



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for
B-36-098

IH 43 NB over DEVILS RIVER

Jul 18, 2018



Type	Prior	Frequency (mos)	Performed
Routine	09-21-17	24	
Interim	06-16-16	0	X
Deck Evaluation	06-16-16	48	X
SIA Review	09-21-17	48	

Start Coordinates
Latitude
Longitude

End Coordinates (optional)
Latitude
Longitude

Owner

Maintainer

Time Log

Hours	Minutes
1	0

Team members

AECOM NDT Group

Name	Number	Signature	Signature Date
Inspector RegionSET, Ne	3014	<i>Ne RegionSET</i>	10-02-18
		E-signed by Brady Seston(sestonb)	

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

page 2

Identification & Location

Feature On: IH 43 NB	Section Town Range: S12 T21N R22E	Structure Number: B-36-098
Feature Under: DEVILS RIVER	County: MANITOWOC	
Location 1.7M N JCT STH 147	Municipality: COOPERSTOWN	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 40.0	Total Length: 116.2
Approach Pavement Width: 14	Deck Width: 43.0	Deck Area (sq ft): 4996

Traffic

Lanes	ADT	ADT year	Traffic Pattern
On 2	9200	2017	ONE WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS18	Overburden depth (in): 2.0	Last rating date: 02-21-09	Controlling: INTERIOR DECK GIRDER Positive Moment
Operating rating: HS48	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: SPAN 1
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 3500	
High water elevation (ft): 713.3	Velocity (ft/sec): 7.9	Sufficiency #: 85.5

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	PREST CONCRETE	DECK GIRDER	70	115.5	Y

Expansion joint(s)

Temperature:

File:	New:
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Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Construction History

Year	Work Performed	FOS id
2010	OVERLAY - CONCRETE	1227-10-60
1979	NEW STRUCTURE	1226-01-76

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Approach - Seal Approach to Paving Block w/rubber	Weber, Dale (3007)	COMPLETE	02/07/17	2017

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Substructure - Repair Abutment / Wings	MEDIUM	Rades, Brady (3015)	IDENTIFIED	09/21/17
Surface repair at abutment corners				
Deck - Seal Surface Cracks	MEDIUM	Rades, Brady (3015)	DEFERRED	12/18/17
Epoxy Overlay - Program through Backbone				

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

page 3

Structure No.: **B-36-098**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	4,997	4,937	60	0	0
		1080	Delamination - Spall - Patched Area CS-2(20 SF) Solid patches at N & S abutments	SF		0	20	0	0
		1130	Cracking (RC) CS-2: diagonal cracking at abutments (40sf)	SF		0	40	0	0
		8514	Concrete Overlay Concrete overlaid in 2010	SF	4,997	0	4,997	0	0
		3210	Debonding/Spall/Patched Area/Pothole 7/18/18 - Level 1 IR <2% Approximate 21 sqft of CS-2 defects CS-2(9 SF) Sound patch in Rt lane at south abutment	SF		0	21	0	0
		3220	Crack (Wearing Surface) CS-2(4987 SF) Est. 100% map cracking	SF		0	4,976	0	0
	109		Prestressed Concrete Open Girder	LF	564	555	9	0	0
			Moisture appears to be coming through backwall at girder ends. Possibly causing deterioration in cast-in place portions						
		1080	Delamination - Spall - Patched Area CS-2: delam on G1 at N abutment, G5 south abutment, G3 south abutment, G2 south abutment)	LF		0	4	0	0
		1110	Cracking (PSC) CS-2(5') Small cracks on top flange at north abutment	LF		0	5	0	0
	215		Reinforced Concrete Abutment	LF	84	76	5	3	0
		1080	Delamination - Spall - Patched Area CS-3(S Abut E Corner 1' & N Abut E Corner 2') Large spalls	LF		0	0	3	0
		1130	Cracking (RC) CS-2 (S Abut 2' & N Abut 3') Vert. cracking	LF		0	5	0	0
	331		Reinforced Concrete Bridge Rail	LF	295	256	39	0	0
		1080	Delamination - Spall - Patched Area CS-2(E Side 15' & W Side 18') Shallow spalls	LF		0	33	0	0
		1130	Cracking (RC) CS-2(E Side 3' & W Side 3') Vert. & horz. cracking	LF		0	6	0	0
	8400		Integral Wingwall	EA	4	2	2	0	0
			SE & SW & NE wings strapped in 2010. NE & NW wings replaced in 2010.						
		8902	Wall Movement SW wing tipped 2" (2015). SE wing tipped 1 1/2" (2015)	EA		0	2	0	0

BRIDGE INSPECTION REPORT
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page 4

Structure No.: **B-36-098**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9001		Drainage - Ends of Structure Inlets at SW & SE quadrants	EA	4	4	0	0	0
	9043		Slope Protection- Crushed Aggregate with Bit. Both settling & heavily vegetated	EA	2	0	2	0	0
	9045		Slope Protection- Riprap Top of slopes at abutments - repaired in 2010	EA	2	2	0	0	0
	9168		Concrete Diaphragm Minor spall on bottom of one diaphragm	EA	8	7	1	0	0
	9323		Approach Roadway - Asphalt Replaced in 2010 North approach settled 3/4"	EA	2	1	1	0	0

NBI Ratings

	File	New
Deck	6	6
Superstructure	7	7
Substructure	6	6
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Inspection Specific Notes

10/2/18 - This evaluation is to upload IR data for future reference during routine inspections. The IR inspection occurred on 7/18/18.

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Special Requirements

Chk	Hours	Cost	Comments
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**Underwater Probe Form
B-36-098**

General Site Conditions - Scour

No scour

General Site Conditions - Embankment Erosion/Conditions

Abutments are high and heavily riprapped

Substructure Notes

Chk	Unit	Max Water Depth(ft)	Mode	Notes
	Cardinal		Dry	North Abutment
	Non Cardinal		Dry	South Abutment

Non-Image Documents

Type	Document	Document Comment/Description	Attached
Deck Evaluation	b36-098_18_Kd1.pdf		X

**Wisconsin Dept. of Transportation
Structure Inventory Data**

Bridge B360098

Structure No.: B360098	Municipality: COOPERSTOWN	Section:	Town:	Range:	Maintenance Agency: STATE HIGHWAY DEPT	Owner: STATE HIGHWAY DEPT
Replaced Structure No.:	Historical Sig.: 5	Latitude: 441758. 26	Longitude: 874656.95		County: MANITOWOC (3 6)	District: 3

ABUTMENT DATA (CARDINAL)

1. Abutment Type: SILL FLEXIBLE
2. Pile Type: PILING - STEEL H
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: HEAVY RIPRAP
5. Rdwy. Width: 40.0 ft
6. Deck Width: 43.0 ft
7. Wing Type:

ABUTMENT DATA (NON-CARDINAL)

1. Abutment Type: SILL FLEXIBLE
2. Pile Type: PILING - STEEL H
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: HEAVY RIPRAP
5. Rdwy. Width: 40.0 ft
6. Deck Width: 43.0 ft
7. Wing Type:

GEOMETRIC DATA

1. Structure Length: 116.2 ft (Back to Back Abuts. Along Rdwy. Centerline)
2. No. Lanes On: 2
3. L. Sdk. Width On: 0.0 ft
4. R. Sdk. Width On: 0.0 ft
5. Median Type:
6. Median Width: 0.0 ft
7. Skew Angle: 0 Deg.
8. Direction Skew Angle:
9. Horizontal Curve: 0.0 Radius, ft
10. Dir.-Hor. Curve:
11. Girder Spacing: 8.7 ft
12. Height: 70.0 ft (Top Pier Footing to Top Deck or Streambed Elev. to Top Deck)
13. NBI Bridge Length Met: true

