

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9859-07-70	BRO 1998 (254)	1

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

PLAN OF PROPOSED IMPROVEMENT

**PRAIRIE RIVER BRIDGE & APPROACHES
(BRIDGE ROAD)
TOWN ROAD
LINCOLN COUNTY**

STATE PROJECT NUMBER
9859-07-70

- As Bults-
- Prime Contractor
- Zenith Tech, Inc.
- Sub Contractors
- Karlson Forming Specialty, Inc.
 - United Painting, Inc.
 - Rent-a-Flash of Wisconsin
 - Roswell Electric
 - American Asphalt of Wisconsin
 - Hi Beam Erecting
 - Timberline Contractors
 - Merrill Gravel & Construction

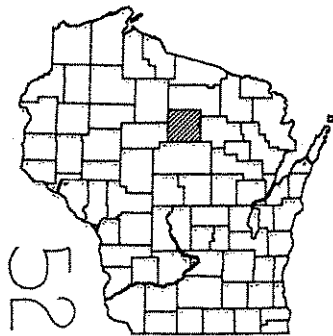
Project Engineer
- Allen M. Wesolowski
CWE, Inc. (715) 359 9400

Start work: 6/12/98
Work complete: 8/15/98
Project Diary: 98-08

INDEX OF SHEETS

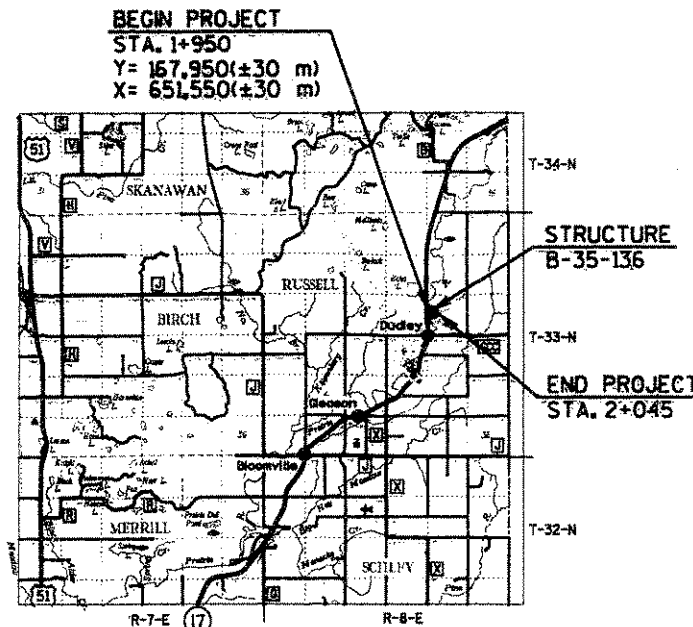
Sheet No. 1	Title
Sheet No. 2	Typical Section Sheet
Sheet No. 3 & 3.1	Estimate of Quantities
Sheet No. 2	Miscellaneous Quantities
Sheet No. 4	Right of Way Plan
Sheet No. 5	Plan & Profile (includes Erosion Control Plan)
Sheet No. 6-6.4	Standard Detail Drawings
Sheet No. ---	Sign Plates
Sheet No. 8-8.8	Structure Plans
Sheet No. ---	Computer Earthwork Data
Sheet No. 9	Cross Sections

TOTAL SHEETS = 21



DESIGN DESIGNATION

A.D.T. (1998)	=	5
A.D.T. (2018)	=	10
D.H.V. (2018)	=	1
D.	=	50/50
T.	=	1%
DESIGN SPEED	=	50 km/h
ESALS	=	N/A



Conventional Symbols

County Line	-----	Combustible Fluids
Town or Range Line	-----	Railroad	-----
Section Line	-----	Fence	-----
Corporate Limits	-----	Culvert (in Place)	-----
Property Line	-----	Culvert (Required)	-----
Lot Line	-----	Power Pole	-----
Existing Right of Way Line	-----	Telephone Pole	-----
New Right of Way Line	-----	Telephone Pedestal	-----
Reference Line	-----	Right of Way Monument (Type)	-----
Slope Intercept	-----	Marsh	-----
Existing Roadway or Private Entrance	-----	Edge of Stream	-----
Limited Easement	-----	Wooded or Shrub Area	-----
Right of Way Point	-----	Grade Line Elevation	-----
Silt Fence	-----	Water	-----
Silt Screen	-----	Gas	-----
Erosion Bales	-----	Telephone	-----
Sod	-----	Electric	-----
Ditch Dike	-----	Cable Television	-----
Intercepting Embankment	-----	Fiber Optic	-----
Riprap	-----	Sanitary Sewer	-----
Erosion Mat	-----	Storm Sewer	-----

LAYOUT
SCALE 0 1 2 3 km

TOTAL NET LENGTH OF CENTERLINE = 0.095 km (RURAL)

COORDINATES ARE SCALED FROM THE U.S.G.S. TOPOGRAPHIC MAP GLEASON, WISCONSIN QUADRANGLE, FOR IDENTIFICATION ONLY.

ACCEPTED FOR COUNTY OF LINCOLN	
9/17/97 DATE	<i>Peter A. Kachel</i> COMMISSIONER
ORIGINAL PLANS PREPARED BY: MSA TRANSPORTATION • MUNICIPAL • ENVIRONMENTAL DEVELOPMENT • ENVIRONMENTAL 1228 South Industrial Drive, WI 53115 608-336-0711 1-800-963-6666 Fax: 608-336-2770	
9-9-97 Date	<i>Janice M. Bennett</i> Signature
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
District Examiner	_____
District Supervisor	ALLAN J. PETERSON
Proj. Dev. Engineer	_____
C.O. Examiner	N.R. AFFELDT
APPROVED FOR DISTRICT OFFICE	
DATE: 9/25/97 <i>Henry E. Harty</i> (Signature)	

LINCOLN
9859-07-70
(9859-07-00)

13a-1
30-D
2-Full

2/24/98

M

POINT	X	Y
1	19 949.990	10 000.000
2	19 950.108	10 006.224
3	19 980.180	10 010.685
4	20 020.181	10 009.926
5	20 045.072	10 004.423
6	20 044.990	10 000.093
7	20 044.881	9994.365
8	20 019.800	9989.809
9	19 979.799	9990.568
10	19 949.917	9996.166

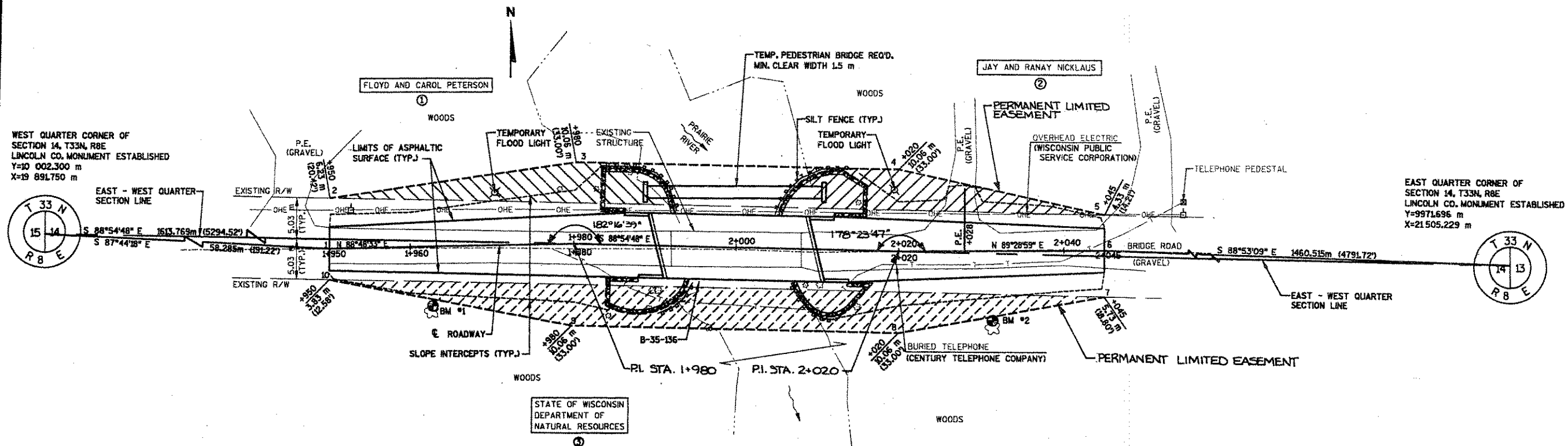
P.L.E. COURSE DATA		
COURSE	BEARING	DISTANCE
1-2	N 01°05'12" E	6.225m (20.42')
2-3	N 81°33'43" E	30.401m (99.74')
3-4	S 88°54'48" E	40.008m (131.26')
4-5	S 77°31'58" E	25.492m (83.64')
5-6	S 01°05'12" W	4.331m (14.21')
6-7	S 01°05'12" W	5.729m (18.80')
7-8	S 79°42'20" W	25.492m (83.64')
8-9	N 88°54'48" E	40.008m (131.26')
9-10	N 79°23'23" W	30.402m (99.74')
10-1	N 01°05'12" E	3.835m (12.58')

SCHEDULE OF LANDS & INTERESTS REQUIRED			
PARCEL NUMBER	SHEET NUMBER	OWNER	TOTAL AREA
1		FLOYD AND CAROL PETERSON	0.012 HECTARE (0.030 ACRE)
2		JAY AND RANAY NICKLAUS	0.012 HECTARE (0.029 ACRE)
3		STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES	0.034 HECTARE (0.084 ACRE)

R/W PROJECT NUMBER 9859-07-21	SHEET NUMBER 4.0	TOTAL SHEETS
FEDERAL PROJECT NUMBER		
PLAT OF RIGHT OF WAY REQUIRED FOR PRAIRIE RIVER BRIDGE & APPROACHES (BRIDGE ROAD)		
TOWN ROAD	LINCOLN COUNTY	
CONSTRUCTION PROJECT NUMBER 9859-07-70		4.0

TOWN OF RUSSELL

SW - NW
SEC. 14



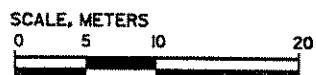
WEST QUARTER CORNER OF SECTION 14, T33N, R8E
LINCOLN CO. MONUMENT ESTABLISHED
Y=10 002.300 m
X=19 891.750 m

EAST QUARTER CORNER OF SECTION 14, T33N, R8E
LINCOLN CO. MONUMENT ESTABLISHED
Y=9971.696 m
X=21 505.229 m

NW - SW
SEC. 14

TOWN OF RUSSELL

NOTES:
COORDINATES SHOWN ON THIS PLAT ARE ORIENTED TO A LOCAL COORDINATE SYSTEM.
BEARINGS SHOWN ON THIS PLAT ARE ASSUMED.
EXISTING HIGHWAY R/W SHOWN ON THIS PLAT IS ESTABLISHED FROM EAST - WEST QUARTER SECTION LINE.



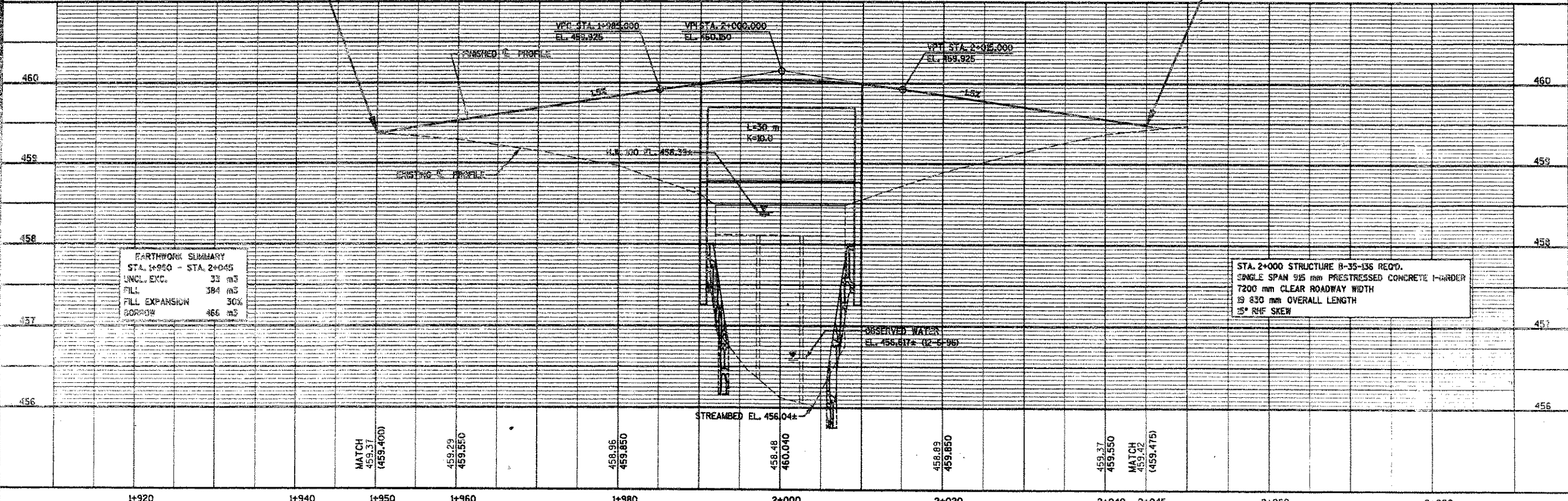
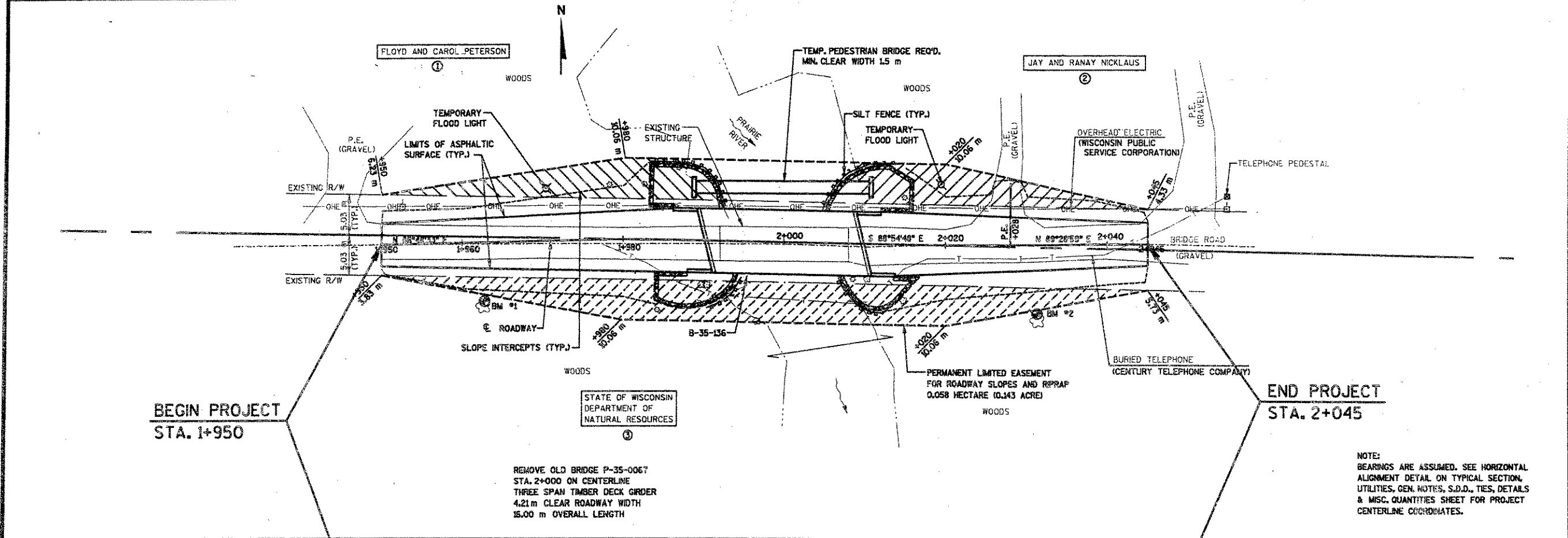
ACCEPTED FOR TOWN OF RUSSELL
DATE: 9-13-97
Rodney Burgess
CHAIRMAN

