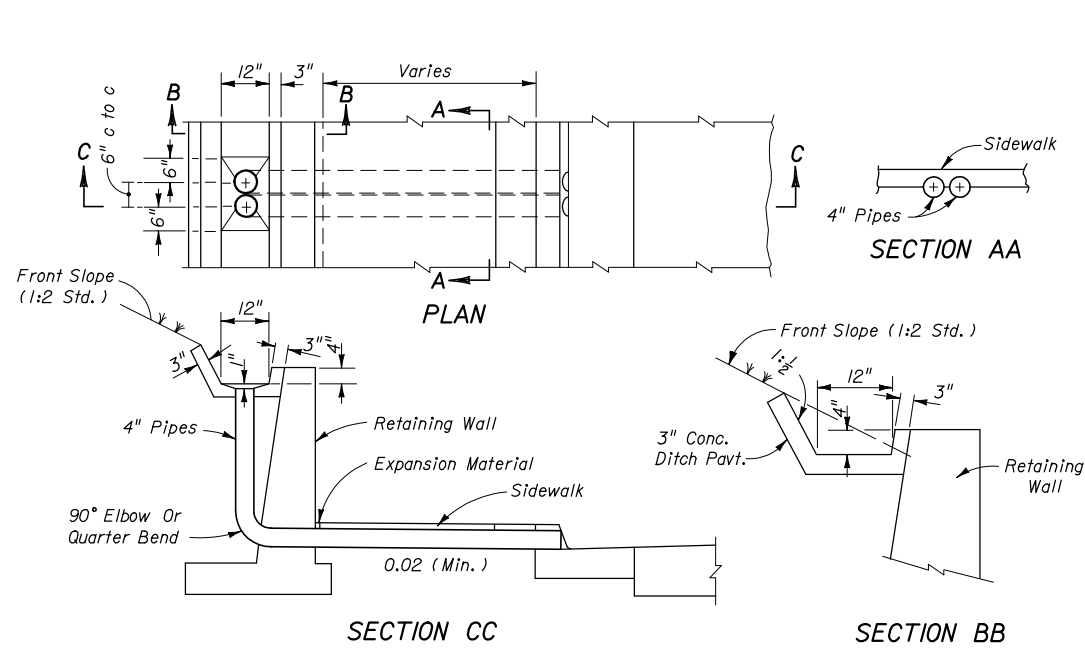
PIPE PLUG



2008 FDOT Design Standards

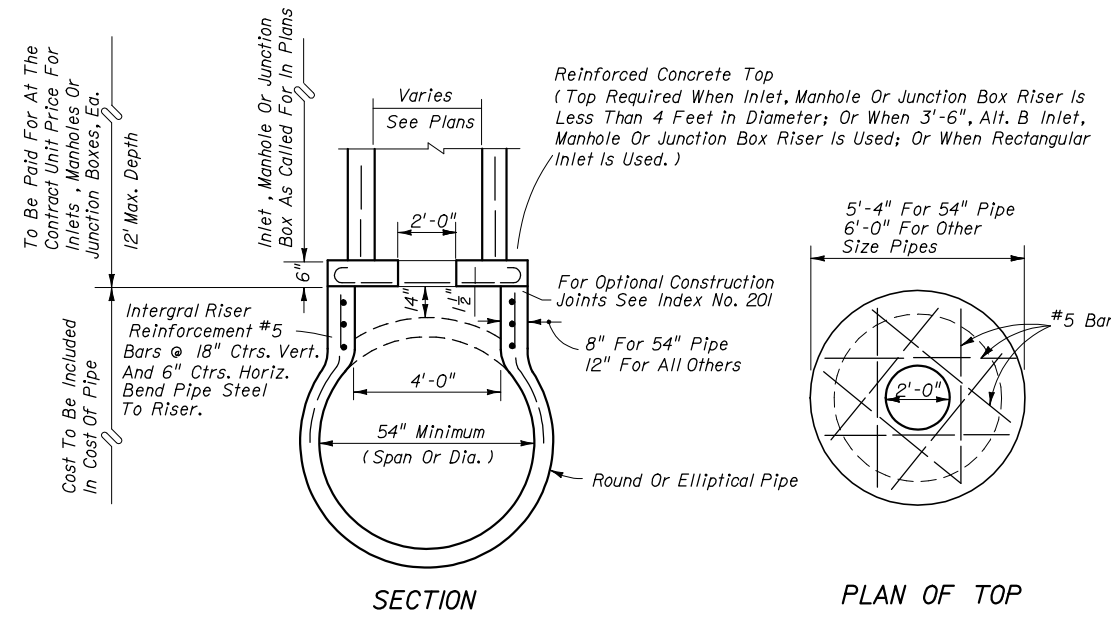
MISCELLANEOUS DRAINAGE DETAILS

Last Revision 07/01/07
Sheet No. 1 of 2
Index No. 280

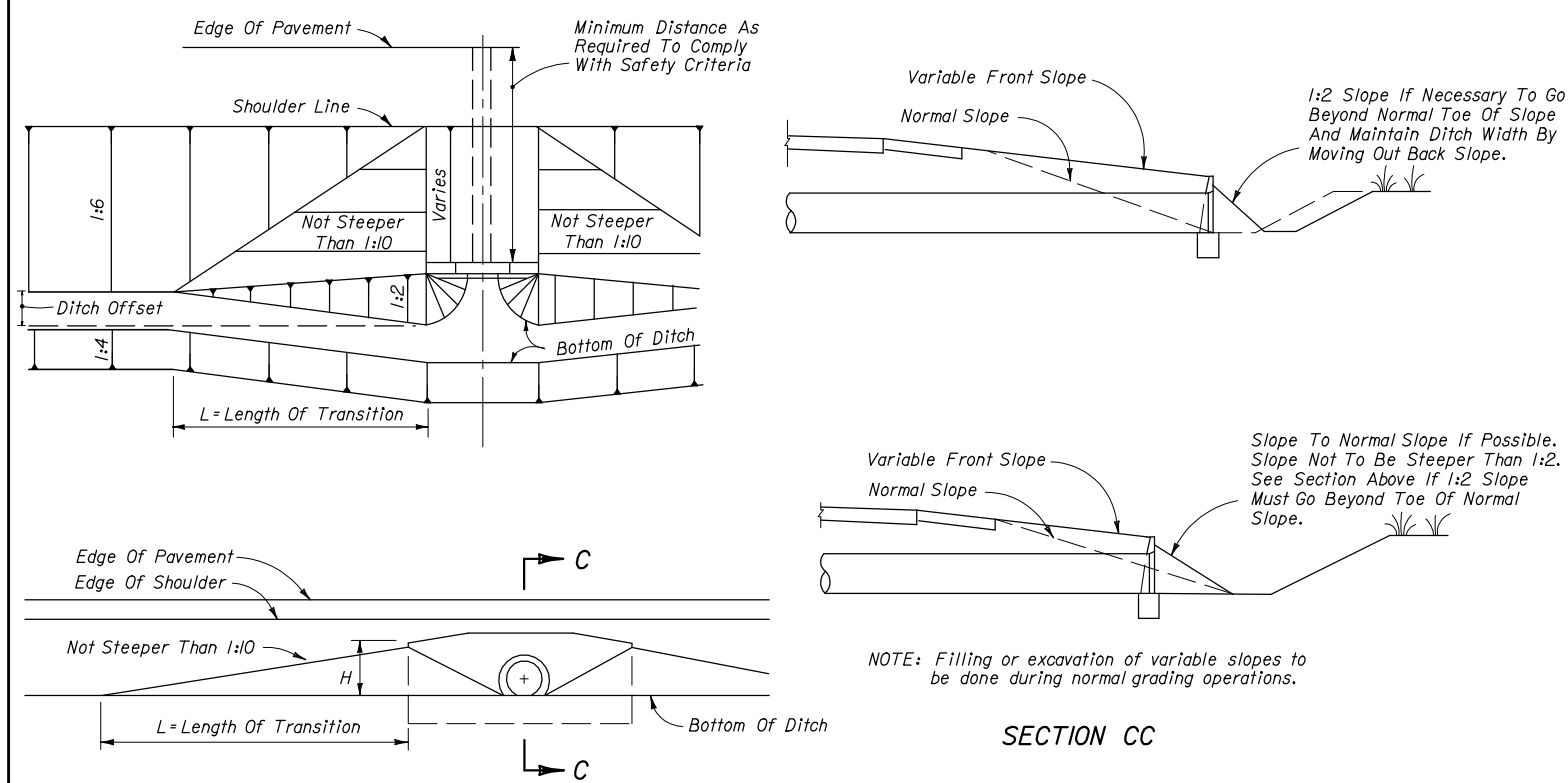
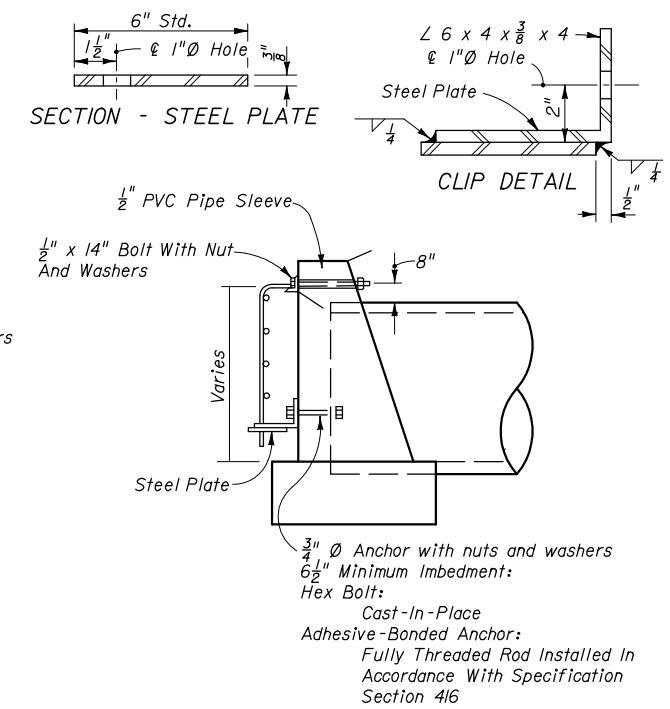