APPROACH DATA

1. Appr. Pavement Width: 14 ft
2. Rt. Shoulder Width: 10 ft
3. Lt. Shoulder Width: 6 ft
4. Total Width (Sum Above): 40 ft
5. Guardrail Termination: 1
6. Guardrail Adequacy: 1
7. Railing Attachment Type: 5 - 22 MM (7/8") BOLTS
8. Railing Design Year: 1965 AASHO
9. Left Outer Railing Type:
10. Right Outer Railing Type:
11. Left Inner Railing Type:
12. Right Inner Railing Type:

CAPACITY DATA

1. Design MS: HS20M
2. Inventory MS: HS18
3. Operating MS: HS48
4. Max. Veh. Wt.: 250 kips
5. Load Rating Basis.: LFR
6. Load Governing Member: INTERIOR DECK GIRDER
7. Deck Composition: NONE
8a. Deck Membrane:
8b. Deck Surface: CONCRETE

HYDRAULIC DATA

1. Design Flood Frequency: 100 yrs
2. Design Discharge: 3500 cu-ft/s
3. Max. Velocity: 7.9 ft/s
4. Drainage Area: 35.8 sq. ft
5. High Water Elev.: 713.3 ft
6. Scour Critical Code: 8
7. Scour Calculated?: false

STRUCTURE SERVICE DATA

1. Hwy. On Detour Length: 15 ft
2. Type Service On: HIGHWAY
3. Type Service Under: WATERWAY

APPRAISAL UPDATE

1. Load Capacity: 5-LEGAL LOAD STRESS NOT EXCEEDED
2. Geom. On: 7-COND BETTER THAN MIN CRITERIA
3. Geom. Under: N-NO UNDERCLEARANCE RECORD EXISTS
4. Appr. Align: 8-COND EQUAL DESIRABLE CRITERIA
5. Horiz. Align:
6. Vert. Align:

PLANNING DATA

1. Functional Classification: INTERSTATE-RURAL (01)
2. ADT: 9200
3. ADT-Year: 2017
4. Truck ADT %: 22
5. Future ADT: 18550
6. Future ADT-Year: 2016

CONDITION DATA

Deck:	SuperStructure:	SubStructure:	Channel:
Culvert:	Waterway:		

Bridge B360098

CONSTRUCTION DATE

Project ID	Construction Contractor	Construction Designer	Construction Year	Plans Reel Number	Letting Date	Survey Received	Work Performed
1227-10-60	NORTHEAST ASPHALT, INC.	BRIDGE SECTION	2010		23-Jun-2009	31-Jul-2008	OVERLAY - CONCRETE
1226-01-76	WONDERLIC H-HOFFMAN	BRIDGE SECTION	1979	C222		01-Feb-1976	NEW STRUCTURE

CLEARANCE DATA

Clearance Lane Number	Minimum Vertical	Minimum Vertical Date	Minumum Horizontal Distance	Right Minimum Lateral
Left Minimum Lateral	Railroad Right Minimum Lateral	Railroad Left Minimum Lateral	Railroad Vertical Distance	Railroad Horizontal Distance

ROUTE DATA

Number	Direction	Type	Structure Route On / Under	Structure Route Cardinal / NonCardinal
043	N		O	C
			U	

Number	Structure Route Location	Highway Feature Name	Structure Route Local System	Highway Feature Designation
043	1.7M N JCT STH 147	IH 43 NB	IH	MAINLINE
		DEVILS RIVER		WATER / LAND / OTHER

Number	Structure Route Primary Flag	Designed National Network Flag	Structure Defense Highway Designation	Highway On Inventory Route
043	Y	Y	1	NHI
	Y	N	0	

PIER DATA

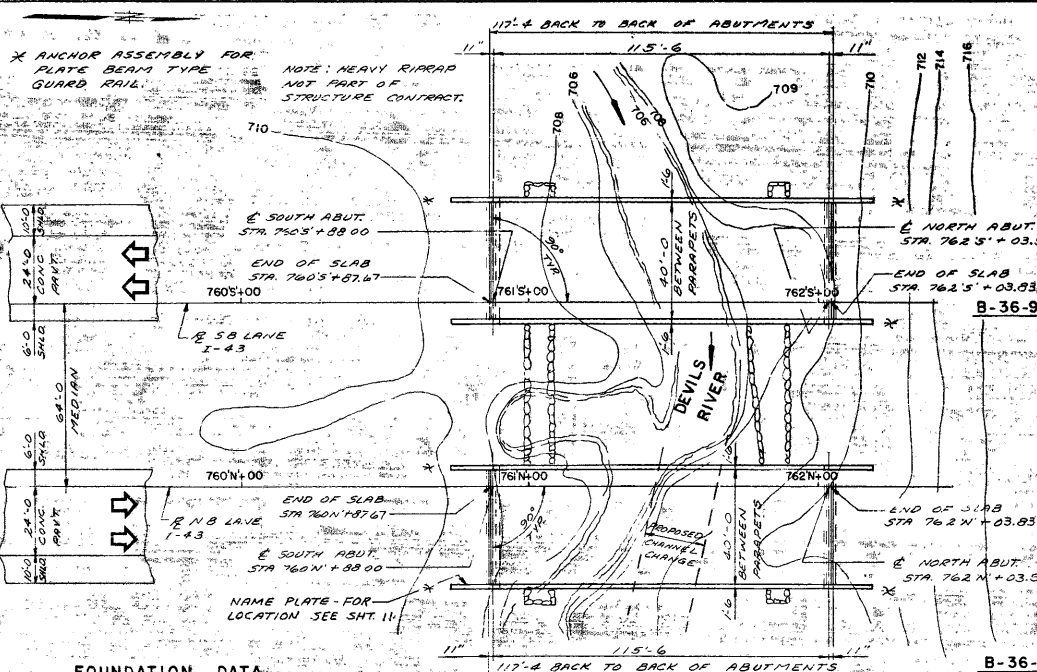
Number	Pier Type	Piling Type	Piling Size	Pier Skew Angle	Direction of Skew

SPAN DATA

Number	Type	Length	Configuration	Material	Girder or Truss Height	Girder or Truss Spacing
1		115.5	DECK GIRDER	PREST CONCRETE	70.0	8.7

EXPANSIONJOINT DATA

Number	Location	Type	Inactive Date



BENCH MARK			
NO.	STATION	DESCRIPTION	ELEV.
368	763N+70	PR. NAIL 16" DIRC. - 80' RT.	717.82

PROJECT ID 1226-1-76	NO. OF PAGES 731	TOTAL SHEETS
FEDERAL PROJECT DESIGNATION 7.31		

DESIGN DATA

LIVE LOAD:
DESIGN RATING: H520 MOD
INVENTORY RATING: H524
OPERATIONAL RATING: H547
STRUCTURE IS DESIGNED FOR A FUTURE WEARING
SURFACE OF 20 POUNDS PER SQUARE FOOT.

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY SLAB	_____	Pk = 4,000 P.S.I.
ALL OTHERS	_____	Pk = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	_____	Fy = 60,000 P.S.I.
70" PRESTRESSED GIRDERS, CONCRETE MASONRY	_____	Pk = 6,000 P.S.I.
STRANDS - 1/2" ϕ WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.	_____	

GENERAL NOTES

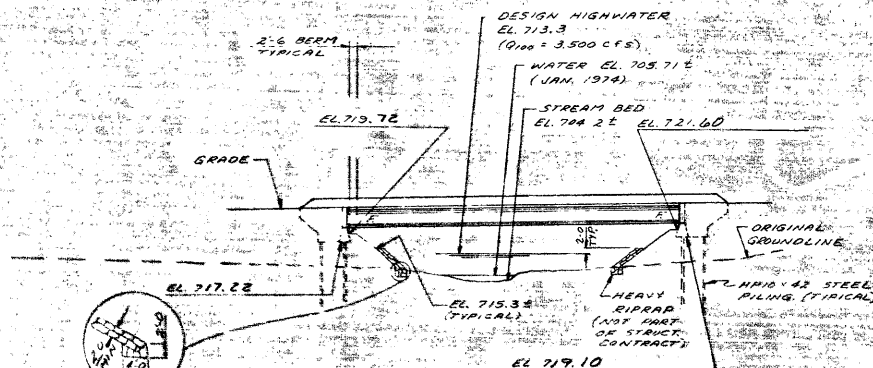
DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINF. SHALL BE EMBEDDED 2" CLEAR
UNLESS OTHERWISE SHOWN OR NOTED.
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY
MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

FOUNDATION DATA

ABUTMENTS SUPPORTED ON HP10x42 STEEL
PILING, DRIVEN TO A MIN. BRG. VALUE OF 37
TONS PER PILE, EST. 40'-0" LONG.