ORIGINAL PLAT PREPARED BY
MSA
TRANSPORTATION • MUNICIPAL • REMEDIATION
DEVELOPMENT • ENVIRONMENTAL
1330 South Boulevard, Racine, WI 53413
800-354-3771 1-800-363-4505 Fax: 608-354-2770

WISCONSIN LAND SURVEYOR
RODNEY J. KEY
S-2231
Racine, WI

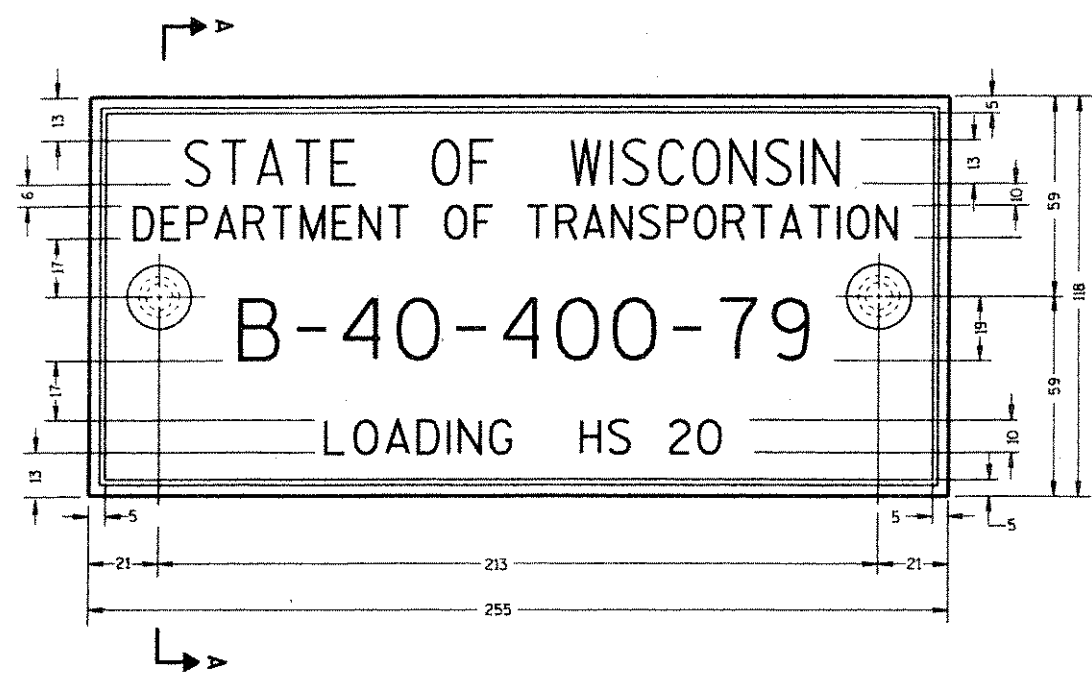
DATE: 9/10/97
Rodney J. Key
Registered Land Surveyor

BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEVATION
1	1+962.85, 7.14 m RT.	60 d NAIL IN 750 mm ϕ WHITE PINE	460.150
2	2+031.28, 8.55 m RT.	60 d NAIL IN 750 mm ϕ WHITE PINE	459.278

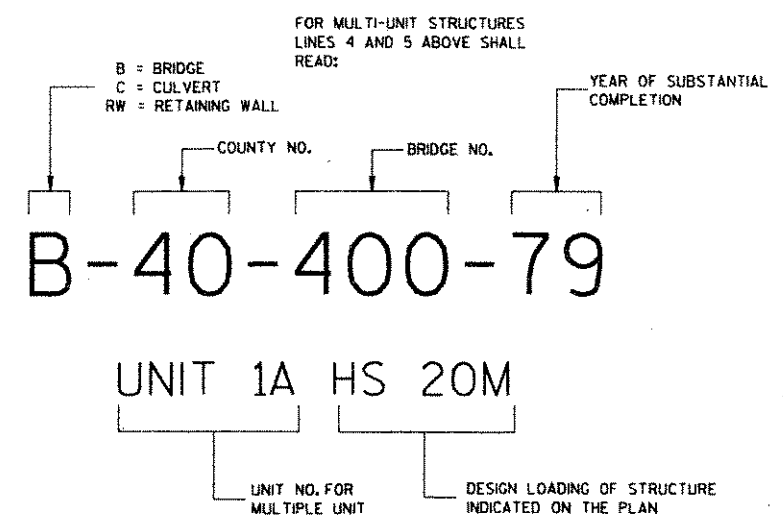


ORIGINATOR: MMR
 REV. DATE: 9-3-97
 FILE NAME: RCP0010.DGN
 PLOT SCALE: 1:500
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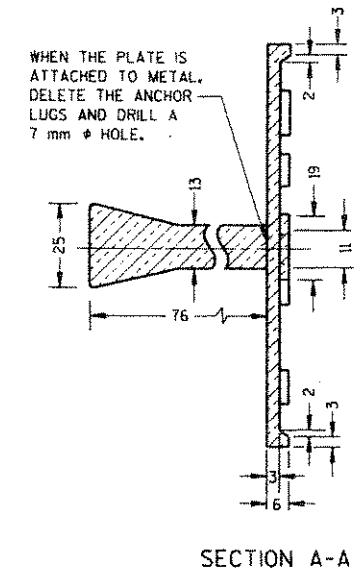
LEVELS UN - 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63



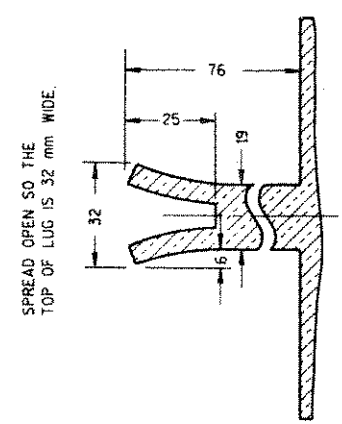
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING AND LOADING DESIGNATION
MULTI-UNIT STRUCTURES



SECTION A-A



ALTERNATE LUG

GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 506.2.4 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND DESIGN LOADING SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND DESIGN LOADING.

NOTE

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS

NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 01/25/95 DATE	<i>Roy L. Thompson</i> CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

STATE PROJECT NUMBER		SHEET NO.	
9859-07-70		8.0	
BENCHMARKS			
NO.	STATION	DESCRIPTION	ELEV.
1	1+962.85 7.14 m RT.	60d NAIL IN 750 mm ϕ WHITE PINE	460.150
2	2+031.28 8.55 m RT.	60d NAIL IN 750 mm ϕ WHITE PINE	459.278
C.A.P. South West			459.97

DESIGN DATA

LIVELOAD
 DESIGN RATING : MS-18
 INVENTORY RATING : MS-20
 OPERATIONAL RATING : MS-34
 MAX. STD. PERMIT VEHICLE LOAD = 110 KN
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 1.0 KN PER SQUARE METER.

TRAFFIC DATA:
 A.D.T. (1998) = 5
 A.D.T. (2018) = 10

ULTIMATE DESIGN STRESSES:
 CONCRETE MASONRY - SLAB $f_c = 28$ MPa
 - ALL OTHER $f_c = 24$ MPa
 HIGH STRENGTH AND COATED HIGH STRENGTH
 BAR STEEL REINFORCEMENT, GRADE 420 $f_y = 420$ MPa
 915 mm PRESTRESSED GIRDER CONCRETE MASONRY $f_c = 42$ MPa
 13 mm DIA. STRANDS WITH ULTIMATE TENSILE
 STRENGTH OF
 GLULAM RAIL (DRY CONDITION) = 16.5 MPa

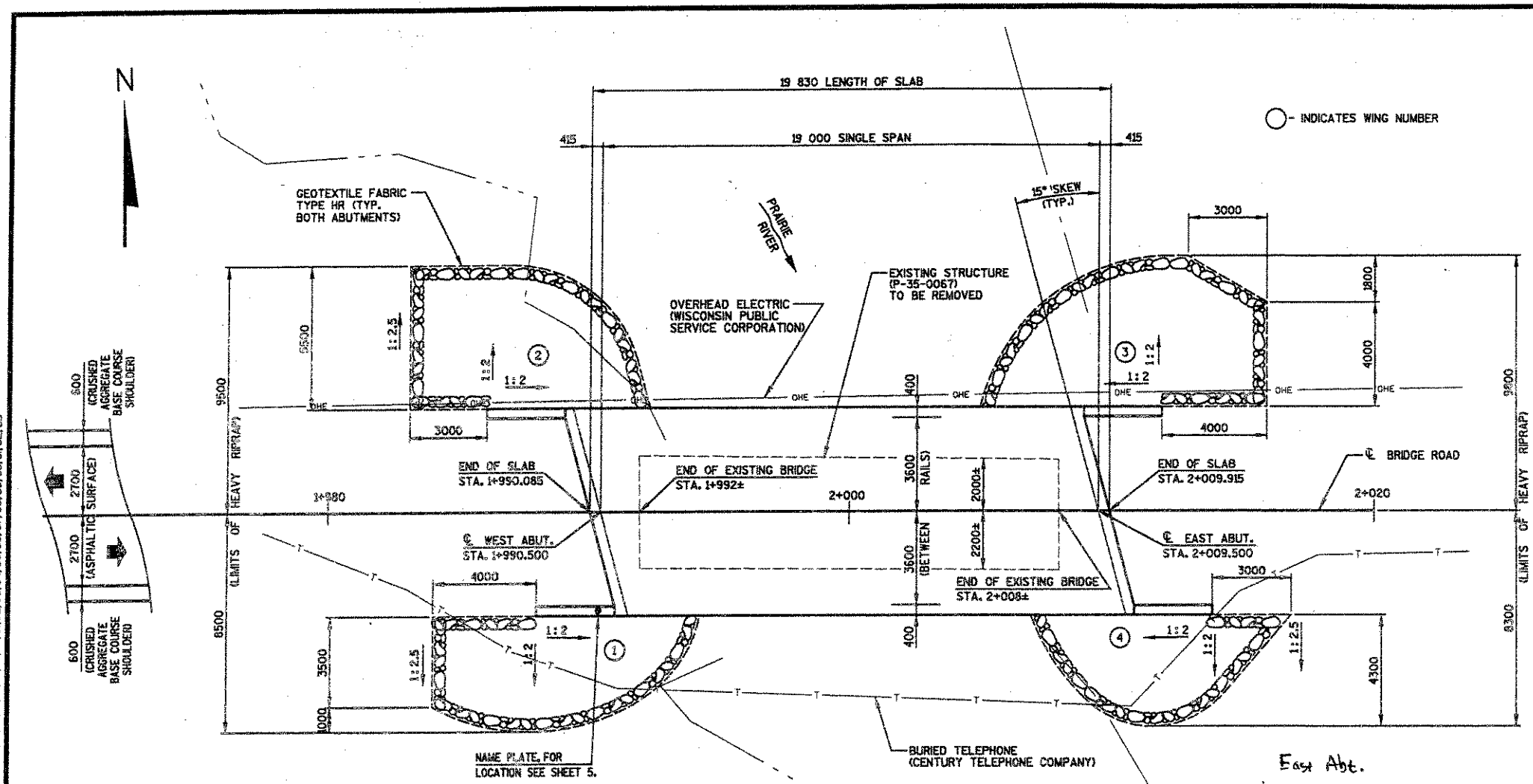
FOUNDATION DATA:
 ABUTMENTS SHALL BE SUPPORTED ON HP 250 x 62 STEEL PILING WITH PILE POINTS DRIVEN TO A MINIMUM BEARING VALUE OF 490 kN PER PILE. ESTIMATED PILE LENGTHS ARE 7 m AT BOTH ABUTMENTS.

