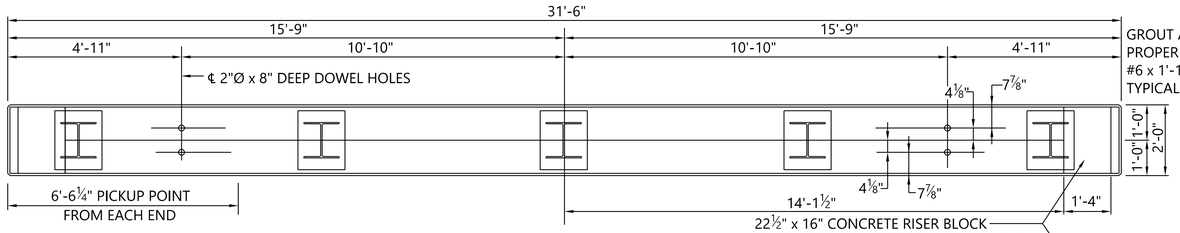
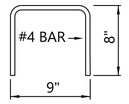
\\brvms002\BridgeStandardandSpecial\Bridge Special DGN Files\2022 DGN\Precast\PCB2840-1.dgn
PLOTTED: 27-Dec-21 at 10:54

REFERENCE PROJECT NUMBER	FISCAL YEAR	SHEET NUMBER

PLAN INTERMEDIATE BENT STEP CAP

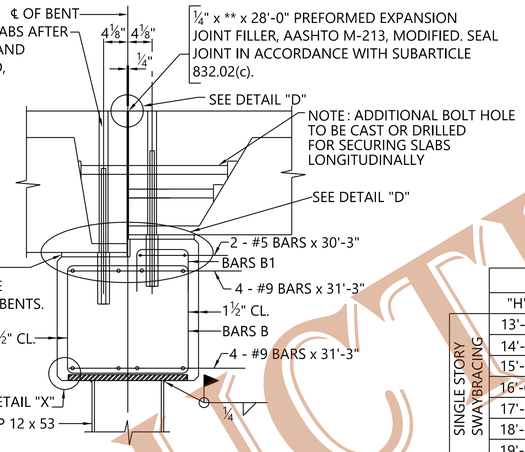


GROUT ALL HOLES IN ALL CAPS AND ALL SLABS AFTER PROPER ALIGNMENT HAS BEEN OBTAINED AND #6 x 1'-11" DOWEL PINS HAVE BEEN PLACED, TYPICAL ALL BENTS.

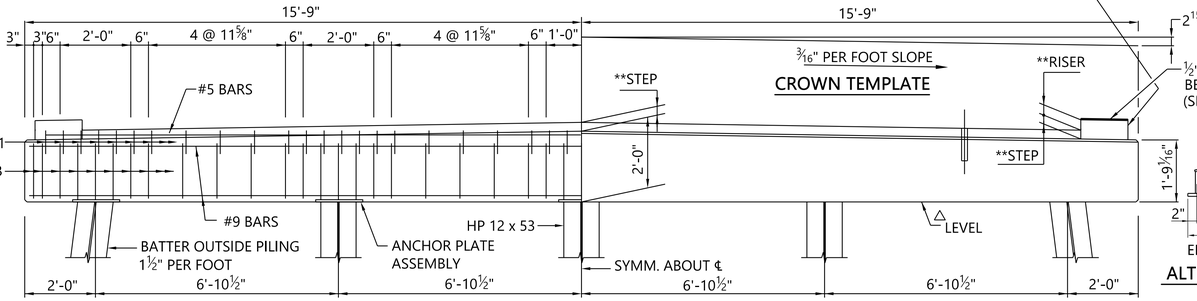


BARS B1 #4
DIMENSIONS ARE OUT TO OUT

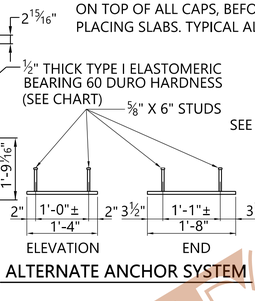
PLACE ½" BEARING PADS ON TOP OF ALL CAPS, BEFORE PLACING SLABS. TYPICAL ALL BENTS.



CAP SECTION

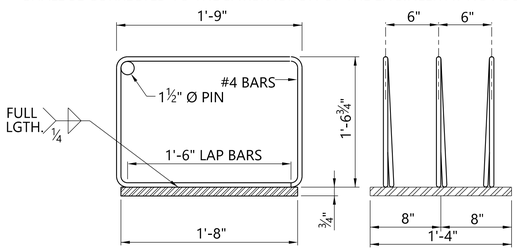


ELEVATION INTERMEDIATE BENT STEP CAP

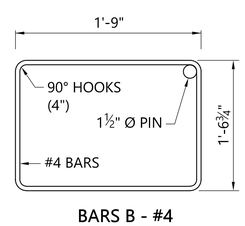


ALTERNATE ANCHOR SYSTEM

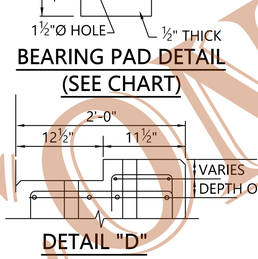
△ CAPS SHALL BE ERECTED SO THAT THE BOTTOM OF THE CAP IS LEVEL ALONG THE ROADWAY AND PERPENDICULAR TO THE ROADWAY. THE ACCEPTABLE ERECTION TOLERANCE (SLOPE ON BOTTOM OF CAP) SHALL BE 1/16" PER FOOT ALONG THE ROADWAY AND 1/16" PER FOOT PERPENDICULAR TO THE ROADWAY. CAPS ERECTED OUTSIDE THIS TOLERANCE SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE PROJECT.



ANCHOR PLATE ASSEMBLY

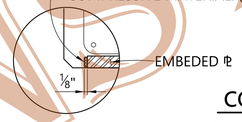


BARS B - #4



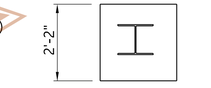
* NOTE: 1½" Ø HOLE REQ'D. FOR PAD AT INTERIOR SIDE OF EXTERIOR SLAB

BEARING PAD DETAIL (SEE CHART)



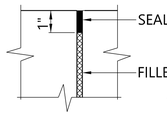
DETAIL "X"

DETAIL "D"



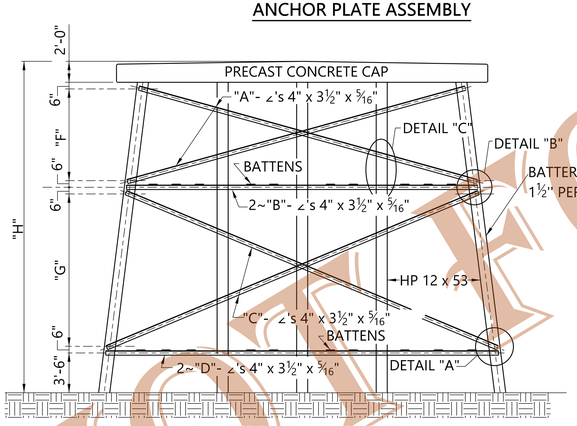
DETAILS FOR PILING ON CONCRETE PEDESTAL FOUNDATION

NOTE: WHERE SUFFICIENT PILE PENETRATION CANNOT BE OBTAINED, PILES SHALL BE ENCASED WITH CONCRETE PEDESTALS AS SHOWN. COST OF THE CONCRETE PEDESTALS TO BE PAID FOR IN ACCORDANCE WITH SUBARTICLE 505.05(f) OF THE STANDARD SPECIFICATIONS. APPROVAL FOR USE MUST BE OBTAINED FROM THE BUREAU OF CONSTRUCTION.



DETAIL "D"

◇ WHERE PILE BENT IS LOCATED IN WATER, ENCASEMENT SHALL EXTEND 3'-0" MIN. ABOVE NORMAL WATER LINE AS DETERMINED BY ENGINEER.



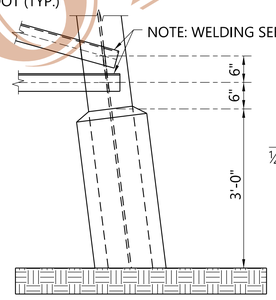
SWAYBRACING DETAILS

N.T.S.

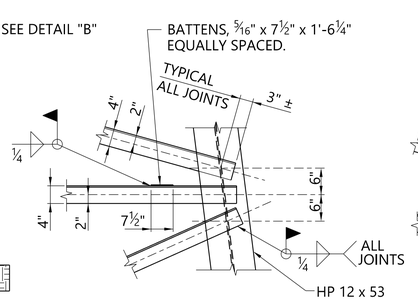
TWO STORY BENT SHOWN, SINGLE STORY BENTS SIMILAR. SWAYBRACING FOR SINGLE STORY BENTS SHALL BE 4" x 3½" x 5/16" ANGLES & DESIGNATED BY THE LETTER "A" AND "B". ALL PILING AT GROUND AND OR WATER LINE SHALL BE ENCASED IN CONCRETE. NOTE ENCASEMENT DETAILS.

** A ½" X 8" X 1'-10½" ELASTOMERIC BEARING, TYPE 1 SHALL BE USED UNDER THE OUTSIDE LEGS OF THE EXTERIOR CHANNELS.

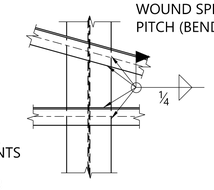
* NOTE: PILE ENCASEMENT MAY BE STOPPED 1'-0" BELOW THE BOTTOM OF CAP. THE CONTRACTOR SHALL CLEAN AND PAINT THE STEEL PLATE AND THE PILING FROM THE BOTTOM OF THE CAP TO 12" BELOW THE TOP OF THE PILE ENCASEMENTS AS PER SPECIFICATIONS. TOP OF ENCASEMENT SHALL BE SLOPED TO DRAIN. FOR ALTERNATE PAINT DETAILS, SEE BRIDGE SPECIAL PROJECT DRAWING SBD-1.



DETAIL "A"

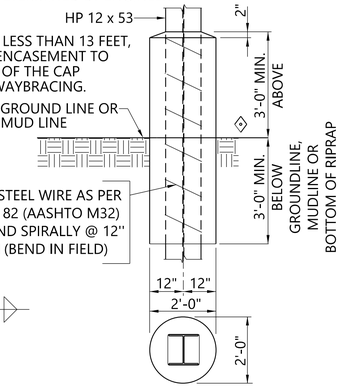


DETAIL "B"



DETAIL "C"

* WHERE "H" IS LESS THAN 13 FEET, EXTEND THE ENCASEMENT TO THE BOTTOM OF THE CAP AND OMIT SWAYBRACING.



PILE ENCASEMENT DETAILS

** DEPTH OF STEP, RISER BLOCK & JOINT FILLER			
	STEP	RISER	JT. FILLER
24' SPAN TO 34' SPAN	4"	NA	20"
24' SPAN TO 40' SPAN	7"	NA	23"
34' SPAN TO 40' SPAN	3"	4"	23"

TYPE I ELASTOMERIC BEARING PAD DIMENSIONS		
LOCATION	"L"	"W"
BARRIER RAIL	1'-10½"	1'-4"
* INTERIOR SIDE OF EXTERIOR SLAB	11¼"	1'-4"
INTERIOR SLABS	11¼"	1'-4"
EXTERIOR SIDE OF EXTERIOR SLAB	11¼"	8"

SWAYBRACING TABLES

	"H"	"F"	"G"	"A"	"B"	"C"	"D"	WT. LBS.
SINGLE STORY SWAYBRACING	13'-0"	6'-6"	---	29'-8"	29'-11"	---	---	1038
	14'-0"	7'-6"	---	30'-0"	30'-2"	---	---	1047
	15'-0"	8'-6"	---	30'-5"	30'-5"	---	---	1057
	16'-0"	9'-6"	---	30'-11"	30'-8"	---	---	1068
	17'-0"	10'-6"	---	31'-3"	30'-11"	---	---	1078
	18'-0"	11'-6"	---	31'-9"	31'-2"	---	---	1089
	19'-0"	12'-6"	---	32'-3"	31'-5"	---	---	1101
DOUBLE STORY SWAYBRACING	20'-0"	6'-11"	5'-7"	29'-10"	30'-0"	31'-4"	31'-8"	2132
	21'-0"	6'-11"	6'-7"	29'-10"	30'-0"	31'-8"	31'-11"	2141
	22'-0"	6'-11"	7'-7"	29'-10"	30'-0"	32'-0"	32'-2"	2150
	23'-0"	6'-11"	8'-7"	29'-10"	30'-0"	32'-4"	32'-5"	2160
	24'-0"	6'-11"	9'-7"	29'-10"	30'-0"	32'-9"	32'-8"	2170
	25'-0"	6'-11"	10'-7"	29'-10"	30'-0"	33'-2"	32'-11"	2180

NOTE: WEIGHT GIVEN IS TOTAL FOR TWO PIECES OF EACH LENGTH OF SWAYBRACING SHOWN IN TABLE. BATTEN WEIGHT INCLUDED IN ABOVE TABLE.

DESIGN PARAMETERS

THE FOLLOWING DESIGN PARAMETERS WERE USED TO DEVELOP THIS STANDARD DRAWING:

DESIGN AXIAL LOAD = 40 TONS / PILE FOR 24'-0" SPAN
DESIGN AXIAL LOAD = 49 TONS / PILE FOR 34'-0" SPAN
DESIGN AXIAL LOAD = 59 TONS / PILE FOR 40'-0" SPAN
"K" FOR COMPUTING UNBRACED PILE LENGTH = 2.0
SCOUR DEPTH = 0 FEET
DISTANCE FROM GROUNDLINE TO PILE FULLY FIXED = 15 FEET
FACTOR OF SAFETY FOR UNSCOURED CONDITION = 2.0

THE DESIGNER OF RECORD IS RESPONSIBLE FOR DETERMINING ACTUAL PILE SIZE AND BRACING REQUIREMENTS FOR CONDITIONS NOT SATISFIED BY THE ABOVE NOTED DESIGN PARAMETERS.

GENERAL NOTES

SPECIFICATIONS: ALABAMA DEPARTMENT OF TRANSPORTATION, CURRENT

DESIGN LOADING: A.A.S.H.T.O. HS20-44

CONCRETE: CONCRETE FOR PRECAST BENT CAP SHALL BE IN ACCORDANCE WITH SECTION 512 OF THE STANDARD SPECIFICATIONS. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4" BY 45° UNLESS OTHERWISE NOTED. ALL OTHER CORNERS ARE TO BE ROUNDED TO 1/4" RADIUS. CONCRETE WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED AS SUBSIDIARY TO THE ITEM PRECAST CONCRETE CAP UNIT. CONCRETE FOR PILE ENCASEMENTS SHALL BE BRIDGE SUBSTRUCTURE CONCRETE IN ACCORDANCE WITH SECTION 501 OF THE STANDARD SPECIFICATIONS.

REINFORCING STEEL: ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED IN THE FORMS AND FIRMLY HELD IN PLACE AS REQUIRED BY ITEM 502.03(c)4 OF THE STANDARD SPECIFICATIONS. REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 835 OF THE STD. SPEC. REINFORCING DIMENSIONS ARE TO THE CENTER LINE OF THE BARS UNLESS OTHERWISE NOTED. THE ABOVE STEEL WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED AS SUBSIDIARY TO THE ITEM OF PRECAST CONCRETE CAP UNIT.

STRUCTURAL STEEL AND PILING: ALL STRUCTURAL STEEL SHALL CONFORM TO SECTION 836 OF THE STANDARD SPECIFICATIONS. ALL PILING SHALL BE 12" STEEL "H" PILING, 53 LBS. FOR PILE SPLICE DETAILS SEE BRIDGE SPECIAL PROJECT DRAWING SBD-1.

WELDING: ALL WELDING SHALL CONFORM TO ARTICLE 836.46 OF THE STANDARD SPECIFICATIONS.

TOLERANCES: A DEVIATION OF MORE THAN 1/8" MAY BE CAUSE FOR THE REJECTION OF THE UNIT.

DESIGN DATA: A.A.S.H.T.O. 2002 STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES & INTERIMS SERVICE LOAD DESIGN

BID ITEMS:
511-A ELASTOMERIC BEARINGS, TYPE 1 - PER EACH.

512-B PRECAST CONCRETE INTERMEDIATE BENT CAPS, 2'-0" WIDE BY 2'-0" DEEP BY 31'-6" LONG - PER EACH.

ASSISTANT BRIDGE ENGINEER	BRIDGE ENGINEER
11/6/2022 DATE	11/7/2022 DATE

ALABAMA DEPARTMENT OF TRANSPORTATION

ALDOT ORIGINAL CONTRACT DRAWINGS BRIDGE BUREAU

REVISIONS

THIS BRIDGE SPECIAL PROJECT DRAWING FOR USE ONLY ON:
PROJECT NO. _____
COUNTY(S) _____

THESE DRAWINGS REPRESENT DESIGNS PREPARED FOR USE BY THE ALABAMA DEPARTMENT OF TRANSPORTATION AND ARE NOT TO BE COPIED, REPRODUCED, ALTERED, OR USED BY ANYONE, OR ANY ORGANIZATION, WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ALABAMA DEPARTMENT OF TRANSPORTATION REPRESENTATIVE AUTHORIZED TO APPROVE SUCH USE. ANYONE MAKING UNAUTHORIZED USE OF THESE DRAWINGS MAY BE PROSECUTED TO THE FULLEST EXTENT OF THE LAW.

PRECAST CONCRETE BENT CAP FOR USE WITH STEEL PILING AND PRECAST CONCRETE BRIDGE SLABS CONNECTING 40'-0", 34'-0" & 24'-0" SPANS 28'-0" CLEAR ROADWAY

BRIDGE SPECIAL PROJECT DRAWING

PCB-2840-1

SHEET 1 OF 1

NOT FOR CONSTRUCTION