



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-36-067

IH 43 SB -STH 42 SB over Wisconsin Central RR
Jun 14,2017



Type	Prior	Frequency (mos)	Performed
Routine	09-09-15	24	X
Deck Evaluation	06-15-16	0	
SIA Review	09-09-15	48	

Latitude 44°05'09.93"N
Longitude 87°43'30.27"W

Owner STATE HIGHWAY DEPT
Maintainer STATE HIGHWAY DEPT

Time Log

Hours	Minutes	Team members
0	45	Noah Bertrand

Team members

Inspector	Name	Number	Signature	Date
	Lahm, Jason G	3011	<i>Jason G Lahm</i> E-signed by Jason G Lahm(dotj2l)	06-19-17

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

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Identification & Location

Feature On: IH 43 SB -STH 42 SB	Section Town Range: S27 T19N R23E	Structure Number:
Feature Under: Wisconsin Central RR	County: MANITOWOC	B-36-067
Location 1.5M S JCT STH 42 TO N	Municipality: MANITOWOC RAPIDS	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 40.0	Total Length: 155.6
Approach Pavement Width: 24	Deck Width: 43.0	Deck Area (sq ft): 6690

Traffic

Lanes	ADT	ADT year	Traffic Pattern
On 2	10600	2017	ONE WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS23	Overburden depth (in): 2.0	Last rating date: 07-21-15	Controlling: INTERIOR DECK GIRDER Positive Moment
Operating rating: HS28	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: SPAN 2
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (N) NO WATERWAY	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 86.1

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT PREST CONC	DECK GIRDER	45	46.0	
2	CONT PREST CONC	DECK GIRDER	45	61.0	Y
3	CONT PREST CONC	DECK GIRDER	45	46.0	

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			
Railroad Min Vertical Under	23.0		

Special Components

Component	Year	Work Performed	Note
DECK - IOWA MIX	2001	OVERLAY - CONCRETE	

Construction History

Year	Work Performed	FOS id
2016	OVERLAY - CONCRETE	1224-21-71
9999	NOT BUILT	1224-00-21
2001	OVERLAY - CONCRETE	1224-07-71
1995	DECK - MISC. WORK	
1994	REPAIR DECK	
1993	REPAIR DECK	
1992	REPAIR DECK	
1989	REPAIR DECK	
1979	NEW STRUCTURE	1225-01-73

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Structure No.: **B-36-067**

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Deck - Other Work	MEDIUM	Lahm, Jason G (3011)	IDENTIFIED	06/15/17
MMA or Durell 50 deck				
Expansion Joints - Seal	MEDIUM	McDowell, Jim W (3008)	DEFERRED	04/07/16
With hot rubber 2017				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck-Coated Reinforcing	SF	6,691	6,661	30	0	0
		1130	Cracking (RC) Span1 (10 sf) Span 2(0sf) Span 3(20sf)	SF		0	30	0	0
	8514		Concrete Overlay	SF	6,690	0	6,690	0	0
		3220	Crack (Wearing Surface) Map cracking throughout deck	SF		0	6,690	0	0
X	109		Prestressed Concrete Open Girder	LF	761	761	0	0	0
X	205		Reinforced Concrete Column	EA	6	6	0	0	0
X	215		Reinforced Concrete Abutment	LF	91	73	16	2	0
		1080	Delamination - Spall - Patched Area CS-2 spall 1' on SE CS-3 spall SW end 2'	LF		0	1	2	0
		1130	Cracking (RC) CS-2 (S Abut 6" & N Abut 7") CS-2 (SW End area cracking 3')	LF		0	16	0	0
X	234		Reinforced Concrete Cap	LF	88	88	0	0	0
X	331		Reinforced Concrete Bridge Rail	LF	360	360	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0
X	8400		Integral Wingwall	EA	4	3	1	0	0
		8902	Wall Movement SW wings strapped	EA		0	1	0	0

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Structure No.: **B-36-067**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	9001		Drainage - Approach	EA	2	2	0	0	0
X	9043		Slope Protection- Crushed Aggregate with Bit. Both settling	EA	2	0	2	0	0
X	9168		Concrete Diaphragm	EA	20	20	0	0	0
X	9323		Approach Roadway - Asphalt	EA	2	2	0	0	0

NBI Ratings

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

Structure Specific Notes

Concrete overlay 2001

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Special Requirements

Chk Hours Cost Comments

Routine

Document Comment/Description

SE CS-3 spall SW end 2'



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

Bridge B360067

Structure No.: B360067	Municipality: MANITOWOC RAPIDS	Section:	Town:	Range:	Maintenance Agency: STATE HIGHWAY DEPT	Owner: STATE HIGHWAY DEPT
Replaced Structure No.:	Historical Sig.: 5	Latitude: 440509. 93	Longitude: 874330.27		County: MANITOWOC (3 6)	District: 3

ABUTMENT DATA (CARDINAL)

1. Abutment Type: SILL FLEXIBLE
2. Pile Type: PILING - CAST IN PLACE (CIP)
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: STAB CR STONE
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 - CAST IN PLACE (CIP)
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: STAB CR STONE
5. Rdwy. Width: 40.0 ft
6. Deck Width: 43.0 ft
7. Wing Type:

GEOMETRIC DATA

1. Structure Length: 155.6 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: 29 Deg.
8. Direction Skew Angle: LEFT
9. Horizontal Curve: 0.0 Radius, ft
10. Dir.-Hor. Curve:
11. Girder Spacing: 9.0 ft
12. Height: 45.0 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: 24 ft
2. Rt. Shoulder Width: 6 ft
3. Lt. Shoulder Width: 10 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: HS23
3. Operating MS: HS28
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: OTHER
8b. Deck Surface: CONCRETE

HYDRAULIC DATA

1. Design Flood Frequency: 0 yrs
2. Design Discharge: 0 cu-ft/s
3. Max. Velocity: 0.0 ft/s
4. Drainage Area: 0.0 sq. ft
5. High Water Elev.: 0.0 ft
6. Scour Critical Code: N
7. Scour Calculated?: false

STRUCTURE SERVICE DATA

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

APPRAISAL UPDATE

1. Load Capacity: 5-LEGAL LOAD STRESS NOT EXCEEDED
2. Geom. On: 7-COND BETTER THAN MIN CRITERIA
3. Geom. Under: 9-COND EXCEED DESIRABLE CRITERIA
4. Appr. Align: 8-COND EQUAL DESIRABLE CRITERIA
5. Horiz. Align:
6. Vert. Align:

PLANNING DATA

1. Functional Classification: INTERSTATE-RURAL (01)
2. ADT: 10600
3. ADT-Year: 2017
4. Truck ADT %: 22
5. Future ADT: 21650
6. Future ADT-Year: 2016

CONDITION DATA

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

Bridge B360067

CONSTRUCTION DATE

Project ID	Construction Contractor	Construction Designer	Construction Year	Plans Reel Number	Letting Date	Survey Received	Work Performed
1224-21-71	NORTHEAST ASPHALT, INC.	OMNNI	2016		12-Jan-2016		OVERLAY - CONCRETE
1224-00-21		OMNNI	9999			01-Apr-2014	NOT BUILT
1224-07-71	NORTHEAST ASPHALT, INC.	BRIDGE SECTION DESIGN UNIT 1	2001		12-Oct-2000	22-Sep-1998	OVERLAY - CONCRETE
	UNKNOWN	UNKNOWN	1995				DECK - MISC. WORK
	UNKNOWN	UNKNOWN	1994				REPAIR DECK
	UNKNOWN	UNKNOWN	1993				REPAIR DECK
	UNKNOWN	UNKNOWN	1992				REPAIR DECK
	UNKNOWN	UNKNOWN	1989				REPAIR DECK
1225-01-73	LUNDA CONST	BRIDGE SECTION	1979	C221		01-Jul-1975	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
	25.0	25.0	23.0	50.0

ROUTE DATA

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

Number	Structure Route Location	Highway Feature Name	Structure Route Local System	Highway Feature Designation
043	1.5M S JCT STH 42 TO N	IH 43 SB -STH 42 SB	IH	MAINLINE
042	1.5M S JCT IH 43 TO N	IH 43 SB-STH 42 SB	STH	MAINLINE
		Wisconsin Central RR		RAILROAD

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

PIER DATA

Number	Pier Type	Piling Type	Piling Size	Pier Skew Angle	Direction of Skew
1	ROUND COL BENT	PILING - CAST IN PLACE (CIP)	254 OR 273 MM (10 OR 10-3/4")		
2	ROUND COL BENT	PILING - CAST IN PLACE (CIP)	254 OR 273 MM (10 OR 10-3/4")		