HYDRAULIC DATA:
100 YEAR FREQUENCY
 DRAINAGE AREA = 158 km²
 Q_{100} = 52.7 m³/s
 VELOCITY = 3.26 m/s
 WATERWAY AREA = 15.1 m²
 HIGH WATER₁₀₀ ELEVATION = 458.39±
 SCOUR CRITICAL CODE = 8
 ROADWAY OVERFLOW DESIGN FREQUENCY = N/A

TEMPORARY STRUCTURE
 Q_5 = 26.1 m³/s
 HIGH WATER₅ ELEVATION = 457.72±
 MINIMUM REQUIRED WATERWAY AREA = 9.6 m²

LIST OF DRAWINGS

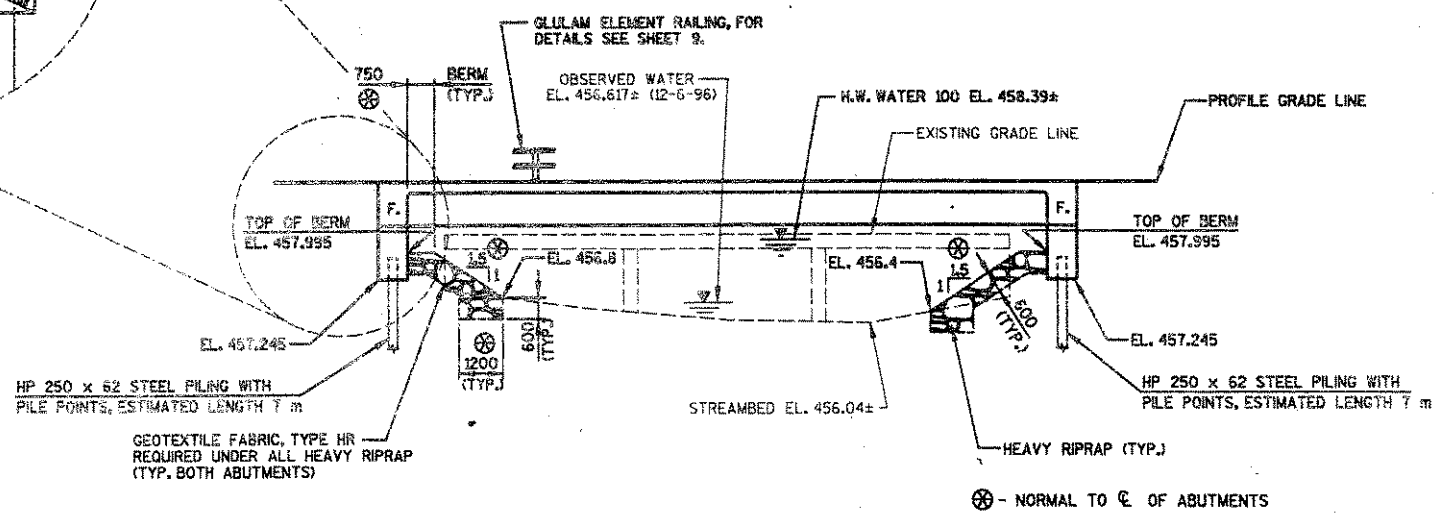
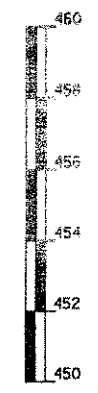
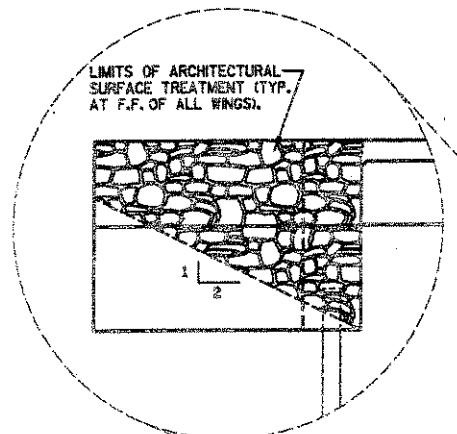
1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENTS
5. ABUTMENT DETAILS
6. 915 mm PRESTRESSED GIRDER DETAILS
7. SUPERSTRUCTURE
8. SUPERSTRUCTURE DETAILS
9. GLULAM ELEMENT RAILING



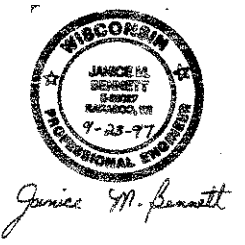
Pile #	West Abt. Cut-off Length
1	5.58
2	5.87
3	6.10
4	5.12
5	4.51

Pile #	East Abt. Cut-off
1	5.49
2	4.78
3	5.11
4	4.42
5	4.36

#1 pile is S.W. most pile

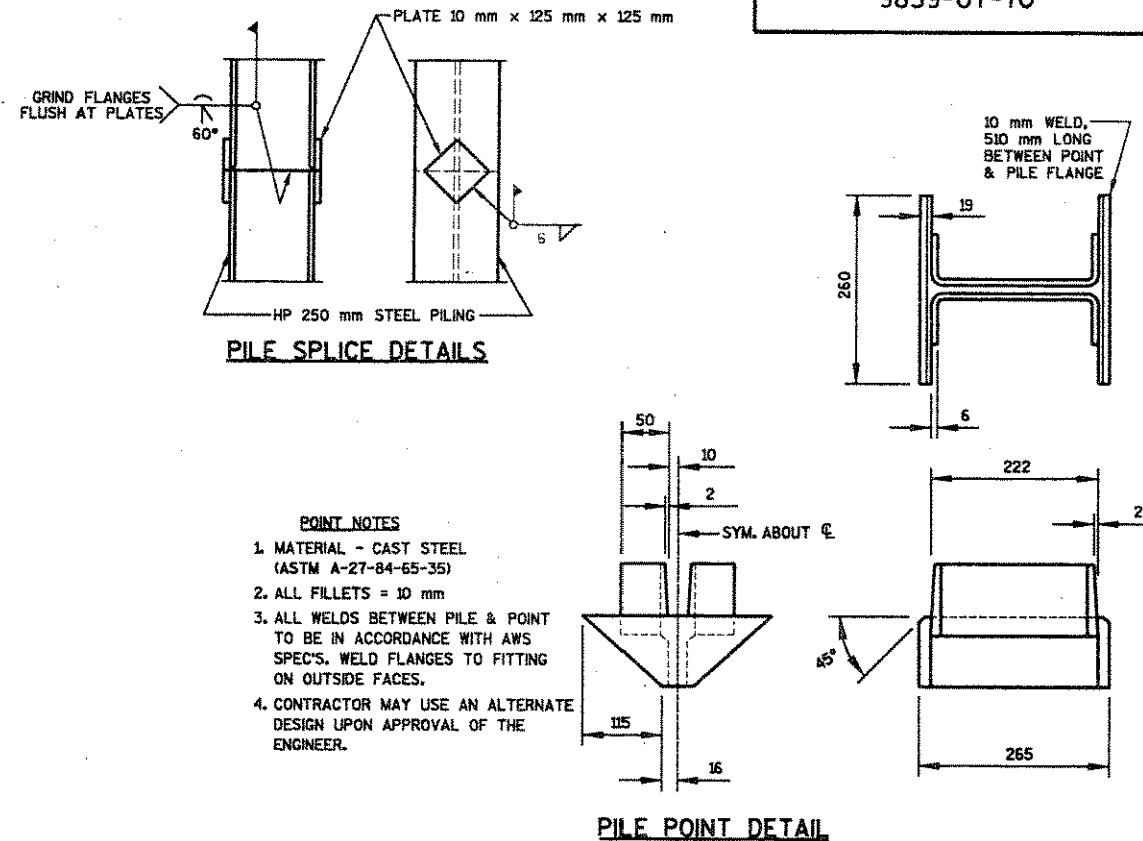
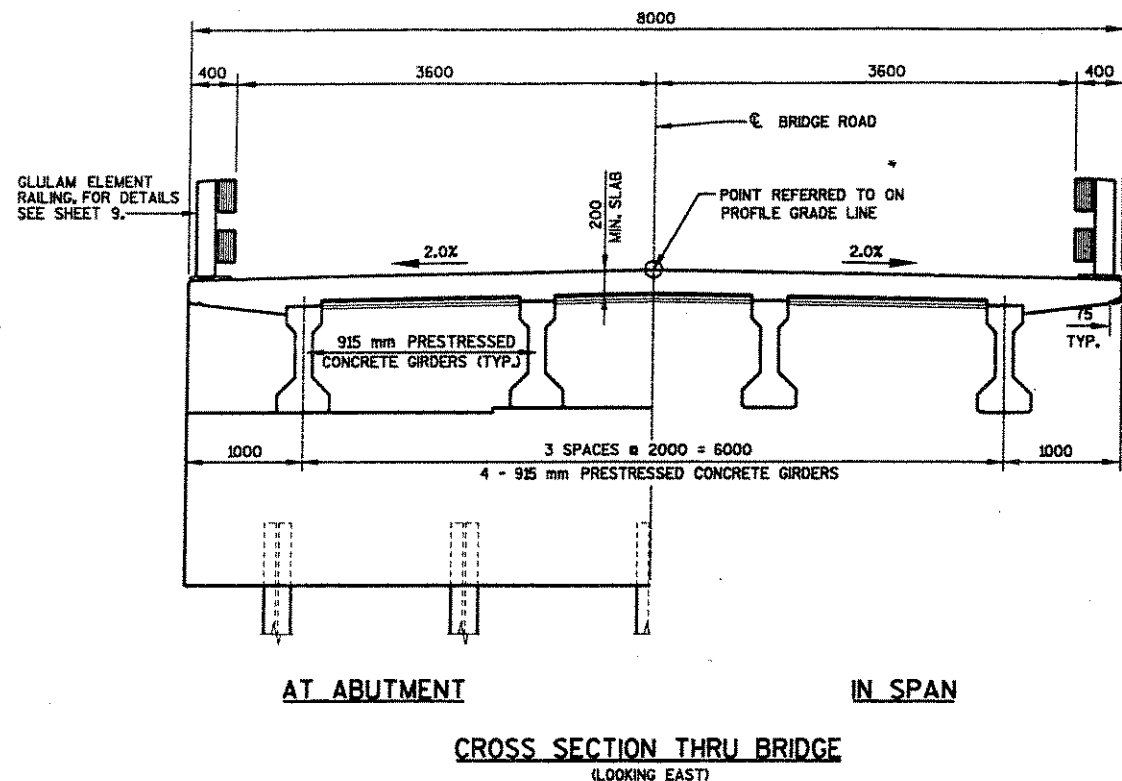


ELEVATION
(SHOWN PARALLEL TO ϕ BRIDGE ROAD)

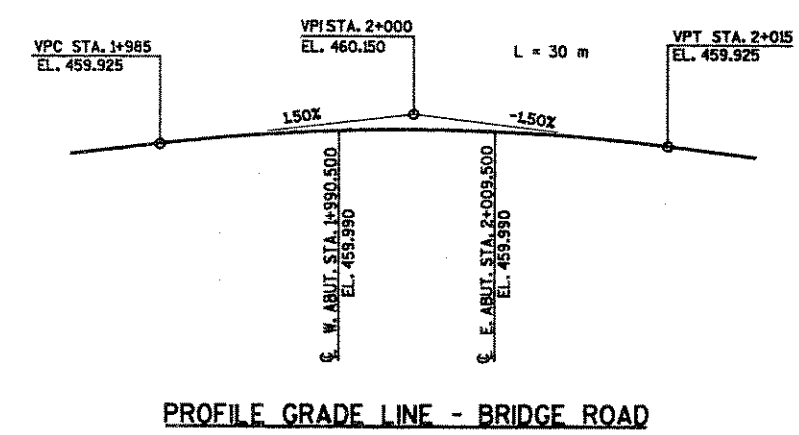


No.	Date	Revision	By
MSA			
TRANSPORTATION • MUNICIPAL • RECREATION DEVELOPMENT • ENVIRONMENTAL			
1200 South Eastwood • Wausau, WI 54981 920-356-8771 • 1-800-363-0275 • Fax: 920-356-8770			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
BRIDGE ROAD OVER PRAIRIE RIVER			
County	LINCOLN	Town/City/Village	RUSSELL
Design Spec.	AASHTO 1995	Load	MS-18
Design	JMB	Checked	RLR
Drawn	RLR	Plan	Checked JMB
Approved	[Signature]		11-21-97
	Chief Structural Design Engineer		Date
GENERAL PLAN			SHEET 1 OF 9

ORIGINATOR: RLR
 LEVELS ON - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63
 MSA #1: 93966101
 REV. DATE: 9-22-97
 PLOT SCALE: 250



- POINT NOTES**
1. MATERIAL - CAST STEEL (ASTM A-27-84-65-35)
 2. ALL FILLETS = 10 mm
 3. ALL WELDS BETWEEN PILE & POINT TO BE IN ACCORDANCE WITH AWS SPECS. WELD FLANGES TO FITTING ON OUTSIDE FACES.
 4. CONTRACTOR MAY USE AN ALTERNATE DESIGN UPON APPROVAL OF THE ENGINEER.



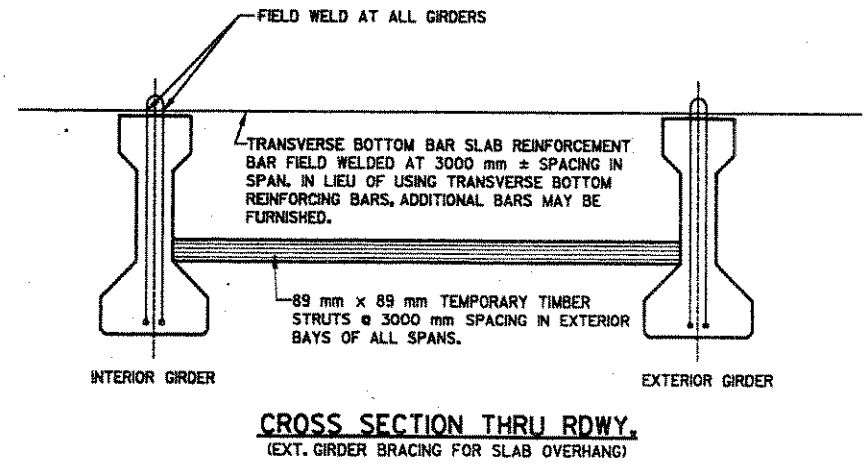
TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	WEST ABUT.	EAST ABUT.	SUPER	TOTAL
REMOVING OLD BRIDGE, STATION 2+000, ON C	LS	-	-	-	1
EXCAVATION FOR STRUCTURES, BRIDGES B-35-136	LS	-	-	-	1
STRUCTURE BACKFILL	m ³	100	100	-	200
CONCRETE MASONRY, BRIDGES	m ³	21.9	21.9	47.2	91
PROTECTIVE SURFACE TREATMENT	m ²	-	-	165	165
PRESTRESSED GIRDER, I TYPE, 915 mm	m	-	-	77.2	77.2
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	kg	935	935	1940	3810
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	kg	210	210	2900	3320
NON-LAMINATED ELASTOMERIC BEARING PADS	EACH	-	-	8	8
* STEEL PILING DELIVERED & DRIVEN, HP 250 mm x 62 kg/m	m	35	35	-	70
PILE POINTS	EACH	5	5	-	10
RUBBERIZED MEMBRANE WATERPROOFING	m ²	5	5	-	10
HEAVY RIPRAP	m ³	75	80	-	155
GEOTEXTILE FABRIC, TYPE HR	m ²	140	145	-	285
ARCHITECTURAL SURFACE TREATMENT, ITEM 90002A	m ²	10.9	10.9	3.8	25.6
GLULAM ELEMENT RAILING, ITEM 90004B	LS	-	-	-	1
PAINING, EPOXY SYSTEM, ITEM 90004C	LS	-	-	-	1
NON-BID ITEMS					
FILLER	SIZE	-	-	-	13 & 19

* - OIL FIELD PIPE IS NOT AN OPTION ON THIS PROJECT.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
 ALL MEASUREMENTS ARE IN MILLIMETERS EXCEPT AS SHOWN.
 ALL ELEVATIONS AND STATIONS ARE IN METERS.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 50 mm CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
 THE FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.
 NON-LAMINATED ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
 THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AS SHOWN ON SHEET 1 OR AS DIRECTED BY THE ENGINEER.
 THE PROPOSED SUBGRADE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS.
 AT THE ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. THE STRUCTURE BACKFILL ESTIMATED QUANTITIES ASSUMED A 1:1.5 EXCAVATION SLOPE.
 THIS STRUCTURE WILL REPLACE EXISTING STRUCTURE P-35-0067, A THREE SPAN TIMBER DECK GIRDER ON TIMBER ABUTMENTS AND TIMBER PILE BENT PIERS.
 ALTERNATE STEEL INTERMEDIATE DIAPHRAGMS WILL NOT BE PERMITTED ON THIS STRUCTURE.
 THE MINIMUM CONCRETE HAUNCH OVER THE PRESTRESSED GIRDERS SHALL BE 30 mm AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH OF 60 mm WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.



