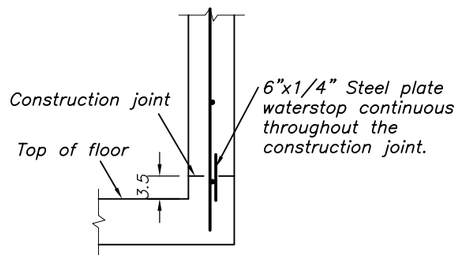
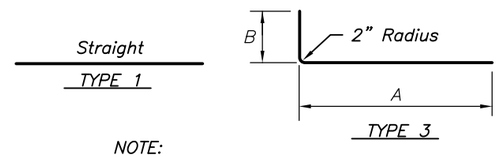
29N301

STEEL SCHEDULE								
Mark	Size	Quan.	Length	Type	A	B	C	Tot. Ft.
1	#4		2–6	1	Dowel Bars			
2	#4			3				
3	#4			3				
4	#4			3				



STEEL PLATE



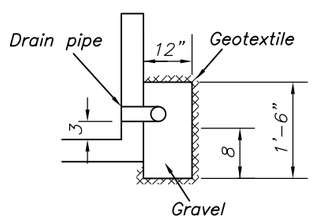
NOTE:
Minimum length of bar splice = 1'–3"

BAR TYPE DETAILS

QUANTITIES

#4 STEEL BARS FEET POUNDS

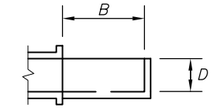
VOLUME OF CONCRETE CU. YARDS



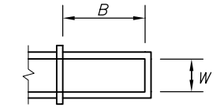
DRAIN SECTION

NOTES:

1. The maximum size of the box shall be: B=8'–0", W=4'–0", & D=4'–0".
2. This sheet should be accompanied by a complete set of data sheets and bear the signature of the approving engineer before construction work is started.
3. Surface of existing headwalls, adjacent to the new construction shall be thoroughly roughened, cleansed and moistened to provide good bond with new concrete.
4. Dowel bars (1) to be set in 5/8" expansion sleeves or anchor bolts driven 4" into existing headwall or epoxy grouted.
5. Where this structure is to be used as a tile outlet, the outlet section shall be of metal, plastic or concrete centered on the horizontal quarter point of the wall with 3" of clearance between the bottom of the tile and the construction joint, if C.M. Pipe is used at the outlet end of a tile line to span an excavated area, the C.M.P. shall pass thru the above outlet section and the space between the pipes shall be caulked and sealed. Installation of tile will require modification of drain pipe omiting center tee and two additional end caps.
6. Drainage around structure shall consist of 1 1/2 inch diameter PVC schedule 40 or heavier plastic pipe. Drain pipe shall have one outlet through each of the 3 walls. Two elbows, two end caps and three tees are required. Perforations 1/8 inch in diameter are to be in two rows in a 90 degree arc at 4 inch spacing along bottom of pipe. Perforations shall be clean drilled holes free from burrs and other obstructions. The drain section around pipe shall be 1 foot wide by 1.5 feet high with drain pipe located near midpoint approximately 4" away form concrete wall. Drain material around pipe shall be clean gravel. A geotextile shall be wrapped around gravel to seperate gravel from soil material. Geotextile shall be a filter fabric that will provide a filter to prevent migration of soil particles but is still permeable as shown in Construction Specification 753, Geotextile.
7. For additional details see Missouri Construction Specification 410–A, Grade Stabilization Structure.

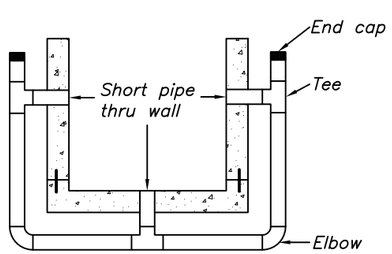


ELEVATION



PLAN

IF DEPTH IS GREATER THAN 4 FEET OR SITE IS WET A DRAIN IS REQUIRED.



PLAN OF DRAIN PIPE

DRAFT

NOT FOR CONSTRUCTION

Date

Designed

Drawn

Checked

Approved

STANDARD HIGHWAY CULVERT BOX–INLET

United States Department of Agriculture
NRCS Natural Resources Conservation Service

File Name

Drawing Name
29–N–301

Sheet of

Rev. 4/01

Sheet 2 of 2

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