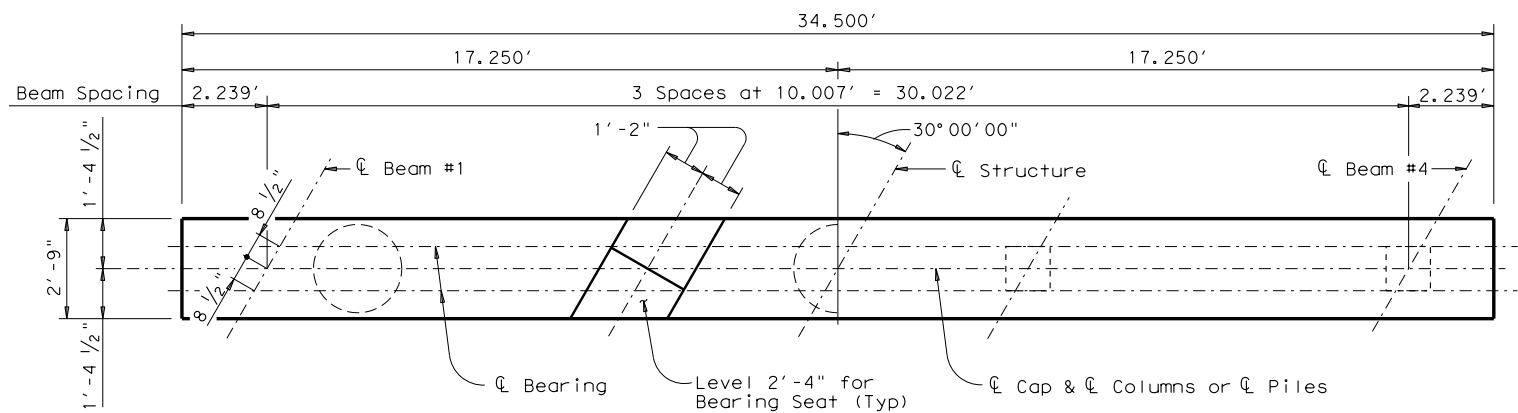
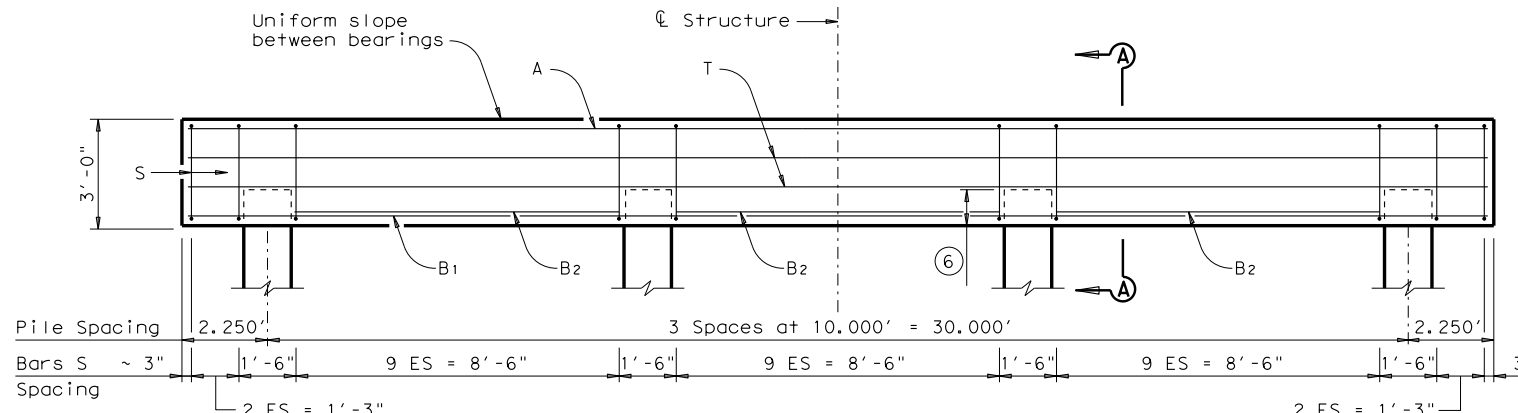


