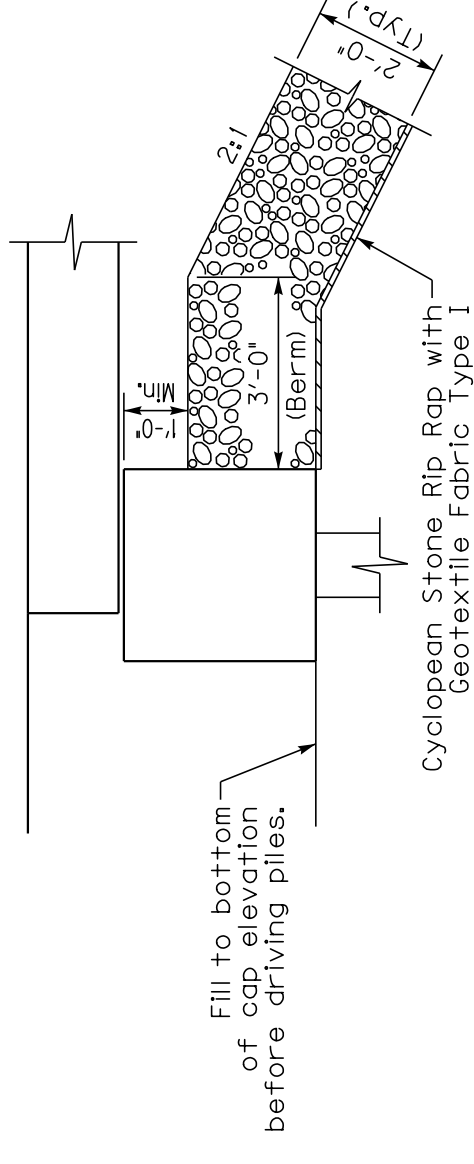


DRAWING SCALE: _____
 DRAWING SHOWN: _____

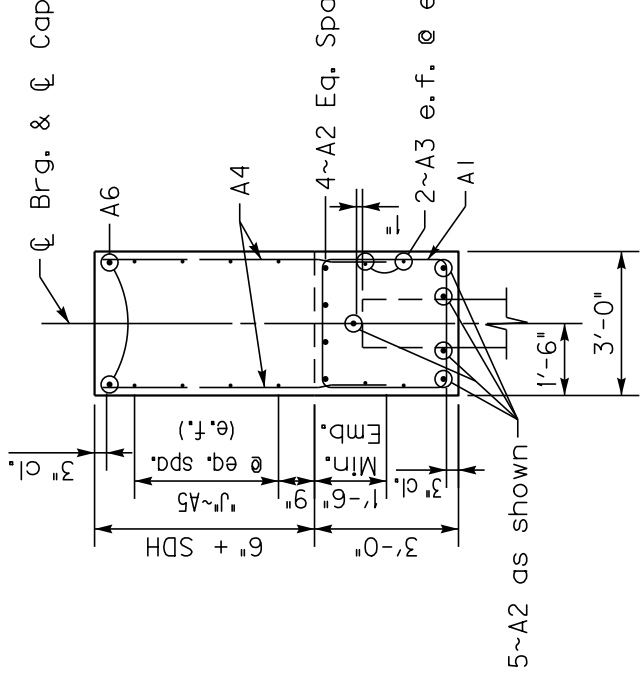
DESIGNED BY J. Van Zee
 CHECKED _____
 RECOMMENDED _____
 APPROVED F.H.A. _____
 REVISED BY E. Downey
 DATE 5-17

SUPERSTRUCTURE HEIGHT		CAP BILL OF REINFORCEMENT												WING BILL OF REINFORCEMENT																
SDH = Beam+Pad Height + (launch+slab) (if applicable)		16' - 0" BRIDGE WIDTH				24' - 0" BRIDGE WIDTH				32' - 0" BRIDGE WIDTH				REINFORCEMENT																
BRIDGE WIDTH	PILE LOAD	DIMENSIONS												QUANTITIES																
		PILES			PILES			PILES			PILES			CONCRETE (C.Y.)		STEEL (LBS.)														
	SIZE	NO.	PE	PS	PL	A	B	C	D	E	F	G	H	J	L	WL	WU	WV	WX	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH	
16	H1	92	3'-6 1/2"	8'-0"	16'-0"	3 1/2"	4	9"	2'-3"	7	6'-0"	5	2'-0"	2	23'-1"	3'-6"	3'-6"	0	0	9.8	A4e	Str.	12	5	4-0	A4e	Str.	12	5	4-0
	H2	87	2'-4 1/2"	7'-0"	21'-0"	2 1/2"	3	7"	1'-2"	6	5'-0"	3	4'-0"	3	25'-9"	4'-10"	4'-10"	0	0	12.2	A5e	Str.	8	8	38-9	A5e	Str.	8	5	3-2
	H3	107	3'-4 1/2"	8'-0"	24'-0"	4 1/2"	4	8"	2'-0"	7	6'-0"	7	6'-0"	4	30'-9"	7'-4"	3'-3"	4'-1"	2'-1"	16.8	A6e	Str.	4	5	38-9	A6e	Str.	4	6	3-2
24	H1	97	3'-6 1/2"	8'-0"	24'-0"	3 1/2"	4	9"	2'-3"	7	6'-0"	3	2'-0"	2	31'-1"	3'-6"	3'-6"	0	0	12.4	A4e	Str.	20	5	4-8	A4e	Str.	20	5	4-8
	H2	99	2'-10 1/2"	7'-0"	28'-0"	2 1/2"	3	10"	1'-8"	6	5'-0"	5	4'-0"	3	33'-9"	4'-10"	4'-10"	0	0	14.8	A5e	Str.	12	5	4-6	A5e	Str.	12	5	4-6
	H3	122	3'-4 1/2"	8'-0"	32'-0"	4 1/2"	4	8"	2'-0"	7	6'-0"	7	6'-0"	4	38'-9"	7'-4"	3'-3"	4'-1"	2'-1"	19.4	A6e	Str.	4	6	41-5	A6e	Str.	4	6	4-6
32	H1	103	3'-6 1/2"	8'-0"	32'-0"	3 1/2"	4	9"	2'-3"	7	6'-0"	3	2'-0"	2	39'-1"	3'-6"	3'-6"	0	0	15.1	A4e	Str.	28	5	5-11	A4e	Str.	28	5	5-11
	H2	109	3'-4 1/2"	7'-0"	35'-0"	4 1/2"	4	8"	2'-0"	6	5'-0"	5	4'-0"	3	41'-9"	4'-10"	4'-10"	0	0	17.5	A5e	Str.	16	5	7-0	A5e	Str.	16	5	7-0
	H3	133	3'-4 1/2"	8'-0"	40'-0"	4 1/2"	4	8"	2'-0"	7	6'-0"	7	6'-0"	4	46'-9"	7'-4"	3'-3"	4'-1"	2'-1"	22.1	A6e	Str.	4	6	7-5	A6e	Str.	4	6	7-5

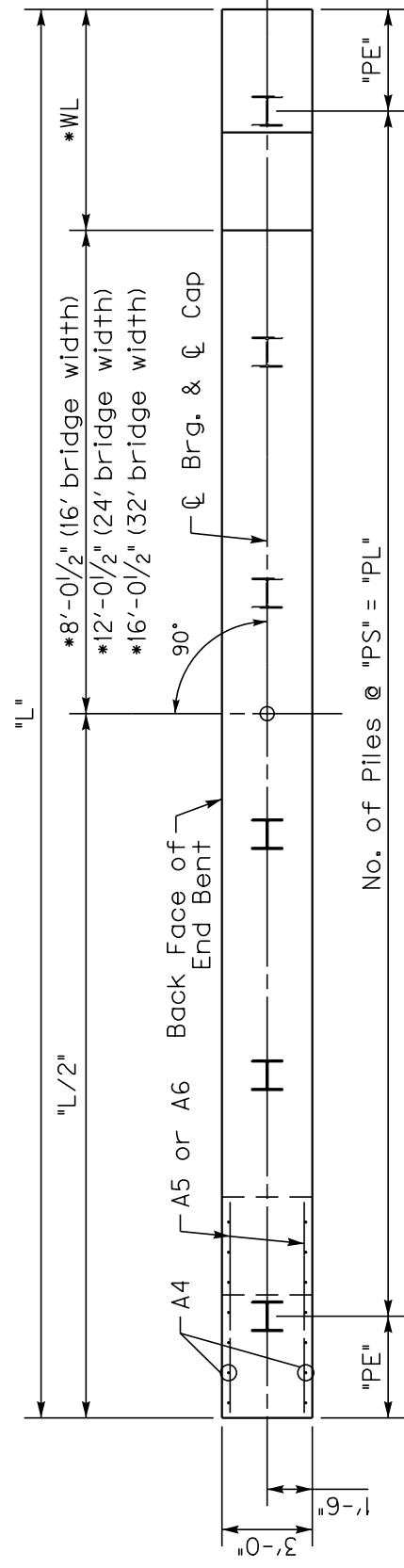
- NOTES:
- Conform to KYTC, Standard Specifications, Current Edition.
 - Concrete to be Class "A", 3500 psi.
 - Rebar to be epoxy coated A615, Grade 60.
 - Maintain 2" clear cover to reinforcement unless otherwise noted.
 - End Bents are designed for the maximum span of the following steel and concrete beams as shown in the current standards:
 - H1 - B12, CB12, B17, CB17, B21 or rolled steel beams up to 16' nominal depth.
 - H2 - CB21, B27, CB27, B33 or rolled steel beams up to 24' nominal depth.
 - H3 - CB33, B42, CB42 or rolled steel beams up to 36' nominal depth.
 - Piles may be HP12x53 or 16 Steel Pipes with 1/2" wall thickness.
 - Piles driven to rock must be driven to Refusal. Friction Piles must be driven to (Pile Load/0.4) using the Gates Method.
 - Pile load given is Factored Strength Load.
 - Piles must be driven 10' into existing ground or to refusal on bedrock.
 - Piles at wet crossings must be driven to 10' below stream bed or to refusal on bedrock. A minimum pile length of 10' is required in all circumstances.
 - Contractor shall provide a hammer capable of driving the piling steel and capacity without encountering excessive blow counts or to refusal or capacity without encountering excessive blow counts or damaging the pile. Contractor shall be responsible for all damaged piling.



SECTION THRU END BENT
 (Showing berm and fill slope)

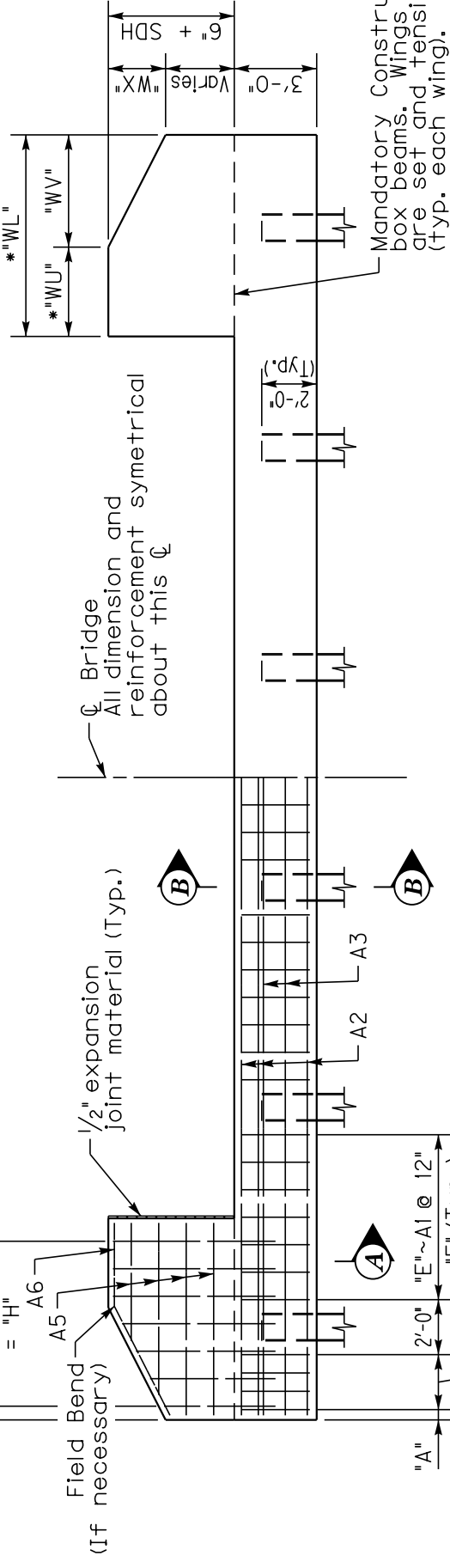


SECTION A-A



PLAN

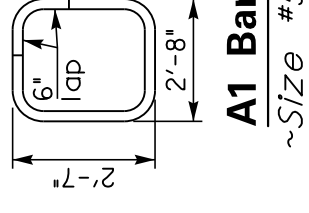
NOTE: Slope cap as necessary with side by side box beams and step cap seats with rolled steel beams to maintain proper roadway slope.



ELEVATION

NOTE: Trim A4-A6 bars as necessary.

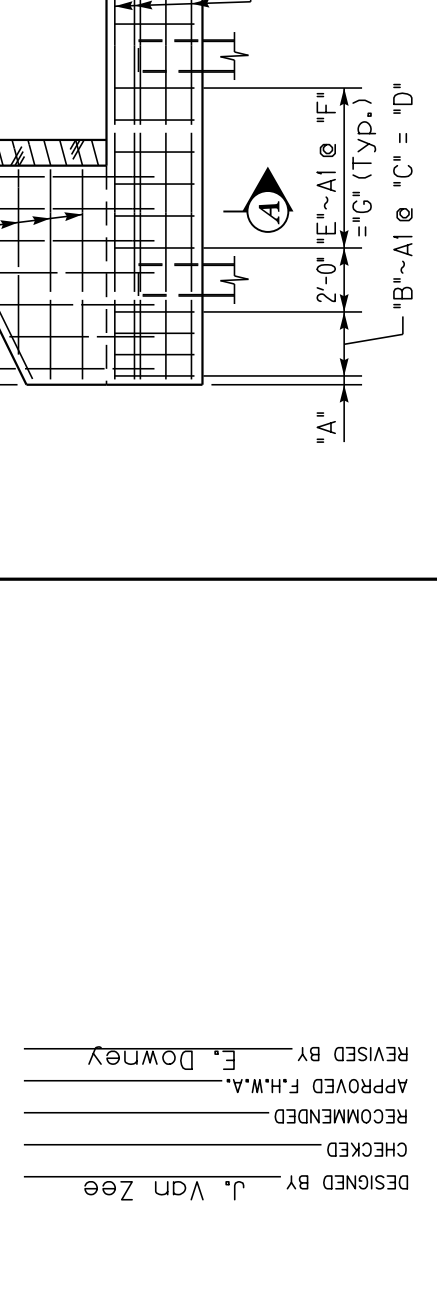
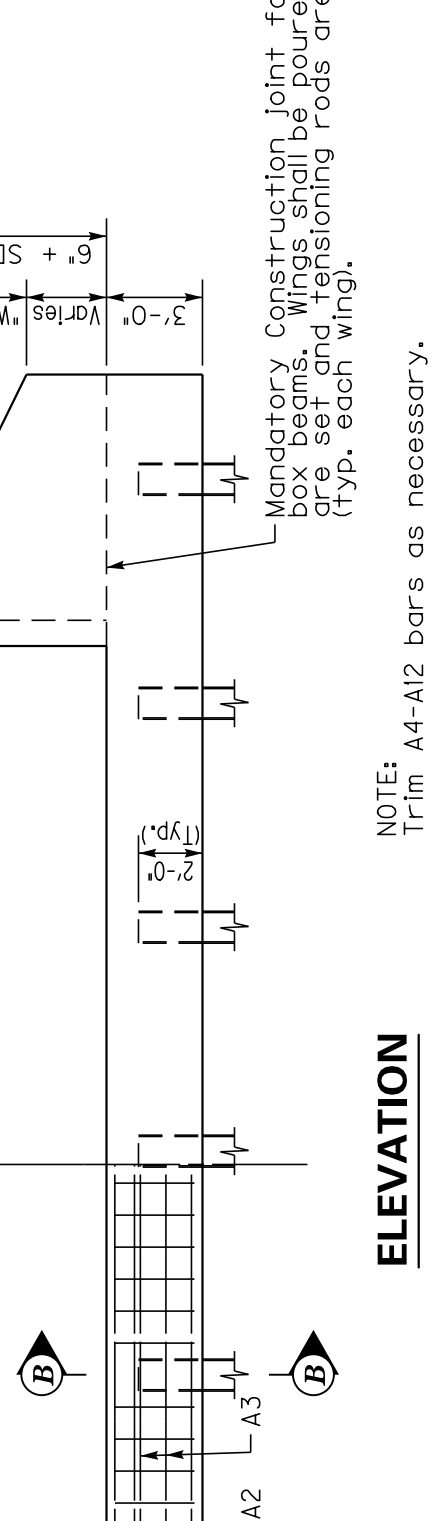
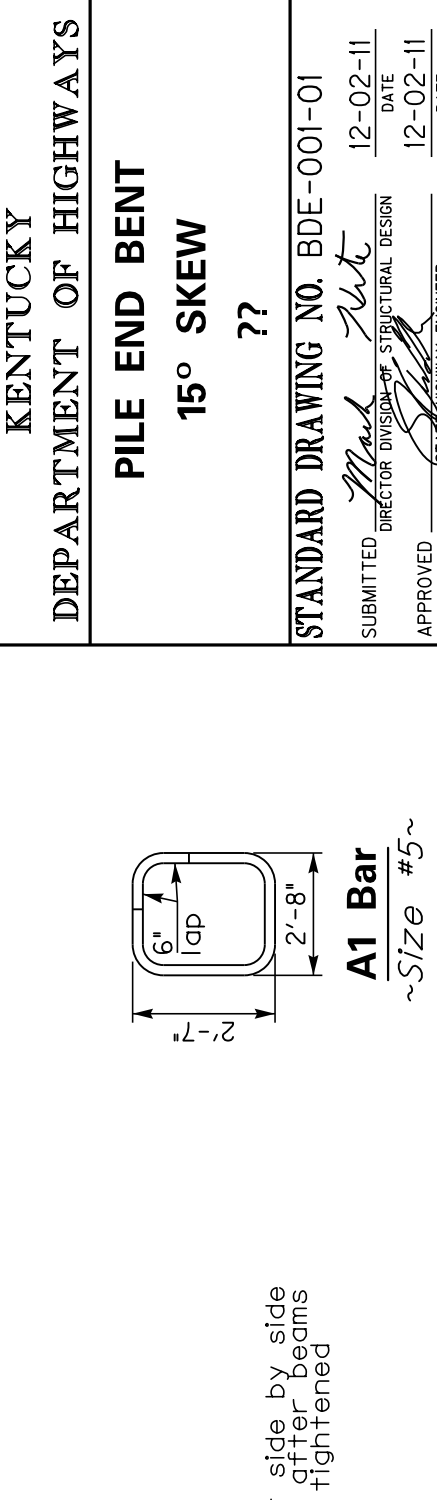
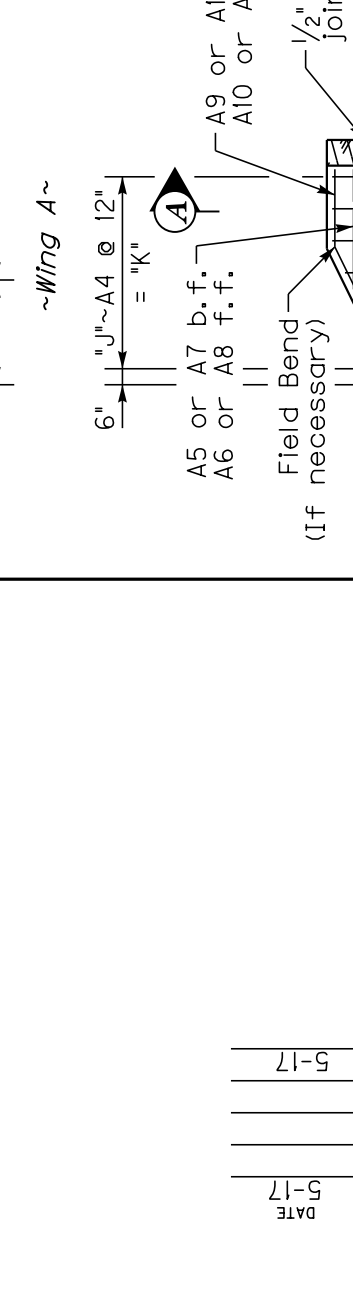
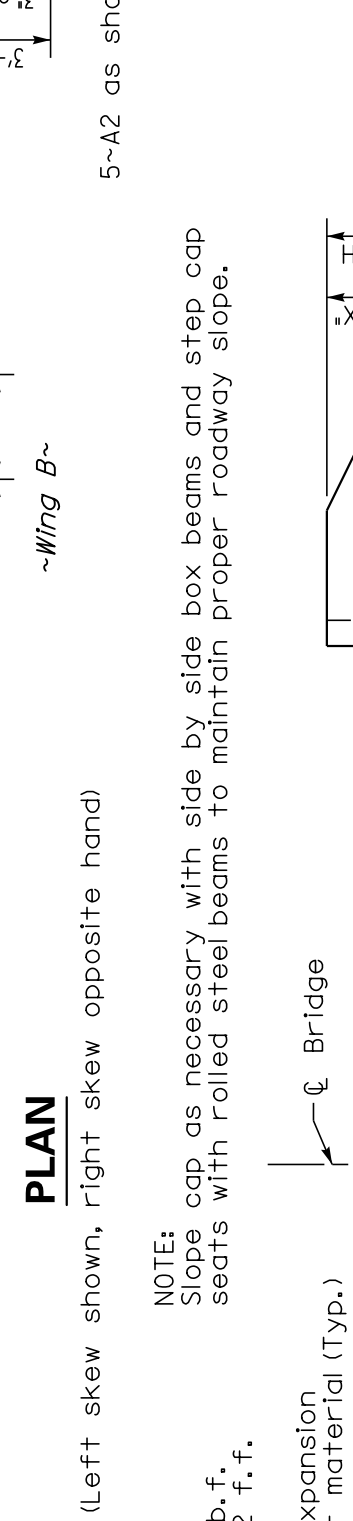
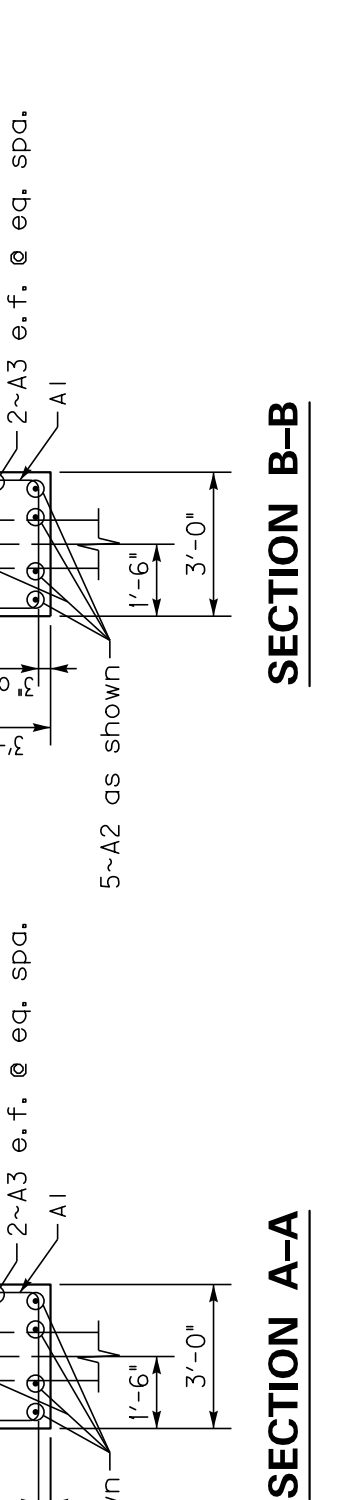
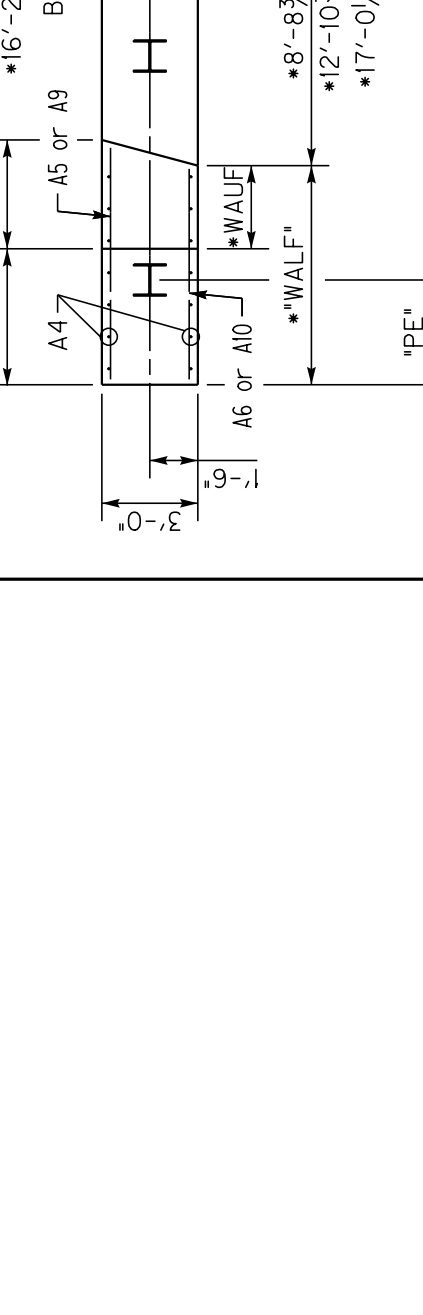
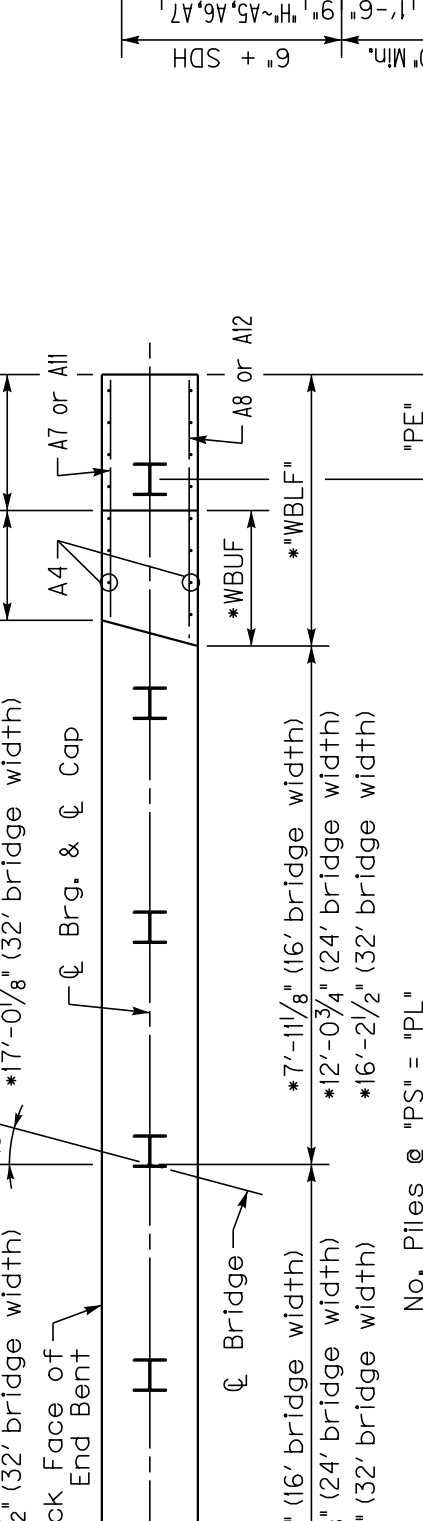
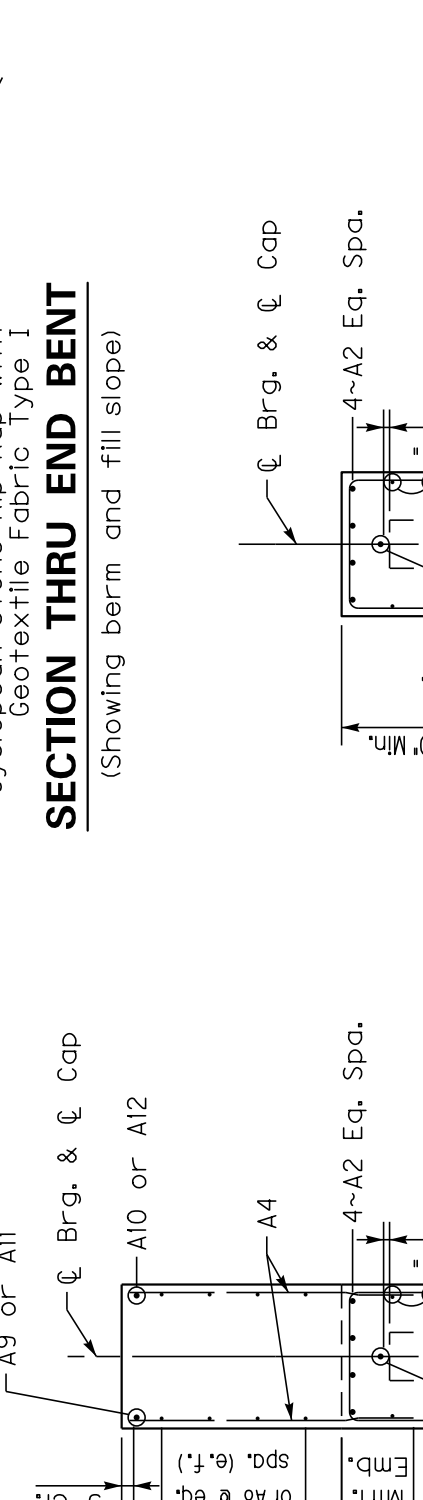
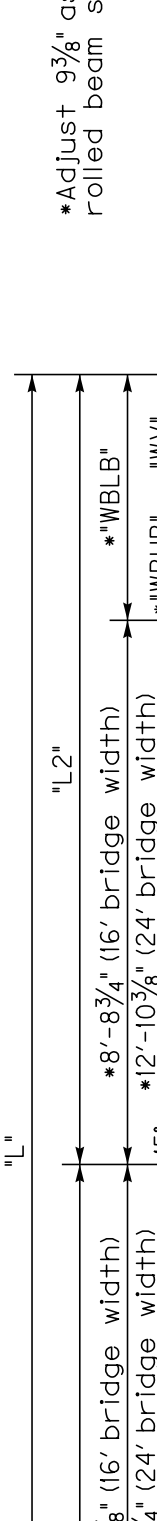
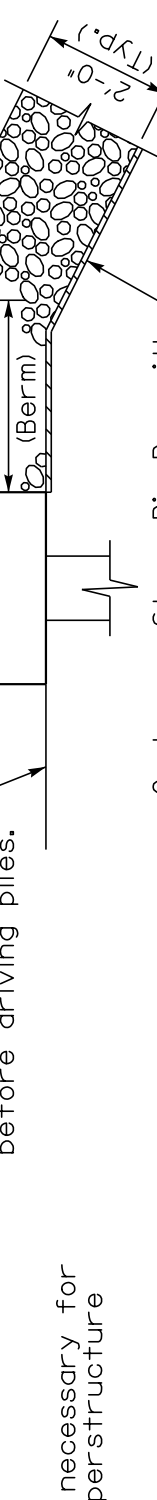
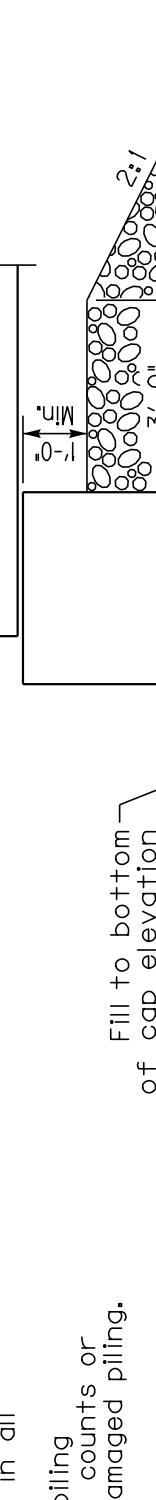
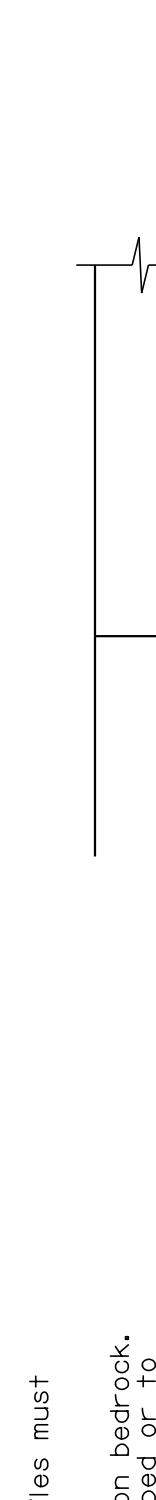
KENTUCKY
 DEPARTMENT OF HIGHWAYS
PILE END BENT
0° SKEW
??
 STANDARD DRAWING NO. BDE-001-01
 SUBMITTED _____ DATE 12-02-11
 DIRECTOR DIVISION OF STRUCTURAL DESIGN
 APPROVED _____ DATE 12-02-11
 GATE HIGHWAY ENGINEER



A1 Bar
 ~Size #5~

DRAWING SCALE: _____
DRAWING SHOWN: _____

SUPERSTRUCTURE HEIGHT		CAP BILL OF REINFORCEMENT										WING BILL OF REINFORCEMENT																											
SDH=Beam Height +pad height (if applicable)		16' - 0" BRIDGE WIDTH					24' - 0" BRIDGE WIDTH					32' - 0" BRIDGE WIDTH					16' - 0" BRIDGE WIDTH					24' - 0" BRIDGE WIDTH					32' - 0" BRIDGE WIDTH												
H1	H2	H3	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH	MARK	TYPE	NO.	SIZE	LENGTH		
			A1e	I4s	22	5	11-0	A1e	I4s	29	5	11-0	A1e	I4s	36	5	11-0	A4e	S1r.	14	5	4-0	A7e	S1r.	2	5	3-4	A10e	S1r.	1	6	2-6							
			A2e	S1r.	9	8	23-7	A2e	S1r.	9	8	31-11	A2e	S1r.	9	8	40-2	A5e	S1r.	2	5	3-2	A8e	S1r.	2	5	4-1	A11e	S1r.	1	6	3-4							
			A3e	S1r.	4	5	23-7	A3e	S1r.	4	5	31-11	A3e	S1r.	4	5	40-2	A6e	S1r.	2	5	3-2	A9e	S1r.	1	6	3-2	A12e	S1r.	1	6	4-1							
			A2e	S1r.	9	8	26-4	A2e	S1r.	9	8	34-8	A2e	S1r.	9	8	42-11	A5e	S1r.	20	5	4-8	A7e	S1r.	3	5	4-8	A10e	S1r.	1	6	3-11							
			A3e	S1r.	4	5	26-4	A3e	S1r.	4	5	34-8	A3e	S1r.	4	5	42-11	A6e	S1r.	3	5	3-11	A9e	S1r.	1	6	4-7	A12e	S1r.	1	6	4-8							
			A2e	S1r.	9	8	31-7	A2e	S1r.	9	8	39-11	A2e	S1r.	9	8	48-2	A5e	S1r.	30	5	5-11	A7e	S1r.	4	5	7-4	A10e	S1r.	1	6	7-10							
			A3e	S1r.	4	5	31-7	A3e	S1r.	4	5	39-11	A3e	S1r.	4	5	48-2	A6e	S1r.	4	5	6-6	A9e	S1r.	1	6	7-8	A12e	S1r.	1	6	8-6							

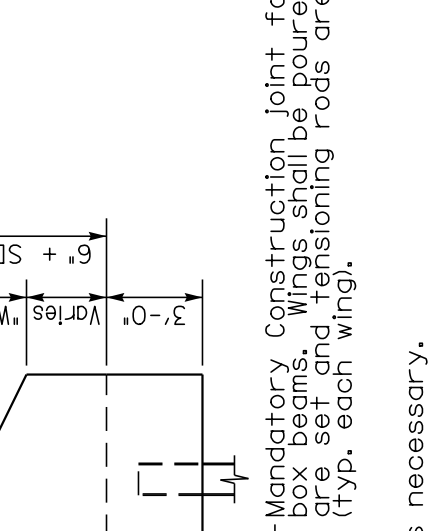
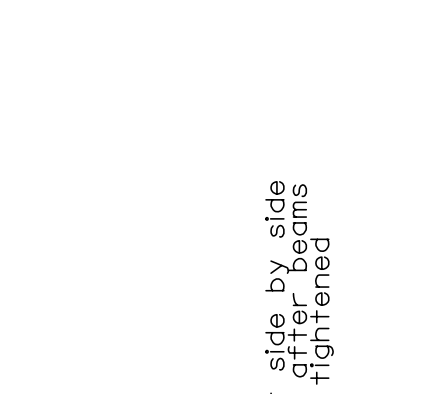


NOTES:
 1) Conform to KYTC, Standard Specifications, Current Edition.
 2) Concrete to be Class "A", 3500 psi.
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 4) Maintain 2" clear cover to reinforcement unless otherwise noted.
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 10) Contractor shall provide a hammer capable of driving the piling to refusal or capacity without encountering excessive blow counts or damaging the pile. Contractor shall be responsible for all damaged piling.

KENTUCKY
DEPARTMENT OF HIGHWAYS
PILE END BENT
15° SKEW
??

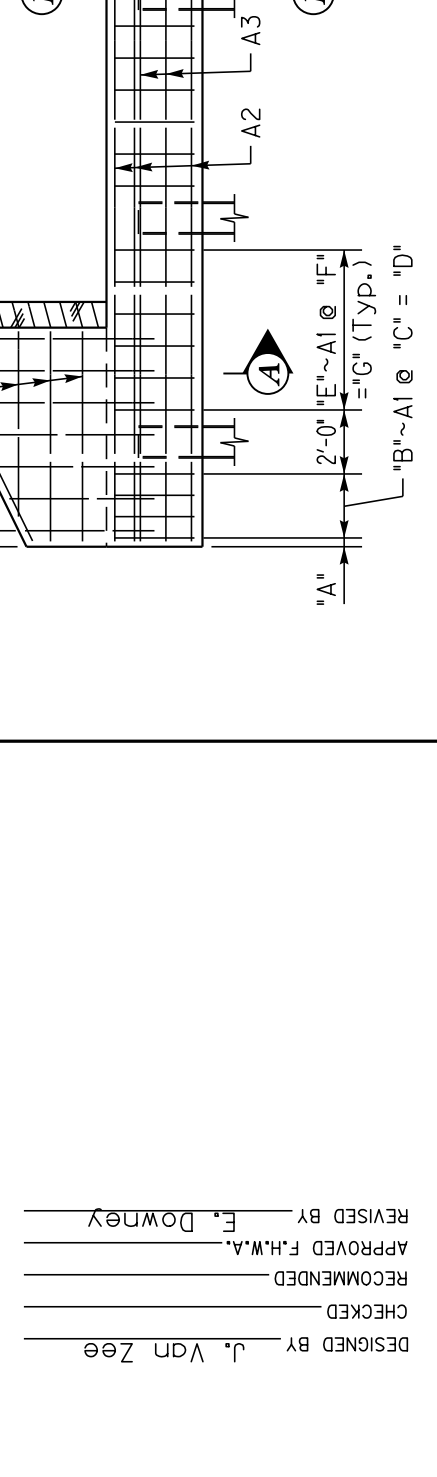
STANDARD DRAWING NO. BDE-001-01
 SUBMITTED *Mark*
 DIRECTOR DIVISION OF STRUCTURAL DESIGN
 APPROVED *John*
 DATE 12-02-11
 DATE 12-02-11
 GATE HIGHWAY ENGINEER



Mandatory construction joint for side by side box beams. Wings shall be poured after beams are set and tensioning rods are tightened (typ. each wing).

NOTE:
 Trim A4-A12 bars as necessary.

ELEVATION



DESIGNED BY J. Van Zee
 CHECKED _____
 RECOMMENDED _____
 APPROVED F.H.W.A. _____
 REVISED BY E. Downey
 DATE 5-17

