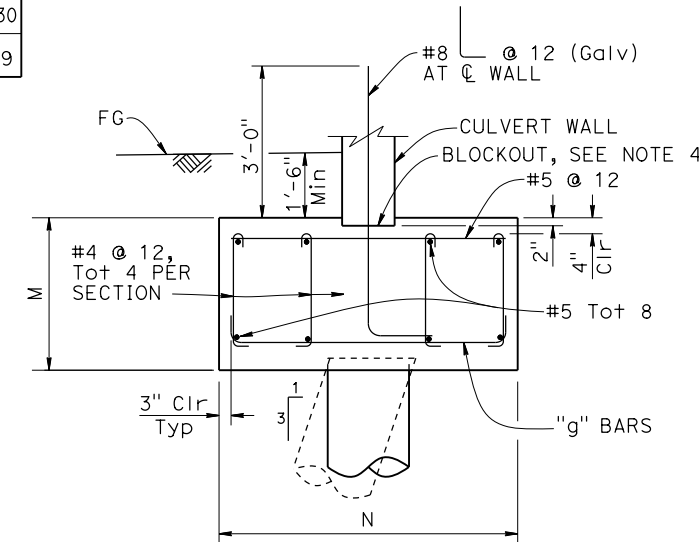
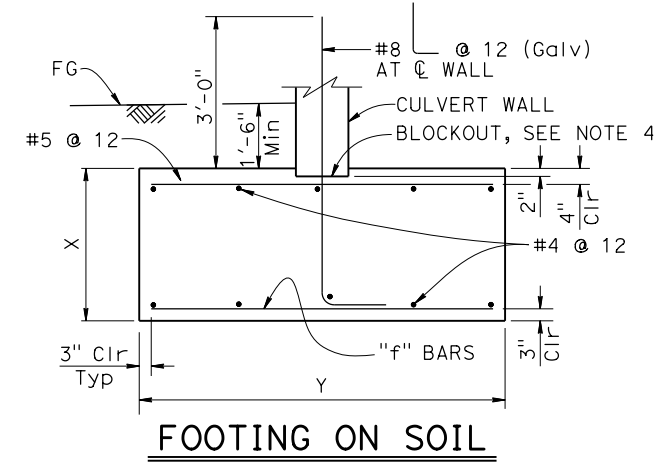


CULVERTS WITH FOOTINGS ON SOIL

Span, S	12'												14'												16'											
	6'		8'		10'		12'		14'		15'		6'		8'		10'		12'		14'		15'		6'		8'		10'		12'		14'		15'	
Wall Height, H	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'
Max Earth Cover	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Depth - X	1'-9"	2'-0"	1'-9"	2'-0"	1'-9"	2'-0"	1'-9"	2'-0"	1'-9"	2'-0"	1'-9"	2'-0"	1'-9"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"
Width - Y	5'-0"	6'-0"	5'-0"	6'-0"	5'-0"	6'-0"	5'-0"	6'-0"	5'-0"	6'-0"	5'-0"	6'-0"	5'-0"	6'-0"	5'-0"	6'-0"	5'-0"	6'-6"	5'-0"	6'-6"	5'-0"	6'-6"	5'-0"	6'-6"	5'-0"	7'-0"	5'-6"	7'-0"	5'-6"	7'-0"	5'-6"	7'-0"	5'-6"	7'-0"	5'-6"	7'-0"
f" Bar size	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6
f" Bar Spacing	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"
* Soil Pressure, qu (ksf)	5.17	7.93	5.39	8.17	5.84	8.53	6.35	9.03	7.05	9.75	7.43	10.11	5.76	10.37	6.57	10.75	7.04	9.79	7.61	10.32	8.38	11.02	8.76	10.30	6.13	9.25	6.41	9.41	6.73	9.73	7.30	10.29	7.87	10.95	8.32	11.30
Effective Footing Width, B' (ft)	3.47	4.20	3.45	4.18	3.43	4.17	3.42	4.17	3.41	4.17	3.41	4.17	3.48	3.71	3.20	3.69	3.19	4.17	3.17	4.16	3.16	4.16	3.16	4.66	3.75	4.74	3.72	4.72	3.71	4.71	3.69	4.70	3.68	4.70	3.68	4.69

Span, S	18'												20'											
	6'		8'		10'		12'		14'		15'		6'		8'		10'		12'		14'		15'	
Wall Height, H	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'
Max Earth Cover	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Depth - X	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-0"	2'-6"	2'-6"	3'-0"	2'-6"	3'-0"	2'-6"	3'-0"	2'-6"	3'-0"	2'-6"	3'-0"	2'-6"	3'-0"
Width - Y	5'-6"	7'-6"	5'-6"	7'-6"	5'-6"	7'-6"	5'-6"	8'-0"	5'-6"	8'-0"	5'-6"	8'-0"	6'-0"	8'-0"	6'-0"	8'-0"	6'-0"	8'-0"	6'-0"	8'-6"	6'-0"	8'-6"	6'-0"	8'-6"
f" Bar size	#6	#7	#6	#7	#5	#7	#5	#7	#5	#7	#5	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7
f" Bar Spacing	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"
* Soil Pressure, qu (ksf)	6.77	9.34	6.96	9.49	7.40	9.84	7.88	9.30	8.59	9.98	8.97	10.20	7.58	10.46	7.79	10.76	8.13	11.01	8.76	10.48	9.45	10.99	9.88	11.29
Effective Footing Width, B' (ft)	3.76	5.27	3.74	5.25	3.72	5.24	3.71	5.73	3.70	5.73	3.70	5.72	3.77	5.28	3.74	5.27	3.72	5.25	3.70	5.73	3.69	5.73	3.69	5.72

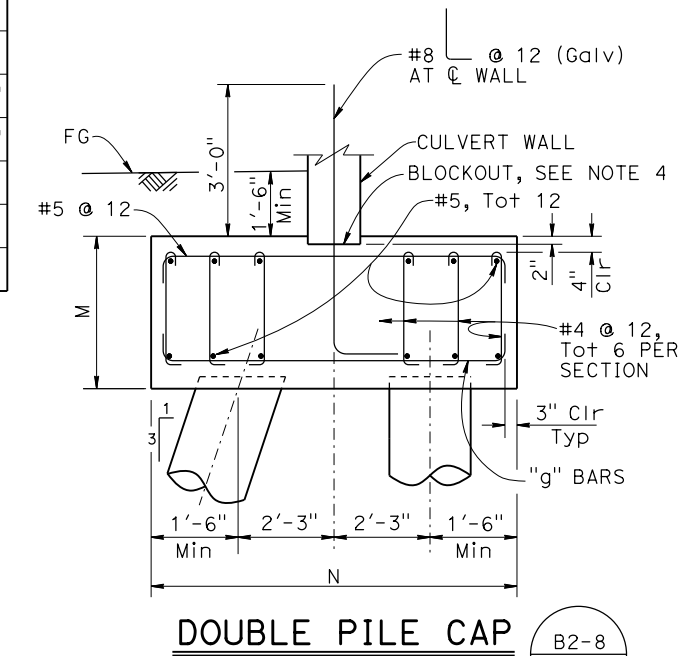


CULVERTS WITH PILE FOUNDATION OR WITH FOOTINGS ON ROCK

Span, S	12'												14'												16'											
	6'		8'		10'		12'		14'		15'		6'		8'		10'		12'		14'		15'		6'		8'		10'		12'		14'		15'	
Wall Height, H	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'
Max Earth Cover	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Number of Rows	1	2	1	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2
Pile Spacing	12'-0"	12'-0"	7'-3"	8'-9"	9'-9"	6'-3"	7'-6"	4'-9"	5'-9"	3'-9"	5'-3"	3'-6"	12'-0"	12'-0"	8'-0"	9'-9"	10'-3"	6'-6"	7'-6"	5'-0"	5'-9"	4'-0"	5'-3"	12'-0"	12'-0"	8'-0"	9'-9"	10'-6"	7'-0"	7'-9"	5'-3"	6'-0"	4'-0"	5'-3"	3'-6"	
Cap Depth - M	2'-6"	3'-0"	2'-6"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	2'-6"	3'-0"	2'-6"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	2'-6"	3'-0"	2'-6"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	
Cap Width - N	3'-0"	7'-6"	3'-0"	7'-6"	7'-6"	6'-0"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	3'-0"	7'-6"	3'-0"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	3'-6"	7'-6"	3'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	
g" Bar size	#6	#7	#6	#7	#7	#7	#7	#7	#7	#7	#7	#7	#6	#7	#6	#7	#7	#7	#7	#7	#7	#7	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	
g" Bar Spacing	12"	6"	12"	6"	6"	6"	6"	6"	6"	6"	6"	6"	12"	6"	12"	6"	6"	6"	6"	6"	6"	6"	6"	12"	6"	12"	6"	6"	6"	6"	6"	6"	6"	6"	6"	

Span, S	18'												20'											
	6'		8'		10'		12'		14'		15'		6'		8'		10'		12'		14'		15'	
Wall Height, H	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'	6'	8'	10'	12'	14'	15'
Max Earth Cover	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Number of Rows	1	2	1	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2
Pile Spacing	10'-9"	11'-0"	8'-3"	11'-0"	10'-6"	7'-0"	7'-6"	5'-3"	6'-0"	4'-0"	5'-3"	3'-6"	9'-9"	10'-0"	8'-6"	9'-6"	10'-6"	7'-9"	7'-6"	5'-6"	6'-0"	4'-3"	5'-3"	
Cap Depth - M	3'-0"	3'-6"	3'-0"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	3'-0"	3'-6"	3'-0"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"	
Cap Width - N	4'-0"	7'-6"	4'-0"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	4'-0"	7'-6"	4'-0"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	
g" Bar size	#6	#6	#6	#7	#7	#7	#7	#7	#7	#7	#7	#7	#6	#7	#6	#7	#7	#7	#7	#7	#7	#7	#7	
g" Bar Spacing	12"	6"	12"	6"	6"	6"	6"	6"	6"	6"	6"	6"	12"	6"	12"	6"	6"	6"	6"	6"	6"	6"	6"	

- NOTES:
1. For pile layout, see "CIP BOTTOMLESS CULVERT WALL, SLAB AND PILE DETAILS" sheet.
 2. Soil pressure shown in the table is equivalent uniform pressure per AASHTO LRFD Bridge Design Specifications.
 3. For "X", "Y", "M", "N" and "S", see tables.
 4. Form breakout in footing for placement of culvert wall.



* - See Note 2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE X

PLANS APPROVAL DATE _____

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SINGLE PILE CAP (B2-8)

DOUBLE PILE CAP (B2-8)

NO SCALE