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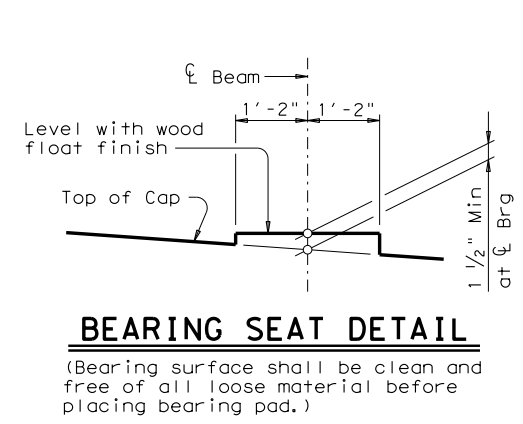
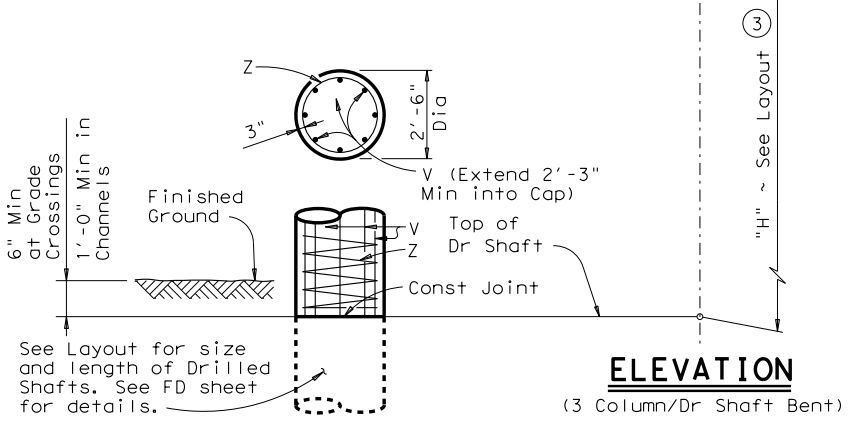
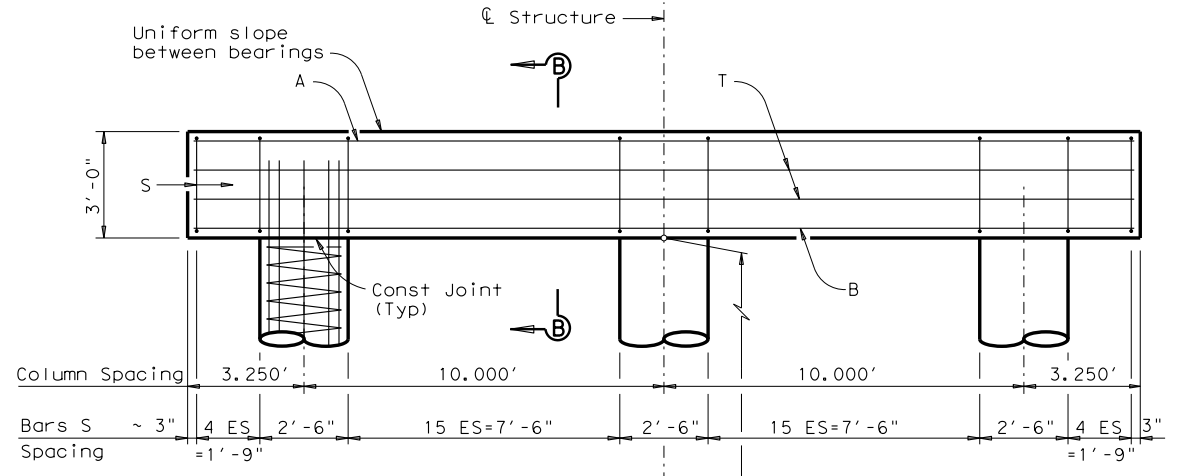
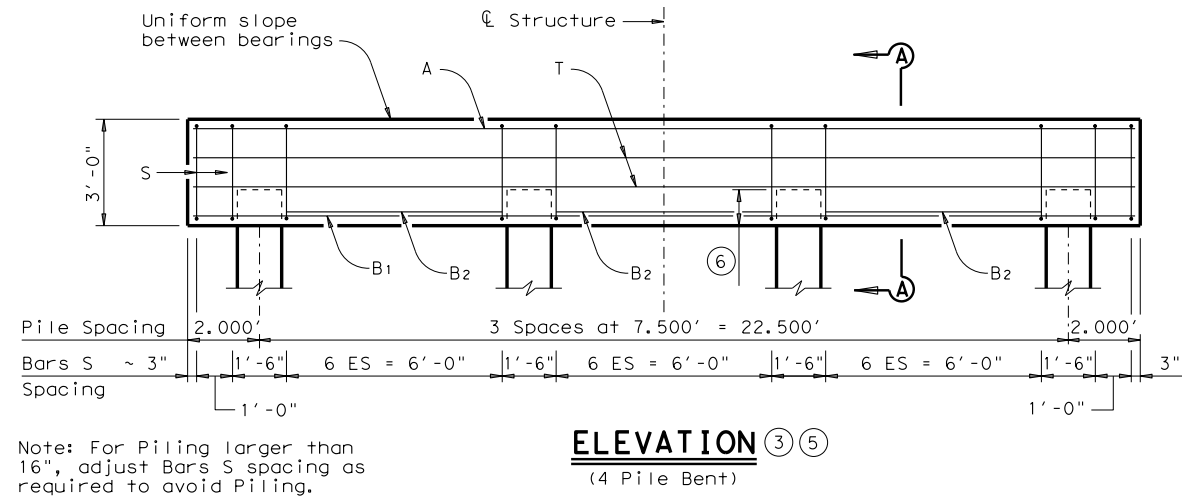
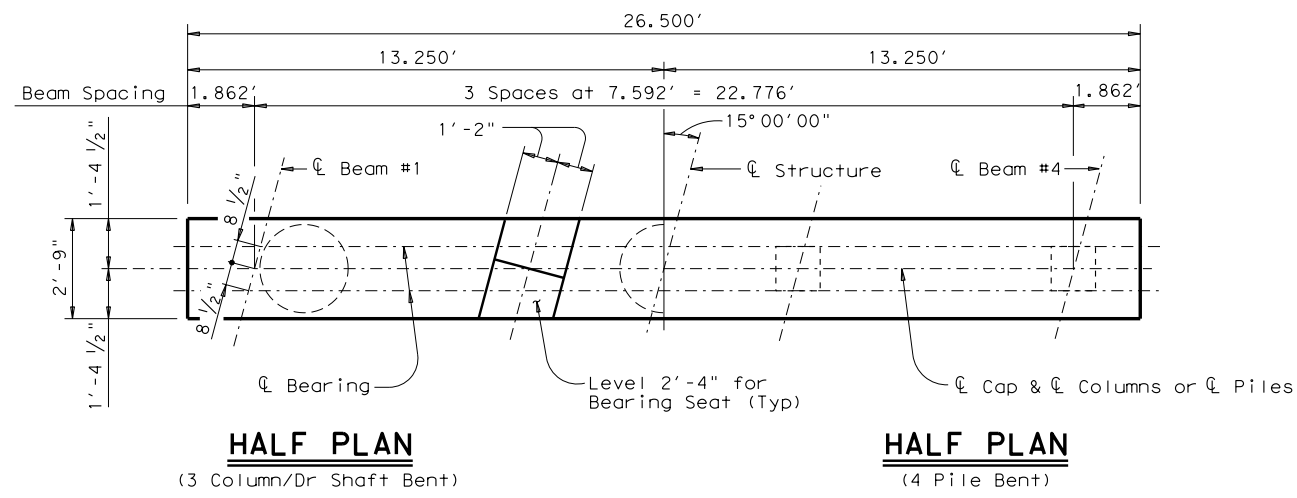


