

Sample Plan Set

Soldier Pile Wall

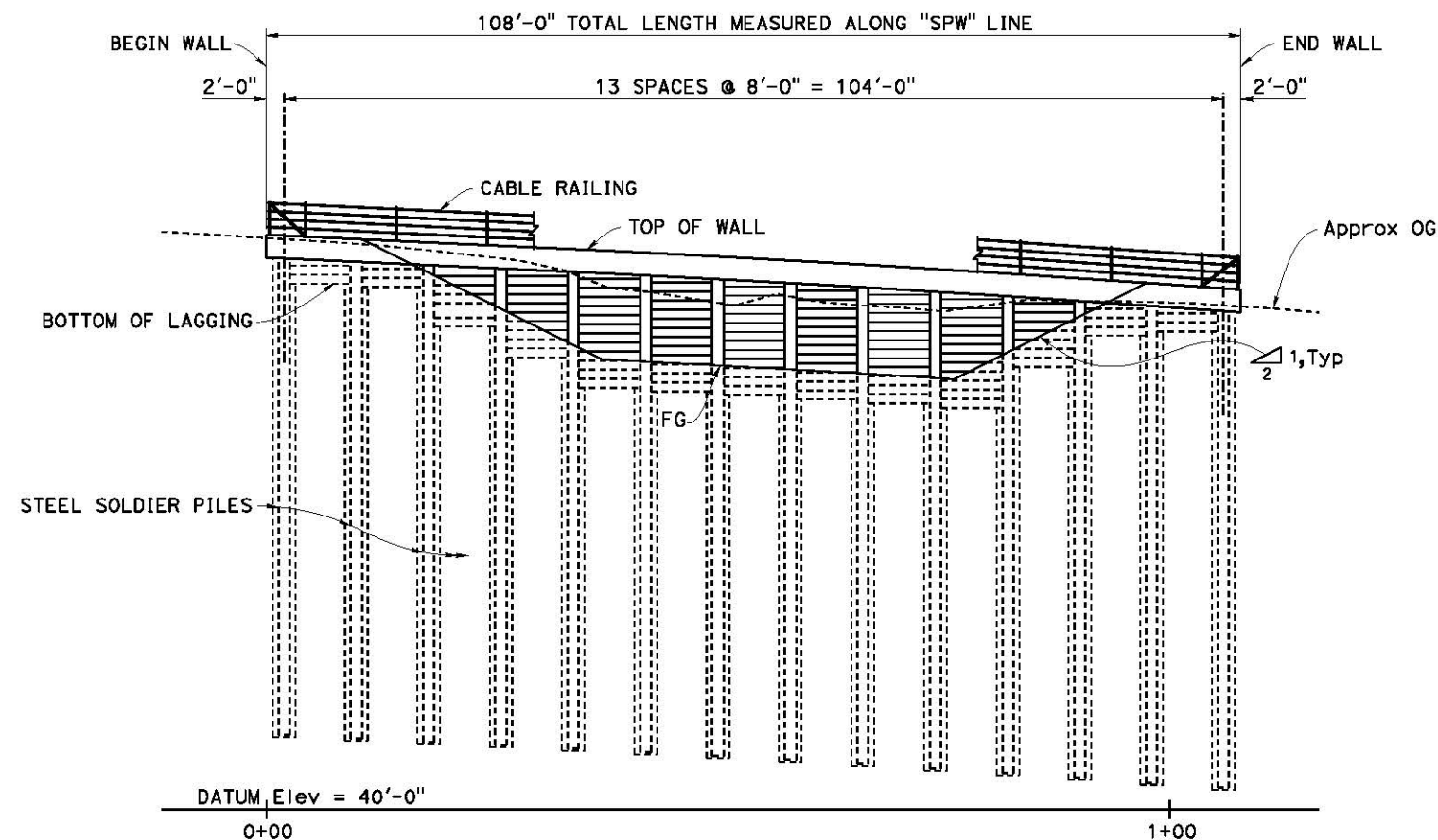
Links

Caltrans Standard Plans:

<https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>

Caltrans Bridge Standard Details:

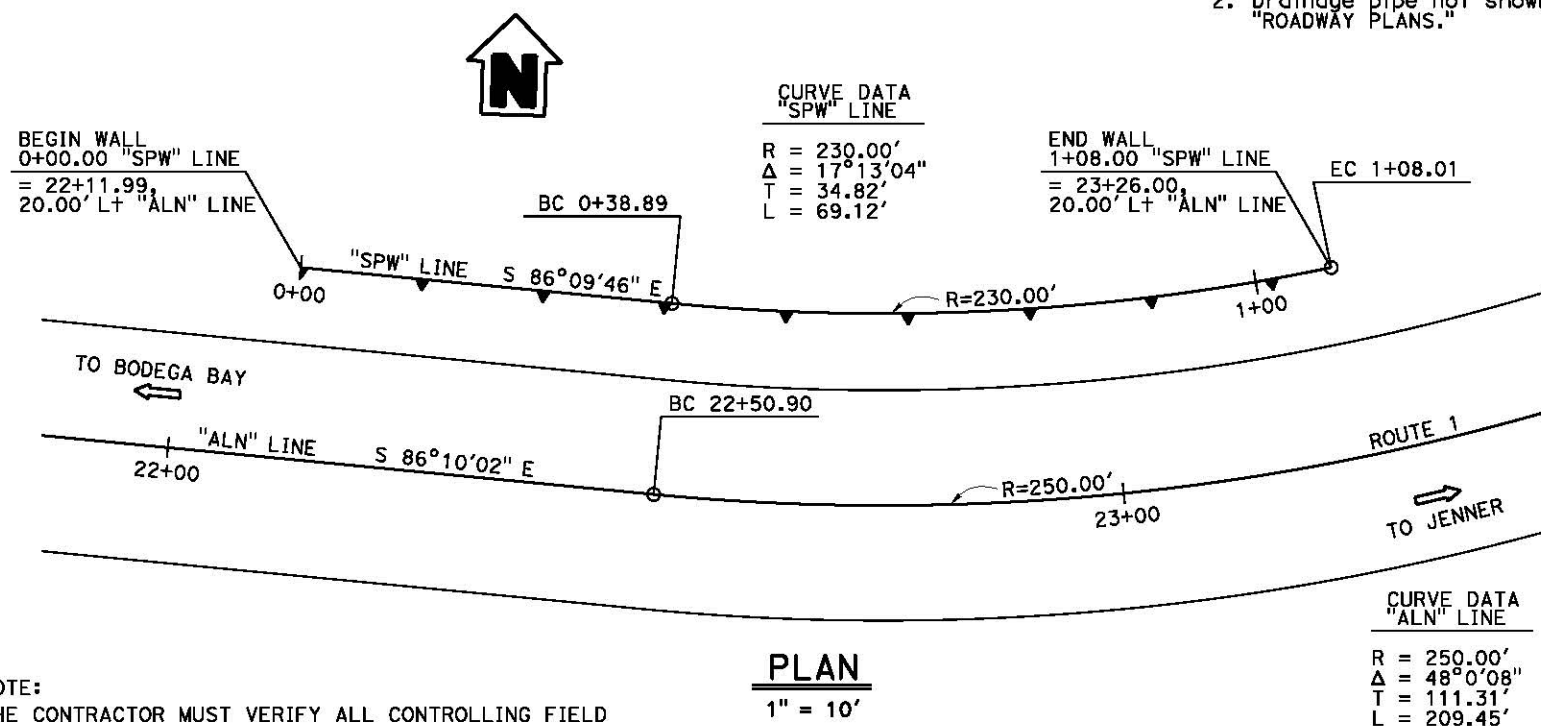
<https://dot.ca.gov/programs/engineering-services/manuals/bridge-standard-details>



MIRRORED ELEVATION

1" = 10'

- NOTE:
1. Finish coat limits are from bottom of concrete cap to bottom of lagging
 2. Drainage pipe not shown, see "ROADWAY PLANS."



PLAN

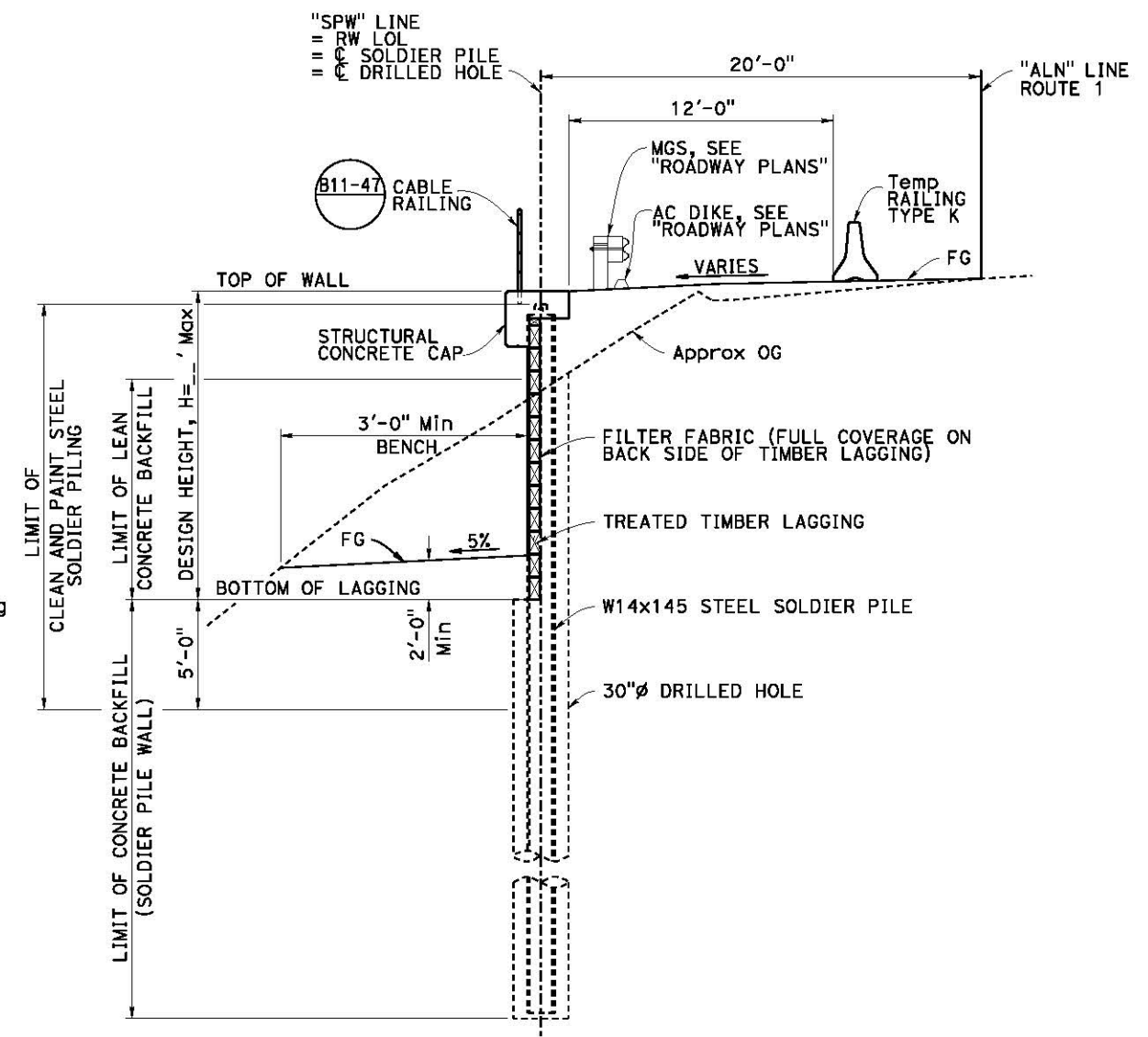
1" = 10'

- NOTE:
- THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

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QUANTITIES	
STRUCTURE EXCAVATION (SOLDIER PILE WALL)	58 CY
STRUCTURE BACKFILL (SOLDIER PILE WALL)	15 CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	107 CY
LEAN CONCRETE BACKFILL	21 CY
STEEL SOLDIER PILE (W 14 X 145)	770 LF
30" DRILLED HOLE	760 LF
STRUCTURAL CONCRETE, CAP	19 CY
BAR REINFORCING STEEL (CAP)	2,520 LB
TIMBER LAGGING	6 MFBM
CLEAN AND PAINT STEEL SOLDIER PILING	LUMP SUM
PREPARE AND STAIN CONCRETE	687 SQFT
CABLE RAILING	108 LF



TYPICAL SECTION

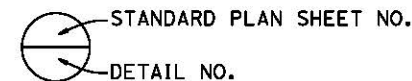
1/4" = 1'-0"

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	STRUCTURE PLAN
4	FOUNDATION PLAN
5	RETAINING WALL DETAILS NO. 1
6	RETAINING WALL DETAILS NO. 2
7	RETAINING WALL DETAILS NO. 3
8	LOG OF TEST BORINGS 1 OF 1

STANDARD PLANS DATED 2015

DETAIL	DESCRIPTION
A3A	ABBREVIATIONS (SHEET 1 OF 3)
A3B	ABBREVIATIONS (SHEET 2 OF 3)
A3C	ABBREVIATIONS (SHEET 3 OF 3)
A10A	LEGEND LINES AND SYMBOLS (SHEET 1 OF 5)
A10B	LEGEND LINES AND SYMBOLS (SHEET 2 OF 5)
A10C	LEGEND LINES AND SYMBOLS (SHEET 3 OF 5)
A10D	LEGEND LINES AND SYMBOLS (SHEET 4 OF 5)
A10E	LEGEND LINES AND SYMBOLS (SHEET 5 OF 5)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
B11-47	CABLE RAILING



GENERAL NOTES WORKING STRESS DESIGN

DESIGN:
2007 AASHTO LRFD Bridge Design Specifications, 4th Edition
with California Amendments

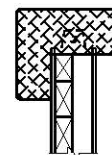
LIVE LOAD:
240 psf equivalent to 2 feet soil weight

REINFORCED CONCRETE:
(Working Stress Design)
 $f_y = 60 \text{ ksi}$ $f_s = 24 \text{ ksi}$
 $f'_c = 3.5 \text{ ksi}$ $f_c = 1.4 \text{ ksi}$
 $n = 8$

SOIL PARAMETERS:
 $\phi = 32^\circ$, $\gamma = 125 \text{ lb/ft}^3$ Above bottom of lagging
 $\phi = 35^\circ$, $\gamma = 130 \text{ lb/ft}^3$ Below bottom of lagging

STRUCTURAL TIMBER:
Treated Douglas Fir-Larch No.1. or better Timber to be full sawn.

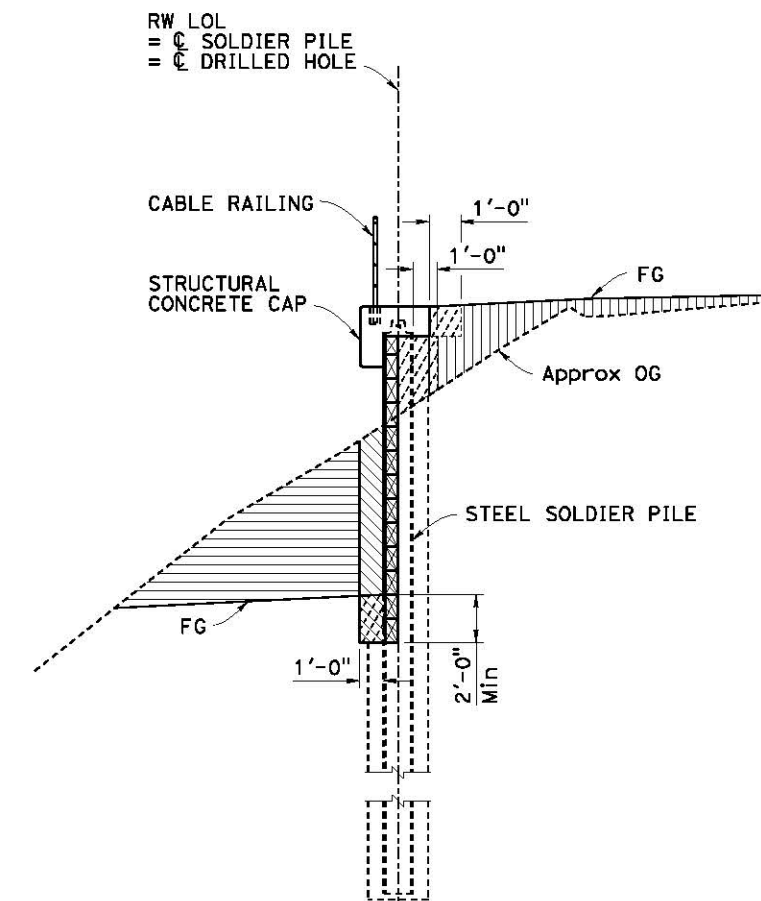
STRUCTURAL STEEL:
(Working Stress Design)
 $F_y = 36 \text{ ksi}$



LEGEND:
 Structural Concrete
($f'_c = 3.5 \text{ ksi}$ @ 28 days)

CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE



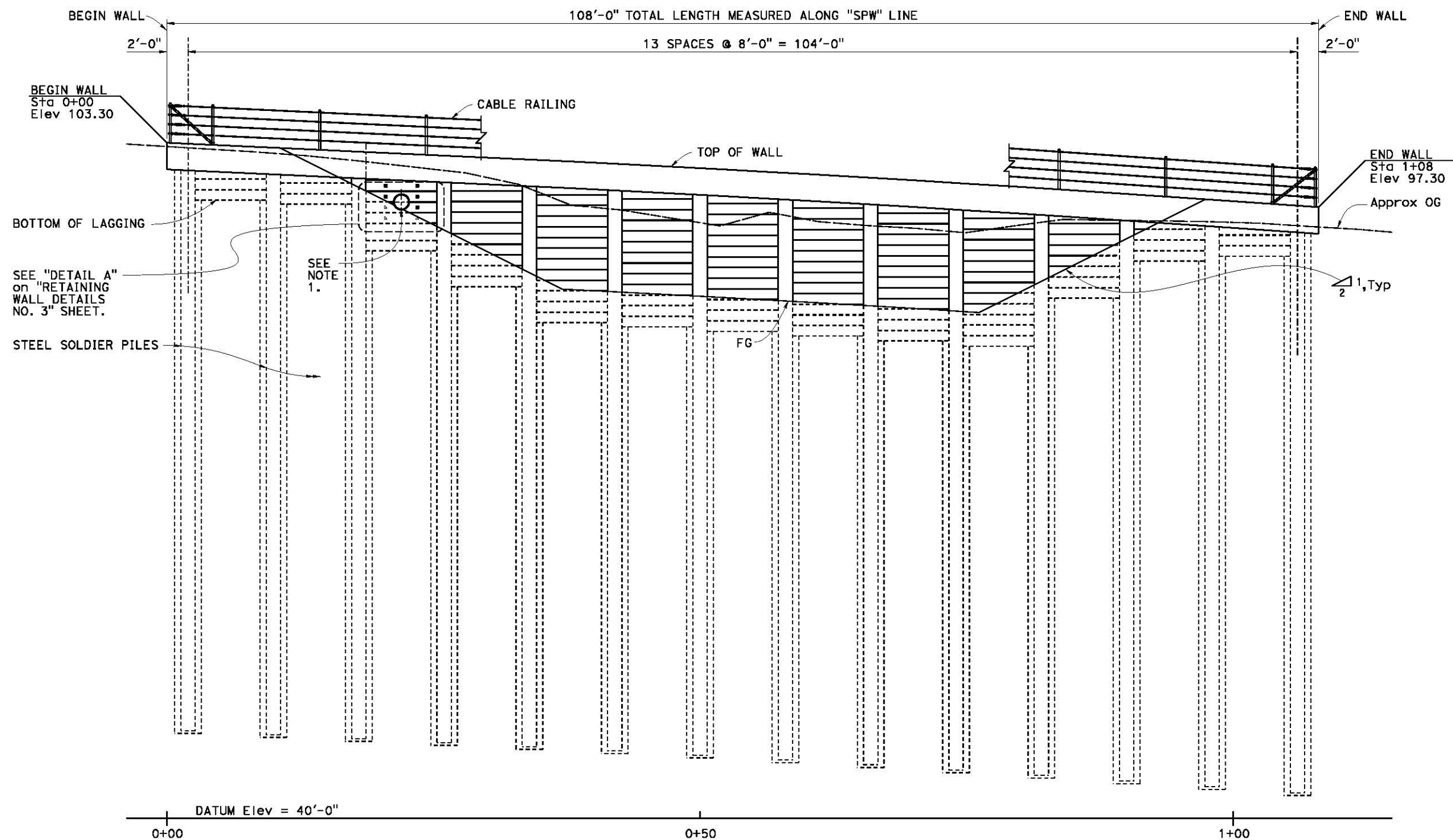
LEGEND:
 Structure Excavation,
Soldier Pile Wall
 Structure Backfill,
Soldier Pile Wall
 Roadway Excavation,
see "ROADWAY PLANS."
 Roadway Backfill,
see "ROADWAY PLANS."

LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

NO SCALE

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STATION	TOP OF WALL ELEVATION
0+00	103.30
0+03.01	103.16
0+08.01	102.93
0+13.01	102.70
0+18.01	102.46
0+23.01	102.23
0+28.01	102.00
0+33.01	101.77
0+38.01	101.54
0+42.68	101.30
0+47.28	101.06
0+51.88	100.82
0+56.48	100.56
0+61.08	100.31
0+65.68	100.04
0+70.28	99.77
0+74.88	99.49
0+79.48	99.20
0+84.08	98.90
0+88.68	98.59
0+93.28	98.28
0+97.88	97.97
1+02.48	97.65
1+07.08	97.33
1+08	97.30

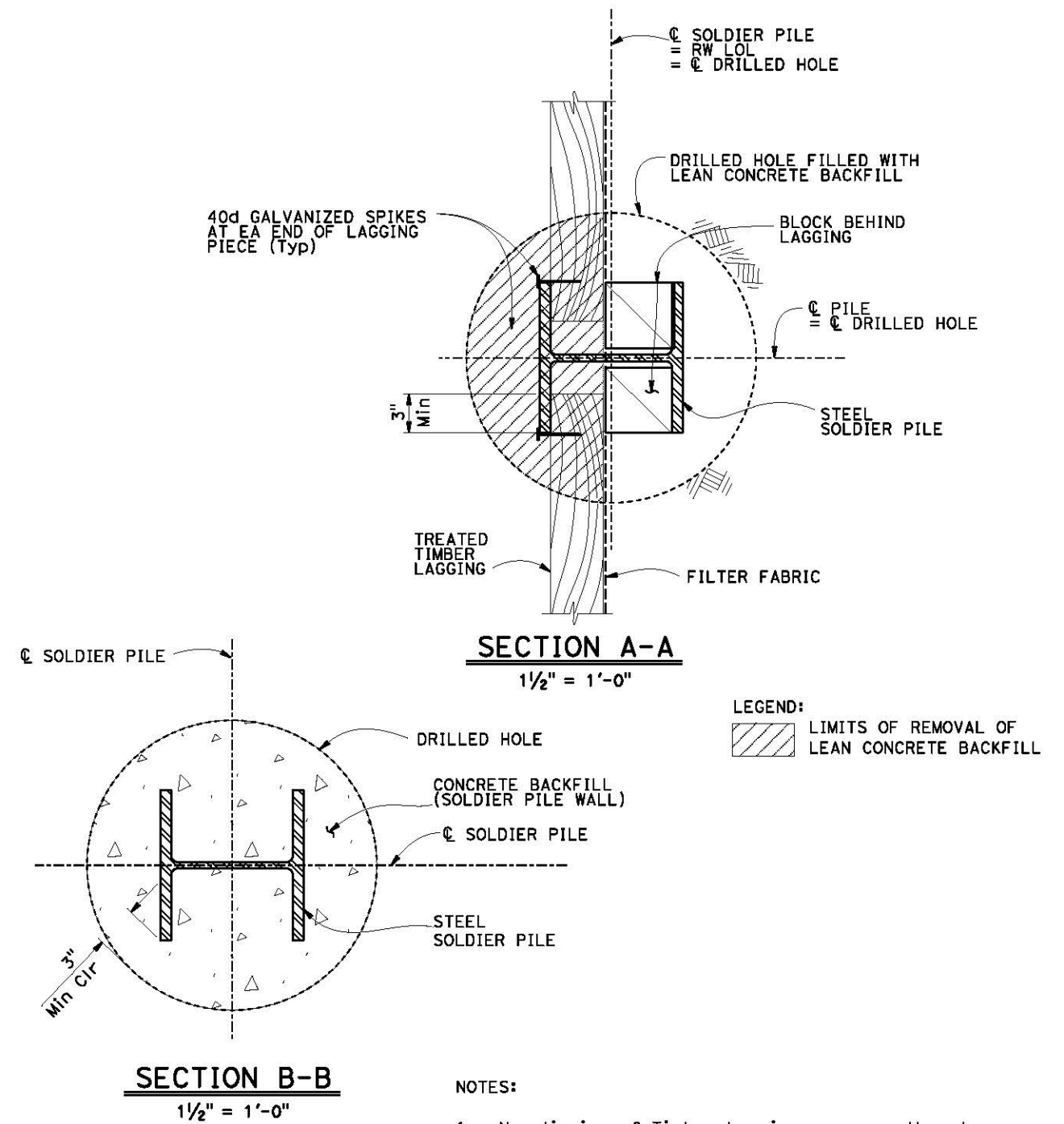
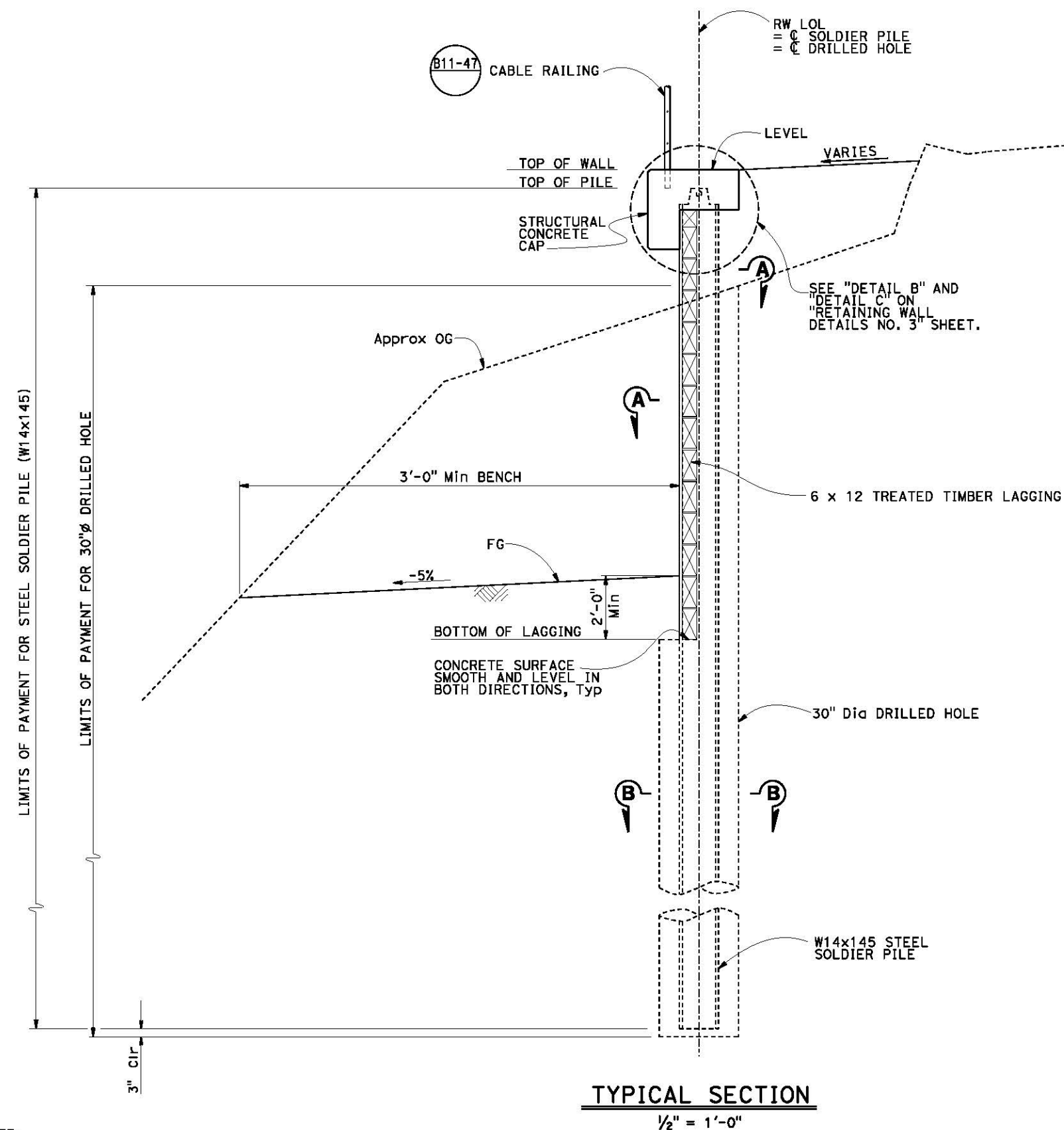
DEVELOPED MIRRORED ELEVATION
3/16" = 1'-0"

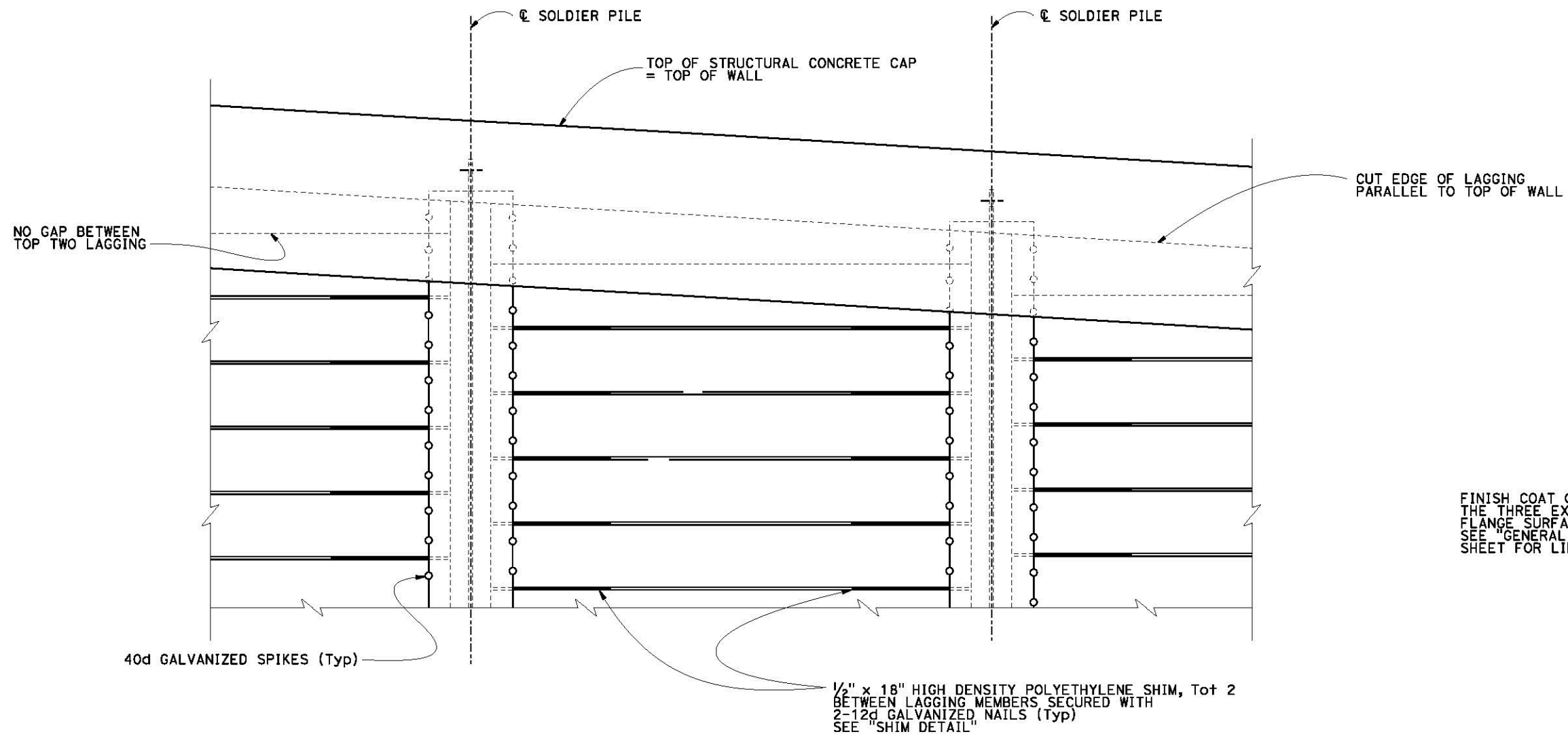
PILE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PILE LENGTH (ft)	55	55	55	55	55	55	55	55	55	55	55	55	55	55
NUMBER OF TIMBER LAGGING BETWEEN PILES	4	4	8	11	14	14	14	14	14	14	9	5	4	

NOTE:
1. 18" Dia drainage pipe,
See "ROADWAY PLANS" for details.

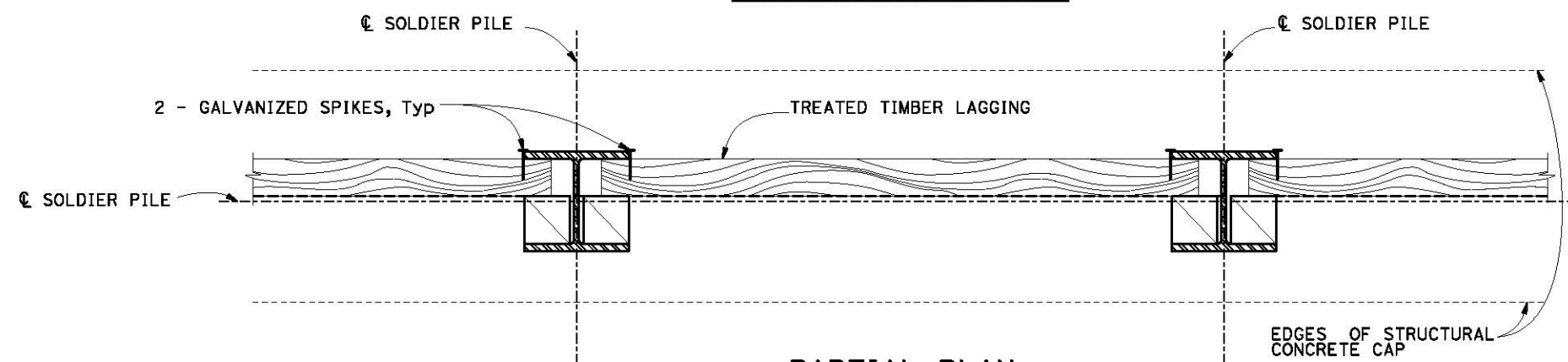
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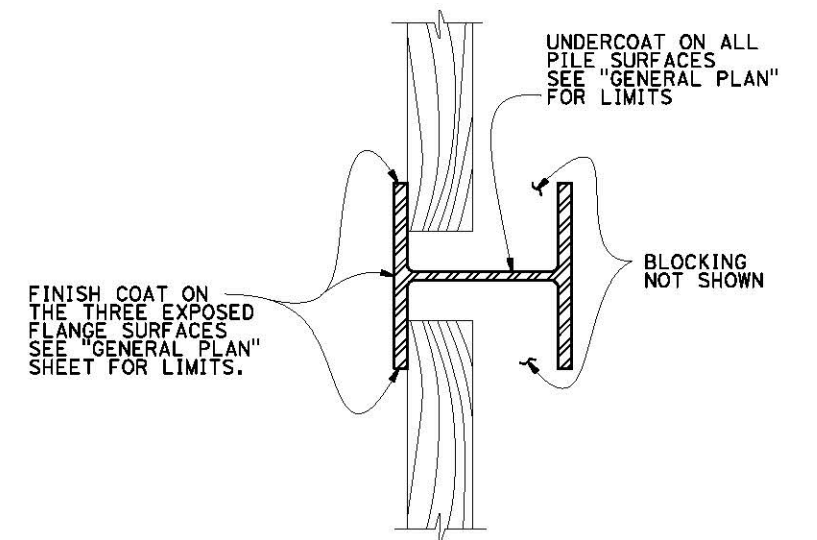


PARTIAL ELEVATION



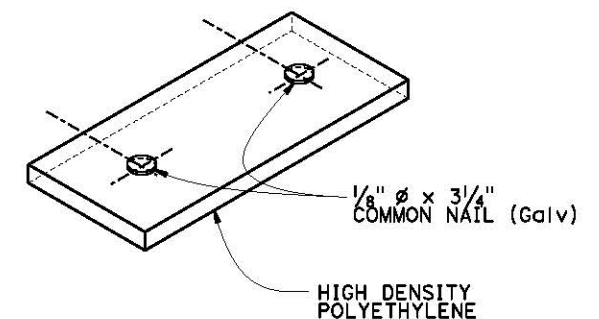
**PARTIAL PLAN
LAGGING DETAILS**

1" = 1'-0"



**LIMITS OF CLEAN AND PAINT
STEEL SOLDIER PILING**

1/2" = 1'-0"

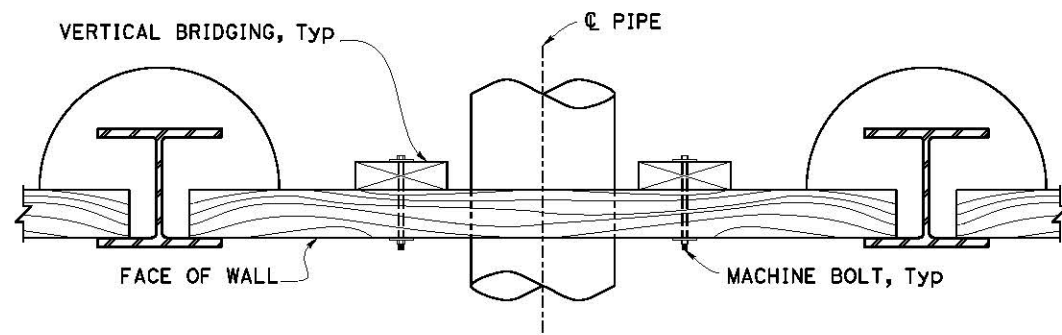


SHIM DETAIL

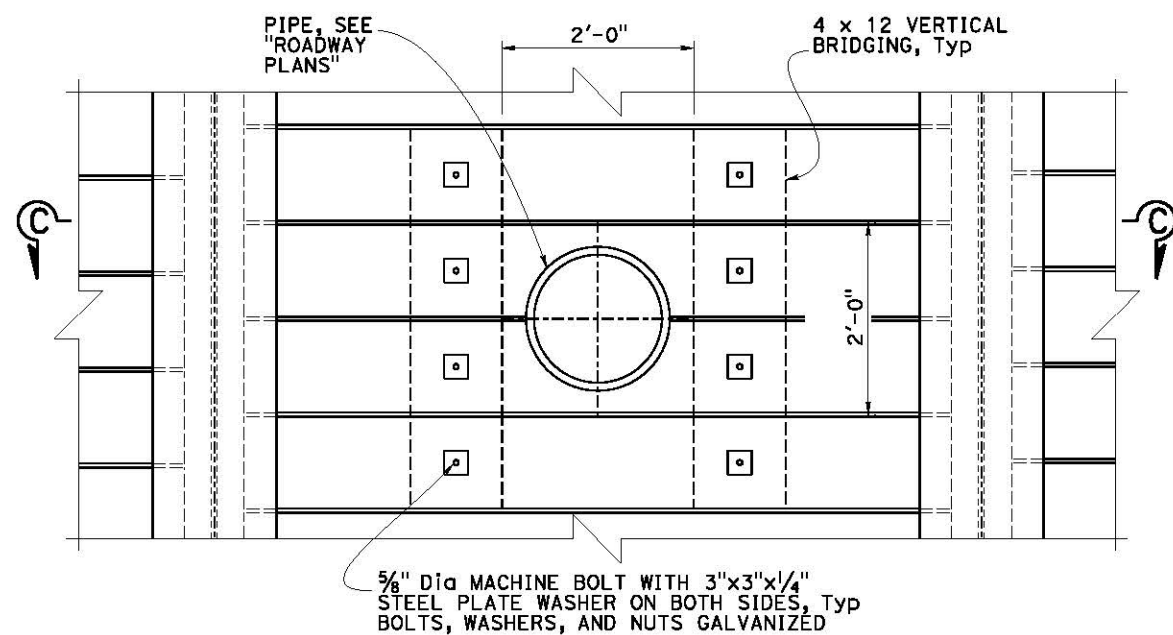
NO SCALE

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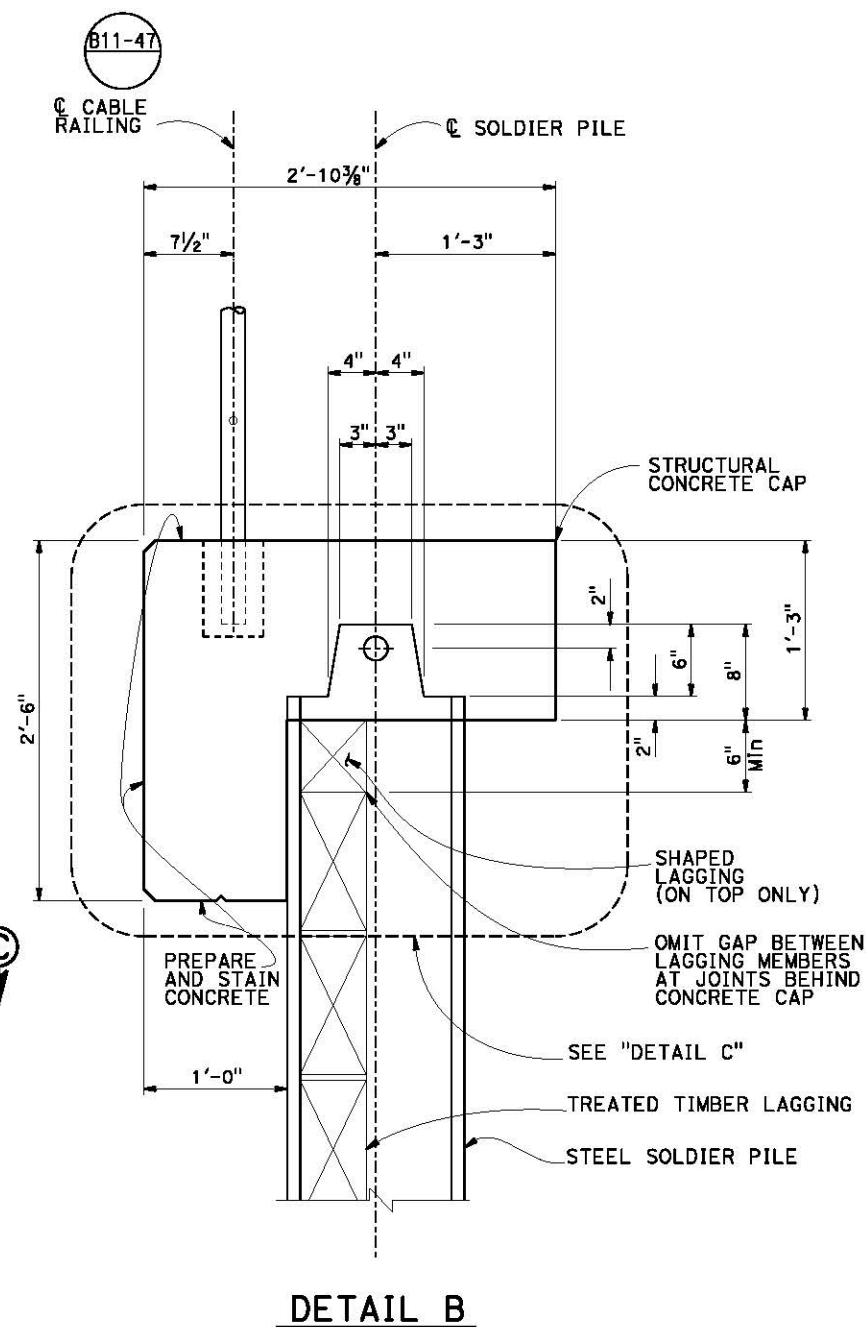
SECTION C-C
1" = 1'-0"



DETAIL A
1" = 1'-0"

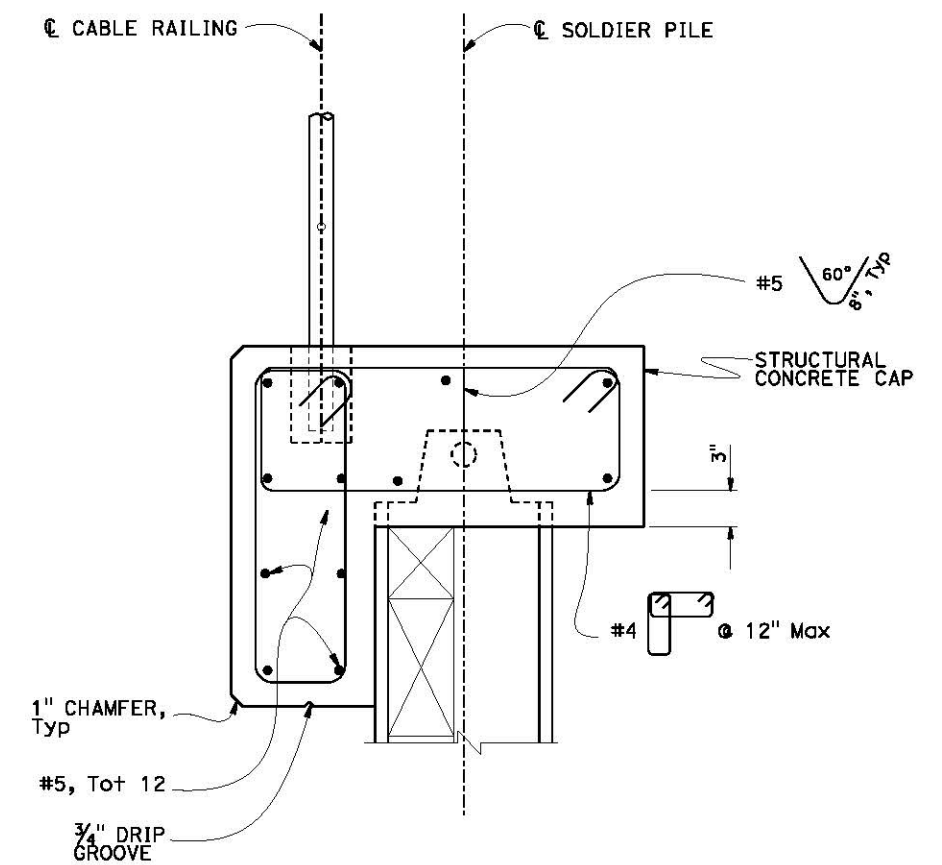
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DETAIL B

STRUCTURAL CONCRETE CAP DETAILS
1 1/2" = 1'-0"

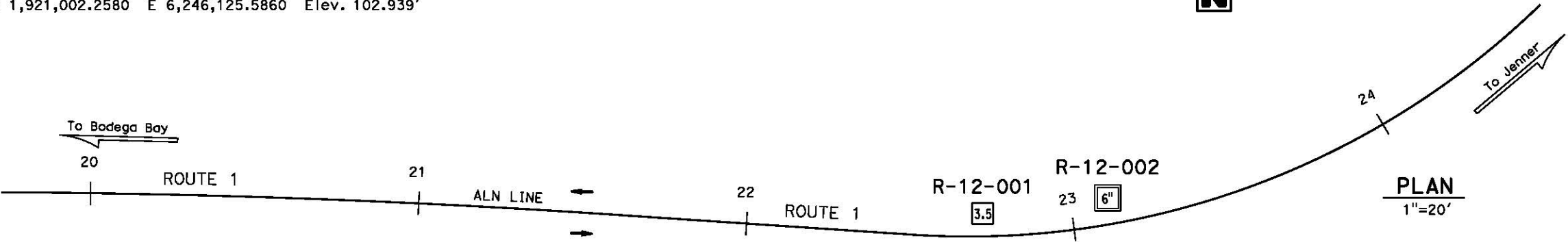


DETAIL C

NOTE:
1. Blocking behind lagging not shown

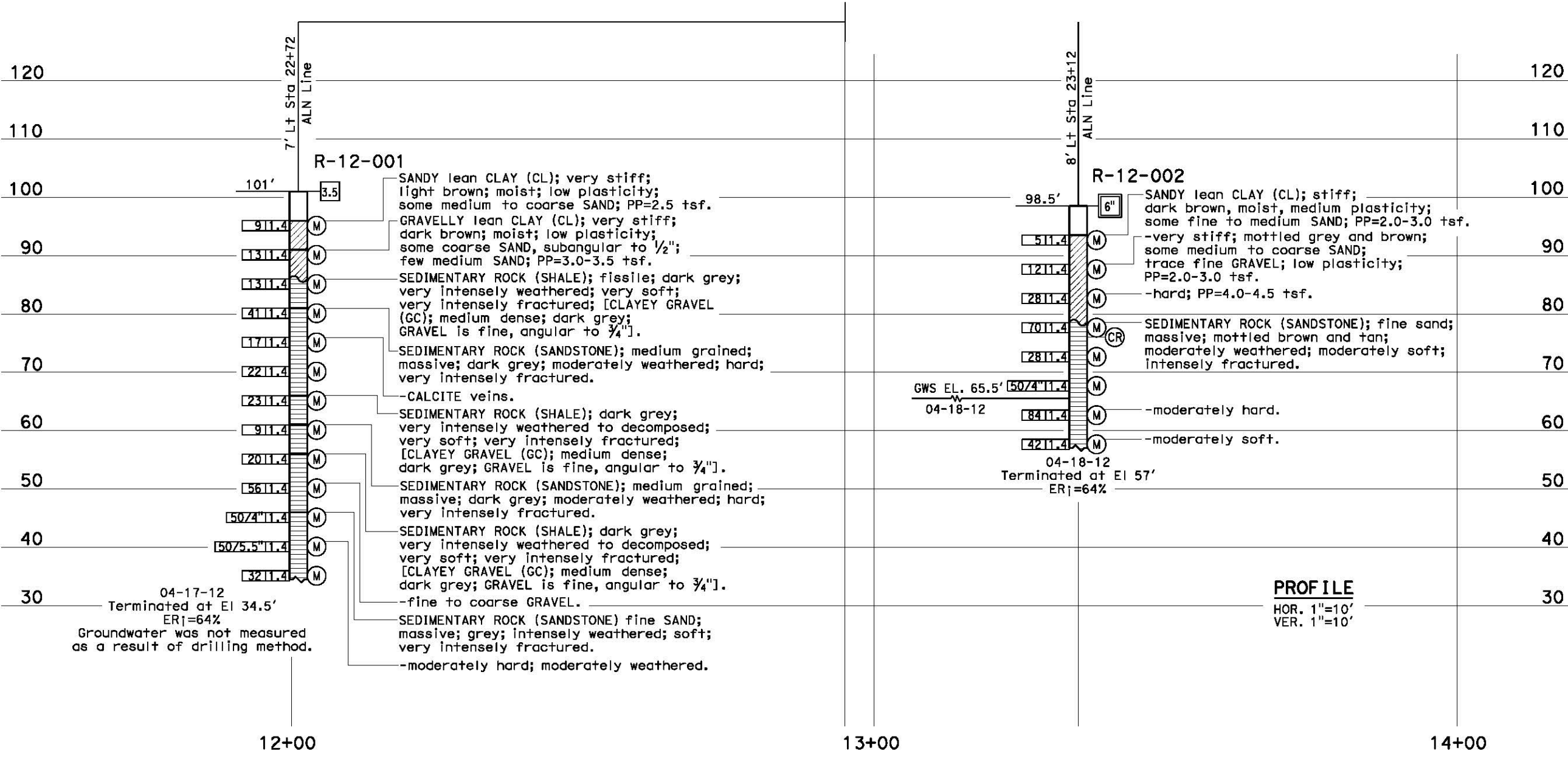
BENCH MARK

SUHV 5001
Located 13.5' north east of PM 19.64 marker
19.319' ft. Lt. of C of Hwy. 1
N 1,921,002.2580 E 6,246,125.5860 Elev. 102.939'



This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

NOTE: PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.



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Sample Plan Set

Secant Pile Wall

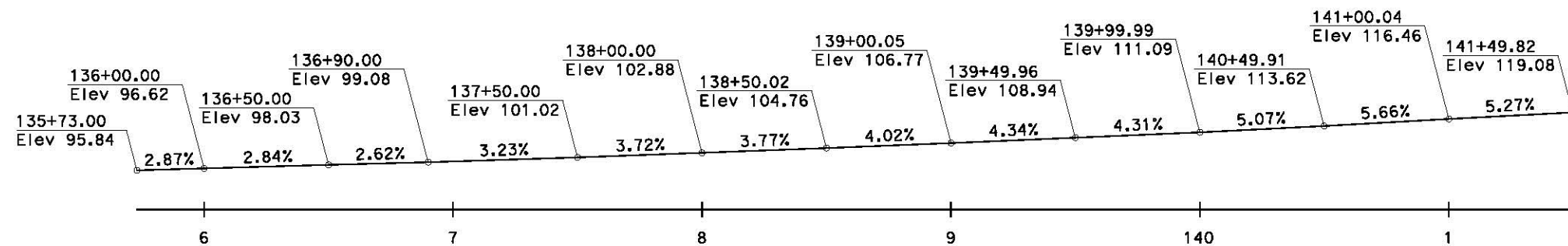
Links

Caltrans Standard Plans:

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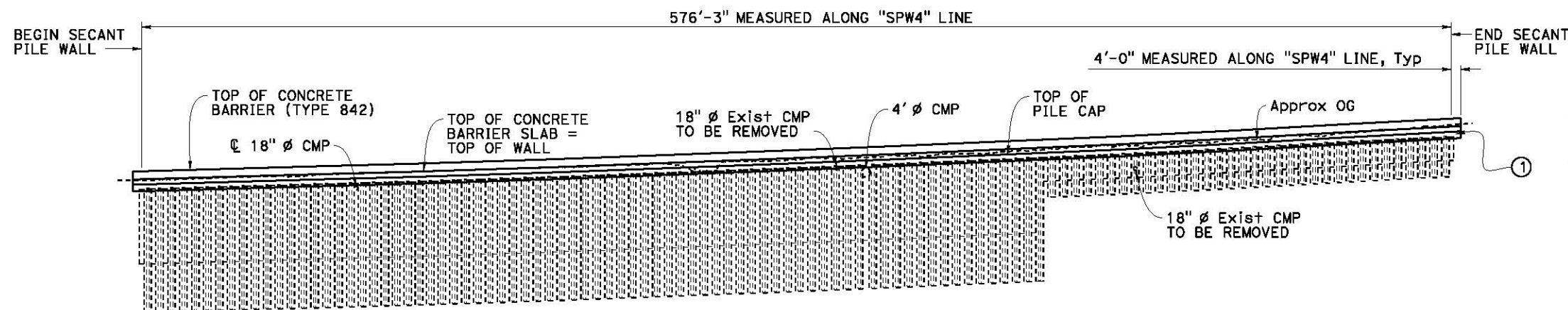
Caltrans Bridge Standard Details:

<https://dot.ca.gov/programs/engineering-services/manuals/bridge-standard-details>



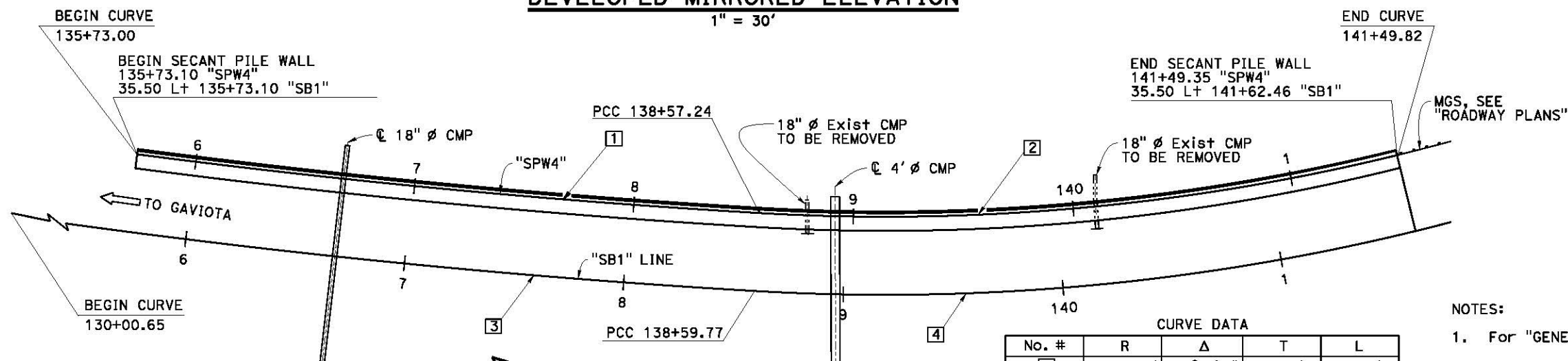
PROFILE GRADE
NO SCALE

Revised 8-9-23



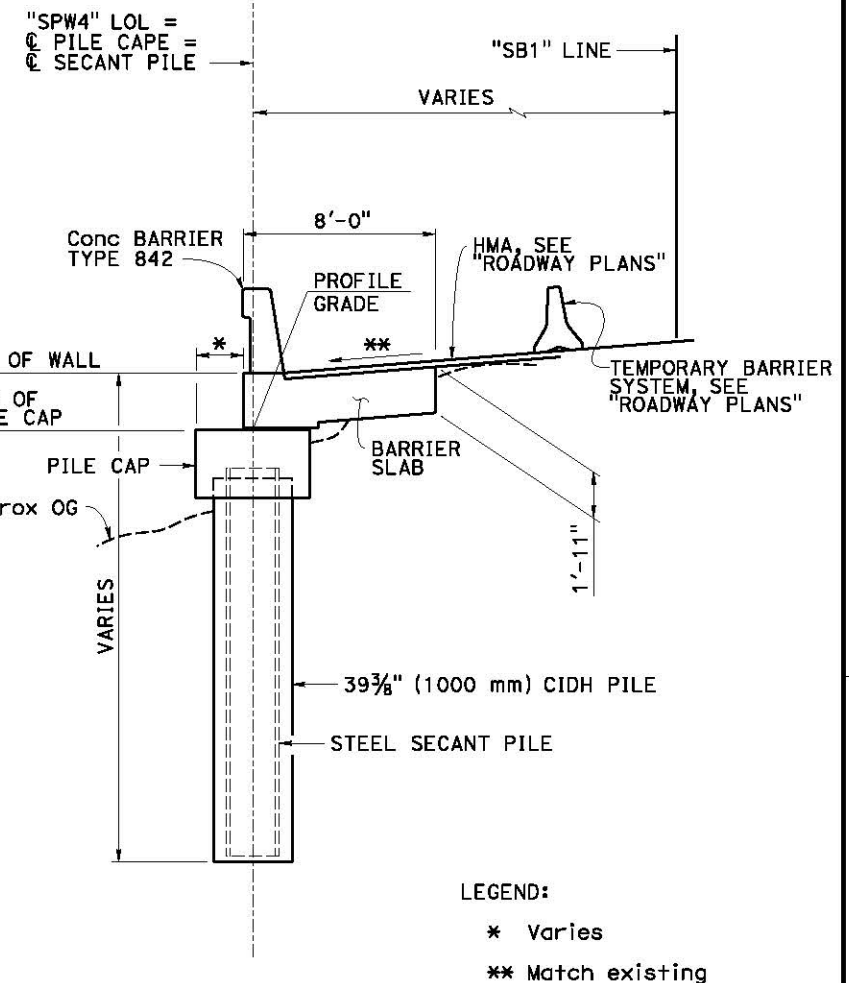
DATUM
Elev = 00.00

DEVELOPED MIRRORED ELEVATION
1" = 30'



PLAN
1" = 30'

CURVE DATA				
No. #	R	Δ	T	L
1	3,976.50'	04°05'44"	142.18'	284.24'
2	980.50'	17°05'50"	147.39'	292.58'
3	4,012.00'	12°16'09"	431.21'	859.13'
4	1,016.00'	19°06'48"	171.05'	338.93'



NOTE:
For additional typical sections, see "TYPICAL SECTION 1"
and "TYPICAL SECTION 2" sheets

TYPICAL SECTION
1/4" = 1'-0"

NOTES:

1. For "GENERAL NOTES" and "INDEX TO PLANS", see "INDEX TO PLANS" sheet.

① Paint "RETAINING WALL No. XXX"
Br. No. 51EXXX
Year constructed

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GENERAL NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 8th Edition with California Amendments, preface dated April 2019.

LIVE LOAD: Variable live load surcharge on level ground surface.

SOIL PARAMETERS: (For determination of active Design Lateral Earth Pressures of retained soil)

Backfill soil density = 120 pcf
Friction angle, $\phi = 35^\circ$
Wall Friction angle, $\alpha = 23^\circ$

(For determination of passive Design Lateral Earth Pressures in front of wall below FG)

Soil density = 120 pcf
Friction angle, $\phi = 35^\circ$

SEISMIC PARAMETERS: $k_h = 0.20$

STEEL SECANT PILES: $f_y = 50 \text{ ksi}$

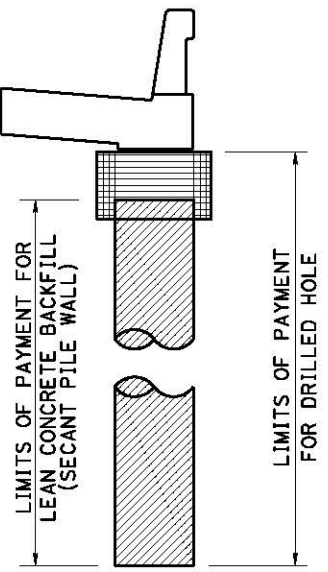
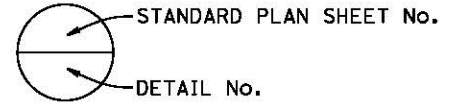
CONCRETE BACKFILL (SECANT PILE WALL): $f'_c = 4.00 \text{ ksi}$ (AT 28 DAYS)

LEAN CONCRETE BACKFILL (SECANT PILE WALL): 376 pounds of cementitious material per cubic yard

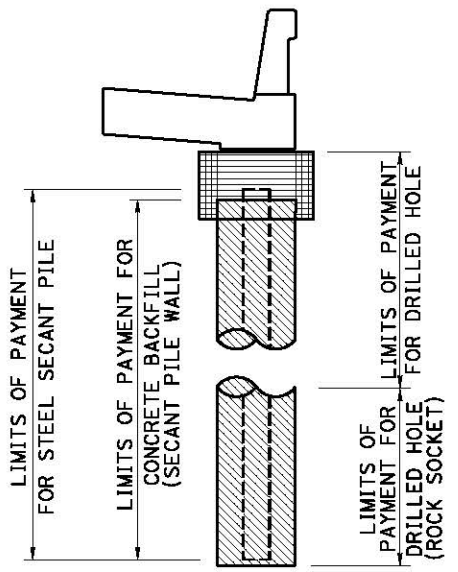
REINFORCED CONCRETE: $f'_c = 4.00 \text{ ksi}$
 $f_y = 60 \text{ ksi}$
 $n = 8$

INDEX TO PLANS

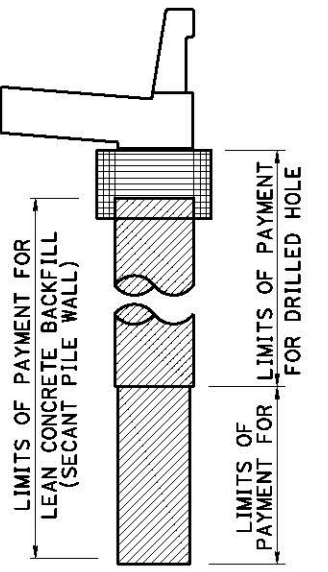
SHEET No.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	STRUCTURE PLAN No. 1
4	STRUCTURE PLAN No. 2
5	STRUCTURE PLAN No. 3
6	STRUCTURE PLAN No. 4
7	STRUCTURE PLAN No. 5
8	PILE LAYOUT No. 1
9	PILE LAYOUT No. 2
10	PILE DATA No. 1
11	PILE DATA No. 2
12	PILE DATA No. 3
13	TYPICAL SECTION No. 1
14	TYPICAL SECTION No. 2
15	HEAD WALL DETAILS No. 1
16	HEAD WALL DETAILS No. 2
17	CONCRETE BARRIER DETAILS



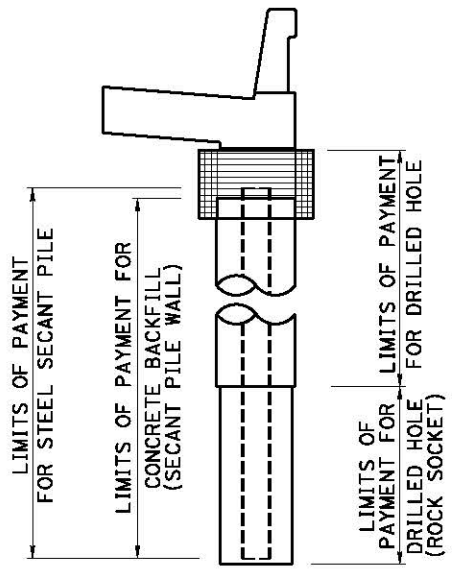
PRIMARY PILES



SECONDARY PILES



PRIMARY PILES



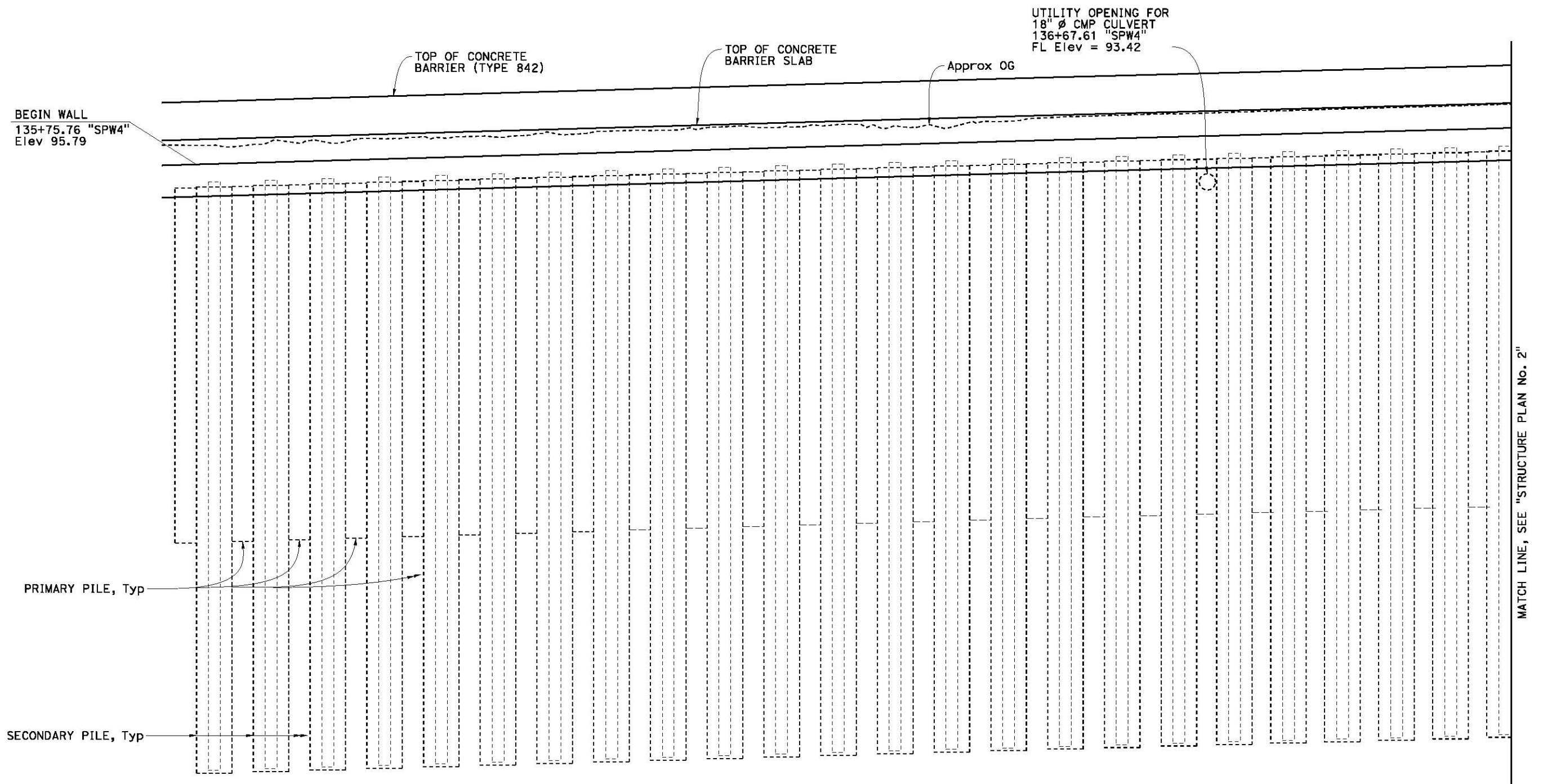
SECONDARY PILES

LEGEND:

CONCRETE BACKFILL (SECANT PILE WALL), $f'_c=4.00 \text{ ksi}$ (at 28 days)	STRUCTURAL CONCRETE, $f'_c=4.00 \text{ ksi}$ (at 28 days)
LEAN CONCRETE BACKFILL (SECANT PILE WALL) (376#/cy cementitious material)	STRUCTURAL EXCAVATION & BACKFILL

LIMITS OF CONCRETE TYPES, PAYMENT, EXCAVATION AND BACKFILL
NO SCALE

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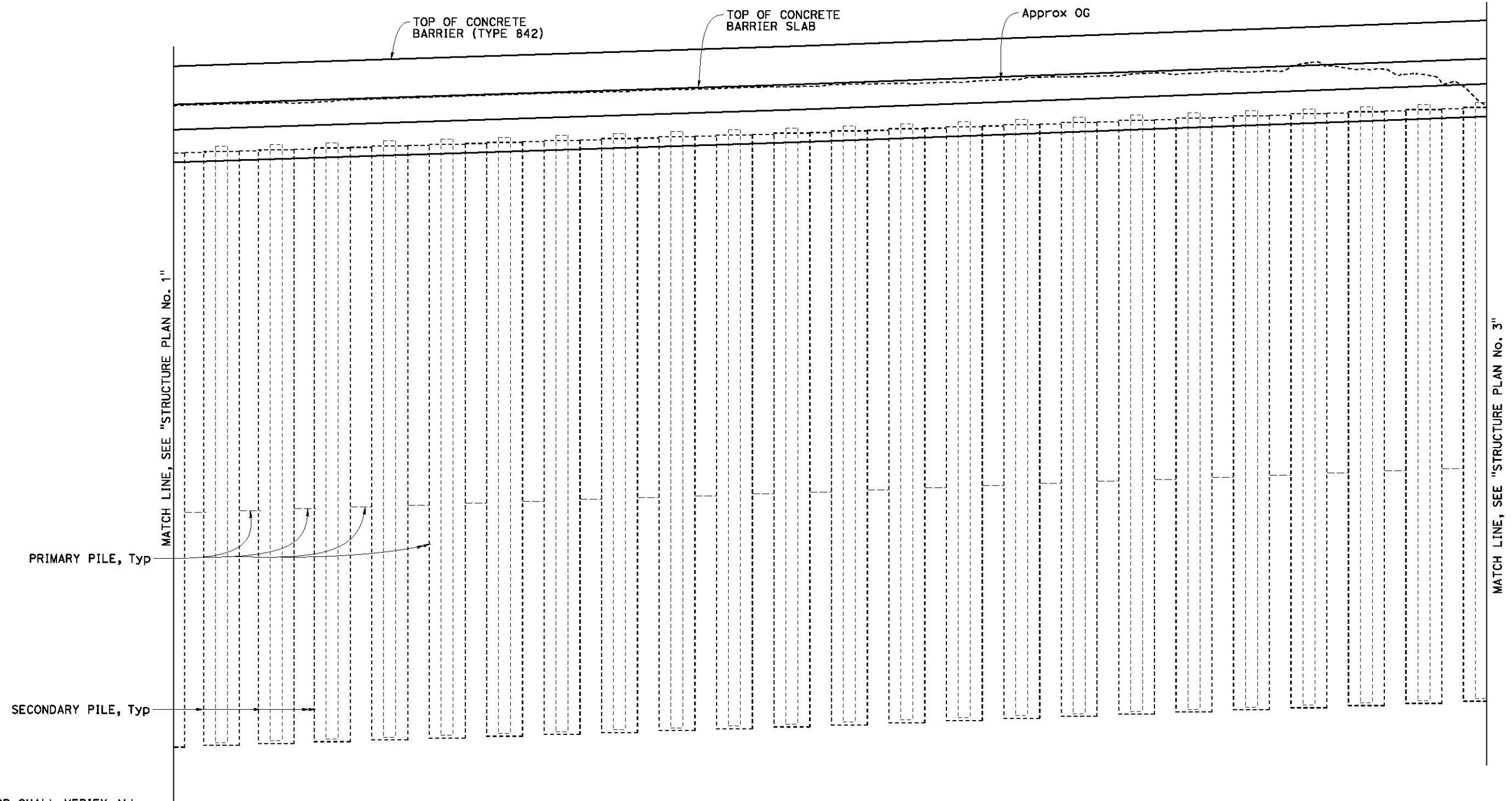


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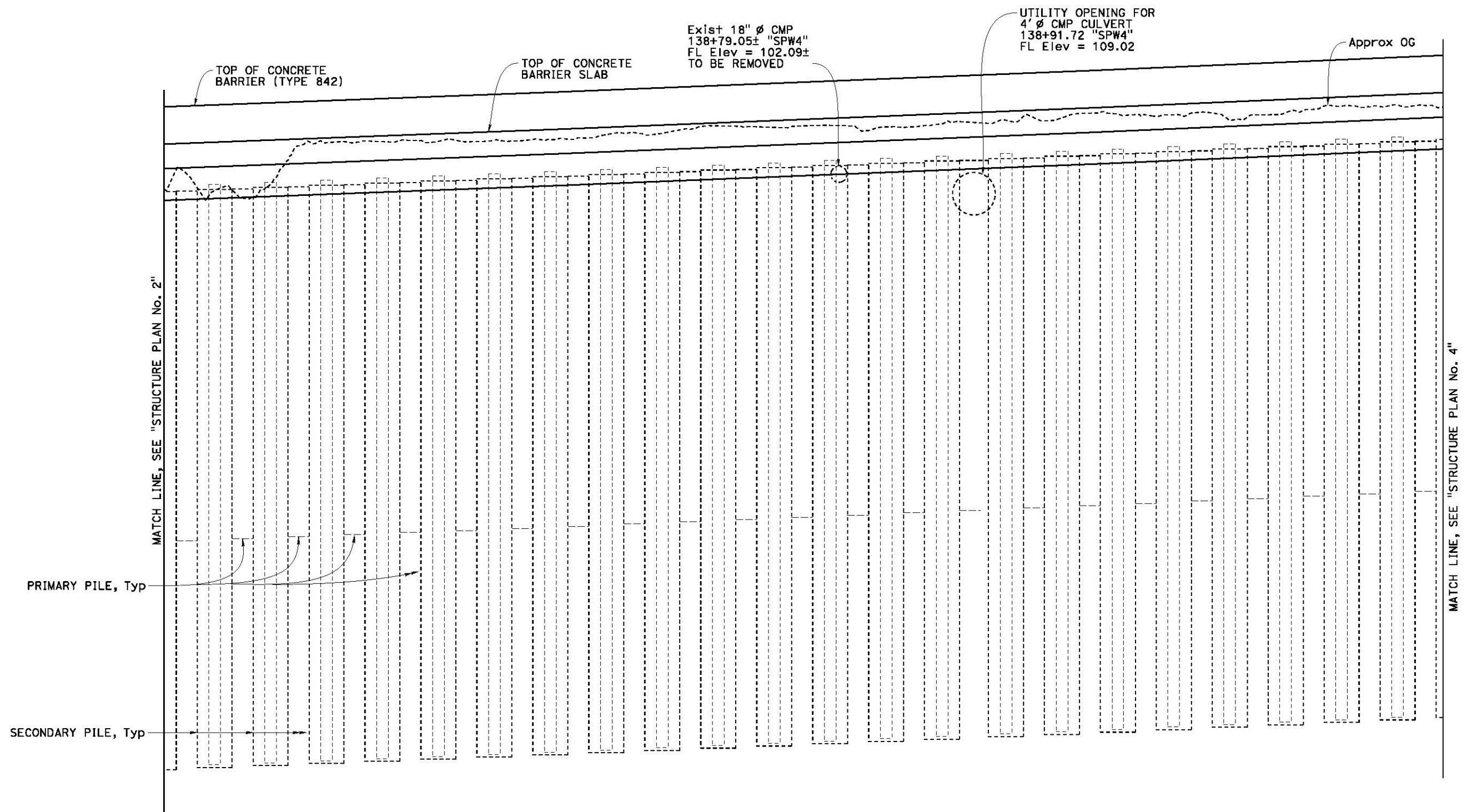
DEVELOPED MIRRORED ELEVATION

1" = 5'



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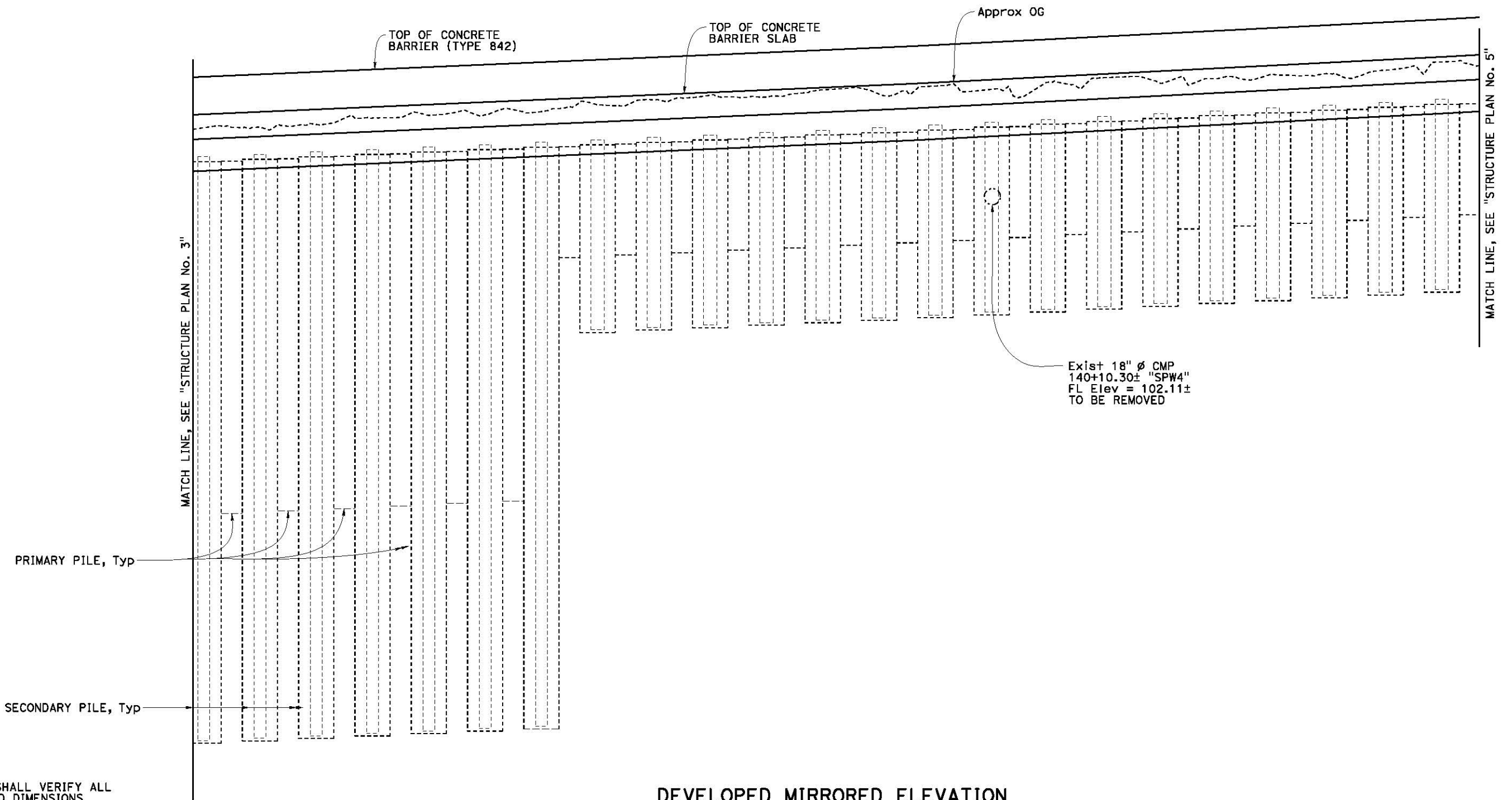


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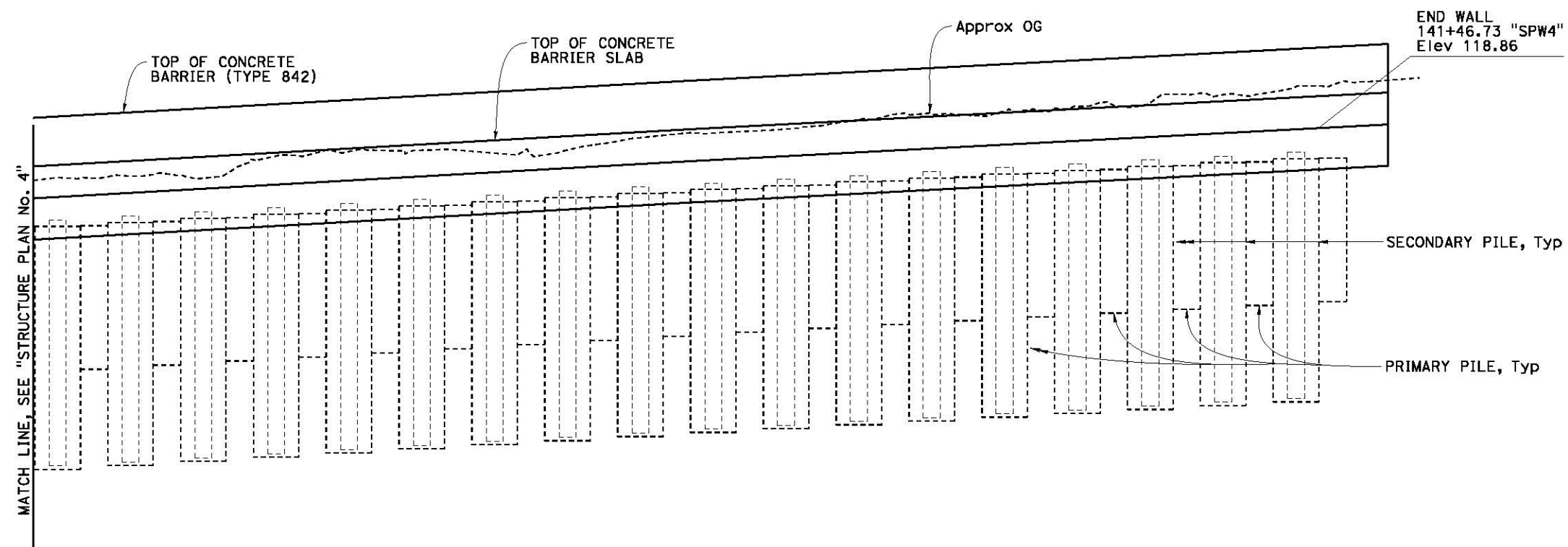
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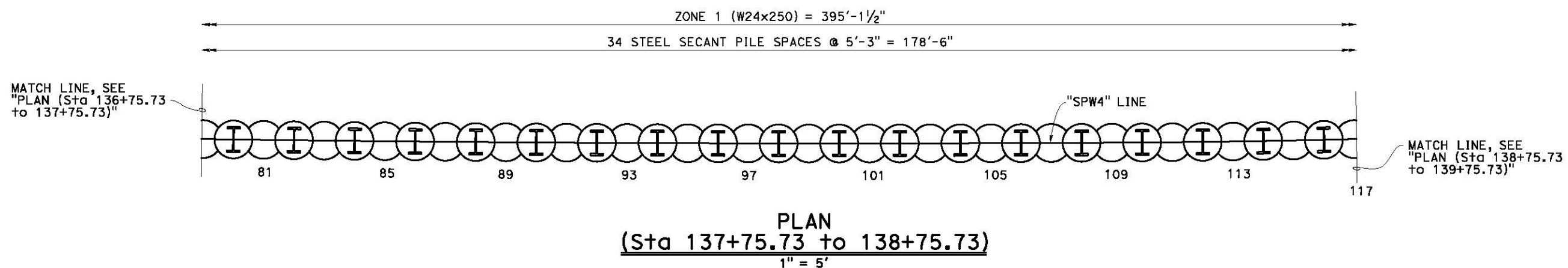
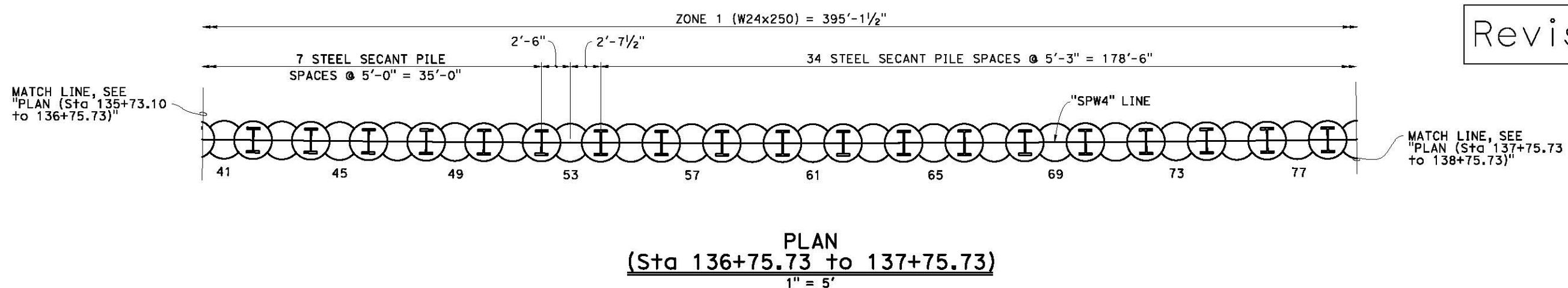
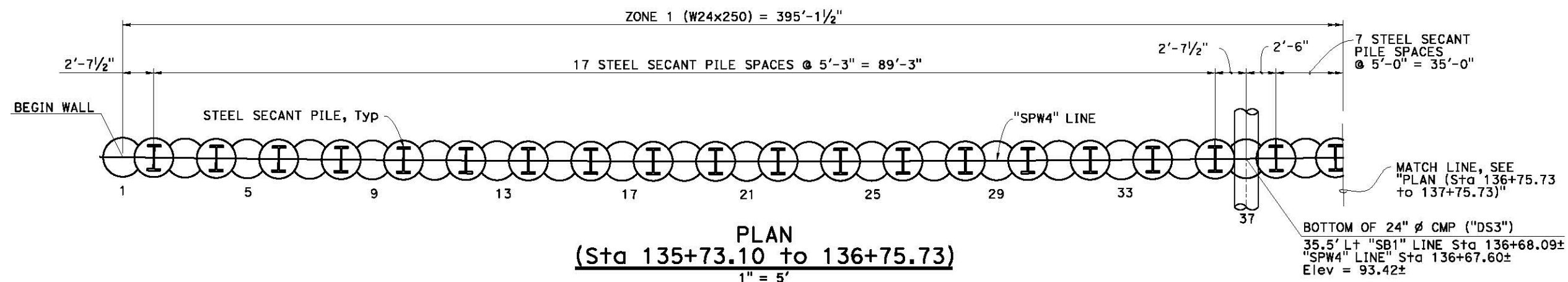
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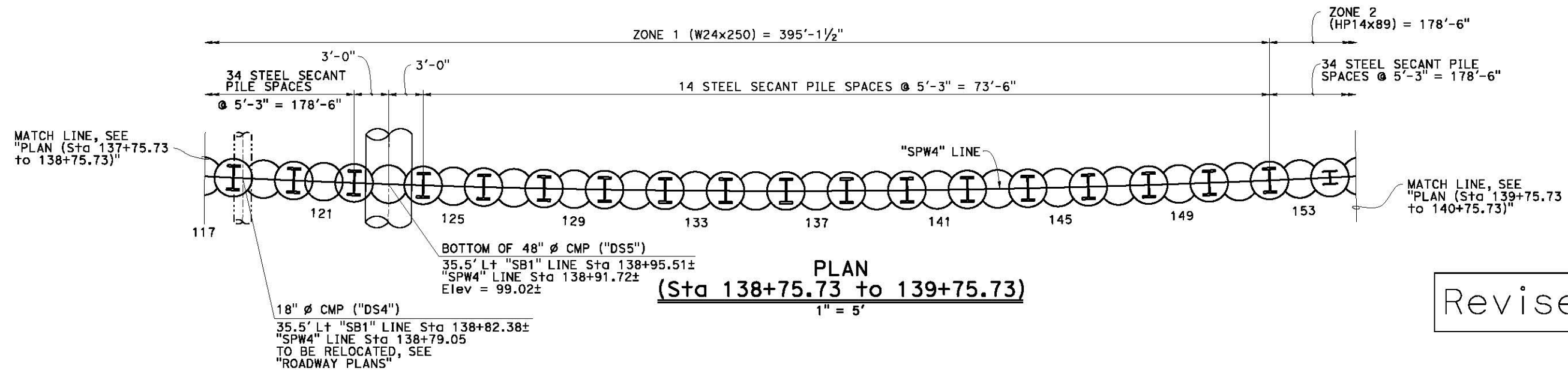
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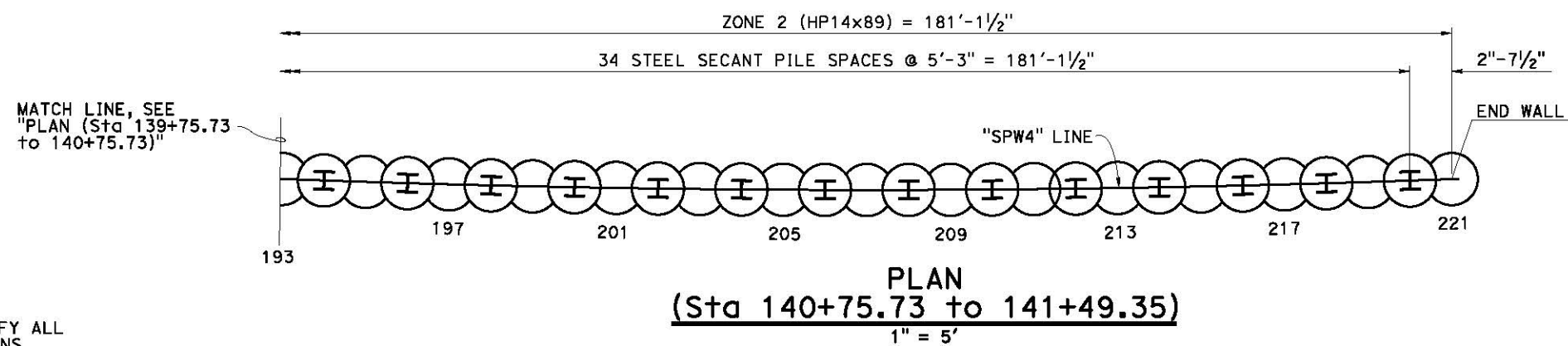
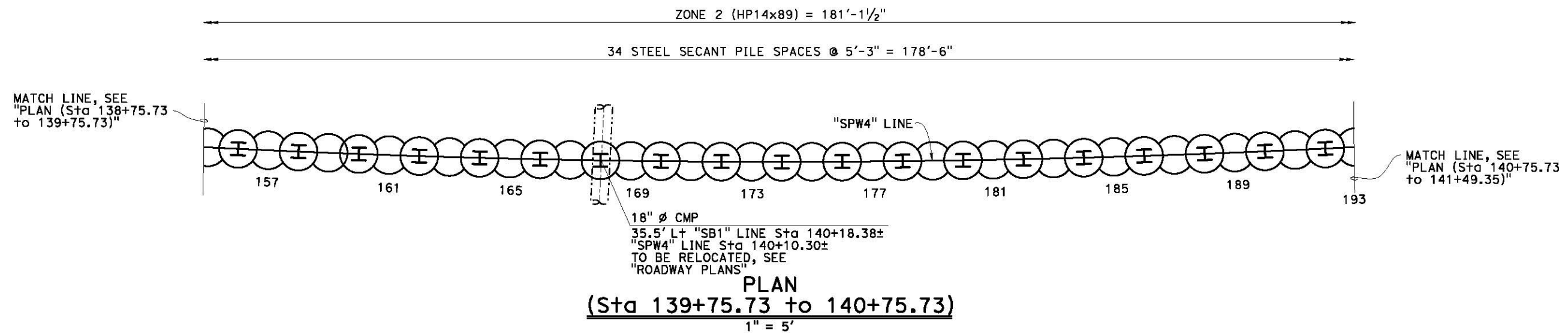
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Revised 8-4-23



Revised 8-4-23



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PRIMARY PILES - ZONE 1					
PILE NUMBER	STATION	TOP OF PILE CAP ELEV (ft)	CIDH CUT OFF ELEV (ft)	CIDH TIP ELEV (ft)	CIDH LENGTH (ft)
1	135+73.10	95.84	93.84	55.84	38.00
3	135+78.35	95.99	93.99	55.99	38.00
5	135+83.60	96.14	94.14	56.14	38.00
7	135+88.85	96.29	94.29	56.29	38.00
9	135+94.10	96.45	94.45	56.45	38.00
11	135+99.35	96.60	94.60	56.60	38.00
13	136+04.60	96.75	94.75	56.75	38.00
15	136+09.85	96.90	94.90	56.90	38.00
17	136+15.10	97.05	95.05	57.05	38.00
19	136+20.35	97.20	95.20	57.20	38.00
21	136+25.60	97.35	95.35	57.35	38.00
23	136+30.85	97.50	95.50	57.50	38.00
25	136+36.10	97.65	95.65	57.65	38.00
27	136+41.35	97.79	95.79	57.79	38.00
29	136+46.60	97.94	95.94	57.94	38.00
31	136+51.85	98.08	96.08	58.08	38.00
33	136+57.10	98.22	96.22	58.22	38.00
35	136+62.35	98.35	96.35	58.35	38.00
37	136+67.60	98.48	96.48	58.48	38.00
39	136+72.60	98.62	96.62	58.62	38.00
41	136+77.60	98.75	96.75	58.75	38.00
43	136+82.60	98.88	96.88	58.88	38.00
45	136+87.60	99.01	97.01	59.01	38.00
47	136+92.60	99.16	97.16	59.16	38.00
49	136+97.60	99.32	97.32	59.32	38.00
51	137+02.60	99.48	97.48	59.48	38.00
53	137+07.60	99.65	97.65	59.65	38.00
55	137+12.85	99.82	97.82	59.82	38.00
57	137+18.10	99.99	97.99	59.99	38.00
59	137+23.35	100.16	98.16	60.16	38.00
61	137+28.60	100.33	98.33	60.33	38.00
63	137+33.85	100.50	98.50	60.50	38.00
65	137+39.10	100.67	98.67	60.67	38.00
67	137+44.35	100.84	98.84	60.84	38.00
69	137+49.60	101.00	99.00	61.00	38.00
71	137+54.85	101.20	99.20	61.20	38.00
73	137+60.10	101.40	99.40	61.40	38.00
75	137+65.35	101.59	99.59	61.59	38.00
77	137+70.60	101.79	99.79	61.79	38.00

PRIMARY PILES - ZONE 1					
PILE NUMBER	STATION	TOP OF PILE CAP ELEV (ft)	CIDH CUT OFF ELEV (ft)	CIDH TIP ELEV (ft)	CIDH LENGTH (ft)
79	137+75.85	101.98	99.98	61.98	38.00
81	137+81.10	102.18	100.18	62.18	38.00
83	137+86.35	102.37	100.37	62.37	38.00
85	137+91.60	102.57	100.57	62.57	38.00
87	137+96.85	102.76	100.76	62.76	38.00
89	138+02.10	102.96	100.96	62.96	38.00
91	138+07.35	103.16	101.16	63.16	38.00
93	138+12.60	103.35	101.35	63.35	38.00
95	138+17.85	103.55	101.55	63.55	38.00
97	138+23.10	103.75	101.75	63.75	38.00
99	138+28.35	103.95	101.95	63.95	38.00
101	138+33.60	104.15	102.15	64.15	38.00
103	138+38.85	104.34	102.34	64.34	38.00
105	138+44.10	104.54	102.54	64.54	38.00
107	138+49.35	104.74	102.74	64.74	38.00
109	138+54.60	104.94	102.94	64.94	38.00
111	138+59.85	105.15	103.15	65.15	38.00
113	138+65.10	105.37	103.37	65.37	38.00
115	138+70.35	105.58	103.58	65.58	38.00
117	138+75.60	105.79	103.79	65.79	38.00
119	138+80.85	106.00	104.00	66.00	38.00
121	138+86.10	106.21	104.21	66.21	38.00
123	138+91.72	106.44	104.44	66.44	38.00
125	138+97.35	106.66	104.66	66.66	38.00
127	139+02.60	106.88	104.88	66.88	38.00
129	139+07.85	107.11	105.11	67.11	38.00
131	139+13.10	107.34	105.34	67.34	38.00
133	139+18.35	107.56	105.56	67.56	38.00
135	139+23.60	107.79	105.79	67.79	38.00
137	139+28.85	108.02	106.02	68.02	38.00
139	139+34.10	108.25	106.25	68.25	38.00
141	139+39.35	108.48	106.48	68.48	38.00
143	139+44.60	108.70	106.70	68.70	38.00
145	139+49.85	108.93	106.93	68.93	38.00
147	139+55.10	109.16	107.16	69.16	38.00
149	139+60.35	109.39	107.39	69.39	38.00
151	139+65.60	109.61	107.61	69.61	38.00
153	139+70.85	109.84	107.84	69.84	38.00

PRIMARY PILES - ZONE 2					
PILE NUMBER	STATION	TOP OF PILE CAP ELEV (ft)	CIDH CUT OFF ELEV (ft)	CIDH TIP ELEV (ft)	CIDH LENGTH (ft)
155	139+76.10	110.07	108.07	88.07	20.00
157	139+81.35	110.30	108.30	88.30	20.00
159	139+86.60	110.53	108.53	88.53	20.00
161	139+91.85	110.75	108.75	88.75	20.00
163	139+97.10	110.98	108.98	88.98	20.00
165	140+02.35	111.21	109.21	89.21	20.00
167	140+07.60	111.44	109.44	89.44	20.00
169	140+12.85	111.74	109.74	89.74	20.00
171	140+18.10	112.01	110.01	90.01	20.00
173	140+23.35	112.27	110.27	90.27	20.00
175	140+28.60	112.54	110.54	90.54	20.00
177	140+33.85	112.81	110.81	90.81	20.00
179	140+39.10	113.07	111.07	91.07	20.00
181	140+44.35	113.34	111.34	91.34	20.00
183	140+49.60	113.60	111.60	91.60	20.00
185	140+54.85	113.90	111.90	91.90	20.00
187	140+60.10	114.20	112.20	92.20	20.00
189	140+65.35	114.49	112.49	92.49	20.00
191	140+70.60	114.79	112.79	92.79	20.00
193	140+75.85	115.09	113.09	93.09	20.00
195	140+81.10	115.39	113.39	93.39	20.00
197	140+86.35	115.68	113.68	93.68	20.00
199	140+91.60	115.98	113.98	93.98	20.00
201	140+96.85	116.28	114.28	94.28	20.00
203	141+02.10	116.57	114.57	94.57	20.00
205	141+07.35	116.84	114.84	94.84	20.00
207	141+12.60	117.12	115.12	95.12	20.00
209	141+17.85	117.40	115.40	95.40	20.00
211	141+23.10	117.67	115.67	95.67	20.00
213	141+28.35	117.95	115.95	95.95	20.00
215	141+33.60	118.23	116.23	96.23	20.00
217	141+38.85	118.51	116.51	96.51	20.00
219	141+44.10	118.78	116.78	96.78	20.00
221	141+49.35	119.06	117.06	97.06	20.00

NOTE: Stations provided in tables are along the "SBW4" Line.

NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.

Revised 8-4-23

SECONDARY PILES - ZONE 1

PILE NUMBER	STATION	TOP OF PILE CAP ELEV (ft)	STEEL SECANT PILE CUT OFF ELEV (ft)	STEEL SECANT PILE TIP ELEV (ft)	STEEL SECANT PILE LENGTH (ft)	CIDH CUT OFF ELEV (ft)	CIDH TIP ELEV (ft)	CIDH LENGTH (ft)
2	135+75.72	95.92	94.33	34.33	60.00	93.92	34.08	59.83
4	135+80.97	96.07	94.49	34.49	60.00	94.07	34.24	59.83
6	135+86.22	96.22	94.64	34.64	60.00	94.22	34.39	59.83
8	135+91.47	96.37	94.79	34.79	60.00	94.37	34.54	59.83
10	135+96.72	96.52	94.94	34.94	60.00	94.52	34.69	59.83
12	136+01.97	96.68	95.09	35.09	60.00	94.68	34.84	59.83
14	136+07.22	96.83	95.24	35.24	60.00	94.83	34.99	59.83
16	136+12.47	96.97	95.39	35.39	60.00	94.97	35.14	59.83
18	136+17.72	97.12	95.54	35.54	60.00	95.12	35.29	59.83
20	136+22.97	97.27	95.69	35.69	60.00	95.27	35.44	59.83
22	136+28.22	97.42	95.84	35.84	60.00	95.42	35.59	59.83
24	136+33.47	97.57	95.99	35.99	60.00	95.57	35.74	59.83
26	136+38.72	97.72	96.14	36.14	60.00	95.72	35.89	59.83
28	136+43.97	97.87	96.29	36.29	60.00	95.87	36.04	59.83
30	136+49.22	98.02	96.43	36.43	60.00	96.02	36.18	59.83
32	136+54.47	98.15	96.56	36.56	60.00	96.15	36.31	59.83
34	136+59.72	98.28	96.70	36.70	60.00	96.28	36.45	59.83
36	136+64.97	98.42	96.83	36.83	60.00	96.42	36.58	59.83
38	136+70.10	98.55	96.96	36.96	60.00	96.55	36.71	59.83
40	136+75.10	98.68	97.09	37.09	60.00	96.68	36.84	59.83
42	136+80.10	98.81	97.23	37.23	60.00	96.81	36.98	59.83
44	136+85.10	98.94	97.36	37.36	60.00	96.94	37.11	59.83
46	136+90.10	99.07	97.49	37.49	60.00	97.07	37.24	59.83
48	136+95.10	99.23	97.65	37.65	60.00	97.23	37.40	59.83
50	137+00.10	99.39	97.81	37.81	60.00	97.39	37.56	59.83
52	137+05.10	99.56	97.98	37.98	60.00	97.56	37.73	59.83
54	137+10.22	99.73	98.15	38.15	60.00	97.73	37.90	59.83
56	137+15.47	99.90	98.32	38.32	60.00	97.90	38.07	59.83
58	137+20.72	100.07	98.49	38.49	60.00	98.07	38.24	59.83
60	137+25.97	100.24	98.66	38.66	60.00	98.24	38.41	59.83
62	137+31.22	100.41	98.83	38.83	60.00	98.41	38.58	59.83
64	137+36.47	100.58	99.00	39.00	60.00	98.58	38.75	59.83
66	137+41.72	100.75	99.17	39.17	60.00	98.75	38.92	59.83
68	137+46.97	100.92	99.34	39.34	60.00	98.92	39.09	59.83
70	137+52.22	101.10	99.52	39.52	60.00	99.10	39.27	59.83
72	137+57.47	101.30	99.71	39.71	60.00	99.30	39.46	59.83
74	137+62.72	101.49	99.91	39.91	60.00	99.49	39.66	59.83
76	137+67.97	101.69	100.11	40.11	60.00	99.69	39.86	59.83
78	137+73.22	101.88	100.30	40.30	60.00	99.88	40.05	59.83

SECONDARY PILES - ZONE 1

PILE NUMBER	STATION	TOP OF PILE CAP ELEV (ft)	STEEL SECANT PILE CUT OFF ELEV (ft)	STEEL SECANT PILE TIP ELEV (ft)	STEEL SECANT PILE LENGTH (ft)	CIDH CUT OFF ELEV (ft)	CIDH TIP ELEV (ft)	CIDH LENGTH (ft)
80	137+78.47	102.08	100.50	40.50	60.00	100.08	40.25	59.83
82	137+83.72	102.27	100.69	40.69	60.00	100.27	40.44	59.83
84	137+88.97	102.47	100.89	40.89	60.00	100.47	40.64	59.83
86	137+94.22	102.66	101.08	41.08	60.00	100.66	40.83	59.83
88	137+99.47	102.86	101.28	41.28	60.00	100.86	41.03	59.83
90	138+04.72	103.06	101.47	41.47	60.00	101.06	41.22	59.83
92	138+09.97	103.26	101.67	41.67	60.00	101.26	41.42	59.83
94	138+15.22	103.45	101.87	41.87	60.00	101.45	41.62	59.83
96	138+20.47	103.65	102.07	42.07	60.00	101.65	41.82	59.83
98	138+25.72	103.85	102.27	42.27	60.00	101.85	42.02	59.83
100	138+30.97	104.05	102.46	42.46	60.00	102.05	42.21	59.83
102	138+36.22	104.25	102.66	42.66	60.00	102.25	42.41	59.83
104	138+41.47	104.44	102.86	42.86	60.00	102.44	42.61	59.83
106	138+46.72	104.64	103.06	43.06	60.00	102.64	42.81	59.83
108	138+51.97	104.84	103.26	43.26	60.00	102.84	43.01	59.83
110	138+57.22	105.05	103.47	43.47	60.00	103.05	43.22	59.83
112	138+62.47	105.26	103.68	43.68	60.00	103.26	43.43	59.83
114	138+67.72	105.47	103.89	43.89	60.00	103.47	43.64	59.83
116	138+72.97	105.68	104.10	44.10	60.00	103.68	43.85	59.83
118	138+78.22	105.89	104.31	44.31	60.00	103.89	44.06	59.83
120	138+83.47	106.10	104.52	44.52	60.00	104.10	44.27	59.83
122	138+88.72	106.32	104.73	44.73	60.00	104.32	44.48	59.83
124	138+94.72	106.56	104.97	44.97	60.00	104.56	44.72	59.83
126	138+99.97	106.77	105.18	45.18	60.00	104.77	44.93	59.83
128	139+05.22	106.99	105.41	45.41	60.00	104.99	45.16	59.83
130	139+10.47	107.22	105.64	45.64	60.00	105.22	45.39	59.83
132	139+15.72	107.45	105.87	45.87	60.00	105.45	45.62	59.83
134	139+20.97	107.68	106.09	46.09	60.00	105.68	45.84	59.83
136	139+26.22	107.91	106.32	46.32	60.00	105.91	46.07	59.83
138	139+31.47	108.13	106.55	46.55	60.00	106.13	46.30	59.83
140	139+36.72	108.36	106.78	46.78	60.00	106.36	46.53	59.83
142	139+41.97	108.59	107.01	47.01	60.00	106.59	46.76	59.83
144	139+47.22	108.82	107.23	47.23	60.00	106.82	46.98	59.83
146	139+52.47	109.05	107.46	47.46	60.00	107.05	47.21	59.83
148	139+57.72	109.27	107.69	47.69	60.00	107.27	47.44	59.83
150	139+62.97	109.50	107.92	47.92	60.00	107.50	47.67	59.83
152	139+68.22	109.73	108.15	48.15	60.00	107.73	47.90	59.83

NOTE: Stations provided in tables are along the "SBW4" Line.

NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.

Revised 8-9-23

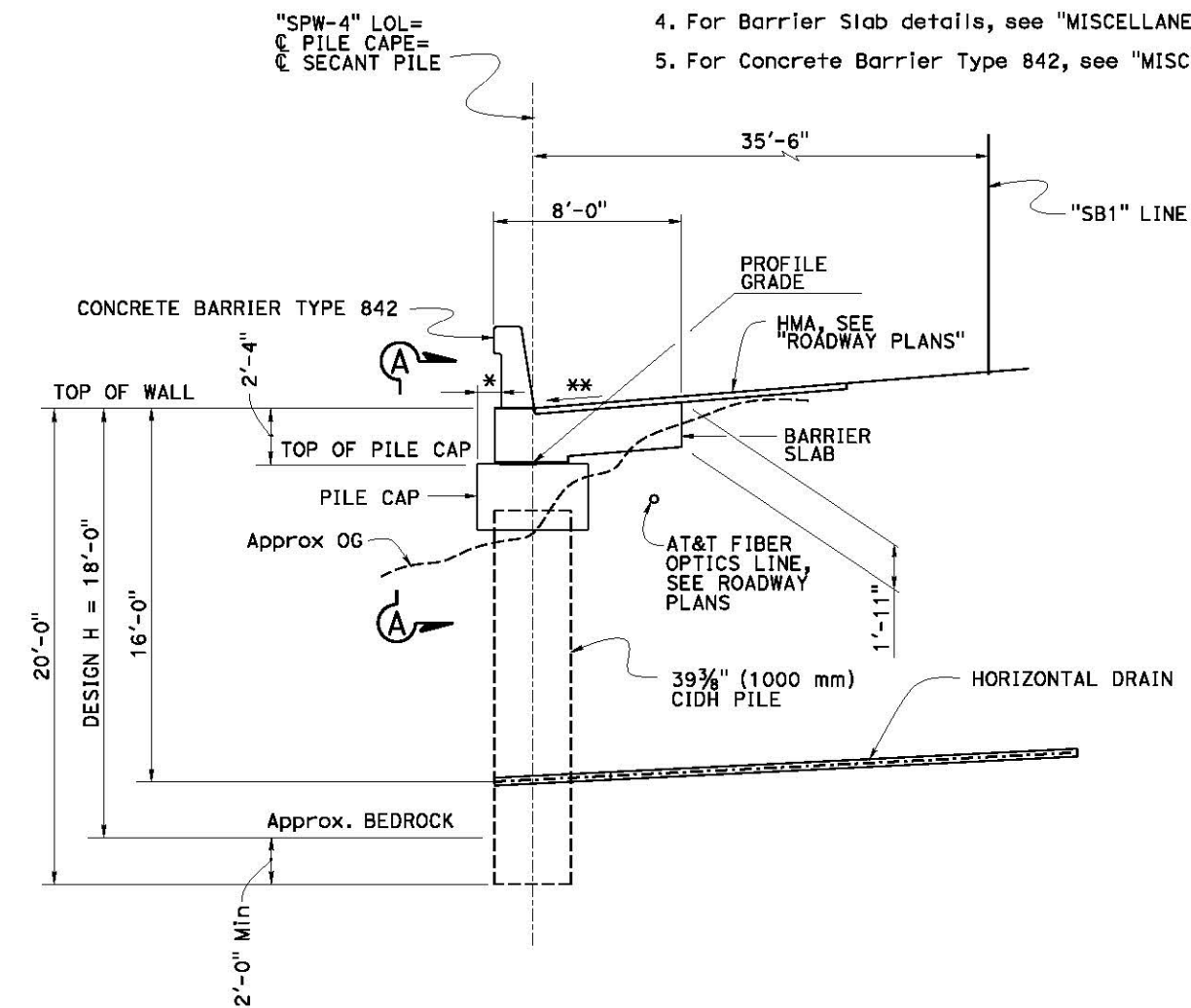
SECONDARY PILES - ZONE 2								
PILE NUMBER	STATION	TOP OF PILE CAP ELEV (ft)	STEEL SECANT PILE CUT OFF ELEV (ft)	STEEL SECANT PILE TIP ELEV (ft)	STEEL SECANT PILE LENGTH (ft)	CIDH CUT OFF ELEV (ft)	CIDH TIP ELEV (ft)	CIDH LENGTH (ft)
154	139+73.47	109.96	108.37	80.37	28.00	107.96	80.12	27.83
156	139+78.72	110.18	108.60	80.60	28.00	108.18	80.35	27.83
158	139+83.97	110.41	108.83	80.83	28.00	108.41	80.58	27.83
160	139+89.22	110.64	109.06	81.06	28.00	108.64	80.81	27.83
162	139+94.47	110.87	109.28	81.28	28.00	108.87	81.03	27.83
164	139+99.72	111.10	109.51	81.51	28.00	109.10	81.26	27.83
166	140+04.97	111.32	109.74	81.74	28.00	109.32	81.49	27.83
168	140+10.22	111.61	110.03	82.03	28.00	109.61	81.78	27.83
170	140+15.47	111.87	110.29	82.29	28.00	109.87	82.04	27.83
172	140+20.72	112.14	110.56	82.56	28.00	110.14	82.31	27.83
174	140+25.97	112.41	110.82	82.82	28.00	110.41	82.57	27.83
176	140+31.22	112.67	111.09	83.09	28.00	110.67	82.84	27.83
178	140+36.47	112.94	111.36	83.36	28.00	110.94	83.11	27.83
180	140+41.72	113.21	111.62	83.62	28.00	111.21	83.37	27.83
182	140+46.97	113.47	111.89	83.89	28.00	111.47	83.64	27.83
184	140+52.22	113.75	112.17	84.17	28.00	111.75	83.92	27.83
186	140+57.47	114.05	112.46	84.46	28.00	112.05	84.21	27.83
188	140+62.72	114.35	112.76	84.76	28.00	112.35	84.51	27.83
190	140+67.97	114.64	113.06	85.06	28.00	112.64	84.81	27.83
192	140+73.22	114.94	113.36	85.36	28.00	112.94	85.11	27.83
194	140+78.47	115.24	113.65	85.65	28.00	113.24	85.40	27.83
196	140+83.72	115.53	113.95	85.95	28.00	113.53	85.70	27.83
198	140+88.97	115.83	114.25	86.25	28.00	113.83	86.00	27.83
200	140+94.22	116.13	114.54	86.54	28.00	114.13	86.29	27.83
202	140+99.47	116.43	114.84	86.84	28.00	114.43	86.59	27.83
204	141+04.72	116.71	115.12	87.12	28.00	114.71	86.87	27.83
206	141+09.97	116.98	115.40	87.40	28.00	114.98	87.15	27.83
208	141+15.22	117.26	115.68	87.68	28.00	115.26	87.43	27.83
210	141+20.47	117.54	115.95	87.95	28.00	115.54	87.70	27.83
212	141+25.72	117.81	116.23	88.23	28.00	115.81	87.98	27.83
214	141+30.97	118.09	116.51	88.51	28.00	116.09	88.26	27.83
216	141+36.22	118.37	116.78	88.78	28.00	116.37	88.53	27.83
218	141+41.47	118.64	117.06	89.06	28.00	116.64	88.81	27.83
220	141+46.72	118.92	117.34	89.34	28.00	116.92	89.09	27.83

NOTE:
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NOTE: Stations provided in tables are along the "SBW4" Line.

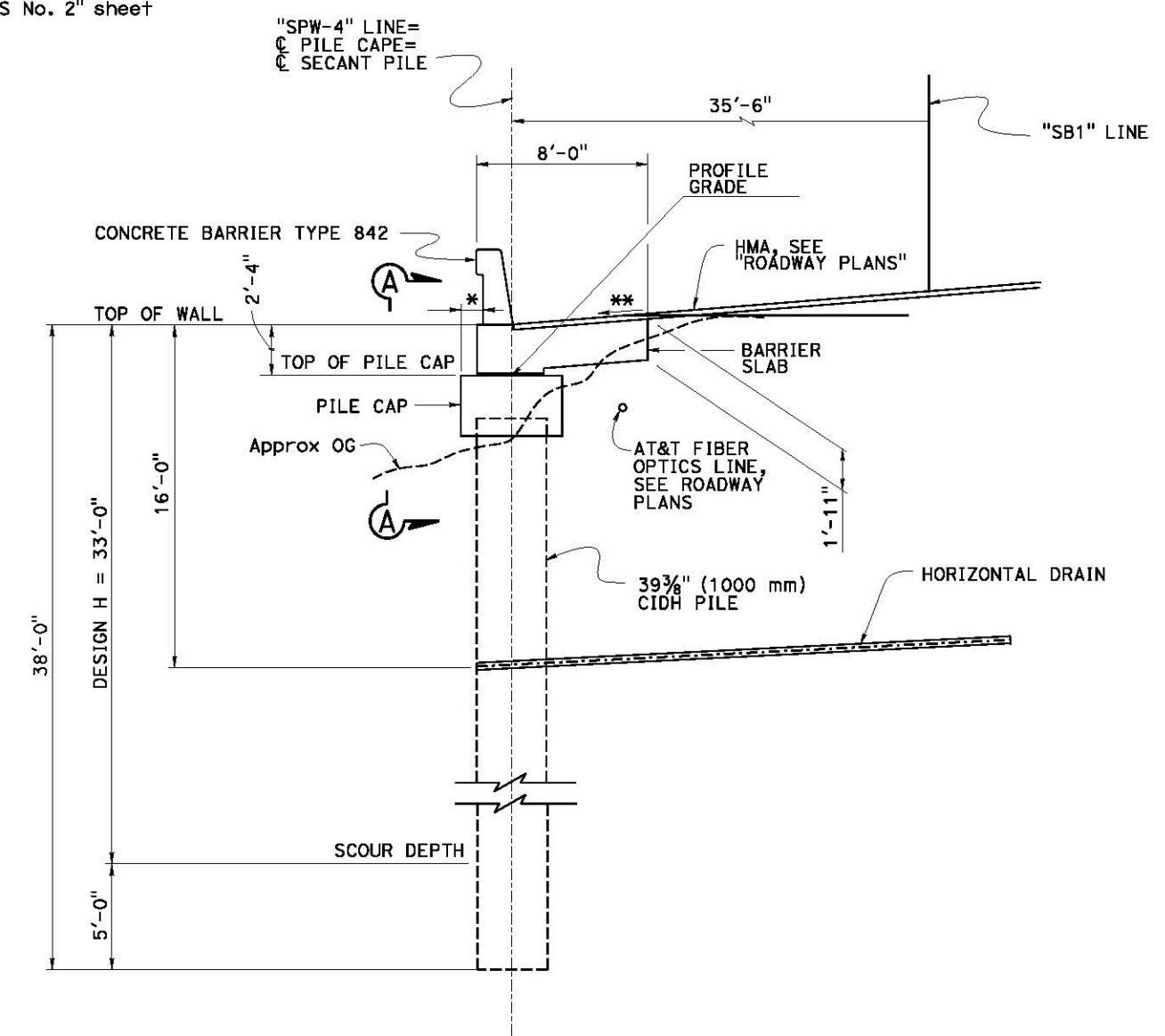
8-15-23

- NOTES:
- 1. For details not shown, see "SECONDARY SECANT PILE, TYPICAL SECTION" details
 - 2. For Horizontal Drain details, see "HORIZONTAL DRAIN DETAILS" on "MISCELLANEOUS DETAILS NO. 2" sheet
 - 3. For "VIEW A-A", see "MISCELLANEOUS DETAILS NO. 1" sheet
 - 4. For Barrier Slab details, see "MISCELLANEOUS DETAILS No. 2" sheet
 - 5. For Concrete Barrier Type 842, see "MISCELLANEOUS DETAILS No. 2" sheet



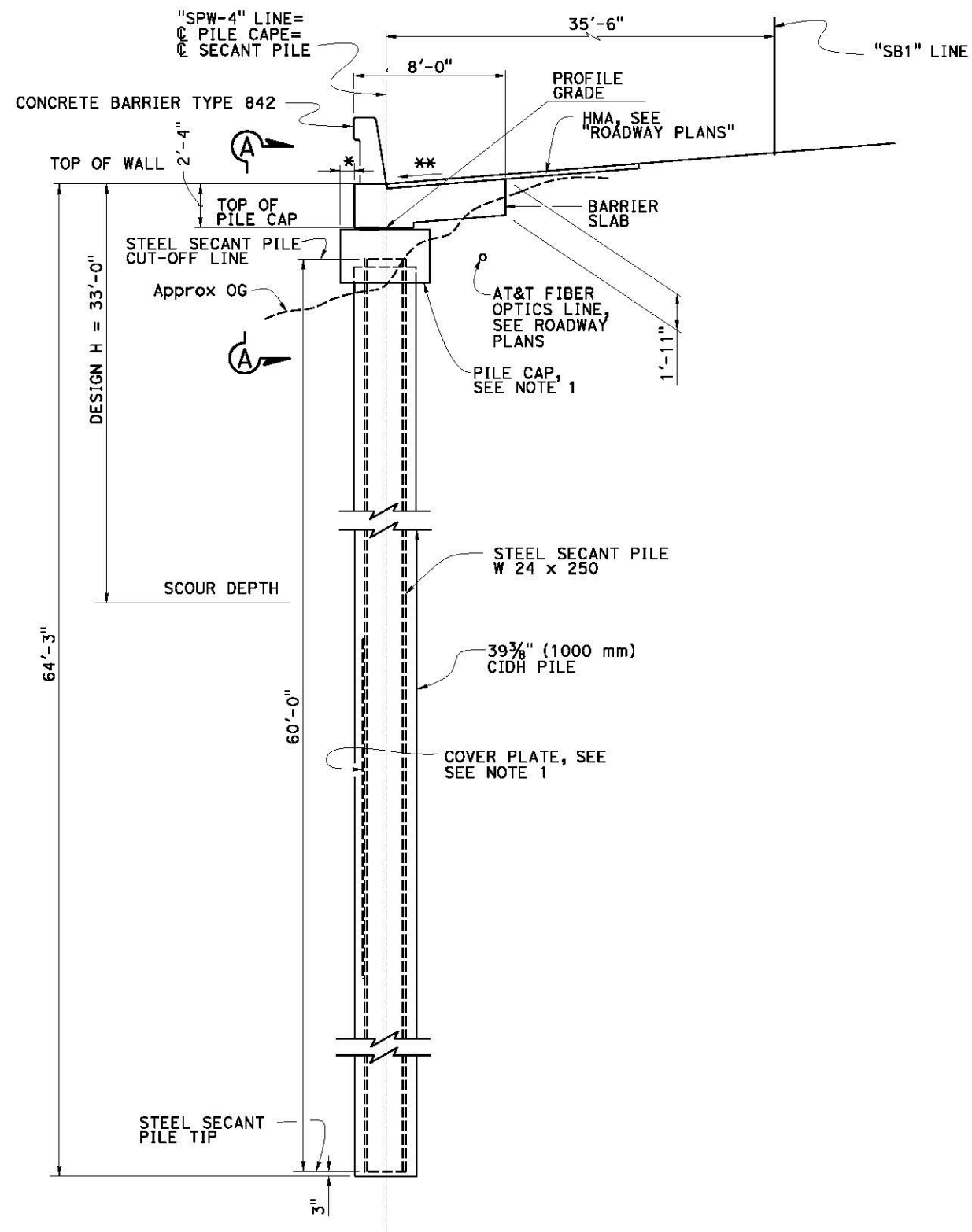
TYPICAL SECTION
1/4" = 1'-0"
PRIMARY SECANT PILE
Sta 135+73.10 to 139+74.00

LEGEND:
* - Varies 3-0 3/4" to 9 5/8" Max
** - 10%± Max & VARIES, MATCH EXISTING



TYPICAL SECTION
1/4" = 1'-0"
PRIMARY SECANT PILE
Sta 139+74.00 to 141+49.35

NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.

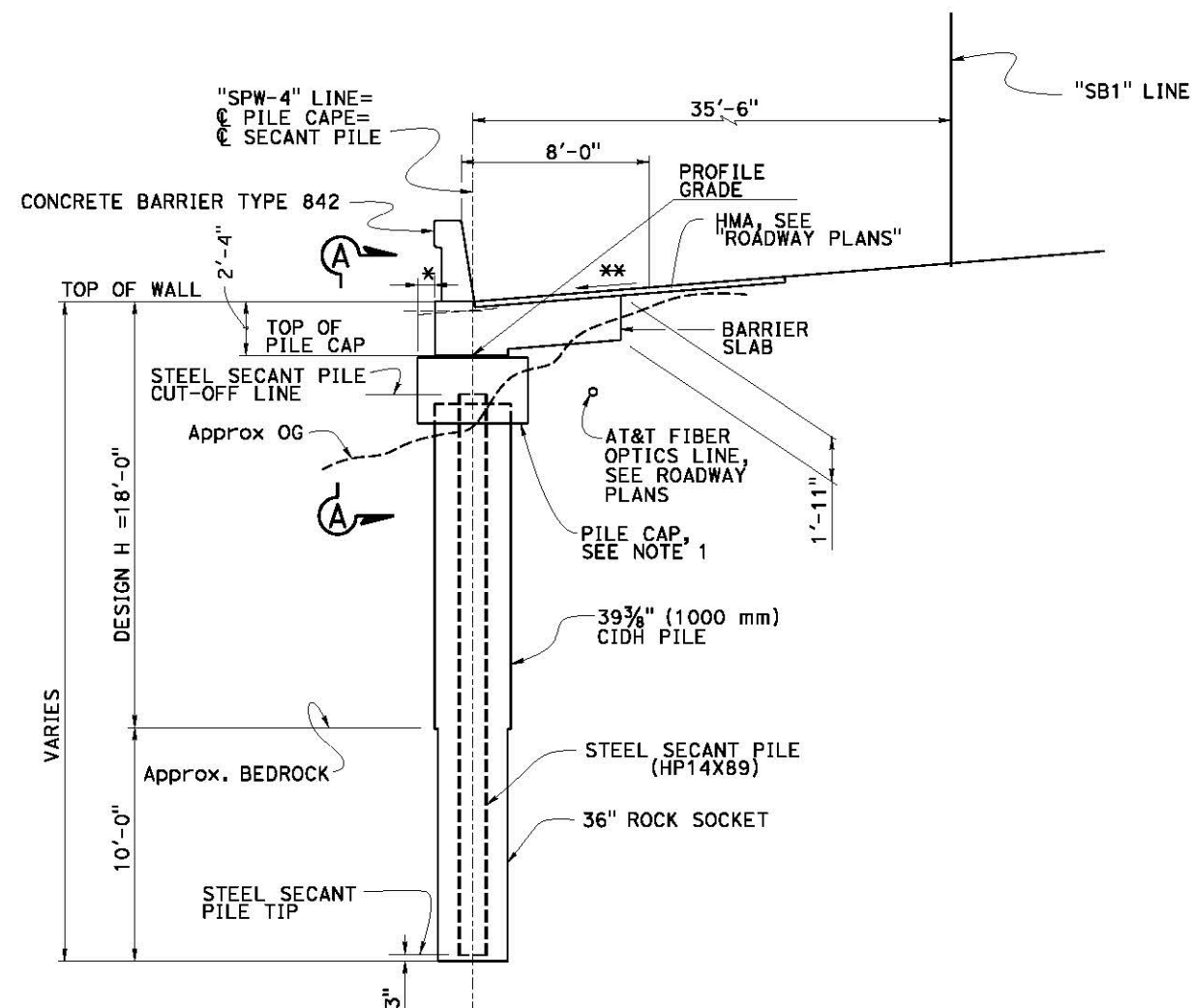


TYPICAL SECTION
 $\frac{1}{4}" = 1' - 0"$
SECONDARY SECANT PILE
 Sta 135+75.72 to 139+74.00

* - Varies 3-0³/₄" to 9⁵/₈" Max
** - 10%± Max & VARIES, MATCH EXISTING

NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.

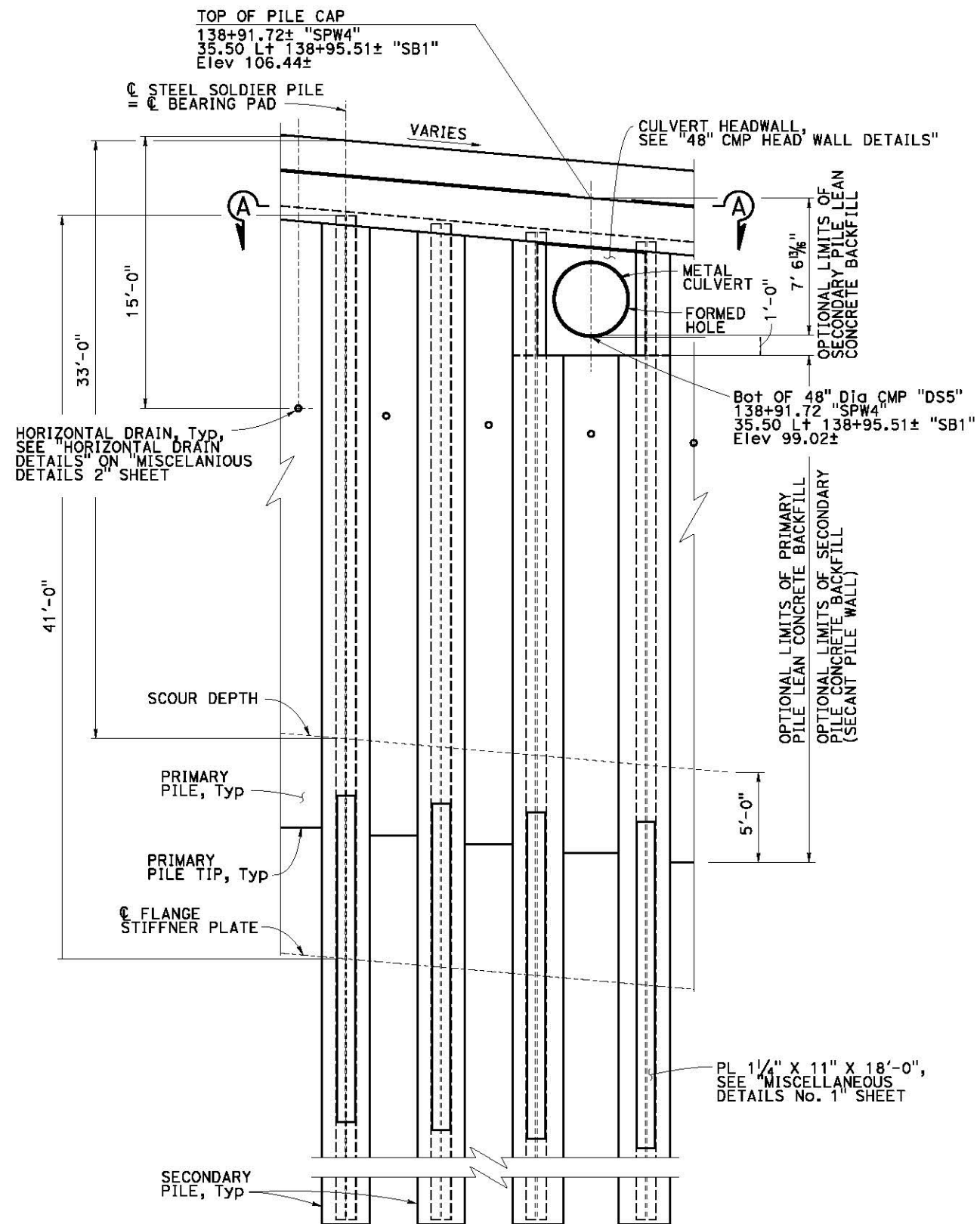
- NOTES:
1. For Pile Cap details, see "PILE CAP DETAIL", for Cover Plate, see "COVER PLATE" on "MISCELLANEOUS DETAILS NO. 1" sheet
 2. For "VIEW A-A", see "MISCELLANEOUS DETAILS NO. 1" sheet
 3. For Barrier Slab details, see "MISCELLANEOUS DETAILS No. 2" sheet
 4. For Concrete Barrier Type 842, see "MISCELLANEOUS DETAILS No. 2" sheet



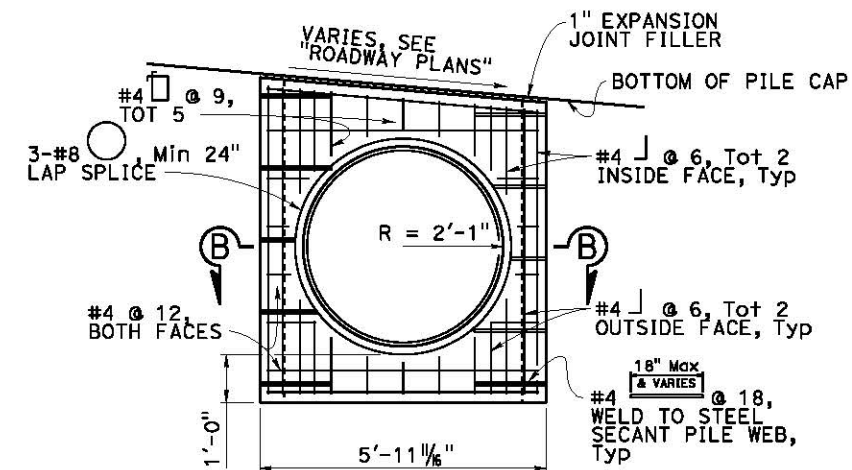
TYPICAL SECTION
1" = 1'-0"

SECONDARY SECANT PILE
Sta 139+74.00 to 141+46.72

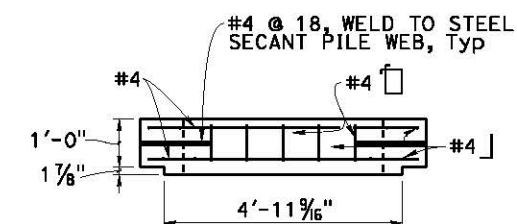
Sta 139+74.00 to 141+46.72



PART ELEVATION @ 48" CULVERT
1/4" = 1'-0"

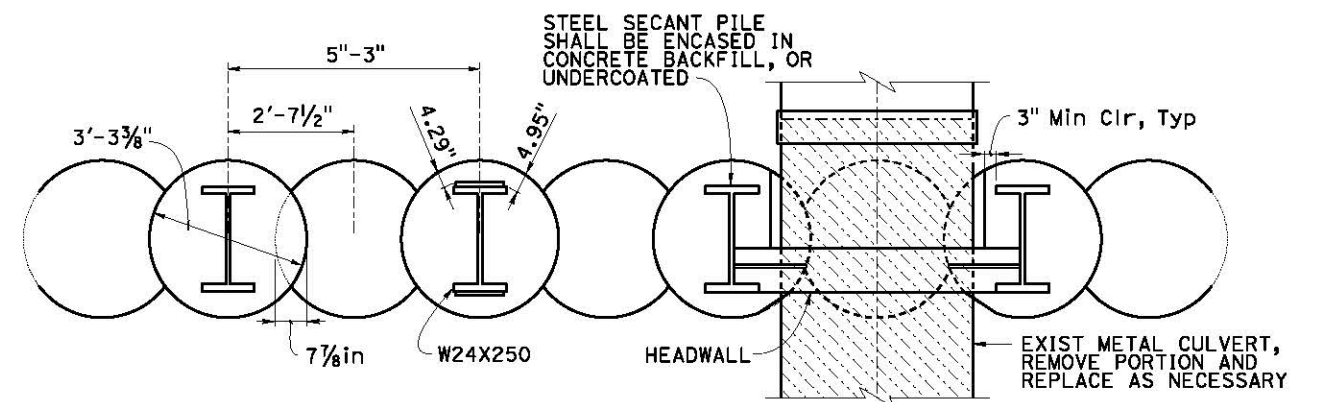


MIRRORED ELEVATION



SECTION B-B

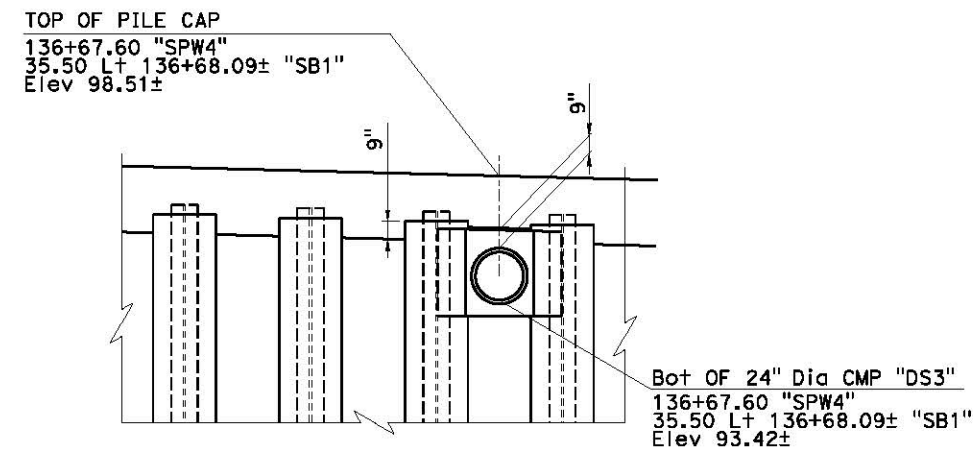
48" CMP CULVERT HEAD WALL DETAILS
1/2" = 1'-0"



PART PLAN @ 48" DRAIN HEADWALL

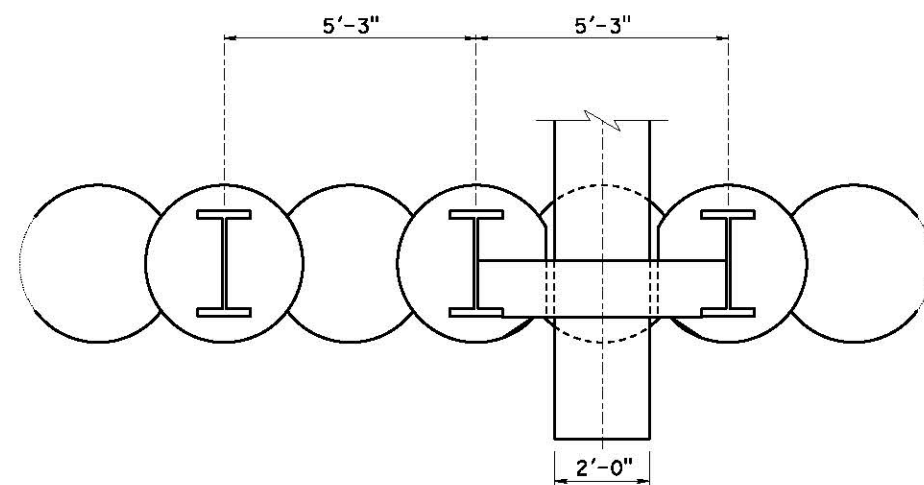
VIEW A-A
1/2" = 1'-0"

NOTE:
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NOTE: Barrier & Barrier Slab not shown

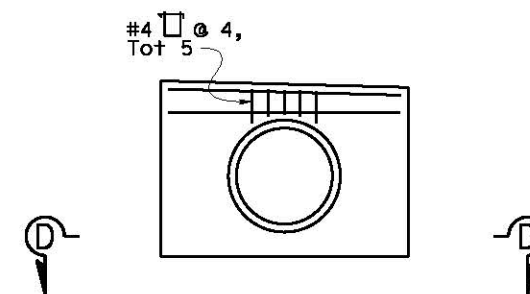
PART ELEVATION @ 24" CULVERT
1/4" = 1'-0"



Note: For details not shown, see "PART PLAN @ 48" DRAIN HEADWALL" on "HEAD WALL DETAILS No. 1" sheet.

PART PLAN @ 24" DRAIN HEADWALL

VIEW C-C
1/2" = 1'-0"



MIRRORED ELEVATION



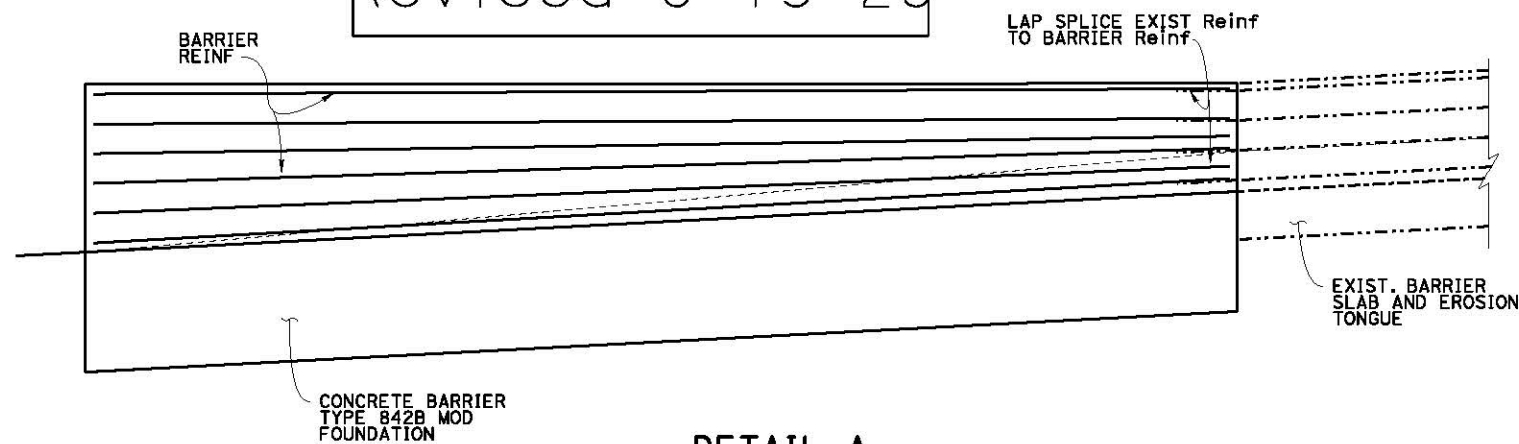
SECTION D-D

Note: For details not shown, see "48" CMP CULVERT HEAD WALL DETAILS" on "HEAD WALL DETAILS No. 1" sheet.

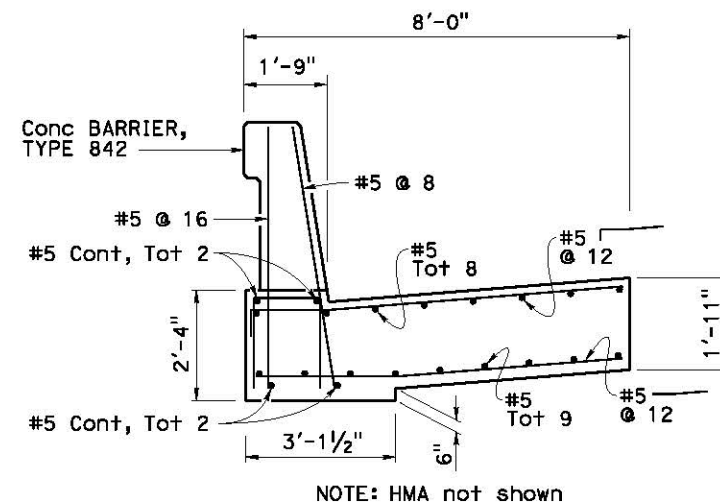
48" CMP CULVERT HEAD WALL DETAILS
1/2" = 1'-0"

NOTE:
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Revised 8-15-23



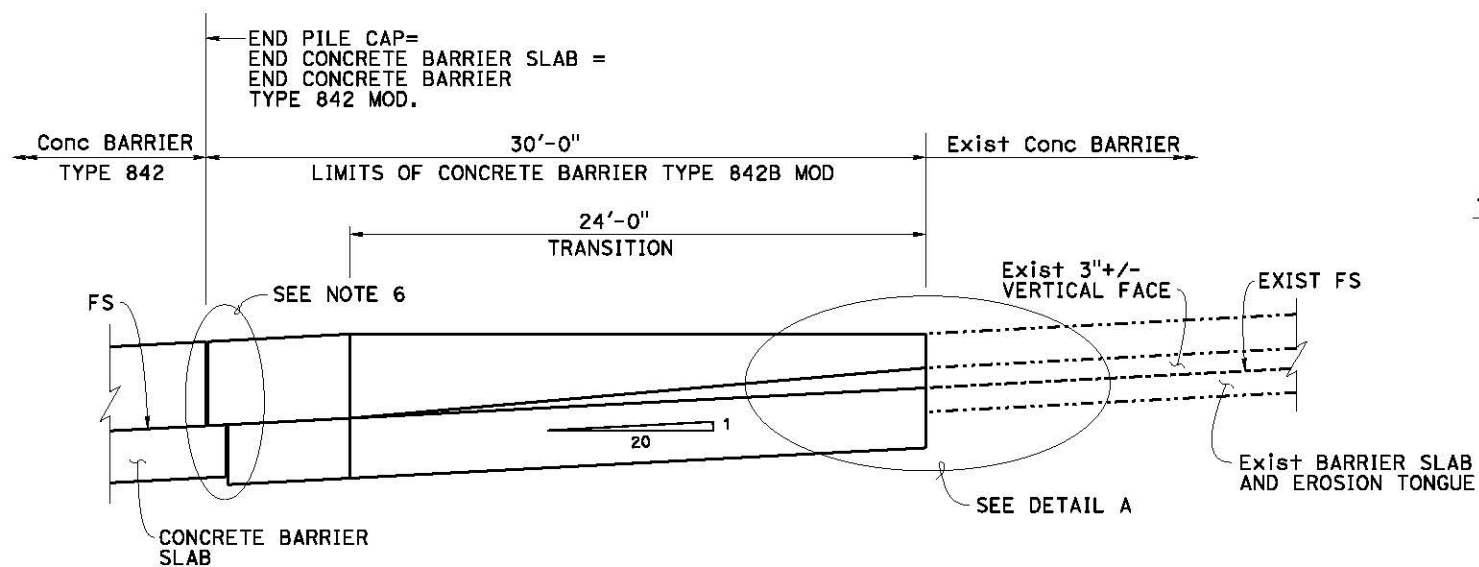
DETAIL A
1/2" = 1'-0"



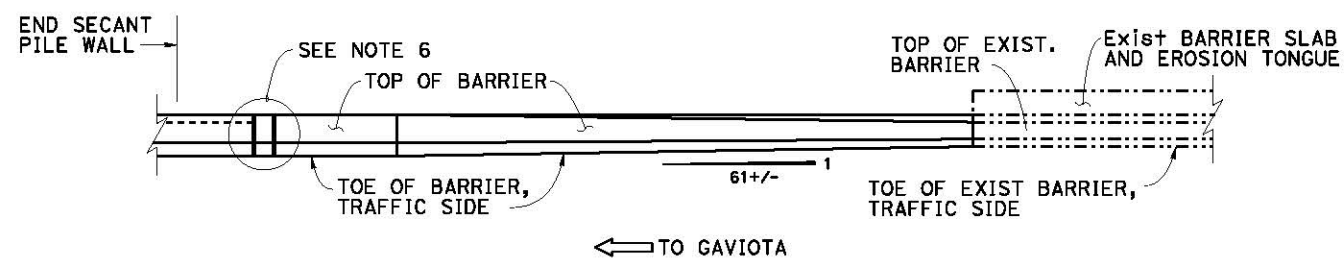
CONCRETE BARRIER SLAB
NO SCALE

- NOTES:
1. FOR LIMITS OF EXISTING BARRIER REMOVAL, SEE ROADWAY PLANS.
 2. EXIST BARRIER DIMENSION SHOWN OBTAINED FROM AS-BUILTS, CONTRACTOR SHALL VERIFY.
 3. TRANSITION LENGTH MAY BE REDUCED IF APPROVED BY ENGINEER.
 4. EXISTING REINF SIZE, SPACING OR TOTAL IS UNKNOWN.
 5. MATCH EXISTING
 6. FOR DETAILS NOT SHOWN, SEE "VIEW A-A" AND "SECTION B-B" ON "MISCELLANEOUS DETAILS No. 1" SHEET AND

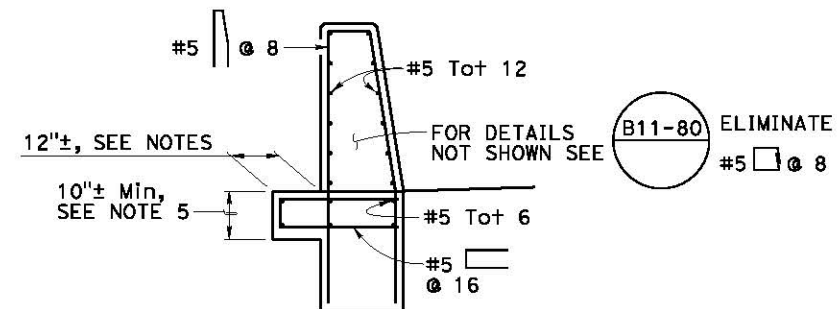
B11-82



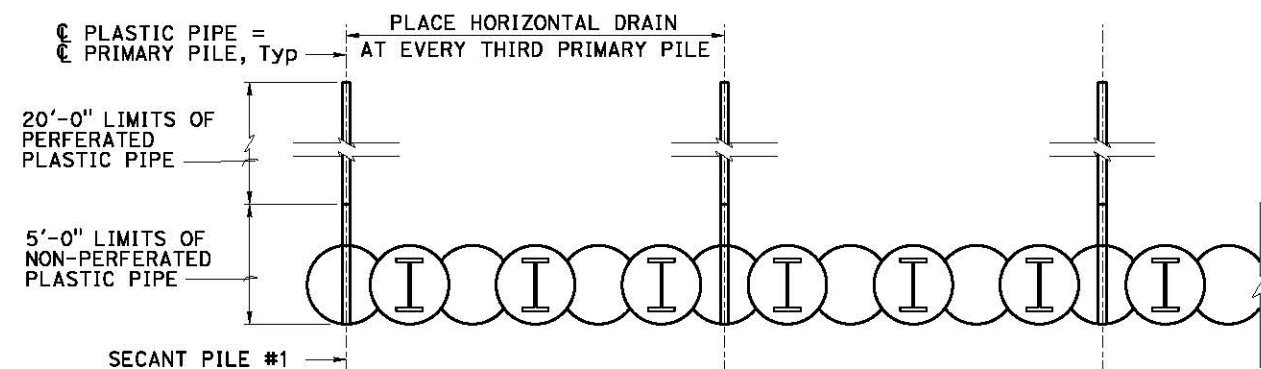
ELEVATION
1/4" = 1'-0"



PLAN
1/4" = 1'-0"



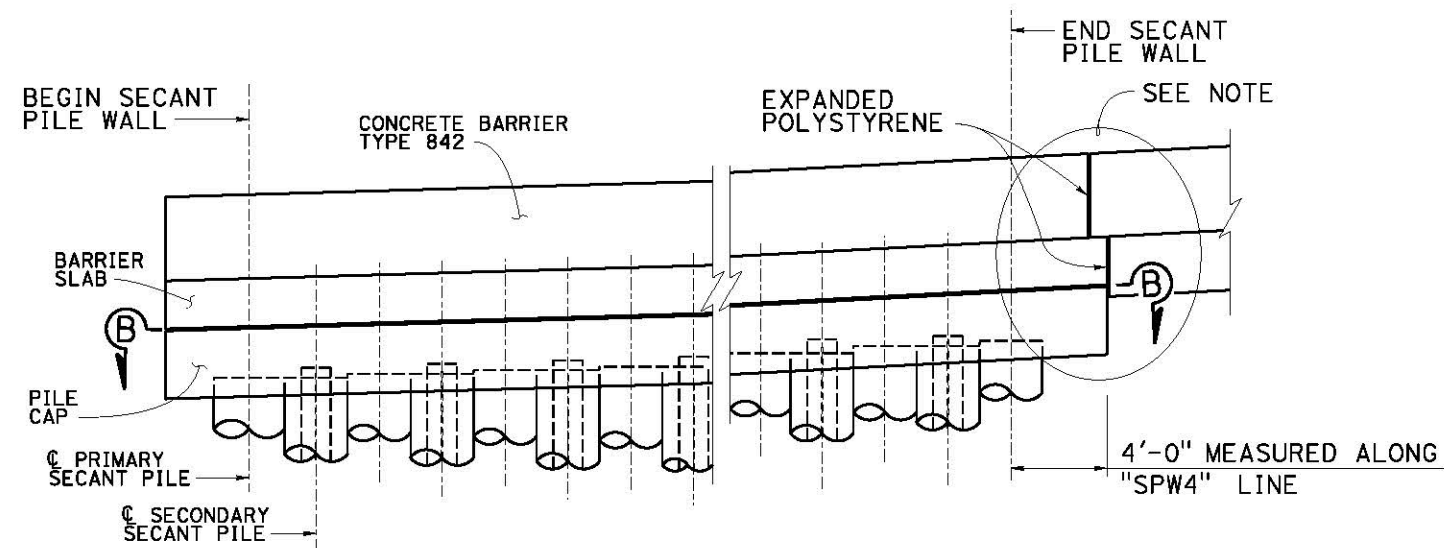
CONCRETE BARRIER TYPE 842B MOD
1/2" = 1'-0"



PART PLAN @ HORIZONTAL DRAIN
NO SCALE

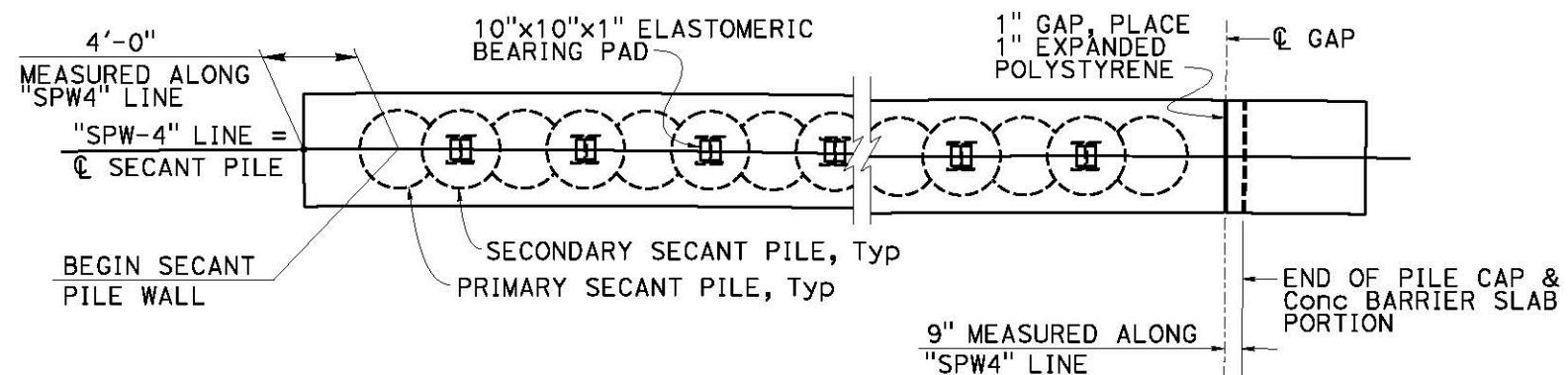
NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.

Revised 8-15-23

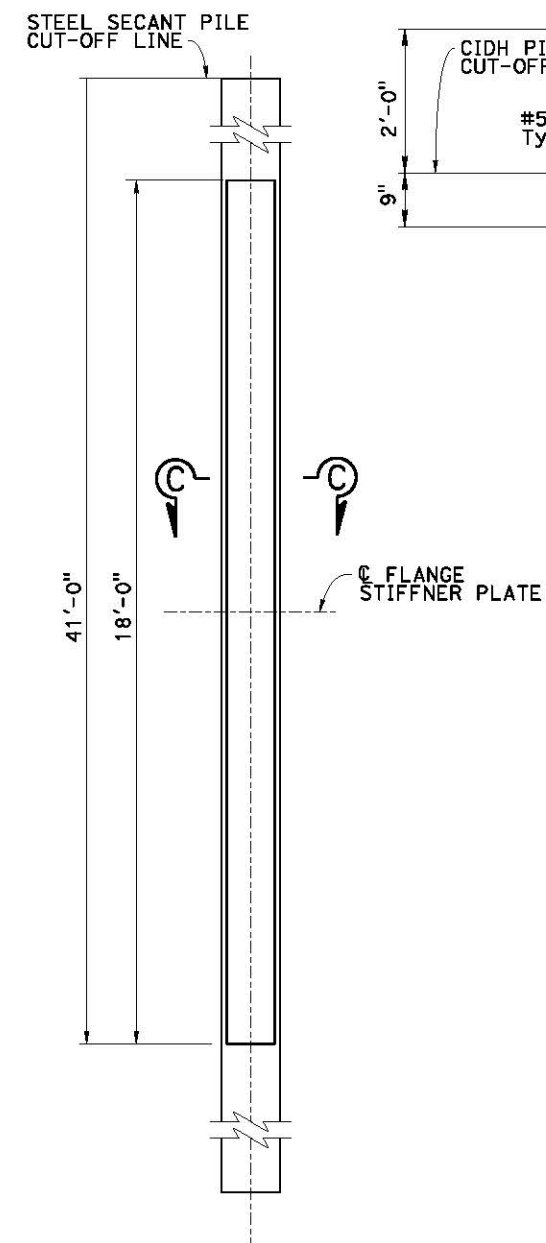


NOTE:
FOR END OF SECANT PILE WALL BARRIER
DETAILS, SEE "CONCRETE BARRIER DETAILS" SHEET

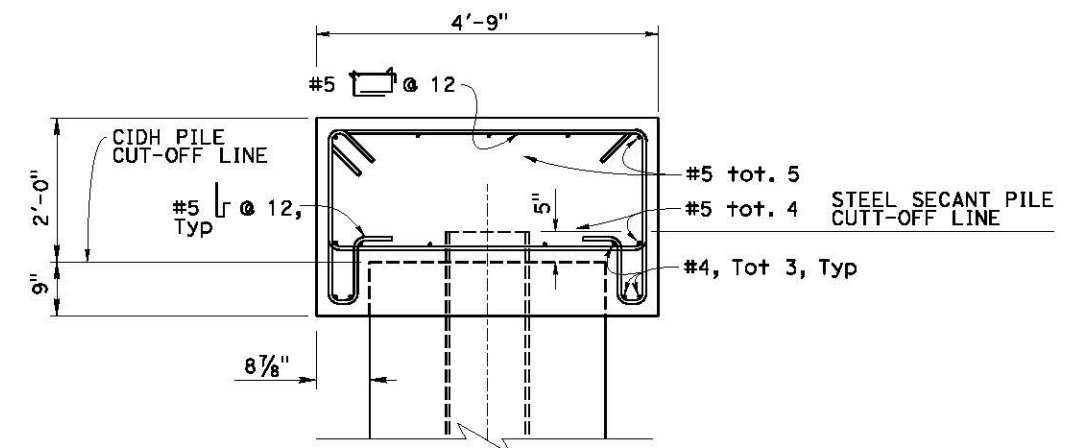
VIEW A-A
1/4" = 1'-0"



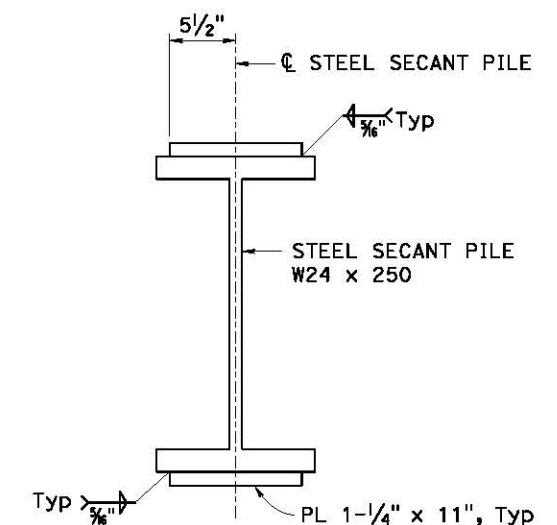
SECTION B-B
1/4" = 1'-0"



COVER PLATE
1/2" = 1'-0"



PILE CAP DETAIL
3/4" = 1'-0"



SECTION C-C
NO SCALE

NOTE:
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Sample Plan Set

Tangent Pile Wall

Links

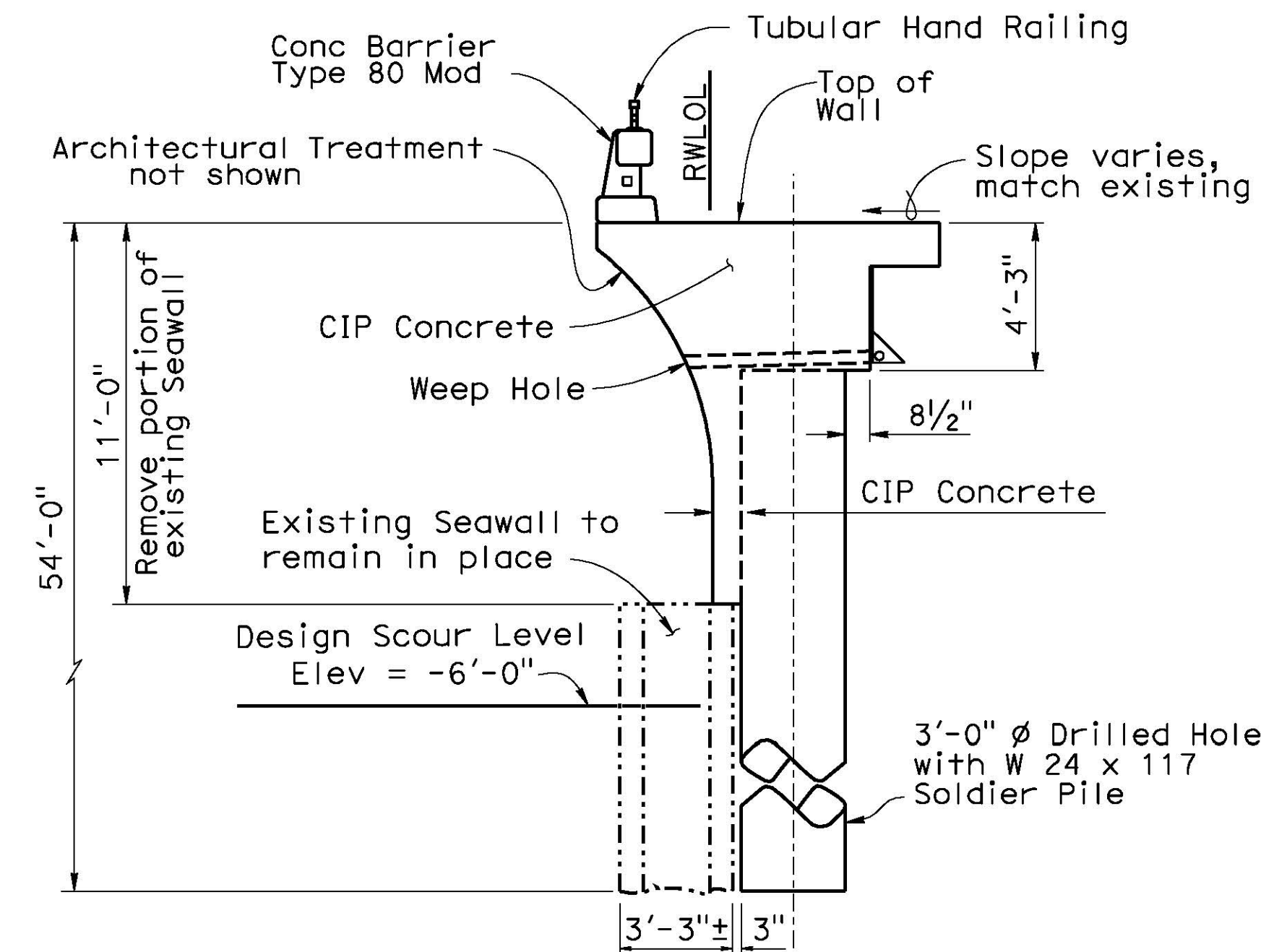
Caltrans Standard Plans:

<https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>

Caltrans Bridge Standard Details:

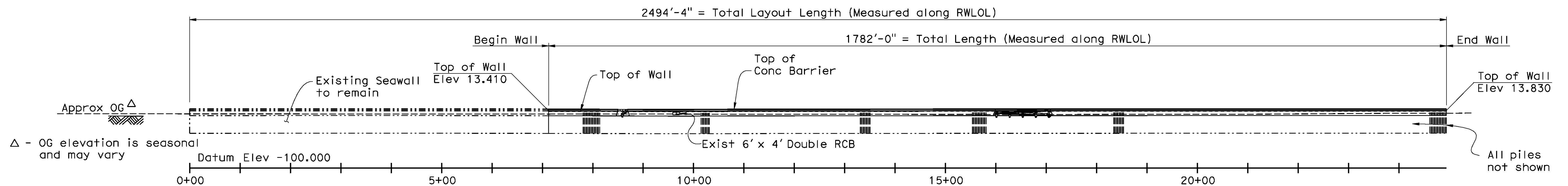
<https://dot.ca.gov/programs/engineering-services/manuals/bridge-standard-details>

QUANTITIES		
BRIDGE REMOVAL (PORTION)	LUMP	SUM
STRUCTURE EXCAVATION (TYPE D)	1,118	CY
STRUCTURE EXCAVATION (RETAINING WALL)	1,034	CY
STRUCTURE EXCAVATION (PETROLEUM HYDROCARBON)	20	CY
STRUCTURE BACKFILL (RETAINING WALL)	286	CY
BEACH SAND BACKFILL	604	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	7,881	CY
STEEL SOLDIER PILE (W24 X 117)	31,660	LF
30" CAST-IN-DRILLED-HOLE CONCRETE PILING	440	LF
36" DRILLED HOLE	30,039	LF
STRUCTURAL CONCRETE, RETAINING WALL	2,808	CY
FRACTURED RIB TEXTURE	11,851	SQFT
DRILL AND BOND DOWEL (CHEMICAL ADHESIVE)	72	LF
BAR REINFORCING STEEL (EPOXY COATED)	334,000	LB
CLEAN AND PAINT SOLDIER PILE	LUMP	SUM
PIPE GUARDRAILING	373	LF
HANDRAILING	62	LF
CONCRETE BARRIER (TYPE 80 MODIFIED)	1,795	LF



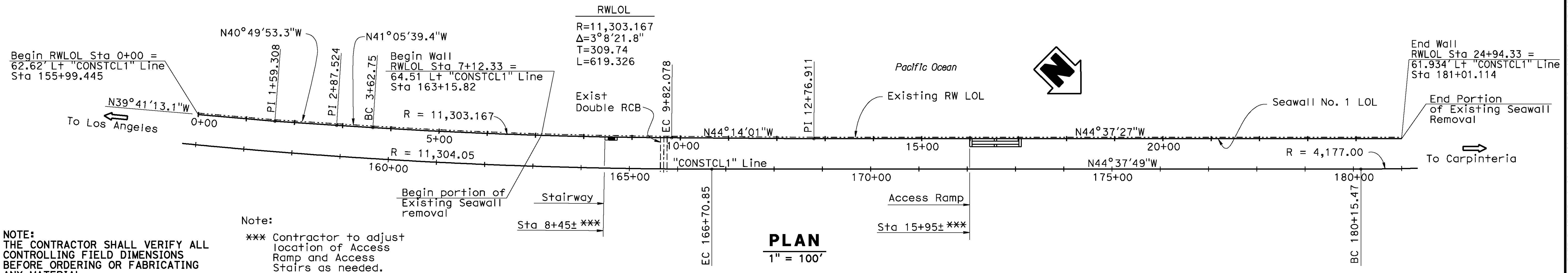
TYPICAL SECTION

1/4" = 1'-0"



MIRRORED DEVELOPED ELEVATION

1" = 100'



PLAN

1" = 100'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Note:
*** Contractor to adjust location of Access Ramp and Access Stairs as needed.

NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.

INDEX TO PLANS

Sheet No.	Title
1	GENERAL PLAN
2	INDEX TO PLANS
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4	STRUCTURE PLAN NO. 1
5	STRUCTURE PLAN NO. 2
6	STRUCTURE PLAN NO. 3
7	STRUCTURE PLAN NO. 4
8	STRUCTURE PLAN DATA
9	FOUNDATION PLAN NO. 1 OF 5
10	FOUNDATION PLAN NO. 2 OF 5
11	FOUNDATION PLAN NO. 3 OF 5
12	FOUNDATION PLAN NO. 4 OF 5
13	FOUNDATION PLAN NO. 5 OF 5
14	TYPICAL SECTION DETAILS NO. 1
15	TYPICAL SECTION DETAILS NO. 2
16	CONCRETE REMOVAL
17	CULVERT DETAIL
18	ACCESS RAMP DETAILS NO. 1
19	ACCESS RAMP DETAILS NO. 2
20	ACCESS RAMP DETAILS NO. 3
21	ACCESS RAMP DETAILS NO. 4
22	ACCESS RAMP DETAILS NO. 5
23	ACCESS RAMP DETAILS NO. 6
24	ACCESS STAIRS DETAILS NO. 1
25	ACCESS STAIRS DETAILS NO. 2
26	ACCESS STAIRS DETAILS NO. 3
27	BARRIER DETAILS NO. 1
28	BARRIER DETAILS NO. 2
29	BARRIER DETAILS NO. 3
30	BARRIER DETAILS NO. 4
31	ARCHITECTURAL TREATMENT DETAILS NO. 1
32	ARCHITECTURAL TREATMENT DETAILS NO. 2
33	ARCHITECTURAL TREATMENT DETAILS NO. 3
34	LOG OF TEST BORINGS 1 OF 6
35	LOG OF TEST BORINGS 2 OF 6
36	LOG OF TEST BORINGS 3 OF 6
37	LOG OF TEST BORINGS 4 OF 6
38	LOG OF TEST BORINGS 5 OF 6
39	LOG OF TEST BORINGS 6 OF 6

GENERAL NOTES
LOAD FACTOR DESIGN

DESIGN:
CALTRANS Bridge Design Specification,
LFD Version April 2000 (1996 AASHTO with Interims
and Revision by Caltrans)

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.4 dated June 2006

LIVE LOADING:
HS20-44 and Alternative and Permit Design Load

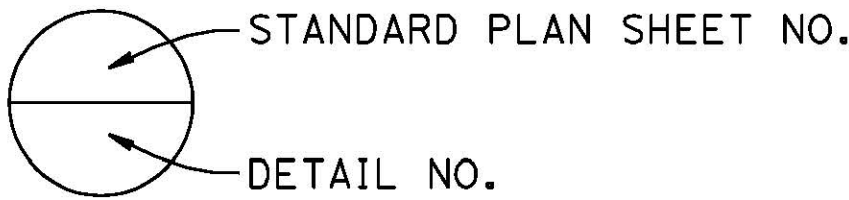
SEISMIC LOADING:
See Site Specific ARC Curve as shown

CONCRETE:
fy = 60000 psi (Yield Strength of reinforcement)
f'c = 3600 psi (Concrete Compression Strength at 28 days)
n = 9

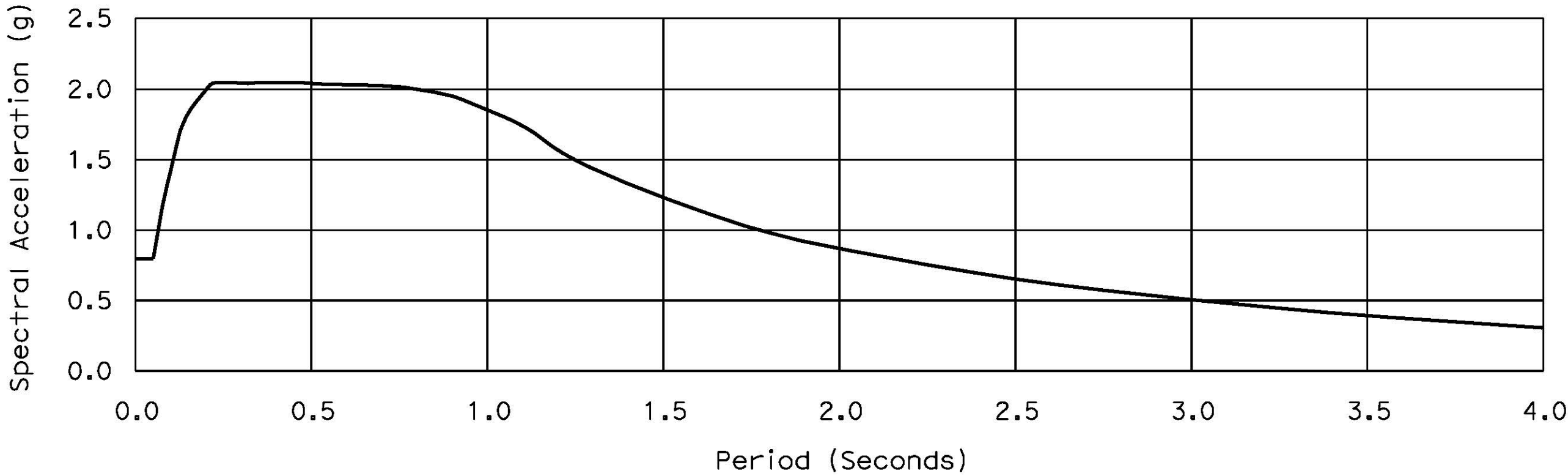
NOTE:
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Caltrans' practice, they do not relate to any
actual Caltrans projects. These sample plans
shall only be used as references to the general
workflow documents.

STANDARD PLANS
Dated May 2006

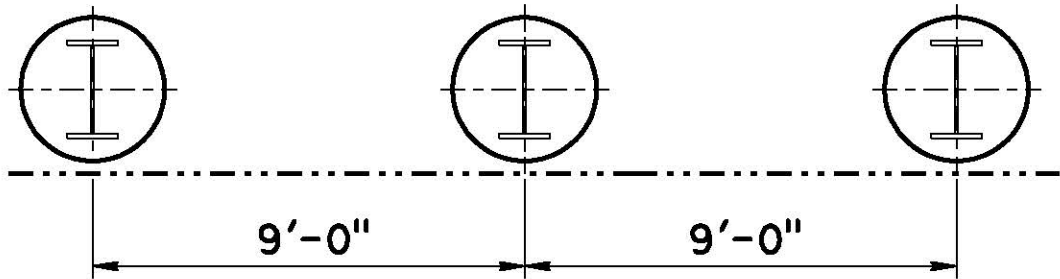
A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B7-8	DECK DRAINAGE DETAILS
RSP A77J1	METAL BEAM GUARD RAIL CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK DETAIL No. 1
RSP A77J2	METAL BEAM GUARD RAIL CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK DETAIL No. 2



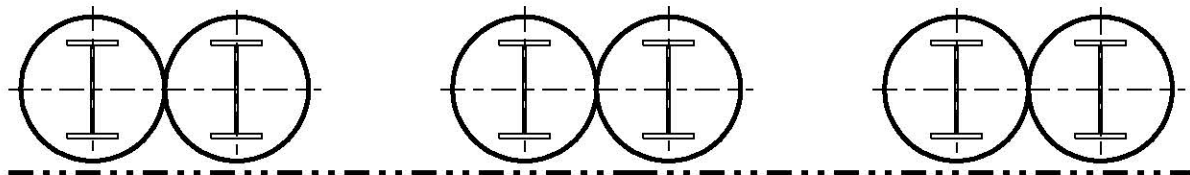
Recommended Acceleration Response Spectra (with 5% Damping)



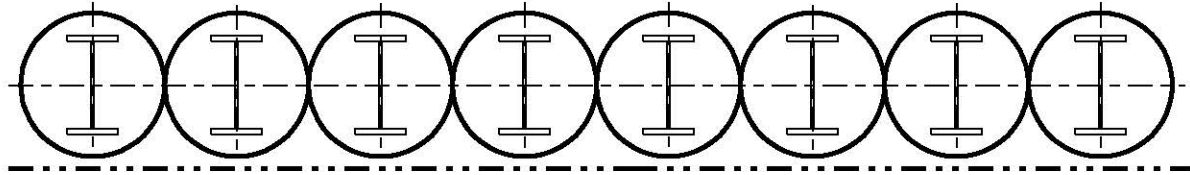
SITE SPECIFIC ARS CURVE



Step 1 - Install Tangent Piles Spaced @ 3d



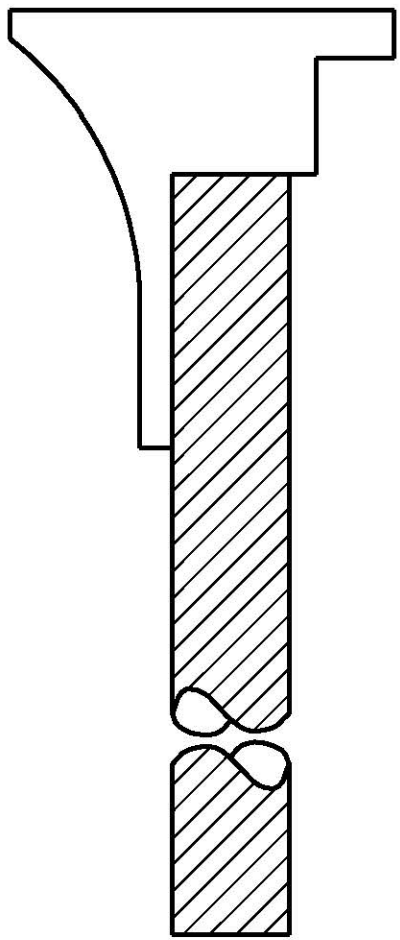
Step 2 - Install Tangent Piles Adjacent to Piles
Installed in Step 1



Step 3 - Complete Wall by Installing Remaining Piles

TYPICAL SEQUENCE IN
CONSTRUCTION OF TANGENT PILES

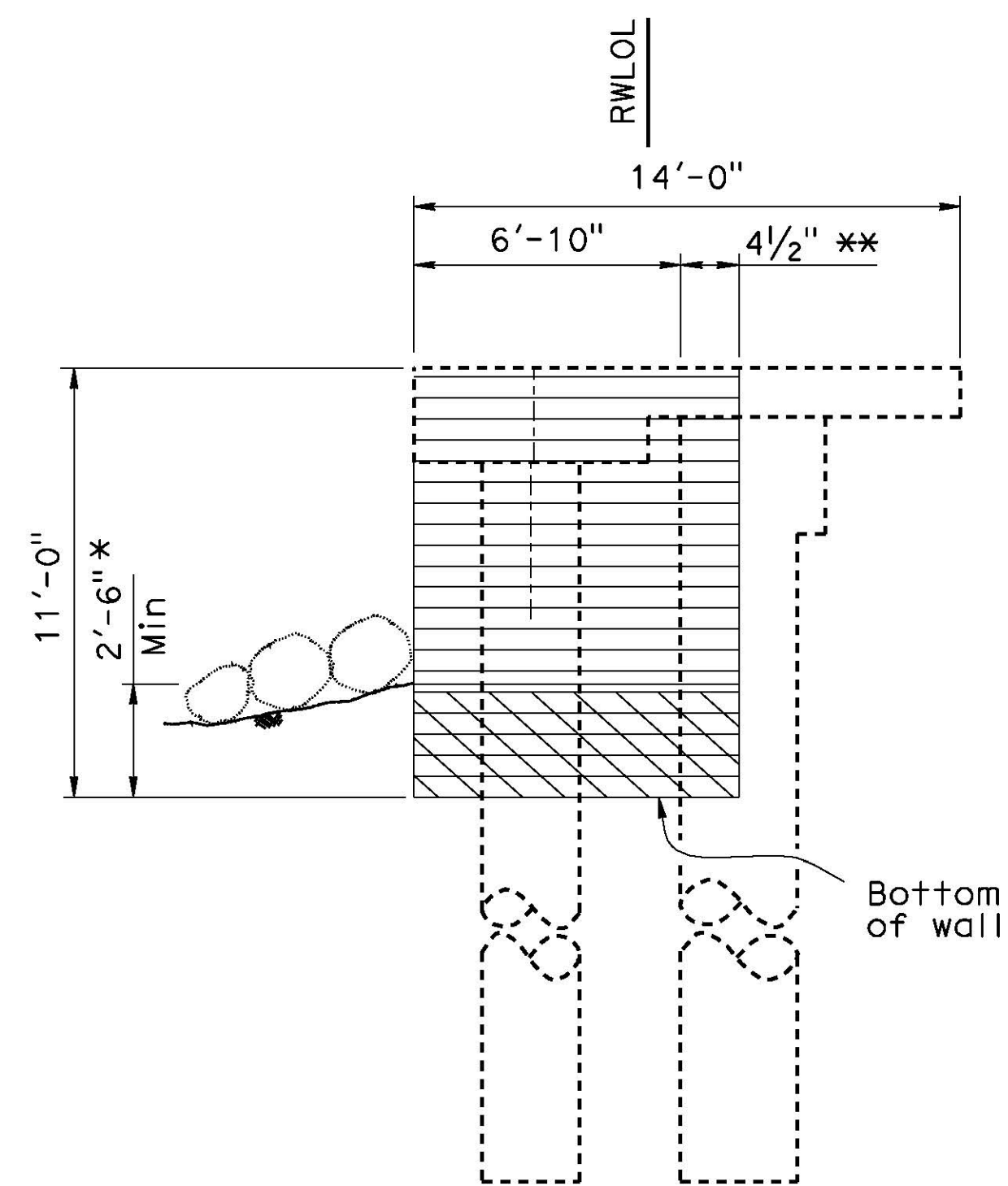
No Scale



Structural Concrete, Retaining Wall
Concrete Backfill

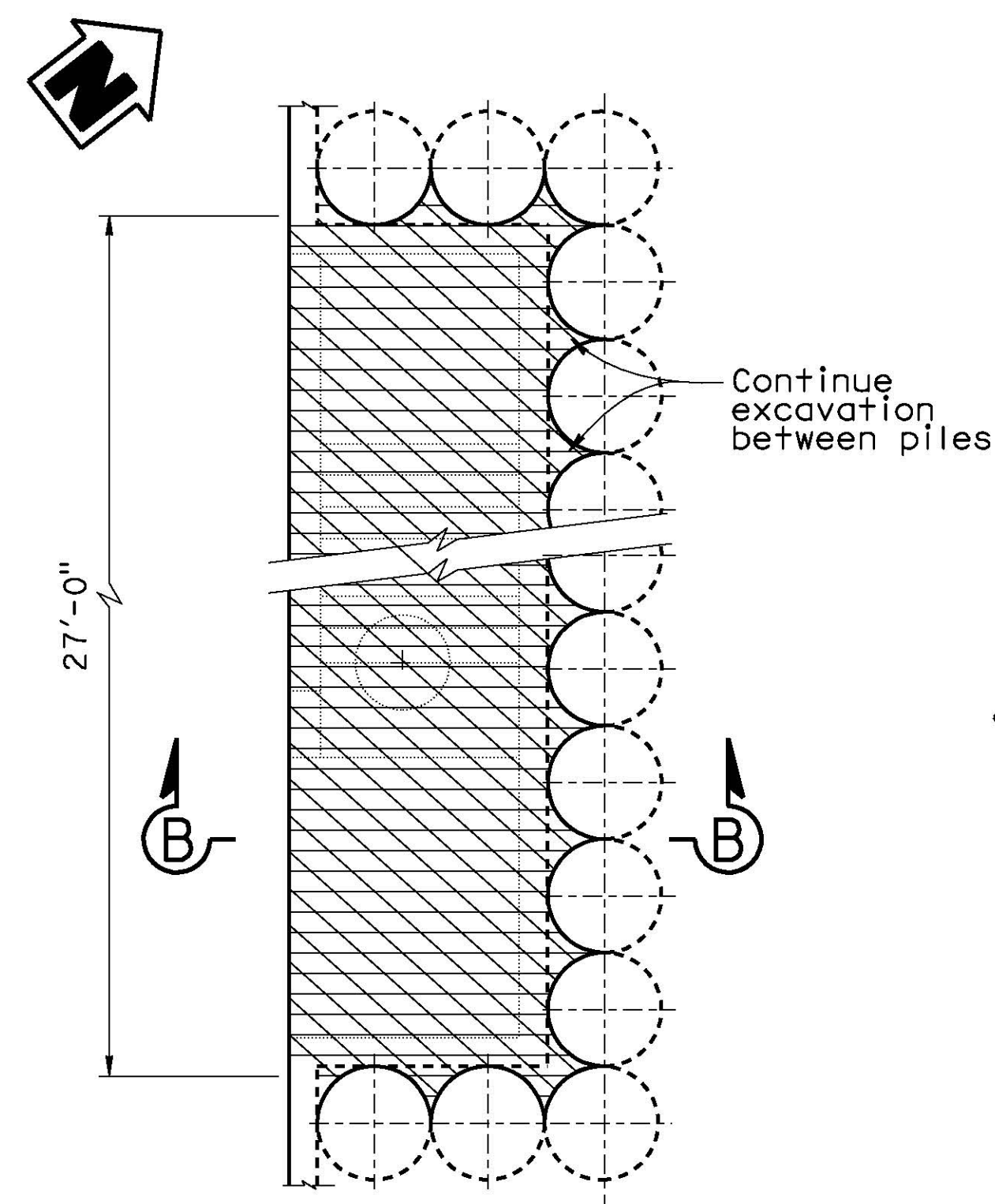
CONCRETE STRENGTH AND TYPE LIMITS

No Scale



SECTION B-B

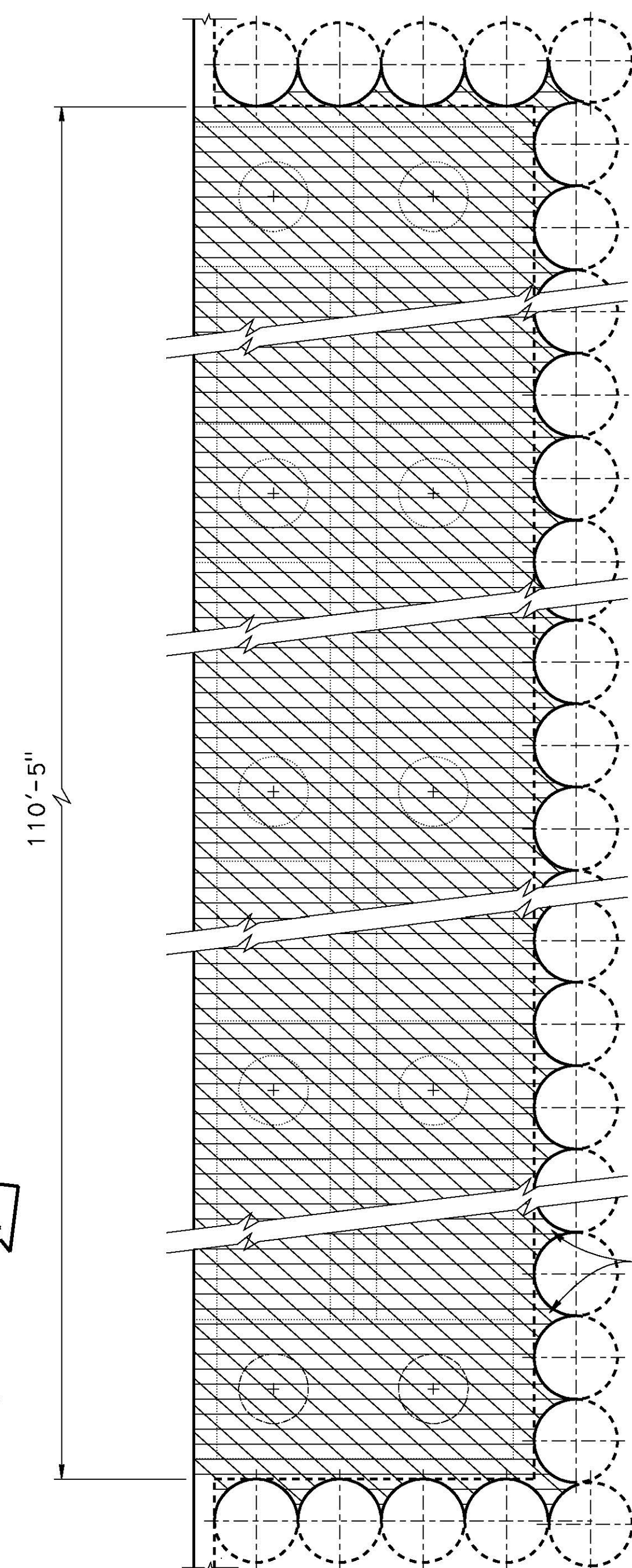
1/4"=1'-0"



PAY LIMITS @ STAIRS

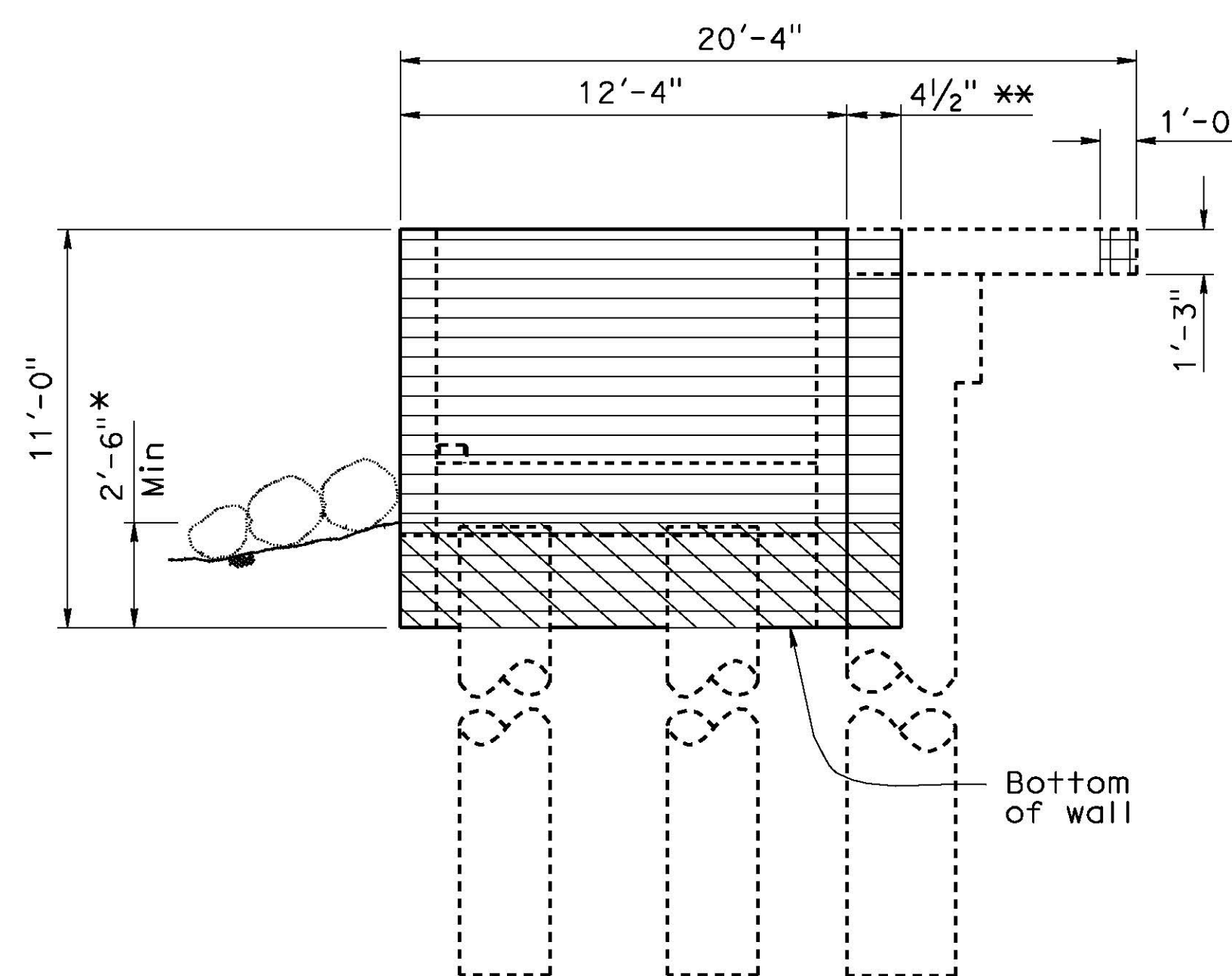
1/4"=1'-0"

** Additional excavation between piles



PAY LIMITS @ RAMP

1/4"=1'-0"

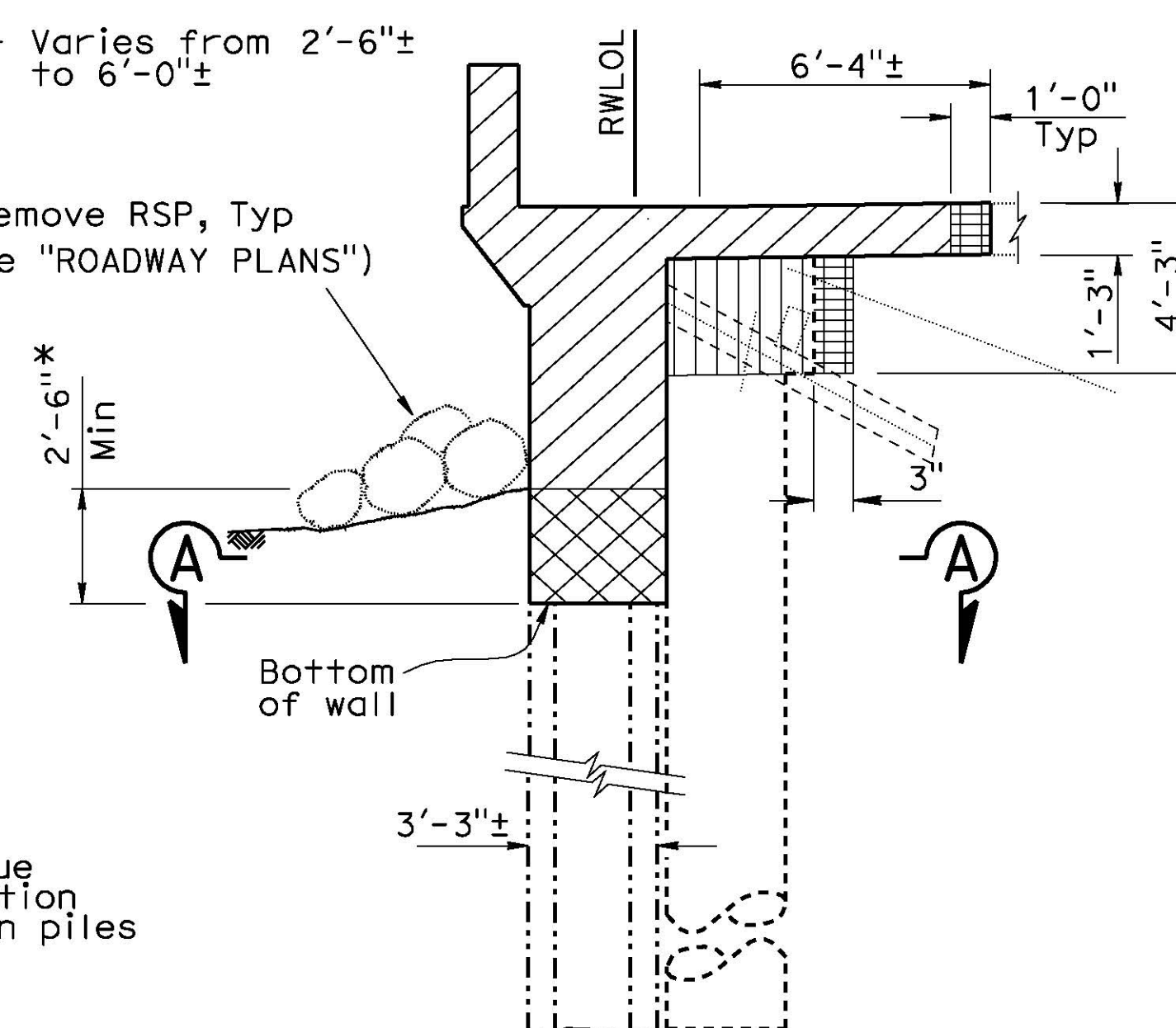


SECTION C-C

1/4"=1'-0"

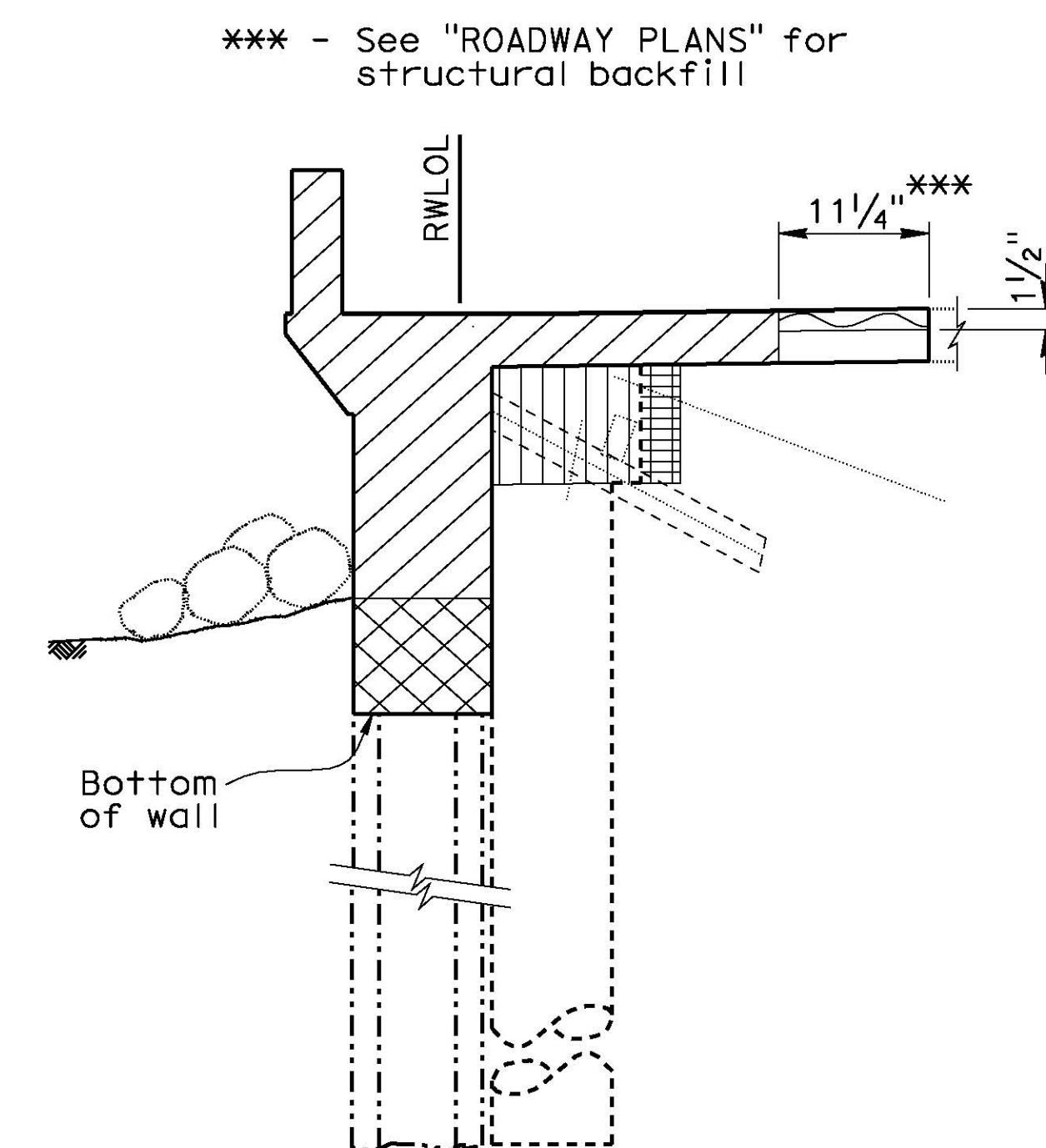
* - Varies from 2'-6"± to 6'-0"±

Remove RSP, Typ (see "ROADWAY PLANS")



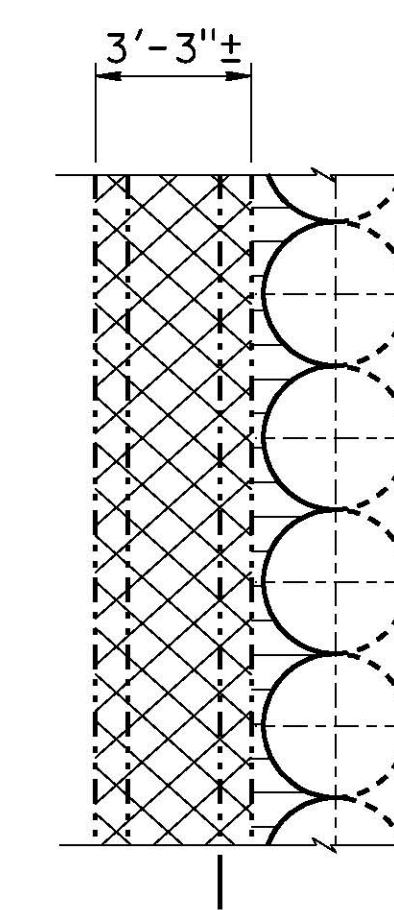
TYPICAL PAY LIMIT @ WALL

1/4"=1'-0"



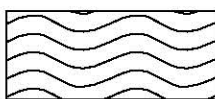
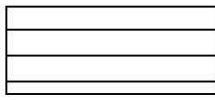
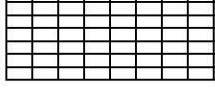
**PETROLEUM HYDROCARBON
PAY LIMIT FOR
STA 175+50 TO 178+50**

1/4"=1'-0"

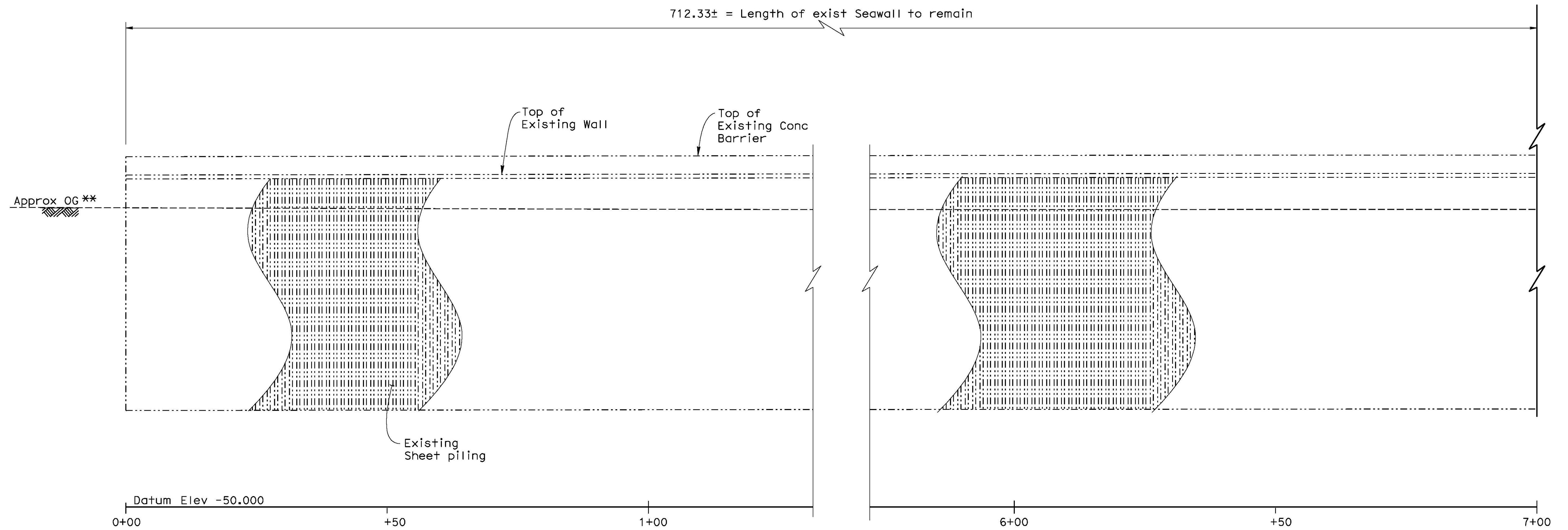


SECTION A-A

1/4"=1'-0"

-  Structure Excavation (Petroleum Hydrocarbon)
-  Structure Excavation (Retaining Wall)
-  Structure Excavation (Type D)
-  Structure Excavation and Structural Backfill (Retaining Wall)
-  Existing Seawall removal (portion)
-  Beach Sand Backfill

NOTE:
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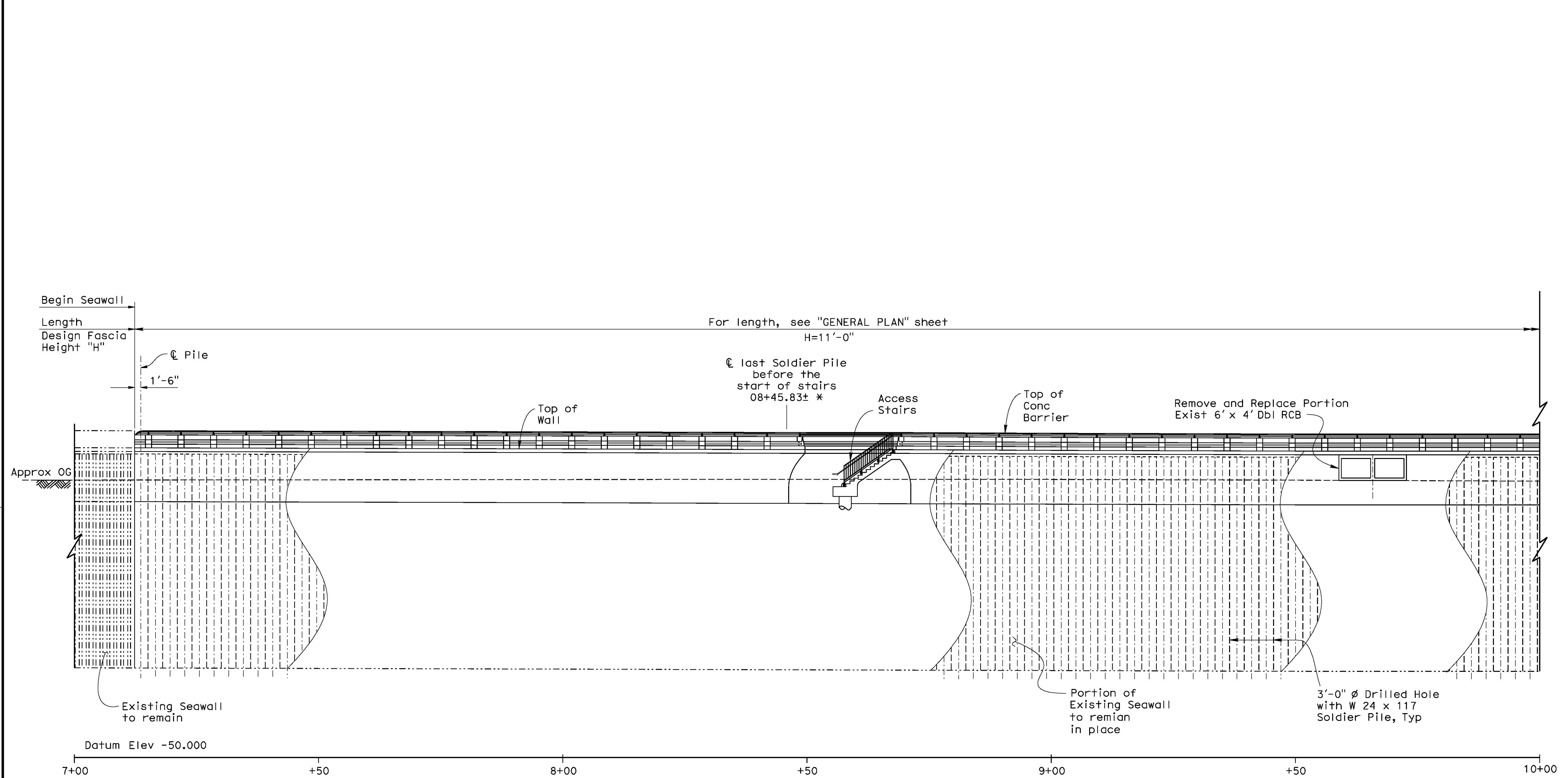


MIRRORED ELEVATION

1" = 10'

** OG elevation is seasonal & may vary

NOTE:
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For length, see "GENERAL PLAN" sheet
H=11'-0"

⊗ last Soldier Pile
before the
start of stairs
08+45.83± *

Top of
Wall

Access
Stairs

Top of
Conc
Barrier

Remove and Replace Portion
Exist 6' x 4' Dbl RCB

Approx OG

Existing Seawall
to remain

Datum Elev -50.000

Portion of
Existing Seawall
to remian
in place

3'-0" Ø Drilled Hole
with W 24 x 117
Soldier Pile, Typ

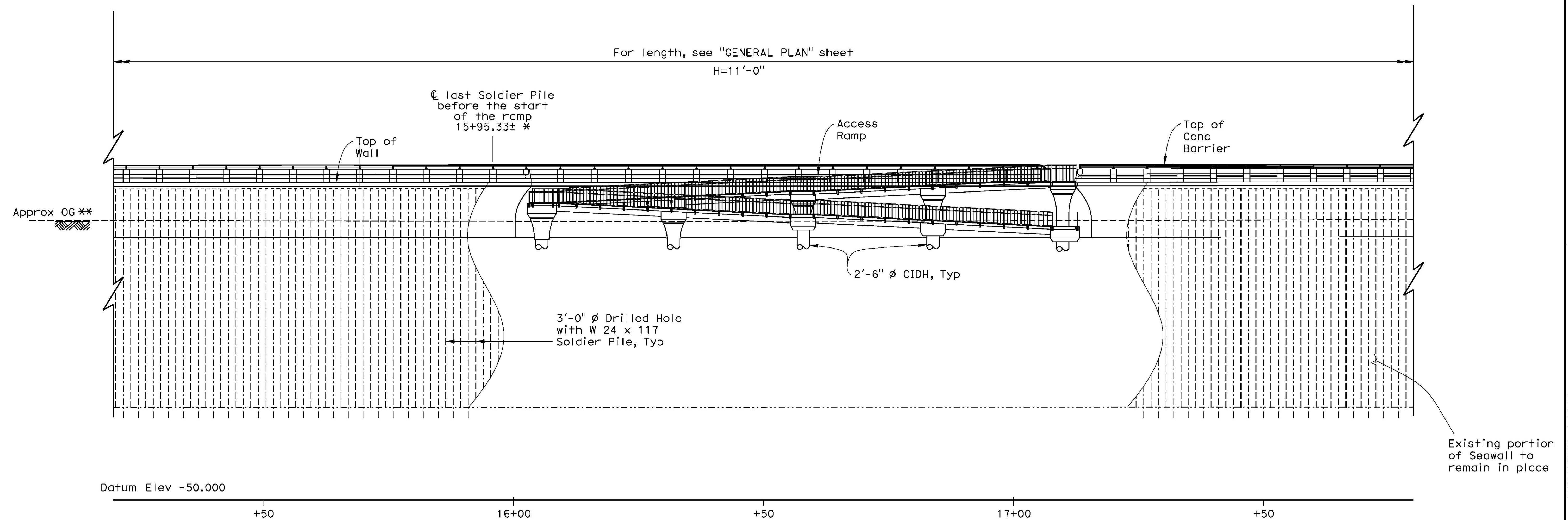
* - Engineer may adjust
location as needed

MIRRORED ELEVATION

1" = 10'

Note:
For elevations at Top of Wall
see "STRUCTURE PLAN DATA" sheet

NOTE:
While these sample plans reflect the typical
Caltrans' practice, they do not relate to any
actual Caltrans projects. These sample plans
shall only be used as references to the general
workflow documents.



- * Engineer may adjust location as needed
- ** OG elevation is seasonal & may vary

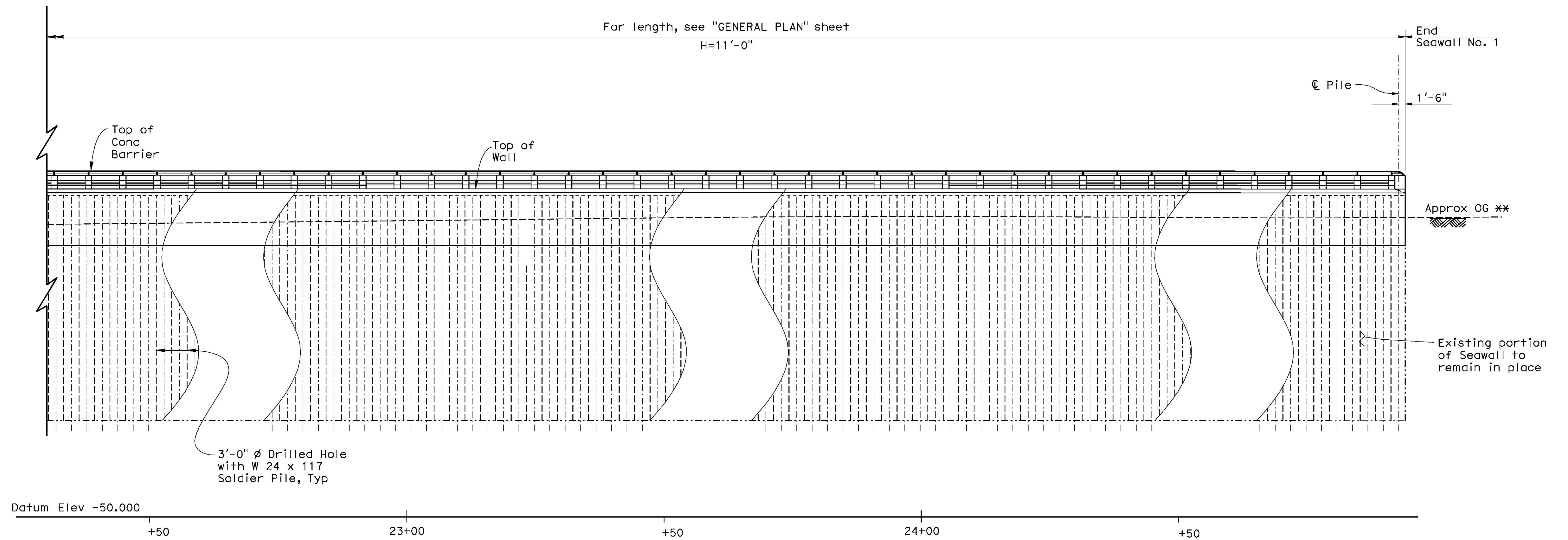
MIRRORED ELEVATION

1" = 10'

Note:

For Elevations at Top of Wall
see "STRUCTURE PLAN DATA" sheet

NOTE:
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MIRRORED ELEVATION

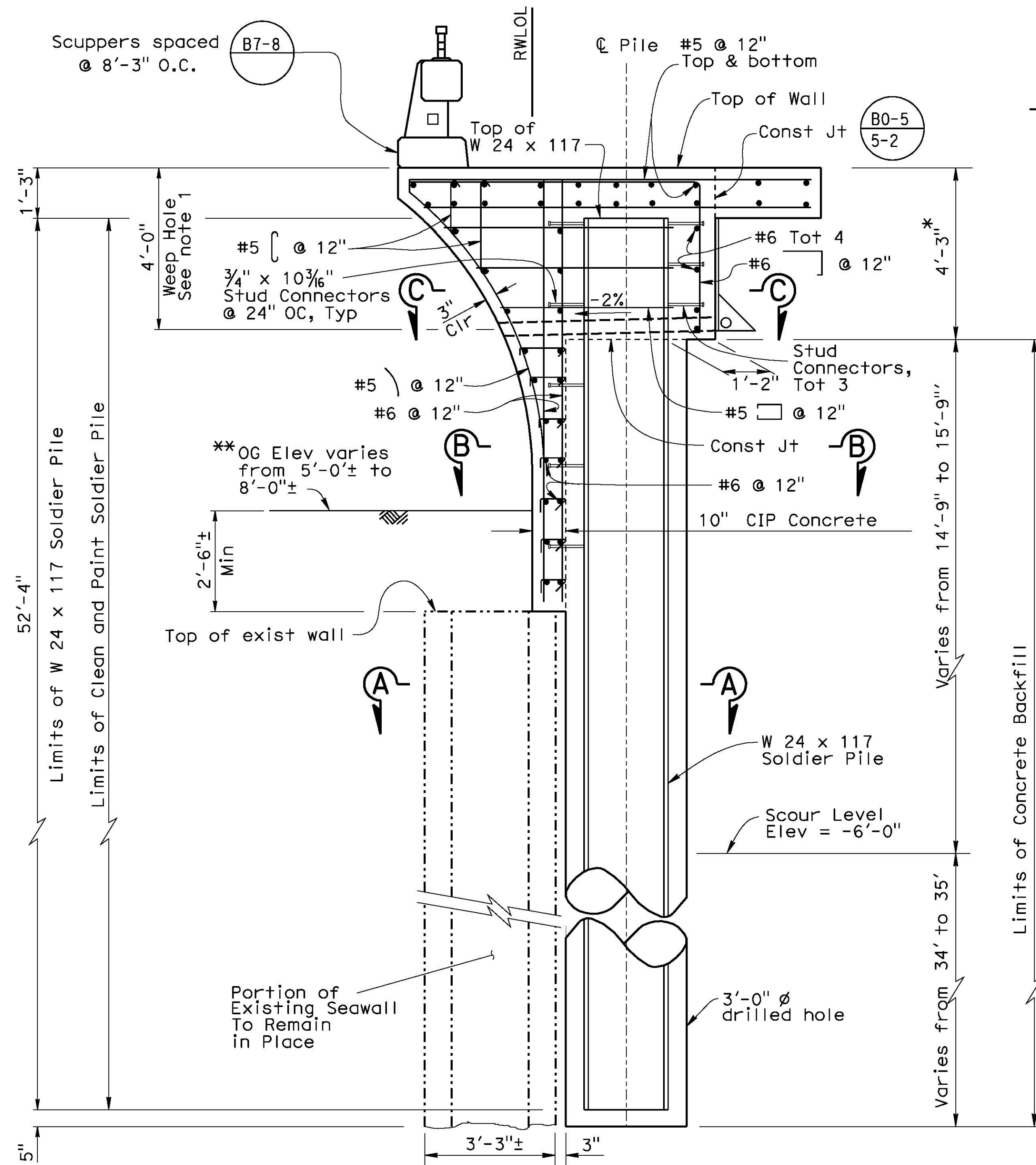
1" = 10'

Note:

For Elevations at Top of Wall
see "STRUCTURE PLAN DATA" sheet

NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.

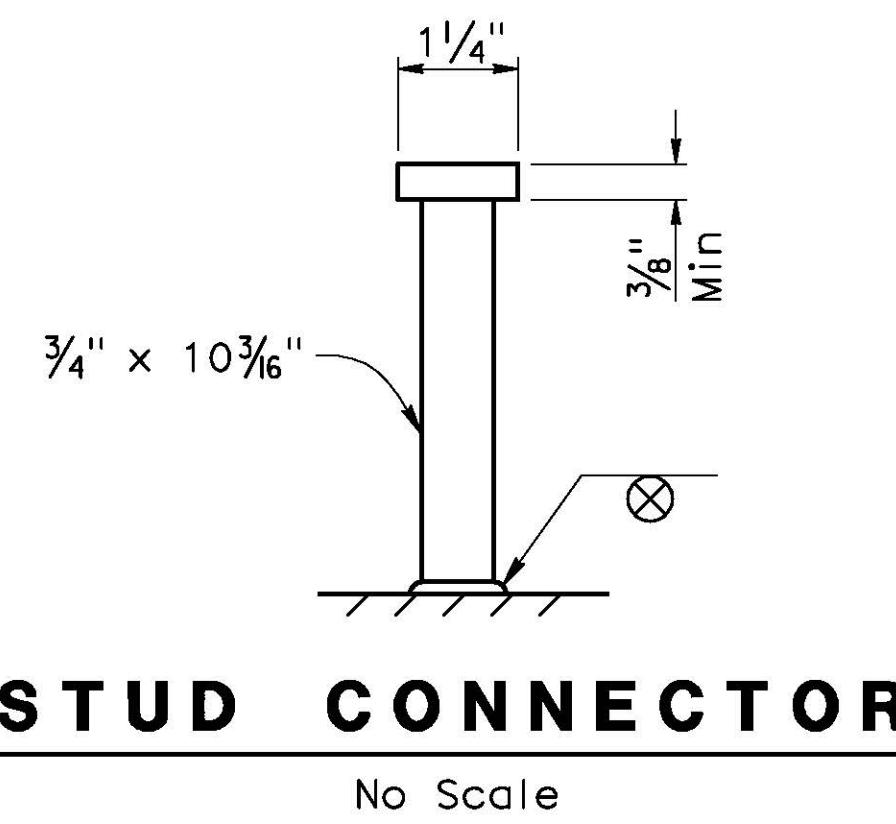
- * - Construct top 4'-3" of piling and Concrete Fascia
- ** - OG elevation is seasonal and subjected to change based on wave elevation



TYPICAL SECTION

Scale: 1/2"=1'-0"

NOTE:
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STUD CONNECTOR

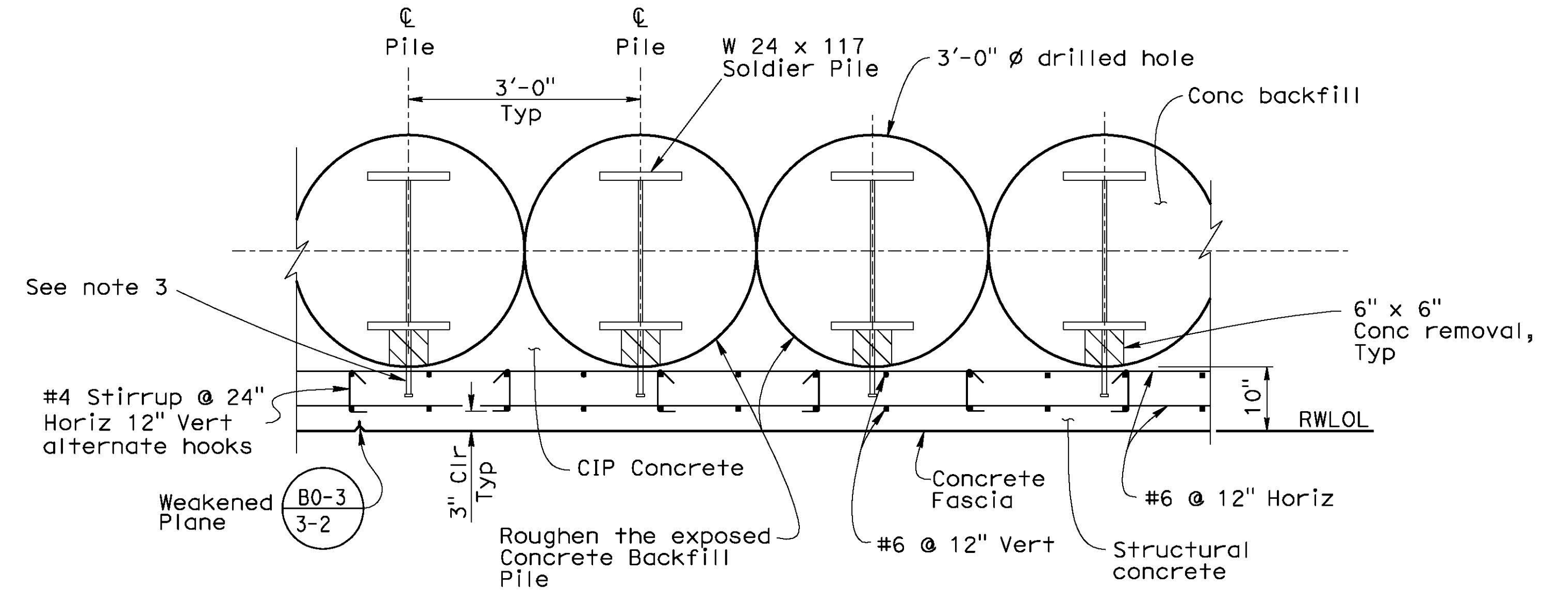
No Scale

Notes:

1. For Section 'C-C', 'D-D' and Weep Hole Detail, see "TYPICAL SECTION DETAILS NO. 2" sheet
2. All Reinf shall be Prefabricated Epoxy Coated
3. 1 column of stud connectors required Typ. For locations where 2 columns are required, see "ACCESS RAMP DETAILS NO. 1" sheet

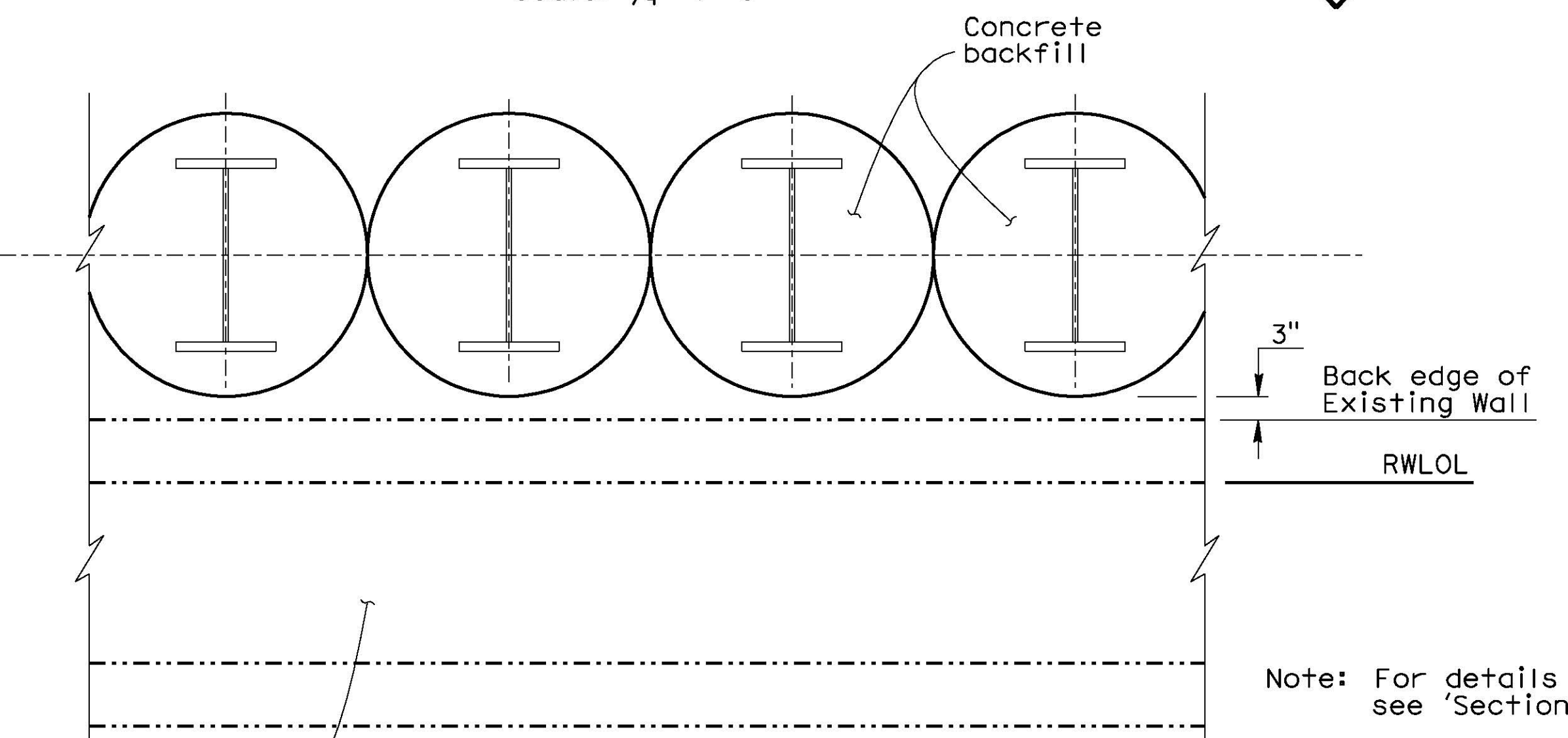
Legend:

- Concrete Backfill Removal. Remove as required for stud installation



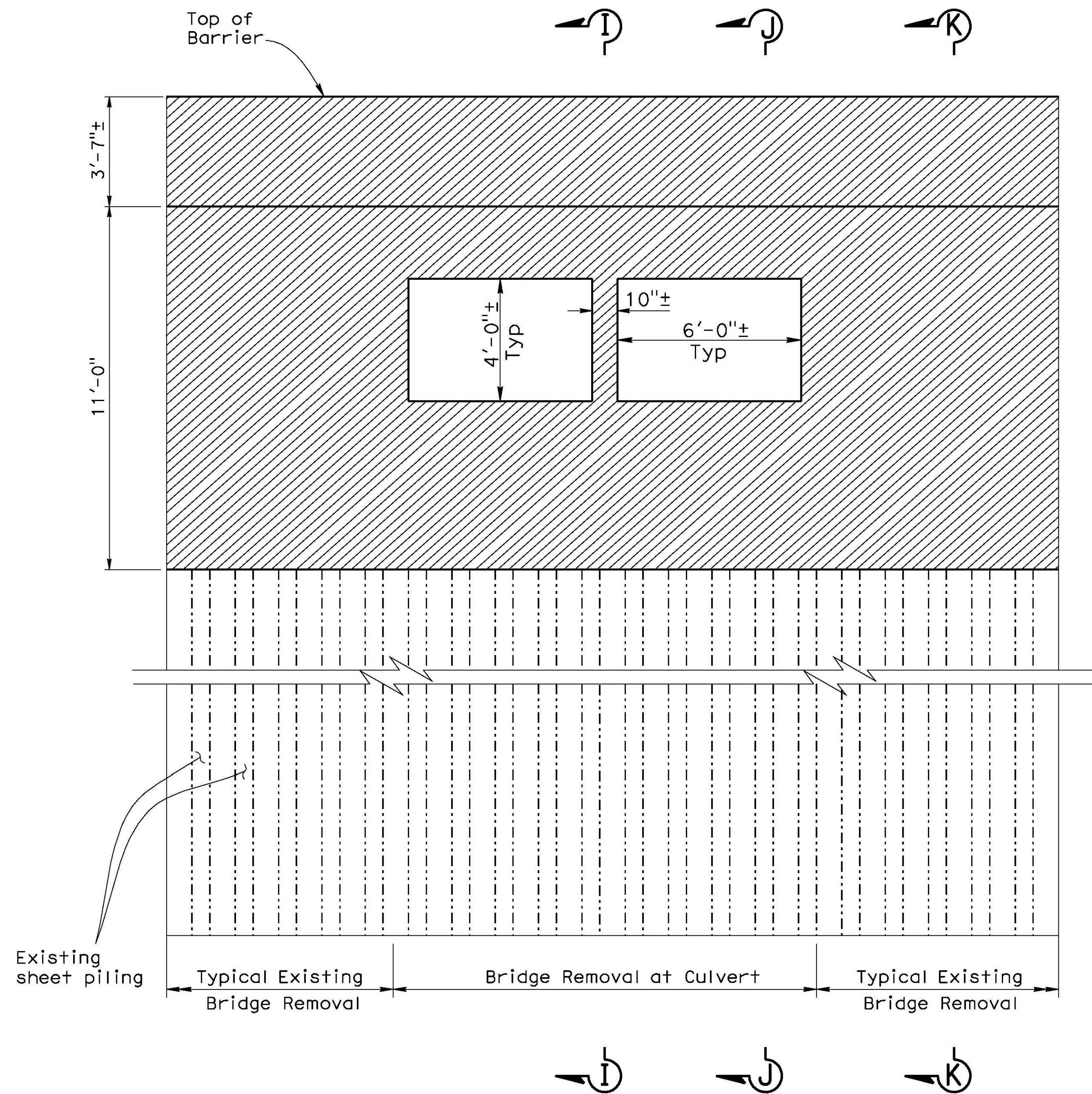
SECTION B-B

Scale: 3/4"=1'-0"



SECTION A-A

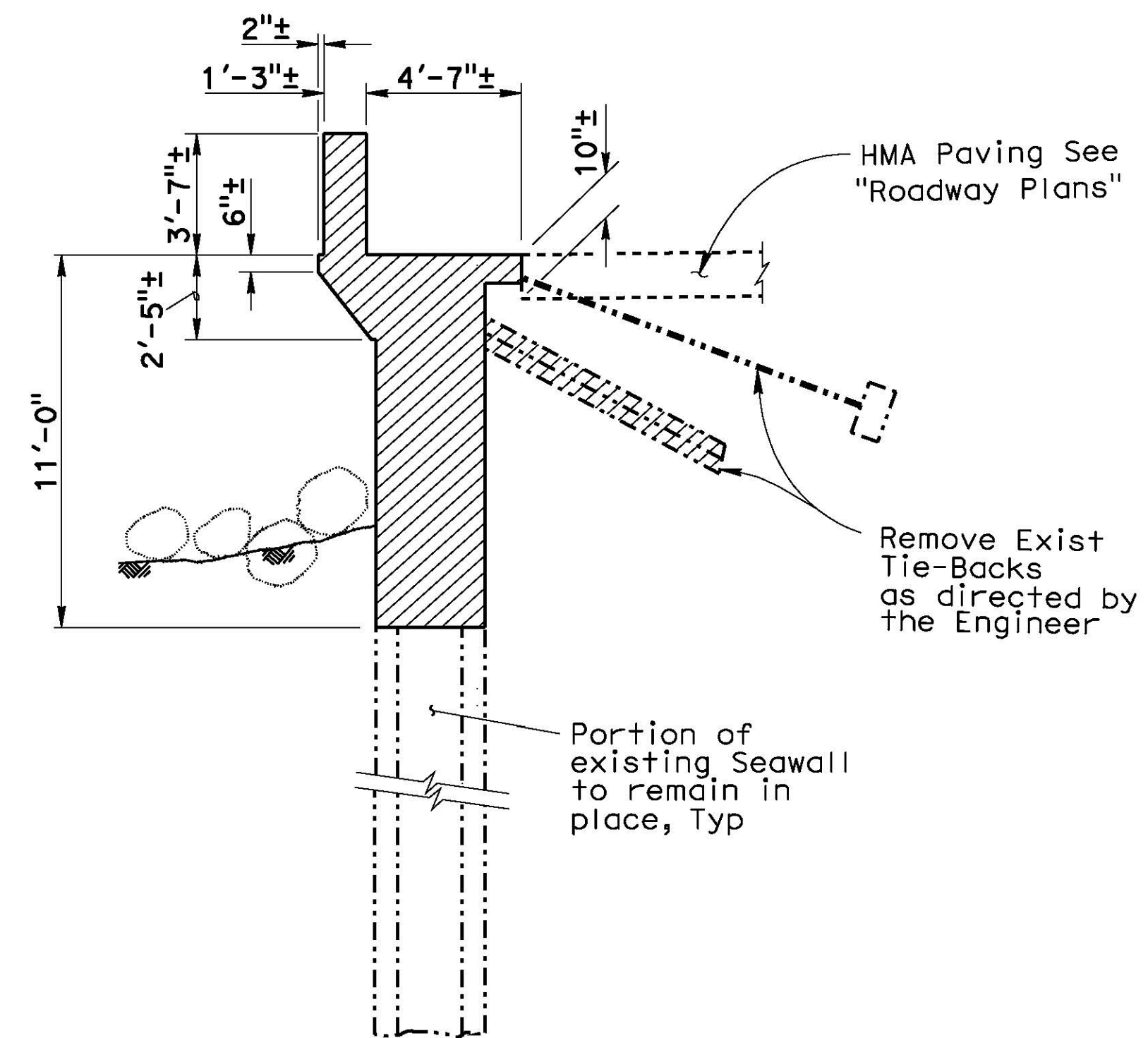
Scale: 3/4"=1'-0"



ELEVATION **EXISTING SEAWALL REMOVAL**

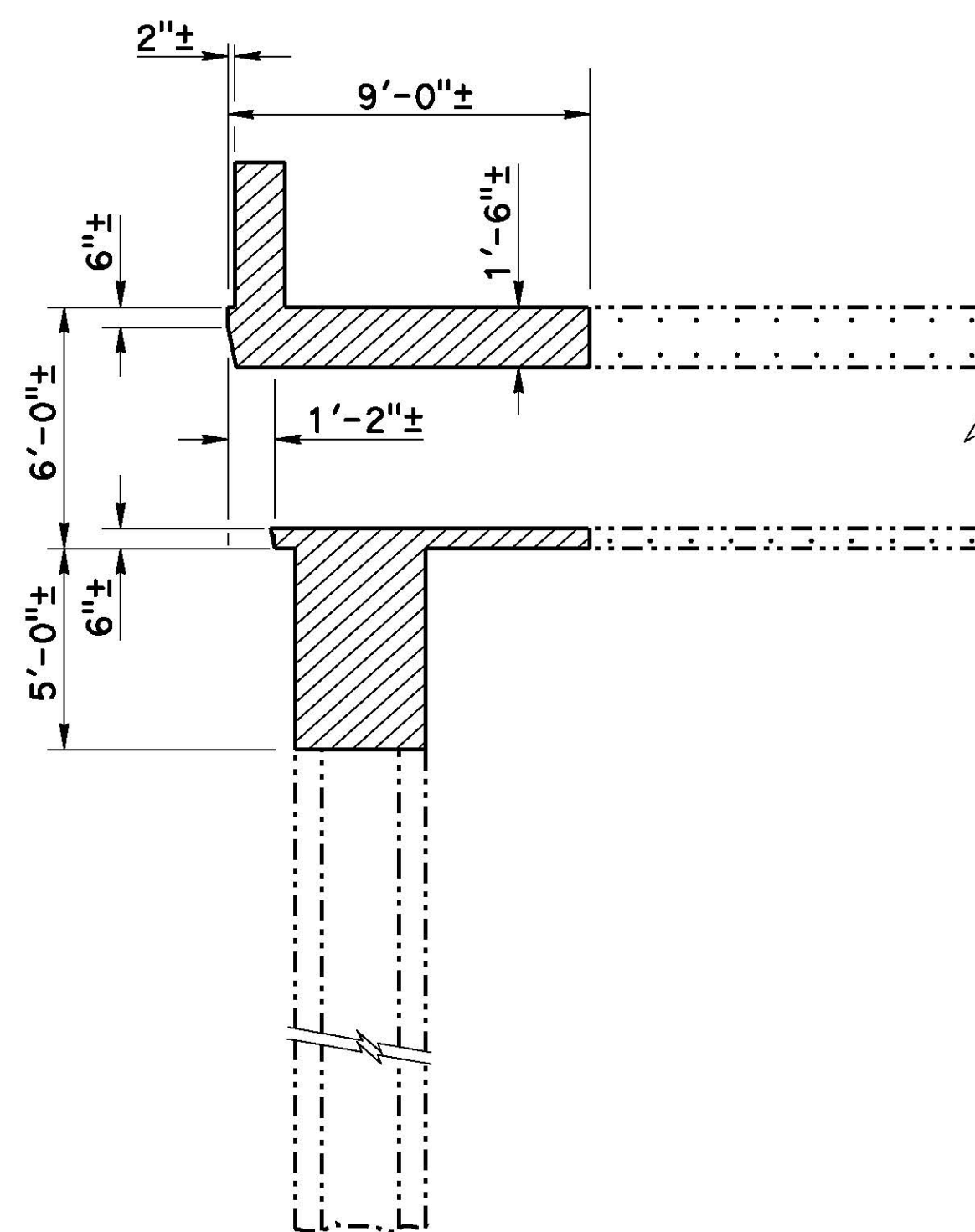
Scale: $\frac{3}{8}$ "=1'-0"

NOTE:
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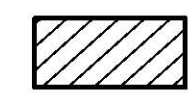
SECTION K-K

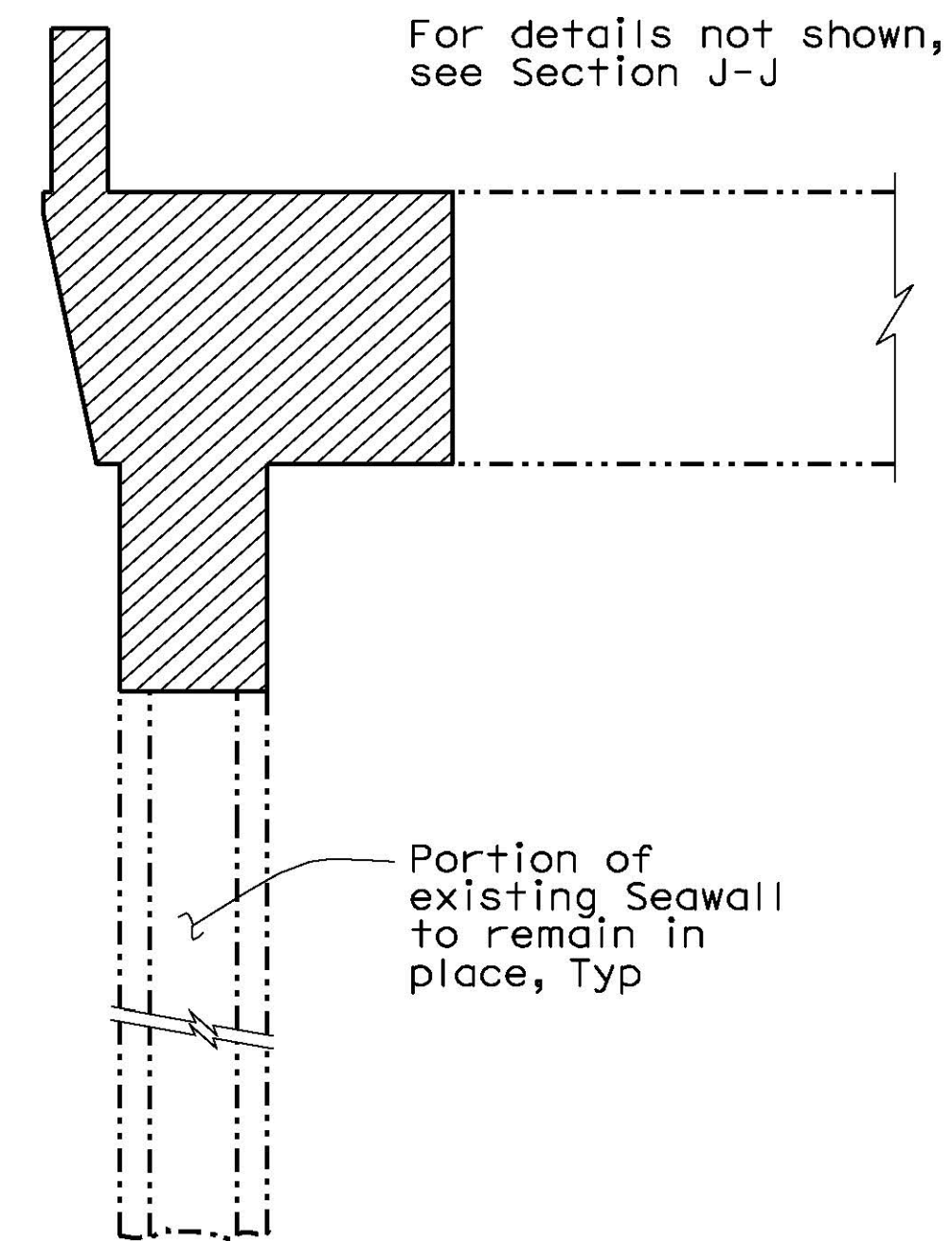
Scale: $\frac{1}{4}$ "=1'-0"



SECTION J-J

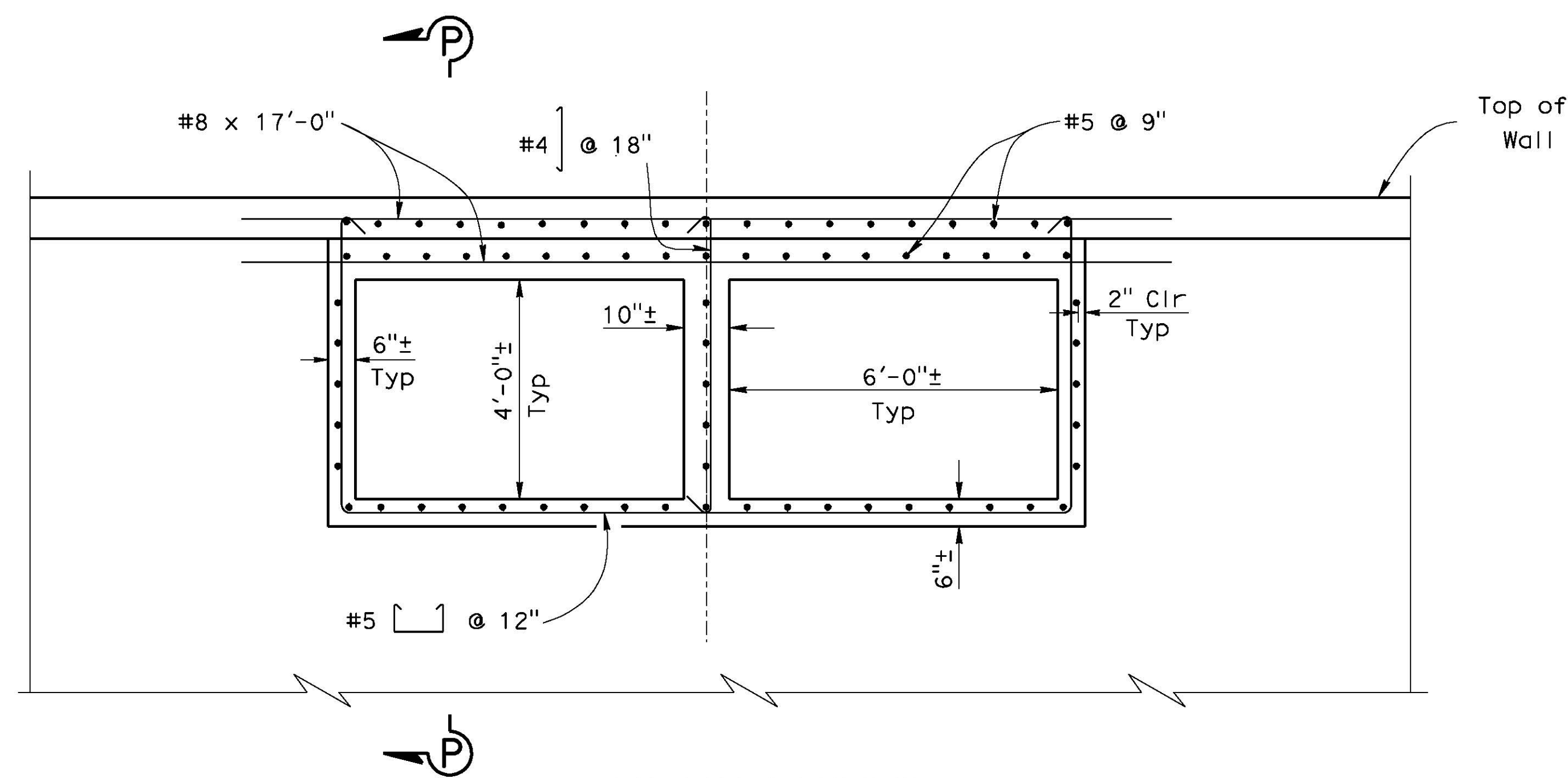
Scale: $\frac{1}{4}$ "=1'-0"

 - Limits of Bridge Removal (Portion)



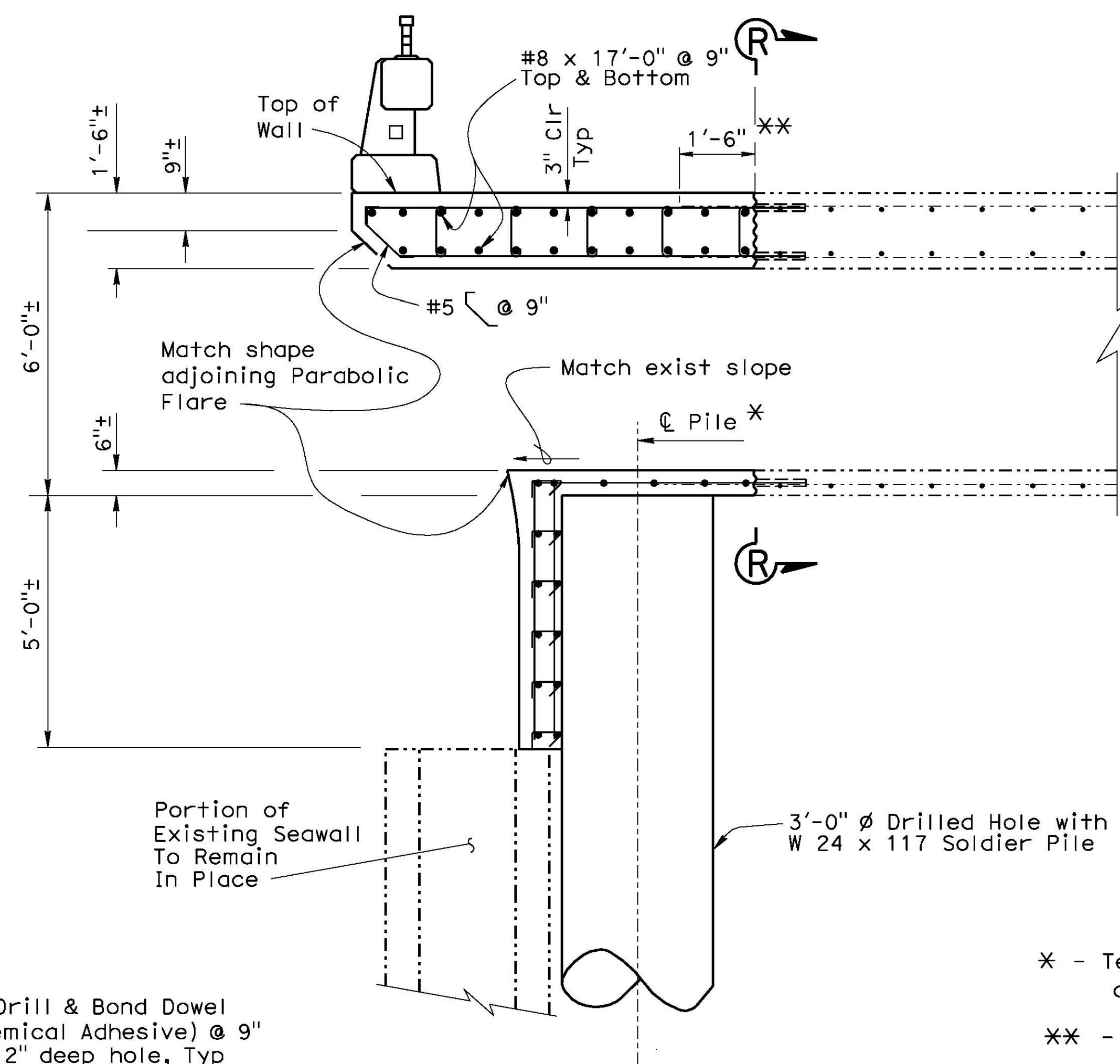
SECTION I-I

Scale: $\frac{1}{4}$ "=1'-0"



ELEVATION

Scale: $\frac{1}{2}$ "=1'-0"



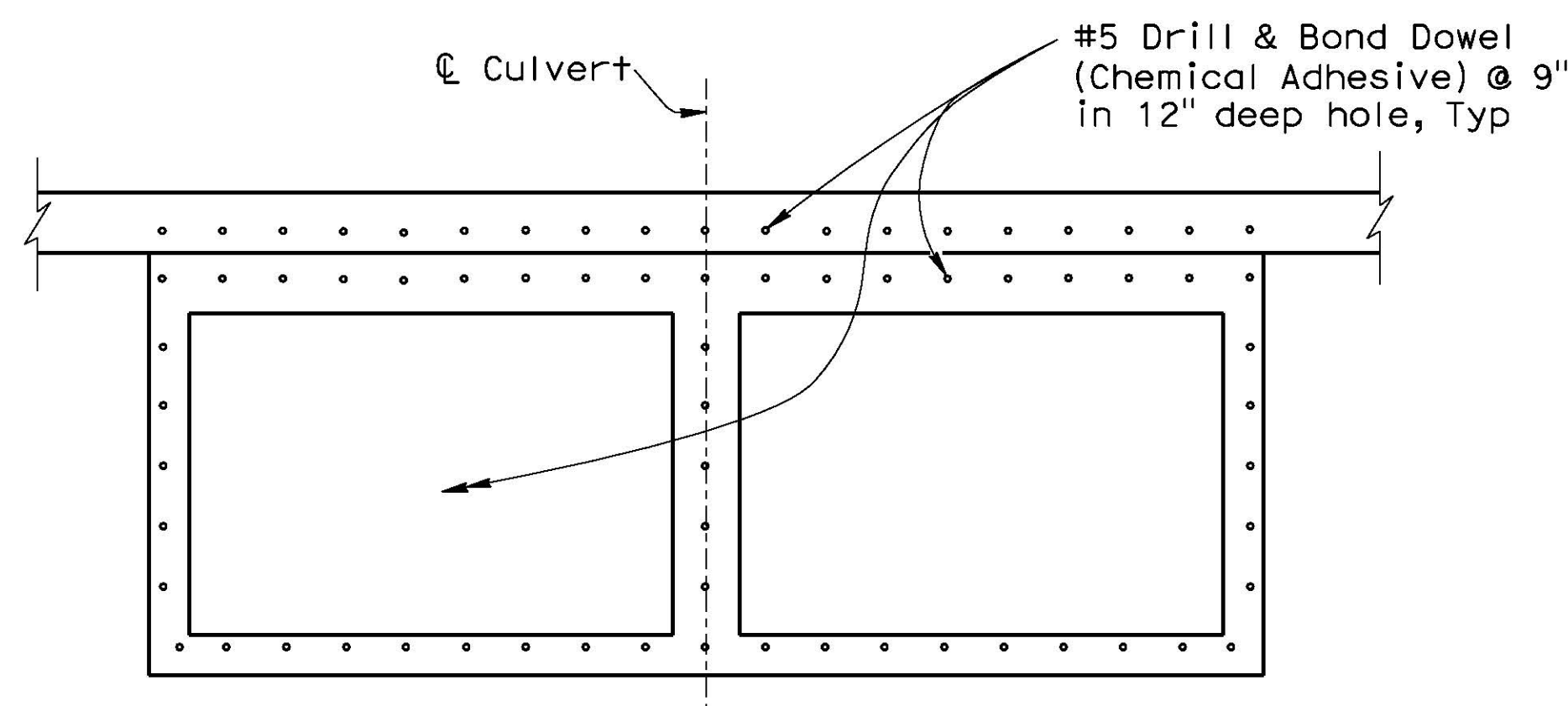
SECTION P-P

Scale: $\frac{1}{2}$ "=1'-0"

- * - Terminate the pile at culvert soffit
- ** - Existing rebar to remain in place

Notes:

1. Match exist culvert opening dimensions and its concrete wall thicknesses
2. All Reinf shall be prefabricated epoxy coating



SECTION R-R

Scale: $\frac{1}{2}$ "=1'-0"

NOTE:
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Notes:

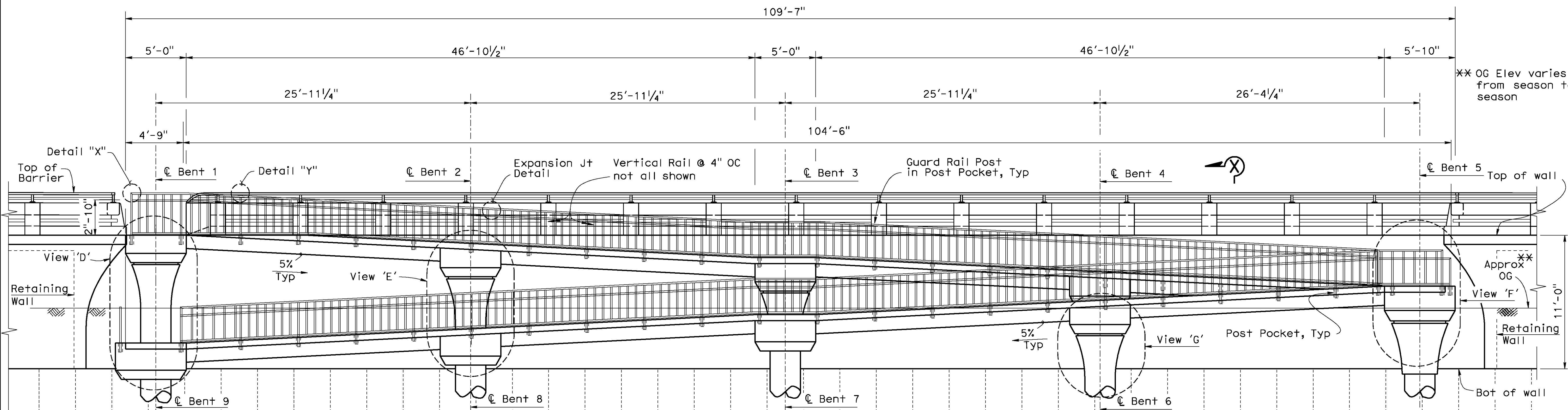
1. For post pocket, Wall Handrail and Guardrail details see "ACCESS STAIRS DETAILS NO. 2" sheet
2. For Section N-N, View "J" & 'Detail S', see "ACCESS RAMP DETAILS NO. 2" sheet
3. For Section X-X, see "ACCESS RAMP DETAILS NO. 5" sheet
4. For View "D", see "ACCESS RAMP DETAILS NO. 3" sheet

5. For View "E", see "ACCESS RAMP DETAILS NO. 4" sheet
6. For View "F", see "ACCESS RAMP DETAILS NO. 5" sheet
7. All reinf shall be prefabricated epoxy coated
8. For View "G", see "ACCESS RAMP DETAILS NO. 6" sheet

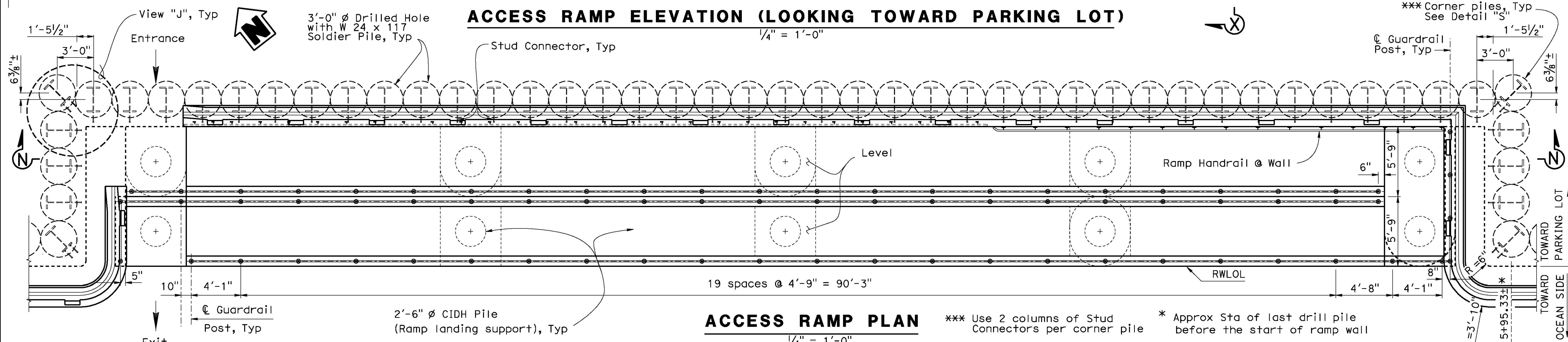
9. For 'Expansion Jt Detail', 'Detail X' and 'Detail Y', see "ACCESS STAIRS DETAILS NO. 2" sheet

Design Notes:

- 2007 CBC
1. Ramp/Landing: LL: 100 psf Railing:
 2. LL: 20 psf @ Top Rail
 3. All Guardrails & Posts are 1 1/2" Ø std pipe



ACCESS RAMP ELEVATION (LOOKING TOWARD PARKING LOT)



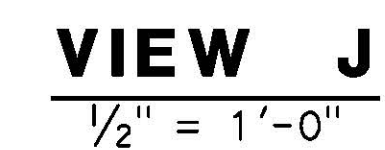
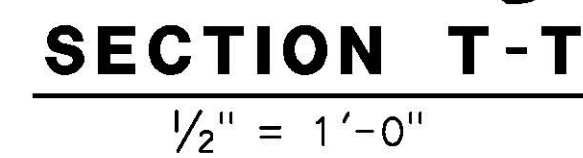
ACCESS RAMP PLAN

*** Use 2 columns of Stud Connectors per corner pile * Approx Sta of last drill pile before the start of ramp wall

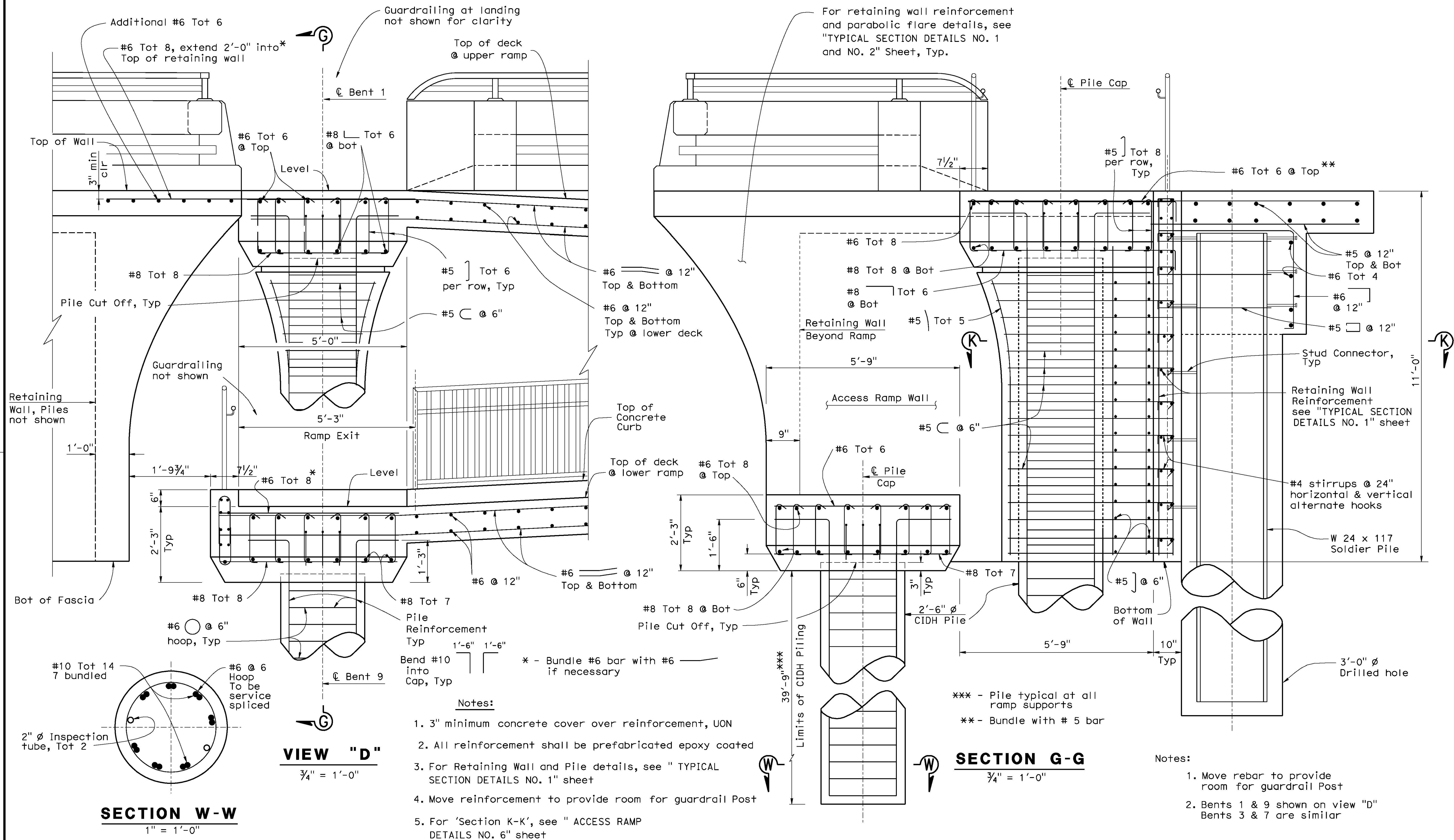
NOTE:
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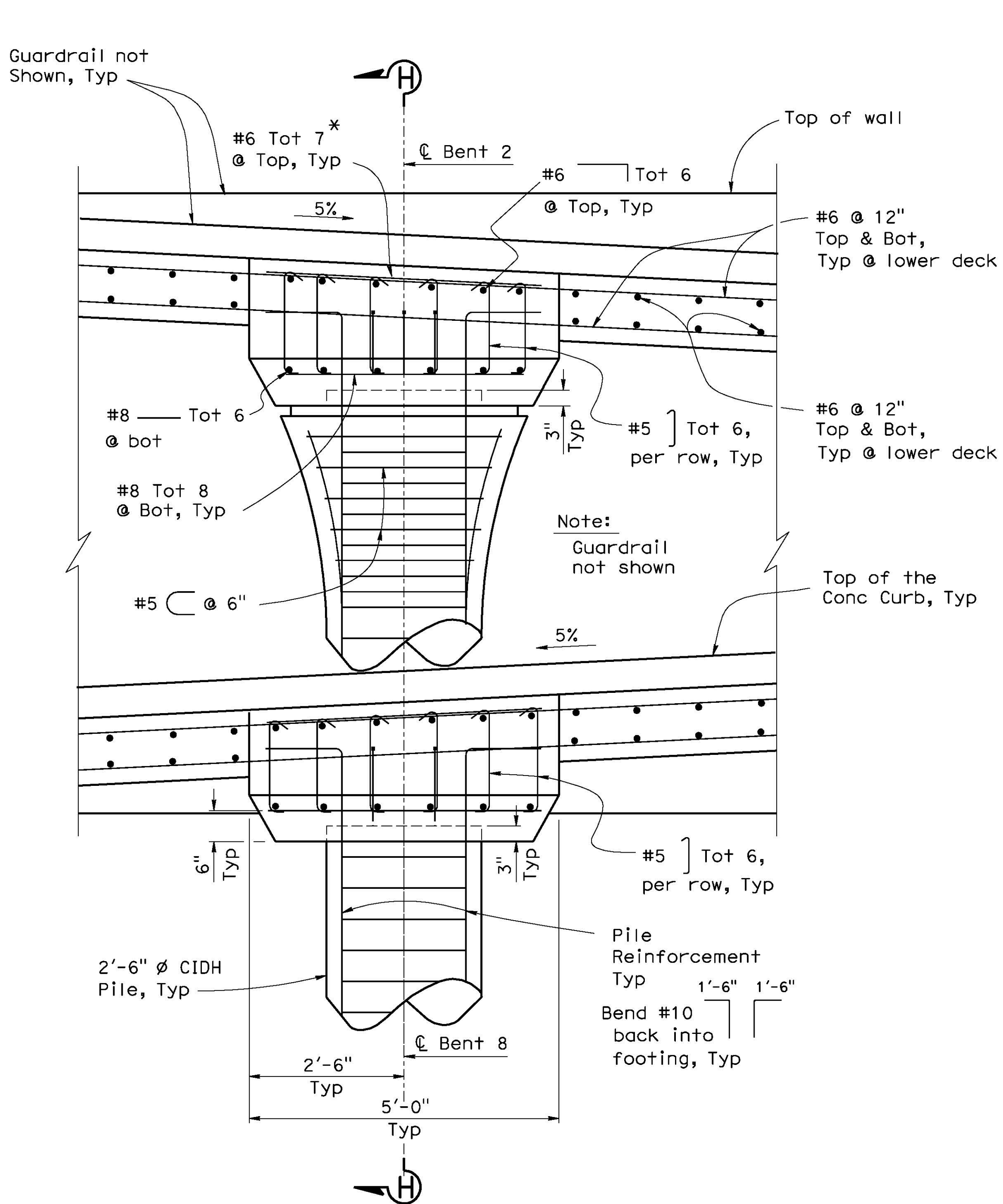
- a. All metal work shall be hot dip galvanized after fabrication
- b. Secure metal to metal connections shown as + with a $\frac{1}{2}$ " ϕ x $1\frac{1}{2}$ " hex head machine bolt, lock washer & hex nut unless otherwise noted
- c. Mechanical Expansion Anchors shall be $\frac{5}{8}$ " ϕ & have a 4" minimum embedment, 3'-0" maximum spacing & placed 6" from ends, two minimum, unless otherwise shown
- d. All lock washers shall be helical spring lock washers
- e. All Railing shall have smooth edges

1. For Stair Handrail Support, see "ACCESS STAIRS DETAILS NO. 2" sheet
2. All Reinf shall be prefabricated epoxy coated



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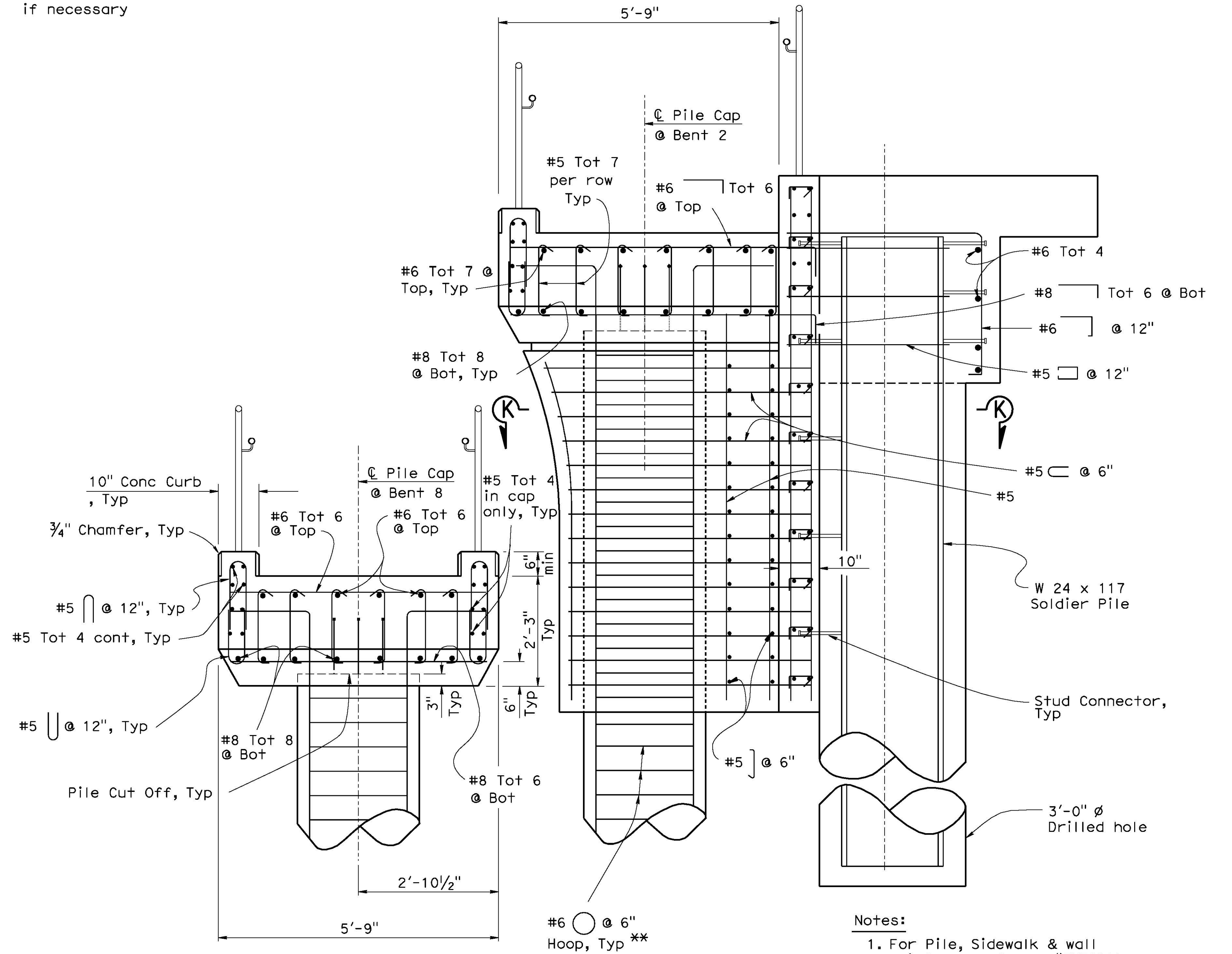


VIEW 'E'
3/4" = 1'-0"

Notes:

1. 3" minimum concrete cover over reinforcement, UON
2. All reinforcement shall be prefabricated epoxy coated
3. For Retaining Wall and Pile details, see " TYPICAL SECTION DETAILS NO. 1" sheet
4. Move reinforcement to provide room for Guardrail Post

* - Bundle #6 bar with #6 deck bar if necessary



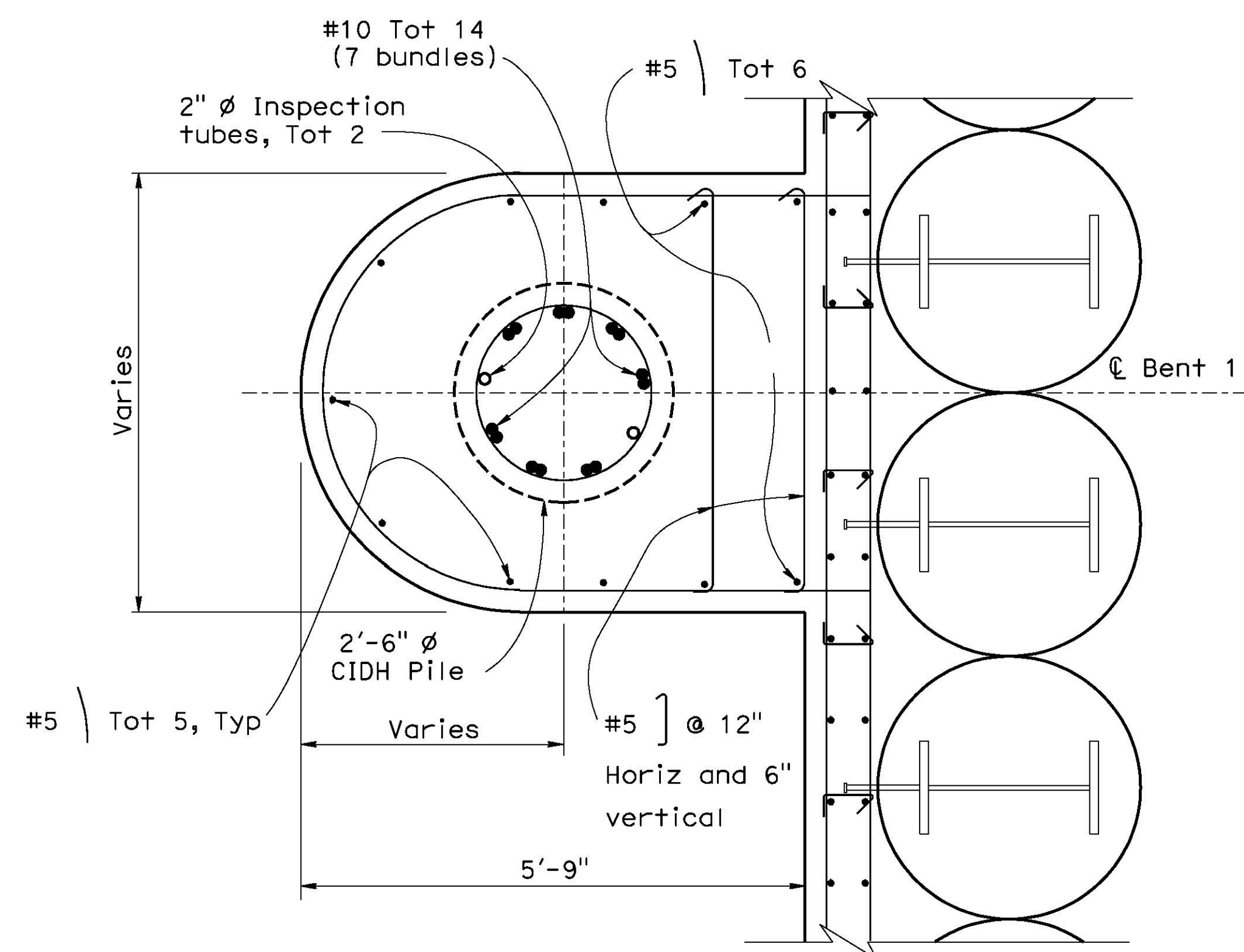
SECTION H-H
3/4" = 1'-0"

** - Hoops to be service spliced

Notes:

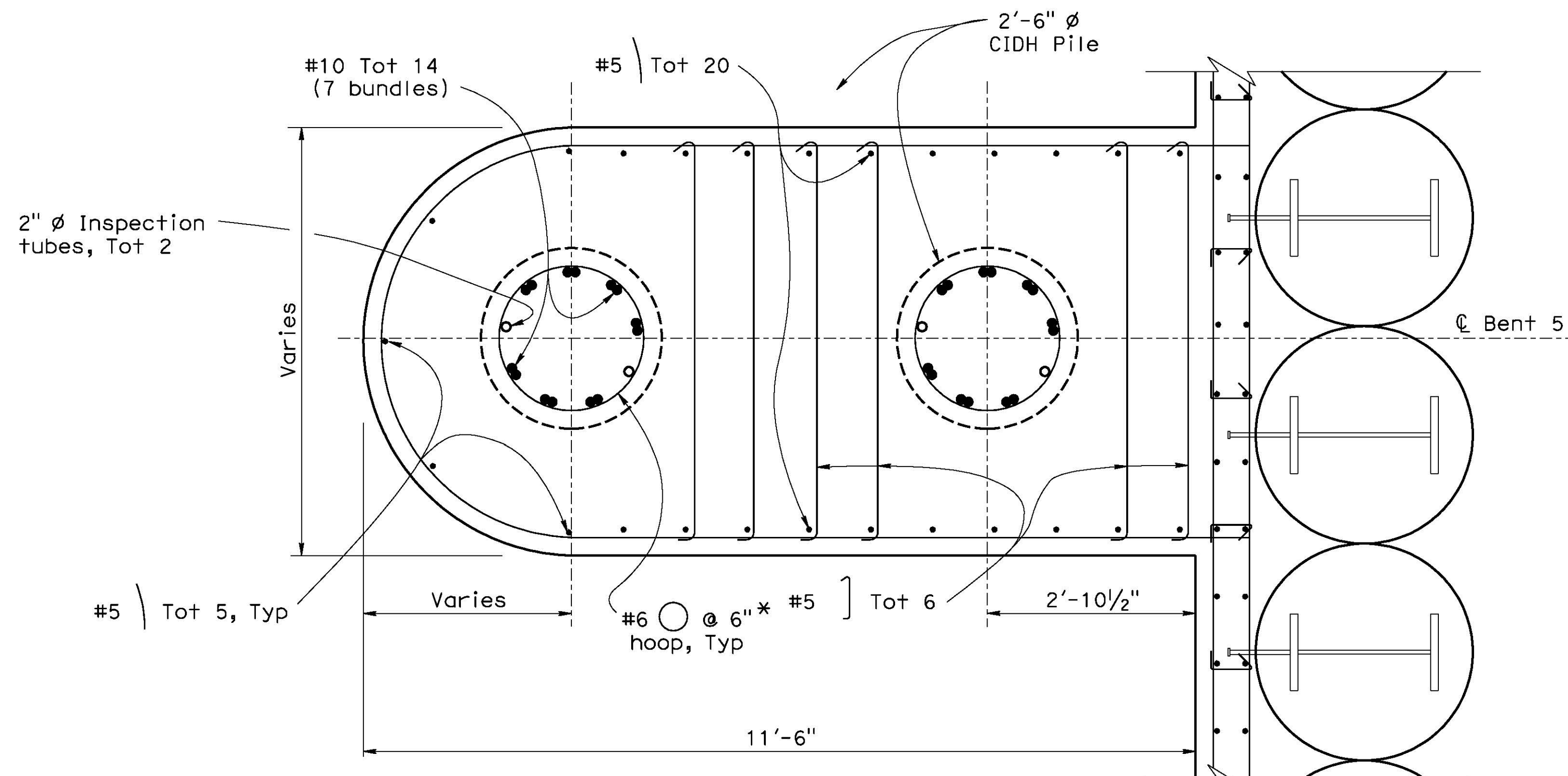
1. For Pile, Sidewalk & wall reinforcement, see "TYPICAL SECTION DETAILS NO.1" sheet
2. Move reinforcement to provide room for Guardrail Post
3. Bents 2 & 8 are shown on 'View E' Bent 4 similar, see Bent 6 on 'View G'
4. For 'Section K-K' and 'View G', see "ACCESS RAMP DETAILS NO.6" sheet

NOTE:
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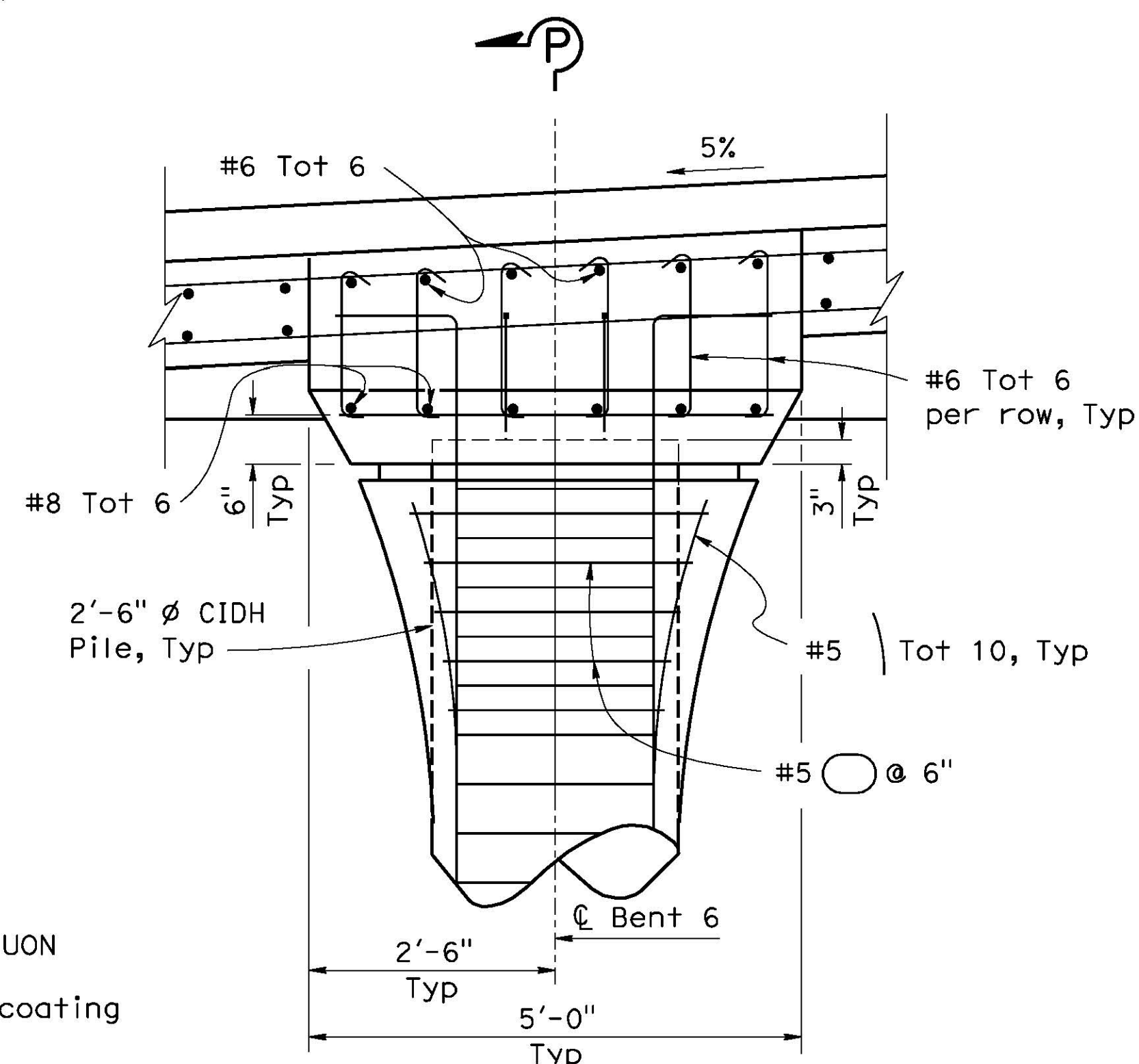
SECTION K-K

$\frac{3}{4}" = 1'-0"$



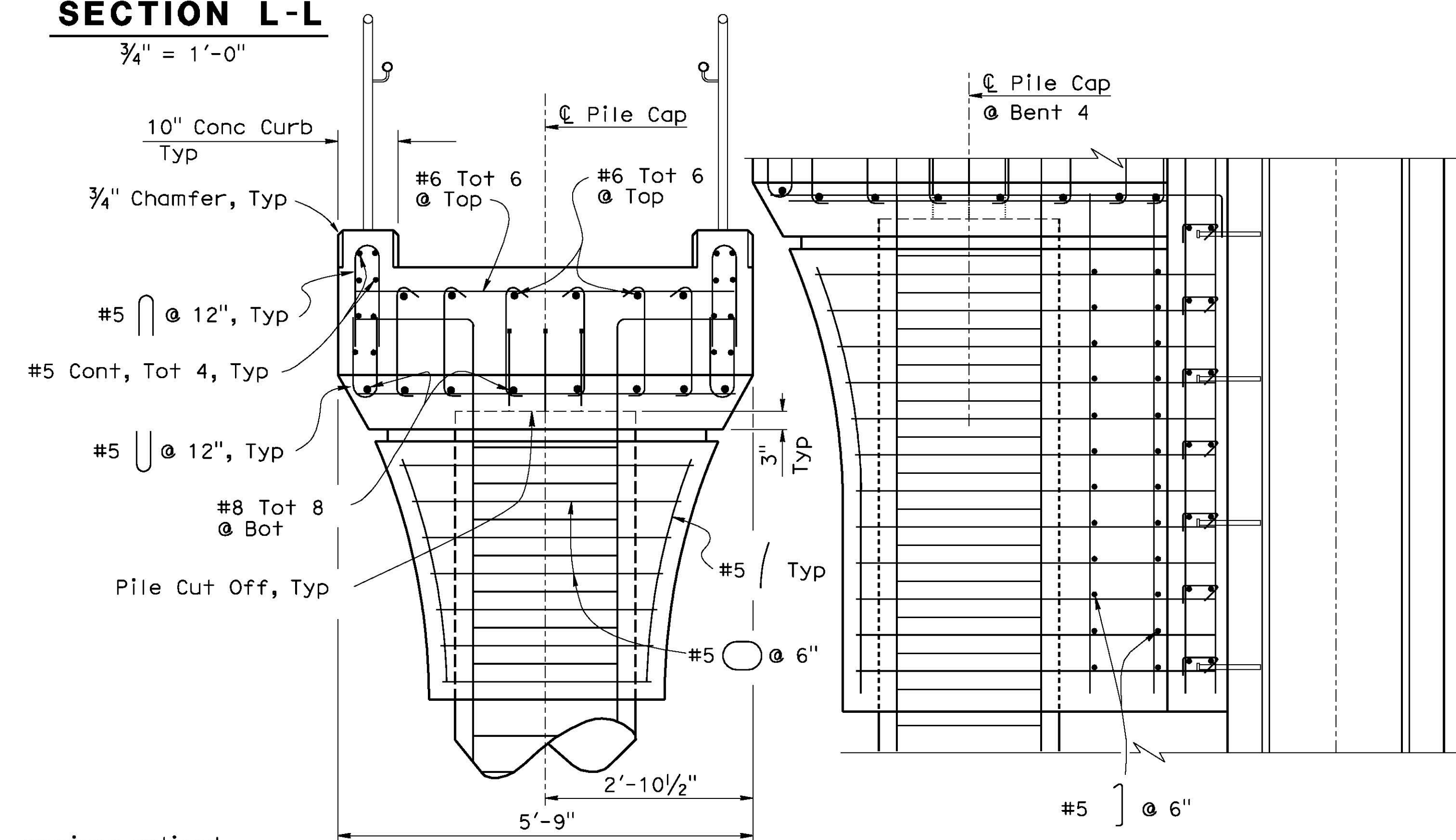
SECTION L-L

$\frac{3}{4}" = 1'-0"$



VIEW G

$\frac{3}{4}" = 1'-0"$



SECTION P-P

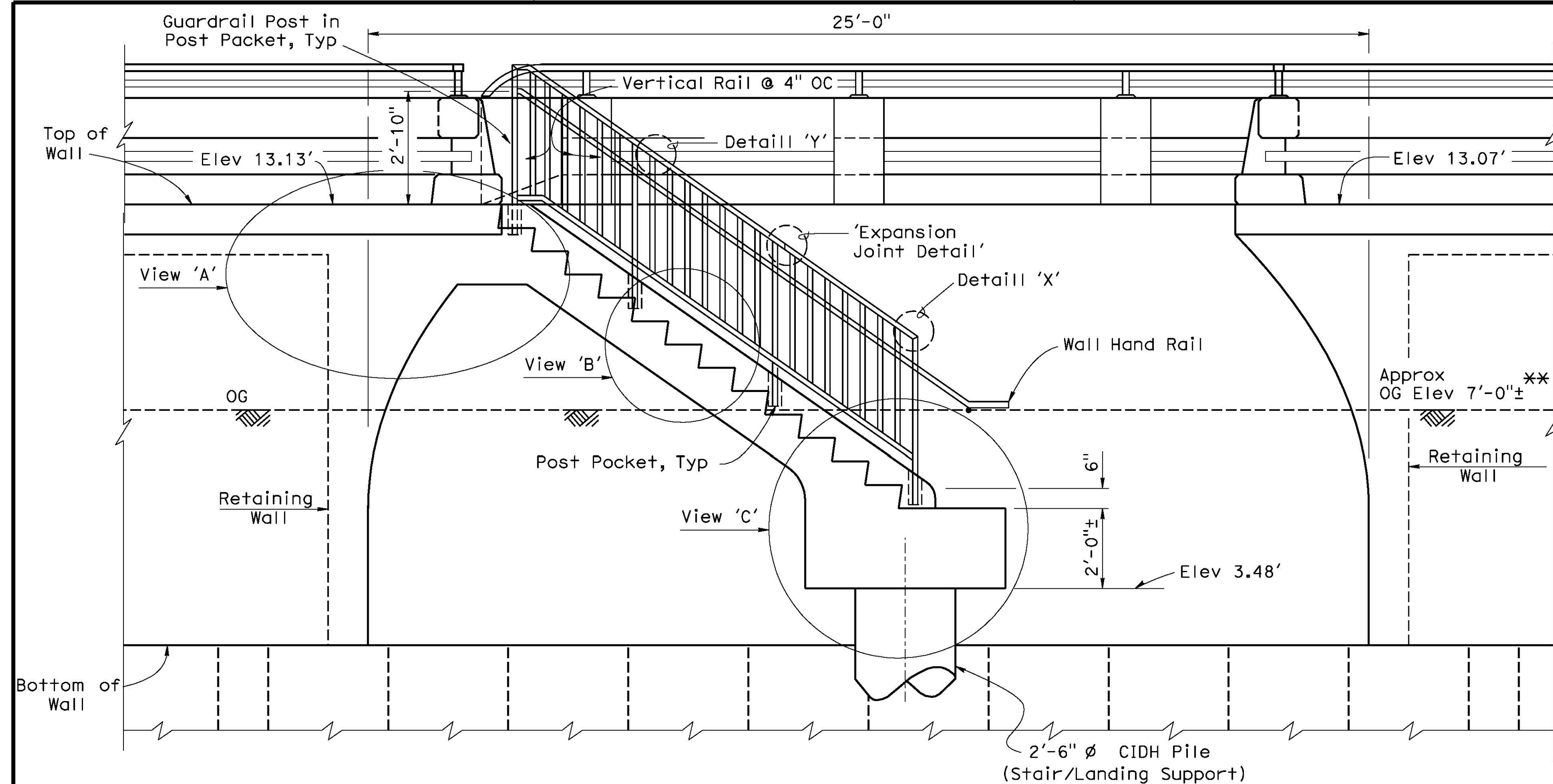
$\frac{3}{4}" = 1'-0"$

* - Hoops to be services spliced

Notes:

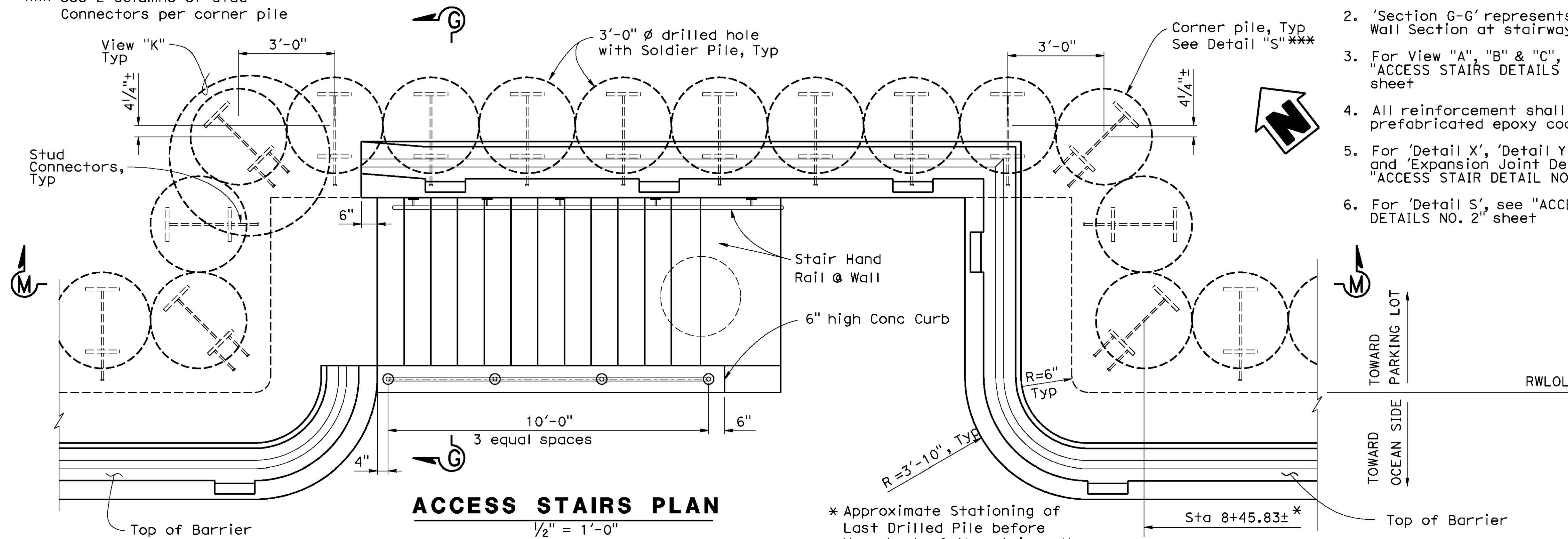
1. 3" minimum concrete cover over reinforcement, UON
2. All reinforcement shall be prefabricated epoxy coating
3. For Retaining Wall and Pile details, see "TYPICAL SECTION DETAILS NO. 1" sheet
4. Move reinforcement to provide room for Guardrail Post

NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.



ACCESS STAIRS ELEVATION (LOOKING TOWARD PARKING LOT)

*** Use 2 columns of Stud Connectors per corner pile



ACCESS STAIRS PLAN

1/2" = 1'-0"

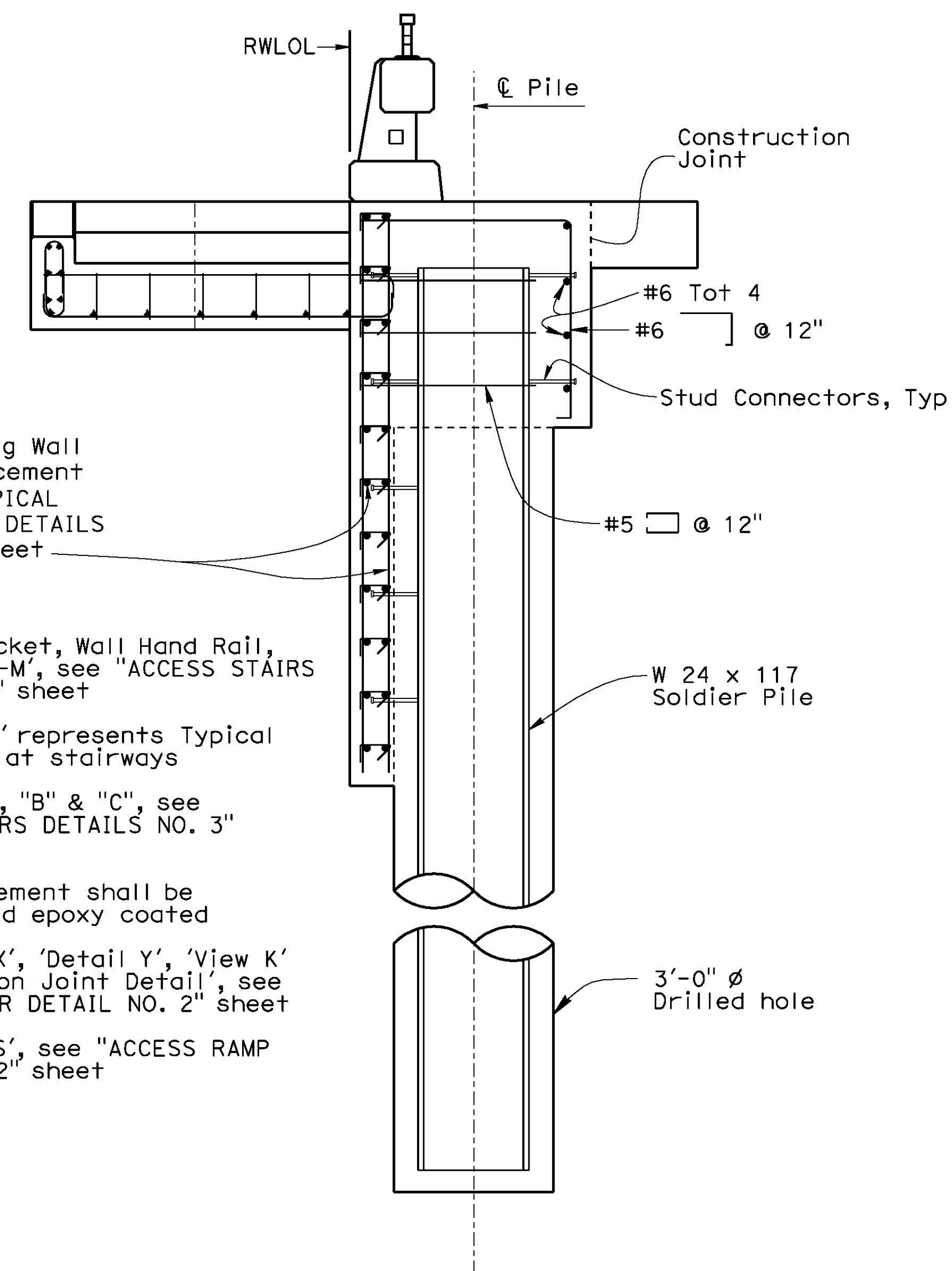
* Approximate Stationing of Last Drilled Pile before the start of the stair wall

Design Notes:

- 2007 CBC
1. Stair/Landing: LL: 100 psf
Railing:
2. LL: 20 psf @ Top Rail
3. All Guardrails & Posts are 1 1/2" Ø std pipe

Notes:

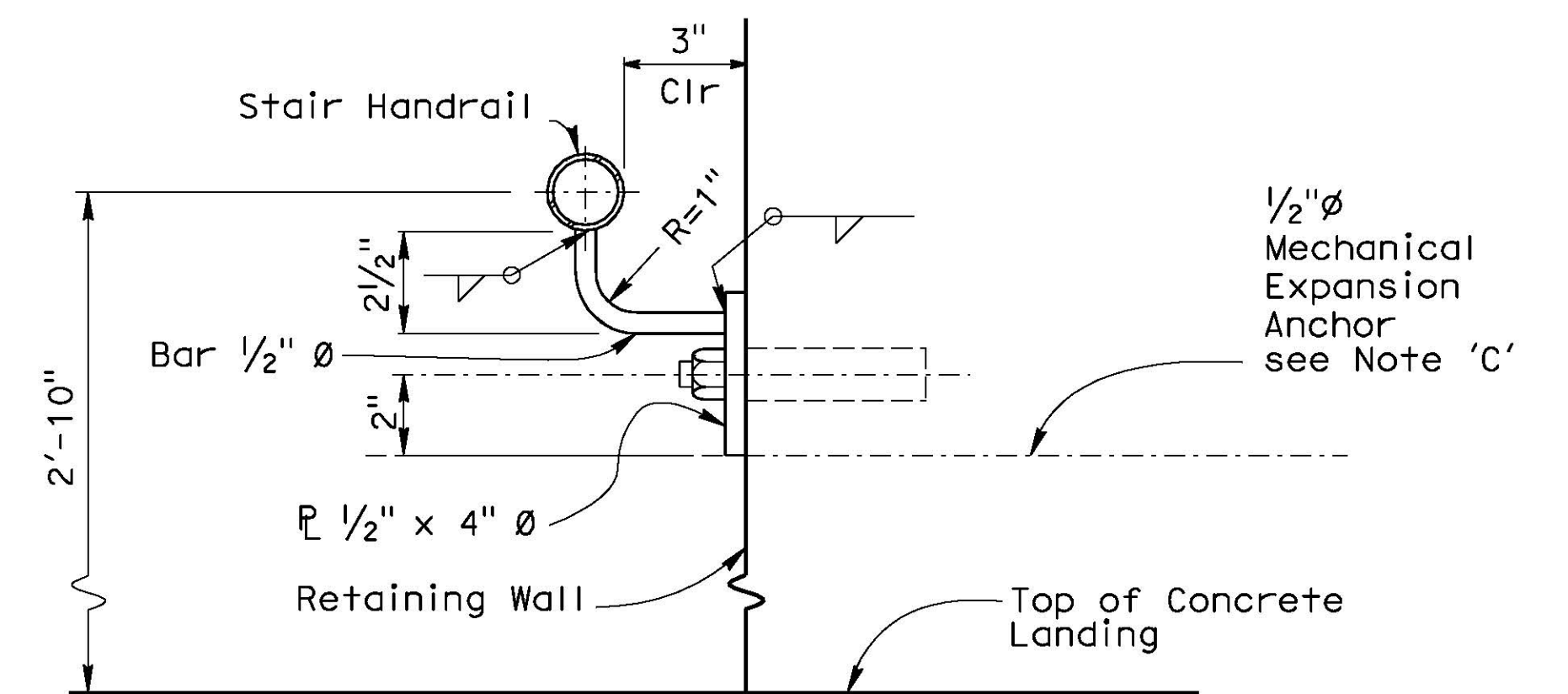
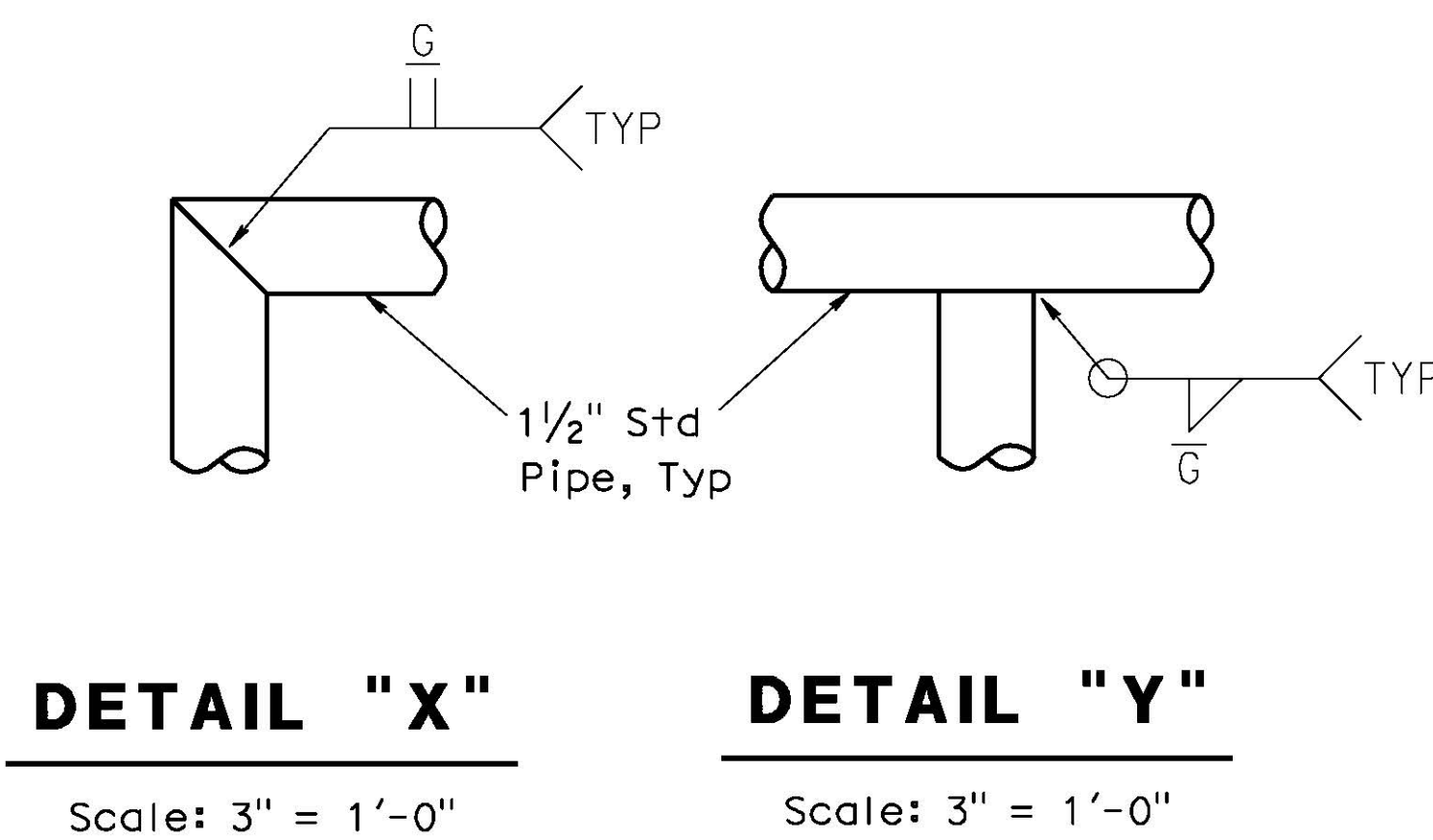
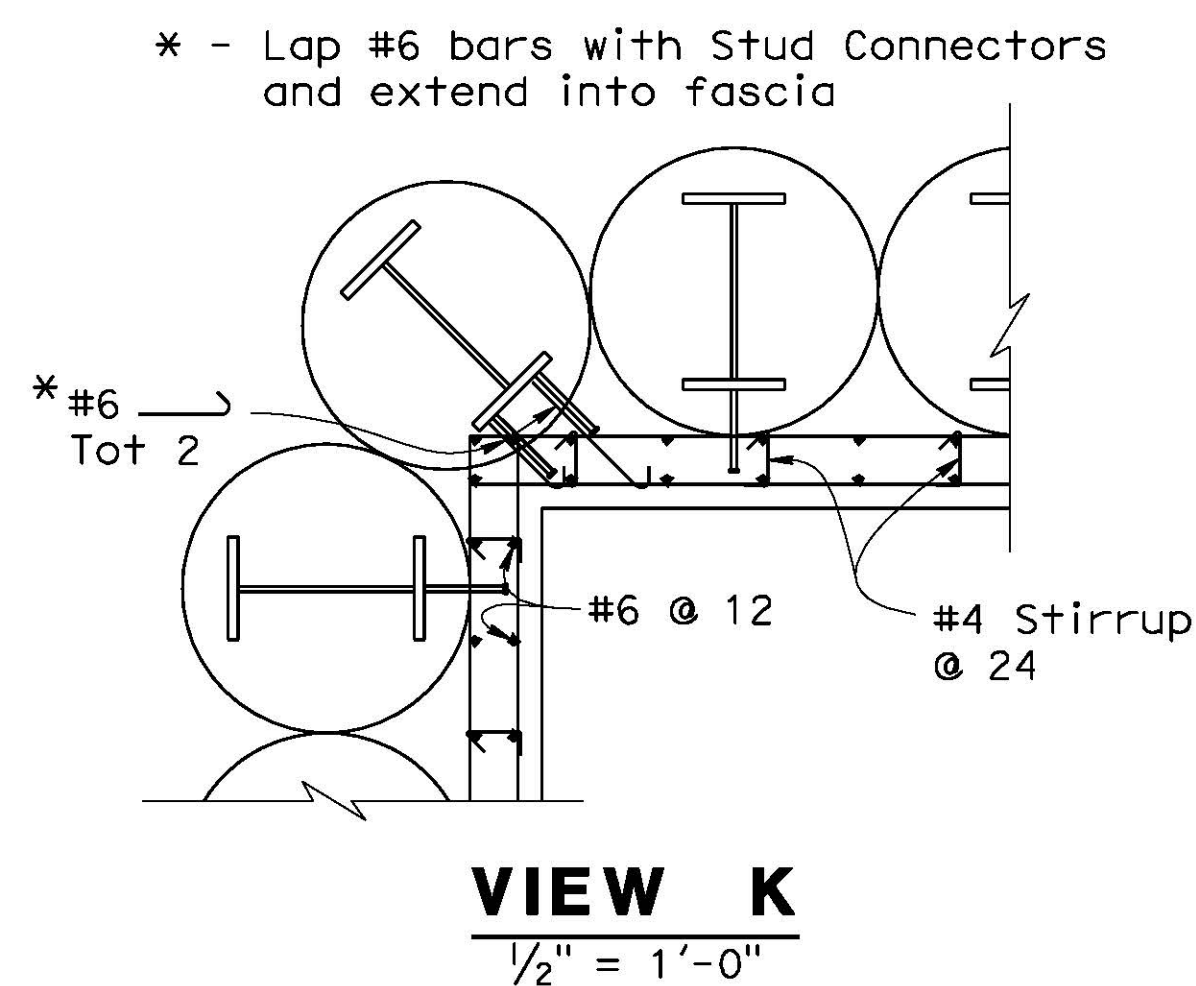
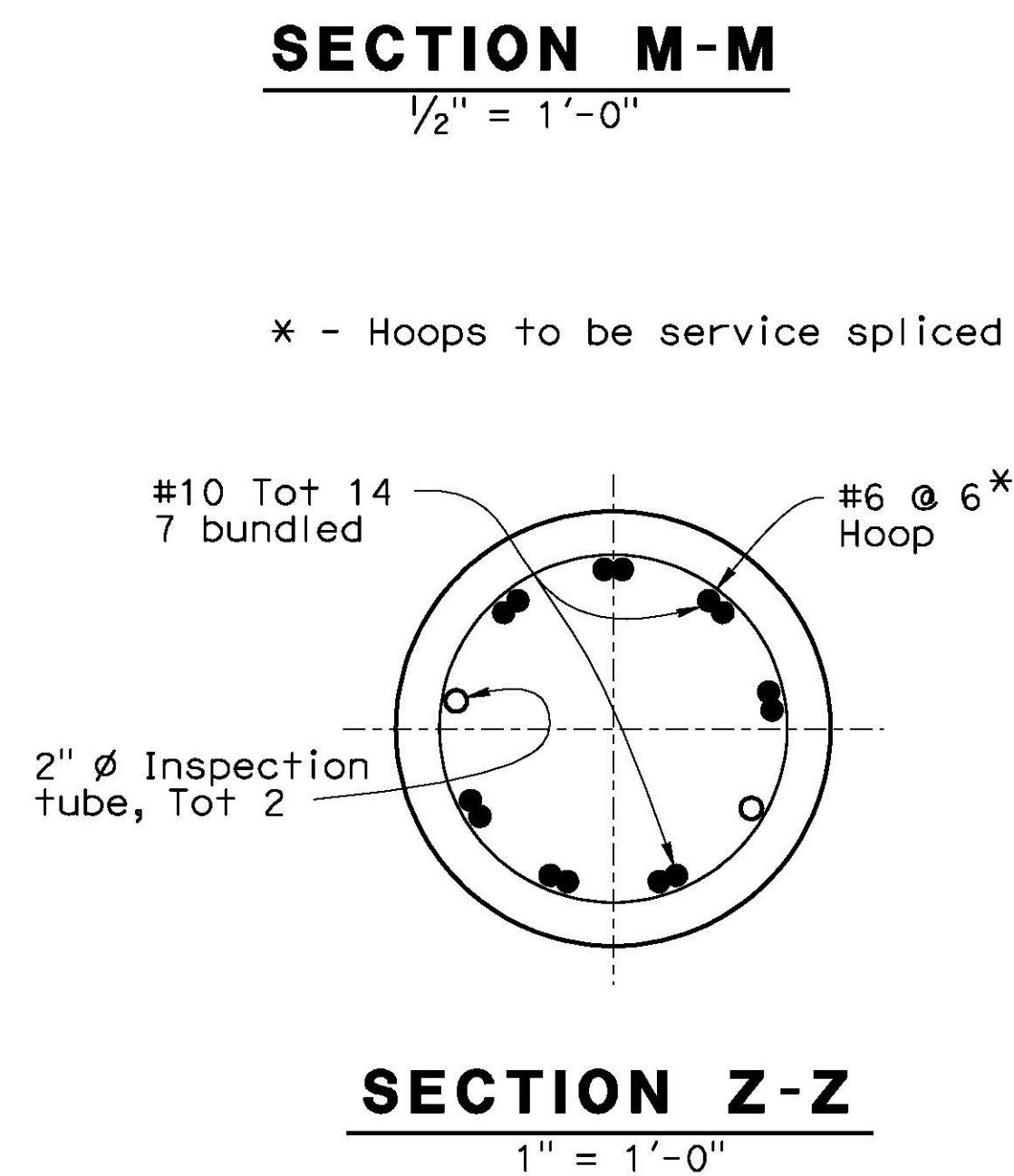
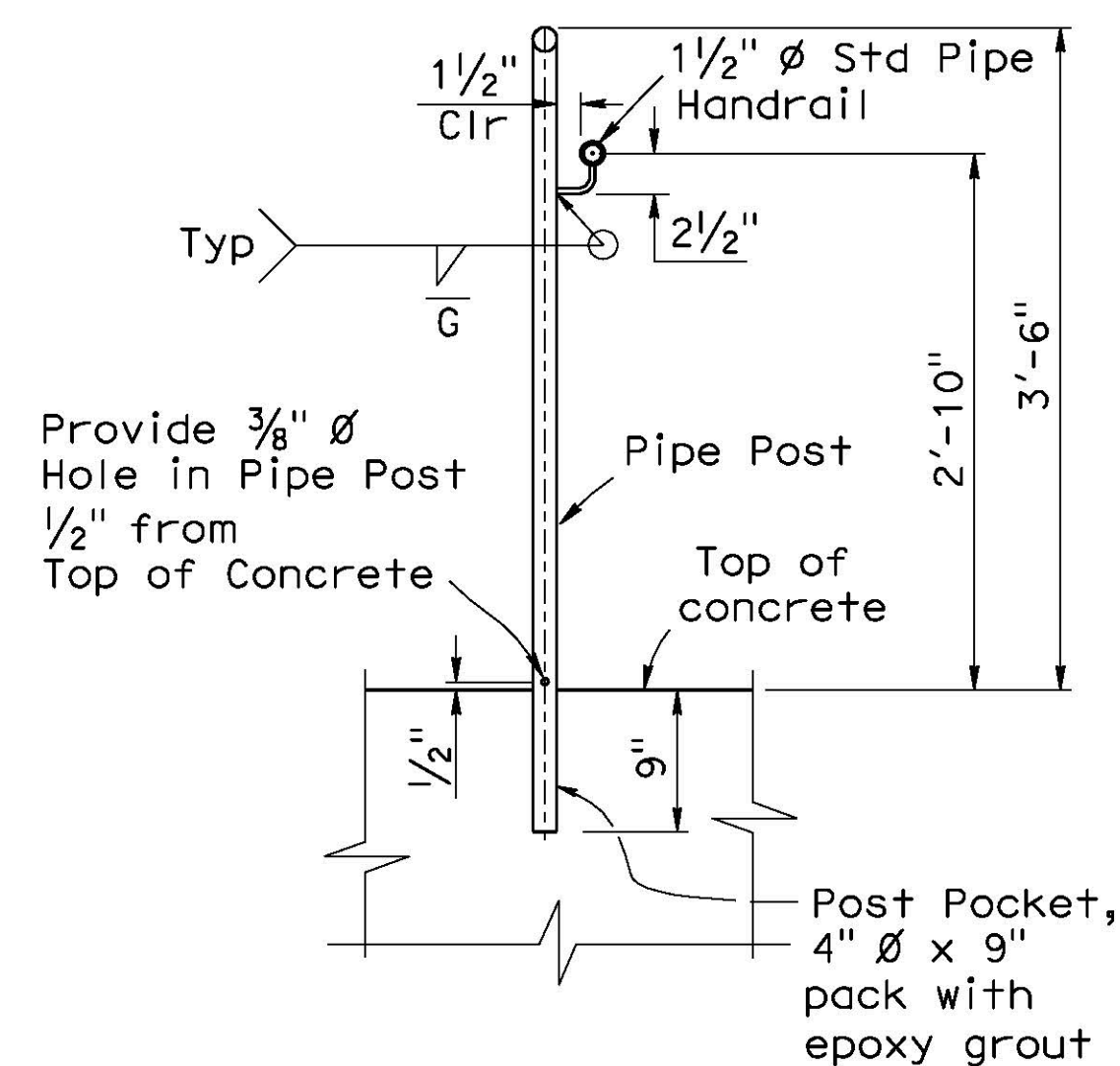
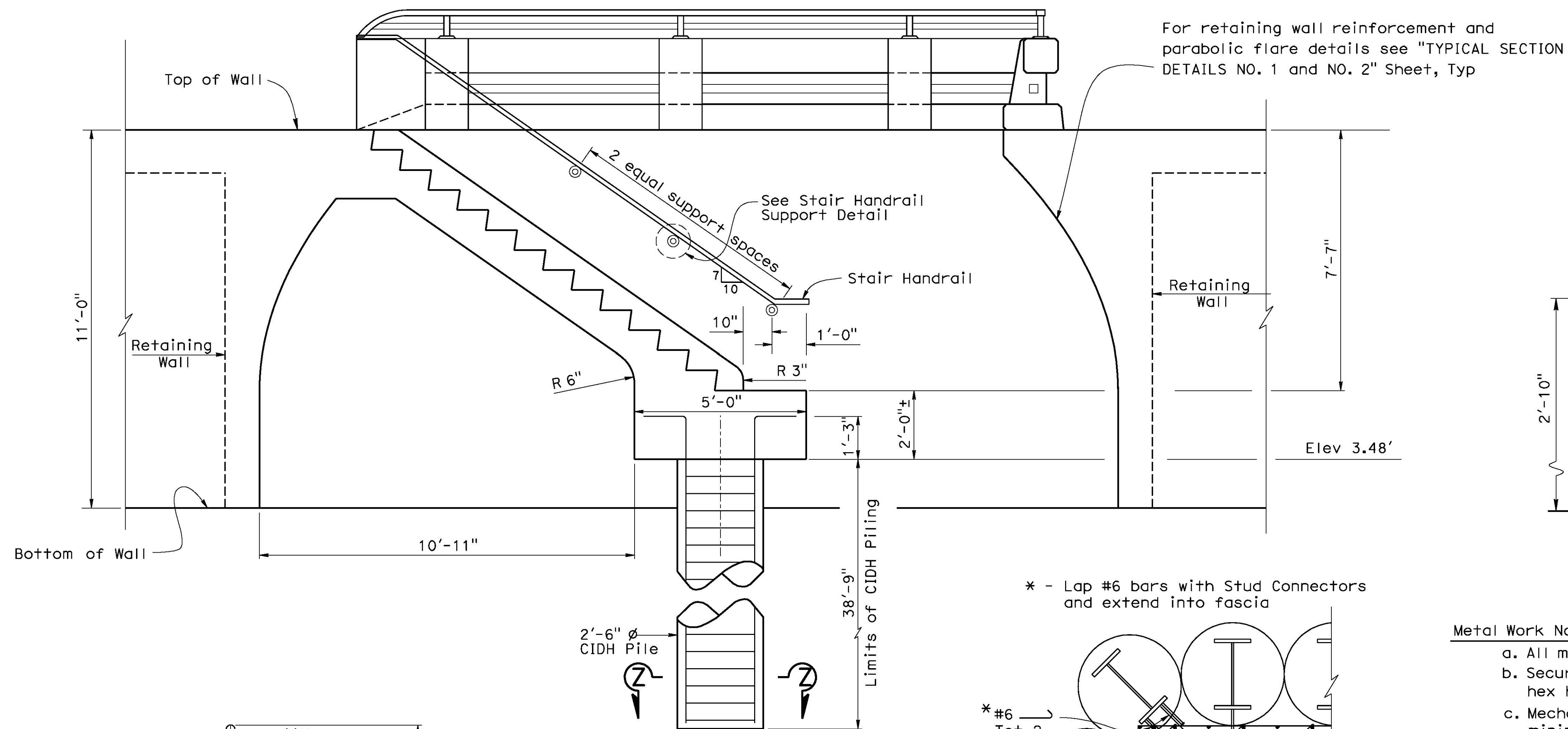
1. For post pocket, Wall Hand Rail, & 'Section M-M', see "ACCESS STAIRS DETAIL NO. 2" sheet
2. 'Section G-G' represents Typical Wall Section at stairways
3. For View "A", "B" & "C", see "ACCESS STAIRS DETAILS NO. 3" sheet
4. All reinforcement shall be prefabricated epoxy coated
5. For 'Detail X', 'Detail Y', 'View K' and 'Expansion Joint Detail', see "ACCESS STAIR DETAIL NO. 2" sheet
6. For 'Detail S', see "ACCESS RAMP DETAILS NO. 2" sheet



SECTION G-G

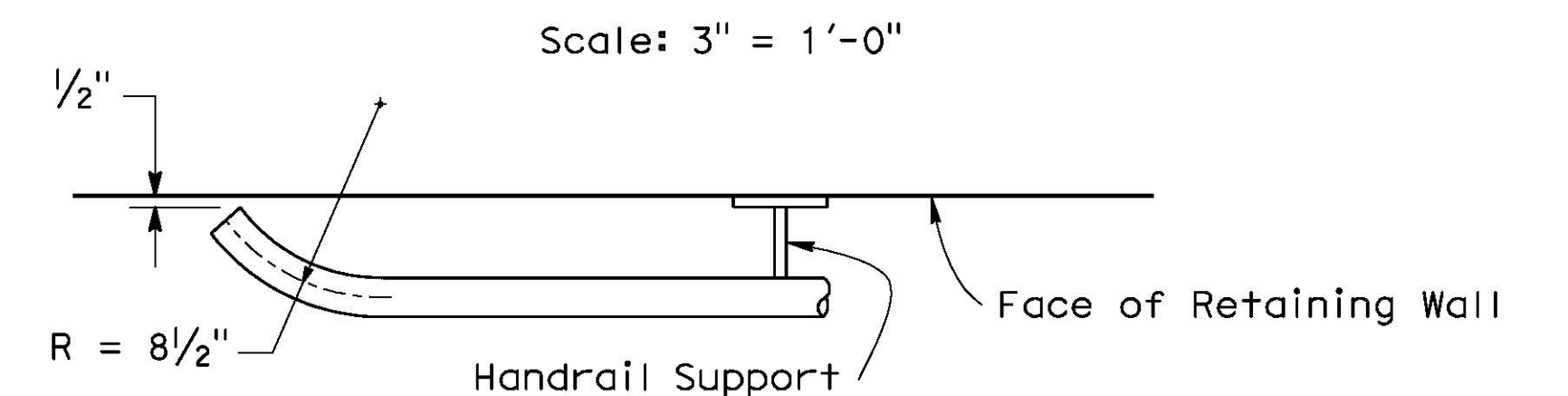
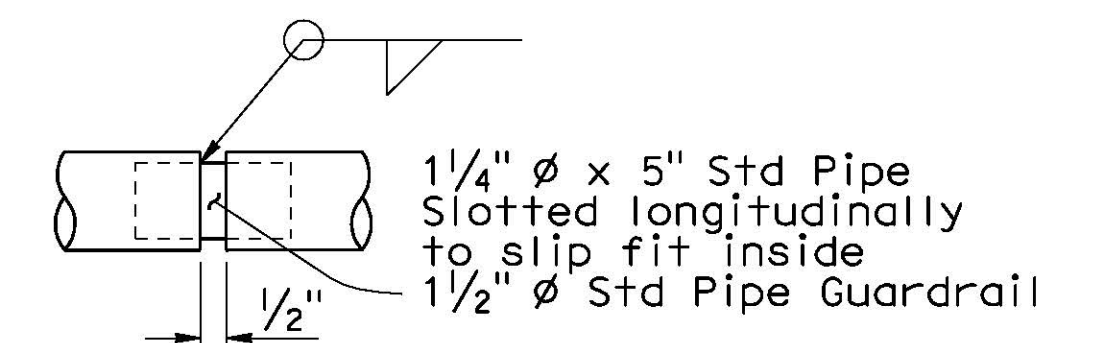
Scale: 1/2" = 1'-0"

NOTE:
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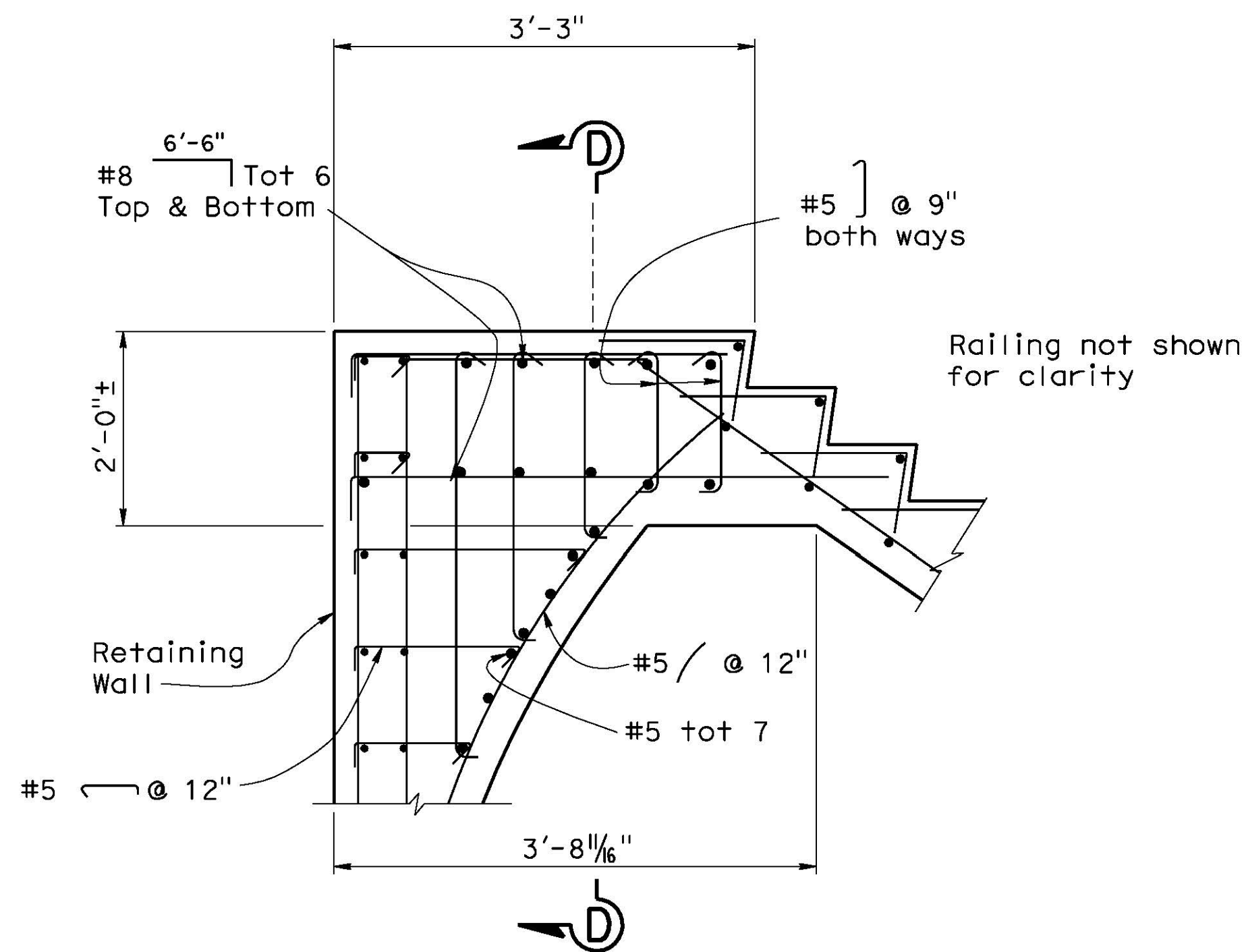


- Metal Work Notes:

- a. All metal work shall be hot dip galvanized after fabrication
- b. Secure metal to metal connections shown as + with a $\frac{1}{2}" \text{ } \phi \times 1\frac{1}{2}"$ hex head machine bolt, lock washer & hex nut unless otherwise noted
- c. Mechanical Expansion Anchors shall be $\frac{3}{8}" \text{ } \phi$ & have a 4" minimum embedment, 3'-0" maximum spacing & placed 6" from ends, two minimum, unless otherwise shown
- d. All lock washers shall be helical spring lock washers
- e. All Railing shall have smooth edges

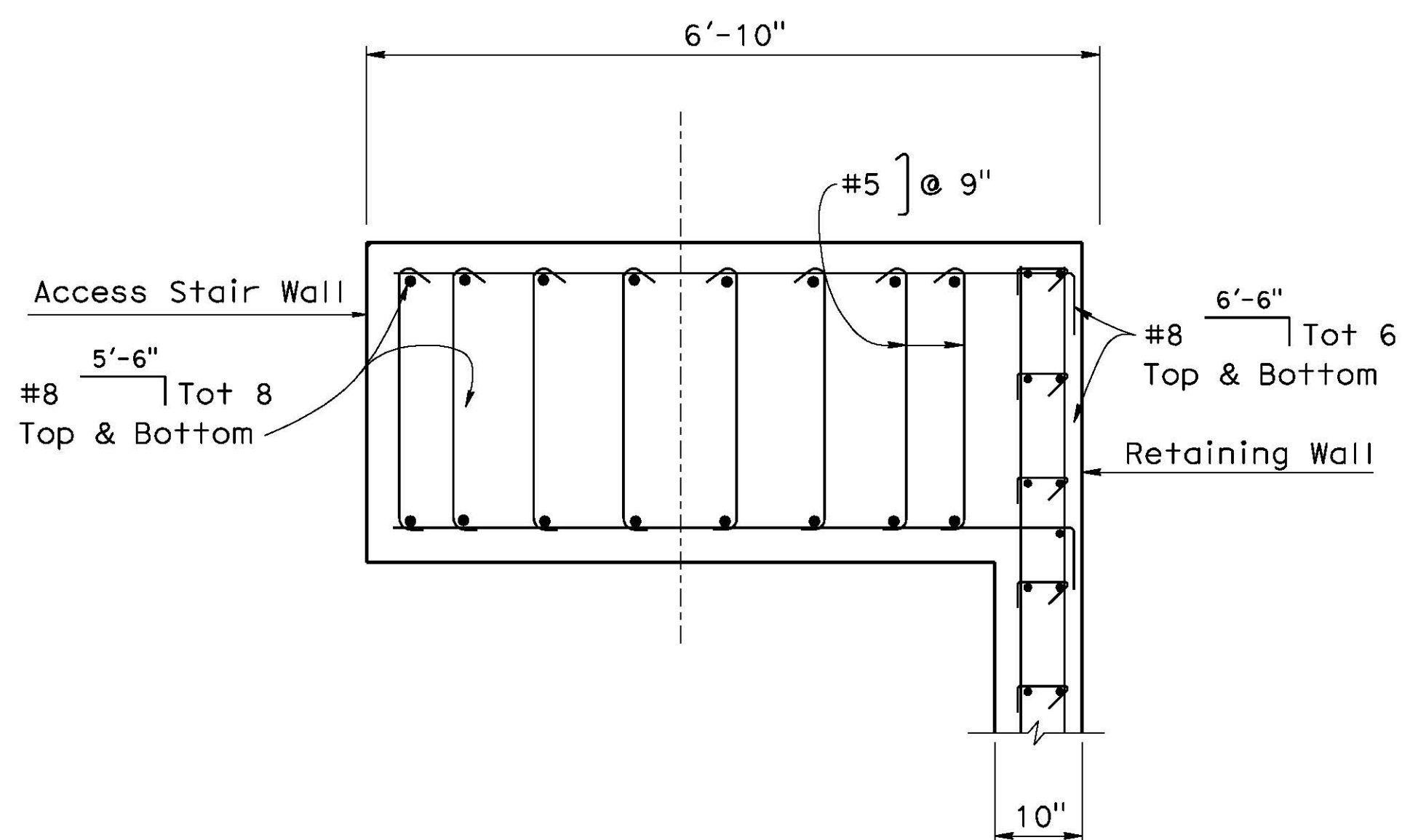


NOTE:
While these sample plans reflect the typical Caltrans' practice, they do not relate to any actual Caltrans projects. These sample plans shall only be used as references to the general workflow documents.



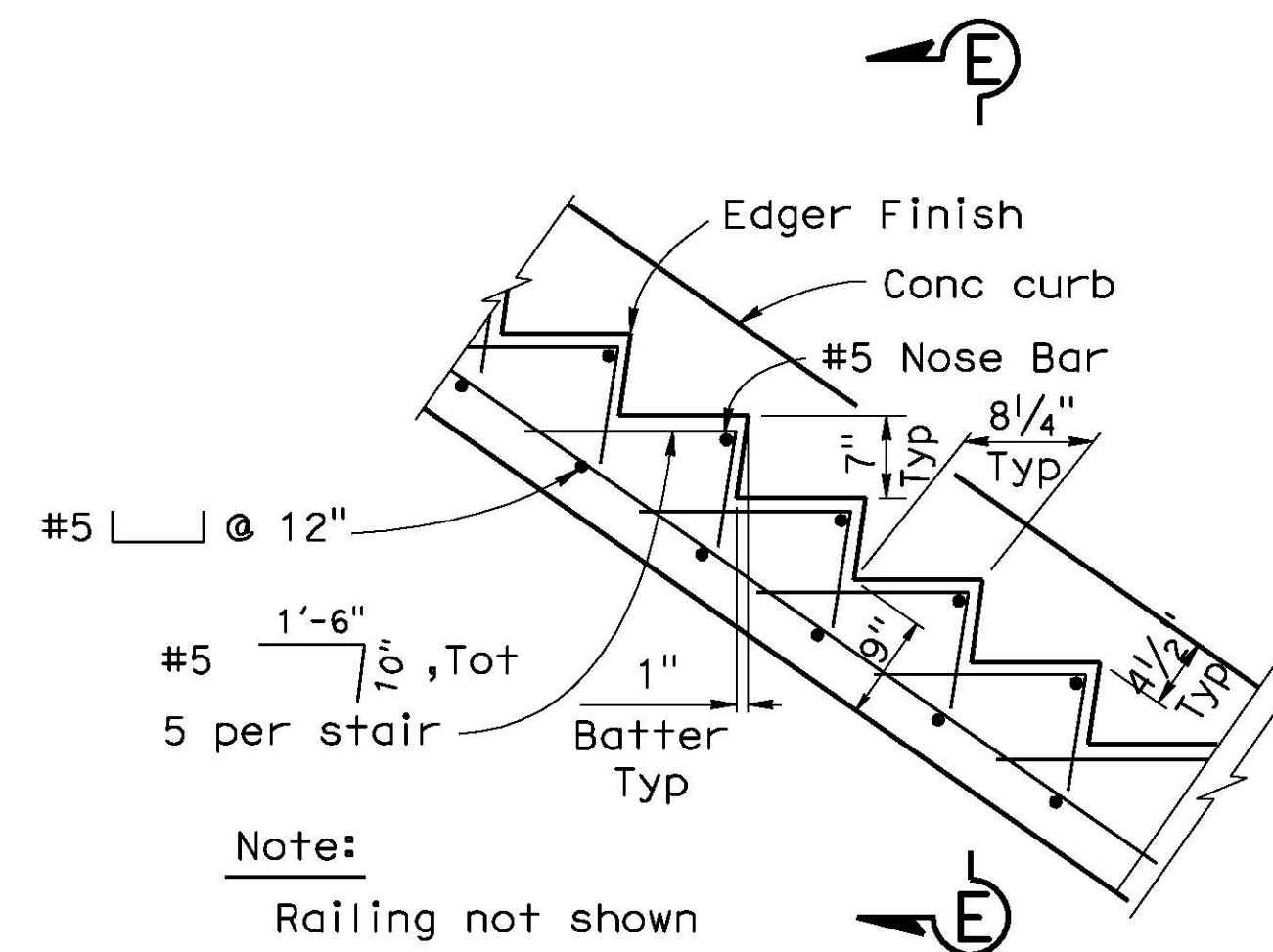
VIEW "A"
UPPER LANDING SECTION

$\frac{3}{4}" = 1'-0"$



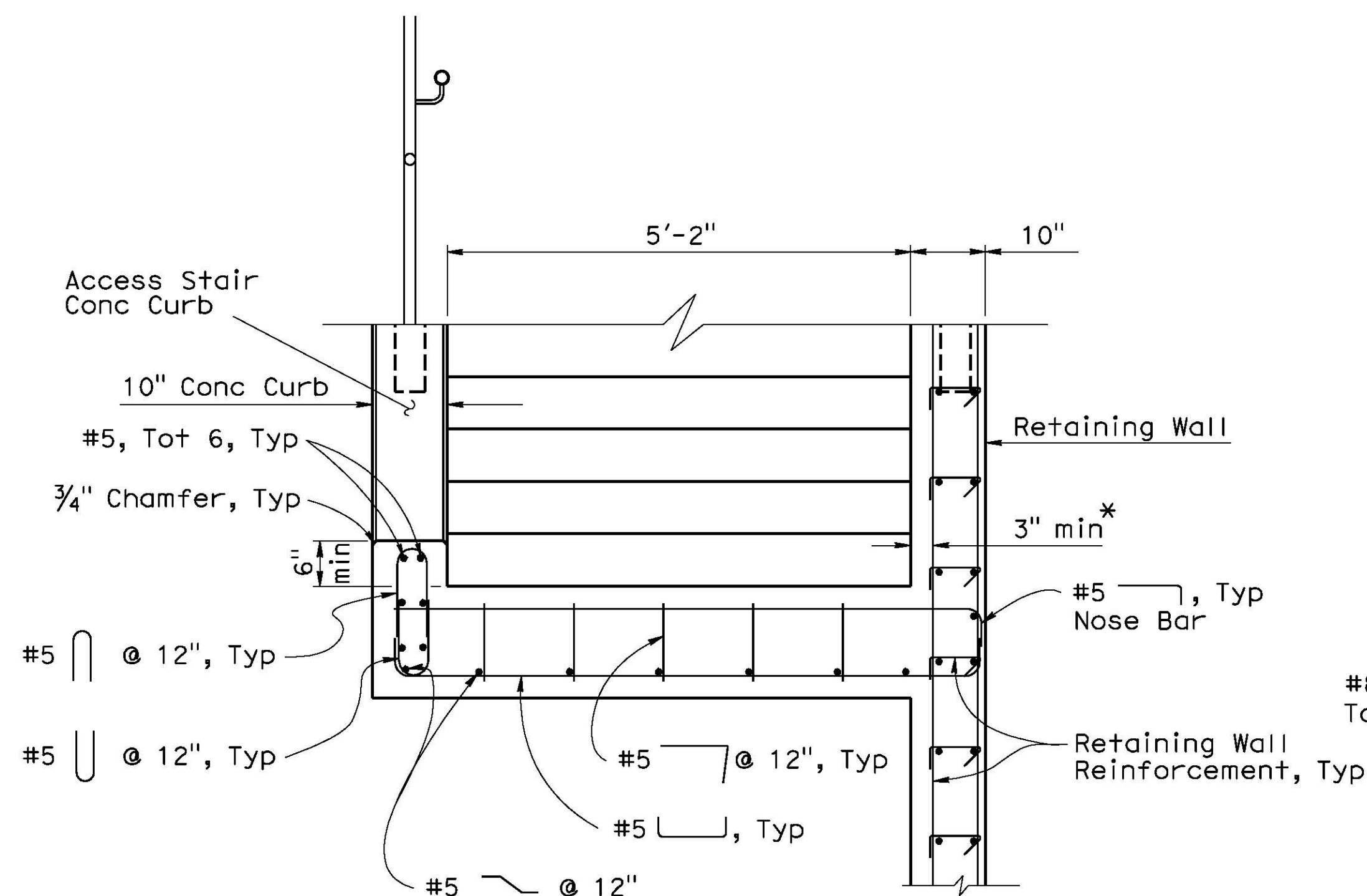
SECTION D-D

$\frac{3}{4}" = 1'-0"$



VIEW "B"
STAIR SECTION

$\frac{3}{4}" = 1'-0"$

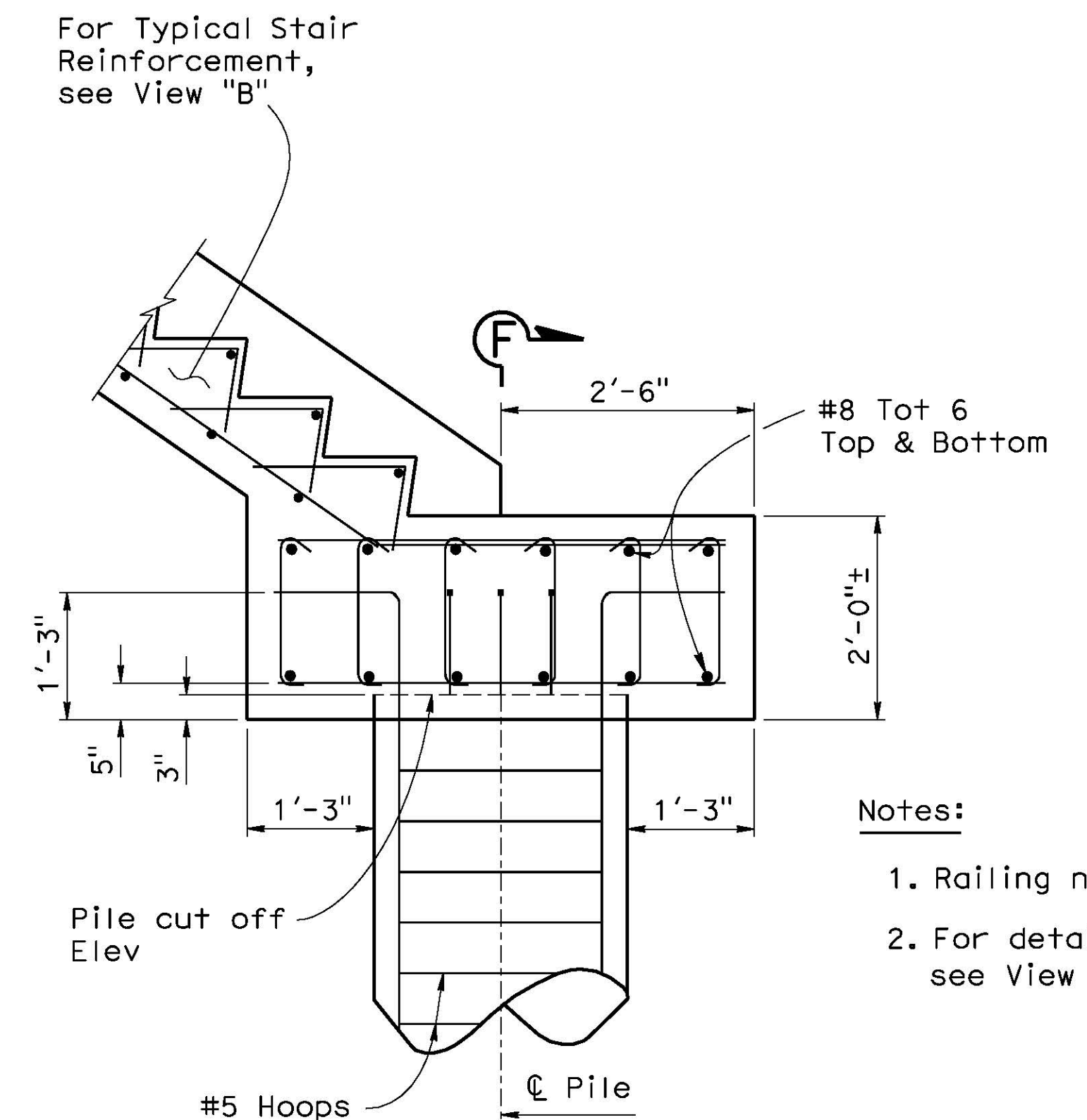


SECTION E-E

$\frac{3}{4}" = 1'-0"$

Notes:

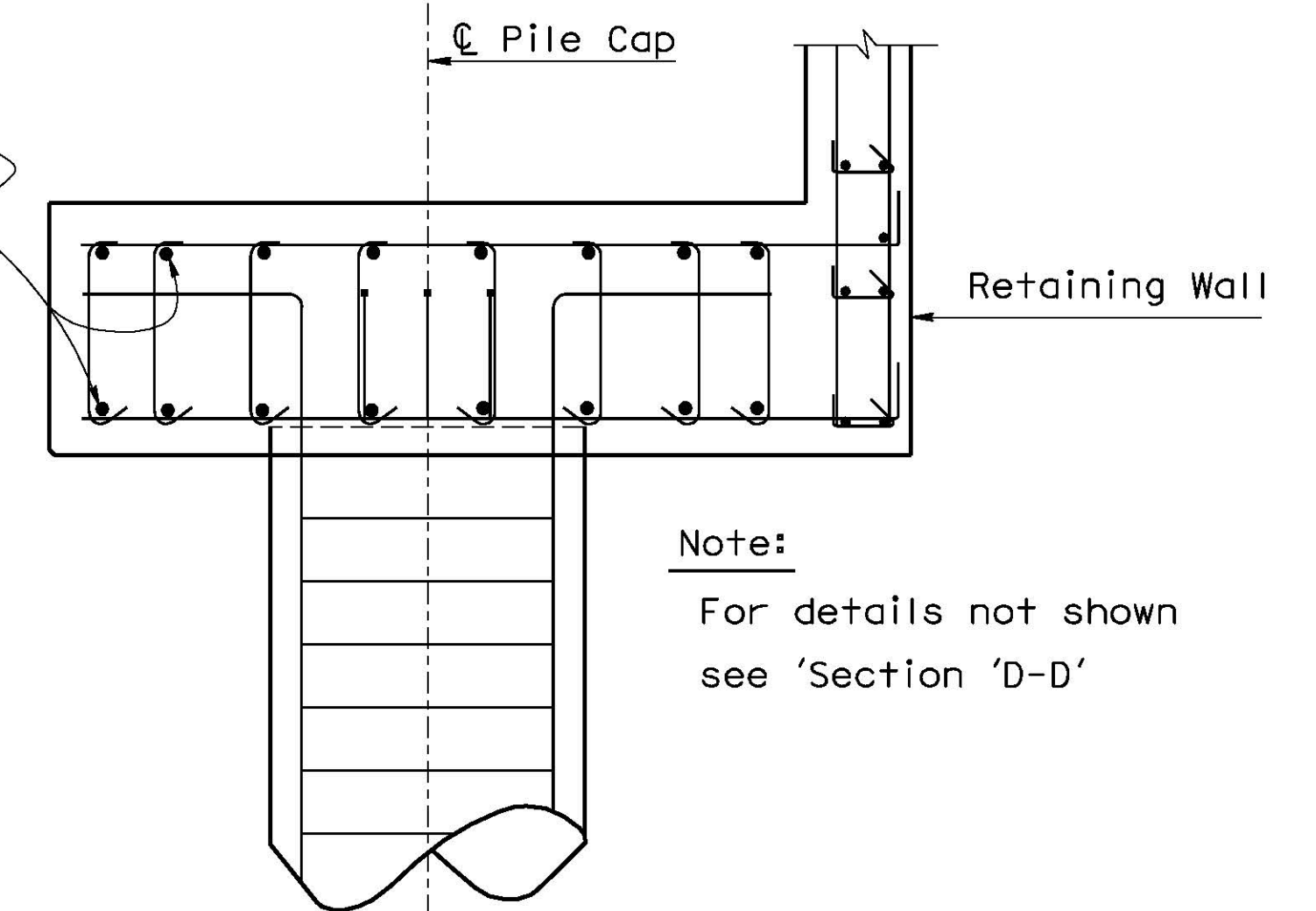
1. Minimum concrete cover over reinforcement = 3" UON
2. All reinforcement to be prefabricated epoxy coating
3. For Retaining Wall and Pile details, see " TYPICAL SECTION DETAILS NO. 1" sheet
4. Move rebar to provide room for guardrail Post
5. For pile reinforcement, see "ACCESS RAMP DETAILS NO. 6' sheet



VIEW "C"
LOWER LANDING SECTION

$\frac{3}{4}" = 1'-0"$

#8 Tot 8
Top & Bottom



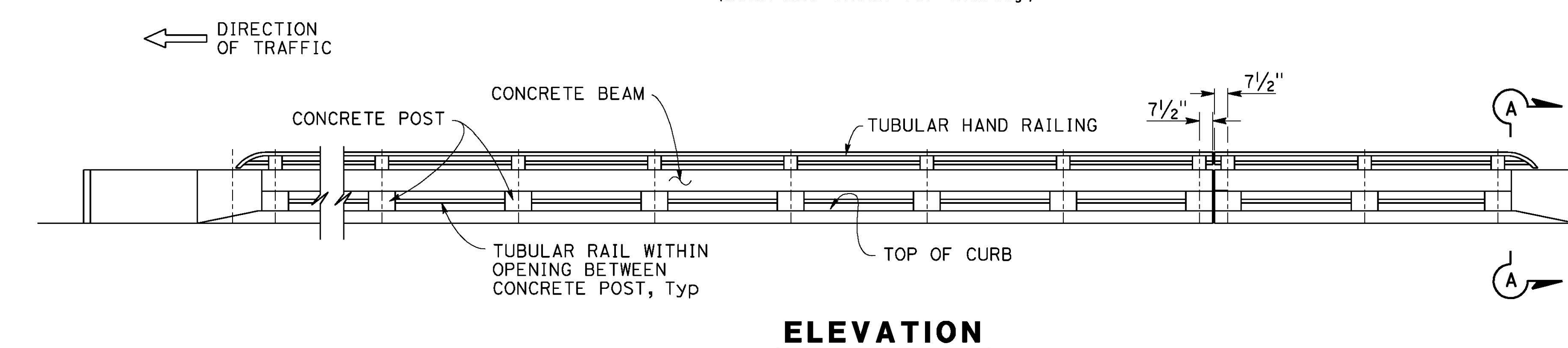
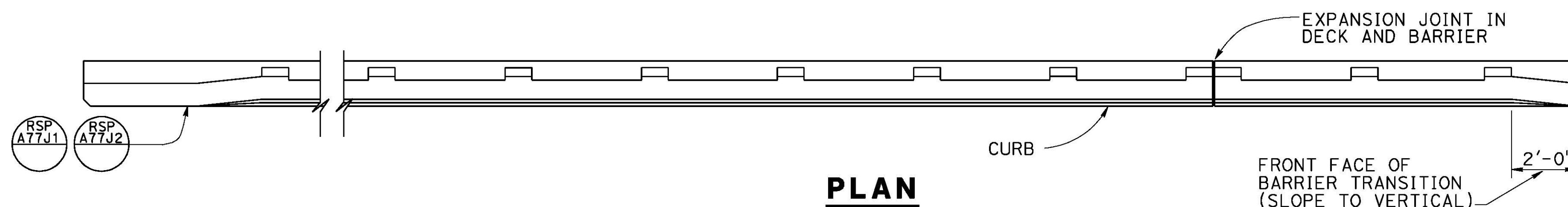
SECTION F-F

$\frac{3}{4}" = 1'-0"$

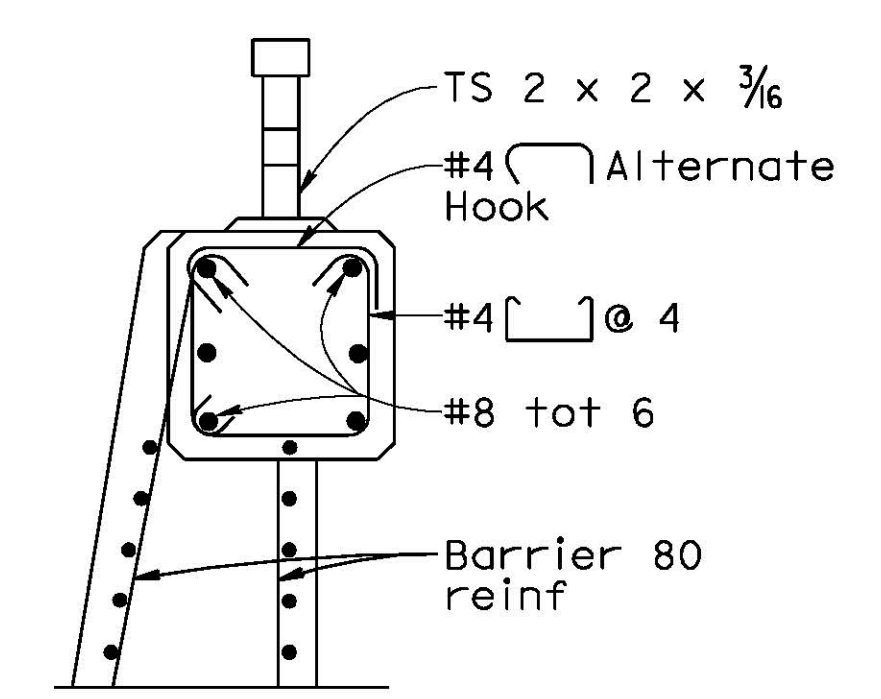
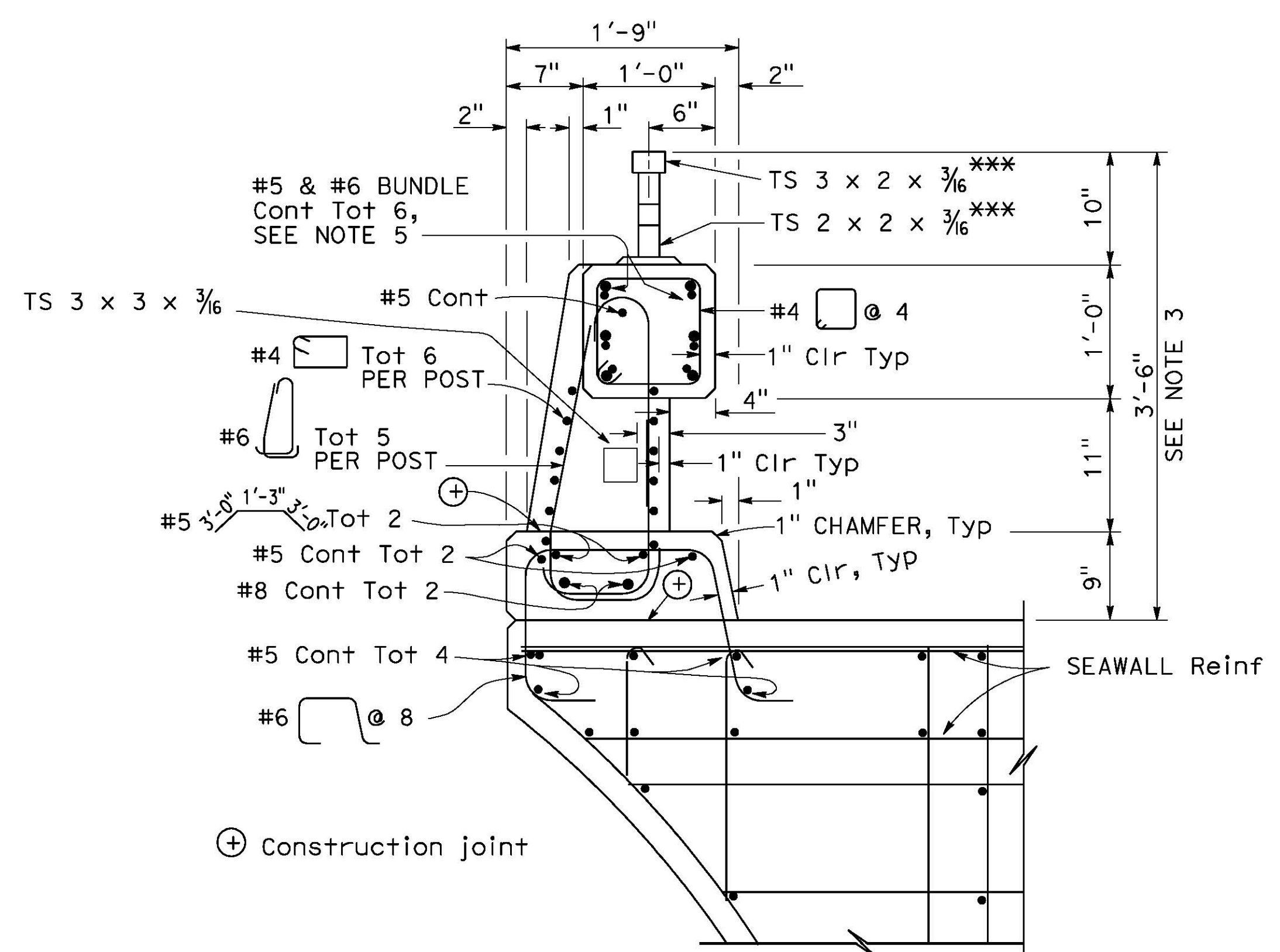
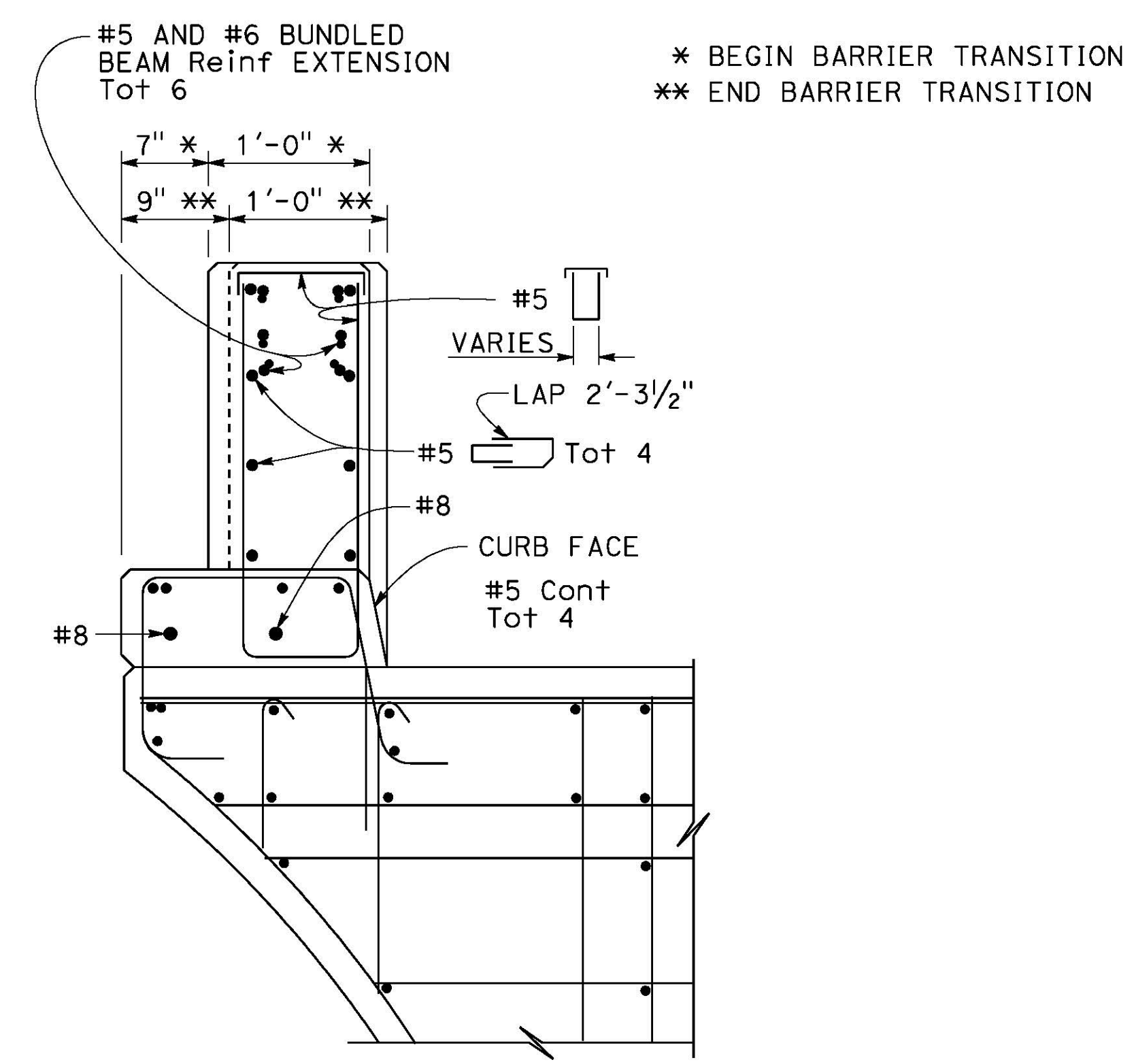
Note:

- For details not shown
see 'Section 'D-D''

NOTE:
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*** - TUBE STEEL TO BE GALVANIZED

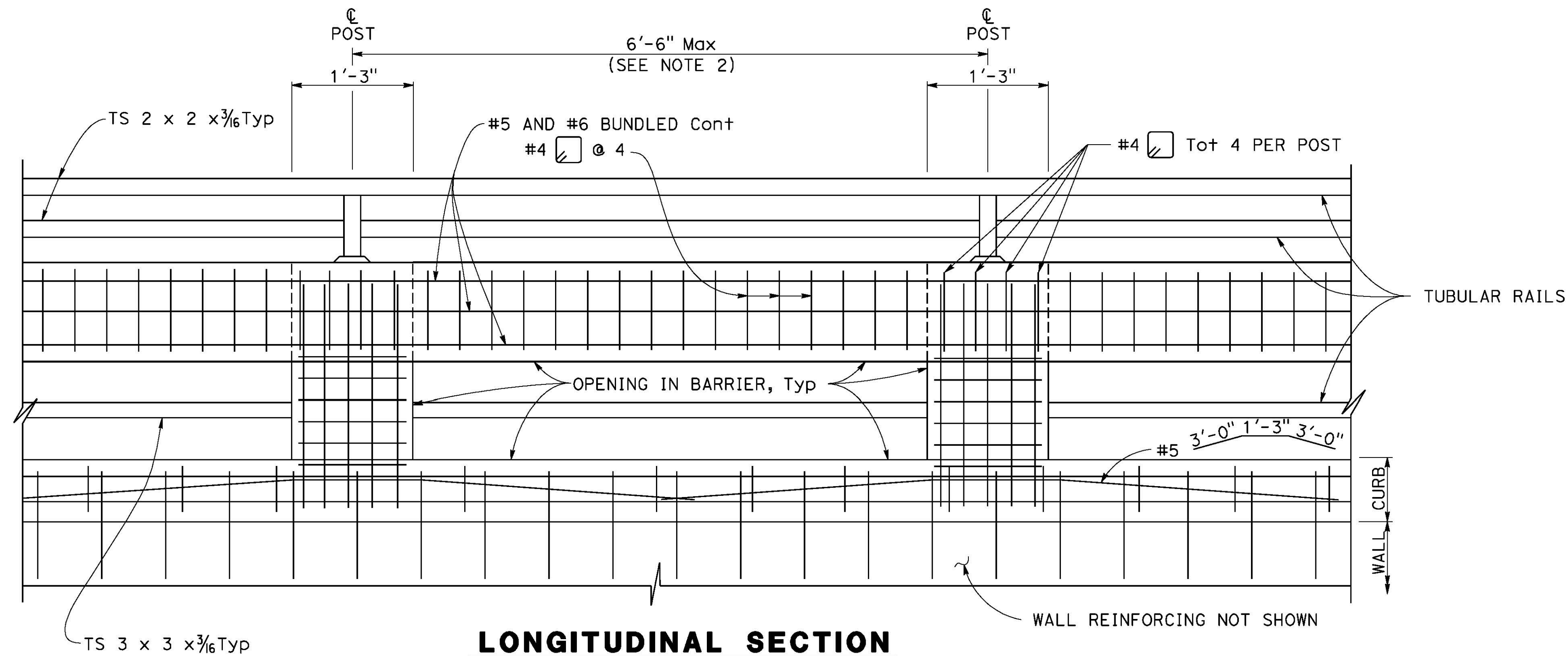


NOTES:

1. Walls are to be backfilled before the barrier is placed.
2. Longitudinal reinforcing steel to stop at all expansion joints.
3. The front face dimensions are to be constant above the finish roadway profile, but the overall height will vary with certain thicknesses of surfacing and roadway slopes.
4. Expansion joint to match wall joint.
5. No lap splicing allowed on the longitudinal rail reinforcing. Splicing shall be staggered.
6. Post to be spaced equally, typically 6'-6" spacing. Post spacing may be reduced where location of hinges or expansion joints or the length of wingwalls will not accommodate the 6'-6" spacing. Maximum see-through availability is to be strived for, where 6'-6" post spacing can not be achieved.

