REHABILITATION STRUCTURE SURVEY REPORT

Wisconsin Department of Transportation

DT1696 6/2012

☒ **Grade Separation** ☐ **Stream Crossing** ☐ **Culvert**

☐ **Railroad** ☐ **Retaining Wall** ☐ **Noise Barrier**

☐ **Sign Structure** ☐ **Other:** _____

For guidance see: **http://dotnet/dtid_bos/extranet/structures/reports-checklists.htm**

Design Project ID 1190-02-34	Construction Project ID 1190-02-64	Highway (Project Name) EAU CLAIRE - CHIPPEWA FALLS		
Final Plan Due Date 05/01/2018	Preliminary Plan Due Date 05/01/2018	☒ Town ☐ Village ☐ City WASHINGTON		
PS&E Date 08/01/2018	Letting Date 02/12/2019	County EAU CLAIRE		
Structure Number B-18-36		Section 01	Town 26N	Range 09W
Station 38+66.40 - 41+42.82	Latitude: 444600.9 Longitude: 912516.85	☒ YES ☐ NO Structure Located on National Highway System		
For Survey and CADD Files Horizontal Coordinate System: Vertical Datum:		**Traffic Forecast Data**		
		Design Year	Average Daily Traffic (ADT)	Roadway Design Speed	Functional Class
Feature On USH 53 NB		Feature On 2014	14200	70 MPH	Principal Arterial
Feature Under IH 94		Feature Under 2009	20900	70 MPH	Interstate-Rural
Region Contact: Adam Hetrick (Area Code) Telephone Number(s): 715-836-2855 Email: adam.hetrick@dot.wi.gov		Consultant Contact: (Area Code) Telephone Number(s): Email:			

Work To Be Performed

Field Information Required
Item Number *(see Pages 2–4)*

- ☐ A. Structural Repair 1–3, 22
- ☒ B. Overlay 1–3, 10–22, 26–28, 32, 34
  - ☐ Concrete Overlay ☐ Asphalt Overlay
  - ☐ Polymer Modified Asphalt Overlay ☒ Thin Bonded Polymer Overlay
  - ☐ Other: _____
- ☐ C. New Bearings 3, 8, 9, 22
- ☐ D. New Railings 15–17, 20–23
- ☐ E. Curb and Sidewalk Repair 2, 3, 16, 22, 23
- ☐ F. Abutment Repair 2, 3, 12, 16
- ☐ G. Pier Repair 2, 3, 12, 16
- ☐ H. New Deck 1–6, 9, 10, 13–28, 32–34
- ☐ I. Widening 1–28, 30, 32–35
- ☐ J. Joint Repair 2, 3, 8, 16, 19, 22
- ☐ K. Surface Repair 2, 3, 22
- ☐ L. Raising Bridge 3, 6, 9, 16, 20–24
- ☐ M. Slope Stabilization 1–3, 30
- ☐ N. Scour Repair ..... 1, 2 or 3, 16, 19, 21, 27, 29, 31–35
- ☐ O. Painting 16, 22, 24
- ☐ P. Other: _____

Field Information Required

If no structure number exists provide the following: Small County Map on which the location of proposed structure is shown in red and any highway relocation in green. In addition, provide Location Map of scale not less than 1" = 2000' showing the structure location and number.

☒ 1. Most recent inspection report, brief history of bridge construction date, and description of repairs with dates.

☒ 2. Outline deficient areas on existing structure plan or drawing.

☒ 3. Photographs of details requiring repairs or modifications, such as: bearings, x-frames, joints, etc. Photograph all deficient areas. Clearly label all photographs.

☐ 4. Provide proposed typical section for roadway and structure showing dimensions and cross slopes.

☐ 5. Survey beam seat or girder elevations at both sides of bridge at all substructure units.

☐ 6. Provide cross-section elevations at 10 foot intervals extending across the structure and a minimum of 100 feet beyond each end. Sections should be normal to centerline and show elevations at centerline roadway and gutter line. Take elevations along joints and at floor drains.

☐ 7. Show and identify starting stationing on bridge.

☐ 8. Record measurement, temperature of the structure, and date taken for each of the following:
(a) Joint opening measured normal to joint at centerline of roadway and both curb lines.
(b) Clearance between girder ends at piers.
(c) Distance from front face of abutment backwall to closest point of girder end measured parallel to girder.
(d) Temperature of structure determined by averaging top and under deck (if accessible) readings.

☒ 9. Fixed and expansion bearings - condition and orientation.

☒10. Number and width of proposed pours including construction staging sequence.

☒11. Location of existing construction joints in the deck.

☒12. Estimated Quantities:

Preparation, Decks, Type 1	Sq. Yd. 0	
Preparation, Decks, Type 2	Sq. Yd. 0	
Full Depth Deck Repair	Sq. Yd. 0	Galvanic Anodes? NO
Concrete Surface Repair Superstructure	Sq. Ft. 0	Galvanic Anodes? NO
Concrete Surface Repair Substructure	Sq. Ft. 0	Galvanic Anodes? NO
Curb Repair	LF. 0	Galvanic Anodes? NO

☒13. Sufficiency number: 61.1 (obtain from HSI Bridge Inventory System)

☒14. Appraisal and Condition Rating

	Deck Condition	Superstructure Condition	Substructure Condition	Load Capacity Appraisal	Structural EVAL Appraisal
Current	7	5	7	5	5

☒ 15. Load Ratings

	Inventory	Operational
Current Calculated Date: 07/02/2013	HS14	HS24
After Completed by Bridge Designer		

☒ 16. Utilities on/near Structure. (WisDOT policy is to avoid placing utilities on the structure.)
☐ Yes ☒ No

Type	Owner and Contact Information	Size	Opening at Abutment	Weight	Pressure

☒ 17. Is existing bridge railing deficient?
☐ Yes ☒ No If Yes – Replacement Rail Type:

☐ 18. Drains to be:
☐ Raised ☐ Closed ☐ Downspouted ☐ New

☒ 19. Traffic maintained on bridge during work?
☒ Yes ☐ No If Yes – Include sketches

☒ 20. Will guard rail be attached?
☐ Yes ☒ No If Yes – Which corners? Existing guardrail to remain at the SE and SW corners.

☒ 21. Will work to be performed eliminate all deficiencies?
☒ Yes ☐ No If No – Explain:

☒ 22. Hazardous waste (asbestos) to be removed?
☐ Yes ☒ No If Yes – Explain:

☐ 23. Wing location(s) for surface drain anchors:

☒ 24. Painting?
☐ Yes ☒ No If Yes – Explain on Page 4
(all, part, railing, color system, containment, bid items)

☐ 25. Desired roadway width: *(new deck / widening)* _____ Ft.
Desired sidewalk clear width: Left: _____ Ft. Right: _____ Ft.

☒ 26. Maximum increase in grade line elevation 3/8 In.

☒ 27. Benchmark description to be shown

☒ 28. Desired final cross slopes on bridge 0.02 Ft./Ft.

☐ 29. Underwater Inspection Report including:
- Streambed Cross Section With Pier, Footing and Seal Elevations
- Pier Elevation Drawings
- Pier Layout
- Hydrographic Survey

☐ 30. Slope stabilization, provide:
Type: _____ Quantity: _____ CY.
Slope: _____ Ft./Ft. Fill: _____ CY.

☐ 31. Preliminary layout of grout bags or proposed scour repair.
C.I.P. Articulated Mats (for Scour) _____ CY.
Grout Bags (for Scour) _____ CY.
Heavy Riprap _____ CY.
Extra Heavy Riprap _____ CY.

☒ 32. Report submitted with Preliminary Plan requires **no** CADD file submittal *(See ESubmittal instructions)*.

☐ 33. Report submitted for development of Preliminary Plan to structure design engineer requires CADD file (if available) submittal and Report submittal to Soils Engineer if project involves foundation modifications.

☐ 34. Coordinate with structure design engineer **before** going into the field if existing structure has no available plans, if staged construction is planned, or if there are adjoining/adjacent structures that will remain in place.

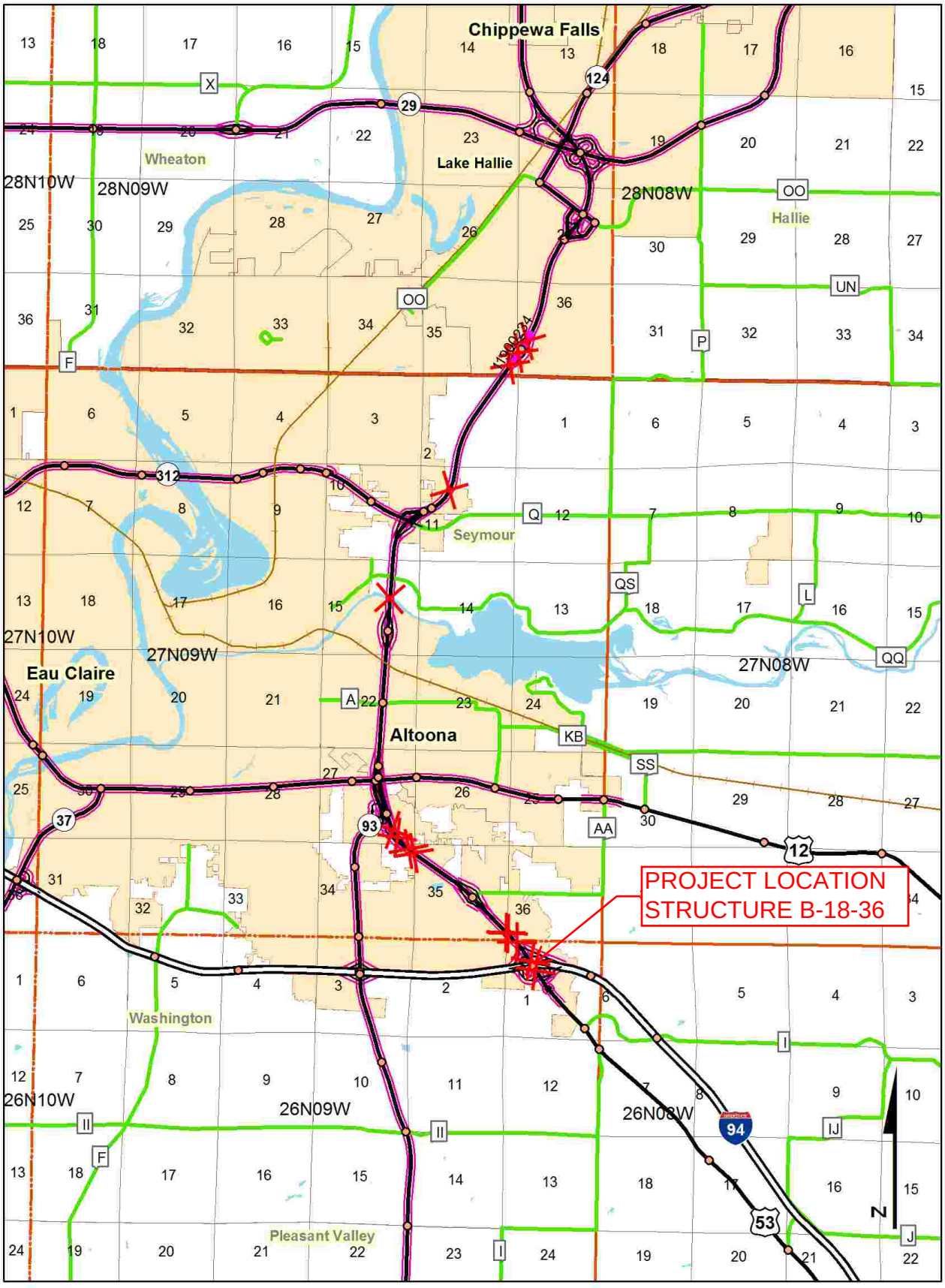
☐ 35. If project involves substructure widening coordinate with structure and/or hydraulic design engineer to determine if information on the separation and/or stream crossing SSR will be required.

Additional Information

Elaborate on other concerns such as: DNR, Local, Utility Conflicts, Aesthetics, Railing Type and Staged Construction.
Please be as detailed and specific as possible.

1.) Structure built in 1966. Concrete Masonry Deck Overlay was completed in 1987. Steel Deck Girders were painted in 1990. Pedestrian Fence was added in 1996. Bridge Deck was replaced and widened in 2011. The Steel Deck Girders are scheduled to be painted in 2016. See attached Bridge Inspection Report.
2.) Deficient areas to be determined in the field by the engineer. See attached Bridge Inspection Report. A Polymer Overlay is proposed because of deficiency over the entire structure due to poor bridge deck surface. The deck has multiple transverse and longitudinal cracks with efflorescence.
3.) See attached photographs.
9.) Strip Seal Expansion Joints at the North Abutment and South Abutment.
10.) This work will be constructed half at a time under traffic using single lane closures during non-peak hours with night work. Nighttime ramp closures are anticipated at some structures. All lanes and ramps will be opened to traffic daily.
11.) See asbuilt plans.
16.) No utilities on or near structure. No conflicts anticipated.
19.) This work will be constructed half at a time under traffic using single lane closures during non-peak hours with night work. Nighttime ramp closures are anticipated at some structures. All lanes and ramps will be opened to traffic daily.
22.) See attached Asbestos Inspection Report. No asbestos-containing material was found.
27.) To be determined.
32.) See preliminary plans.

CDR Map


Chippewa Falls
Wheaton
Lake Hallie
Hallie
Seymour
Eau Claire
Altoona
Washington
Pleasant Valley
28N10W
28N09W
28N08W
27N10W
27N09W
27N08W
26N10W
26N09W
26N08W
PROJECT LOCATION
STRUCTURE B-18-36
N

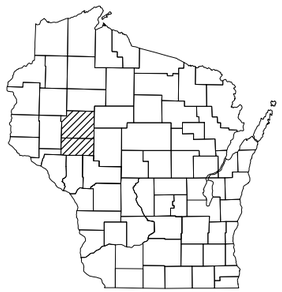
PROJECT ID: 1190-02-64

WITH:

COUNTY: EAU CLAIRE / CHIPPEWA

ORDER OF SHEETS

TOTAL SHEETS =



N

DESIGN DESIGNATION

A.A.D.T.	=
A.A.D.T.	=
D.H.V.	=
D.D.	=
T.	=
DESIGN SPEED	=
ESALS	=

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1190-02-64		

EAU CLAIRE - CHIPPEWA FALLS

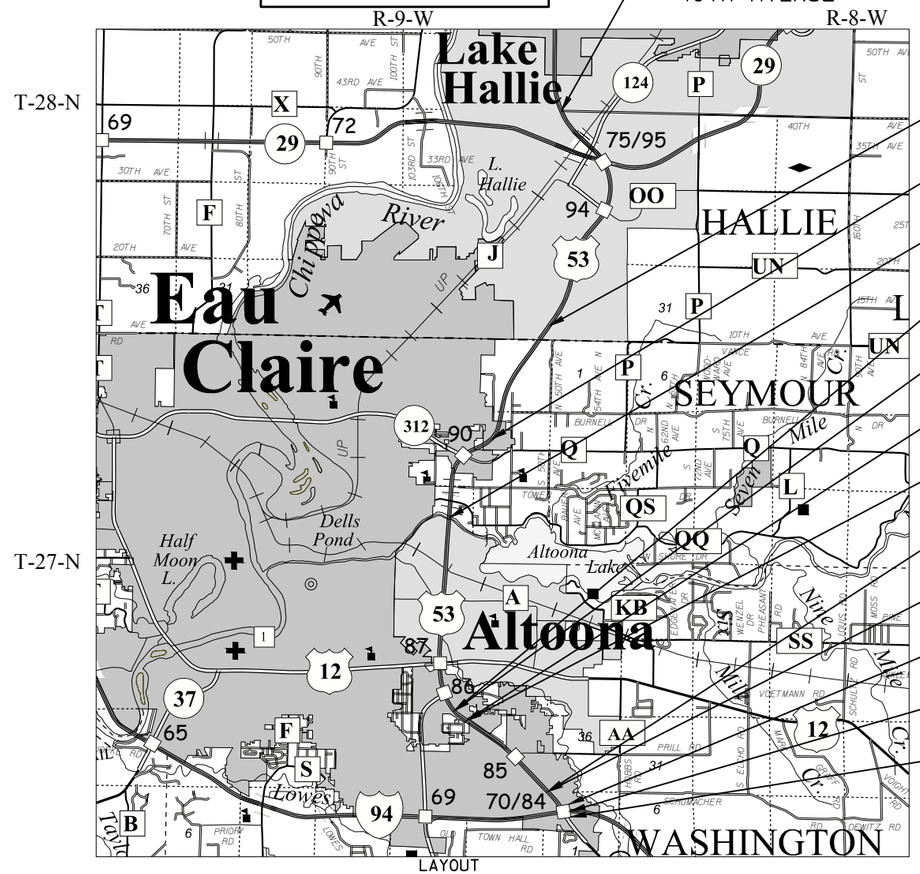
IH 94 TO 40TH AVENUE (11 BRIDGES)

USH 53

EAU CLAIRE AND CHIPPEWA COUNTIES

STATE PROJECT NUMBER
1190-02-64

END PROJECT
STA. 83+66.39 N.B.
40TH AVENUE



LAYOUT

SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 11.26 MILES

STRUCTURE B-09-262

STRUCTURE B-18-190

STRUCTURE B-18-168

STRUCTURE B-18-178

STRUCTURE B-18-182

STRUCTURE B-18-183

STRUCTURE B-18-184

STRUCTURE B-18-37

STRUCTURE B-18-38

STRUCTURE B-18-35

STRUCTURE B-18-36

BEGIN PROJECT
STA. 38+66.40 N.B.
IH 94
X = 359529.44
Y = 262430.72

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, EAU CLAIRE COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	WISDOT
Designer	ADAM HETRICK
Project Manager	DAVID KOEPP
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	TMOTHY MASON

APPROVED FOR THE DEPARTMENT

DATE: _____ _____ (Signature)

E

route: 053N county: EAU CLAIRE date: 08/13/2013 plm: 062.827

Lat: 44.7665968 Long: -91.42129139 Elev: 825.11 ft.

\\doteauplog1p\photolog\Rg5\053N_R5_2013\\Front\Dir_065\F_06585.jpg

route: 053N county: EAU CLAIRE date: 08/13/2013 plm: 062.837

Lat: 44.76671868 Long: -91.42140103 Elev: 825.52 ft.

\\doteauplog1p\photolog\Rg5\053N_R5_2013\\Front\Dir_065\F_06586.jpg

route: 053N county: EAU CLAIRE date: 08/13/2013 plm: 062.847

Lat: 44.76684036 Long: -91.42151017 Elev: 826.12 ft.

\\doteauplog1p\photolog\Rg5\053N_R5_2013\\Front\Dir_065\F_06587.jpg

route: 053N county: EAU CLAIRE date: 08/13/2013 plm: 062.857

Lat: 44.76696246 Long: -91.42161901 Elev: 826.05 ft.

\\doteauplog1p\photolog\Rg5\053N_R5_2013\\Front\Dir_065\F_06588.jpg

route: 053N county: EAU CLAIRE date: 08/13/2013 plm: 062.867

Lat: 44.76708465 Long: -91.42172745 Elev: 826.23 ft.

\\doteauplog1p\photolog\Rg5\053N_R5_2013\\Front\Dir_065\F_06589.jpg

route: 053N county: EAU CLAIRE date: 08/13/2013 plm: 062.877

Lat: 44.76720799 Long: -91.421837 Elev: 826.43 ft.

\\doteauplog1p\photolog\Rg5\053N_R5_2013\\Front\Dir_065\F_06590.jpg

route: 053N county: EAU CLAIRE date: 08/13/2013 plm: 062.887

Lat: 44.76732949 Long: -91.4219454 Elev: 826.35 ft.

\\doteauplog1p\photolog\Rg5\053N_R5_2013\\Front\Dir_065\F_06591.jpg

route: 053N county: EAU CLAIRE date: 08/13/2013 plm: 062.897

Lat: 44.76745092 Long: -91.42205473 Elev: 826.48 ft.

\\doteauplog1p\photolog\Rg5\053N_R5_2013\\Front\Dir_065\F_06592.jpg

Google earth

feet 10
meters 3

Google earth

feet 10
meters 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-18-036

USH 53 NB over IH 94

Jul 28,2015

Type	Prior	Frequency (mos)	Performed
Routine	07-28-15	24	X
In-Depth	03-10-10	72	
Interim	03-10-08	0	
SI&A	07-02-13	48	

Latitude	44°46'00.90"N	Owner	STATE HIGHWAY DEPT
Longitude	91°25'16.85"W	Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
1	30

Team members

WJK

	Name	Number	Signature	Date
Inspector	Kovaleski, William J	8007	Completed by Bill(dotwjk)	
Reviewer				

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

Identification & Location

Feature On: USH 53 NB	Section Town Range: S01 T26N R09W	Structure Number: **B-18-036**
Feature Under: IH 94	County: EAU CLAIRE(18)	
Location: 0.2M N JCT CTH II	Municipality: TOWN-WASHINGTON(18024)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 47	Bridge Roadway Width: 43.1	Total Length: 276.4
Approach Pavement Width: 36	Deck Width: 45.5	Deck Area (sq ft): 12797

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	3	14200	2014	ONE WAY TRAFFIC
Under	6	26220	2003	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS14	Overburden depth (in):	Last rating date:	Controlling: INTERIOR DECK GIRDER Moment
Operating rating: HS24	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: 4.5 SPAN 2, 42.4
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	Sufficieny #: 61.1

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		43.0	
2	CONT STEEL	DECK GIRDER		95.0	Y
3	CONT STEEL	DECK GIRDER		95.0	
4	CONT STEEL	DECK GIRDER		39.0	

Expansion joint(s)

Temperature:

File:	New:

Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal	16.92		
Highway Minimum Under Non-Cardinal	16.42		
Highway Minimum On			
Railroad Minimum Under			

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**12**		**Reinforced Concrete Deck**	SF	12,649	11,974	675	0	0
			Re-decked and widened in 2011.						
		1130	Cracking (RC)	SF		0	675	0	0
			Spans 1, 2, 4: very few hrlin transverse cracks. Span 3: Multiple transverse cracks w/ lt/med efflorescence.						
	8000		Wearing Surface (Bare)	SF	11,958	10,087	1,720	151	0
			Re-decked and widened in 2011.						
		3220	Crack (Wearing Surface)	SF		0	1,720	151	0
			CS3 transverse cracks - 1 @ Pier 1 - full width, 2 @ Pier 2 - full and 1/2 width, 2 @ Pier 3 - each 1/2 width. 1 CS3 tr 20ft of fine/hrline map cracking at Pier 1 & 2.						
	8522		Coated Reinforcing	SF	12,649	0	0	0	0
			Re-decked and widened in 2011.						
X	**107**		**Steel Open Girder**	LF	1,652	457	265	930	0
			7 steel haunched girders at varied spacing. Girders, Painted June 1990. Girder 6 replaced in 2011. Girders appear straight and plumb**.**						
		1000	Corrosion	LF		0	265	930	0
			5 Original Girders - Spn 1 & 4: < 2% web freckle rust, 10-20% flange edges rust. Spn 2 & 3: 60-80% web freckle rust w/ some flaking, 90% flange rust w/ some hvy flaking. 1 New Girder primed (no top coat) w/ with local areas of spot rusting (edges btm flng).						
	8516		Painted Steel	SF	19,300	3,570	4,270	2,850	8,610
			Girders **= 15,900sf, Struts & X brc = 3,400. Original 5** painted June 1990. **New** G6 **primed (**no **top coat).**						
		3440	Effectiveness (Steel Protective Coatings)	SF		0	4,270	2,850	8,610
			5 Original Girders - Spn 1 & 4: < 2% web freckle rust, 10-20% flange edges rust. Spn 2 & 3: 60-80% web freckle rust w/ some flaking, 90% flange rust w/ some hvy flaking. 1 New Girder primed (no top coat) w/ with local areas of spot rusting (edges btm flng).						
X	**205**		**Reinforced Concrete Column**	EA	9	9	0	0	0
			Fiber wrapped in 2011. **Loss of wrap at top of columns of Pier 2.**						
X	**215**		**Reinforced Concrete Abutment**	LF	100	39	60	1	0
			Surface repairs & backwall top 2011. **Approx. 4ft added on east end of South.**						
		1080	Delamination - Spall - Patched Area	LF		0	50	1	0
			North: 1ft edge spall under G6 w/ map cracking. Patches - at G2, G3, G4 and G5 and locations btwn each girders G1 & G5. 3 - 3in x 6in spalls w/ staining (rebar close to surface) @ G2. **South: 2ft patch under G4. Lt delam/spall staining under G3.**						
		1130	Cracking (RC)	LF		0	10	0	0
			North: Few fine/hrline transverse cracks in abut & bkwall. **South: 2ft map cracking on east end. Few fine vertical cracks.**						
		6000	Scour	LF		0	2	0	0
			NE - horiz. face scaling near brng.						
X	**234**		**Reinforced Concrete Cap**	LF	149	149	0	0	0
			Fiber wrapped in 2011. **Loss of wrap at top of columns of Pier 2 w/ some staining.**						
X	**300**		**Strip Seal Expansion Joint**	LF	100	90	10	0	0
			New in 2011. 2013 @ 85 degrees - N=0.16, S=0.13						
		2360	Adjacent Deck or Header Damage	LF		0	10	0	0
			Few vert cracks in paving block.						

X	**311**		**Moveable Bearing**	EA	24	0	24	0	0
			At both abutments and piers 1 and 3. Sandblasted in 2011. **G3 brg south abut nuts loose.**						
		1000	Corrosion	EA		0	24	0	0
			Lt to hvy rust.						
X	**313**		**Fixed Bearing**	EA	6	0	6	0	0
			Pier 2.						
		1000	Corrosion	EA		0	6	0	0
			Light to hvy surface rust.						
X	**331**		**Reinforced Concrete Bridge Rail**	LF	546	0	546	0	0
			New "LF" Parapets in 2011.						
		1130	Cracking (RC)	LF		0	546	0	0
			Hrline vert cracks at 6-10ft spacing. Surface map cracking on all.						
X	**8400**		**Integral Wingwall**	EA	4	2	2	0	0
			New wings in 2011.						
		8903	Wingwall Deterioration.	EA		0	2	0	0
			Surface map cracking on NE & NW.						

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**9001**		**Drainage - Approach**	EA	4	4	0	0	0
			NE & SE C & G, NW & SW asphlt/grvl shldr						
X	**9030**		**Signs - Object Markers**	EA	4	4	0	0	0
			2 south end.						
X	**9043**		**Slope Protection- Crushed Aggregate with Bit.**	EA	2	2	0	0	0
			Sprayed in 2011. Rocks titghtly adhered. Light vegetation at edges of both slopes **- heavier on south.**						
X	**9167**		**Steel Diaphragm**	EA	64	0	50	14	0
			Light **to hvy rust on all - worst over driving lanes. Note: original connection needs grinding where cut on G5.**						
X	**9322**		**Approach Roadway - Concrete (non-structural)**	EA	2	2	0	0	0
			New in 2011.						

NBI Ratings

	File	New
Deck	9	7
Superstructure	6	5
Substructure	7	7
Culvert	N	N
Channel	N	N
Waterway	N	N

Structure Specific Notes

Proposed to be painted in 2016/17.
OLD: less than 2 % delam 1998-chained---Full depth at pier 1 and 3.

Inspection Specific Notes

OLD: Re-decked & widened in 2011. Significant lifting of girder ends at abutments. Working with Central Office to minimize movement.
Girders to be repainted 2015.

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Walk-thru visible.
OLD: CONCRETE OVERLAY 110000

Special Requirements

	Chk	Comments
Traffic Control		
Access Equipment		
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	1022-00-10
2011	NEW DECK	1022-00-78
1996	ADD PED FENCING	1020-06-72
1990	PAINTING	
1987	OVERLAY - CONCRETE	0018-74-10
1966	NEW STRUCTURE	

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed

Maintenance Items

Item	Priority	Recommended by	Status	Status change

Routine

Document Comment/Description

N abut

Routine

Document Comment/Description

S abut

Routine

Document Comment/Description

Pier 2 - west column

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-18-036

USH 53 NB over IH 94

Aug 27,2015

Type	Prior	Frequency (mos)	Performed
Routine	08-27-15	24	X
In-Depth	03-10-10	72	
Interim	03-10-08	0	
SI&A	07-02-13	48	X

Latitude	44°46'00.90"N	Owner	STATE HIGHWAY DEPT
Longitude	91°25'16.85"W	Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
0	55

Team members

	Name	Number	Signature	Date
Inspector	Balsiger, Lee	6011	Completed by HSI System Account(HSI)	
Reviewer				

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

Identification & Location

Feature On: USH 53 NB	Section Town Range: S01 T26N R09W	Structure Number: **B-18-036**
Feature Under: IH 94	County: EAU CLAIRE(18)	
Location: 0.2M N JCT CTH II	Municipality: TOWN-WASHINGTON(18024)	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 47	Bridge Roadway Width: 43.1	Total Length: 276.4
Approach Pavement Width: 36	Deck Width: 45.5	Deck Area (sq ft): 12797

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	3	14200	2014	ONE WAY TRAFFIC
Under	6	20900	2009	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS14	Overburden depth (in):	Last rating date:	Controlling: INTERIOR DECK GIRDER Moment
Operating rating: HS24	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: 4.5 SPAN 2, 42.4
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	Sufficieny #: 61.1

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT STEEL	DECK GIRDER		43.0	
2	CONT STEEL	DECK GIRDER		95.0	Y
3	CONT STEEL	DECK GIRDER		95.0	
4	CONT STEEL	DECK GIRDER		39.0	

Expansion joint(s)

Temperature: File: | New:

Vertical Clearance

	Measurement file (ft)	File Date	Measurement new (ft)
Highway Minimum Under Cardinal	16.92		
Highway Minimum Under Non-Cardinal	16.42		
Highway Minimum On			
Railroad Minimum Under			

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**12**		**Reinforced Concrete Deck**	SF	12,649	11,974	675	0	0
			Re-decked and widened in 2011.						
		1130	Cracking (RC)	SF		0	675	0	0
			Spans 1 **and** 4: **F**ew hrlin transverse cracks. Span **2 and** 3: Multiple transverse cracks w/ lt/med efflorescence.						
	8000		Wearing Surface (Bare)	SF	11,958	10,087	1,720	151	0
			Re-decked and widened in 2011.						
		3220	Crack (Wearing Surface)	SF		0	1,720	151	0
			CS3 transverse cracks - 1 @ Pier 1 - full width, 2 @ Pier 2 - full and 1/2 width, 2 @ Pier 3 - each 1/2 width. 1 CS3 tr 20ft of fine/hrline map cracking at Pier 1 & 2.						
	8522		Coated Reinforcing	SF	12,649	0	0	0	0
			Re-decked and widened in 2011.						
X	**107**		**Steel Open Girder**	LF	1,652	457	265	930	0
			7 steel haunched girders at varied spacing. Girders, Painted June 1990. Girder 6 replaced in 2011. Girders appear straight and plumb.						
		1000	Corrosion	LF		0	265	930	0
			5 Original Girders - Spn 1 & 4: < 2% web freckle rust, 10-20% flange edges rust. Spn 2 & 3: 60-80% web freckle rust w/ some flaking, 90% flange rust w/ some hvy flaking. 1 New Girder primed (no top coat) w/ with local areas of spot rusting (edges btm flng).						
	8516		Painted Steel	SF	19,300	3,570	4,270	2,850	8,610
			Girders = 15,900sf, Struts & X brc = 3,400. Original 5 painted June 1990. New G6 primed (no top coat).						
		3440	Effectiveness (Steel Protective Coatings)	SF		0	4,270	2,850	8,610
			5 Original Girders - Spn 1 & 4: < 2% web freckle rust, 10-20% flange edges rust. Spn 2 & 3: 60-80% web freckle rust w/ some flaking, 90% flange rust w/ some hvy flaking. 1 New Girder primed (no top coat) w/ with local areas of spot rusting (edges btm flng).						
X	**205**		**Reinforced Concrete Column**	EA	9	9	0	0	0
			Fiber wrapped in 2011. Loss of **protective coating on** wrap at top of columns of Pier 2.						
X	**215**		**Reinforced Concrete Abutment**	LF	100	39	60	1	0
			Surface repairs & backwall top 2011. Approx. 4ft added on east end of South.						
		1080	Delamination - Spall - Patched Area	LF		0	50	1	0
			North: 1ft edge spall under G6 w/ map cracking. Patches - at G2, G3, G4 and G5 and locations btwn each girders G1 & G5. 3 - 3in x 6in spalls w/ staining (rebar close to surface) @ G2. South: 2ft patch under G4. Lt delam/spall staining under G3.						
		1130	Cracking (RC)	LF		0	10	0	0
			North: Few fine/hrline transverse cracks in abut & bkwall. South: 2ft map cracking on east end. Few fine vertical cracks.						
		6000	Scour	LF		0	2	0	0
			NE - horiz. face scaling near brng.						
X	**234**		**Reinforced Concrete Cap**	LF	149	149	0	0	0
			Fiber wrapped in 2011. Loss of wrap at top of columns of Pier 2 w/ some staining.						
X	**300**		**Strip Seal Expansion Joint**	LF	100	90	10	0	0
			New in 2011. 2013 @ 85 degrees - N=0.16, S=0.13						
		2360	Adjacent Deck or Header Damage	LF		0	10	0	0
			Few vert cracks in paving block.						

X	**311**		**Moveable Bearing**	EA	24	0	24	0	0
			At both abutments and piers 1 and 3. Sandblasted in 2011. G3 brg south abut nuts loose. **Tiedowns on both abutments for G1, G3, G4, and G6.**						
		1000	Corrosion	EA		0	24	0	0
			Lt to hvy rust.						
X	**313**		**Fixed Bearing**	EA	6	0	6	0	0
			Pier 2.						
		1000	Corrosion	EA		0	6	0	0
			Light to hvy surface rust.						
X	**331**		**Reinforced Concrete Bridge Rail**	LF	546	0	546	0	0
			New "LF" Parapets in 2011.						
		1130	Cracking (RC)	LF		0	546	0	0
			Hrline vert cracks at 6-10ft spacing. Surface map cracking on all.						
X	**8400**		**Integral Wingwall**	EA	4	2	2	0	0
			New wings in 2011.						
		8903	Wingwall Deterioration.	EA		0	2	0	0
			Surface map cracking on NE & NW.						

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
			NE & SE C & G**.**						
X	**9030**		**Signs - Object Markers**	EA	2	2	0	0	0
			2 south end.						
X	**9043**		**Slope Protection- Crushed Aggregate with Bit.**	EA	2	2	0	0	0
			Sprayed in 2011. Rocks titghtly adhered. Light vegetation at edges of both slopes - heavier on south.						
X	**9167**		**Steel Diaphragm**	EA	64	0	50	14	0
			Light to hvy rust on all - worst over driving lanes. Note: original connection needs grinding where cut on G5.						
X	**9322**		**Approach Roadway - Concrete (non-structural)**	EA	2	2	0	0	0
			New in 2011.						

NBI Ratings

	File	New
Deck	7	7
Superstructure	5	5
Substructure	7	7
Culvert	N	N
Channel	N	N
Waterway	N	N

Structure Specific Notes

Proposed to be painted in 2016/17.
OLD: less than 2 % delam 1998-chained---Full depth at pier 1 and 3.

Inspection Specific Notes

OLD: Re-decked & widened in 2011. Significant lifting of girder ends at abutments. Working with Central Office to minimize movement.
Girders to be repainted 2015.

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Walk-thru visible.
OLD: CONCRETE OVERLAY 110000

Special Requirements

	Chk	Comments
Traffic Control		
ReachAll Vehicle		
Access Equipment		
Other		

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	1022-00-10
2011	NEW DECK	1022-00-78
1996	ADD PED FENCING	1020-06-72
1990	PAINTING	
1987	OVERLAY - CONCRETE	0018-74-10
1966	NEW STRUCTURE	

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Misc - Cut Brush	MEDIUM	Balsiger, Lee (6011)	IDENTIFIED	08/27/15
Cut brush and spray weeds on slope protection				

Routine

Document Comment/Description

N abut

Routine

Document Comment/Description

S abut

Routine

Document Comment/Description

Pier 2 - west column

STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-18-036
USH 53 NB over IH 94

LOCATION

(3) Municipality:	TOWN-WASHINGTON(18024)
(16) Latitiude(° ' "):	44°46'00.90"N
(17) Longitude(° ' "):	91°25'16.85"W

TRAFFIC SERVICE

(28A) Lanes On:	3
(28B) Lanes Under:	6
(102) Traffic Pattern On:	-NO TRAFFIC X-ONE WAY TRAFFIC -TWO WAY TRAFFIC
(102) Traffic Pattern Under:	-NO TRAFFIC -ONE WAY TRAFFIC X-TWO WAY TRAFFIC
(19) Detour Length(mi):	0

GEOMETRY

(49) Structure Length(ft):	276.4	
(50) Sidewalk Width(ft):	**Left:** 0.0	**Right:** 0.0
(50) Curb Width(ft):	5.0	
(52) Culvert Barrel Length(ft):		
(34) Skew:	**Angle(°):** 25	**Direction:** -RIGHT FORWARD X-LEFT FORWARD
	Cardinal Width	**Non-Cardinal Width**
(51) Bridge Roadway(ft):	43.1	45.1
(52) Deck(ft):	45.5	47.1
(32) Approach Roadway(ft):	47	0
	Cardinal Under Clearance	**Non-Cardinal Under Clearance**
(47) Minimum Horizontal(ft):	41.25	41.25
(55) Minimum Right Lateral(ft):	11.25	11.25
(55) Minimum Left Lateral(ft):	7.0	7.0

RAILING APPRAISAL

(36A) Bridge Rail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36B) Transition Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36C) Approach Guardrail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36D) Guardrail Termination Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE

Outer Rail:

Left	Right	Type
		TYPE F (TWO SQUARE TUBES) - STEEL(8)
		TYPE F (3 SQUARE TUBES) - STEEL(65)
		TYPE F (4 SQUARE TUBES) - STEEL(72)
		TYPE M-STEEL 3 SQUARE TUBES(93)
X	X	SLOPED FACE PARAPET LF(91)
		SLOPED FACE PARAPET HF(92)
		VERTICAL FACE PARAPET TYPE A(74)
		TYPE W-THRIE BEAM(79)
		TYPE H ON VERTICAL PARAPET(80)
		TIMBER(38)
		OTHER(99) (Please specify)

Transition Type:

	CONT GUARD RAIL
	NO APP GRDRL
	NO ATTACHMENT
5	22 MM(7/8") BOLT (Please enter quantity)
	25 MM(1") BOLT (Please enter quantity)
	OTHER (Please specify)

Guardrail Termination Type:

X	(01) ENERGY ABSORBING TERMINAL/EAT
	(02) TURN DOWN
	(99) OTHER (Please specify)

ROADWAY ALIGNMENT APPRAISAL

(72) Approach Alignment Appraisal:

	(3) INTOLERABLE- Horizontal or Vertical curvature requires a substantial reduction in vehicle operating speed
	(6) FAIR- Horizontal or Vertical curvature requires a very minor speed reduction
X	(8) GOOD- No speed reduction required

708 Heartland Trail, Suite 3000
Madison, WI 53717

608.826.3600 PHONE
608.826.3941 FAX

www.TRCsolutions.com

Bridge Asbestos Inspection Report

WisDOT Project ID: 1190-02-34
Structure Number: B-18-0035, B-18-0036
Structure Name: USH 53 over IH 94
City/County: Town of Washington, Eau Claire County
Lat/Long Coordinates: 444600.0/ 912542.0, 444600.9/ 912516.85
TRC Project Number: 235777.0000.0000
Date Inspected: October 14, 2015
Inspected By/License Number: John Roelke, AII-119523

Findings:

The inspection to identify and collect samples of potential asbestos-containing material (ACM) was completed following WisDOT standard sampling procedure for bridge inspections found in FDM 21-35-45.

None of the materials that were identified as potentially ACM and sampled tested positive for asbestos. The overlay on the bridges can proceed as planned. Standard Special Provision (STSP) 107-125 should be included in the specifications.

Sample Number	Sample Description	Sample Location	Analytical Results and Method	Friable/ Non-friable or No ACM	Quantity of ACM Material
B-18-0035					
1	Paint	Girder	PLM, non-detect	No ACM	0
2	Paint	Girder	PLM, non-detect	No ACM	
3	Paint	Girder	PLM, non-detect	No ACM	
B-18-0036					
1	Paint	Girder	PLM, non-detect	No ACM	0
2	Paint	Girder	PLM, non-detect	No ACM	
3	Paint	Girder	PLM, non-detect	No ACM	

If you have any questions, please contact me, at (608) 826-3628.

TRC Environmental Corporation

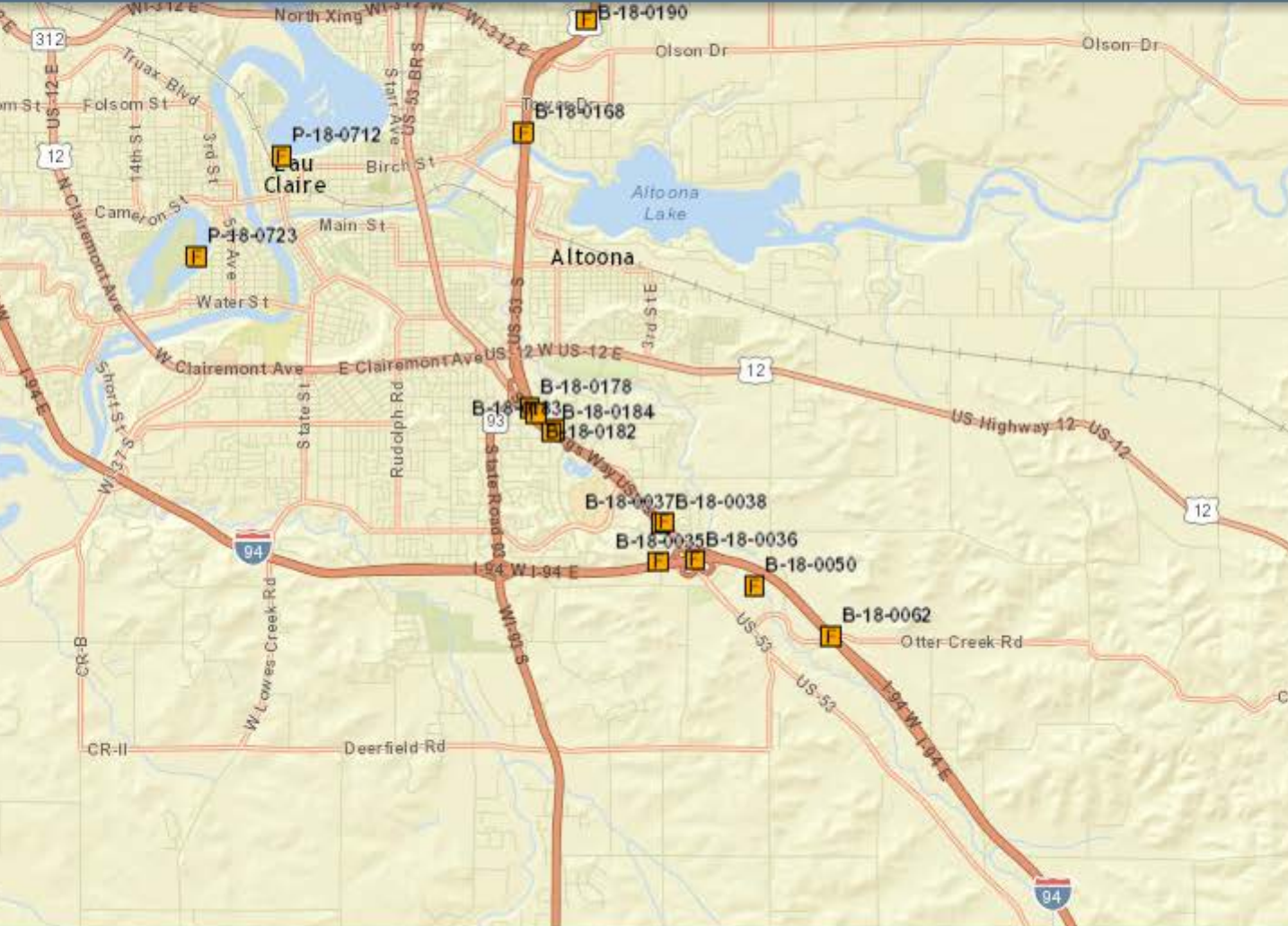
Daniel Haak
Project Manager

John Roelke
Asbestos Inspector

Attachments: Location Map, Photos, and Laboratory Reports

Report Distribution:

Recipient	Electronic (PDF) Copy	Paper Copy
BTS-ESS sharlene.tebeest@dot.wi.gov	X (via email)	X
REC amy.adrihan@dot.wi.gov; nicholasA.schaff@dot.wi.gov	X (via email)	
Project Manager david.koepp@dot.wi.gov	X (via email)	
Other		


B-18-0190
Olson Dr
Olson Dr
B-18-0168
P-18-0712
Eau Claire
Birch St
Altoona Lake
P-18-0723
Main St
Altoona
Water St
W Clairemont Ave
E Clairemont Ave
US 12 W US 12 E
B-18-0178
B-18-0184
B-18-0182
US Highway 12 US-12
B-18-0037
B-18-0038
B-18-0035
B-18-0036
B-18-0050
I-94 W I-94 E
B-18-0062
Otter Creek Rd
Deerfield Rd
CR-II
CR-B
W Lowes Creek Rd
State Road 93
Rudolph Rd
State St
Short St
N Clairemont Ave
Truax Blvd
Folsom St
Cameron St
14th St
3rd St
5th Ave
Start Ave
US-53-BR-S
US-53-S
3rd St E
US-53
I-94 W I-94 E
312
12
93
94

B-18-0035

Paint on girder

B-18-0036

Paint on girder

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

BULK ASBESTOS ANALYSIS REPORT

CLIENT: Wisconsin Department of Transportation

Lab Log #:	0047023
Project #:	235777.0000.0000
Date Received:	10/16/2015
Date Analyzed:	10/19/2015

Site: DOT Bridge Inspection, B-18-35

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type
B-18-35 (1)	Grey	Yes	No	- -	- - -	ND	None
B-18-35 (2)	Grey	Yes	No	- -	- - -	ND	None
B-18-35 (3)	Grey	Yes	No	- -	- - -	ND	None

Reporting limit- asbestos present at 1%
ND - asbestos was not detected
Trace - asbestos was observed at level of less than 1%
NA/PS - Not Analyzed / Positive Stop
SNA- Sample Not Analyzed- See Chain of Custody for details

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2016. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through October 1, 2016. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

Analyzed by: K. Williamson — Kathleen Williamson, Laboratory Manager

Reviewed by: Amanda Parkins — Amanda Parkins, Approved Signatory

Date Issued 10/19/2015

TRC LABORATORY ASBESTOS ANALYTICAL ACCREDITATIONS

NVLAP Lab Code 101424-0 AIHA-LAP,LLC #100122 CT #PH-0426 ME LA-0075, LB-0071 MA #AA000052 NY #10980 WV# LT000411
RI #AAL-007 TX #300354 VT #AL014538 LA#05011 VA #3333 000283 AZ #A20944 HI #L-09-004 NJ #CT004 CA #2907
CO# AL-15020 PHIL# 461 PA#68-03387

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

BULK ASBESTOS ANALYSIS REPORT

CLIENT: Wisconsin Department of Transportation

Lab Log #:	0047029
Project #:	235777.0000.0000
Date Received:	10/16/2015
Date Analyzed:	10/19/2015

Site: DOT Bridge Inspection, B-18-36

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type
B-18-36 (1)	Grey	Yes	No	- -	- - -	ND	None
B-18-36 (2)	Grey	Yes	No	- -	- - -	ND	None
B-18-36 (3)	Grey	Yes	No	- -	- - -	ND	None

Reporting limit- asbestos present at 1%
ND - asbestos was not detected
Trace - asbestos was observed at level of less than 1%
NA/PS - Not Analyzed / Positive Stop
SNA- Sample Not Analyzed- See Chain of Custody for details

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation (1982), and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116), July 1993, R.L. Perkins and B.W. Harvey which utilizes polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2016. TRC is an American Industrial Hygiene Association (AIHA) accredited lab for PLM effective through October 1, 2016. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and the QC data related to the samples is available upon written request from the client.