TABLE OF ESTIMATED QUANTITIES 4 PILE BENT

Bar	No	Size	Length	Weight
A	4	#9	26'-2"	356
B1	2	#9	26'-2"	178
B2	6	#9	6'-0"	122
S	25	#5	11'-0"	287
T	4	#5	26'-2"	109
Reinforcing Steel				Lb 1,052
Class "C" Conc (Cap)				CY 8.2

TABLE OF ESTIMATED QUANTITIES FOR 3 COLUMN BENT (1)

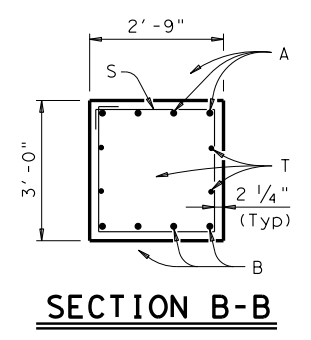
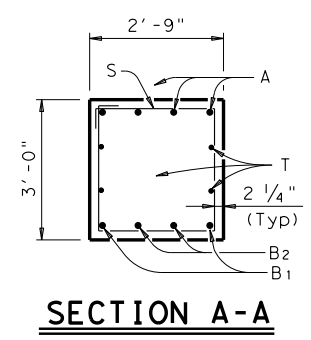
Bar	No	Size	Length	Weight
A	4	#11	26'-2"	556
B	4	#11	26'-2"	556
S	42	#5	11'-0"	482
T	4	#5	26'-2"	109
V	24	#9	32'-3"	2,631
Z	3	#3	391'-0"	441
Reinforcing Steel				Lb 4,775
Class "C" Conc (Cap)				CY 8.2
Class "C" Conc (Cols)				CY 16.4

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	63	39
35	68	43
40	73	47
45	79	51
50	83	54
55	89	58
60	93	62
65	98	66
70	104	70
75	109	73
80	116	79
85	121	82
90	127	87
95	132	91
100	139	96
105	145	101
110	148	103
115	157	110
120	165	(5)



- (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 115'.
- (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 SBSD-24 only.

HL93 LOADING

Texas Department of Transportation
INTERIOR BENTS
STEEL BEAM SPANS
24' ROADWAY 15° SKEW
BSB-24-15

FILE: sbstd10.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.

DATE: FILE: