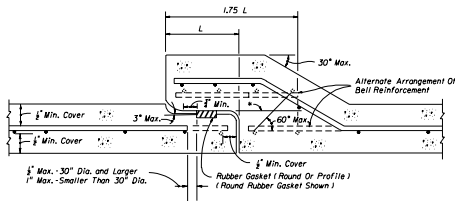


SCHEDULE OF BELL REINFORCEMENT
Classes II, III, IV, V; Wall A, B, C

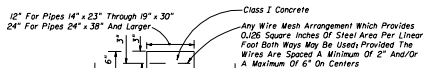
Nominal Pipe Diameter	Design Bell Reinforcement SO. IN. PER FOOT	Maximum Reinforcement Under Tolerance SO. IN. PER FOOT
15"	0.07	0.010
18"	0.07	0.010
24"	0.09	0.010
30"	0.12	0.010
36"	0.14	0.010
42"	0.16	0.010
48"	0.19	0.011
54"	0.21	0.012
60"	0.23	0.013
66"	0.26	0.015
72"	0.28	0.0165
78"	0.30	0.018
84"	0.33	0.019
90"	0.35	0.021
96"	0.37	0.0225
102"	0.40	0.024
108"	0.42	0.0255



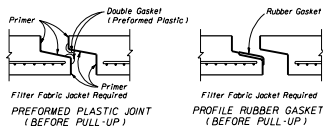
*All circumferential steel located above this line within L75 L is defined as bell reinforcement.

ROUND RUBBER GASKET SHOWN

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

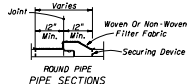
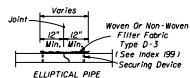


CONCRETE JACKET



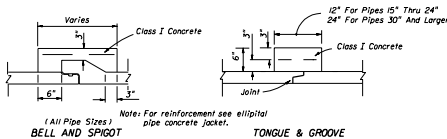
ELLIPTICAL CONCRETE PIPE JOINTS

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



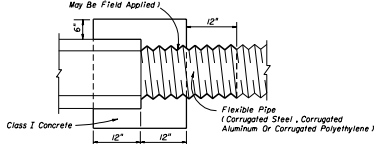
Cost of filter fabric jacket to be included in cost of pipe culverts.

FOR ALL PIPE TYPES - CONCRETE PIPE SHOWN
FILTER FABRIC JACKET



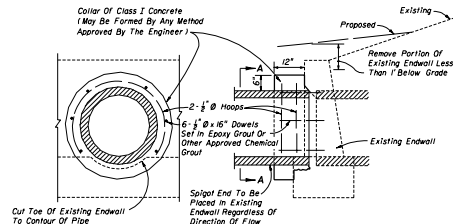
DISSIMILAR JOINTS

Bituminous Coating Required For CWP (Any Suitable Bituminous Material May Be Field Applied).



DISSIMILAR TYPES

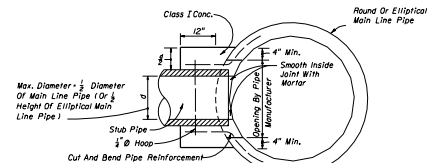
CONCRETE JACKET FOR CONNECTING DISSIMILAR TYPES OF PIPE AND CONCRETE PIPES WITH DISSIMILAR JOINTS



SECTION AA LONGITUDINAL SECTION

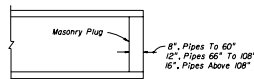
Note: Cost for removal and disposal of portions of top and toe of existing endwall and cost of concrete, reinforcing steel and construction of collar to be included in the contract unit price for pipe culvert.

CONCRETE COLLAR FOR EXTENSION OF EXISTING PIPE CULVERTS



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.

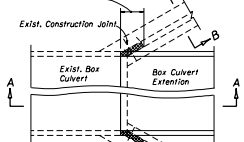
PIPE PLUG

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
ROAD DESIGN

MISCELLANEOUS DRAINAGE DETAILS

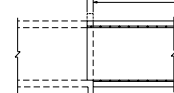
Drawn By	Checkd By	Date	Approved By
DES	JMB/MS	00	I. R. McNamee
Sheet No.	1 of 4		

Remove Headwall, Outside Wall And Wingwall From Inside Face Of Headwall Sufficient To Construct Culvert Extension. Longitudinal Reinforcing Steel To Be Cleaned, Straightened And Extended Into Culvert Extension.



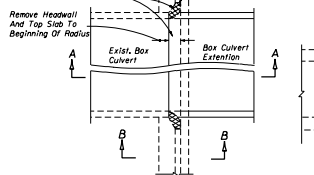
Length For Manually Estimated Or Computerized Quantities (Coding And Printout Lengths)

Culvert Extension (Length Tabulated On Drainage Structures And Summary Sheet For Standard Box Section Extension)



SECTION AA

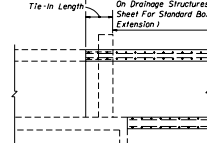
Longitudinal Reinforcing Steel In Top Slab And Wall Return To Be Cleaned, Straightened And Extended Into Culvert Extension.