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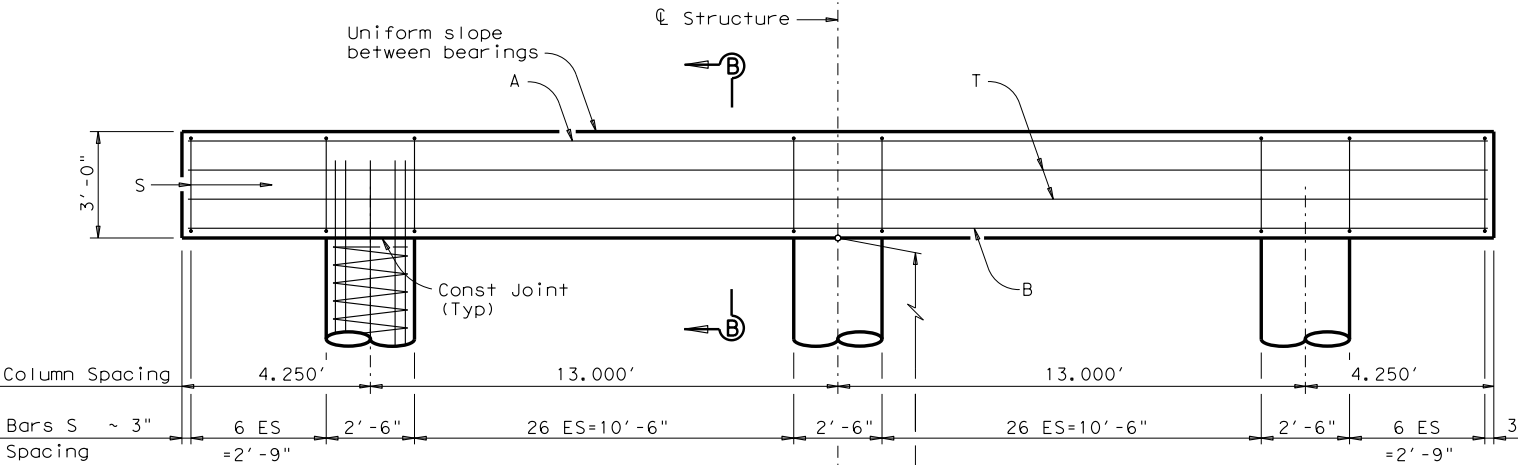


HALF PLAN
(3 Column/Dr Shaft Bent)

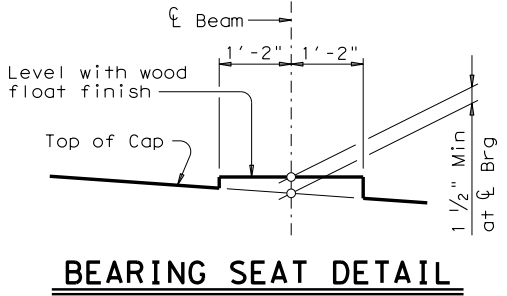
HALF PLAN
(4 Pile Bent)



ELEVATION (3) (5)
(4 Pile Bent)



ELEVATION
(3 Column/Dr Shaft Bent)



BEARING SEAT DETAIL
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

TABLE OF ESTIMATED QUANTITIES 4 PILE BENT

Bar	No	Size	Length	Weight
A	4	#9	34'-2"	465
B1	2	#9	34'-2"	232
B2	6	#9	8'-6"	173
S	36	#5	11'-0"	413
T	4	#5	34'-2"	143
Reinforcing Steel				Lb 1,426
Class "C" Conc (Cap)				CY 10.7

TABLE OF ESTIMATED QUANTITIES FOR 3 COLUMN BENT (1)