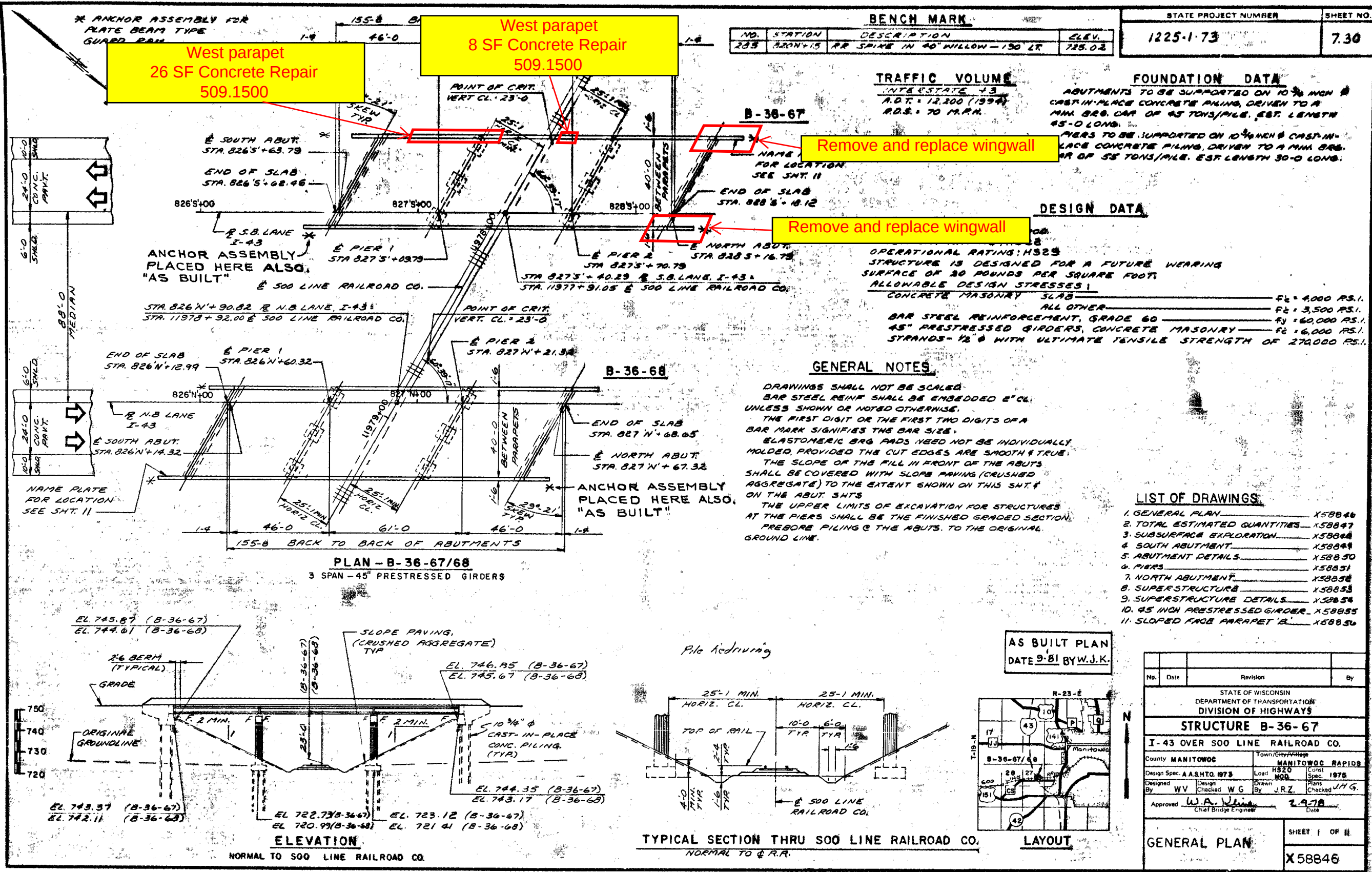
SPAN DATA

Number	Type	Length	Configuration	Material	Girder or Truss Height	Girder or Truss Spacing
1		46.0	DECK GIRDER	CONT PREST CONC	45.0	9.0
2		61.0	DECK GIRDER	CONT PREST CONC	45.0	9.0
3		46.0	DECK GIRDER	CONT PREST CONC	45.0	9.0

EXPANSIONJOINT DATA

Number	Location	Type	Inactive Date
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BENCH MARK			
NO.	STATION	DESCRIPTION	ELEV.
235	820N+15	RR SPIKE IN 40' WILLOW - 150' LT	725.02

STATE PROJECT NUMBER	SHEET NO.
1225-1-73	7.30

TRAFFIC VOLUME
INTERSTATE 43
A.D.T. = 12,200 (1994)
R.D.S. = 70 M.P.H.

FOUNDATION DATA
ABUTMENTS TO BE SUPPORTED ON 10" MIN. CAST-IN-PLACE CONCRETE PILING, DRIVEN TO A MIN. BRG. CAP. OF 45 TONS/PILE. EST. LENGTH 45'-0" LONG.
PIERS TO BE SUPPORTED ON 10" MIN. CAST-IN-PLACE CONCRETE PILING, DRIVEN TO A MIN. BRG. CAP. OF 55 TONS/PILE. EST. LENGTH 30'-0" LONG.

DESIGN DATA

OPERATIONAL RATING: HS20
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.
ALLOWABLE 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.
45" 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.

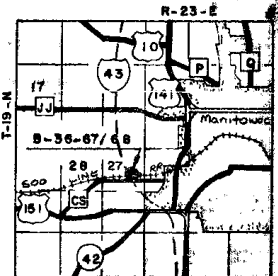
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINF. SHALL BE EMBEDDED 2" CL. UNLESS SHOWN OR NOTED OTHERWISE.
THE FIRST DIGIT OR THE FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.
ELASTOMERIC BRG. PADS NEED NOT BE INDIVIDUALLY MOLDED, PROVIDED THE CUT EDGES ARE SMOOTH & TRUE.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTS. SHALL BE COVERED WITH SLOPE PAVING (CRUSHED AGGREGATE) TO THE EXTENT SHOWN ON THIS SHT. & ON THE ABUT. SHTS.
THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES AT THE PIERS SHALL BE THE FINISHED GRADED SECTION.
PREBORE PILING @ THE ABUTS. TO THE ORIGINAL GROUND LINE.

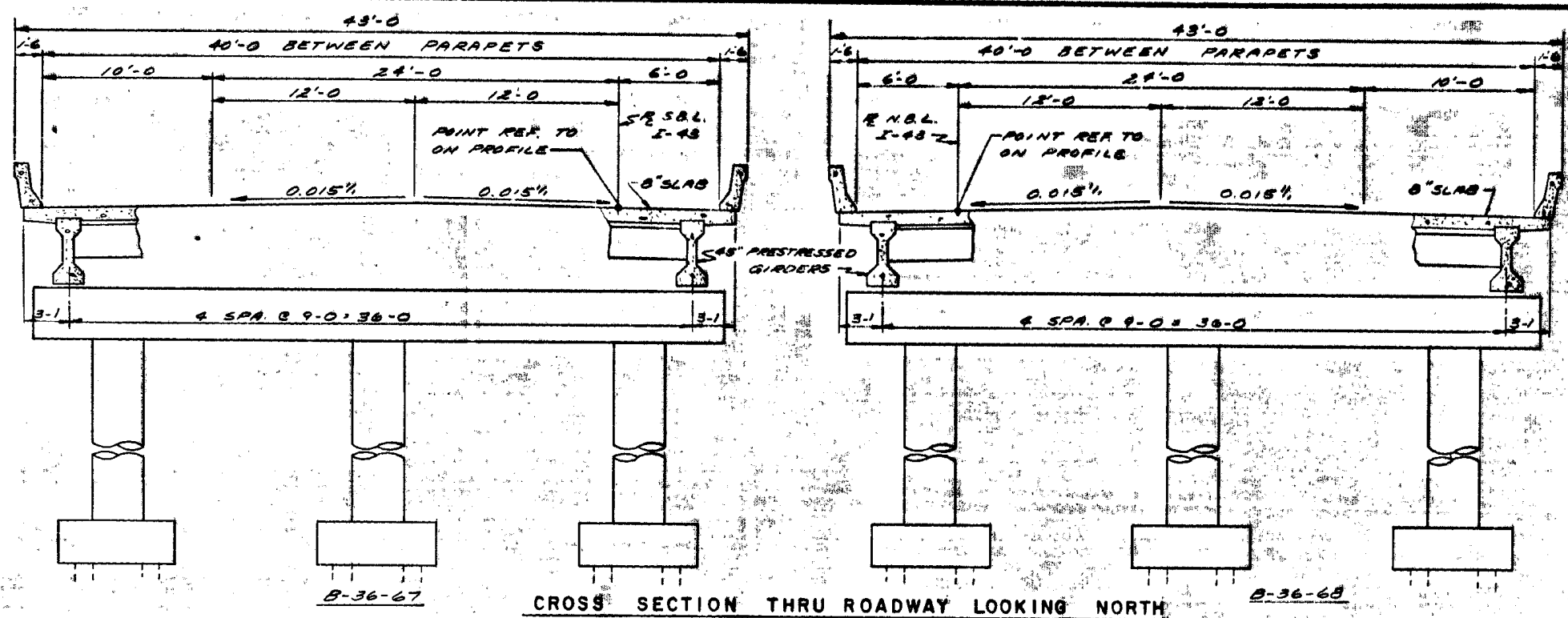
LIST OF DRAWINGS

- 1. GENERAL PLAN X58846
- 2. TOTAL ESTIMATED QUANTITIES X58847
- 3. SUBSURFACE EXPLORATION X58848
- 4. SOUTH ABUTMENT X58849
- 5. ABUTMENT DETAILS X58850
- 6. PIERS X58851
- 7. NORTH ABUTMENT X58852
- 8. SUPERSTRUCTURE X58853
- 9. SUPERSTRUCTURE DETAILS X58854
- 10. 45" INCH PRESTRESSED GIRDER X58855
- 11. SLOPED FACE PARAPET 'B' X58856

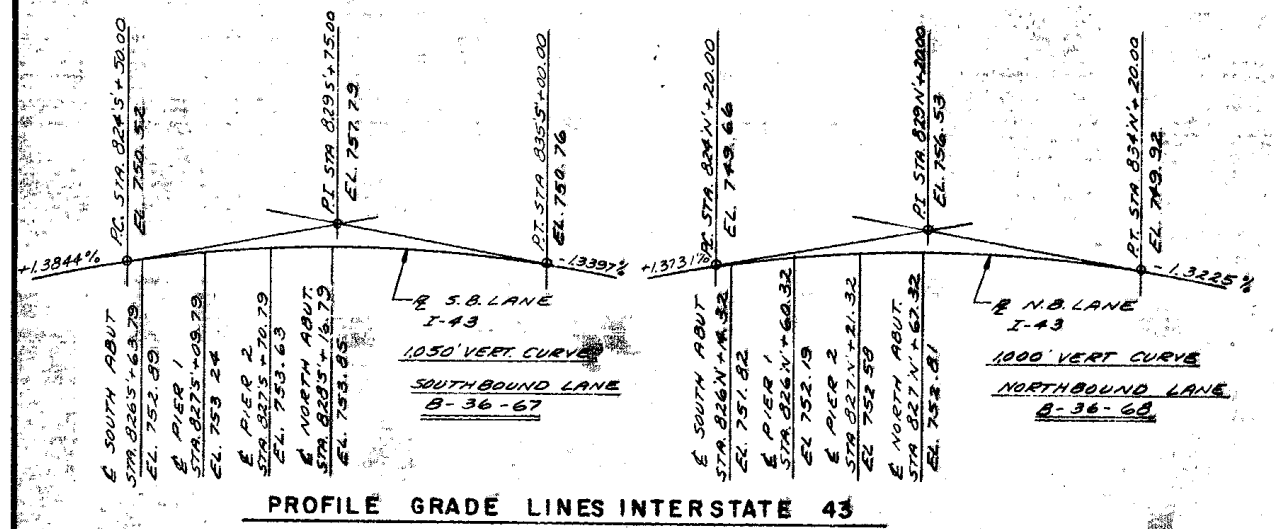
AS BUILT PLAN
DATE 9-81 BY W.J.K.



No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-67			
I-43 OVER SOO LINE RAILROAD CO.			
County MANITOWOC		Town/City/Village MANITOWOC RAPIDS	
Design Spec. A.A.S.H.T.O. 1973	Load HS20	Spec. 1973	
Designed By WV	Checked W.G.	Drawn By J.R.Z.	Planned J.H.G.
Approved W.A. J...	2-9-78	Date	
GENERAL PLAN			SHEET 1 OF 11
			X58846



CROSS SECTION THRU ROADWAY LOOKING NORTH



PROFILE GRADE LINES INTERSTATE 43

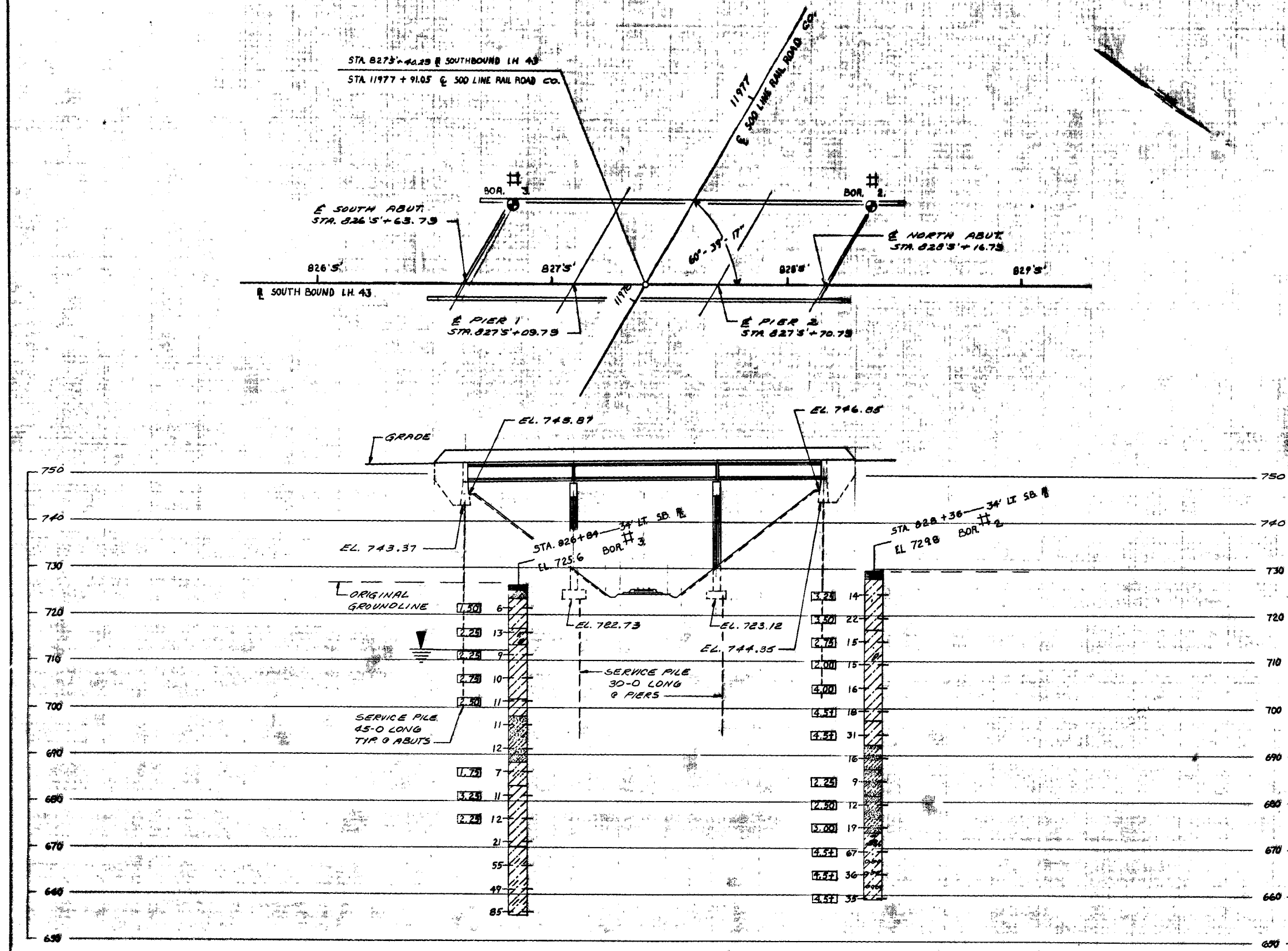
TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.						1
CONCRETE MASONRY	C.Y.	39	42	42	39	250	412
HIGH-STRENGTH BAR STEEL REINFORCEMENT	LBS.	2350	4770	4770	2350	50700	64990
PRESTRESSED GIRDER, I TYPE, 45 INCH	L.F.					768	768
STRUCTURAL CARBON STEEL	LBS.					500	500
BEARING PADS, ELASTOMERIC	S.F.					47	47
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	300			300		600
CAST-IN-PLACE CONCRETE PILING	L.F.	405	360	360	405		1530
DELIVERED AND DRIVEN, 10 3/4 INCH							
PREBORING CAST-IN-PLACE CONCRETE PILING	L.F.	155			140		295
PILE REDRIVING	EA	1	1	1	1		4
NON BID ITEMS							
1/8" ALUMINUM OR ZINC PLATE	S.F.					27	27
FILLER	SIZE					1/2", 3/4"	1/2", 3/4"
POLYVINYL CHLORIDE WATERSTOP	L.F.	55			55		110

115' LT	EL. 724.86	125' LT	EL. 725.81	80' LT	EL. 725.34	60' LT	EL. 725.10	40' LT	EL. 724.90	0' STA. 1978+92	EL. 724.22	20' RT	EL. 724.03	40' RT	EL. 723.78	60' RT	EL. 723.52	80' RT	EL. 723.19	TOP OF NORTH RAIL
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EXISTING ELEVATIONS SOO LINE RAILROAD CO.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-67			
Const. Spec. 1975	Drawn By JRZ.	Plans Checked JHG	
TOTAL ESTIMATED QUANTITIES		SHEET 2 OF 11	
		X58847	



ABBREVIATIONS
F — Fine M — Medium C — Coarse
Ww — Weathered Ss — Sound

MATERIAL SYMBOLS

	Topsoil		Silt		Sandstone
	Sand		Peat		Limestone
	Gravel		Clay		Igneous Rock

LEGEND OF PROBING

95/6—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 95/6

LEGEND OF BORING

Boring No. _____ Sta. _____

Elev. _____

Unconfined Strength 7.7

Blows Per Ft. Using 140# Wt. Falling 30"

