

Minimum Vertical Clearance for Existing Bridges which are not Being Replaced and for Existing Bridges on which the Superstructure is not Being Replaced^{1, 2}

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁵ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ⁶
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	16'-3" min. or ES ³		18'-0" min. or ES ³ for existing sign structures on new construction projects or reconstruction projects;
		If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
		If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial (minor) either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³ If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³ 15'-6" If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		17'-0" or ES ³ for existing sign structures on 3R projects
		If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
		If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial STH (excludes freeway and expressway)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³ If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³ If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		
		If existing is ≥ 14'-0", but < 16'-0" then maintain existing min. or ES ³			
		If existing is ≥ 16'-0" then 16'-0" min. or ES ³			
Freeway ⁴ or Expressway	16'-0" min. or ES ³				
Railroad ⁵	Maintain existing vertical clearance - if existing clearance is < 23'-0" then confer with BTLR Railroads and Harbors Section to determine the adequacy of the existing clearance.				

General notes:

REHAB SCOPE:

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table. Provide greater than minimum clearance if evaluation shows that greater clearance is needed because bridge superstructure is susceptible to being hit by under-passing vehicles.
Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.
- ² Include a low clearance sign (W12-2), on structures if its use is in accordance with WisDOT MUTCD 2C.22.
- ³ ES = approved Exceptions To Standards Report required (see [FDM 11-1-2](#) and [FDM 11-1-4](#)).
- ⁴ See [FDM 11-44-1](#) for vertical clearance guidance specific to Interstate freeways.
- ⁵ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.
- ⁶ See LRFD Bridge Manual Chapter 39 for design considerations for vertical clearance on Sign Structures (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm).

Vertical Clearance for Construction of New Bridges, Replacement Bridges, and Bridges on which the Superstructure is being replaced¹

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁴ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ²
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-9" Desirable	15'-3" Desirable	16'-9" Desirable	16'-9" Desirable	18'-3" Minimum
	15'-3" Minimum	14'-9" Minimum	16'-3" Minimum	16'-3" Minimum	
Arterial (MINOR) either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	16'-9" Desirable	15'-3" Desirable	17'-9" Desirable	17'-9" Desirable	
	16'-3" Minimum	14'-9" Minimum	17'-3" Minimum	17'-3" Minimum	
Freeway ³ or Expressway or arterial STH	16'-9" Desirable		17'-9" Desirable		
	16'-4" Minimum		17'-4" Minimum		
Railroad ^{4,5,6,7}	23'-0" Minimum to 23'-3½" Maximum				

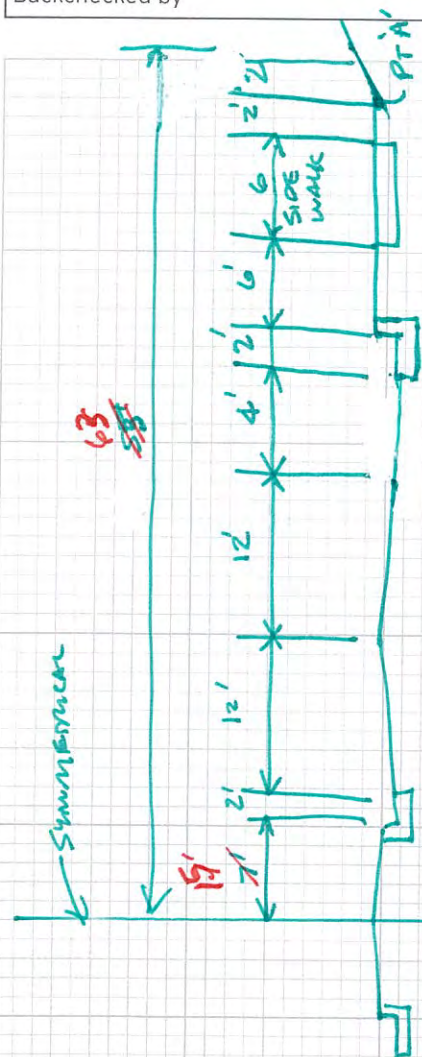
General notes:

RELAYSTRUCT SCOPE 16.75'

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table.
Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.
Do not exceed the desirable vertical clearance shown unless justified. Depending on topography and other specific situations vertical clearance for any structure may be greater than that shown when justified. Some things to consider are: over height loads traveling on the roadway; the level of development in the area, the projected growth in traffic volume and importance of the roadway, and the possibility of reclassification.
- ² See LRFD Bridge Manual Chapter 39
(http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm) and LRFD Standard Details 39.02 and 39.10 for design considerations and requirements for vertical clearance on new and replacement Sign Structures.
- ³ See FDM 11-44-1 for vertical clearance guidance specific to Interstate freeways.
- ⁴ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.
- ⁵ A vertical clearance <23'-0" requires both an approved Exception to Standards (see FDM 11-1-2 and FDM 11-1-4) and early coordination with BTLR R&H, Railroads and Harbors Section (RHS) through the Region Railroad Coordinator. The Exception to Standards shall contain documentation that the Office of the Commissioner of Railroads (OCR) has been petitioned.
See Chapter 17 for additional information.
- ⁶ Provide justification for a vertical clearance >23'-3 ½" to the RHS.
- ⁷ Vertical clearance less than 23'-0" may be acceptable or desirable in certain situations, such as for spur tracks, lead tracks, some branch lines and even mainline tracks when other impediments to 23'-0" exist. Review such situations with the Railroad Project Coordination Engineer in RHS. Early coordination with RHS is required.

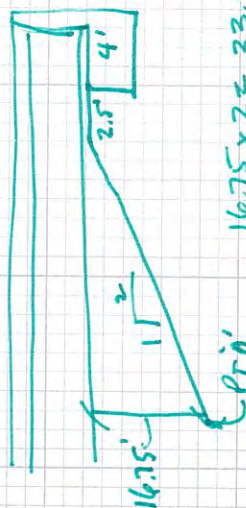
Calculations for	Job No.	Sheet No.
Made by	Date	
Checked by	Date	
Backchecked by	Date	

HNTB



USE 36" W BEAMS

URBAN DESIGN CLASS 4



2.5° SKEW
 $\cos 2.5^\circ = .99905$

$$16.75 \times 2 = 33.50$$

$$+ \frac{2.50}{4.00} = 40.00$$

BRIDGE LENGTH = $2(55 + 40) = 190$

206.2
 = 140.2

101.1
 25 lanes @ 2.0
 50.0
 101.1

BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

page 1

Inventory Data

Feature On: USH 41 SB		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0125
Feature Under: MAIN ST		Sect/Twn/Rng: S20 T20N R17E		
Location: 0.9M S JCT CTH II		County: WINNEBAG	Municipality: CITY-NEENAH (70261)	
Inv Rating: HS23	Rdwy Width (ft): 81.5	Deck Width (ft): 84.5, 71.5	Existing Posting:	
Oper Rating: HS52	Total Length (ft): 149.5	Deck Area(ft2): 11661	ADT On: 39335 Yr: 2003	ADT Under: 9630 Yr: 1980

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-28-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-17-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:			Date Last Rated: 02-16-93

Expansion Joints

Location	Type	Temp:			Signing Condition			
		File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N	Comments
					Bridge Markers			
					Narrow Bridge			
					One Lane Road			
					Vertical Clearance			
					Weight Limit Post			
					Other(Addl. Sign)	Y	Y	4 soffit lig

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)	15.62		
Min. Vertical Clearance Under (non-Cardinal)			
Min. Vertical Clearance On			

Structure Type

Material	Configuration	# of Spans	Overall Length (ft)	Year	Work Performed	Plan	Shop
CONT PREST CO	DECK GIRDER		32.0	1994	NEW STRUCTURE		
CONT PREST CO	DECK GIRDER		82.0				
CONT PREST CO	DECK GIRDER		32.0				

Construction/Rehabilitation History

Inspection Information

Special Requirements	Y/N	Comments				
Traffic Control						
Access Equipment						
Other						

Inspector Information

Team Leader Name and No. Printed: Michaelson, Neil (3010)	Team Member(s) Name(s) Printed: Dale Weber				
Team Leader Signature:	Inspection Date: 03-28-11	Inspection Agency: STATE HIGHWAY DEPARTMENT (1)			
District/Local Manager and No. Printed:	District/Local Manager Signature:	Review Date:			

Element Inspection (X) Check Elements Inspected

Quantity in Condition States

[illegible]

General Inspection/Maintenance Notes

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Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Approach - Patch Concrete
Amount: Date(YYYY-MM-DD):
Maintenance item comment: North approach - Right lane 8'x4' patch

Maintenance Item: Deck - Surface Repair Spalls
Amount: Date(MM-DD-YY):
Maintenance item comment: South side - Left lane 6'x4' patch

NBI Ratings

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

Maintenance Item:
Amount: Date(MM-DD-YY):
Maintenance item comment:

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BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

page 1

Inventory Data

Feature On: USH 41 NB		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0126
Feature Under: MAIN ST		Sect/Twn/Rng: S20 T20N R17E		
Location: 1.1M N JCT STH 114 T		County: WINNEBAG Municipality: CITY-NEENAH (70261)		
Inv Rating: HS25	Rdwy Width (ft): 56.3	Deck Width (ft): 59.3	Existing Posting:	
Oper Rating: HS53	Total Length (ft): 149.5	Deck Area(ft2): 8865	ADT On: 39335 Yr: 2003	ADT Under: 9630 Yr: 1980

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-28-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-17-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:		Date Last Rated: 11-09-93	

Expansion Joints

		Temp:			Signing Condition			
Location	Type	File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N	Comments
					Bridge Markers			
					Narrow Bridge			
					One Lane Road			
					Vertical Clearance			
					Weight Limit Post			
					Other(Addl. Sign)	Y	Y	4 soffit liq

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)	17.89		
Min. Vertical Clearance Under (non-Cardinal)	17.95		
Min. Vertical Clearance On			

Structure Type

Material	Configuration	# of Spans	Overall Length (ft)	Construction/Rehabilitation History			
				Year	Work Performed	Plan	Shop
CONT PREST CO	DECK GIRDER		32.0	1994	NEW STRUCTURE		
CONT PREST CO	DECK GIRDER		82.0				
CONT PREST CO	DECK GIRDER		32.0				

Inspection Information

Special Requirements	Y/N	Comments				
Traffic Control						
Access Equipment						
Other						

Inspector Information

Team Leader Name and No. Printed: Weber, Dale (3007)		Team Member(s) Name(s) Printed: Neil M	
Team Leader Signature:		Inspection Date: 03-28-11	Inspection Agency: STATE HIGHWAY DEPARTMENT (1)
District/Local Manager and No. Printed:		District/Local Manager Signature:	Review Date:

Element Inspection (X) Check Elements Inspected

Element Inspection (X) Check Elements Inspected					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 4	Conc Deck/Coatd Bars	SF	8865		8865			
		Diag, long & trans crs leaching. Small spall @ south edge of deck.							
X	109 / 4	P/S Conc Open Girder	LF	1023	1023				
X	172 / 4	Painted Steel Diaphr	EA	24	24				
X	205 / 4	R/Conc Column	EA	8	8				
X	215 / 4	R/Conc Abutment	LF	118	112	6			
		Minor leaching between the seat & wall. CS-2 (S Abut 2" & N Abut 4")							
X	234 / 4	R/Conc Cap	LF	118	118				
X	250 / 4	Concrete Diaphragm	EA	12	12				
X	321 / 4	R/Conc Approach Slab	EA	2		2			
		Both approaches settled.							
X	331 / 4	Conc Bridge Railing	LF	341	320	21			
		Vertical cracks							
X	340 / 1	Concrete Slope Prote	EA	2	1	1			
		Cracking.							
X	358 / 4	Deck Cracking SmFlag	EA	1	1				
X	359 / 4	Und Dk Surf Sm Flag	EA	1	1				
X	400 / 4	Concrete Wingwall	EA	2	2				

General Inspection/Maintenance Notes

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Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Approach - Patch Concrete

Amount: Date(YYYY-MM-DD):

Maintenance item comment: N approach center lane 3'X3'

Maintenance Item: Deck - Patching

Amount: Date(MM-DD-YY):

Maintenance item comment: Center lane 6'X3'

NBI Ratings

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

Maintenance Item: Approach - Seal Approach to Paving Block

Amount: Date(MM-DD-YY):

Maintenance item comment: w/rubber

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8.113

LIVELOAD:

DESIGN RATING: HS20 MODIFIED
INVENTORY RATING: HS22
OPERATIONAL RATING: HS47
MAX. STANDARD PERMIT VEHICLE LOAD: 250 KIPS
STRUCTURE IS DESIGNED FOR A FUTURE WEARING
SURFACE OF 20 POUNDS PER SQUARE FOOT.

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY - SLAB $f'_c = 4,000$ P.S.I.
 - ALL OTHER $f'_c = 3,500$ P.S.I.
 HIGH-STRENGTH BAR STEEL $f_y = 60,000$ P.S.I.
 REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.
 36" PRESTRESSED GIRDERS - CONCRETE MASONRY $f'_c = 6,000$ P.S.I.
 STRANDS - $1/2$ " DIA. WITH AN ULTIMATE
 TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A MINIMUM BEARING VALUE OF 40 TONS PER PILE. ESTIMATED 25'-0" LONG.

PIERS TO BE SUPPORTED ON SPREAD FOOTINGS WITH A MAXIMUM DESIGN SOIL PRESSURE OF 6 TONS PER SQUARE FOOT. FIRMED FOOTINGS 6" INTO SOUND ROCK.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & GRADE LINES
3. QUANTITIES & NOTES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT
10. NORTH ABUTMENT DETAILS
11. PIERS 1 & 2
12. PIER DETAILS
13. 36" PRESTRESSED GIRDER DETAILS
14. STEEL INTERMEDIATE DIAPHRAGMS
15. SUPERSTRUCTURE
16. SUPERSTRUCTURE
17. SUPERSTRUCTURE
18. SUPERSTRUCTURE
19. SLOPED FACE PARAPET 'B'
20. UNDERDECK LIGHTING DETAILS

TRAFFIC VOLUME

U.S.H. 41
A.D.T. (1992) = 42,600
A.D.T. (2012) = 56,250

NORTH STREET
A.D.T. (1992) = 3,450
A.D.T. (2012) = 4,350

$$\left[\frac{(4350)}{3450} \right]^{10 \frac{7}{10}} = (x)^{1/10}$$

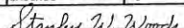
$$X = 1.0235$$

$$\sim 2.4\%$$

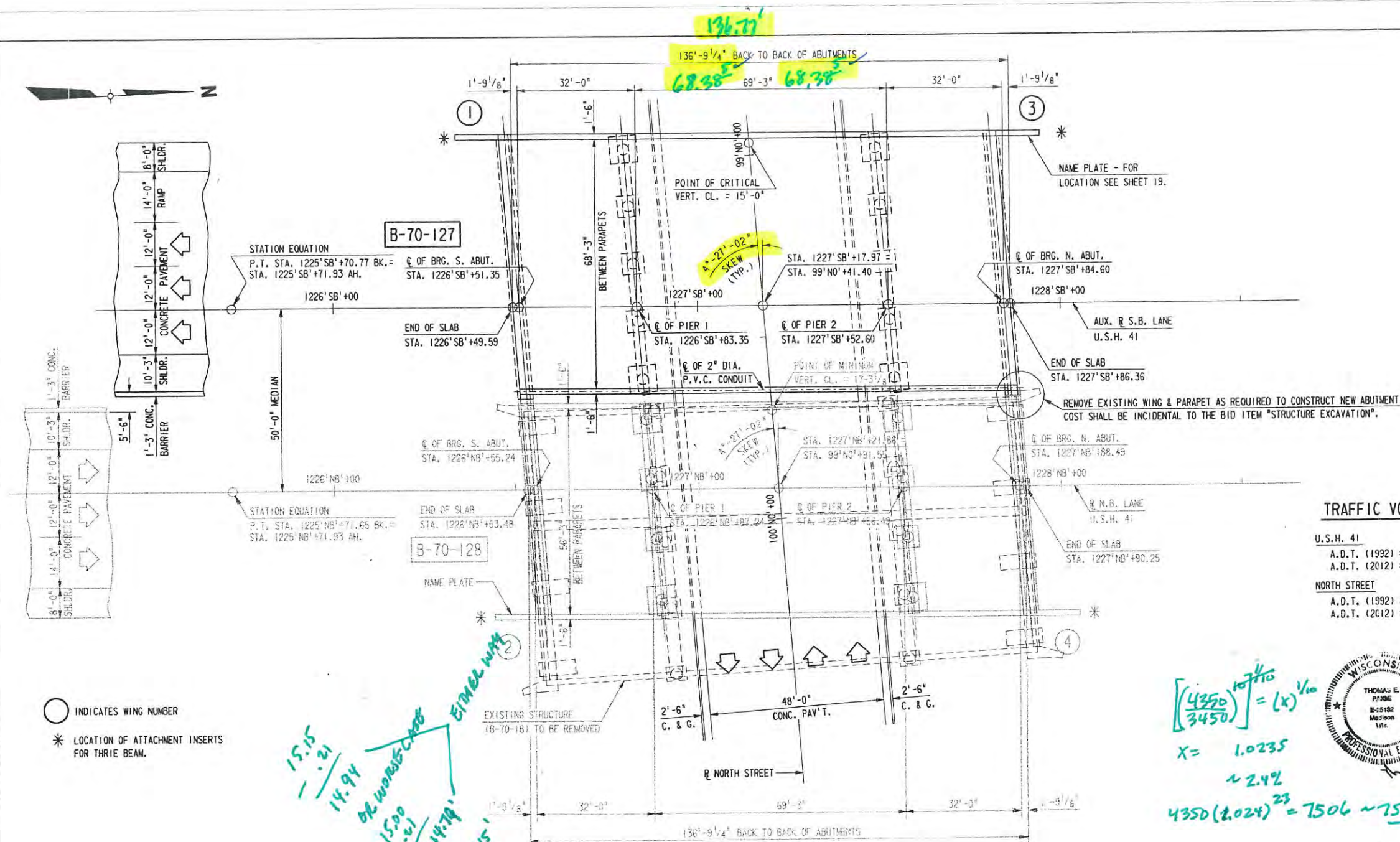
$$4350(1.024)^{23} = 7506 \sim 7500$$



BRIDGE OFFICE CONTACT:
C. RAY (608) 266-8486

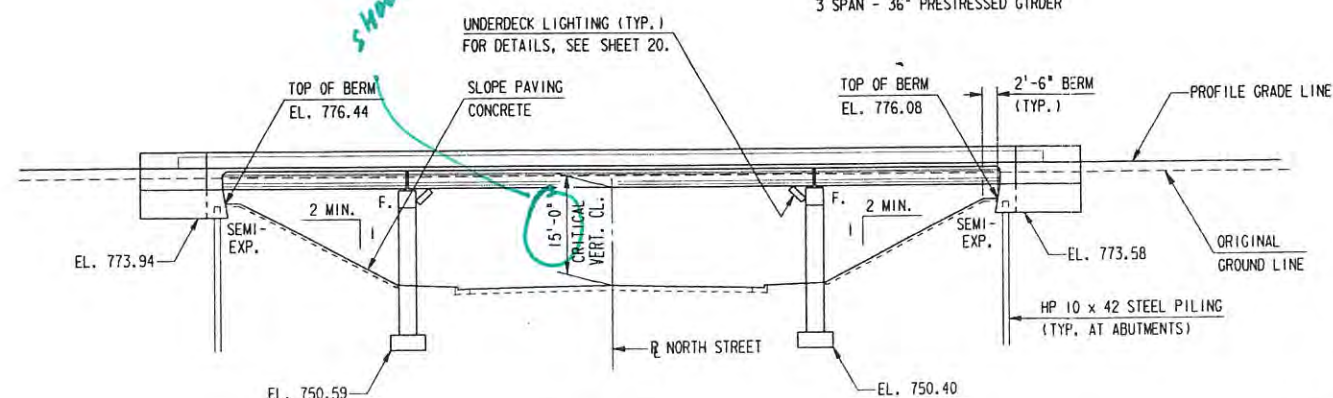
No.	Date	Revision	By
Donohue Engineers & Architects <u>COMPUTER AIDED DESIGN/DRAWING</u>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-127			
U.S.H. 41 (S.B.) OVER NORTH STREET			
County	WINNEBAGO	Town	NEENAH & MENASHA
Design Spec.	A.A.S.H.T.O. 1991	Load	HS20 MOD.
Designed By	T.E.P.	Drawn By	D.F.K.
Design Checked	T.J.R.	Plans Checked	LEN
Approved	 State Bridge Engineer		11-13-92 Date
GENERAL PLAN			SHEET 1 OF 20

D.A. 18433.954



PLAN

3 SPAN - 36" PRESTRESSED GIRDER



ELEVATION

(NORMAL TO NORTH STREET)

BENCH MARK

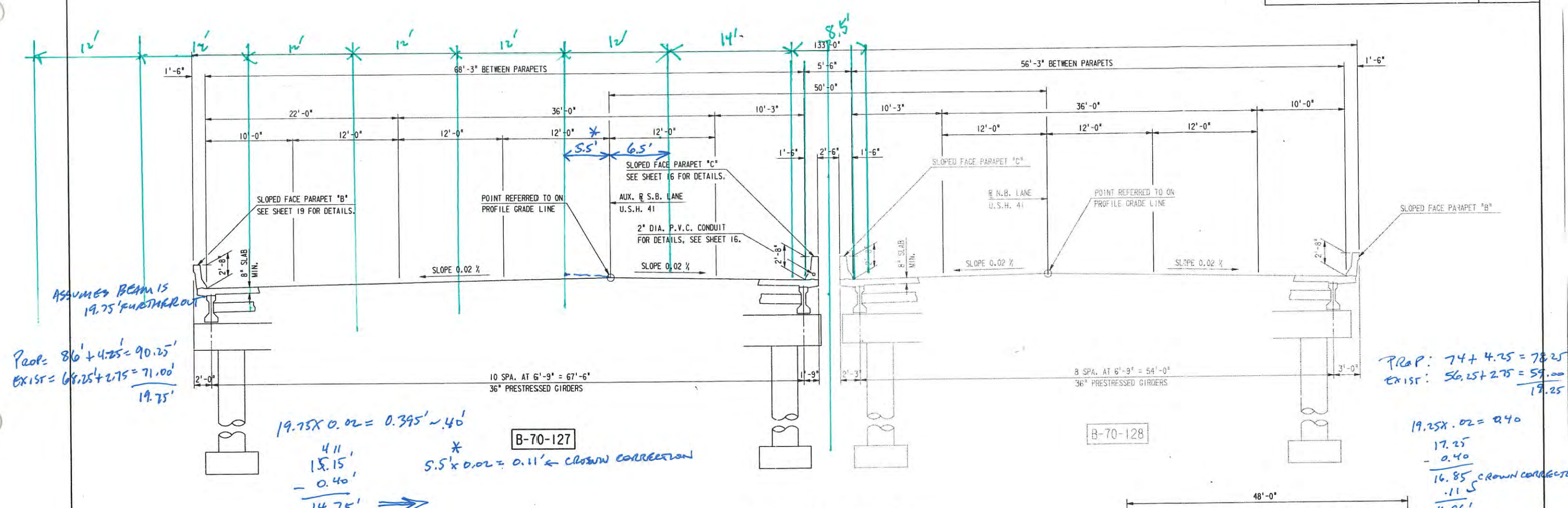
NO.	STATION	DESCRIPTION	ELEVATION
25	1226'SB'+61	ALUM. CAP. S.E. CORNER. N.B. STRUCTURE U.S.H. 41 & NORTH STREET	113' RT. 783.30

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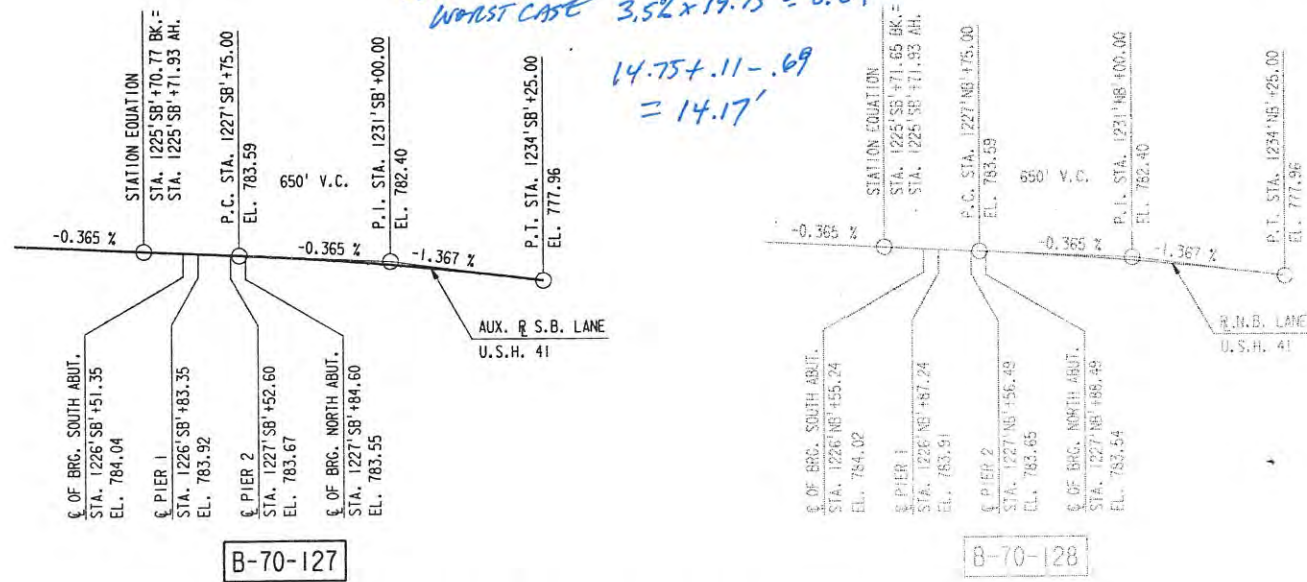
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PILOT TABLE = \pilotables\admb.tbl
DATE = Fri Jun 12 10:55:00 1992
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REFERENCE FILE 2 = rno.ref name
REFERENCE FILE 3 = rno.ref name
REFERENCE FILE 4 = rno.ref name
REFERENCE FILE 5 = rno.ref name
REFERENCE FILE 6 = rno.ref name
REFERENCE FILE 7 = rno.ref name

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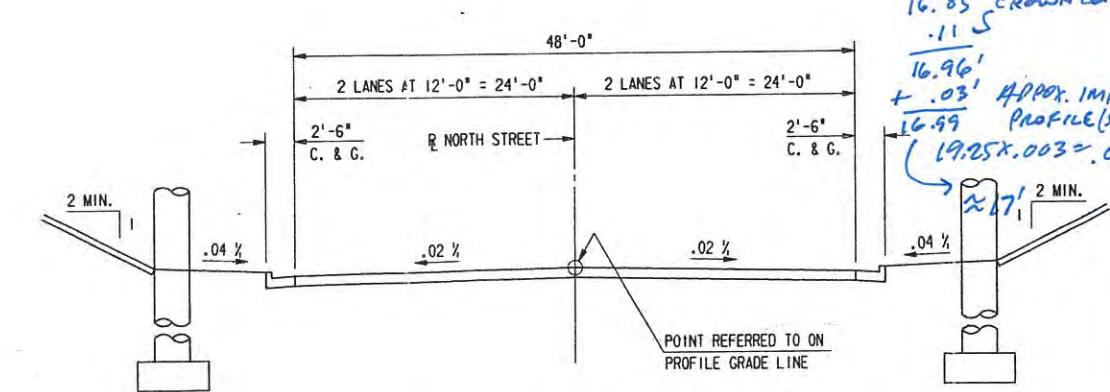
DONOHUE COMPUTER AIDED DESIGN & DRAFTING



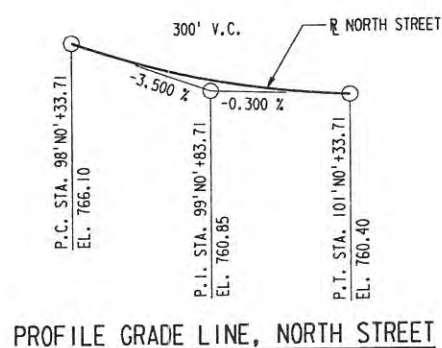
CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



PROFILE GRADE LINE, U.S.H. 41



TYPICAL SECTION THRU NORTH STREET



PROFILE GRADE LINE, NORTH STREET

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-127			
Const. Spec.	WIS. 1989	Drawn By	D.F.K.
		Plans Checked	LEN
CROSS SECTION & GRADE LINES		SHEET 2 OF 20	

Minimum Vertical Clearance for Existing Bridges which are not Being Replaced and for Existing Bridges on which the Superstructure is not Being Replaced^{1,2}

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁵ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ⁶
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	16'-3" min. or ES ³		18'-0" min. or ES ³ for existing sign structures on new construction projects or reconstruction projects;
		If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
		If existing is ≥ 14'-6" then 14'-6" min. or ES ³ 15.156			
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	If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³	If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
	If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial STH (excludes freeway and expressway)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		
	If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³	If existing is ≥ 14'-0", but < 16'-0" then maintain existing min. or ES ³			
	If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is ≥ 16'-0" then 16'-0" min. or ES ³			
Freeway ⁴ or Expressway	16'-0" min. or ES ³				
Railroad ⁵	Maintain existing vertical clearance - if existing clearance is < 23'-0" then confer with BTLR Railroads and Harbors Section to determine the adequacy of the existing clearance.				

General notes:

REHAS SCALE

WIDEN & REDECK

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table. Provide greater than minimum clearance if evaluation shows that greater clearance is needed because bridge superstructure is susceptible to being hit by under-passing vehicles.

Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.

- ² Include a low clearance sign (W12-2), on structures if its use is in accordance with WisDOT MUTCD 2C.22.

- ³ ES = approved Exceptions To Standards Report required (see [FDM 11-1-2](#) and [FDM 11-1-4](#)).

- ⁴ See [FDM 11-44-1](#) for vertical clearance guidance specific to Interstate freeways.

- ⁵ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.

- ⁶ See LRFD Bridge Manual Chapter 39 for design considerations for vertical clearance on Sign Structures (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm).

Vertical Clearance for Construction of New Bridges, Replacement Bridges, and Bridges on which the Superstructure is being replaced¹

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁴ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ²
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-9" Desirable	15'-3" Desirable		16'- 9" Desirable	18'-3" Minimum
	15'-3" Minimum	14'-9" Minimum		16'-3" Minimum	
Arterial either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	16'-9" Desirable	15'-3" Desirable		17'- 9" Desirable	
	16'-3" Minimum	14'-9" Minimum		17'-3" Minimum	
Freeway ³ or Expressway or arterial STH	16'-9" Desirable			17'- 9" Desirable	
	16'-4" Minimum			17'-4" Minimum	
Railroad ^{4,5,6,7}	23'-0" Minimum to 23'-3½" Maximum				

General notes:

RECONSTRUCT SLAB 15.25'

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table.

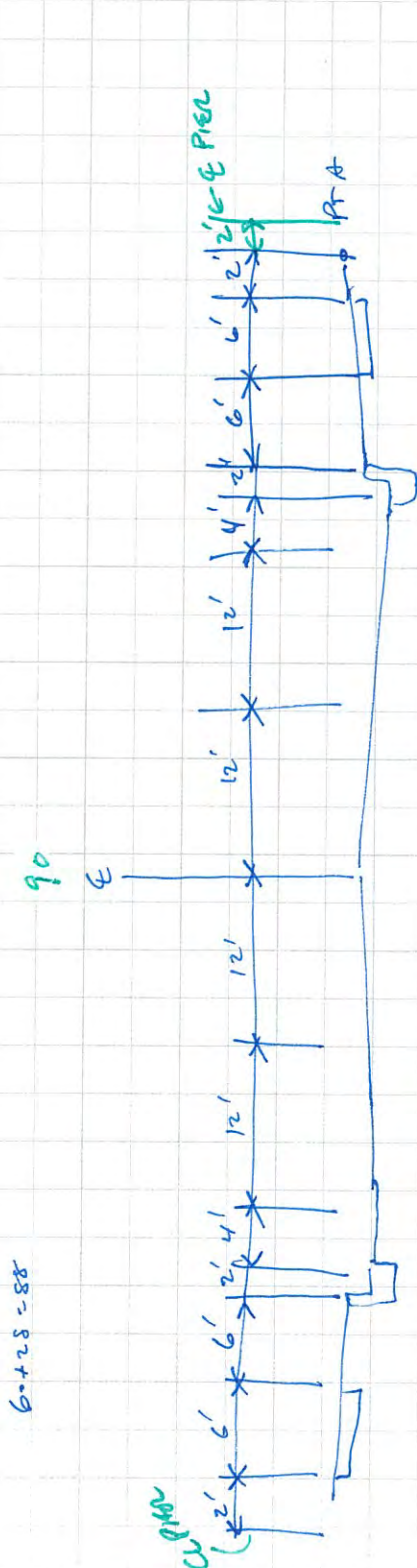
Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.

Do not exceed the desirable vertical clearance shown unless justified. Depending on topography and other specific situations vertical clearance for any structure may be greater than that shown when justified. Some things to consider are: over height loads traveling on the roadway; the level of development in the area, the projected growth in traffic volume and importance of the roadway, and the possibility of reclassification.

- ² See LRFD Bridge Manual Chapter 39 (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm) and LRFD Standard Details 39.02 and 39.10 for design considerations and requirements for vertical clearance on new and replacement Sign Structures.
- ³ See FDM 11-44-1 for vertical clearance guidance specific to Interstate freeways.
- ⁴ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.
- ⁵ A vertical clearance <23'-0" requires both an approved Exception to Standards (see FDM 11-1-2 and FDM 11-1-4) and early coordination with BTLR R&H, Railroads and Harbors Section (RHS) through the Region Railroad Coordinator. The Exception to Standards shall contain documentation that the Office of the Commissioner of Railroads (OCR) has been petitioned.
- See Chapter 17 for additional information.
- ⁶ Provide justification for a vertical clearance >23'-3 ½" to the RHS.
- ⁷ Vertical clearance less than 23'-0" may be acceptable or desirable in certain situations, such as for spur tracks, lead tracks, some branch lines and even mainline tracks when other impediments to 23'-0" exist. Review such situations with the Railroad Project Coordination Engineer in RHS. Early coordination with RHS is required.

FOR:	JOB NO:	SHEET NO:
MADE BY:	CHECKED BY:	BACKCHECKED BY:
DATE:	DATE:	DATE:

HNTB



$$\text{BRIDGE LENGTH} = 90 + 37(2) = 164'$$

$$164.5'$$

$$\text{PTA} \quad 15.25(2) = 30.5$$

$$\frac{2.5}{4.0} = 37.0$$

4.5° skew

$$\cos 4.5^\circ = .996917$$

$$\text{MIN SPAN} = \frac{90'}{.996917} = 90.3'$$

$$\text{END SPAN} = \frac{37}{.996917} = 37.1' - 2 = 35.1'$$

BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

Page 1

Inventory Data

Feature On: USH 41 SB		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0127
Feature Under: O NORTH STREET		Sect/Twn/Rng: S20 T20N R17E		
Location: 0.7M S JCT CTH II		County: WINNEBAG	Municipality: TOWN-NEENAH (70010)	
Inv Rating: HS22	Rdwy Width (ft): 68.2	Deck Width (ft): 71.2	Existing Posting:	
Oper Rating: HS47	Total Length (ft): 136.7	Deck Area(ft2): 9733	ADT On: 39335 Yr: 2003	ADT Under: 3650 Yr: 1980

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-28-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-17-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:		Date Last Rated: 02-16-93	

Expansion Joints

Location	Type	Temp:			Signing Condition			
		File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N	Comments
					Bridge Markers			
					Narrow Bridge			
					One Lane Road			
					Vertical Clearance			
					Weight Limit Post			
					Other(Addl. Sign)	Y	Y	

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal) EB	15.15		
Min. Vertical Clearance Under (non-Cardinal) WB	15.15		
Min. Vertical Clearance On			

Structure Type

Material	Configuration	# of Spans	Overall Length (ft)	Construction/Rehabilitation History			
				Year	Work Performed	Plan	Shop
CONT PREST CO	DECK GIRDER		32.0	1994	NEW STRUCTURE		
CONT PREST CO	DECK GIRDER		69.2				
CONT PREST CO	DECK GIRDER		32.0				

Inspection Information

Special Requirements	Y/N	Comments				
Traffic Control						
Access Equipment						
Other						

Inspector Information

Team Leader Name and No. Printed: Michaelson, Neil (3010)		Team Member(s) Name(s) Printed: Dale Weber	
Team Leader Signature:		Inspection Date: 03-28-11	Inspection Agency: STATE HIGHWAY DEPARTMENT (1)
District/Local Manager and No. Printed:		District/Local Manager Signature:	Review Date:

Element Inspection (X) Check Elements Inspected					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 4	Conc Deck/Coatd Bars	SF	9733		9733			
	Long & diag crs, leaching Patch at north end of deck								
X	109 / 4	P/S Conc Open Girder	LF	1462	1460	2			
	Spalls on exterior beam. Repaired area failing on W side. Spall on 4th girder at pier # 1								
X	172 / 4	Painted Steel Diaphr	EA	30	30				
X	205 / 4	R/Conc Column	EA	10	10				
X	215 / 4	R/Conc Abutment	LF	141	129	12			
	Leaching between the seat & wall. Vertical cracks, S. abut.								
X	234 / 4	R/Conc Cap	LF	144	144				
X	250 / 4	Concrete Diaphragm	EA	20	20				
X	321 / 4	R/Conc Approach Slab	EA	2		2			
	Spalls both ends. Slab is pulling away from deck. Settling end cracking on all 4 shoulders.								
X	331 / 4	Conc Bridge Railing	LF	314	264	50			
	Snow covered for 3-2011 Inspection								
X	340 / 1	Concrete Slope Prote	EA	2	2				
	Cracked.								
X	358 / 4	Deck Cracking SmFlag	EA	1	1				
	Efflorescence.								
X	359 / 4	Und Dk Surf Sm Flag	EA	1		1			
X	362 / 4	Traf Impact SmFlag	EA	1	1				
	West girder has been hit and patched								
X	400 / 2	Concrete Wingwall	EA	4	3	1			
	SW wing tipped slightly								

General Inspection/Maintenance Notes

--

Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Deck - Patching
Amount: Date(YYYY-MM-DD):
Maintenance item comment: North Edge - Center lane 10'x3'; South end - Right lane 4'x6'

Maintenance Item: Approach - Repair Approaches
Amount: Date(MM-DD-YY):
Maintenance item comment: N approach - Center lane 2'x6' patch; S approach - Rt & Exit lane 3'x6' Wedge left shoulder with asphalt.

NBI Ratings

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

Maintenance Item: Approach - Seal Approach to Paving Block
Amount: Date(MM-DD-YY):
Maintenance item comment:

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BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

page 1

Inventory Data

Feature On: USH 41 NB		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0128
Feature Under: O NORTH STREET		Sect/Twn/Rng: S20 T20N R17E		
Location: 1.3M N JCT STH 114 T		County: WINNEBAG	Municipality: TOWN-NEENAH (70010)	
Inv Rating: HS22	Rdwy Width (ft): 56.3	Deck Width (ft): 59.3	Existing Posting:	
Oper Rating: HS47	Total Length (ft): 136.8	Deck Area(ft2): 8112	ADT On: 37600 Yr: 2004	ADT Under: 3650 Yr: 1980

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-28-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-17-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:		Date Last Rated: 11-09-93	

Expansion Joints

Location	Type	Temp:		Signing Condition			
		File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N
					Bridge Markers		
					Narrow Bridge		
					One Lane Road		
					Vertical Clearance		
					Weight Limit Post		
					Other(Addl. Sign)	Y	Y

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)	17.25		
Min. Vertical Clearance Under (non-Cardinal)	17.25		
Min. Vertical Clearance On			

Structure Type

Construction/Rehabilitation History

Material	Configuration	# of Spans	Overall Length (ft)	Year	Work Performed	Plan	Shop
CONT PREST CO	DECK GIRDER		32.0	1994	NEW STRUCTURE		
CONT PREST CO	DECK GIRDER		69.3				
CONT PREST CO	DECK GIRDER		32.0				

Inspection Information

Special Requirements	Y/N	Comments
Traffic Control		
Access Equipment		
Other		

Inspector Information

Team Leader Name and No. Printed: Weber, Dale (3007)		Team Member(s) Name(s) Printed: Neil M	
Team Leader Signature:		Inspection Date: 03-28-11	Inspection Agency: STATE HIGHWAY DEPARTMENT (1)
District/Local Manager and No. Printed:		District/Local Manager Signature:	Review Date:

Element Inspection (X) Check Elements Inspected

					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 4	Conc Deck/Coatd Bars	SF	8112	8112				
		Diag, long, & trans crs leaching							
X	109 / 4	P/S Conc Open Girder	LF	1197	1197				
X	172 / 4	Painted Steel Diaphr	EA	24	12	12			
		Light rust staining.							
X	205 / 4	R/Conc Column	EA	8	8				
X	215 / 4	R/Conc Abutment	LF	118	112	4	2		
		Leaching between the seat & wall. Vertical crack, N. abut. Spall at north abutment. CS-2 (N Abut 2" & S Abut 2"), CS-3 (N Abut 2")							
X	234 / 4	R/Conc Cap	LF	114	114				
X	250 / 4	Concrete Diaphragm	EA	16	16				
X	321 / 4	R/Conc Approach Slab	EA	2	1	1			
		Spalls broken out, N end breaking up, pulling away from deck on ends. Shoulder settling. North approach settled slightly.							
X	331 / 4	Conc Bridge Railing	LF	314	290	24			
X	340 / 4	Concrete Slope Prote	EA	2	1	1			
		Cracked.							
X	358 / 4	Deck Cracking SmFlag	EA	1	1				
X	359 / 4	Und Dk Surf Sm Flag	EA	1	1				
		Efflorescence.							
X	400 / 4	Concrete Wingwall	EA	2	2				

General Inspection/Maintenance Notes

--

Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Approach - Seal Approach to Paving Block
--

Amount:	Date(YYYY-MM-DD):
---------	-------------------

Maintenance item comment: w/rubber

Maintenance Item:

Amount:	Date(MM-DD-YY):
---------	-----------------

Maintenance item comment:

NBI Ratings

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

Maintenance Item:

Amount:	Date(MM-DD-YY):
---------	-----------------

Maintenance item comment:

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DESIGN DATA

LIVELOAD:

DESIGN RATING: HS20 MODIFIED
 INVENTORY RATING: HS22
 OPERATIONAL RATING: HS43
 MAX. STANDARD PERMIT VEHICLE LOAD: 250 KIPS
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY - SLAB $f'_c = 4,000$ P.S.I.
 - ALL OTHER $f'_c = 3,500$ P.S.I.
 HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.
 54" PRESTRESSED GIRDERS - CONCRETE MASONRY $f'_c = 6,000$ P.S.I.
 STRANDS - $\frac{1}{2}$ " DIA. WITH AN ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A MINIMUM BEARING VALUE OF 55 TONS PER PILE. ESTIMATED 30'-0" LONG AT S. ABUT., AND 30'-0" AT N. ABUT. PIER TO BE SUPPORTED ON HP 10 x 42 STEEL PILING PREBORED A MINIMUM OF 3 FEET INTO SOUND ROCK. DESIGN BASED ON AN ASSUMED BEARING CAPACITY OF 55 TONS PER PILE. ESTIMATED 10 FEET LONG AT PIER.

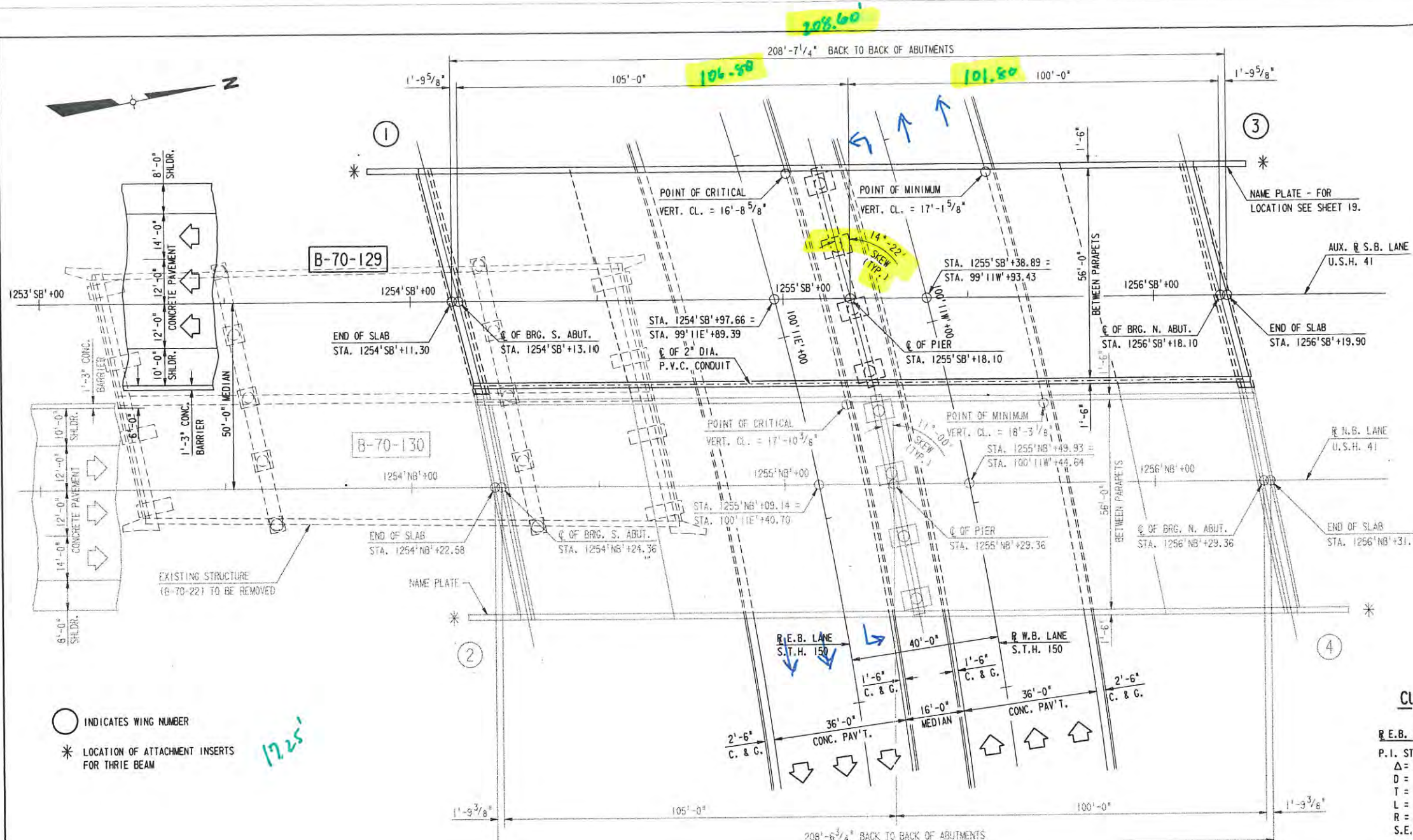
LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & GRADE LINES
3. QUANTITIES & NOTES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. SOUTH ABUTMENT DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT
10. NORTH ABUTMENT DETAILS
11. PIER
12. PIER DETAILS
13. 54" PRESTRESSED GIRDER DETAILS
14. STEEL INTERMEDIATE DIAPHRAGMS
15. SUPERSTRUCTURE
16. SUPERSTRUCTURE
17. SUPERSTRUCTURE
18. SUPERSTRUCTURE
19. SLOPED FACE PARAPET 'B'
20. UNDERDECK LIGHTING DETAILS

BRIDGE OFFICE CONTACT:
 C. RAY (608) 266-8486

No.	Date	Revision	By
RUST ENVIRONMENT & INFRASTRUCTURE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-129			
U.S.H. 41 (S.B.) OVER S.T.H. 150			
County WINNEBAGO		Town MENASHA	
Design Spec. A.A.S.H.T.O. 1992		Load HS20 MOD. Const. Spec. WIS. 1989	
Designed By T.J.R.	Design Checked T.E.P.	Drawn By D.F.K.	Plans Checked LEN
Approved <u>Robert L. Brown</u> State Bridge Engineer		8/25/93 Date	
GENERAL PLAN		SHEET 1 OF 20	

D.A. 18433.955



CURVE DATA

R.E.B. LANE, S.T.H. 150
 P.I. STA. 100'11E'+34.03
 $\Delta = 23^\circ-08'-27.34''$
 $D = 5^\circ-30'-00.00''$
 $T = 213.28'$
 $L = 420.74'$
 $R = 1041.74'$
 $S.E. = 0.034 \%$

R.W.B. LANE, S.T.H. 150
 P.I. STA. 99'11E'+75.04
 $\Delta = 29^\circ-15'-00.60''$
 $D = 5^\circ-17'-47.86''$
 $T = 282.28'$
 $L = 552.24'$
 $R = 1081.74'$
 $S.E. = 0.034 \%$

TRAFFIC VOLUME

U.S.H. 41
 A.D.T. (1992) = 42,600
 A.D.T. (2012) = 56,250
 S.T.H. 150
 A.D.T. (1992) = 12,050
 A.D.T. (2012) = 16,700

BENCH MARK

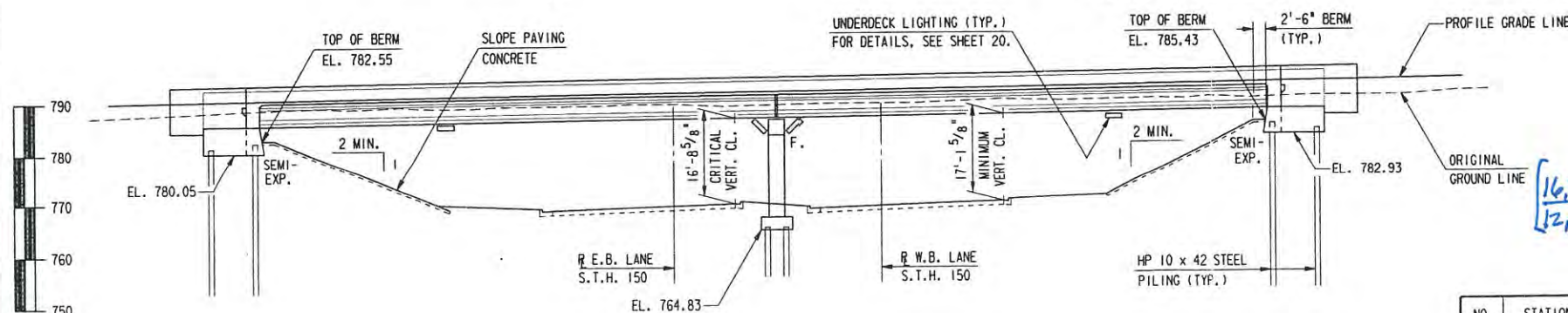
NO.	STATION	DESCRIPTION	ELEVATION
27	1253'SB'+35	ALUMIN. CAP. S.E. CORNER, N.B. STRUCTURE U.S.H. 41 & S.T.H. 150	59' RT. 788.59

PLAN

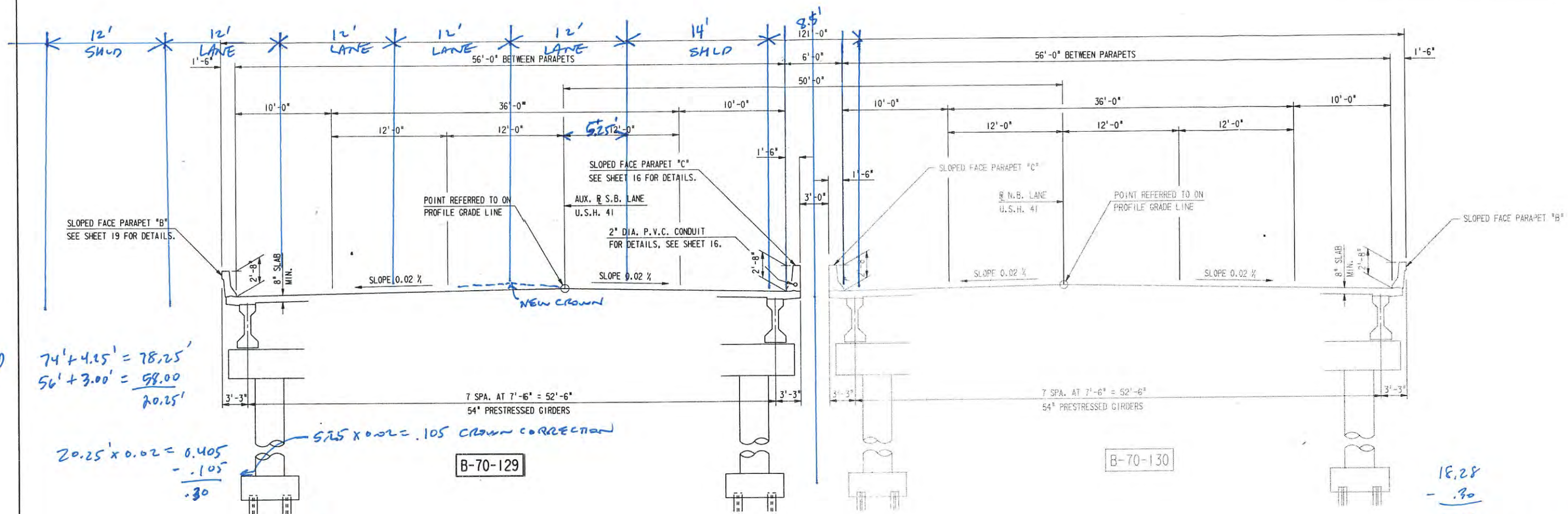
(2 SPAN - 54" PRESTRESSED GIRDER)

ELEVATION

(NORMAL TO S.T.H. 150)



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 REFERENCE FILE 3: no ref name
 REFERENCE FILE 4: no ref name
 REFERENCE FILE 5: no ref name
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 REFERENCE FILE 99: no ref name
 REFERENCE FILE 100: no ref name



PROPOSED
EXIST

$$74' + 4.25' = 78.25'$$

$$56' + 3.00' = 59.00'$$

$$20.25'$$

$$20.25' \times 0.02 = 0.405$$

$$- 0.105$$

$$= 0.30$$

$$17.25$$

$$- 0.30$$

$$= 16.95$$

$$- 0.34$$

$$= 16.61$$

SIDEROAD
PROFILE CORRECTION
 $20.25 \times 0.0168 = 0.34$

CROSS SECTION THRU ROADWAY
(LOOKING NORTH)

B-70-130

$$18.28$$

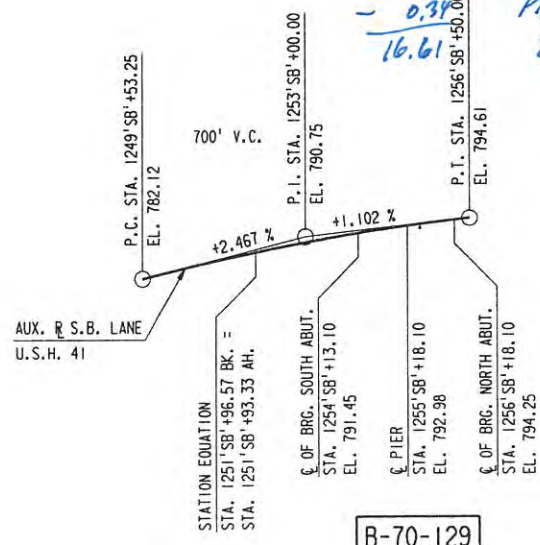
$$- 0.30$$

$$= 17.98$$

$$+ 0.10$$

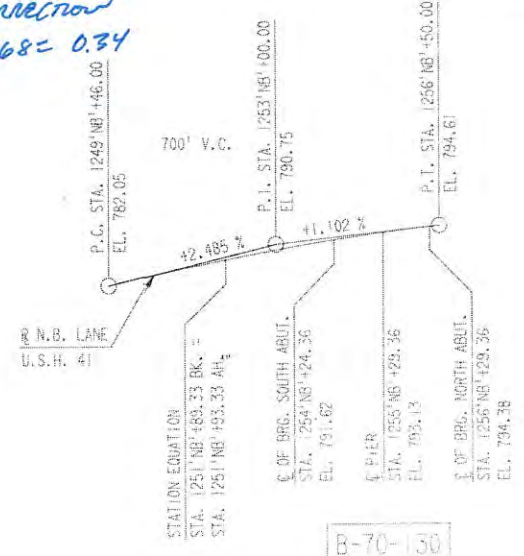
$$= 18.08$$

SIDEROAD
 $20.25 \times 0.0483 =$

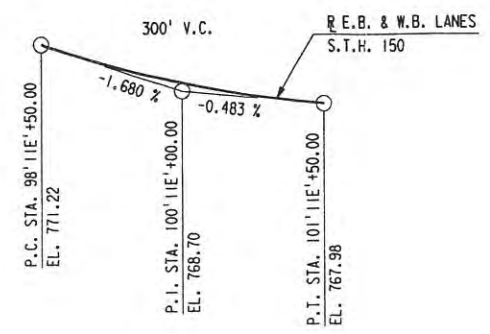


B-70-129

PROFILE GRADE LINE, U.S.H. 41



B-70-130



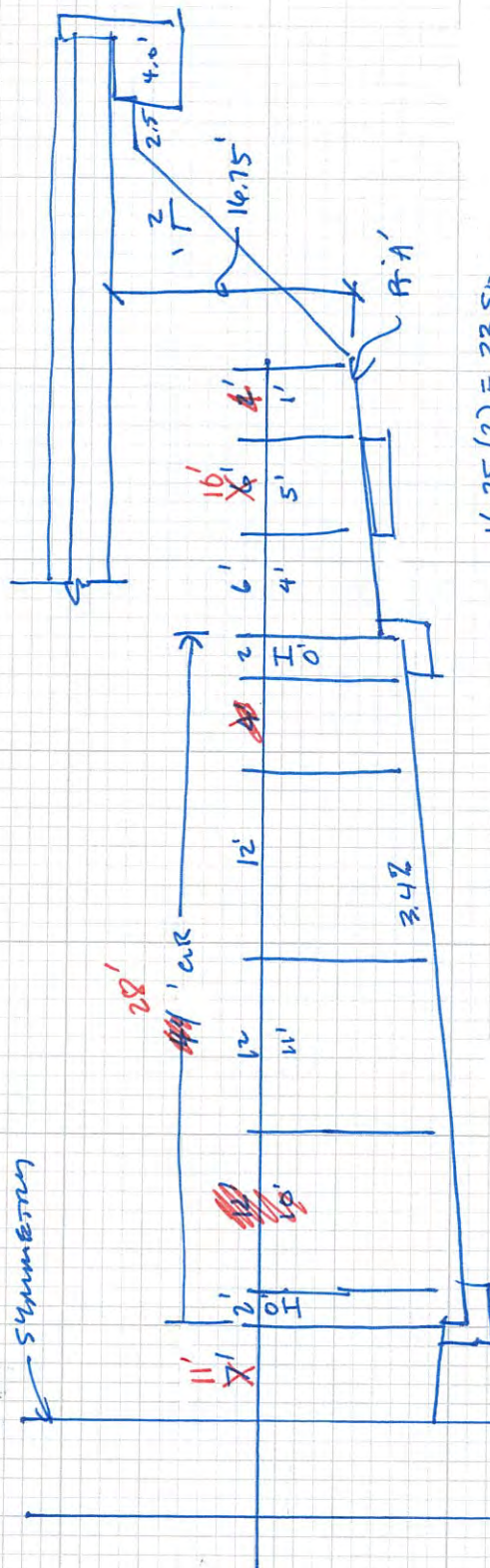
PROFILE GRADE LINE, S.T.H. 150
(R.E.B. LANE SHOWN, R.W.B. LANE SIMILAR)

CON: 10/1/83
USER: 10/1/83
PRG: 10/1/83
LEVELS: 10/1/83
PLOTTER: 10/1/83
DATE: 10/1/83

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-129			
Const. Spec.	WIS. 1989	Drawn By	D.F.K.
		Plans Checked	LEN
CROSS SECTION & GRADE LINES			SHEET 2 OF 20

Calculations for	Job No.	Sheet No.
Made by	Date	
Checked by	Date	
Backchecked by	Date	

HNTB



$$16.75(2) = 33.50$$

$$\begin{array}{r} 2.50 \\ 4.00 \\ \hline 40.00 \end{array}$$

$$\text{BRIDGE LENGTH} = (44' + 7' + 14' + 40') \div 2 = 210' - 208.60'$$

COULD SAVE: $(2' + 2' + 1' + 2' + 2' + 1' + 1') \div 2 = 22' \div 2 = 11' \leftarrow$ A 11' LANE COULD BE ADDED BELOW SECTION

$$\begin{array}{r} 2' \quad 12' \quad 12' \quad 12' \quad 12' \quad 12' \quad 12' \quad 12' \\ 0' \quad 10' \quad 11' \quad 11' \quad 12' \quad 12' \quad 12' \quad 12' \end{array}$$

$$12 \times .034 = 0.408$$

$$\begin{array}{r} 16.95' \\ - .40 \\ \hline 16.55' > 16.00' \end{array}$$

SKREW = $14.5^\circ \leftarrow$ USE FOR BOTH STRUCTURES

$$\cos 14.5^\circ = .968148$$

$$\text{BRIDGE LENGTH} = \frac{210}{.968148} = 216.90 \sim 217$$

$$\text{MIDSPAN} = \frac{65'}{.968148} = 67.2'$$

$$\text{ENDSPAN} = \frac{40}{.968148} = 41.3' - 2 = 39.3'$$

$$99.3' - 67.2' - 67.2' - 39.3'$$

FIX #3

Minimum Vertical Clearance for Existing Bridges which are not Being Replaced and for Existing Bridges on which the Superstructure is not Being Replaced^{1, 2}

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁵ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ⁶
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	16'-3" min. or ES ³		18'-0" min. or ES ³ for existing sign structures on new construction projects or reconstruction projects;
		If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
		If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial (Minor) either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		17'-0" or ES ³ for existing sign structures on 3R projects
	If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³	If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
	If existing is ≥ 16'-0" then 16'-0" min. or ES ³ 17.25	If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial STH (excludes freeway and expressway)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		
	If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³	If existing is ≥ 14'-0", but < 16'-0" then maintain existing min. or ES ³			
	If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is ≥ 16'-0" then 16'-0" min. or ES ³			
Freeway ⁴ or Expressway	16'-0" min. or ES ³				
Railroad ⁵	Maintain existing vertical clearance - if existing clearance is < 23'-0" then confer with BTLR Railroads and Harbors Section to determine the adequacy of the existing clearance.				

General notes:

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table. Provide greater than minimum clearance if evaluation shows that greater clearance is needed because bridge superstructure is susceptible to being hit by under-passing vehicles.

Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.

- ² Include a low clearance sign (W12-2), on structures if its use is in accordance with WisDOT MUTCD 2C.22.

- ³ ES = approved Exceptions To Standards Report required (see [FDM 11-1-2](#) and [FDM 11-1-4](#)).

- ⁴ See [FDM 11-44-1](#) for vertical clearance guidance specific to Interstate freeways.

- ⁵ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.

- ⁶ See LRFD Bridge Manual Chapter 39 for design considerations for vertical clearance on Sign Structures (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm).

Vertical Clearance for Construction of New Bridges, Replacement Bridges, and Bridges on which the Superstructure is being replaced¹

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁴ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ²
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-9" Desirable	15'-3" Desirable	16'-9" Desirable	16'-9" Desirable	18'-3" Minimum
	15'-3" Minimum	14'-9" Minimum	16'-3" Minimum	16'-3" Minimum	
Arterial <i>(minor)</i> either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	16'-9" Desirable	15'-3" Desirable	17'-9" Desirable	17'-9" Desirable	
	16'-3" Minimum	14'-9" Minimum	17'-3" Minimum	17'-3" Minimum	
Freeway ³ or Expressway or arterial STH	16'-9" Desirable		17'-9" Desirable		
	16'-4" Minimum		17'-4" Minimum		
Railroad ^{4,5,6,7}	23'-0" Minimum to 23'-3½" Maximum				

General notes:

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table.

Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.

Do not exceed the desirable vertical clearance shown unless justified. Depending on topography and other specific situations vertical clearance for any structure may be greater than that shown when justified. Some things to consider are: over height loads traveling on the roadway; the level of development in the area, the projected growth in traffic volume and importance of the roadway, and the possibility of reclassification.

- ² See LRFD Bridge Manual Chapter 39 (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm) and LRFD Standard Details 39.02 and 39.10 for design considerations and requirements for vertical clearance on new and replacement Sign Structures.
- ³ See FDM 11-44-1 for vertical clearance guidance specific to Interstate freeways.
- ⁴ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.
- ⁵ A vertical clearance <23'-0" requires both an approved Exception to Standards (see FDM 11-1-2 and FDM 11-1-4) and early coordination with BTLR R&H, Railroads and Harbors Section (RHS) through the Region Railroad Coordinator. The Exception to Standards shall contain documentation that the Office of the Commissioner of Railroads (OCR) has been petitioned.
- See Chapter 17 for additional information.
- ⁶ Provide justification for a vertical clearance >23'-3 ½" to the RHS.
- ⁷ Vertical clearance less than 23'-0" may be acceptable or desirable in certain situations, such as for spur tracks, lead tracks, some branch lines and even mainline tracks when other impediments to 23'-0" exist. Review such situations with the Railroad Project Coordination Engineer in RHS. Early coordination with RHS is required.

BRIDGE INSPECTION REPORT
 Wisconsin Dept. of Transportation
 DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

Page 1

Inventory Data

Feature On: USH 41 SB		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0129
Feature Under: CTH II		Sect/Twn/Rng: S17 T20N R17E		
Location: 4.8M S JCT STH 125 T		County: WINNEBAG	Municipality: TOWN-MENASHA (70008)	
Inv Rating: HS22	Rdwy Width (ft): 56.0	Deck Width (ft): 59.0	Existing Posting:	
Oper Rating: HS43	Total Length (ft): 208.6	Deck Area(ft2): 12307	ADT On: 42165 Yr: 2003	ADT Under: 9960 Yr: 1980

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-28-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-17-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:			Date Last Rated: 11-09-93

Expansion Joints

		Temp:			Signing Condition			
Location	Type	File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N	Comments
					Bridge Markers			
					Narrow Bridge			
					One Lane Road			
					Vertical Clearance			
					Weight Limit Post			
					Other(Addl. Sign)			

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal) <i>EB</i>	17.25		
Min. Vertical Clearance Under (non-Cardinal) <i>WB</i>	17.81		
Min. Vertical Clearance On			

Structure Type

Construction/Rehabilitation History

Material	Configuration	# of Spans	Overall Length (ft)	Year	Work Performed	Plan	Shop
CONT PREST CO	DECK GIRDER		105.0	1994	NEW STRUCTURE	PLAN	
CONT PREST CO	DECK GIRDER		100.0				

Inspection Information

Special Requirements	Y/N	Comments			
Traffic Control					
Access Equipment					
Other					

Inspector Information

Team Leader Name and No. Printed: Michaelson, Neil (3010)		Team Member(s) Name(s) Printed: Dale Weber			
Team Leader Signature:		Inspection Date: 03-28-11		Inspection Agency: STATE HIGHWAY DEPARTMENT (1)	
District/Local Manager and No. Printed:		District/Local Manager Signature:		Review Date:	

Element Inspection (X) Check Elements Inspected					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 4	Conc Deck/Coatd Bars	SF	12307		12307			
	Dia, long, trans crs leaching								
X	109 / 4	P/S Conc Open Girder	LF	1640	1640				
X	172 / 4	Painted Steel Diaphr	EA	28	28				
X	205 / 4	R/Conc Column	EA	4	4				
X	215 / 4	R/Conc Abutment	LF	124	112	12			
	Leaching bet the seat and backwall. Spall on NW corner. Leaching, 2 cracks on SW corner. Diagonal cracks on north abutment Water leaking from behind backwall on SW corner								
X	234 / 4	R/Conc Cap	LF	59	56	3			
	Diagonal crack at west end								
X	250 / 4	Concrete Diaphragm	EA	7	5	2			
X	321 / 4	R/Conc Approach Slab	EA	2		2			
	Both approaches settled slightly								
X	331 / 4	Conc Bridge Railing	LF	459	420	39			
	Snow Covered for 3-2011 inspection								
X	340 / 1	Concrete Slope Prote	EA	2	1	1			
	N. slope settling and cracking. S. slope cracking. Pulled away from abutment								
X	358 / 4	Deck Cracking SmFlag	EA	1		1			
X	359 / 4	Und Dk Surf Sm Flag	EA	1		1			
	Efflorescence.								
X	400 / 4	Concrete Wingwall	EA	2	1	1			
	North winwall tipped slightly								

General Inspection/Maintenance Notes

--

Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Deck - Patching
Amount: Date(YYYY-MM-DD):
Maintenance item comment: North edge - Center lane 2'x4'

Maintenance Item: Approach - Seal Approach to Paving Block
Amount: Date(MM-DD-YY):
Maintenance item comment:

NBI Ratings

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

Maintenance Item:
Amount: Date(MM-DD-YY):
Maintenance item comment:

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BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

page 1

Inventory Data

Feature On: USH 41 NB		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0130
Feature Under: CTH II		Sect/Twn/Rng: S17 T20N R17E		
Location: 1.8M N JCT STH 114 T		County: WINNEBAG	Municipality: TOWN-MENASHA (70008)	
Inv Rating: HS22	Rdwy Width (ft): 56.0	Deck Width (ft): 59.0	Existing Posting:	
Oper Rating: HS43	Total Length (ft): 208.6	Deck Area(ft2): 12307	ADT On: 42165 Yr: 2003	ADT Under: 9960 Yr: 1980

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-28-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-17-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:			Date Last Rated: 11-09-93

Expansion Joints

Location	Type	Temp:		Signing Condition				
		File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N	Comments
					Bridge Markers			
					Narrow Bridge			
					One Lane Road			
					Vertical Clearance			
					Weight Limit Post			
					Other(Addl. Sign)		Y	8 soffit liq

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)	18.28		
Min. Vertical Clearance Under (non-Cardinal)	18.8		
Min. Vertical Clearance On			

Structure Type

Construction/Rehabilitation History

Material	Configuration	# of Spans	Overall Length (ft)	Year	Work Performed	Plan	Shop
CONT PREST CO	DECK GIRDER		105.0	1994	NEW STRUCTURE	PLAN	
CONT PREST CO	DECK GIRDER		100.0				

Inspection Information

Special Requirements	Y/N	Comments				
Traffic Control						
Access Equipment						
Other						

Inspector Information

Team Leader Name and No. Printed: Weber, Dale (3007)		Team Member(s) Name(s) Printed: Neil M	
Team Leader Signature:		Inspection Date: 03-28-11	Inspection Agency: STATE HIGHWAY DEPARTMENT (1)
District/Local Manager and No. Printed:		District/Local Manager Signature:	Review Date:

Element Inspection (X) Check Elements Inspected					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 4	Conc Deck/Coatd Bars	SF	12307	12307				
		Diag, long, trans cracks, leaching							
X	109 / 4	P/S Conc Open Girder	LF	1640	1640				
X	172 / 4	Painted Steel Diaphr	EA	28	28				
X	205 / 4	R/Conc Column	EA	4	4				
X	215 / 4	R/Conc Abutment	LF	124	113	11			
		Leaching between the seat & wall. Diag. cracking on SE corner with efflor. CS-2 (S Abut 2" & N Abut 9")							
X	234 / 4	R/Conc Cap	LF	59	59				
X	250 / 4	Concrete Diaphragm	EA	7	7				
X	321 / 4	R/Conc Approach Slab	EA	2	2				
		Spalls and patches on both ends. Slab is pulled away from deck. Shoulders settling & cracking.							
X	331 / 4	Conc Bridge Railing	LF	459	399	60			
X	340 / 4	Concrete Slope Prote	EA	2	1	1			
		N. abutment slope cracking and settling. Starting to pull away from north abutment (2"+-).							
X	358 / 4	Deck Cracking SmFlag	EA	1	1				
X	359 / 4	Und Dk Surf Sm Flag	EA	1	1				
		Efflorescence.							
X	400 / 4	Concrete Wingwall	EA	2	2				
		Joint filler popping out on SE corner.							

General Inspection/Maintenance Notes

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Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Approach - Seal Approach to Paving Block
--

Amount:	Date(YYYY-MM-DD):
---------	-------------------

Maintenance item comment: w/rubber

Maintenance Item:

Amount:	Date(MM-DD-YY):
---------	-----------------

Maintenance item comment:

NBI Ratings

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

Maintenance Item:

Amount:	Date(MM-DD-YY):
---------	-----------------

Maintenance item comment:

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1123-05-78

8.111

TRAFFIC VOLUME

U.S.H. 41
 A.D.T. (1992) = 50,500
 A.D.T. (2012) = 65,650
 AMERICAN DRIVE
 A.D.T. (1992) = 5,950
 A.D.T. (2012) = 8,500

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & GRADE LINES
3. QUANTITIES & NOTES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. SOUTH ABUTMENT DETAILS
8. SOUTH ABUTMENT DETAILS
9. NORTH ABUTMENT
10. NORTH ABUTMENT DETAILS
11. NORTH ABUTMENT DETAILS
12. NORTH ABUTMENT DETAILS
13. PIER
14. PIER DETAILS
15. BEARING DETAILS
16. SUPERSTRUCTURE
17. SUPERSTRUCTURE
18. SUPERSTRUCTURE
19. SUPERSTRUCTURE
20. FRAMING PLAN
21. GIRDERS 1 THRU 8 DETAILS
22. GIRDER 9 DETAILS
23. GIRDER CONNECTION DETAILS
24. ELEVATIONS & BLOCKING DIAGRAM
25. EXPANSION DEVICE
26. SLOPED FACE PARAPET 'B'

$(8500) = (X)$
 $X \text{ GROWTH} = 1.03$
 3.6%
 $(8500)(1.03) = 8755$
 19173

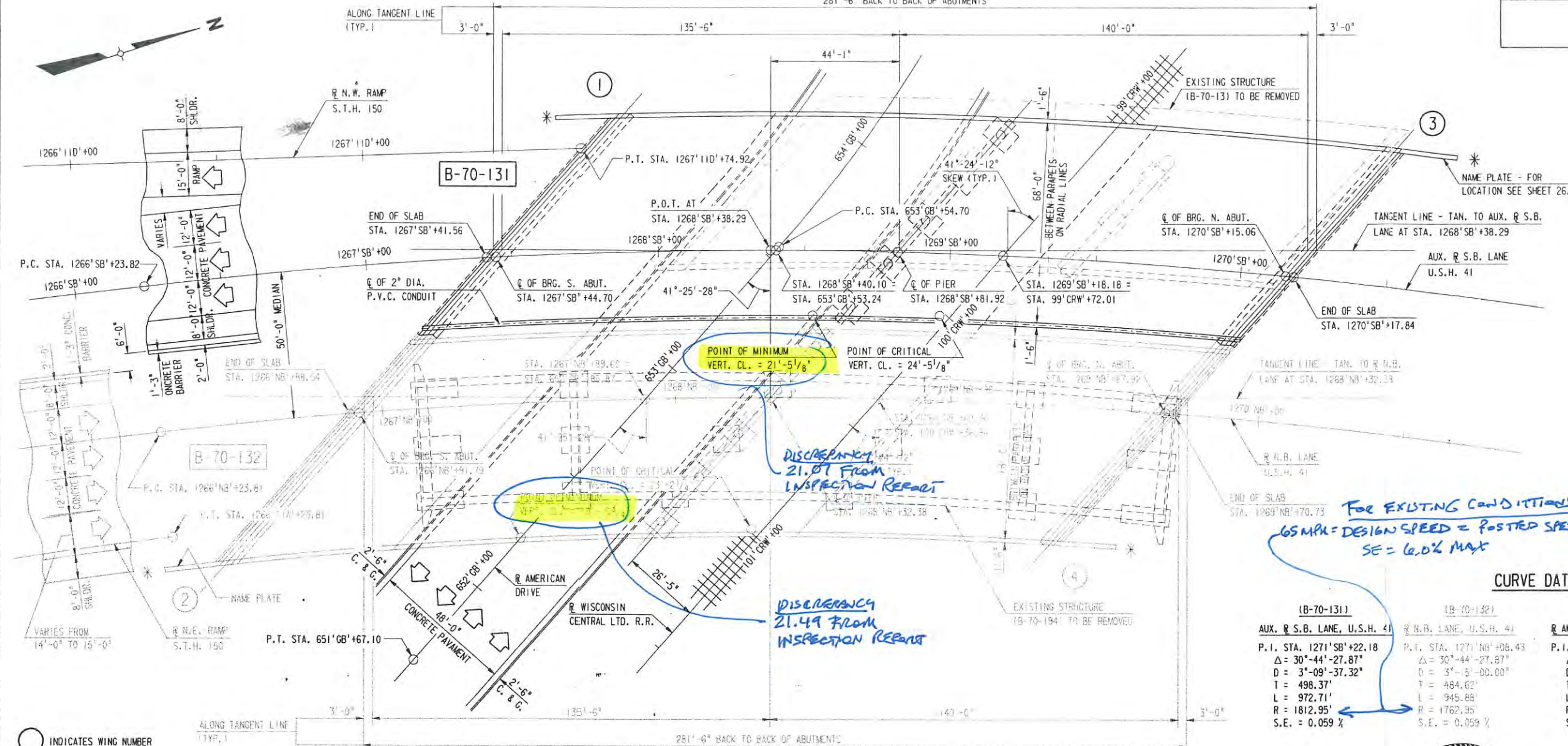
CURVE DATA

(B-70-131)		(B-70-132)		R AMERICAN DRIVE		R AMERICAN DRIVE	
AUX. R.S.B. LANE, U.S.H. 41	P.I. STA. 1271'SB'+22.18	R.B. LANE, U.S.H. 41	P.I. STA. 1271'NB'+08.43	P.I. STA. 647'GB'+51.29	P.I. STA. 656'GB'+68.65	P.I. STA. 647'GB'+51.29	P.I. STA. 656'GB'+68.65
$\Delta = 30^\circ-44'-27.87''$		$\Delta = 30^\circ-44'-27.87''$		$\Delta = 23^\circ-11'-30''$	$\Delta = 64^\circ-25'-59''$	$\Delta = 23^\circ-11'-30''$	$\Delta = 64^\circ-25'-59''$
$D = 3^\circ-09'-37.32''$		$D = 3^\circ-09'-37.32''$		$D = 2^\circ-45'-00.00''$	$D = 11^\circ-30'-00.00''$	$D = 2^\circ-45'-00.00''$	$D = 11^\circ-30'-00.00''$
$T = 498.37'$		$T = 484.62'$		$T = 427.52'$	$T = 313.95'$	$T = 427.52'$	$T = 313.95'$
$L = 972.71'$		$L = 948.85'$		$L = 843.33'$	$L = 560.29'$	$L = 843.33'$	$L = 560.29'$
$R = 1812.95'$		$R = 1762.95'$		$R = 2083.48'$	$R = 498.22'$	$R = 2083.48'$	$R = 498.22'$
$S.E. = 0.059\%$		$S.E. = 0.059\%$		$S.E. = 0.020\%$	$S.E. = 0.020\%$	$S.E. = 0.020\%$	$S.E. = 0.020\%$

FOR EXISTING CONDITIONS:
 65 MPH = DESIGN SPEED = POSTED SPEED
 SE = 6.0% MAX

PLAN

2 SPAN - STEEL GIRDERS



○ INDICATES WING NUMBER
 * LOCATION OF ATTACHMENT INSERTS FOR THRIE BEAM.

DESIGN DATA

LIVELOAD:

DESIGN RATING: HS20 MODIFIED
 INVENTORY RATING: HS21
 OPERATIONAL RATING: HS44
 MAX. STANDARD PERMIT VEHICLE LOAD: 250 KIPS
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ALLOWABLE DESIGN STRESSES:

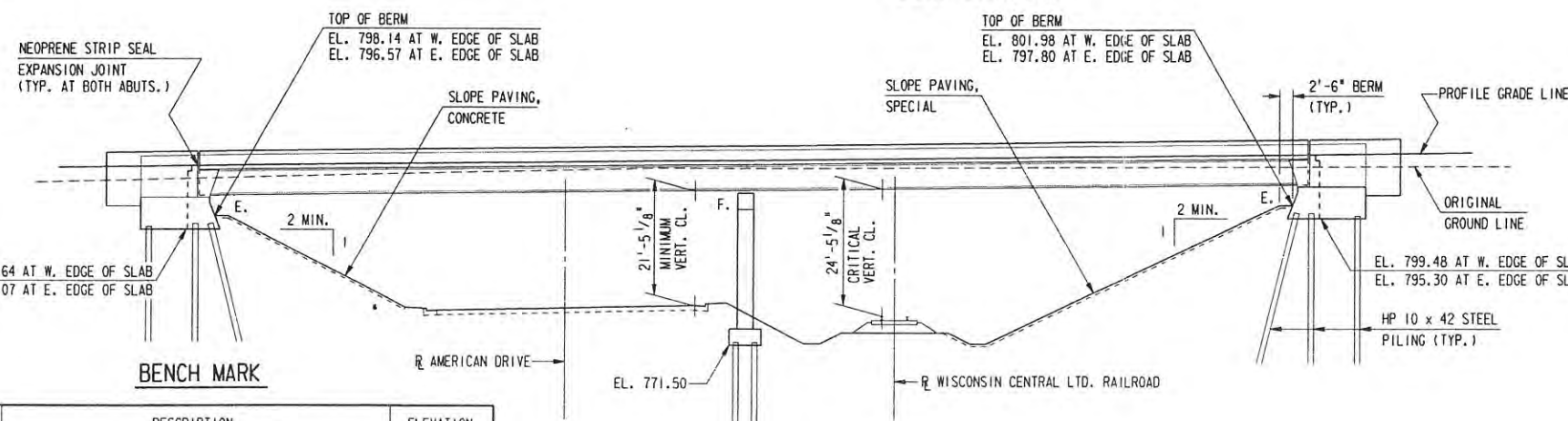
CONCRETE MASONRY - SLAB $f'_c = 4,000$ P.S.I.
 ALL OTHER $f'_c = 3,500$ P.S.I.
 HIGH-STRENGTH BAR STEEL $f_y = 60,000$ P.S.I.
 HIGH-STRENGTH STRUCTURAL STEEL (A.S.T.M. A709, GRADE 50, TYPE 2) $f_y = 50,000$ P.S.I.
 STRUCTURAL CARBON STEEL (A.S.T.M. A709, GRADE 36) $f_y = 36,000$ P.S.I.

FOUNDATION DATA:

ABUTMENTS & PIER TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A MINIMUM BEARING VALUE OF 45 TONS PER PILE AT ABUTMENTS AND 55 TONS PER PILE AT PIER. ESTIMATED LENGTH OF 40'-0" AT ABUTMENTS AND 15'-0" AT PIER.



BRIDGE OFFICE CONTACT:
 C. RAY (608) 266-8486



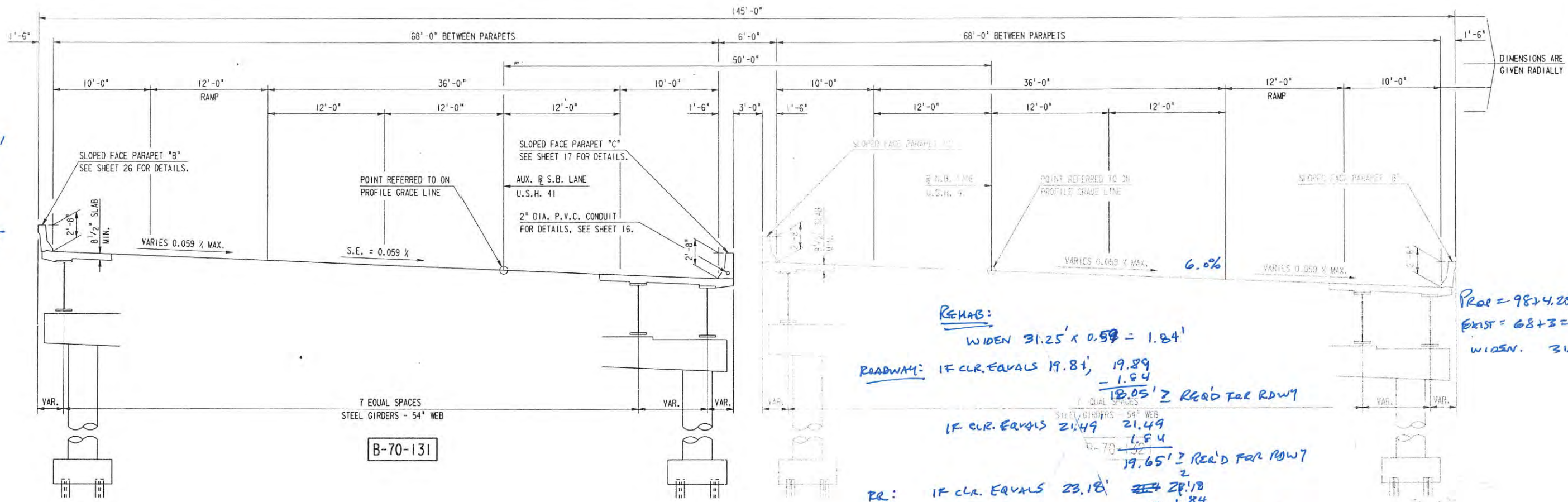
ELEVATION

(NORMAL TO WISCONSIN CENTRAL LTD. RAILROAD)

NO.	STATION	DESCRIPTION	ELEVATION
28	1269'NB'+71	PAINT MARK, N.E. CORNER, N.B. STRUCTURE U.S.H. 41 & WISCONSIN CENTRAL LTD. RAILROAD 38' RT.	805.28

Levels are 148.51-63
 Point of origin = 148.51
 REFERENCE FILE 1 = GENPLAN.165
 REFERENCE FILE 2 = GENPLAN.165
 REFERENCE FILE 3 = GENPLAN.165
 REFERENCE FILE 4 = GENPLAN.165
 REFERENCE FILE 5 = NO REF NAME
 REFERENCE FILE 6 = NO REF NAME
 REFERENCE FILE 7 = NO REF NAME
 User is 143123

PROPOSED
86' + 4.25' = 100.25'
EXIST
68' + 3' = 71.00'
29.25'

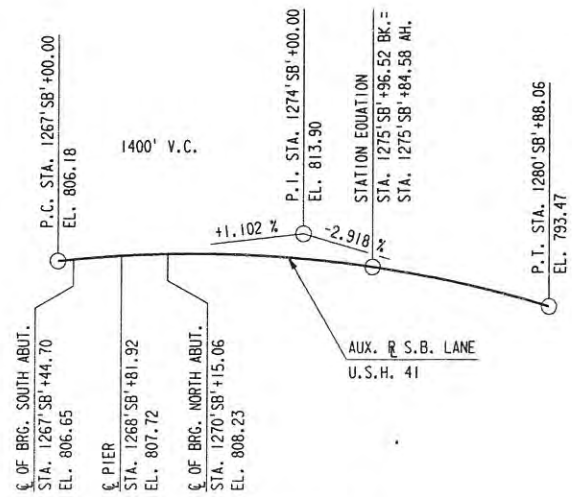


REHAB:
WIDEN 31.25' x 0.52 = 1.84'
ROADWAY: IF CLR. EQUALS 19.81', 19.89
- 1.84
18.05' ≥ REQ'D FOR RDWY
IF CLR. EQUALS 21.49 21.49
- 1.84
19.65' ≥ REQ'D FOR RDWY
PR: IF CLR. EQUALS 23.18' 23.18'
- 1.84
21.34' < 23' MIN.
SLOPE: RAISE, WIDEN, & REDECK.

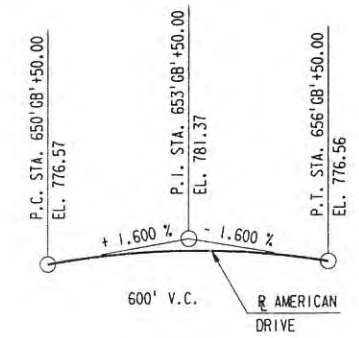
PROJ = 98 + 4.25 = 102
EXIST = 68 + 3 = 71
WIDEN 31.25'

21.34' SIDE ROAD
+ .16 ASSUME 0.52
21.50' 31.25' x .005 = .16

CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



PROFILE GRADE LINE, U.S.H. 41



PROFILE GRADE LINE, AMERICAN DRIVE

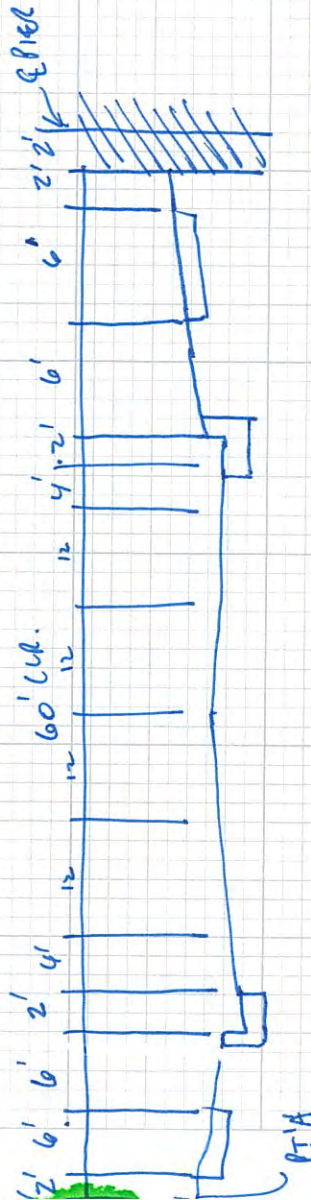
PROFILE GRADE LINE, WISCONSIN CENTRAL LTD. RAILROAD

Levels are 1-49.5-63
Plotted by BECMIS
Per. table = 11/24/02 1995
DRF = 002/2/02
DGN = 002/2/02
User = 143/23

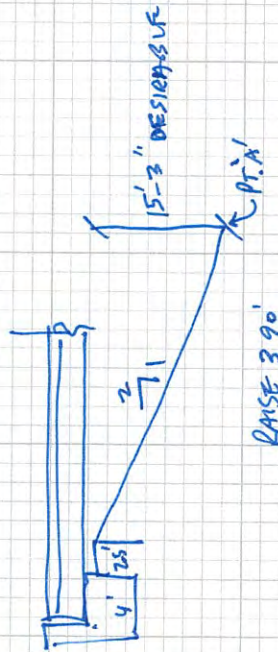
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-131			
Const. Spec.	WIS. 1989	Drawn By	D.F.K.
		Plans Checked	T.J.R.
CROSS SECTION & GRADE LINES			SHEET 2 OF 26

Calculations for	Job No.	Sheet No.
Made by	Date	
Checked by	Date	
Backchecked by	Date	

HNTB



90°



ASSUME EXISTING = $19.89' + 3.90' = 23.79' \times 2 = 47.58'$
(DISCREPANCY)
 $\frac{4.00}{2.50}$
 54.08

~~SPAN~~
LENGTH

$90' + 54.08' = 144.08'$
 $\frac{144.08'}{\cos(\text{skew})} = 192.09'$

143' RR SPAN
SKW 41° 24' 12" (41.403°)
 $\cos(\text{skew})(143') = 107.26'$
REMARKS
RAISE BRIDGE 1.84' (RAISED FROM X-SLOPE)
 $\frac{23.29}{23.18} = .11$ (DESIRABLE FROM REMARKS)
11' SLOPE PAVING
 $1.95 \times 2 = 3.90'$
New Length = $107.26' + 3.90' = 111.16'$
 $\frac{111.16'}{\cos(\text{skew})} = 148.70'$

TOTAL BRIDGE LENGTH = $148.20' + 192.09' = 340.29'$

Minimum Vertical Clearance for Existing Bridges which are not Being Replaced and for Existing Bridges on which the Superstructure is not Being Replaced^{1, 2}

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁵ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ⁶
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	16'-3" min. or ES ³		18'-0" min. or ES ³ for existing sign structures on new construction projects or reconstruction projects;
		If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
		If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		17'-0" or ES ³ for existing sign structures on 3R projects
	If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³	If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
	If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial STH (excludes freeway and expressway)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		
	If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³	If existing is ≥ 14'-0", but < 16'-0" then maintain existing min. or ES ³			
	If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is ≥ 16'-0" then 16'-0" min. or ES ³			
Freeway ⁴ or Expressway	16'-0" min. or ES ³				
Railroad ⁵	Maintain existing vertical clearance - if existing clearance is < 23'-0" then confer with BTLR Railroads and Harbors Section to determine the adequacy of the existing clearance.				

General notes:

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table. Provide greater than minimum clearance if evaluation shows that greater clearance is needed because bridge superstructure is susceptible to being hit by under-passing vehicles.
Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.
- ² Include a low clearance sign (W12-2), on structures if its use is in accordance with WisDOT MUTCD 2C.22.
- ³ ES = approved Exceptions To Standards Report required (see [FDM 11-1-2](#) and [FDM 11-1-4](#)).
- ⁴ See [FDM 11-44-1](#) for vertical clearance guidance specific to Interstate freeways.
- ⁵ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.
- ⁶ See LRFD Bridge Manual Chapter 39 for design considerations for vertical clearance on Sign Structures (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm).

Vertical Clearance for Construction of New Bridges, Replacement Bridges, and Bridges on which the Superstructure is being replaced¹

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁴ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ²
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-9" Desirable	15'-3" Desirable	16'-9" Desirable	16'-3" Minimum	18'-3" Minimum
	15'-3" Minimum	14'-9" Minimum			
Arterial either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	16'-9" Desirable	15'-3" Desirable	17'-9" Desirable	17'-3" Minimum	
	16'-3" Minimum	14'-9" Minimum			
Freeway ³ or Expressway or arterial STH	16'-9" Desirable		17'-9" Desirable	17'-4" Minimum	
	16'-4" Minimum				
Railroad ^{4,5,6,7}	23'-0" Minimum to 23'-3½" Maximum				

General notes:

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table.

Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.

Do not exceed the desirable vertical clearance shown unless justified. Depending on topography and other specific situations vertical clearance for any structure may be greater than that shown when justified. Some things to consider are: over height loads traveling on the roadway; the level of development in the area, the projected growth in traffic volume and importance of the roadway, and the possibility of reclassification.

- ² See LRFD Bridge Manual Chapter 39 (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm) and LRFD Standard Details 39.02 and 39.10 for design considerations and requirements for vertical clearance on new and replacement Sign Structures.
- ³ See FDM 11-44-1 for vertical clearance guidance specific to Interstate freeways.
- ⁴ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.
- ⁵ A vertical clearance <23'-0" requires both an approved Exception to Standards (see FDM 11-1-2 and FDM 11-1-4) and early coordination with BTLR R&H, Railroads and Harbors Section (RHS) through the Region Railroad Coordinator. The Exception to Standards shall contain documentation that the Office of the Commissioner of Railroads (OCR) has been petitioned.
- See Chapter 17 for additional information.
- ⁶ Provide justification for a vertical clearance >23'-3 ½" to the RHS.
- ⁷ Vertical clearance less than 23'-0" may be acceptable or desirable in certain situations, such as for spur tracks, lead tracks, some branch lines and even mainline tracks when other impediments to 23'-0" exist. Review such situations with the Railroad Project Coordination Engineer in RHS. Early coordination with RHS is required.

BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

page 1

Inventory Data

Feature On: USH 41 SB		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0131
Feature Under: AMERICAN DRIVE		Sect/Twn/Rng: S16 T20N R17E		
Location: 4.6M S JCT STH 125 T		County: WINNEBAG	Municipality: TOWN-MENASHA (70008)	
Inv Rating: HS21	Rdwy Width (ft): 68.0	Deck Width (ft): 71.0	Existing Posting:	
Oper Rating: HS44	Total Length (ft): 276.3	Deck Area(ft2): 19617	ADT On: 42165 Yr: 2003	ADT Under: Yr:

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-16-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-17-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:			Date Last Rated:

Expansion Joints

		Temp:	45	55	Signing Condition			
Location	Type	File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N	Comments
NORTH AB	A3-400SE		0.5	0.5	Bridge Markers			
SOUTH AB	A3-400SE		0.8	0.6	Narrow Bridge			
					One Lane Road			
					Vertical Clearance			
					Weight Limit Post			
					Other(Addl. Sign)			

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)	21.49 <i>W/B</i>		
Min. Vertical Clearance Under (non-Cardinal)	21.07 <i>S/B</i>		
Min. Vertical Clearance On			

Structure Type

Material	Configuration	# of Spans	Overall Length (ft)	Year	Work Performed	Plan	Shop
CONT STEEL	DECK GIRDER		135.5	1994	STEEL FABRICA	PLAN	C345
CONT STEEL	DECK GIRDER		140.0	1994	NEW STRUCTURE	PLAN	

Construction/Rehabilitation History

Inspection Information

Special Requirements	Y/N	Comments			
Traffic Control					
Access Equipment					
Other					

Inspector Information

Team Leader Name and No. Printed: Blazek, Chris (3009)		Team Member(s) Name(s) Printed:		
Team Leader Signature:		Inspection Date: 03-16-11	Inspection Agency: STATE HIGHWAY DEPARTMENT (1)	
District/Local Manager and No. Printed:		District/Local Manager Signature:	Review Date:	

Element Inspection (X) Check Elements Inspected					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 4	Conc Deck/Coatd Bars	SF	19617	19617				
	Paint failing on girders at abutments.								
X	107 / 4	Paint Stl Opn Girder	LF	2486	2286	50	150		
	Paint coming off beam # 2&4, numerous paint blisters and rust								
X	172 / 4	Painted Steel Diaphr	EA	112	112				
X	205 / 3	R/Conc Column	EA	5	5				
X	215 / 4	R/Conc Abutment	LF	190	177	13			
	Vertical cracks, leaking, and efflorescence on N abut and south abut								
X	234 / 4	R/Conc Cap	LF	88	86	2			
	Crack at west end of cap								
X	300 / 4	Strip Seal Exp Joint	LF	190	150	40			
	Leaking in some locations.								
X	311 / 4	Moveable Bearing	EA	18	18				
X	313 / 4	Fixed Bearing	EA	9	9				
X	321 / 4	R/Conc Approach Slab	EA	2	1	1			
	South approach cracked & has one small spall.								
X	331 / 4	Conc Bridge Railing	LF	593	550	43			
	Vertical cracks.								
X	340 / 4	Concrete Slope Prote	EA	1	1				
	S end cracked.								
X	342 / 4	RipRap Slope Protect	EA	1	1				
	N end								
X	358 / 4	Deck Cracking SmFlag	EA	1	1				

Element Inspection (X) Check Elements Inspected

					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	359 / 4	Und Dk Surf Sm Flag	EA	1	1				
	efflorescence								
X	400 / 4	Concrete Wingwall	EA	4	4				

General Inspection/Maintenance Notes

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Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Expansion Joints - Clean
Amount: Date(YYYY-MM-DD):
Maintenance item comment:

Maintenance Item:
Amount: Date(MM-DD-YY):
Maintenance item comment:

NBI Ratings

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

Maintenance Item:
Amount: Date(MM-DD-YY):
Maintenance item comment:

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BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

page 1

Inventory Data

Feature On: USH 41 NB		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0132
Feature Under: AMERICAN DRIVE		Sect/Twn/Rng: S16 T20N R17E		
Location: 0.4M N JCT STH 150 T		County: WINNEBAG	Municipality: TOWN-MENASHA (70008)	
Inv Rating: HS21	Rdwy Width (ft): 68.0	Deck Width (ft): 71.0	Existing Posting:	
Oper Rating: HS44	Total Length (ft): 282.2	Deck Area(ft2): 20036	ADT On: 37500 Yr: 2004	ADT Under: 5950 Yr: 1992

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-16-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-17-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:			Date Last Rated:

Expansion Joints

		Temp:	50	55	Signing Condition			
Location	Type	File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N	Comments
SOUTH AB	A3-400SE		0.8	0.5	Bridge Markers			
NORTH AB	A3-400SE		0.8	0.4	Narrow Bridge			
					One Lane Road			
					Vertical Clearance			
					Weight Limit Post			
					Other(Addi. Sign)			

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)	19.81		
Min. Vertical Clearance Under (non-Cardinal)	19.47		
Min. Vertical Clearance On			

Structure Type

				Construction/Rehabilitation History			
Material	Configuration	# of Spans	Overall Length (ft)	Year	Work Performed	Plan	Shop
CONT STEEL	DECK GIRDER		135.5	1994	STEEL FABRICA	PLAN	C345
CONT STEEL	DECK GIRDER		140.0	1994	NEW STRUCTURE	PLAN	

Inspection Information

Special Requirements	Y/N	Comments				
Traffic Control						
Access Equipment						
Other						

Inspector Information

Team Leader Name and No. Printed: Blazek, Chris (3009)		Team Member(s) Name(s) Printed:	
Team Leader Signature:		Inspection Date: 03-16-11	Inspection Agency: STATE HIGHWAY DEPARTMENT (1)
District/Local Manager and No. Printed:		District/Local Manager Signature:	Review Date:

Element Inspection (X) Check Elements Inspected

Element Inspection (X) Check Elements Inspected					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 4	Conc Deck/Coatd Bars	SF	20036		20036			
		Numerous trans crs leaching. One small patch. Four small spalls on ramp.							
X	107 / 4	Paint Stl Opn Girder	LF	2486	2336	100	50		
X	172 / 4	Painted Steel Diaphr	EA	112	112				
X	205 / 4	R/Conc Column	EA	5	5				
X	215 / 4	R/Conc Abutment	LF	193	160	30	3		
		Several vertical cracks, some with eff. NE corneris cracked and spalling							
X	234 / 4	R/Conc Cap	LF	91	91				
X	300 / 4	Strip Seal Exp Joint	LF	193	100	93			
		Leaking at various locations.							
X	311 / 4	Moveable Bearing	EA	18	18				
X	313 / 4	Fixed Bearing	EA	9	9				
X	321 / 4	R/Conc Approach Slab	EA	2	2				
		NE shoulder settling and undermining.							
X	331 / 4	Conc Bridge Railing	LF	606	536	70			
		Vertical cracking.							
X	340 / 4	Concrete Slope Prote	EA	1		1			
		S end only. Cracked. Voids at east end.							
X	342 / 4	RipRap Slope Protect	EA	1	1				
		N end only							
X	358 / 4	Deck Cracking SmFlag	EA	1		1			

Element Inspection (X) Check Elements Inspected

Element Inspection (X) Check Elements Inspected					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	359 / 4	Und Dk Surf Sm Flag	EA	1		1			
	Heavy.								
X	400 / 4	Concrete Wingwall	EA	4	3	1			
	NE wingwall cracked - wing tipped out 3/4".								

General Inspection/Maintenance Notes

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Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Deck - Patching
Amount: Date(YYYY-MM-DD):
Maintenance item comment:

Maintenance Item: Expansion Joints - Clean
Amount: Date(MM-DD-YY):
Maintenance item comment:

NBI Ratings

NBI	File	New	NBI	File	New
Deck	7	5	Culvert	N	N
Superstructure	8	7	Channel	N	N
Substructure	7	7	Waterway	N	N

Maintenance Item:
Amount: Date(MM-DD-YY):
Maintenance item comment:

Wisconsin Dept. of Transportation
Supplemental Bridge Inspection Report
Emxx - 01xx Section 84.17 Wis. Statutes

Report Name:

Condition, Location, Description and Structure Notes

--

Condition Pictures and/or Sketches

--

* PROVIDE FOR THREE BEAM
GUARD RAIL ATTACHMENT

INDICATES WING NUMBER

NOTE: SURFACE DRAIN ANCHORS
REQUIRED ON WINGS 3&4.

DISTRICT CONTACT: BILL BERTRAND

TYPE CODE = X231

STATE PROJECT NUMBER

SHEET NO.

1517-05-72

8.1

DESIGN DATA

LIVE LOAD:

DESIGN RATING; HS-20
INVENTORY RATING; HS-27
OPERATIONAL RATING; HS-46
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.
STRUCTURE IS DESIGNED FOR A FUTURE WEARING
SURFACE OF 20 POUNDS PER SQUARE FOOT.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB — $f'c = 4,000$ P.S.I. ALL OTHER — $f'c = 3,500$ P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — $f_y = 60,000$ P.S.I.
HIGH-STRENGTH STRUCTURAL STEEL (A.S.T.M. A709, GRADE 50) — $f_y = 50,000$ P.S.I.
STRUCTURAL CARBON STEEL (A.S.T.M. A709, GRADE 36) — $f_y = 36,000$ P.S.I.
TO AND INCLUDING 4" THICK.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING, WITH PILE POINTS
DRIVEN TO A MINIMUM BEARING VALUE OF 55 TONS PER PILE.
ESTIMATED 25'-0" LONG.

PIERS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING, WITH PILE POINTS
DRIVEN TO A MINIMUM BEARING VALUE OF 55 TONS PER PILE.
ESTIMATED 10'-0" LONG.

TRAFFIC VOLUME

NORTH LAKE ROAD
A.D.T.=1,310 (2020)
R.D.S.=40 M.P.H.

U.S.H. 41
A.D.T.=121,800 (2020)
R.D.S.=65 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUT. DETAILS
6. NORTH ABUTMENT
7. NORTH ABUT. DETAILS
8. PIER 1
9. PIER 2
10. BEARING DETAILS
11. GIRDER DETAILS
12. FRAMING PLAN
13. SUPERSTRUCTURE
14. SUPERSTRUCTURE DETAILS
15. SLOPED FACE PARAPET 'LF' (WEST)
16. SLOPED FACE PARAPET 'LF' (SIDEWALK)
17. VERTICAL FACE PARAPET 'A'
18. FENCING DETAILS
19. EXPANSION DEVICE
20. EXPANSION DEVICE

CURVE DATA

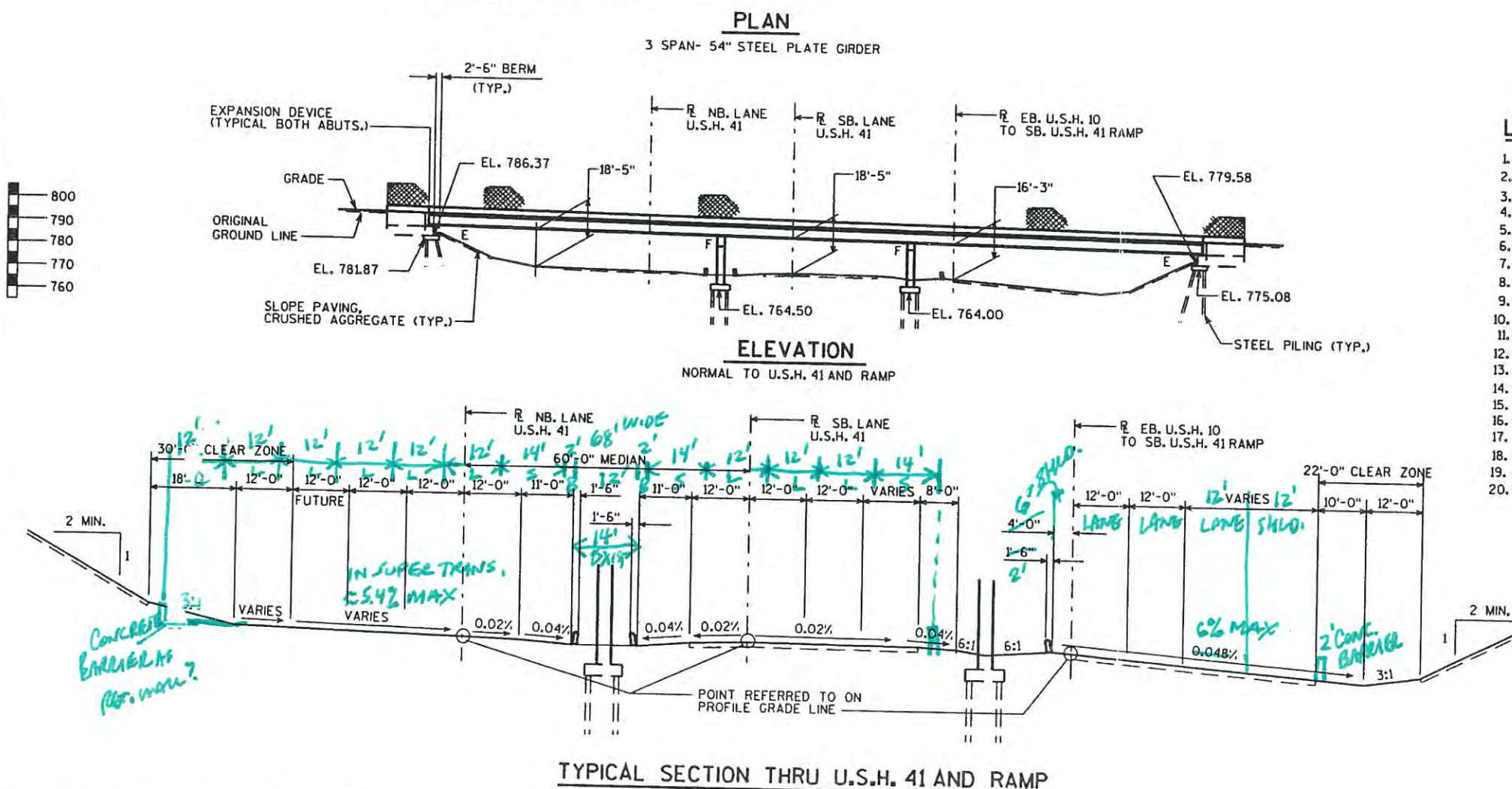
EB. U.S.H. 10 TO SB. U.S.H. 41 RAMP

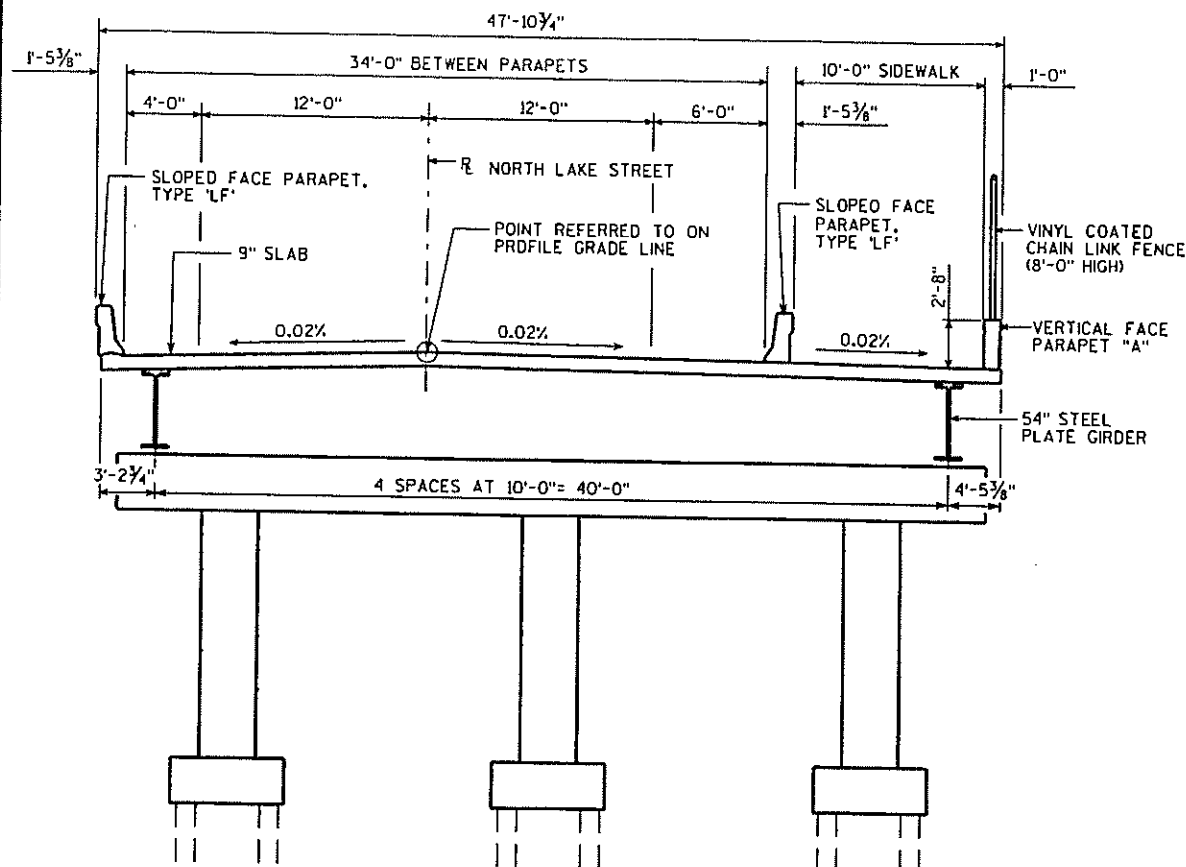
P.I. = STA. 1306+92.238
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 $D = 3^\circ-30'-00''$
 $T = 465.247'$
 $L = 906.589'$
 $R = 1637.022'$
 $S.E. = 0.048\%$
P.C. = STA. 1302+26.991
P.T. = STA. 1311+33.580

BRIDGE OFFICE CONTACTS :
DAVE KIEBUSCH (608) 266-5084
JERRY R. ZIRK (608) 266-5163

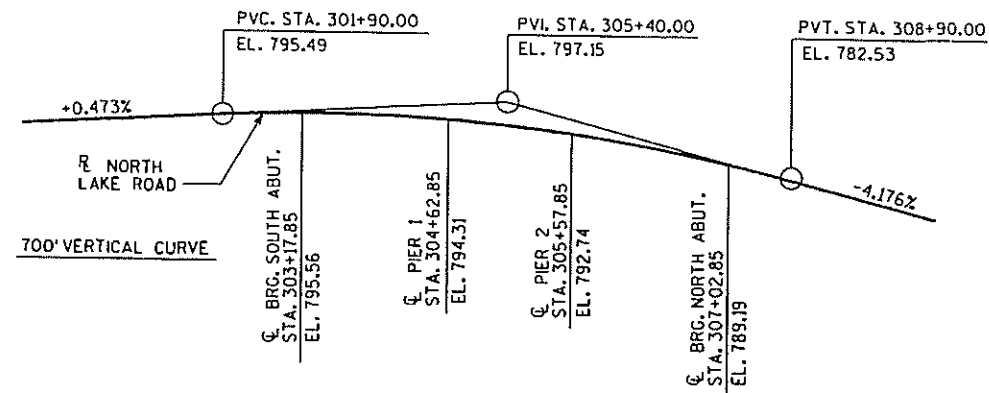
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-70-210			
NORTH LAKE STREET OVER U.S.H. 41 & RAMP			
COUNTY	WINNEBAGO	TOWN/CDP/VILLAGE	MENASHA
DESIGN SPEC.	AASHTO 1998	LOAD	HS-20
DESIGNED BY	DJK	DRAWN BY	CF
	DESIGN CK'D.	KTN	PLANS CK'D.
APPROVED	[Signature] 07-26-00		
	CHIEF STRUCTURAL DESIGN ENGINEER		DATE
GENERAL PLAN			SHEET 1 OF 20
			DATE: MAY '00'

FILE= 210GP.DGN
SCALE = 30

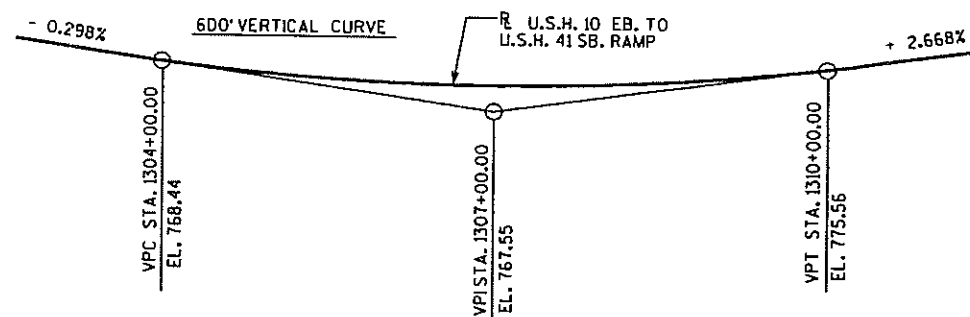




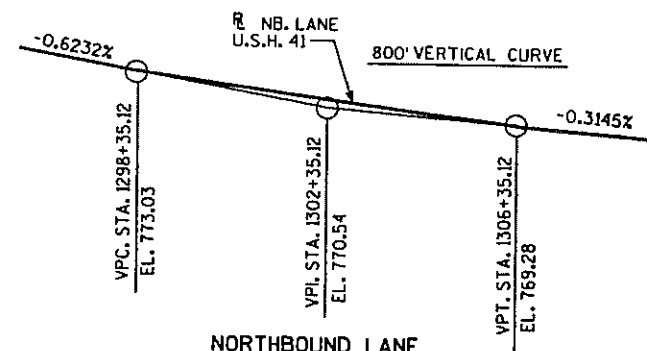
CROSS SECTION THRU ROADWAY LOOKING NORTH



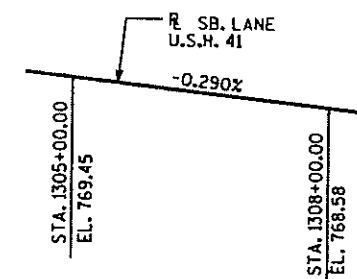
PROFILE GRADE LINE NORTH LAKE ROAD



PROFILE GRADE LINE U.S.H. 10 EB. TO U.S.H. 41 SB. RAMP



NORTHBOUND LANE



SOUTHBOUND LANE

PROFILE GRADE LINE U.S.H. 41

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
 AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE IN PLACE BEFORE ABUTMENT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
 THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.
 THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
 THE COLOR OF THE FINISH EPOXY TOP COAT SHALL BE GRAY, (FEDERAL STANDARD COLOR NO. 26293) OR SIMILAR COLOR APPROVED BY THE ENGINEER.
 ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER A325 HIGH-TENSILE STRENGTH BOLTS UNLESS OTHERWISE SHOWN OR NOTED.
 THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.
 VINYL COATED CHAIN LINK FENCE SHALL BE BLACK.

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	PIER 1	PIER 2	TOTALS
EXCAVATION FOR STRUCTURES, BRIDGES, B-70-210	L.S.	—	—	—	—	—	1
STRUCTURE BACKFILL	C.Y.	—	420	420	—	—	840
CONCRETE MASONRY, BRIDGES	C.Y.	666	115	115	56	56	1,008
PROTECTIVE SURFACE TREATMENT	S.Y.	2,550	—	—	—	—	2,550
EXPANSION DEVICE, STRUCTURE B-70-210	L.S.	—	—	—	—	—	1
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	—	4,715	4,390	505	505	10,115
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	145,790	2,850	3,330	12,700	12,590	177,260
HIGH-STRENGTH STRUCTURAL STEEL	LB.	535,000	—	—	—	—	535,000
STRUCTURAL CARBON STEEL	LB.	24,150	—	—	—	—	25,150
WELDED STUD SHEAR CONNECTORS, 3/8"x5-INCH	EACH	3,915	—	—	—	—	3,915
FIXED BEARING ASSEMBLIES, STRUCTURE B-70-210	EACH	—	—	—	5	5	10
EXPANSION BEARING ASSEMBLIES, STRUCTURE B-70-210	EACH	—	5	5	—	—	10
STEEL PILING, DELIVERED AND DRIVEN, HP 10-INCH 42 POUND	L.F.	—	500	500	240	240	1,480
RUBBERIZED MEMBRANE WATERPROOFING	S.Y.	—	12	12	—	—	24
PAINTING, EPOXY SYSTEM, STRUCTURE B-70-210	L.S.	—	—	—	—	—	1
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	—	190	190	—	—	380
CHAIN LINK FENCE, VINYL COATED, 8 FT.	L.F.	420	—	—	—	—	420
ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	—	—	—	—	4
PIPE UNDERDRAIN, 6-INCH	L.F.	—	48	48	—	—	96
PIPE UNDERDRAIN, UNPERFORATED, 6-INCH	L.F.	—	20	20	—	—	40
GEOTEXTILE FABRIC, TYPE DF	S.Y.	—	40	40	—	—	80
PILE POINTS	EACH	—	20	20	24	24	88
CONCRETE MASONRY ANCHORS, TYPE S, 3/8 INCH	EACH	1,160	—	—	—	—	1,160
NON-BID ITEMS							
BRIDGE SEAT PROTECTION	L.S.	—	—	—	—	—	1

NO.	DATE	REVISION	BY
1	1996	1	CF
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-70-210			
CONST. SPEC.	1996	DRAWN BY	CF
CROSS SECTION & QUANTITIES		SHEET 2	

Minimum Vertical Clearance for Existing Bridges which are not Being Replaced and for Existing Bridges on which the Superstructure is not Being Replaced^{1, 2}

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁵ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ⁶
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	16'-3" min. or ES ³		18'-0" min. or ES ³ for existing sign structures on new construction projects or reconstruction projects;
		If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
		If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		17'-0" or ES ³ for existing sign structures on 3R projects
	If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³	If existing is ≥ 14'-0", but < 14'-6" then maintain existing min. or ES ³			
	If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is ≥ 14'-6" then 14'-6" min. or ES ³			
Arterial STH (excludes freeway and expressway)	If existing is < 15'-3" then increase to 15'-3" min. or ES ³	If existing is < 14'-0" then increase to 14'-0" min. or ES ³	17'-0" min. or ES ³		
	If existing is ≥ 15'-3", but < 16'-0" then maintain existing min. or ES ³	If existing is ≥ 14'-0", but < 16'-0" then maintain existing min. or ES ³			
	If existing is ≥ 16'-0" then 16'-0" min. or ES ³	If existing is ≥ 16'-0" then 16'-0" min. or ES ³			
Freeway⁴ or Expressway	16'-0" min. or ES ³				
Railroad⁵	Maintain existing vertical clearance - if existing clearance is < 23'-0" then confer with BTLR Railroads and Harbors Section to determine the adequacy of the existing clearance.				

General notes:

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table. Provide greater than minimum clearance if evaluation shows that greater clearance is needed because bridge superstructure is susceptible to being hit by under-passing vehicles.

Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.

- ² Include a low clearance sign (W12-2), on structures if its use is in accordance with WisDOT MUTCD 2C.22.

- ³ ES = approved Exceptions To Standards Report required (see [FDM 11-1-2](#) and [FDM 11-1-4](#)).

- ⁴ See [FDM 11-44-1](#) for vertical clearance guidance specific to Interstate freeways.

- ⁵ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.

- ⁶ See LRFD Bridge Manual Chapter 39 for design considerations for vertical clearance on Sign Structures (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm).

