

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
 INVENTORY RATING FACTOR: RF=1.09
 OPERATING RATING FACTOR: RF=1.41
 WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 240 (KIPS)
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY **SLAB — $f'c = 4,000$ P.S.I.** ALL OTHER — $f'c = 3,500$ P.S.I.
 BAR STEEL REINFORCEMENT, GRADE 60 — $f_y = 60,000$ P.S.I.
 72W" PRESTRESSED GIRDERS, CONCRETE MASONRY STRANDS — $f'c = 8,000$ P.S.I. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 275 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 80'-0" LONG. (W. ABUT.) ESTIMATED 105'-0" LONG. (E. ABUT.)

PIER TO BE SUPPORTED ON HP 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 275 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 30'-0" LONG.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.4 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME


HOARD ROAD	S.T.H. 26
A.D.T.=600 (2031)	A.D.T.=12,100 (2031)
R.D.S.=50 M.P.H.	R.D.S.=65 M.P.H.

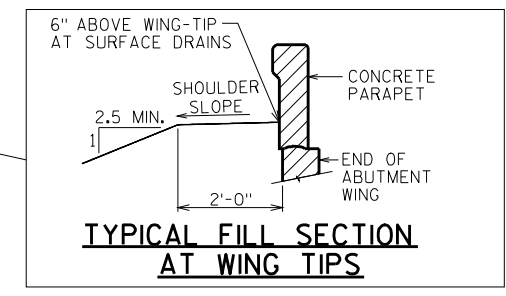
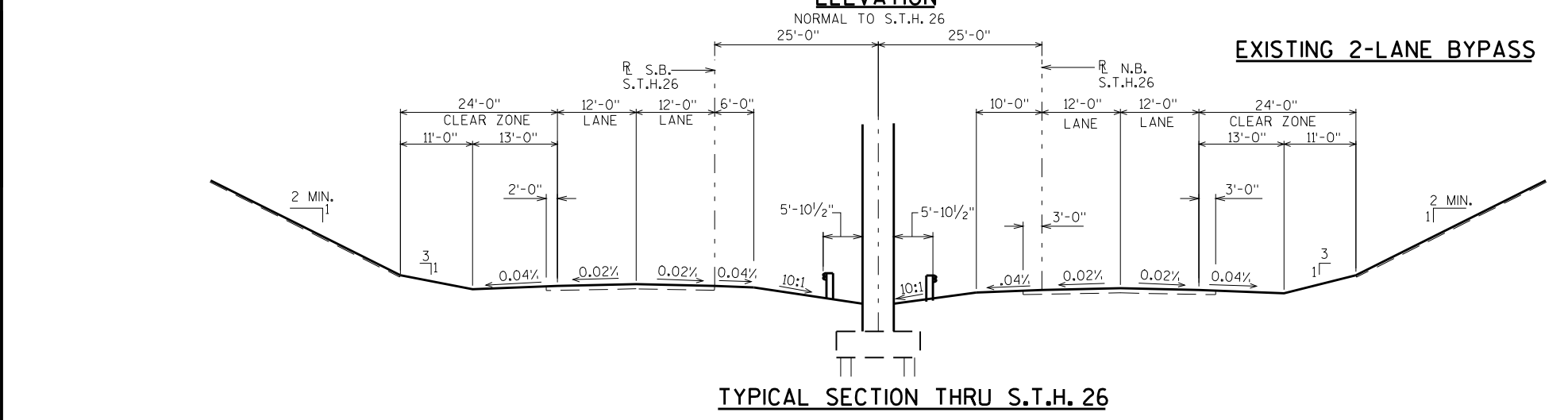
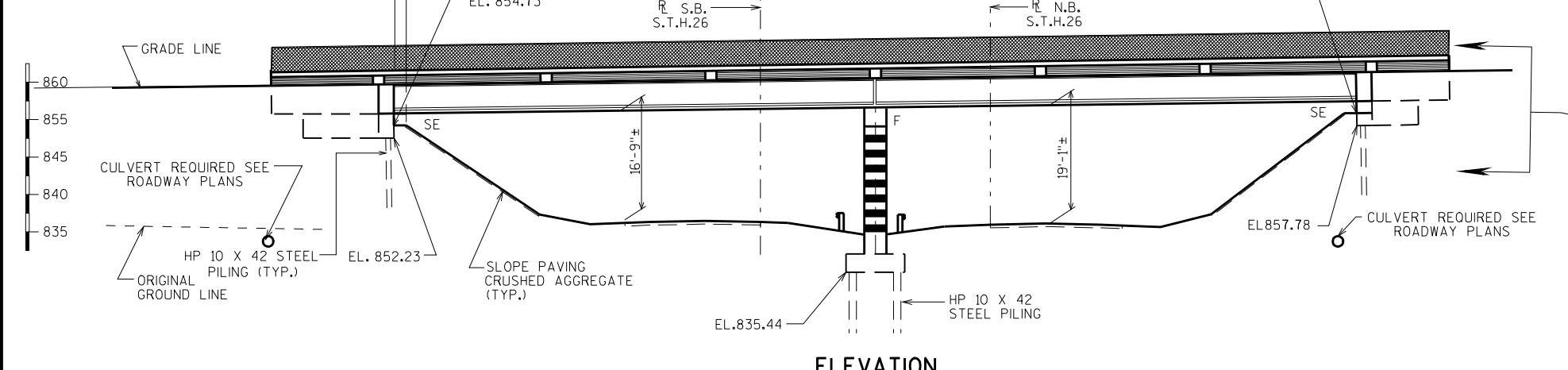
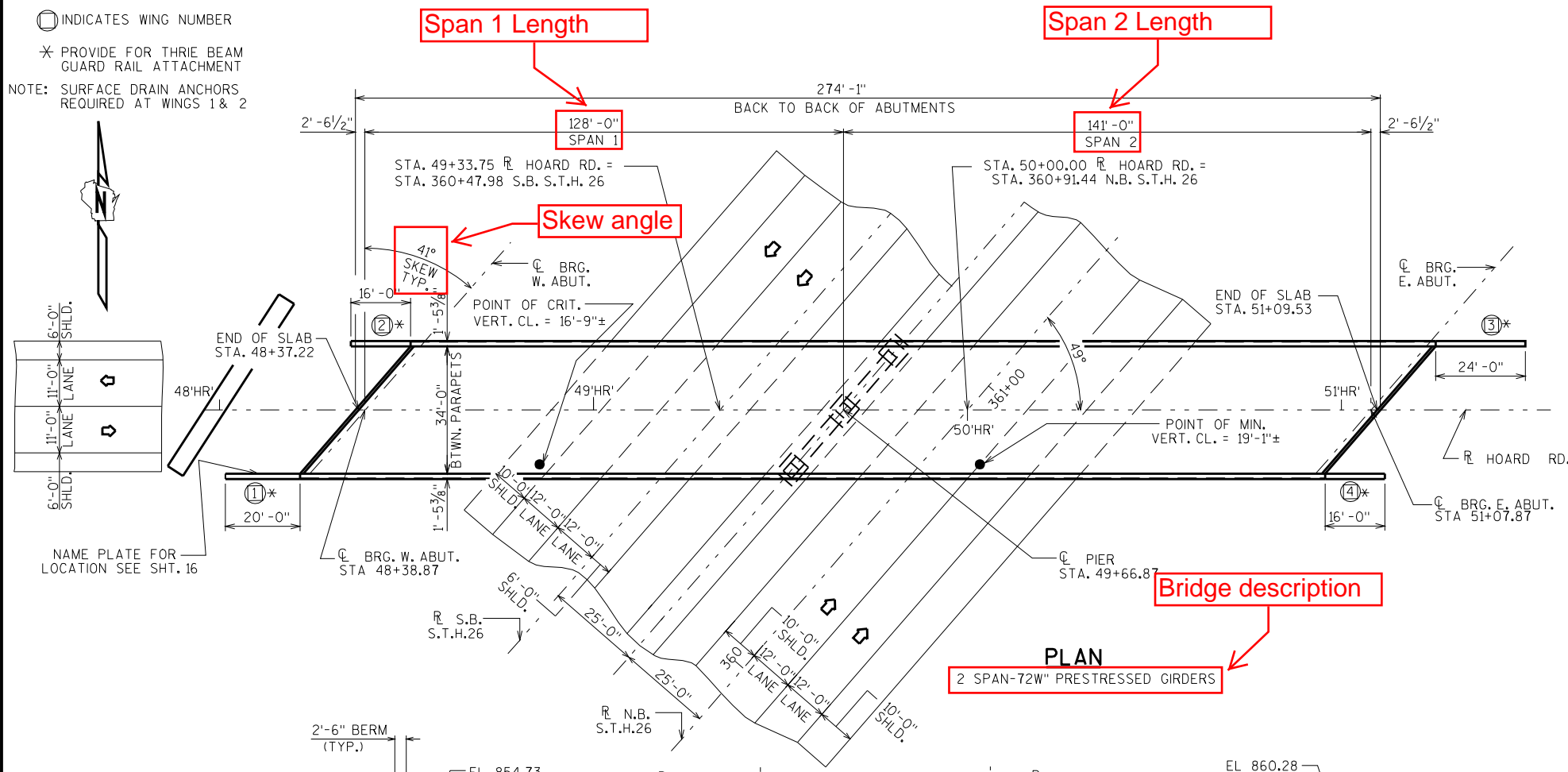
LIST OF DRAWINGS

- GENERAL PLAN
- CROSS SECTION & QUANTITIES
- SUBSURFACE EXPLORATION
- WEST ABUTMENT
- WEST ABUTMENT DETAILS
- EAST ABUTMENT
- EAST ABUTMENT DETAILS
- PIER
- PIER DETAILS
- 72W" PRESTRESSED GIRDER DETAIL
- 72W" PRESTRESSED GIRDER DETAIL
- STEEL DIAPHRAGM
- SUPERSTRUCTURE CROSS SECTION
- SUPERSTRUCTURE
- SUPERSTRUCTURE DETAILS
- SLOPED FACE PARAPET 'LF' (MODIFIED)
- ORNAMENTAL PROTECTIVE SCREENING
- SLOPE PAVING CRUSHED AGGREGATE
- ARCHITECTURAL SURFACE TREATMENT

STRUCTURE DESIGN CONTACT:

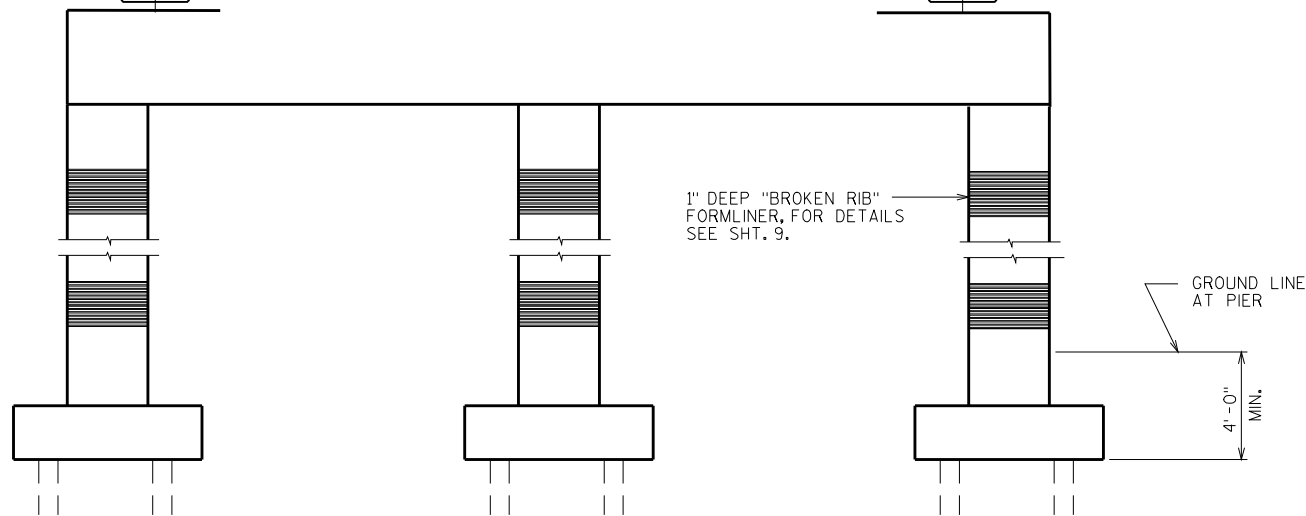
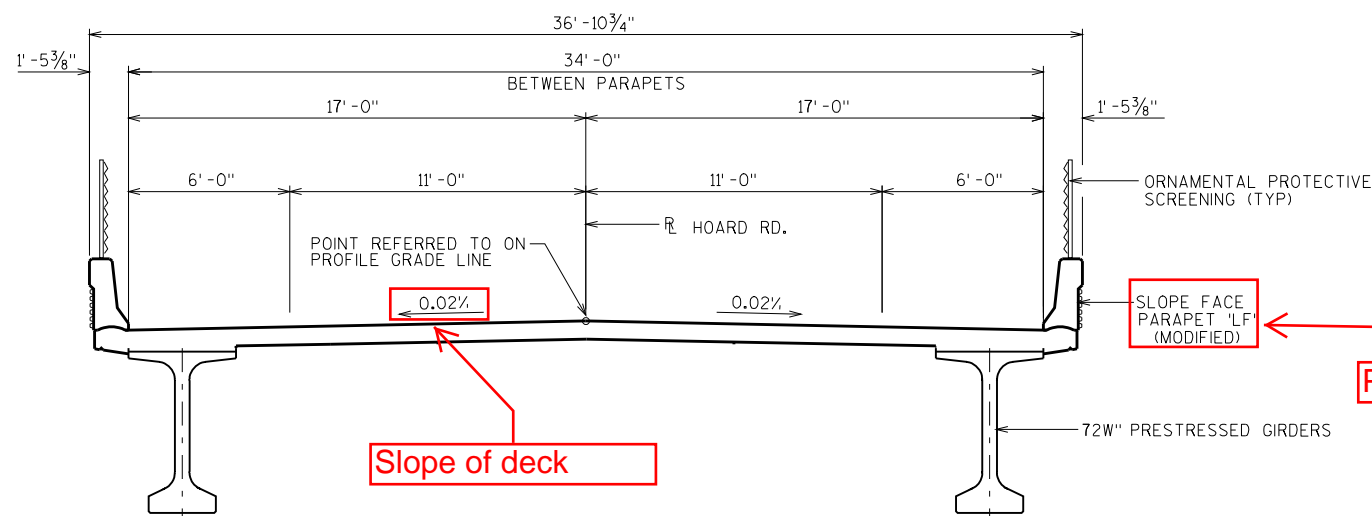
KENT BAHLER (608) 266-8490
 BRANDAN BURGER (608) 267-4019

NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES APPROVED <i>William C. Decher</i> 2/3/10 CHIEF STRUCTURAL DESIGN ENGINEER DATE			
STRUCTURE B-28-136			
HOARD ROAD OVER S.T.H. 26			
COUNTY	JEFFERSON	TOWN	KOSHKONONG
DESIGN SPEC.	AASHTO LRFD SPEC. 4th EDITION	LOAD	HL-93
DESIGNED BY	BLB	DESIGN CK'D.	MSC
DRAWN BY	CRJ	DRAWN CK'D.	WWR
GENERAL PLAN			SHEET 1 OF 19

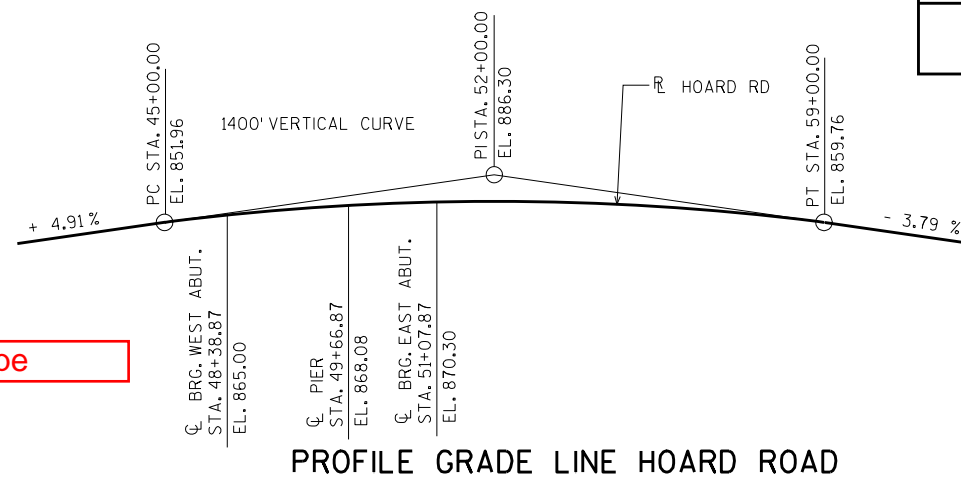


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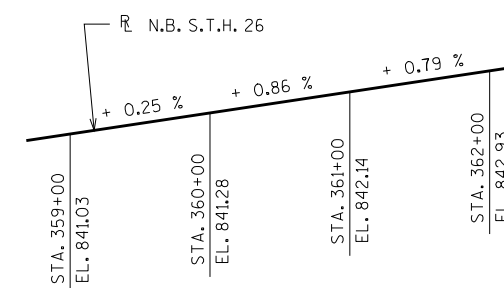
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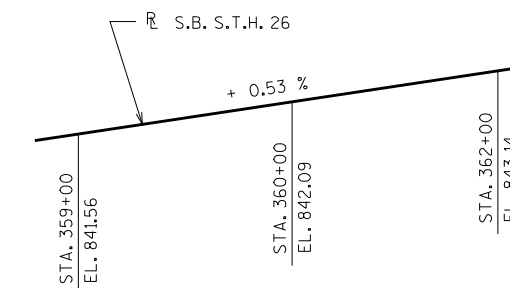
CROSS SECTION THRU ROADWAY LOOKING EAST



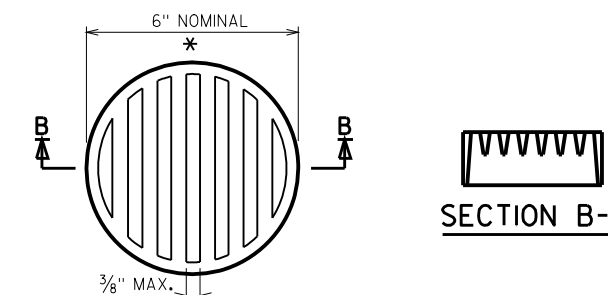
PROFILE GRADE LINE HOARD ROAD



EXISTING PROFILE GRADE LINE N.B. S.T.H. 26



PROFILE GRADE LINE S.B. S.T.H. 26



RODENT SCREEN DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	PIER	TOTALS
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-28-136	LS	—	—	—	—	1
210.0100	BACKFILL STRUCTURE	CY	—	289	282	—	571
502.0100	CONCRETE MASONRY BRIDGES	CY	468	61	65	90	684
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1265	—	—	—	1265
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	1079	—	—	—	1079
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	—	3905	4005	1860	9770
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	89,725	3680	4980	20,495	118,880
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	—	4	4	8	16
506.4000	STEEL DIAPHRAGMS B-28-136	EACH	12	—	—	—	12
513.4090	RAILING TUBULAR SCREENING B-28-136	LS	—	—	—	—	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	—	14	14	—	28
550.1100.S	PILING STEEL HP 10-INCH X 42 LB	LF	—	800	1050	720	2570
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	—	141	205	—	346
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	—	103	107	—	210
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	—	—	—	4
SPV.0165	ARCHITECTURAL SURFACE TREATMENT	SF	850	60	65	290	1265
	NON-BID ITEMS						
	FILLER	SIZE	—	—	—	—	1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

CONCRETE FOR ABUTMENT AND PIER DIAPHRAGMS SHALL BE PLACED WITH THE DECK CONCRETE. NO OPTIONAL CONSTRUCTION JOINT WILL BE PERMITTED.

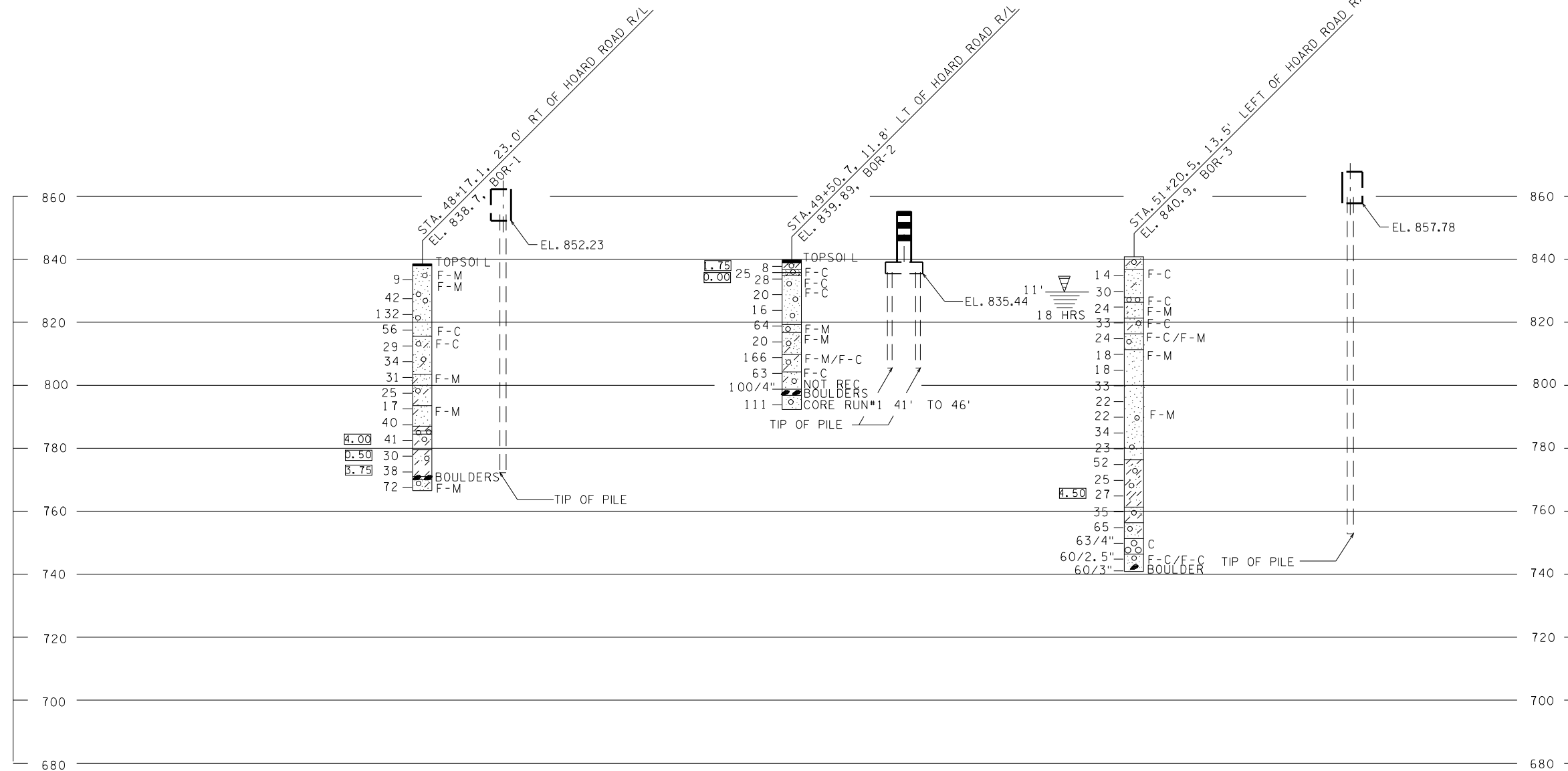
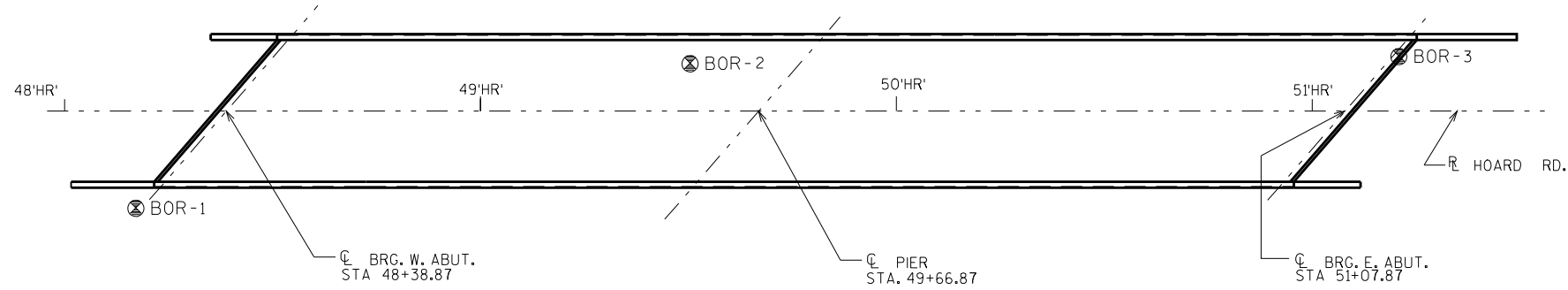
THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

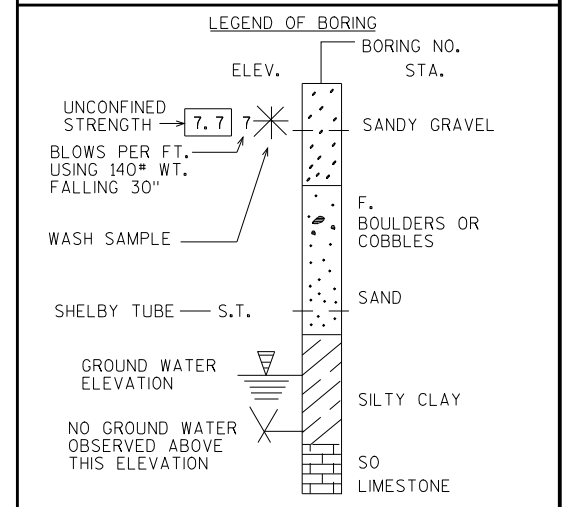
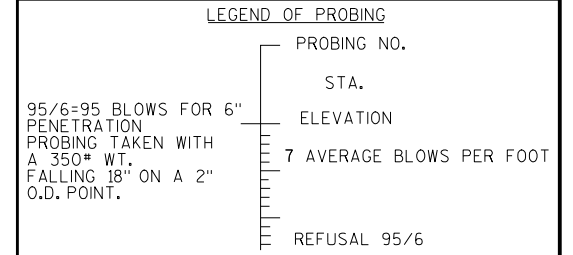
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
CROSS SECTION & QUANTITIES			SHEET 2



STATE PROJECT NUMBER		
1390-04-84		
ABBREVIATIONS		
F — FINE	M — MEDIUM	C — COARSE
WS — WEATHERED	SO — SOUND	
MATERIAL SYMBOLS		
TOPSOIL	SILT	SANDSTONE
SAND	PEAT	LIMESTONE
GRAVEL	CLAY	IGNEOUS ROCK



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

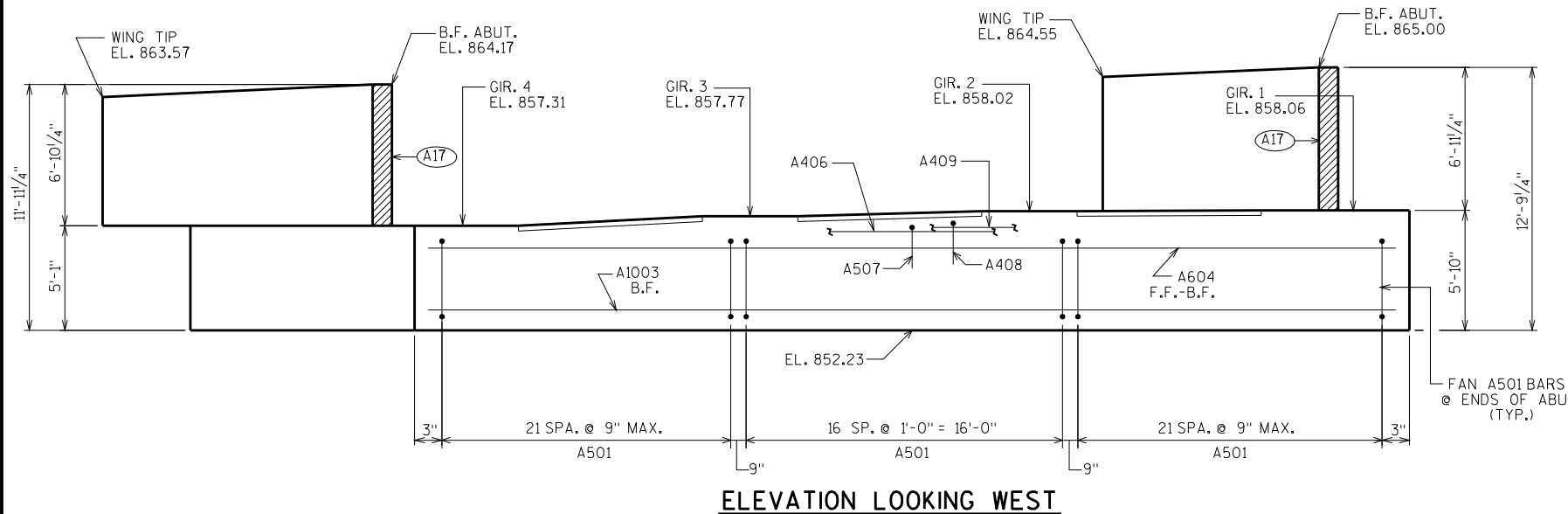
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
SUBSURFACE EXPLORATION		SHEET 3	

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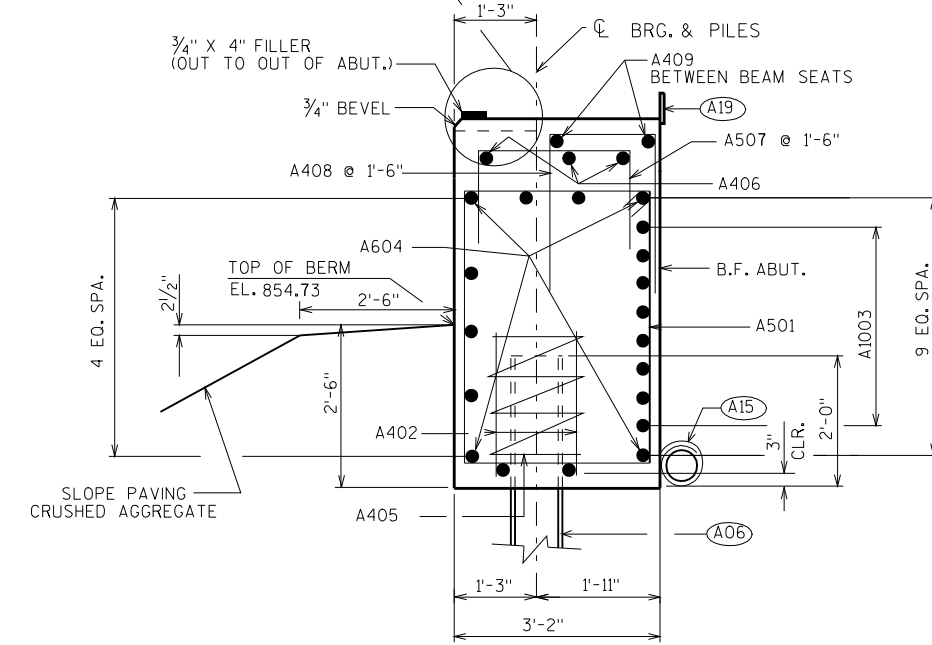
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SCALE =

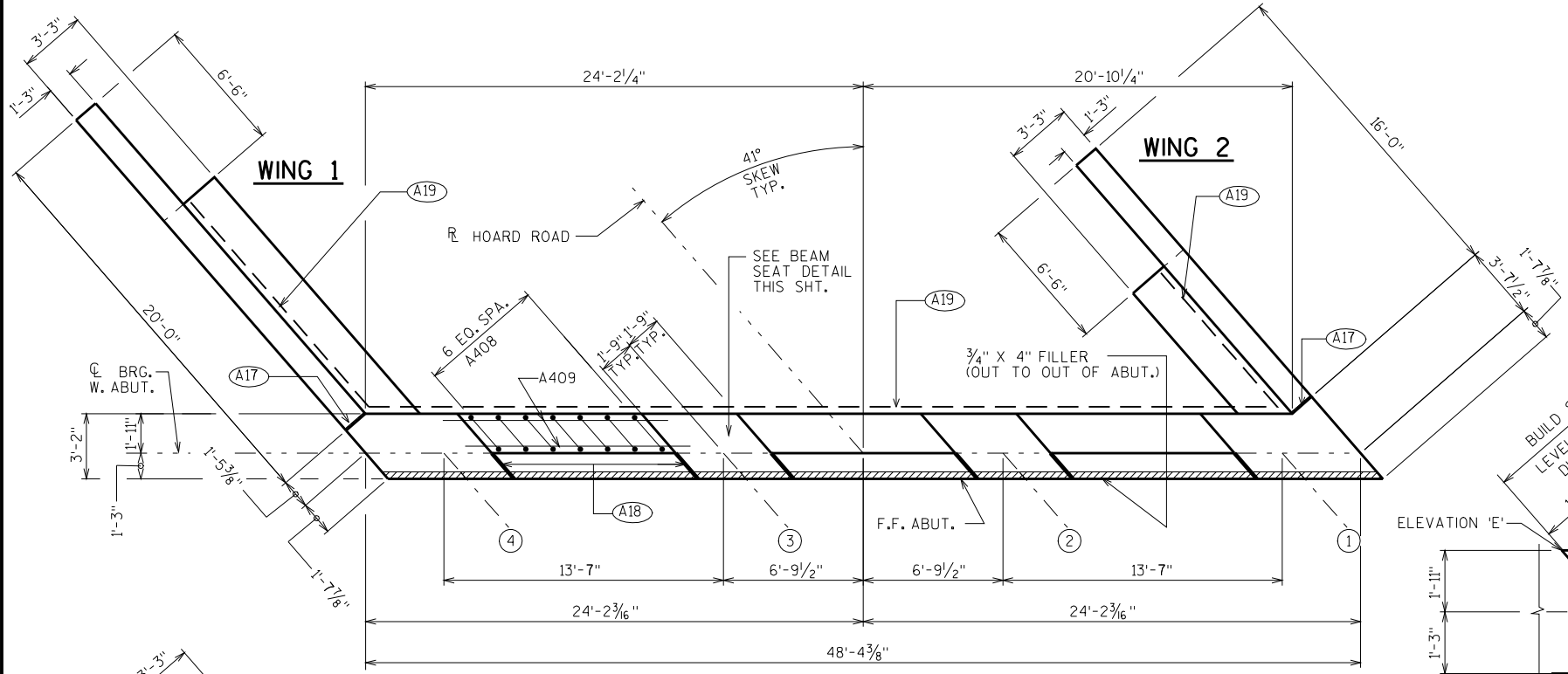
STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



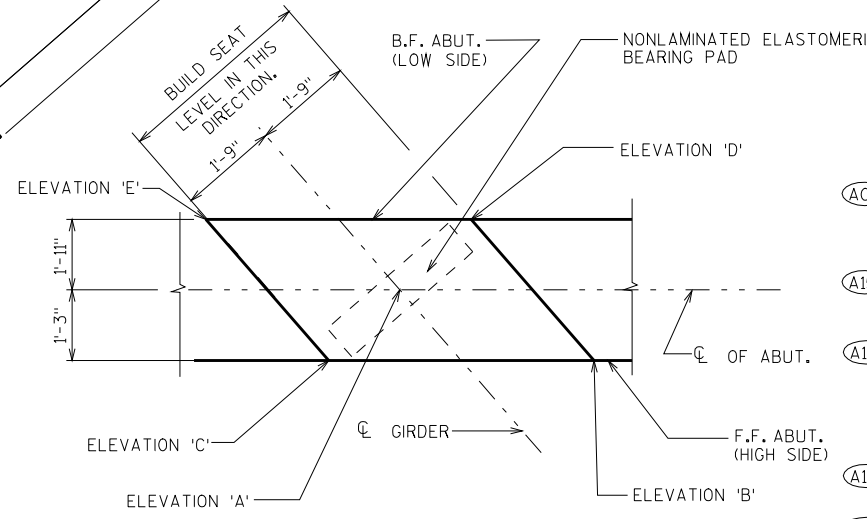
ELEVATION LOOKING WEST



SECTION THRU BODY



PLAN



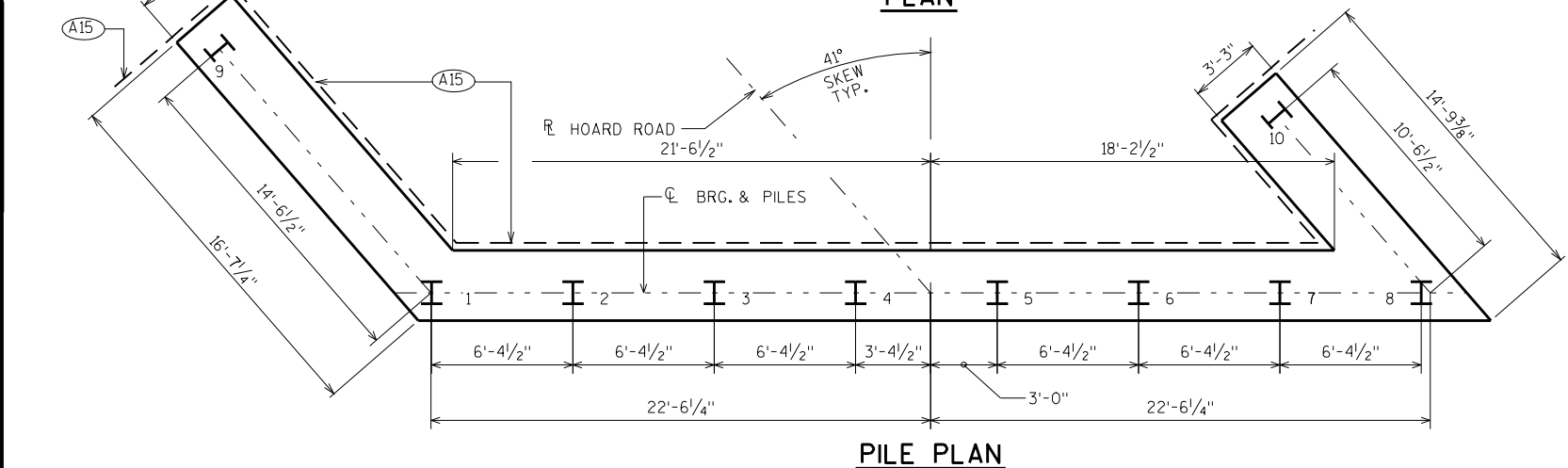
BEAM SEAT DETAIL - WEST ABUTMENT

(SHOWN AT GIRDER 2, OTHER GIRDERS SIMILAR)

WEST ABUTMENT BEAM SEAT ELEVATIONS

	ELEV. 'A'	ELEV. 'B'	ELEV. 'C'	ELEV. 'D'	ELEV. 'E'
GIRDER 1	858.06	858.14	858.06	858.06	857.98
GIRDER 2	858.02	858.10	858.02	858.02	857.94
GIRDER 3	857.77	857.85	857.77	857.77	857.69
GIRDER 4	857.31	857.39	857.31	857.31	857.23

- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 275 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED. SEE SHT. 2 FOR DETAILS.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE), EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.



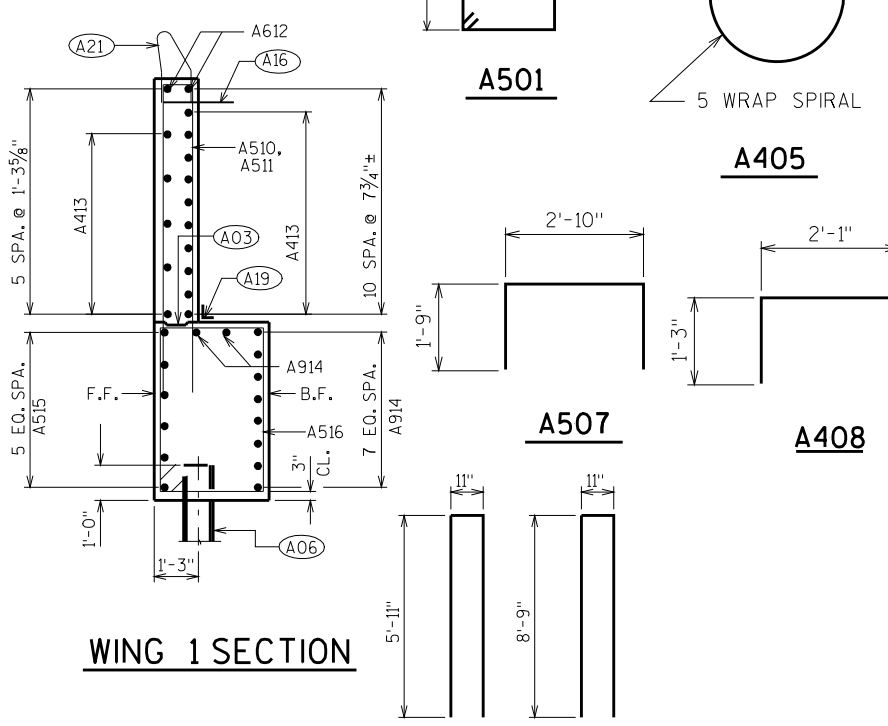
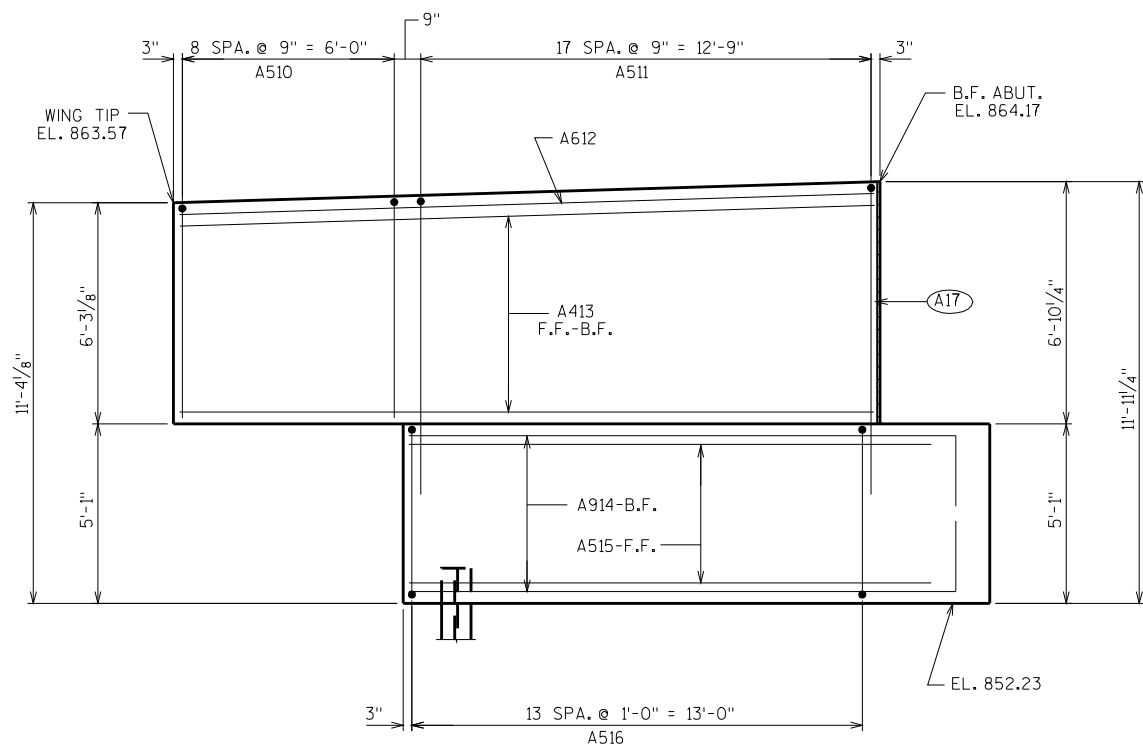
PILE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
WEST ABUTMENT			SHEET 4

BILL OF BARS

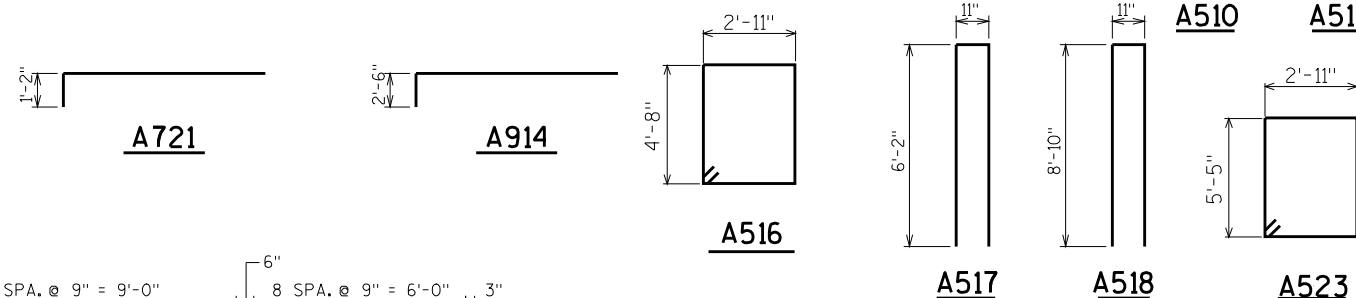
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		61	15'-2"	X		BODY STIRRUPS
A402		16	2'-3"			PILES-2 PER BODY PILE
A1003		8	48'-0"			BODY-HORIZ.-B.F.
A604		11	48'-0"			BODY-HORIZ.-F.F.-B.F.
A405		8	28'-0"	X		PILES-1 PER BODY PILE
A406		3	34'-6"			BODY-HORIZ.-UNDER GIRTS. 1-3
A507		23	6'-1"	X		BODY-VERT.-UNDER GIRTS. 1-3
A408		21	4'-5"	X		BODY-VERT.-BTWN. BEAM SEATS
A409		6	11'-0"			BODY-HORIZ.-BTWN. BEAM SEATS
A510	X	9	12'-6"	X		WING 1-VERT.
A511	X	18	18'-2"	X		WING 1-VERT.
A612	X	2	19'-8"			WING 1-HORIZ.-F.F.-B.F.
A413	X	15	19'-8"			WING 1-HORIZ.-F.F.-B.F.
A914	X	10	19'-5"	X		WING 1-HORIZ.-B.F.
A515	X	6	15'-6"			WING 1-HORIZ.-F.F.
A516	X	14	15'-10"	X		WING 1 STIRRUPS
A517	X	9	13'-0"	X		WING 2-VERT.
A518	X	13	18'-4"	X		WING 2-VERT.
A619	X	2	15'-8"			WING 2-HORIZ.-F.F.-B.F.
A420	X	15	15'-8"			WING 2-HORIZ.-F.F.-B.F.
A721	X	10	12'-0"	X		WING 2-HORIZ.-B.F.
A522	X	7	13'-3"			WING 2-HORIZ.-F.F.
A523	X	10	17'-4"	X		WING 2 STIRRUPS
A424	X	36	2'-0"			SURFACE DRAIN ANCHORS

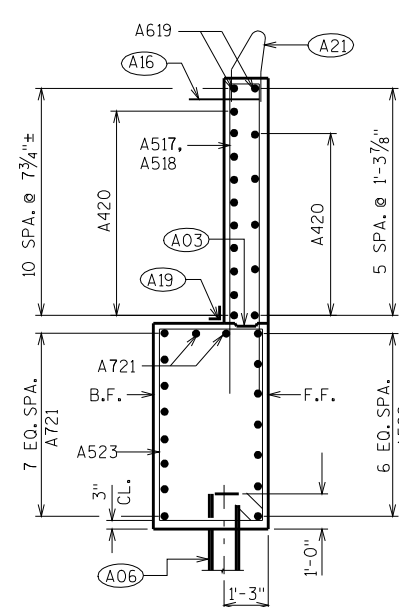
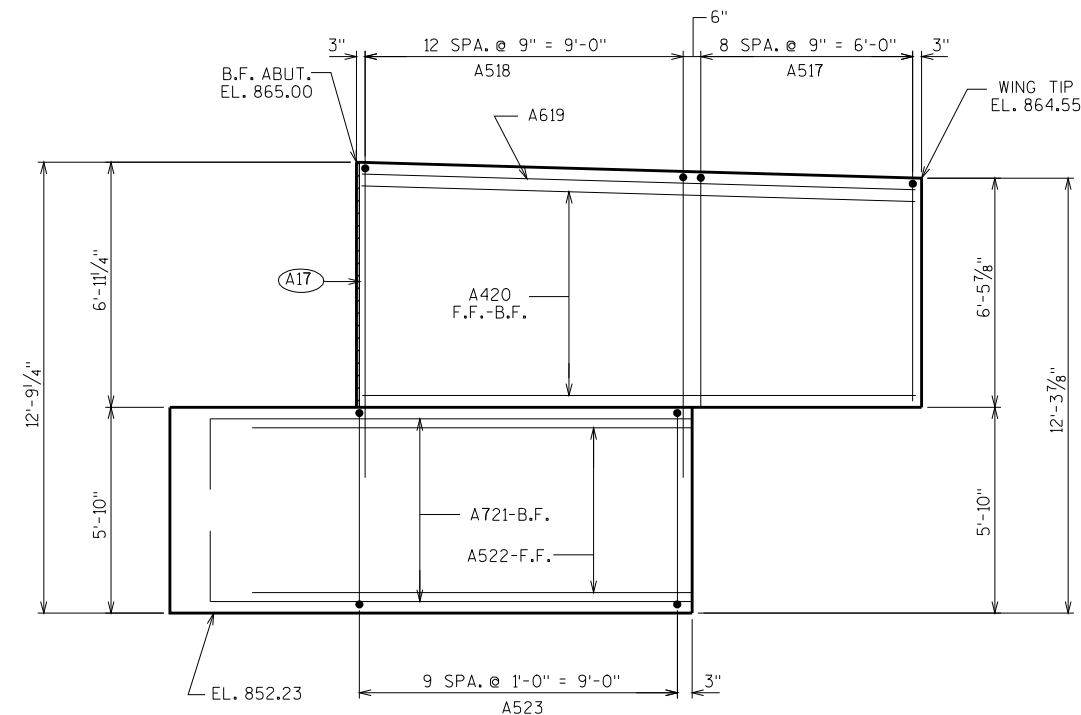


WING 1 ELEVATION

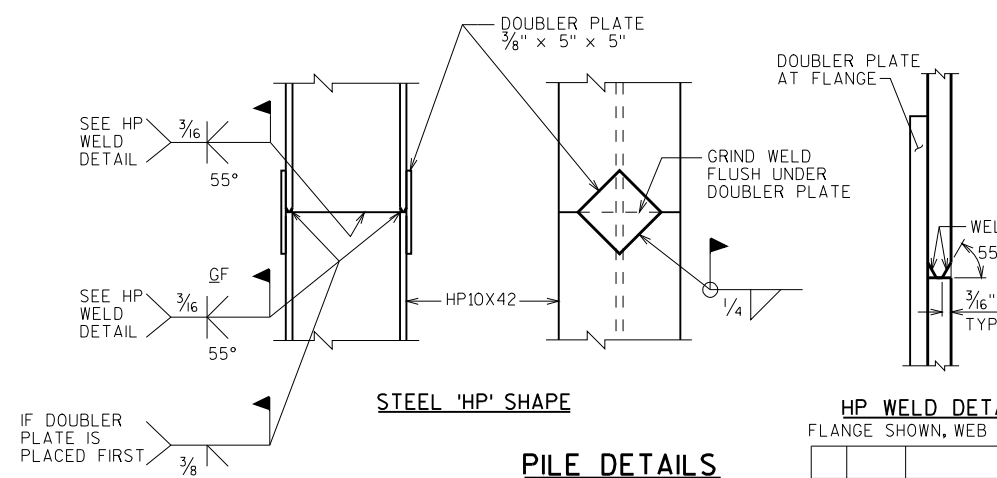
WING 1 SECTION



- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 275 TONS PER PILE.
- (A16) A424 BARS SPACED @ 1'-0" CTRS. EMBED 1'-0" INTO WING CONC. LOCATE 3" DOWN FROM TOP OF WING @ BACKFACE TO 6" DOWN @ WING TIP. (DRILLED IN EPOXY ANCHORED #4 BARS 2'-0" LONG MAY BE USED.) COST INCIDENTAL TO BID ITEM "BAR STEEL REINFORCEMENT HS COATED BRIDGES".
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE), EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMM) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT. BARS & DIMENSION SEE PARAPET SHT. 16



WING 2 SECTION



PILE DETAILS

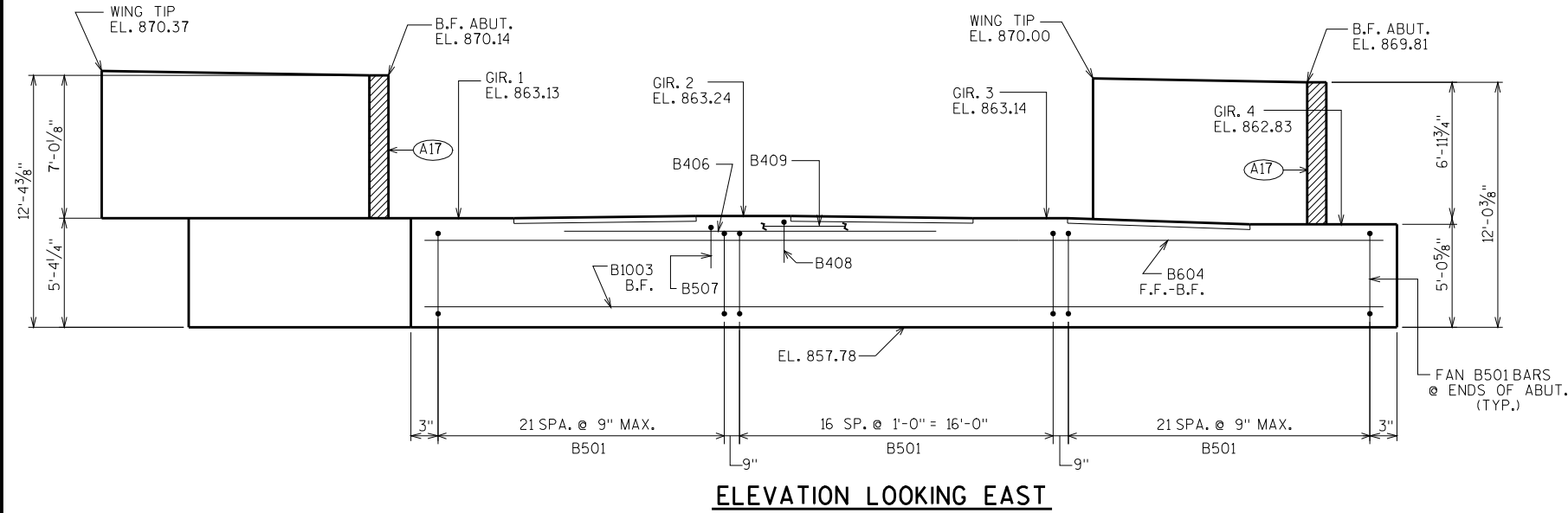
HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
WEST ABUTMENT DETAILS			SHEET 5

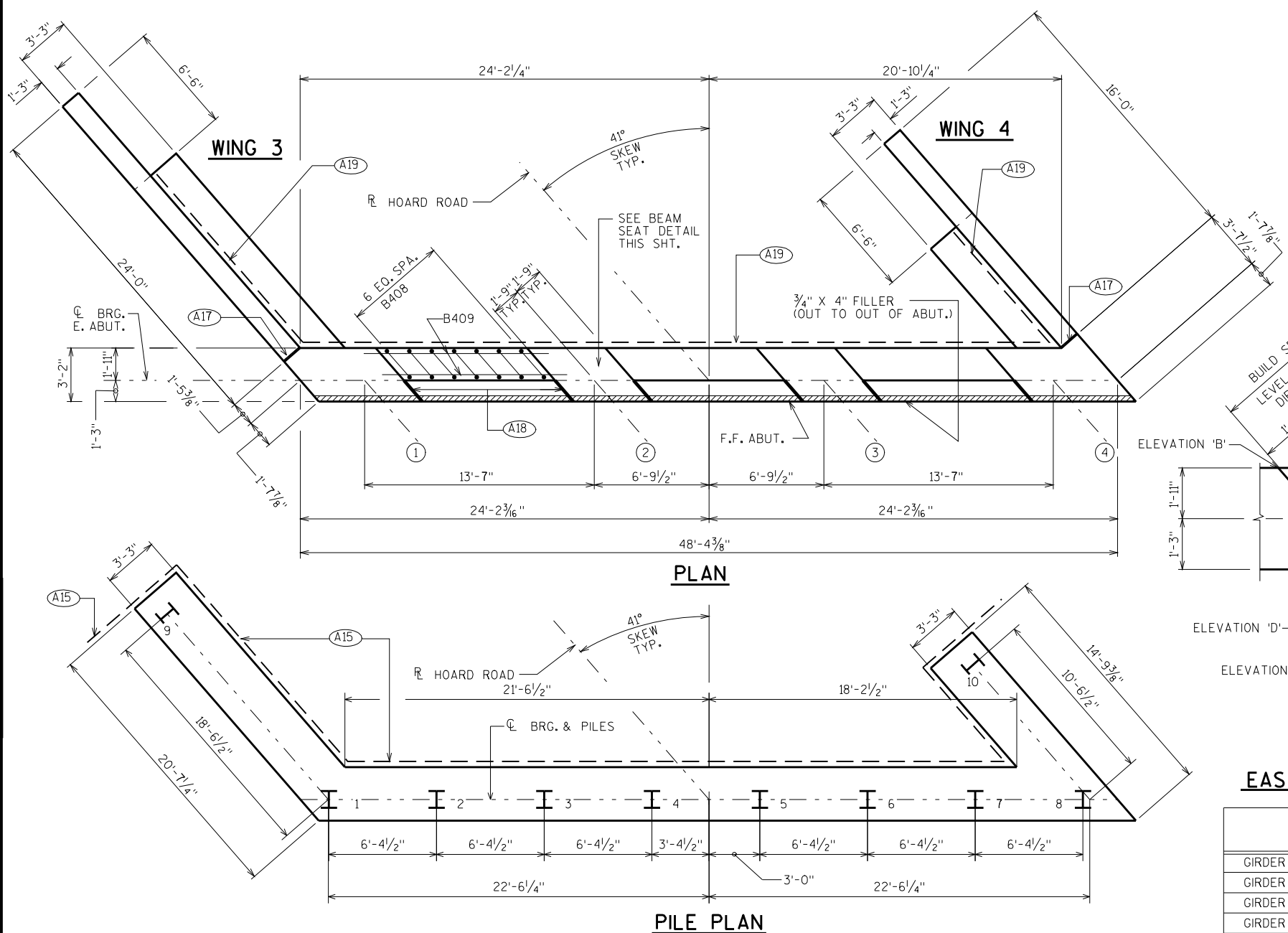
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STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

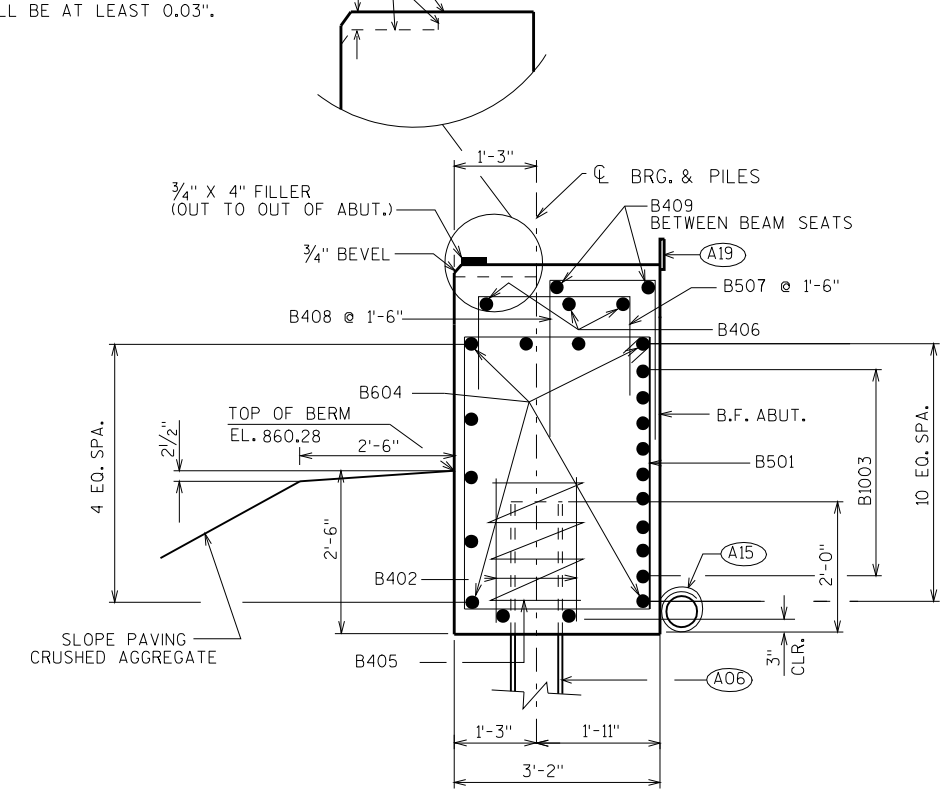


ELEVATION LOOKING EAST

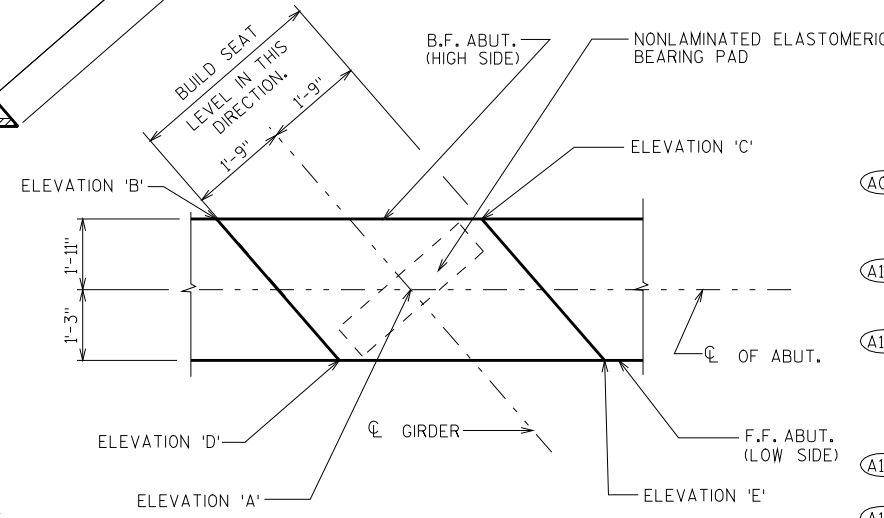


PLAN

PILE PLAN



SECTION THRU BODY



BEAM SEAT DETAIL - EAST ABUTMENT

EAST ABUTMENT BEAM SEAT ELEVATIONS

	ELEV. 'A'	ELEV. 'B'	ELEV. 'C'	ELEV. 'D'	ELEV. 'E'
GIRDER 1	863.13	863.18	863.13	863.13	863.08
GIRDER 2	863.24	863.29	863.24	863.24	863.19
GIRDER 3	863.14	863.19	863.14	863.14	863.09
GIRDER 4	862.83	862.88	862.83	862.83	862.78

- (A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 105'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 275 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SCREEN REQUIRED. SEE SHT. 2 FOR DETAILS
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-28-136

DRAWN BY: CRJ
PLANS CK'D: WWR

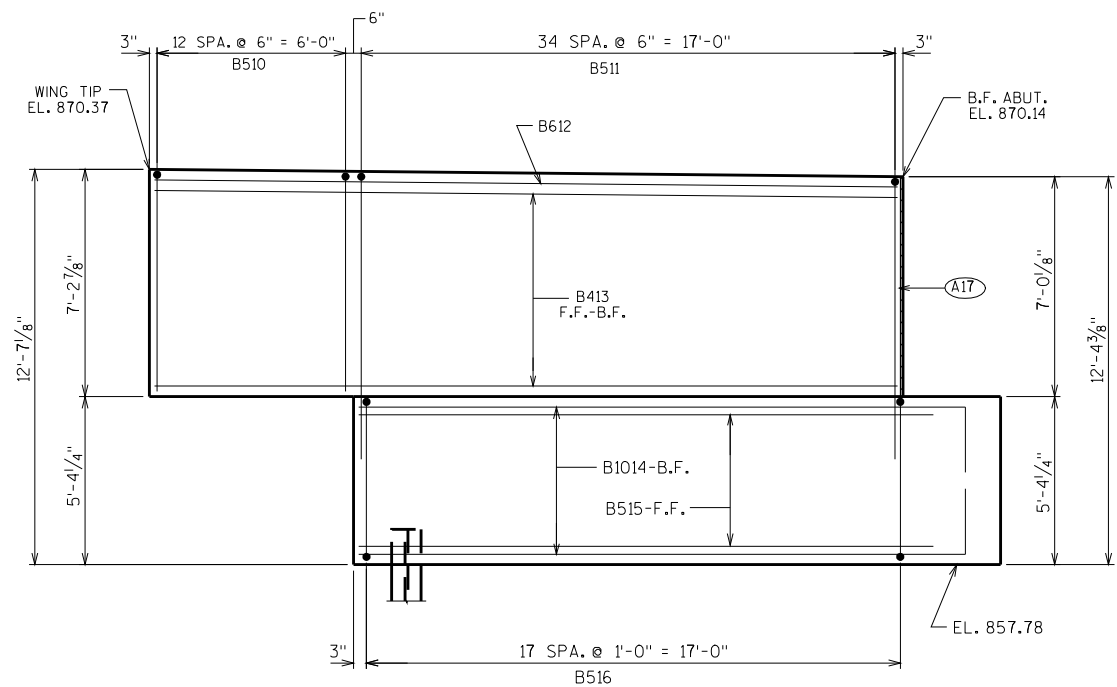
EAST ABUTMENT

SHEET 6

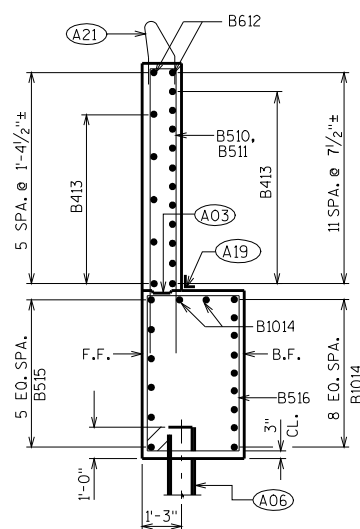
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