No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
Const. Spec.	W/96"	Drawn By RLR	Plans Checked JMB
CROSS-SECTION & QUANTITIES			SHEET 2 OF 9

PLOT SCALE: MSA #: 93966102 REV. DATE: 9-22-97 ORIGINATOR: RLR LEVELS ON - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63

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

MATERIAL SYMBOLS

LEGEND OF PROBING

qp - Pocket penetrometer (KPa)

95/152=95 Blows for 152 mm Penetration
 Probing taken with a 159.1 Kg wt. Falling 457 mm on a 51 mm O.D. Point.

Probing No. Sta. Elevation
 7 Average Blows Per 305 mm
 Refusal 95/152 mm

LEGEND OF BORING

Unconfined Strength kPa → 48

Blows Per 305 mm Using 63.6 kg Wt. Falling 762 mm

Wash Sample

Shelby Tube - S.T.

Ground Water Elevation

No Ground Water Observed Above This Elevation

Boring No., Elev. Sta. & Offset

Sandy Gravel
 F
 Boulders or Cobbles
 Sand
 Silty Clay
 So
 Limestone

Unless otherwise specified, the blows per 305 mm at the locations indicated are based on driving a 51 mm O.D. x 35 mm I.D. split spoon sampler with a 63.6 kg hammer having a free fall of 762 mm. The blow count is taken in undisturbed soil immediately below a closed or open hole eliminating side friction on the drive pipe.

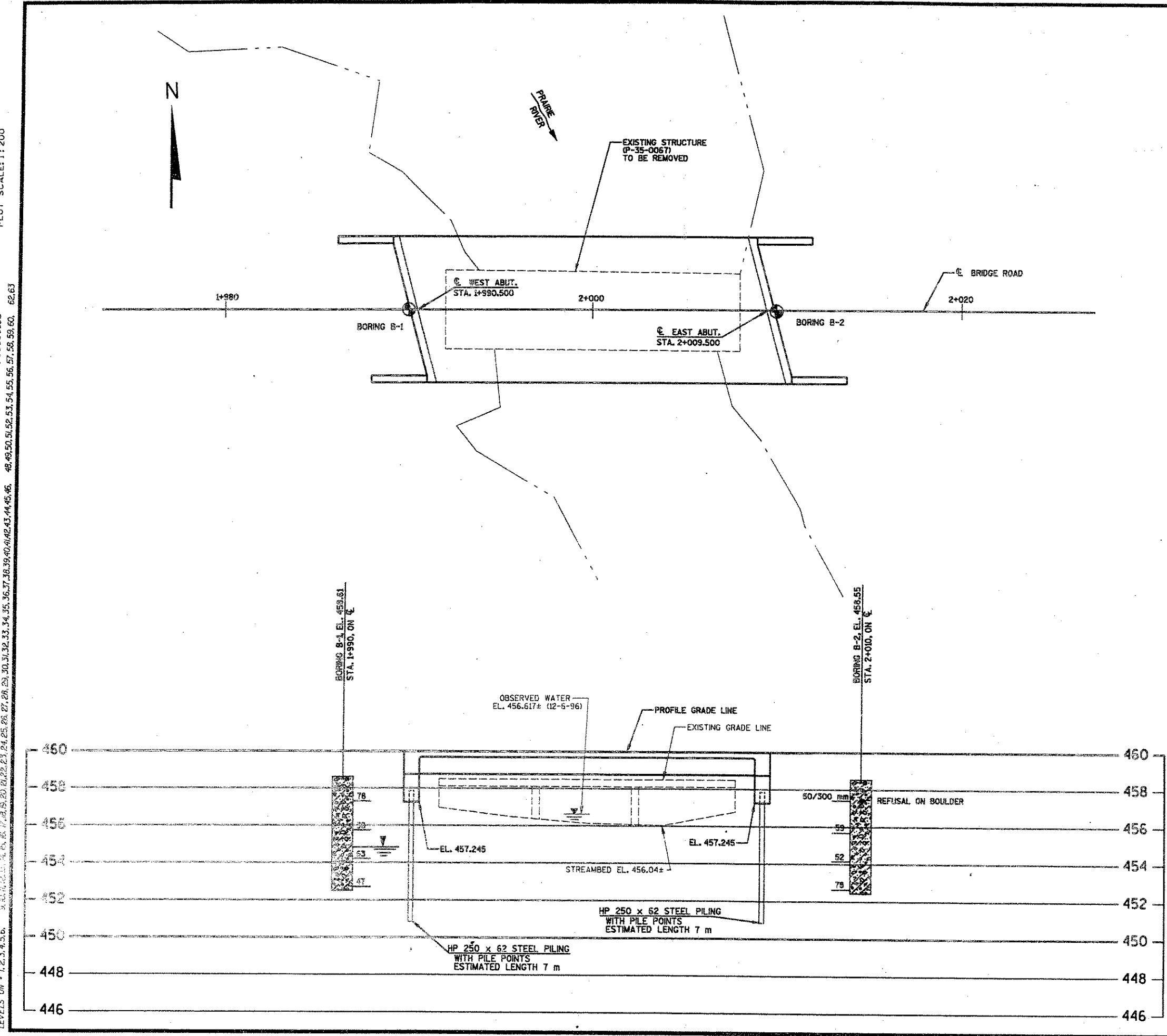
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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 DEPT. 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.

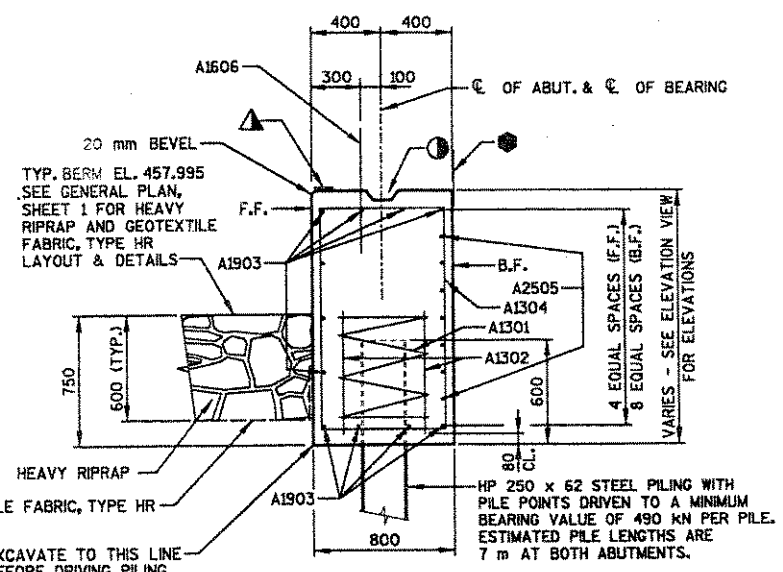
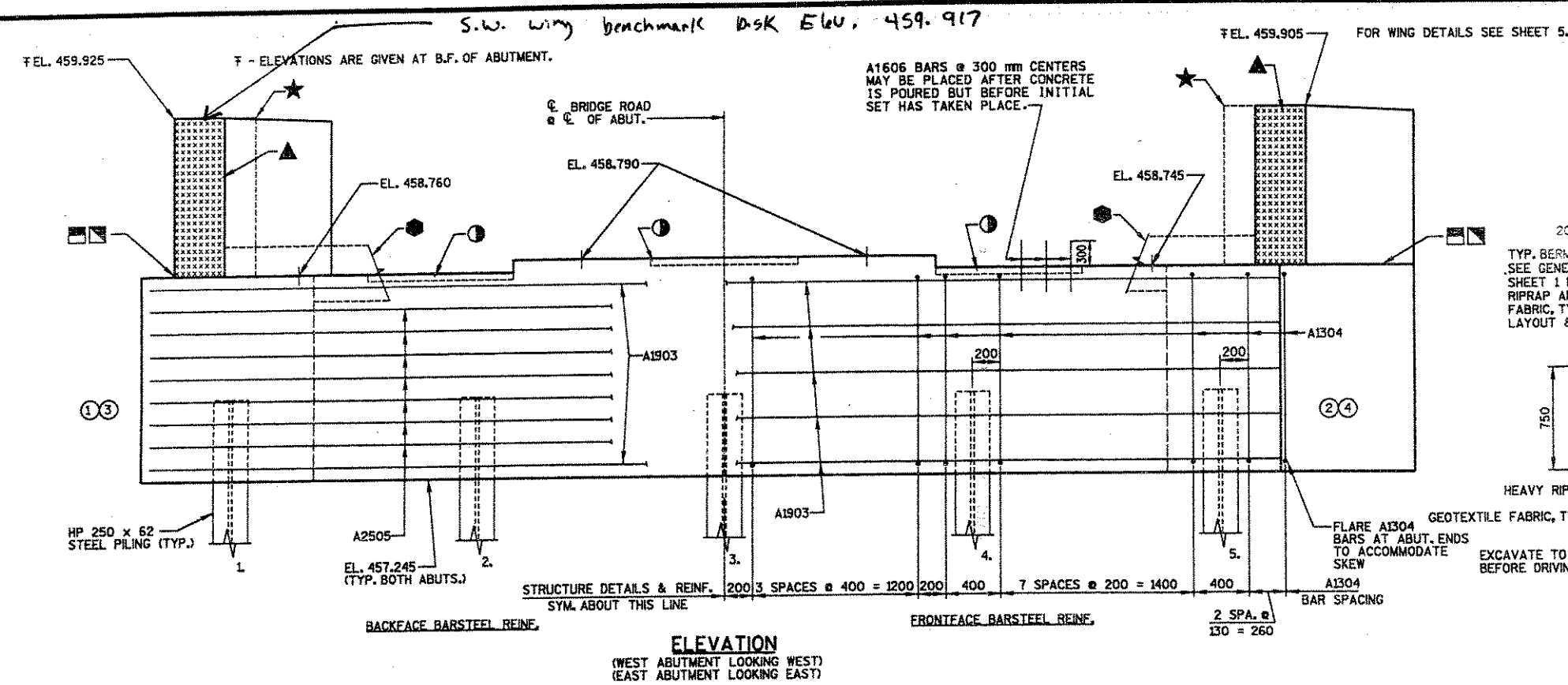
BORINGS AND SUBSURFACE REPORT BY:
 GCME, INC.
 DE PERE, WISCONSIN
 BORINGS TAKEN ON 3-19-97

PLANS PREPARED BY:
 MSA PROFESSIONAL SERVICES, INC.
 BARABOO, WISCONSIN

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
Const. Spec.	W1'96"	Drawn By	RLR
Plans Checked	JMB		
SUBSURFACE EXPLORATION			SHEET 3 OF 9



PLOT SCALE: 1:200
 MSA #: 93966103
 REV. DATE: 9-11-97
 ORIGINATOR: RLR
 LEVELS ON: 1, 2, 3, 4, 5, 6
 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 62, 63

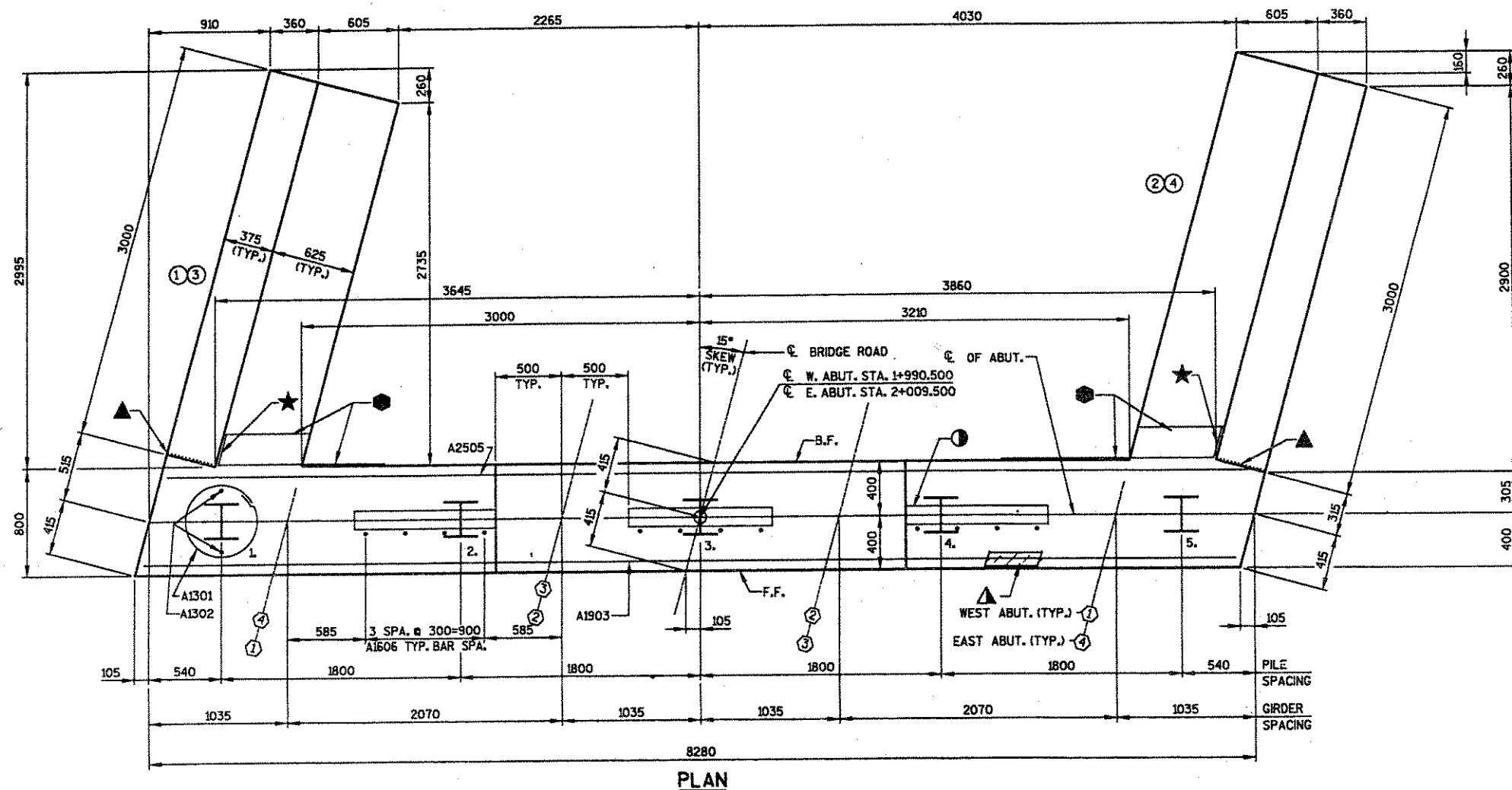


TYPICAL SECTION THRU ABUTMENT

ELEVATION
(WEST ABUTMENT LOOKING WEST)
(EAST ABUTMENT LOOKING EAST)