Analyzed by: K. Williamson — Kathleen Williamson, Laboratory Manager

Reviewed by: Amanda Parkins — Amanda Parkins, Approved Signatory

Date Issued 10/21/2015

TRC LABORATORY ASBESTOS ANALYTICAL ACCREDITATIONS

NVLAP Lab Code 101424-0 AIHA-LAP,LLC #100122 CT #PH-0426 ME LA-0075, LB-0071 MA #AA000052 NY #10980 WV# LT000411
RI #AAL-007 TX #300354 VT #AL014538 LA#05011 VA #3333 000283 AZ #A20944 HI #L-09-004 NJ #CT004 CA #2907
CO# AL-15020 PHIL# 461 PA#68-03387

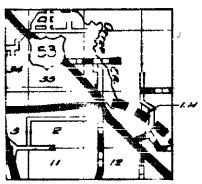
FORM E B 11-68

NO	STATION	DESCRIPTION	ELEVATION
34	364+14.00	SPIKE IN 18" MAPLE 12'RT.	904.69

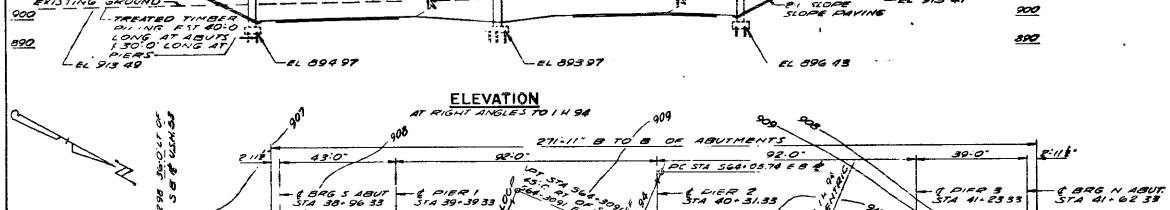
COUNTY & HIGHWAY	ROUTE & SECTION	I.S.B. & AGREEMENT STATE	FEDERAL	S.P.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
72.3	94.2		11.1	4	I-94-2(25) 69	36	144

BENCH MARK

LOCATION OF B-18-35/36

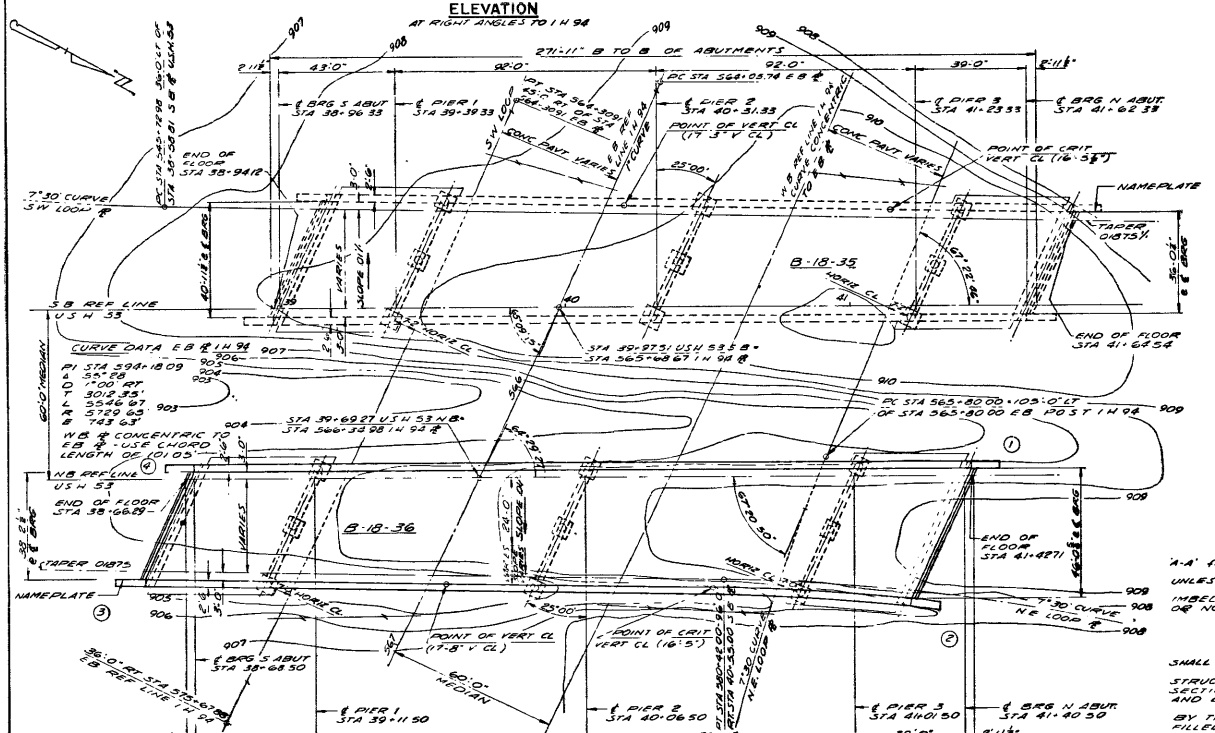


LOCALITY MAP



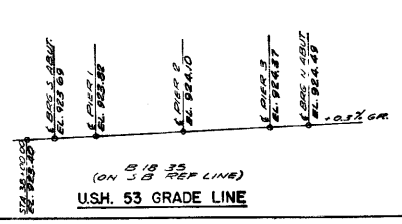
ELEVATION

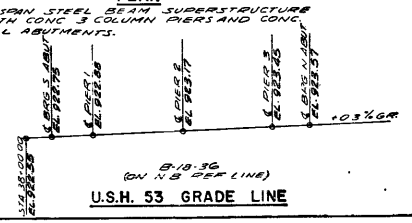
AT RIGHT ANGLES TO I H 94

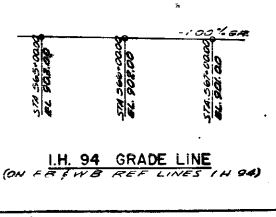


PLAN

4 SPAN STEEL BEAM SUPERSTRUCTURE WITH CONC 3 COLUMN PIERS AND CONC SILL ABUTMENTS.







TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	S ABUT	PIER 1	PIER 2	PIER 3	N ABUT	TOTAL
EXCAVATION FOR STRUCTURES	CY	——	40	80	70	80	50	320
GRANULAR BACKFILL	CY	——	15	——	——	——	30	55
CONCRETE MASONRY	CY	3439	693	616	559	648	85.5	6840
BAR STEEL REINFORCEMENT	LBS	170,150	7040	9540	10,340	10,750	2310	155,130
STRUCTURAL CARBON STEEL	LBS	257,250	——	——	——	——	——	257,250
STRUCTURAL LOW ALLOY STEEL	LBS	64,250	——	——	——	——	——	64,250
* TREATED TIMBER TEST PILE	LS	——	——	——	——	——	——	1
TREATED TIMBER PILING DEL	LF	——	650	870	1050	870	800	4270
TREATED TIMBER PILING DRIVEN	LF	——	650	870	1050	870	800	4270
TUBULAR RAILING TYPE "S"	LF	582	——	——	——	——	——	582
LUBRICATED BRONZE PLATES	LBS	318	——	——	——	——	——	318
BEARING PADS	SF	41	——	——	——	——	——	41
SLOPE PAVING - CONCRETE	SY	——	255	——	——	——	260	515
NON BID ITEMS								
ALUMINUM OR ZINC PLATE	SF	39	——	——	——	——	——	39

* 2-50'-0" AND 3-40'-0" TEST PILES REQ'D DRIVE ONE 50'-0 TEST PILE AT EACH ABUTMENT AND ONE 40'-0" TEST PILE AT EACH PIER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
ALL CONCRETE MASONRY SHALL BE GRADE 'A-A' f'c = 1400 PSI.
BEVEL EXPOSED EDGES OF CONCRETE 1" UNLESS OTHERWISE SPECIFIED.
BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

HOT POURED ELASTIC TYPE JOINT SEALER SHALL CONFORM TO ASTM DESIGNATION D1190.
THE UPPER LIMITS FOR EXCAVATION FOR STRUCTURES SHALL BE THE FINISHED GRADED SECTION AT THE PIERS AND EL 915.66 S ABUT AND EL 915.58 N ABUT.
EXCAVATED VOLUME NOT OCCUPIED BY THE NEW ABUTMENTS SHALL BE FILLED WITH GRANULAR FILL PAYMENT WILL BE MADE ONLY FOR MATERIAL ACTUALLY PLACED WITHIN THE LIMITS SPECIFIED FOR EXCAVATION FOR STRUCTURES.
ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" RIVETS OR HIGH TENSILE STRENGTH BOLTS.
THE SLOPE IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING AS SHOWN ON THIS SHEET AND ON 1-28-49 & 1-28-83.
PILING AT THE ABUTMENTS AND PIERS SHALL BE TREATED TIMBER PILING EST 40'-0" LONG AT ABUTS AND 30'-0" LONG AT PIERS. DRIVE PILES AT ABUTS TO A MIN BEARING VALUE OF 18 TONS AT PIERS DRIVE PILES TO A MINIMUM BEARING VALUE OF 24 TONS.

LIST OF DRAWINGS

STATE HIGHWAY COMMISSION OF WISCONSIN

GENERAL PLAN

CO. EAU CLAIRE T. WASHINGTON STA. 0+00 TO 40+50
SECTION 1 TOWN 29N RANGE 9W
DESIGN SPEC. AASHO 65 LOADING H20 S16.44 COMPLT. 1968
DATE 12-27-68 DESIGN FCW DRAWN HEA CKD. ELP

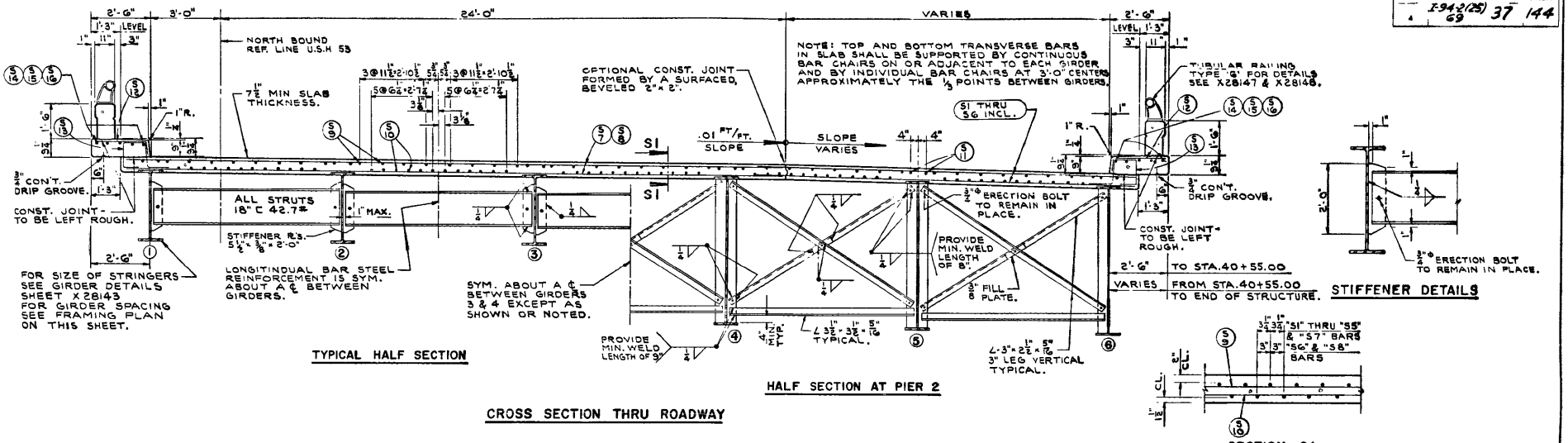
RECOMMENDED H B Schultz
APPROVED E L Ruetten

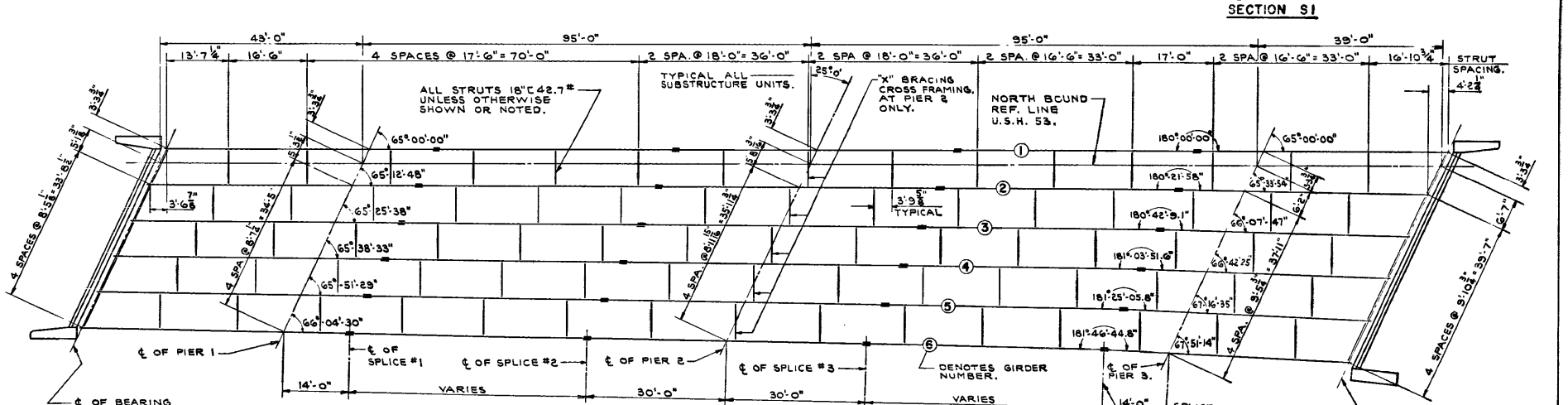
STRUCTURE B-18-36 SHEET 1 OF 15

X 28140

FORM E B-12 83

B P R DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	F-94-2(25) 69	37	144



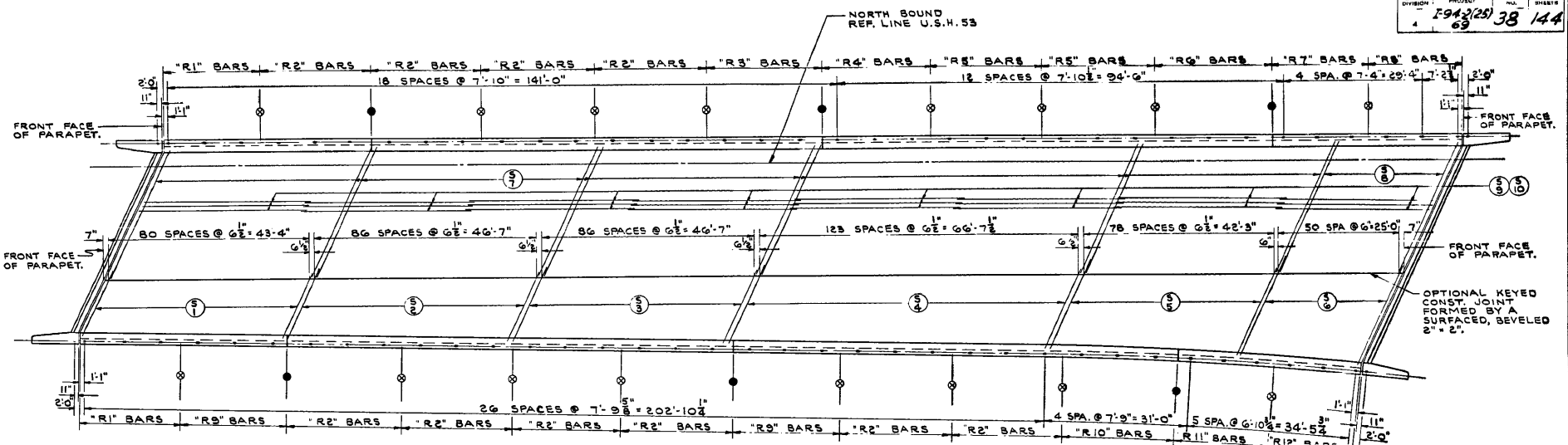


REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	SUPERSTRUCTURE
	DESIGN SPEC. A A S H O '61 LOADING H20-S16 DESIGN SPEC. 1963
	DATE 12-27-65 DRAWN F R W. DESIGN W.K. AND ELP
	STRUCTURE B-18-36 SHEET 2 OF 15

X 28141

FORM E-8 12-62

B.F.P. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	F-942(25) 69	38	144



FLOOR PLAN

● INDICATES DEFLECTION JOINT IN RAILING PARAPET AND CURBS.

⊗ INDICATES DEFLECTION JOINT IN RAILING PARAPET ONLY.

NOTE: RAIL POST SPACING IS MEASURED ALONG ℄ OF RAIL PARAPET.
WEST RAILING MEASURED ALONG N.B. REF. LINE U.S.H. 53.
EAST RAILING MEASURED ALONG N.E. LOOP REF. LINE.

BILL OF BARS

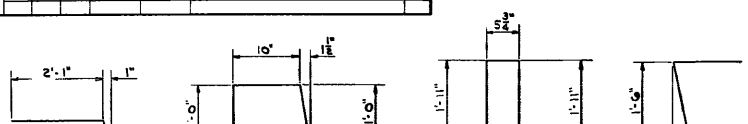
120,150#

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

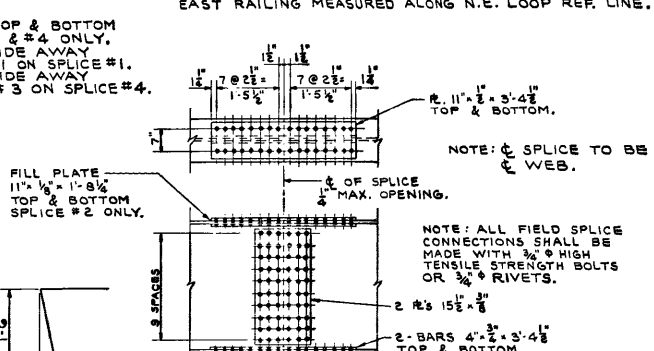
POUR	MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	DET.
FLOOR & CURBS	S1	161	6	16-0	6½	FLOOR-TRANS.-TOP & BOTTOM	
	S2	173	6	17-0	6½	" - " - " " "	
	S3	173	6	18-0	6½	" - " - " " "	
	S4	247	6	19-9	6½	" - " - " " "	
	S5	157	6	21-6	6½	" - " - " " "	
	S6	101	6	23-9	6	" - " - " " "	
	S7	911	6	30-9	6½	" - " - " " "	
	S8	101	6	30-9	6	" - " - " " "	
	S9	320	5	35-6	11½	FLOOR-LONG.-TOP	
	S10	480	5	35-6	6½	" - " - BOTTOM	
	S11	36	5	15-0	SHOWN	" - " -SYM ABOUT ℄ OF PIER	
	S12	542	6	2-6	1-0	CURB-TRANS.	A
	S13	542	5	4-3	1-0	" - "	B
	S14	20	6	22-6	SHOWN	" - LONG.-SPAN 1	
	S15	60	6	32-9	SHOWN	" - " -SPANS 2 & 3	
	S16	20	6	20-6	SHOWN	" - " -SPAN 4	
	S17	542	5	5-6	1-0	" & RAIL PARAPET	C
	S18	66	5	2-9	1-6	DIAPHRAGM AT ABUTMENTS	D
	S19	5	4	8-0	SHOWN	" " SOUTH ABUT.	
	S20	5	4	9-3	SHOWN	" " NORTH "	

POUR	MARK	NO.	SIZE	LENGTH	SPACING	LOCATION	DET.
RAIL PARAPET	R1	8	5	20-0	SHOWN	RAIL PARAPET	
	R2	40	5	23-0	"	" "	
	R3	4	5	24-0	"	" "	
	R4	4	5	22-3	"	" "	
	R5	8	5	23-3	"	" "	
	R6	4	5	24-9	"	" "	
	R7	4	5	20-3	"	" "	
	R8	4	5	18-9	"	" "	
	R9	8	5	22-9	"	" "	
	R10	4	5	23-6	"	" "	
	R11	4	5	20-0	"	" "	
	R12	4	5	17-9	"	" "	

* 11" x 1'-1 1/16" x 1'-8¼" TOP & BOTTOM AT SPLICE #1 & #4 ONLY. PLACE ON SIDE AWAY FROM PIER #1 ON SPLICE #1. PLACE ON SIDE AWAY FROM PIER #3 ON SPLICE #4.



DETAIL A | DETAIL B | DETAIL C | DETAIL D

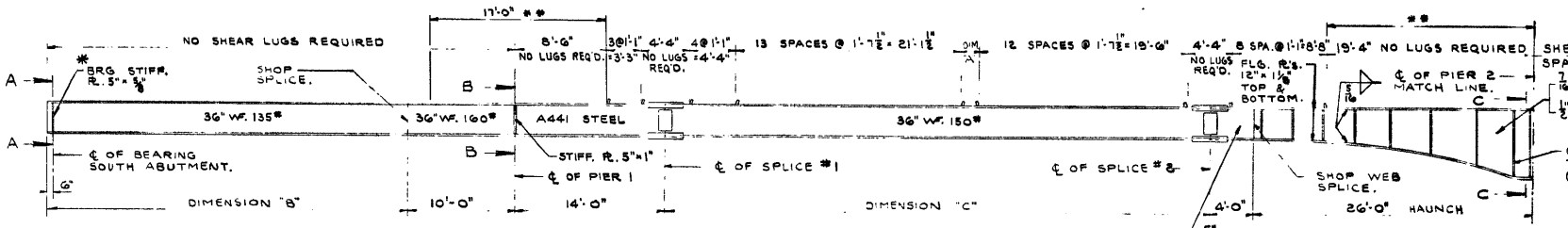


FIELD SPLICE DETAILS

ALL SPLICES SIMILAR.
ALL SPLICE MATERIAL SHALL CONFORM TO A.S.T.M. A36.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	SUPERSTRUCTURE
	DESIGN SPEC. AASHO '61 LOADING H20-S16 CONST SPEC 1963
	DATE 12-27-62 DES. IN F.R.W. DRAWN W.K. CAL. ELP
STRUCTURE B-18-36	SHEET 3 OF 15

X 28142



NOTES:
DETAILS OF SHOP WEB SPLICES SHALL BE SHOWN ON SHOP DRAWINGS.
FIELD SPLICE DETAILS ARE SHOWN ON SHEET X 28142.

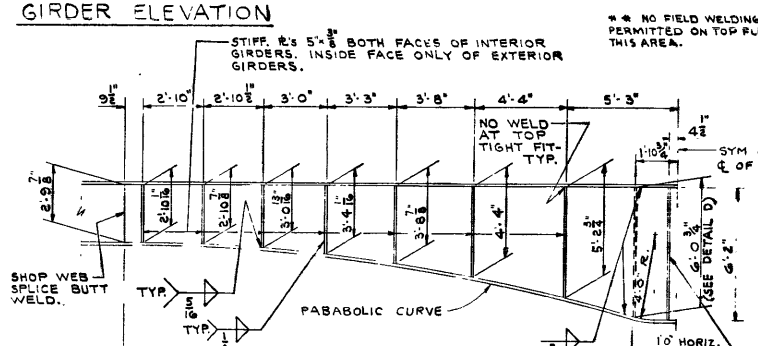
SPAN 3

SPAN 4

TABLE OF DIMENSIONS

GIRDER NUMBER	DIMENSION "A"	"B"	"C"	"D"	"E"	"F"
1	1'-7 1/2"	33'-6"	51'-0"	2'-2"	51'-0"	29'-6"
2	1'-5 1/2"	33'-5 1/8"	50'-10"	1'-11 5/8"	50'-9 5/8"	29'-3 7/8"
3	1'-3 5/8"	33'-4 1/4"	50'-8 1/8"	1'-9 1/8"	50'-7 1/8"	29'-1 13/16"
4	1'-1 5/8"	33'-3 3/8"	50'-6 1/8"	1'-6 3/4"	50'-4 3/4"	28'-11 13/16"
5	0'-11 3/4"	33'-2 1/2"	50'-4 1/4"	1'-4 3/8"	50'-2 3/8"	28'-9 13/16"
6	0'-9 3/4"	33'-1 5/8"	50'-2 1/4"	1'-2 1/8"	50'-0 1/8"	28'-7 7/8"

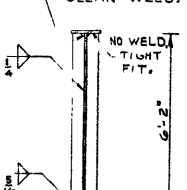
GIRDER ELEVATION

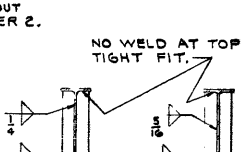


WEB PLATE DEPTH DIAGRAM AT HAUNCH

SECTION C

SHOWING TYPICAL STIFF. PLATES AT PIER 2.



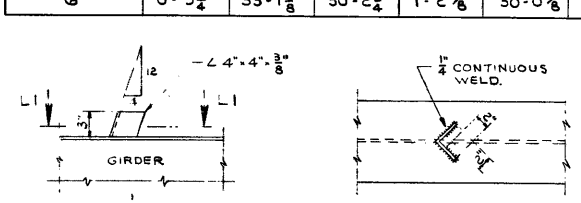


SECTION A

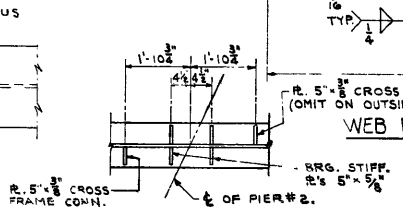
SHOWING TYPICAL STIFFENER PLATES AT ABUTMENTS.

SECTION B

SHOWING TYPICAL STIFFENER PLATES AT PIERS 1 & 3.



SHEAR LUG DETAILS



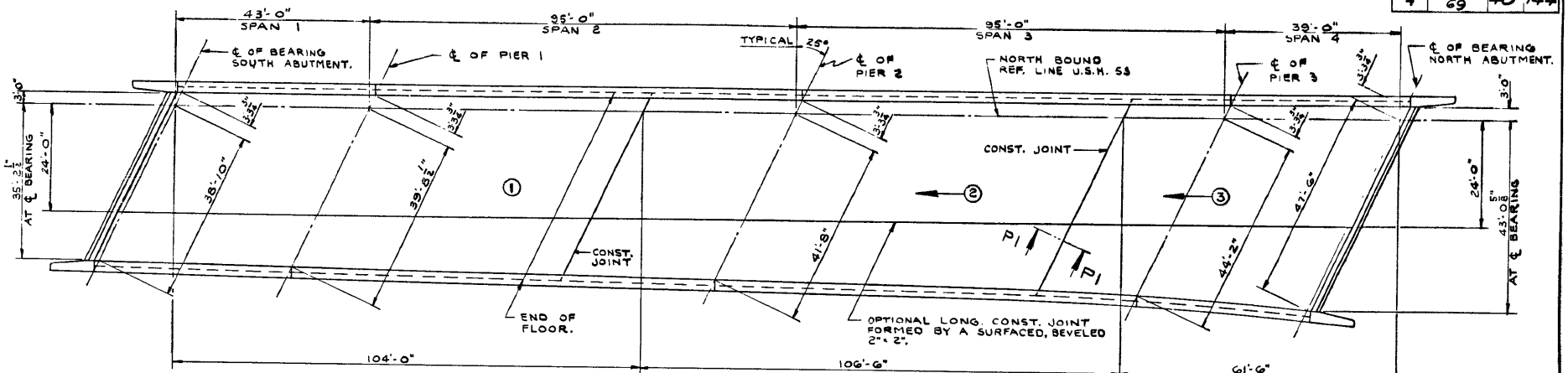
SECTION D

(TYP. AT PIER #2)

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	GIRDER DETAILS
	DESIGN SPEC A A S H O 61 LOADING H20-S16 PROJECT NO. 1963
	DATE 4-27-62 DESIGN F.R.W DRAWN W.K. CKD R.L.P
	STRUCTURE B-18-36 SHEET 4 OF 15

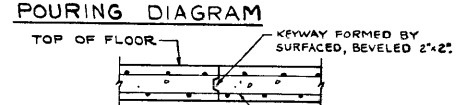
X 28143

DIV.	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-94-2(25) 69	40	144



LOCATION	A	B	C	D	E	F	G	H	J
GIRDER 1	0	1 7/16"	1 7/8"	3 3/4"	4 7/8"	5 15/16"	7 3/4"	8 1/4"	9 3/4"
GIRDER 2	0	1 5/8"	1 7/8"	3 11/16"	4 3/4"	5 7/8"	7 5/8"	8 1/8"	9 5/8"
GIRDER 3	0	1 3/8"	1 7/8"	3 11/16"	4 11/16"	5 3/4"	7 1/2"	8"	9 7/16"
GIRDER 4	0	1 3/8"	1 13/16"	3 5/8"	4 5/8"	5 11/16"	7 3/8"	7 7/8" T 1 1/16" A	9 1/4"
GIRDER 5	0	1 3/8"	1 3/4"	3 9/16"	4 9/16"	4 15/16"	4 3/8"	4 9/16"	4 1/16"
GIRDER 6	1"	2 5/16	2 3/4"	4 7/8"	5"	5 1/8"	2 3/8"	2"	0

POURING DIAGRAM

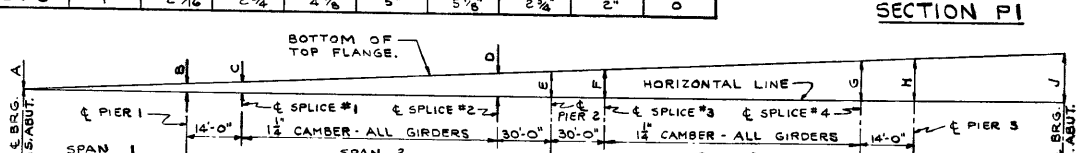


SECTION P1

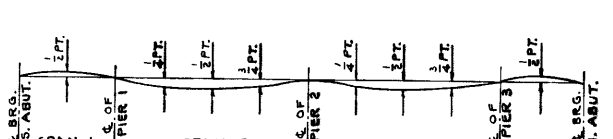
TWO OR MORE POURS MAY BE COMBINED AND TRANSVERSE CONSTRUCTION JOINTS OMITTED IF THE POUR FOR AN ENTIRE SPAN OR THE PORTION OF A SPAN TO A CONSTRUCTION JOINT CAN BE COMPLETED WITHIN FOUR HOURS AFTER CONCRETE OVER THE ADJACENT PIER IS PLACED.

DIRECTION OF POUR MAY BE REVERSED IF PORTION OF POUR FROM THE PIER CAN BE COMPLETED IN A FOUR HOUR PERIOD.

——② INDICATES POUR NUMBER AND DIRECTION.



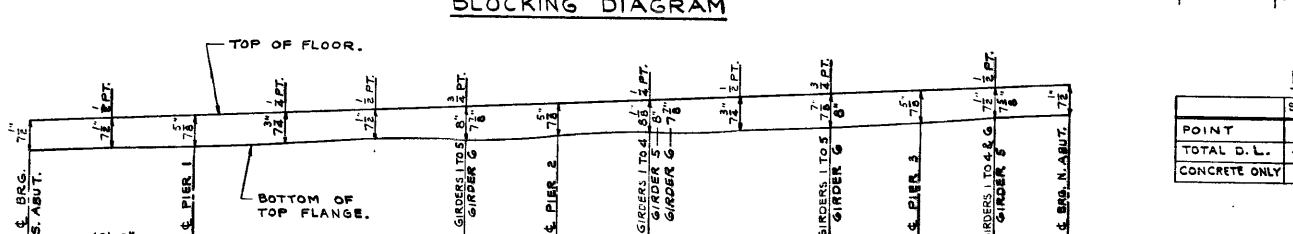
BLOCKING DIAGRAM



DEFLECTION DIAGRAM

DEAD LOAD DEFLECTIONS

	SPAN 1	SPAN 2			SPAN 3			SPAN 4
POINT	1/2	1/4	1/2	3/4	1/4	1/2	3/4	1/2
TOTAL D.L.	- 1/8"	1/16"	1 3/8"	3/8"	1/2"	1 1/8"	1"	- 1/8"
CONCRETE ONLY	- 1/8"	3/4"	1"	3/8"	1/2"	1 1/8"	7/8"	- 1/8"



FORMING DIAGRAM

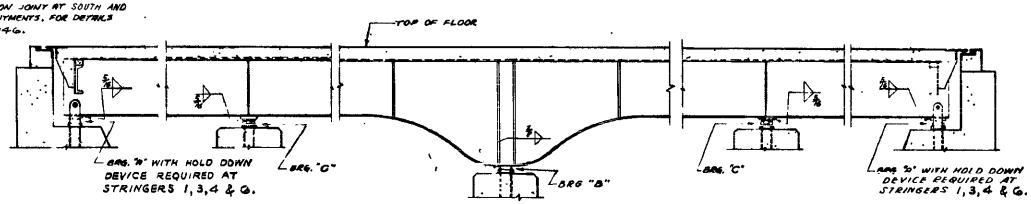
SLAB THICKNESS FIGURES SHOWN ARE THEORETICAL AND ARE SUBJECT TO CORRECTION TO MEET VARIABLE FIELD CONDITIONS.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
8-1-64 N.P.W.	POURING, FORMING & BLOCKING DIAGRAMS
	DESIGN SPEC. A. A. S.H.O. '61 LOADING H20-S16 CONCRETE STRUCT. 1963
	DATE 12-27-63 DESIGN F. R. W. DRAWN W. K. CHKD. E.L.P.
	STRUCTURE B-18-36 SHEET 5 OF 15

X 28144

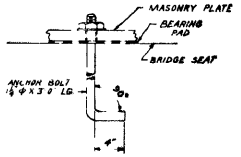
R.P.S. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-94-2(257) 69	41	144

EXPANSION JOINT AT SOUTH AND NORTH ABUTMENTS. FOR DETAILS SEE X28146.

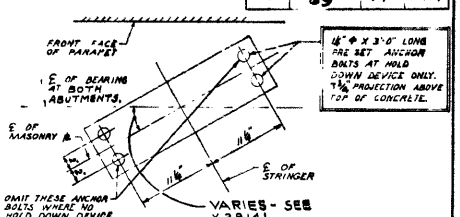


LONGITUDINAL SECTION

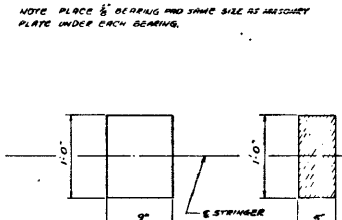
NOTE PLACE ⅛" BEARING PAD SAME SIZE AS MASONRY PLATE UNDER EACH BEARING.



ANCHOR BOLT DETAIL
(AT HOLD DOWN DEVICE ONLY)

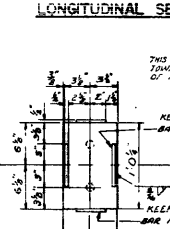


PRE-SET ANCHOR BOLT PLAN
AT HOLD DOWN DEVICE

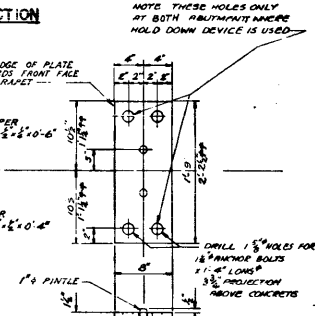


FLG. PLATE 'A'

LUBR BRONZE PL. 'A'

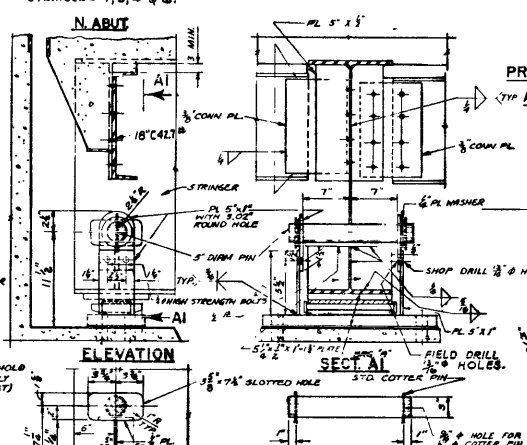


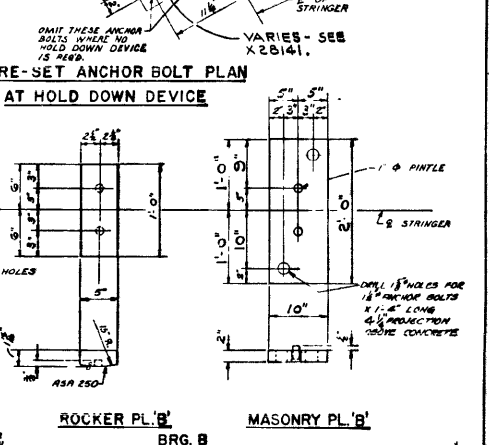
ROCKER PL. 'A'



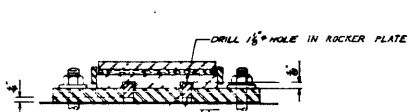
MASONRY PL. 'A'

BRG. A
12 REQ'D | 4 STD' & HOLD DOWN

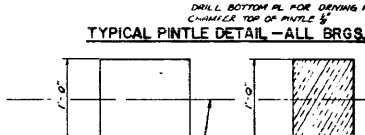




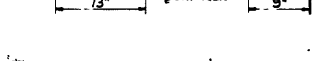
COLD ROLLED STEEL OR CARBON STEEL FORGING (TO BE PAID FOR AS 'STRUCTURAL LOW ALLOY STEEL')



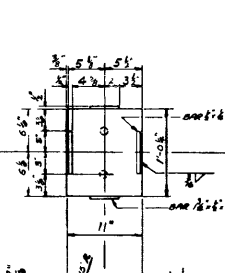
TYPICAL PINTLE DETAIL - ALL BRGS.



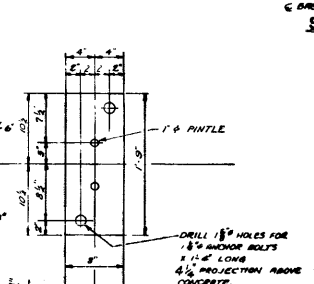
FLG. PL. 'C'



LUBR BRONZE PL. 'C'



ROCKER PL. 'C'



MASONRY PL 'C'

BRG. C
12 REQ'D

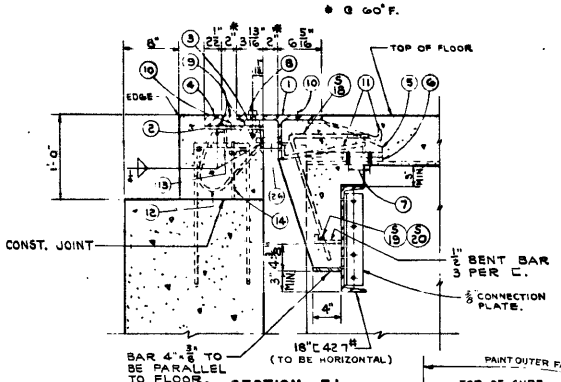
BEARING NOTES

ALL STRUCTURAL STEEL BEARINGS PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.
ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.
ALL SURFACES MARKED $ SHALL BE MACHINE FINISHED.
ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT.
ALL MATERIAL EXCEPT ANCHOR BOLTS, NUTS, AND WASHERS AND PINS SHALL BE MADE A242 STEEL WITH A CORROSIVE RESISTANCE OF 4 OR MORE TIMES THAT OF A36 STEEL.
THE TOP 4½" OF ANCHOR BOLTS, WASHERS & NUTS SHALL BE GALVANIZED.
FINISH FLG PLATE OF BRG. 'A' & 'C' IN DIRECTION OF MOVEMENT.
LUBRICATE TOP SURFACE OF BRONZE PLATES ONLY.
ALL MATERIAL IN BEARINGS EXCLUDING BRONZE PLATES AND BEARING PADS SHALL BE PAID FOR AT UNIT PRICE BID FOR STRUCTURAL LOW ALLOY STEEL.

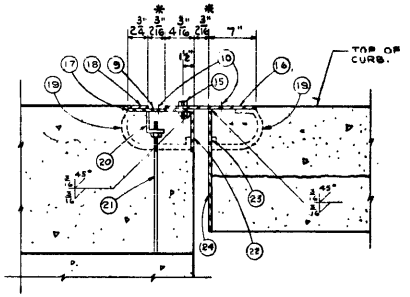
REV. BY	STATE HIGHWAY COMMISSION OF WISCONSIN
	LONG. SECTION & BEARINGS
DESIGN SPEC. AASHO 61	LOADING H20-S16	WIND 30
DATE 12 27 63	DESIGNED F.R.W.	DRAWN W.K.	CHK. E.L.D.
STRUCTURE B-18-36	SHEET 6 OF 15

X 28145

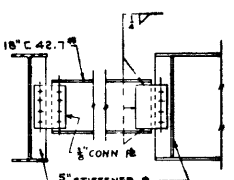
R.P.S. DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4	F94-3(25) 69	42	144



SECTION E1

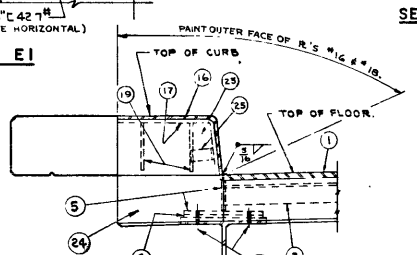


SECTION E2



TYPICAL DIAPHRAGM DETAIL

NOTE: FOR DIAPHRAGM DETAIL AT HOLD DOWN DEVICES ON NORTH AND SOUTH ABUTMENTS SEE X28145.



SECTION THRU JOINT AT CURB

LEGEND

#1 S.T. 6" WF 35.5# - RDWY. WIDTH.
#2 ∠ 6" x 4" x 7/16" - RDWY WIDTH.
#3 BAR 2" x 1/2" - RDWY. WIDTH. WELD TO ∠ #2 WITH 2 LINES OF 1/4" FILLET WELD. 2 @ ℄.
#4 BAR 2 1/2" x 1/2" - RDWY. WIDTH. WELD TO ∠ #2 WITH 2 LINES OF 1/4" FILLET WELD. 2 @ ℄.
5. FABRICATE FROM 3/4" WELDED PLATE. WELD TO STEM & FLANGE OF S.T. #1 WITH 3/8" FILLET WELD NEAR SIDE & FAR SIDE.
6. 5/8" MIN LAMINATED & SLOTTED SHIM.
7. DRILL HOLES IN STRINGER FLANGE IN FIELD FOR 4-5/8" ϕ ERECTION BOLTS.
8. 5/8" ϕ BOLT WITH SQ NUT @ 2'-0" CTRS. TACK WELD ** NUT TO ∠ #2. GREASE FOR EASY REMOVAL. 13/16" x 1 3/16" SLOTTED HOLE IN S.T. #1. LONG DIMENSION OF SLOTTED HOLE TO BE PARALLEL TO ℄ RDWY.
9. APPLY 1/2 COAT OF BITUMASTIC TO THIS SURFACE. AFTER CONCRETE HAS SET FILL HOLES WITH HOT POURED ELASTIC TYPE JOINT SEALER.
10. 13/16" ϕ VENT HOLES @ 2'-0" CTRS.
11. 5/8" ϕ BENT BAR @ 0'-9" ALTERNATE CTRS. BETWEEN STRINGERS. WELD TO S.T. #1. (BAR 1'-3" LONG)
12. 5/8" ϕ BENT BAR @ 1'-0" CTRS. WELD TO ∠ #2. (BAR 2'-0" LG)
*** 15. ∠ 3" x 2 1/2" x 5/16" x 0'-3" APPROX 3'-0" CTRS WELD TO ∠ #2.
14. 1/2" ϕ BOLT & NUT. TACK WELD NUT TO ∠ #15. 9" LONG.
15. 3/4" ϕ HOLT. SAME AS BOLT #8 EXCEPT FOR LENGTH.
#16. R. 13 3/8" x 3/8" BEND DOWN FACE OF CURB AS SHOWN. FIELD WELD TO S.T. #1. WELD TO R. # 23 AS SHOWN.
#17. R. 9 1/4" x 3/8" - BEND DOWN FLUSH WITH FACE OF CURB AS SHOWN. WELD TO R. #22 AS SHOWN.
#18. R. 2 3/4" x 3/8" - BEND DOWN FLUSH WITH FACE OF CURB AS SHOWN. WELD TO R. #17 WITH 1 LINE OF 3/16" FILLET WELD. FIELD WELD TO BAR #4.
19. 3/8" □ BENT BAR. 1'-6" LONG. WELD TO R'S. #17 & #22 AND R'S. #16 & #23 WITH 3/16" FILLET WELDS ALL AROUND.
20. ∠ 3" x 2 1/2" x 3/8" x 0'-3". PROVIDE 5/8" ϕ HOLE IN 2 1/2" LEG FOR BOLT # 21. WELD TO R #17.
21. 1/2" ϕ BOLT x 1'-7" LONG & NUT. TACK WELD NUT TO ∠ # 20.
22. R. 6" x 3/8". CUT TO CURB LIMITS AS SHOWN.
23. 3/8" R. CUT TO CURB LIMITS AS SHOWN. FIELD WELD TO R. #24
24. 3/8" R. CUT TO CURB LIMITS AS SHOWN. SHOP WELD TO S.T. #1 AND SUPPORT # 5.
25. ANCHOR BAR - 2 1/2" x 3/8" x 1'-0" ⌐ WELD TO R'S. #16 & #17.
26. BLOCK & BOLT FOR SHIPMENT WITH PIPE SLEEVE AND 1/2" ϕ BOLT. PROVIDE 9/16" ϕ HOLES IN ∠ #2 & STEM OF S.T. #1 AT 3'-0" CTRS. FOR 1/2" ϕ BOLT.

AFTER CONCRETE HAS SET THE JOINT OPENING SHALL BE THOROUGHLY CLEANED.

NO PAINT SHALL BE APPLIED TO EXPANSION JOINT EXCEPT AS NOTED. AFTER CONCRETE HAS SET REMOVE BOLTS # 8 & # 15 AND FILL HOLES WITH HOT POURED ELASTIC TYPE JOINT SEALER.

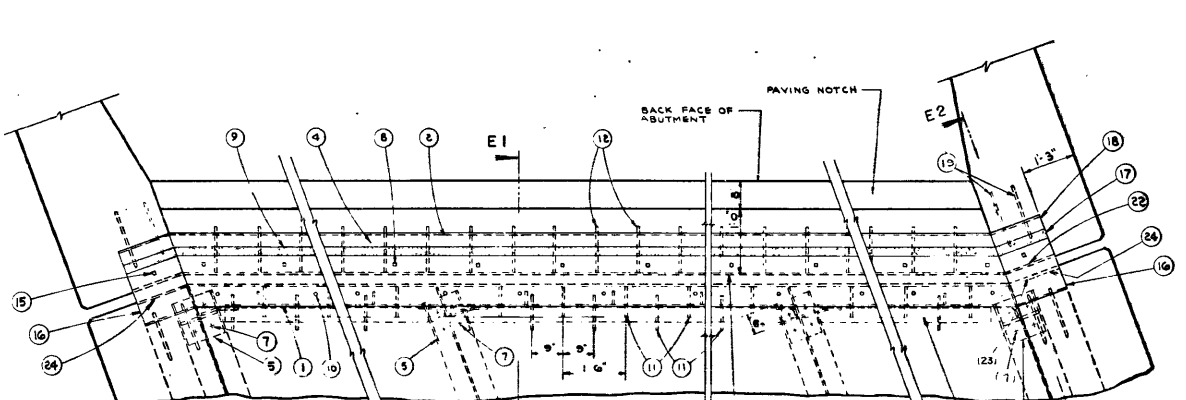
EXPANSION JOINT TO BE BUILT TO CONFORM TO RDWY. CROWN, GRADE & CURB SLOPE RESPECTIVELY.

ALL ITEMS MARKED # SHALL BE MADE OF A242 STEEL WITH A CORROSIVE RESISTANCE OF 4 OR MORE TIMES THAT OF A36 STEEL.

** 13/16" ϕ HOLE IN BAR # 3 AND ∠ #2.

ALL MATERIAL IN EXPANSION JOINT SHALL BE PAID FOR AS STRUCTURAL LOW ALLOY STEEL.
ONE FIELD SPLICE SHALL BE PERMITTED.

*** PROVIDE 5/8" ϕ HOLE IN 2 1/2" LEG FOR BOLT #14.

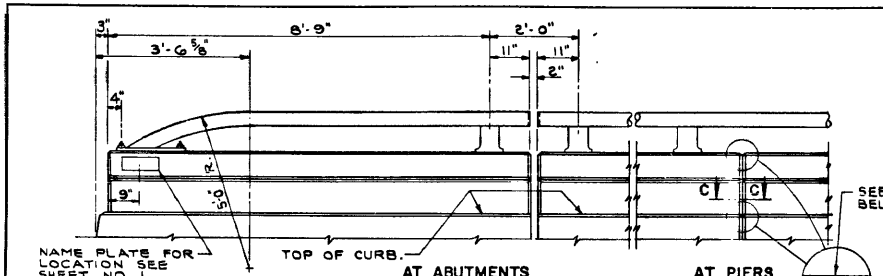


PART PLAN

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	EXPANSION JOINT
DESIGN SPEC A A S H O 61	LOADING H20 S16 STRUCTURE 1966
DATE 12-27-65	BY D T B DRAWN W. K. CHECKED R L P
STRUCTURE B-18-36	SHEET 7 OF 15

X 28146

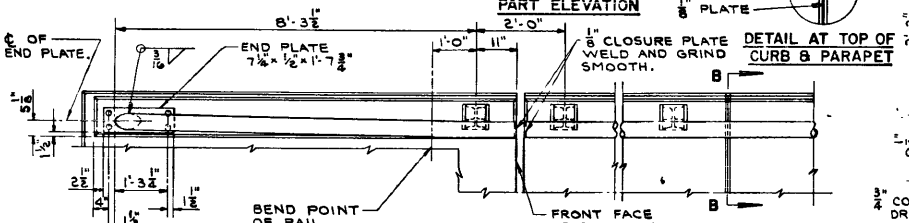
FORM E B 12 68
S.P.R. DIVISION 4 | PROJECT 1942(25) 69 | SHEET NO. 43 | TOTAL SHEETS 144



AT ABUTMENTS

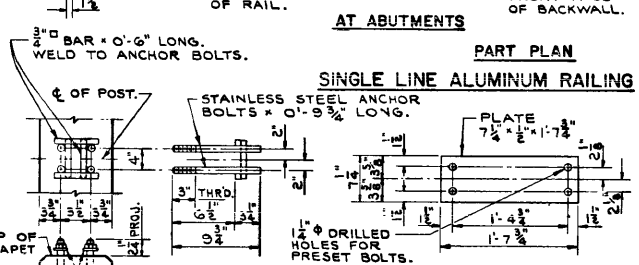
AT PIERS

1" PLATE

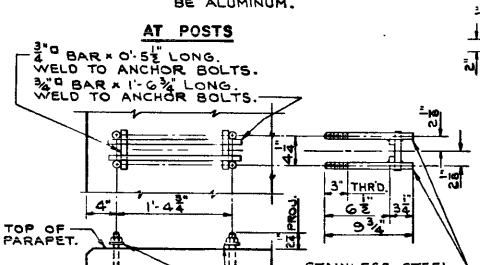


AT ABUTMENTS

AT PIERS



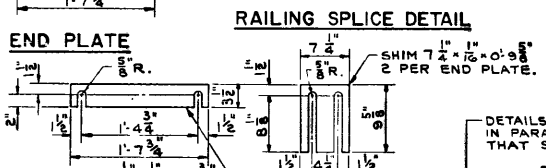
AT POSTS



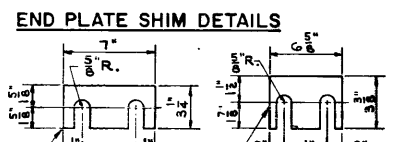
AT END PLATE

ANCHOR BOLT SETTING DETAILS

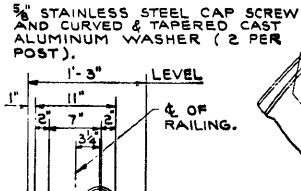
THE SHANK AND ROOT OF THREAD DIAMETER FOR ANCHOR BOLTS SHALL BE A MINIMUM OF 0.62 INCHES.



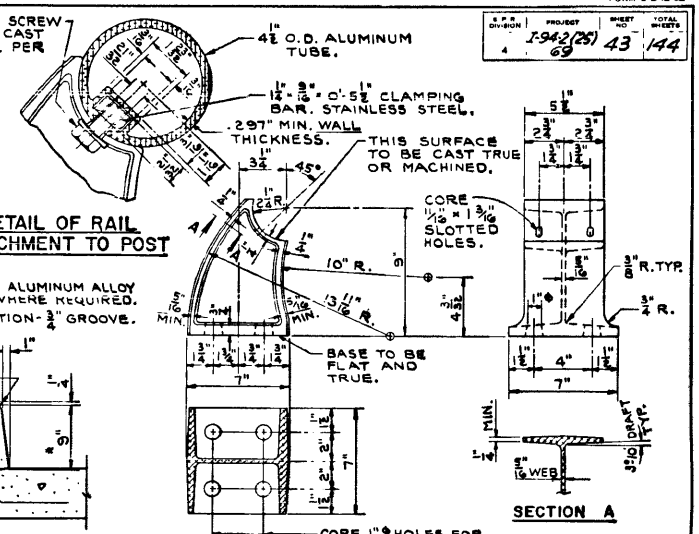
END PLATE SHIM DETAILS



POST SHIM DETAILS

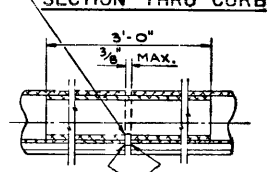


DETAIL OF RAIL ATTACHMENT TO POST

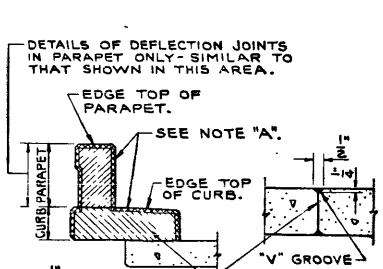


ALUMINUM POST CASTING

SECTION THRU CURB



SECTION R1



SECTION B

SHOWING DEFLECTION JOINT IN CURB AND PARAPET AT PIERS.

SECTION C

GENERAL NOTES

1. WHEN PARAPETS AND CURBS ARE POURED CONTINUOUSLY FROM END TO END THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION "B" BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS AND CURBS ARE USED AT THE DEFLECTION JOINTS ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS PAINT AND PLATE SEPARATORS MAY BE OMITTED.
2. ALL POST SPACINGS ARE TAKEN HORIZONTALLY ALONG ℄ OF RAILING AT BASE OF POSTS.
3. RAILING SPLICES SHALL BE LOCATED APPROXIMATELY AT 1/4 POINTS BETWEEN POSTS.
4. ALUMINUM SHIMS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQUIRED FOR ALIGNMENT.
5. RAILING SHALL BE FABRICATED IN TWO AND THREE PANEL LENGTHS.

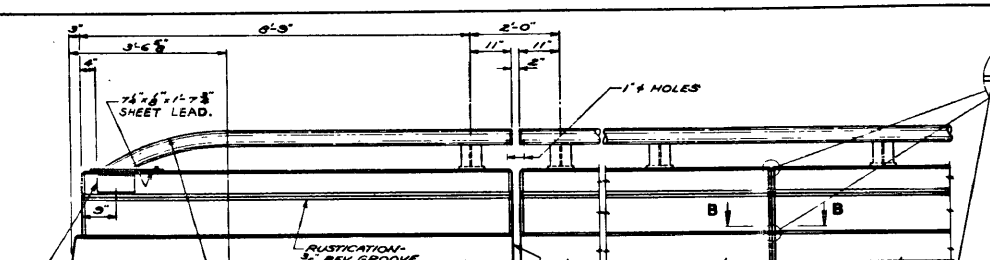
* THE 9" HEIGHT OF CURB IS TO BE MAINTAINED AT POINTS OF BEARING.

NOTE "A": FILL WITH NON-STAINING GRAY TWO COMPONENT POLYSULFIDE LIQUID POLYMER (GUN GRADE) WITH SURFACE PRIMER, MEETING APPROVAL OF THE ENGINEER.

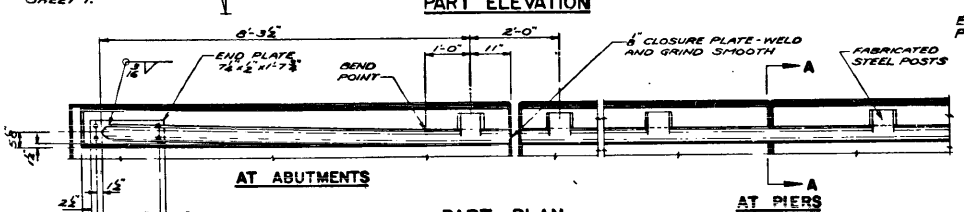
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	TUBULAR ALUMINUM RAILING TYPE "G"
	DES ON SPEC A.A.S.H.O.'61 LOADING — COMPT DATE 1963
	DATE 12-27-63 DES ON STD DRAWN G.J.H. CKD
STRUCTURE B-18-36	SHEET 8 OF 15

X 28147

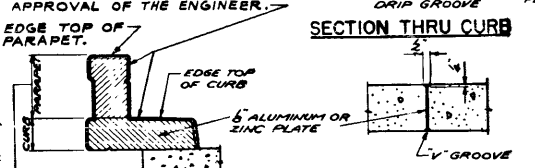
DIVISION	PROJECT	SHEET NO	TOTAL SHEETS
4	F942(25) G9	44	144



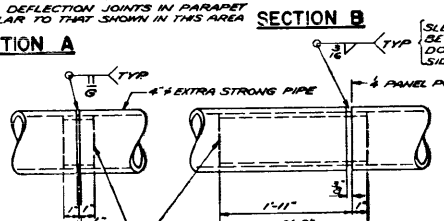
PART ELEVATION



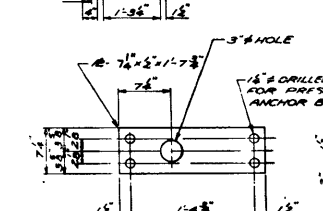
PART PLAN



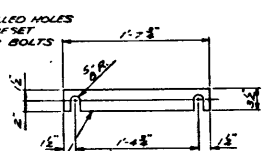
SECTION A

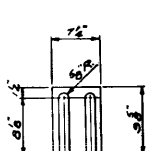


SECTION B

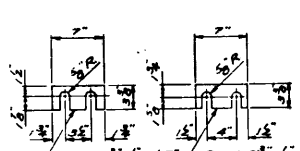


END PLATE

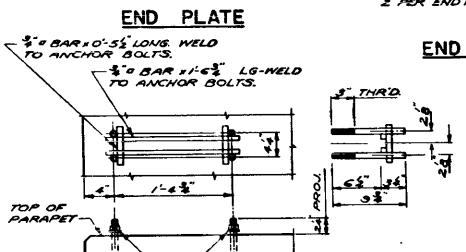




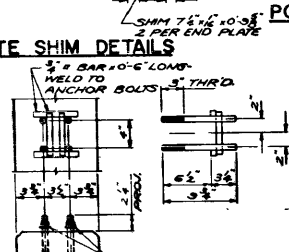
END PLATE SHIM DETAILS



POST SHIM DETAILS



AT END PLATE



AT POSTS

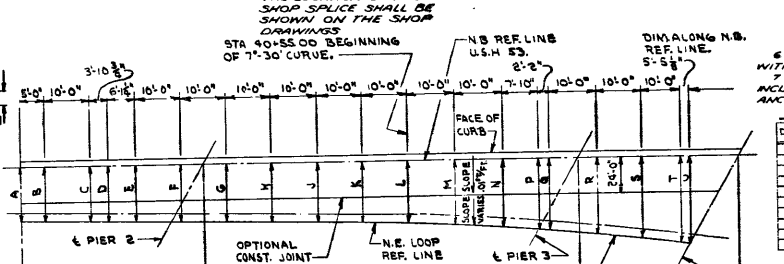
ANCHOR BOLT SETTING DETAILS

THE SHANK AND ROOT OF THREAD DIAMETER FOR ANCHOR BOLTS SHALL BE A MINIMUM OF 0.62 INCHES.

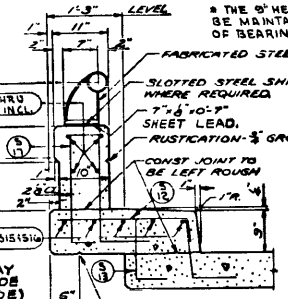
SHOP RAIL SPLICE DETAIL

THE LOCATION OF THE SHOP SPLICE SHALL BE SHOWN ON THE SHOP DRAWINGS

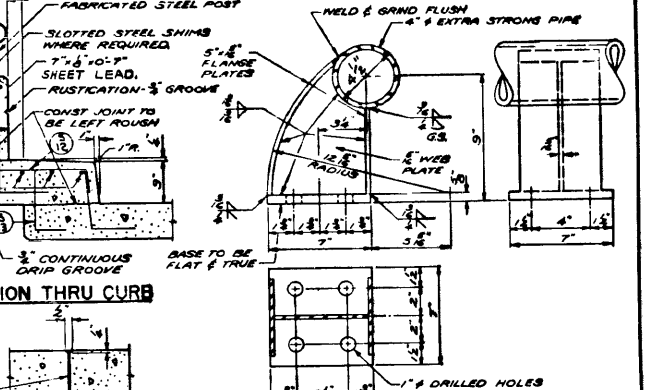
FIELD ERECTION JOINT DETAIL



SUPERSTRUCTURE LAYOUT



SECTION THRU CURB



POST DETAILS

* THE 9" HEIGHT OF CURB IS TO BE MAINTAINED AT POINTS OF BEARING.

NOTES

1 STEEL RAIL POSTS SHALL BE SET NORMAL TO GRADE.
2 RAILING SHALL BE FABRICATED IN 2 & 3 PANEL LENGTHS.
3 STEEL SHIMS SHALL BE USED UNDER POSTS AND UNDER END PLATES WHERE REQUIRED FOR ALIGNMENT.
4 WHEN PARAPETS AND CURBS ARE POURED CONTINUOUSLY FROM END TO END THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ½ ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION 'A' BY SHADED AREA IF CONSTRUCTION JOINTS IN PARAPETS AND CURBS ARE USED AT THE DEFLECTION JOINTS ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS PAINT AND PLATE SEPARATORS MAY BE OMITTED.
5 THE FOLLOWING MATERIALS SHALL BE USED:
RAILING SHALL BE 4" ϕ EXTRA STRONG PIPE CONFORMING TO ASTM DESIGNATION A53, GRADE B.
SLEEVES SHALL BE 3½" ϕ O.D. x ¼" THICK SEAMLESS MECHANICAL TUBING MADE OF STEEL WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 60,000 P.S.I. AND A MINIMUM ELONGATION OF 10%.
POSTS SHALL BE FABRICATED FROM MATERIAL CONFORMING TO ASTM DESIGNATION A36.
ANCHOR BOLTS TO BE MADE FROM MATERIAL CONFORMING TO ASTM A307.
6 CAULK EXPOSED OPENINGS BETWEEN SHIMS WITH LEAD WOOL.
7 GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING NUTS, WASHERS, SHIMS AND TOP 3½" OF ANCHOR BOLTS.

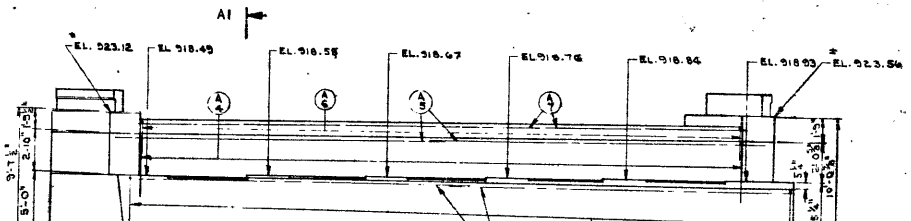
TABLE OF OFFSETS & ELEVATIONS

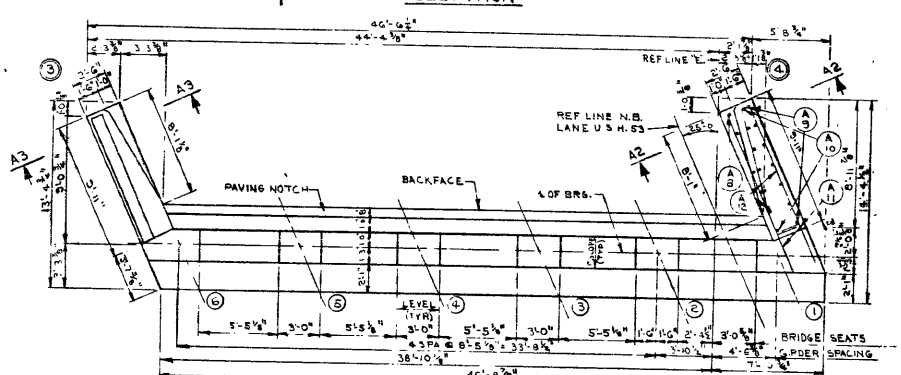
DIM	OFFSET	ELEV. @ FACE OF EAST CURB	DIM.	OFFSET	ELEV. @ FACE OF EAST CURB
A	31'-4 7/8"	922.60	L	35'-0"	922.40
B	31'-6"	922.60	M	35'-3"	922.55
C	31'-8 1/8"	922.60	N	35'-11 3/4"	922.99
D	31'-8"	922.70	P	40'-0 3/8"	922.95
E	31'-10"	922.70	Q	40'-1 1/2"	923.03
F	31'-10 1/2"	922.70	R	40'-09 3/4"	922.38
G	32'-3"	922.60	S	41'-7 1/2"	922.31
H	32'-5 3/4"	922.67	T	42'-6"	922.26
J	32'-7 1/2"	922.68	U	43'-05 3/4"	922.18
K	32'-5 3/4"	922.62			

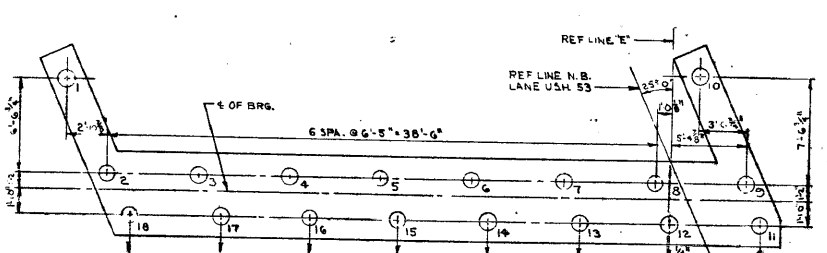
STATE HIGHWAY COMMISSION OF WISCONSIN
TUBULAR STEEL RAILING TYPE G
DESIGN SPEC. A.A.S.H.O. 63 | LOADING | SHEET SPEC. 1963
DATE 12 27 63 | DESIGN JTD | DRAWN | CHK.
STRUCTURE B-18-36 | SHEET 9 OF 15

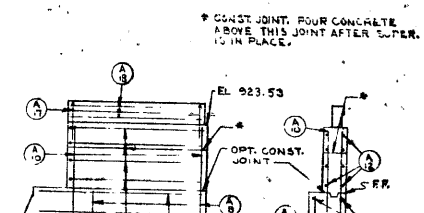
X28148

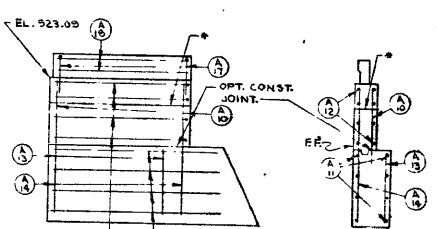
DIST. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-94(25) 69	45	144

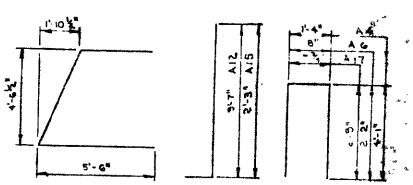


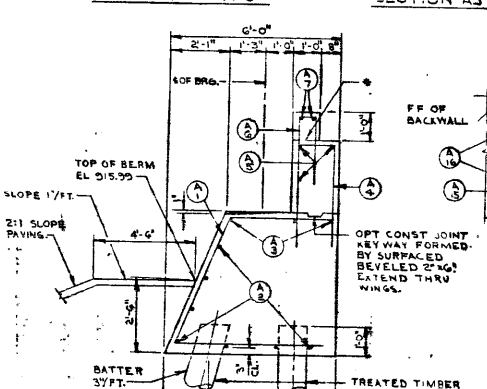


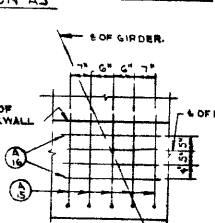


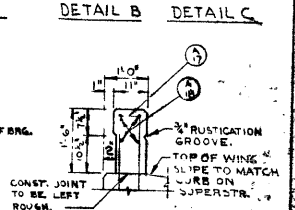












BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

SMARK	NO	S.F.	LENGTH	SPACING	LOCATION	MBR
A1	24	4	13-6	**2-0	BODY	A
A2	14	4	44-0	SHOWN	"	
A3	6	6	29-6	"	"	
A4	29	5	9-6	1-6	BACKWALL - VERT.	C
A5	6	4	23-0	SHOWN	" - HORIZ.	
A6	43	5	5-0	1-0	PAVING NOTCH - VERT.	C
A7	12	4	3-6	SHOWN	" " - HORIZ.	
A8	6	4	5-0	1-6	WING 4 - VERT. B.F.	
A9	7	4	9-6	"	" " F.F.	
A10	14	4	5-9	"	WINGS - VERT. B.F.	
A11	14	4	11-9	"	" - HORIZ. B.F. & F.F.	
A12	16	4	11-6	"	" " " "	B
A13	6	4	4-6	"	WING 3 - VERT. B.F.	
A14	7	4	9-3	"	" " F.F.	
A15	30	4	3-3	SHOWN	GRID	B
A16	24	4	2-6	SHOWN	"	
A17	10	3	6-0	1-0	RAILING PARAPET	C
A18	8	3	3-3	SHOWN	"	

** THE 2'-0" SPACING MAY BE ALTERED TO MISS PILES.

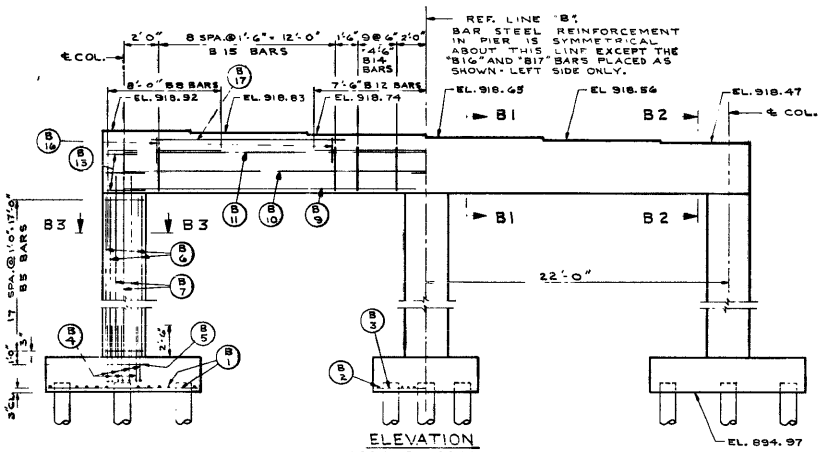
NOTE: FILL TO EL 915.66 BEFORE DRIVING PILING. UPPER LIMIT OF "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	SOUTH ABUTMENT
	DESIGNED A.A.S.H.B. DRAWN A.A.S.H.B. CHECKED J.B.
	DATE 12-63 DESIGN J.B. DRAWING NO. 21.0
	STRUCTURE B-18-36 SHEET 10 OF 15

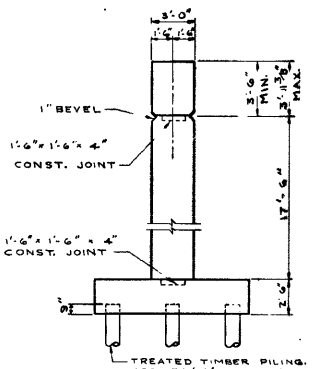
X 28149

FORM E B 12 56

B.H.B. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-94-2(25) 69	46	144



ELEVATION
LOOKING NORTH

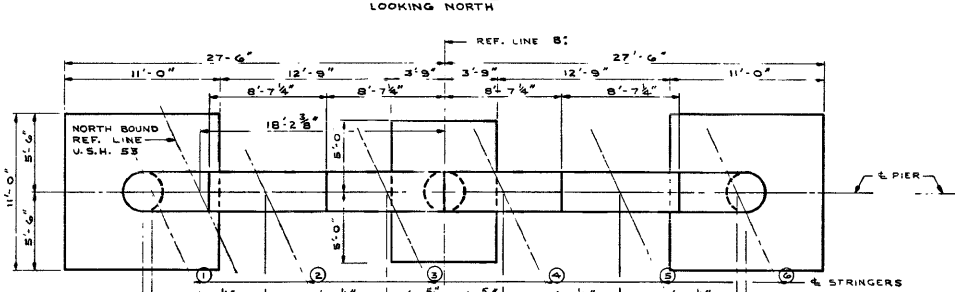


END VIEW

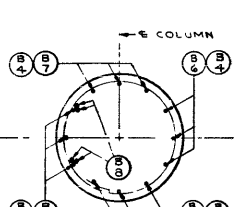
BILL OF BARS 9,540

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

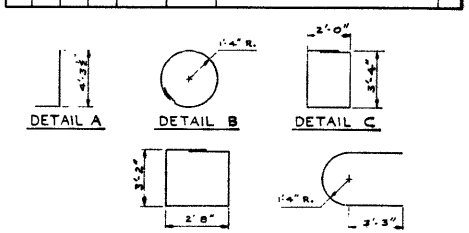
PLACE	MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET
FOOTINGS	B1	40	3	10-6	SHOWN	FOOTINGS - EXT.	
	B2	8	3	9-6	"	" - INT.	
	B3	11	5	7-0	"	" "	
	B4	36	5	5-0	"	DOWELS	A
	B5	3	4	9-6	1-0	HOOPS	B
COLUMNS & CAP	B5	54	4	9-6	1-0	HOOPS - COLUMNS	B
	B6	18	10	17-3	SHOWN	COLUMNS	
	B7	18	10	20-0	"	"	
	B8	8	10	16-0	"	CAP & EXT. COLUMNS	F
	B9	20	9	20-0	"	" - BOTTOMS	
	B10	4	4	20-3	"	" - SIDES	
	B11	4	10	40-0	"	" - TOP	
	B12	8	10	15-0	"	" - CENTER	
	B13	6	5	10-9	"	" - ENDS	E
	B14	40	4	11-9	"	" - STIRRUPS	C
	B15	18	4	12-9	"	" - "	
	B16	5	4	5-9	"	" - LEFT HALF - STIRRUPS	G
	B17	2	4	13-0	"	" " " - TOP	



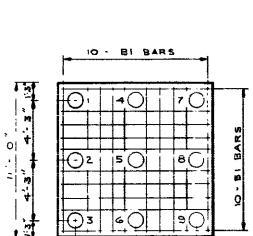
PLAN

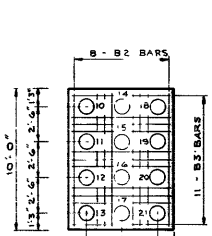


SECTION B3

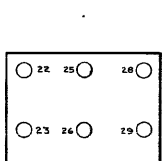


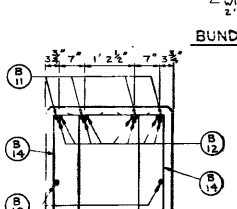
BUNDLING DETAIL



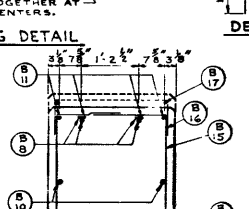


FOOTING PLAN





SECTION B1



SECTION B2

CONCRETE MASONRY

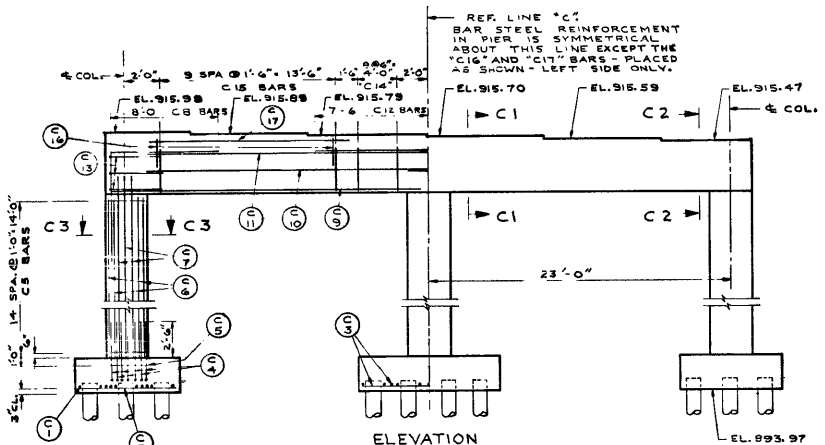
CAP	19.2 C.Y.
COLUMNS	13.7 C.Y.
FOOTINGS	29.7 C.Y.
TOTAL	61.6 C.Y.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	PIER 1
DESIGN SPEC. A.A.S.H.O. '61 LOADING H20 S16 CONST. SPEC. 1963	
BY 12-27-63 DESIGN J. B. DRAWN J.D.T. CHK. R.L.P.	
STRUCTURE B 18 36	SHEET 11 OF 15

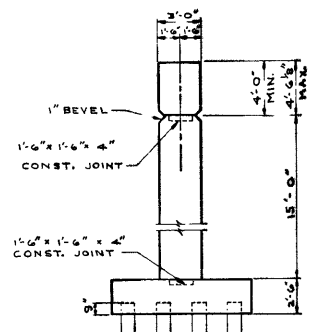
X28150

FORM B B 12-82

B.F.R. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-94-2(25) 69	47	144



ELEVATION
LOOKING NORTH

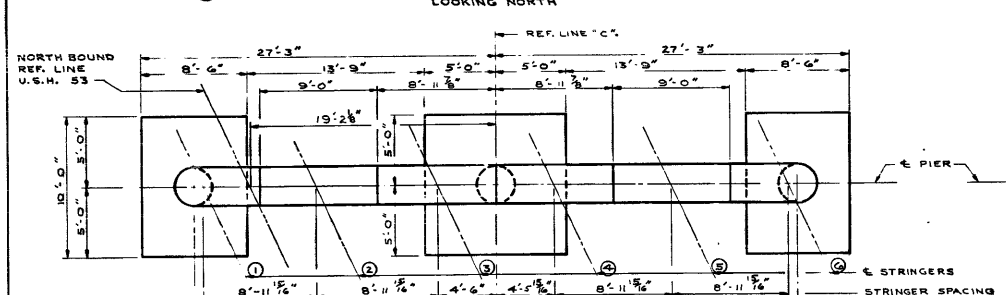


END VIEW

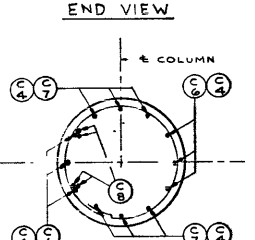
BILL OF BARS 10,340*

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

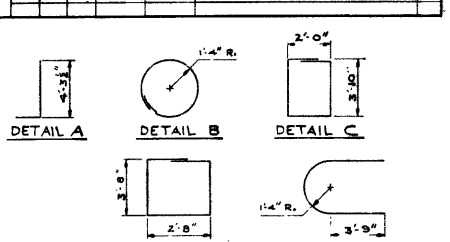
POUR	MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET.
FOOTINGS	C1	20	8	9'-6	SHOWN	FOOTING - EXT.	
	C2	22	8	8'-0	"	" - "	
	C3	22	9	9'-6	"	" - INT.	
	C4	36	10	5'-0	"	DOWELS	A
	C5	3	4	9'-6	1'-0	HOOPS	B
COLUMNS & CAP	C5	45	4	9'-6	1'-0	COLUMNS - HOOPS	B
	C6	18	10	14'-9	SHOWN	" - VERT.	
	C7	18	10	17'-6	"	" - "	
	C8	8	11	16'-0	"	" ℄ CAP	F
	C9	20	10	22'-0	"	CAP - BOTTOM	
	C10	4	4	21'-0	"	" - SIDES	
	C11	4	11	41'-0	"	" - TOP	
	C12	8	11	15'-0	"	" - CENTER	
	C13	6	5	11'-9	"	" - ENDS	E
	C14	36	5	13'-0	"	" - STIRRUPS	C
	C15	20	5	14'-0	"	" - "	D
	C16	10	5	5'-9	"	" - LEFT SIDE - STIRRUPS	G
	C17	2	4	14'-6	"	" - " "	



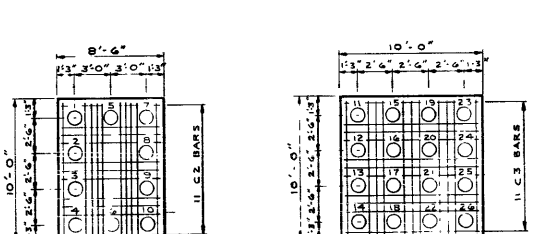
PLAN



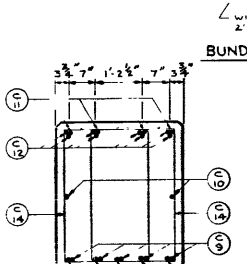
SECTION C 3



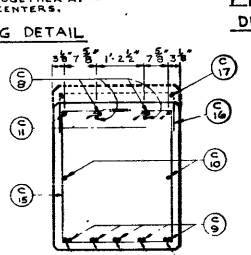
BUNDLING DETAIL



FOOTING PLAN



SECTION C1



SECTION C2

CONCRETE MASONRY

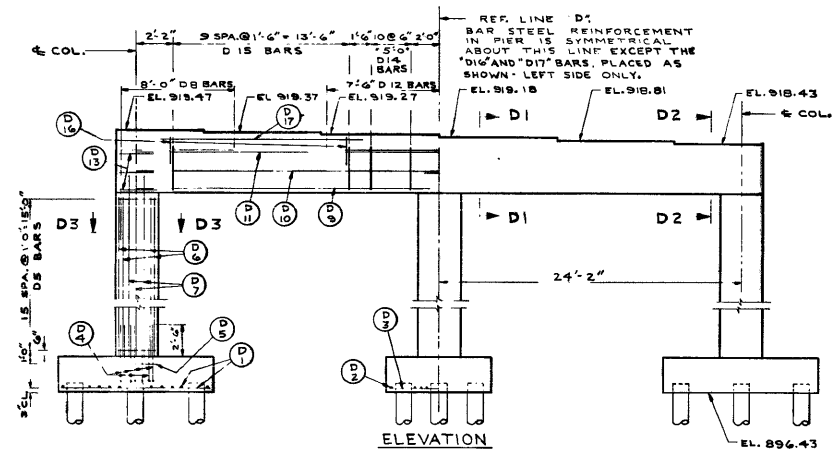
CAP	22.9 C.Y.
COLUMNS	11.8 C.Y.
FOOTINGS	24.2 C.Y.
TOTAL	58.9 C.Y.

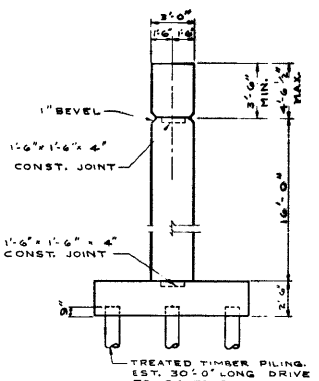
REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN	
	PIER 2	
	DESIGN SPEC. AASHO '61 LOADING M20-S16 CONST. 1963	
	BY 12/27/62 SUBM'D BY J.B. CHKD. BY JDT RLP	
STRUCT.	B-18-36	SHEET 12-15

X 28'51

FORM E B 12 82

S H D DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	1948(25) 69	48	144



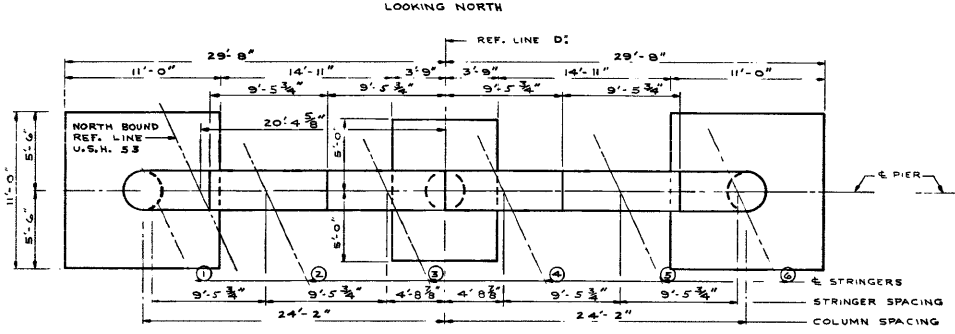


END VIEW

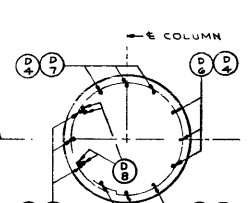
BILL OF BARS 10,750

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

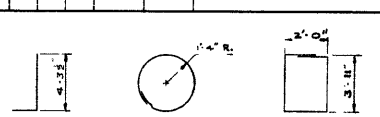
POUR	MARK	NO	SIZE	LENGTH	SPACING	LOCATION	DET
FOOTINGS	D1	90	3	10-6	STD. ℄	FOOTINGS - EXT.	
	D2	8	3	8-6	"	" - INT.	
	D3	11	5	7-0	"	" - "	
	D4	36	10	5-0	"	DOWELS	A
	D5	3	4	9-6	1'-0	HOOPS	B
COLUMNS & CAP	D1	48	4	9-6	1'-0	HOOPS - COLUMNS	H
	D6	18	10	15-5	SHOWN	COLUMNS	
	D7	18	10	18-6	"	"	
	D8	8	11	16-0	"	CAP & EXT. COLUMNS	J
	D9	20	10	22-0	"	" - BOTTOMS	
	D10	4	4	22-0	"	" - SIDES	
	D11	4	11	43-0	"	" - TOP	
	D12	8	11	15-0	"	" - CENTER	
	D13	6	5	12-3	"	" - ENDS	E
	D14	44	5	13-3	"	" - STIRRUPS	C
	D15	20	5	13-0	"	"	D
	D16	10	5	7-0	"	" - LEFT HALF - STIRRUPS	G
	D17	2	4	14-6	"	" " "	



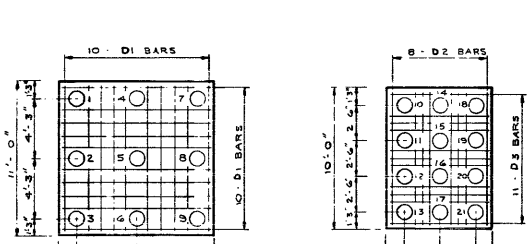
PLAN



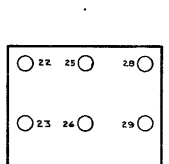
SECTION D3

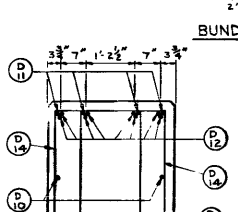


BUNDLING DETAIL

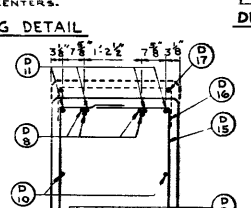


FOOTING PLAN





SECTION D1



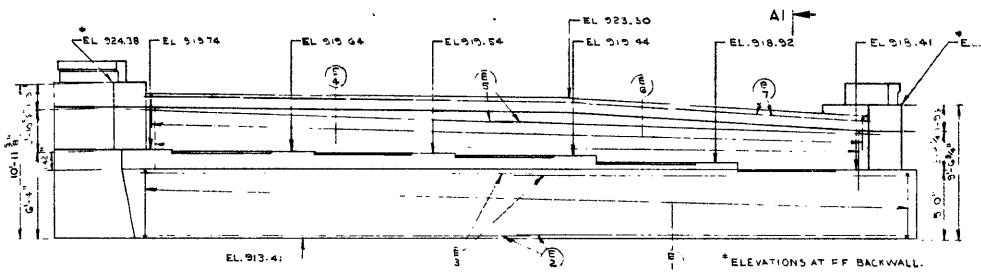
SECTION D2

CONCRETE MASONRY

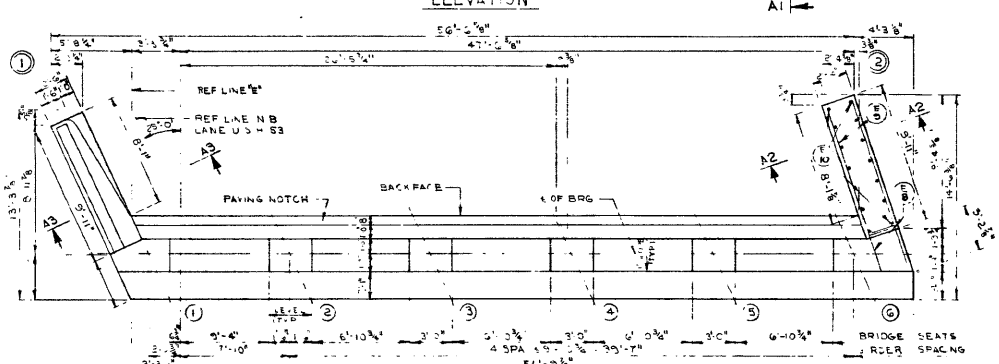
CAP	23.5 C.Y.
COLUMNS	12.6 C.Y.
FOOTINGS	28.7 C.Y.
TOTAL	64.8 C.Y.

REVISED	STATE HIGHWAY COMMISSION OF WISCONSIN
	PIER 3
	DESIGN SPEC A. A. S. H. O. '61 LOADING H20-S16 CONST. SPEC 1963
	DATE 12-27-63 DESIGN J. B. DRAWN J. D. T. CKD. ELP
STRUCTURE B 18 36	SHEET 13 OF 15

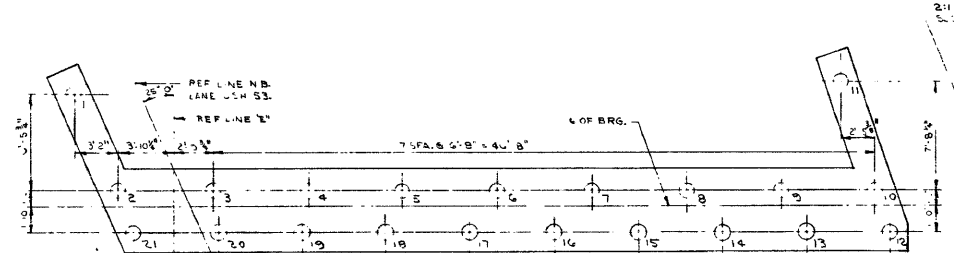
X 28152



ELEVATION

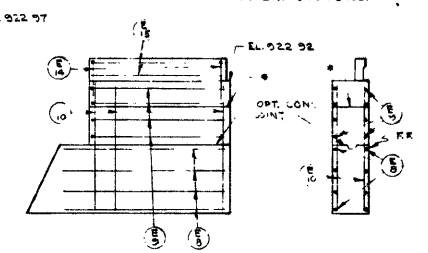


PLAN



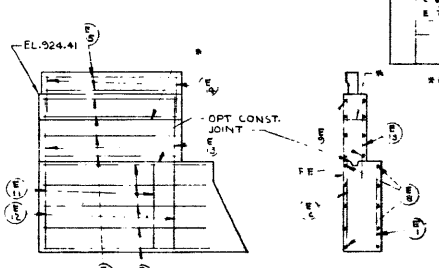
PILE PLAN

INDICATES BATTERED PILE. BATTER 3"/FT. IN DIRECTION SHOWN



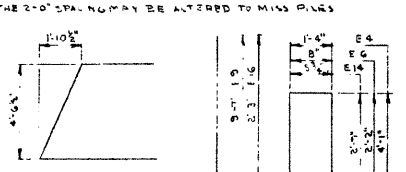
END VIEW - WING 2

SECTION A2



END VIEW - WING 1

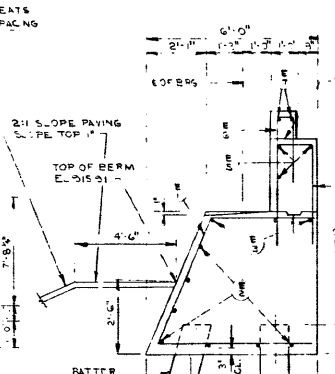
SECTION A3



DETAIL A

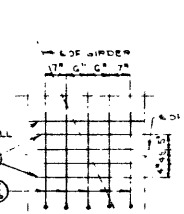
DETAIL B

DETAIL C

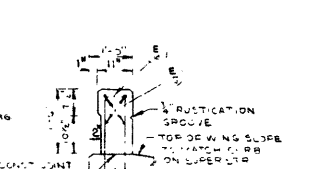


SECTION A1

NOTE: FILL TO EL 915.58 BEFORE DRIVING PILING. UPPER LIMIT OF EXCAVATION FOR STRUCTURES SHALL NOT EXCEED THIS EL.