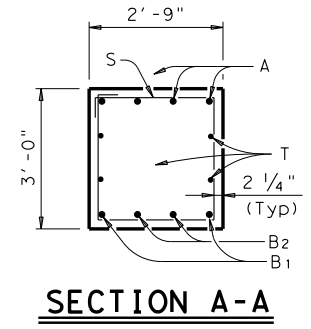
Bar	No	Size	Length	Weight
A	5	#11	34'-2"	908
B	5	#11	34'-2"	908
S	68	#5	11'-0"	780
T	4	#5	34'-2"	143
V	24	#9	32'-3"	2,631
Z	3	#3	391'-0"	4,411
Reinforcing Steel				Lb 5,811
Class "C" Conc (Cap)				CY 10.7
Class "C" Conc (Cols)				CY 16.4

TABLE OF MAXIMUM ALLOWABLE EXPOSED PILE HEIGHTS AND PILE LOADS (3)

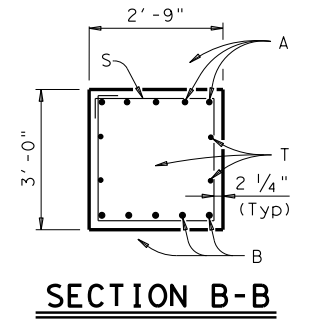
Pile Type		Max Ht	Max Load
Concrete	Steel	Ft	Tons/Pile
16" Sq	HP14x73	16	75
18" Sq	HP14x117 (4)	20	90
20" Sq	HP18x135	24	110

TABLE OF FOUNDATION LOADS (2)

Span Length	Shaft Load	Pile Load
	Tons/Shaft	Tons/Pile
30	67	41
35	72	46
40	78	50
45	83	54
50	89	58
55	94	62
60	99	66
65	104	70
70	111	75
75	117	79
80	123	84
85	128	88
90	135	93
95	143	99
100	145	101
105	153	107
110	158	110
115	165	(5)
120	172	(5)



SECTION A-A



SECTION B-B

- (1) Quantities shown are based on an "H" value of 30'-0". For each linear foot variation in "H" value, make the following adjustments:
Bars V length, 1'-0"
Bars Z length, 12.610'
Reinforcing Steel, 96 Lbs
Class "C" Conc (Cols) 0.545 CY
- (2) Foundation Loads based on "H"=30'-0".
- (3) This standard may not be used for "H" heights exceeding 30'-0" or exposed pile heights exceeding the values shown in the table. In areas of very soft soil or where scour is anticipated, maximum allowable "H" heights or exposed pile heights shall be evaluated by the Engineer prior to the use of this standard.
- (4) When HP14x117 steel piling is specified in the plans, the Contractor has the option of furnishing either HP14x117 or HP16x101 steel piling.
- (5) Maximum average span length allowed for 4 pile bent is 110'.
- (6) See FD standard.

GENERAL NOTES:
Designed according to AASHTO LRFD Specifications.
For Pile Bents supporting unequal spans, the shorter span cannot be less than 80 percent of the longer span.
This standard is drawn showing right forward skew. See Bridge Layout for actual skew direction.
Concrete compressive strength f'c=3,600 psi.
All Cap reinforcing shall be Grade 60.
Column and Drilled Shaft reinforcing may be Grade 40.
See Bridge Layout for foundation type, size and length.
See standard SBBR for location and size of anchor bolt required for erection bracing.
See standard FD for foundation details and notes.
These bent details do not support the use of multi-pile footings as shown on the FD standard.
Bent selection shall be based on the average span length rounded up to the next 5' increment.
These bent details may be used for the beam types and span lengths shown on the standard SBSB-28 only.

HL93 LOADING

Texas Department of Transportation
Bridge Division Standard

INTERIOR BENTS
STEEL BEAM SPANS
28' ROADWAY 30° SKEW

BSB-28-30

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