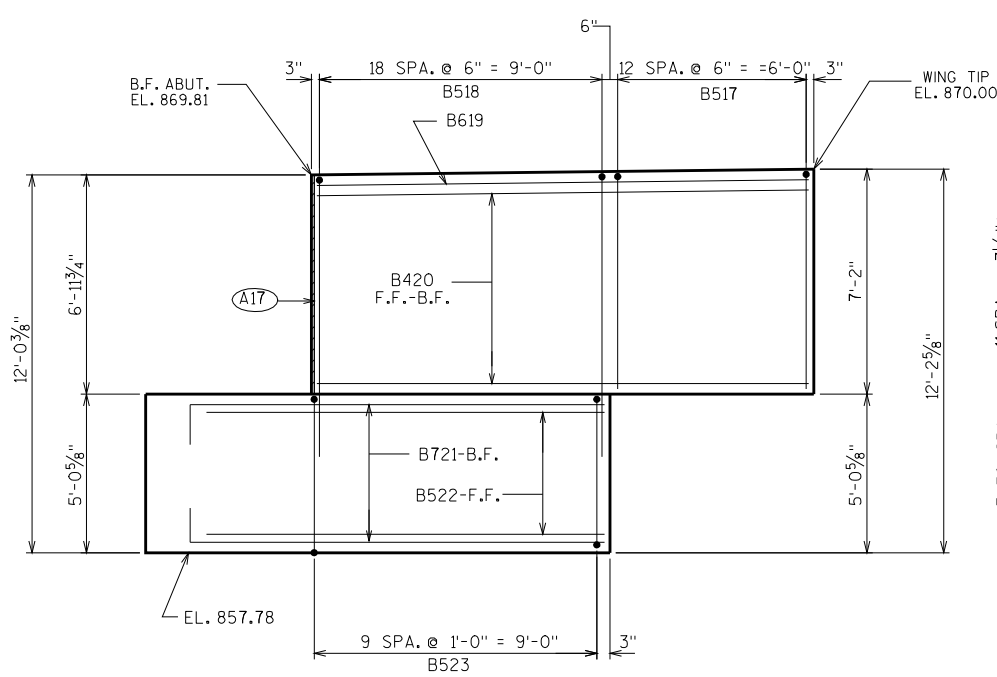
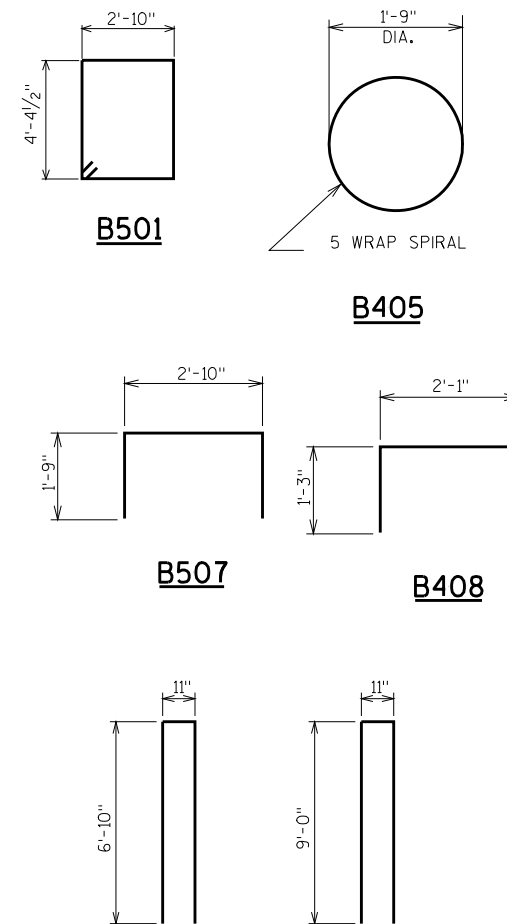
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		61	15'-1"	X		BODY STIRRUPS
B402		16	2'-3"			PILES-2 PER BODY PILE
B1003		9	48'-0"			BODY-HORIZ.-B.F.
B604		11	48'-0"			BODY-HORIZ.-F.F.-B.F.
B405		8	28'-0"	X		PILES-1 PER BODY PILE
B406		3	18'-6"			BODY-HORIZ.-UNDER GIR. 2
B507		12	6'-1"	X		BODY-VERT.-UNDER GIR. 2
B408		21	4'-5"	X		BODY-VERT.-BTWN. BEAM SEATS
B409		6	11'-0"			BODY-HORIZ.-BTWN. BEAM SEATS
B510	X	13	14'-4"	X		WING 3-VERT.
B511	X	35	18'-8"	X		WING 3-VERT.
B612	X	2	23'-8"			WING 3-HORIZ.-F.F.-B.F.
B413	X	16	23'-8"			WING 3-HORIZ.-F.F.-B.F.
B1014	X	11	24'-10"	X		WING 3-HORIZ.-B.F.
B515	X	6	19'-6"			WING 3-HORIZ.-F.F.
B516	X	18	16'-4"	X		WING 3 STIRRUPS
B517	X	13	14'-2"	X		WING 4-VERT.
B518	X	19	18'-6"	X		WING 4-VERT.
B619	X	2	15'-8"			WING 4-HORIZ.-F.F.-B.F.
B420	X	16	15'-8"			WING 4-HORIZ.-F.F.-B.F.
B721	X	10	12'-0"	X		WING 4-HORIZ.-B.F.
B522	X	6	13'-3"			WING 4-HORIZ.-F.F.
B523	X	10	15'-8"	X		WING 4 STIRRUPS



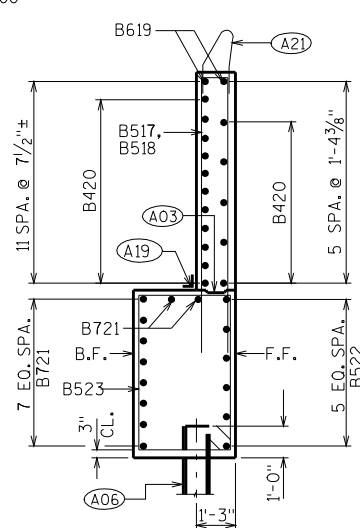
WING 3 ELEVATION



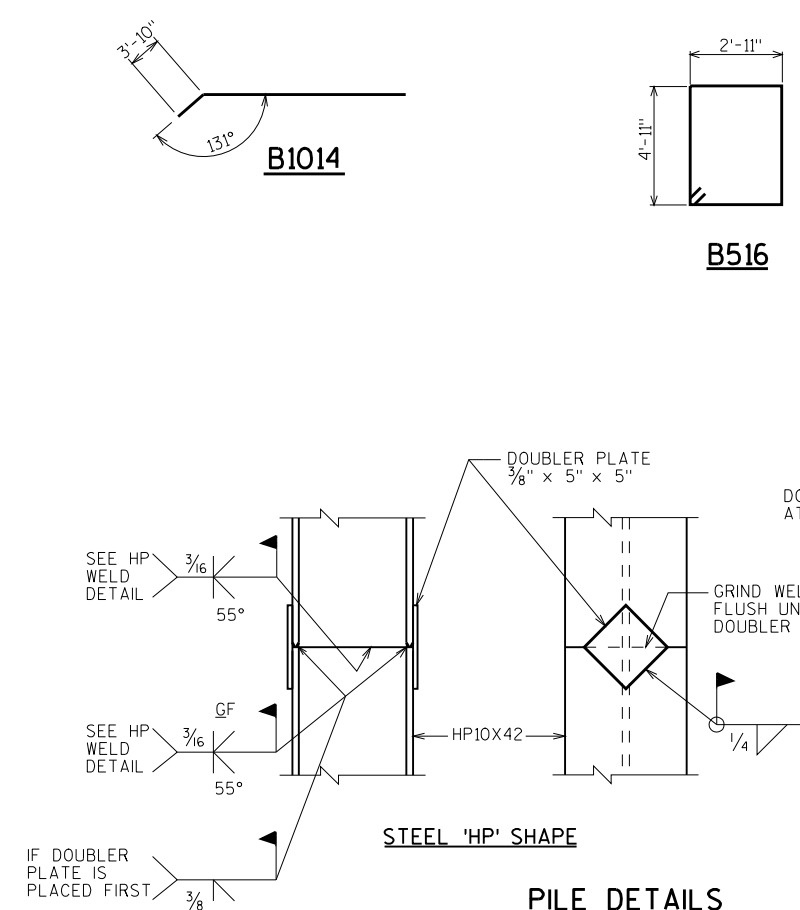
WING 3 SECTION



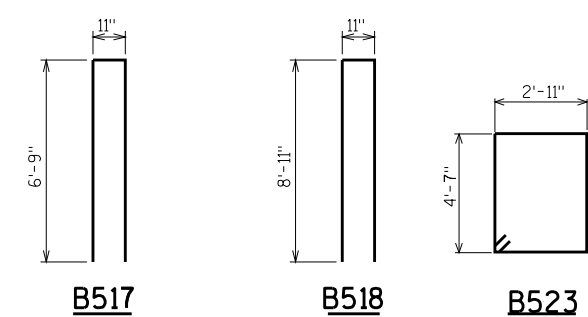
WING 4 ELEVATION



WING 4 SECTION



PILE DETAILS



- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6, (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 105'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 275 TONS PER PILE.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (R.M.W.) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT. BARS & DIMENSION SEE PARAPET SHT. 16

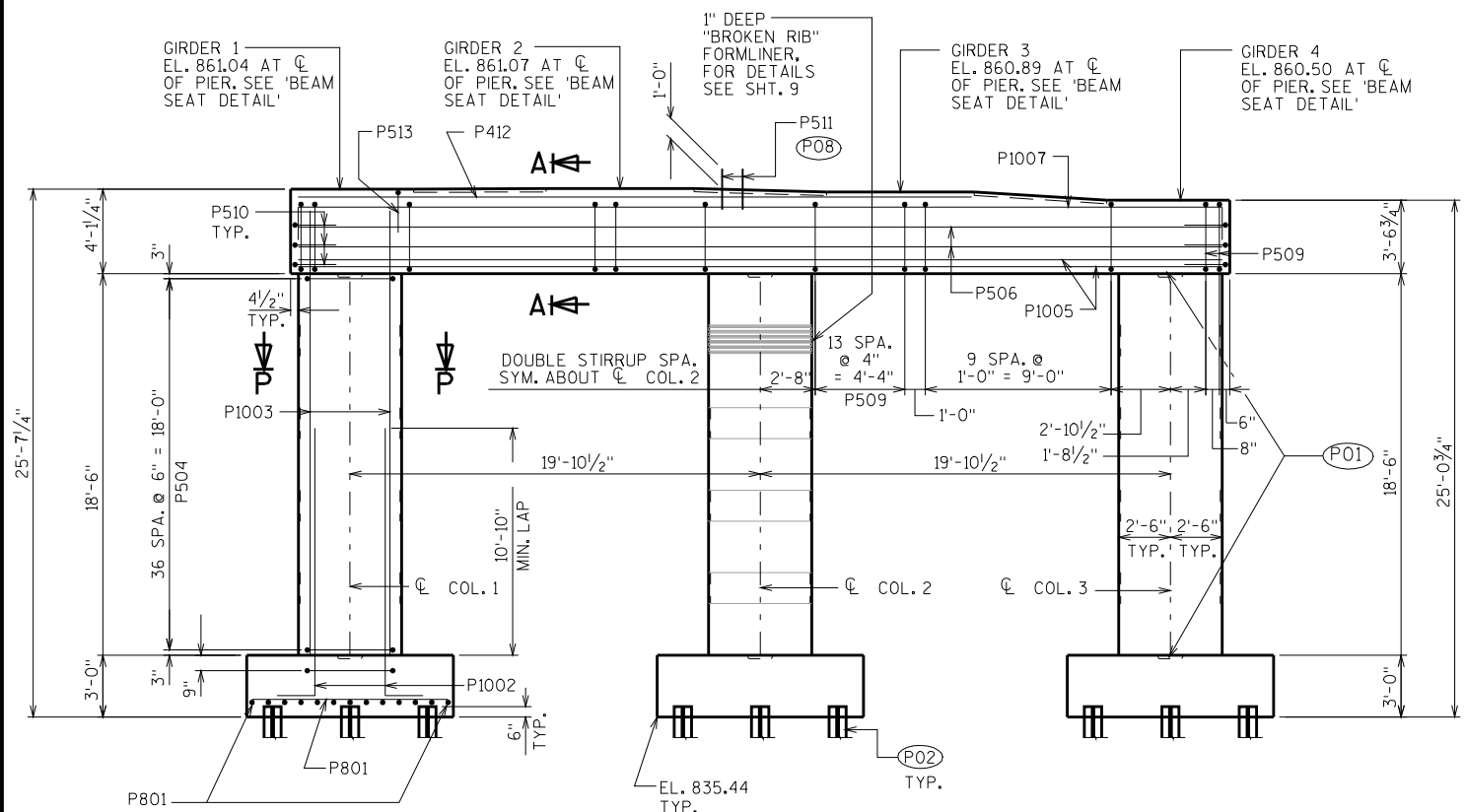
NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

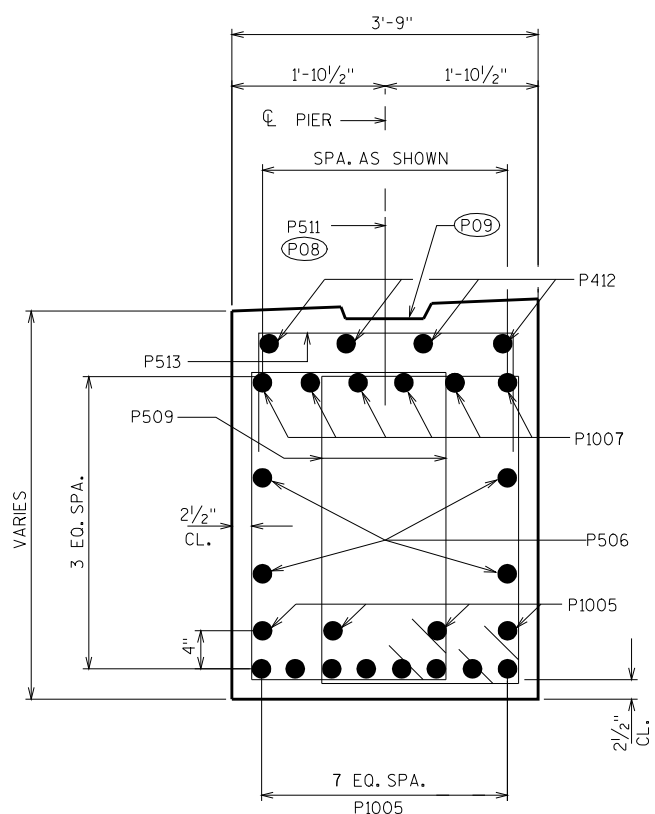
STRUCTURE B-28-136

DRAWN BY: CRJ
PLANS CK'D.: WWR

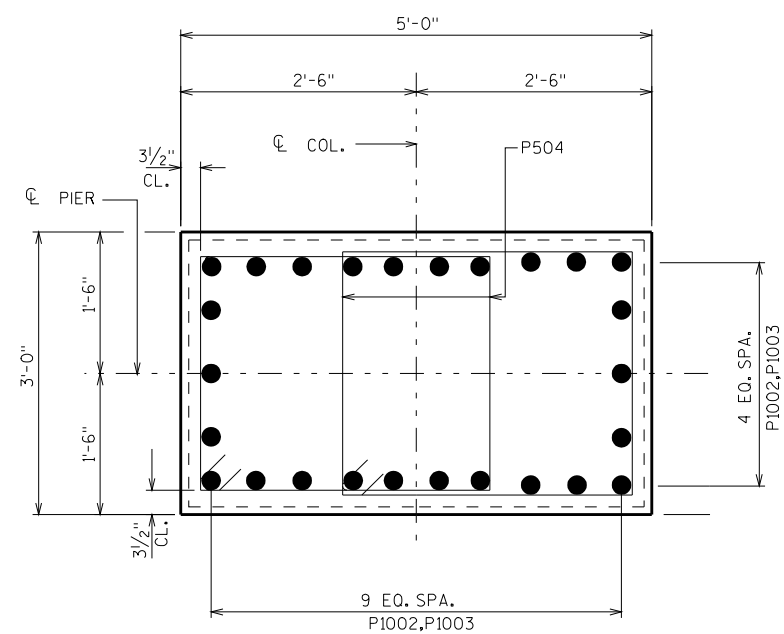
EAST ABUTMENT DETAILS SHEET 7



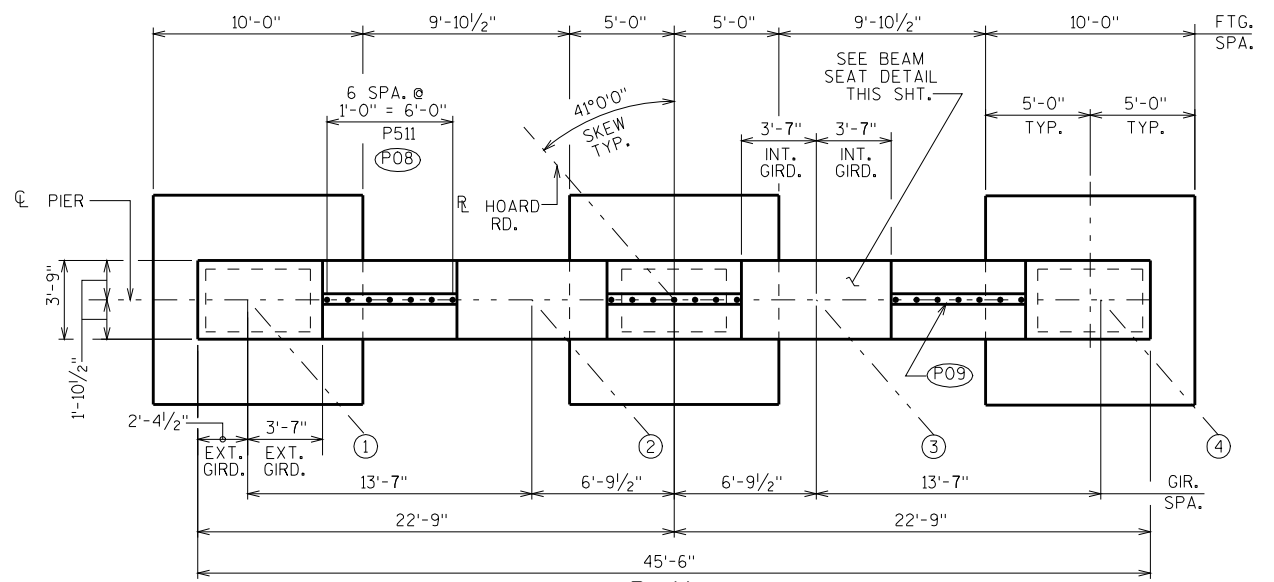
ELEVATION
LOOKING EAST



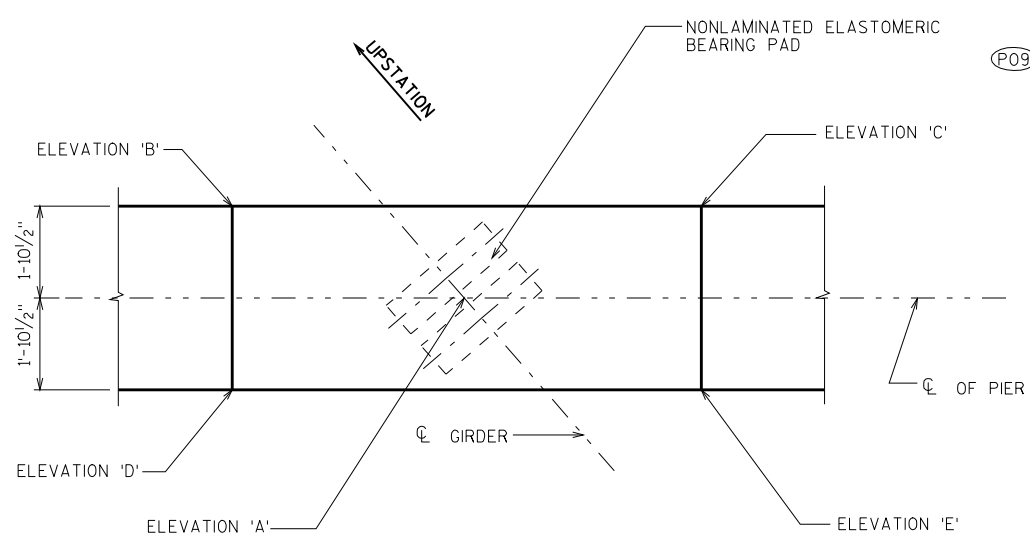
SECTION A-A



SECTION P-P



PLAN

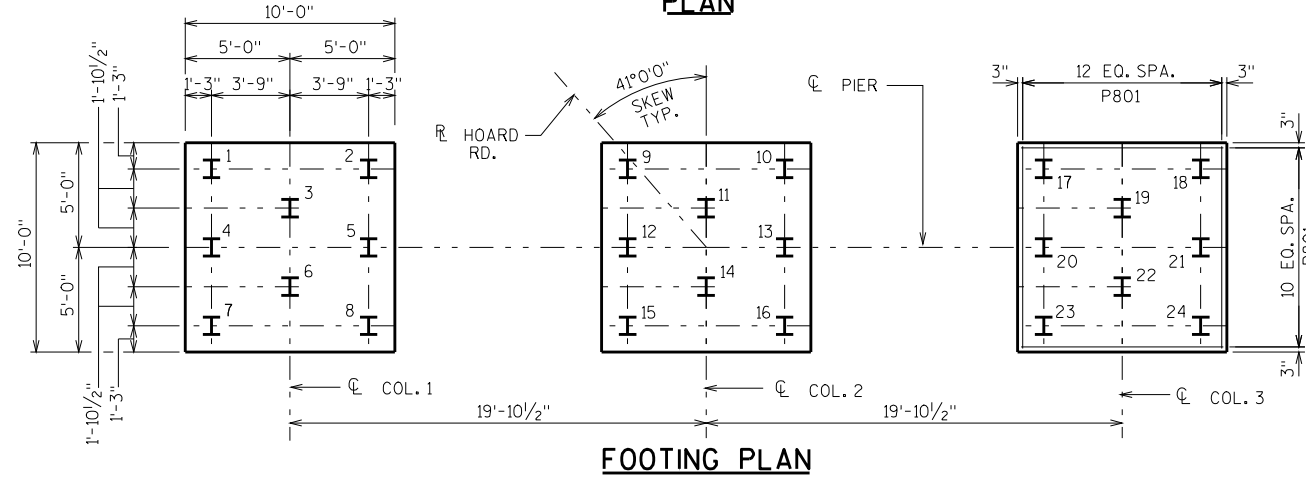


BEAM SEAT DETAIL @ PIER

(SHOWN AT INTERIOR GIRDER, EXTERIOR GIRDER SIMILAR)
PIER BEAM SEATS ELEVATIONS

	ELEV. 'A'	ELEV. 'B'	ELEV. 'C'	ELEV. 'D'	ELEV. 'E'
GIRDER 1	861.04	861.10	861.02	861.04	860.96
GIRDER 2	861.07	861.15	861.05	861.09	860.99
GIRDER 3	860.89	860.97	860.87	860.91	860.81
GIRDER 4	860.50	860.58	860.50	860.52	860.44

- (P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 30'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 275 TONS PER PILE.
- (P01) 1'-3" X 1'-3" X 2" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.
- (P08) P511 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- (P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.