LEGEND

- - DENOTES GIRDER NUMBER.
- - DENOTES WING NUMBER.
- ⊙ - KEYED CONSTRUCTION JOINT FORMED BY BEVELED 38 mm x 140 mm.
- ▲ - 100 mm x 19 mm FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN OUTSIDE EDGES OF SLAB.
- ▲ - 13 mm FILLER, EXTEND AS SHOWN, SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER, (25 mm DEEP & HOLD 3 mm BELOW SURFACE OF CONCRETE).
- ▣ - 20 mm "V" GROOVE ON FRONT FACE OF WING WALL AT CONSTRUCTION JOINT.
- ⊞ - KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 38 mm x 140 mm. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- ★ - VERTICAL 457 mm WIDE RUBBERIZED MEMBRANE WATERPROOFING, EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
- - HORIZONTAL 457 mm WIDE RUBBERIZED MEMBRANE WATERPROOFING, EXTEND BETWEEN WING TOPS. PLACE BOTTOM HALF HORIZONTAL AT HAUNCHED AREA OF WINGS.
- SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. OVERLAP MEMBRANES AT JUNCTIONS OF ★ AND ●.
- F.F. - FRONT FACE
- B.F. - BACK FACE
- CL. - CLEAR



PLAN

PLOT SCALE:

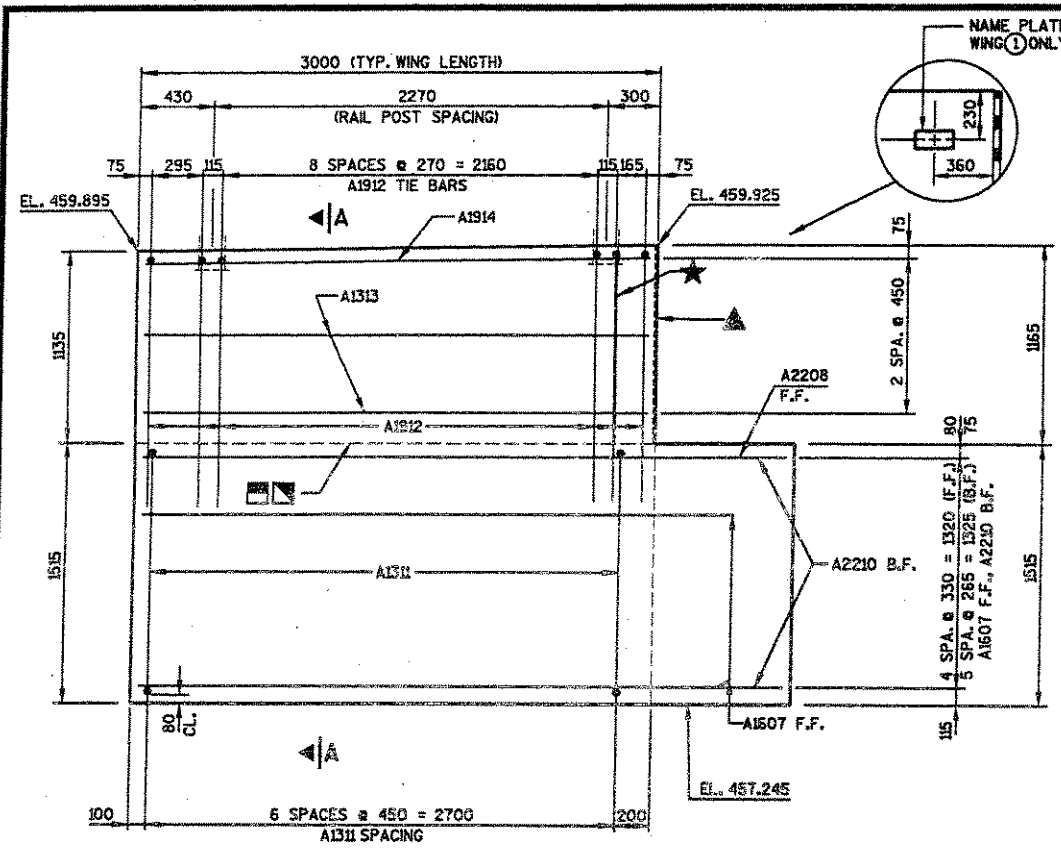
NSA #: 93965104

REV. DATE: 9-22-97

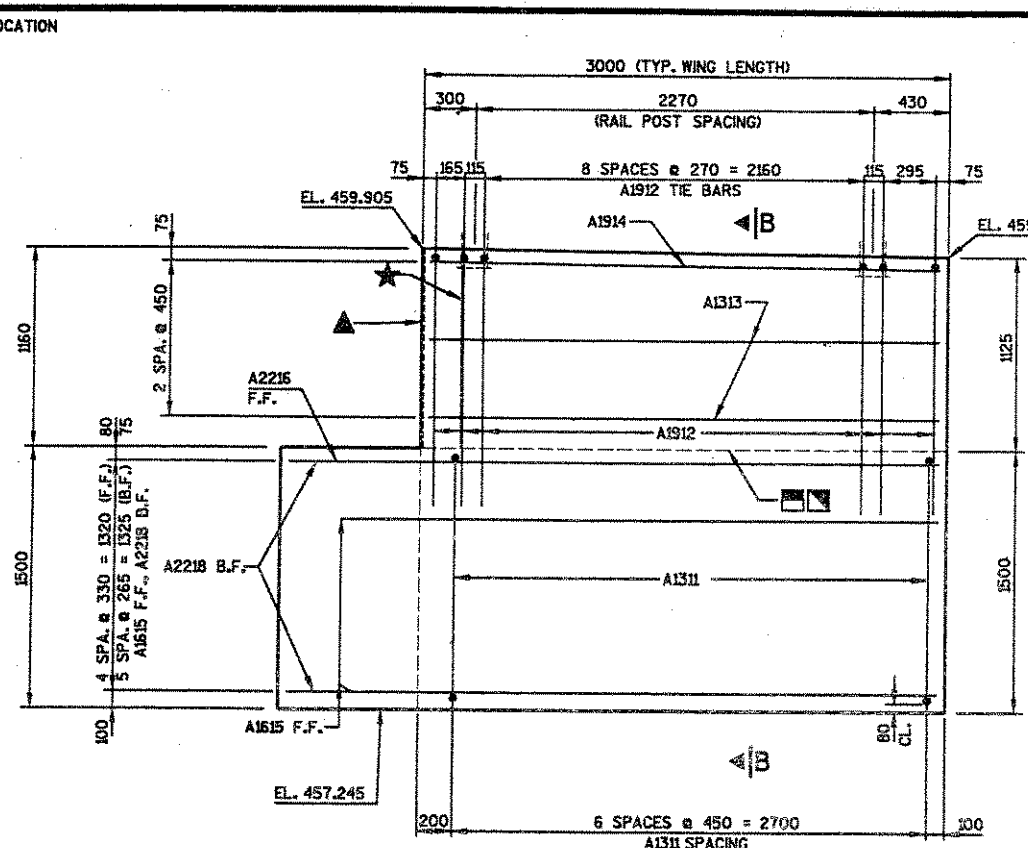
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No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
Const. Spec.	WI "95"	Drawn By	Plans Checked
		RLR	JMB
ABUTMENTS			SHEET 4 OF 9

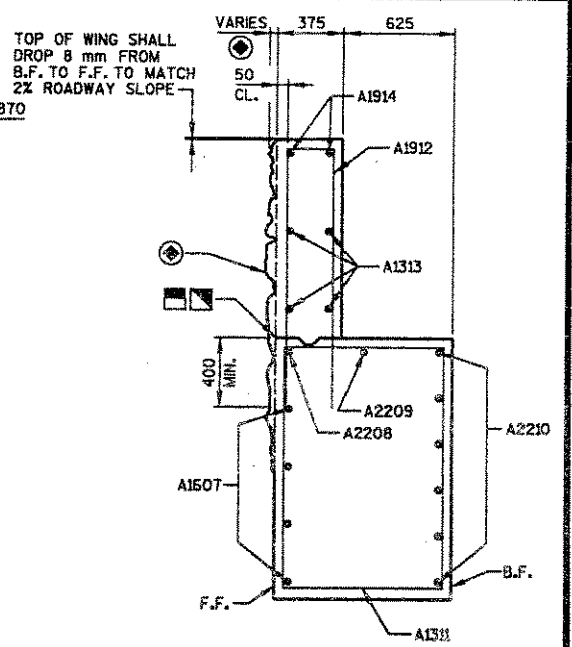
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 REV. DATE: 9-22-97
 MSA #: 93966105
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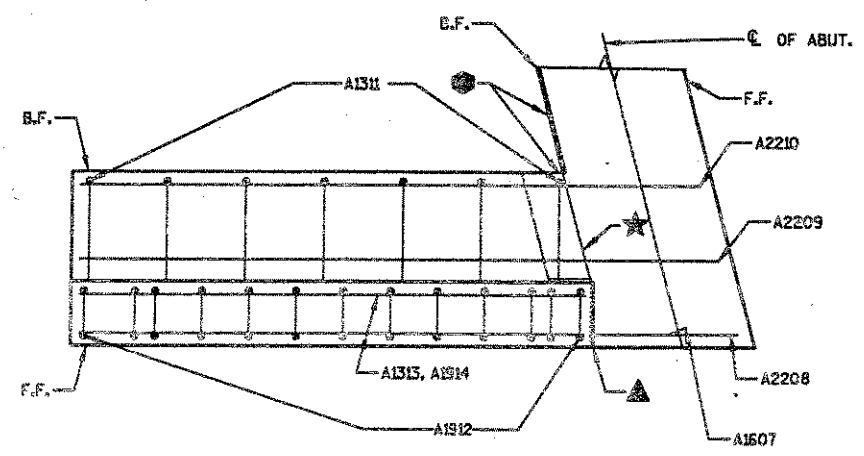
ELEVATION - WINGS 1 & 3
(LOOKING AT F.F. OF WINGS)
DIMENSIONS AND ELEVATIONS ARE GIVEN AT F.F. OF WING



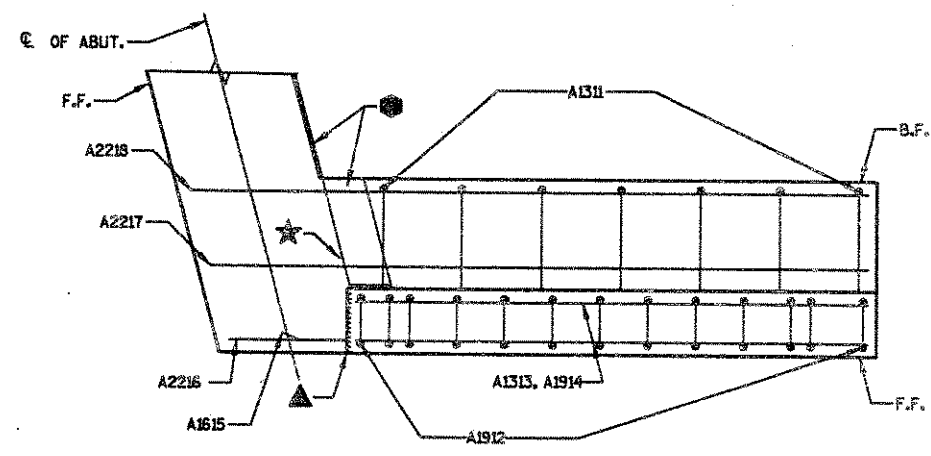
ELEVATION - WINGS 2 & 4
(LOOKING AT F.F. OF WINGS)
DIMENSIONS AND ELEVATIONS ARE GIVEN AT F.F. OF WING



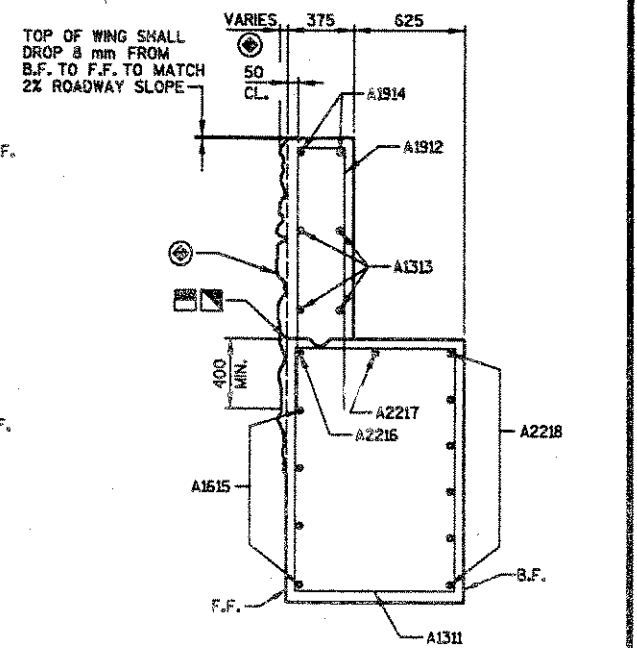
SECTION A-A THRU WINGS 1 & 3



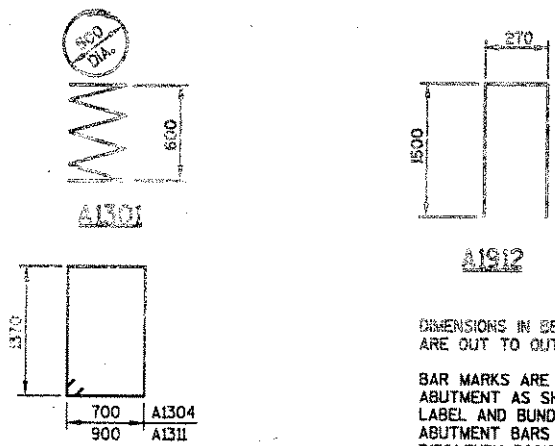
PLAN - WINGS 1 & 3



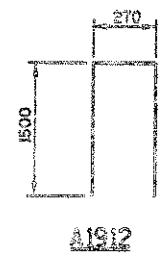
PLAN - WINGS 2 & 4



SECTION B-B THRU WINGS 2 & 4



A1304, A1311



A1912

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
 BAR MARKS ARE FOR WEST ABUTMENT AS SHOWN. LABEL AND BUNDLE EAST ABUTMENT BARS WITH B MARK, B1301 THRU B2218.
 ⊗ EPOXY COAT THESE BARS.