GRID DETAIL



RAILING DETAIL

BILL OF BARS

* 2,310

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

POS MARK	NO	SIZE	LENGTH	SPACING	LOCATION	CET
E1	28	4	13-0	AS 2-0	BODY	A
E2	19	4	48-0	SHOWN	"	
E3	6	6	49-9	"	"	
E4	35	5	9-6	1-6	BACKWALL - VERT.	C
E5	6	4	28-0	SHOWN	" HORIZ.	
E6	71	5	5-0	1-0	PAVING NOTCH - VERT	C
E7	14	4	7 0	SHOWN	" HORIZ.	
E8	18	4	11-9	1-6	WINGS - HORIZ F.F. & B.F.	
E9	16	4	11 0	1-6	" " " "	B
E10	16	4	13-0	1-6	WING 2 - VERT. " "	
E11	6	4	6-0	1-6	WING 1 - " B.F.	
E12	7	4	13-6	1-6	" F.F.	
E13	7	4	5-5	1-6	" B.F.	
E 14	20	5	6-0	1-0	RAILING PARAPET	C
E15	8	5	9-3	SHOWN	"	
E16	50	4	3-3	"	GRID	B
E17	24	4	2-6	"	"	

** THE 2-0" SPACING MAY BE ALTERED TO MISS PILES

STATE HIGHWAY COMMISSION OF WISCONSIN

NORTH ABUTMENT

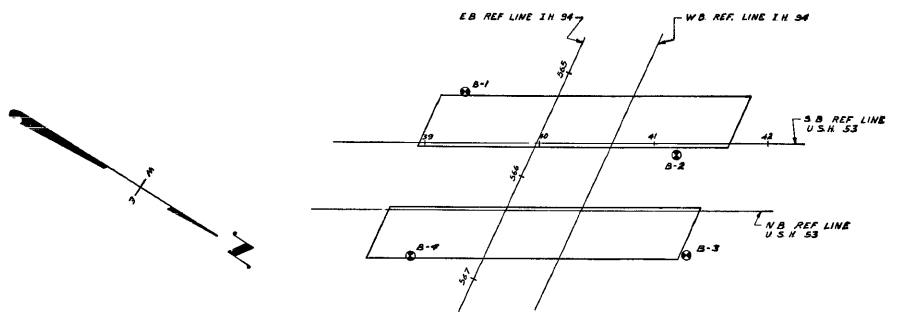
DESIGN SPEC AASHO 61 LOADING H 20-44 CONST SPEC 1962

DATE 9-21-71 DESIGN J.B. DRAWN [illegible] CHK. R.L.P.

STRUCTURE B-18-36 SHEET 14 OF 15

X 28153

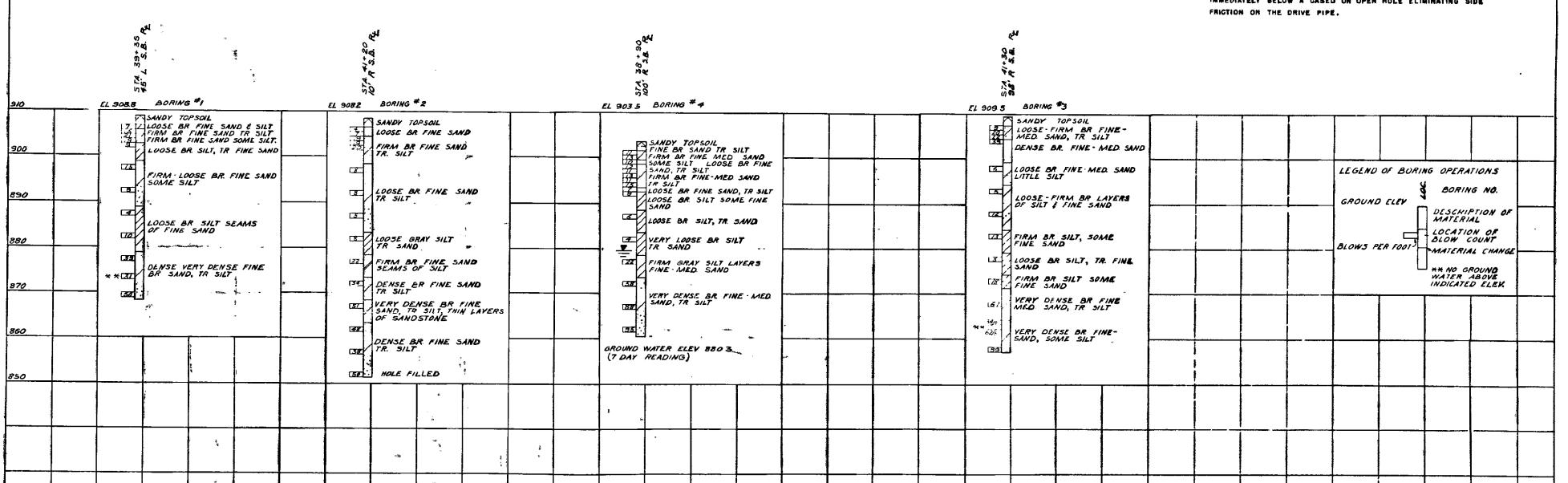
D.H.W. DIVISION	PROJECT	SHEET NO.	TOTAL SHEETS
4	I-942(25) 69	50	144



SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN.

FOR THE DESIGN OF THE STRUCTURE FOUNDATION, 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 WITH THE LOG OF SUCH EXPLORATION DATA AS INTERPRETED FOR SUCH DESIGN PURPOSE AS SHOWN. THE EXPLORATIONS WERE MADE BY ORDINARY AND CONVENTIONAL METHODS AND CARE DEEMED ADEQUATE FOR SUCH PURPOSE. HOWEVER, SINCE IT IS A MATTER OF COMMON KNOWLEDGE THAT THE EXACT CHARACTER OF ANY MATERIAL AND ITS REACTION IS DIFFICULT TO DETERMINE FROM SUCH SUBSURFACE EXPLORATION AND THAT THE KIND AND CHARACTER OF MATERIAL AT THE SITE WHERE THE FOUNDATIONS ARE BUILT MAY VARY SUBSTANTIALLY FROM THAT INDICATED BY THE LOG THEY ARE MADE AVAILABLE TO THE BIDDERS SIMPLY FOR WHAT THEY ARE WORTH, WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED THAT THE MATERIAL TO BE ENCOUNTERED IN BUILDING THE FOUNDATION WILL CONFORM THEREWITH. IF THE LOG IS USED BY THE CONTRACTOR IN MAKING HIS BID, IT IS HEREBY EXPRESSLY STIPULATED THAT THE COMMISSION ACCEPTS NO RESPONSIBILITY FOR SAID USE.

UNLESS OTHERWISE SPECIFIED THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" OD x 1.4" ID SPLIT SPOON SAMPLER WITH A 140 LB. HAMMER HAVING A FREE FALL OF 30 INCHES. THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.



STATE HIGHWAY COMMISSION OF WISCONSIN

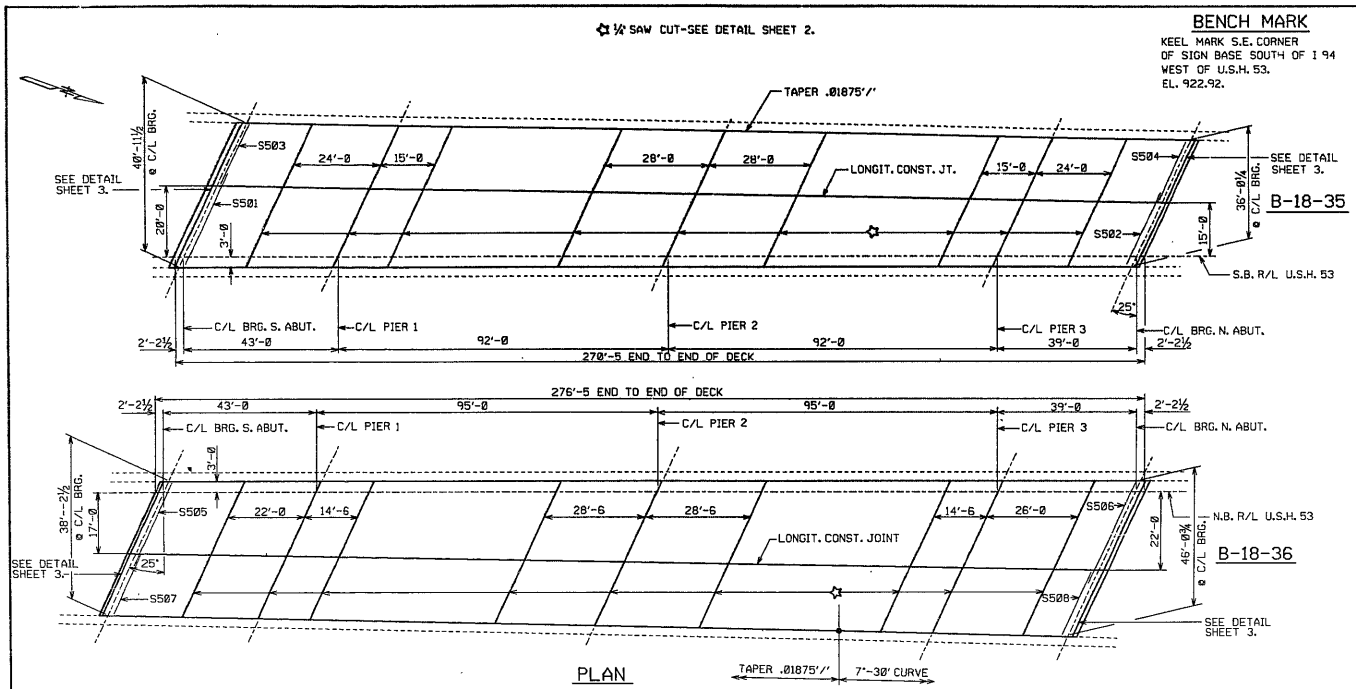
SUBSURFACE EXPLORATION

12-27-63 | J.R.O. | R.L.P. | 1963 | H20-346

STRUCTURE B 18 36 | SHEET 15 OF 15

X 28154

STATE PROJECT NUMBER	SHEET NO.
0018-74-10	8.0



BENCH MARK

KEEL MARK S.E. CORNER OF SIGN BASE SOUTH OF I 94 WEST OF U.S.H. 53. EL. 922.92.

GENERAL NOTES

DRAWINGS ARE NOT TO SCALE.

CONTRACTOR SHALL VERIFY DIMENSIONS IN THE FIELD.

TOTAL ESTIMATED QUANTITIES

	B-18-35		B-18-36	
CONCRETE MASONRY, OVERLAY	91	C.Y.	110	C.Y.
DECK CLEANING	1157	S.Y.	1294	S.Y.
DECK PREPARATION	93	S.Y.	155	S.Y.
EPOXY CRACK SEALING	266	L.F.	272	L.F.
EXPANSION DEVICE	1	L.S.	1	L.S.
PROTECTIVE SURFACE TREATMENT	55	GAL.	60	GAL.
HIGH STRENGTH BAR STEEL REINF.	180	LB.	200	LB.
STRUCTURAL CARBON STEEL	1160	LB.	1270	LB.
JOINT REPAIR	10	S.Y.	11	S.Y.

DESIGN DATA

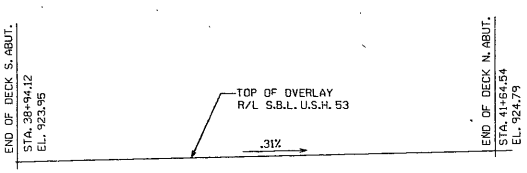
LIVE LOAD:	B-18-35	B-18-36
INVENTORY RATING	H19	H19
OPERATING RATING	HS24	HS25

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY f'c = 4,000 psi

LIST OF DRAWINGS

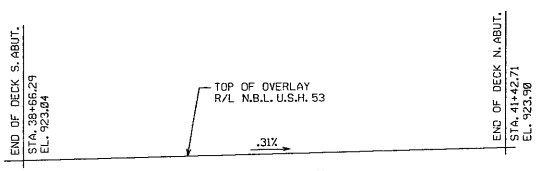
1. OVERLAY — X72482
2. DETAILS — X72483
3. EXPANSION DEVICE AT ABUTMENTS — X72484



AVG. OVERLAY THICKNESS = 2¼"

PROPOSED GRADE LINE B-18-35

NOTE: VARIATIONS TO THE NEW GRADE LINE OVER ½" MUST BE SUBMITTED FOR REVIEW BY THE BRIDGE OFFICE



AVG. OVERLAY THICKNESS = 2⅜"

PROPOSED GRADE LINE B-18-36

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-18-35/36

U.S.H. 53 OVER I 94

COUNTY	TOWN/CITY/VILLAGE
EAU CLAIRE	WASHINGTON

DESIGN SPEC.	LOAD	CONST. SPEC.
AASHTO '83	—	1981

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KAB		DB	BW

APPROVED Stanley W. Woods, CHIEF BRIDGE ENGINEER — DATE 7-22-82

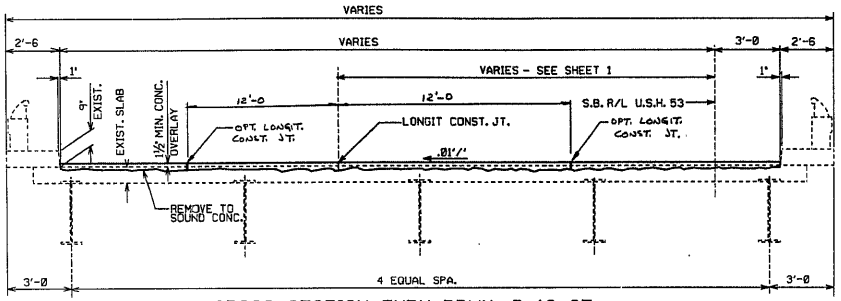
OVERLAY

SHEET 1 OF 3

X 72482

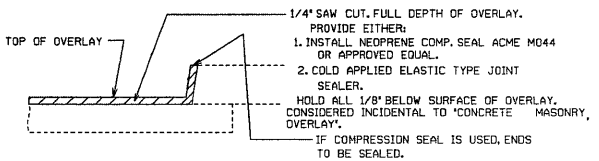
B-18-35

STATE PROJECT NUMBER	SHEET NO.
0018-74-10	8.1

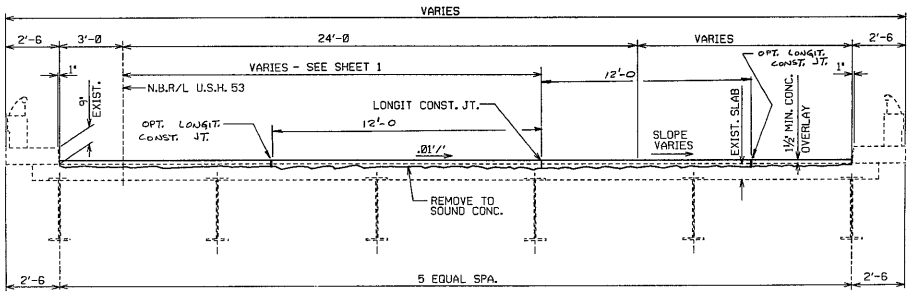


CROSS SECTION THRU RDWY.-B-18-35

(LOOKING NORTH)



SAW CUT DETAIL



CROSS SECTION THRU RDWY.-B-18-36

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-18-35/36

CONST. SPEC. 1981	DRAWN BY DB	PLANS CK'D. BW

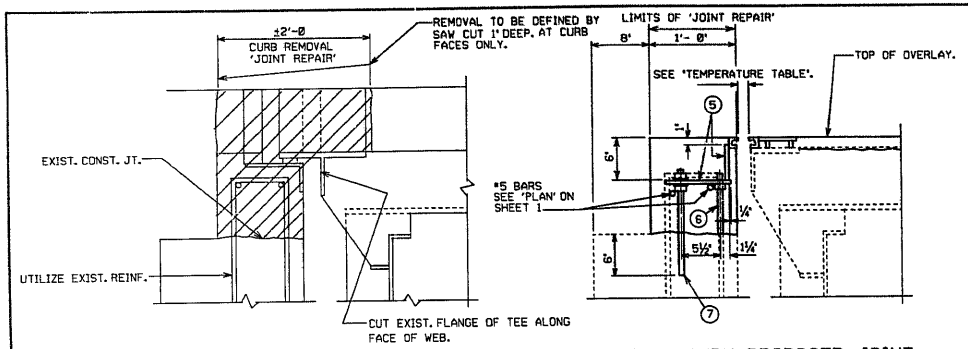
DETAILS

SHEET 2 OF 3

X 72483

B-18-35/

STATE PROJECT NUMBER	SHEET NO.
0018-74-10	8.2

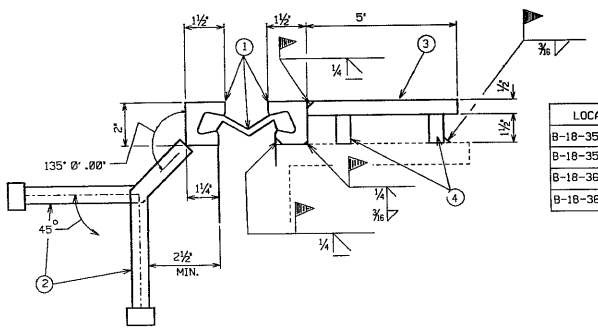


SECTION THRU EXIST. JOINT

SECTION THRU PROPOSED JOINT

LEGEND

1. NEOPRENE STRIP SEAL & STEEL EXTRUSIONS ACME ACMA AS-300A, D.S.BROWN SS-300, GENERAL TIRE GS-300A, OR WATSON-BOWMAN S-300(A2). EXTRUSIONS TO BE EITHER A.S.T.M. A-36 , A-588 , A242.
2. STUDS $\frac{5}{16}$" X 6$\frac{3}{8}$" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSION & BEND AS SHOWN AFTER WELDING.
3. PLATE 5" X ½". FIELD WELD TO EXTRUSION AS SHOWN.
4. BAR 1½" X ½" WELD TO NO. 3 AND FIELD WELD TO EXIST. TEE AS SHOWN.
5. FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT. AT 3'-0 CTRS. WELD TO NO. 1. PROVIDE 1½" HOLE FOR NO. 7 AND 1" HOLE FOR NO. 6.
6. ¾" THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
7. SUPPORT ROD ¾" X 1'-4 WITH 2 NUTS AND WASHERS. THREAD ONE END 4". FIELD DRILL AND GROUT INTO PLACE.



JOINT SECTION

LOCATION	'A'	'B'	'C'
B-18-35-S. ABUT.	25'-00'	23'-56'	45'-2½
B-18-35-N. ABUT.	23'-56'	25'-00'	39'-9
B-18-36-S. ABUT.	23'-56'	25'-00'	42'-2
B-18-36-N. ABUT.	25'-00'	18'-53'	58'-11¼

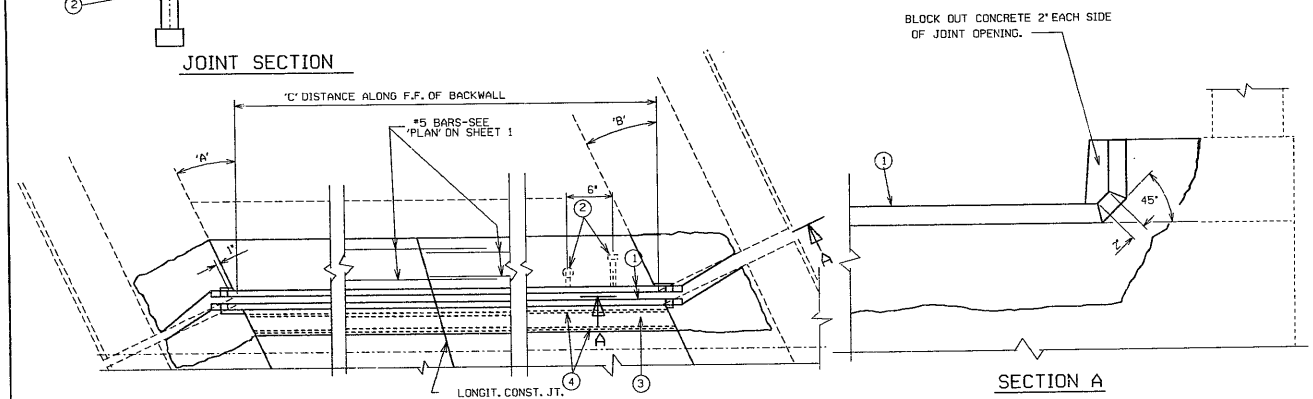
TEMPERATURE TABLE

TEMP.	JOINT OPENING
90°	1½"
80°	1½"
70°	1⅝"
60°	1¾"
50°	1⅞"
40°	1⅞"
30°	2"

TEMP.=SHADED UNDERSIDE DECK TEMP. (F°)

SEAL NOTES

FIELD SPLICE DETAILS AT LONGIT. CONST. JT. SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING OF NEOPRENE SEAL PERMITTED.
SAND BLAST CLEAN STEEL EXTRUSIONS PRIOR TO COATING WITH LUBRICANT ADHESIVE FOR NEOPRENE SEAL.
STRIP SEAL EXPANSION JOINT ASSEMBLY , INCLUDING ANCHOR STUDS AND HARDWARE , WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE."
NO. 3 & NO. 4 SHALL BE "STRUCTURAL CARBON STEEL."



PLAN OF PROPOSED JOINT

SECTION A

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	CUT. DIAG.	BUN-DLE	LOCATION
S501		2	27-3				PAVING BLOCK-B18-35-S.A.
S502		2	21-8				PAVING BLOCK-B18-35-N.A.
S503		2	19-6				PAVING BLOCK-B18-35-S.A.
S504		2	19-7				PAVING BLOCK-B18-35-N.A.
S505		2	23-11				PAVING BLOCK-B18-36-S.A.
S506		2	29-5				PAVING BLOCK-B18-36-N.A.
S507		2	19-9				PAVING BLOCK-B18-36-S.A.
S508		2	22-11				PAVING BLOCK-B18-36-N.A.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-18-35/36

CONST. SPEC.	1981	DRAWN BY	DB	PLANS CK'D.	BW

EXPANSION DEVICE AT ABUTS.

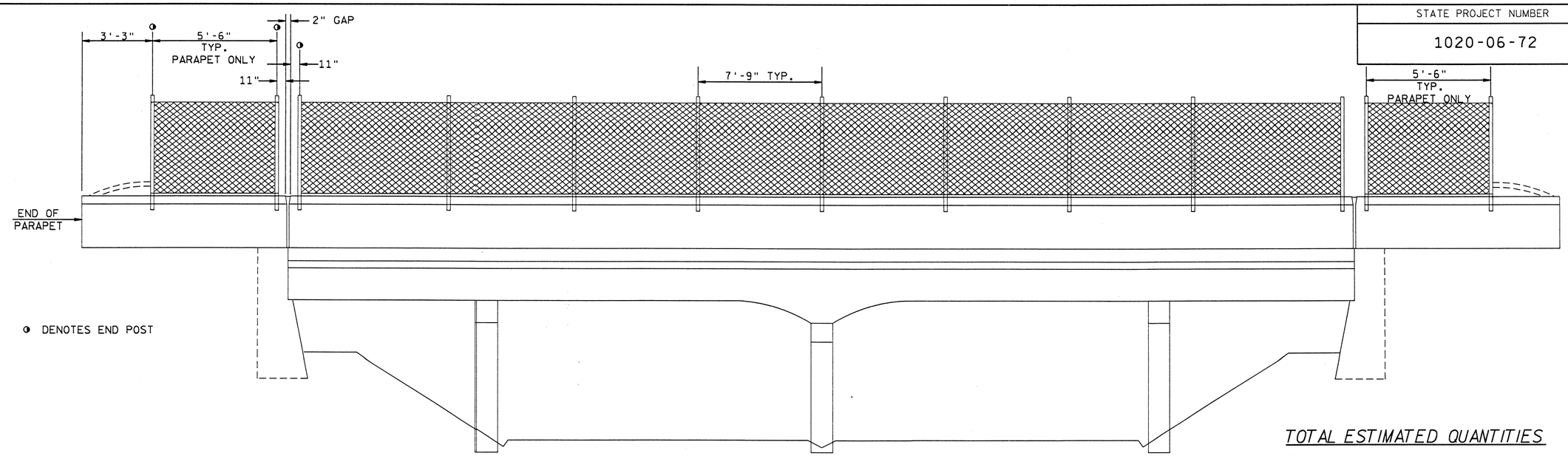
SHEET 3 OF 3

X 72484

B-18-35/

TYPE CODE = X

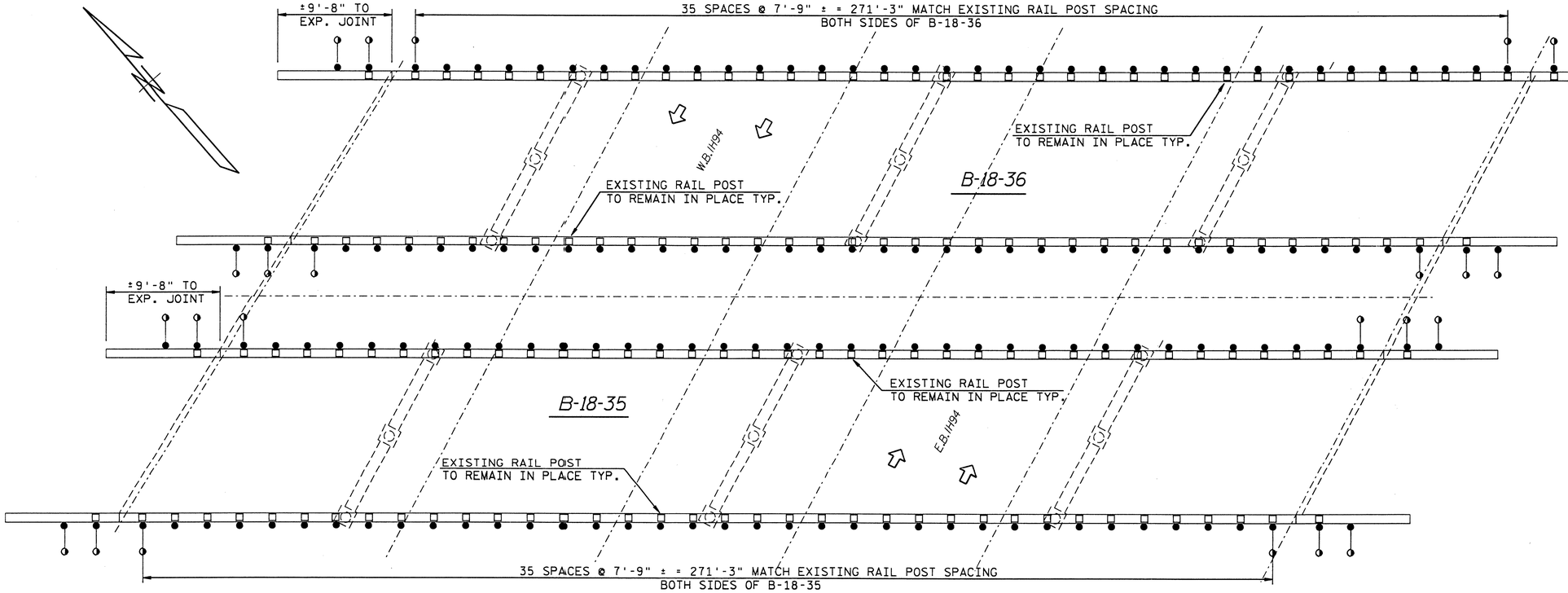
STATE PROJECT NUMBER	SHEET NO.
1020-06-72	8.0



ELEVATION

TOTAL ESTIMATED QUANTITIES

BID ITEM	B-18-35	B-18-36
CHAIN LINK FENCE, 8 FT.	549	549
CONC. MASONRY ANCHORS, TYPE S, ¾-IN.	160	160



PLAN

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
CONTRACTOR SHALL VERIFY DIMENSIONS IN FIELD.
COLOR OF VINYL COATED FENCING SYSTEM SHALL BE BLACK.

LIST OF DRAWINGS

1. FENCE DETAILS
2. DETAILS
3. DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-18-35/36

U.S.H. 53 OVER I.H. 94

COUNTY	TOWN/CITY/VILLAGE
EAU CLAIRE	WASHINGTON

DESIGN SPEC.	LOAD	CONST. SPEC.
AASHTO 1990	——	1989

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
		DIST.6	

APPROVED H.H. Anderson STATE BRIDGE ENGINEER — 12-21-95 DATE

OVERPASS FENCE DETAILS

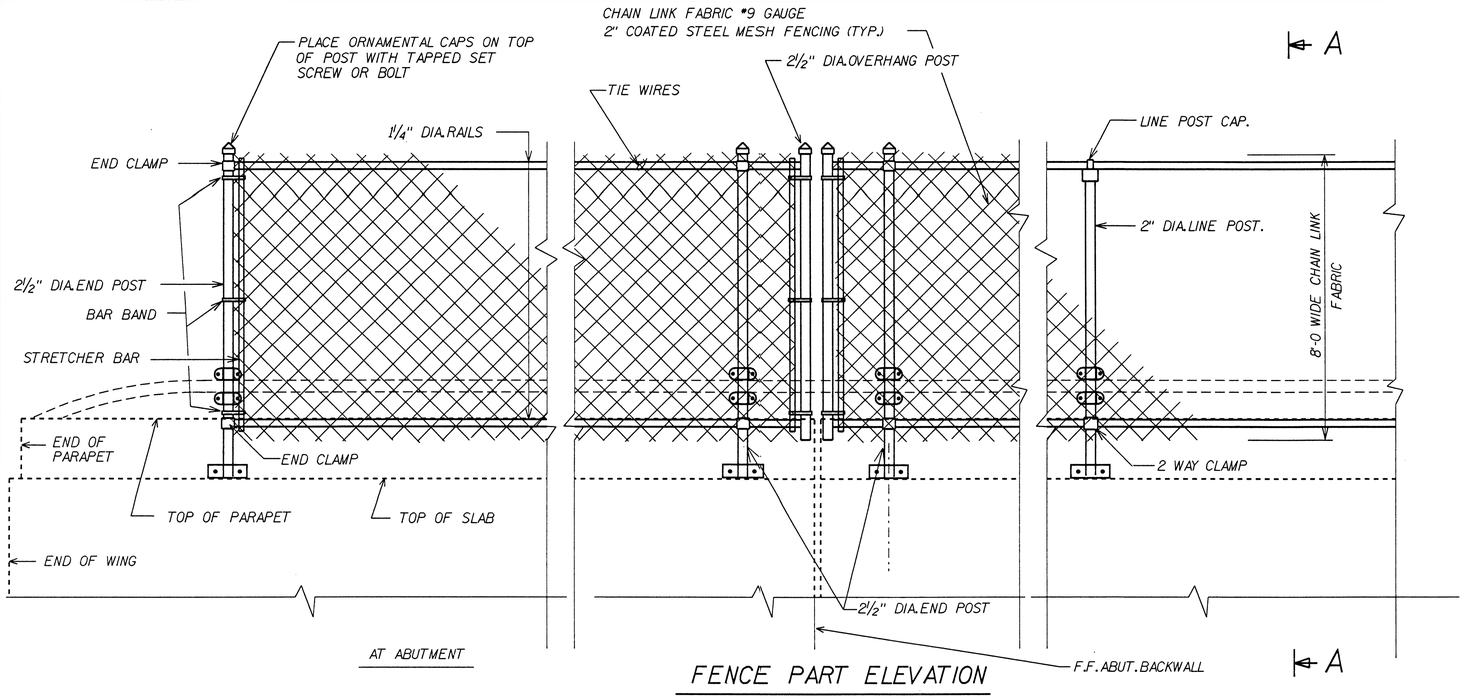
SHEET 1 OF 3

DATE: 6-23-94

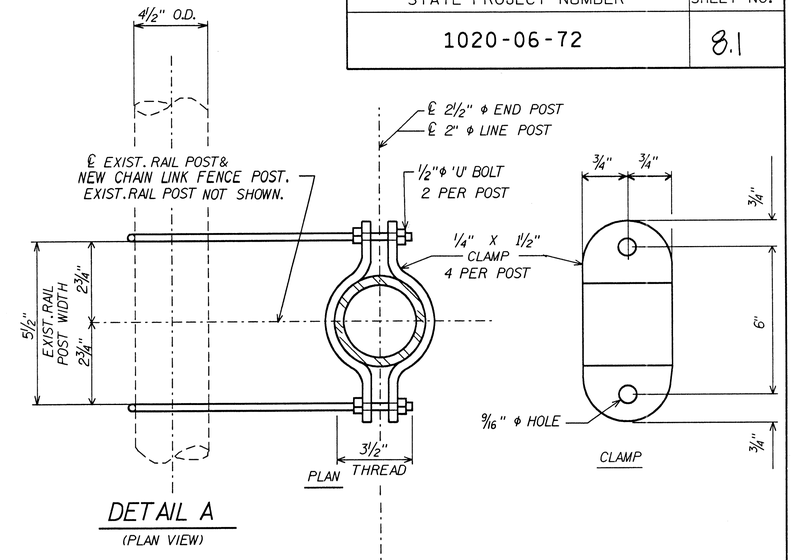
D6_10200601:OVERDET.DGN
PENS:IP_PENWTS
3-30-95 AJE

PAGE 1

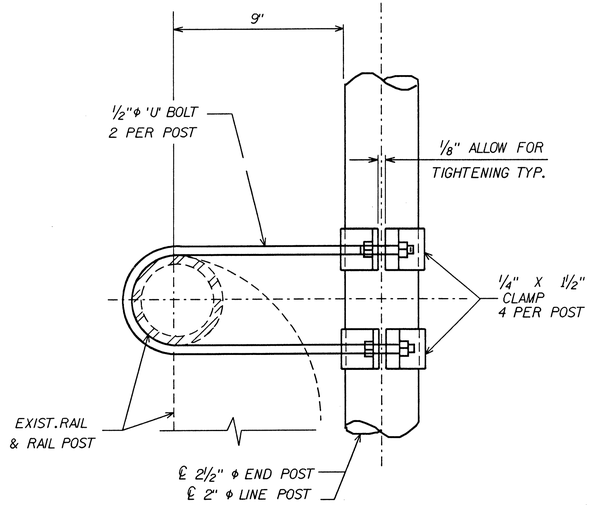
STATE PROJECT NUMBER	SHEET NO.
1020-06-72	8.1



FENCE PART ELEVATION



DETAIL A
(PLAN VIEW)



ELEVATION AT CLAMP CONN.

FENCING NOTES

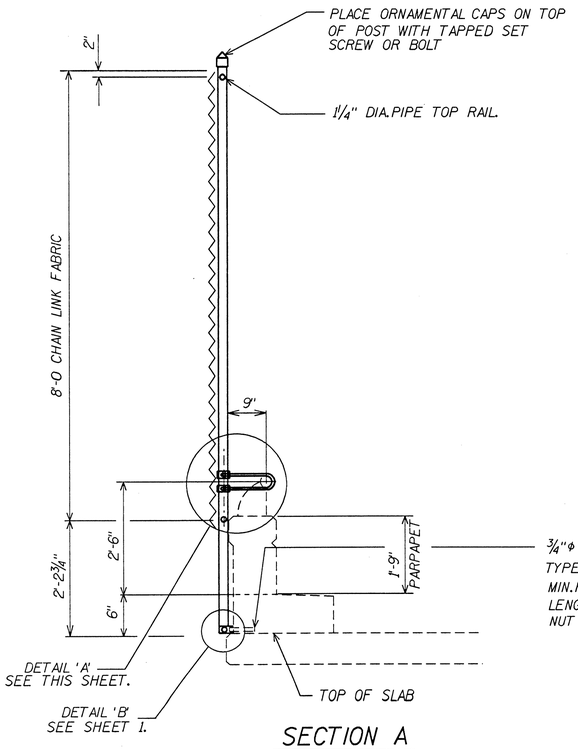
ALL RAILS AND POSTS ARE STANDARD GALVANIZED STEEL PIPE.

ALL POSTS SHALL BE SET VERTICAL.

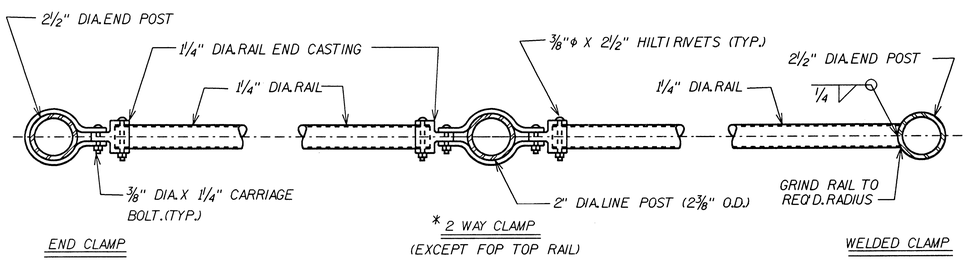
KNUCKLE TOP AND BOTTOM OF 2" MESH CHAIN LINK FENCING.

ALL FENCING BAR BANDS, STRETCHER BARS, & CLAMPS ARE TO BE GALVANIZED STEEL (GRADE 1) & COLOR COATED TO MATCH FENCE.

CHAIN LINK FENCE SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O.M-181 TYPE IV. CLASS B ANY SPECIFICATION IN 616.2.3 THAT CONFLICTS WITH A.A.S.H.T.O.M-181 SHALL NOT APPLY. FENCE MATERIAL SHALL BE COATED BLACK.



SECTION A



PLAN OF RAILING

NOTE: PLACE ALL NUTS ON OUTSIDE OF FENCE

* ALTERNATE BOULEVARD 2-WAY CLAMP MAY BE USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-18-35/ 36

CONST. SPEC. 1989	DRAWN BY BUDD	PLANS CK'D. DRG

OVERPASS FENCE DETAILS

SHEET 2 OF 3

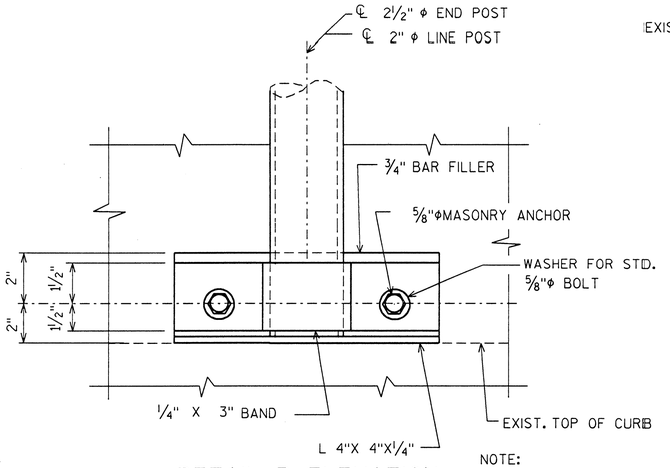
D6_10200601:OVERDET.DGN
PENS:IP_PENWTS
3-29-95 AJE

PAGE 2

42CHAIN.DGN AS=5.33333

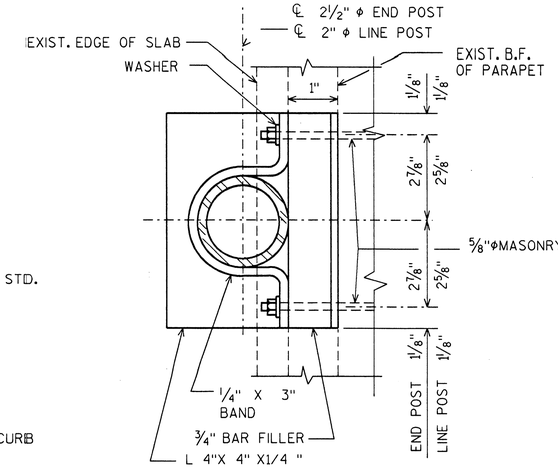
REVISED 6/23/94 - DIST.6 - LJH

STATE PROJECT NUMBER	SHEET NO.
1020-06-72	8.2

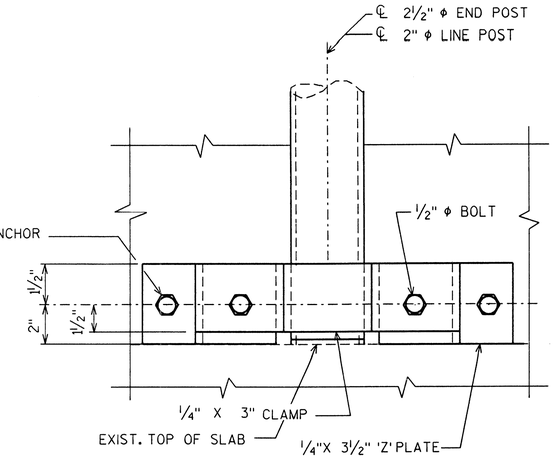


DETAIL B ELEVATION

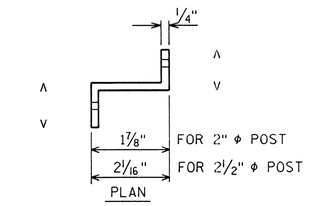
NOTE:
ANGLE & FILLER BAR SHALL BE GALVANIZED.



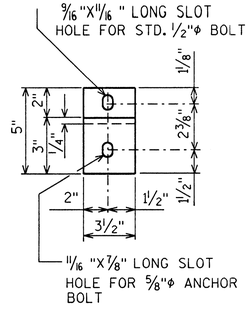
DETAIL B PLAN



DETAIL B ALTERNATE ELEVATION

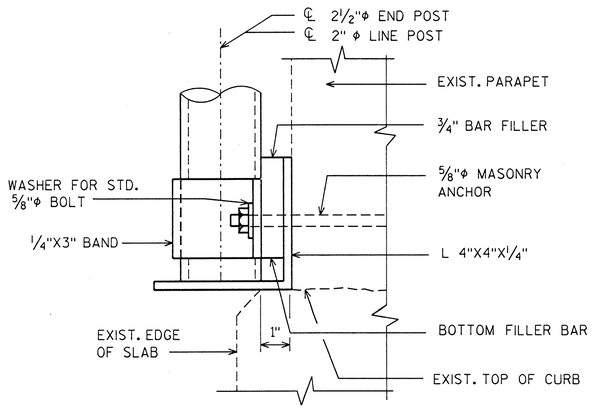


PLAN

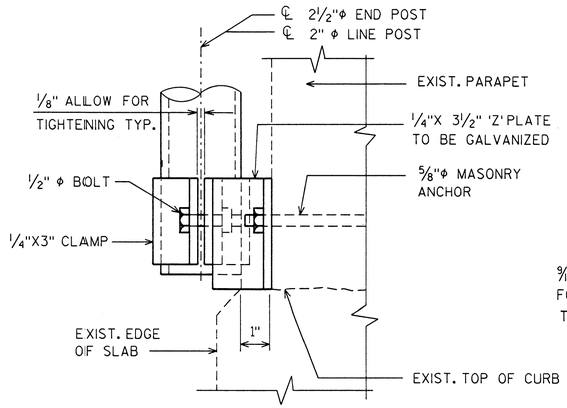


ELEVATION

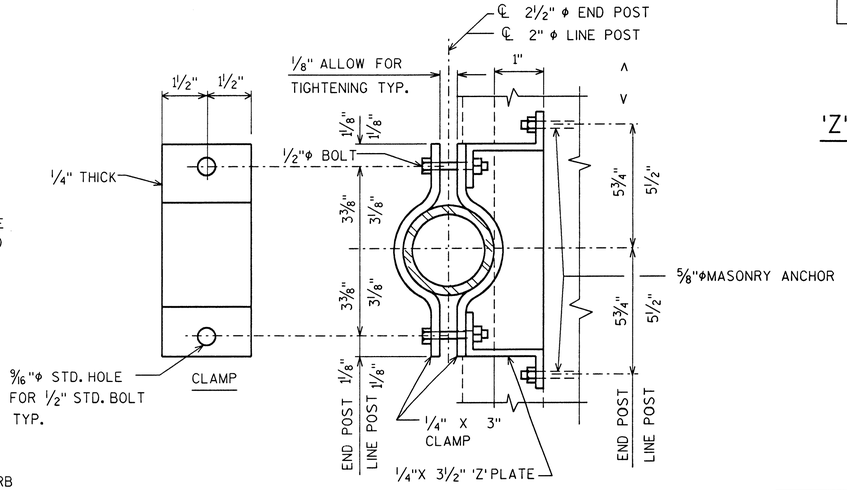
'Z' PLATE DETAIL



DETAIL B



DETAIL B ALTERNATE



DETAIL B ALTERNATE PLAN

NOTE: PLACE ALL NUTS ON OUTSIDE OF FENCE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-18-35/36

CONST. SPEC. 1989	DRAWN BY BUDD	PLANS CK'D. DRG

OVERPASS FENCE DETAILS

SHEET 3 OF 3

D6_10200601:OVERDET.DGN
PENS:IP_PENWTS
3-29-95 AJE

PAGE 3

AS=5.33333

CREATED 6/23/94 - DIST.6 - LJH

EAU JUL 10

PROJECT ID: 1022-00-78, 1022-01-73

JANE ENGLEBRETSEN

COUNTY: EAU CLAIRE

ORDER OF SHEETS

TOTAL SHEETS = 242

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

EAU CLAIRE - OSSEO ROAD

USH 53 SOUTH BOUND B-18-0035

USH 53

EAU CLAIRE COUNTY

STATE PROJECT NUMBER
1022-00-78

USH 53 NORTH BOUND B-18-0036

USH 53

EAU CLAIRE COUNTY

STATE PROJECT NUMBER
1022-01-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1022-00-78	WISC 2010692	1
1022-01-73	WISC 2010693	1

AS-BUILT PLAN

PROJECT ENGINEER: BRIAN DANIELSEN, P.E. QUEST CIVIL ENGINEERS

PRIME CONTRACTOR: ZENITH TECH INC.

BEGIN CONSTRUCTION: 9/7/10

END CONSTRUCTION: 12/9/11

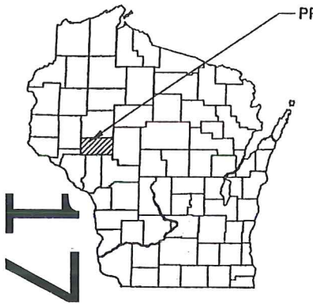
FINAL CONTRACT COST: $3,868,486.25

CONTRACT MOD #'S: 14 – $355,578.18

CONTRACT ID: 20100713017

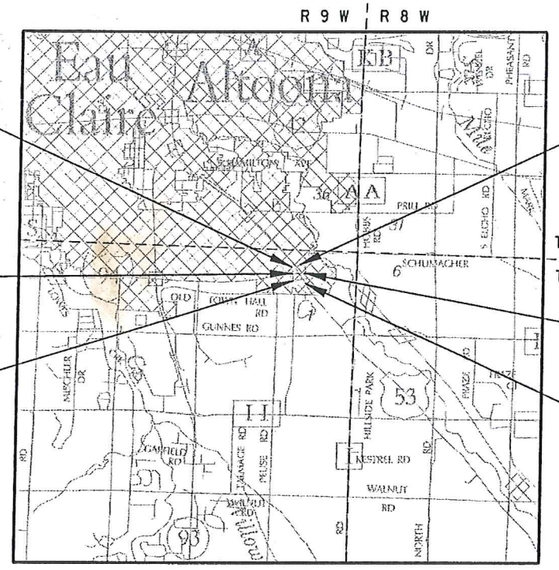
3/10/14

PROJECT LOCATION



N

END PROJECT 1022-00-78
STA 41+00.00



END PROJECT 1022-01-73
STA 43+70.00

STRUCTURE B-18-35 SB
STA 38+00 SB

STRUCTURE B-18-36 NB
STA 40+00 NB

BEGIN PROJECT 1022-00-78
STA 33+75.00
Y = 262226.368
X = 359571.148

BEGIN PROJECT 1022-01-73
STA 36+40.00
Y = 262233.524
X = 359637.700

DESIGN DESIGNATION

		(USH 53)	(I-94)
A.A.D.T. 2008	=	22,900	25,350
A.A.D.T. 2031	=	31,400	39,300
D.H.V.	=	N/A	N/A
D.D.	=	58/42	58/42
T.	=	5.4%	N/A
DESIGN SPEED	=	60 M.P.H.	70 M.P.H.
ESALS	=	N/A	N/A

CONVENTIONAL SYMBOLS

COUNTY LINE
CORPORATE LIMITS
PROPERTY LINE (P.L. + 58.1)
LOT LINE
LIMITED EASEMENT
EARTHWORK BALANCE POINT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
SURVEY LINE
SLOPE INTERCEPT
ORIGINAL GROUND
MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
MARSH AREA
WOODED OR SHRUB AREA

COMBUSTIBLE FLUIDS (CAUTION)
UNDERGROUND UTILITIES
GAS (G)
ELECTRIC (E)
TELEPHONE OR TELEGRAPH (T)
TV/CABLE (TV)
SERVICE PEDESTAL
POWER POLE
TELEPHONE POLE
RAILROAD
SANITARY SEWER (SAN)
STORM SEWER (SS)
WATER (W)
EXISTING CULVERT
PROPOSED CULVERT (Box or Pipe)
CULVERT (Profile View)

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.14 MI. 1022-00-78
0.14 MI. 1022-01-73

Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Eau Claire County.

ORIGINAL PLANS PREPARED BY:

SEH

1/27/2010

GREGORY L. WEYANDT 32579 CHIPPEWA FALLS, WI PROFESSIONAL ENGINEER

242

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH
Designer	SEH
Project Manager	STACEY RUSCH
District Examiner	DAMEL OJIBWAY
District Supervisor	RICHARD SHERMO
C.O. Examiner	JANE ENGLEBRETSEN

APPROVED FOR DISTRICT OFFICE

DATE: 1/28/10 (Signature)

EAU JUL 10

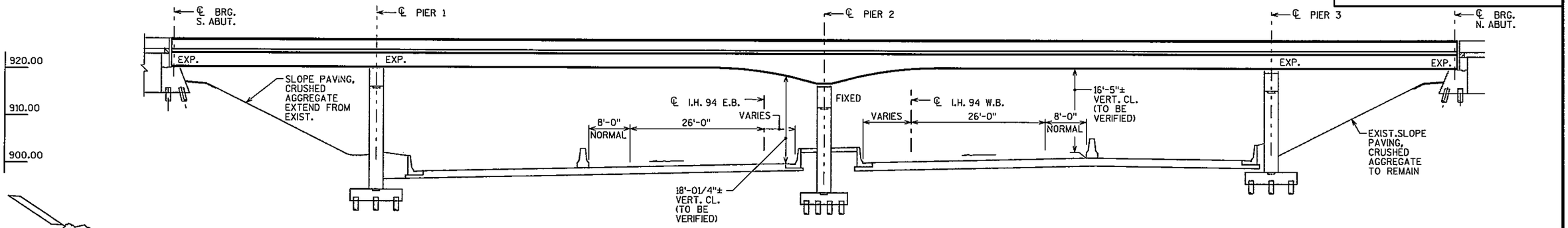
WISC 2010693

WISC 2010692

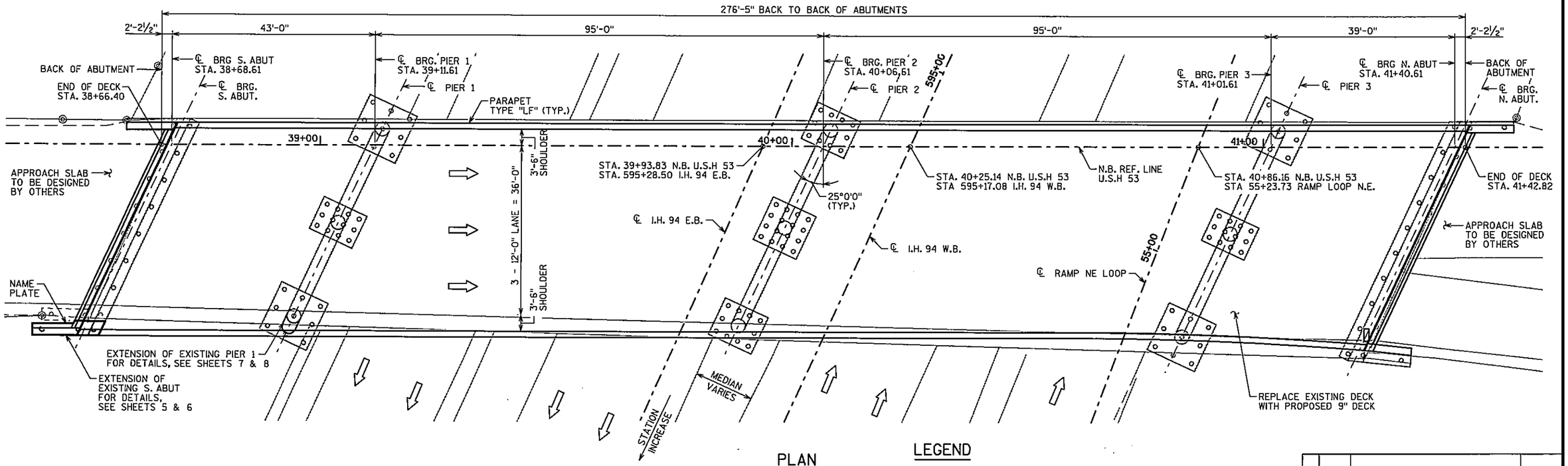
FILE NAME : p:\uz\w\wldot\101667\cad\ttlh9401.dgn PLOT DATE : 1/27/2010 PLOT TIME: 11:02:08 PM PLOT BY : SEH PLOT NAME : PLOT SCALE : N/A

WISDOT/CADDS SHEET 10

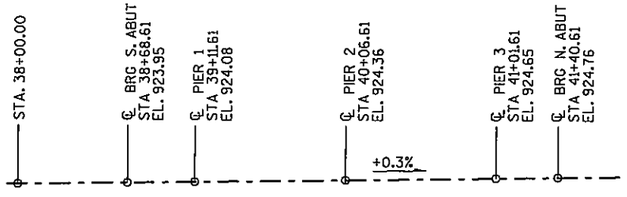
STATE PROJECT NUMBER
1022-01-73



ELEVATION



PLAN



U.S.H 53 GRADE LINE

INDEX OF SHEETS

LEGEND

——— EXISTING TO REMAIN

- - - - EXISTING TO BE REMOVED

——— PROPOSED

WISCONSIN
TONY F. SHKURTI
36819-006
MILWAUKEE, WI
PROFESSIONAL ENGINEER

STRUCTURES DESIGN CONTACTS
BRIDGE OFFICE:
MICHAEL WILLIAMS (608) 266-5089
CONSULTANT:
TONY SHKURTI (312) 930-9119

1/28/2010

HNTB
HNTB CORPORATION
111 NORTH CANAL STREET
SUITE 1250
CHICAGO, IL 60606
(312) 930-9119

NO.	DATE	REVISION	BY

Plans Prepared For WISDOT
BUREAU OF STRUCTURES

APPROVED William C. Dreher MGW 4/21/10
CHIEF STRUCTURAL DESIGN ENGINEER DATE

B-18-36

USH 53 OVER IH-94

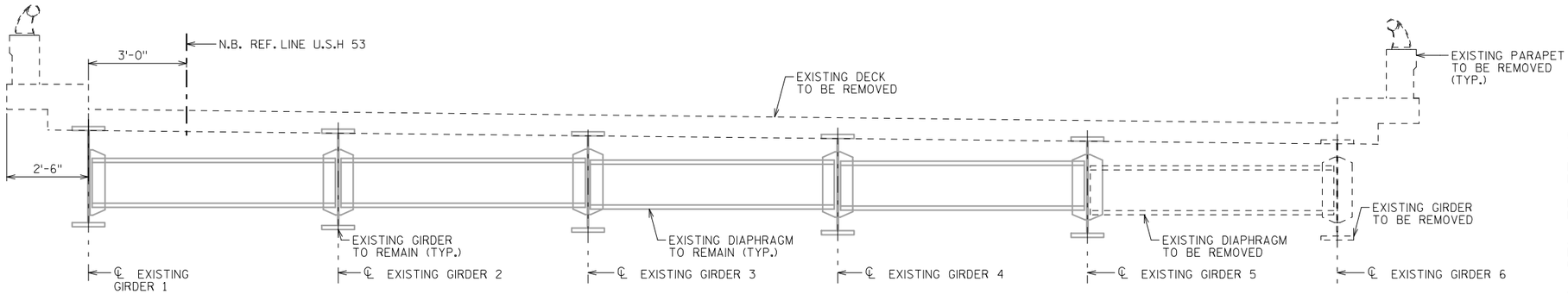
COUNTY EAU CLAIRE		~~TOWN/CITY/VILLAGE~~ EAU CLAIRE	
DESIGN SPEC. AASHTO STD SPEC. 2002		LOAD	CONST. SPEC. 2010
DESIGNED BY MX	DESIGN CK'D. KGN	DRAWN BY LK	PLANS CK'D. SL

GENERAL PLAN AND ELEVATION

SHEET 1 OF 24
175
JAN-28-2010

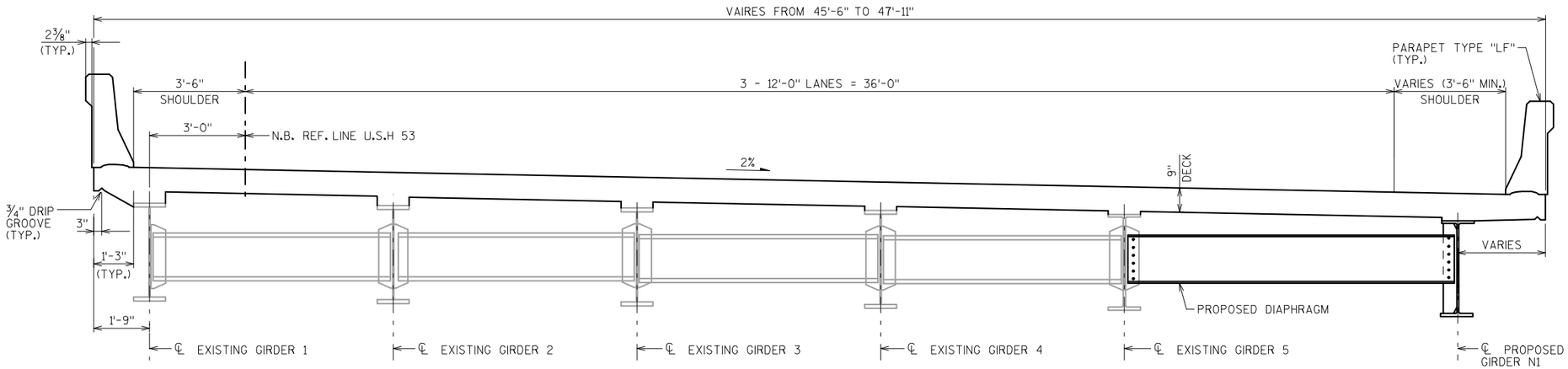
STATE PROJECT NUMBER

1022-01-73



TYPICAL CROSS SECTION THRU ROADWAY

(EXISTING, LOOKING UPSTATION)



TYPICAL CROSS SECTION THRU ROADWAY

(PROPOSED, LOOKING UPSTATION)

ESTIMATE OF QUANTITIES

BID ITEMS	UNIT	SUPER.	S. ABUT.	PIER 1	PIER 2	PIER 3	N. ABUT.	TOTAL
REMOVING OLD STRUCTURE (STA 39+93.83)	LS							1
EXCAVATION FOR STRUCTURES BRIDGES (B-18-36)	LS							1
BACKFILL STRUCTURE	CY		2					2
CONCRETE MASONRY BRIDGES	CY	442	27	6			25	500
EXPANSION DEVICE (B-18-36)	LS							1
PROTECTIVE SURFACE TREATMENT	SY	1,536	7				7	1550
MASONRY ANCHORS TYPE L NO.4 BARS	EACH		31	105		14	67	217
MASONRY ANCHORS TYPE L NO.5 BARS	EACH		8	11				19
MASONRY ANCHORS TYPE L NO.7 BARS	EACH		8					8
BAR STEEL REINFORCEMENT HS BRIDGES	LB		360					360
BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	99,850	2,310	1,370		30	2,590	106150
STRUCTURAL STEEL HS	LB	66,900						66900
STRUCTURAL STEEL CARBON	LB	6,980						6980
WELDED STUD SHEAR CONNECTOR 7/8X6-INCH	EACH	2,100						2100
BEARING ASSEMBLIES FIXED (B-18-36)	EACH				1			1
BEARING ASSEMBLIES EXPANSION (B-18-36)	EACH		1	1		1	1	4
CONCRETE SURFACE REPAIR	SF		25	30	12	20	25	112
PILING CIP CONCRETE DELIVERED AND DRIVEN 10 3/4 X 0.219-INCH	LF		150					150
RUBBERIZED MEMBRANE WATERPROOFING	SY		28				26	54
PAINTING INORGANIC ZINC RICH PRIMER (B-18-36)	LS							1
SLOPE PAVING, CRUSHED AGGREGATE	SY		22					22
ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH		2				2	4
FIBER WRAP PIER REINFORCING (B-18-36)	LS							1
PREPARATION AND COATING OF TOP FLANGES (B-18-36)	LS							1
EPOXY CRACK SEALING	LF		10				10	20

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED. DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

BAR STEEL REINFORCEMENT SHALL BE EMBEDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL FIELD CONNECTIONS SHALL BE MADE WITH ¾" DIAMETER FRICTION TYPE HIGH-TENSILE STRENGTH BOLTS UNLESS OTHERWISE SHOWN OR NOTED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

ALL REINFORCING BARS ARE ENGLISH AND THE FIRST DIGITS OF BAR MARK SIGNIFY THE BAR SIZE.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE FINISHED GRADED SECTION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE ABUTMENTS SHALL BE THE BOTTOM OF SLOPE PROTECTION.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH GRANULAR BACKFILL.

USE EXISTING BAR STEEL REINFORCING WHERE SHOWN AND EXTEND INTO NEW WORK. EXTEND BARS TO PROVIDE A MINIMUM LAP LENGTH OF 2'-0" UNLESS OTHERWISE NOTED

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE".

CLEAN AND FILL EXISTING LONGITUDINAL AND TRANSVERSE CRACKS WITH PENETRATING EPOXY AS DIRECTED BY THE FIELD ENGINEER.

APPLY PROTECTIVE SURFACE TREATMENT TO THE NEW DECK AND TOP & INSIDE FACES OF THE NEW PARAPETS.

SPECIFICATIONS

1. AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SEVENTEENTH EDITION, 2002.
2. LATEST EDITION OF WISCONSIN BRIDGE MANUAL, WISCONSIN DEPARTMENT OF TRANSPORTATION.
3. WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION 2010 EDITION.

DESIGN DATA

LIVE LOAD = HS-25
INVENTORY RATING = HS-15.6
OPERATIONAL RATING = HS-26
ULTIMATE DESIGN STRESSES:
SLAB & PARAPET: F'C=4000 PSI
ALL OTHERS: F'C=3500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60): FY=60,000 PSI
HIGH STRENGTH STRUCTURE STEEL ASTM A 709 GRADE 50: FY=50,000 PSI
STRUCTURAL CARBON STEEL ASTM A709 GRADE 36: FY=36,000 PSI
HIGH STRENGTH BOLT: ASTM A325 TYPE 1

FOUNDATION DATA

THE EXTENSION OF ABUTMENT TO BE SUPPORTED ON 10¾-IN DIAMETER CAST-IN-PLACE PILES DRIVEN TO A CAPACITY OF 20 TONS/PILE WITH ESTIMATED PILE LENGTH OF 50 FEET.

LEGEND

——— EXISTING TO REMAIN
– – – – EXISTING TO BE REMOVED
——— PROPOSED

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY MMK | PLANS CK'D. SL

TYPICAL SECTION, DESIGN DATA & QUANTITIES

SHEET 2 OF 24
176
JAN-28-2010

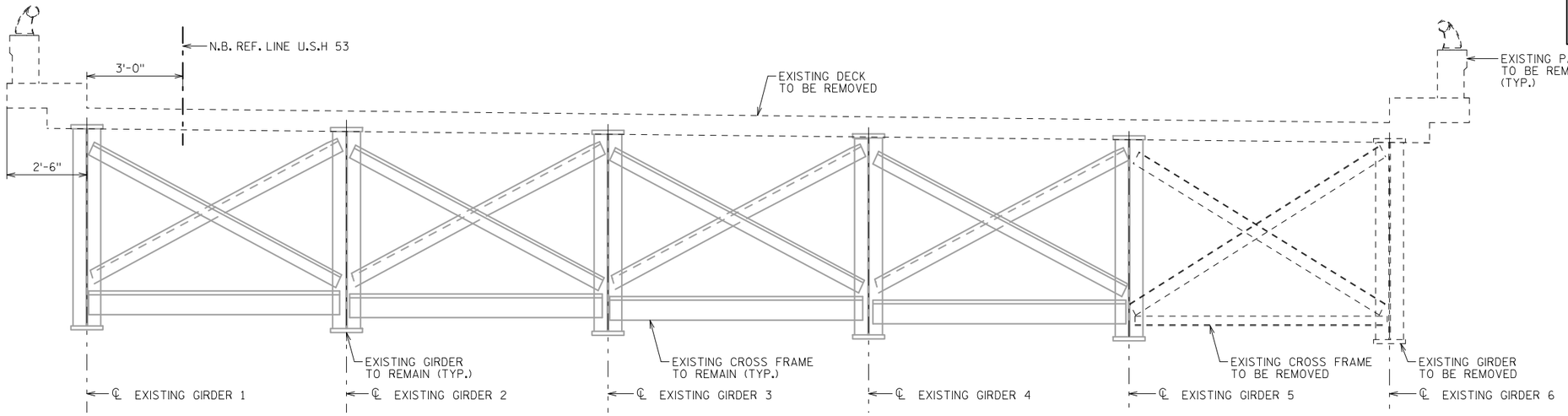
HNTB

SCALE =

8

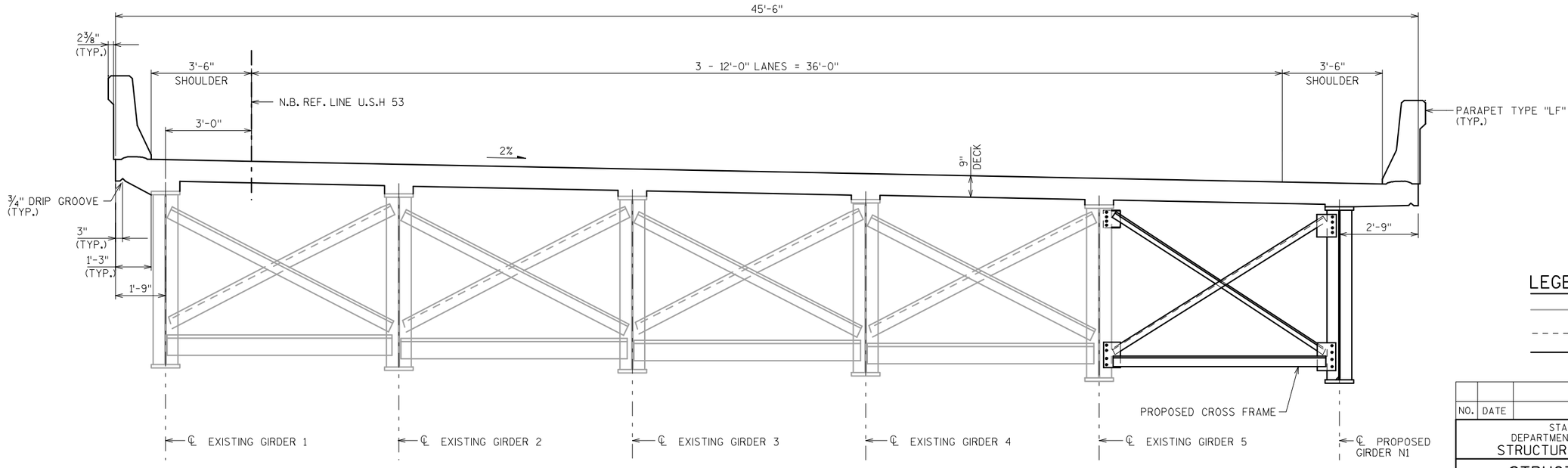
8

STATE PROJECT NUMBER
1022-01-73



CROSS SECTION THRU ROADWAY AT PIER 2

(EXISTING, LOOKING UPSTATION)



CROSS SECTION THRU ROADWAY AT PIER 2

(PROPOSED, LOOKING UPSTATION)

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- PROPOSED

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY MMK	PLANS CK'D. MX

HNTB

CROSS SECTION AT PIER 2

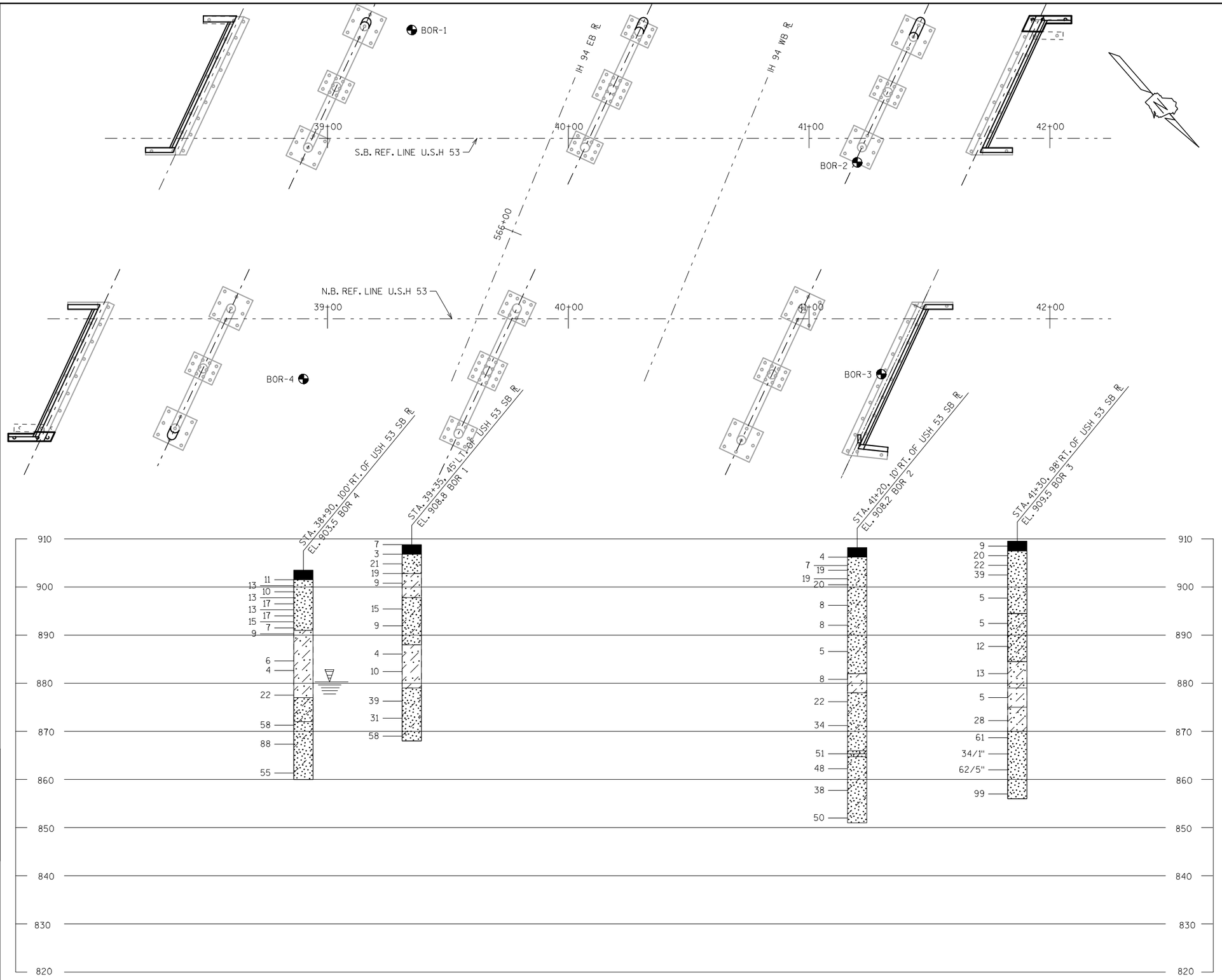
SHEET 3 OF 24
177
JAN-28-2010

SCALE =

\\chiw00\projects\50206\CADD\cds\new 36\50206_B1836_3crosssectionpier2.dgn
28-JAN-2010 07:53
PLOTTED BY: Ikaita

8

8



\\chrw00\projects\50206\CADD\cds\new 36502006_B1836_4subexpl.dgn
28-JAN-2010 07:53
PLOTTED BY:

8

STATE PROJECT NUMBER

1022-01-73

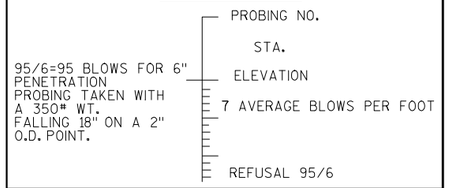
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

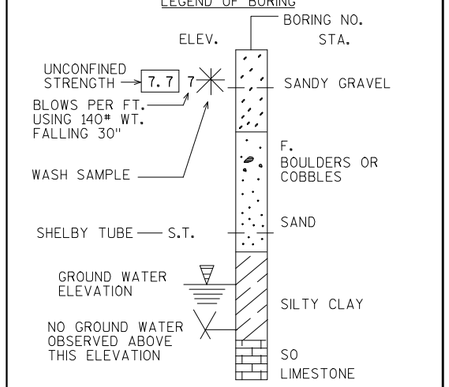
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



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 WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

CONST. SPEC. 2010	DRAWN BY PR	PLANS CK'D.

SUBSURFACE EXPLORATION

SHEET 4 OF 26
178
JAN-28-2010

SCALE = -

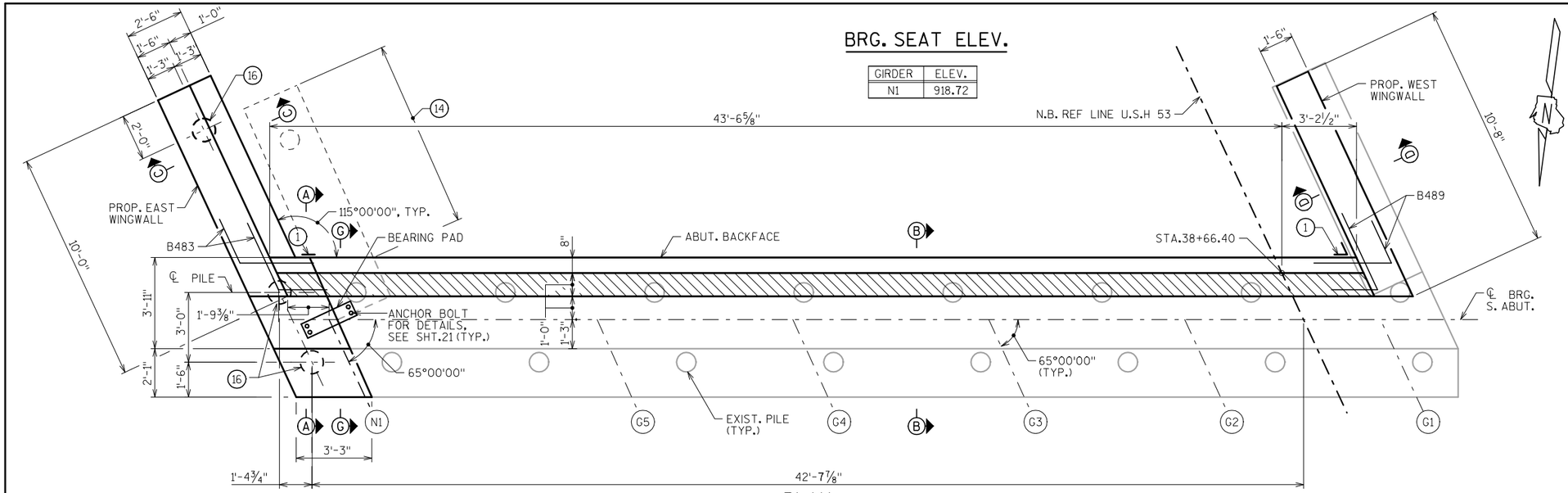
\\dtlw00\projects\50206\CADD\dots\new 36502O6_B1836_5sabut1.dgn
28-JAN-2010 07:53
PLOTTED BY: kaita

STATE PROJECT NUMBER

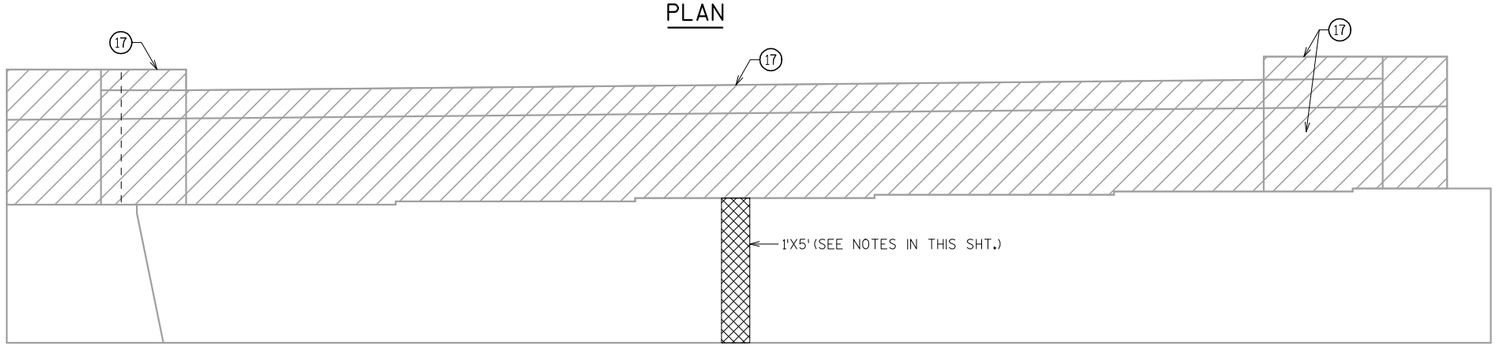
1022-01-73

BRG. SEAT ELEV.

GIRDER	ELEV.
N1	918.72



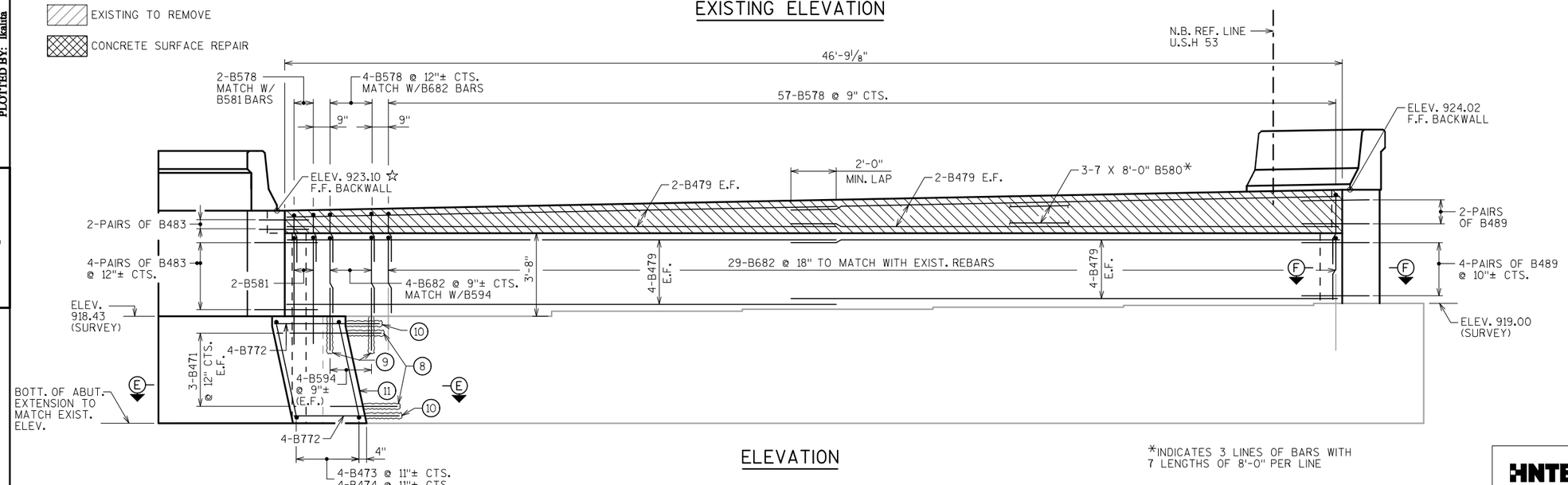
PLAN



LEGEND

- EXISTING TO REMAIN
- PROPOSED
- EXISTING TO REMOVE
- CONCRETE SURFACE REPAIR

EXISTING ELEVATION



ELEVATION

*INDICATES 3 LINES OF BARS WITH 7 LENGTHS OF 8'-0" PER LINE

NOTES:

WORK THIS SHEET WITH SHEET 6, 11 & 12.

FOR SECT. A-A, SECT. B-B, SECT. C-C, SECT. D-D, SECT. E-E, SECT. F-F AND SECT. G-G, SEE SHEET 6.

(1) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ & VERT JTS ON BACK FACE ABOVE FOOTING

(2) OPTIONAL CONST JT: KEYWAY FORMED BY A BEVELED 2 X 6

(8) CONCRETE MASONRY ANCHOR, TYPE L, NO. 4 BAR, EMBED 1'-0".

(9) CONCRETE MASONRY ANCHOR, TYPE L, NO. 5 BAR, EMBED 1'-0".

(10) CONCRETE MASONRY ANCHOR, TYPE L, NO.7 BAR, EMBED 1'-8".

(11) ROUGHEN SURFACE OF EXISTING CONCRETE ¼" DEEP MIN. ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.

(12) PRESERVE AND INCORPORATE EXISTING REBARS. IF AN EXISTING REBAR IS DAMAGED, REPLACE WITH A NEW BAR TO MATCH THE EXISTING.

(14) REMOVE EXIST. WINGWALLS A MIN. OF 2'-0" BELOW FINISHED GRADE.

(16) PROPOSED PILE. SEE "FOUNDATION NOTES" ON SHT. 2.

(17) REMOVE EXIST. BACKWALL & WINGWALL, PRESERVE AND INCORPORATE EXIST. REBARS FOR NEW BACKWALL. CUT EXIST. REBARS ON THE WINGWALL.

☆ ELEV. AT F.F. ABUT. BACKWALL AND GUTTER LINE.

THE AMOUNT OF CONCRETE SURFACE REPAIRS SHOWN IS ONLY AN ESTIMATE BASED ON 2008 FIELD INSPECTION, AND IS SHOWN FOR BIDDING PURPOSE ONLY. THE CONTRACTOR SHALL VERIFY THE EXTENT OF THESE REPAIRS IN AGREEMENT WITH THE ENGINEER.

THE AMOUNT OF EPOXY CRACKING SEALING IS NOT SHOWN AND WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY LK	PLANS CK'D. MX

SOUTH ABUTMENT 1

SHEET 5 OF 24
179
JAN-28-2010

HNTB

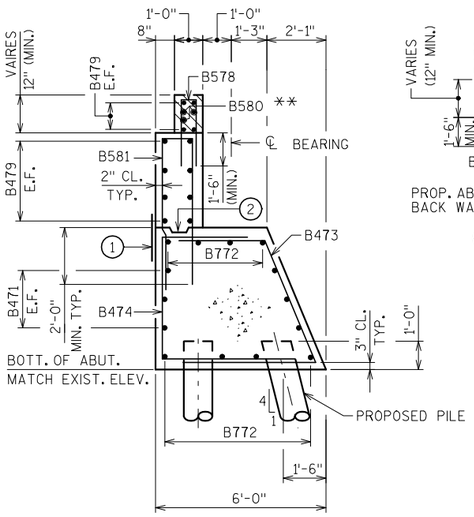
SCALE =

8

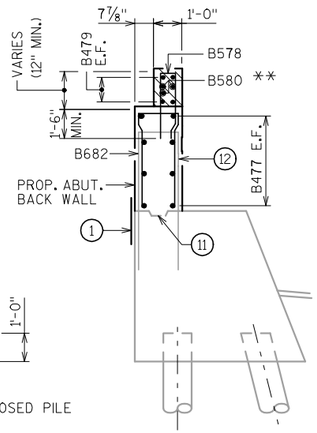
8

STATE PROJECT NUMBER

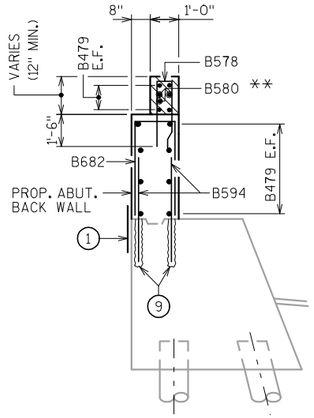
1022-01-73



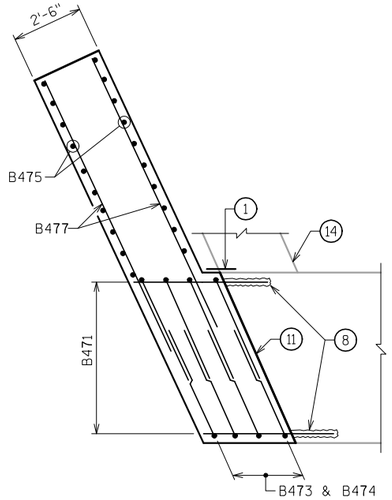
SECTION A-A



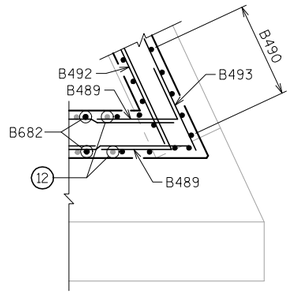
SECTION B-B



SECTION G-G



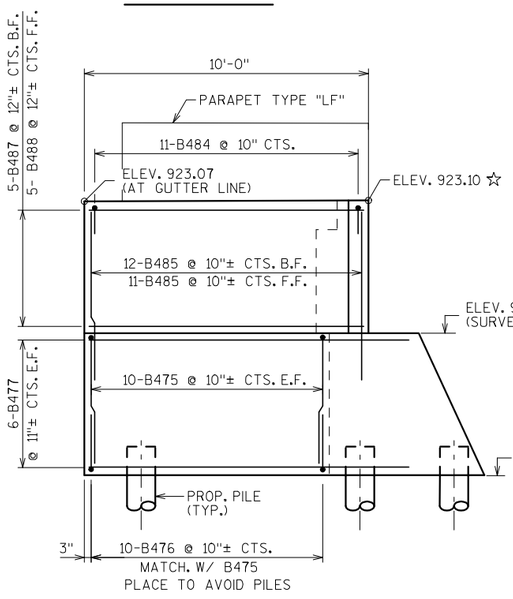
SECTION E-E



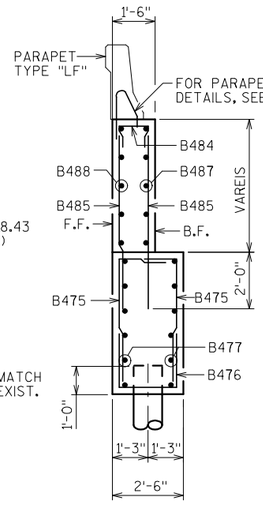
SECTION F-F

SOUTH ABUTMENT BILL OF BARS

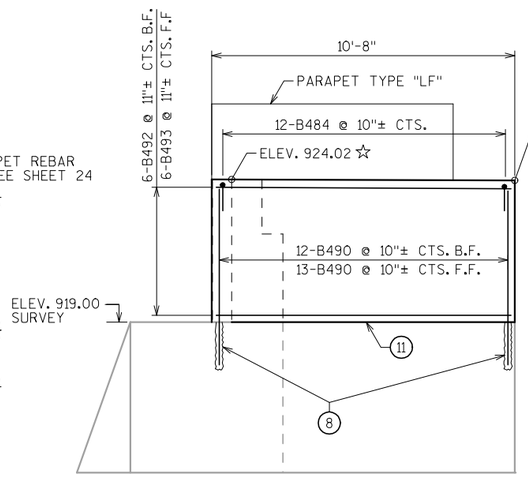
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B471		6	4'-0"			ABUTMENT CAP EXTENSION HORIZ.
B772		8	4'-8"			ABUTMENT CAP EXTENSION HORIZ.
B473		4	12'-7"	X		ABUTMENT CAP EXTENSION VERT.
B474		4	12'-2"	X		ABUTMENT CAP EXTENSION VERT.
B475		20	6'-6"	X		EAST WINGWALL CAP VERT.
B476		10	3'-8"	X		EAST WINGWALL CAP VERT.
B477		12	11'-3"			EAST WINGWALL CAP HORIZ.
B578	X	63	7'-2"	X		BACKWALL & PAVING BLOCK HORIZ.
B479	X	24	24'-6"			PAVING BLOCK HORIZ.
B580	X	21	8'-0"			PAVING BLOCK HORIZ.
B581	X	2	11'-10"	X		BACKWALL VERT.
B682	X	33	7'-2"	X		BACKWALL VERT.
B483	X	12	5'-3"	X		EAST WINGWALL, BACKWALL HORIZ.
B484	X	23	2'-10"	X		EAST & WEST WINGWALL VERT.
B485	X	23	6'-5"			EAST WINGWALL VERT.
B487	X	5	9'-6"			EAST WINGWALL HORIZ.
B488	X	5	9'-0"			EAST WINGWALL HORIZ.
B489	X	12	5'-4"	X		WEST WINGWALL, BACKWALL HORIZ.
B490	X	25	5'-10"			WEST WINGWALL VERT.
B492	X	6	9'-8"			WEST WINGWALL HORIZ.
B493	X	6	10'-2"			WEST WINGWALL HORIZ.
B594	X	8	3'-2"			BACKWALL VERT.



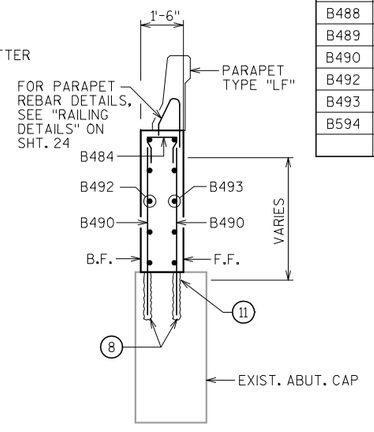
EAST WINGWALL



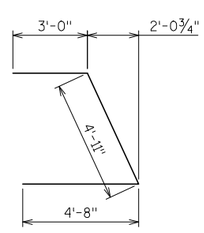
SECTION C-C



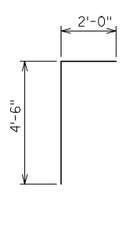
WEST WINGWALL



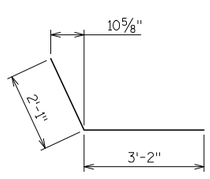
SECTION D-D



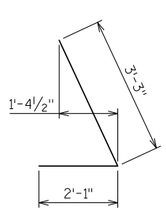
B473



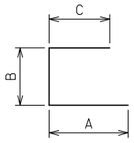
B475



B483



B489



MARK	A	B	C
B474	4'-8"	4'-6"	3'-0"
B476	0'-10"	2'-0"	0'-10"
B578	3'-3"	0'-8"	3'-3"
B581	5'-3"	1'-4"	5'-3"
B682	2'-11"	1'-4"	2'-11"
B484	0-10"	1'-2"	0'-10"

B474, B476, B578, B581, B682 & B484

NOTES:

WORK THIS SHEET WITH SHEET 5.

UNDER THE BID ITEMS "MASONRY ANCHORS TYPE L", ANCHORED REINFORCING STEEL SHALL BE PAID FOR SEPARATELY AS PROVIDED IN SECTION 505 OF THE STANDARD SPECIFICATIONS FOR BAR STEEL REINFORCEMENT.

** SET WITH EXPANSION JOINT PLATE, FOR MORE INFORMATION, SEE SHTS. 5 & 22.

LEGEND

EXISTING TO REMAIN

PROPOSED

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY LK | PLANS CK'D. MX

SOUTH ABUTMENT 2

SHEET 6 OF 24
180
JAN-28-2010

HNTB

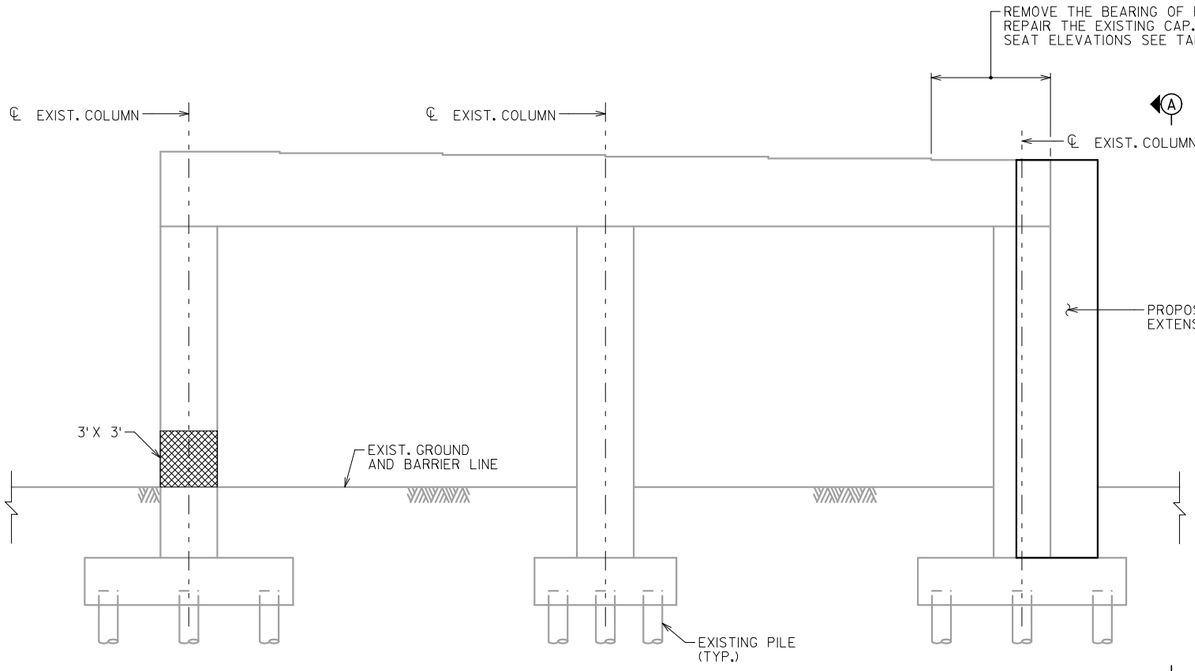
\\dtiw00\projects\50206\CADD\cds\new 36\50206_B1836_6sabut2.dgn
28-JAN-2010 07:53
PLOTTED BY: lkalita

8

8

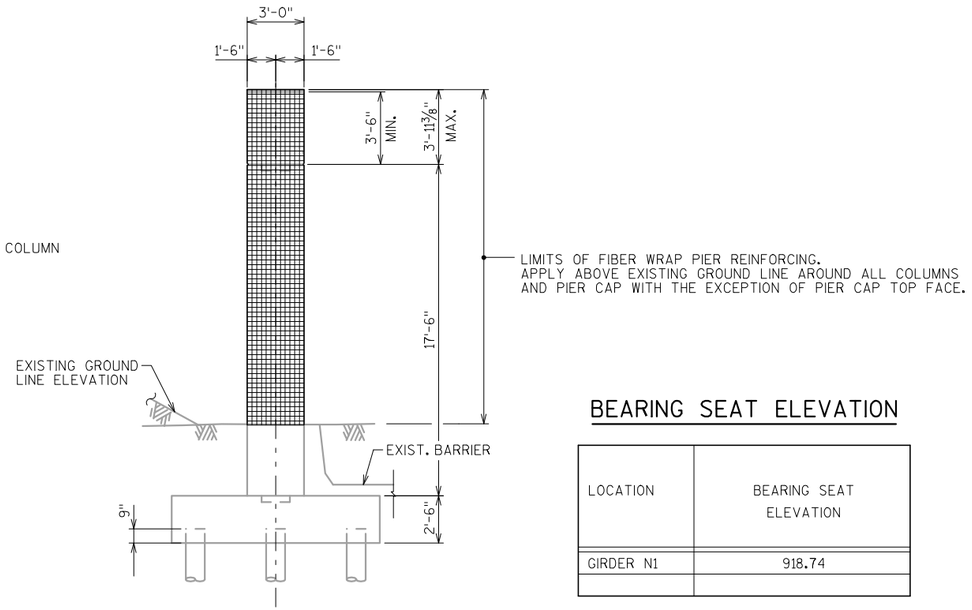
SCALE =

STATE PROJECT NUMBER
1022-01-73



ELEVATION

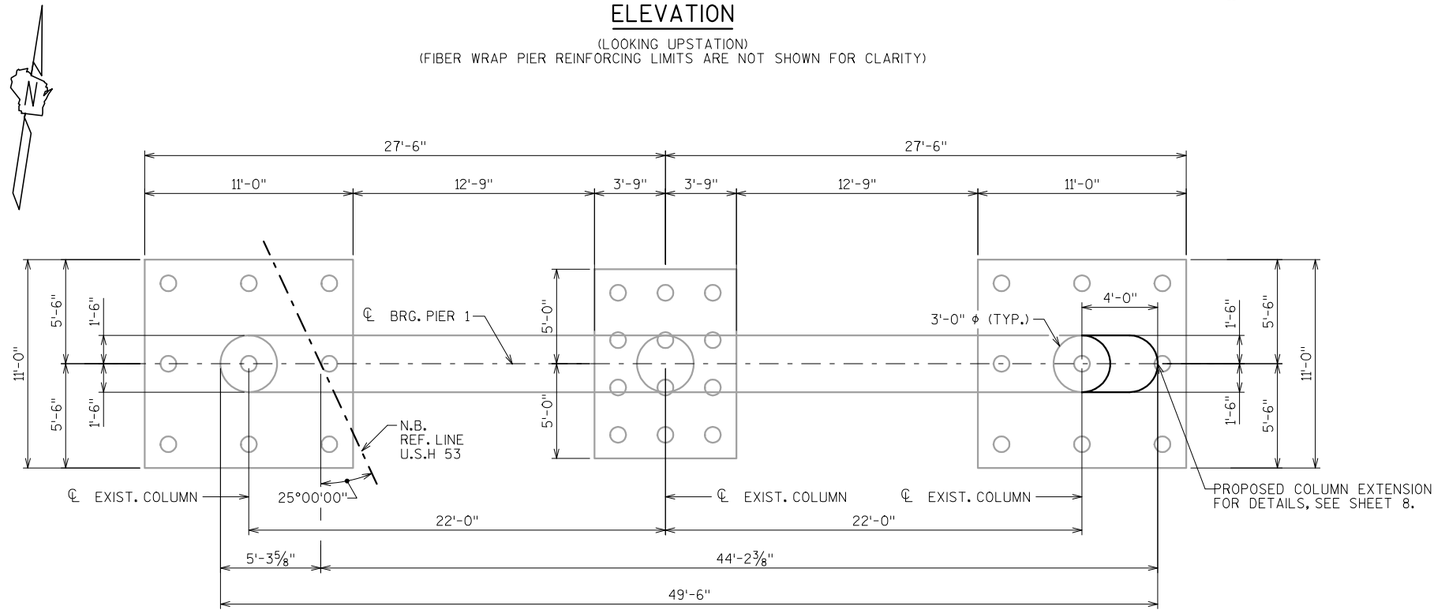
(LOOKING UPSTATION)
(FIBER WRAP PIER REINFORCING LIMITS ARE NOT SHOWN FOR CLARITY)



VIEW A-A

BEARING SEAT ELEVATION

LOCATION	BEARING SEAT ELEVATION
GIRDER N1	918.74



PLAN

NOTES:

1. FOR REPAIR OF PIER CAP AND COLUMNS, REMOVE AND/OR REPAIR ALL UNSOUND CONCRETE. THE AMOUNT OF REPAIRS SHOWN IS ONLY AN ESTIMATE BASED ON 2008 FIELD INSPECTION, AND IS SHOWN FOR BIDDING PURPOSE ONLY. THE CONTRACTOR SHALL VERIFY THE EXTENT OF THESE REPAIRS IN AGREEMENT WITH THE ENGINEER.
2. WRAP THE COLUMNS AND PIER CAP WITH FIBER WRAP PIER REINFORCING AS SHOWN ON THE PLANS AND ACCORDING TO SPECIAL PROVISION SPV.0165.01. THE AREA TO BE WRAPPED IS 944 S.F. AND SHALL BE VERIFIED IN THE FIELD IN AGREEMENT WITH THE ENGINEER.
3. THE WORK DESCRIBED ABOVE SHALL BE COMPLETED WITHOUT ANY DAYTIME LANE CLOSURES ON I.H. 94 BELOW.

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- PROPOSED
- CONCRETE REPAIR
- FIBER WRAP PIER REINFORCING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY IS	PLANS CK'D. SL

HNTB

PIER 1 - 1

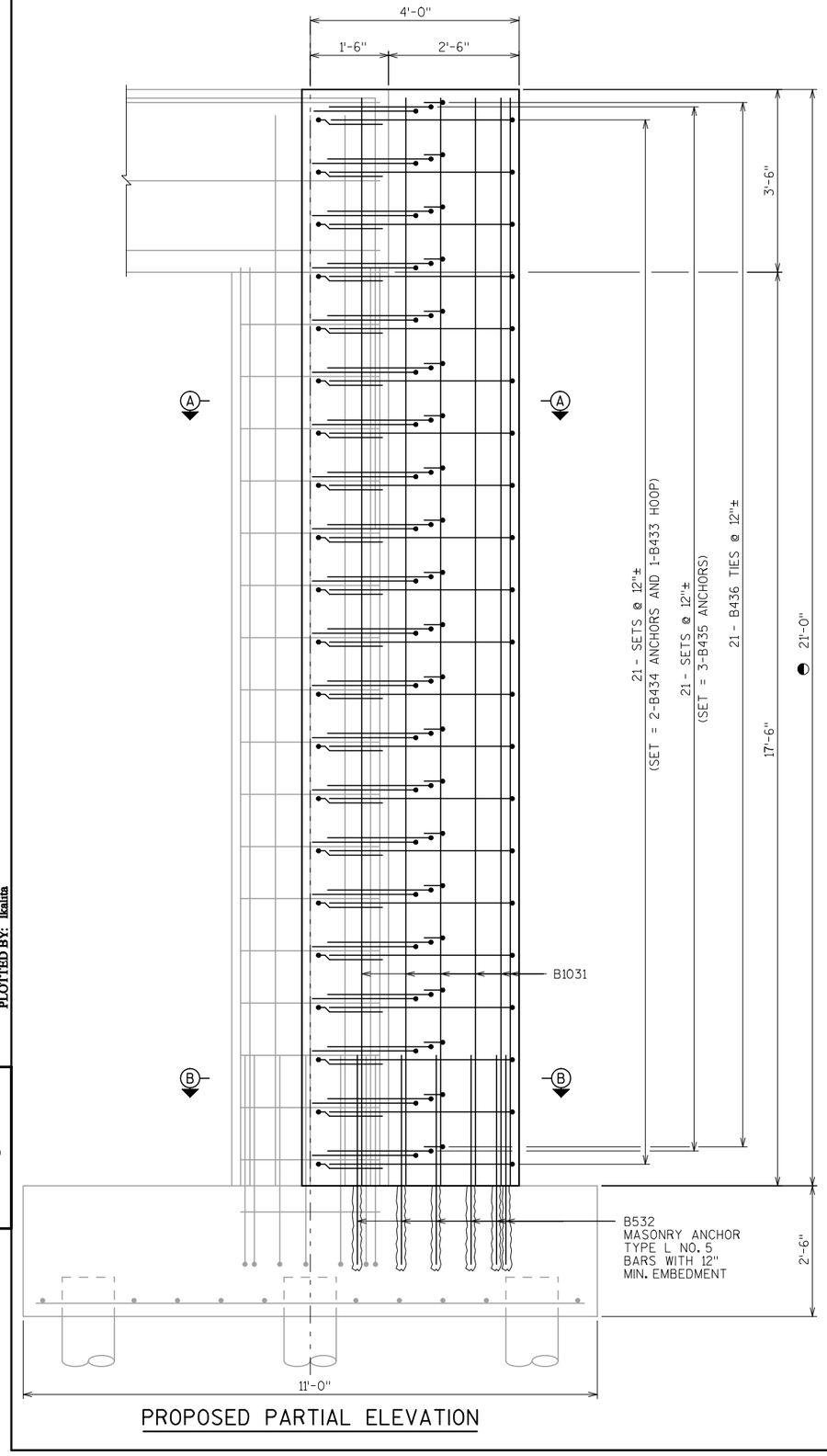
SHEET 7 OF 24
181
JAN-28-2010

SCALE =

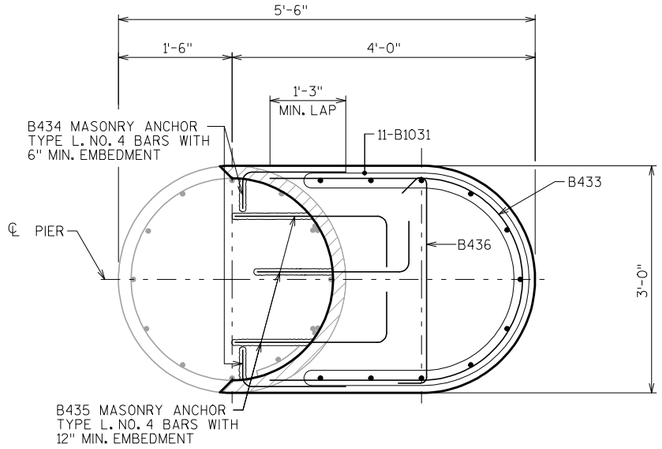
8

8

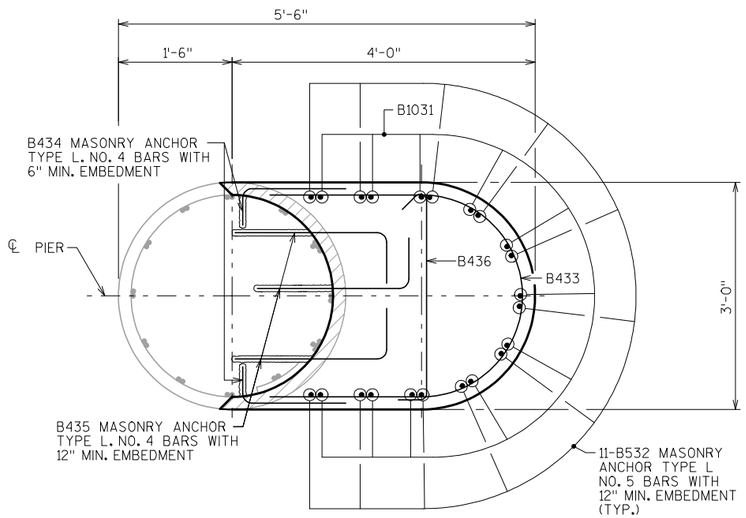
\\chiw100\projects\50206\CADD\cds\new 36\50206_B1836_7pier1.dgn
28-JAN-2010 07:53
PLOTTED BY: Italia



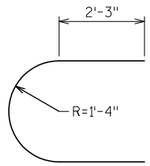
PROPOSED PARTIAL ELEVATION



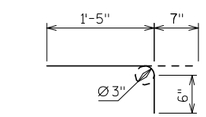
SECTION A-A



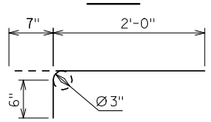
SECTION B-B



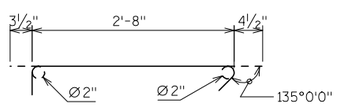
B433



B434



B435



B436

STATE PROJECT NUMBER

1022-01-73

BILL OF BARS

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B1031	X	11	20'-9"			PIER 1 VERTICAL
B532	X	11	4'-0"			PIER 1 VERTICAL
B433	X	21	8'-9"	X		PIER 1 HOOP
B434	X	42	2'-0"	X		PIER 1 HORIZONTAL
B435	X	63	2'-7"	X		PIER 1 HORIZONTAL
B436	X	21	3'-4"	X		PIER 1 HORIZONTAL TIES

NOTES

PROVIDE A 2" MIN. CLEARANCE FOR REINFORCEMENT UNLESS OTHERWISE NOTED

◐ DIMENSIONS SHALL BE VERIFIED BY CONTRACTOR IN THE FIELD PRIOR TO ORDERING OF STEEL REINFORCEMENT

ROUGHEN SURFACE OF EXISTING CONCRETE ¼" DEEP MIN. ALL AREA OF NEW TO EXISTING

LEGEND

EXISTING TO REMAIN
EXISTING TO BE REMOVED
PROPOSED

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY IS	PLANS CK'D. SL

PIER 1 - 2

SHEET 8 OF 24
182
JAN-28-2010

HNTB

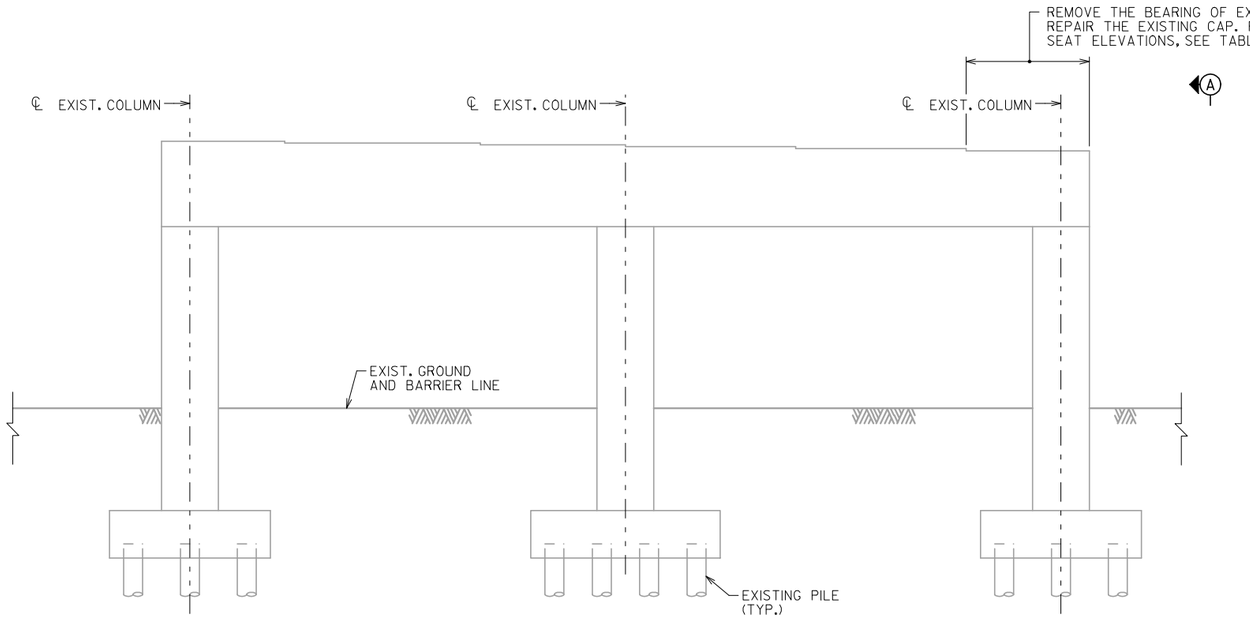
\\chnw00\projects\50206\CADD\cds\new 36502O6_B1836_8pier1-2.dgn
28-JAN-2010 07:53
PLOTTED BY: ikaiita

8

8

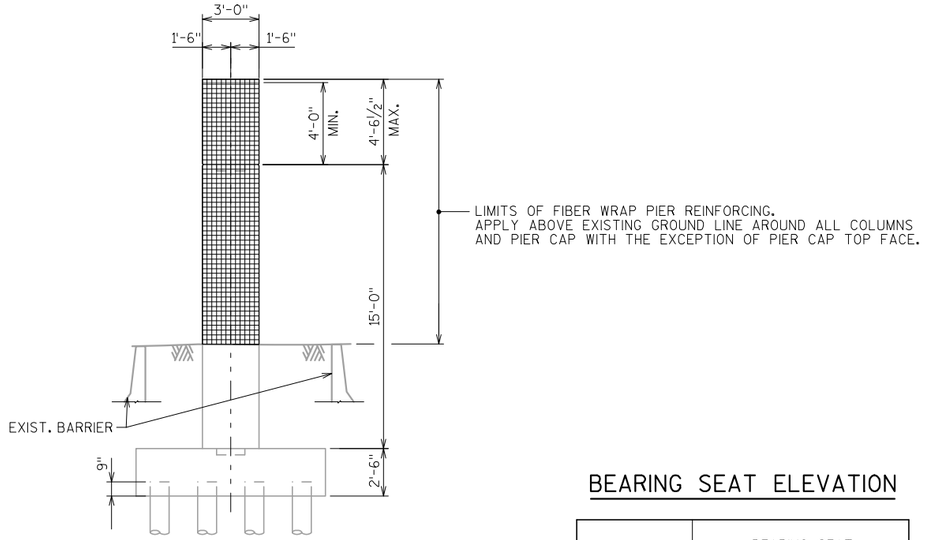
SCALE =

STATE PROJECT NUMBER
1022-01-73



ELEVATION

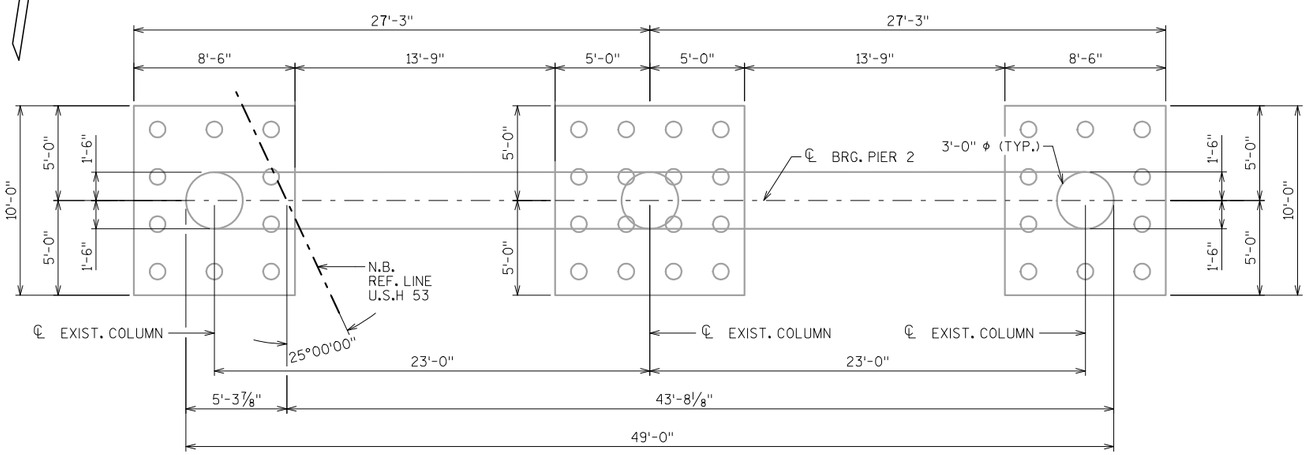
(LOOKING UPSTATION)
(FIBER WRAP PIER REINFORCING LIMITS ARE NOT SHOWN FOR CLARITY)



VIEW A-A

BEARING SEAT ELEVATION

LOCATION	BEARING SEAT ELEVATION
GIRDER N1	915.76



PLAN

NOTES:

1. FOR REPAIR OF PIER CAP AND COLUMNS, REMOVE AND/OR REPAIR ALL UNSOUND CONCRETE. THE AMOUNT OF REPAIRS SHOWN IS ONLY AN ESTIMATE BASED ON 2008 FIELD INSPECTION, AND IS SHOWN FOR BIDDING PURPOSE ONLY. THE CONTRACTOR SHALL VERIFY THE EXTENT OF THESE REPAIRS IN AGREEMENT WITH THE ENGINEER.
2. WRAP THE COLUMNS AND PIER CAP WITH FIBER WRAP PIER REINFORCING AS SHOWN ON THE PLANS AND ACCORDING TO SPECIAL PROVISION SPV.0165.01. THE AREA TO BE WRAPPED IS 820 S.F. AND SHALL BE VERIFIED IN THE FIELD IN AGREEMENT WITH THE ENGINEER.
3. THE WORK DESCRIBED ABOVE SHALL BE COMPLETED WITHOUT ANY DAYTIME LANE CLOSURES ON I.H. 94 BELOW.

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- PROPOSED
- FIBER WRAP PIER REINFORCING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY	IS	PLANS CK'D.	SL

HNTB

PIER 2

SHEET 9 OF 24
183
JAN-28-2010

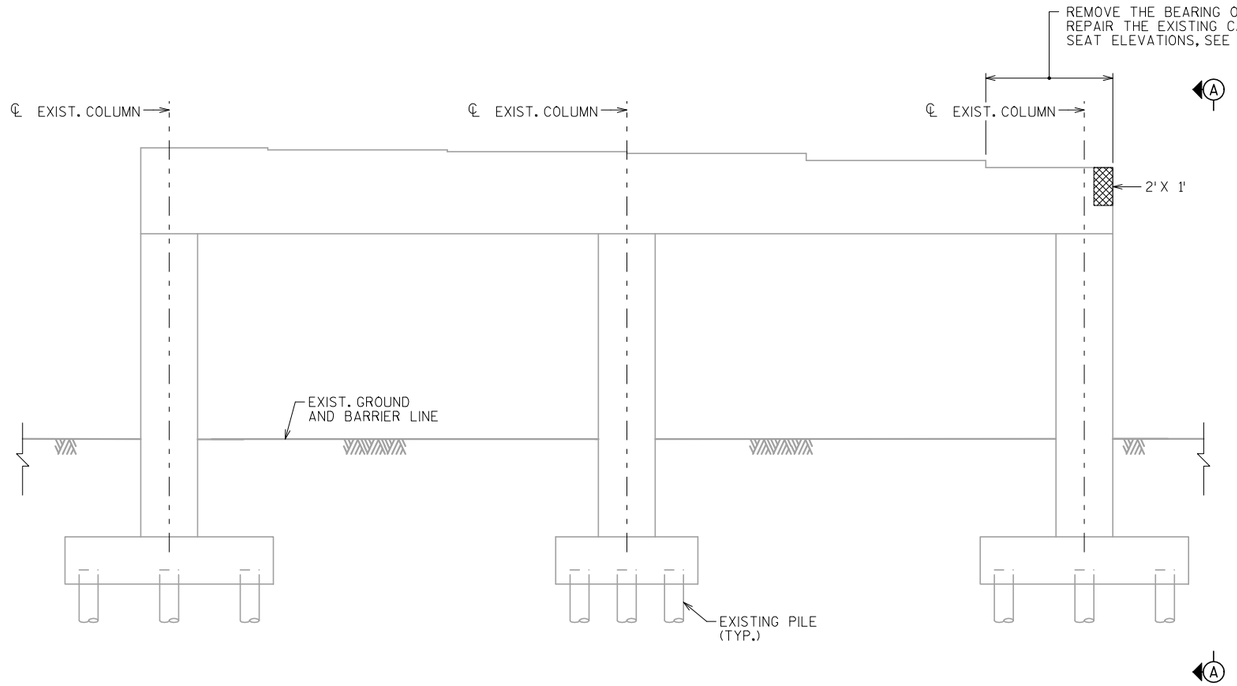
SCALE =

8

8

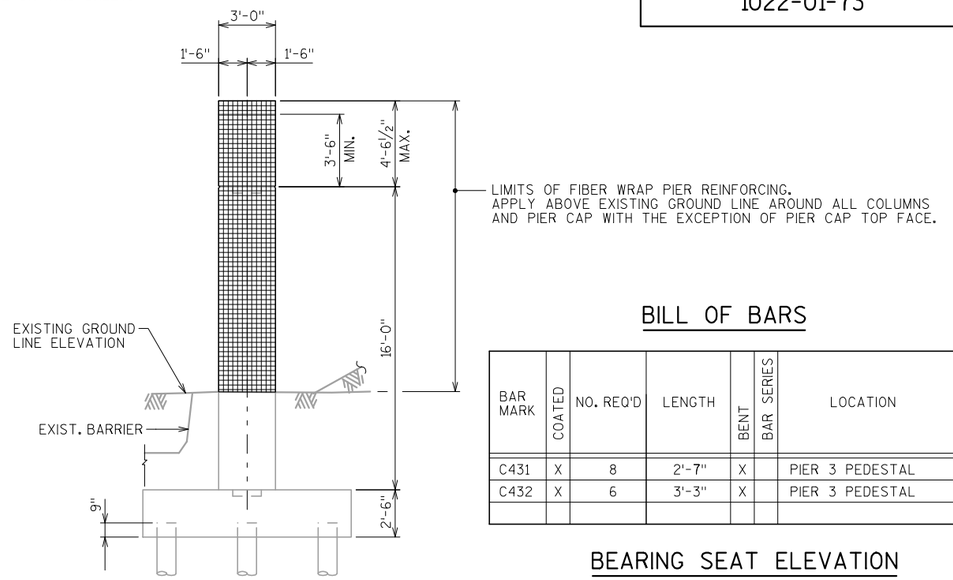
\\chiw00\projects\50206\CADD\cds\new 36\50206_B1836_9pier2.dgn
28-JAN-2010 07:53
PLOTTED BY: Ikalita

STATE PROJECT NUMBER
1022-01-73



ELEVATION

(LOOKING UPSTATION)
(FIBER WRAP PIER REINFORCING LIMITS ARE NOT SHOWN FOR CLARITY)



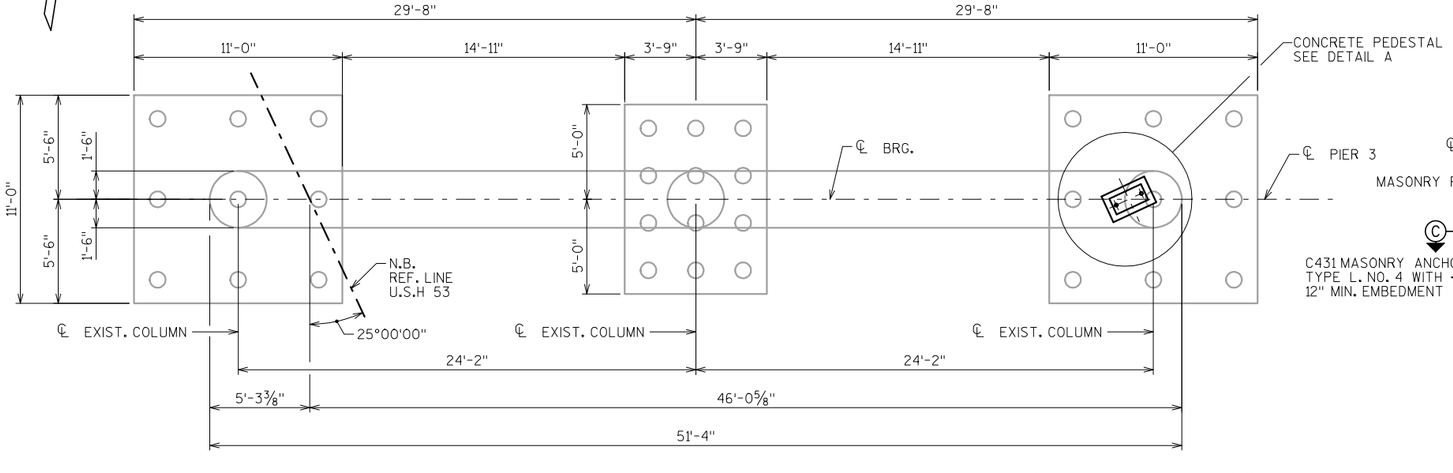
VIEW A-A

BILL OF BARS

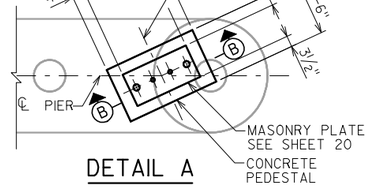
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
C431	X	8	2'-7"	X		PIER 3 PEDESTAL
C432	X	6	3'-3"	X		PIER 3 PEDESTAL

BEARING SEAT ELEVATION

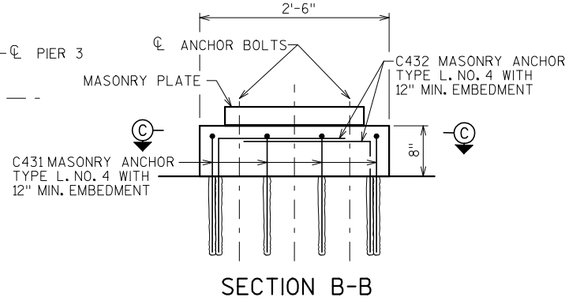
LOCATION	BEARING SEAT ELEVATION
GIRDER N1	919.27



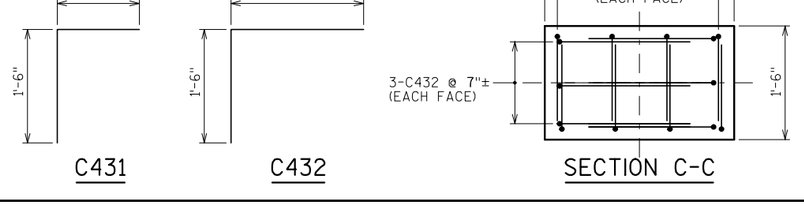
PLAN



DETAIL A



SECTION B-B



C431 C432

SECTION C-C

NOTES:

1. FOR REPAIR OF PIER CAP AND COLUMNS, REMOVE AND/OR REPAIR ALL UNSOUND CONCRETE. THE AMOUNT OF REPAIRS SHOWN IS ONLY AN ESTIMATE BASED ON 2008 FIELD INSPECTION, AND IS SHOWN FOR BIDDING PURPOSE ONLY. THE CONTRACTOR SHALL VERIFY THE EXTENT OF THESE REPAIRS IN AGREEMENT WITH THE ENGINEER.
2. WRAP THE COLUMNS AND PIER CAP WITH FIBER WRAP PIER REINFORCING AS SHOWN ON THE PLANS AND ACCORDING TO SPECIAL PROVISION SPV.0165.01. THE AREA TO BE WRAPPED IS 893 S.F. AND SHALL BE VERIFIED IN THE FIELD IN AGREEMENT WITH THE ENGINEER.
3. THE WORK DESCRIBED ABOVE SHALL BE COMPLETED WITHOUT ANY DAYTIME LANE CLOSURES ON I.H. 94 BELOW.
4. PROVIDE A 2" MIN. CLEARANCE FOR REINFORCEMENT UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- PROPOSED
- CONCRETE REPAIR
- FIBER WRAP PIER REINFORCING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY IS	PLANS CK'D. SL

PIER 3

SHEET 10 OF 24
184
JAN-28-2010

HNTB

SCALE =

\\chw00\projects\50206\CADD\cdsnew 36\50206_B1836_10pier3.dgn
28-JAN-2010 07:53
PLOTTED BY: ikalita

8

8

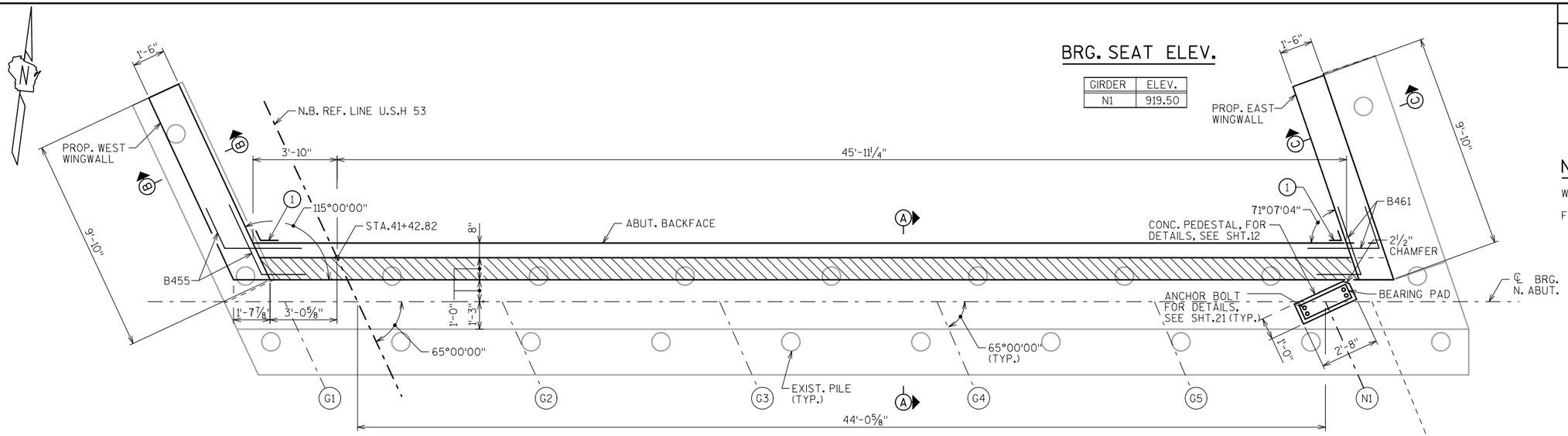
\\chfnw00\projects\50206\CADD\cdot\new 36\50206_B1836_11nabut1.dgn
28-JAN-2010 07:54
PLOTTED BY: lkalita

STATE PROJECT NUMBER

1022-01-73

BRG. SEAT ELEV.

GIRDER	ELEV.
N1	919.50



NOTES:

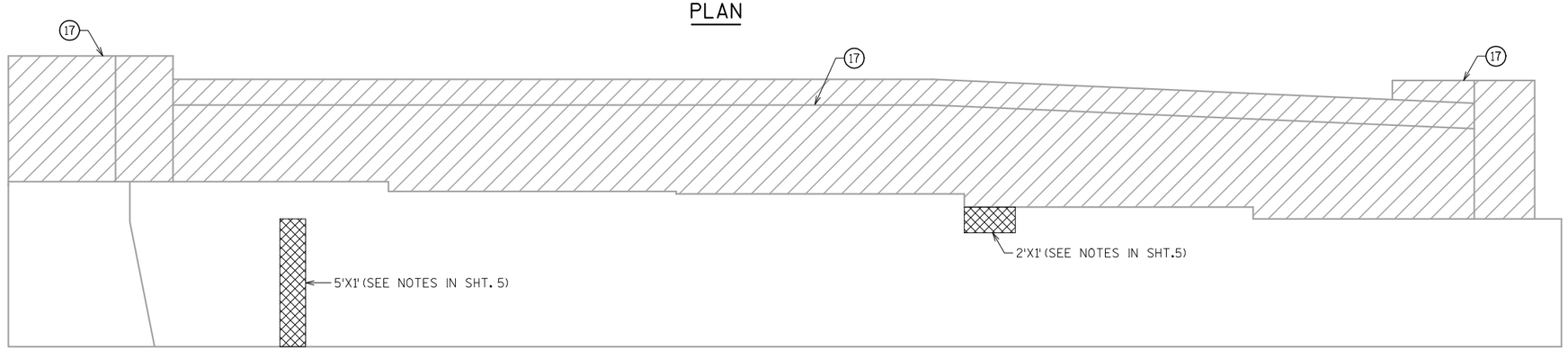
WORK THIS SHEET WITH SHEETS 5, 6 & 12.

FOR SECTION A-A THRU. F-F, SEE SHEET 12.

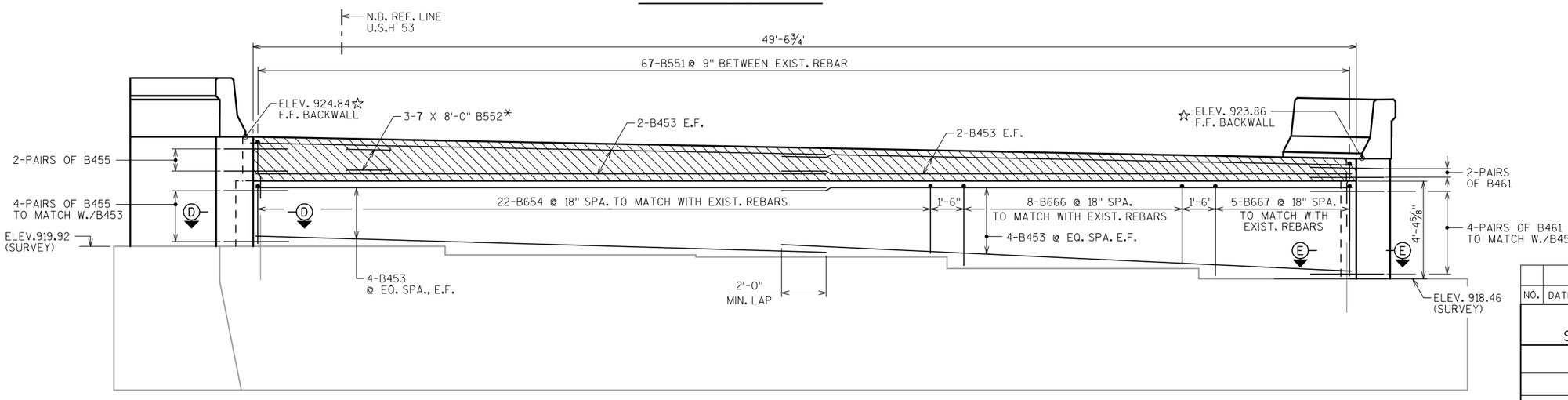
LEGEND

- EXISTING TO REMAIN
- PROPOSED
- EXISTING TO REMOVE
- CONCRETE SURFACE REPAIR

PLAN



EXISTING ELEVATION



ELEVATION

*INDICATES 3 LINES OF BARS WITH 7 LENGTHS OF 8'-0" PER LINE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY LK | PLANS CK'D. MX

HNTB

NORTH ABUTMENT 1

SHEET 11 OF 24
185
JAN-28-2010

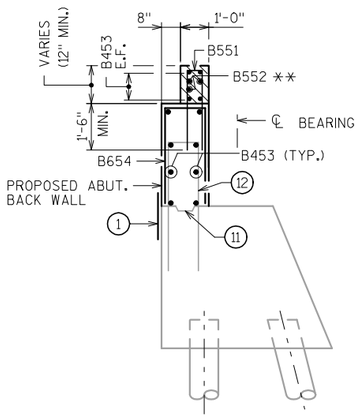
SCALE =

8

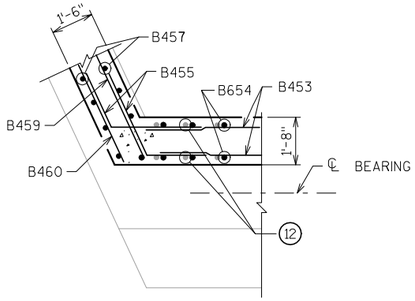
8

STATE PROJECT NUMBER

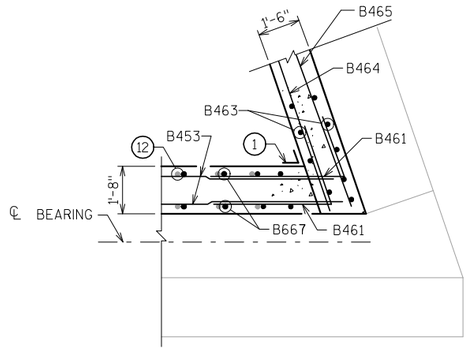
1022-01-73



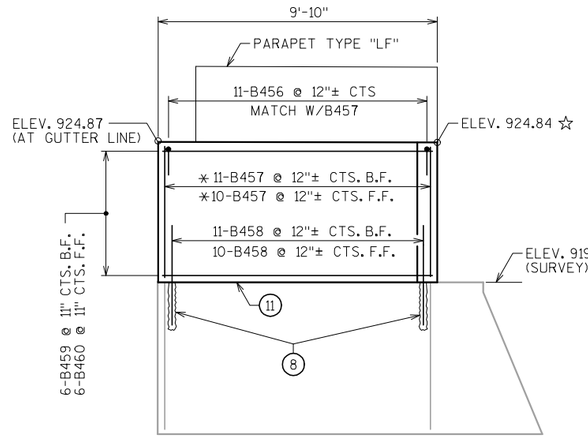
SECTION A-A



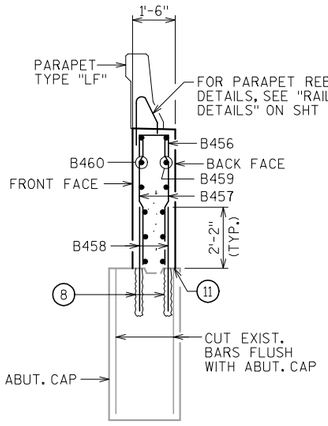
SECTION D-D



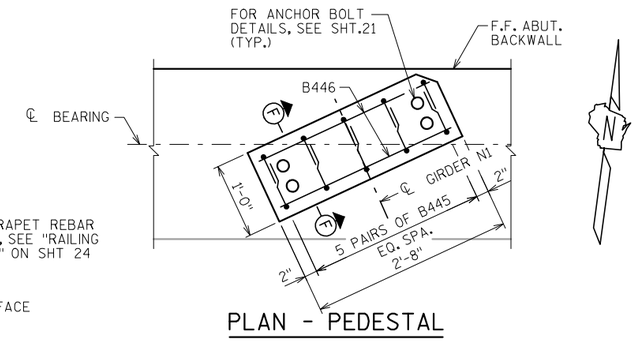
SECTION E-E



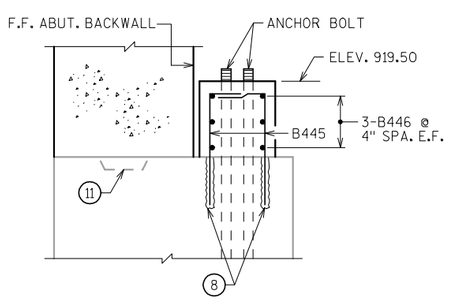
WEST WINGWALL



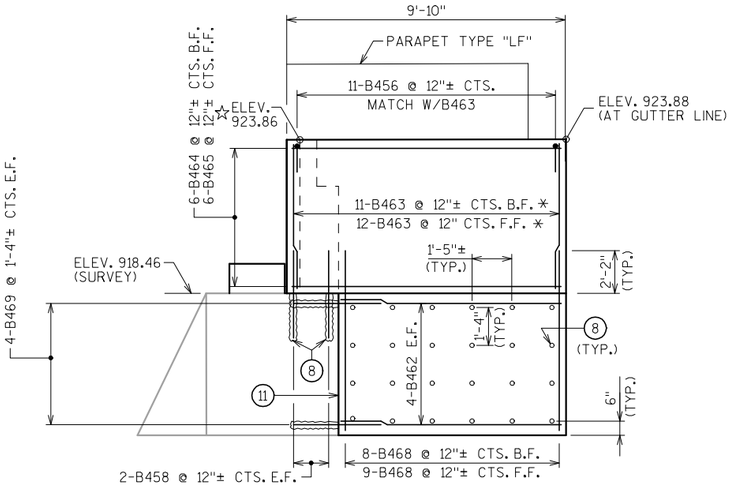
SECTION B-B



PLAN - PEDESTAL

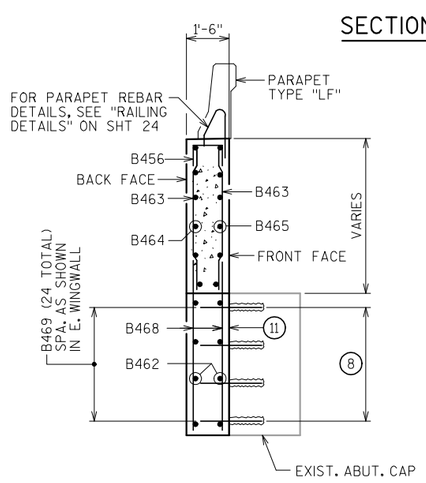


SECTION F-F



EAST WINGWALL

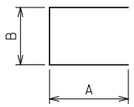
(EXIST. ABUT. CAP NOT SHOWN FOR CLARITY)



SECTION C-C

NORTH ABUTMENT BILL OF BARS

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B445	X	10	2'-4"	X		PEDESTAL VERT.
B446	X	6	2'-4"	X		PEDESTAL HORIZ.
B551	X	67	7'-4"	X		PAVING BLOCK VERT.
B552	X	21	8'-0"			PAVING BLOCK HORIZ.
B453	X	24	25'-9"			BACKWALL & PAVING BLOCK HORIZ.
B654	X	22	6'-10"	X		BACKWALL VERT.
B455	X	12	5'-3"	X		WINGWALL, BACKWALL & PAVING BLOCK HORIZ.
B456	X	22	2'-10"	X		WINGWALL VERT.
B457	X	21	4'-9"			WEST WINGWALL VERT.
B458	X	25	3'-2"			WINGWALL VERT.
B459	X	6	9'-4"			WEST WINGWALL HORIZ.
B460	X	6	8'-10"			WEST WINGWALL HORIZ.
B461	X	12	5'-4"	X		EAST WINGWALL, BACKWALL & PAVING BLOCK HORIZ.
B462		8	7'-2"			EAST WINGWALL HORIZ.
B463	X	23	5'-2"			EAST WINGWALL VERT.
B464	X	6	9'-0"			EAST WINGWALL HORIZ.
B465	X	6	9'-5"			EAST WINGWALL HORIZ.
B666	X	8	8'-10"	X		BACKWALL VERT.
B667	X	5	9'-8"	X		BACKWALL VERT.
B468	X	17	6'-11"			EAST WINGWALL VERT.
B469	X	32	2'-3"			EAST WINGWALL HORIZ.



MARK	A	B
B551	3'-4"	0'-8"
B654	2'-9"	1'-4"
B456	0'-10"	1'-2"
B666	3'-9"	1'-4"
B667	4'-2"	1'-4"

B551, B654, B456, B666 & B667

NOTES:

WORK THIS SHEET WITH SHEETS 5 & 11.

UNDER THE BID ITEMS "MASONRY ANCHORS TYPE L", ANCHORED REINFORCING STEEL SHALL BE PAID FOR SEPARATELY AS PROVIDED IN SECTION 505 OF THE STANDARD SPECIFICATIONS FOR BAR STEEL REINFORCEMENT.

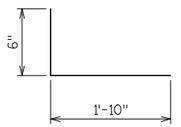
LEGEND

EXISTING TO REMAIN

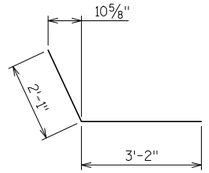
PROPOSED

* TO MATCH WITH B458 & B468

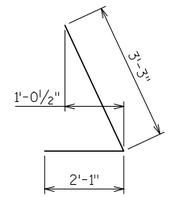
** SET WITH EXPANSION JOINT ANCHOR PLATE. FOR MORE DETAILS, SEE SHTS. 5 & 22.



B445



B455



B461

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY LK | PLANS CK'D. MX

NORTH ABUTMENT 2

SHEET 12 OF 24
186
JAN-28-2010

HNTB

8

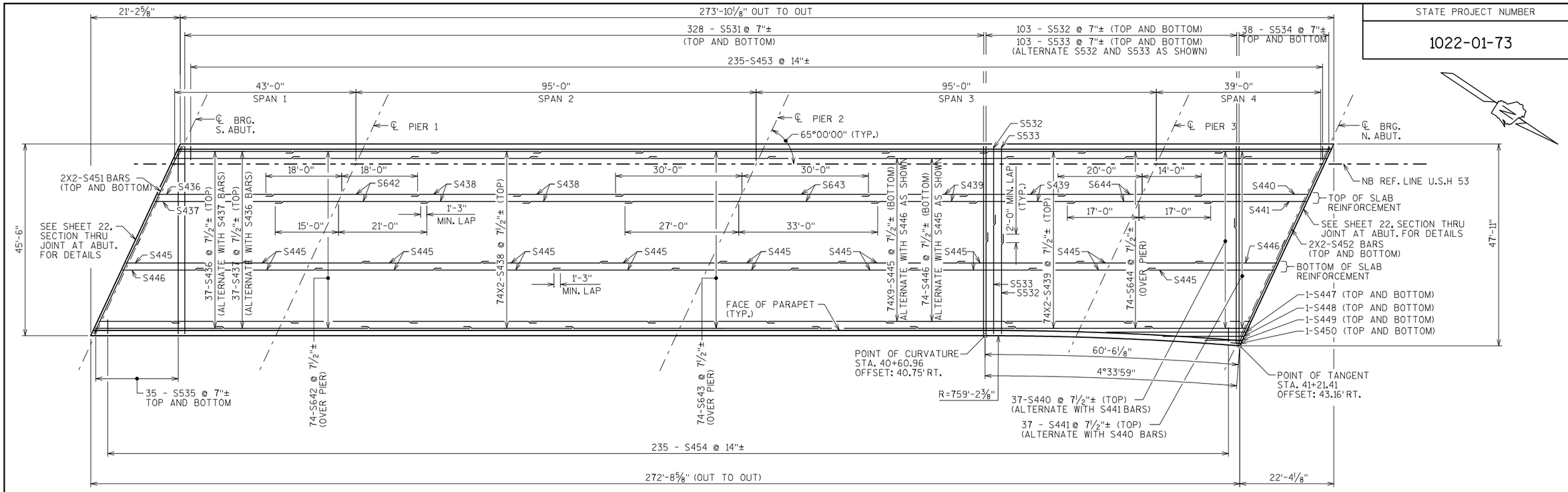
8

\\chrw00\projects\50206\CADD\cdsl\new 36502O6_B1836_12nabut2.dgn
28-JAN-2010 07:54
PLOTTED BY: lkalita

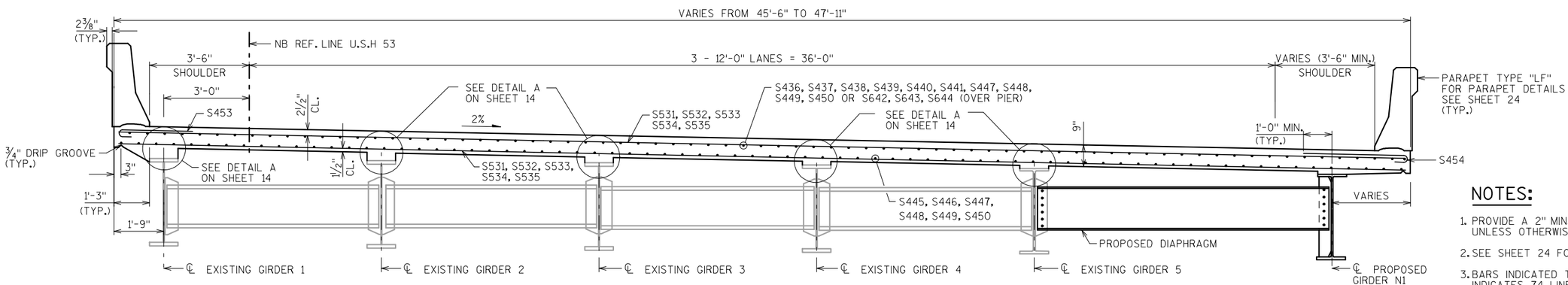
SCALE =

STATE PROJECT NUMBER

1022-01-73

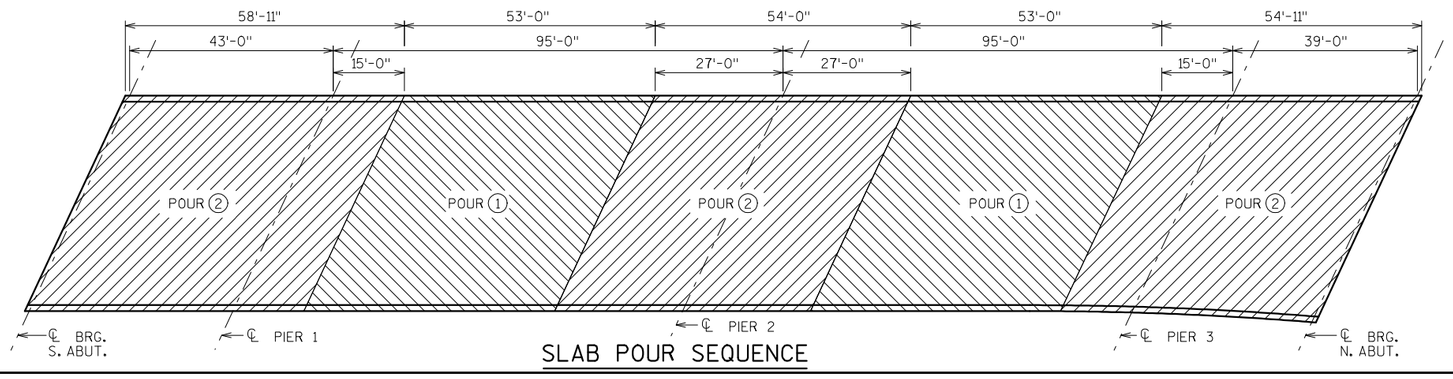


SLAB PLAN



TYPICAL CROSS SECTION THRU ROADWAY

(PROPOSED, LOOKING UPSTATION)



SLAB POUR SEQUENCE

NOTES:

1. PROVIDE A 2" MIN. CLEARANCE FOR REINFORCEMENT UNLESS OTHERWISE NOTED
2. SEE SHEET 24 FOR PARAPET REINFORCEMENT
3. BARS INDICATED THUS "74 X 8 - MARK @ 7½" ±" INDICATES 74 LINES OF BARS WITH 8 LENGTHS PER LINE

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- PROPOSED

SLAB POUR NOTES:

1. THE RATE OF PLACING CONCRETE SHALL EQUAL OR EXCEED HALF SPAN LENGTH PER HOUR BUT NEED NOT EXCEED 100 CU. YDS. PER HOUR.
2. TRANSVERSE CONSTRUCTION JOINTS, EXCEPT THOSE ADJACENT TO IN SPAN HINGES MAY BE OMITTED WITH THE APPROVAL OF THE STRUCTURES DESIGN SECTION.
3. TWO OR MORE ALTERNATE POURS MAY BE PLACED ON THE SAME DAY.
4. THE CONTRACTOR MAY SUBMIT AN ALTERNATE POURING SEQUENCE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY IS	PLANS CK'D. SL

HNTB

DECK REINFORCING PLAN

SHEET 13 OF 24
187
JAN-28-2010

- SCALE =

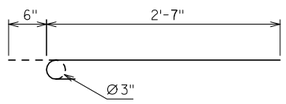
\\chiw00\projects\50206\CADD\cds\new 36\50206_B1836_13deck.dgn
28-JAN-2010 07:54
PLOTTED BY: Ikalita

8

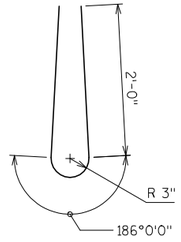
8

STATE PROJECT NUMBER

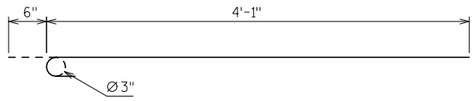
1022-01-73



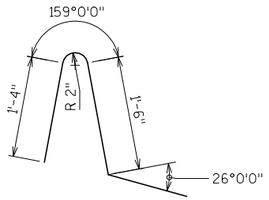
S453



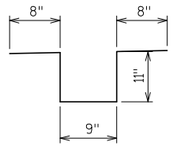
S558



S454



S559

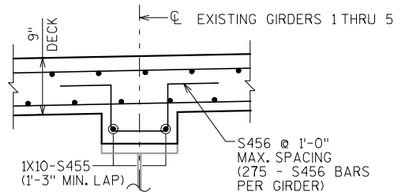


S456

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S534	2 SERIES OF 38	1'-6" TO 47'-6"
S535	2 SERIES OF 35	1'-6" TO 43'-11"

BUNDLE AND TAG EACH SERIES SEPARATELY.



DETAIL A

BILL OF BARS

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S531	X	656	45'-2"			DECK TRANS.
S532	X	206	30'-0"			DECK TRANS.
S533	X	206	20'-0"			DECK TRANS.
S534	X	76	24'-6"		⚠	DECK TRANS.
S535	X	70	22'-9"		⚠	DECK TRANS.
S436	X	37	27'-4"			DECK LONG. (TOP)
S437	X	37	30'-4"			DECK LONG. (TOP)
S438	X	148	25'-9"			DECK LONG. (TOP)
S439	X	148	24'-9"			DECK LONG. (TOP)
S440	X	37	27'-4"			DECK LONG. (TOP)
S441	X	37	24'-4"			DECK LONG. (TOP)
S642	X	74	36'-0"			DECK LONG. (OVER PIER 1)
S643	X	74	60'-0"			DECK LONG. (OVER PIER 2)
S644	X	74	34'-0"			DECK LONG. (OVER PIER 3)
S445	X	666	29'-9"			DECK LONG. (BOTTOM)
S446	X	74	19'-3"			DECK LONG. (BOTTOM)
S447	X	2	33'-0"			DECK LONG. (TOP & BOTTOM)
S448	X	2	19'-2"			DECK LONG. (TOP & BOTTOM)
S449	X	2	8'-9"			DECK LONG. (TOP & BOTTOM)
S450	X	2	2'-0"			DECK LONG. (TOP & BOTTOM)
S451	X	8	25'-6"			DECK ALONG E.J. (TOP & BOTTOM)
S452	X	8	27'-0"			DECK ALONG E.J. (TOP & BOTTOM)
S453	X	235	3'-1"	X		DECK OVERHANG (TOP)
S454	X	235	4'-7"	X		DECK OVERHANG (TOP)
S455	X	100	28'-9"			DECK HAUNCH LONG.
S456	X	1375	3'-11"	X		DECK HAUNCH TRANS.
S557	X	50	56'-9"			PARAPET HORIZONTAL
S558	X	822	4'-10"	X		PARAPET VERTICAL
S559	X	822	4'-9"	X		PARAPET VERTICAL

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS, SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

\\chw00\projects\50206\CADD\cdsiwsv 36502O6_B1836_14deckreinforcingschedule.dgn
28-JAN-2010 07:54
PLOTTED BY: lkalita

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY IS | PLANS CK'D. SL

DECK REINFORCING SCHEDULE

SHEET 14 OF 24
188
JAN-28-2010

HNTB

SCALE = -

STATE PROJECT NUMBER

1022-01-73

ELEVATIONS AT TOP OF DECK (T.D.) & TOP OF STEEL (T.S.)

GIRDER		℄ BRG. S ABUT.	0.1 SPAN	0.2 SPAN	0.3 SPAN	0.4 SPAN	0.5 SPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	℄ PIER 1	0.1 SPAN	℄ SPLICE	0.2 SPAN	0.3 SPAN	0.4 SPAN	0.5 SPAN	0.6 SPAN	℄ SPLICE 1	0.7 SPAN	0.8 SPAN	0.9 SPAN	℄ PIER 2
N1	T.D.	923.13	923.15	923.16	923.17	923.18	923.20	923.21	923.22	923.24	923.25	923.26	923.29		923.32	923.35	923.38	923.40	923.43	923.46	923.46	923.49	923.52	923.55
	T.S.	922.22										922.35								922.51				922.62
G1	T.D.	924.01	924.02	924.04	924.05	924.06	924.07	924.09	924.10	924.11	924.13	924.14	924.17	924.18	924.20	924.22	924.25	924.28	924.31	924.33	924.34	924.37	924.40	924.42
	T.S.																							
G2	T.D.	923.85	923.86	923.87	923.88	923.90	923.91	923.92	923.93	923.95	923.96	923.97	924.00	924.01	924.03	924.06	924.08	924.11	924.14	924.16	924.17	924.19	924.22	924.25
	T.S.																							
G3	T.D.	923.68	923.70	923.71	923.72	923.73	923.74	923.76	923.77	923.78	923.79	923.81	923.83	923.85	923.86	923.89	923.91	923.94	923.97	923.99	923.99	924.02	924.05	924.08
	T.S.																							
G4	T.D.	923.52	923.53	923.54	923.56	923.57	923.58	923.59	923.60	923.61	923.63	923.64	923.66	923.68	923.69	923.72	923.74	923.77	923.80	923.82	923.82	923.85	923.87	923.90
	T.S.																							
G5	T.D.	923.36	923.37	923.38	923.39	923.40	923.41	923.43	923.44	923.45	923.46	923.47	923.50	923.51	923.52	923.55	923.57	923.60	923.62	923.65	923.65	923.68	923.70	923.73
	T.S.																							

GIRDER		0.1 SPAN	0.2 SPAN	0.3 SPAN	℄ SPLICE 2	0.4 SPAN	0.5 SPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	℄ SPLICE	0.9 SPAN	℄ PIER 3	0.1 SPAN	0.2 SPAN	0.3 SPAN	0.4 SPAN	0.5 SPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	℄ BRG. N. ABUT
N1	T.D.	923.58	923.60	923.63	923.64	923.66	923.69	923.71	923.74	923.76		923.79	923.81	923.82	923.83	923.84	923.85	923.86	923.87	923.88	923.89	923.90	923.91
	T.S.				922.63								922.88										922.99
G1	T.D.	924.45	924.48	924.51	924.52	924.54	924.57	924.60	924.62	924.65	924.67	924.68	924.71	924.72	924.73	924.74	924.76	924.77	924.78	924.79	924.80	924.81	924.83
	T.S.																						
G2	T.D.	924.28	924.31	924.33	924.34	924.36	924.39	924.42	924.44	924.47	924.49	924.50	924.53	924.54	924.55	924.56	924.57	924.58	924.59	924.60	924.61	924.62	924.63
	T.S.																						
G3	T.D.	924.10	924.13	924.16	924.16	924.18	924.21	924.24	924.26	924.29	924.30	924.32	924.34	924.35	924.36	924.37	924.38	924.39	924.40	924.41	924.42	924.43	924.44
	T.S.																						
G4	T.D.	923.93	923.95	923.98	923.98	924.01	924.03	924.06	924.08	924.11	924.12	924.14	924.16	924.17	924.18	924.19	924.19	924.20	924.21	924.22	924.23	924.24	924.25
	T.S.																						
G5	T.D.	923.75	923.78	923.80	923.81	923.83	923.85	923.88	923.90	923.93	923.94	923.95	923.97	923.98	923.99	924.00	924.01	924.02	924.02	924.03	924.04	924.05	924.06
	T.S.																						

DEAD LOAD DEFLECTION FOR EXISTING GIRDERS G1, G2, G3, G4 & G5

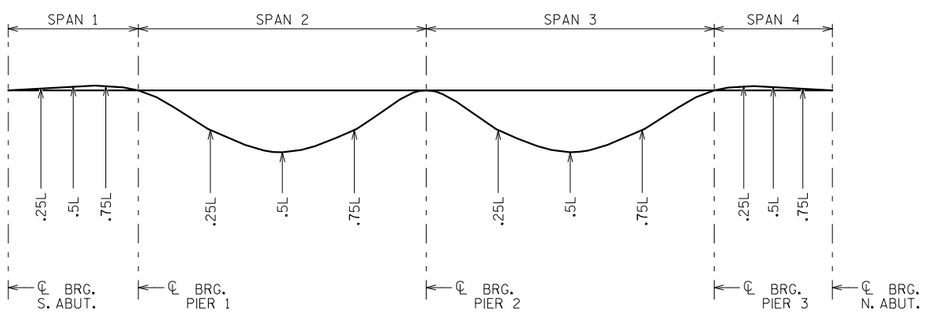
	SPAN 1			SPAN 2			SPAN 3			SPAN 4		
POINT	0.25L	0.5L	0.75L	0.25L	0.5L	0.75L	0.25L	0.5L	0.75L	0.25L	0.5L	0.75L
CONC. DEFLECTION	0"	-0 1/8"	0"	0 7/8"	1 1/8"	0 3/8"	0 5/8"	1 1/4"	1"	0"	-0 1/8"	0"
TOTAL DEFLECTION	0"	-0 1/8"	0"	1"	1 1/4"	0 3/8"	0 5/8"	1 3/8"	1 1/8"	0"	-0 1/8"	0"

DEAD LOAD DEFLECTION FOR PROPOSED GIRDER N1

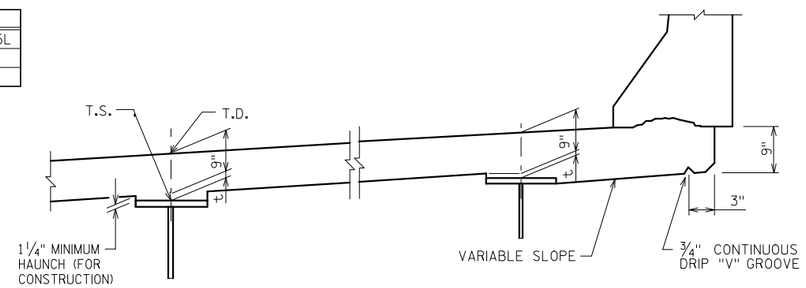
	SPAN 1			SPAN 2			SPAN 3			SPAN 4		
POINT	0.25L	0.5L	0.75L	0.25L	0.5L	0.75L	0.25L	0.5L	0.75L	0.25L	0.5L	0.75L
CONC. DEFLECTION	0	0	-0 1/8"	0 5/8"	0 7/8"	0 3/8"	0 3/8"	0 7/8"	0 5/8"	-0 1/8"	0	0
TOTAL DEFLECTION	0	0	-0 1/8"	0 3/4"	1"	0 3/8"	0 1/2"	1 1/8"	0 3/4"	-0 1/8"	-0 1/8"	0

BLOCKING TABLE

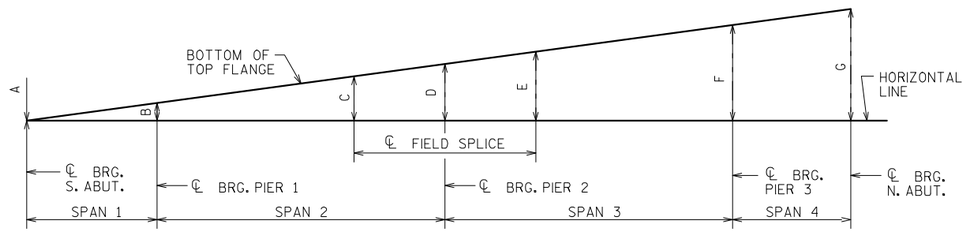
	A	B	C	D	E	F	G
PROPOSED GIRDER N1	0"	1 5/16"	4 1/8"	4 7/8"	5 3/4"	8"	9 3/8"



DEFLECTION DIAGRAM



SECTION THRU SLAB



BLOCKING DIAGRAM

NOTES:

t = HAUNCH HEIGHT AT CENTERLINE OF GIRDER.

CONCRETE DEFLECTION INCLUDE CONCRETE SLAB, HAUNCH AND BARRIERS. "+" INCICATES DOWNWARD DEFLECTION.

TOTAL DEFLECTION INCLUDES CONCRETE DEFLECTION PLUS DEFLECTION DUE TO SELF WEIGHT OF STEEL.

THE MINIMUM HAUNCH (AT EDGE OF GIRDER FLANGE) ALLOWED IN CONSTRUCTION IS 1 1/4".

IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2".

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED. ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATES, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT CENTERLINE OF BEARINGS, CENTERLINE OF FIELD SPLICES, AND AT 0.1 POINTS.

TOP OF DECK ELEV. AT FINAL GRADE.

\- TOP OF STEEL ELEV. AFTER PLACEMENT.

\+ CONC. ONLY DEFLECTION; DOWNWARD DEFLECTION IS ADDED. UPWARD DEFLECTION IS SUBTRACTED.

\- SLAB THICKNESS ('T')

= "t" VALUE FOR SETTING HAUNCH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY MMK | PLANS CK'D. MX

HNTB

BLOCKING & SLAB HAUNCH DETAILS

SHEET 15 OF 24
189
JAN-28-2010

SCALE =

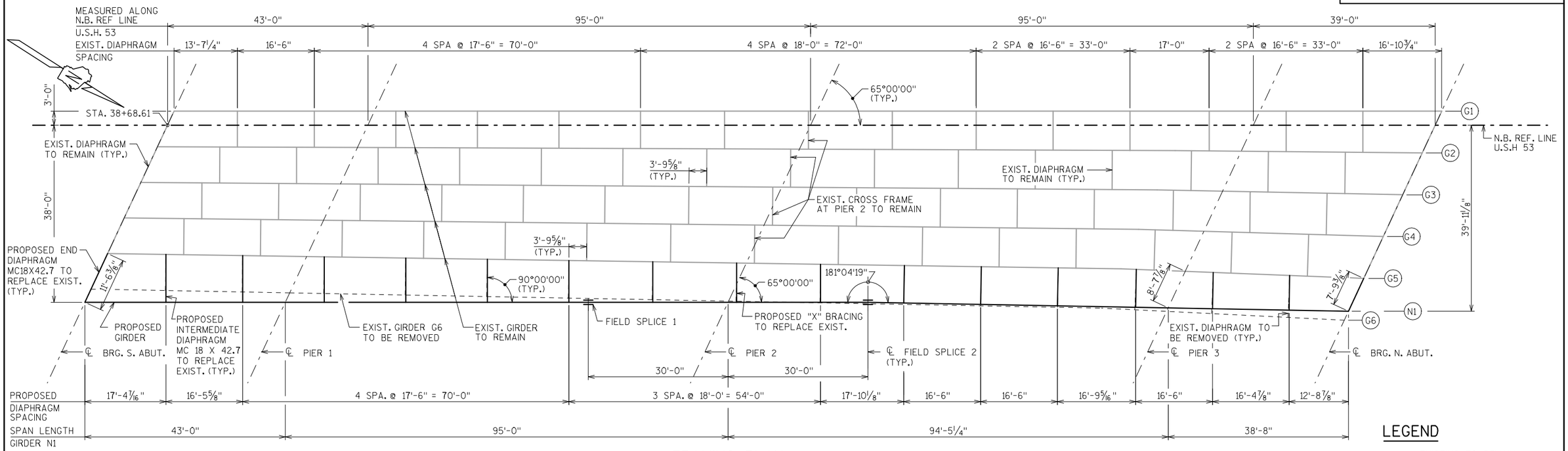
\\chiw00\projects\50206\CADD\cds\new 36\50206_B1836_15blocking&slabhaunch.dgn
28-JAN-2010 07:54
PLOTTED BY: Ikaiita

8

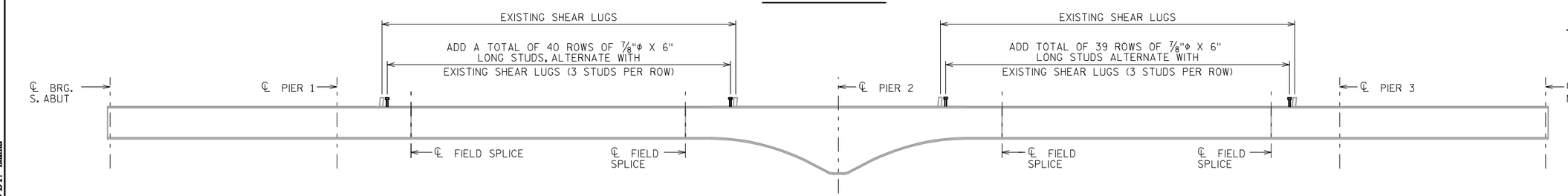
8

STATE PROJECT NUMBER

1022-01-73

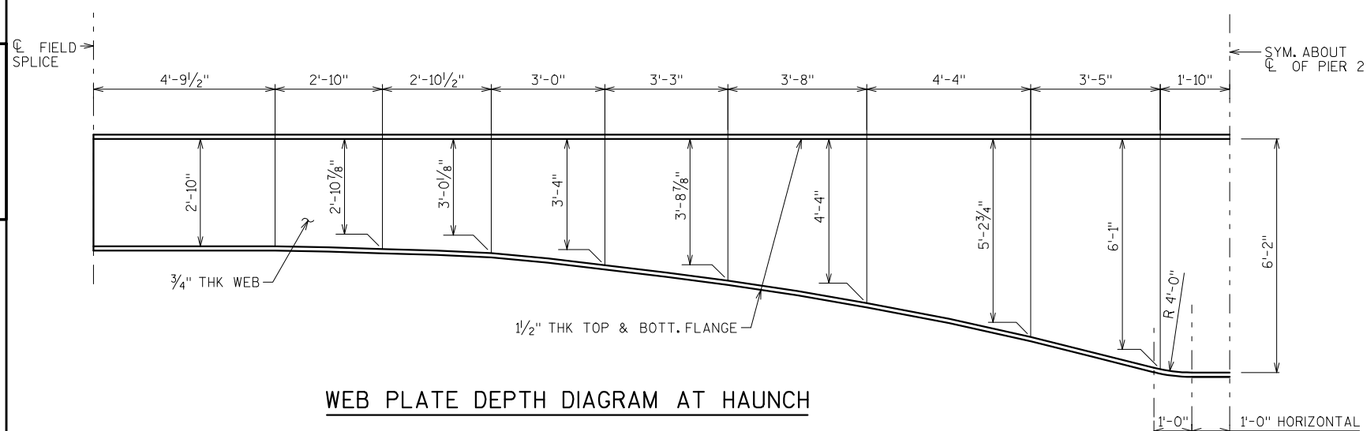


FRAMING PLAN



ADDITIONAL SHEAR CONNECTORS

(EXIST. GIRDERS G1, G2, G3, G4 & G5)



WEB PLATE DEPTH DIAGRAM AT HAUNCH

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- PROPOSED

NOTES:

ALL DIMENSIONS TO BE VERIFIED BY CONTRACTOR IN THE FIELD BEFORE PREPARING STEEL SHOP DRAWINGS.

ALL STRUCTURAL STEEL FOR GIRDERS, FIELD SPLICE PLATES AND BEARING PLATES SHALL BE HIGH STRENGTH STRUCTURAL STEEL, ASTM A709-GRADE 50.

ALL THE STEEL FOR DIAPHRAGMS, CROSS FRAMES, INTERMEDIATE STIFFENERS AND CONNECTING PLATES SHALL BE ASTM A709 GRADE 36.

ALL BOLTED CONNECTIONS FOR FIELD SPLICE SHALL BE FRICTION TYPE USING 7/8" ϕ HIGH STRENGTH BOLTS (A.S.T.M. A325). ALL OTHER BOLTED CONNECTIONS SHOULD BE FRICTION TYPE USING 3/4"ϕ HIGH STRENGTH BOLTS (A.S.T.M. A325).
ALL NEW STRUCTURAL STEEL SHOULD BE PAINTED WITH INORGANIC ZINC RICH PRIMER ONLY.

CONNECTION PLATES AND INTERMEDIATE STIFFENERS SHALL BE PLACED NORMAL TO THE TOP FLANGE OF THE GIRDER.

ALL DIMENSIONS ARE MEASURED ALONG A HORIZONTAL PLANE. LONGITUDINAL AND TRANSVERSE GRADE EFFECTS ARE NOT INCLUDED IN DIMENSIONS. THE NOTE ALSO APPLIES TO ALL DIMENSIONS AND PLATE LENGTHS GIVEN ON THE GIRDER ELEVATION.

PRIOR TO STEEL BLAST, ALL FLAME CUT EDGES OF PLATES THAT ARE TO BE PAINTED SHALL BE GROUND OR PLANED TO REMOVE THE HARDENED SURFACE CAUSED BY THE FLAME.

FIELD REPAIR OF PAINT AT EXISTING STEEL MEMBERS WITHIN 1'-0" OF PROPOSED CONNECTIONS SHALL BE INCLUDED IN THE BID ITEM, "PAINTING INORGANIC ZINC RICH PRIMER".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY MMK	PLANS CK'D. MX

FRAMING PLAN

SHEET 16 OF 24
190
JAN-28-2010

HNTB

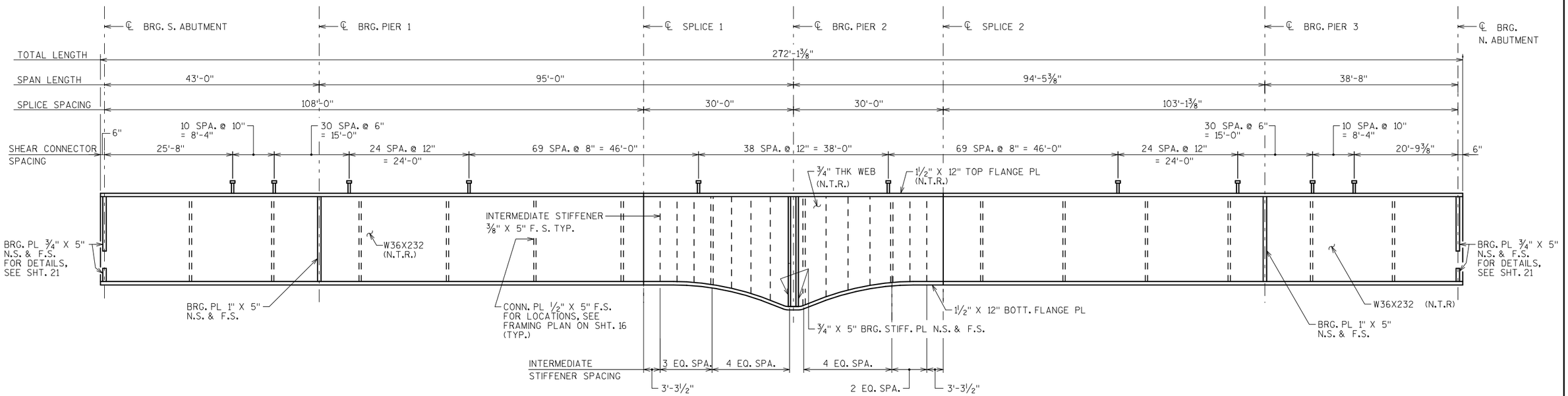
8

8

\\chiw00\projects\50206\CADD\cds\new 36\50206_B1836_16fpl.dgn
28-JAN-2010 07:54
PLOTTED BY: Ikaita

SCALE =

STATE PROJECT NUMBER
1022-01-73



GIRDER N1 ELEVATION

NOTES:

N.T.R. DENOTES STEEL THAT SHALL CONFORM TO SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS (ZONE 2).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY MMK	PLANS CK'D. MX

HNTB

GIRDER ELEVATION

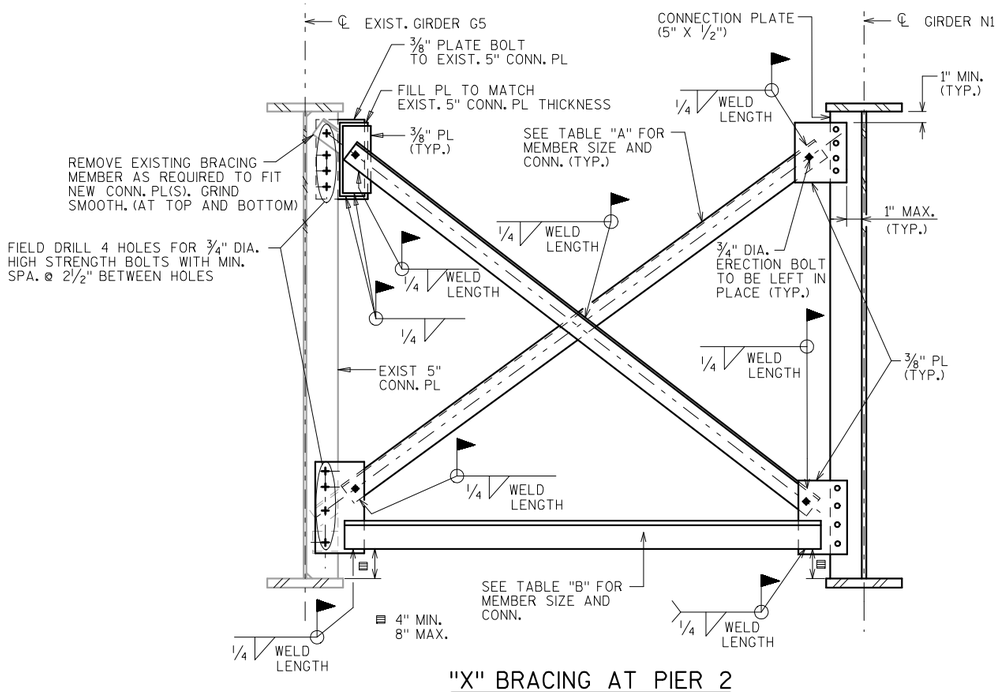
SHEET 17 OF 24
191
JAN-28-2010

SCALE =

8

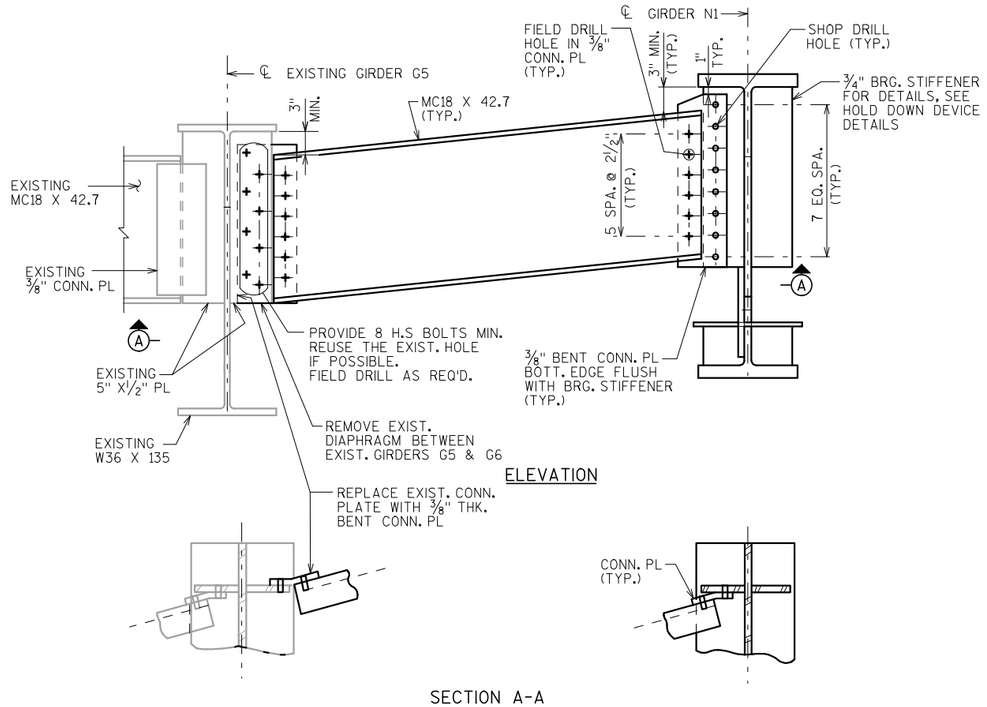
8

\\chiw00\projects\50206\CADD\tcds\new 36\50206_B1836_18steeldet.dgn
28-JAN-2010 07:54
PLOTTED BY: Italita



"X" BRACING AT PIER 2

(LOOKING UPSTATION)



ELEVATION

SECTION A-A

END DIAPHRAGM CONNECTION

TABLE "A"

SIZE	MAX. LENGTH OF MEMBER	WELD LENGTH	NO. OF 3/4" ϕ BOLTS	WEIGHT PER FT.
L 3 1/2 X 3 1/2 X 5/16	21'-6"	9"	4	7.2#

TABLE "B"

SIZE	MAX. LENGTH OF MEMBER	WELD SIZE	WELD LENGTH	NO. OF 3/4" ϕ BOLTS	WEIGHT PER FT.
L 5 X 5 X 5/16	11'-6"	1/4"	11"	4	10.3#

NOTES:

ALL BOLTED CONNECTIONS SHALL BE FRICTION TYPE USING 3/4" ϕ HIGH STRENGTH BOLTS (A.S.T.M. A325) WITH DOUBLE WASHERS. U.N.O.

DIAPHRAGMS OR LOWER CROSS FRAME MEMBERS THAT ARE LEVEL SHALL BE PLACED 4" ABOVE THE TOP OF THE HIGHER BOTTOM FLANGE OF ADJACENT GIRDERS.

HOLES IN CROSS FRAME CONNECTIONS MAY BE OVERSIZED @ 15/16 " DIA. IN 1 PLY.

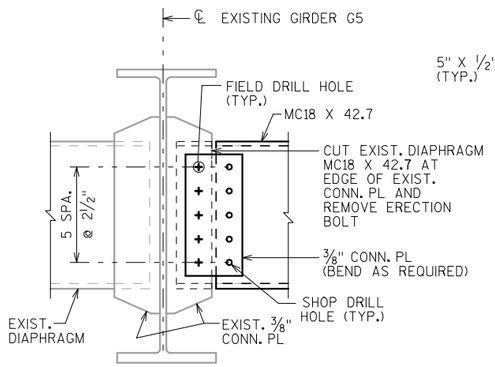
DIAPHRAGMS OR LOWER CROSS FRAME MEMBERS ARE SLOPED WHEN DIFFERENCE IN ADJACENT BOTTOM FLANGE ELEVATIONS EXCEEDS 6".

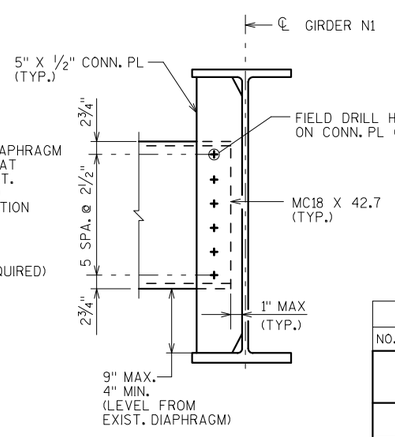
* TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	+ MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2" TO 2 1/4"	△ 3/8"
OVER 2 1/4" TO 6"	△ 1/2"

+ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"





INTERMEDIATE DIAPHRAGM

LEGEND

- EXISTING TO REMAIN
- PROPOSED
- \+ FIELD DRILL
- ○ SHOP DRILL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY MMK	PLANS CK'D. MX

HNTB

STEEL DETAILS I

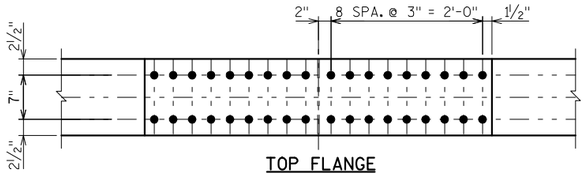
SHEET 18 OF 24
192
JAN-28-2010

SCALE =

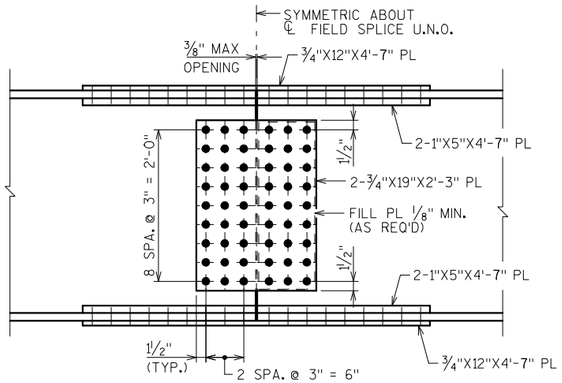
8

8

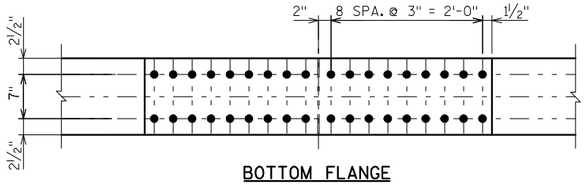
\\chfnw00\projects\50206\CADD\dots\new 36\50206_B1836_19steeldet_2.dgn
28-JAN-2010 07:54
PLOTTED BY: tkalita



TOP FLANGE



WEB

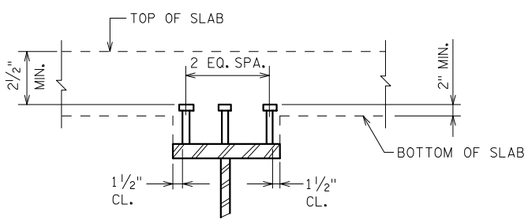


BOTTOM FLANGE

FIELD SPLICE DETAILS

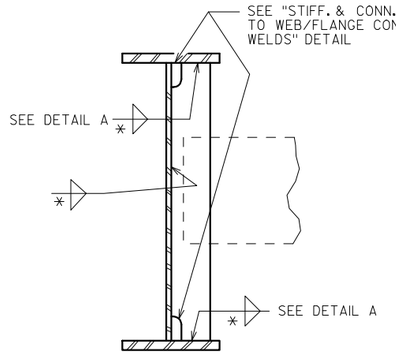
(ALL THE BOLTS IN FIELD SPLICE TO BE ⅞" DIA. ASTM A325 H.S BOLT)
(FOR GIRDER KINK ANGLE AT FIELD SPLICE 2, SEE FRAMING PLAN)

NOTE: USE THREE FIELD WELDED ⅞" DIA. X 6" LONG ⊖ STUDS EQUALLY SPACED WITH A MIN. OF 1½" CL. FROM THE FLANGE EDGE. STUDS SHALL NOT BE PLACED OVER FIELD SPLICE PLATES.

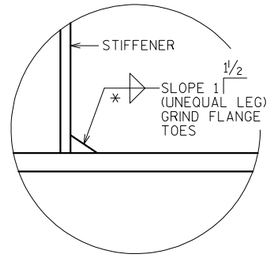


⊖ USE DIFFERENT LENGTH STUDS IF 2½" MIN. CLEARANCE OR 2" EXTENSION CRITERIA IS VIOLATED.

SHEAR CONN. DETAILS

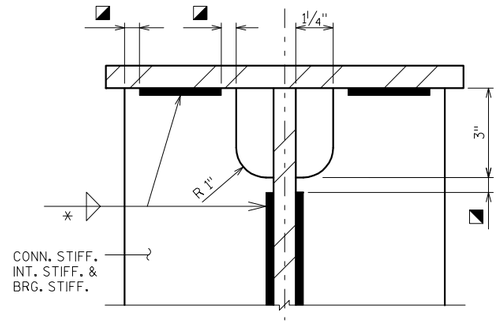


CONNECTION STIFF. DETAILS



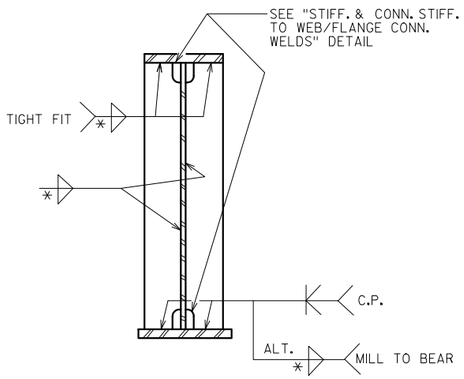
DETAIL A

CONNECTION STIFFENER DETAIL @ FLANGE



◪ ¼" MIN., ½" MAX. TYP.

STIFF. & CONN. STIFF. TO WEB/FLANGE CONN. WELDS



BRG. STIFF. DETAILS TYP. AT ABUTMENT & PIER

NOTES:

WORK THIS SHEET WITH SHEETS 16, 17 & 18.

STATE PROJECT NUMBER

1022-01-73

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY MMK | PLANS CK'D. MX

HNTB

STEEL DETAILS 2

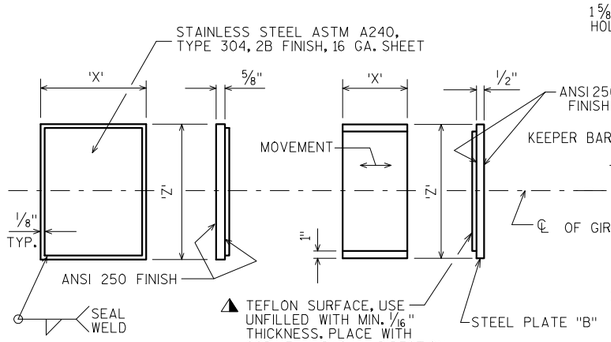
SHEET 19 OF 24
193
JAN-28-2010

SCALE =

8

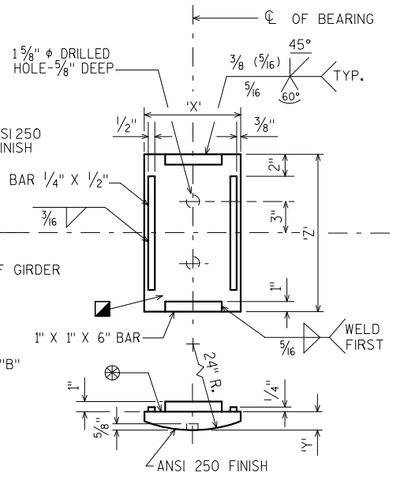
STATE PROJECT NUMBER

1022-01-73

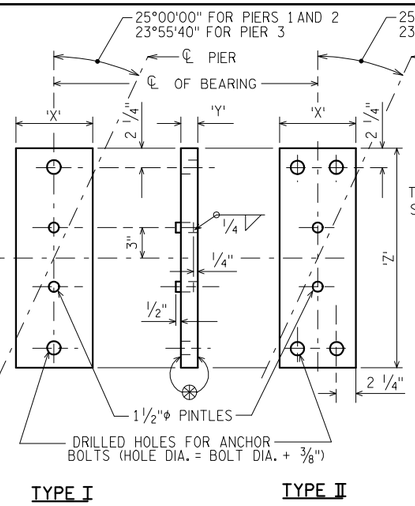


TOP PLATE "A"

TEFLON SURFACE ON PLATE "B"

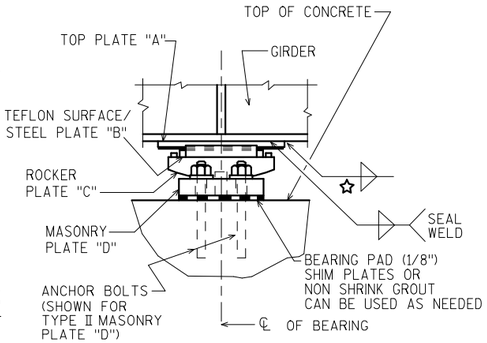


ROCKER PLATE "C"



TYPE I TYPE II

MASONRY PLATE "D"



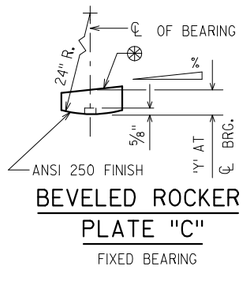
EXPANSION BEARING ASSEMBLY

EXPANSION BEARING

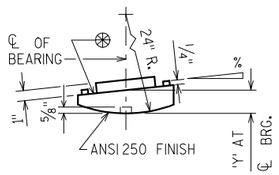
	PLATE "A"		PLATE "B"		PLATE "C"			PLATE "D"			PLATE "D" TYPE	ANCHOR BOLT SIZE	NO. OF BRG'S REQ'D.	HEIGHT (FEET)	LOCATION
	'X'	'Z'	'X'	'Z'	'X'	'Y'	'Z'	'X'	'Y'	'Z'					
EXPANSION BEARING	11"	1'-0"	7"	1'-0"	9"	1 5/16"	1'-2 1/4"	8"	1 1/2"	2'-4"	II	*	1	0.401	SOUTH ABUTMENT
	11"	1'-0"	7"	1'-0"	9"	1 5/16"	1'-2 1/4"	8"	1 1/2"	2'-4"	II	*	1	0.401	NORTH ABUTMENT
	1'-3"	1'-0"	11"	1'-0"	1'-11"	2 7/8"	1'-2 1/4"	11"	2"	1'-10"	I	**	1	0.521	PIER 1
	1'-3"	1'-0"	11"	1'-0"	1'-11"	2 7/8"	1'-2 1/4"	11"	2"	1'-10"	I	**	1	0.521	PIER 3
FIXED BEARING					2 3/8"	1'-2"		1'-1"	2 7/8"	1'-11"	I	**	1	0.448	PIER 2

* BEARING ASSEMBLY FOR GIRDERS SET ON EXISTING CONCRETE WILL HAVE 1 1/8" X 3'-0" LONG ANCHOR BOLTS, FULLY THREADED.
BEARING ASSEMBLY FOR GIRDERS SET ON PROPOSED CONCRETE ADDITION WILL HAVE 1 1/4" X 3'-0" LONG PRESET ANCHOR BOLTS, THREADED 3".
(SEE DETAILS ON SHEET 21)

** BEARING ASSEMBLY FOR GIRDERS SET ON EXISTING CONCRETE WILL HAVE 1 1/8" X 1'-10" LONG ANCHOR BOLTS, FULLY THREADED.
BEARING ASSEMBLY FOR GIRDERS SET ON PROPOSED CONCRETE ADDITION WILL HAVE 1 1/4" X 1'-5" LONG PRESET ANCHOR BOLTS, THREADED 3".



BEVELED ROCKER PLATE "C"
FIXED BEARING



BEVELED ROCKER PLATE "C"
EXPANSION BEARING

NOTES:

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SET ON EXISTING CONCRETE SHALL BE FULLY THREADED. ANCHOR BOLTS PRESET ON PROPOSED ABUT./PIER ADDITIONS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2 1/4", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING ANCHOR BOLTS, STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PROVIDE 1/8" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION" OR "BEARING ASSEMBLIES FIXED" EACH.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

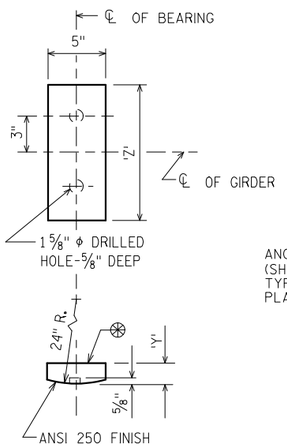
FIXED BEARINGS:
ROCKER PLATE "C" SHALL BE SHOP PAINTED WITH A WELDABLE PRIMER.
MASONRY PLATE "D" SHALL BE GALVANIZED.

EXPANSION BEARINGS:
TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A".
ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

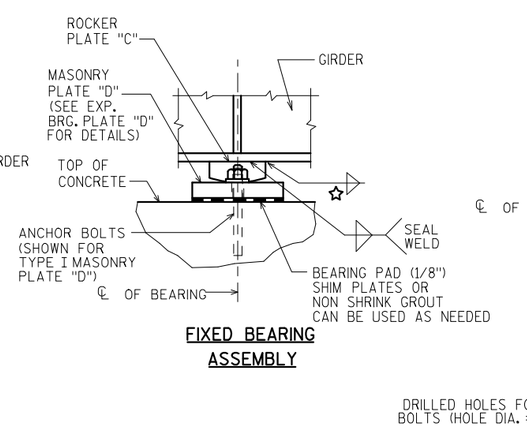
⊛ FINISH THESE SURFACES TO ANSI 250 IF 'Y' DIMENSION IS GREATER THAN 2".

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

◭ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

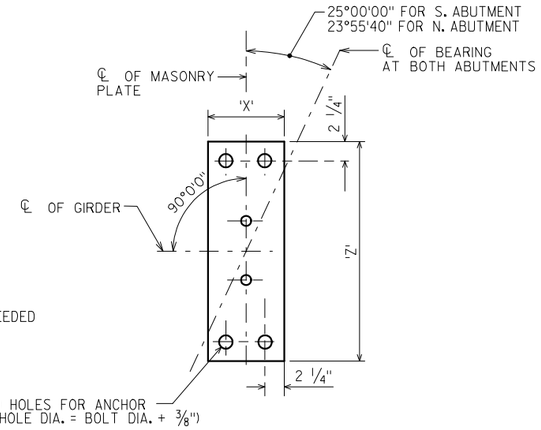


ROCKER PLATE "C"



FIXED BEARING ASSEMBLY

FIXED BEARING



PRE-SET ANCHOR BOLT PLAN AT HOLD DOWN DEVICE

☆TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	✝ MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2" TO 2 1/4"	△ 3/8"
OVER 2 1/4" TO 6"	△ 1/2"

✝ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY IS	PLANS CK'D. SL

HNTB

BEARING DETAILS

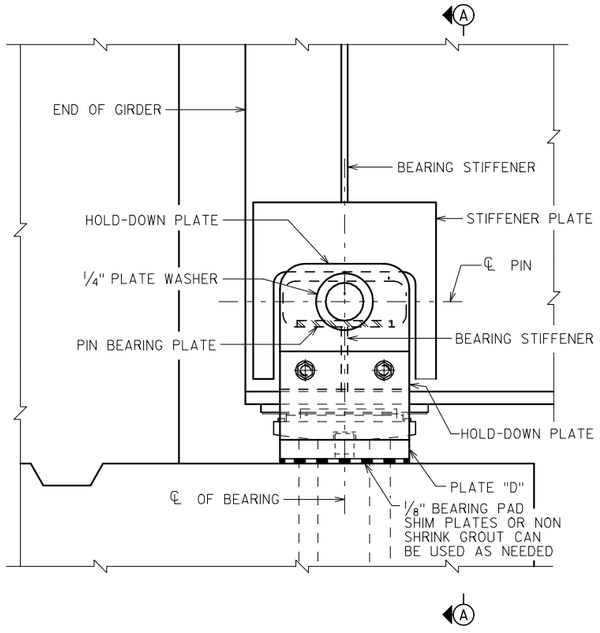
SHEET 20 OF 24
194
JAN-28-2010

\\chfnv00\projects\50206\CADD\dgn\new 36\50206_B1836_20bearing.dgn
28-JAN-2010 07:54
PLOTTED BY: Ikalita

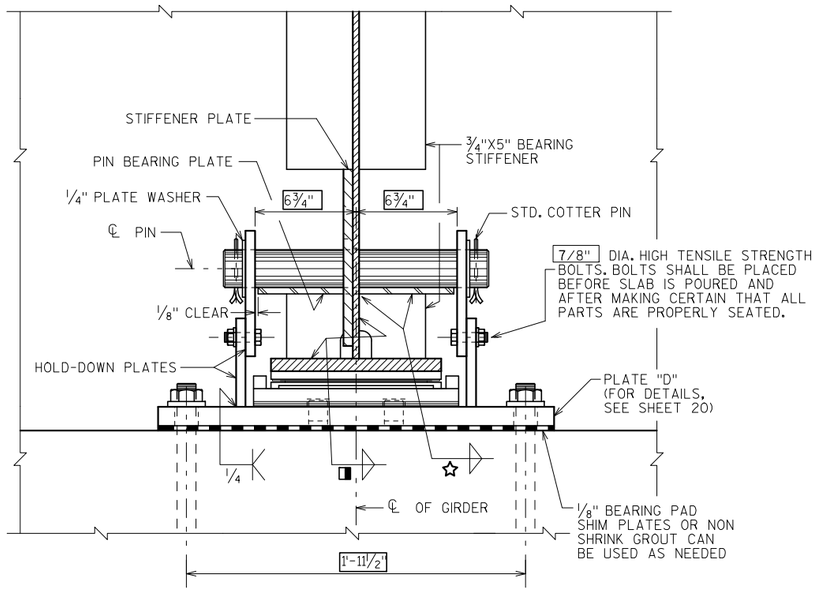
8

8

SCALE =

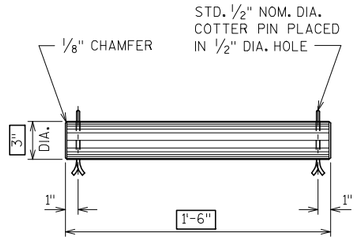


ELEVATION

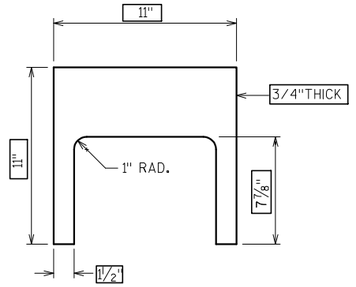


SECTION A-A

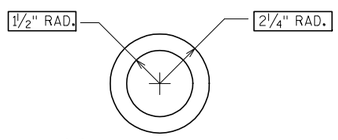
PERMANENT HOLD DOWN DEVICE



PIN DETAIL
COLD ROLLED STEEL OR CARBON STEEL FORGING.



STIFFENER PLATE



1/4" PLATE WASHER

NOTES:

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

CHAMFER TOP OF ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SHALL BE 1 1/8" DIAMETER X 3'-0" LONG AND FULLY THREADED AT EXISTING ABUTMENT LOCATION.

ANCHOR BOLTS SET ON PROPOSED CONCRETE ADDITION SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

THE MATERIAL FOR THE HOLD-DOWN PLATES SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL MATERIAL WELDED TO THE GIRDERS, WHICH INCLUDES BEARING STIFFENERS, STIFFENER PLATE, AND PIN BEARING PLATE, SHALL MATCH THE STEEL REQUIREMENTS OF THE WEB AT THAT LOCATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

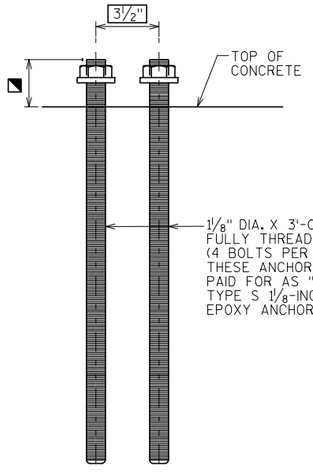
PROVIDE 1/8" THICK BEARING PAD THE SAME SIZE AS PLATE "D" FOR EACH BEARING.

ALL MATERIAL IN HOLD DOWN DEVICES, WHICH INCLUDES HOLD-DOWN PLATES, HIGH TENSILE STRENGTH BOLTS, PINS AND ANCHOR BOLTS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION".

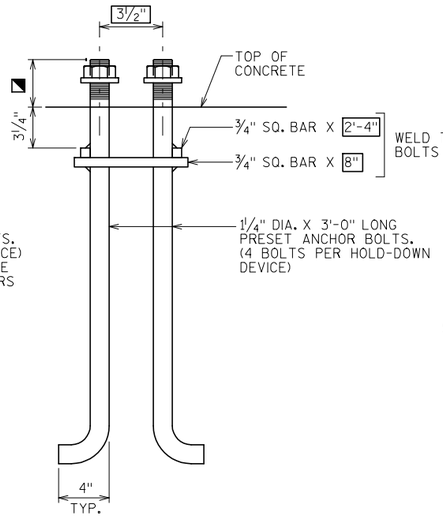
ALL MATERIAL WELDED TO THE GIRDERS, WHICH INCLUDES BEARING STIFFENERS, STIFFENER PLATE, AND PIN BEARING PLATE, SHALL BE INCLUDED IN THE BID ITEM USED FOR THE STEEL GIRDER QUANTITIES.

◥ PROJECT ANCHOR BOLTS, PLATE "D" THICKNESS + 2 1/4", ABOVE TOP OF CONCRETE

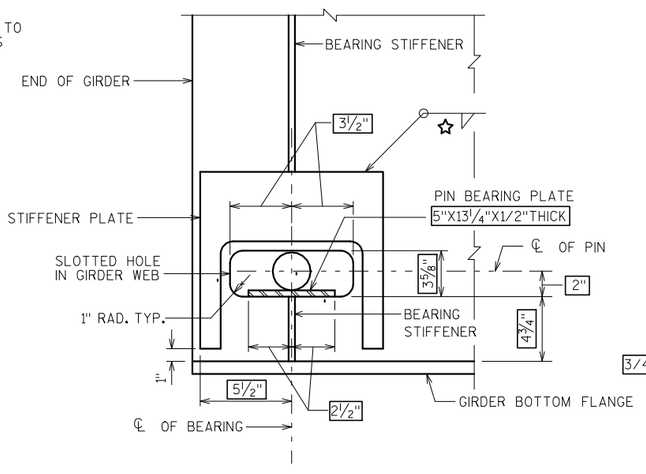
◨ SEE SHEET 19 FOR WELD DETAILS SHOWING BEARING STIFFENER CONNECTION TO WEB AND FLANGE.



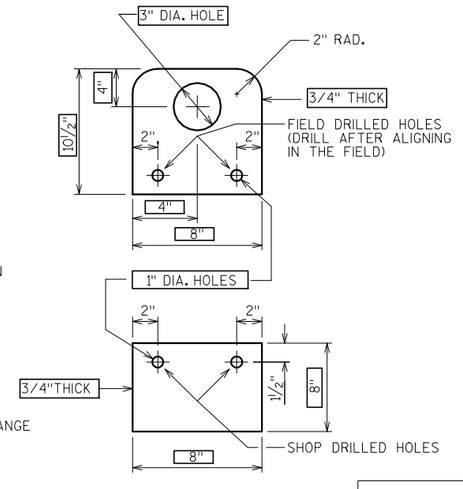
ANCHOR BOLT DETAIL
(AT EXISTING ABUTMENT LOCATION)



ANCHOR BOLT DETAIL
(AT PROP. EXTENSION OF ABUTMENT LOCATION)



GIRDER DETAIL



HOLD-DOWN PLATES

☆TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	ǂ MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2" TO 2 1/4"	△ 3/8"
OVER 2 1/4" TO 6"	△ 1/2"

ǂ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△MIN. PASS SIZE IS 5/16"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY IS | PLANS CK'D. SL

HOLD DOWN DEVICE

SHEET 21 OF 24
195
JAN-28-2010

HNTB

SCALE =

\\chiw00\projects\50206\CADD\cds\new 36\50206_B1836_21holddown.dgn
28-JAN-2010 07:55
PLOTTED BY: Ikaiita

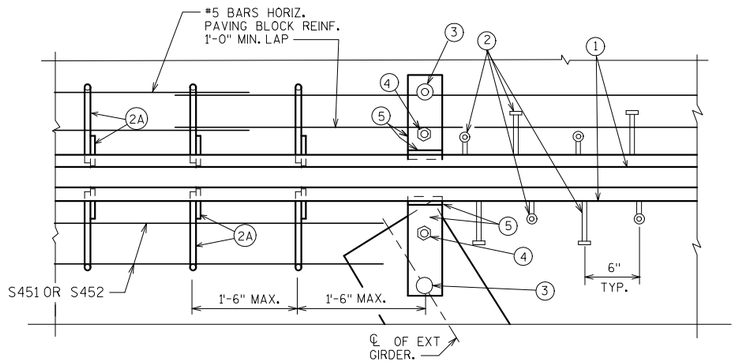
8

8

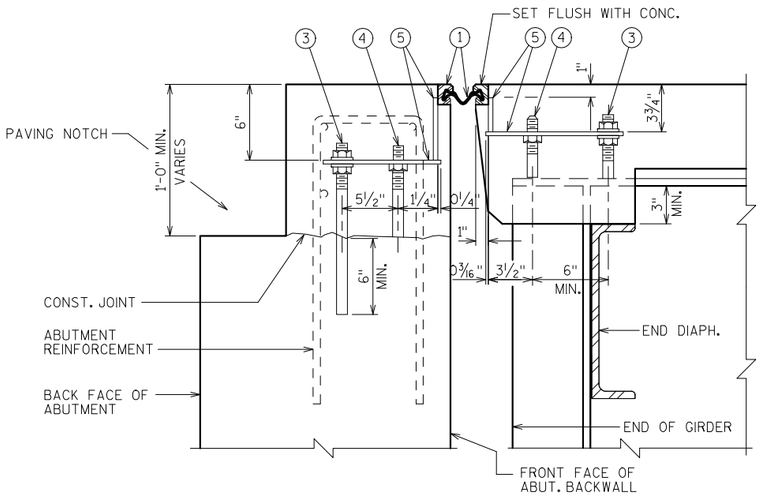
\\dtnw00\projects\50206\CADD\cds\new 36502006_B1836_22expansion.dgn
28-JAN-2010 07:55
PLOTTED BY: Ikalita

STATE PROJECT NUMBER

1022-01-73

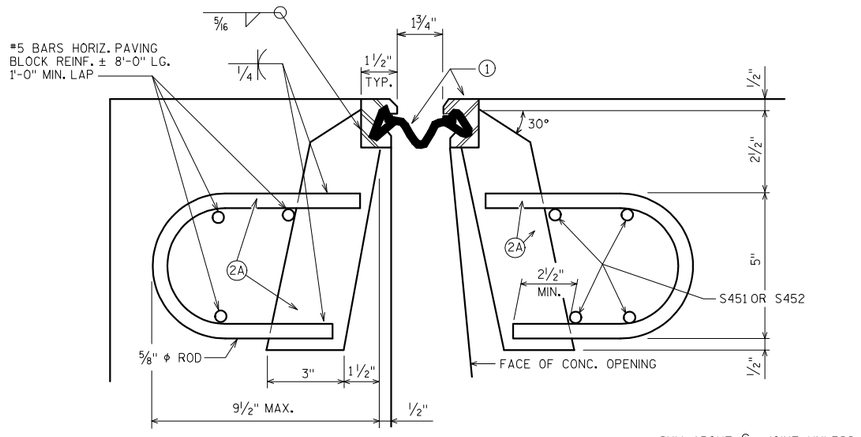


PART PLAN



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.
2. STUDS ⅝"ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A. ½" THICK ANCHOR PLATE WITH ⅝"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO #1 AT 1'-6" CENTERS BETWEEN GIRDERS.

3. ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO. 3 & 1" ϕ HOLE FOR NO. 4.
6. **GALVANIZED PLATE ⅜" X LIMITS SHOWN WITH HOLES FOR #7. BEND AS SHOWN.**
7. ¾"ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"ϕ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED CSK. HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES:

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

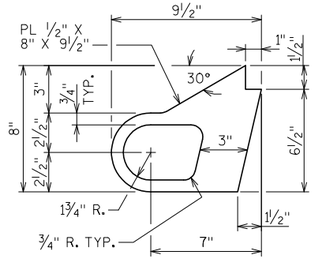
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

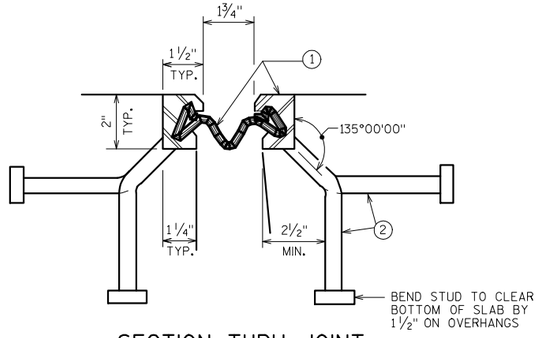
SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE".



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS, MEDIANS & SIDEWALKS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY IS	PLANS CK'D. SL

STRIP SEAL EXPANSION JOINT DETAILS

SHEET 22 OF 24
196
JAN-28-2010

HNTB

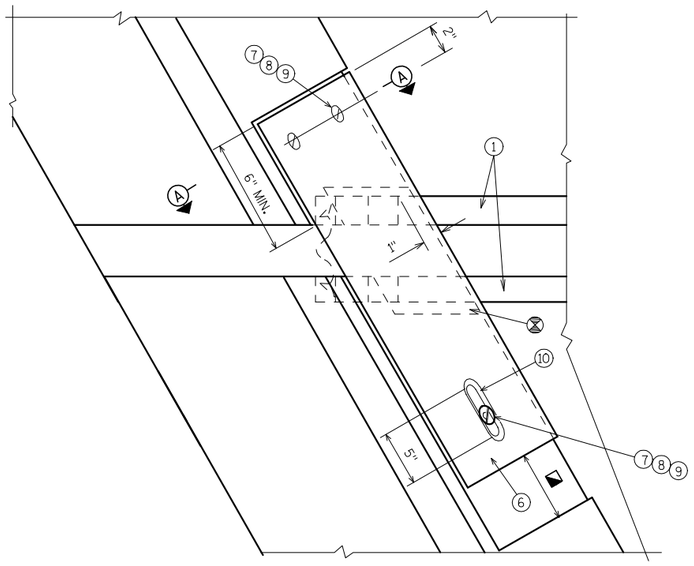
SCALE = -

8

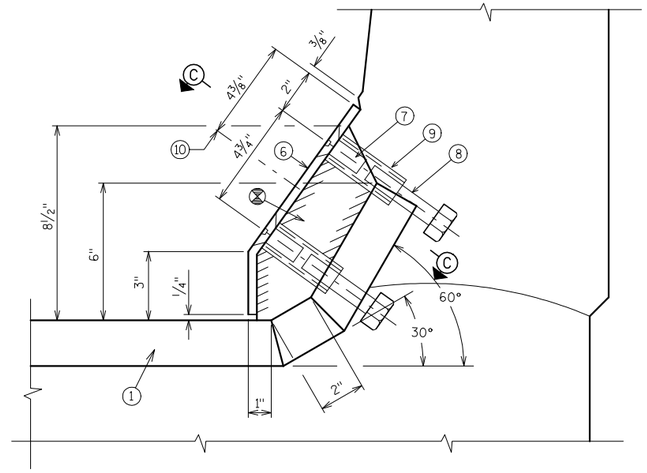
8

STATE PROJECT NUMBER

1022-01-73



PLAN



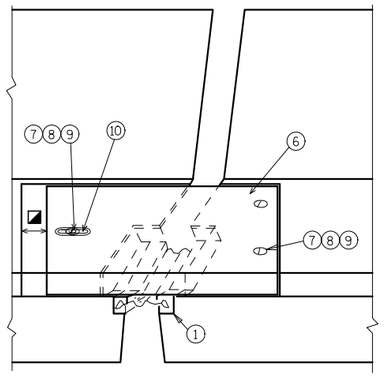
SECTION A-A

NOTE:

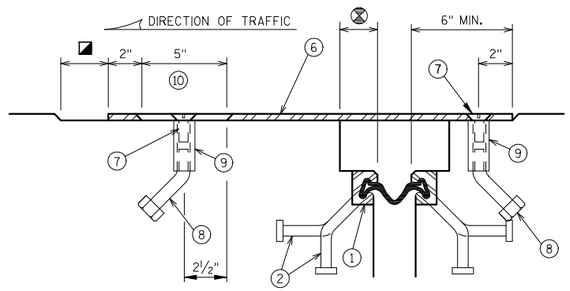
WORK THIS SHEET WITH SHEET 22.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING

◪ JOINT OPENING DIM. ALONG SKEW PLUS 1/2"



VIEW OF PARAPET PLATES FROM ROADWAY



SECTION C-C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010	DRAWN BY IS	PLANS CK'D. SL

STRIP SEAL COVER PLATE DETAILS

SHEET 23 OF 24
197
JAN-28-2010

HNTB

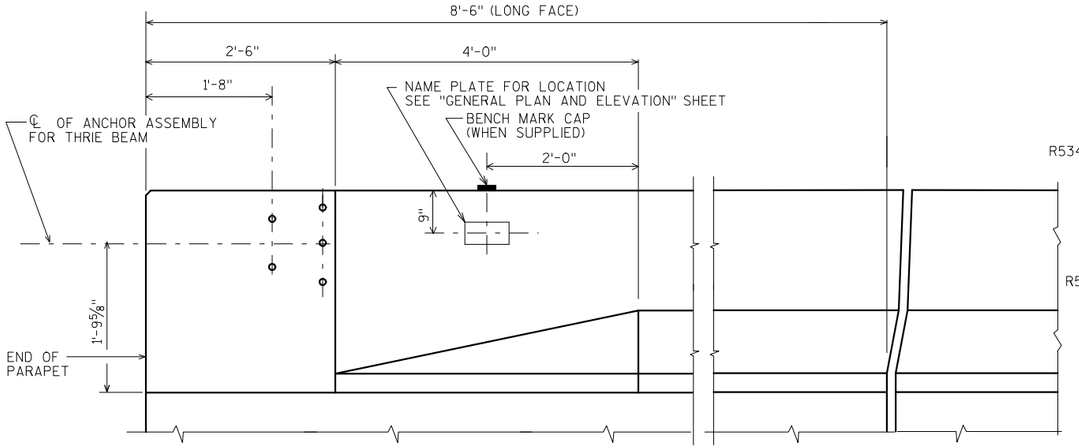
SCALE =

8

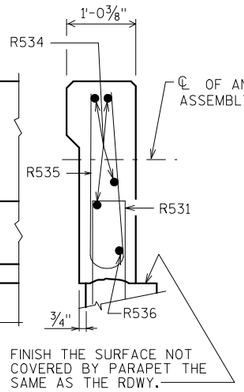
8

\\chiw00\projects\50206\CADD\cds\new 36\50206_B1836_23Seal_cover_PL.dgn
28-JAN-2010 07:55
PLOTTED BY: Ikaiita

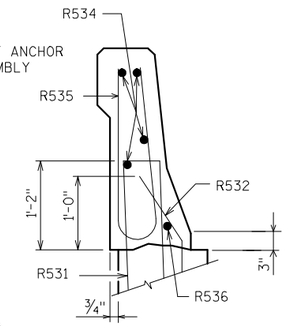
STATE PROJECT NUMBER
1022-01-73



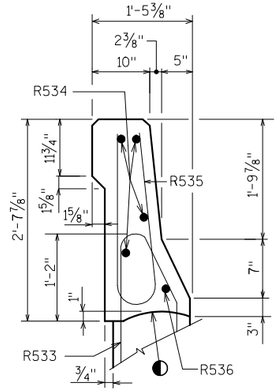
INSIDE ELEVATION



SECTION A



SECTION B

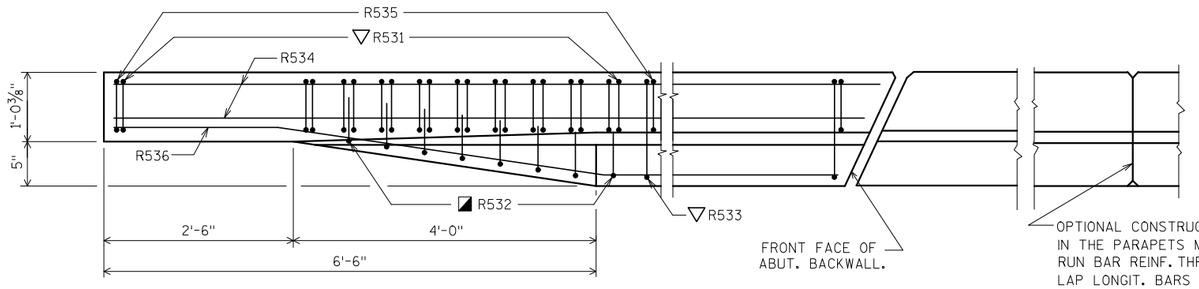


SECTION C

BILL OF BARS

FOR ABUTMENT PARAPETS

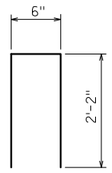
BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R531	X	28	28	4'-7"	X		PARAPET VERT.
R532	X	16	16	2'-4"	X		PARAPET VERT.
R533	X	6	6	4'-7"	X		PARAPET VERT.
R534	X	8	8	8'-4"			PARAPET HORIZ.
R535	X	34	34	4'-10"	X		PARAPET VERT.
R536	X	2	2	8'-4"	X		PARAPET HORIZ.



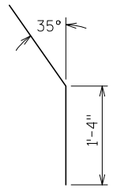
PLAN

FRONT FACE OF ABUT. BACKWALL.

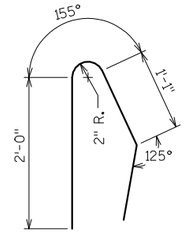
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



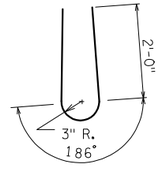
R531



R532

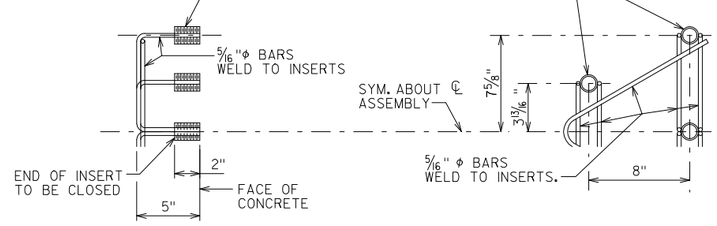


R533



R535

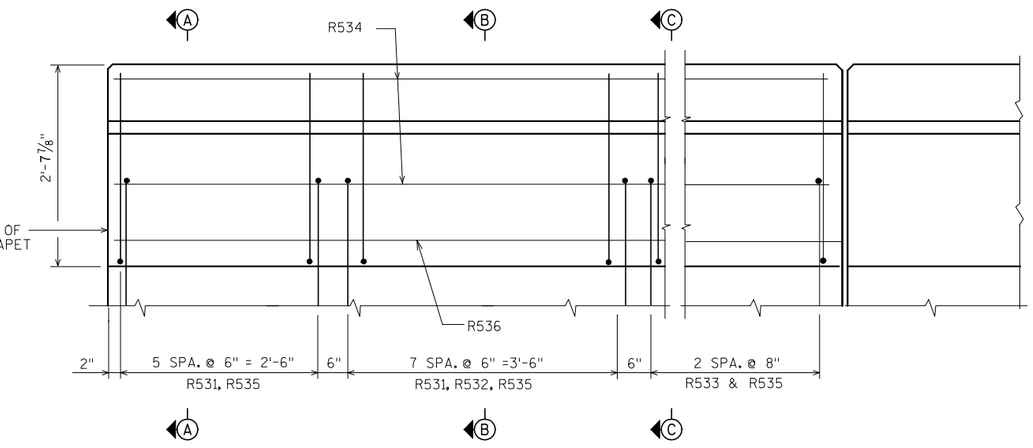
R536



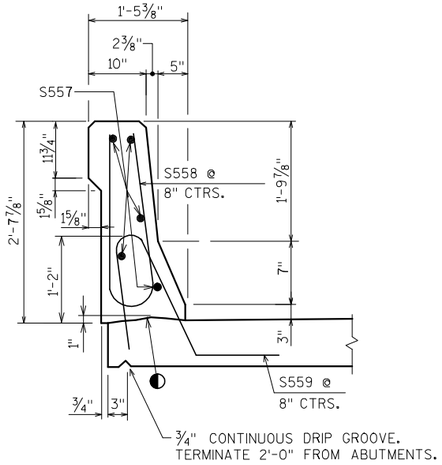
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE

(FOR BAR DETAILS AND BILL OF BARS SEE SHEET 14)

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R532 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R532 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R531 AND R533 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

2010 | DRAWN BY IS | PLANS CK'D. SL

HNTB

RAILING DETAILS

SHEET 24 OF 24
198
JAN-28-2010

SCALE =

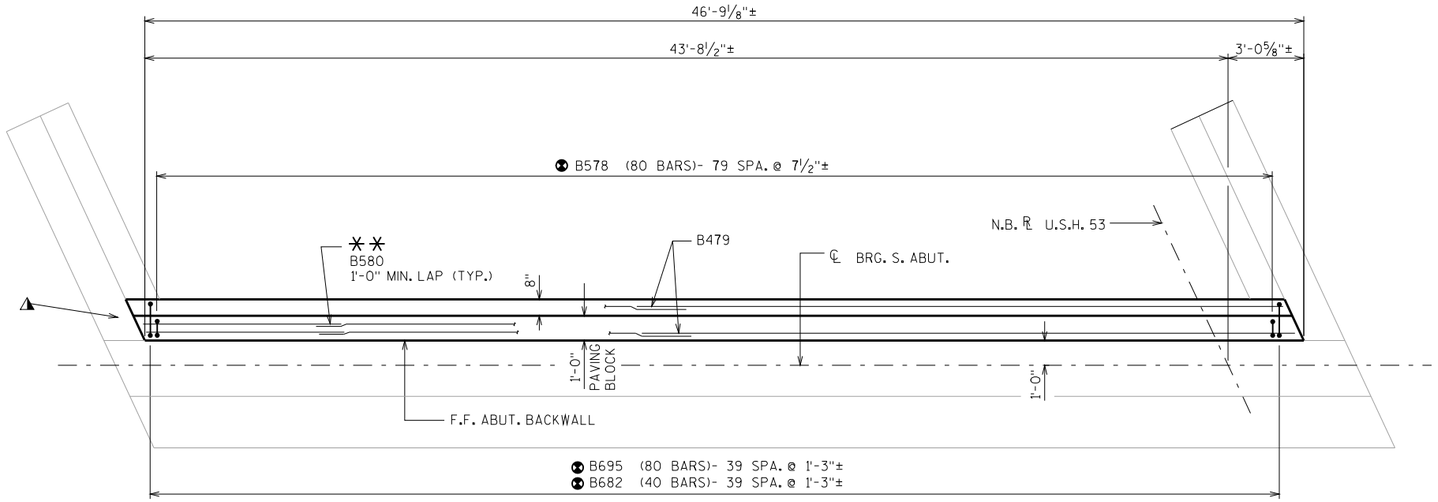
8

8

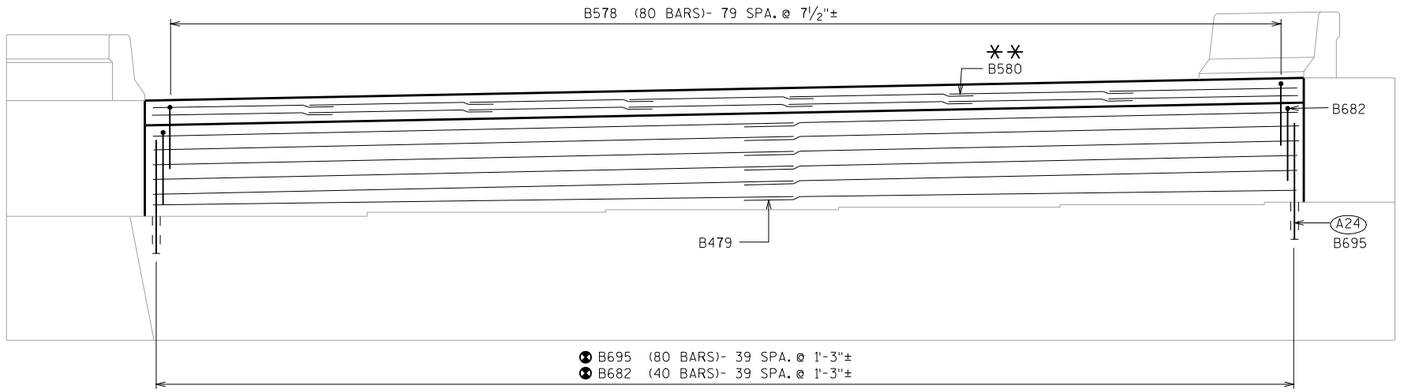
\\chiw00\projects\50206\CADD\cds\new 36502006_B1836_24railing.dgn
28-JAN-2010 07:55
PLOTTED BY: Ikaiita

STATE PROJECT NUMBER

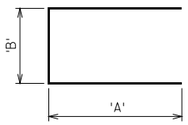
1022-01-73



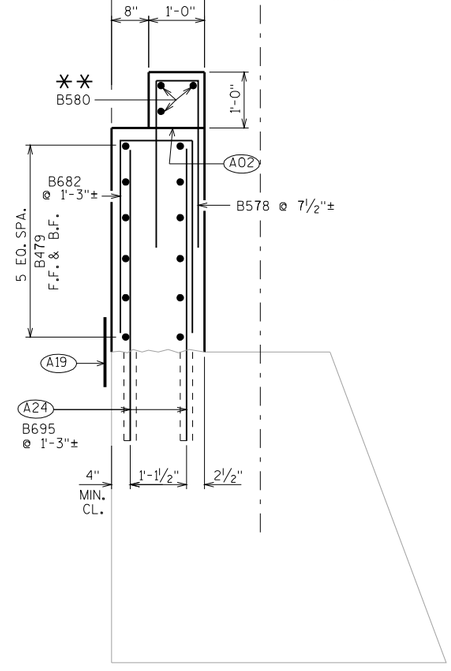
PLAN



ELEVATION



MARK	A	B
B578	3'-3"	0'-8"
B682	2'-11"	1'-4"



SECT. THRU ABUT.

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B578	X	17	7'-2"	X		PAVING BLOCK VERT.
B682	X	7	7'-2"	X		BACKWALL VERT.
(A24) B695	X	80	5'-0"			MASONRY ANCHORS

SPECIAL NOTE: USE THE FOLLOWING BARS FROM ORIGINAL PLANS: B578, B479, B580, B682, IN ADDITION TO THE BARS LISTED HERE, IN ORDER TO REINFORCE THE ABUTMENT BACKWALL AND PAVING BLOCK.

LIST OF DRAWINGS

6A. REVISED SOUTH ABUTMENT DETAILS
12A. REVISED NORTH ABUTMENT DETAILS

STRUCTURE DESIGN CONTACT:

KENT BAHLER (608) 266-8490
WARNER RISSER (608) 266-5081

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE NOTED.

▲ NOTE: SEE ORIGINAL PLANS FOR TIE-IN REINFORCEMENT BARS B483 & B489, WINGWALL TO BACKWALL.

✳✳ SET WITH EXPANSION JOINT ANCHOR PLATE. FOR MORE DETAILS, SEE HNTB PLAN SET.

FOR ELEVATIONS REFER TO HNTB PLAN SET.

FAN BARS B578, B682, AND B695, AS NEEDED AT ENDS OF ABUTMENT.

(A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A24) B695 MASONRY ANCHORS TYPE L NO. 6 BARS, EMBED 1'-6" INTO EXIST. CONCRETE. EPOXY ANCHORED.

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED _____ _____
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-18-36

USH 53 OVER IH-94

COUNTY EAU CLAIRE | ~~TOWN~~/CITY/~~VILLAGE~~ EAU CLAIRE

DESIGN SPEC. AASHTO LRFD DESIGN SPEC. 5th EDITION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
		WWR	DDS

REVISED SOUTH ABUTMENT BACKWALL DETAILS

SHEET 6A OF 24

I.D. 1022-01-73

DATE: MAY 2011

SCALE =

8

8

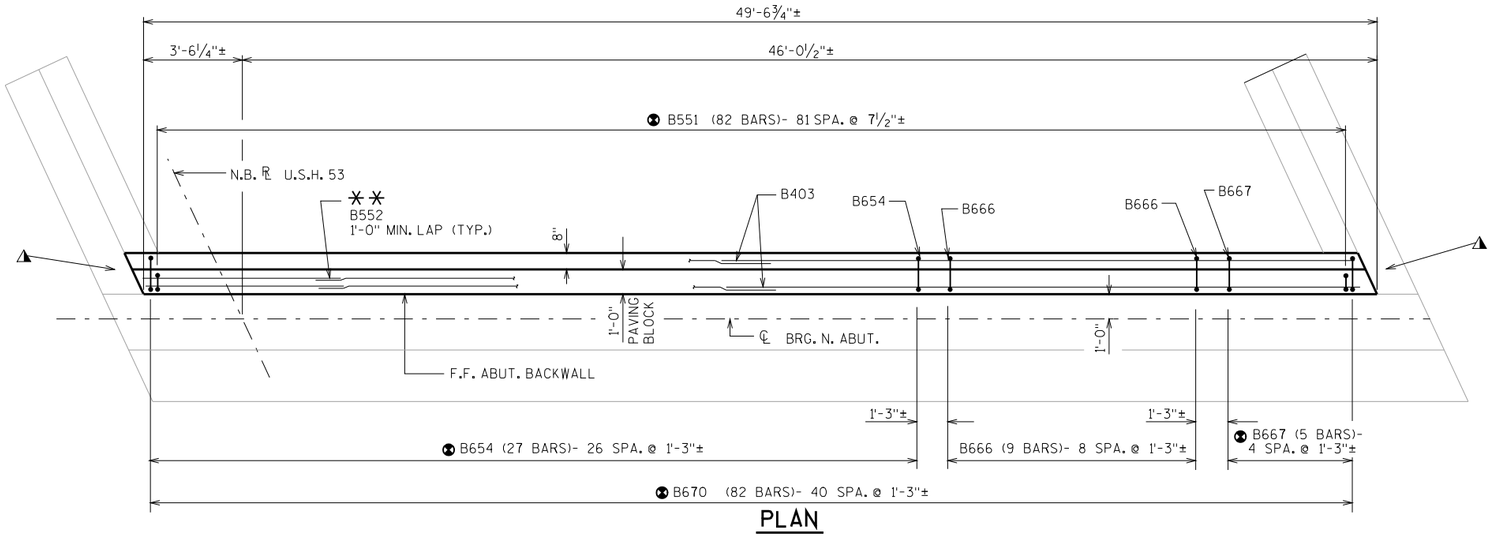
STATE PROJECT NUMBER
1022-01-73

BILL OF BARS

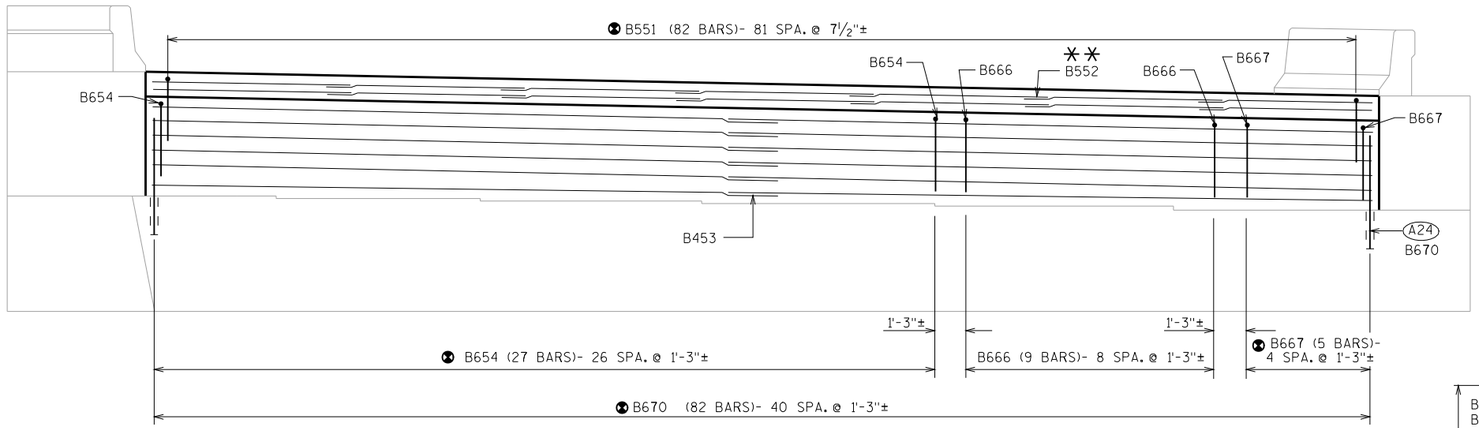
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B551	X	15	7'-4"	X		PAVING BLOCK VERT.
B654	X	5	6'-10"	X		BACKWALL VERT.
B666	X	1	8'-10"			BACKWALL VERT.
(A24) B670	X	82	5'-3"	X		MASONRY ANCHORS

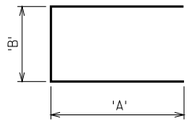
SPECIAL NOTE: USE THE FOLLOWING BARS FROM ORIGINAL PLANS: B551, B552, B453, B654, B666, B667, IN ADDITION TO THE BARS LISTED HERE, IN ORDER TO REINFORCE THE ABUTMENT BACKWALL AND PAVING BLOCK.



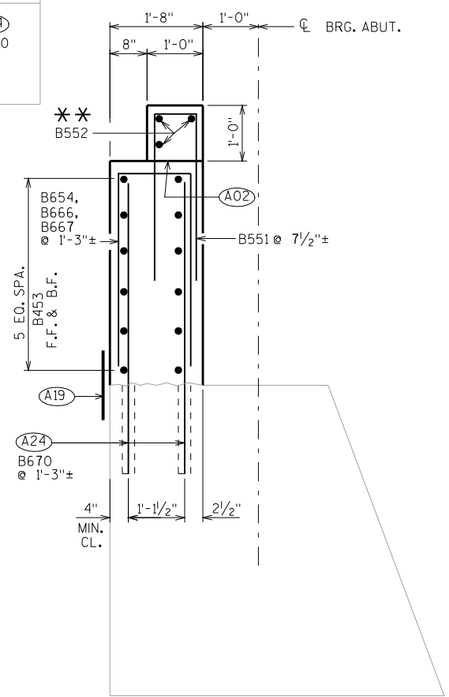
PLAN



ELEVATION



MARK	A	B
B551	3'-4"	0'-8"
B654	2'-9"	1'-4"
B666	3'-9"	1'-4"



SECT. THRU ABUT.

△ NOTE: SEE ORIGINAL PLANS FOR TIE-IN REINFORCEMENT BARS B455 & B461, WINGWALL TO BACKWALL.

✳✳ SET WITH EXPANSION JOINT ANCHOR PLATE. FOR MORE DETAILS, SEE HNTB PLAN SET.

FOR ELEVATIONS REFER TO HNTB PLAN SET.

FAN BARS B551, B654, AND B670 AS NEEDED AT ENDS OF ABUTMENT.

(A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A24) B670 MASONRY ANCHORS TYPE L NO. 6 BARS, EMBED 1'-6" INTO EXIST. CONCRETE. EPOXY ANCHORED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-36

DRAWN BY WWR | PLANS CK'D. DDS

REVISED NORTH ABUTMENT BACKWALL DETAILS

SHEET 12A

SCALE =

8

8