Wash Sample _____

Sheelby Tube _____ S. T. _____

Ground Water Elevation 

No Ground Water Observed Above This Elevation 

Sandy Gravel

Boulders or Cobbles

Sand

Silty Clay

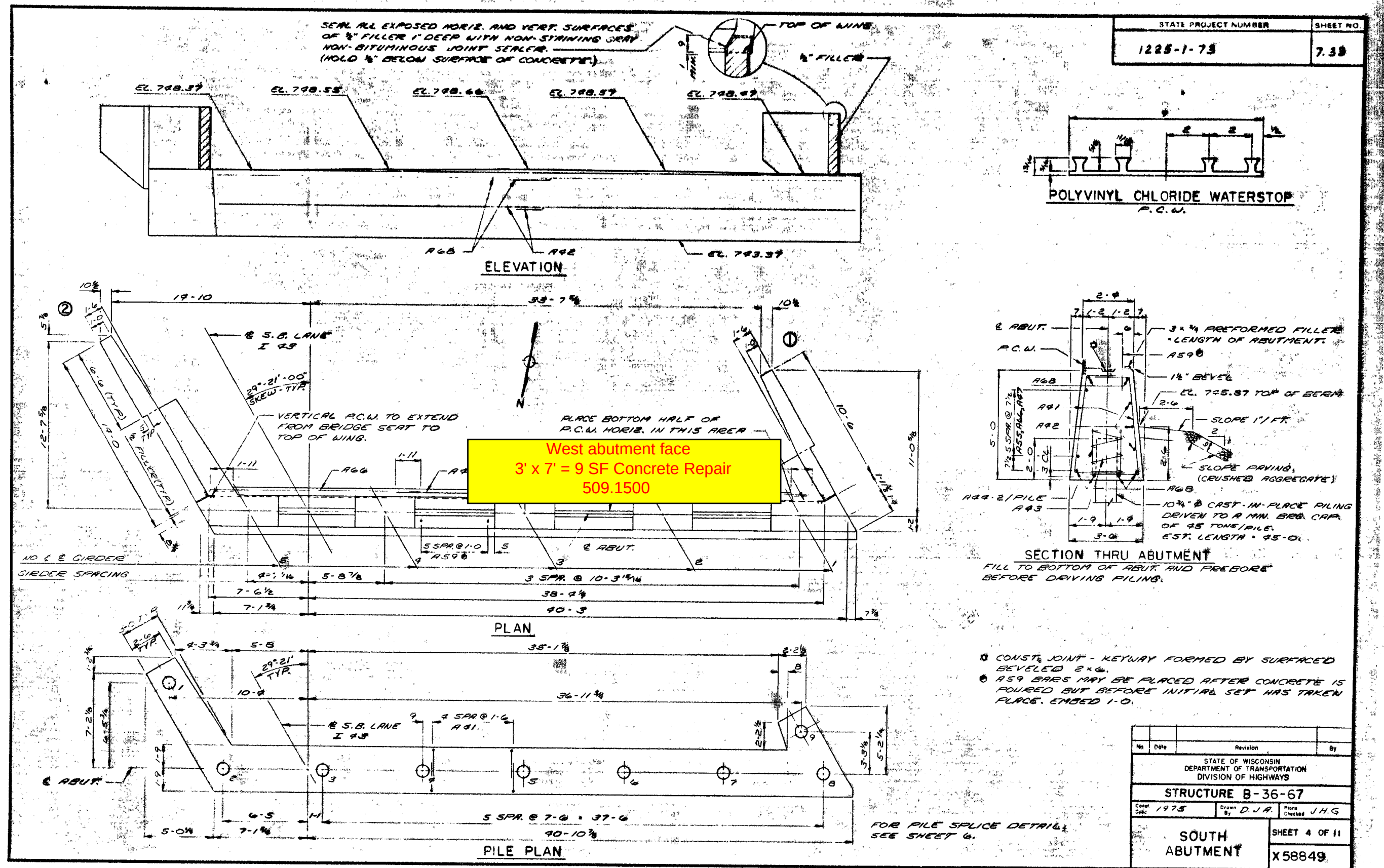
Limestone

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.

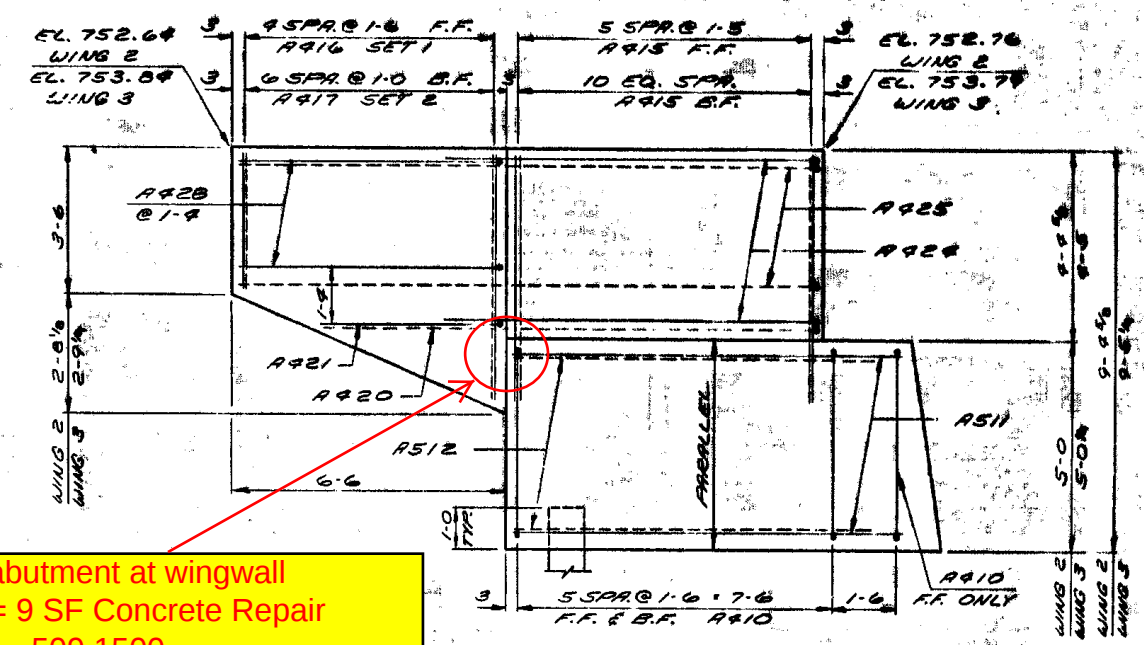
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-67			
Const. Spec. 1978	Drawn By J.R.Z	Plans Checked J.H.G.	
SUBSURFACE EXPLORATION		SHEET 3 OF 4	
		X 58848	



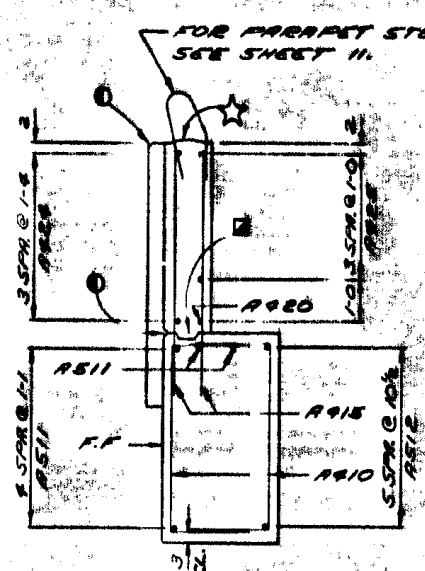
B-36-67

BILL OF BARS - NORTH & SOUTH ABUTS.

BAR MARK	NO.	LENGTH	SENT	CUT	2,080 LBS./ABUT.	LOCATION
A91	128	8-8	X			BODY - VERT. STIRRUP
A92	12	25-0				" - HORIZ. F.F.
A93	12	25-0	X			" - PILES
A94	28	2-3				" - "
A95	12	10-6				" - HORIZ. B.F. @ WINGS 1&4
A96	12	14-0				" - " B.F. @ 2&3
A97	12	24-9				" - " B.F.
A98	24	25-6				" - " TOP & BOTTOM
A99	48	2-0				" - DOWELS
A10	40	8-3	X			WINGS 1,2,3,4 - STIRRUP F.F. @ 2&3
A51	12	9-2				" 2&3 - HORIZ. F.F.
A52	12	10-2				" 2&3 - " B.F.
A53	12	6-11				" 1&4 - " F.F.
A54	10	4-6				" 1&4 - " B.F.
A915	62	5-6				" 1,2,3,4 - VERT. F.F. & B.F.
A916	5	8-11	X			" 2&3 - VERT. F.F.
A917	7	8-11	X			" 2&3 - " B.F.
A918	5	9-5	X			" 1&4 - " B.F.
A919	7	9-5	X			" 1&4 - " B.F.
A920	2	12-8	X			" 2&3 - HORIZ. B.F.
A921	2	5-7	X			" 2&3 - " F.F.
A922	2	9-5	X			" 1&4 - " B.F.
A923	2	5-10	X			" 1&4 - " F.F.
A924	8	9-6	X			" 2&3 - " F.F.
A925	8	14-4	X			" 2&3 - " B.F.
A926	8	6-0	X			" 1&4 - " F.F.
A927	8	10-10	X			" 1&4 - " B.F.
A928	12	7-3	X			" 1,2,3,4 - HORIZ. F.F. & B.F.

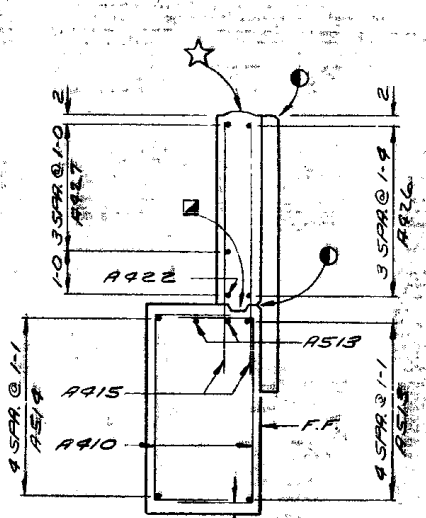


ELEVATION WINGS 2 & 3

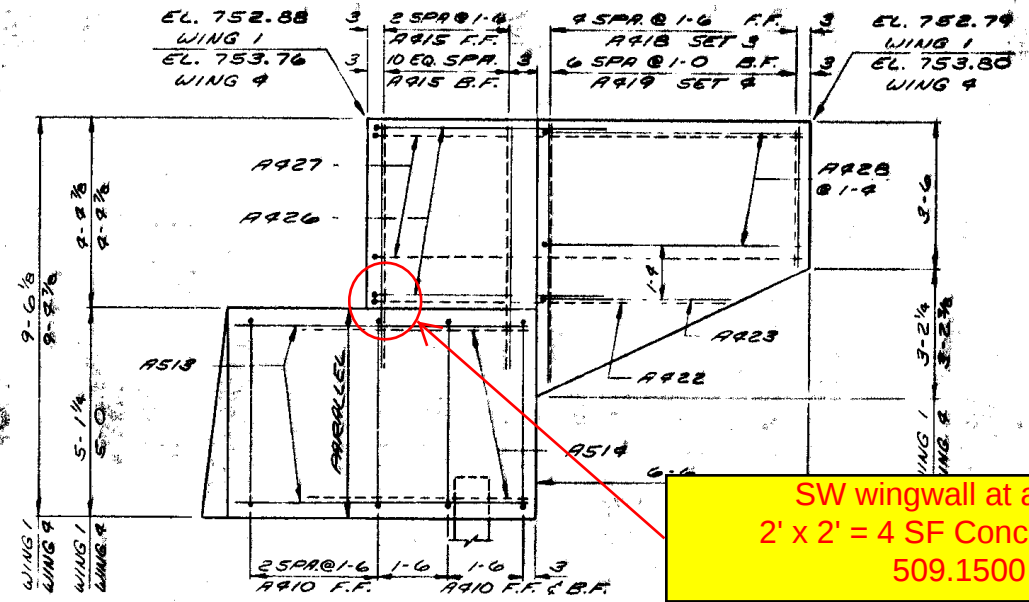


SECTION THRU WINGS 2 & 3

NW abutment at wingwall
3' x 3' = 9 SF Concrete Repair
509.1500

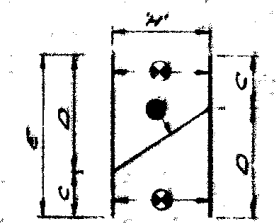
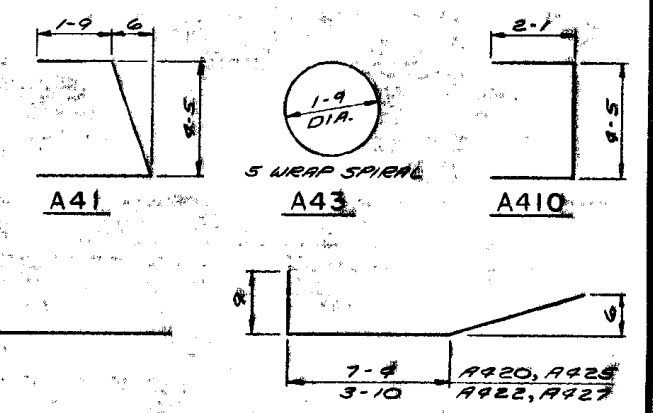


SECTION THRU WINGS 1 & 4



ELEVATION WINGS 1 & 4

SW wingwall at abutment
2' x 2' = 4 SF Concrete Repair
509.1500



N IS NUMBER OF BARS BEFORE CUTTING.
● BUNDLE AND MARK CUT BARS WITH BAR AND SET NUMBER.
● MARK AND CUT ALL BARS ALONG THIS LINE. MAKE ALL CUTS NORMAL TO BAR AXIS.

CUTTING DIAGRAM

MARK		C	D	E	H	SETS REQ'D.
A916	SET 1	3-2	5-9	8-11	5	2
A917	SET 2	3-2	5-9	8-11	7	2
A918	SET 3	3-2	6-3	9-5	5	2
A919	SET 4	3-2	6-3	9-5	7	2

CONCRETE JOINT STRIKE OFF AS SHOWN ON SHT. 11. POUR CONCRETE ABOVE THIS JOINT AFTER SUPER. CONCRETE IS IN PLACE.

OPTIONAL CONST. JOINT KEYWAY FORMED BY SURFACED BEVELED 2x4.

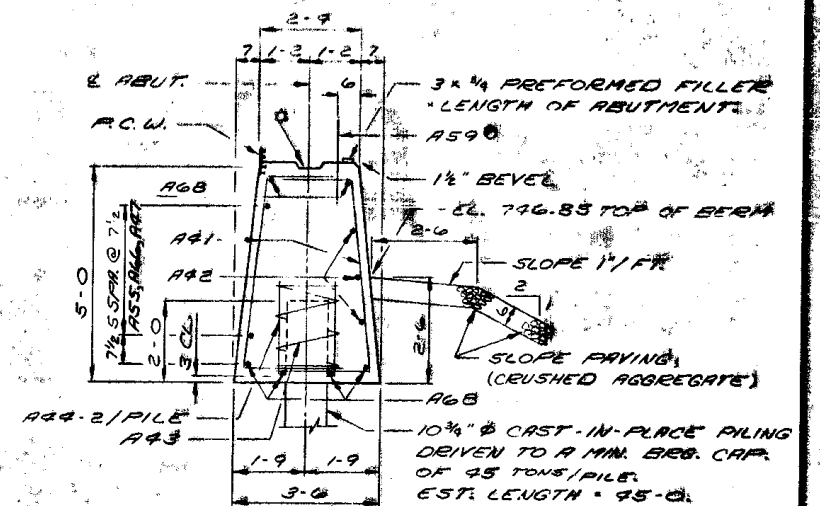
3/4" V GROOVE ON FRONT FACE OF WINGWALL

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-67			
Const. Spec.	1975	Drawn By	D.T.R.
		Plane Checked	JHG
ABUTMENT DETAILS			SHEET 5 OF 11
			X58850

Diagram showing the top of a wing with a 1/2 inch filler.

SHEET NO.

7.36



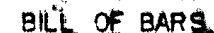
SECTION THRU ABUTMENT

FILL TO BOTTOM OF ABUT. AND PREBORE
BEFORE DRIVING PILING.

- * CONST. JOINT - KEYWAY FORMED BY SURFACED BEVELED 2"x6".
 - A59 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0".
- FOR P.C.W. DETAILS, SEE SHEET 4.

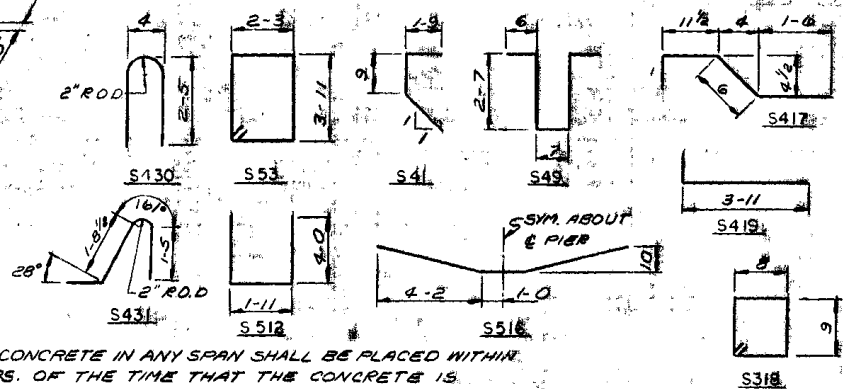
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-67			
Const. Spec	1975	Drawn By	Plans Checked
		D. J. A.	JHG
NORTH ABUTMENT		SHEET 7 OF 11	
		X58852	

7.37



BAR MARK	NO REQD	LENGTH	UNIT	Cut. Desc.	50, 700 * LOCATION
547	68	4-5	X		ABUT. DIAPHS. PAVING BLOCK
548	8	23-3			" " " " - ONE LAP
549	76	13-0	X		" " " " - STIRRUPS
548	8	8-0			" " " " - HORIS.
548	16	3-8			" " " " "
546	8	8-2			" " " " "
547	8	2-10			" " " " "
548	20	25-0			" " " " - ONE LAP
548	96	6-3	X		DIAPHS. IN SPAN - STIRRUPS
5410	48	5-10	"		" " " " "
5411	24	8-1			" " " " "
5412	64	9-9	X		" 8 PIERS - STIRRUPS
5413	16	7-10			" " " " "
5414	32	9-8			" " " " "
5415	48	8-8			" " " " - HAUNCH
5416	64	10-3	X		" " " " "
5417	8	3-4	X		PILASTERS & PIERS
5418	12	5-4	X		" " " " "
5419	8	4-3	X		" " " " "
5620	399	41-10			SLAB - TRAVS. TOP & BOT.
5681	66	42-6	X		" " " " "
5426	216	39-11			" LONGIT. BOT.
5723	20	19-0			" " " " TOP-OVER PIERS
5724	30	36-0			" " " " "
5423	42	19-10			" " " " SPAN 2
5426	64	30-7			" " " " " 183
5427	84	40-0			" " " " OVER PIERS
5428	24	20-0			PARAPET - LONGIT.
5429	32	23-2			" " " " "
5430	416	5-0	X		" - VERT.
5431	416	4-3	X		" 6 SLAB - VERT.

* PLAIN BAR - THREAD ONE END 3"



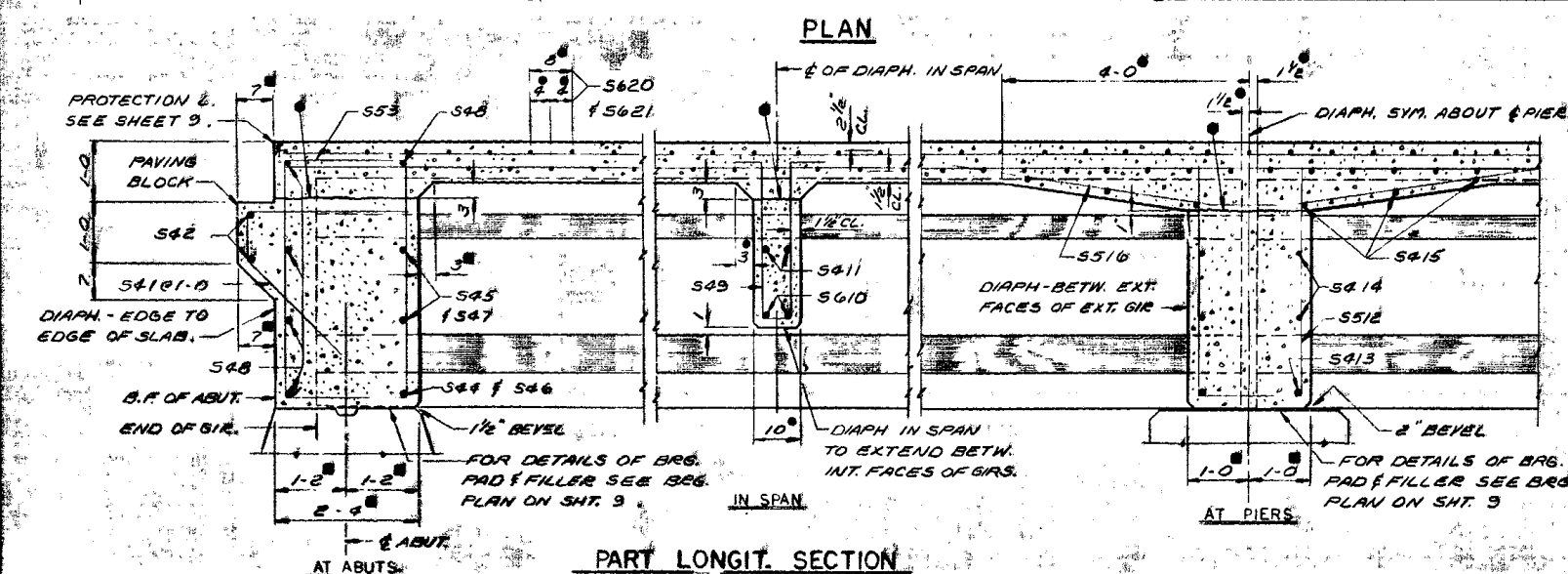
CONCRETE IN ANY SPAN SHALL BE PLACED WITHIN
4 HRS. OF THE TIME THAT THE CONCRETE IS
PLACED OVER THE ADJ. PIER.

BOT. TRANS. BARS IN SLAB SHALL BE SUPPORTED BY CONT. BAR CHAIRS ON OR ADJ. TO EACH GIR. & BY INDIVIDUAL BAR CHAIRS @ 3-0 CTRS. @ APPROX. $\frac{1}{3}$ RD. POINTS BETW. GIRS.

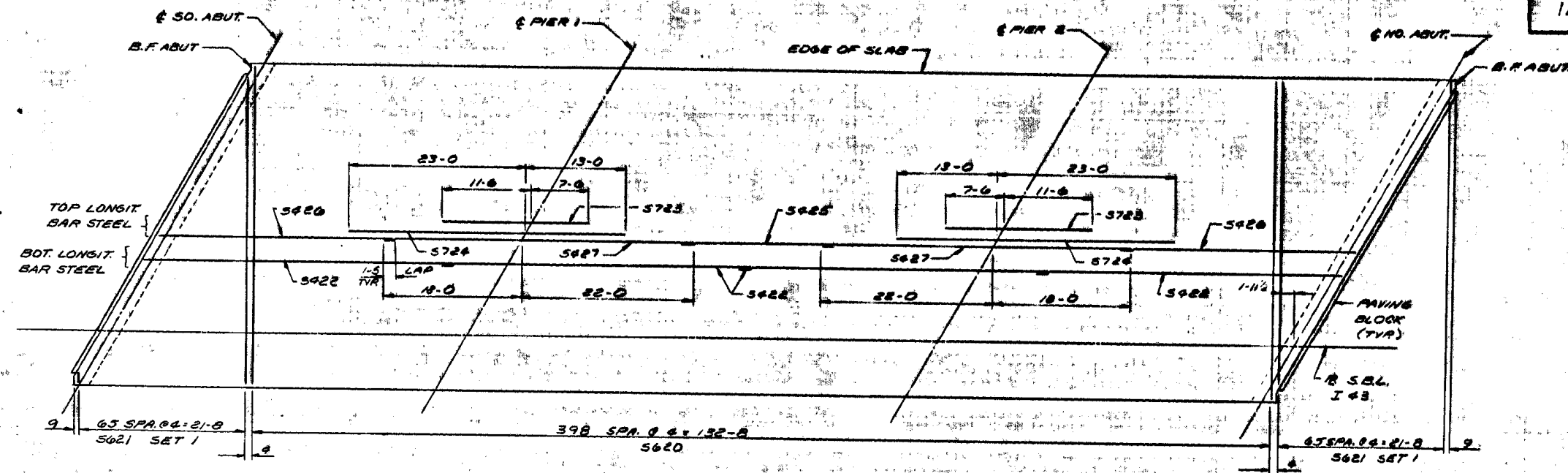
TOP LONGIT BARS IN SLAB SHALL BE SUPPORTED
BY CONT. BAR CHAIRS @ APPROX. 4-0 CTRS.

- MEASURED PARALLEL TO ϕ OF GIRDS.
- MEASURED NORMAL TO ϕ SUB-STRUCTURE UNITS.
- OPTIONAL CONST. JOINT.

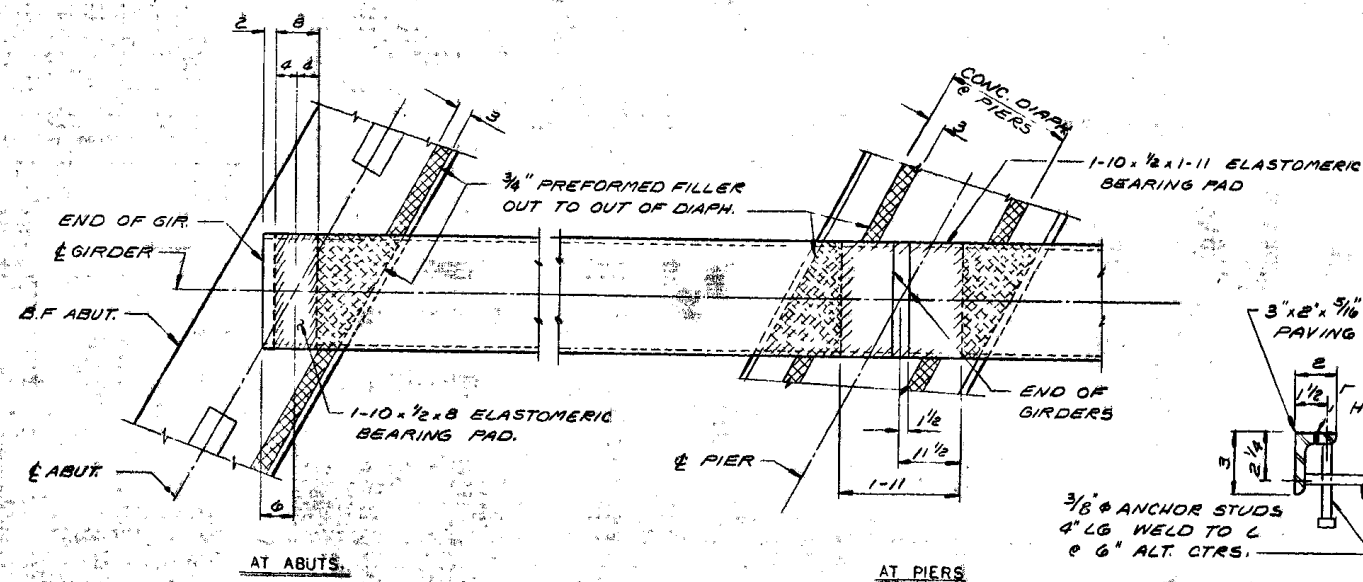
SEE SHT. 9 FOR CUTTING DIAG^W



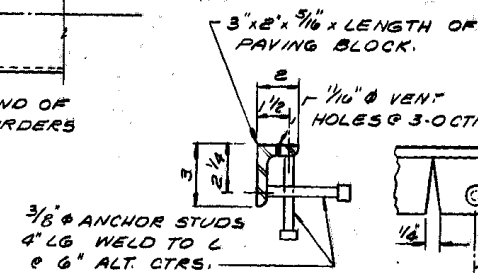
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-67			
Const. Spec.	1975	Drawn By	J.R.Z. Plans Checked JHG
SUPERSTRUCTURE		SHEET 6 OF 11	
		X58853	



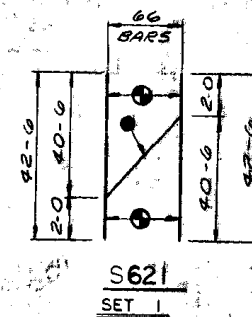
BAR STEEL PLAN



BEARING PLAN

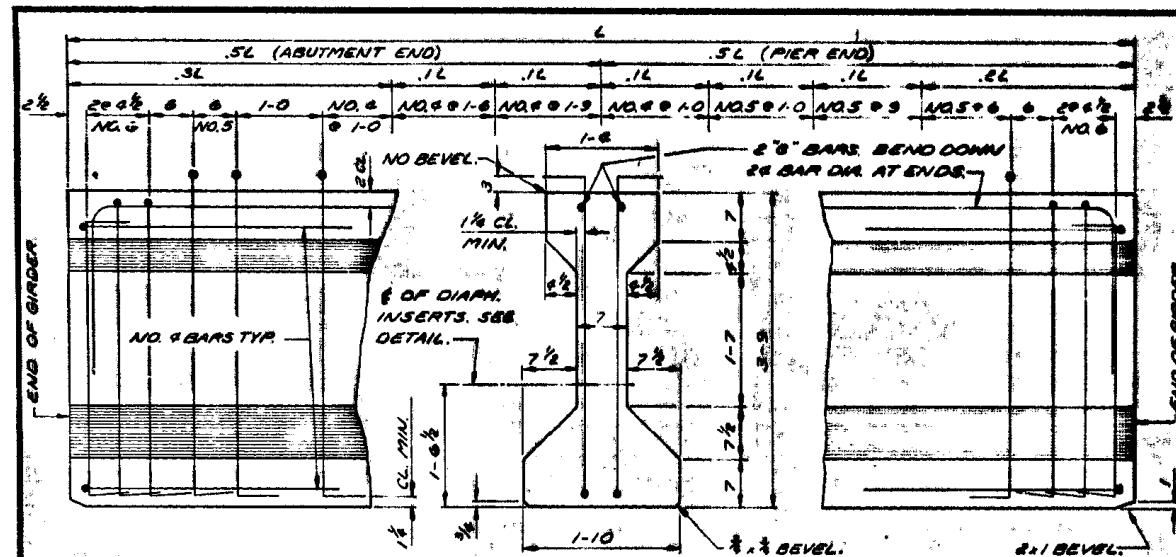


PROTECTION ANGLE
ONE FIELD SPICE SHALL BE PERMITTED
IN ANGLES
ANGLES & STUDS SHALL BE PAID FOR AS
STRUCTURAL CARBON STEEL.

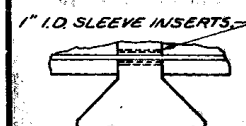


CUTTING DIAGRAM

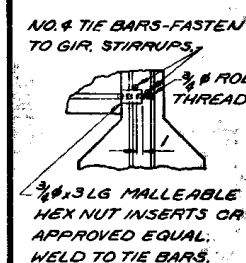
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-67			
Const. Spec.	1975	Drawn By J.R.Z.	Plane Checked J.H.G.
SUPERSTRUCTURE DETAILS			SHEET 9 OF 11 X58854



45° GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN



INTERIOR GIRDER

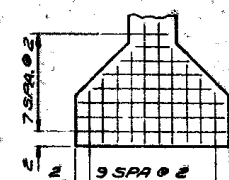


EXTERIOR GIRDER

TYPE "A"

TYPE "B"

DIAPHRAGM INSERT DETAILS



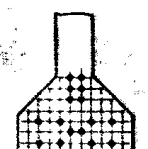
TYP. STRAND GRID



12 STRANDS



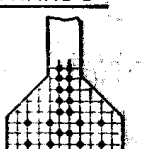
14 STRANDS



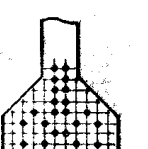
16 STRANDS



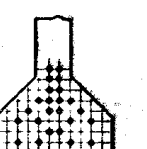
18 STRANDS



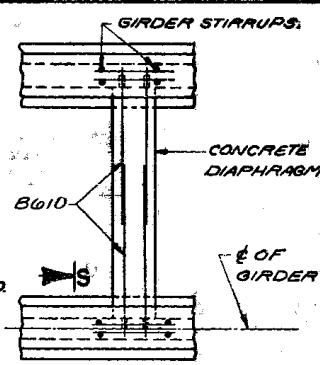
20 STRANDS



22 STRANDS



24 STRANDS

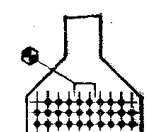


PLAN

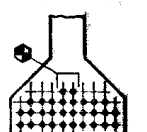
TYPE "B"

DIAPHRAGM INSERT DETAILS

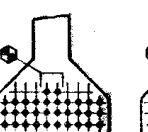
DRAPED STRANDS



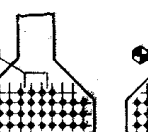
28 STRANDS



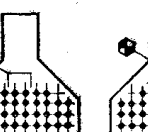
30 STRANDS



32 STRANDS



34 STRANDS



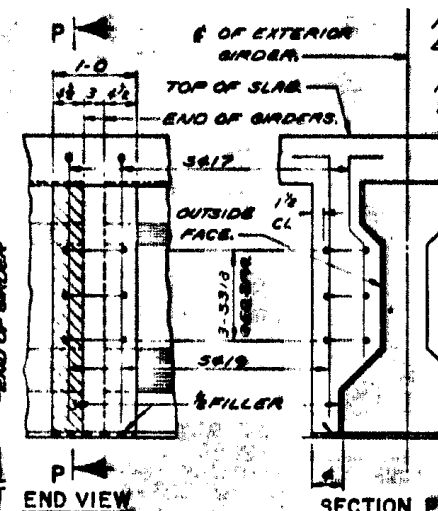
36 STRANDS



38 STRANDS

DRAPED STRANDS

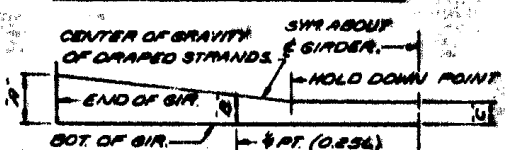
UNDRAPE STRANDS



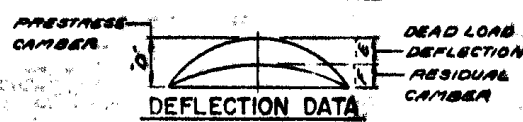
PILASTER DETAILS AT PIERS



TOP VIEW OF GIRDER ENDS

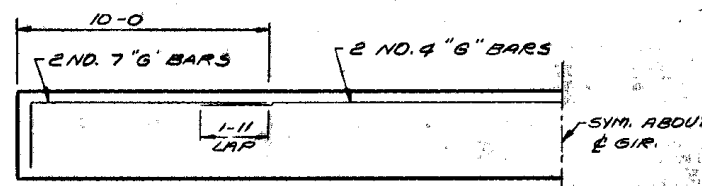


DRAPED STRAND PROFILE



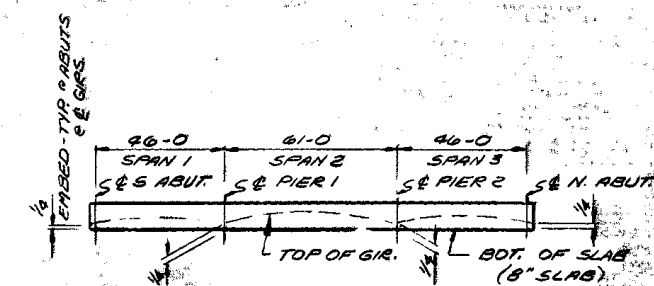
DEFLECTION DATA

GIRDER DATA		USE DIAPHRAGM INSERT DETAIL TYPE "B"		DRAPED STRANDS										UNDRAPE STRANDS			
SPAN LENGTH "L"	DEFLECTION DATA (IN.)	TYPE OF STRANDS	NO. OF STRANDS (TOTAL)	NO. OF STRANDS (INCHES)										NO. OF STRANDS (INCHES)			
				"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"
1/3	40-42	STRESS RELIEVED	12	1800	347	29	11	14	3	12	4800	347	12	4800	347	12	4800
		LOW RELAXATION	12	4800	347	29	11	14	3	12	4800	347	12	4800	347	12	4800
2	60-62	STRESS RELIEVED	16	4800	463	37	13 1/2	16 1/2	3	18	4800	521	18	4800	521	18	4800
		LOW RELAXATION	16	4800	463	37	13 1/2	16 1/2	3	18	4800	521	18	4800	521	18	4800



"G" BARS FOR UNDRAPED DESIGN

FOR DRAPED DESIGN USE 2 NO. 4 "G" BARS FULL LENGTH IN SPAN 2 WITH A 1-11 LAP & 2 NO. 5 "G" BARS FULL LENGTH IN SPANS 1 & 3 WITH A 1-11 LAP



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 1/2" ALLOWABLE AND THE SLAB HELD TO PLAN THICKNESS IF THE VARIATIONS ARE OF SUCH A MAGNITUDE THAT THE 1 1/2" ALLOWABLE IMBEDMENT WILL BE EXCEEDED, THE HAUNCH OR IMBEDMENT DIMENSIONS AT THE & OF SUBSTRUCTURE UNITS AND THE GRADE LINE SHALL BE REVISED. THE 1 1/2" IMBEDMENT AND THE PLAN SLAB THICKNESS SHALL BE HELD.

STATE PROJECT NUMBER	SHEET NO.
1225-1-73	7.34

NOTES

TOP OF GIRDERS TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB.
 THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS THE GIRDERS.
 ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.
 PRESTRESSING STRANDS SHALL BE 1/2" 6-7 WIRE STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDERS.
 INSERTS SHALL BE PLACED ON 6" CTRS. SYMMETRICALLY ABOUT THE & OF DIAPHRAGMS IN SPANS.
 ALL STIRRUPS SHALL BE IN PAIRS AND THE SPACING SHOWN IN "SIDE VIEW" IS MAXIMUM. THE LOCATION SHALL BE SHOWN IN THE SHOWN DRAWINGS.
 BEND EACH END OF NO. 4 AND NO. 5 STIRRUPS 6" AND NO. 6 STIRRUPS 6 1/2".
 ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.)
 BARS "G" MAY BE SPLICED AT THE 1/2 POINTS OF GIRDER. USE LAP LENGTH SHOWN.
 DATA SHOWN IN "DEFLECTION DATA" IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-67			
Const. 1975	Drawn By J.R.Z.	Plane Checked J.H.G.	
45° PRESTRESSED GIRDER DETAILS			SHEET 10 OF 11 X58855

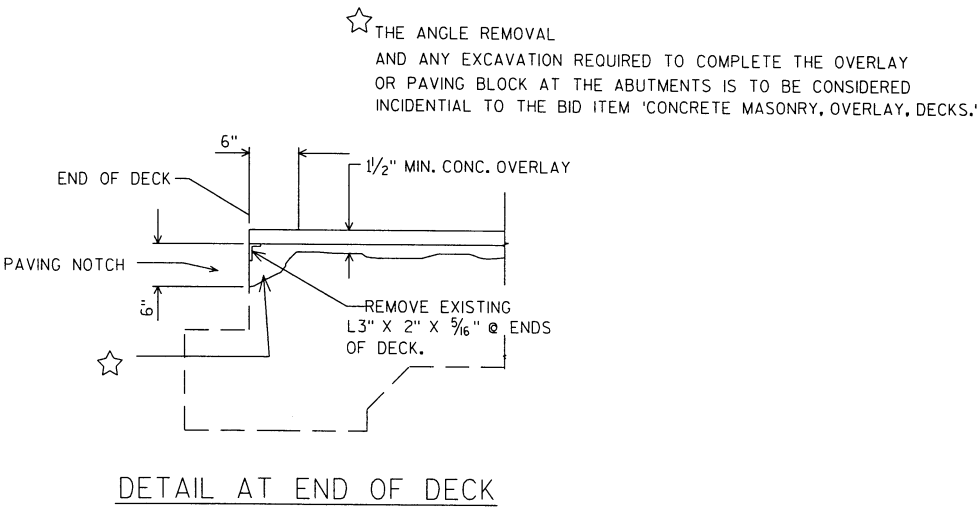
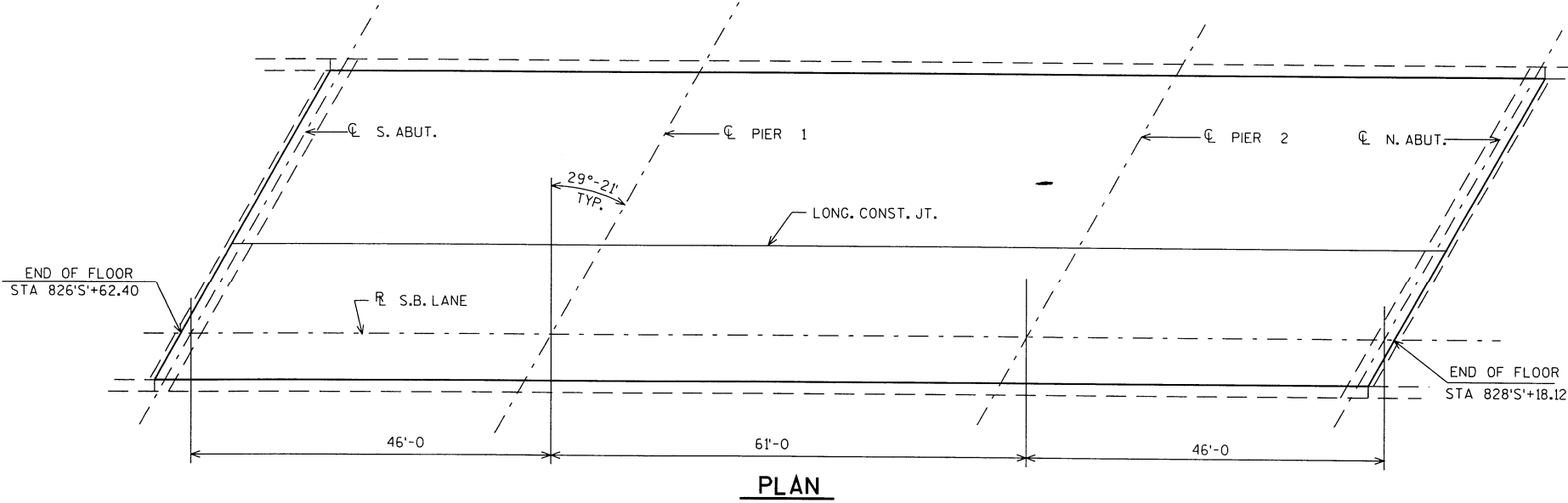
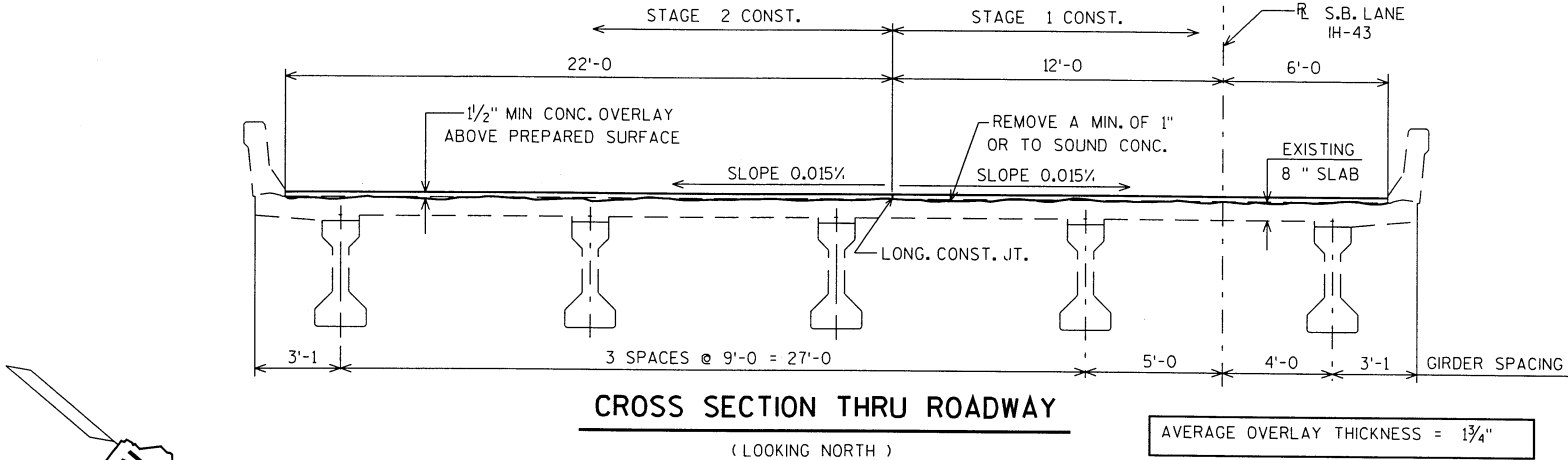


E

STATE PROJECT NUMBER	SHEET NO.
1224-07-71	8.11

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
ALL DIMS. ARE BASED ON ORIGINAL PLANS.
A MIN. OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING, DECKS". TOP SURFACE OF NEW OVERLAY TO BE 1/2" MIN. ABOVE DECK AFTER DECK CLEANING.



DESIGN DATA

LIVE LOAD:
INVENTORY RATING: HS-25
OPERATIONAL RATING: HS-29
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SLAB — f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

LIST OF DRAWINGS

1. CONCRETE OVERLAY

TOTAL ESTIMATED QUANTITIES

CONCRETE MASONRY, OVERLAY, DECKS	51	C.Y.
PROTECTIVE SURFACE TREATMENT	692	S.Y.
PREPARATION, DECKS, TYPE 1	261	S.Y.
PREPARATION, DECKS, TYPE 2	52	S.Y.
CLEANING, DECKS	692	S.Y.
GROUTING BRIDGE DECK	1	L.S.

BRIDGE OFFICE CONTACT :
FINN K. HUBBARD (608)266-8489
DAVE KIEKBUSCH (608) 266-5084

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-36-67			
IH 43 (S.B.) OVER SOO LINE RAILROAD CO.			
COUNTY	MANITOWOC	TOWN/CITY/VILLAGE	MANITOWOC RAPIDS
DESIGN SPEC.	AASHTO 1998	LOAD	CONST. SPEC. 1996
DESIGNED BY	DJK	CK'D.	PLANS CK'D. DJK
APPROVED	[Signature] 08-03-00		
CHIEF STRUCTURAL DESIGN ENGINEER		DATE	
CONCRETE OVERLAY		SHEET 1 OF 1	
		DATE: APR '99	

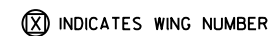
509.5100.S POLYMER OVERLAY ————— 692 SY

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

1. GENERAL PLAN

WILLIAM DREHER
(608) 266-8489

KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900



PLAN



(LOOKING NORTH)

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
OMNI ASSOCIATES			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____		_____ DATE	
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-36-67			
IH 33 SB OVER WCL RAILROAD			
COUNTY	TOWN		
MANITOWOC	MANITOWOC		RAPIDS
DESIGN SPEC. _____			
REHABILITATION N/A			
DESIGNED BY	BRE	DESIGN CK'D.	KRO
		DRAWN BY	
		BRE	PLANS CK'D.
			KRO
GENERAL PLAN			SHEET 1 OF 1

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

Bridge Data (used in this rating)

Bridge Number: B36-067	Section Loss(%): *
Feature Carried: IH 43 SB -STH 42 SB	SL Description: *
Rating Date: 07-Aug-2013	Overburden Depth(in): 2.0
Span Type: DECK GIRDER	Overburden Type: CONCRETE
Span Material: CONT PREST CONC	Last Inspection Date: 14-Sep-2011*

* Inspection data reflects last inspection prior to rating. Latest inspection is on 09-Sep-2013

Bridge Load Rating Summary

Rating Method: LFR	Rating Vehicle: HS20			
	Rating	Controlling Element	Controlling Location (ft)	Live Load Distribution Factor
Inventory:	HS25.7	DECK GIRDER Positive Moment	SPAN 2	1.64
Operating:	HS29.5	DECK GIRDER Positive Moment	SPAN 2	1.64

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	210	DECK GIRDER Positive Moment	SPAN 2	1.64
WISSPV 250	0.0	267	DECK GIRDER Positive Moment	SPAN 2	1.29

* 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: 07-Aug-2013
	PE Stamp Here

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