PLAN - B - 36 - 97/98

SPAN - 70" PRESTRESSED GIRDERS



ELEVATION

LIST OF DRAWINGS

1	GENERAL PLAN	X59307
2	GENERAL PLAN	X59308
3	SUBSURFACE EXPLORATION	X59309
4	SOUTH ABUTMENT	X59310
5	SOUTH ABUTMENT	X59311
6	NORTH ABUTMENT	X59312
7	NORTH ABUTMENT	X59313
8	SUPERSTRUCTURE	X59314
9	SUPERSTRUCTURE	X59315
10.	70" PRESTRESSED GIRDER DETAILS	X59316
	11. SLOPED FACE PARAPET "B"	X59317

AS BUILT PLAN

DATE 11-81 BY W.J.K.

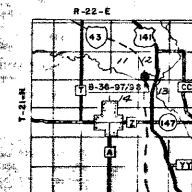
No	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-98			
INTERSTATE 43 OVER DEVILS RIVER			
County	MANITOWOC	City Village	TN COOPERSTOWN
Designated	State Road AASHTO. 1975	Load	HS20
By	CDW	Design	MOD.
	Design Engineer RLP	Drawn By	NJA
Approved	<u>W.A. Kline</u>	Date	4-15-78
	Chief Bridge Engineer		Date
GENERAL PLAN		SHEET 1 OF 1 X59307	

TRAFFIC VOLUME

INTERSTATE 43
ADT: 9,200 (1994)
RDS: 70 MPH

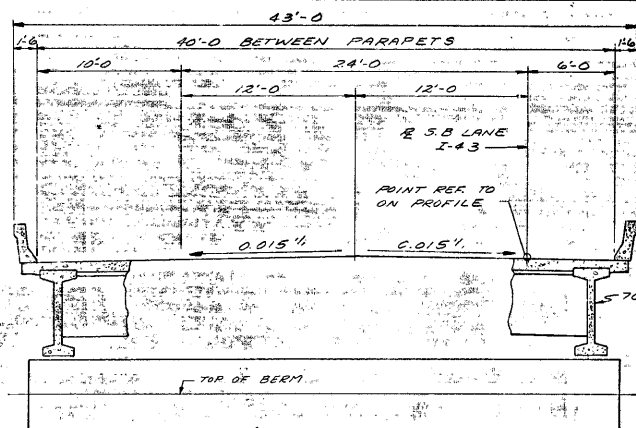
HYDRAULIC DATA

100 YEAR FREQUENCY
Q100 = 3.500 C.F.S.
VEL. = 7.9 F.P.S.
H.W. = 713.3
WATERWAY AREA = 444 SQ.FT.
DRAINAGE AREA = 35.8 SQ.MI.



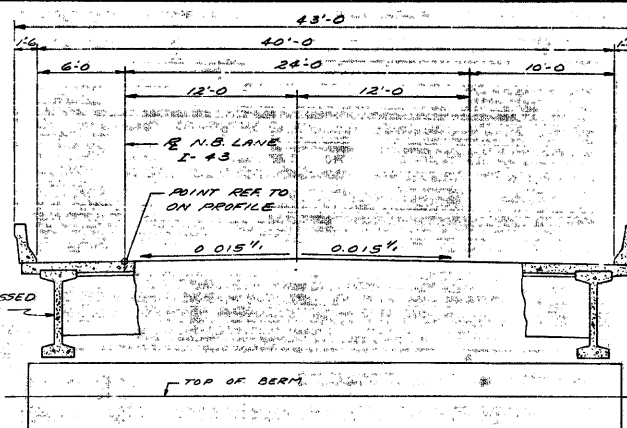
LAYOUT

PROJECT NO. 1224-1-76	SHEET NUMBER 7.32	TOTAL SHEETS
FEDERAL PROJECT DESIGNATION		



B-36-97

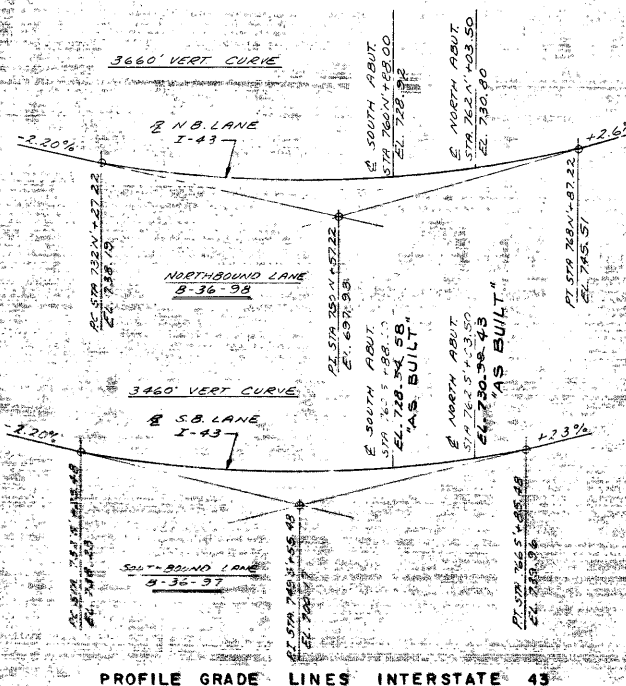
CROSS SECTION THRU ROADWAY LOOKING NORTH



B-36-98

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	SOUTH ABUT.	NORTH ABUT.	TOTAL
EXCAVATION FOR STRUCTURES	L.S.				1
CONCRETE MASONRY	C.V.	180.8	40.1	40.1	261
PRESTRESSED GIRDER, I TYPE, 70 INCH	L.F.	580			580
HIGH STRENGTH BAR STEEL REINFORCEMENT	LBS.	33,060	3,250	3,250	39,560
STRUCTURAL CARBON STEEL	LBS.	445			445
BEARING PADS ELASTOMERIC	S.F.	15			15
STEEL PILING, DELIVERED AND DRIVEN HP 10 INCH 42 POUND	L.F.		560	560	1120
NON-BID ITEMS					
FILLER	SIZE				1/2" x 3/4"
POLYVINYL CHLORIDE WATERSTOP	L.F.		53	53	106
ALUMINUM OR ZINC PLATE	S.F.	18			18



PROFILE GRADE LINES INTERSTATE 43

No.	Date	Revised	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-98			
Contract Spec. 1975	Drawn By N.J.A.	Checked By BUDD	
GENERAL PLAN			SHEET 2 OF 11 X59308

B-36-97

PROJECT NO. 122 6-1-76	SHEET 7.33	TOTAL SHEETS 7.33
FEDERAL PROJECT DESIGNATION		

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	
95/5=95 Blows for 6" Penetration Probing taken with a 350# wt. Falling 18" on a 2" O. D. Point.	Probing No. Sta. Elevation 7 Average Blows Per Foot Refusal 95/5

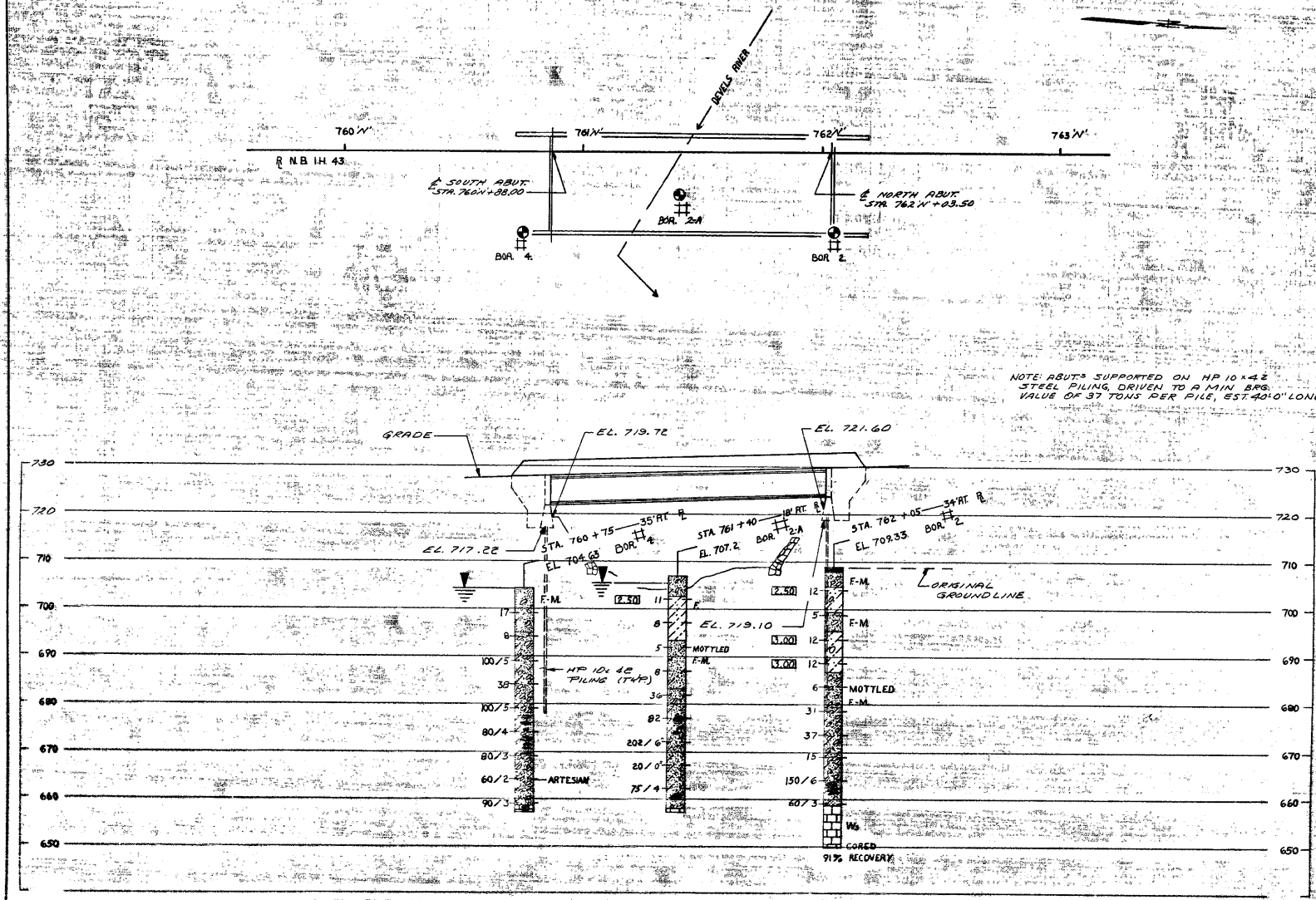
LEGEND OF BORING	
Unconfined Strength Blows Per Ft. Using 140# WL Falling 30" Wash Sample Shelly Tube — S. T. Ground Water Elevation No Ground Water Observed Above This Elevation	Elev. Boring No. Sta. Sandy Gravel Boulders or Cobbles Sand Silty Clay So Limestone

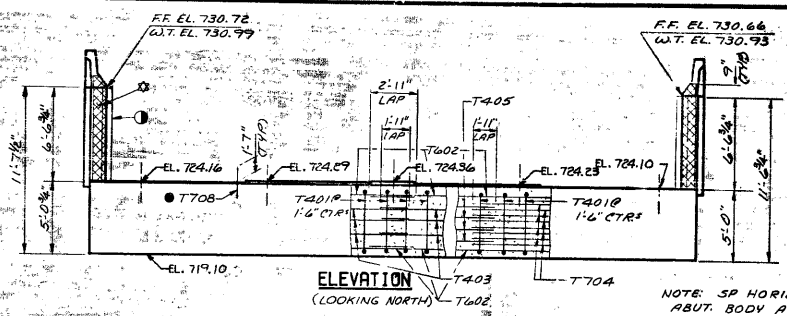
Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2" O. D. x 1.4" I. D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the 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 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.

No.	Date	Revision	By
STATE OF MISSOURI DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-98			
Drawn By 1976	Checked By D.C.N.	Drawn By N.A.J.	Checked By B.U.D.
SUBSURFACE EXPLORATION		SHEET 3 OF 11 X59309	

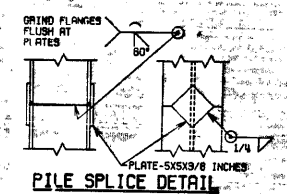




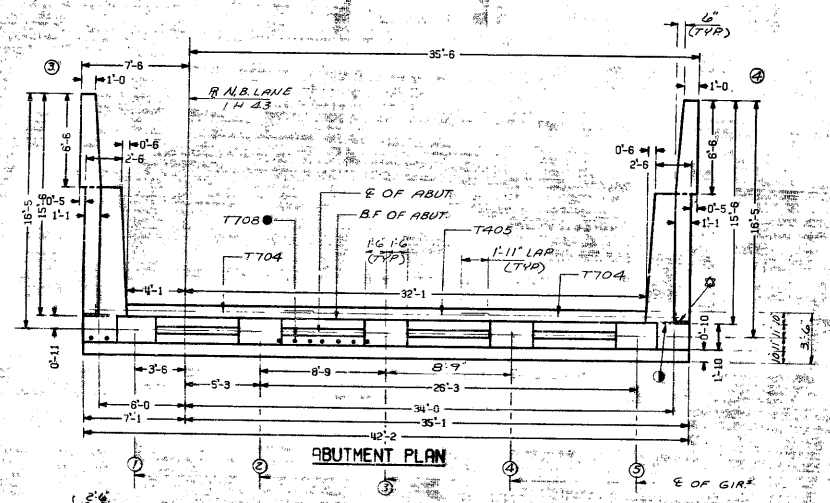
ELEVATION
(LOOKING NORTH)

NOTE: SP. HORIZ. BARS IN ABUT. BODY AS SHOWN. (FF & B.F. BARS ARE TO BE EQUALLY SPACED.)

