

DESIGN DATA

LIVE LOAD:

DESIGN RATING: HS-20
 INVENTORY RATING: HS-22
 OPERATIONAL RATING: HS-41
 MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 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.
 ALL SLAB STEEL SHALL BE EPOXY COATED.

36" PRESTRESSED GIRDERS, CONCRETE MASONRY — $f'_c = 6,000$ P.S.I.
 STRANDS — $1/2"$ ϕ 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 55 TONS PER PILE MIN. BRG.
 EST. LENGTH = 20'-0".

HYDRAULIC DATA

100 YEAR FREQUENCY

$Q_{100} = 1,800$ C.F.S.
 VEL. = 5.6 F.P.S.
 HW. = EL. 948.5
 WATERWAY AREA = 319 SQ. FT.
 DRAINAGE AREA = 28.4 SQ. MI.
 ROAD OVERTOPPING = NA
 SCOUR CRITICAL CODE = 8

TRAFFIC VOLUME

S.T.H. 33
 A.D.T. = 9,000 (2014)
 R.D.S. = 40 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUT. DETAILS
6. EAST ABUTMENT
7. EAST ABUT. DETAILS
8. 36" PRESTRESSED GIRDER DETAILS
9. STEEL DIAPHRAGM
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE DETAILS
12. MODIFIED TUBULAR RAILING - TYPE 'F'

BRIDGE OFFICE CONTACT - R.L. REESE (608)266-8488
 KENT BAHLER (608)266-8490

BENCH MARK

NUMBER	STATION	DESCRIPTION	ELEVATION
130		TOP OF CONC. RAILING S.W. CORNER	951.70

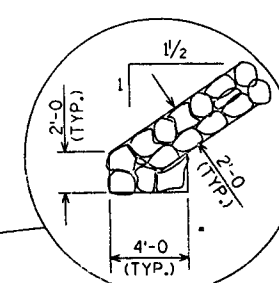
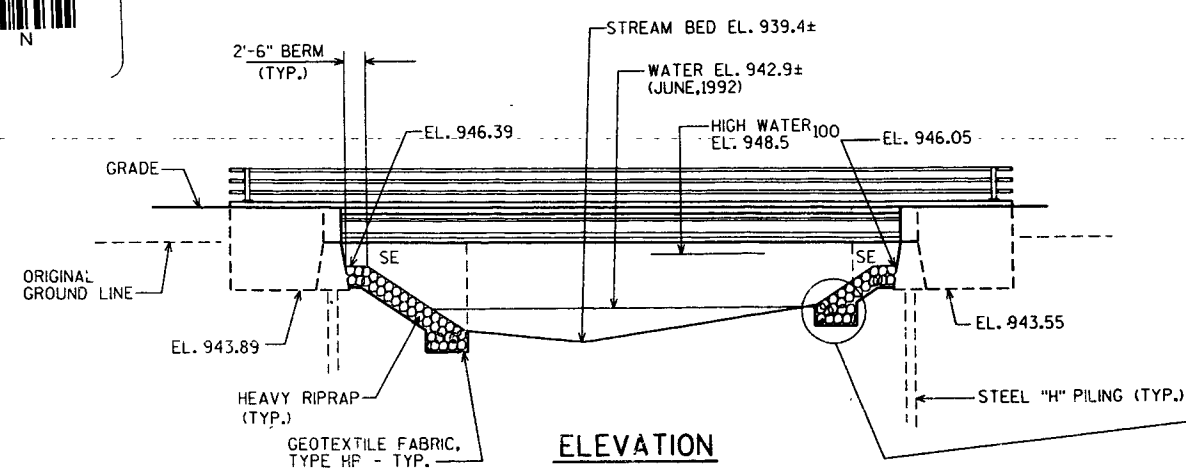
PLAN B-66-106

SINGLE SPAN-36" PRESTRESSED GIRDERS

EXISTING STRUCTURE (B-66-952) A SINGLE SPAN R.C.D.G.
 ON CONCRETE FULL RETAINING ABUTMENTS TO BE REMOVED

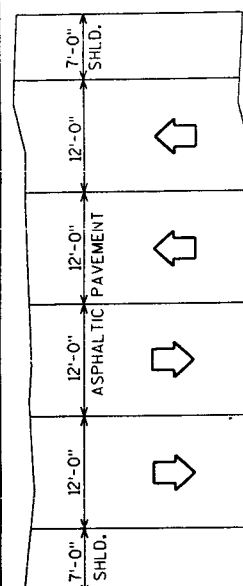
ELEVATION

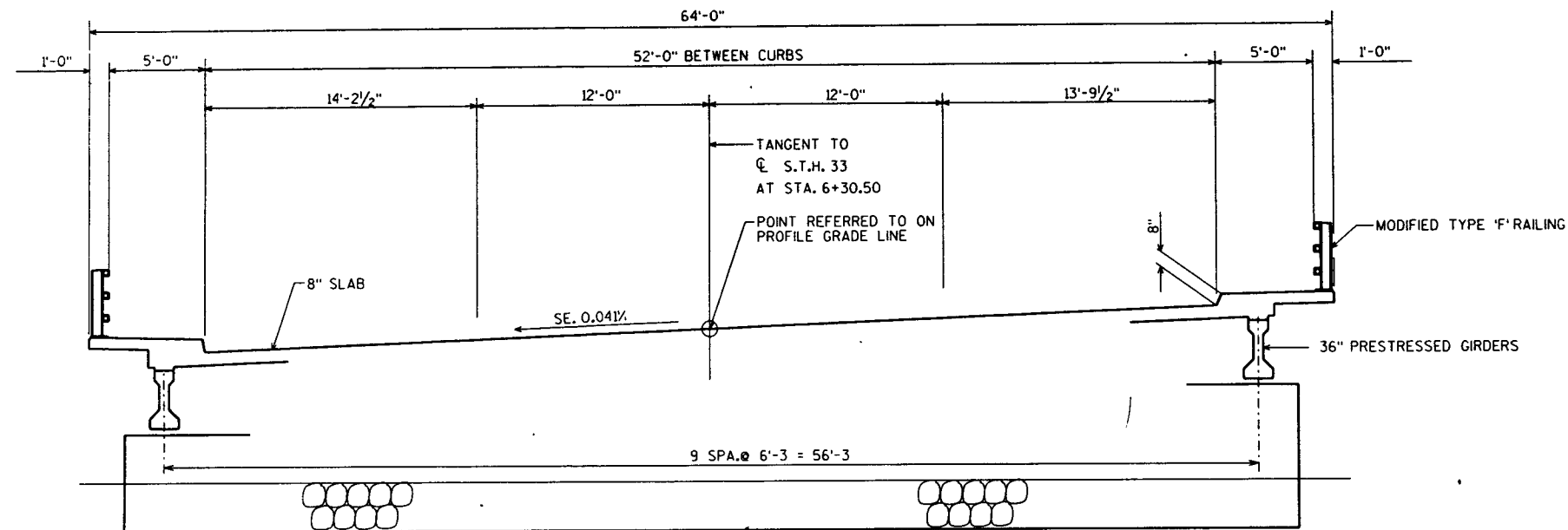
NORMAL TO ROCK RIVER



* PROVIDE FOR THREE BEAM
 GUARD RAIL ATTACHMENT

○ INDICATES WING NUMBER

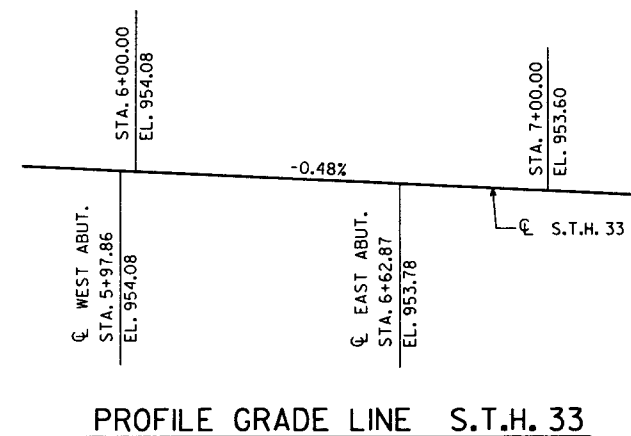




CROSS SECTION THRU ROADWAY LOOKING EAST

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH & TRUE.
THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP & GEOTEXTILE FABRIC TO THE EXTENT SHOWN ON SHT. 1 & IN THE ABUTMENT DETAILS.
PROTECTIVE SURFACE TREATMENT COVERAGE SHALL BE 150 SQ. FT. PER GAL. OR PER MANUF. RECOMMENDATIONS.



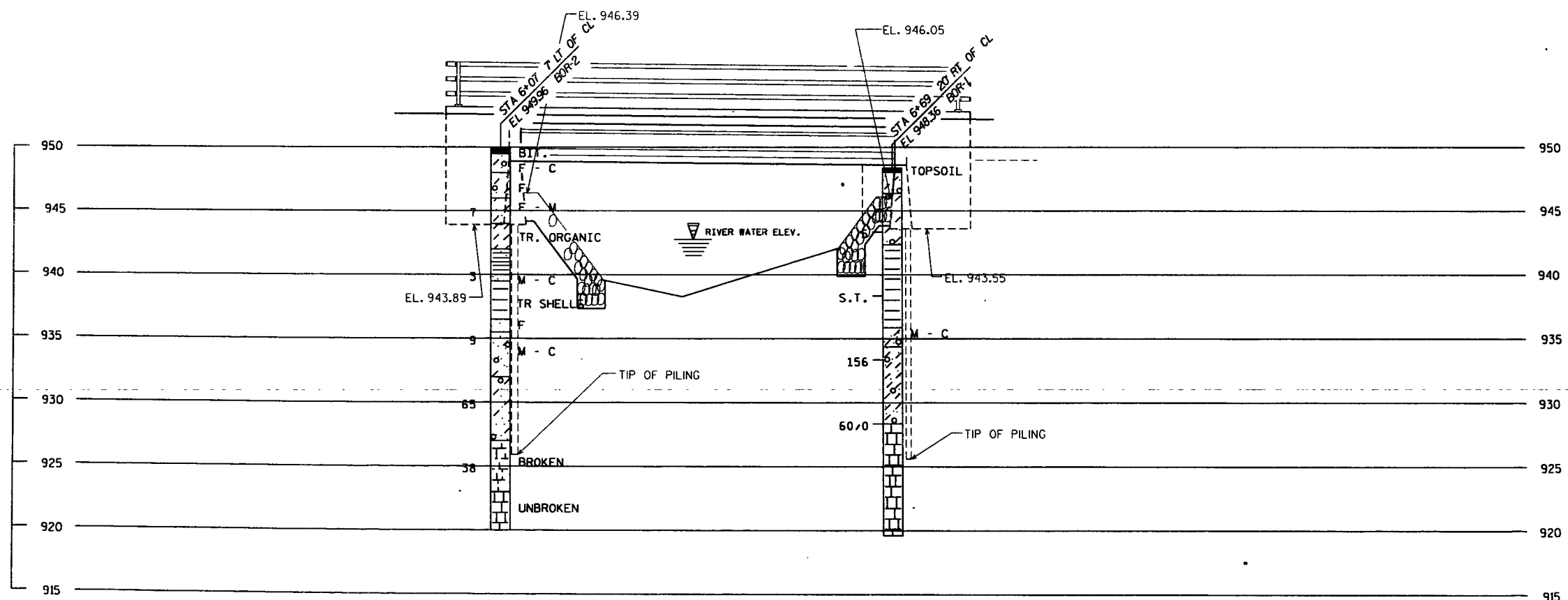
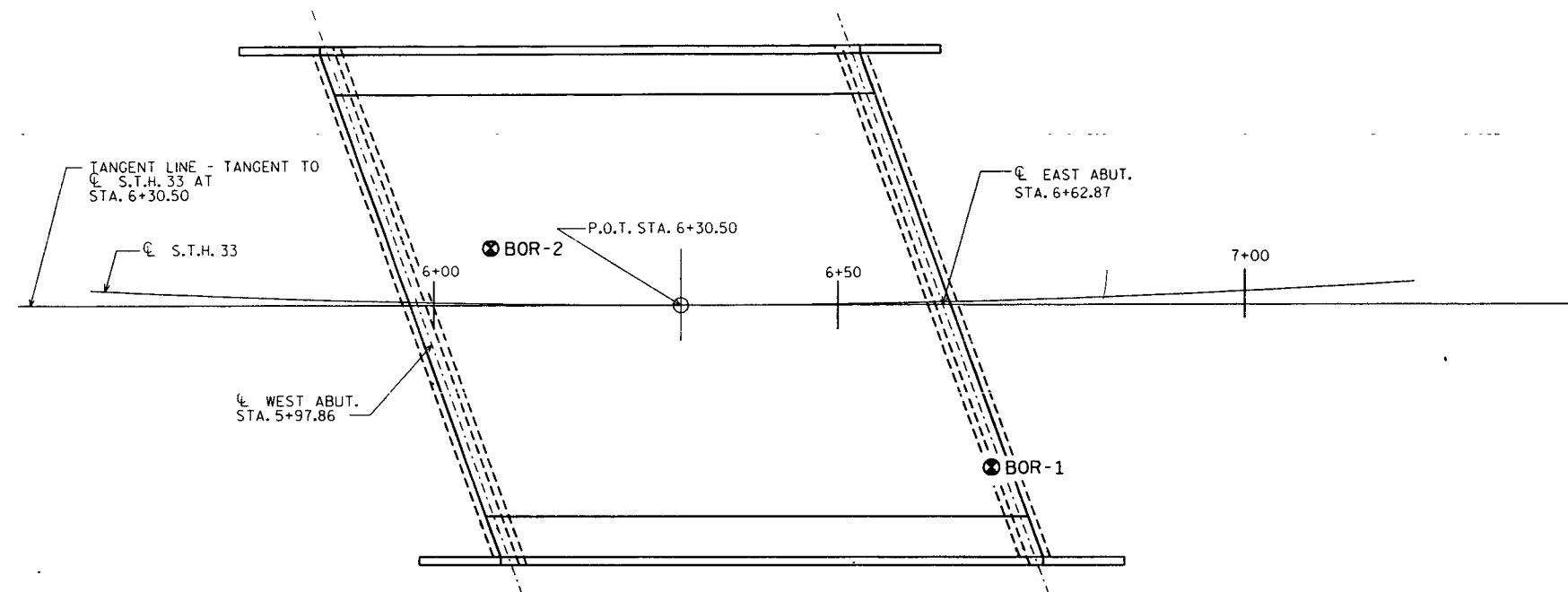
PROFILE GRADE LINE S.T.H. 33

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	TOTALS
REMOVING OLD BRIDGE, STA. 6+34.5	L.S.	---	---	---	1
EXCAVATION FOR STRUCTURES, BRIDGES, B-66-106	L.S.	---	---	---	1
CONCRETE MASONRY, BRIDGES	C.Y.	169	64	65	298
PROTECTIVE SURFACE TREATMENT	GAL.	30	---	---	30
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	---	4,780	4,770	9,550
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	23,740	---	---	23,740
PRESTRESSED GIRDER, I TYPE, 36-INCH	L.F.	660	---	---	660
STEEL DIAPHRAGM	EACH	9	---	---	9
NON-LAMINATED ELASTOMERIC BEARING PADS	EACH	20	---	---	20
GEOTEXTILE FABRIC, TYPE HR	S.Y.	---	285	184	469
MODIFIED TYPE 'F' RAILING, B-66-106	L.S.	---	---	---	1
HEAVY RIPRAP	C.Y.	---	190	125	315
STEEL PILING, DELIVERED AND DRIVEN, HP 10-INCH 42 POUND	L.F.	---	220	220	440
NON-BID ITEMS.					
POLYVINYL CHLORIDE WATERSTOP	L.F.	---	82	82	164
FILLER	SIZE	---	---	---	1/2" & 3/4"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-66-106			
CONST. SPEC.	1989	DRAWN BY B.W.	PLANS CKD. R.J.G.
CROSS SECTION & QUANTITIES			SHEET 2

STH 33 OVER ROCK RIVER, EAST BRANCH



STATE PROJECT NUMBER
1410-02-70

SHEET NO.
8.2

ABBREVIATIONS
F—Fine M—Medium C—Coarse
Ws—Weathered So—Sound

MATERIAL SYMBOLS
Topsoil Silt Sandstone
Sand Peat Limestone
Gravel Clay Igneous Rock

LEGEND OF PROBING
Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6
95/6=95 Blows for 6' Penetration
Probing taken with a 350# wt. Falling 18" on a 2" O.D. Point.