CONCRETE GUTTER AND DRAINS AT RETAINING WALLS

Note: PVC pipe, Schedule 40, to be paid for under the contract unit price for Polyvinyl Chloride Pipe Culvert (4"), LF.



INLETS, MANHOLES OR JUNCTION BOXES ON INTEGRAL PRECAST CONCRETE RISER FOR CONCRETE PIPE

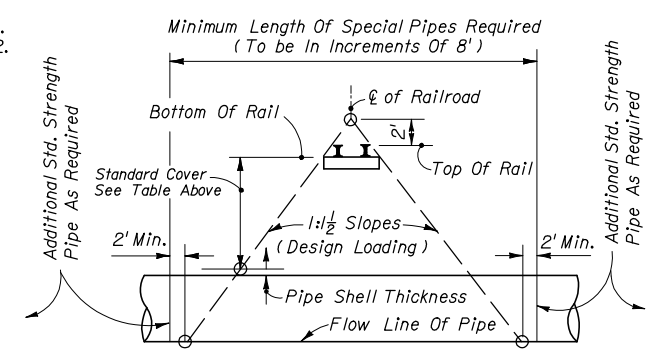


Use Larger Value Of Either:
 1. $L = 10 \times H$ (No Maximum)
 2. $L = 10 \times \text{Ditch Offset}$ (Maximum $L = 100'$)

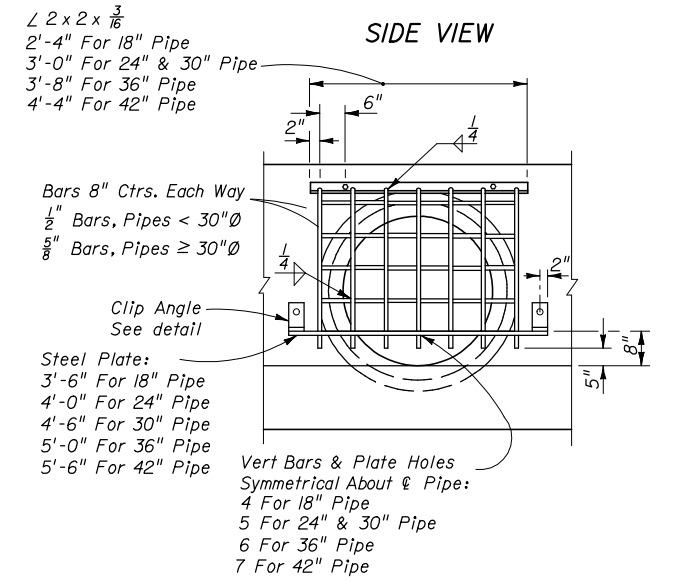
METHOD FOR SETTING LIMITS OF VARIABLE FRONT SLOPES AT DRAINAGE STRUCTURES

RAILROAD COMPANY	CLEARANCE BELOW BOTTOM OF RAIL (FEET)	STRENGTH ASTM (C76) CLASS
Apalachicola Northern	4.0	IV
Atlanta And St. Andrews Bay	4.0	IV
Florida East Coast	5.5*	IV
Burlington Northern Railroad	S-TRK M/L	IV
	4.5 5.5	
CSX Transportation, Inc.	5.5	IV
Southern Railway System		
Georgia Southern And Florida	5.5	V
Live Oak Perry And South Georgia	5.5	V
St. Johns River Terminal	5.5	V

*Clearance is for casing pipe. All subgrade carrier pipelines and wirelines will be installed within a casing pipe which will extend from Right-of-Way line to Right-of-Way line.



METHOD FOR DETERMINING THE LENGTH OF SPECIAL PIPE REQUIRED UNDER RAILROADS



Pipe Dia.	18"	24"	30"	36"	42"
Gate (Lbs.)	48	58	74	90	111

Note: Guards to be constructed only at locations specifically called for in plans. Guard, plate & clips, bolts, nuts and sleeves to be included in the contract unit price for Reinforcing Steel (Miscellaneous).

GUARD AT PIPE ENDS