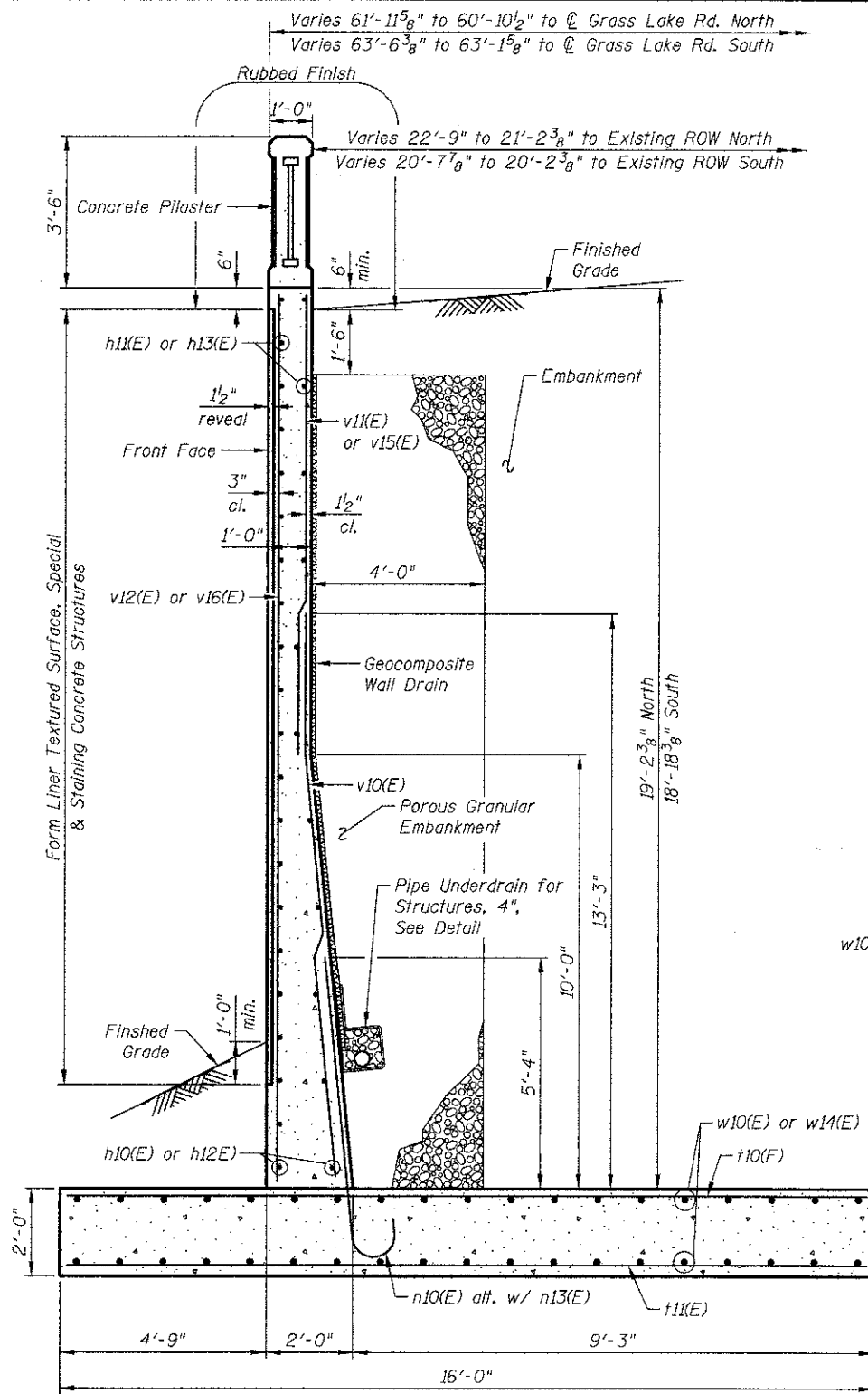
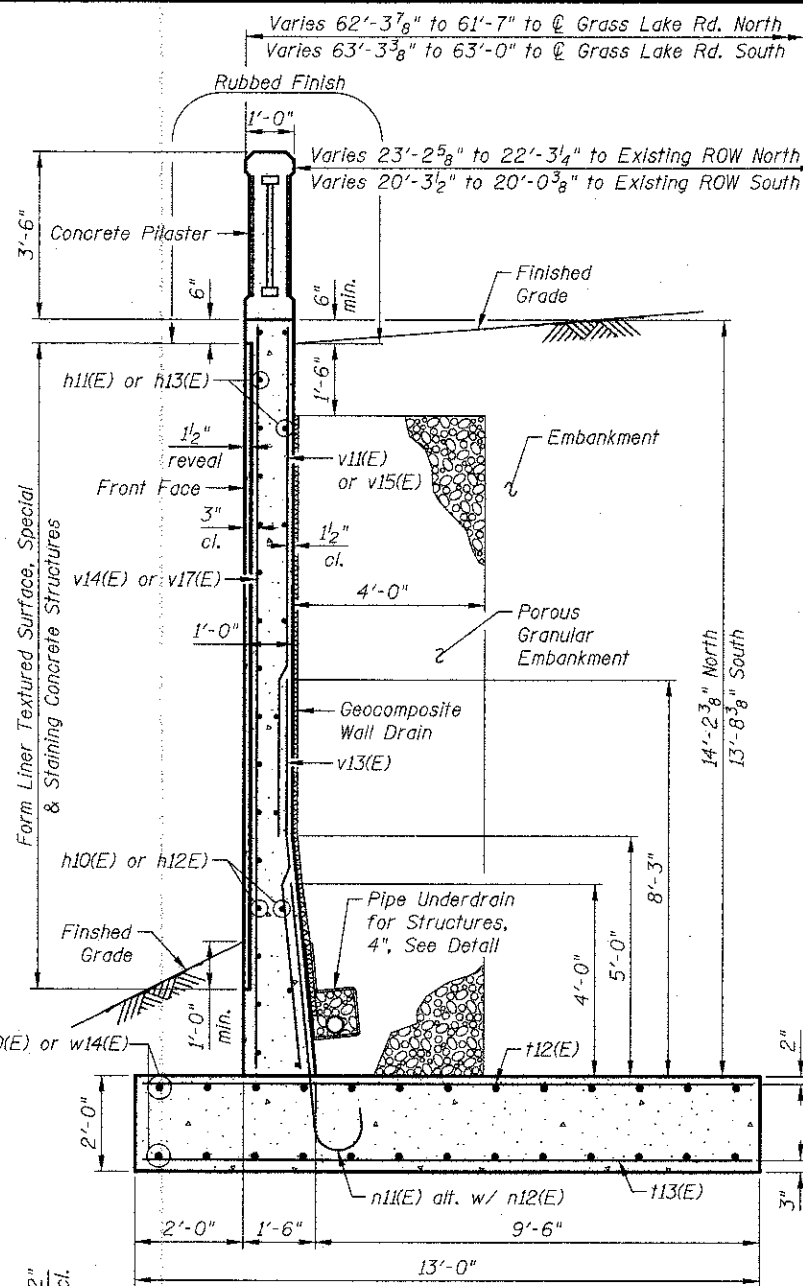