LEGEND OF BORING
Elev. Boring No. Sta.
Unconfined Strength → 7.7
Blows Per Ft. Using 140# Wt. Falling 30"
Wash Sample
Sandy Gravel
Boulders or Cobbles
Sand
Silty Clay
So
Limestone
Shelby Tube—S.T.
Ground Water Elevation
No Ground Water Observed Above This Elevation

Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 0.041.4" 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.

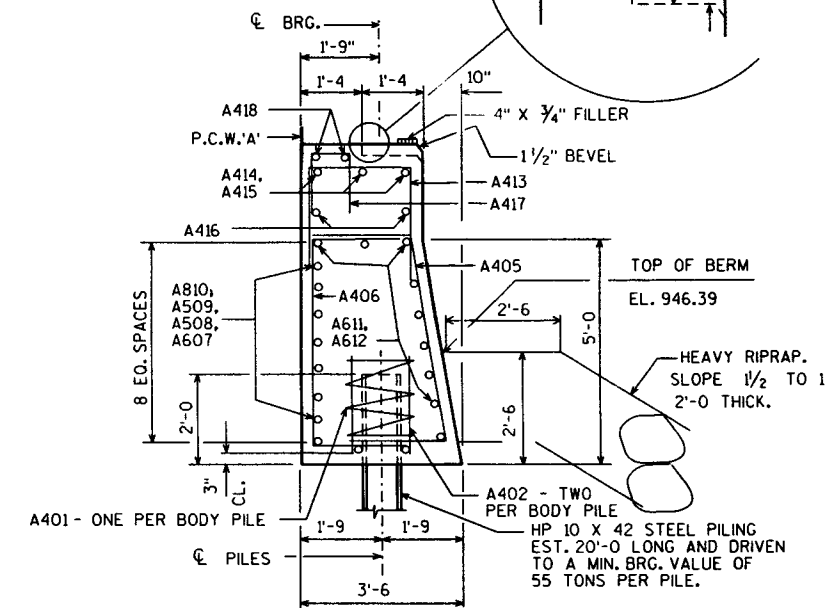
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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 Division of Highways 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.

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-66-106			
CONST. SPEC.	1986	DRAWN BY B. W.	PLANS CK'D. R. J. C.
SUBSURFACE EXPLORATION		SHEET 3	

BR B66106:106SOIL.DGN

STEEL TROWEL TOP SURFACE OF ABUTMENT
PLACE MULTIPLE LAYERS OF POLYETHYLENE
SHEETING OVER ENTIRE ABUTMENT BEFORE
PLACING BEARING PADS.
(TOTAL THICKNESS TO BE .03" MIN)



SECTION THRU BODY

HORIZ. BARS NOT OTHERWISE
IDENTIFIED ARE A603 & A604 BARS.

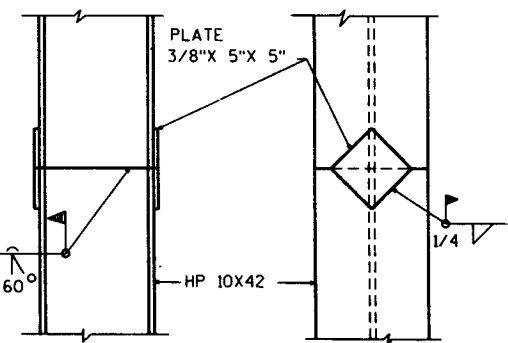
NOTE: FILL TO BOTT.
OF ABUT. BEFORE
DRIVING PILING.

P.C.W. - TO EXTEND BTWN. INSIDE
FACES OF WINGS FLUSH WITH
FACE OF CONC.

MAKE FLAP HORIZ.
IN THIS AREA
TOP OF FILLET

SECTION A

GRIND FLANGES
FLUSH AT PLATES



PILE SPLICE DETAIL

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-66-106			
CONST. SPEC.	1989	DRAWN BY	B.W.
WEST ABUTMENT		PLANS CK'D.	12/4
		SHEET	4

NOTE: 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], AT GUTTER LINE, EXTEND
SEALER 3" BELOW GUTTER LINE ELEVATION.

ELEVATION (LOOKING WEST)

ABUTMENT PLAN

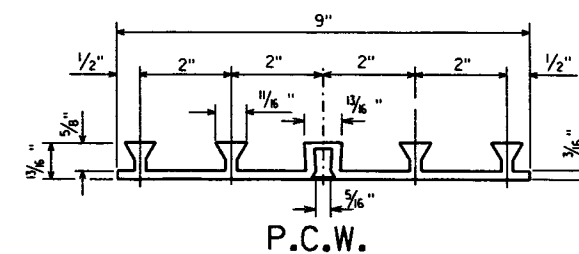
☆ VERT. CONST. JT. - FORMED
BY SURF., BEVELED 2" X 8"
KEYWAY.

POLYVINYL CHLORIDE
WATERSTOP TO EXTEND
FROM BRG. SEAT TO TOP
OF WING.

1/2" FILLER - FROM BRG. SEAT
TO TOP OF WING, INCLUDED
IN WING LENGTH.

P.C.W. - TO EXTEND BTWN. LOWER WING
POURS. FLUSH WITH FACE OF CONC.

DETAIL B



P.C.W. SHALL BE BUTT SPLICED AT ALL INTERSECTIONS BY USING A
HEATED SPLICING IRON. HOLD P.C.W. FLUSH WITH CONCRETE. SEAL ALL VERT. ENDS
OF P.C.W. WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. P.C.W. SHALL BE
FASTENED TO THE FORMS BY NAILING OUTSIDE OF THE OUTSIDE TAB.

FOOTING PLAN

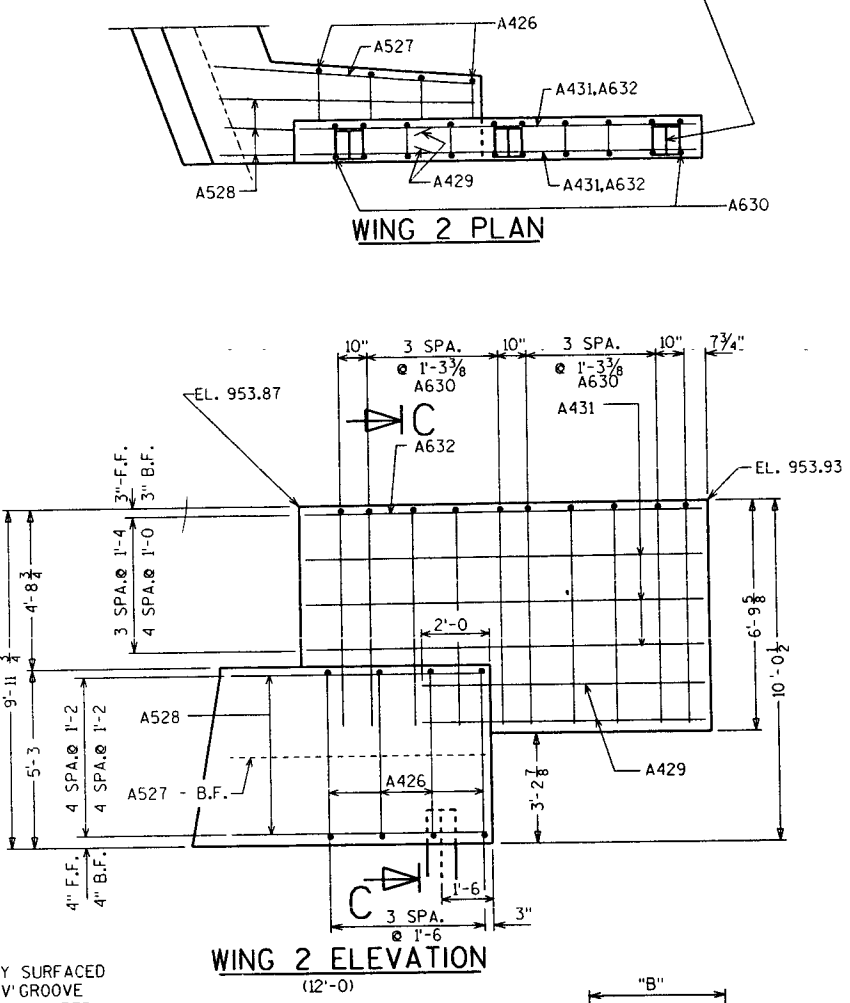
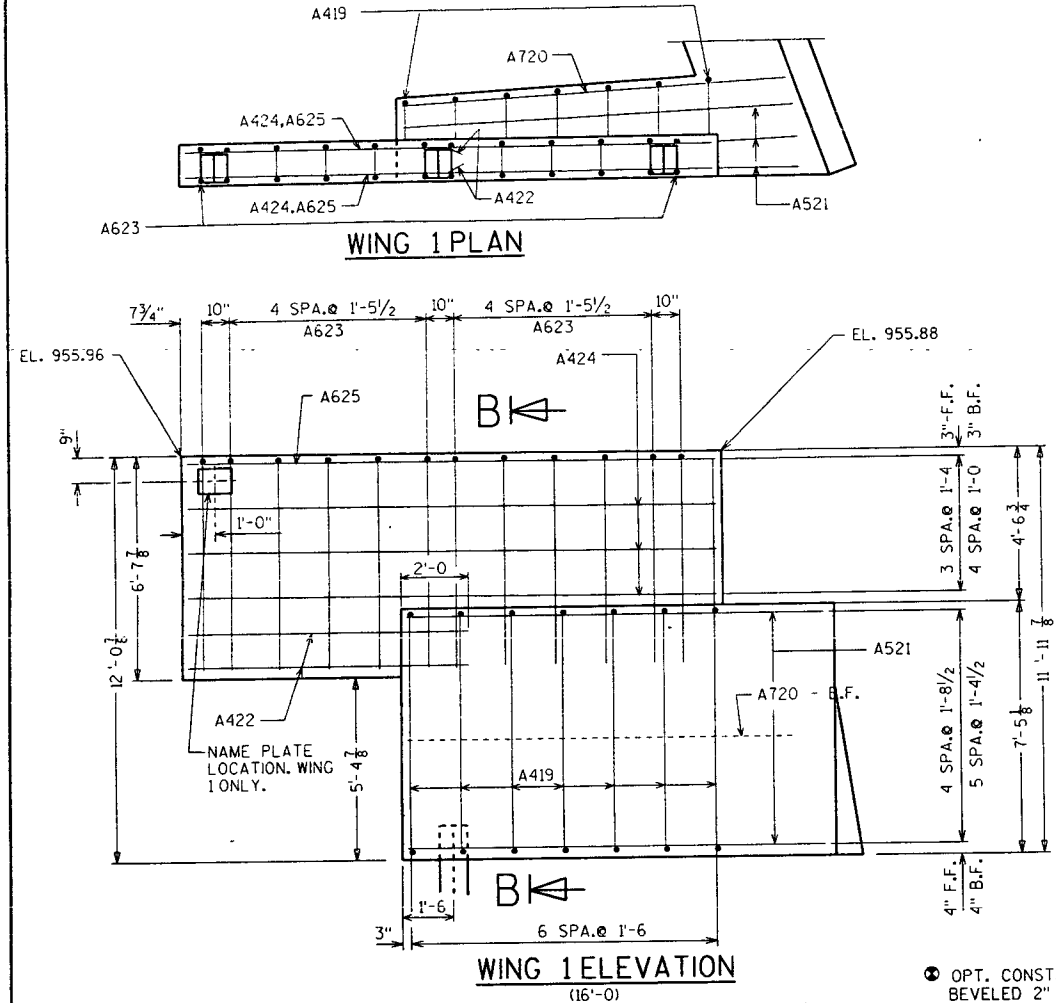
BRB66106:106WA.DGN

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

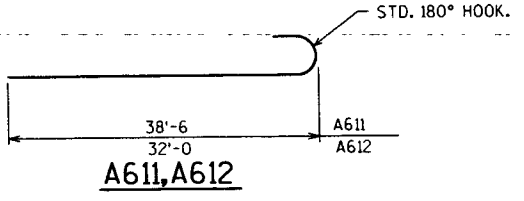
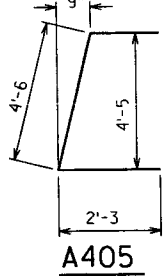
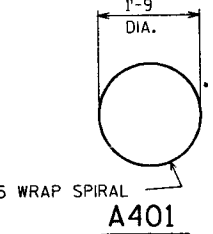
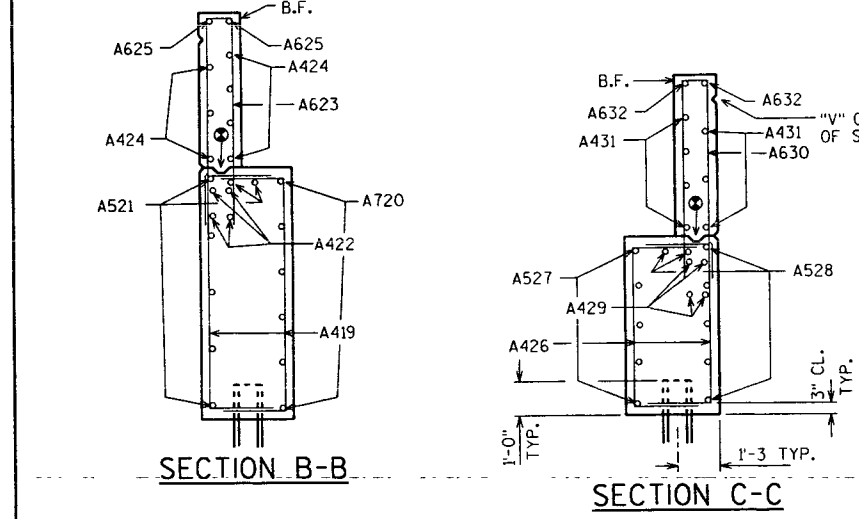
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	CUT. DIAG.	BUNDLE	LOCATION
A401		9	28'-0"	X			ABUT. BODY - PILES
A402		18	2'-3"				ABUT. BODY - PILES
A603		4	38'-6"				ABUT. BODY - HORIZ.
A604		4	32'-0"				ABUT. BODY - HORIZ.
A405		76	8'-3"	X			ABUT. BODY - VERT.
A406		76	8'-6"	X			ABUT. BODY - VERT.
A607		7	12'-0"				ABUT. BODY - HORIZ.
A508		7	28'-3"				ABUT. BODY - HORIZ.
A509		7	18'-5"				ABUT. BODY - HORIZ.
A810		7	16'-0"				ABUT. BODY - HORIZ.
A611		8	39'-2"	X			ABUT. BODY - HORIZ.
A612		8	32'-8"	X			ABUT. BODY - HORIZ.
A413		37	8'-11"	X			ABUT. BODY - VERT.
A414		3	23'-2"				ABUT. BODY - HORIZ.
A415		3	32'-0"				ABUT. BODY - HORIZ.
A416		2	32'-0"				ABUT. BODY - HORIZ.
A417		36	3'-4"	X			ABUT. BODY - VERT.
A418		18	6'-6"				ABUT. BODY - HORIZ.
A419		14	10'-10"	X			WING 1 - VERT.
A720		6	11'-3"				WING 1 - HORIZ.
A521		7	11'-6"				WING 1 - HORIZ.
A422		4	8'-4"				WING 1 - HORIZ.
A623		12	13'-0"	X			WING 1 - VERT.
A424		7	15'-8"				WING 1 - HORIZ.
A625		2	15'-8"				WING 1 - HORIZ.
A426		8	8'-8"	X			WING 2 - VERT.
A527		5	7'-8"				WING 2 - HORIZ.
A528		7	7'-6"				WING 2 - HORIZ.
A429		4	8'-4"				WING 2 - HORIZ.
A630		10	13'-3"	X			WING 2 - VERT.
A431		7	11'-8"				WING 2 - HORIZ.
A632		2	11'-8"				WING 2 - HORIZ.

