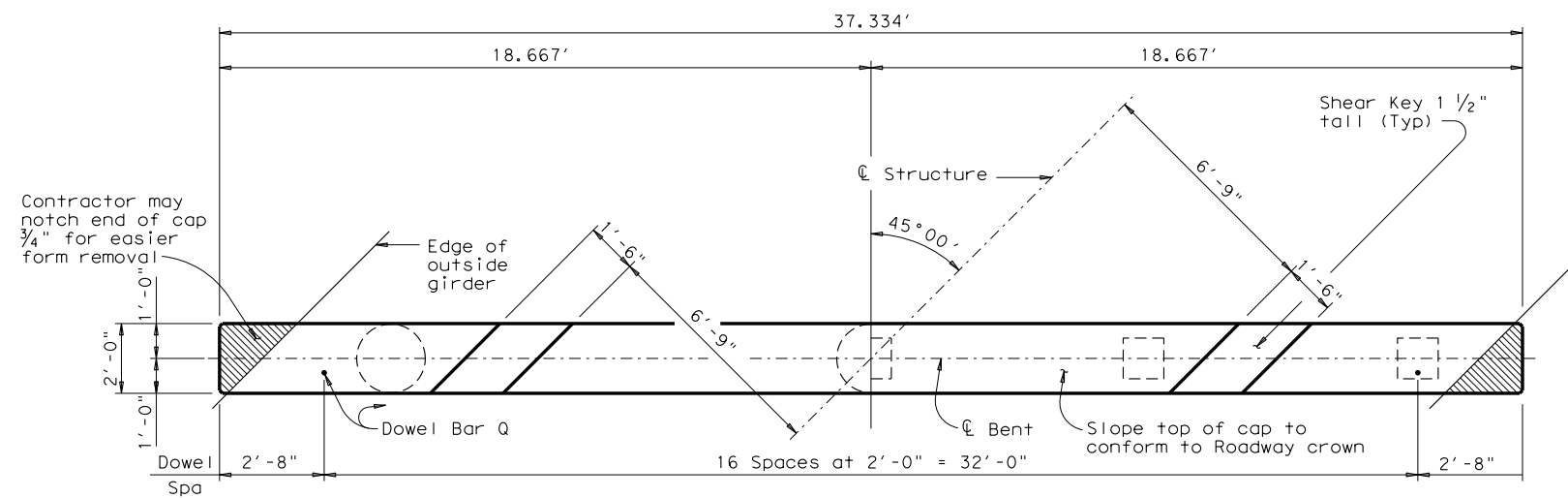
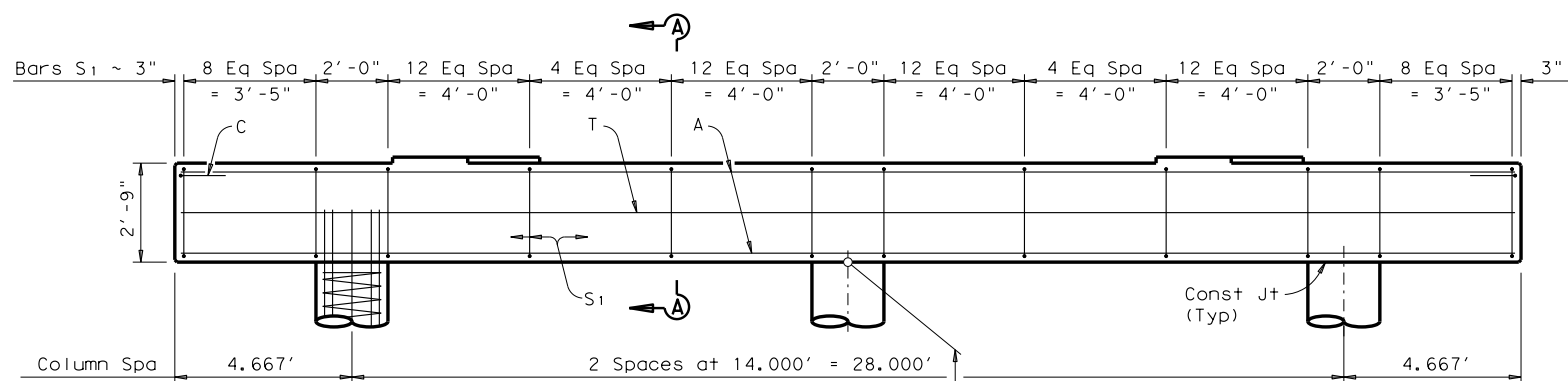