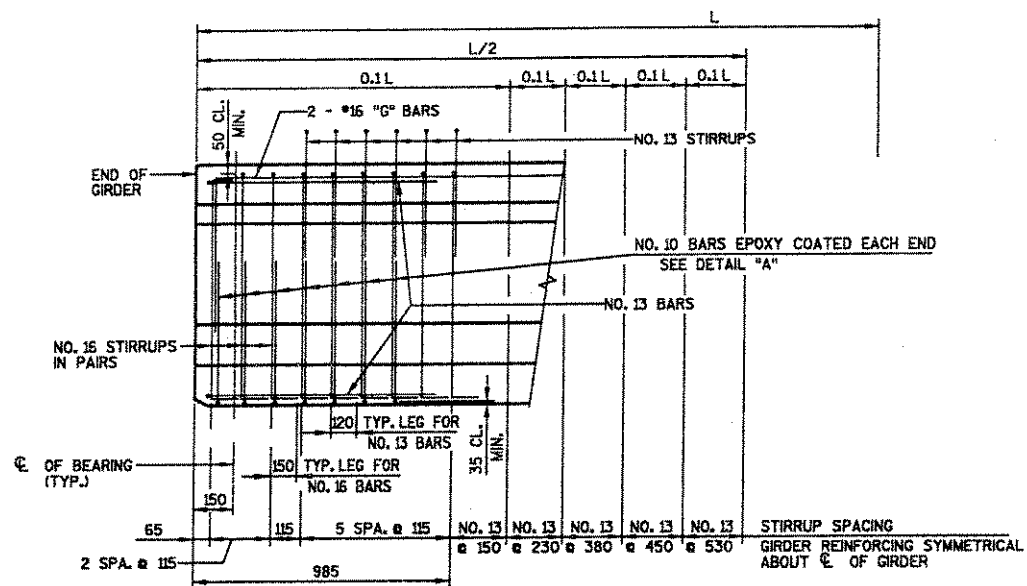
BILL OF BARS (ABUTMENT) 935 kg (UNCOATED) 210 kg (COATED)

MARK	NO. REQ'D	LENGTH	BENT	LOCATION
A1301	5	8600	X	AT BODY PILES-1 PER PILE 5 SPIRAL WRAPS
A1302	10	700	" " " -2 "	" - VERT.
A1903	11	8150	" " " "	BODY - F.F., TOP & BOTTOM - HORIZ.
A1304	32	4350	X	" - STIRRUPS - VERT.
A2505	7	8150	" " " "	" - B.F. - HORIZ.
A1606	12	600	" " " "	" - TOP DOWELS - VERT.
A1607	4	3450	" " " "	WINGS 1 & 3 - BASE - F.F. - HORIZ.
A2208	1	3750	" " " "	" " " " - TOP
A2209	1	3850	" " " "	" " " " - B.F.
A2210	6	3550	" " " "	" " " " - TOP
A1311	14	4750	X	" - BASE - STIRRUPS - VERT.
A1912	26	3200	X	" TOP - TIES
A1313	8	2900	" " " "	" - F.F. & B.F. - HORIZ.
A1914	4	2900	" " " "	" " " " - HORIZ.
A1615	4	3300	" " " "	WINGS 2 & 4 - BASE - F.F.
A2216	1	3600	" " " "	" " " " - TOP
A2217	1	3750	" " " "	" " " " - TOP
A2218	6	3850	" " " "	" " " " - B.F.

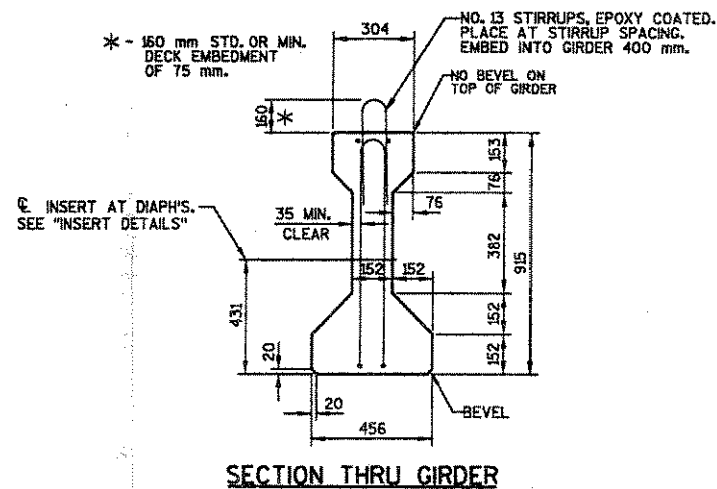
⊗ - ARCHITECTURAL SURFACE TREATMENT FOR LIMITS SEE SHEET L

SEE SHEET 4 FOR LEGEND OF

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
Const. Spec.	W1'96"	Drawn By RLR	Plans Checked -JMB
ABUTMENT DETAILS			SHEET 5 OF 9



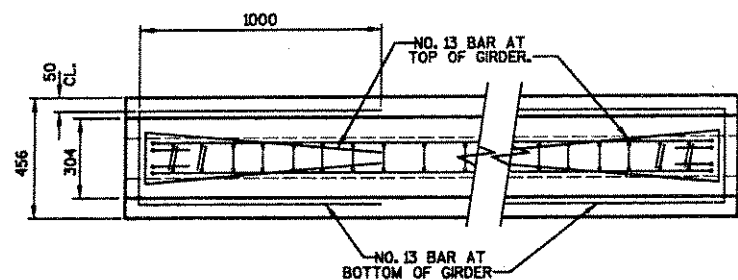
915 mm GIRDER - SIDE VIEW



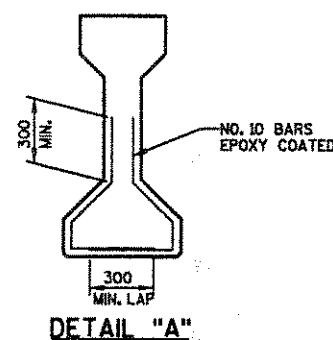
SECTION THRU GIRDER

NOTES

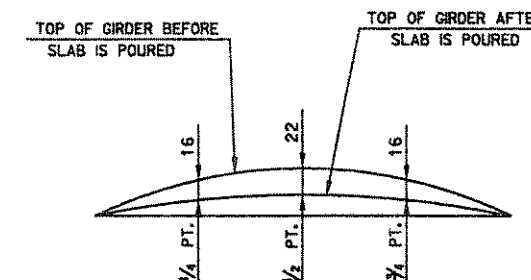
- ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.
- PRESTRESSING STRANDS SHALL BE 13 mm # - 7 WIRE STRANDS WITH AN ULTIMATE STRENGTH OF 1860 MPa AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.
- THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.
- TOP OF GIRDERS TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 50 mm OF GIRDER WHICH SHALL BE TROWEL FINISHED.
- #16 BARS MAY BE SPLICED AT THE 1/2 POINT OF GIRDER. LAP LENGTH 950 mm FOR NO. 16 BARS. BEND DOWN 256 mm AT ENDS.
- SPACING SHOWN FOR #13 STIRRUPS IS FOR GRADE 420 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #13 STIRRUPS, 2 OPTIONS ARE AVAILABLE:
 - USE ASTM A706M, GRADE 420 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.
 - USE ASTM A615M, GRADE 300 REINFORCEMENT AND A MODIFIED STIRRUP SPACING SUBMITTED TO AND APPROVED BY THE STRUCTURES DEVELOPMENT SECTION.
- AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.
- WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ASTM A497.



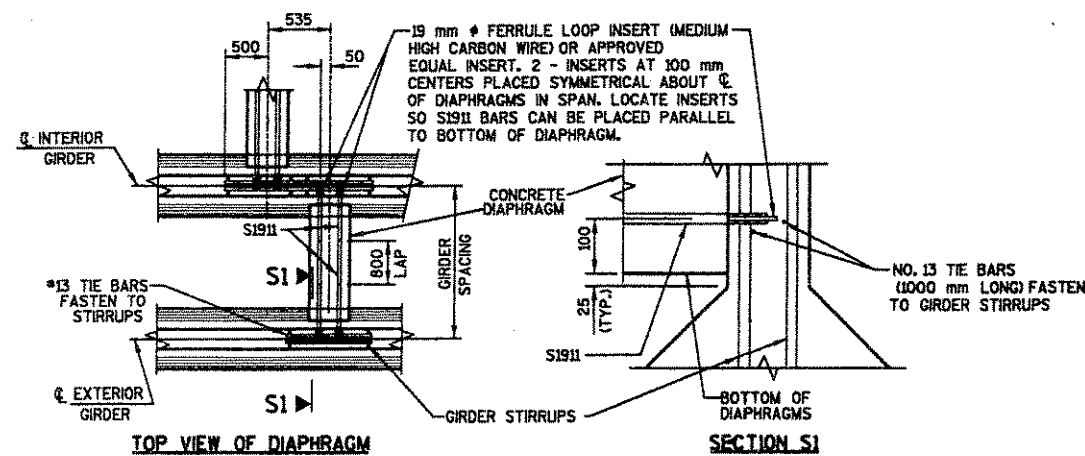
TOP VIEW OF GIRDER



DETAIL "A"



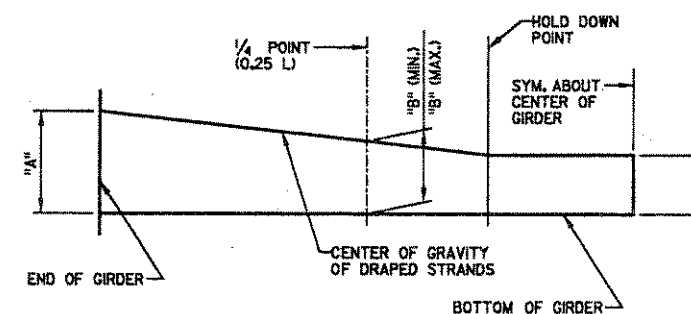
DEAD LOAD DEFLECTION DIAGRAM



TOP VIEW OF DIAPHRAGM

SECTION S1

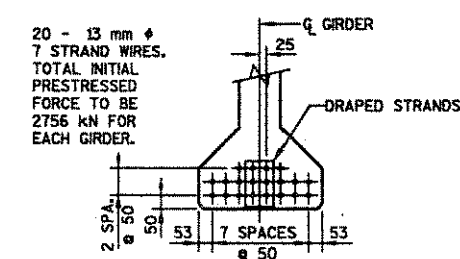
INSERT DETAILS AT DIAPHRAGMS
(FOR DIAPHRAGM LOCATION SEE SUPERSTRUCTURE PLAN - SHEET 7)



DRAPED STRAND PROFILE

GIRDER DATA		LOW RELAXATION
GIRDER LENGTH "L" REQUIRED		19 300
F _{ci} (MPa) *	DRAPED PATTERN	34.9
	SPREAD PATTERN	
DRAPED STRANDS	DIMENSION "A"	550
	DIMENSION "B" (MINIMUM)	212
	DIMENSION "B" (MAXIMUM)	287
	DIMENSION "C"	100