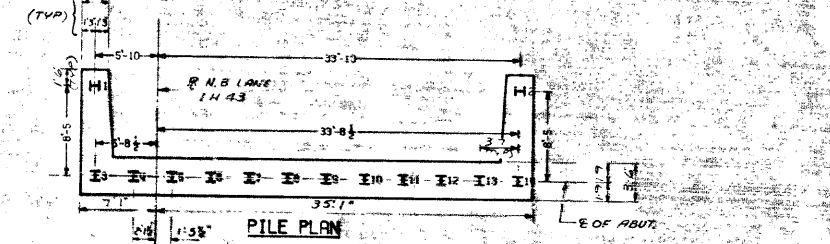
- CONST. JOINT FORMED BY SURFACED, BEVELED 2"x6" KEYWAY, (BETW. BRIDGE SEATS)
- 3"x6" FILLER - TO EXTEND OUT TO OUT OF ABUT. (EXCEPT UNDER GIRTS)
- 2" FILLER - LIMITS AS SHOWN - SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/2" BELOW SURFACE OF CONC.)
- T708 BARS SPACE AT 1'-0" CTR. BETW. GIRTS MAY BE PLACED AFTER CONC. IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- NOTE: POLYVINYL CHLORIDE WATERSTOP - TO BE FLUSH WITH FACE OF CONC. (1) TO EXTEND BETW. INSIDE FACES OF WINGS; (2) TO EXTEND FROM BEAM SEAT TO TOP OF WING. SEE DETAIL SH. 4.
- NOTE: FILL TO EL. 719.10 BEFORE DRIVING PILES.
- NOTE: SP. T401 BARS TO MISS PILING.
- NOTE: ABUT. SUPPORTED ON HP 10x42 STEEL PILES, DRIVEN TO A MIN. BRG. VALUE OF 37 TONS PER PILE, EST. 40'-0" LG.



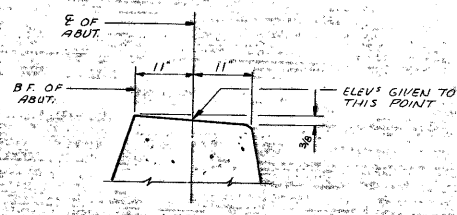
PILE SPLICE DETAIL



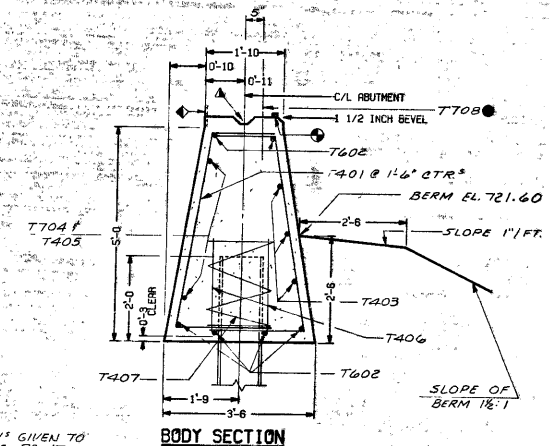
ABUTMENT PLAN



PILE PLAN



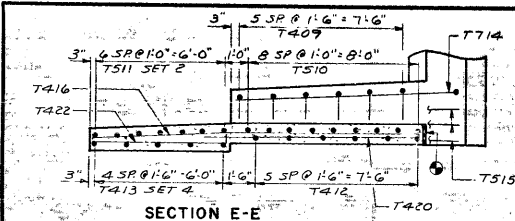
TYP SECTION THRU BODY
AT BEAM SEAT



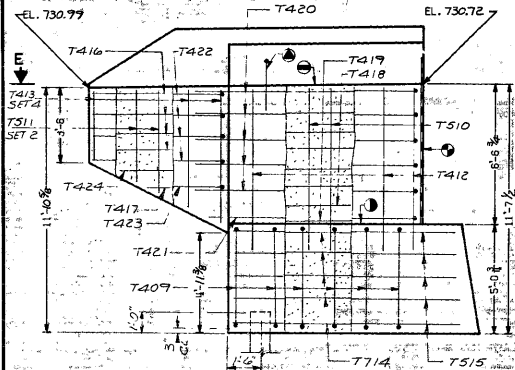
BODY SECTION

No.	Date	Revision	By
1	1973	Revise	BUDD
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-98			
NORTH ABUTMENT		SHEET 6 OF 11 X 59312	

- ① 1/2" FILLER. FOR DETAILS SEE SHT. 6.
- ② PARAPET BARS. FOR DETAILS SEE SHT. 11.
- ③ CONST. JT. STRIKE OFF AS SHOWN ON SHT. 11 AND LEAVE ROUGH.
- ④ OPT CONST. JT. FORMED BY SURFACED BEVELED 2"x6" KEYWAY. (1/4" V GROOVE ON L.F. OF WINGWALL.)



SECTION E-E



WING 3 ELEVATION

BILL OF BARS

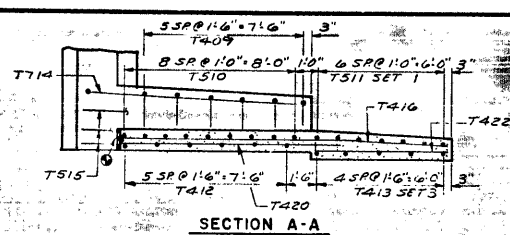
MARK	NO	RE'D	LENGTH	BENT	CUT	LOCATION
T401	86	8-1	*			BODY
T402	12	22-5	*			TOP & BOT. HORIZ.
T403	6	21-11	*			FF
T404	16	15-6	*			BF
T405	4	14-8	*			"
T406	24	2-3	*			@ PILES
T407	12	28-0	*			5/2" DIA SPIRAL WIRE
T408	38	3-8	*			BETW. GIRTS
T409	24	8-7	*			WINGS
T510	18	7-10	*			BASE
T511	7	9-4	*			"
T412	12	7-10	*			FF
T413	5	9-4	*			"
T714	10	11-4	*			BASE BF
T515	14	10-4	*			FF
T416	8	15-8	*			BF
T417	2	13-2	*			"
T418	2	11-6	*			"
T419	2	10-1	*			"
T420	10	10-11	*			FF
T421	2	10-5	*			"
T422	8	7-1	*			"
T423	2	4-5	*			"
T424	2	14-6	*			BF

NOTE THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
NOTE DIMS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

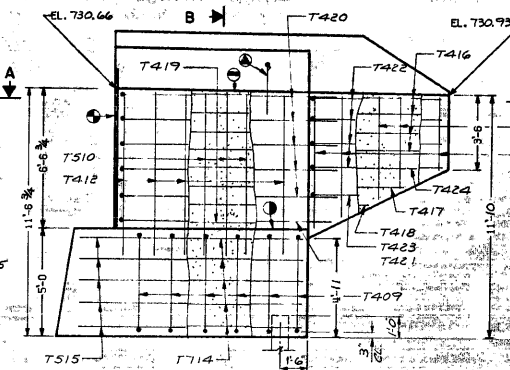
MARK & CUT ALL BARS ALONG THIS LINE. MAKE ALL CUTS NORMAL TO BAR AXIS.



NOTE: CUT, BUNDLE AND MARK WITH BAR NO. AND SET NO.



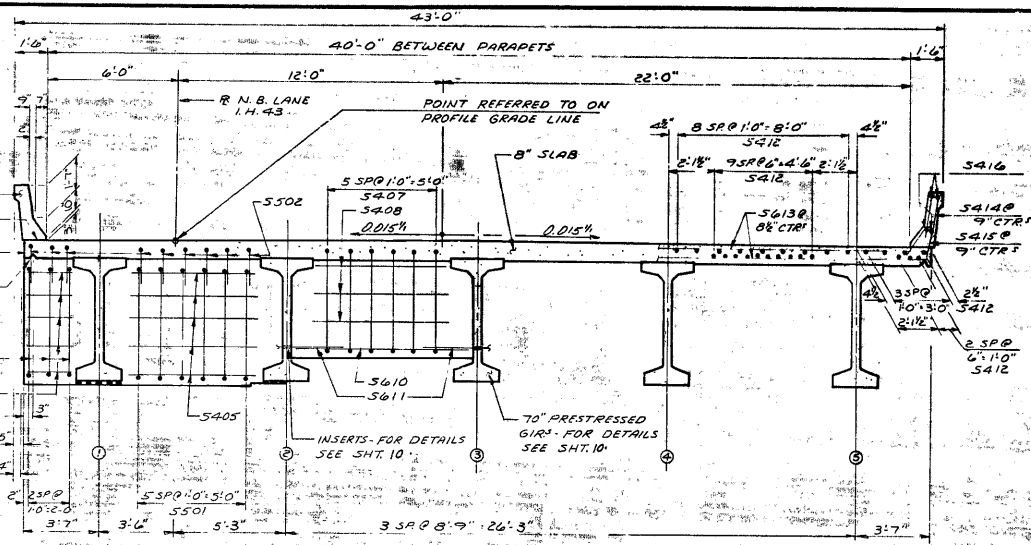
SECTION A-A



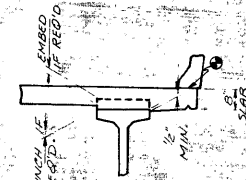
BILL OF BARS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
DIM. IN BENDING DETAILS ARE OUT TO OUT OF BAR.

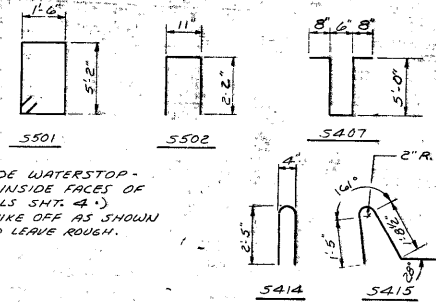
MARK	NO	REOD	LENGTH	BENT	LOCATION
S501	40	14-1	*		DIAPH. @ ABUT. VERT.
S502	40	5-0	*		" " " " " "
S503	120	2-0			" " " " " "
S404	20	21-8			" " " " " " HORIZ.
S405	40	6-3			" " " " " " " "
S406	20	2-2			" " " " " " " "
S407	48	11-6	*		" " IN SPAN VERT.
S408	48	4-3			" " " " " " HORIZ.
S609	8	3-0			" " " " " " PLAIN END
S610	16	7-11			" " " " " " PLAIN END
S611	12	6-0			" " " " " " " "
S412	270	39-7			SLAB LONGIT.
S613	327	41-10			" TRANS.
S414	312	5-0	*		PARAPET VERT.
S415	312	4-3	*		" " " "
S416	40	23-1			" " " " HORIZ.



CROSS SECTION THRU ROADWAY
(LOOKING NORTH)

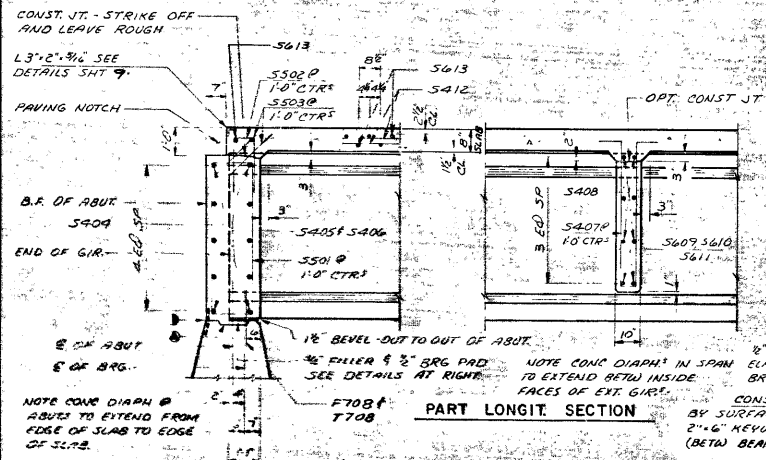


SECTION AT EXT. GIR.



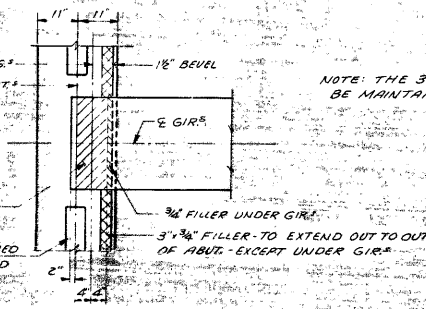
- POLYVINYL CHLORIDE WATERSTOP - TO EXTEND BETW. INSIDE FACES OF WINGS. (SEE DETAILS SHT. 4.)
- CONST. JOINT - STRIKE OFF AS SHOWN ON SHEET 11 AND LEAVE ROUGH.

NOTE: THE 3" VERT. FACE OF PARAPETS TO BE MAINTAINED AT ALL POINTS OF BRG.



PART LONGIT. SECTION

NOTE CONC. DIAPH. @ ABUT. TO EXTEND FROM EDGE OF SLAB TO EDGE OF SLAB.

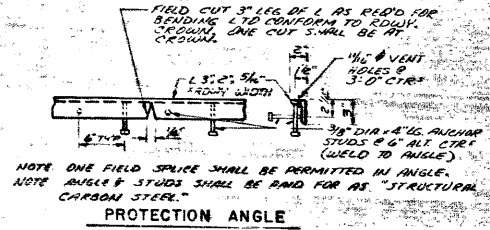
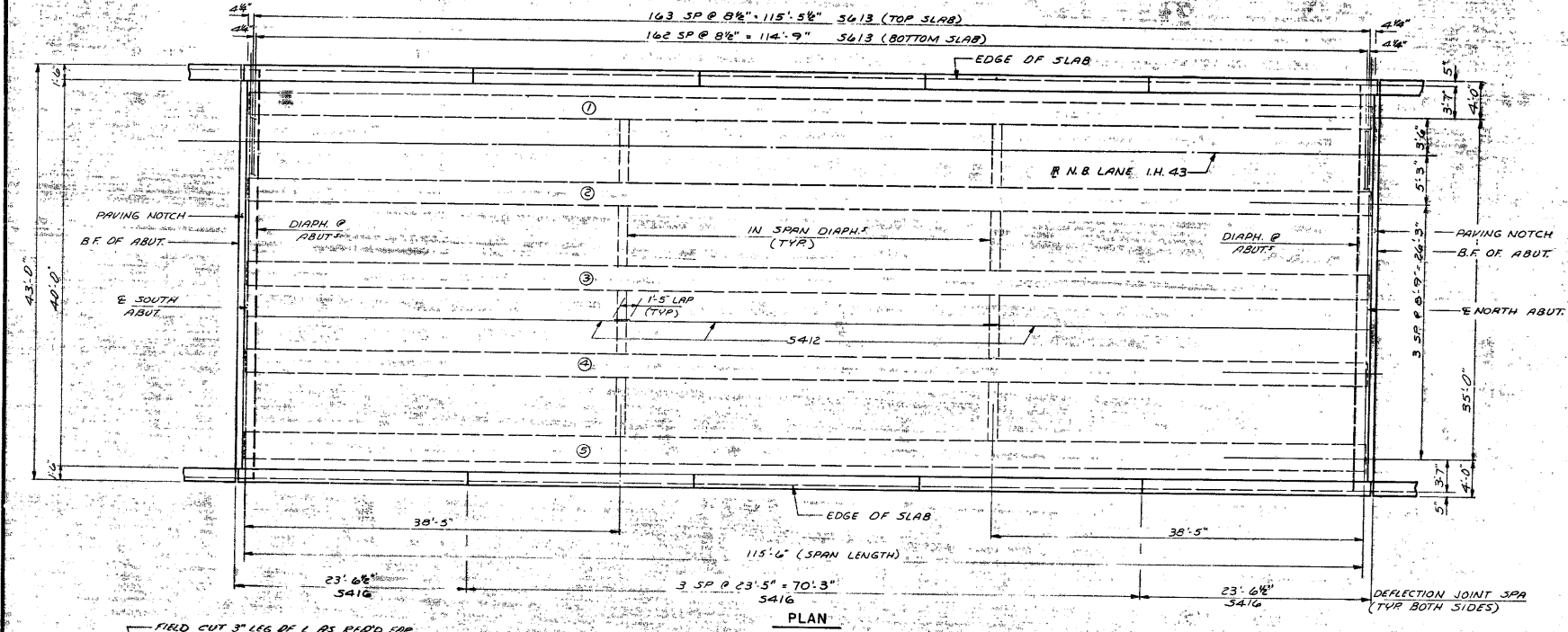