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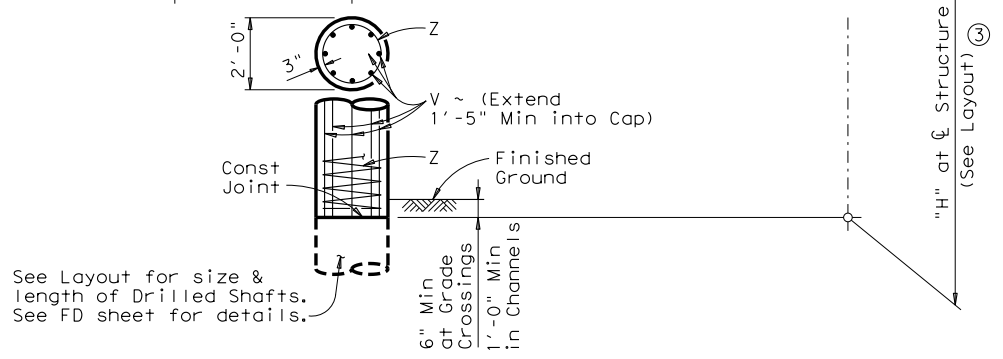
DATE: FILE:



SHOWING COLUMNS
SHOWING PILES
PLAN

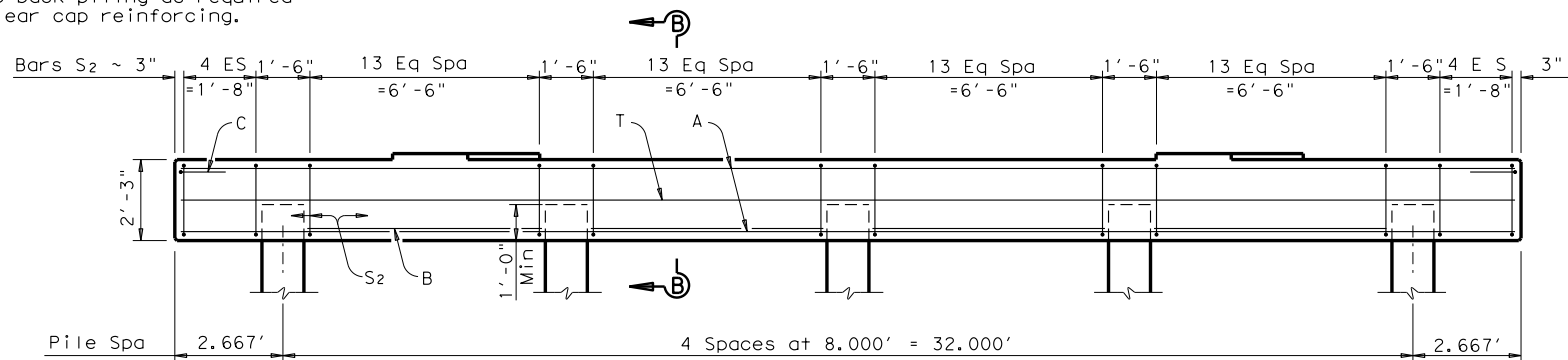


ELEVATION ~ 3 COLUMN BENT

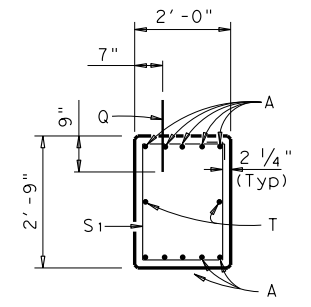


See Layout for size & length of Drilled Shafts. See FD sheet for details.

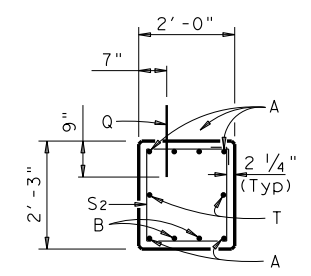
Note: For piling larger than 16", adjust bars S and/or strip back piling as required to clear cap reinforcing.



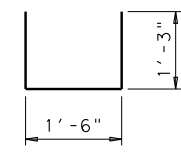
ELEVATION ~ 5 PILE BENT



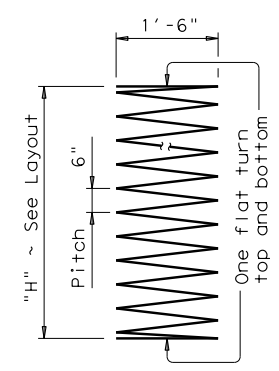
SECTION A-A



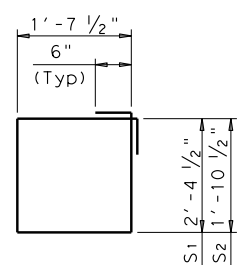
SECTION B-B



BARS C



BARS Z



BARS S

TABLE OF CONSTANT QUANTITIES				
3 COLUMN BENT				
Bar	No.	Size	Length	Weight
A	10	#11	37'-0"	1,966
C	2	#5	4'-0"	8
Q	17	#6	1'-6"	38
S1	76	#5	9'-0"	713
T	2	#5	37'-0"	77
Reinforcing Steel			Lb	2,802
Class "C" Concrete			CY	7.6

TABLE OF ESTIMATED QUANTITIES				
5 PILE BENT				
Bar	No.	Size	Length	Weight
A	6	#11	37'-0"	1,179
B	8	#11	6'-6"	276
C	2	#5	4'-0"	8
Q	17	#6	1'-6"	38
S2	66	#5	8'-0"	551
T	2	#5	37'-0"	77
Reinforcing Steel			Lb	2,129
Class "C" Concrete			CY	6.3

TABLE OF VARIABLE QUANTITIES ~ 3 COLUMN BENT					
"H"	Class "C" Conc (Cols)	Bars V 24 ~ #7	Bars Z 3 ~ #3 Spiral	Reinf Steel	Class "C" Conc
Ft	CY	Length	Weight	Lb	CY
24	8.4	25'-5"	1,247	237'	267

TOTAL EST QUANT ~ 3 COL BENT	
Reinf Steel	Class "C" Conc
Lb	CY
4,316	16.0

- Adjust Bars V length by 1 Ft and Bars Z length by 9.4777 Ft for each linear foot of variation in "H" value.
- Adjust Reinforcing Steel Total by 40 Lbs and Class "C" Conc by 0.2328 CY for each linear foot of variation in "H" value.
- This standard may not be used for "H" heights or exposed pile heights exceeding the values shown in the tables. In areas of very soft soil or where scour is anticipated, allowable "H" heights or exposed pile heights shall be evaluated by the Engineer prior to the use of this standard.
- When HP14x117 steel piling is specified in the plans, the Contractor has the option of furnishing either HP14x117 or HP16x101 steel piling.

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications. Details shown are for right forward skew. See layout for actual skew direction.
 All cap reinforcing shall be Grade 60.
 Column and drilled shaft reinforcing may be Grade 40.
 Concrete strength f'c = 3,600 psi.
 See Layout for foundation type, size and length.
 See standard FD for foundation details and notes.
 Concrete Slab and Girder Bents do not support the use of multi-pile footings as shown on the FD standard.
 For usual soil and construction conditions, forms may be supported from the sides of bent caps if one of the following is satisfied:
 1) For column bents, a maximum "H" height of 24'.
 2) For pile bents, a maximum exposed pile height of 20'.
 Calculated Foundation Loads:
 30'-4" Span = 68 Tons/Drilled Shaft = 37 Tons/Pile
 40'-0" Span = 87 Tons/Drilled Shaft = 49 Tons/Pile

TABLE OF MAXIMUM ALLOWABLE EXPOSED PILE HEIGHTS		
Pile Type	Steel	Max Ht
Concrete	Steel	Ft
16" Sq	HP14x73	16
18" Sq	HP14x117	20

HL93 LOADING

		Bridge Division Standard	
BENTS FOR CONCRETE SLAB AND GIRDER SPANS 24 FT ROADWAY			
BCG-24(45°00')			
FILE: bcg05ste.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT
©TxDOT October 2005	CONT	SECT	JOB
REVISIONS			HIGHWAY
02-2012: Piles	DIST	COUNTY	SHEET NO.