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



SECTION THRU GIRDER AT C SPAN

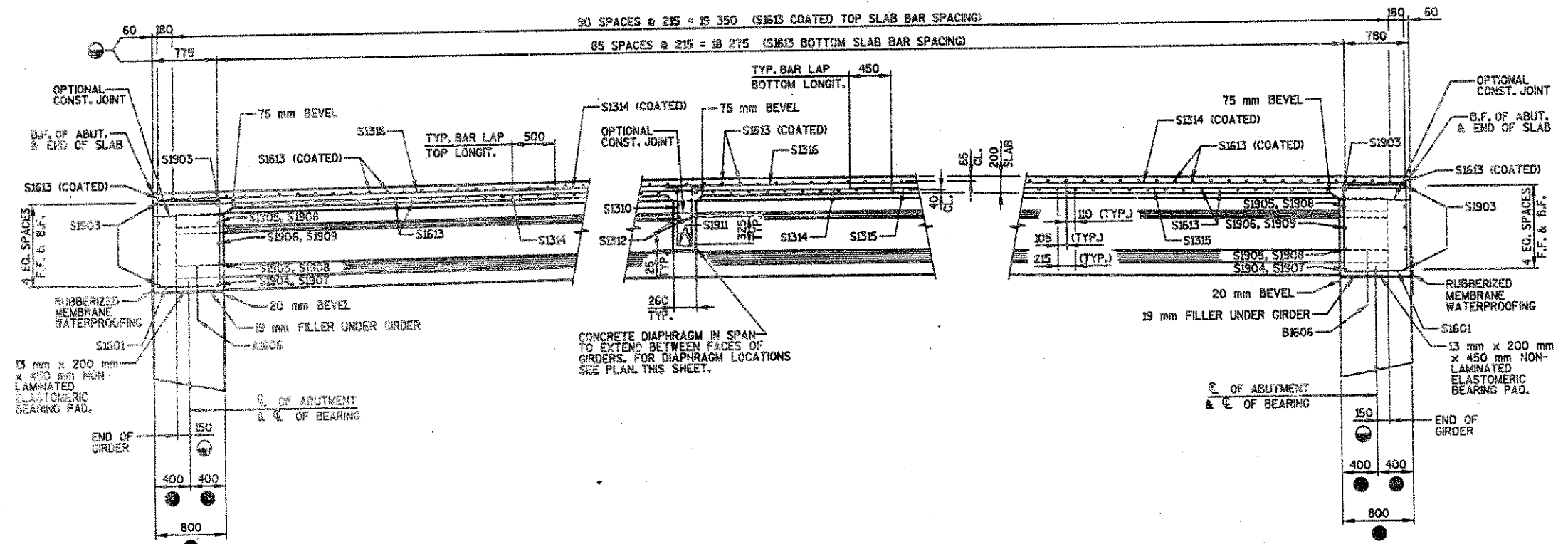
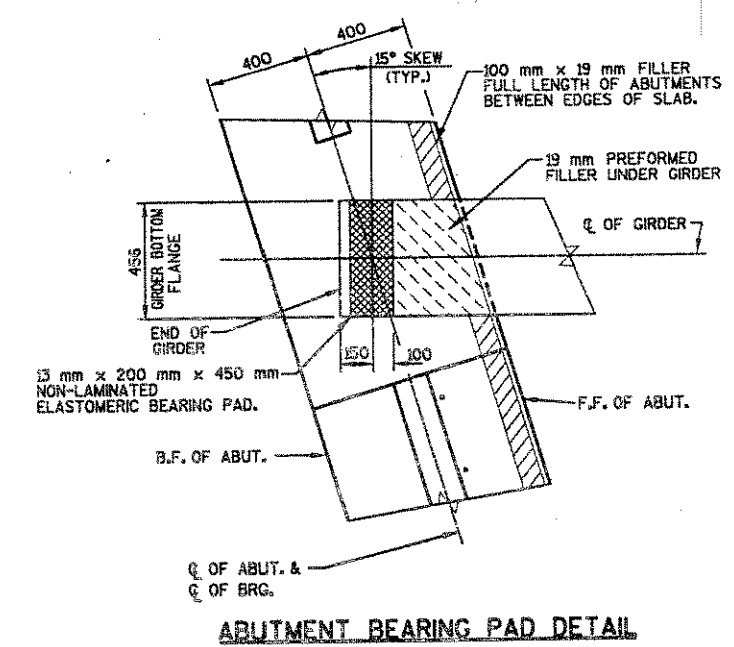
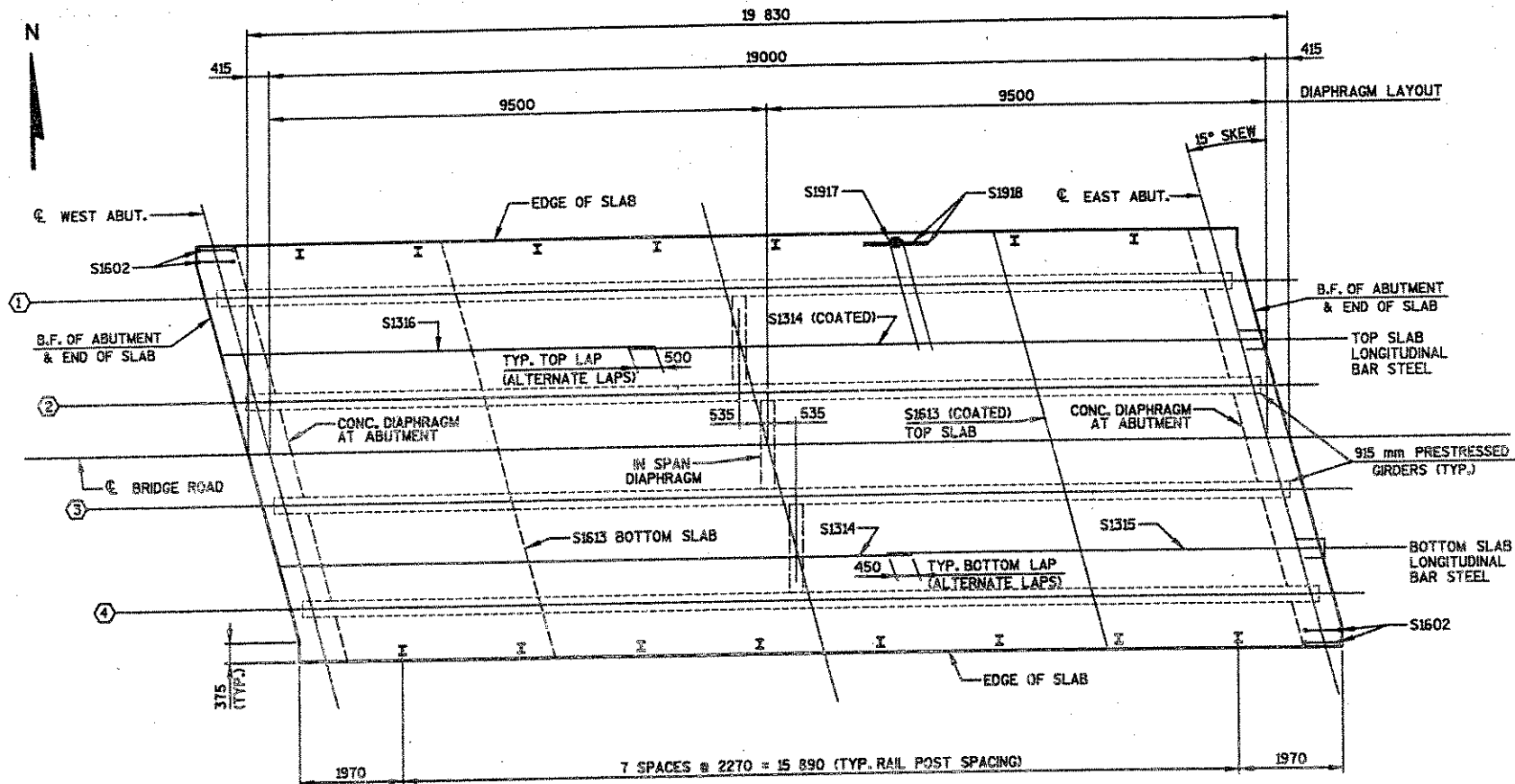
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
Const. Spec.	WI "96"	Drawn By RLR	Plans Checked JMB
915 mm PRESTRESSED GIRDER DETAILS			SHEET 6 OF 9

PLOT SCALE:

MSA #: 93966106

REV. DATE: 9-22-97

ORIGINATOR: RLR
LEVELS ON - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63



GENERAL NOTES

SEE CROSS SECTION THRU BRIDGE, IN SPAN, SHEET 8 FOR TYPICAL LONGITUDINAL BAR SPACING.

TRANSVERSE BARS SHALL BE PLACED ON THE SKEW.

○ - INDICATES GIRDER NUMBER

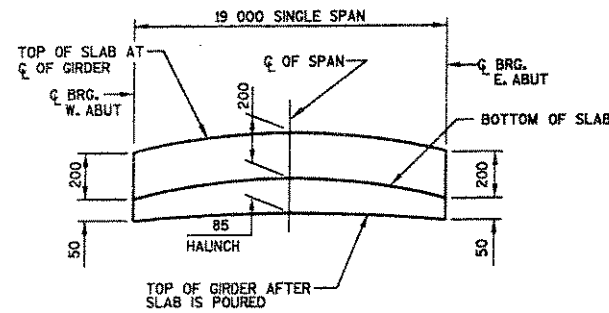
⊖ - DIMENSIONS ARE GIVEN PARALLEL TO THE E OF BRIDGE ROAD.

⊙ - DIMENSIONS ARE GIVEN NORMAL TO THE E OF SUBSTRUCTURES.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
Const. Spec.	WI "96"	Drawn By	RLR
		Plans Checked	JMB
SUPERSTRUCTURE			SHEET 7 OF 9

ORIGINATOR: RLR
 LEVELS ON 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63
 MSA #: 93966107
 REV. DATE: 9-22-97
 PLOT SCALE:

COATED 2900 kg
UNCOATED 1940 kg



HAUNCH HEIGHTS FOR GIRDER STIRRUP PROJECTION

NOTE: HAUNCH HEIGHTS ARE BASED ON THE TIME DEPENDENT VARIABLE "PRESTRESSED CAMBER" ASSUMING NORMAL CONSTRUCTION SCHEDULING.

TOP OF DECK ELEVATIONS AT C OF GIRDERS

LOCATION	GIRDER 1 ELEVATION	GIRDER 2 ELEVATION	GIRDER 3 ELEVATION	GIRDER 4 ELEVATION
C WEST ABUTMENT	459.925	459.970	459.975	459.940
1/4 POINT	459.960	460.005	460.010	459.970
1/2 POINT	459.975	460.020	460.020	459.975
3/4 POINT	459.970	460.010	460.005	459.960
C EAST ABUTMENT	459.940	459.975	459.970	459.925

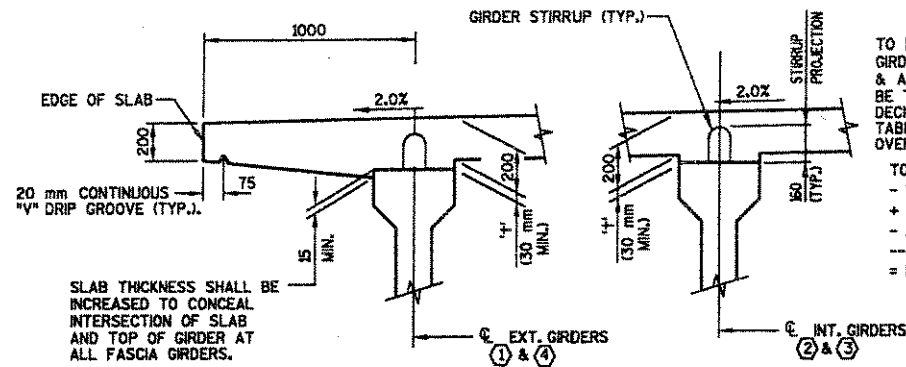
BILL OF BARS

MARK	NO. REQUIRE		LENGTH	BENT	LOCATION
	COATED	UNCOATED			
S1601	54	-	3600	X	DIAPHRAGM @ ABUTS. - STIRRUP - VERTICAL
S1602	4	-	3450	X	DIAPHRAGM @ ABUTS. - STIRRUP @ WINGS 2 & 4 - VERTICAL
S1903	12	-	8150	-	DIAPHRAGM @ ABUTS. - BACK FACE & TOP - HORIZONTAL
S1904	4	-	700	-	DIAPHRAGM @ ABUTS. - FRONT FACE - END BAYS - HORIZONTAL
S1905	8	-	750	-	DIAPHRAGM @ ABUTS. - FRONT FACE - END BAYS - HORIZONTAL
S1906	4	-	850	-	DIAPHRAGM @ ABUTS. - FRONT FACE - END BAYS - HORIZONTAL
S1907	6	-	1500	-	DIAPHRAGM @ ABUTS. - FRONT FACE - INTERIOR BAYS - HORIZONTAL
S1908	12	-	1650	-	DIAPHRAGM @ ABUTS. - FRONT FACE - INTERIOR BAYS - HORIZONTAL
S1909	6	-	1800	-	DIAPHRAGM @ ABUTS. - FRONT FACE - INTERIOR BAYS - HORIZONTAL
S1310	18	-	1800	X	DIAPHRAGM IN SPAN - STIRRUP - VERTICAL
XX S1911	-	12	1400	-	DIAPHRAGM IN SPAN - HORIZONTAL
S1312	-	6	1650	-	DIAPHRAGM IN SPAN - HORIZONTAL
S1613	77	86	8150	-	SLAB - TOP & BOTTOM - TRANSVERSE
S1314	41	40	12 000	-	SLAB - TOP & BOTTOM - LONGITUDINAL
S1315	-	40	8150	-	SLAB - BOTTOM - LONGITUDINAL
S1316	41	-	8200	-	SLAB - TOP - LONGITUDINAL
S1917	16	-	3700	X	SLAB @ RAIL POST, 1 PER POST - TRANSVERSE
S1918	32	-	1250	-	SLAB @ RAIL POST, 2 PER POST - LONGITUDINAL
S1619	16	-	7550	-	SLAB - TOP - @ RAIL POSTS AS NOTED BELOW - TRANSVERSE

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

XX - S1911 DEFORMED BAR, THREAD ONE END 75 mm.

▲ - PLACE TWO S1619 BARS IN LIEU OF TWO S1613 COATED BARS AT RAIL POSTS TO AVOID CONFLICT WITH S1917 BARS.

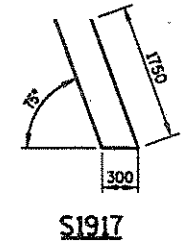
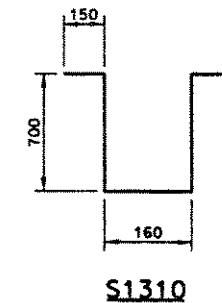
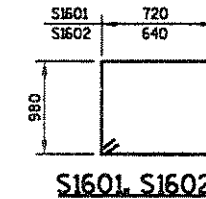


TO DETERMINE 'H' ELEV. OF TOP OF GIRDERS AT C OF SUBSTRUCTURE UNITS & AT 1/4 POINTS OF EACH SPAN SHALL BE TAKEN. TO DETERMINE THE TOP OF DECK ELEVATION FOR POINT REFERRED USE TABLE ABOVE AND ADJUST FOR CROSS SLOPE OVER GIRDER. THEN FOLLOW THIS PROCESS:

- TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- + DEADLOAD DEFLECTION (SEE SHEET 6)
- SLAB THICKNESS
- = HAUNCH HEIGHT 'H'

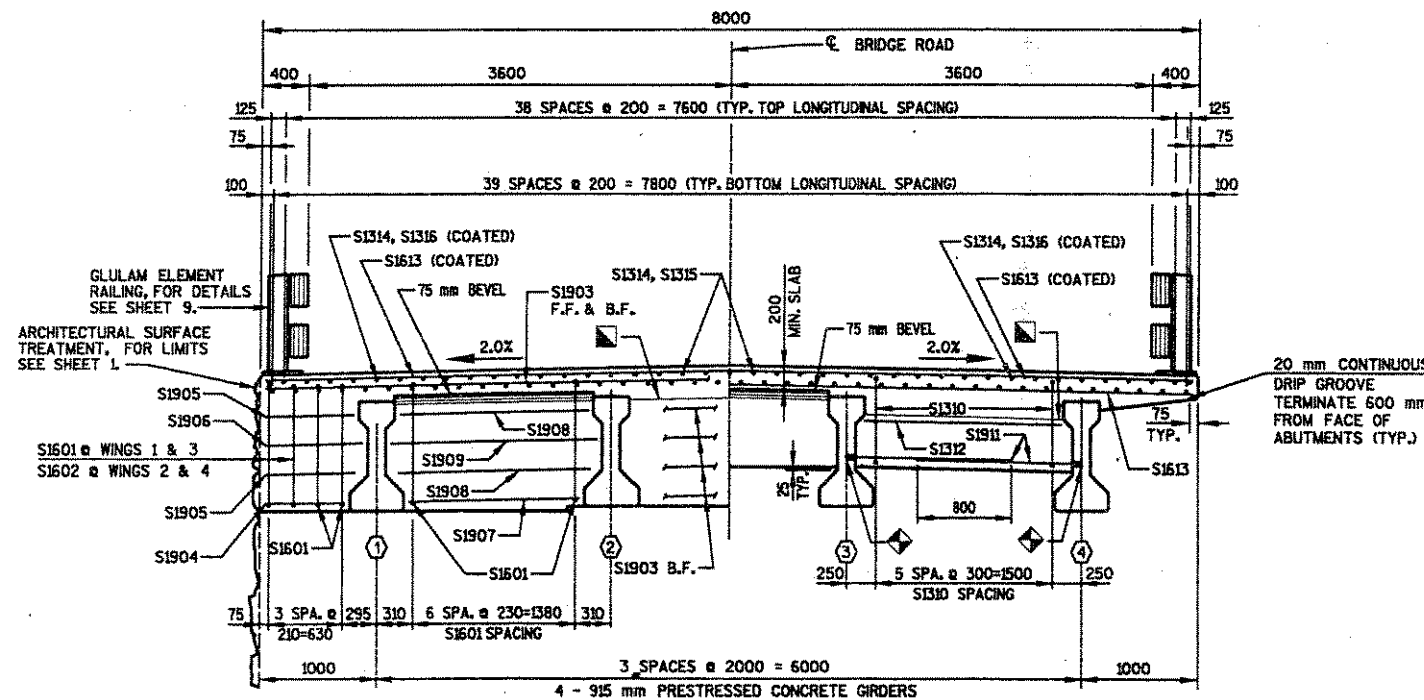
SLAB HAUNCH DETAIL

IF 30 mm MINIMUM HAUNCH HEIGHT 'H' 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. MAXIMUM HAUNCH HEIGHT EQUALS "STIRRUP PROJECTION" MINUS 75 mm.



