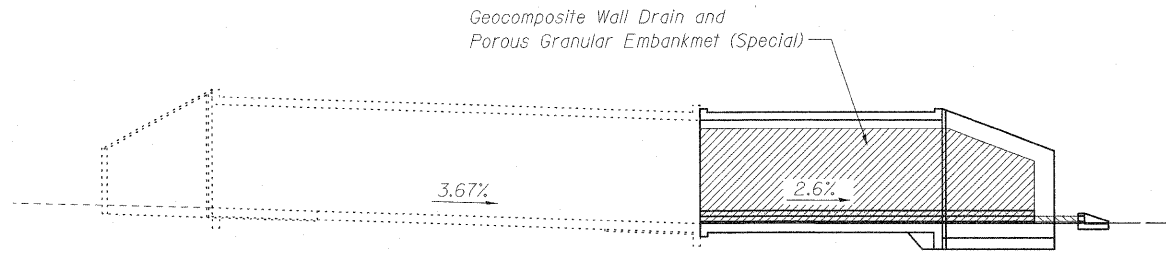
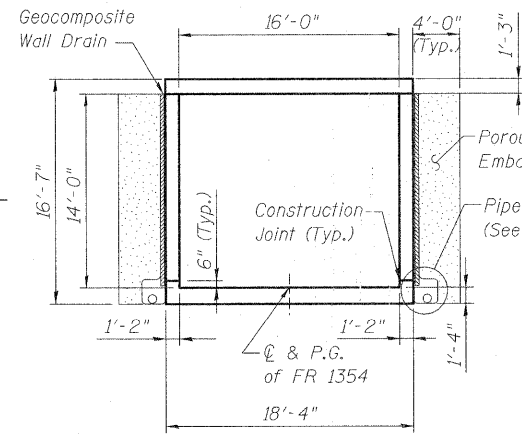


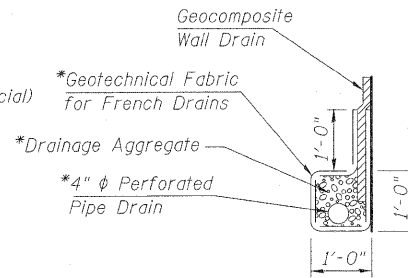
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**DRAINAGE ELEVATION**

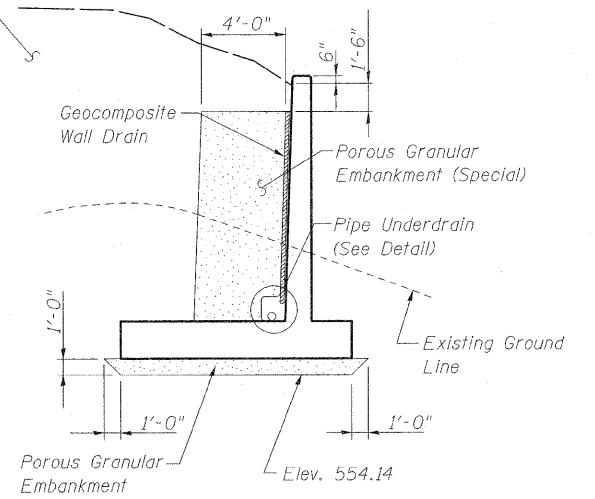


**SECTION THRU BARREL**

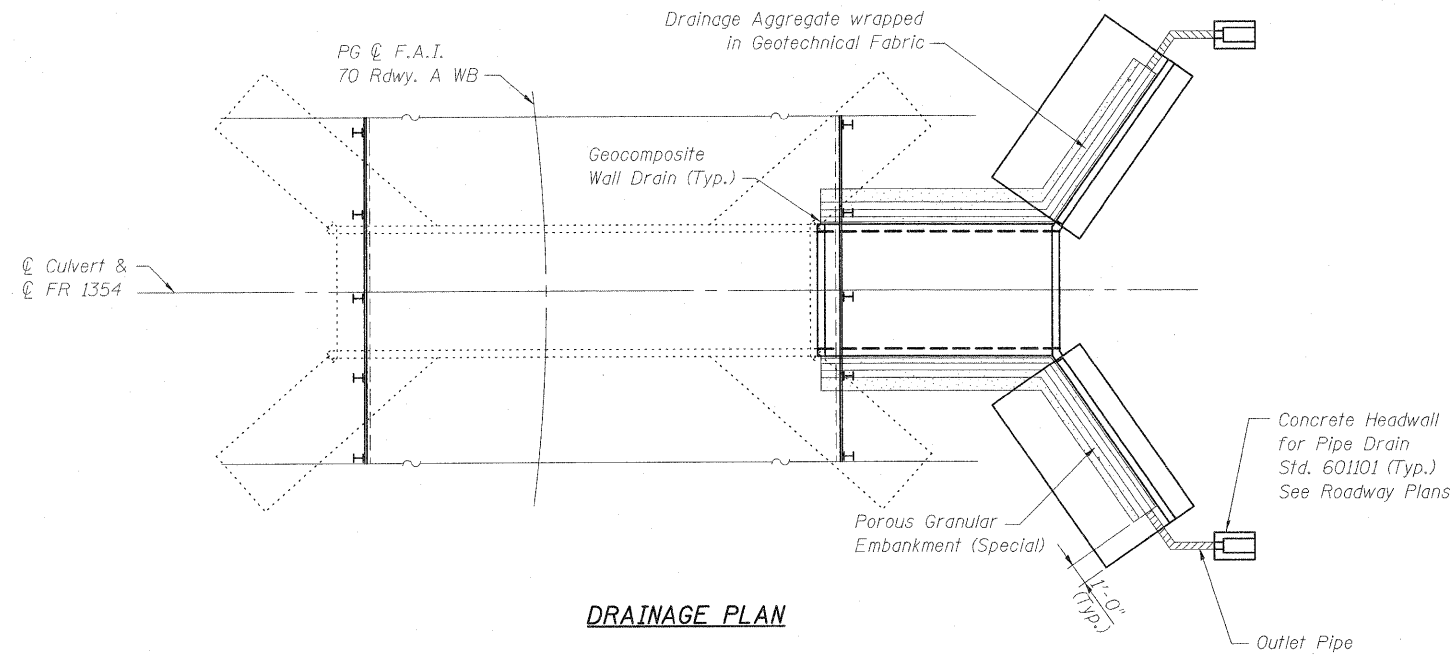


**PIPE UNDERDRAIN DETAIL**

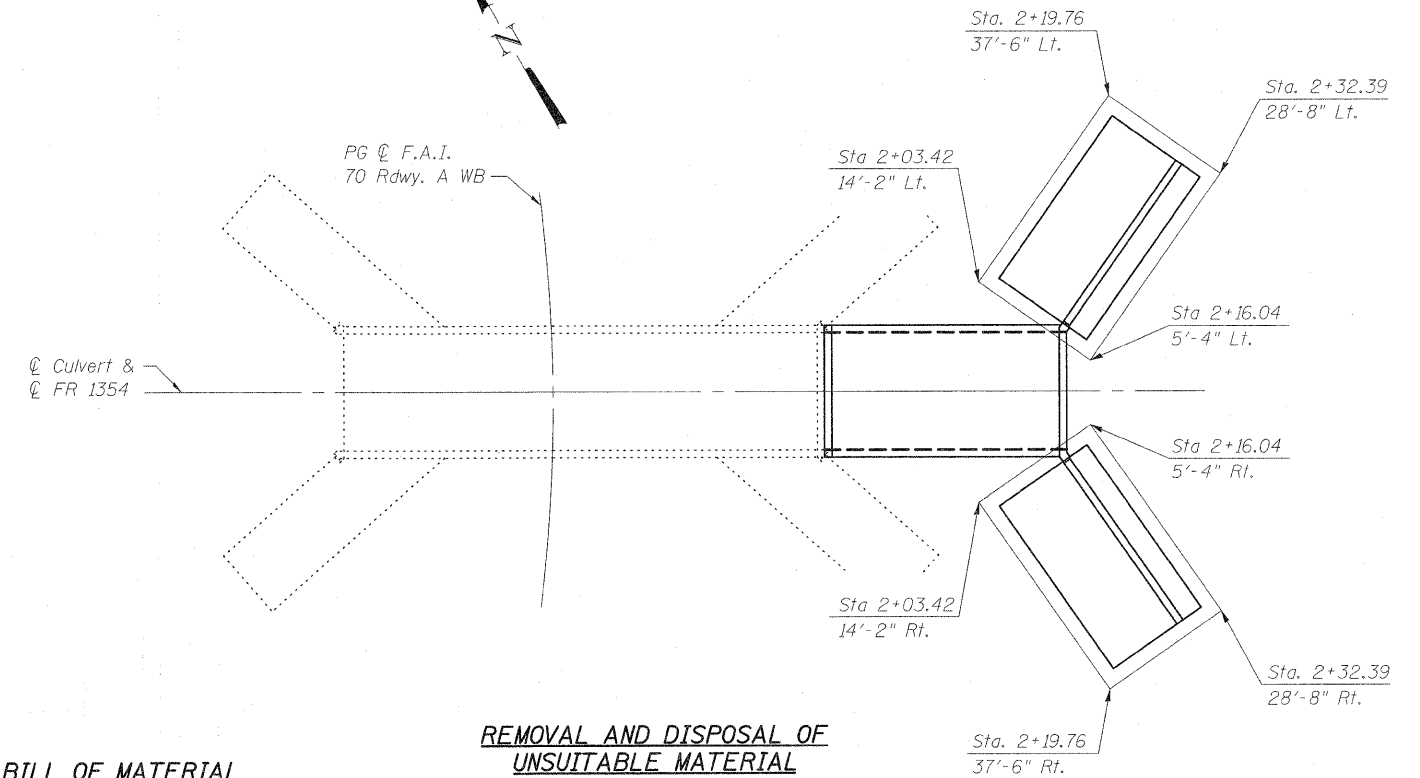
\*Included in the cost of "Pipe Underdrain for Structures".



**SECTION THRU WINGWALL**



**DRAINAGE PLAN**



**REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL**

Note:  
The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.

Notes:  
A Geocomposite Wall Drain shall be installed on the fill faces of the culvert extension walls and wings and draped under the approximate 1'-0" x 1'-0" block of wrapped drainage aggregate.  
A 4" diameter perforated drain shall be situated within an approximate 1'-0" x 1'-0" block of drainage aggregate shall be wrapped completely in Geotechnical Fabric for French Drains. Extend perforated drain and wrapped drainage aggregate past wings parallel to C tunnel to intersection with fill slope at the low end of tunnel. Pipes shall drain onto concrete headwalls (Article 601.05 of the Std. Specifications and Highway Std. 601101).  
Cost of perforated drain pipes, outlet pipe concrete headwalls, drainage aggregate, and geotechnical fabric shall be included with the pay item Pipe Underdrain for Structures. Per GBSP 51.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Geocomposite Wall Drain	Sq. Yd.	170.2
Pipe Underdrains for Structures, 4"	Foot	110
Porous Granular Embankment (Special)	Cu. Yd.	234
Porous Granular Embankment	Cu. Yd.	29
Removal and Disposal of Unsuitable Materials	Cu. Yd.	29

DESIGNED	B.B.
CHECKED	C.J.F.
DRAWN	W.J.S.
CHECKED	C.J.F. & B.B.



**BERNARDIN  
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Local (618) 288-4965  
Fax 618-288-4696

SHEET NO. 4 8 SHEETS	F.A.I. RTE. 70	SECTION (25-3)BY	COUNTY EFFINGHAM	TOTAL SHEETS 1416	SHEET NO. 462
	SN 025-2017		CONTRACT NO. 74296		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					

**DRAINAGE DETAILS  
STRUCTURE NO. 025-2017**