MARK	"A"	"B"
A406	2'-1"	4'-5"
A413	3'-5"	2'-3"
A417	1'-3"	1'-0"
A419	2'-0"	7'-0"
A623	6'-3"	11"
A426	2'-0"	4'-10"
A630	6'-4"	11"



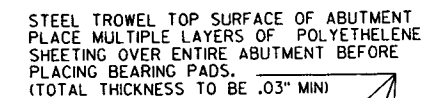
OPT. CONST. JOINT - FORMED BY SURFACED BEVELED 2" X 6" KEYWAY. 3/4" 'V' GROOVE AT FRONT FACE. 'V' GROOVE NOT REQUIRED IF JOINT IS NOT USED.



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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-66-106			
CONST. SPEC.	1989	DRAWN BY B.W.	PLANS CK'D. R.J.G.
WEST ABUT. DETAILS			SHEET 5

BR B66106:106WA.DGN

8.5

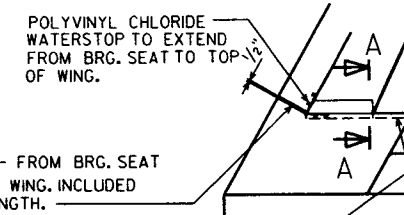


ELEVATION
(LOOKING EAST)



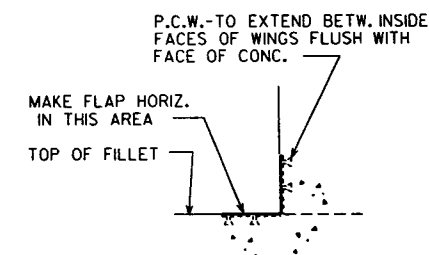
HORIZ. BARS NOT OTHERWISE
IDENTIFIED ARE B603 & B604 BARS.

NOTE: FILL TO BOTT. OF
ABUT. BEFORE
DRIVING PILING.

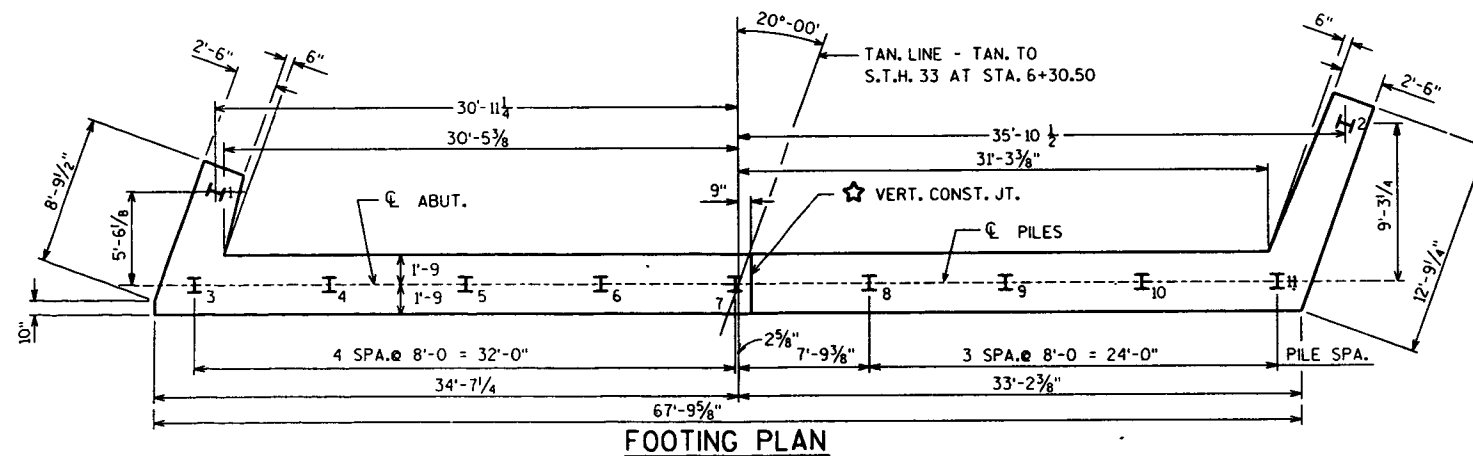


1/2" FILLER - FROM BRG. SEAT
TO TOP OF WING. INCLUDED
IN WING LENGTH. _____

P.C.W. - TO EXTEND BTWN. LOWER WING
POURS. FLUSH WITH FACE OF CONC.



SECTION A

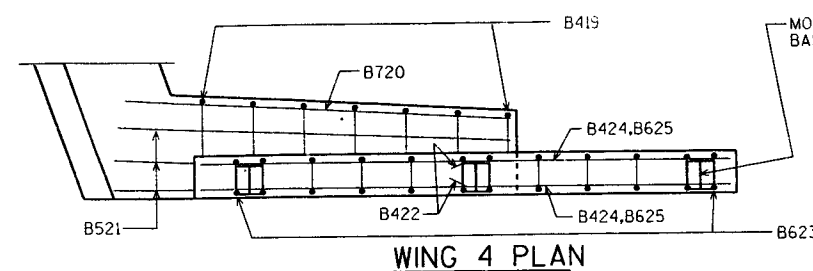
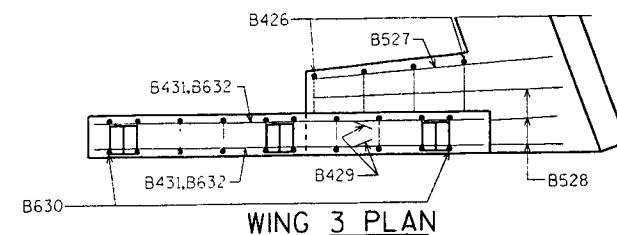


DETAIL B

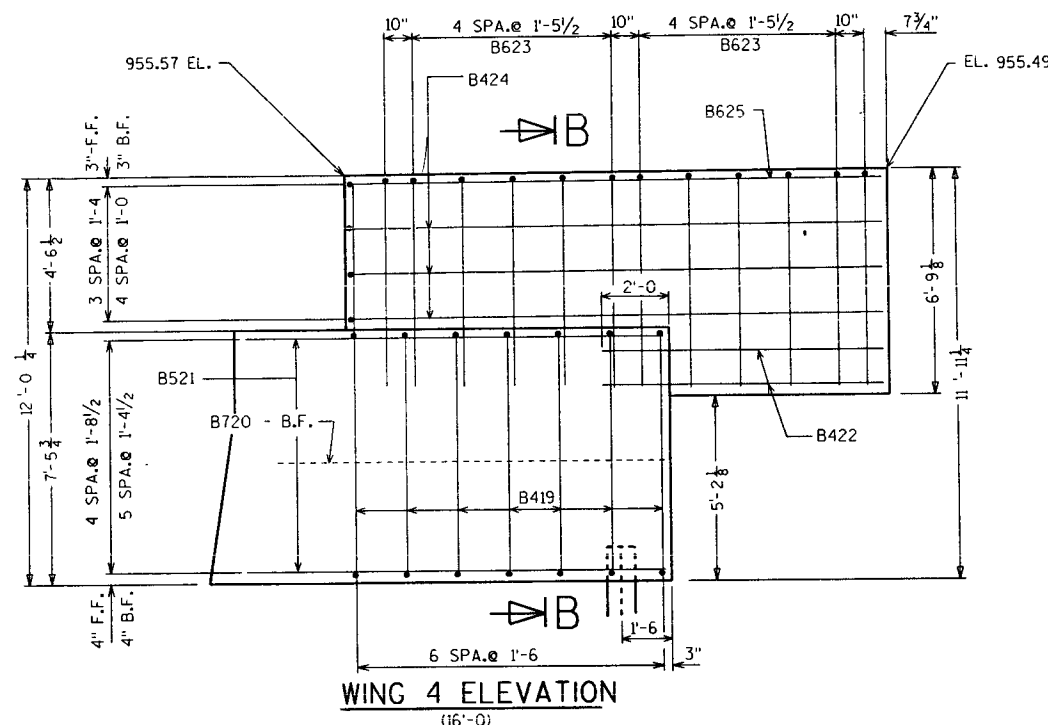
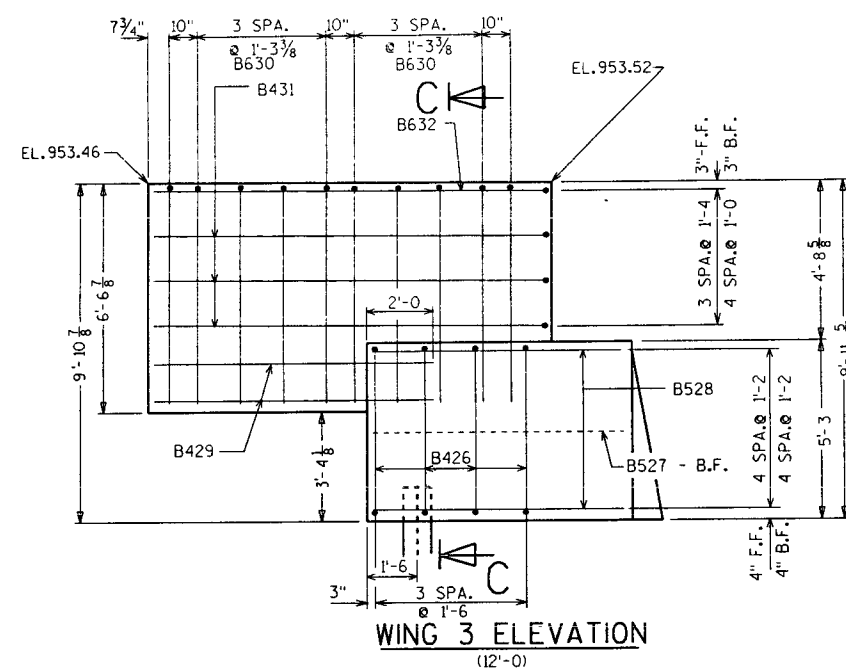
NOTE: FOR "PILE SPLICE DETAIL" AND "PC.W."
DETAILS SEE SHT. 4.

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STRUCTURE B-66-106			
CONST. SPEC.	1989	DRAWN BY B.W.	PLANS CK'D. <i>RH</i>
EAST ABUTMENT			SHEET 6

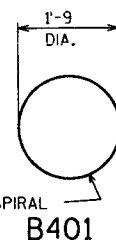
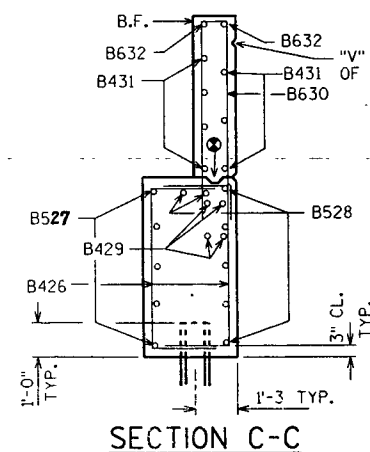
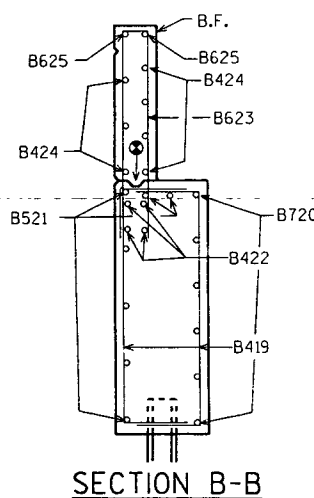
8.6



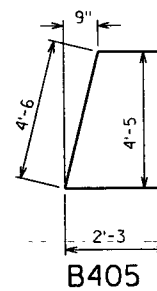
WING 4 PLAN



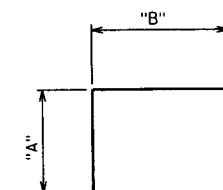
① OPT. CONST. JOINT - FORMED BY SURFACED BEVELED 2" X 6" KEYWAY. $\frac{3}{4}$ " 'V' GROOVE AT FRONT FACE. 'V' GROOVE NOT REQUIRED IF JOINT IS NOT USED.



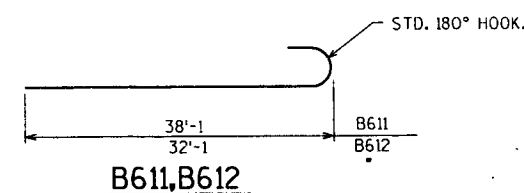
B401



B405



MARK	"A"	"B"
B406	2'-1	4'-5
B413	3'-5	2'-3
B417	1'-3	1'-0
B419	2'-0	7'-0
B623	6'-3	11"
B426	2'-0	4'-10
B630	6'-1	11"



BILL OF BARS

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

[illegible]

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STRUCTURE B-66-106			
CONST. SPEC.	1989	DRAWN BY	B.W. PLANS CKD. R.J.G.
EAST ABUT. DETAILS			SHEET 7

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGM".

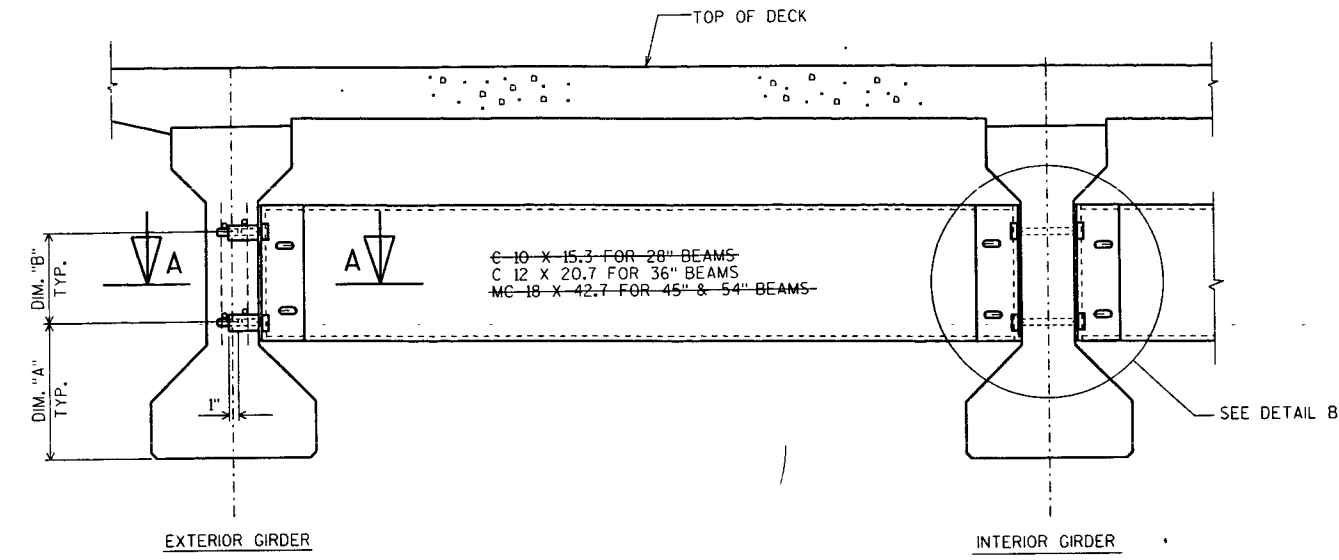
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

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

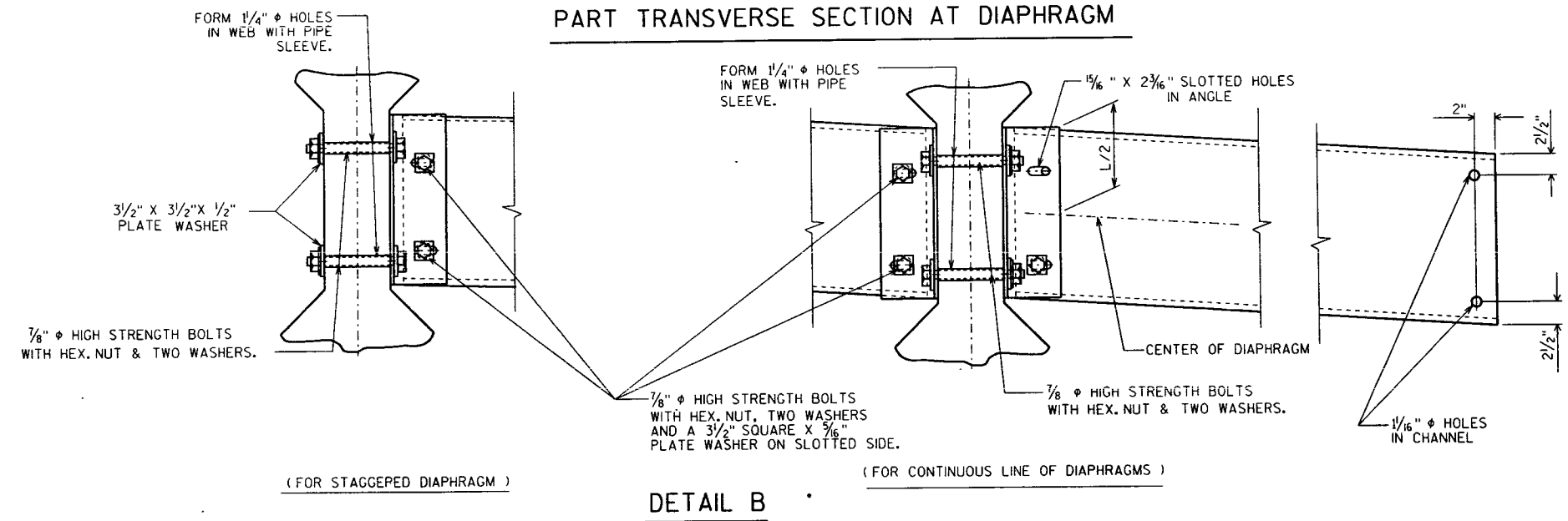
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY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

TABLE

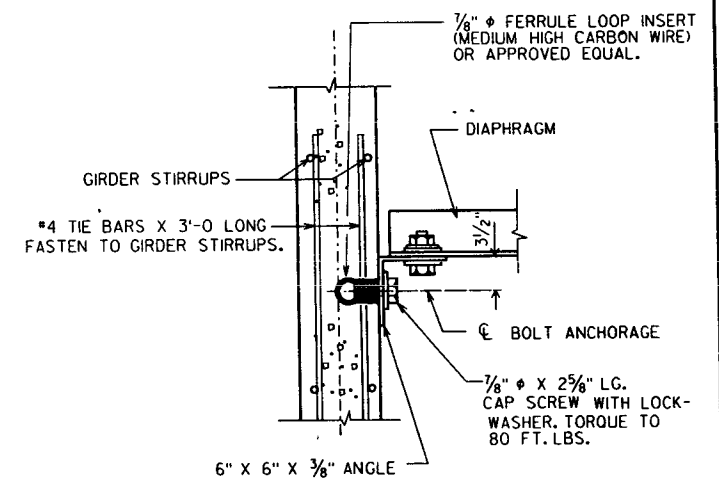
GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	DIM. "X"
28"	1'-0"	7"	10"	2 1/2"
36"	1'-2"	11"	1'-2"	3 1/2"
45"	1'-4 1/2"	1'-3"	1'-6"	2 1/2"
54"	1'-7"	1'-7"	1'-10"	4 1/2"



PART TRANSVERSE SECTION AT DIAPHRAGM

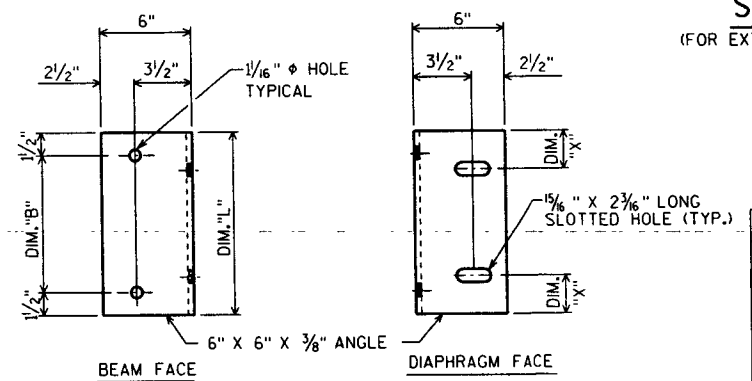


DETAIL B



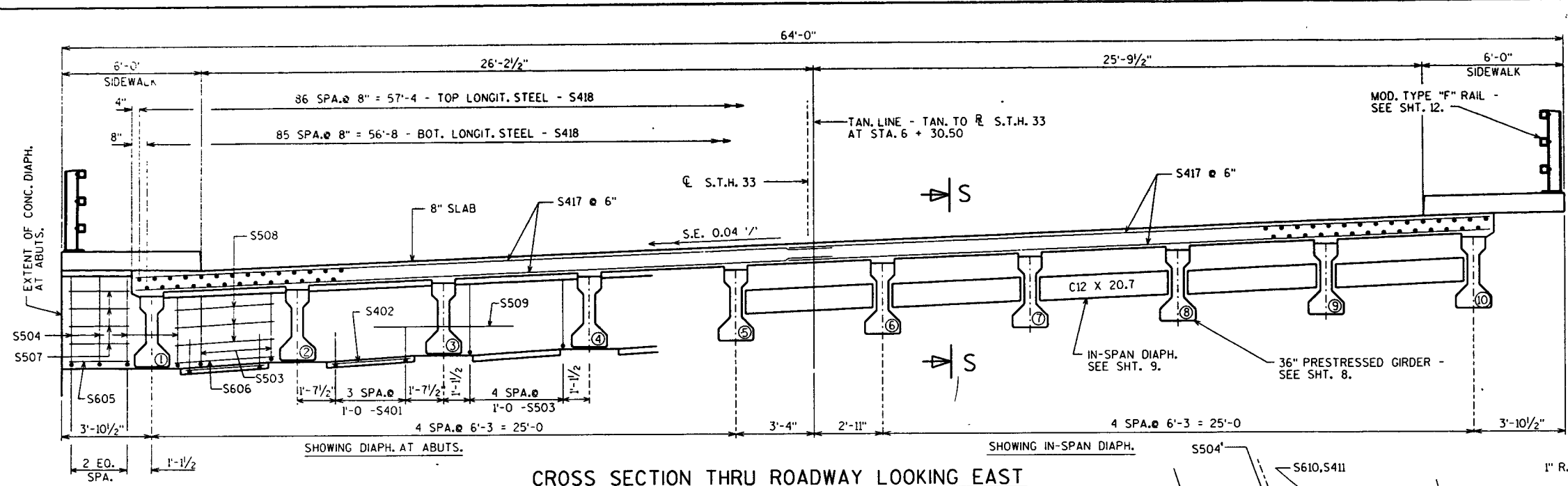
SECT. A-A

(FOR EXTERIOR ATTACHMENT)