ELASTOMERIC BEARING PAD DETAILS

No.	Date	Revision	By
1	1975	1	NJA

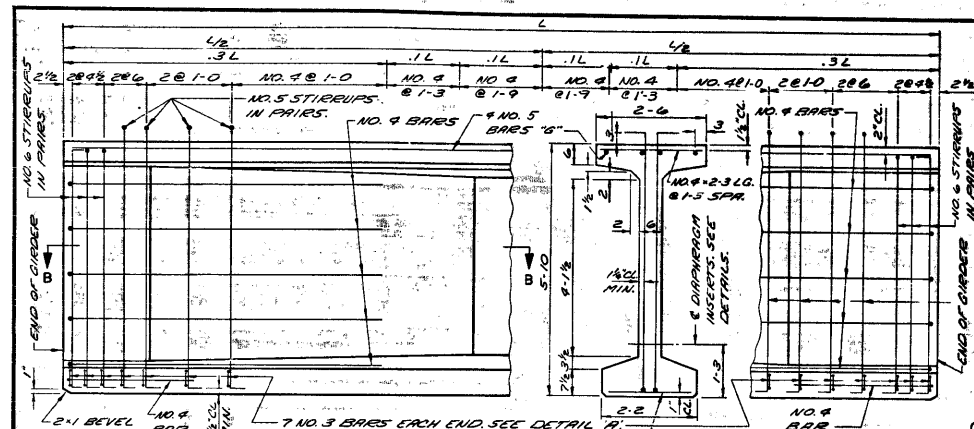
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-98			
Drawn 1975	Design NJA	Check BUDD	Project BUDD
SUPERSTRUCTURE			SHEET 8 OF 11 X59314

STATE PROJECT NUMBER	SHEET NO.
1226-1-76	7.39

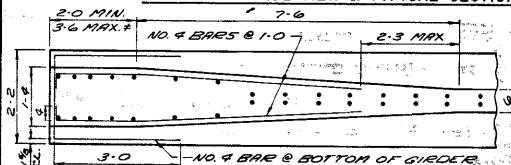


No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-98			
Drawn By: 1975	Drawn By: HJA	Check By: BUDD	
SUPERSTRUCTURE			SHEET 9 OF 11
			X59315

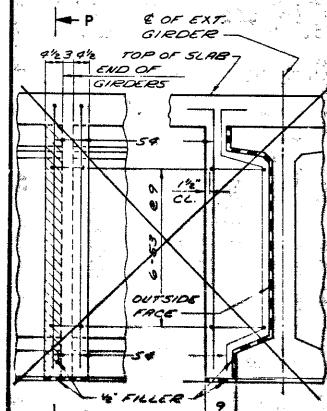
B-36-97



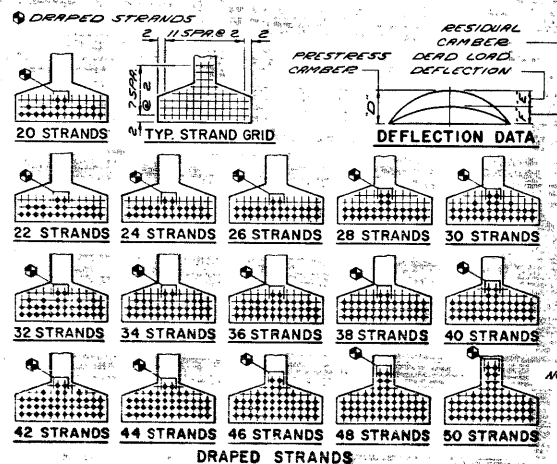
70" GIRDER-SIDE VIEW & TYPICAL SECTION IN SPAN



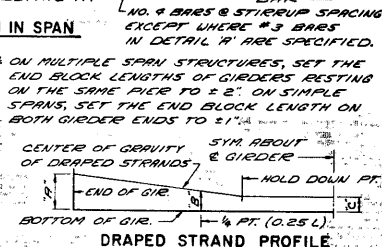
SECTION B
DETAIL TYPICAL BOTH ENDS



END VIEW
SECTION P
PILASTER DETAILS AT PIERS

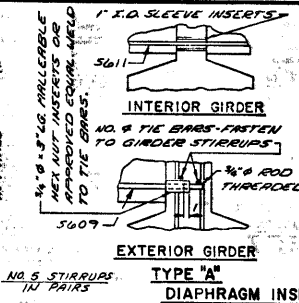


DRAPED STRANDS

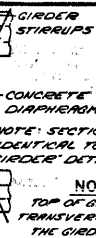
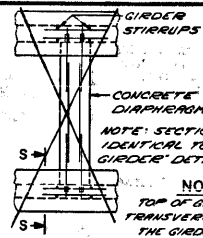


GIRDER DATA

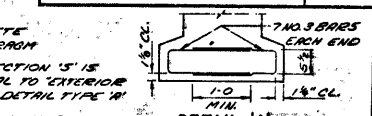
GIRDER SPAN LENGTH 'L'	DEFLECTION DATA (IN)	USE DIAPHRAGM INSERT DETAIL TYPE "A"									
		TYPE OF STRANDS	NO. OF STRANDS (P.S.A.)	'P'	'P'	'P'	'P'	'P'	'P'	'P'	'P'
1 115'-10"	2 1/8"	STRESS RELIEVED LOW RELAXATION	50	5.350	11.47	19	19	22	22	22	22
		STRESS RELIEVED LOW RELAXATION	48	5.085	13.89	52	52	52	52	52	52



INTERIOR GIRDER
EXTERIOR GIRDER
TYPE "A"
DIAPHRAGM INSERT DETAILS

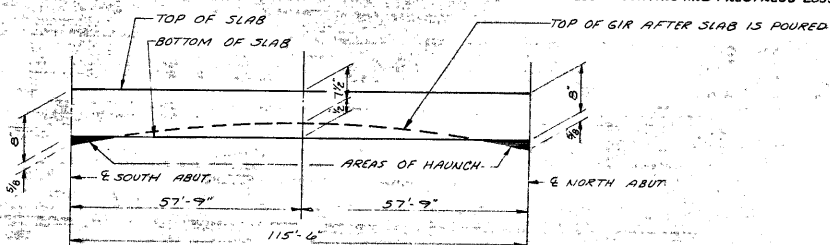


STATE PROJECT NUMBER	SHEET NO.
1226-1-76	7, 40



NOTES:
TOP OF GIRDERS TO BE ROUGH FLOATED & BROOCHED TRANSVERSELY FOR BONDING TO THE SLAB.
THE GIRDER MANUFACTURER SHALL PROVIDE A SUITABLE LIFTING DEVICE FOR HANDLING & ERECTING THE GIRDERS.
PRESTRESSING STRANDS SHALL BE 1/2" Ø - 7 WIRE STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.
INSERTS SHALL BE PLACED ON 6" CTRS. SYMMETRICALLY ABOUT THE C. OF DIAPHRAGMS IN SPANS.
ALL STIRRUPS SHALL BE IN PAIRS & THE SPACING SHOWN IN 'SIDE VIEW' IS MINIMUM. THE LOCATION SHALL BE SHOWN IN THE SHOP DRAWINGS.
BEND EACH END OF NO. 4 AND NO. 5 STIRRUPS 6" AND NO. 6 STIRRUPS 6 1/2".

ENDS OF STRANDS SHALL BE PRINTED WITH NON-STRAINING GRAY NON-BITUMINOUS JOINT SEALER. (THIS APPLIES ONLY TO THOSE ENDS OF GIRDER THAT ARE FINALLY EXPOSED).
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.
IF THE CONTRACTOR USES BOTTOM FLANGES TO SUPPORT CONSTRUCTION FORMS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL BAR STEEL IN BOTTOM FLANGE TO SUPPORT THE FORMS SUBJECT TO APPROVAL OF THE ENGINEER.
BARS 'S' MAY BE SPICED AT THE 1/3 POINTS OF GIRDER. LAP LENGTH 2.5.
DATA SHOWN IN 'DEFLECTION DATA' IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.



SLAB FORMING DIAGRAM

NOTE: TO COMPENSATE FOR VARIATIONS IN PRESTRESS CAMBER AND OTHER MINOR CONSTRUCTION DISCREPANCIES THE IMBEDMENT OF THE GIRDER INTO THE SLAB MAY BE VARIED WITH A MAX. OF 1/2" ALLOWABLE AND THE SLAB HELD TO PLAN THICKNESS. IF THE VARIATIONS ARE OF SUCH AMPLITUDE THAT THE 1/2" ALLOWABLE IMBEDMENT WILL BE EXCEEDED, THE HAUNCH OR IMBEDMENT DIMENSIONS AT THE 1/3 SUBSTRUCTURE UNITS AND THE GRADE LINE SHALL BE REVISED. THE 1/2" IMBEDMENT AND THE PLAN SLAB THICKNESS SHALL BE HELD.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-98			
Scale	1976	Drawn By	Checked BUDD
70" PRESTRESSED GIRDER DETAILS		SHEET 10 OF 11 X59316	

NAME PLATE- FOR LOCATION SEE SHEET 1.

-SEE NOTE 'A'

THREADED INSERTS FOR 7/8" ϕ X 2" LG. GALVANIZED HEX. HEAD CAP SCREWS. CAP SCREWS TO BE THREADED A MINIMUM OF 1 7/8" AND SHALL BE SUPPLIED WITH ASSEMBLY.

STATE PROJECT NUMBER

SHEET NO

1226-1-76

744

PARAPET BILL OF BARS AT ABUTMENTS

[illegible]

ABUTMENT TOTAL ESTIMATED QUANTITIES
INCLUDE THIS WEIGHT.

4-0 2-6 15'-6"
 6 ANCHOR ASSEMBLY SEE DETAIL.
 R406 R402 R401 R407 R410 R408
 1-0
 1-8/9
 END OF WING
 R403
 R404 R405 R409
 7 4 SPACES AT 8" 3 SPACES AT 1-0 3 6" 11 SPACES AT 8-3" 3
 1/8" PL

AT ABUTMENTS

AT DEFLECTION JOINT

ELEVATION OF PARAPET

1/2" FILLER @ B.F.
OF ABUT.

FACE OF CONCRETE

END OF INSERT TO BE CLOSED. INSERTS TO BE THREADED A MINIMUM OF 1 3/4"

DETAIL OF ANCHOR ASSEMBLY

ASSEMBLY SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL CARBON STEEL".

NOTES

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF $\frac{1}{8}$ " ALUMINUM OR ZINC PLATE CUT AS SHOWN IN SECTION 'B' BY SHADED AREA IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS PAINT AND THE PLATE SEPARATORS MAY BE OMITTED.

NOTE 'A'- FILL WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

* PLACE ANCHOR ASSEMBLY AT ALL ABUTMENT WINGS WHERE ATTACHMENT FOR BEAM GUARD RAIL IS NEEDED. SEE SHEET 1.

ELEVATION OF PARAPET

1-0

6

R403

R404

R406

R407

R402

R405

6-6

R408

R409

R410

1/2" FILLER @ B.F. OF R301

A

B

C

D

PLAN OF FARAPET

- PAVING
NOTCH

⊗ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

Figure 1: Detail of the anchor assembly. The diagram shows a cross-section of a concrete wall with an anchor assembly. The assembly consists of a vertical anchor rod (R402) passing through a horizontal plate (R401) and a vertical plate (R405). A 90-degree bend is shown in the anchor rod. Dimensions include a total height of 9 inches, a 2-inch section at the top, a 1-7/8 inch section for the anchor rod, and a 1-1/2 inch section for the plate. A label 'ANCHOR ASSEMBLY' points to the entire structure.

SECTION D

[illegible]

SECTION C

SECTION THRU
PARAPET ON BRIDGE

Technical drawing of a roof curb cross-section. The drawing shows a curb with a top width of 1" (TYP) and a height of 1/2" (TYP). A "V" GROOVE is indicated on the side. The curb is made of 1/8" ALUMINUM OR ZINC PLATE. A note "SEE NOTE 'A'" points to the top of the curb. A detail view on the right shows a close-up of the curb's edge and the groove.

SECTION A

SECTION B

4'-0" 2'-6"

3/4" "V" GROOVE IN FRONT FACE OF WINGWALL ONLY.

VIEW SHOWING FRONT
FACE OF PARAPET

Diagram of a stepped profile with dimensions 2-4, 3-10, and R402.

R404 6/2
R403 7
R403, R404

STD. 180° HOOK

2 1/2

1-3

R405

35°

4
R408

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-98			
Canal Size	1/375	Drawn By NJA	Check BUDD
SLOPED FACE PARAPET "B"		SHEET 11 OF 11 X59317	

B-36-97

DESIGN LOADING: HS-20
INVENTORY RATING: HS-xx
OPERATING RATING: HS-xx
WISCONSIN STANDARD PERMIT
VEHICLE (Wis-SPV): 250 KIPS

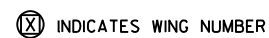
DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

ADT = 11,800 (2036)
RDS = 70 M.P.H.

1. GENERAL PLAN

KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____		_____ DATE	
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-36-98			
IH 43 SB OVER DEVILS RIVER			
COUNTY	MANITOWOC		TOWN COOPERSTOWN
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	BRE	DESIGN CK'D. KRO	DRAWN BY NRT PLANS CK'D. KRO
GENERAL PLAN			SHEET 1 OF 1



PLAN



**WISCONSIN DEPARTMENT OF TRANSPORTATION
BRIDGE LOAD RATING SUMMARY**

Bridge Data (used in this rating)

Bridge Number: B36-098	Section Loss(%): *
Feature Carried: IH 43 NB	SL Description: *
Rating Date: 13-Jun-2011	Overburden Depth(in): 2.0
Span Type: DECK GIRDER	Overburden Type: CONCRETE
Span Material: PREST CONCRETE	Last Inspection Date: 16-Jun-2010*

* Inspection data reflects last inspection prior to rating. Latest inspection is on 18-Sep-2013

Bridge Load Rating Summary

Rating Method: LFR	Rating Vehicle: HS20			
	Rating	Controlling Element	Controlling Location (ft)	Live Load Distribution Factor
Inventory:	HS18.6	DECK GIRDER Positive Moment	SPAN 1	1.59
Operating:	HS48	DECK GIRDER Positive Moment	SPAN 1	1.59

Wisconsin Standard Permit Vehicle (Wis-SPV)

	MVW (kips)	Controlling Element	Controlling Location (ft)	Live Load Distribution Factor
:				
:				

Posting Vehicle Type*	Vehicle GVW (kips)	Operating Rating (kips)	Controlling Element/Controlling Check	Controlling Location (ft)	Live Load Distribution Factor
WISSPV 250	0.0	235	DECK GIRDER Positive Moment	SPAN 1	1.59
WISSPV 250	0.0	300	DECK GIRDER Positive Moment	SPAN 1	1.25

* Posting Vehicle Analysis (Run only when HL-93 Operating RF <1.0 or when HS20 Operating RF <1.0)

Remarks/Recommendations:

	Load Rating Engineer
	Name: Dietsche, Joshua
	Date: 13-Jun-2011
	PE Stamp Here

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