LEGEND

- - INDICATES GIRDER NUMBER
- ◻ - OPTIONAL CONSTRUCTION JOINT (TYP. ALL BAYS).
- ◆ - DIAPHRAGM INSERTS TO BE CAST IN GIRDERS. FOR DETAILS SEE SHEET 6.



AT ABUTMENT

IN SPAN

CROSS SECTION THRU BRIDGE
(LOOKING EAST)

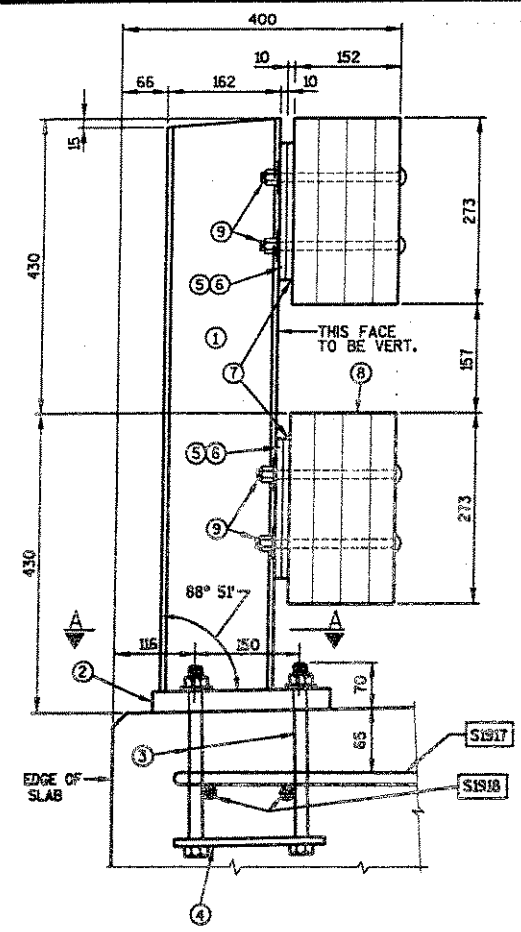
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
Const. Spec.	WI "96"	Drawn By	RLR
		Plans Checked	JMB
SUPERSTRUCTURE DETAILS			SHEET 8 OF 9

PLOT SCALE:

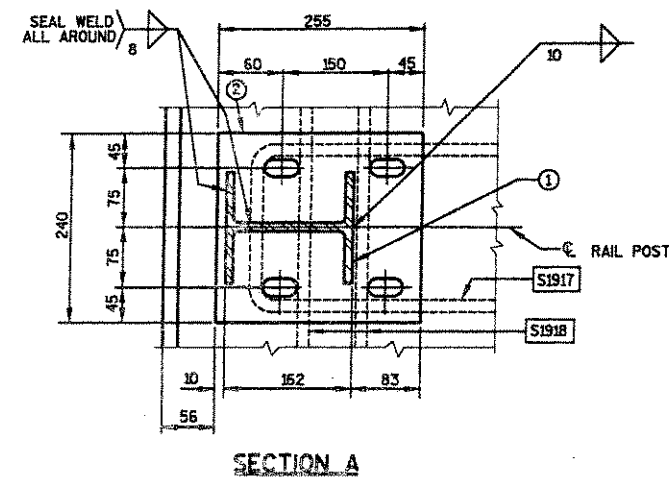
MSA #: 9396610B

REV. DATE: 9-22-97

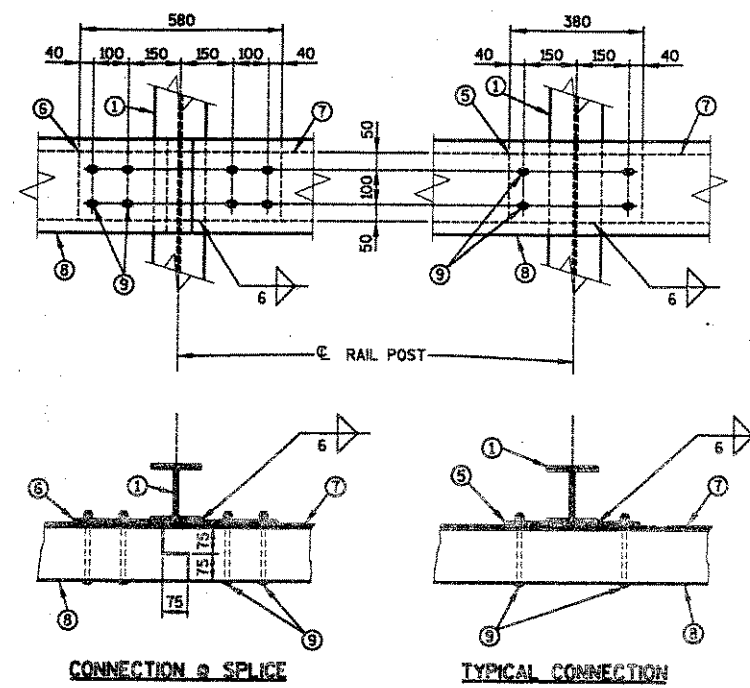
ORIGINATOR: RLR
LEVELS ON: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63



SECTION B THRU RAILING



SECTION A



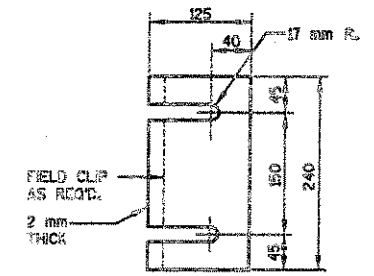
RAIL TO POST CONNECTION DETAILS

LEGEND

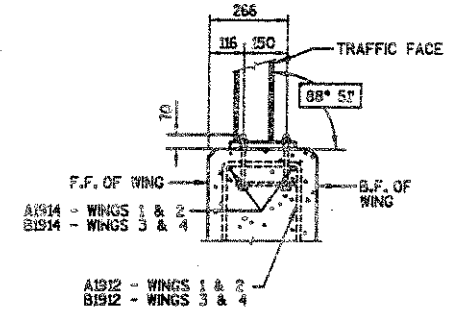
- ① W150x37. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POST NORMAL TO GRADE LINE.
- ② PLATE 25 mm x 240 mm x 255 mm WITH 27 mm x 40 mm SLOTTED HOLES FOR ANCHOR BOLTS (3). WELD TO (1) AS SHOWN.
- ③ A325M-M22 x 200 mm LONG HEX BOLT (ZINC COATED) WITH A325M NUT AND WASHER. 4 REQUIRED PER POST. THREAD 75 mm AND PLACE NORMAL TO PLATE (2). CHAMFER TOP OF BOLTS BEFORE THREADING. USE 360 mm LONG AT POSTS ON WINGS.
- ④ 6 mm x 200 mm x 200 mm FLAT BAR, WITH 25 mm DIA. HOLES FOR ANCHOR BOLTS (3).
- ⑤ PLATE 10 mm x 380 mm x 200 mm WITH 4 - 18 mm x 25 mm SLOTTED HOLES FOR BOLTS (9). WELD TO (1) AS SHOWN.
- ⑥ PLATE 10 mm x 580 mm x 200 mm WITH 8 - 18 mm x 25 mm SLOTTED HOLES FOR BOLTS (9). WELD TO (1) AS SHOWN.
- ⑦ PLATE 10 mm x 200 mm WITH 18 mm HOLES FOR BOLTS (9) AND 15 mm HOLES FOR LAG BOLTS (10). BOLT TO PLATES (5) AND (6) AS SHOWN.
- ⑧ 152 mm x 273 mm GLULAM RAIL WITH 18 mm HOLES FOR BOLTS (9). CONNECT TO PLATE (7) WITH BOLTS (9) AND (10).
- ⑨ 15 mm DIA. x 200 mm LONG CARRIAGE BOLTS WITH HEX. NUT AND 50 mm WASHERS.
- ⑩ 12 mm DIA. x 100 mm LONG LAG BOLT.

GENERAL NOTES

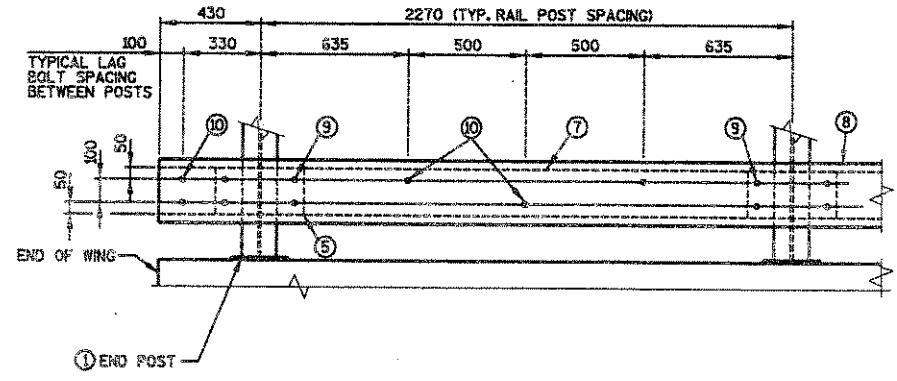
BID ITEM SHALL BE "GLULAM ELEMENT RAILING", WHICH INCLUDES ALL ITEMS SHOWN.
 RAILING SHALL BE FABRICATED WITH 3 SPLICES EACH SIDE OF BRIDGE. PANEL LENGTHS SHALL NOT EXCEED 6700 mm.
 POSTS BASE PLATES, (2) SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
 ALL STEEL MATERIAL, EXCEPT LOWER 200 mm OF ANCHORAGE DETAIL (NO (3) & (4)) SHALL BE PAINTED TO MATCH COLOR OF GLULAM RAIL, SEE SPECIAL PROVISIONS.
 FILL EXPOSED OPENINGS BETWEEN SHIMS AND POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. SEAL BOTTOM EDGES OF PLATE (2) TO DECK.
 ALL MATERIALS (EXCEPT GLULAM RAIL) USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709M GRADE 250 UNLESS NOTED OTHERWISE.
 STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
 PRIOR TO PAINTING, ALL STEEL RAILING POSTS AND STEEL PLATES SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
 ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG CENTERLINE OF POST BASE AT EDGE OF SLAB OR WING.



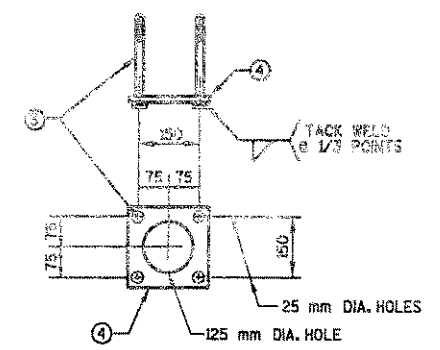
POST SHIM DETAIL
(4 PER POST)



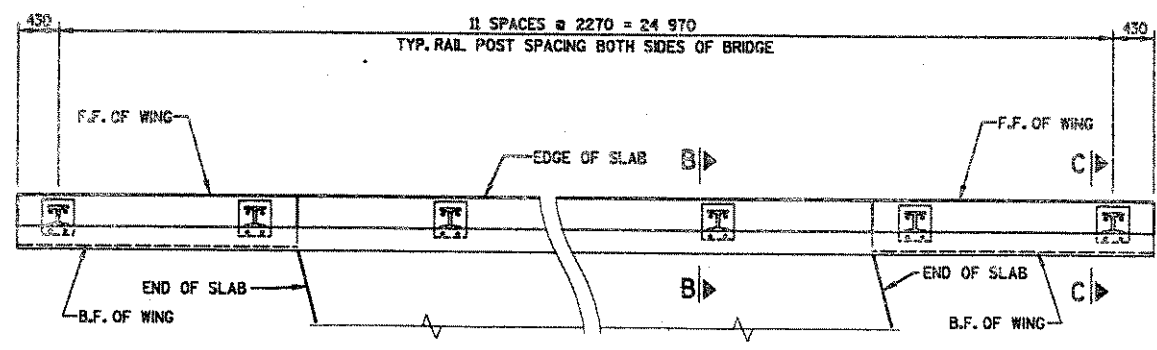
SECTION C THRU WINGS



PART ELEVATION OF RAILING



ANCHORAGE DETAIL



WINGS 2 & 4

PLAN OF RAILING

WINGS 1 & 3

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-136			
Const. Spec.	WI "96"	Drawn By	RLR
		Plans Checked	JMB
GLULAM ELEMENT RAILING			SHEET 9 OF 9

PLOT SCALE: MSA #1 93969103 REV. DATE: 9-22-97
 ORIGINATOR: RLR LEVELS ON: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60.