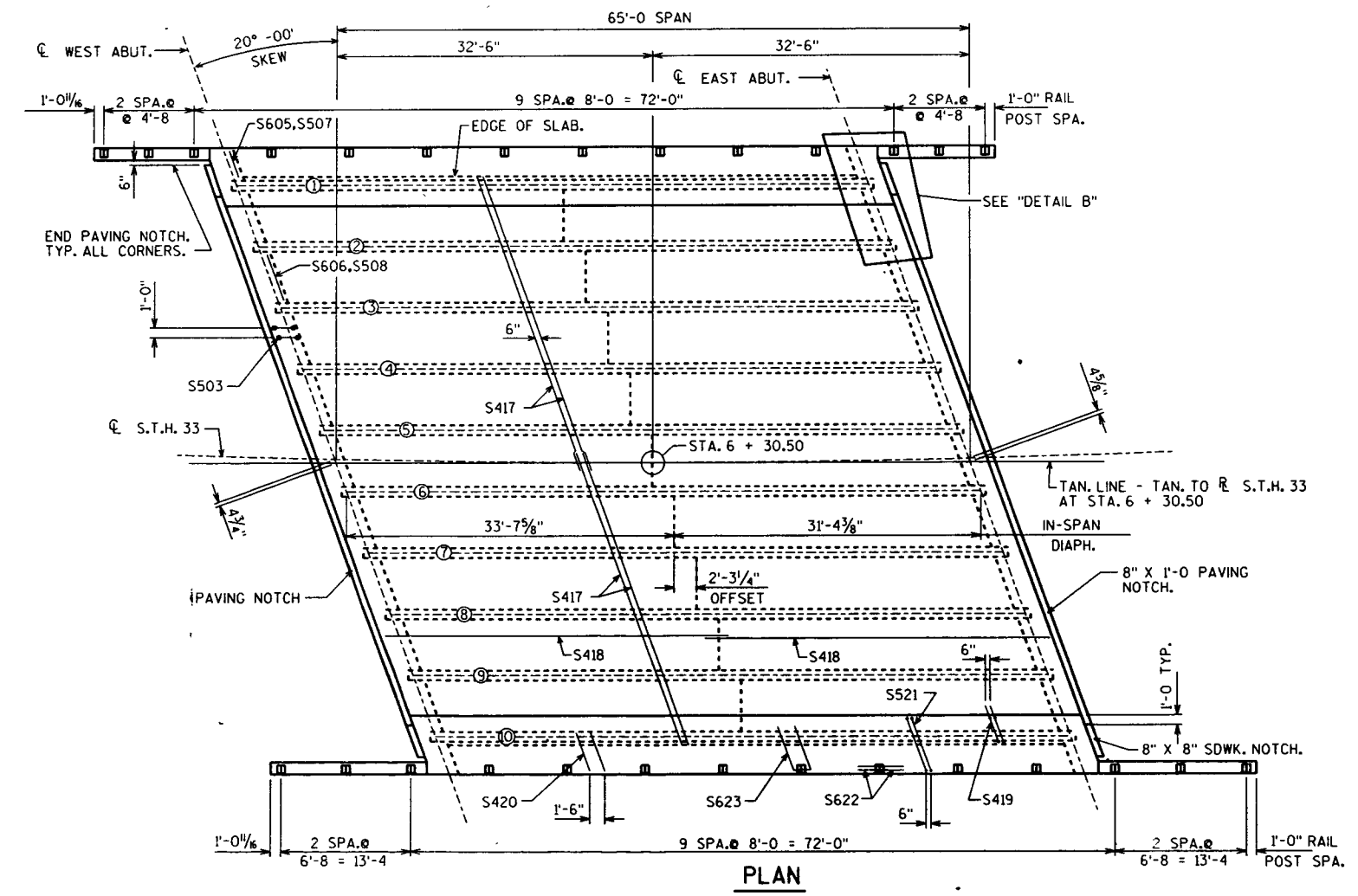
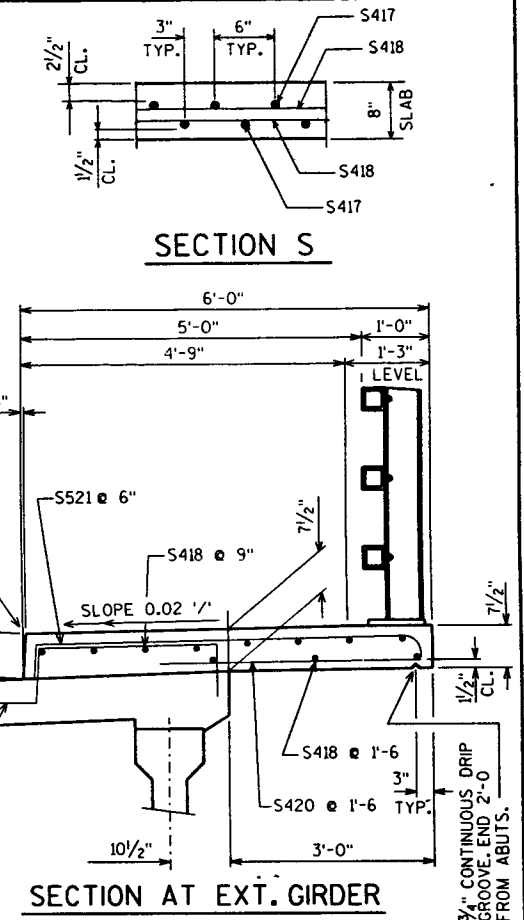


DIAPHRAGM SUPPORT

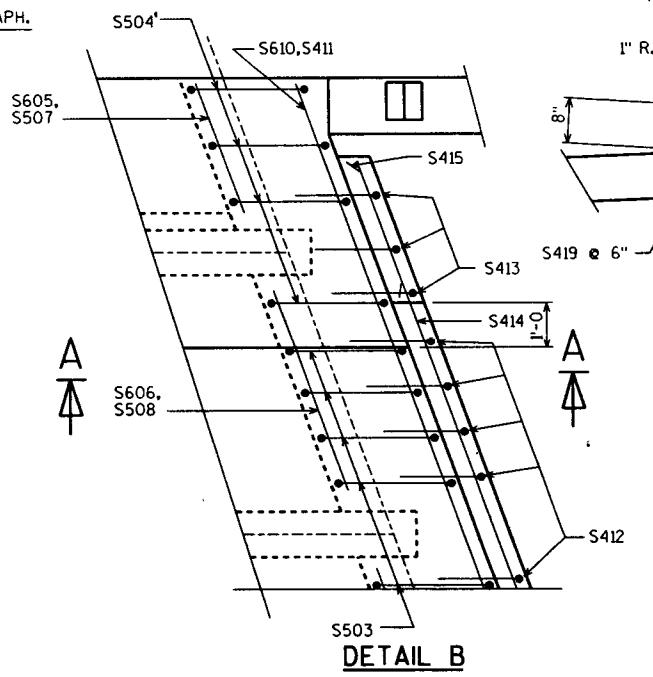
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-66-106			
CONST. SPEC.	1989	DRAWN BY B.W.	PLANS CK'D. R.J.G.
STEEL DIAPHRAGM			SHEET 9



CROSS SECTION THRU ROADWAY LOOKING EAST



PLAN



8.10