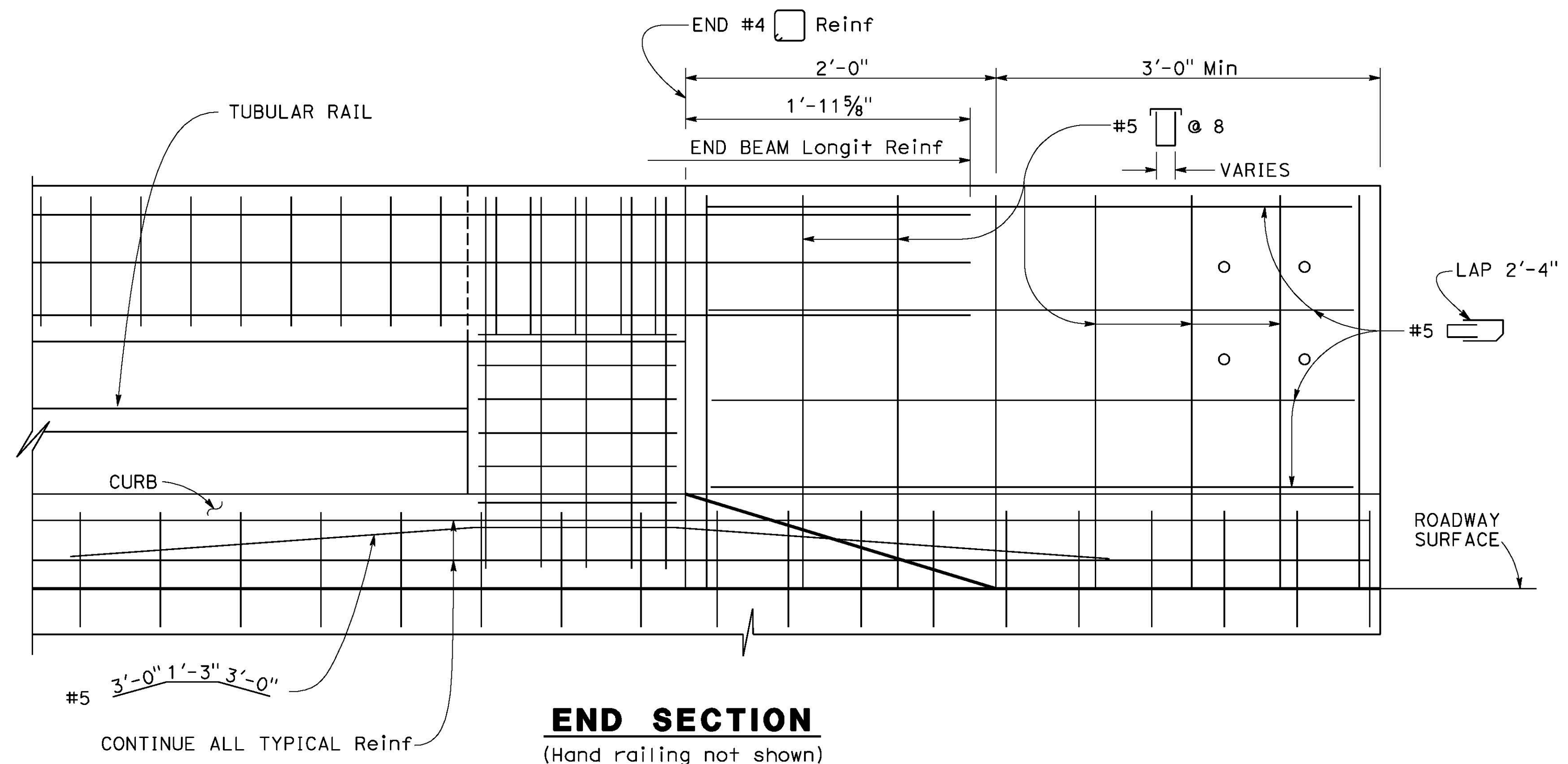
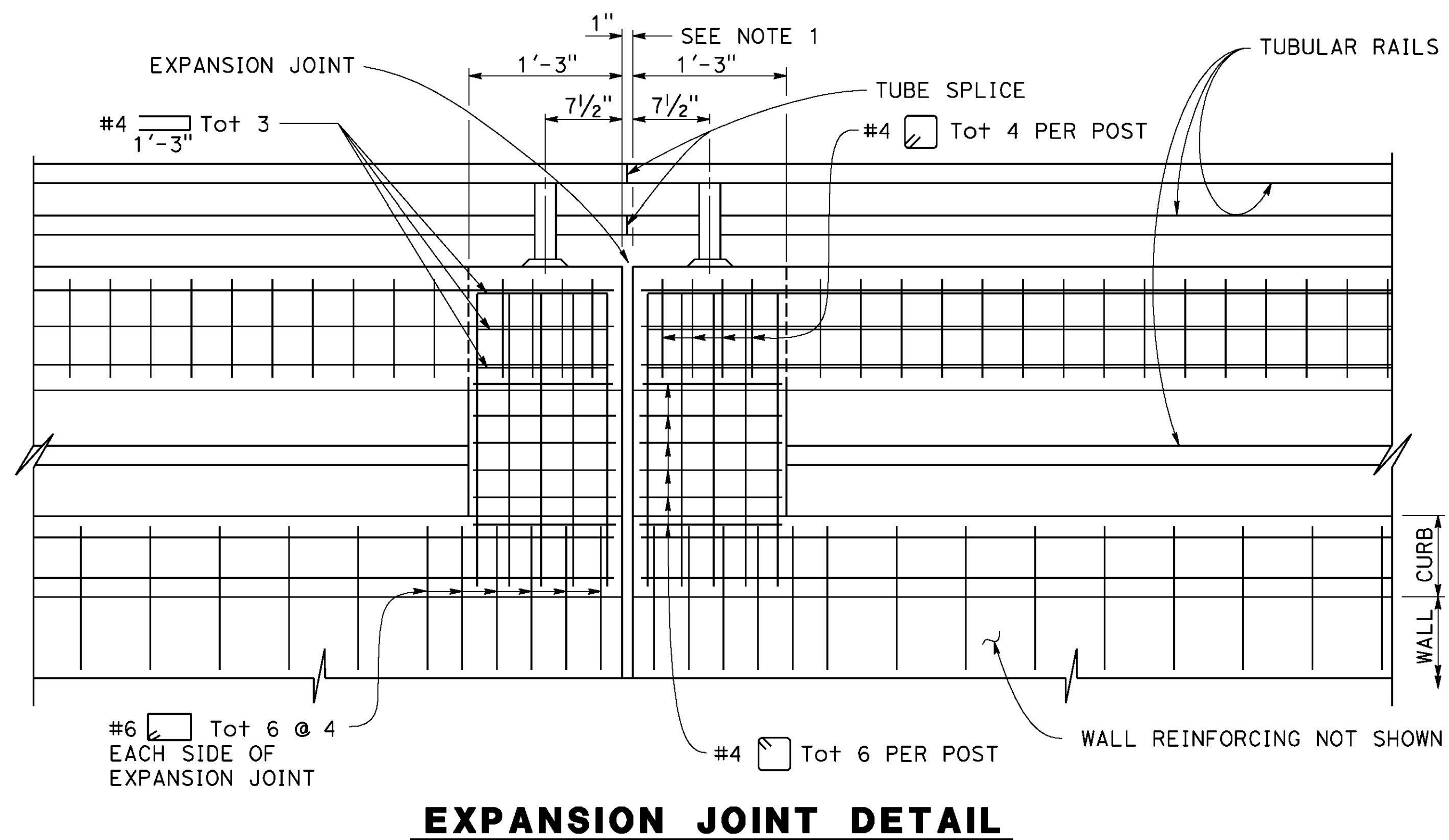
NO SCALE

NOTE:
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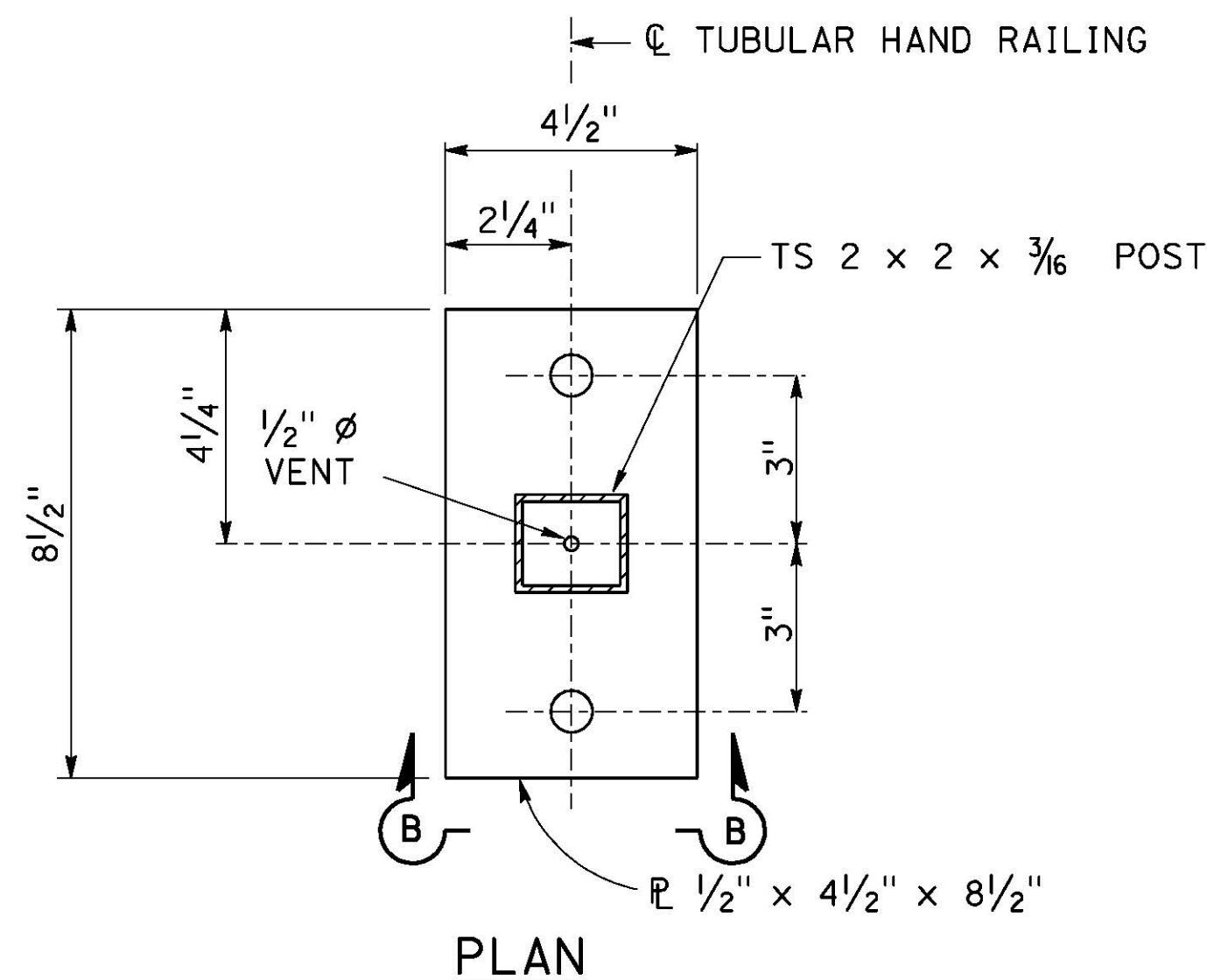
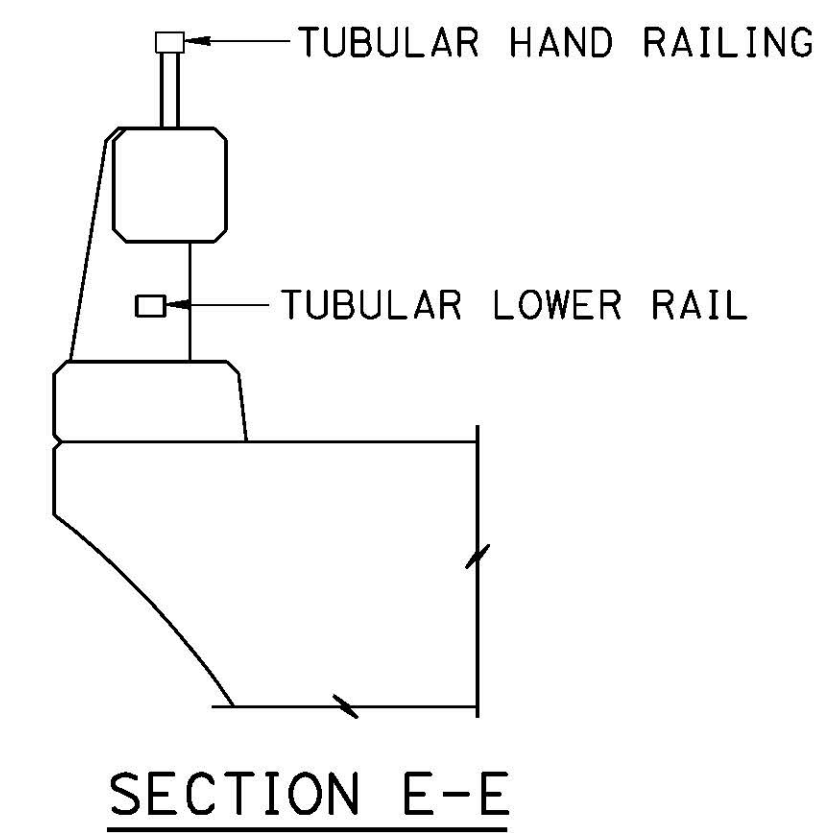
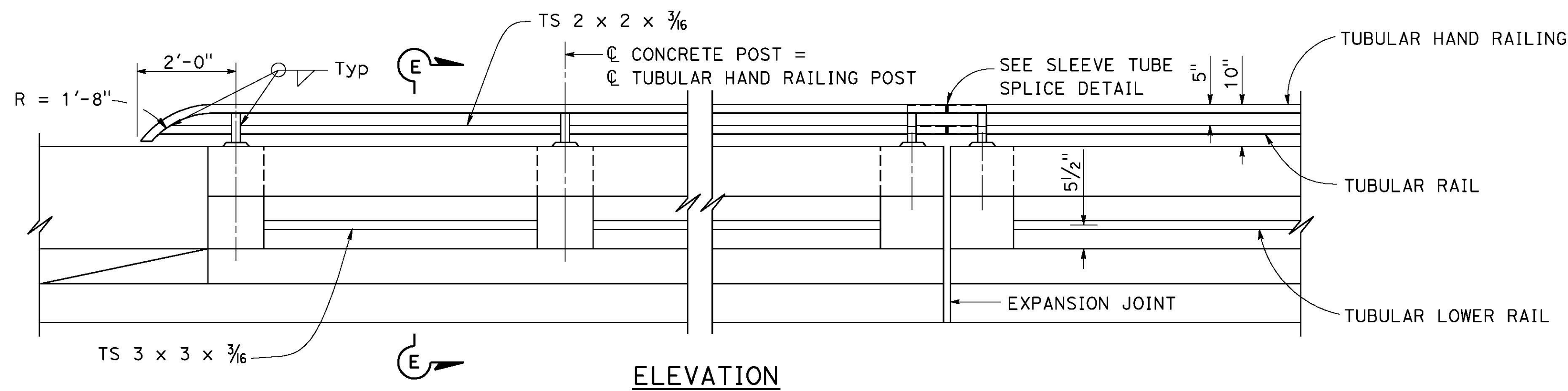
NOTES:

1. Expansion joint to match wall joint.
2. Post to be spaced equally, typically 6'-6" spacing. Post spacing may be reduced where location of hinges or expansion joints or the length of wingwalls will not accommodate the 6'-8" spacing. Maximum see-through availability is to be strived for, where 6'-8" post spacing can not be achieved.
3. For tubular rail details, see "BARRIER DETAILS NO. 3" sheet.

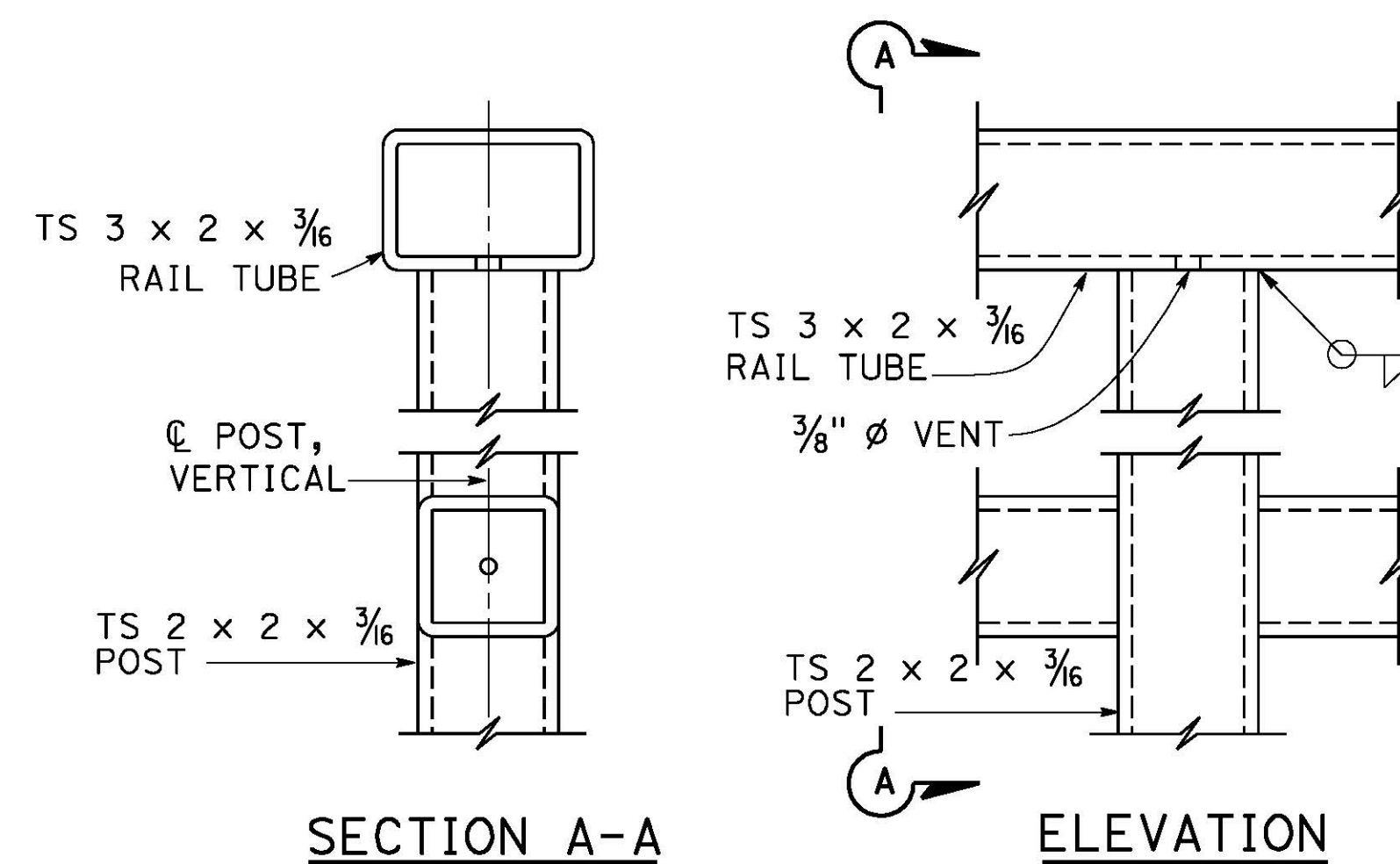


NO SCALE

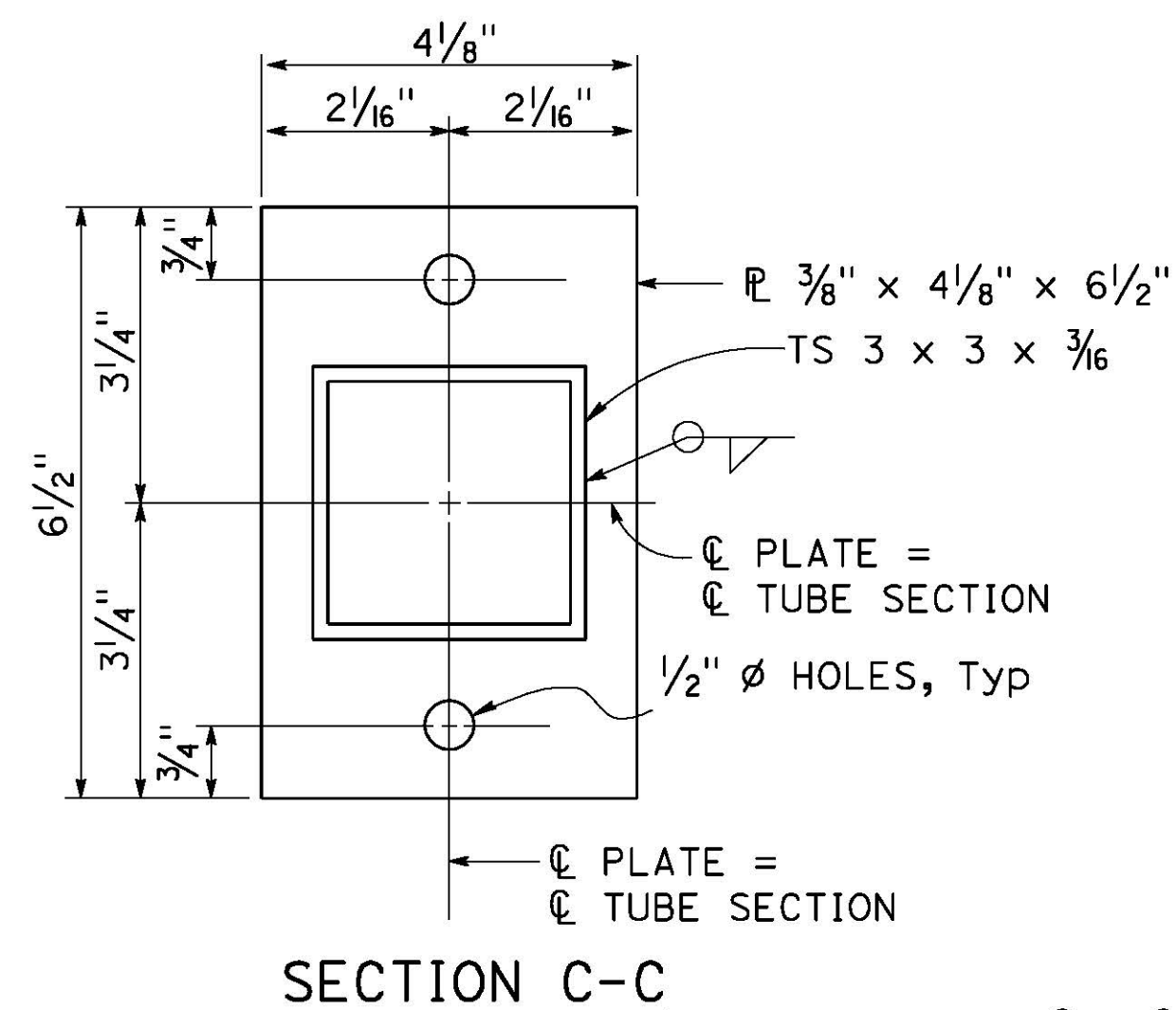
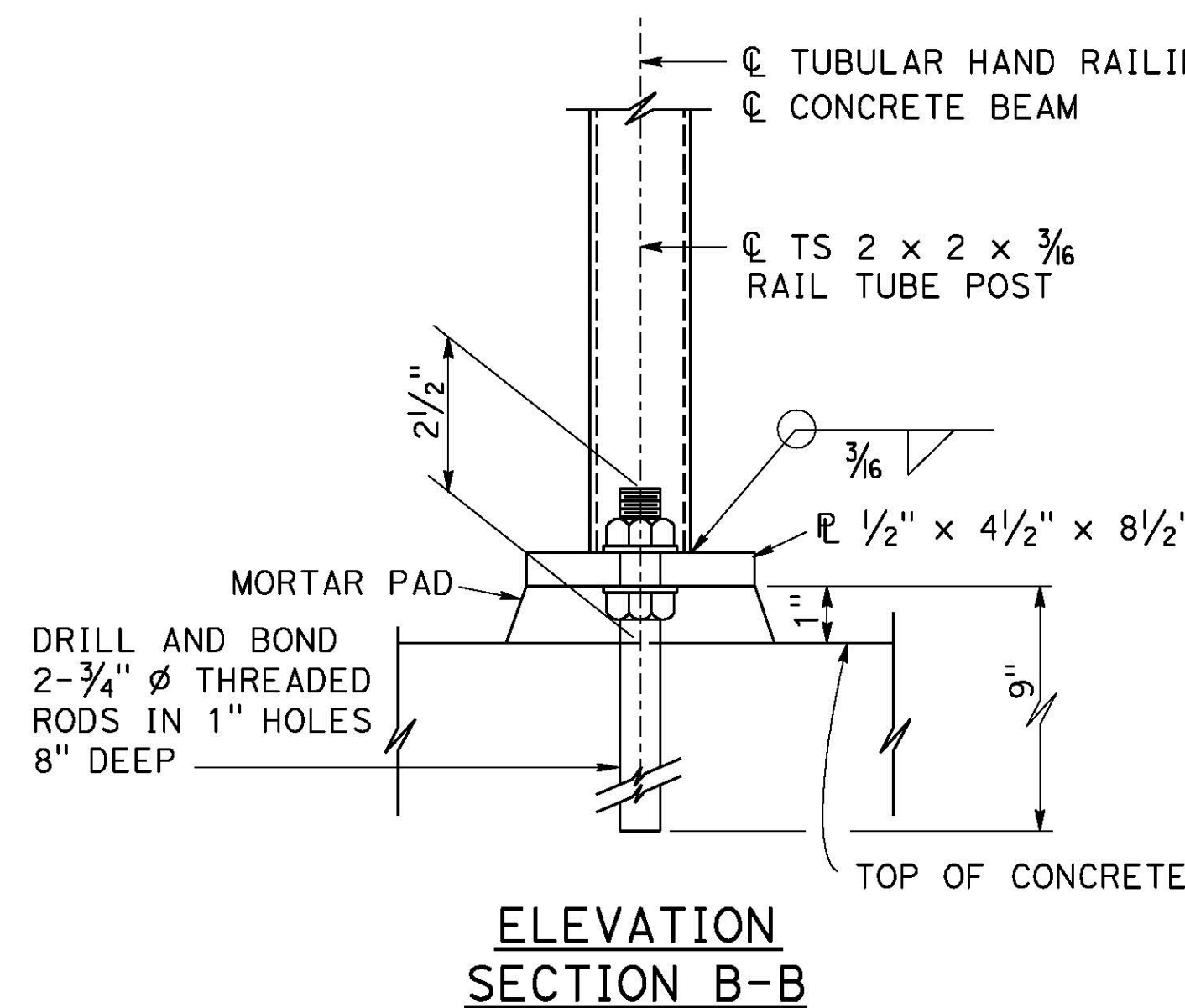
NOTE:
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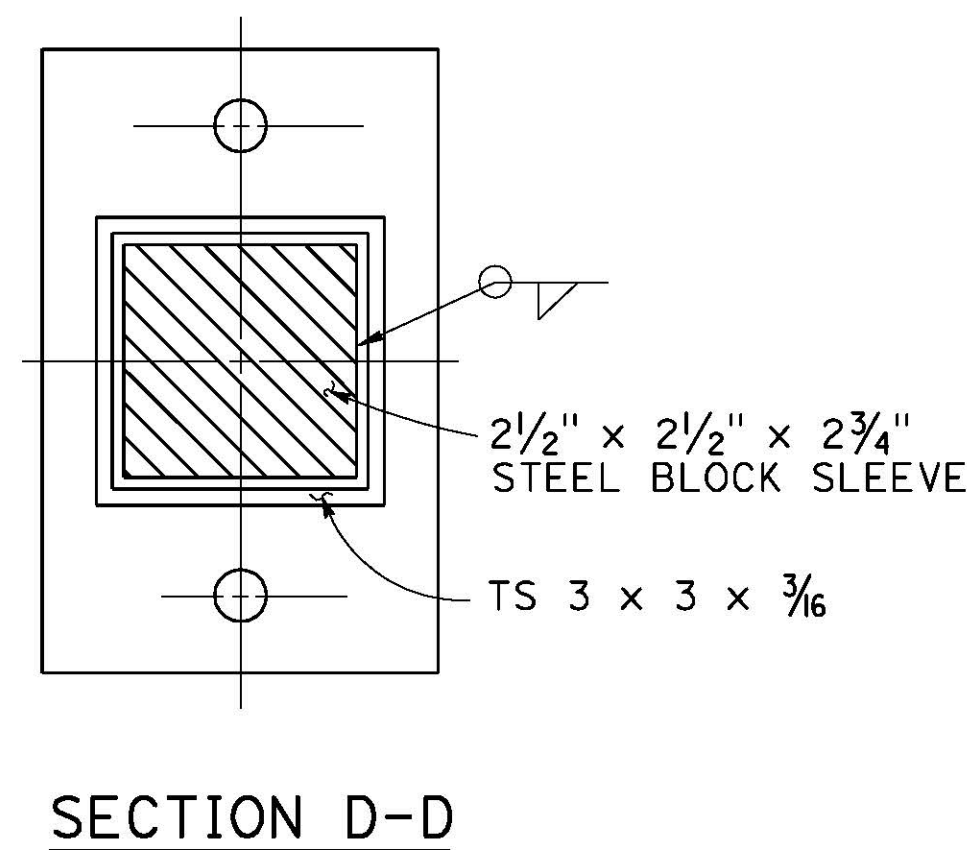
This plate detail is restricted to Tubular hand railing (TS 2 x 2 x $\frac{3}{16}$ post)



RAIL CONNECTION DETAILS



See Section C-C for details not shown



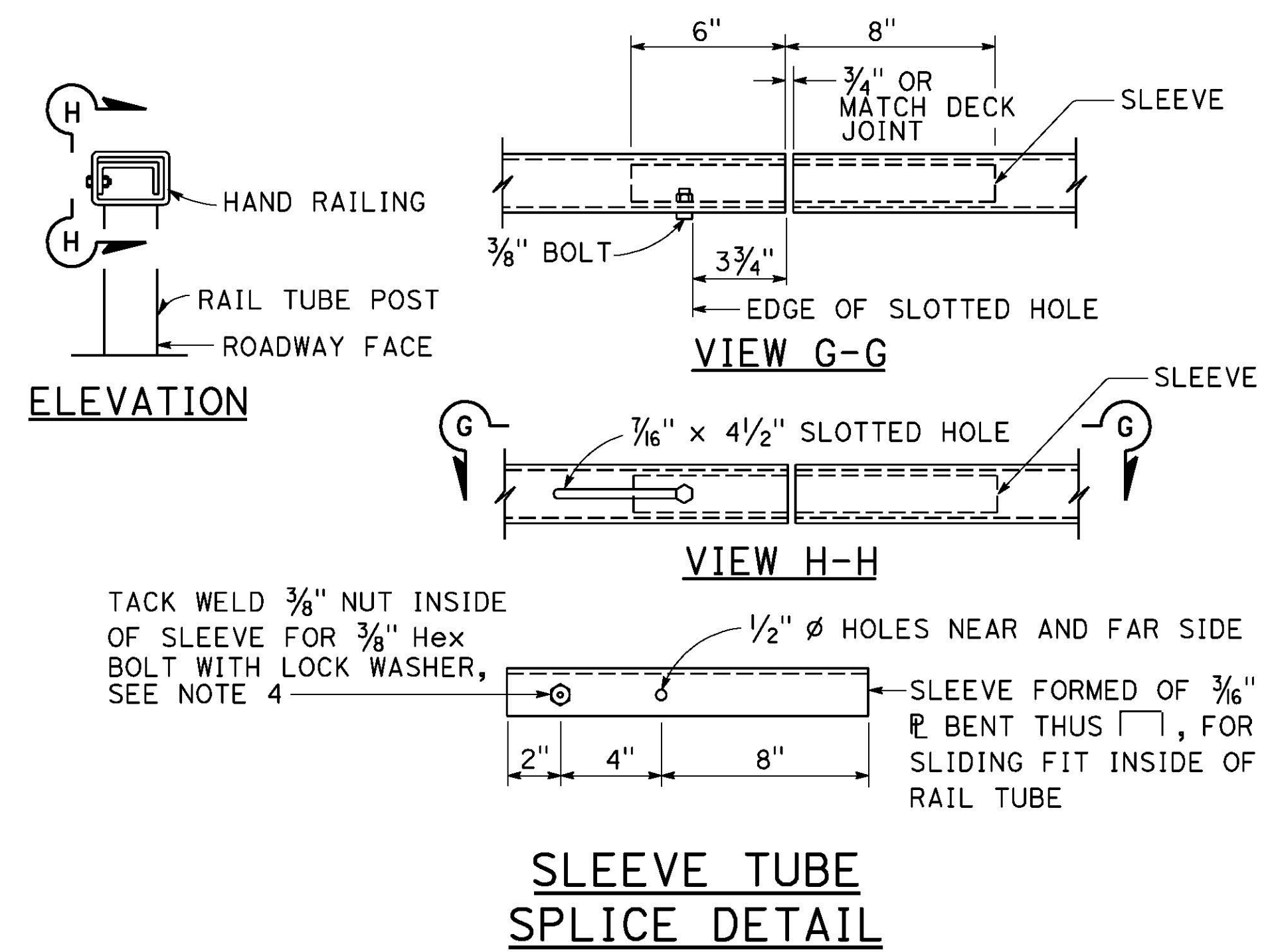
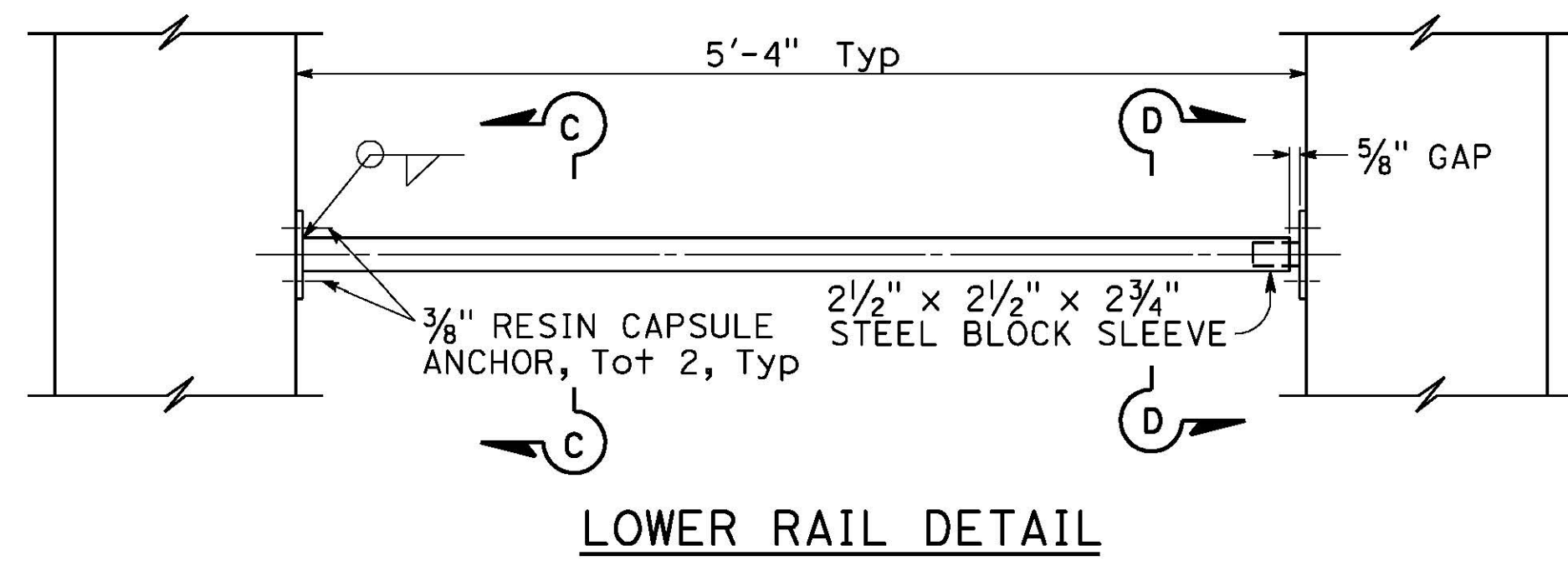
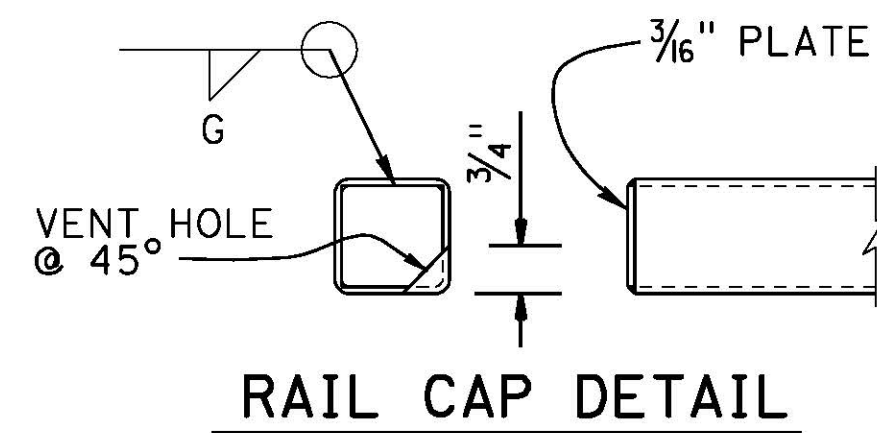
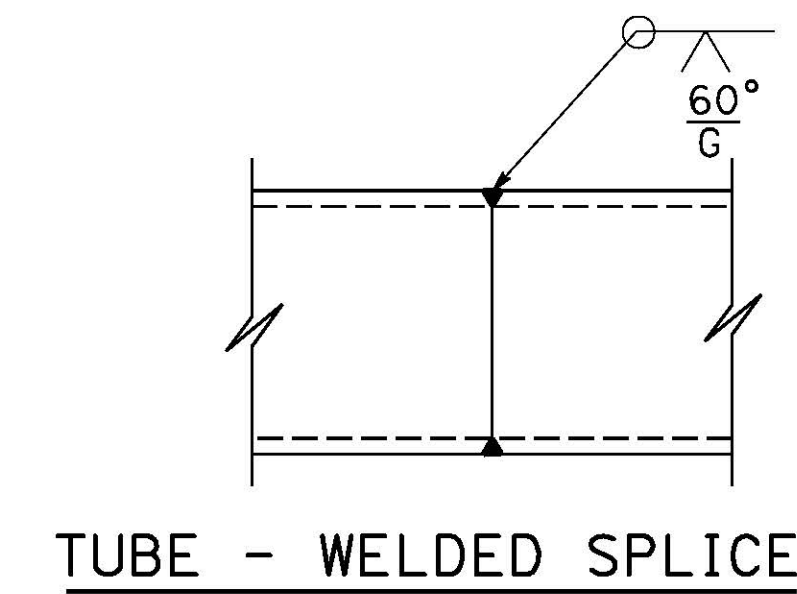
NOTES:

1. Galvanize Rail Assembly after fabrication.
2. Posts shall be normal to railing.
3. Tube splices shall be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length accordingly.
4. Top rail tube shall be continuous over not less than two posts except a short length is permitted near deck or wall joints, electroliers, or other rail discontinuities.
5. See Project Plans for limits of Tubular Handrailing.

TUBULAR RAILING CONNECTION DETAILS

NO SCALE

NOTE:
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NOTES:

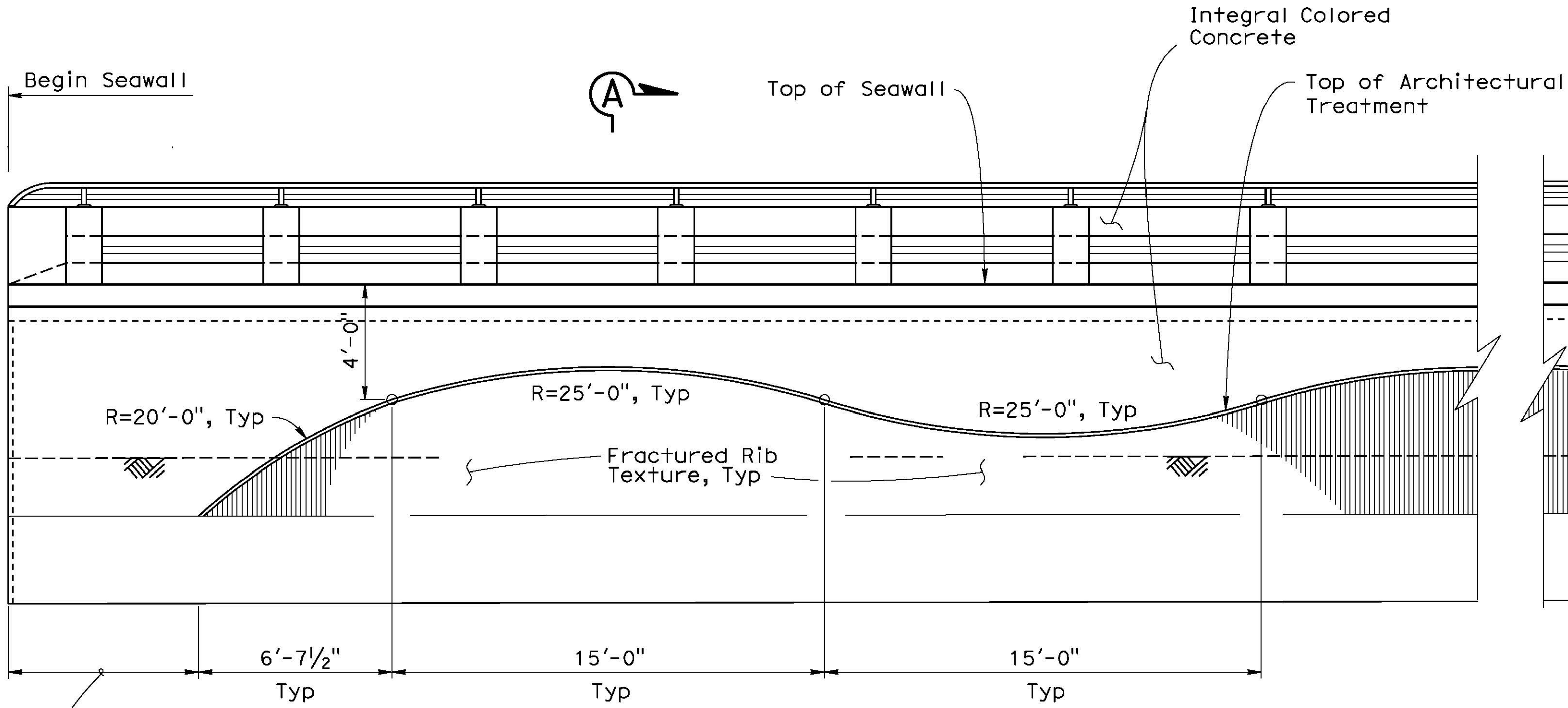
- $\frac{3}{8}$ " nut tack welded to sleeve may be replaced by drilled and tapped hole in sleeve.
For additional Notes see "BARRIER DETAIL NO. 3" sheet

NO SCALE

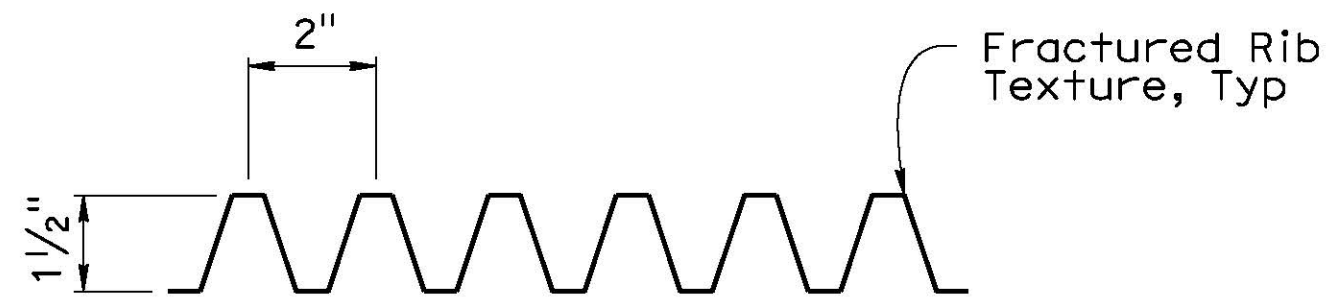
NOTE:
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Note: Design scour elevation = 6'-0"

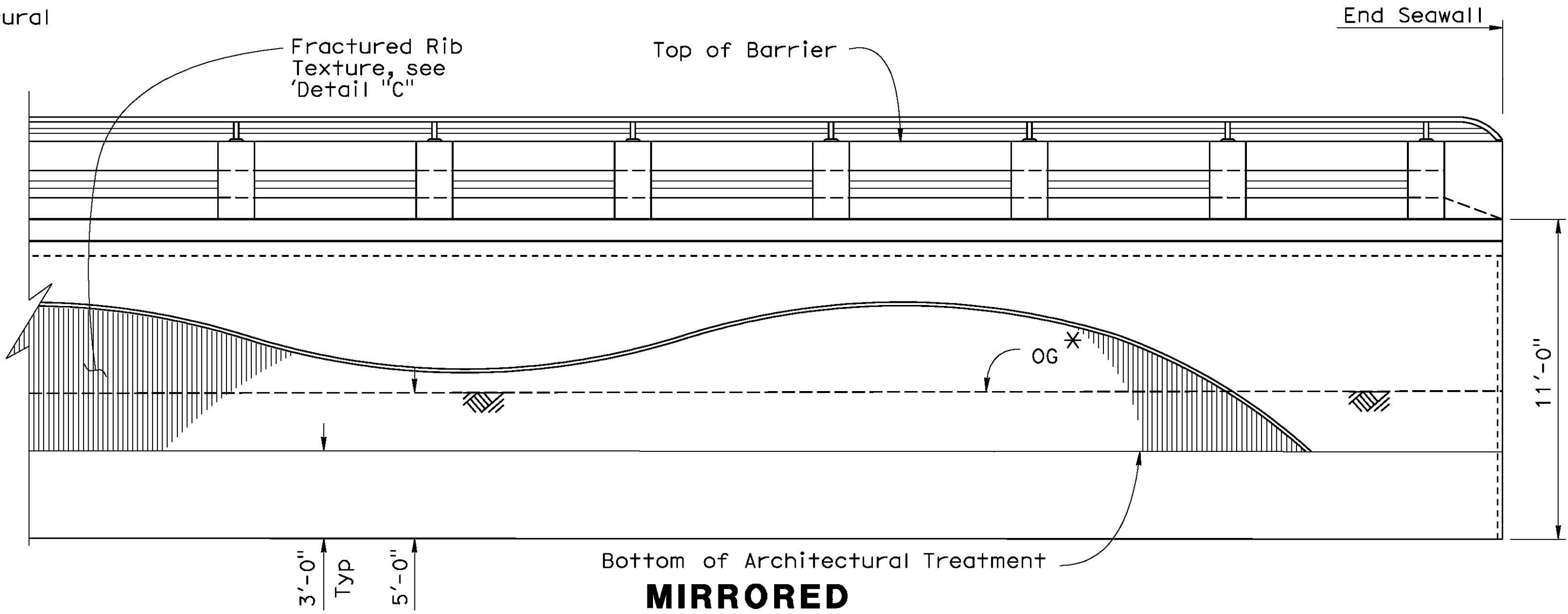
* - OG elevation is seasonal and may vary



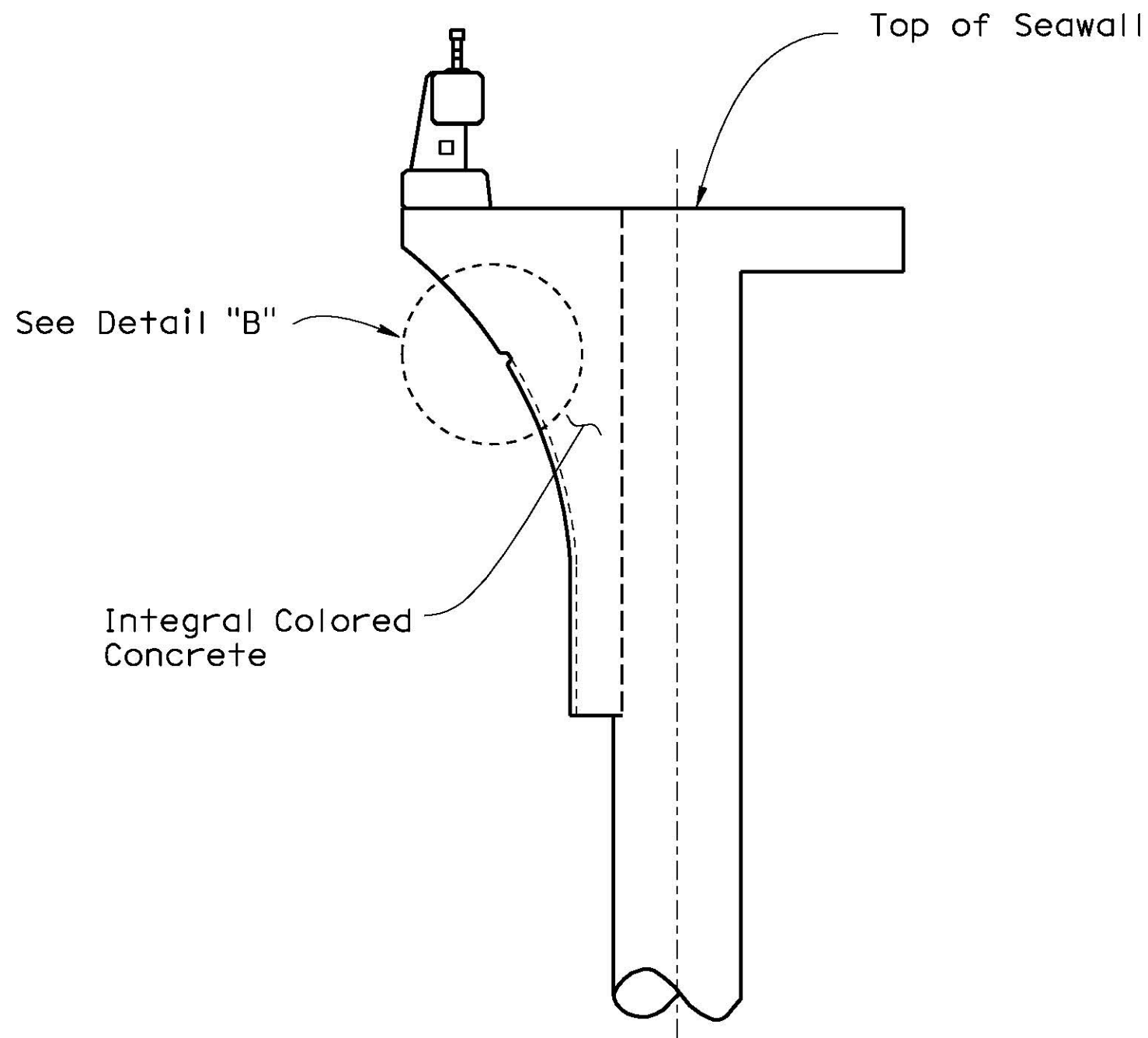
MIRRORED SEAWALL ELEVATION AT BEGINNING
No Scale



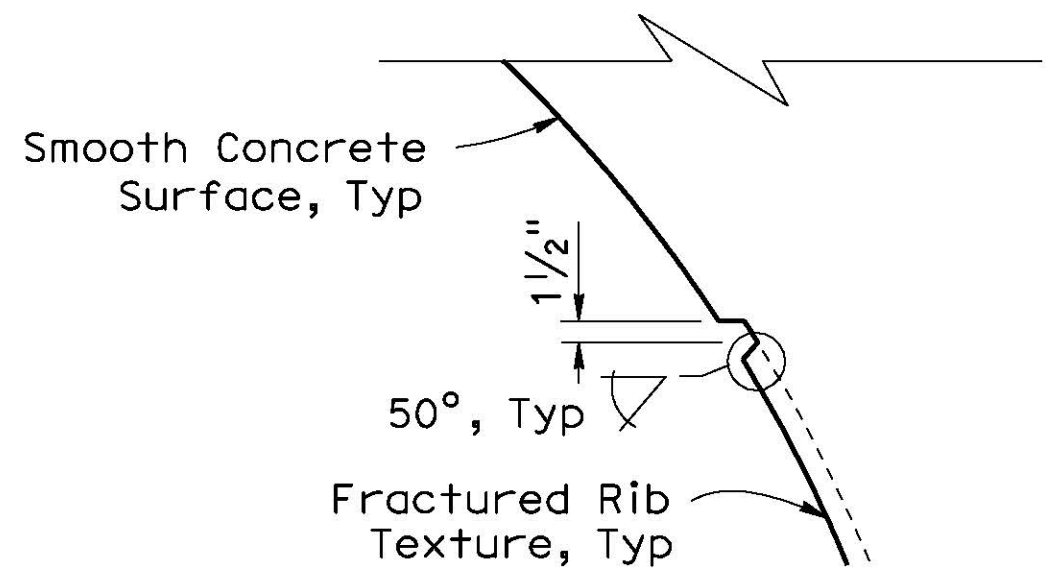
DETAIL "C"
No Scale



MIRRORED SEAWALL ELEVATION AT END
No Scale



SECTION A-A
No Scale



DETAIL "B"
No Scale

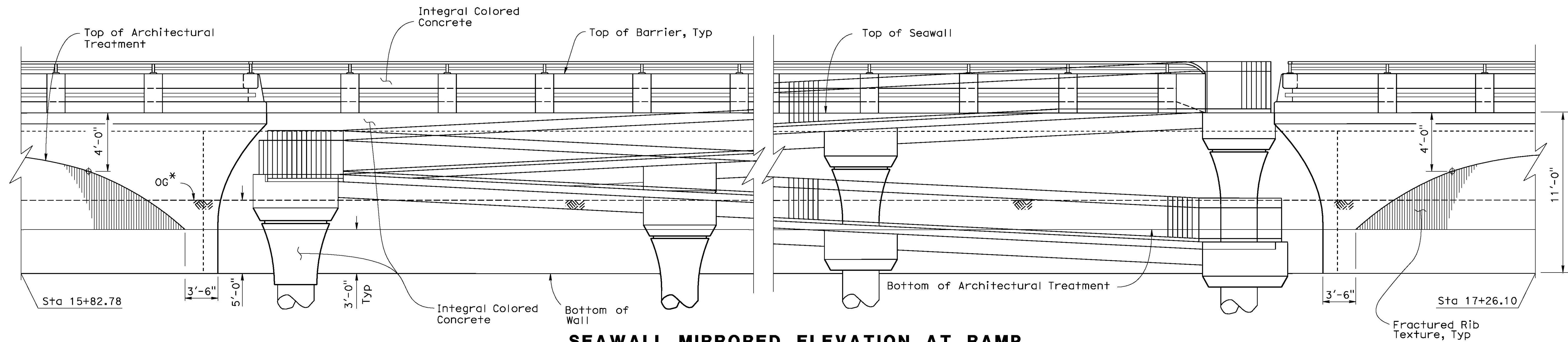
NOTE:
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* - OG elevation is seasonal
and may vary



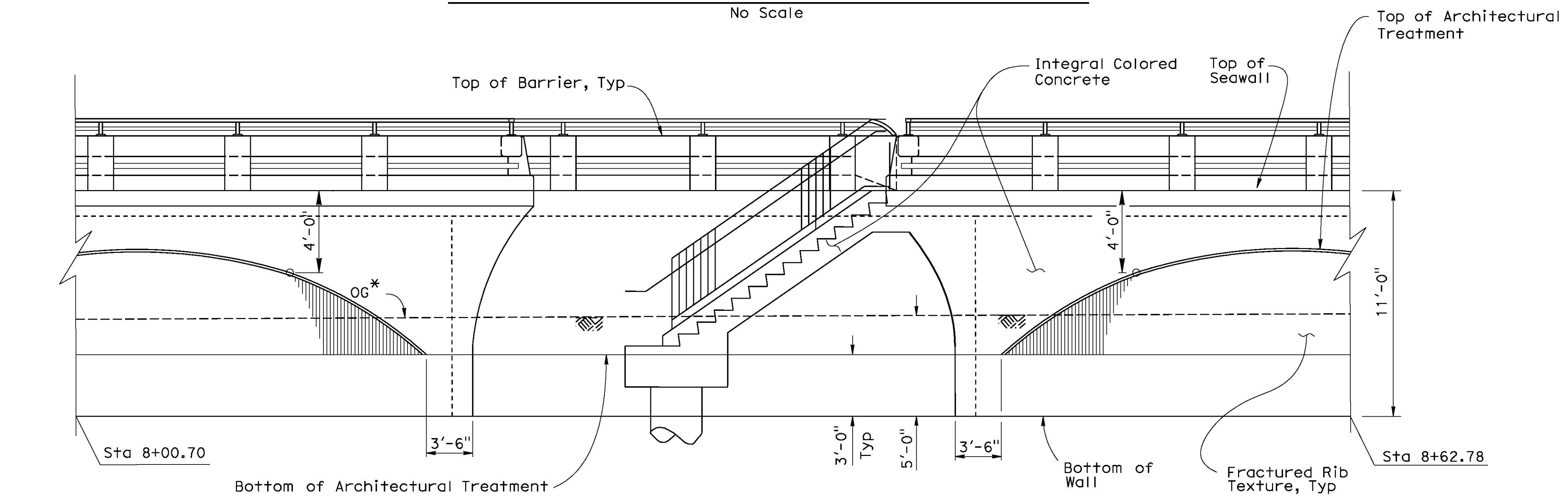
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Note: Design scour elevation = 6'-0"



SEAWALL MIRRORED ELEVATION AT RAMP

No Scale



* - OG elevation is seasonal
and may vary

SEAWALL MIRRORED ELEVATION AT STAIRS

No Scale

NOTE:
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