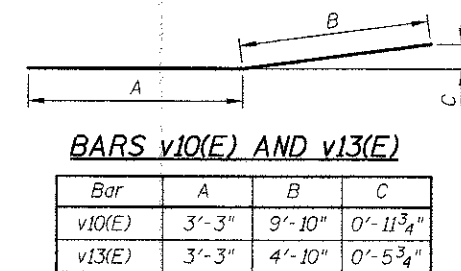
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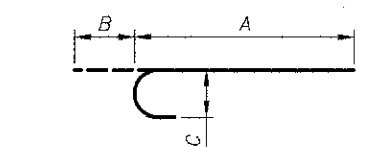
SECTION H-H



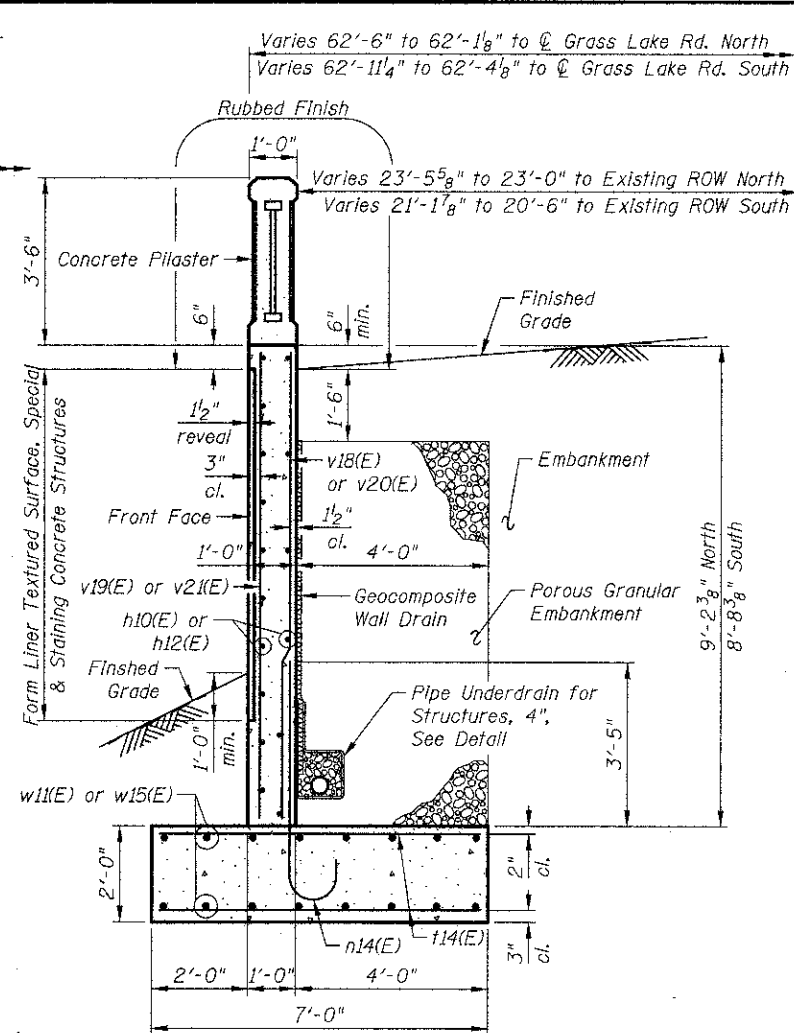
SECTION I-I



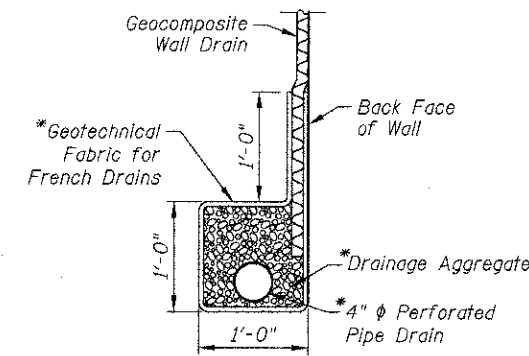
BARS v10(E) AND v13(E)



BARS n10(E) THRU n14(E)

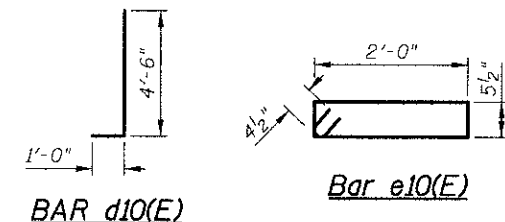


SECTION J-J



PIPE UNDERDRAIN DETAIL

*Included in the cost of Pipe Underdrains for Structures, 4"



BAR d10(E)

Bar e10(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d10(E)	64	#6	5'-6"	L
e10(E)	64	#4	5'-8"	U
h10(E)	60	#4	11'-8"	
h11(E)	74	#4	14'-7"	
h12(E)	60	#4	17'-6"	
h13(E)	74	#4	20'-5"	
n10(E)	74	#7	7'-11"	
n11(E)	74	#6	6'-5"	
n12(E)	74	#5	6'-7"	
n13(E)	74	#6	7'-11"	
n14(E)	74	#5	5'-9"	
t10(E)	72	#9	15'-8"	
t11(E)	72	#7	15'-8"	
t12(E)	72	#8	12'-8"	
t13(E)	128	#5	12'-8"	
t14(E)	184	#5	6'-8"	
v10(E)	74	#7	13'-1"	
v11(E)	60	#5	8'-7"	
v12(E)	8	#4	18'-5"	
v13(E)	74	#6	8'-1"	
v14(E)	8	#4	13'-5"	
v15(E)	88	#5	9'-1"	
v16(E)	10	#4	18'-11"	
v17(E)	10	#4	13'-11"	
v18(E)	44	#5	8'-11"	
v19(E)	10	#4	8'-11"	
v20(E)	30	#5	8'-4"	
v21(E)	8	#4	8'-4"	
w10(E)	124	#5	13'-5"	
w11(E)	32	#5	11'-8"	
w12(E)	88	#5	8'-0"	
w13(E)	88	#5	6'-7"	
w14(E)	124	#5	19'-3"	
w15(E)	32	#5	17'-6"	
Item			Unit	Quantity
Porous Granular Embankment			Cu. Yd.	305
Structure Excavation			Cu. Yd.	2,128
Concrete Structures			Cu. Yd.	337.7
Rubbed Finish			Sq. Ft.	779
Reinforcement Bars, Epoxy Coated			Pound	31,130
Geocomposite Wall Drain			Sq. Yd.	190
Pipe Underdrain For Structures, 4"			Foot	188
Staining Concrete Structures			Sq. Yd.	179
Form Liner Textured Surface, Special			Sq. Ft.	1,604

Notes:
See Sheet S4 for Concrete Pilasters Details.
See Sheets S5 & S6 for Pipe Underdrain Invert Elevations.
See Sheet S8 for Pilaster Railing Details.

Note:
Maximum Applied Bearing Pressure = 2,975 psf
Maximum Allowed Bearing Pressure = 3,000 psf



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DESIGNED - M. LANGE
CHECKED - G. HATLESTAD
DATE - DECEMBER 17, 2012

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WINGWALL DETAILS
GRASS LAKE ROAD OVER BIKE PATH
STRUCTURE NO. 049-3070
SHEET NO. S7 OF S10 SHEETS

F.A.U. RATE. 0174
SECTION 09-P0075-15-BT
COUNTY LAKE
TOTAL SHEETS 74
SHEET NO. 29
CONTRACT NO. 63778
ILLINOIS FED. AID PROJECT