FOOTING PLAN

8

8

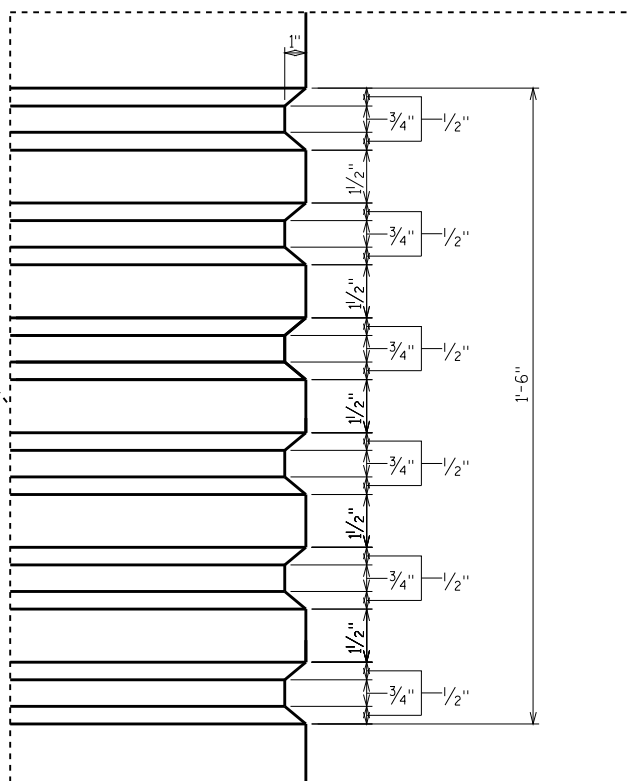
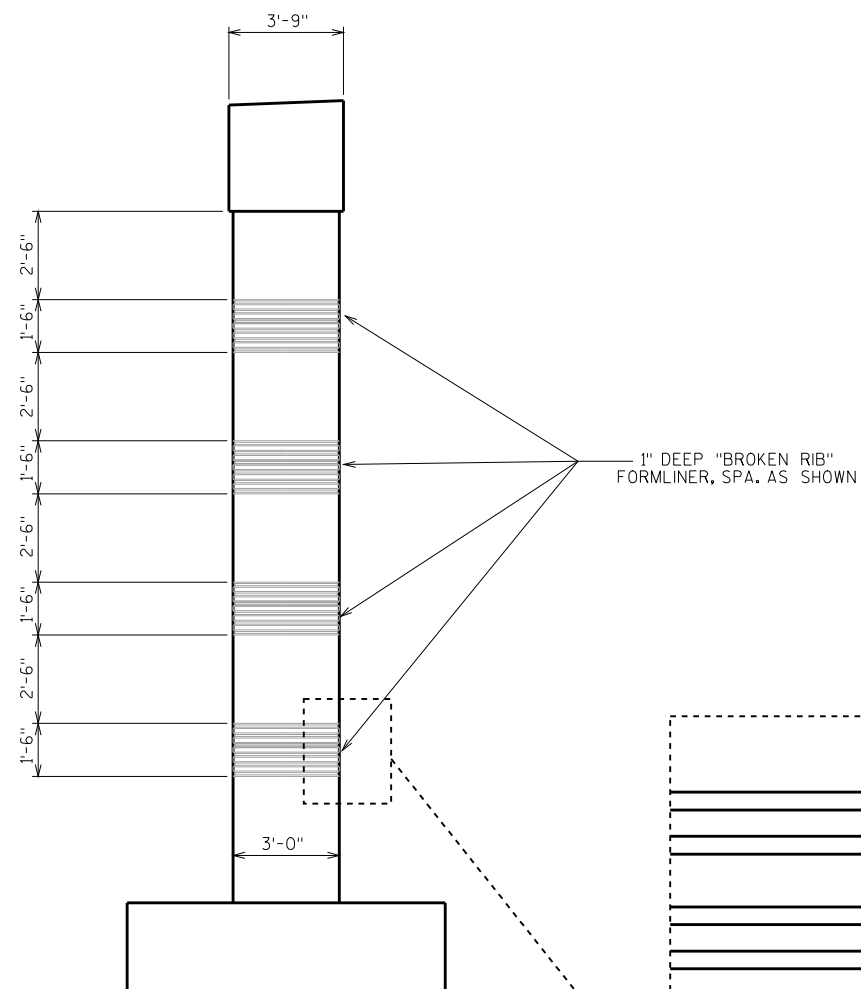
NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-28-136

DRAWN BY: CRJ
PLANS CK'D: WWR

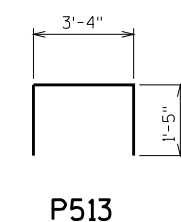
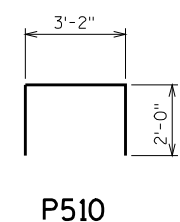
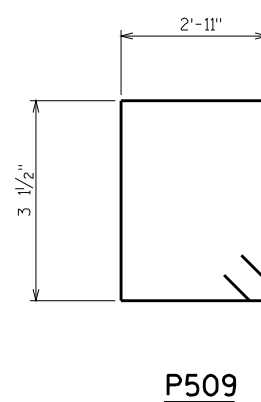
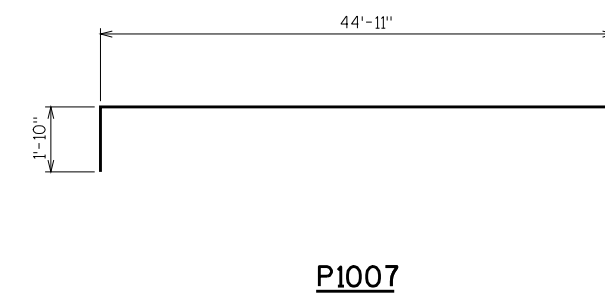
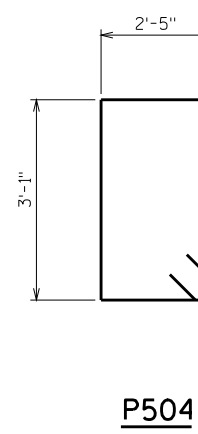
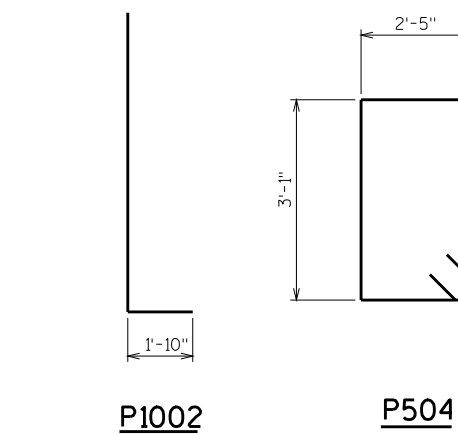
PIER SHEET 8



BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P801		72	9'-8"			FOOTING-HORIZ.
P1002	X	78	14'-11"	X		FOOTING/SHAFT-VERT.
P1003	X	78	21'-7"			SHAFT-VERT.
P504	X	228	11'-8"	X		SHAFT-HORIZ.
P1005	X	12	45'-1"			CAP-HORIZ.-BTM.
P506	X	4	44'-10"			CAP-HORIZ.-SIDES
P1007	X	6	48'-0"	X		CAP-HORIZ.-TOP
P509	X	104	12'-9"	X		CAP-VERT.-STIRRUPS
P510	X	6	6'-11"	X		CAP-HORIZ.-ENDS
P511	X	21	2'-0"			CAP-VERT.-DOWELS
P412	X	4	35'-0"			CAP-HORIZ.-TOP
P513	X	24	6'-0"	X		CAP-VERT.-TOP



8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
PIER DETAILS			SHEET 9

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

PRESTRESSING STRANDS SHALL BE 0.6"Ø - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER, FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

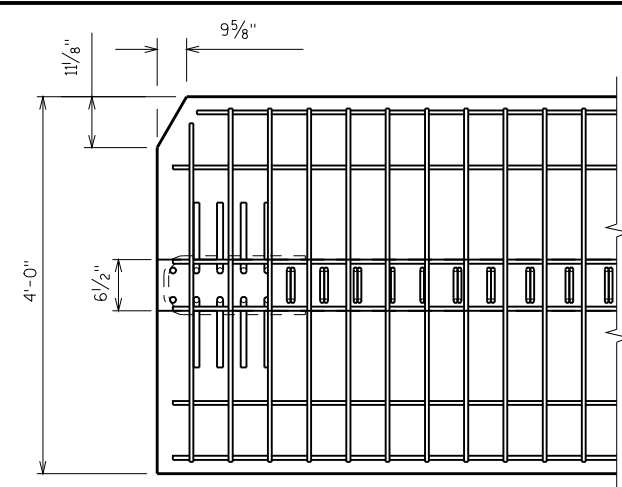
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, 1 OPTION IS AVAILABLE:

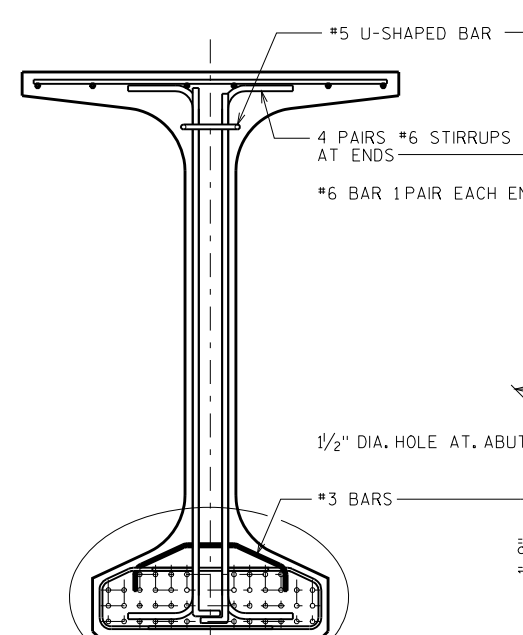
USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608)266-5161.

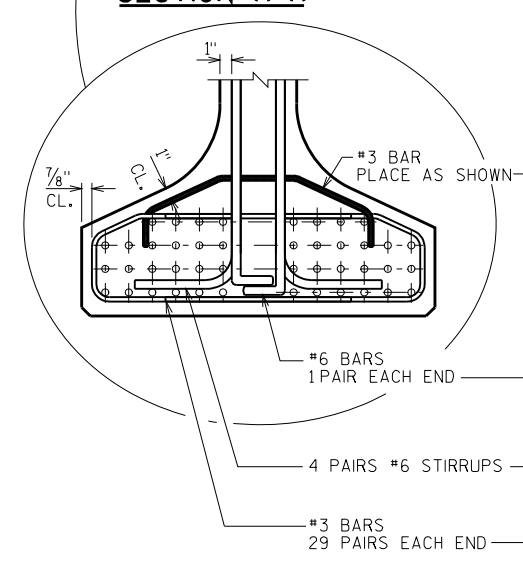
Strand type



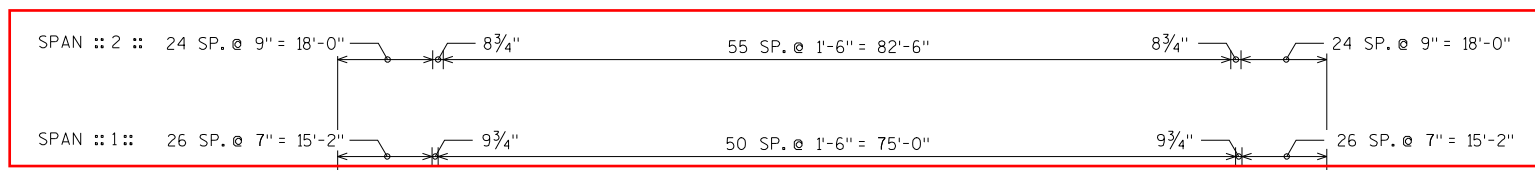
TOP FLANGE



SECTION A-A



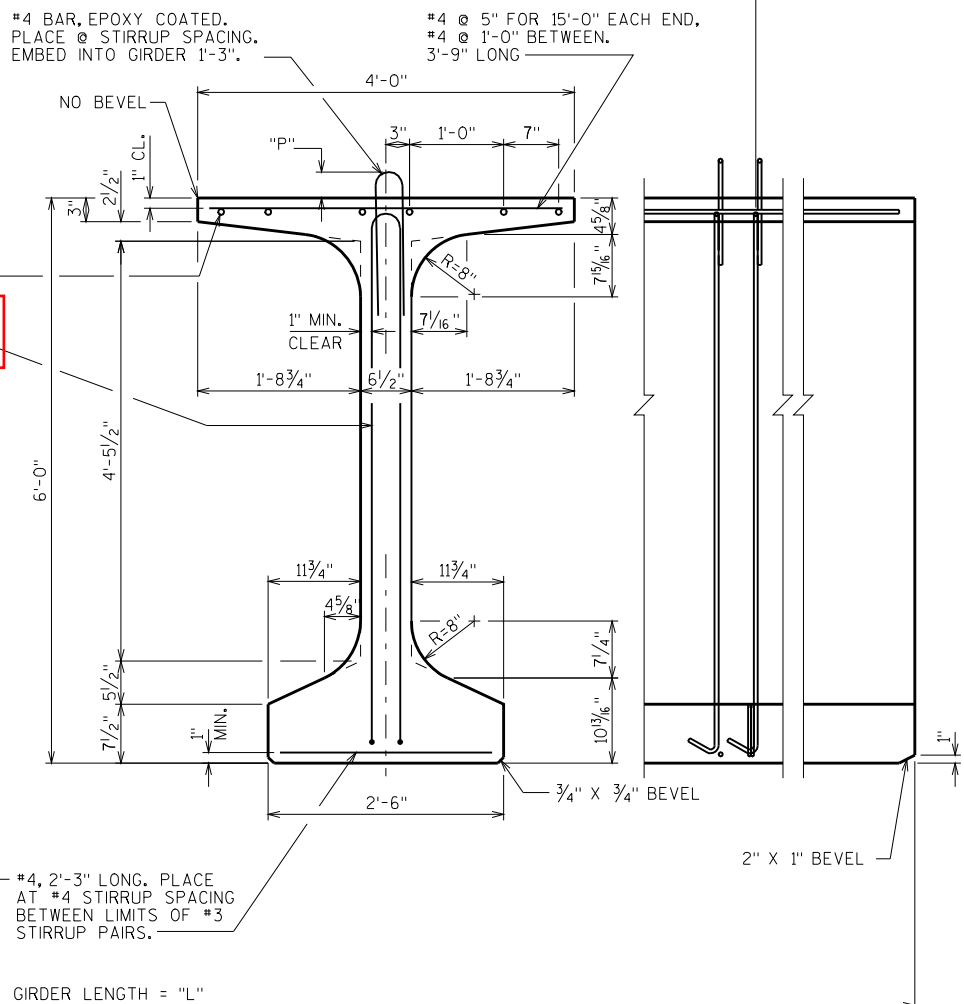
BOTTOM FLANGE



Points 1-9 stirrup spacing

#4 STIRRUPS (4 1/2" LEG)

Point 0/10 stirrup spacing (also spacing for point 10/10 because of symmetry)



SIDE VIEW & TYP. SECTION IN SPAN

- (A) DETAIL TYP. AT EACH END
- (B) 6 # BARS, FULL LENGTH, MIN. LAP =
 - (SPAN 1) 6 #4, 1'-11" MIN. LAP
 - (SPAN 2) 6 #4, 1'-11" MIN. LAP

"A" dimension

"Bmax" and "Bmin"

Number of strands

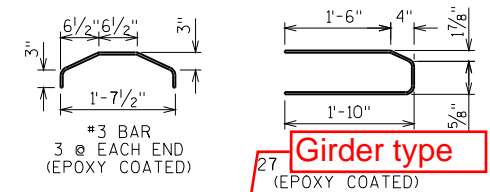
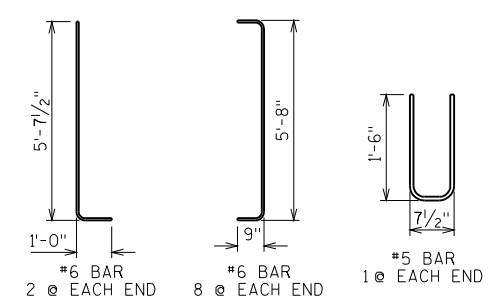
Strand diameter

Span

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)										CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	TOTAL NO. OF STRANDS	DRAPED PATTERN (IN.)				UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10							f'ci (P.S.I.) *	"A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS
1		128.375	0.6	1.2	1.6	1.9	2.0	1.9	1.6	1.1	0.6	8000	8	8	8	0.60	36	6400	66.0	20.25	23.25	5.0		
2		141.375	0.9	1.7	2.3	2.8	2.9	2.8	2.4	1.7	0.9	8000	8	8	8	0.60	48	6753	67.0	20.5	23.5	5.0		



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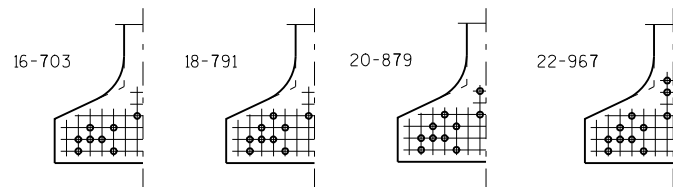
72W" PRESTRESSED GIRDER DETAILS

SHEET 10

1 2 3 4 5 7 9 10 11 13 14 15 17 20 25 35

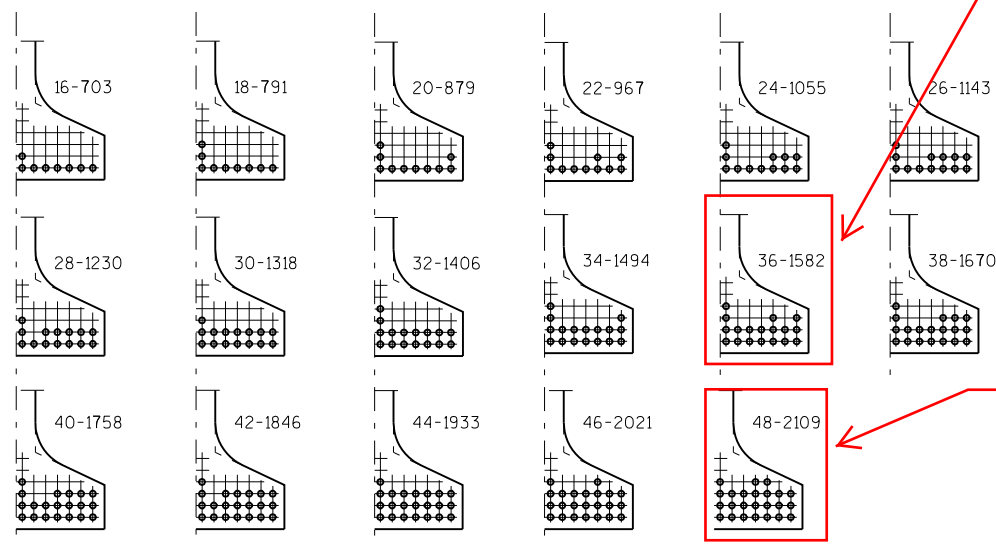
8

SCALE = 1



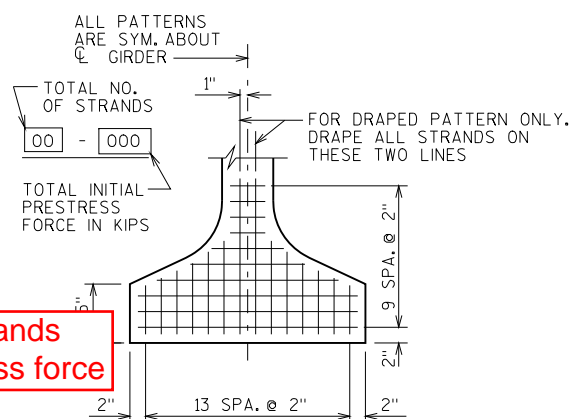
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"φ STRANDS

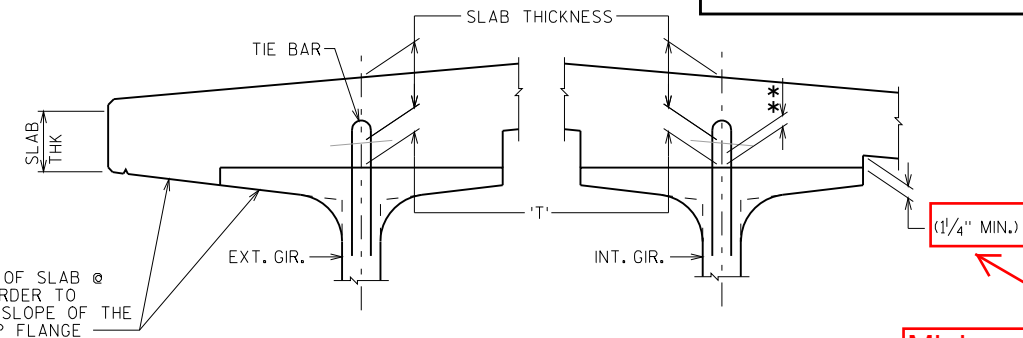


Girder 1 strands and prestress force

Girder 2 strands and prestress force



TYP. STRAND PATTERN



SLAB HAUNCH DETAIL

IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR.
** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT CL OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

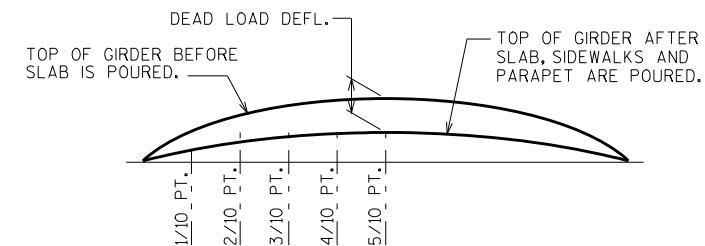
$$\begin{aligned} & \text{TOP OF DECK ELEV. AT FINAL GRADE} \\ & - \text{TOP OF GIRDER ELEVATION} \\ & + \text{DEAD LOAD DEFLECTION} \\ & - \text{SLAB THICKNESS} \\ & = \text{HAUNCH HEIGHT 'T'} \end{aligned}$$

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

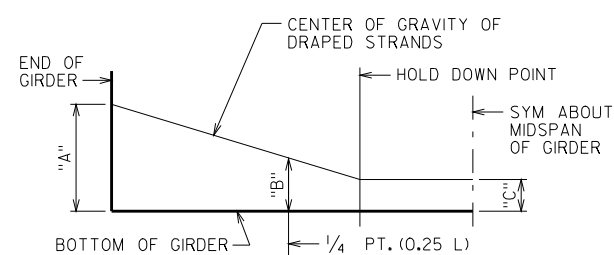
Average haunch thickness

ARRANGEMENT AT CL SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"φ STRANDS



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN

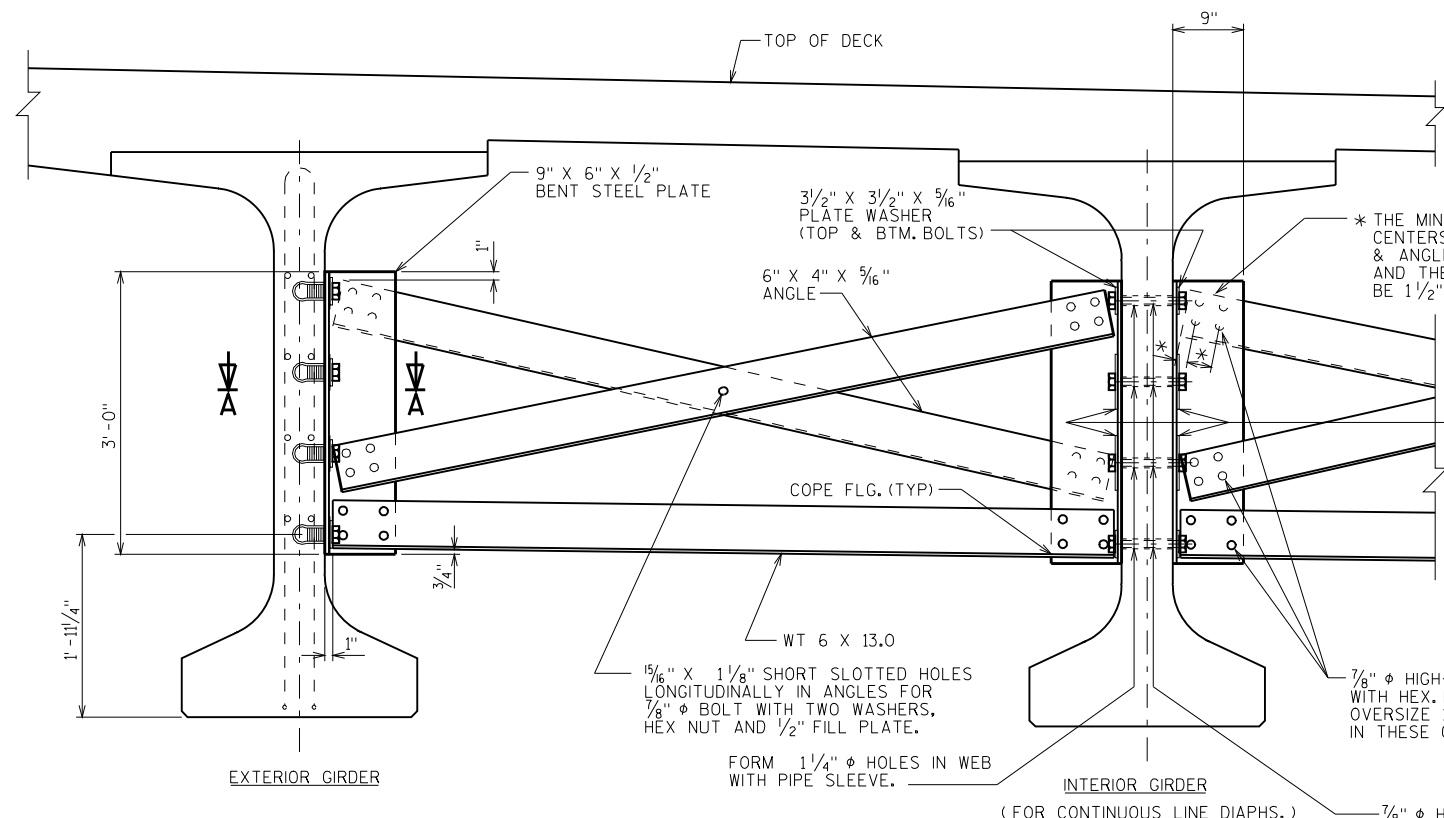
SPAN	CAMBER (IN.)
1	2.09
2	3.44

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

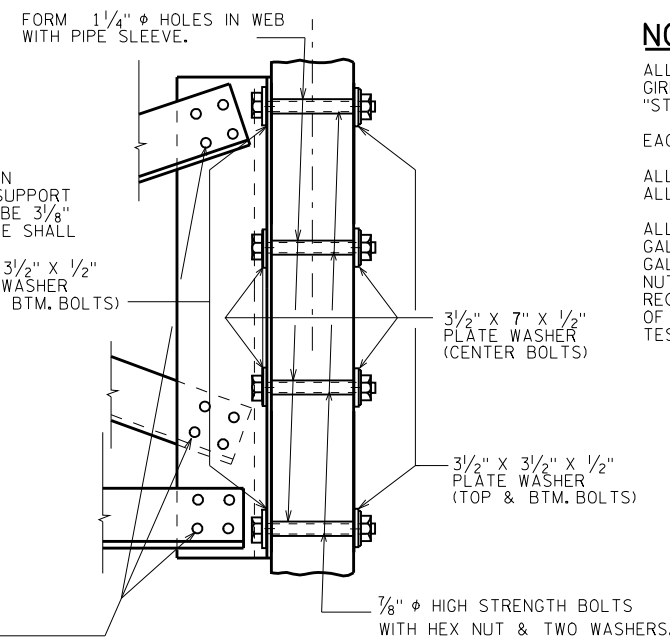
Girder type

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STRUCTURE		B-28-136	
DRAWN BY		CRJ	PLANS CK'D. WWR
72W" PRESTRESSED GIRDER DETAILS			SHEET 11

17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



PART TRANSVERSE SECTION AT DIAPHRAGM



**SECTION AT INTERIOR GIRDERS
(FOR STAGGERED DIAPHRAGMS)**

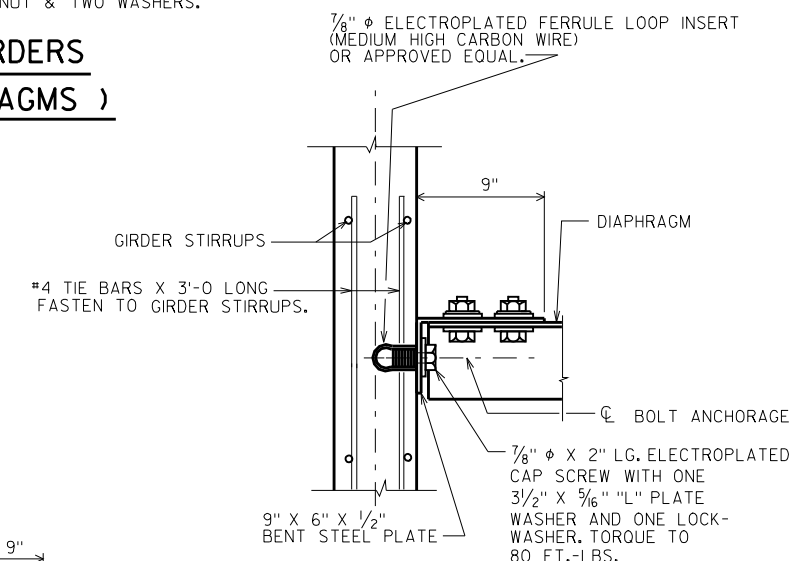
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-28-136", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

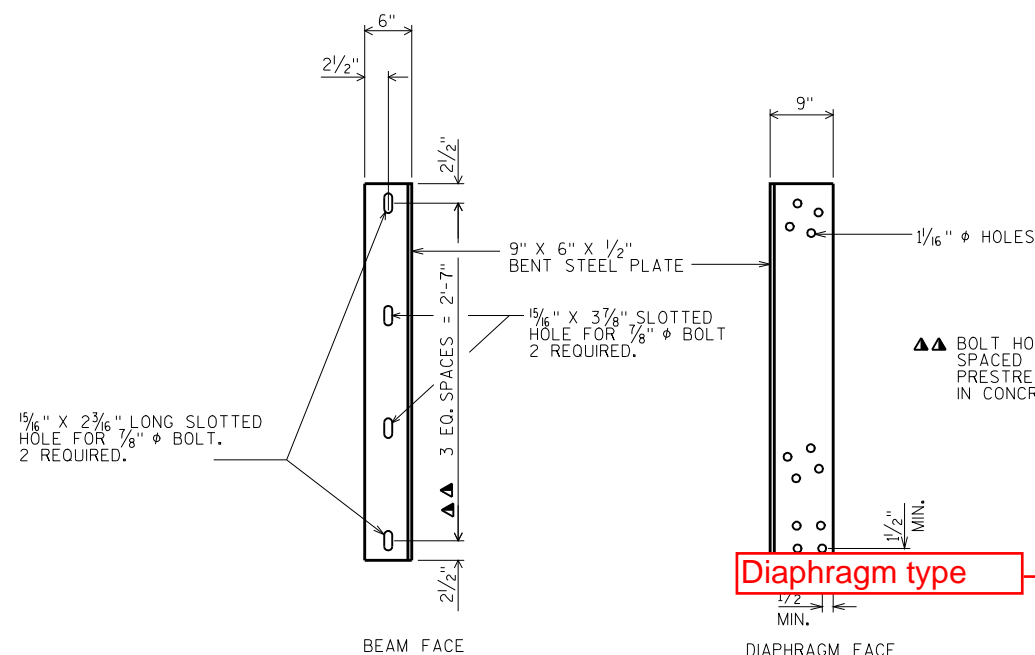


SECT. A-A

(FOR EXTERIOR ATTACHMENT)

"L" = 3/2"; TOP AND BOTTOM BOLTS
"L" = 7"; CENTER BOLTS

▲▲ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.

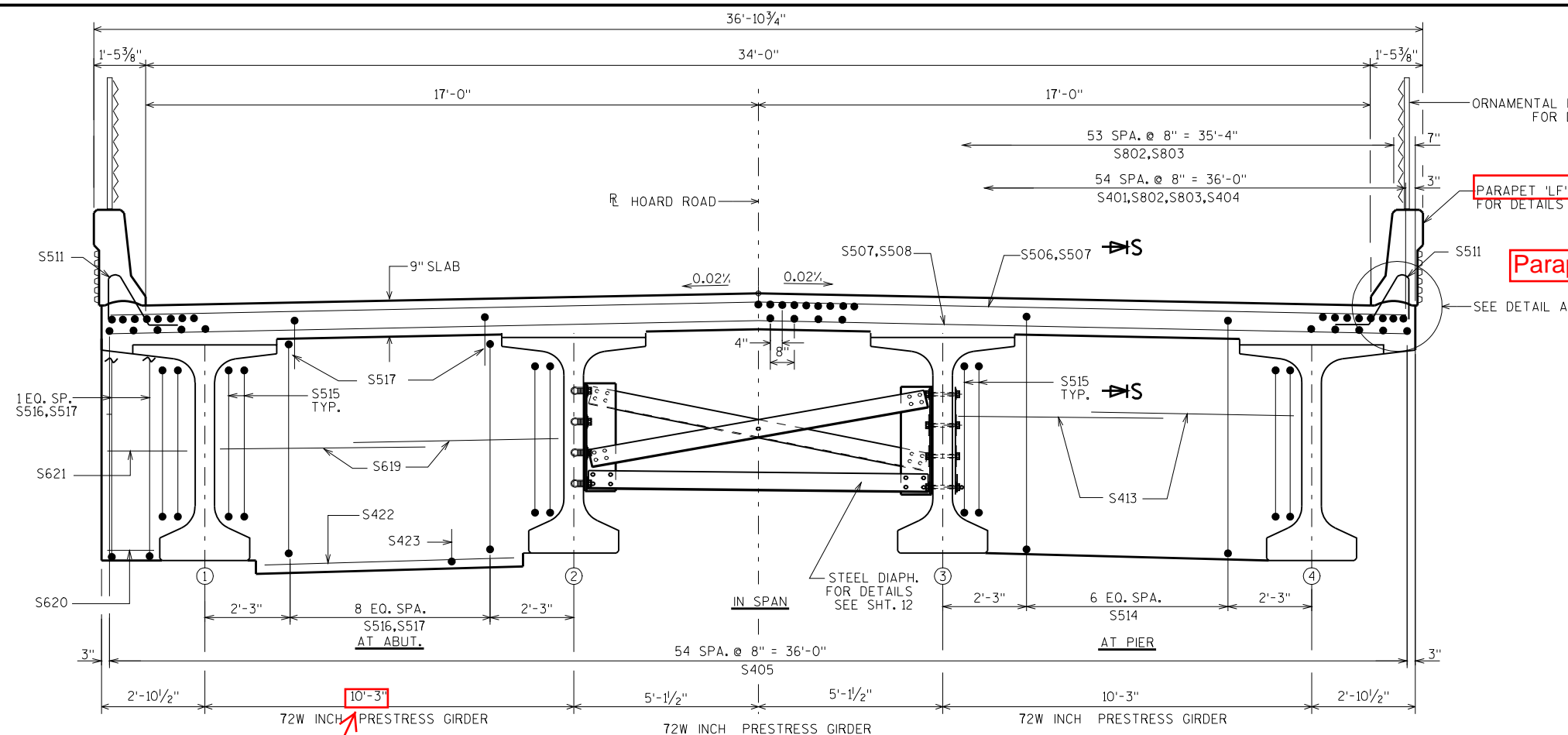


DIAPHRAGM SUPPORT

8

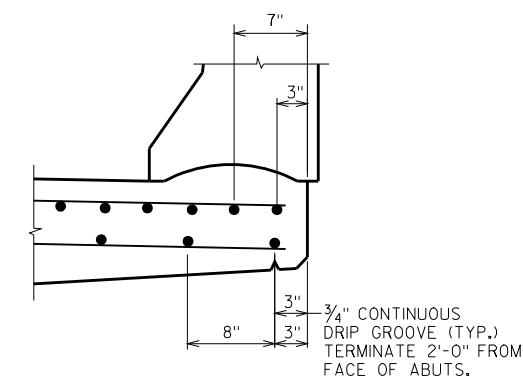
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
STEEL DIAPHRAGM			SHEET 12

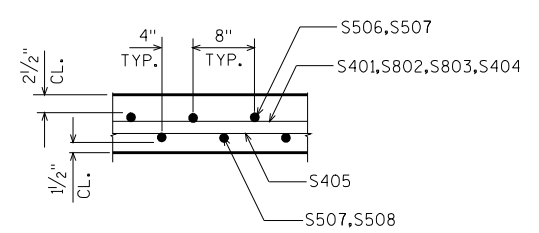


CROSS SECTION THRU ROADWAY
(LOOKING EAST)

Girder spacing



DETAIL A

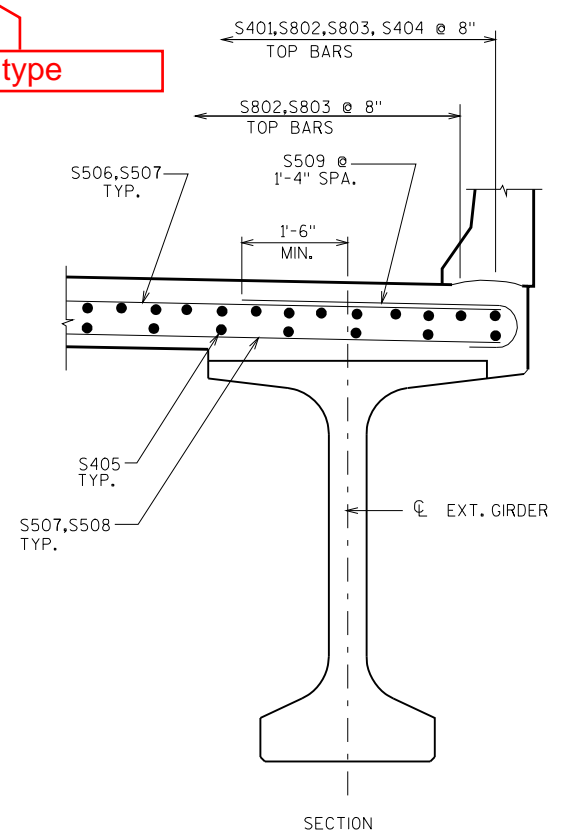


SECTION S-S

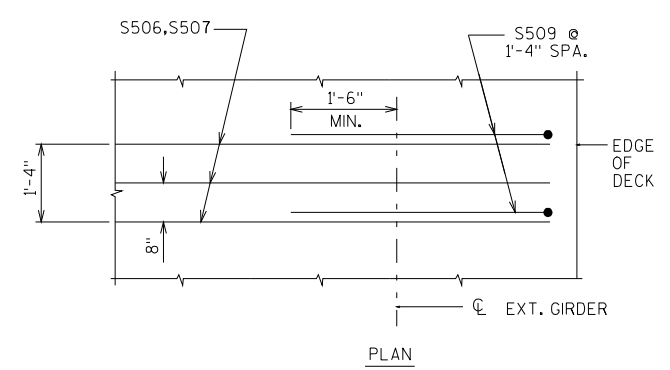
ORNAMENTAL PROTECTIVE SCREENING (TYP.)
FOR DETAILS SEE SHT. 17

PARAPET LF' (MOD.)
FOR DETAILS SEE SHT. 16

Parapet type



SECTION



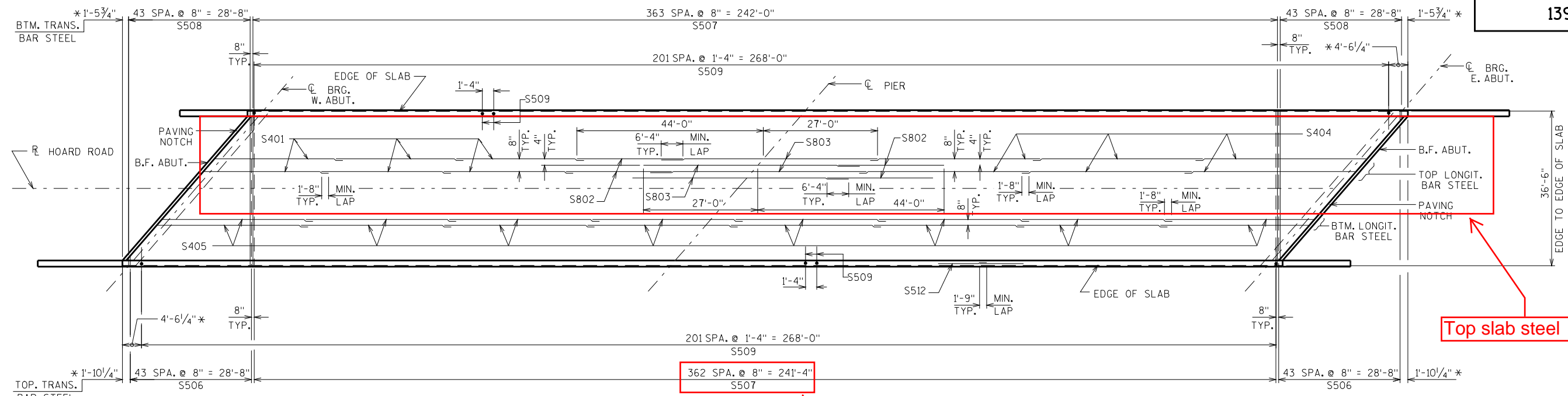
PLAN

ADDITIONAL REINF. DETAIL

8

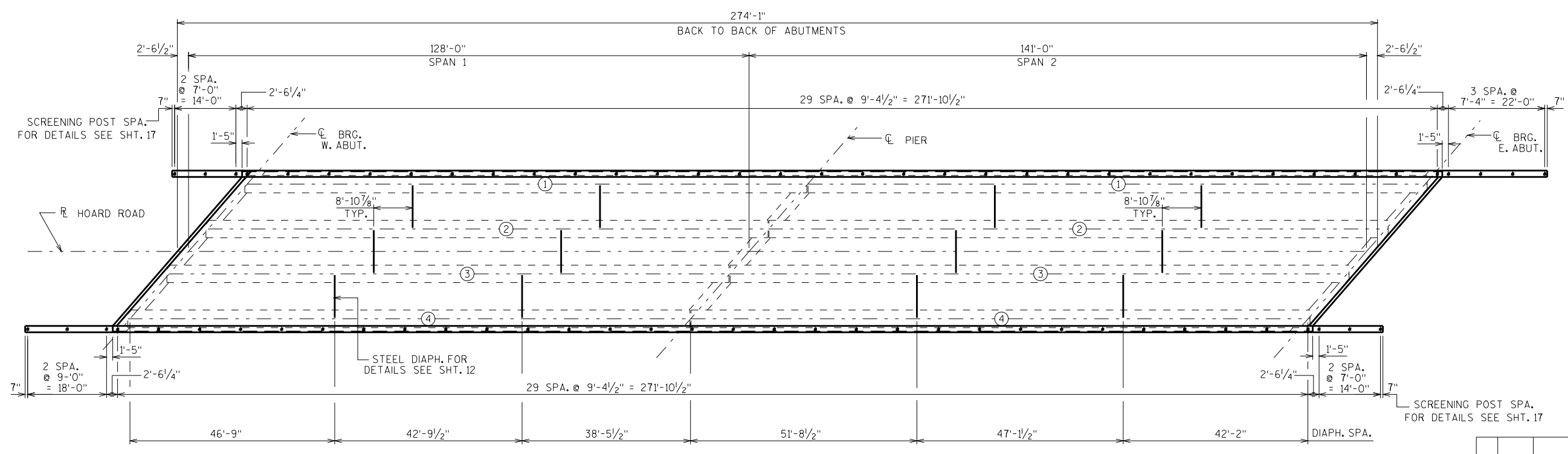
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CKD. WWR	
SUPERSTRUCTURE CROSS SECTION			SHEET 13



PLAN
Top transverse steel

* DIM. TAKEN OFF B.F. ABUT.



PLAN
SHOWING DIAPH. SPA. & SCREENING POST SPA.

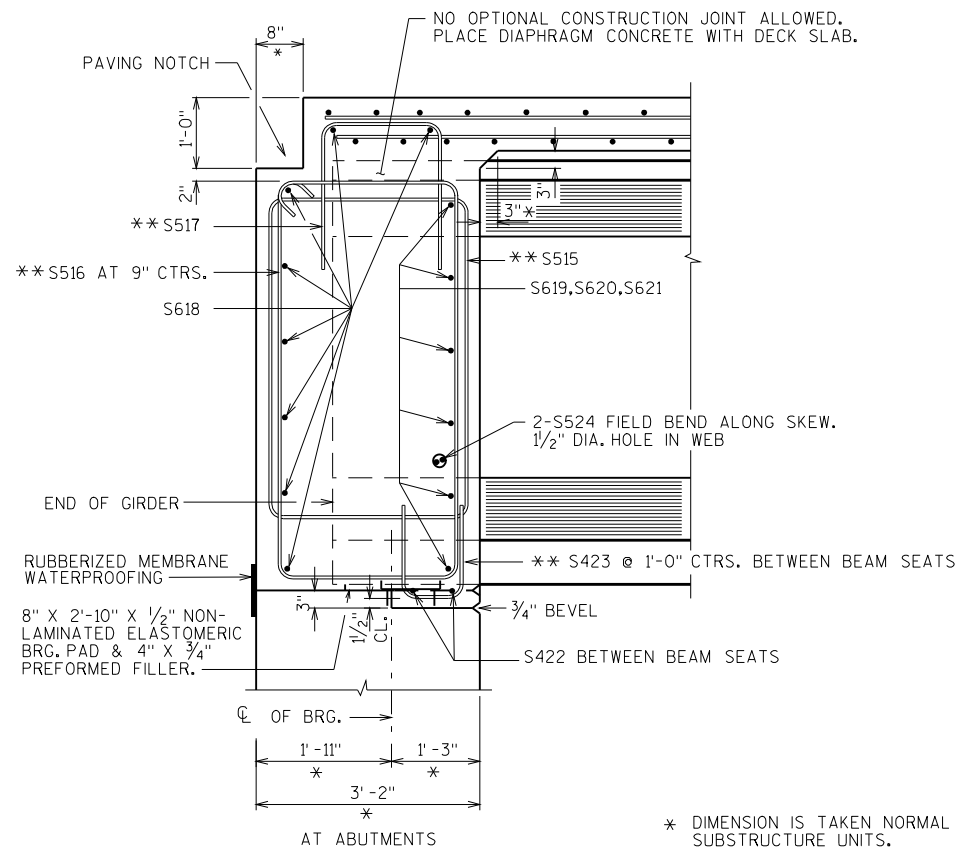
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
SUPERSTRUCTURE		SHEET 14	

BILL OF BARS

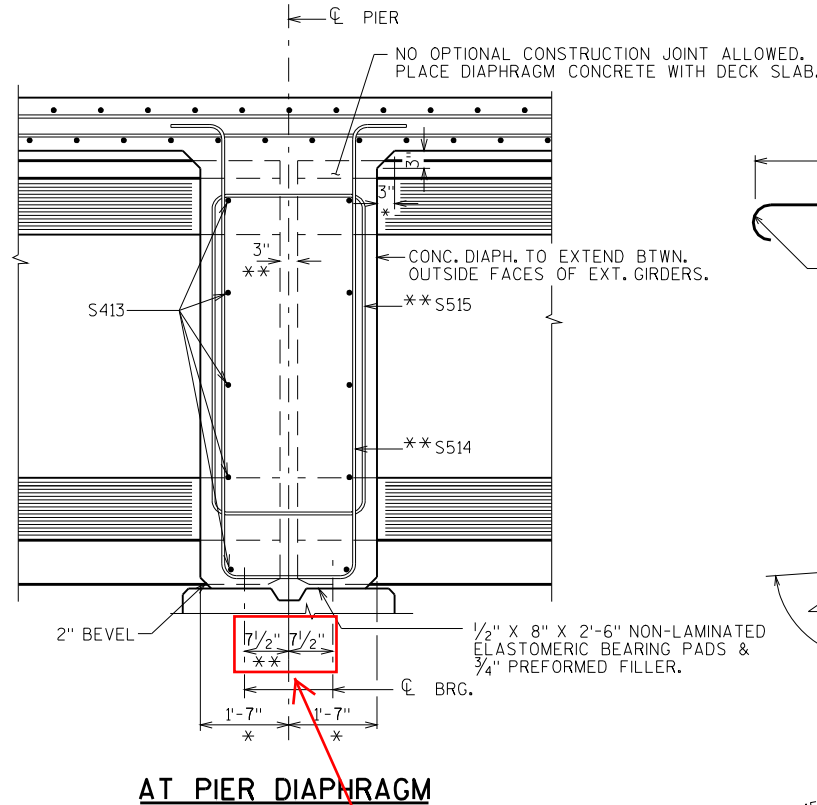
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	165	30'-2"			SLAB-LONGIT.-TOP
S802	X	109	25'-0"			SLAB-LONGIT.-TOP
S803	X	109	52'-4"			SLAB-LONGIT.-TOP-OVER PIER
S404	X	165	40'-2"			SLAB-LONGIT.-TOP
S405	X	440	35'-6"			SLAB-LONGIT.-BTM.
S506	X	88	18'-5"			SLAB-TRANS.-TOP
S507	X	727	36'-2"			SLAB-TRANS.-TOP & BTM.
S508	X	88	18'-0"			SLAB-TRANS.-BTM.
S509	X	404	4'-10"	X		SLAB-TRANS.-TOP/EDGE OF DECK
S510	X	824	4'-10"	X		PPT-'LF'-VERT.
S511	X	824	4'-2"	X		PPT-'LF'-VERT.
S512	X	80	35'-9"			PPT-'LF'-HORIZ.
S413	X	60	6'-11"			PIER-DIAPH.-HORIZ.
S514	X	21	17'-8"	X		PIER-DIAPH.-VERT.
S515	X	44	16'-6"	X		PIER/ABUT.-DIAPH.-VERT.
S516	X	62	19'-6"	X		ABUT.-DIAPH.-VERT.
S517	X	62	6'-5"	X		ABUT.-DIAPH.-VERT.
S618	X	32	26'-0"			ABUT.-DIAPH.-HORIZ.-B.F.
S619	X	72	7'-3"			ABUT.-DIAPH.-HORIZ.-F.F.
S620	X	4	1'-7"			ABUT.-DIAPH.-HORIZ.
S621	X	20	3'-0"			ABUT.-DIAPH.-HORIZ.
S422	X	12	8'-6"			ABUT.-DIAPH.-HORIZ.-BTWN. BEAM SEATS
S423	X	48	3'-6"	X		ABUT.-DIAPH.-VERT.-BTWN. BEAM SEATS
S524	X	16	6'-0"			ABUT.-DIAPH.-HORIZ.

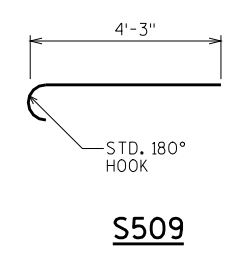
▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



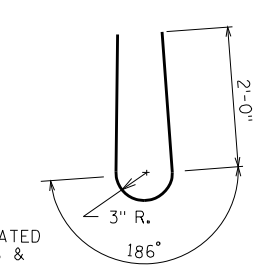
PART LONGIT. SECTION



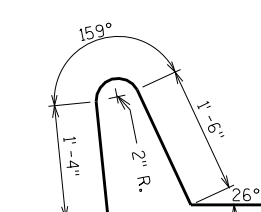
AT PIER DIAPHRAGM



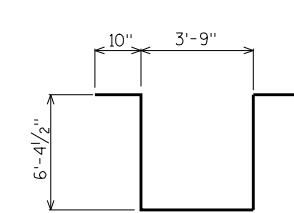
S509



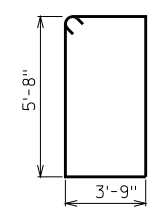
S510



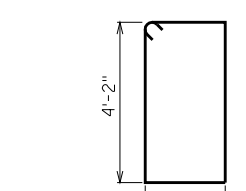
S511



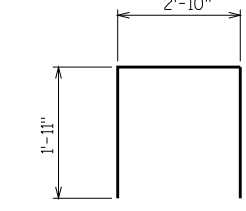
S514



S516



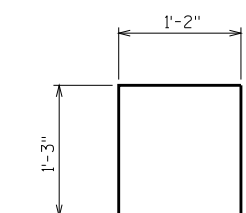
S515



S517

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
S506	2 SERIES OF 44	1'-11" TO 34'-11"
S508	2 SERIES OF 44	1'-6" TO 34'-6"



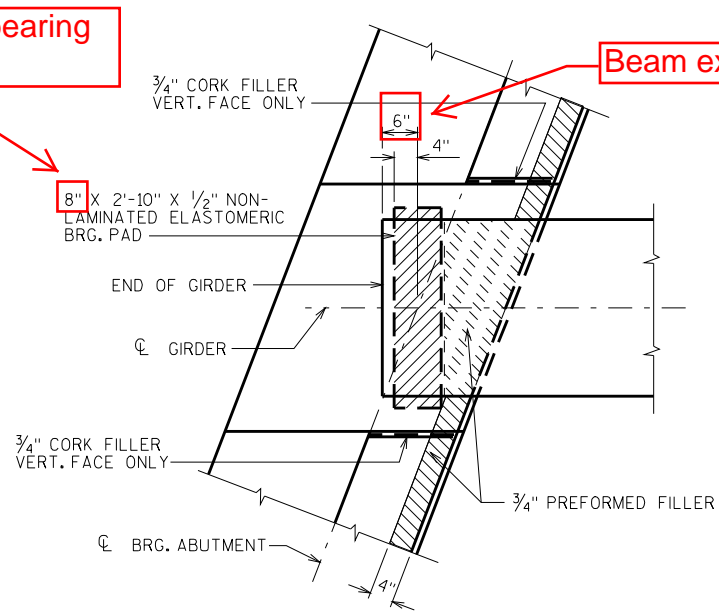
S423

Abutment bearing pad width

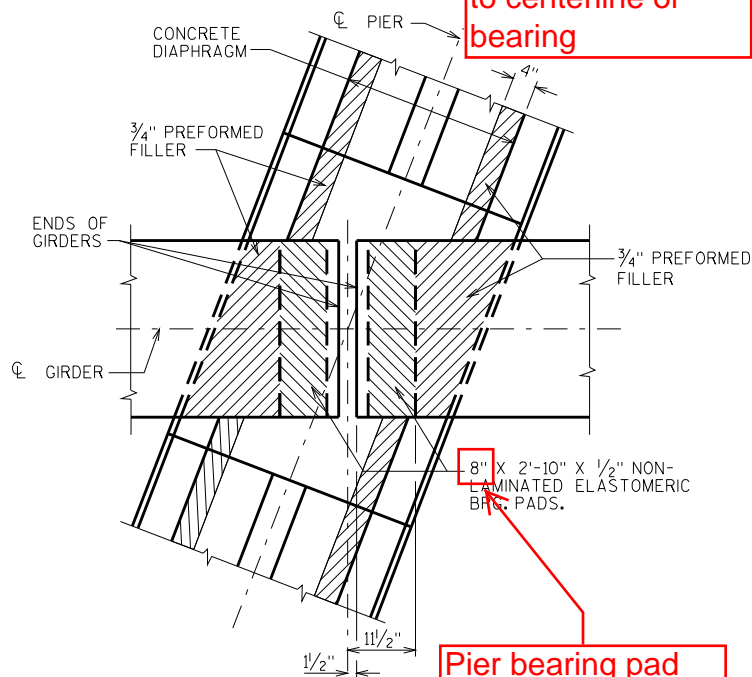
Beam extension

Centerline of pier to centerline of bearing

Pier bearing pad width



BEARING PAD DETAIL



TOP OF DECK ELEVATIONS

	W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	E. ABUT.
L/E.O.D	865.10	865.44	865.77	866.09	866.40	866.70	866.99	867.27	867.54	867.80	868.05	868.31	868.57	868.80	869.03	869.24	869.45	869.63	869.81	869.98	870.13
GIR. 1	865.06	865.41	865.74	866.06	866.37	866.68	866.97	867.25	867.52	867.78	868.04	868.30	868.55	868.80	869.02	869.24	869.44	869.63	869.81	869.98	870.13
GIR. 2	865.02	865.37	865.71	866.04	866.36	866.67	866.97	867.26	867.54	867.81	868.07	868.34	868.60	868.85	869.09	869.31	869.52	869.72	869.91	870.08	870.24
GIR. 3	864.77	865.13	865.48	865.81	866.14	866.46	866.76	867.06	867.35	867.62	867.89	868.17	868.44	868.69	868.94	869.17	869.39	869.60	869.79	869.97	870.14
GIR. 4	864.31	864.68	865.03	865.38	865.71	866.03	866.35	866.65	866.94	867.23	867.50	867.79	868.06	868.33	868.58	868.82	869.05	869.26	869.46	869.65	869.83
R/E.O.D	864.21	864.57	864.93	865.28	865.61	865.94	866.25	866.56	866.85	867.14	867.41	867.71	867.98	868.25	868.50	868.75	868.97	869.19	869.40	869.59	869.77

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY		CRJ	PLANS CK'D. WWR
SUPERSTRUCTURE DETAILS		SHEET 15	

35

15

118

6 7

4

1 2

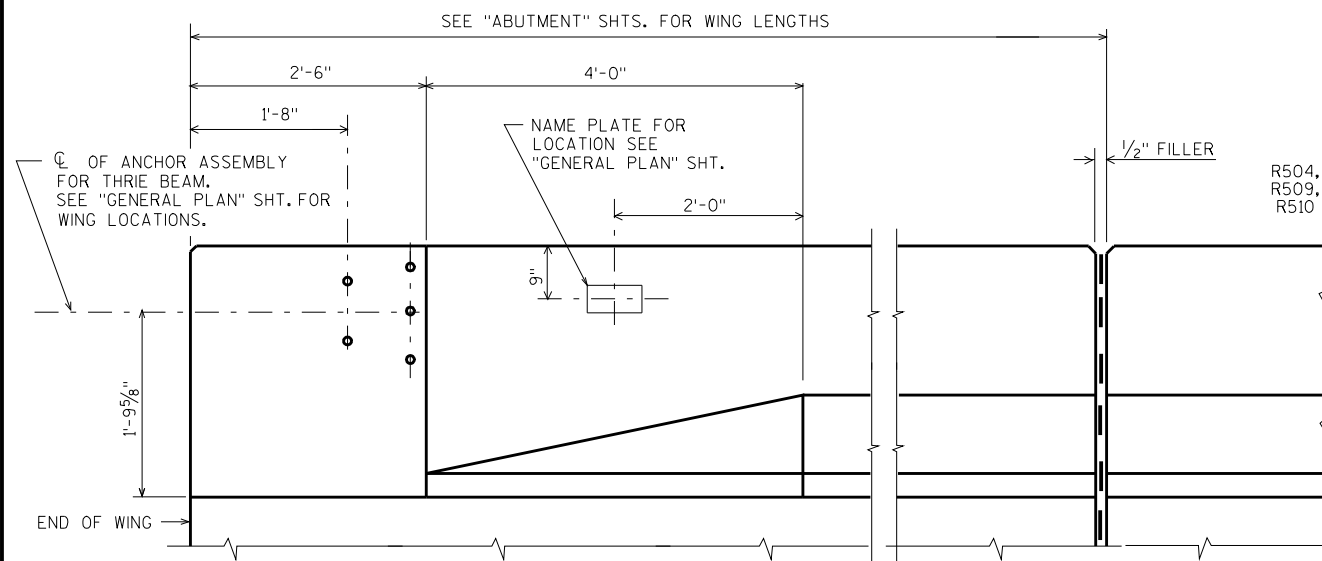
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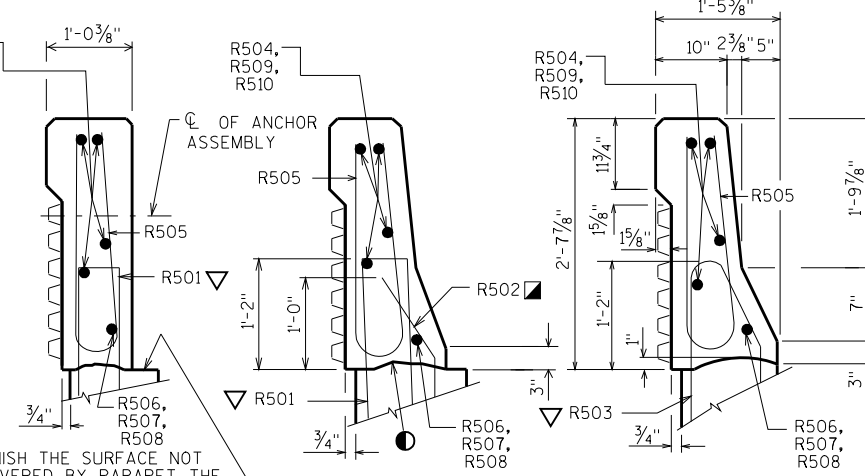
BILL OF BARS

FOR ABUTMENT PARAPETS

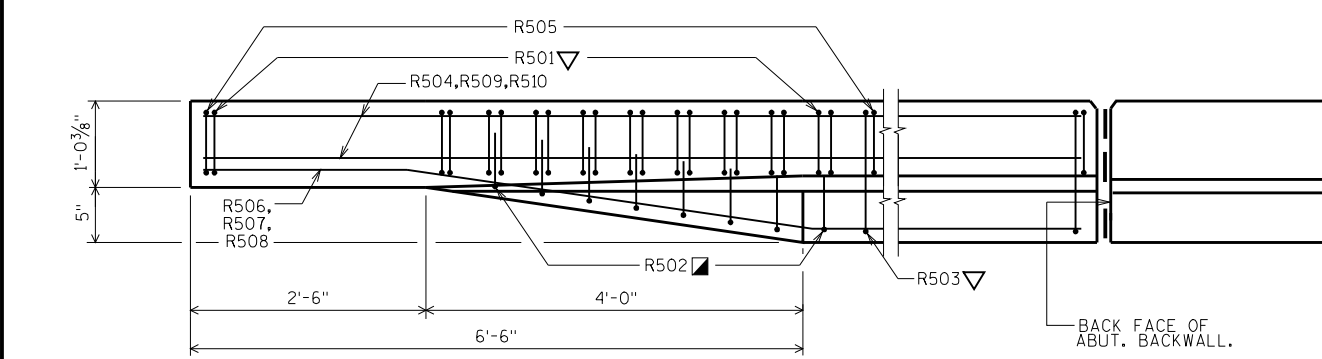
BAR MARK	COAT	W. ABUT.	E. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	28	28	4'-7"	X		PARAPET VERT.
R502	X	16	16	2'-4"	X		PARAPET VERT.
R503	X	34	40	4'-7"	X		PARAPET VERT.
R504	X	4	4	15'-8"			PARAPET HORIZ.-WINGS 2&4
R505	X	62	68	4'-10"	X		PARAPET VERT.
R506	X	1	1	15'-8"	X		PARAPET HORIZ.-WINGS 2&4
R507	X	1	—	19'-8"	X		PARAPET HORIZ.-WING 1
R508	X	—	1	23'-8"	X		PARAPET HORIZ.-WING 3
R509	X	4	—	19'-8"			PARAPET HORIZ.-WING 1
R510	X	—	4	23'-8"			PARAPET HORIZ.-WING 3



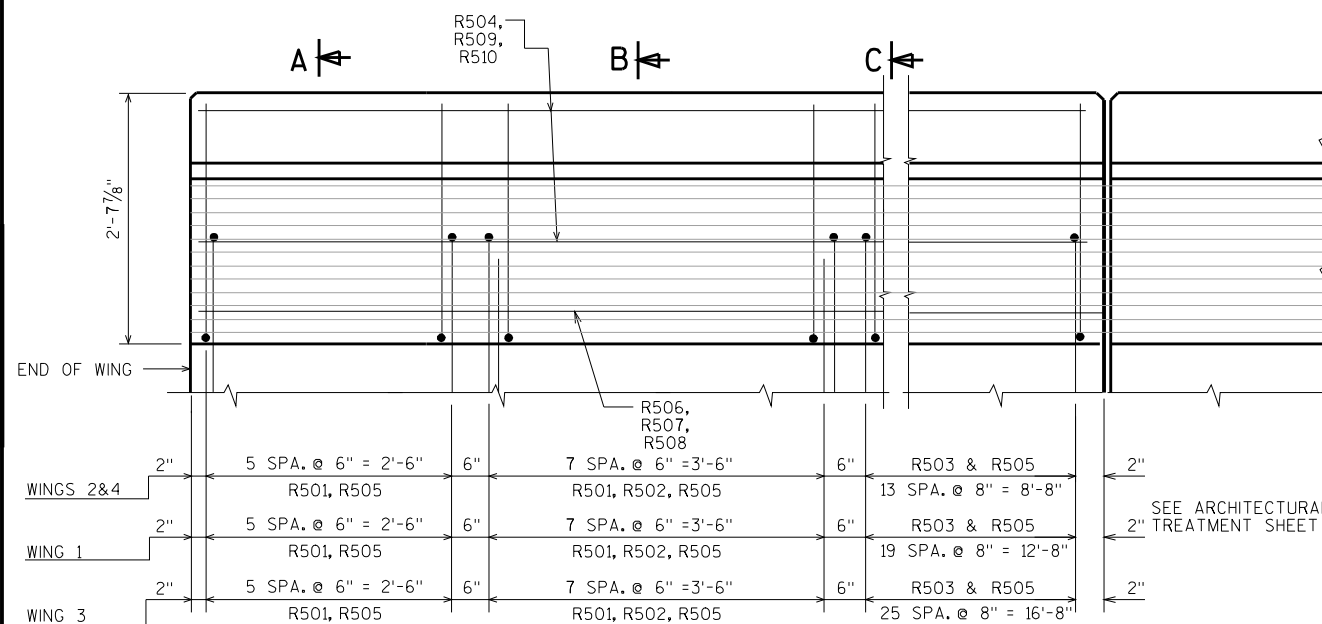
INSIDE ELEVATION



SECTION A SECTION B SECTION C

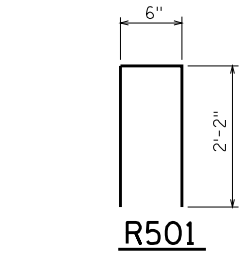


PLAN

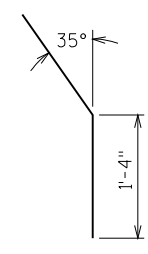


OUTSIDE ELEVATION

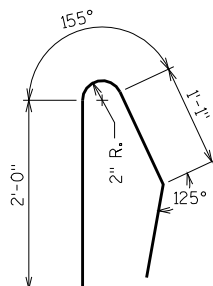
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9" MIN. JOINT SPACING OF 80'-0" DEFINE CONST. JOINT WITH A 3/4" 'V' GROOVE.



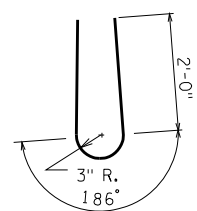
R501



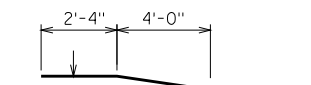
R502



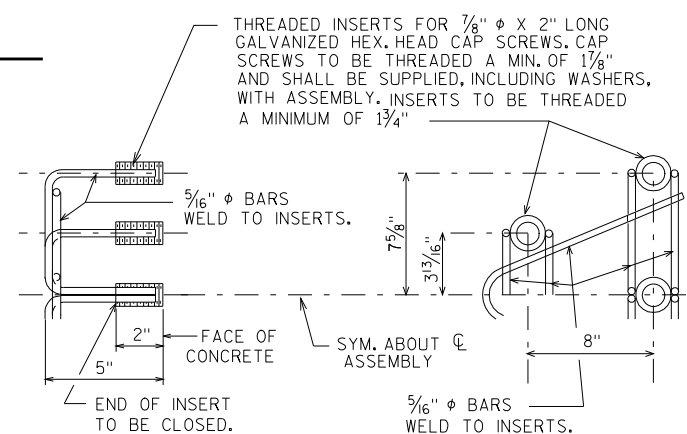
R503



R505

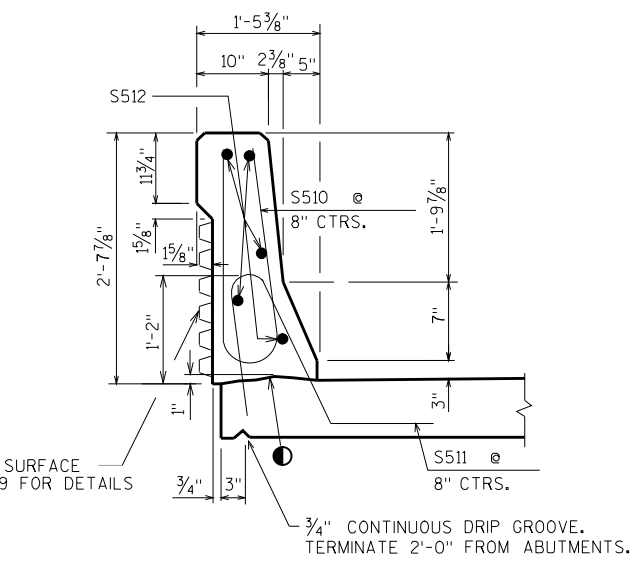


R506, R507, R508



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.



SECTION THRU PARAPET ON BRIDGE

Parapet type

- CONST. JOINT - STRIKE OFF AS SHOWN.
- R502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R502 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R503 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-28-136

DRAWN BY CRJ PLANS CK'D. WWR

SLOPED FACE PARAPET 'LF' (MODIFIED)

SHEET 16

NOTES

BID ITEM SHALL BE "RAILING TUBULAR SCREENING B-28-136" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

RAILS AND POSTS TO BE ASTM A500, GRADE B. BASE PLATES AND SHIMS TO BE ASTM A709, GRADE 36. ALL GALVANIZED AFTER FABRICATION.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

ALL POST SPA. ARE TAKEN HORIZ. ALONG CENTER LINE OF RAILING AT BASE OF POST. SHIMS SHALL BE USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

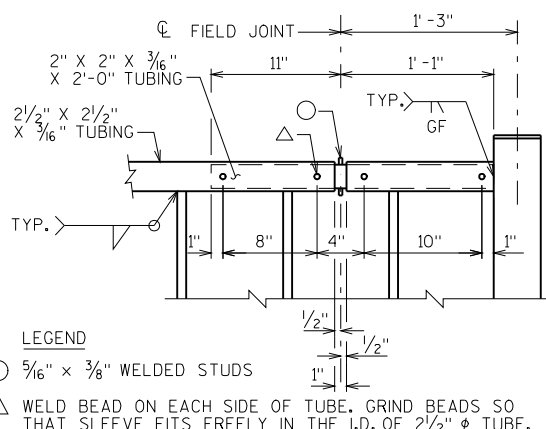
RAILING TO BE PAINTED AND FENCE FABRIC AND TIES TO BE VINYL COATED. FEDERAL COLOR NO. 27038.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE NOT MORE THAN 3 POSTS.

THE END OF THE FABRIC SHALL BE ATTACHED TO THE POST BY MEANS OF A TENSION BAR THREADED THROUGH THE END LOOPS OF THE FABRIC AND SECURED TO THE POST WITH CLAMPS & BOLT. THE FABRIC SHALL BE STRETCHED TO REMOVE ALL SLACK.