OUTSIDE WALLS-SINGLE, DOUBLE, TRIPLES, & QUADRUPLE BOXES

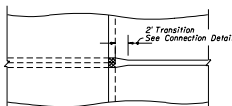
Length For Manually Estimated Or Computerized Quantities (Coding And Printout Lengths)

Culvert Extension (Length Tabulated On Drainage Structures And Summary Sheet For Standard Box Section Extension)

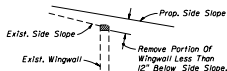


SECTION AA

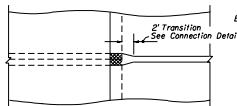
OUTSIDE WALLS-SINGLE, DOUBLE, TRIPLES, & QUADRUPLE BOXES



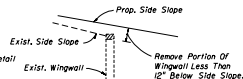
CENTER WALL-QUADRUPLE BOXES



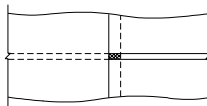
SECTION BB



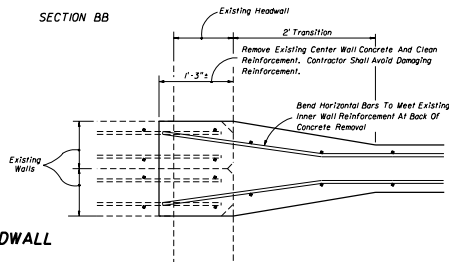
CENTER WALL-QUADRUPLE BOXES



SECTION BB

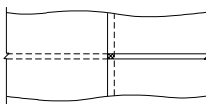


INTERIOR WALLS-DOUBLE & TRIPLE BOXES
INTERMEDIATE WALLS-QUADRUPLE BOXES



CONNECTION AT CENTER WALL OF QUADRUPLE CULVERTS

PLAN VIEWS



INTERIOR WALLS-DOUBLE & TRIPLE BOXES
INTERMEDIATE WALLS-QUADRUPLE BOXES

FLARED ENDWALL

STRAIGHT ENDWALL

NOTE: The computerized printout for reinforcing steel does not include the additional lengths needed for extension and overlaps or connections to the horizontal reinforcement in the interior walls of double, triple and quadruple existing concrete box culverts; the cost for additional reinforcement and the thickened concrete wall in the transitional area shall be included in the costs for constructing the tie-in.

Cost for removal and disposal of material from existing headwalls, wingwalls and the top slab, and cost of cleaning, straightening and extending longitudinal reinforcing steel shall be included in the cost for concrete and steel of the culvert extension.

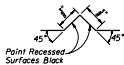
For concrete box culvert details, see index No. 290.

CONNECTION DETAILS FOR CONCRETE BOX CULVERT EXTENSIONS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
ROAD DESIGN

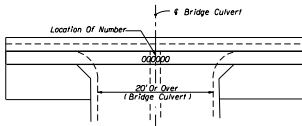
MISCELLANEOUS DRAINAGE DETAILS

Designed By	Checked By	Approved By	DATE
		<i>J. A. McNamee</i>	
Drawn By	REVISION	DATE	WORK NO.
Checked By	00	3 of 4	280



Black Plastic Figures 3" in height as approved by the Engineer may be used in lieu of numbers formed by "V" Grooves. "V" Grooves shall be formed by preformed figures.

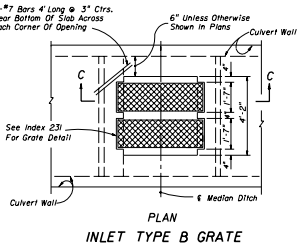
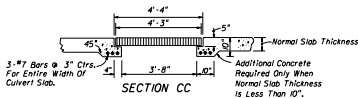
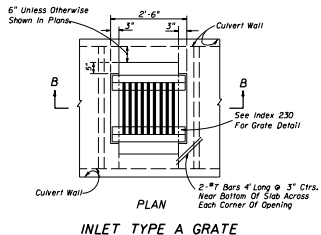
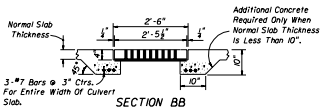
SECTION THRU RECESSED "V" GROOVE TO FORM INSCRIBED FIGURES



The number is to be placed in the center of the top surface of all bridge culvert headwalls. For Bridge Number See Plan-Profile Sheet(s).

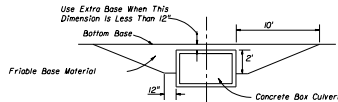
TOP VIEW OF HEADWALL

BRIDGE CULVERT NUMBER LOCATION



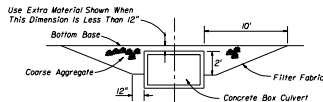
NOTE: 1. Cost of Steel Grating to be included in cost of Box Culvert.
2. All steel shall be 1/4" clear.

INLET IN TOP OF BOX CULVERT



The cost of furnishing and installing extra friable base material shall be included in the cost of the Box Culvert.

FRIABLE BASE



The coarse aggregate shall be placed in 6 inch lifts and compacted sufficiently as to be firm and unyielding. The coarse aggregate shall be gravel or stone meeting the requirements of Section 901-2 or 901-3 respectively. The gradation shall meet Section 901-6, Grades 4, 407, 5, 56, or 57 unless restricted in the plans. The filter fabric shall be Type 0-5 (See Index 09). The cost of furnishing and installing the coarse aggregate and filter fabric shall be included in the cost of the Box Culvert.

ASPHALTIC CONCRETE BASE

NOTE: Extra base is required when cross box culverts are located on facilities subject to high speed traffic > 45 mph) or high traffic volumes (>1500 ADT) and the cover is within the range specified in the notation above.

EXTRA BASE FOR CROSS BOX CULVERTS UNDER FLEXIBLE PAVEMENT

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROAD DESIGN			
MISCELLANEOUS DRAINAGE DETAILS			
Revised By	Name	Date	Approved By
			<i>J. A. McNamee</i>
Drawn By			STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
Checked By			00 4 of 4 280