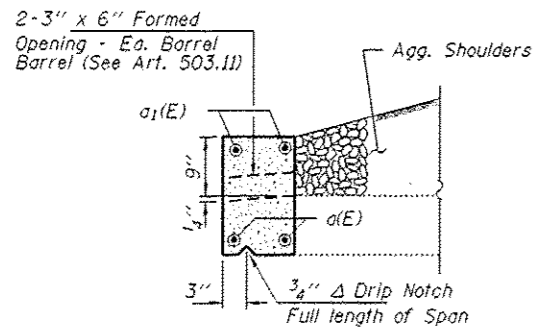
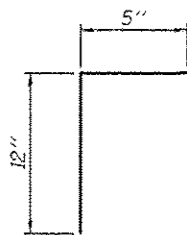


UPSTREAM END

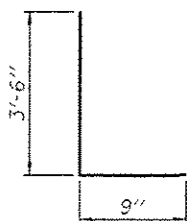


DOWNSTREAM END

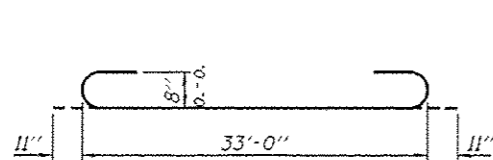
HEADWALL DETAILS



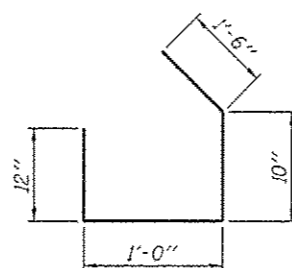
BAR $s(E)$



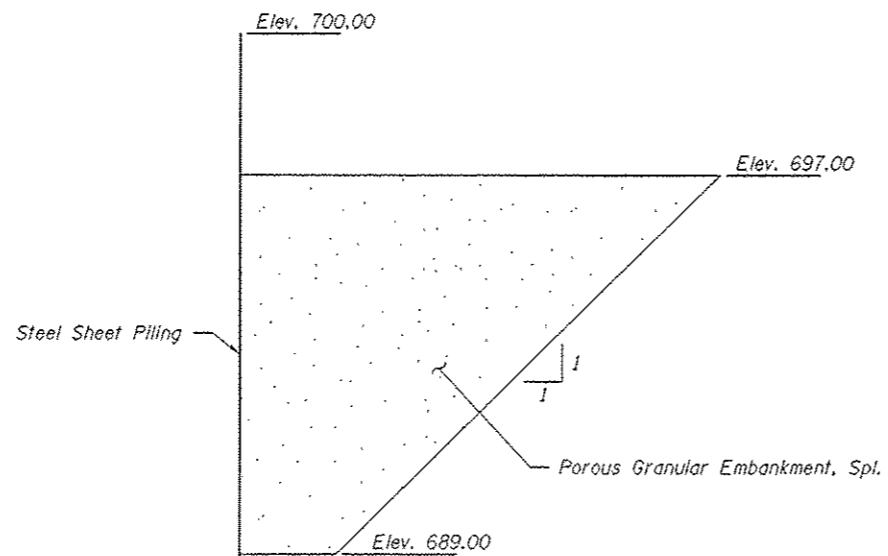
BAR $v_1(E)$



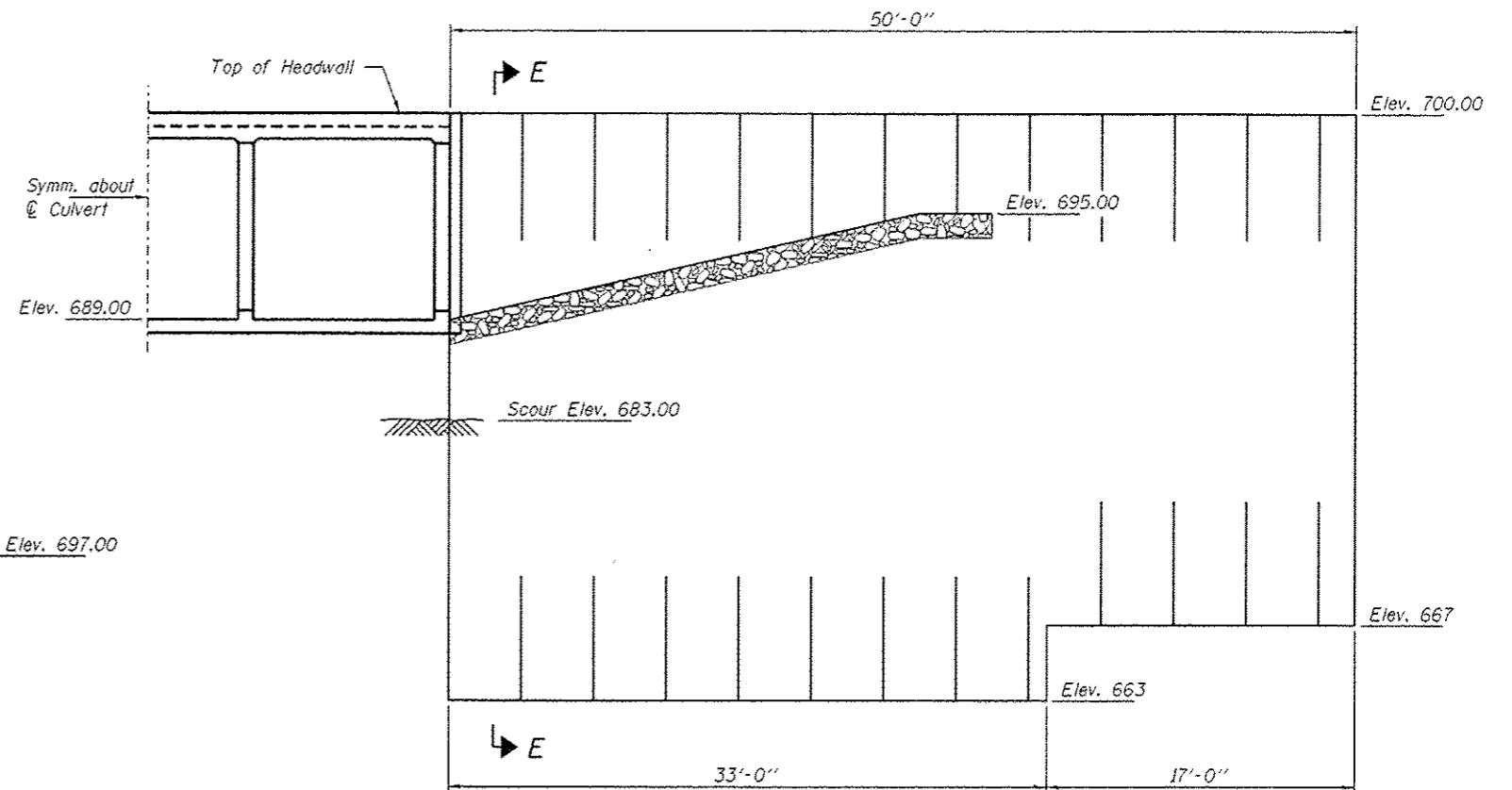
BAR $d(E)$



BAR $h(E)$



SECTION E-E



PERMANENT SHEET PILE DETAILS

(Typ. Each Wingwall)

Min. $S_x = 40.0$ In $\frac{3}{4}$ ft.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a(E)$	4	#8	35'-10"	
$a_1(E)$	6	#8	33'-0"	
$h(E)$	4	#4	4'-4"	
$h_1(E)$	6	#4	18'-0"	
$s(E)$	32	#3	1'-5"	
$v(E)$	8	#4	10'-9"	
$v_1(E)$	8	#4	4'-3"	
$v_2(E)$	32	#4	3'-2"	

* $s(E)$ bars shall be drilled and set according to Article 509.06 of the Standard Specifications. Bars shall have a 5" minimum embedment depth, be set in $\frac{5}{8}$ " ϕ holes, and filled with approved epoxy grout.

FILE NAME * 100001-sh-culvert.dgn	USER NAME *	DESIGNED - L.A.P.	REVISED -	STATE OF ILLINOIS STARK COUNTY HIGHWAY DEPARTMENT	CULVERT DETAILS STRUCTURE NO. 088-3203	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3033 EVERETTSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L57PE/ISE CORP. 184-000022	PLLOT SCALE *	CHECKED - S.W.M.	REVISED -			3	10-00163-00-BR	STARK	29	9
PLLOT DATE * 4/8/2013	CHECKED - D.A.B.	REVISED -	SOUTH VALLEY ROAD			CONTRACT NO. 89621				
CHECKED - S.W.M.	REVISED -	SHEET NO. 4 OF 9 SHEETS				ILLINOIS FED. AID PROJECT				