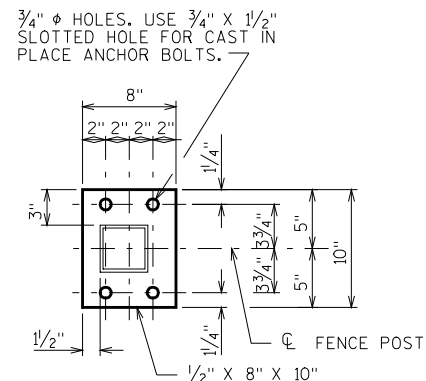
VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A #6 BLAST CLEANING BY SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH APPROVED TIE COAT AND TOPCOAT.

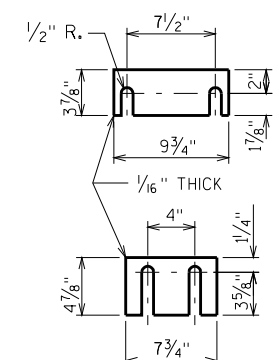


LEGEND
 ○ 5/16" x 3/8" WELDED STUDS
 △ WELD BEAD ON EACH SIDE OF TUBE. GRIND BEADS SO THAT SLEEVE FITS FREELY IN THE I.D. OF 2 1/2" φ TUBE.

RAILING EXPANSION JOINT DETAIL

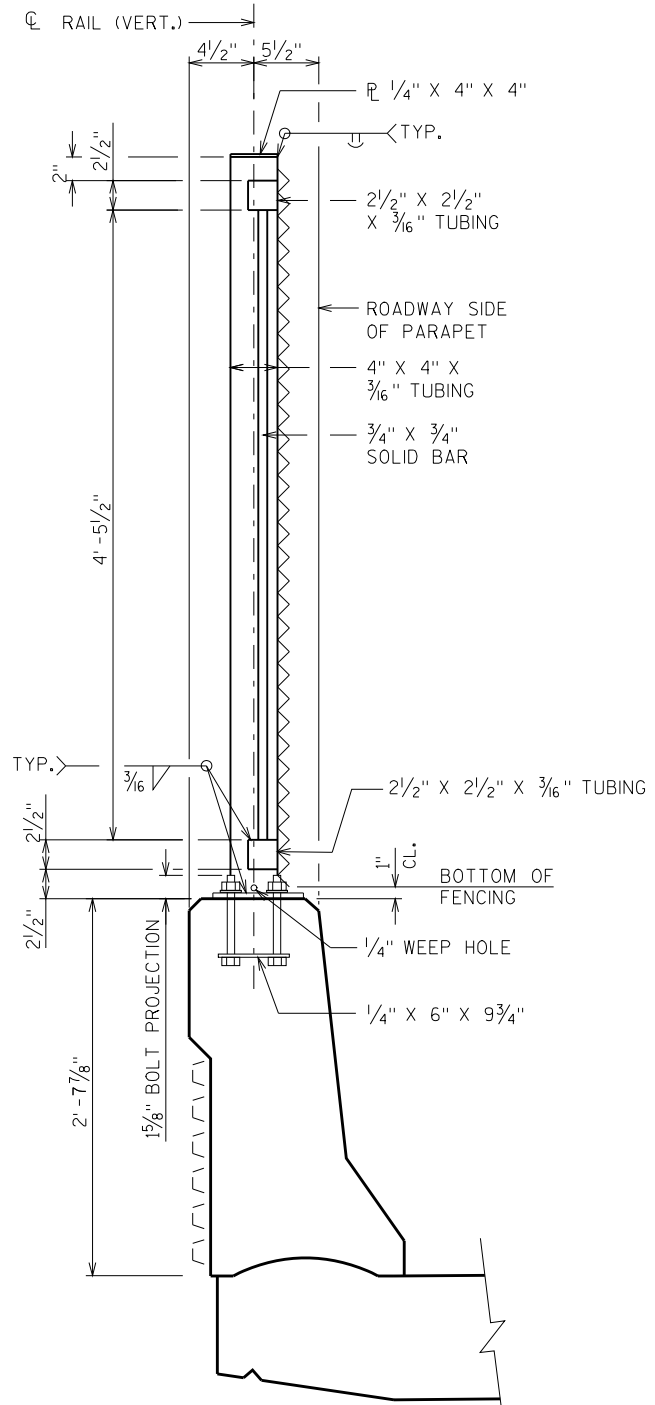


BASE PLATE

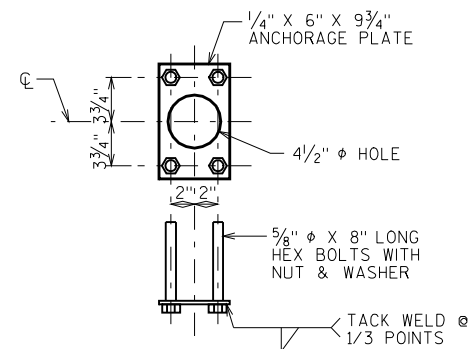


SHIM PLATE DETAILS

TWO SHIMS OF EACH SIZE REQUIRED PER POST

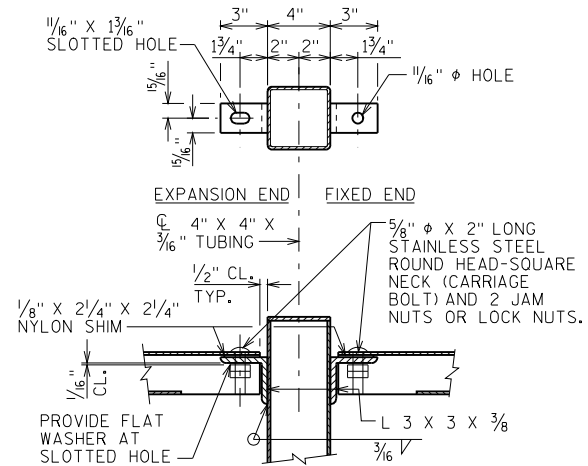


SECTION THRU RAILING

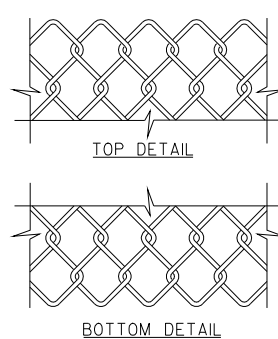


ANCHORAGE DETAIL

5/8" φ CONCRETE MASONRY ANCHOR, TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS MAY BE SUBSTITUTED FOR 5/8" CAST IN PLACE ANCHOR BOLTS. ANCHORAGE PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED.

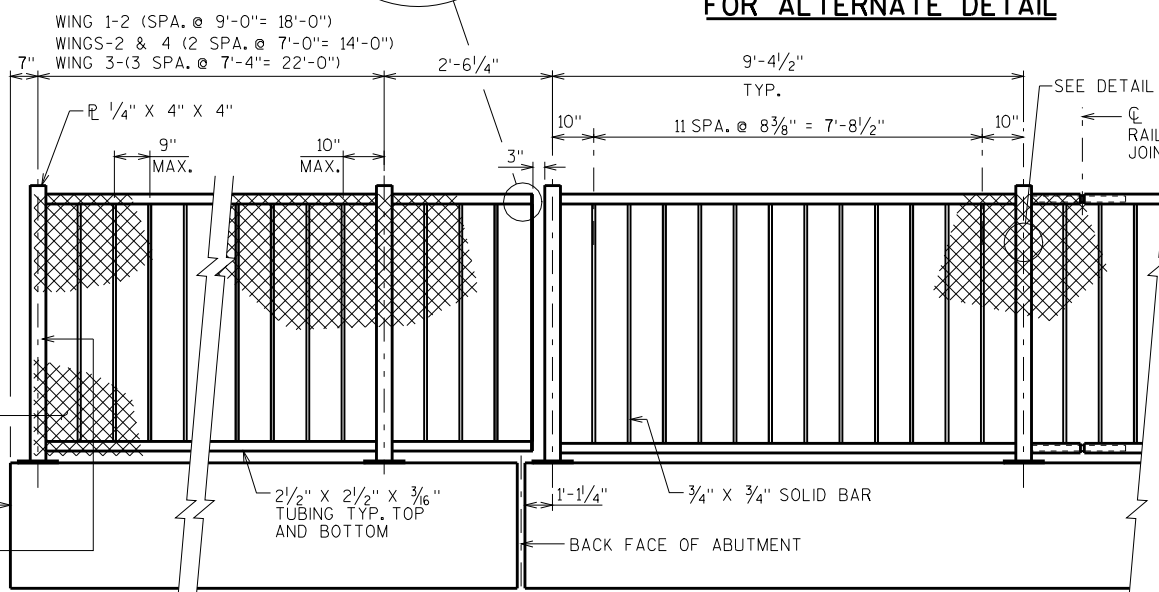


TOP RAIL CONNECTION FOR ALTERNATE DETAIL



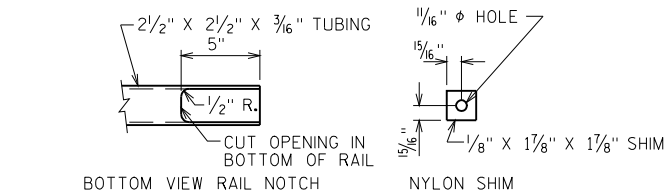
FENCE FABRIC

5'-0" VINYL COATED FENCE FABRIC WOVEN OF 9-GAUGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

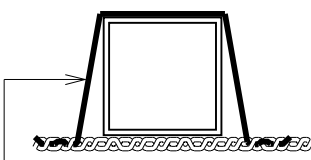


INSIDE ELEVATION OF RAILING

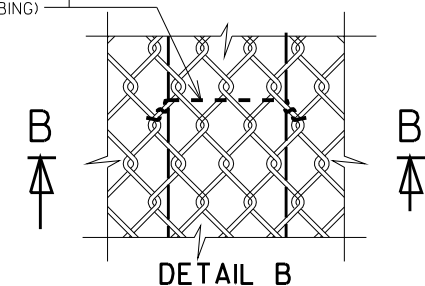
VIEW OF WINGS 2 & 4. WINGS 1 & 3 SIMILAR.



BOTTOM VIEW RAIL NOTCH



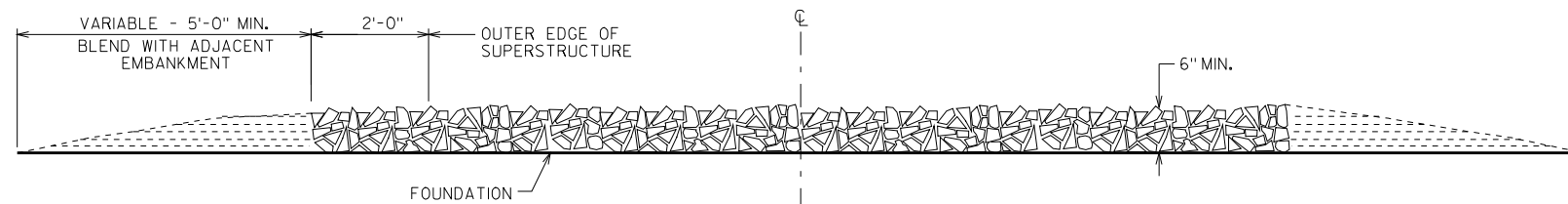
SECTION B-B



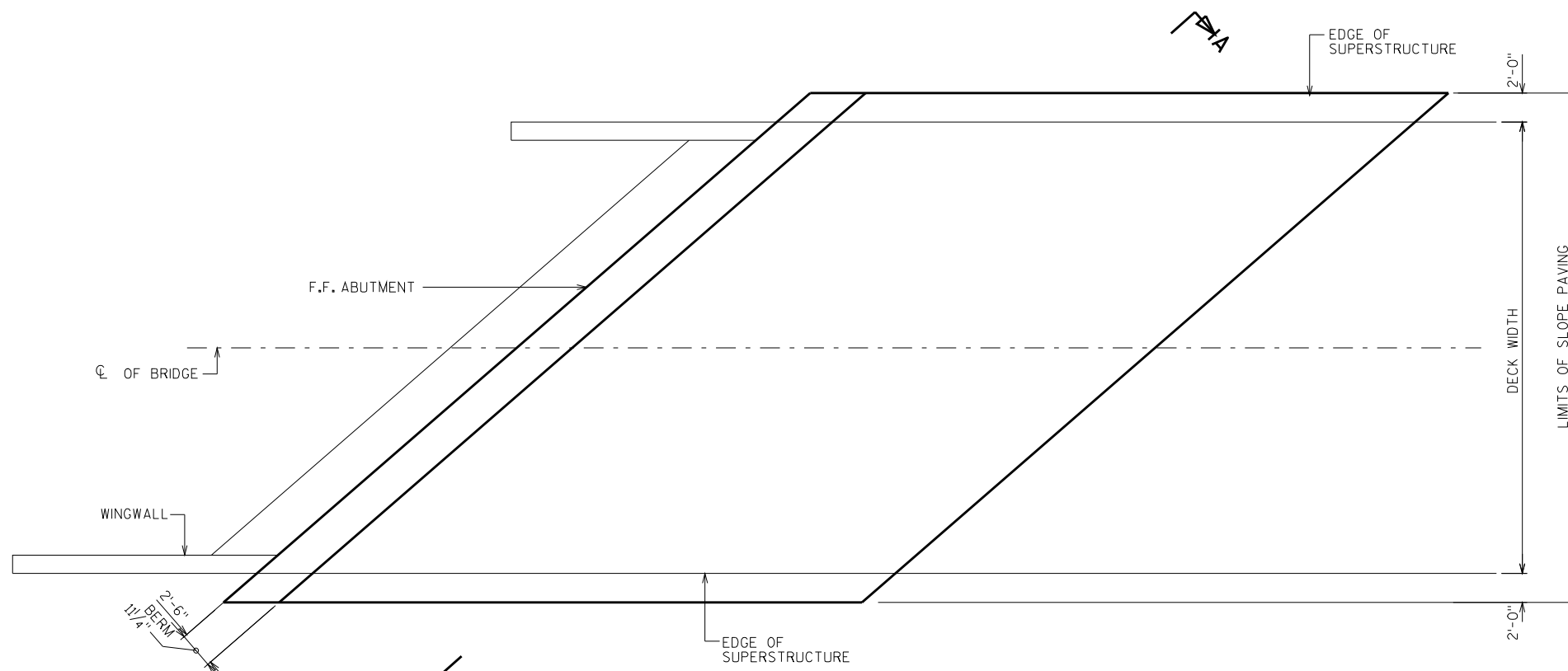
DETAIL B

FABRIC TIE @ 1'-0" MAX. SPA. (TYP. RAIL POSTS & HORIZ. TUBING)

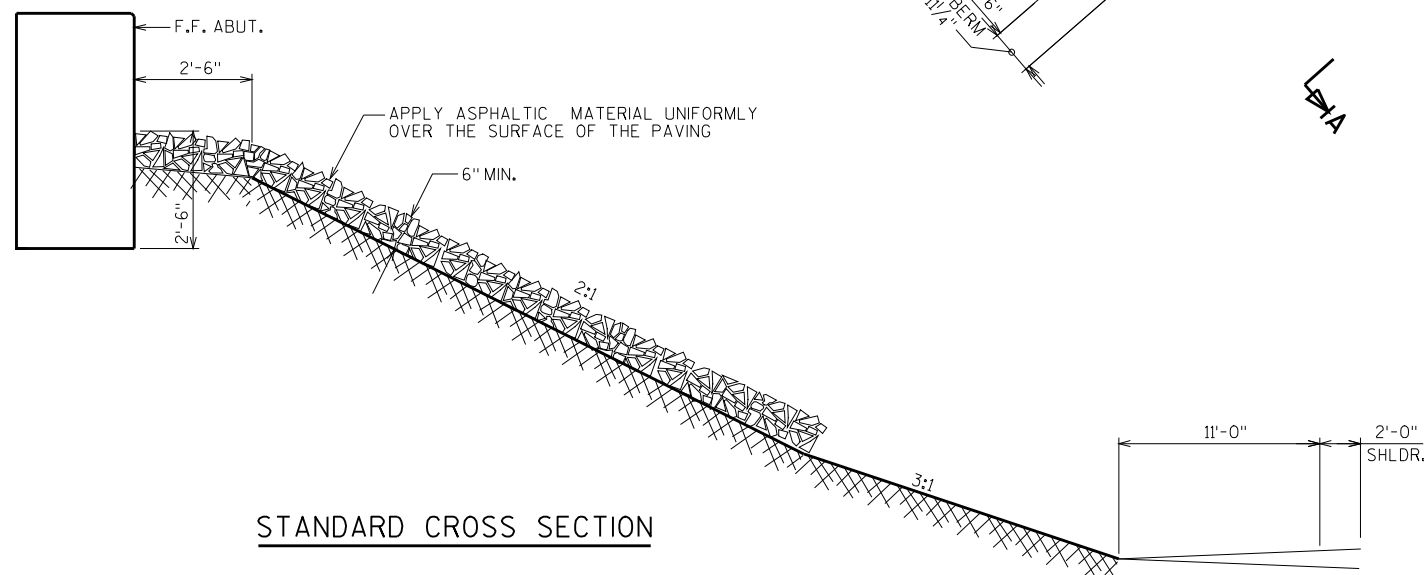
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
ORNAMENTAL PROTECTIVE SCREENING		SHEET 17	



SECTION A-A



PLAN



STANDARD CROSS SECTION

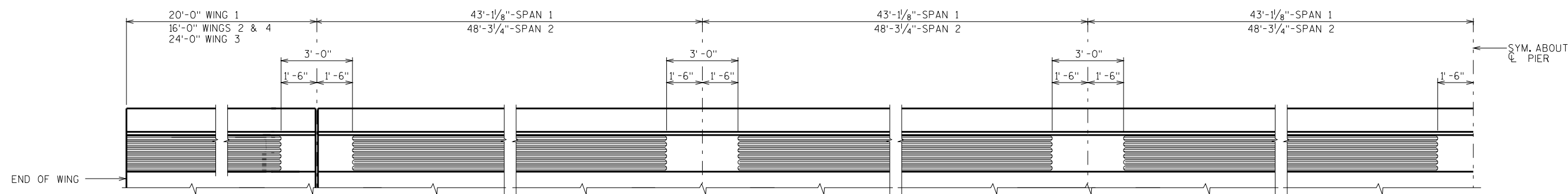
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

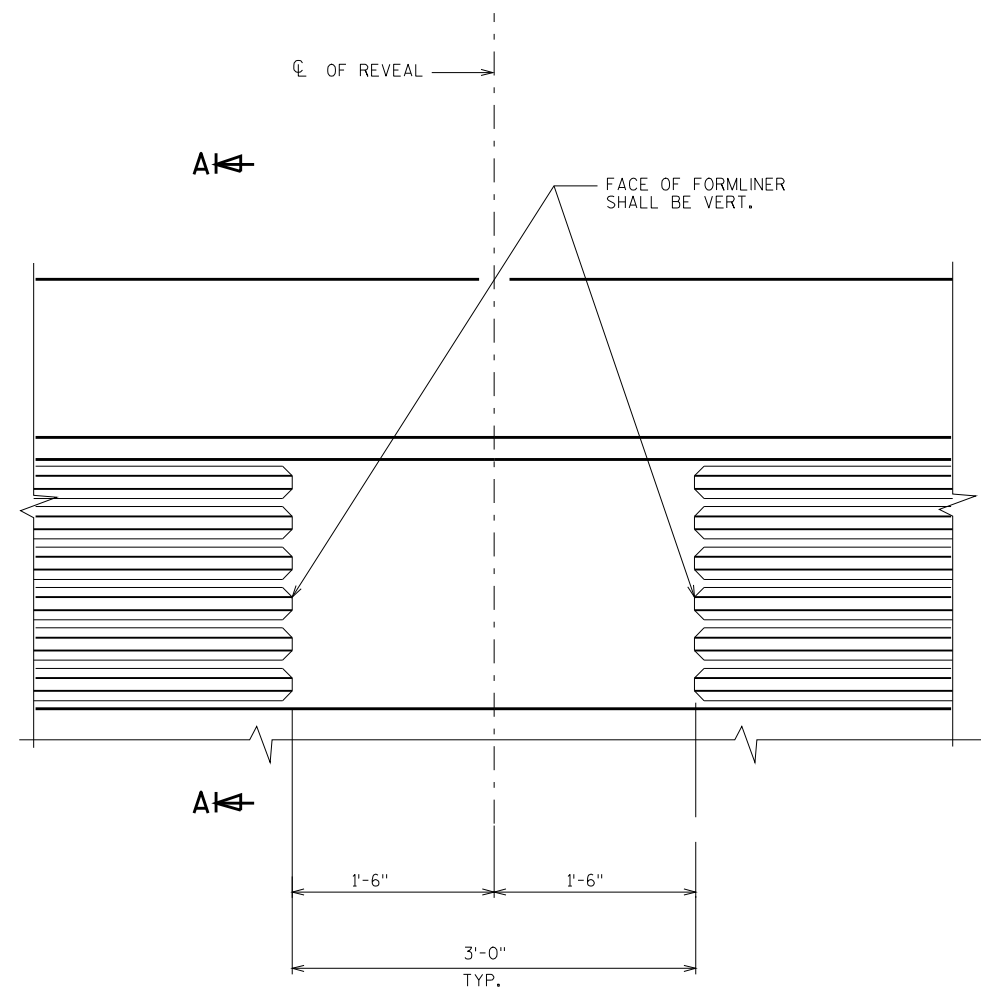
WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
SLOPE PAVING (CRUSHED AGGREGATE)			SHEET 18

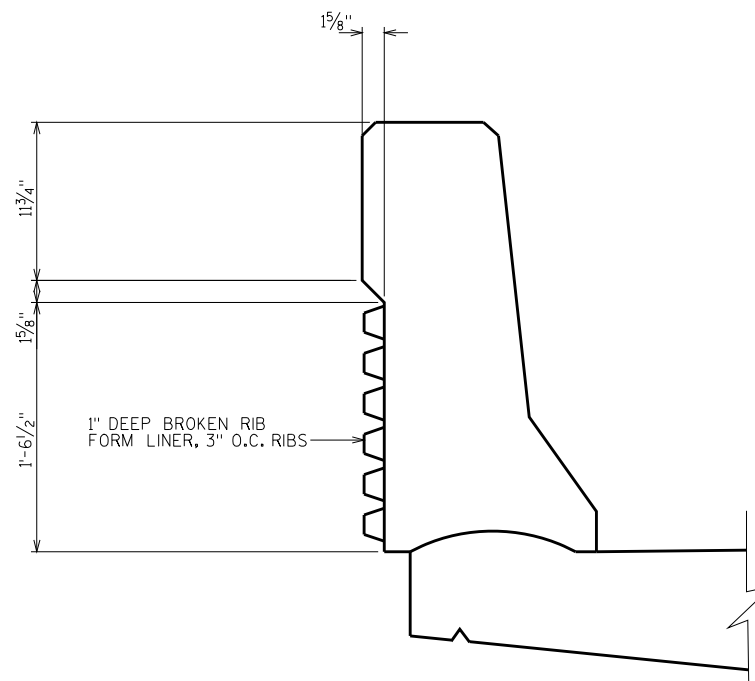
NOTE: MEASUREMENTS ARE TAKEN ALONG
OUTSIDE OF PARAPET.



PART ELEVATION
NORMAL TO ROADWAY



DETAIL OF REVEAL



SECTION A-A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-28-136			
DRAWN BY CRJ		PLANS CK'D. WWR	
ARCHITECTURAL			SHEET 19
SURFACE TREATMENT			