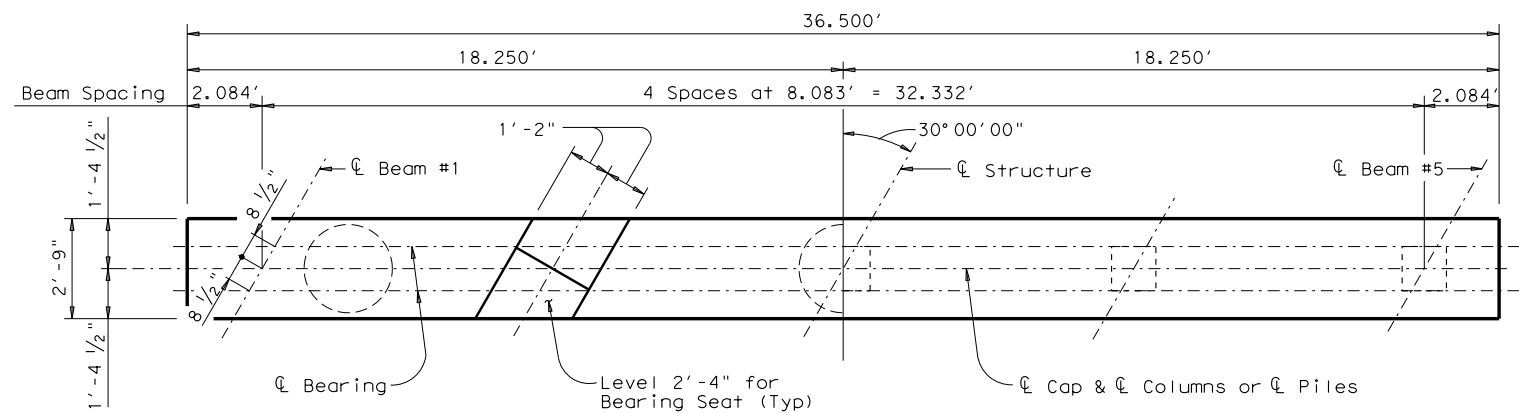
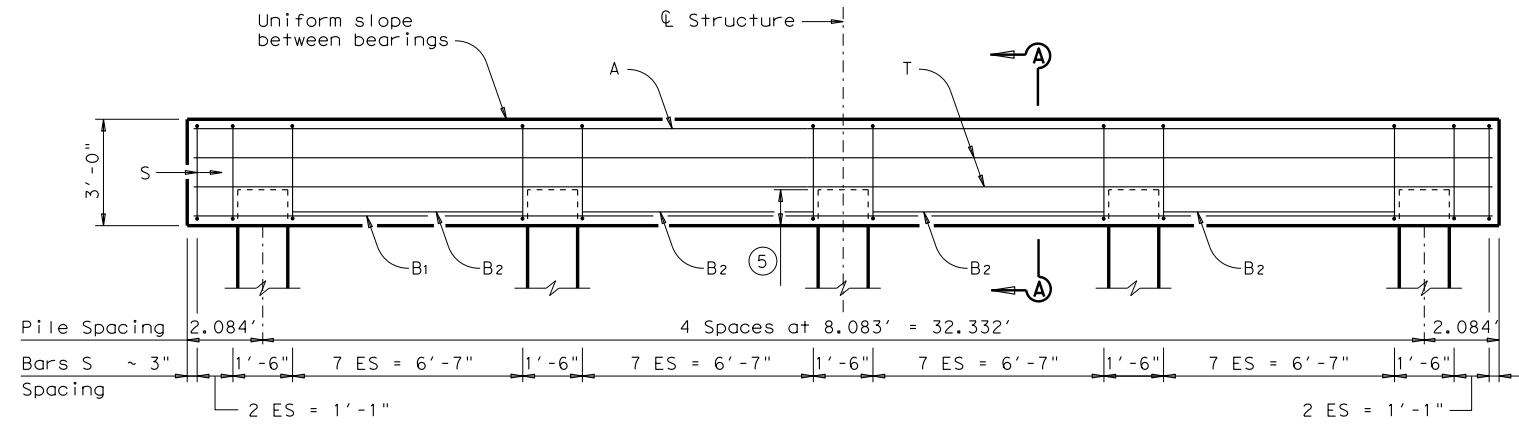


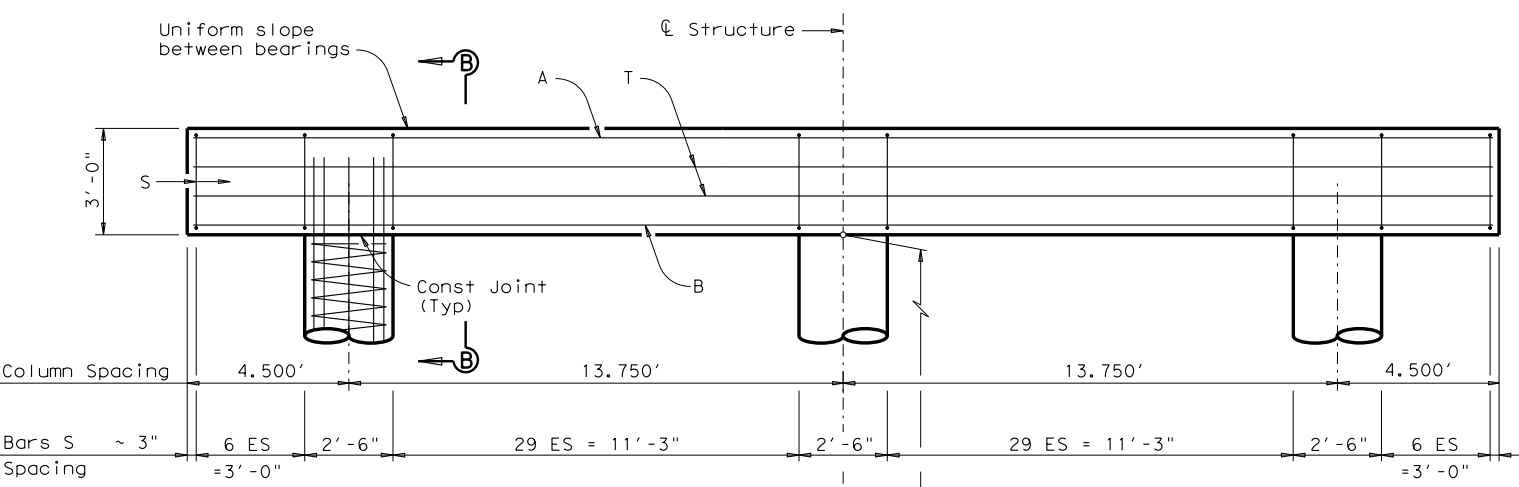
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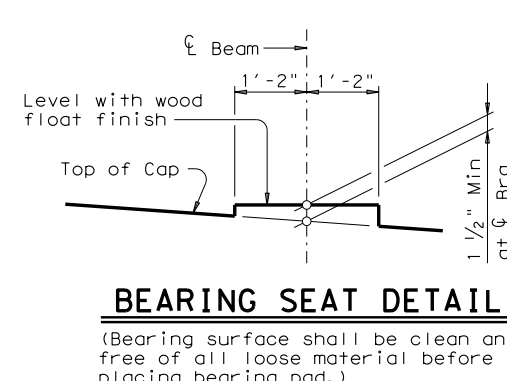
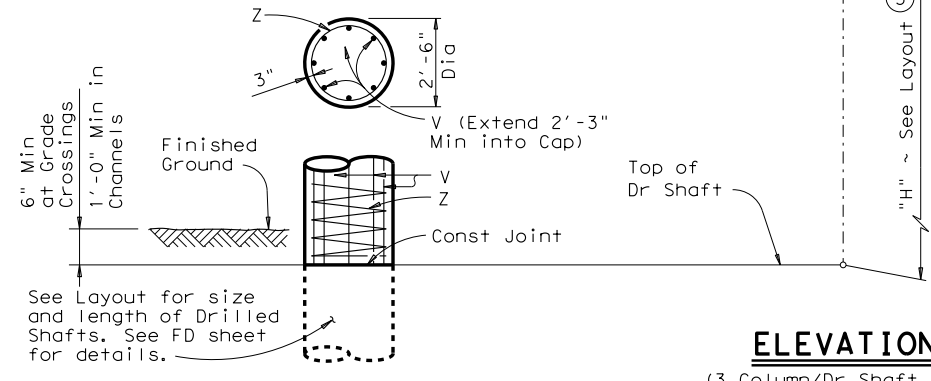
HALF PLAN
(3 Column/Dr Shaft Bent) **HALF PLAN**
(5 Pile Bent)



ELEVATION ③
(5 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 5 PILE BENT

Bar	No.	Size	Length	Weight
A	4	#9	36'-2"	492
B1	2	#9	36'-2"	246
B2	8	#9	6'-7"	179
S	38	#5	11'-0"	436
T	4	#5	36'-2"	151
Reinforcing Steel				Lb 1,504
Class "C" Conc (Cap)				CY 11.3

TABLE OF ESTIMATED QUANTITIES FOR 3 COLUMN BENT ①

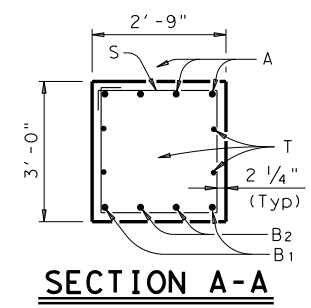
Bar	No	Size	Length	Weight
A	4	#11	36'-2"	769
B	5	#11	36'-2"	961
S	74	#5	11'-0"	849
T	4	#5	36'-2"	151
V	24	#9	32'-3"	2,632
Z	3	#3	391'-0"	4,401
Reinforcing Steel				Lb 5,803
Class "C" Conc (Cap)				CY 11.3
Class "C" Conc (Cols)				CY 16.4

TABLE OF MAXIMUM ALLOWABLE EXPOSED PILE HEIGHTS AND PILE LOADS ③

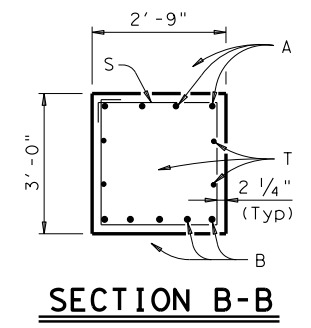
Pile Type		Max Ht	Max Load
Concrete	Steel	Ft	Tons/Pile
16" Sq	HP14x73	16	75
18" Sq	HP14x117 ④	20	90
20" Sq	HP18x135	24	110

TABLE OF FOUNDATION LOADS ②

Span Length	Pile Load	
	Ft	Tons/Pile
30	68	38
35	74	42
40	80	45
45	86	49
50	91	52
55	96	55
60	101	58
65	106	61
70	111	64
75	115	66
80	125	73
85	131	76
90	138	80
95	142	83
100	148	86
105	156	91
110	164	96
115	170	100
120	173	101



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 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 SBRR 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 SBSD-30 only.

HL93 LOADING

INTERIOR BENTS
STEEL BEAM SPANS
30' ROADWAY 30° SKEW

BSB-30-30

FILE: sbstd31.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS				
02-2012: Piles, Notes and No. of Columns	DIST	COUNTY	SHEET NO.	

Texas Department of Transportation
Bridge Division Standard

DATE: FILE: