



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for
B-36-081

V HILLCREST RD over IH 43
Jul 19, 2018



Type	Prior	Frequency (mos)	Performed
Routine	09-18-17	24	
Interim	06-16-16		X
Deck Evaluation	06-16-16	48	X
SIA Review	09-18-17	48	

Start Coordinates
Latitude 44°11'49.20"N
Longitude 87°43'51.45"W

End Coordinates (optional)
Latitude
Longitude

Owner STATE HIGHWAY DEPT

Maintainer STATE HIGHWAY DEPT

Time Log

Team members

Hours	Minutes	
1	0	AECOM NDT Group

Name	Number	Signature	Signature Date
Inspector RegionSET, Ne	3014	Ne RegionSET E-signed by Brady Seston(sestonb)	10-01-18

BRIDGE INSPECTION REPORT
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DT2007 2003 s.84.17 Wis. Stats.

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Identification & Location

Feature On: V HILLCREST RD	Section Town Range: S15 T20N R23E	Structure Number: B-36-081
Feature Under: IH 43	County: MANITOWOC	
Location 3.6M E JCT CTH H	Municipality: KOSSUTH	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 50	Bridge Roadway Width: 52.0	Total Length: 228.2
Approach Pavement Width: 30	Deck Width: 71.8	Deck Area (sq ft): 16384

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	3000	2017	TWO WAY TRAFFIC
Under	4	19200	2017	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS21	Overburden depth (in): 2.0	Last rating date: 01-09-13	Controlling: INTERIOR DECK GIRDER Moment
Operating rating: HS36	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: 6.2 SPAN 2, 67.1
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 #: 97.7

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	STEEL	DECK GIRDER	48	114.5	Y
2	STEEL	DECK GIRDER	48	108.5	

Expansion joint(s)

Temperature:

File: 70	New:
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Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	16.29	05-Jan-2011	
Highway Min Vertical Under Non-Cardinal	18.78	05-Jan-2011	
Horizontal Under Cardinal	88.0		
Horizontal Under Non-Cardinal	76.8		
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Special Components

Component	Year	Work Performed	Note
CORROSION PROTECTION - WEATHERING STEEL			

Construction History

Year	Work Performed	FOS id
2008	OVERLAY - CONCRETE	1226-06-60
1995	DECK - MISC. WORK	
1991	REPAIR DECK	
1977	NEW STRUCTURE	1226-01-85

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Structure No.: **B-36-081**

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Approach - Seal Approach to Paving Block	Rades, Brady (3015)	COMPLETE	02/07/17	2017
Seal with hot rubber				

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Deck - Seal Surface Cracks	MEDIUM	Weber, Dale (3007)	DEFERRED	12/18/17
Epoxy Overlay - Program through Backbone				
Misc - Other Work	LOW	Weber, Dale (3007)	IDENTIFIED	09/19/17
Seal parapet w/pigmented sealer				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	16,313	16,029	284	0	0
			Concrete overlaid in 2008.						
		1080	Delamination - Spall - Patched Area	SF		0	4	0	0
			CS-2(E Span 4 SF) Solid patches w/form in place						
		1130	Cracking (RC)	SF		0	280	0	0
			CS-2(W Span 140 SF & E Span 140 SF) Transverse cracking with minor efflorescence						
		8514	Concrete Overlay	SF	11,866	7,730	4,136	0	0
			Concrete overlaid in 2008						
		3210	Debonding/Spall/Patched Area/Pothole	SF		0	436	0	0
			7/19/18 - Level 1 IR 2-5% Approximate 436 sqft defect						
	107		Steel Open Girder	LF	1,791	1,311	480	0	0
			CorTen - painted 5' from abutments in 2008						
		1000	Corrosion	LF		0	480	0	0
			CS-2(W Span 240' & E Span 240') Surface scaling over trav. lanes						
		8517	Weathering Steel	SF	17,910	14,710	3,200	0	0
			CorTen - painted 5' from abutments in 2008						
		3430	Oxide Film Degradation - Weathering Steel	SF		0	3,200	0	0
			CS-2(3200 SF) Lower web & bottom flange over trav. lanes						
		205	Reinforced Concrete Column	EA	4	4	0	0	0
	215		Reinforced Concrete Abutment	LF	140	124	16	0	0
		1130	Cracking (RC)	LF		0	16	0	0
			CS-2 (E Abut 9' & W Abut 7') Vert. cracking						
	234		Reinforced Concrete Cap	LF	68	36	28	4	0
		1130	Cracking (RC)	LF		0	28	4	0
			CS-2(28") Horizontal and diagonal cracks throughout cap.						
			CS-3(4') Diagonal shear cracks at each column.						

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	300		Strip Seal Expansion Joint E & W Abutments Replaced in 2008	LF	150	150	0	0	0
	311		Moveable Bearing E & W Abutments Painted in 2008	EA	16	16	0	0	0
	313		Fixed Bearing Center Pier	EA	8	8	0	0	0
	331		Reinforced Concrete Bridge Rail Chert Pop outs and surface scaling along toe throughout	LF	547	492	55	0	0
		1130	Cracking (RC) CS-2(S Side 34' & N Side 21') Vert. cracking	LF		0	55	0	0
	8400		Integral Wingwall	EA	4	4	0	0	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9001		Drainage - Ends of Structure Inlets SE & NE quadrants	EA	4	4	0	0	0
	9007		Median Chert popouts throughout	EA	1	0	1	0	0
	9043		Slope Protection- Crushed Aggregate with Bit. Slope Paving settled. Partially repairs with select crushed in areas.	EA	2	0	2	0	0
	9167		Steel Diaphragm	EA	77	0	77	0	0
	9323		Approach Roadway - Asphalt Shoulder settled at NE corner. longitudinal cracking at other approaches. All approaches are raveling at paving notch	EA	4	0	4	0	0

NBI Ratings

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

Structure Specific Notes

Inspection Specific Notes

10/1/18 - This evaluation is to upload IR data for future reference during routine inspections. The IR inspection occurred on 7/19/18.

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Structure No.: **B-36-081**

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Special Requirements

Chk	Hours	Cost	Comments
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Non-Image Documents

Type	Document	Document Comment/Description	Attached
Deck Evaluation	b36-081_18_Kd1.pdf		X

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

Bridge B360081

Structure No.: B360081	Municipality: KOSSUTH	Section:	Town:	Range:	Maintenance Agency: STATE HIGHWAY DEPT	Owner: STATE HIGHWAY DEPT
Replaced Structure No.:	Historical Sig.: 5	Latitude: 441149.2	Longitude: 874351.45		County: MANITOWOC (36)	District: 3

ABUTMENT DATA (CARDINAL)

1. Abutment Type: SEMI RETAINING
2. Pile Type: PILING - STEEL H
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: STAB CR STONE
5. Rdwy. Width: 52.0 ft
6. Deck Width: 71.8 ft
7. Wing Type:

ABUTMENT DATA (NON-CARDINAL)

1. Abutment Type: SEMI RETAINING
2. Pile Type: PILING - STEEL H
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: STAB CR STONE
5. Rdwy. Width: 52.0 ft
6. Deck Width: 71.8 ft
7. Wing Type:

GEOMETRIC DATA

1. Structure Length: 228.2 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: CONCRETE = 152 MM (6")
6. Median Width: 16.0 ft
7. Skew Angle: Deg.
8. Direction Skew Angle:
9. Horizontal Curve: 0.0 Radius, ft
10. Dir.-Hor. Curve:
11. Girder Spacing: 9.1 ft
12. Height: 48.0 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: 30 ft
2. Rt. Shoulder Width: 10 ft
3. Lt. Shoulder Width: 10 ft
4. Total Width (Sum Above): 50 ft
5. Guardrail Termination: 1
6. Guardrail Adequacy: 1
7. Railing Attachment Type: 4 - 22 MM (7/8") BOLTS
8. Railing Design Year:
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: HS20
2. Inventory MS: HS21
3. Operating MS: HS36
4. Max. Veh. Wt.: 190 kips
5. Load Rating Basis.: LFR
6. Load Governing Member: INTERIOR DECK GIRDER
7. Deck Composition: NONE
8a. Deck Membrane: NONE
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: 6 ft
2. Type Service On: HIGHWAY
3. Type Service Under: HIGHWAY

APPRAISAL UPDATE

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

PLANNING DATA

1. Functional Classification: MAJOR COL-RURAL (07)
2. ADT: 3000
3. ADT-Year: 2017
4. Truck ADT %: 0
5. Future ADT: 165
6. Future ADT-Year: 2025

CONDITION DATA

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

Bridge B360081

CONSTRUCTION DATE

Project ID	Construction Contractor	Construction Designer	Construction Year	Plans Reel Number	Letting Date	Survey Received	Work Performed
1226-06-60	LUNDA CONST	BRIDGE SECTION	2008		10-Jun-2008	10-Jul-2007	OVERLAY - CONCRETE
	UNKNOWN	UNKNOWN	1995				DECK - MISC. WORK
	UNKNOWN	UNKNOWN	1991				REPAIR DECK
1226-01-85	LUNDA CONST	BRIDGE SECTION	1977	C158		01-Mar-1975	NEW STRUCTURE

CLEARANCE DATA

Clearance Lane Number	Minimum Vertical	Minimum Vertical Date	Minimum Horizontal Distance	Right Minimum Lateral
2	16.3	12-Jun-2018	88.0	23.5
2	18.8	12-Jun-2018	76.8	23.0

Left Minimum Lateral	Railroad Right Minimum Lateral	Railroad Left Minimum Lateral	Railroad Vertical Distance	Railroad Horizontal Distance
24.0				
25.0				

ROUTE DATA

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

Number	Structure Route Location	Highway Feature Name	Structure Route Local System	Highway Feature Designation
	3.6M E JCT CTH H	V HILLCREST RD	CTH	MAINLINE
043	3.0M N JCT USH 10 TO W	IH 43	IH	MAINLINE
043	5.5M S JCT STH 147	IH 43	IH	MAINLINE

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

PIER DATA

Number	Pier Type	Piling Type	Piling Size	Pier Skew Angle	Direction of Skew
1	ROUND COL BENT	PILING - STEEL H	254 OR 273 MM (10 OR 10-3/4")		

SPAN DATA

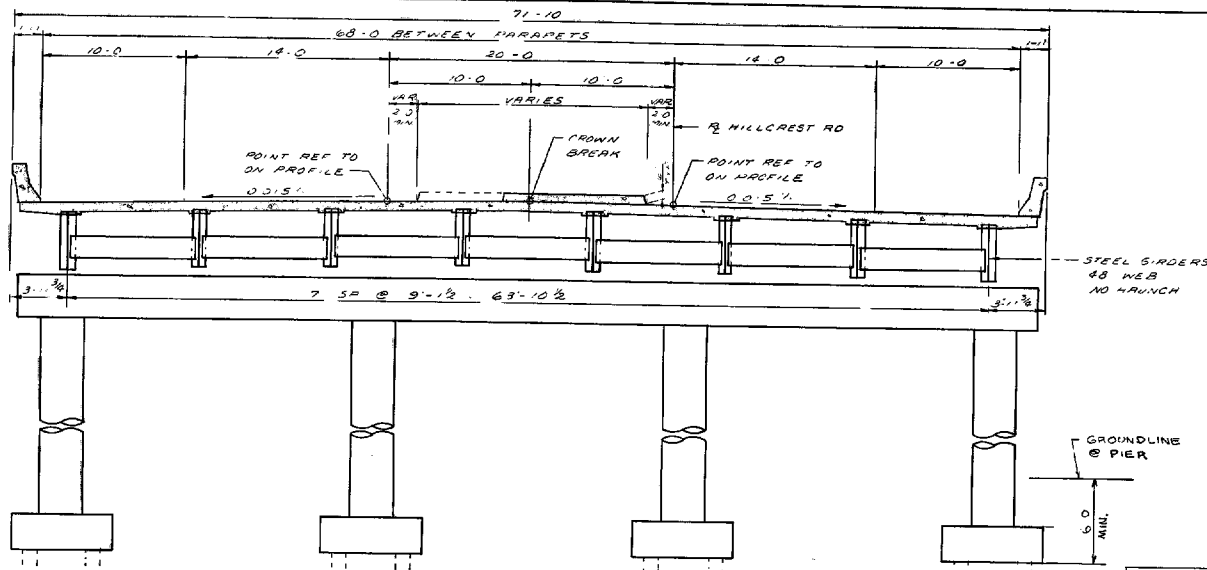
Number	Type	Length	Configuration	Material	Girder or Truss Height	Girder or Truss Spacing
1		114.5	DECK GIRDER	STEEL	48.0	9.1
2		108.5	DECK GIRDER	STEEL	48.0	9.1

EXPANSIONJOINT DATA

Number	Location	Type	Inactive Date
1	WEST ABUTMENT E.B.	STRIP SEAL	
2	WEST ABUTMENT W.B.	STRIP SEAL	
3	EAST ABUTMENT E.B.	STRIP SEAL	
4	EAST ABUTMENT W.B.	STRIP SEAL	

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10*

PROJECT	1226-1-85	SHEET	7.1	TOTAL	
FEDERAL PROJECT DESIGNATION		NUMBER		SHEETS	



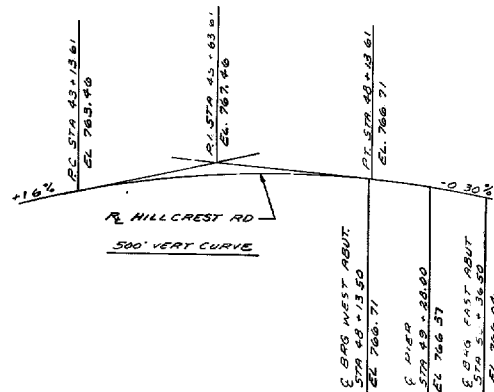
CROSS SECTION THRU ROADWAY LOOKING EAST

GENERAL NOTES

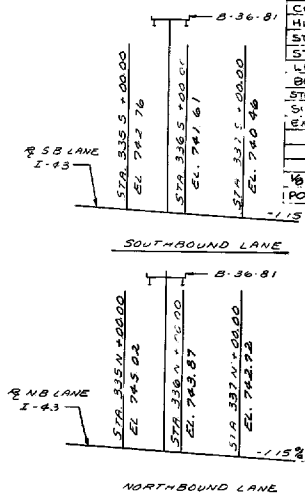
DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" A325-TYPE 3 FRICTION TYPE HIGH-TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAYING TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.
THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR PIER SHALL BE THE FINISHED GRADED SECTION.
FOR LIMITS OF EXCAVATION FOR ABUTMENTS AND GRANULAR BACKFILL SEE SHEET 4.

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	W ABUT	PIER	E ABUT	TOTAL
EXCAVATION OR STRUCTURES	LS					
CONCRETE MASONRY	CY	502.9	124.3	64.3	174.5	921.0
HIGH STRENGTH BAR STEEL REINFORCEMENT	LB	20,400	11,350	11,420	11,350	54,260
STRUCTURAL CARBON STEEL	LB	3,150				3,150
STRUCTURAL LOW ALLOY STEEL	LB	372,550				372,550
LUBRICATED BRONZE PLATE	LB	224				224
BEARING PADS	SF	46				46
STEEL PILING DELIVERED & DRIVEN, 10" DIAMETER, 42' LONG	LF	1,995	1,340	1,410	410	4,645
SLOPE PAVING, CRUSHED AGGREGATE	SF	260			209	469
EXPANSION DEVICE	LS					1
NON BID ITEMS						
1/8" ALUMINUM OR ZINC PLATE	SF	52				52
POLYVINYL CHLORIDE WATERSTOP	LF	82			82	164



PROFILE GRADE LINE HILLCREST ROAD



PROFILE GRADE LINES INTERSTATE 43

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-81			
Drawn Spec. 1978	By	DB	Placed J C K
NOTES AND QUANTITIES			SHEET 2 OF 16 X 56333

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PROJECT NO.	1226-1-85	TOTAL SHEETS	72
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

Probing No. Sta. Elevation

95' 6" = 95 Blows for 6" Penetration

Probing taken with a 350# wt. Falling 18" on a 2" O. D. Point

Average Blows Per Foot

Refusal 95.6

LEGEND OF BORING

Boring No. Sta. Elev.

Unconfined Strength 7.7

Blows Per Ft. 7

Using 140# Wt. Falling 30"

Wash Sample

Shelby Tube S.T.

Ground Water Elevation

No Ground Water Observed Above This Elevation

Sandy Gravel

Roulers or Cobbles

Sand

Silty Clay

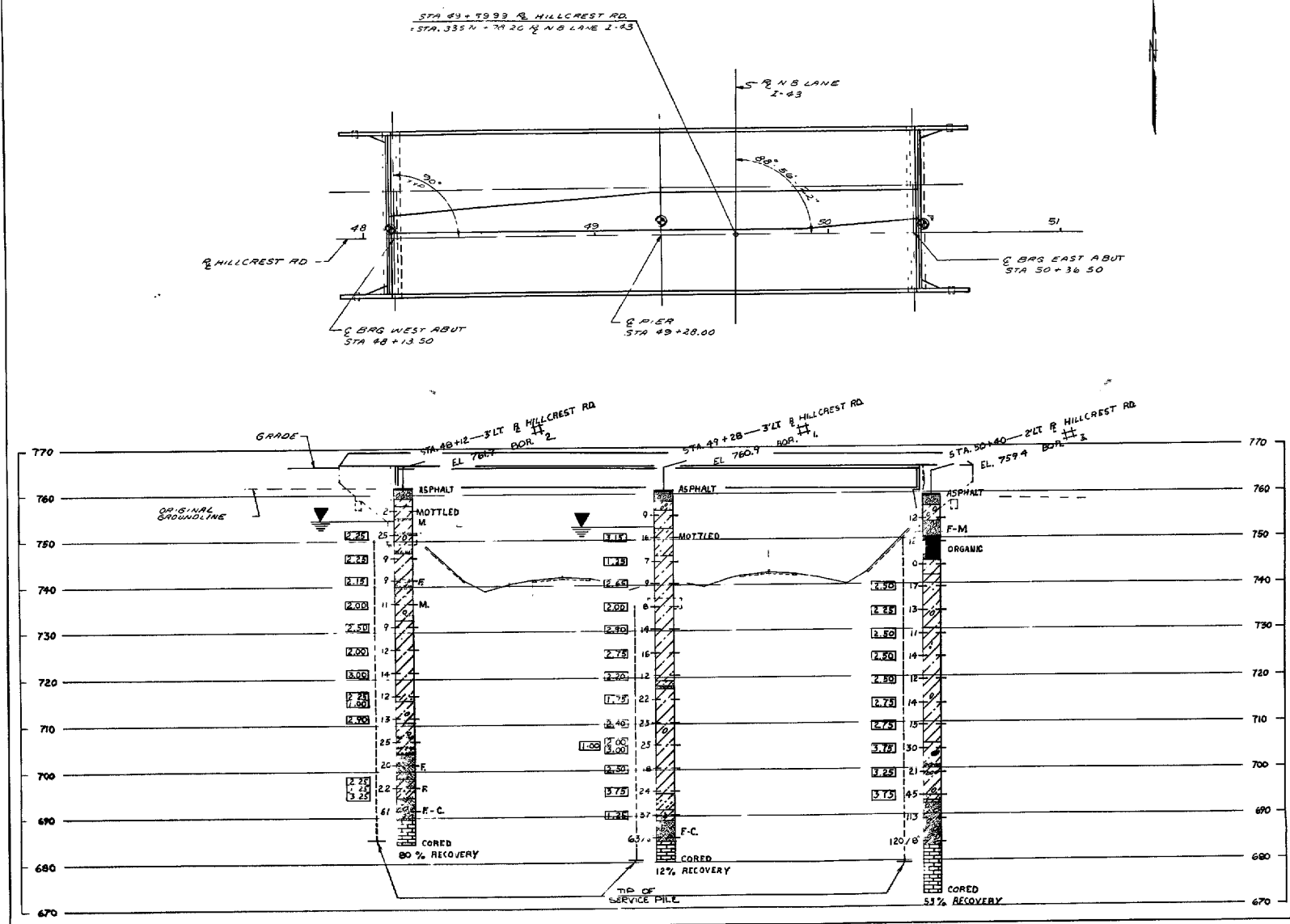
Limestone

Unless otherwise specified the blows per foot at the locations indicated are based on driving a 2" O. D. x 14" 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

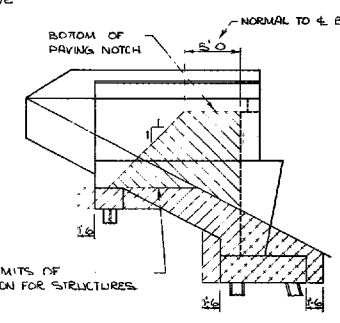
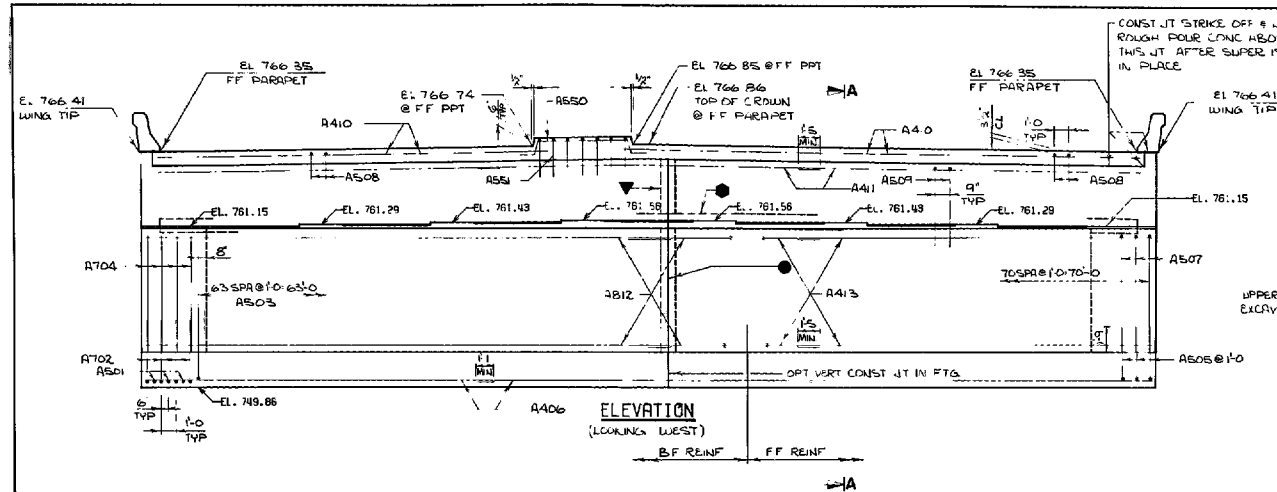
To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because 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	Revised	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-81			
1975	By R.M.A.	Checked S.C.K.	
SUBSURFACE EXPLORATION			SHEET 3 OF 6
			X 56334



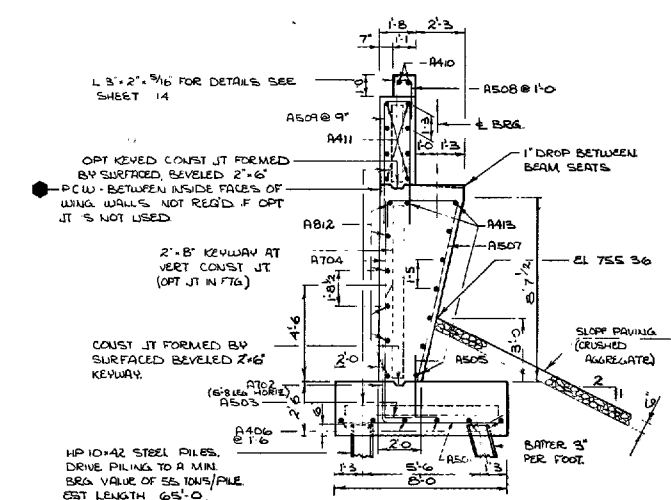
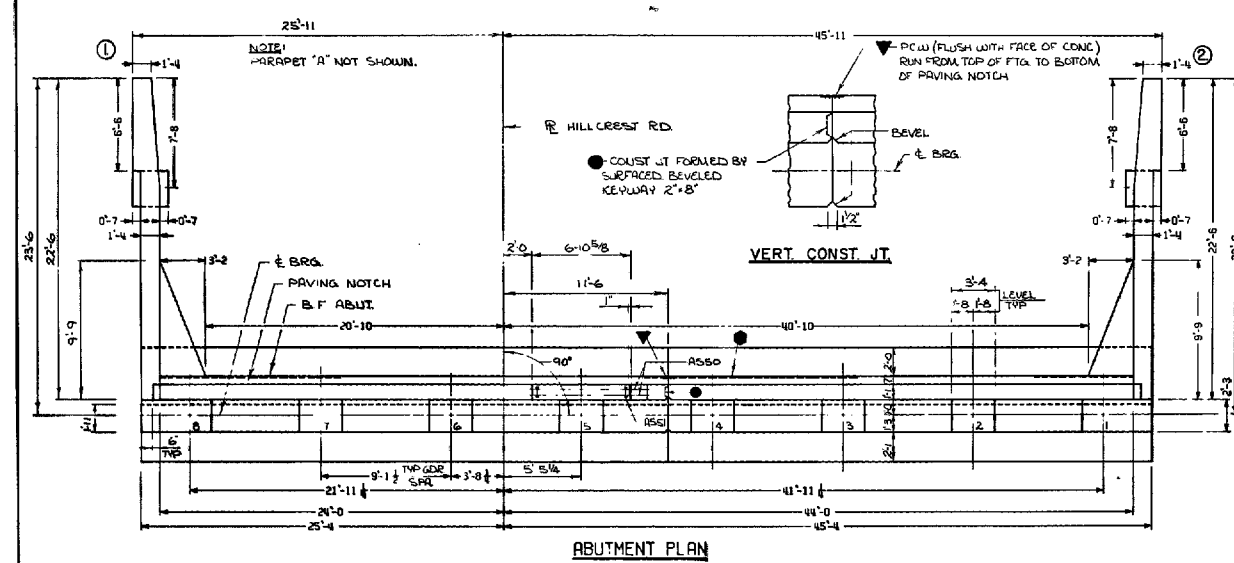
B-36

PROJECT NUMBER	1226-1-85
FEDERAL PROJECT DESIGNATION	7.3



- EXCAVATION FOR STRUCTURES
- EXCAVATION FOR STRUCTURES + GRANULAR BACKFILL
- GRANULAR BACKFILL BETWEEN INSIDE FACES OF WING WALLS. THIS MATERIAL SHALL BE PLACED BEFORE SUPERSTRUCTURE CONC IS POURED.

PAY LIMITS FOR EXCAVATION FOR STRUCTURES AND GRANULAR BACKFILL

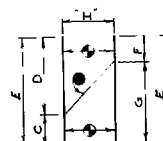


SECTION A-A

POLYVINYL CHLORIDE WATERSTOP (P.C.W.)

No	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-81			
Case No.	1975	Drawn By	3 L K.
WEST ABUTMENT		SHEET 4 OF 16	
		X 56335	

B-36-19



"H" IS THE NUMBER OF BARS IN
A CUTTING DIAGRAM BEFORE CUTTING

CUTTING DIAGRAM

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

MARK	C	D	E	F	G	H	SETS REQ
A426 SET 1	32	----			117		1
" 2		117		149	52	13	1
A549 " 3	32	----			93		1
" 4		32	125	32		14	1

MARK	A
A702	58
A503	10
A505	10
A420	11
A421	10
A422	10
A429	10

MARK	8	2
H2018	9	1
H2019	14	5
ASSI	9	2

OPT KEYED CONST JT FORMED BY
SURFACED BEVELED 2" x 6" (TYP)

FOR PARAPET "A" REINF
DETAILS SEE SHEET 16.

MARK	D
2437	14
2438	14
2439	14
2440	14

A550

A507

SECTION C-C

SECTION B-B

GRIND FLANGES
FLUSH AT

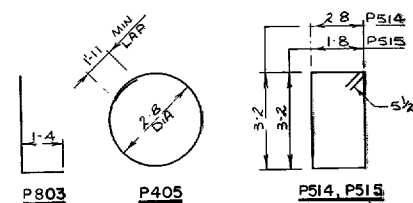
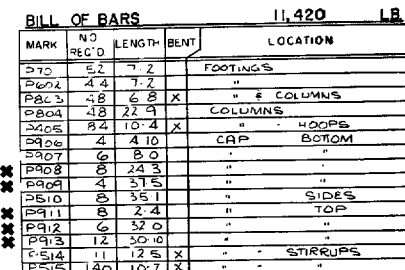
PILE SPLICE DETAIL

INDICATES BATTERED PILING BATER
IN DIRECTION OF ARROW 3'/FT.

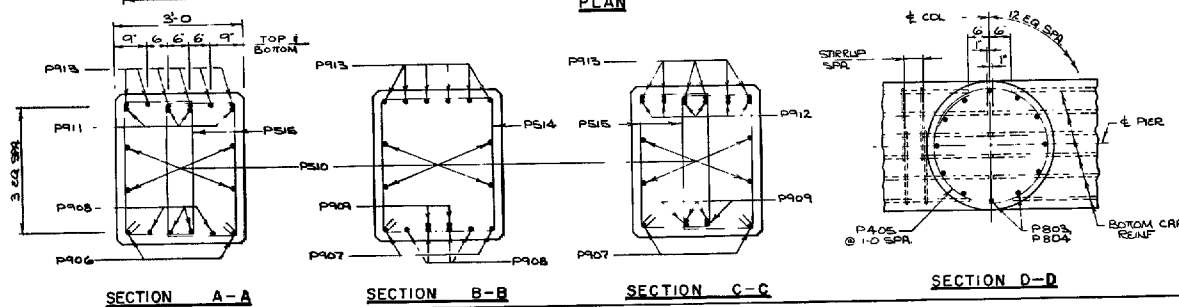
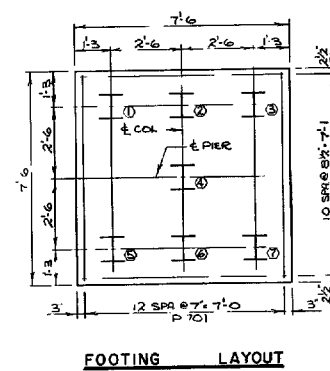
No.	Date	Revision	B-
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE		B-36-81	
Contract No.	978	Project No.	RWA
		Plans Checked	J. C. K.
WEST ABUTMENT		SHEET 5 OF 10	
		X 56336	

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PROJECT NO	1226-1-85	SHEET NUMBER		TOTAL SHEETS	
FEDERAL PROJECT DESIGNATION		7.5			



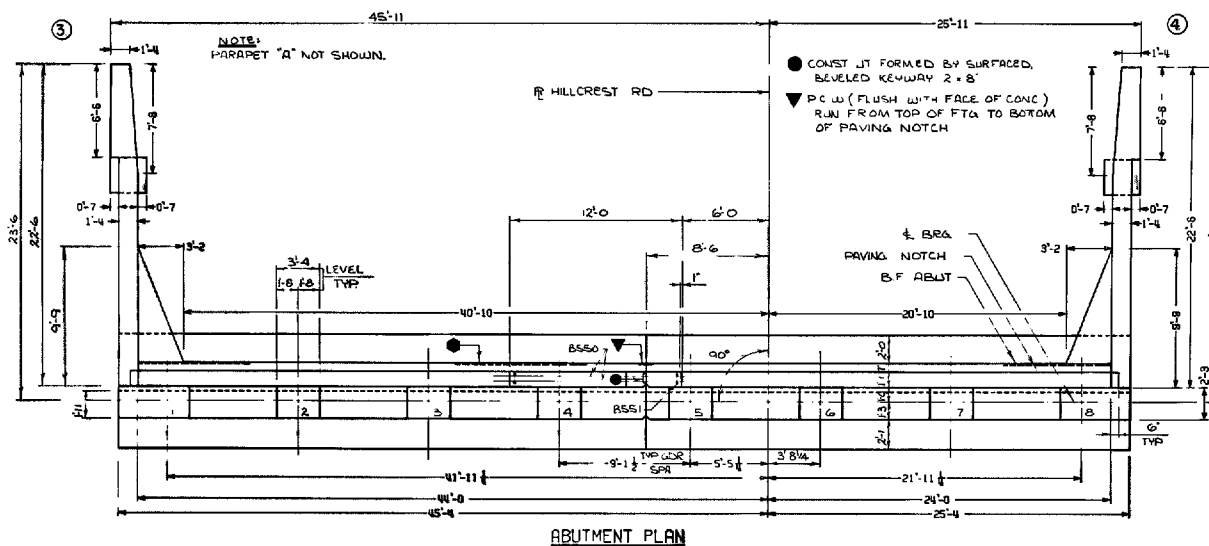
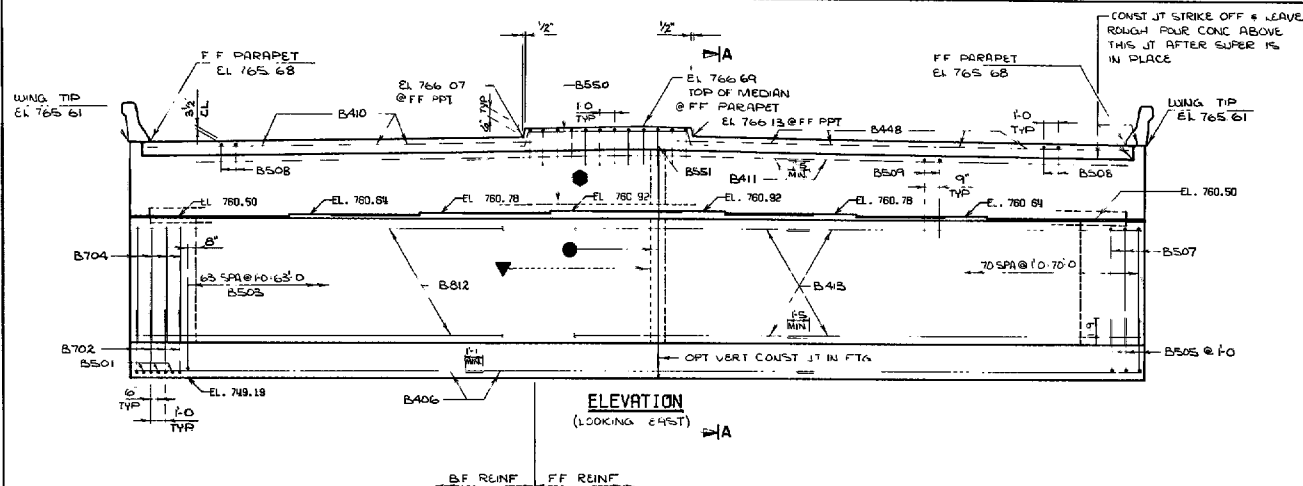
✕ INDICATES BUNDLED BARS. BUNDLED BARS SHALL BE WIRED TOGETHER AT 2'-0" CTRS.

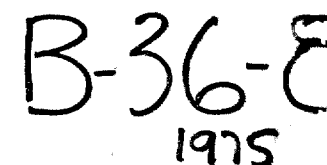


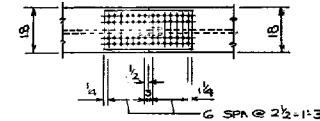
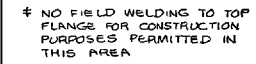
No	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-81			
Const. Type	1975	Drawn By	RMA
		Placed Check	JCL
PIER		SHEET 6 OF 10	
		X 56337	

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PROJECT NUMBER	1226-1-85	SHEET NUMBER	76
FEDERAL PROJECT DESIGNATION		TOTAL SHEETS	





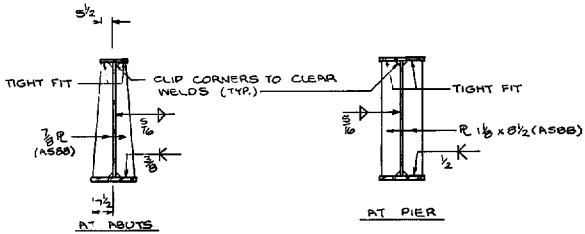


NOTE:
USE FILL PLATES AS REQ'D.
 $\frac{1}{16}$ " MIN THICKNESS.

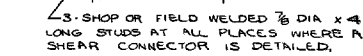
GIRDER DETAIL
(SHOWING INTERIOR GIRDER)

NOTE:
IF TRANS STIFF PLATE FALLS WITHIN 6" OF
DIAPHRAGM CONNECTION PLATE IT MAY BE USED
AS THE CONNECTION PLATE ($\frac{3}{8} \times 5\frac{1}{2}$ MIN)

NOTE:
OPTIONAL WELDED SHOP PLATE MAY BE USED FOR ALL PLACES AND WELD PLATE COVER GO LONG. IF USED, THE PLATE SHALL BE SHOWN ON THE SHOP DRAWINGS, AND WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
EXTERIOR GIRDER IDENTICAL EXCEPT TRANSVERSE STIFFENERS SHALL BE PLACED ON INTERIOR FACE OF GIRDER.
AT INTERIOR GIRDERS PLACE INTERMEDIATE TRANSVERSE STIFFENERS ON ONE SIDE OF GIRDER.



BEARING STIFFENER WELD DETAIL



TO BE PAID FOR AS 'STRUCTURAL CARBON STEEL'

No.	Date	Revised	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-81			
Cast Spec.	1975	Super By	DB
		Check Cracked ☒ ☐ ☐	
GIRDER DETAILS		SHEET 10 OF 16 X 56341	

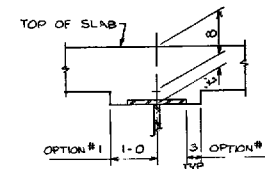
B-36-
197

CONSTRUCTION GRADES (TOP OF SLAB ELEVATIONS)

LOCATION	E BRG W ABUT	1/8 PT	1/4 PT	3/8 PT	1/2 PT	5/8 PT	E FIELD SPICE 1	3/4 PT	1 PT	E PIER	1 1/8 PT	1 1/4 PT	E FIELD SPICE 2	3/8 PT	1/2 PT	5/8 PT	3/4 PT	1 PT	E BRG E ABUT
GIRDER 1	766 38	766 34	766 30	766 25	766 21	766 17	766 14	766 12	766 08	766 04	766 00	765 96	765 93	765 92	765 88	765 83	765 79	765 75	765 71
GIRDER 2	766 52	766 48	766 43	766 39	766 35	766 30	766 28	766 26	766 22	766 17	766 13	766 09	766 07	766 05	766 01	765 97	765 93	765 89	765 85
GIRDER 3	766 66	766 61	766 57	766 53	766 48	766 44	766 42	766 40	766 35	766 31	766 27	766 23	766 21	766 19	766 15	766 11	766 07	766 03	765 99
GIRDER 4	766 79	766 75	766 71	766 66	766 62	766 58	766 55	766 53	766 49	766 45	766 41	766 37	766 34	766 33	766 29	766 25	766 20	766 16	766 12
GIRDER 5	766 79	766 75	766 71	766 66	766 62	766 58	766 55	766 53	766 49	766 45	766 41	766 37	766 34	766 33	766 29	766 25	766 20	766 16	766 12
GIRDER 6	766 86	766 81	766 77	766 73	766 68	766 64	766 62	766 60	766 55	766 51	766 47	766 43	766 41	766 39	766 35	766 31	766 26	766 22	765 99
GIRDER 7	766 52	766 48	766 43	766 39	766 35	766 30	766 28	766 26	766 22	766 17	766 13	766 09	766 07	766 05	766 01	765 97	765 93	765 89	765 85
GIRDER 8	766 38	766 34	766 30	766 25	766 21	766 17	766 14	766 12	766 08	766 04	766 00	765 96	765 93	765 92	765 88	765 83	765 79	765 75	765 71

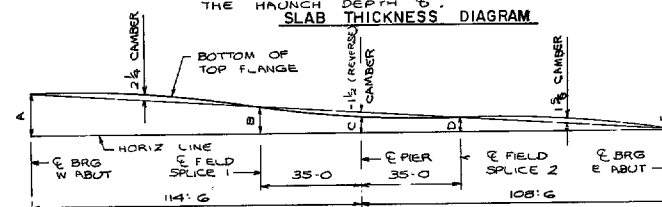
NOTE:
CONTRACTOR MAY USE
OPTION #1 OR OPTION #2

PROJECT #	1226-1-85	SHEET NUMBER	710
TOTAL SHEETS		710	



TO DETERMINE 'D': AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OR TOP OF SPICE PLATES WHICHEVER APPLIES, SHALL BE TAKEN AT THE E OF BEARINGS, E OF FIELD SPICES, AND AT EIGHTH POINTS OF EACH SPAN WHICH ARE MORE THAN SIX FEET FROM A FIELD SPICE. THESE ELEVATIONS SUBTRACTED FROM THE GRADE ELEVATIONS, ADJUSTED FOR THE DEAD LOAD DEFLECTION OF THE CONCRETE, MINUS THE SLAB DEPTH, PLUS THE STEEL THICKNESS TO BOTTOM OF THE TOP FLANGE, EQUALS THE HAUNCH DEPTH 'D'.

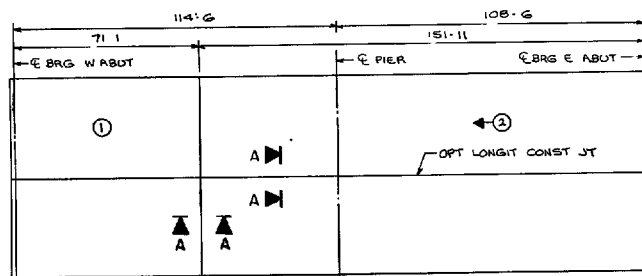
SLAB THICKNESS DIAGRAM



BLOCKING DIAGRAM

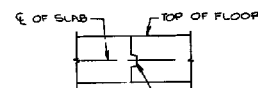
A	B	C	D	E
0 8	0 8	0 3 1/8	0 3 1/8	0 0

◀ ○ INDICATES DIRECTION & NUMBER OF POUR

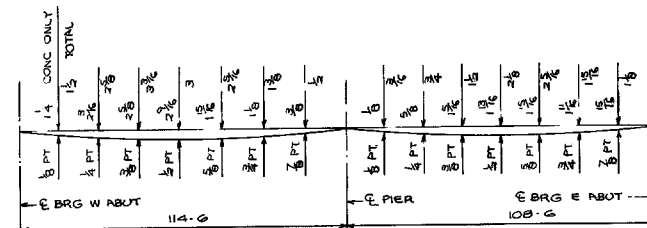


POURING DIAGRAM

POURS MAY BE COMBINED AND THE TRANSVERSE CONSTRUCTION JOINT OMITTED IF THE POUR FOR AN ENTIRE SPAN OR THE PORTION OF A SPAN TO A CONSTRUCTION JOINT CAN BE COMPLETED WITHIN FOUR HOURS AFTER CONCRETE OVER THE ADJACENT PIER IS PLACED. DIRECTION OF POUR MAY BE REVERSED IF PORTION OF POUR FROM THE PIER CAN BE COMPLETED IN A FOUR HOUR PERIOD.



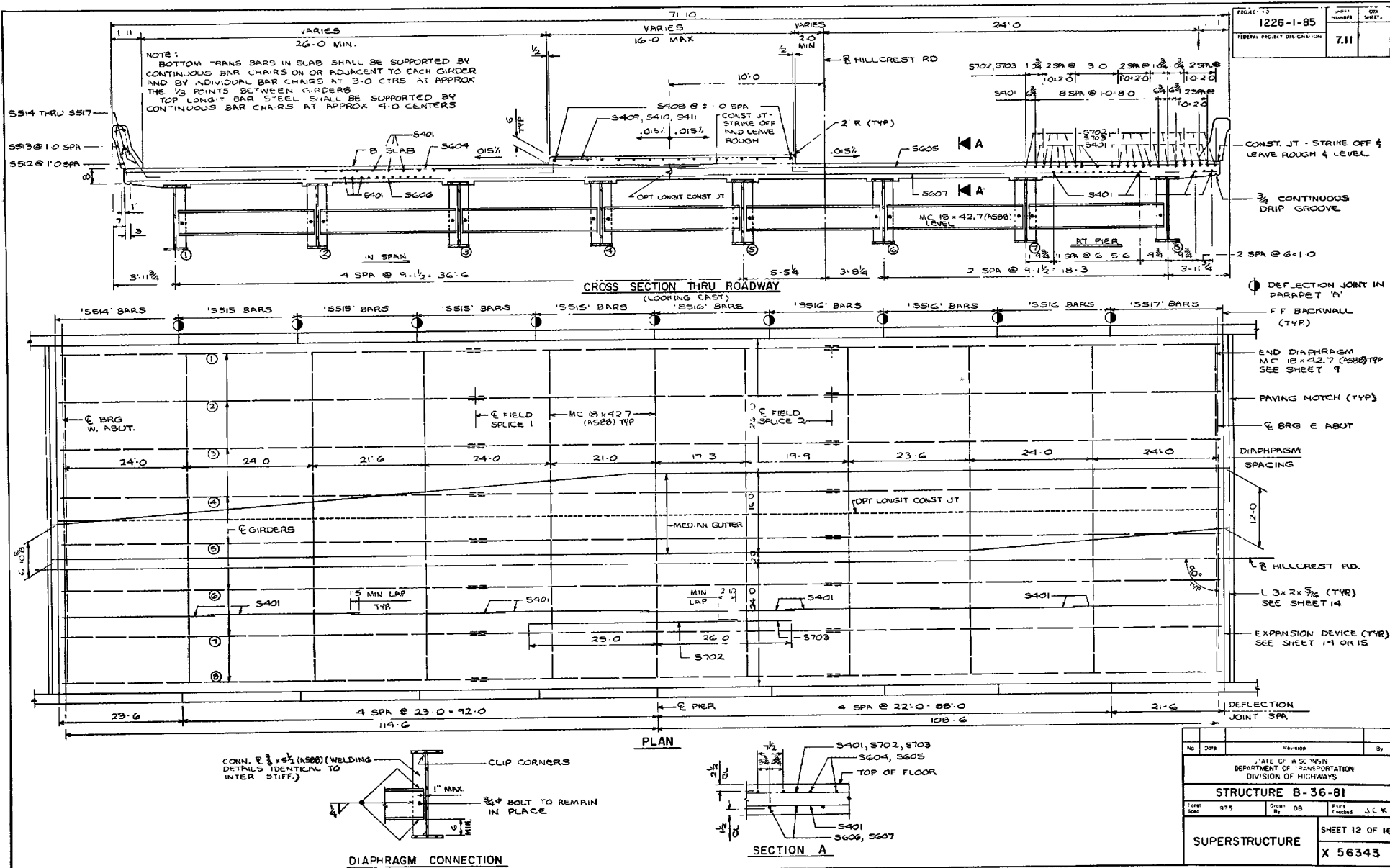
SECTION A



DEFLECTION DIAGRAM

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE 8-36-81			
Contract	1975	Drawn By	DB
Checked		Project Engineer	J C K
ELEVATIONS AND DIAGRAMS			SHEET 11 OF 16 X 56342

B-36-8
1975



No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-81			
Drawn	By	Checked	By
975	DB		J.C.K.
SUPERSTRUCTURE			SHEET 12 OF 16
			X 56343

B-36-
197

120,140*

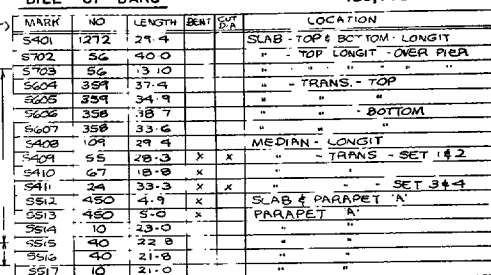
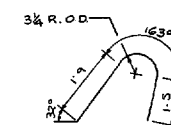
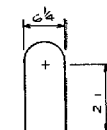


Diagram of a stepped shaft with a fillet. The shaft has a diameter of 1.0 inch. It has a section with a diameter of 1.5 inches of length 11.6 inches, followed by a fillet with a radius of 0.1 inches, and then a section with a diameter of 0.5 inches of length 6.5 inches. The total length is 18.1 inches. The fillet is labeled "0.1 INCRE" and the transition is labeled "11.6 TO 6.5".

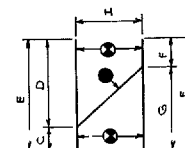
S 410



§ 512



S 513



CUTTING DIAGRAM

- BUNDLE AND MARK CUT BARS WITH BAR AND SET NUMBER. BENT BARS USED IN A CUTTING DIAGRAM SHALL BE BENT AFTER CUTTING
- MARK AND CUT ALL BARS ALONG THIS LINE. MAKE ALL CUTS NORMAL TO BAR AXIS

MARK	C	D	E	F	G	H	SETS READ
S40	9-7		28-3	14-2	14-1	55	1
	SET 2	18-8					1
S41	14-8		33-3	16-8	16-7	24	1
	SET 4	18-7					1

No.	Date	Revised on			By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS					
STRUCTURE B-36-81					
Const. Spec.	1975	Drawn By	DB	Printed	J. C. N.
SUPERSTRUCTURE REINFORCEMENT DETAILS				SHEET 13 OF 14	
				X 56344	

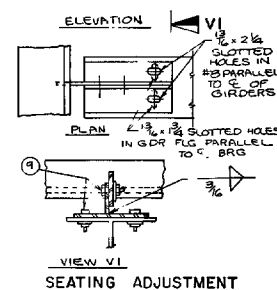
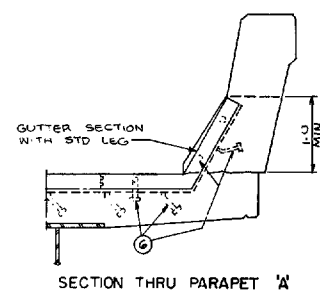
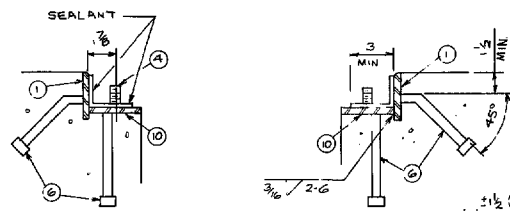
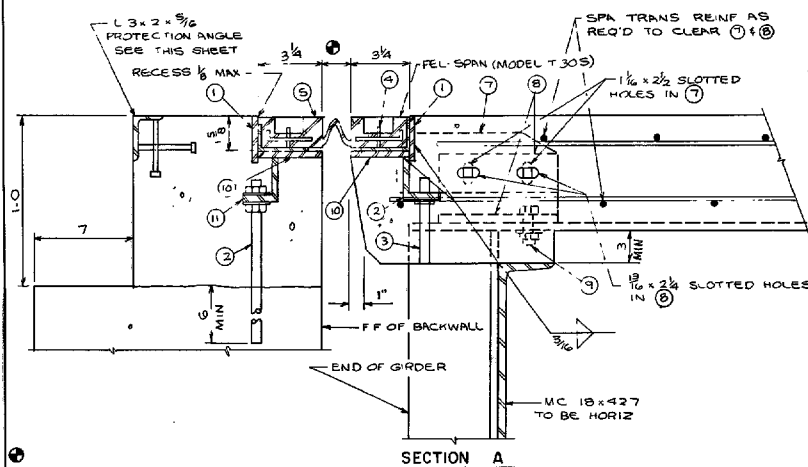
B-36
197

PROJECT NO	1226-1-85	SHEET NUMBER	713	TOTAL SHEETS	
FEDERAL PROJECT DESIGNATION					

*IF NECESSARY TURN ANGLE 180°

LEGEND

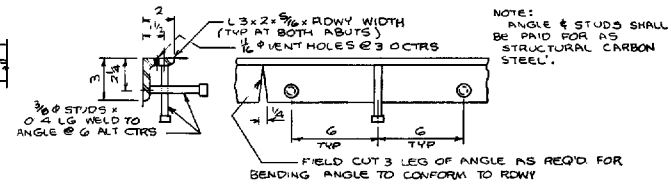
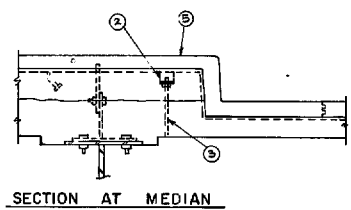
- ① BAR 2x2x3/8, BUILD TO CONFORM TO ROWY SLOPE
- ② L 3x2x3/8x0.3 LG. PLACE MIDWAY BETWEEN GIRDERS WELD TO 10. PROVIDE 3/8" HOLES IN 2 1/2" LEG FOR ROD 3
- ③ 3/8" ROD THREAD 4" WELD NUT TO 2
- ④ THREADED STUDS PROVIDED BY MANUFACTURER, WELD TO 10
- ⑤ ELASTOMERIC JOINT FEL-SPAN MODEL T 30 S.
- ⑥ 1/2"x0.4" STUDS @ 6" ALT CTRS BEND AFTER WELDING TO NO 1
- ⑦ 3/8" PLATE WELD TO 1 AND 10
- ⑧ FABRICATE FROM 3/8" WELDED PLATE PROVIDE 4x3/8" E RECTION BOLTS W/2 WASHERS & SQ NUT EACH PER CONNECTION
- ⑨ BAR 3/8x3/8 WELD TO NO 1.
- *⑩ L 3x2x3/8x0.3 LONG PLACE AT 3.0 CTRS PROVIDE 1/2" HOLE IN 2 1/2" LEG FOR ROD 12 WELD TO 10.
- ⑪ 3/8" ROD WITH 2 STD NUTS & WASHERS MAY BE PRE-SET OR FIELD DRILLED & GROUTED. THREAD 4".



TEMPERATURE TABLE

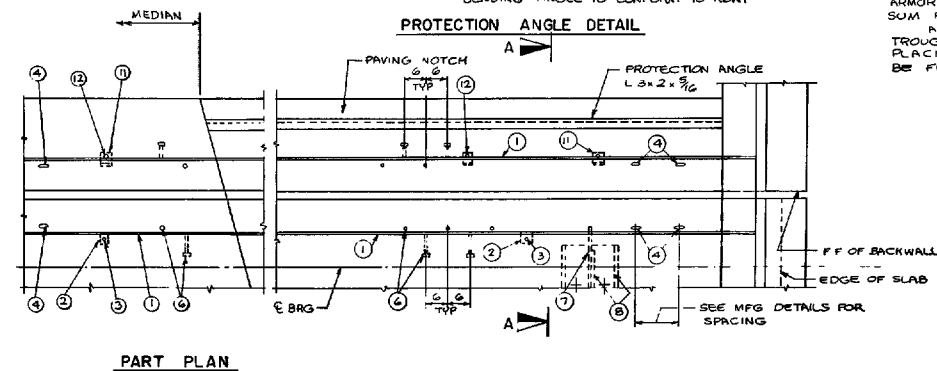
* TEMP	FEL-SPAN T 30 S
90°	1/2
80°	1 1/4
70°	1 3/4
60°	1 3/4
50°	2
40°	1 3/4
30°	2

* SHADED UNDERSIDE DECK TEMPERATURE (F)



GENERAL NOTES

- EACH STUD 4 SHALL HAVE A WASHER AND HEX NUT OR TORQUE NUT
- TIGHTEN ALL NUTS TO MANUFACTURERS RECOMMENDED TORQUE
- CLEAN BOLT HOLE CAVITY AND FILL CAVITY DEPTH WITH SEALANT AND/OR BOLT HOLE PLUG
- CLEAN EXCESS SEALANT FROM SURFACES
- ELASTOMERIC JT ASSEMBLY, INCLUDING ANCHORAGE ARMOR & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE FOR 'EXPANSION DEVICE'
- APPLY SEALANT ALONG BOTTOM AND SIDES OF TROUGH AS RECOMMENDED BY MANUF PRIOR TO PLACING EXPANSION DEVICE. CONCRETE MUST BE FREE OF ALL DEBRIS



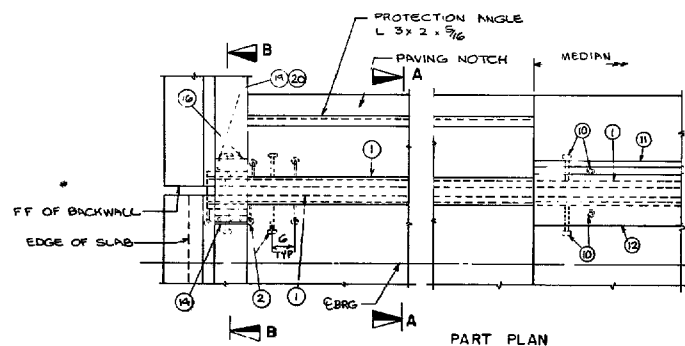
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-81			
Scale	1:75	Drawn By	DB
ELASTOMERIC EXPANSION DEVICE AT ABUTMENTS		SHEET 14 OF 16 X 56345	

B-36
197

No.	Date	Revision			By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS					
STRUCTURE B - 36 - 81					
Contract Date	1975	Drawn By	DB	Plans Checked	J.C.V.
STRIP SEAL EXPANSION DEVICE AT ABUTMENTS				SHEET 15 OF 16	
				X 56346	

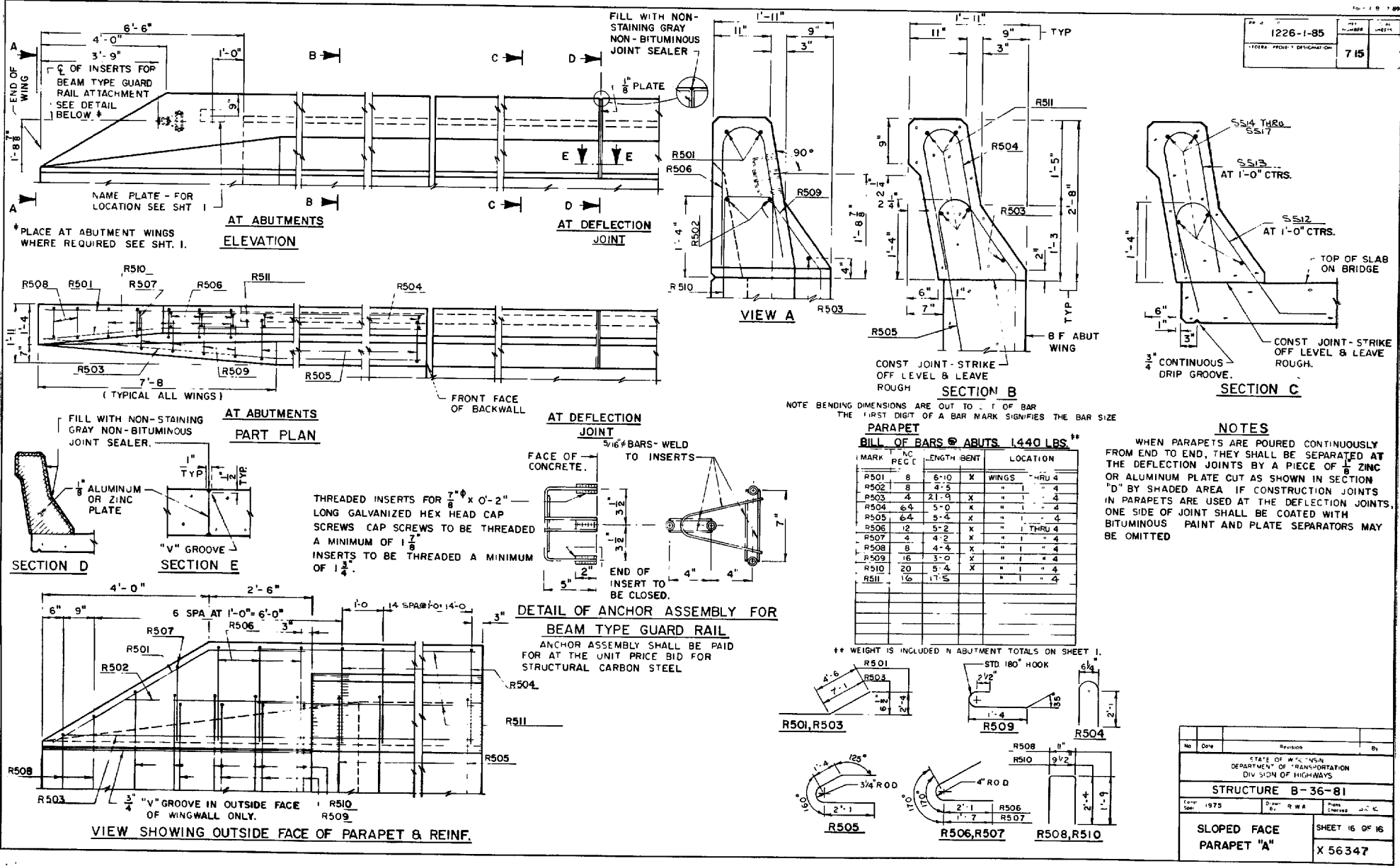


SECTION THRU PARAPET 'A'
(AT E JOINT)



PART PLAN

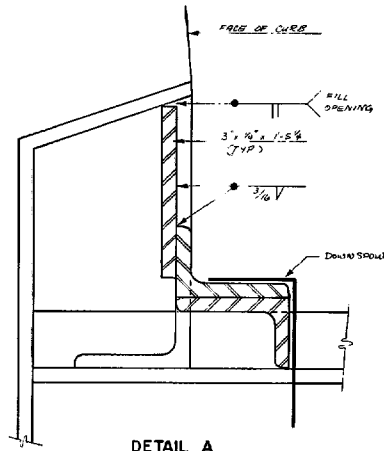
B-30



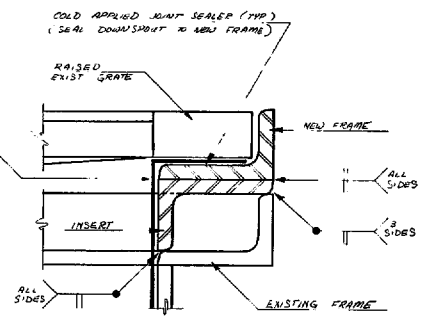
B-36-8

1975

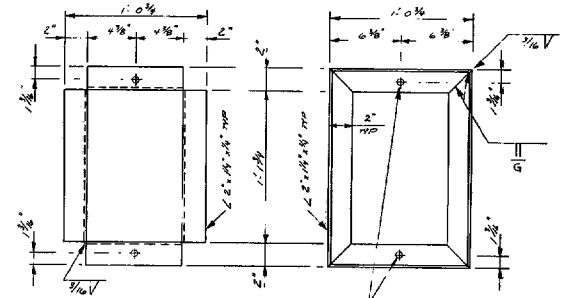
STATE PROJECT NUMBER	SHEET NO



DETAIL A



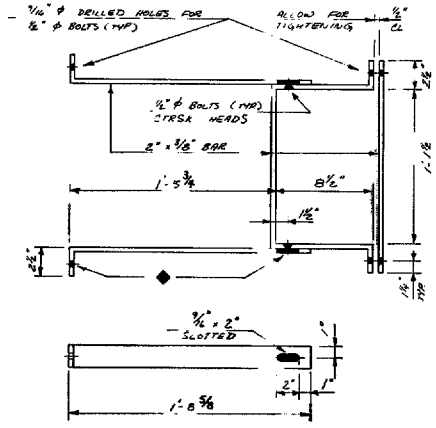
DETAIL B



INSERT DETAIL S

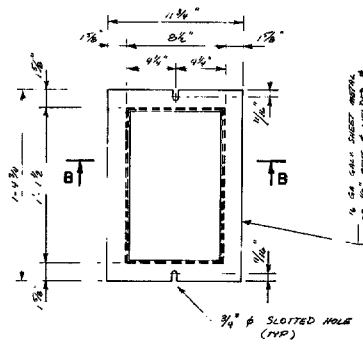
FRAME DETAILS

NOTE: ALL BOLTS SHALL BE FURNISHED WITH NUTS & LOCKWASHERS AND GALVANIZED

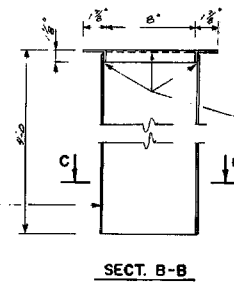


HANGER BRACKET DETAILS

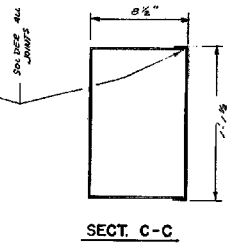
◆ BRACKET MAY BE FIELD WELDED IN LINE OF BOLTING



DOWNSPOUT DETAILS



SECT. B-B



SECT. C-C

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-2-220			
Drawn Spec.	1975	Design By JAR	Check By JAR
DRAIN DETAILS			SHEET 2 OF 2
			X 56331

B-36
1'

DESIGN DATA**LIVE LOAD:**

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

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS ARE BASED ON EXISTING STRUCTURE PLANS.

DECK SURFACE PREPARATION IS INCLUDED IN THE BID
ITEM "POLYMER OVERLAY".**TOTAL ESTIMATED QUANTITIES**

509.5100.S POLYMER OVERLAY — 1386.5 SY

LIST OF DRAWINGS

1. GENERAL PLAN

BRIDGE OFFICE CONTACT

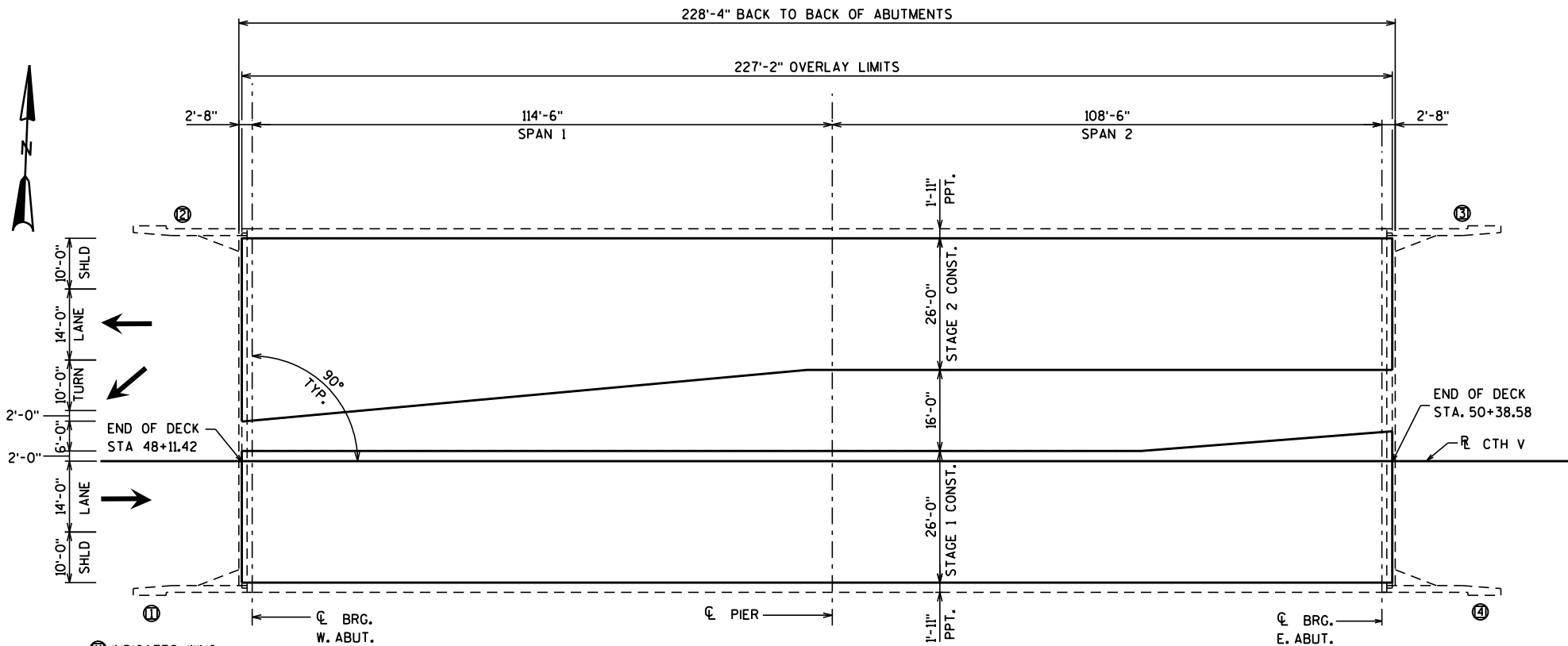
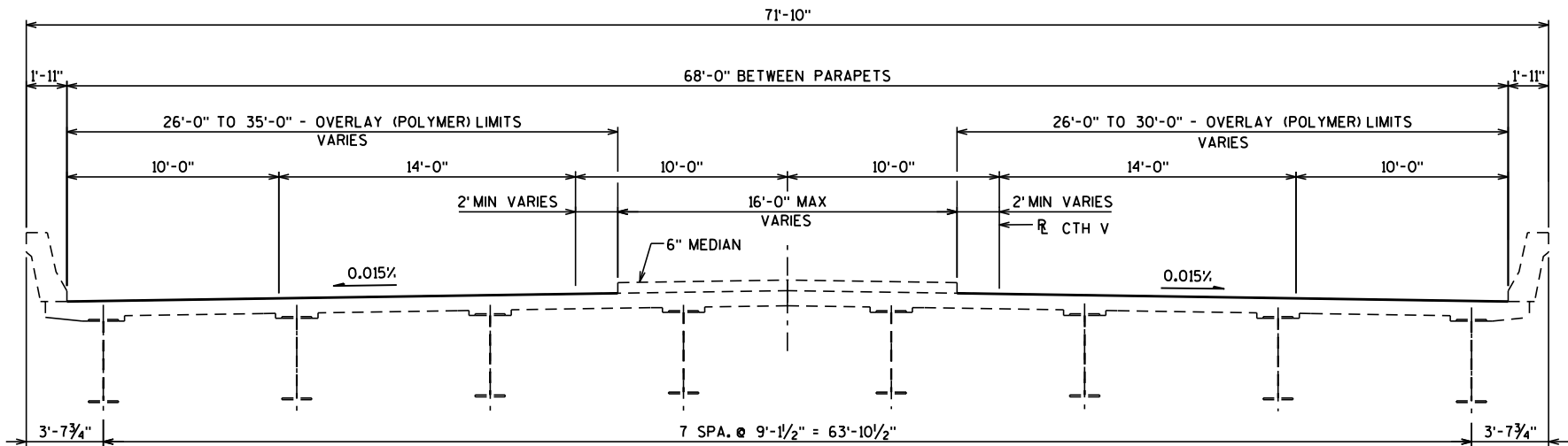
WILLIAM DREHER
(608) 266-8489

TRAFFIC DATA

ADT = 2,900 (2036)
RDS = 60 M.P.H.

CONSULTANT CONTACT

KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900

PLAN**CROSS SECTION THRU ROADWAY LOOKING EAST**

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
Omni ASSOCIATES			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE B-36-81			
CTH V OVER IH 43			
COUNTY	MANITOWOC	TOWN	KOSSUTH
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

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

Bridge Data (used in this rating)

Bridge Number: B36-081	Section Loss(%): *
Feature Carried: V HILLCREST RD	SL Description: *
Rating Date: 09-Jan-2013	Overburden Depth(in): 2.0
Span Type: DECK GIRDER	Overburden Type: CONCRETE
Span Material: STEEL	Last Inspection Date: 28-Sep-2011*

* Inspection data reflects last inspection prior to rating. Latest inspection is on 10-Sep-2013

Bridge Load Rating Summary

Rating Method: LFR	Rating Vehicle: HS20			
	Rating	Controlling Element	Controlling Location (ft)	Live Load Distribution Factor
Inventory:	HS21.9	DECK GIRDER Moment	6.2 SPAN 2, 67.1	1.66
Operating:	HS36.6	DECK GIRDER Moment	6.2 SPAN 2, 67.1	1.66

Wisconsin Standard Permit Vehicle (Wis-SPV)

	MVW (kips)	Controlling Element	Controlling Location (ft)	Live Load Distribution Factor
Single Trip:	245	DECK GIRDER Moment	6.2 SPAN 2, 67.4	1.3
Multi Trip:	193	DECK GIRDER Moment	6.2 SPAN 2, 67.4	1.66

Remarks/Recommendations:	Load Rating Engineer
	Name: Dietsche, Joshua
	Date: 09-Jan-2013 PE Stamp Here

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