Vertical Clearance for Construction of New Bridges, Replacement Bridges, and Bridges on which the Superstructure is being replaced¹

Overpass Facility →	Freeway, Expressway, or STH		Railroad ⁴ , CTH, Town Road, Local Road, or Street	Pedestrian or Shared-use Structures	Sign Structures ²
Underpass Facility ↓	Interchange	Grade Separation			
Non-arterial either STH, CTH, Town Road, Local Road, or Street	15'-9" Desirable	15'-3" Desirable	16'-9" Desirable	16'-3" Minimum	18'-3" Minimum
	15'-3" Minimum	14'-9" Minimum			
Arterial either CTH, Town Road, Local Road, or Street (excludes freeway and expressway; also excludes arterial STH)	16'-9" Desirable	15'-3" Desirable	17'-9" Desirable	17'-3" Minimum	
	16'-3" Minimum	14'-9" Minimum			
Freeway ³ or Expressway or arterial STH	16'-9" Desirable		17'-9" Desirable	17'-4" Minimum	
	16'-4" Minimum				
Railroad ^{4,5,6,7}	23'-0" Minimum to 23'-3½" Maximum				

General notes:

- ¹ Vertical clearance is needed for the entire roadway width (critical point; to include traveled way, auxiliary lanes, turn lanes, and shoulders), according to the above table.

Vertical clearance for railroads is measured from the top of rail and is required over an area 8 feet 6 inches from the track centerline on each side of a railroad track.

Do not exceed the desirable vertical clearance shown unless justified. Depending on topography and other specific situations vertical clearance for any structure may be greater than that shown when justified. Some things to consider are: over height loads traveling on the roadway; the level of development in the area, the projected growth in traffic volume and importance of the roadway, and the possibility of reclassification.

- ² See LRFD Bridge Manual Chapter 39 (http://on.dot.wi.gov/dtid_bos/extranet/structures/LRFD/LRFDManualIndex.htm) and LRFD Standard Details 39.02 and 39.10 for design considerations and requirements for vertical clearance on new and replacement Sign Structures.
- ³ See FDM 11-44-1 for vertical clearance guidance specific to Interstate freeways.
- ⁴ Consult with the Region Railroad Coordinator if the over-passing or under-passing facility is either a railroad or a "rails-to-trails" trail; or if a structure is owned by a railroad company.
- ⁵ A vertical clearance <23'-0" requires both an approved Exception to Standards (see FDM 11-1-2 and FDM 11-1-4) and early coordination with BTLR R&H, Railroads and Harbors Section (RHS) through the Region Railroad Coordinator. The Exception to Standards shall contain documentation that the Office of the Commissioner of Railroads (OCR) has been petitioned.
- See Chapter 17 for additional information.
- ⁶ Provide justification for a vertical clearance >23'-3 ½" to the RHS.
- ⁷ Vertical clearance less than 23'-0" may be acceptable or desirable in certain situations, such as for spur tracks, lead tracks, some branch lines and even mainline tracks when other impediments to 23'-0" exist. Review such situations with the Railroad Project Coordination Engineer in RHS. Early coordination with RHS is required.

BRIDGE INSPECTION REPORT
Wisconsin Dept. of Transportation
DT2007 2003 s.84.17 Wis. Stats. Type = ROUTINE INSPECTION

page 1

Inventory Data

Feature On: N LAKE ST		Maintainer: STATE HIGHWAY DEPT		Structure No: B-70-0210
Feature Under: USH 41		Sect/Twn/Rng: S09 T20N R17E		
Location: TOWN OF MENASHA		County: WINNEBAG	Municipality: TOWN-MENASHA (70008)	
Inv Rating: HS27	Rdwy Width (ft): 34.1	Deck Width (ft): 47.6	Existing Posting:	
Oper Rating: HS46	Total Length (ft): 391.9	Deck Area(ft2): 18654	ADT On: 1310 Yr: 2000	ADT Under: Yr:

Inspection Type (* = Supplemental Form Required)

	Routine Visual	Fracture Critical*	In-Depth*	UW-Dive*	UW-Surv*	UW-Probe/Visual*	Movable*
Last Insp.	03-16-11						
Frequency	24						
Recom. Freq.							
	Initial*	Damage	Interim	Load Posted	SI & A Field Review*		
Last Insp.							
Frequency	N/A						
Recom. Freq.	N/A				Item No. Needing Change		

Load Rating Information

Overburden	Measurement (in): 0.0	Date:	Deck Surface Type: CONCRETE	
Section Loss	File Meas. (%):	File Insp. Date: 03-16-09	Insp. Measurement (%):	Describe:
Re-rate for load capacity?	Reason:	Date Last Rated: 10-12-00		

Expansion Joints

Location	Type	Temp:	58	50	Signing Condition			
		File Insp. Date	File Insp. (in)	New Insp. (in)	Type of Marker	File	Y/N	Comments
SOUTH AB	STRIPSEA		1.8	1.9	Bridge Markers			
NORTH AB	STRIPSEA		1.6	1.7	Narrow Bridge			
					One Lane Road			
					Vertical Clearance			
					Weight Limit Post			
					Other(Addl. Sign)			

Clearances(Cardinal = N or E)

	File Meas. (ft.)	File Date	New Meas. (ft.)
Min. Vertical Clearance Under (Cardinal)	16.24	05-18-00	
Min. Vertical Clearance Under (non-Cardinal)	18.9	05-18-00	
Min. Vertical Clearance On			

Structure Type

Construction/Rehabilitation History

Material	Configuration	# of Spans	Overall Length (ft)	Year	Work Performed	Plan	Shop
STEEL	DECK GIRDER		145.0	2001	NEW STRUCTURE		
STEEL	DECK GIRDER		95.0				
STEEL	DECK GIRDER		145.0				

Inspection Information

Special Requirements	Y/N	Comments				
Traffic Control						
Access Equipment						
Other						

Inspector Information

Team Leader Name and No. Printed: Blazek, Chris (3009)		Team Member(s) Name(s) Printed:		
Team Leader Signature:		Inspection Date: 03-16-11	Inspection Agency: STATE HIGHWAY DEPARTMENT (1)	
District/Local Manager and No. Printed:		District/Local Manager Signature:	Review Date:	

Element Inspection (X) Check Elements Inspected

Quantity in Condition States

Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	26 / 4	Conc Deck/Coatd Bars	SF	18654		18654			
		Small spall in NB (WB) lane over USH 41 NB lane.							
X	107 / 4	Paint Stl Opn Girder	LF	1932	1500	382	50		
		Small spots of rust.							
X	172 / 4	Painted Steel Diaphr	EA	76		52	24		
X	205 / 4	R/Conc Column	EA	6	6				
X	215 / 3	R/Conc Abutment	LF	114	105	9			
X	234 / 4	R/Conc Cap	LF	104	100	4			
		Diagonal crack on pier # 2							
X	300 / 4	Strip Seal Exp Joint	LF	98	98				
X	311 / 4	Moveable Bearing	EA	10	10				
X	313 / 4	Fixed Bearing	EA	10	10				
X	322 / 4	Bituminous Approach	EA	2	2				
X	331 / 4	Conc Bridge Railing	LF	1177	980	197			
		Ped. fence on top							
X	342 / 2	RipRap Slope Protect	EA	2	2				
X	358 / 4	Deck Cracking SmFlag	EA	1		1			
X	359 / 4	Und Dk Surf Sm Flag	EA	1	1				

Element Inspection (X) Check Elements Inspected

					Quantity in Condition States				
Ck	Elem./Env.	Description	Unit	Total QTY.	1	2	3	4	5
X	400 / 3	Concrete Wingwall	EA	4	4				
X	415 / 4	Sidewalk/Median	LF	393	350	43			

General Inspection/Maintenance Notes

Coating coming off base plates of fence.
Base plates are starting to rust.

Maintenance Recommendations (See standard code items & numbers)

Maintenance Item: Expansion Joints - Clean

Amount: Date(YYYY-MM-DD):

Maintenance item comment:

Maintenance Item: Misc - Other Work

Amount: Date(MM-DD-YY):

Maintenance item comment: Repair hole in asphalt sidewalk at NW inlet.

NBI Ratings

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

Maintenance Item: Deck - Seal Surface Cracks

Amount: Date(MM-DD-YY):

Maintenance item comment:

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STATE PROJECT NUMBER	SHEET NO.
1123-05-01	8.20

DESIGN DATA

LIVELOAD:
 DESIGN RATING: HS20 MODIFIED
 INVENTORY RATING: HS20
 OPERATIONAL RATING: HS35
 MAX. STANDARD PERMIT VEHICLE LOAD: 250 KIPS
 STRUCTURE IS DESIGNED FOR A FUTURE BEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ALLOWABLE DESIGN STRESSES:
 CONCRETE MASONRY - SLAB $f'_c = 4,000$ P.S.I.
 - ALL OTHER $f'_c = 3,500$ P.S.I.
 HIGH-STRENGTH BAR STEEL
 REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.
 28" PRESTRESSED GINDERS - CONCRETE MASONRY $f'_c = 6,000$ P.S.I.
 STRANDS - $\frac{1}{2}$ " DIA. WITH AN ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA:
 ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A MINIMUM BEARING VALUE OF 45 TONS PER PILE. ESTIMATED 55'-0" LONG.

HYDRAULIC DATA:
100 YEAR FREQUENCY
 DRAINAGE AREA 6.3 SQ. MI.
 Q_{100} 1200 C.F.S.
 VELOCITY 8.3 F.P.S.
 WATERWAY AREA 145 SQ. FT.
 HIGH WATER₁₀₀ ELEVATION 744.42
 ROAD OVERTOPPING NOT APPLICABLE
 CRITICAL SCOUR CODE = 8

TRAFFIC VOLUME

U.S.H. 41
 A.D.T. (1992) = 50,200
 A.D.T. (2012) = 73,000

LIST OF DRAWINGS (X83837)

1. GENERAL PLAN
2. CROSS SECTION & GRADE LINES
3. QUANTITIES & NOTES
4. SUBSURFACE EXPLORATION
5. CONSTRUCTION STAGING
6. CONSTRUCTION STAGING
7. SOUTH ABUTMENT
8. SOUTH ABUTMENT
9. SOUTH ABUTMENT
10. SOUTH ABUTMENT DETAILS
11. NORTH ABUTMENT
12. NORTH ABUTMENT
13. NORTH ABUTMENT
14. NORTH ABUTMENT DETAILS
15. 28" PRESTRESSED GIRDER DETAILS
16. STEEL INTERMEDIATE DIAPHRAGMS
17. SUPERSTRUCTURE
18. SUPERSTRUCTURE
19. SUPERSTRUCTURE
20. SLOPED FACE PARAPET 'B'
21. BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION

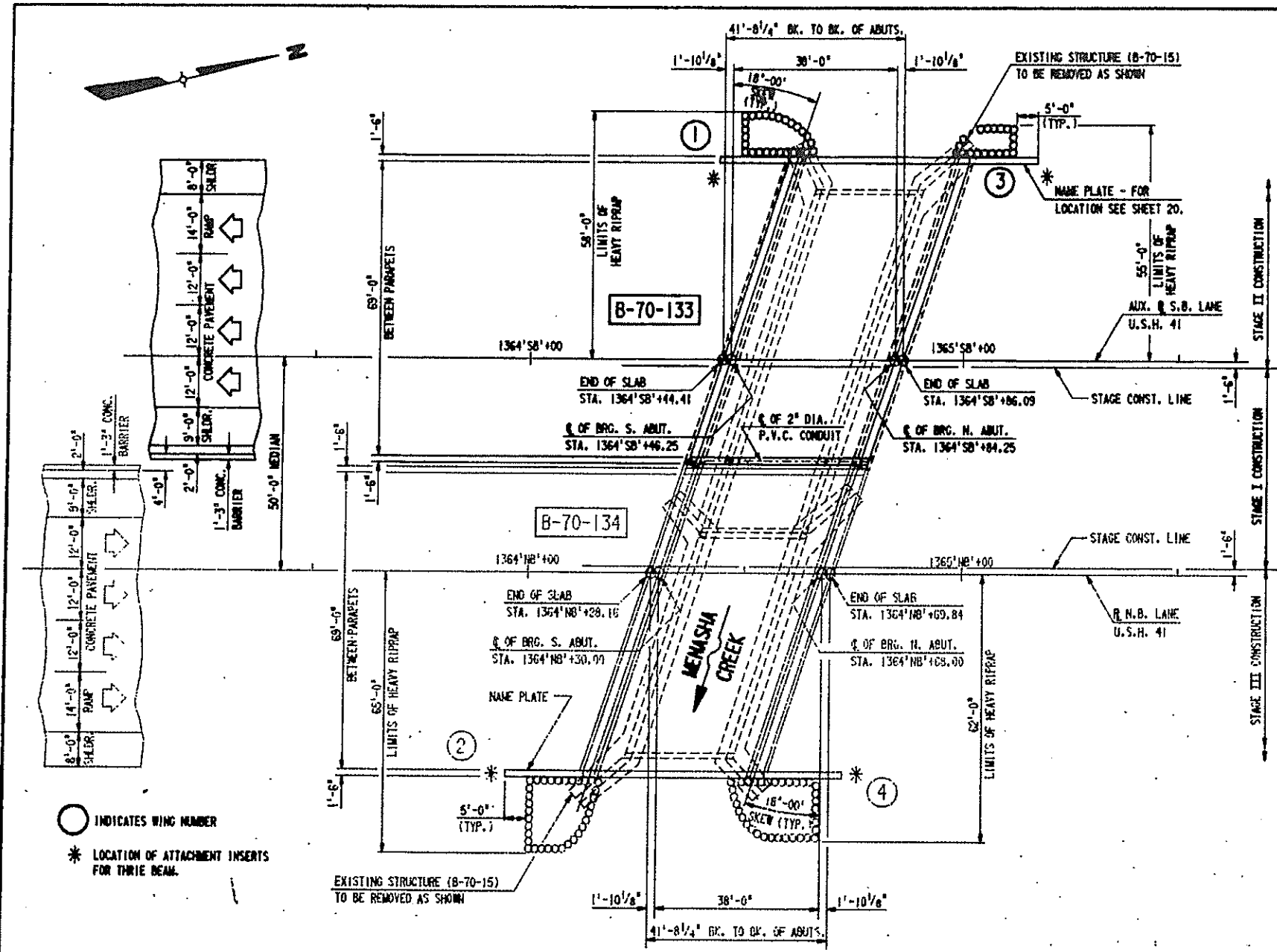
BRIDGE OFFICE CONTACT:
 DAVE BABLER (608) 266-8486

No.	Date	Revision	By
Donohue Engineers & Architects 1000 W. MICHIGAN MILWAUKEE, WI 53233			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-133			
U.S.H. 41 (S.B.) OVER MEMASHA CREEK			
County	WINNEBAGO	Town	MEMASHA
Design Spec.	A.A.S.N.T.O. 1991	Load	HS20 MOD.
Designed By	A.J.G.	Checked By	T.J.R.
Drawn By	D.F.K.	Plate Checked	LEH
Approved		11-12-91	
Sgt. Bridge Engineer		Date	
GENERAL PLAN			SHEET 1 OF 21
			X83837



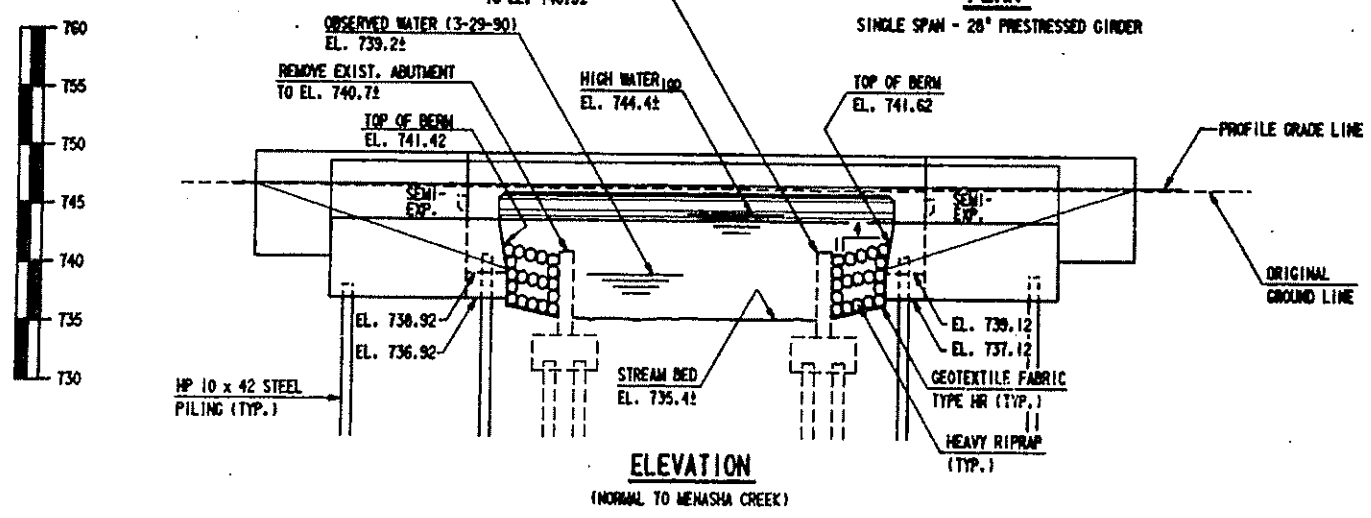
BENCH MARK

NO.	STATION	DESCRIPTION	ELEVATION
318	1360'SB+473	S.W. BOLT ON WEST LEG OF D.O.T. SIGN NORTH OF U.S.H. 41 (APPLETON NEXT 5 EXITS)	748.11



PLAN

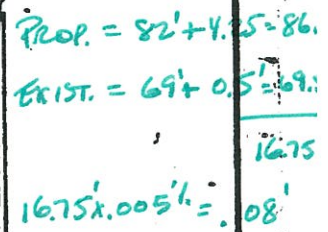
SINGLE SPAN - 28" PRESTRESSED GIRDER



ELEVATION

(NORMAL TO MEMASHA CREEK)

REVISIONS:
 1. 11-12-91
 2. 11-12-91
 3. 11-12-91
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$$\begin{array}{r} 30.25' \\ - 23.50' \\ \hline 6.75' \times .006 = .041 \end{array}$$

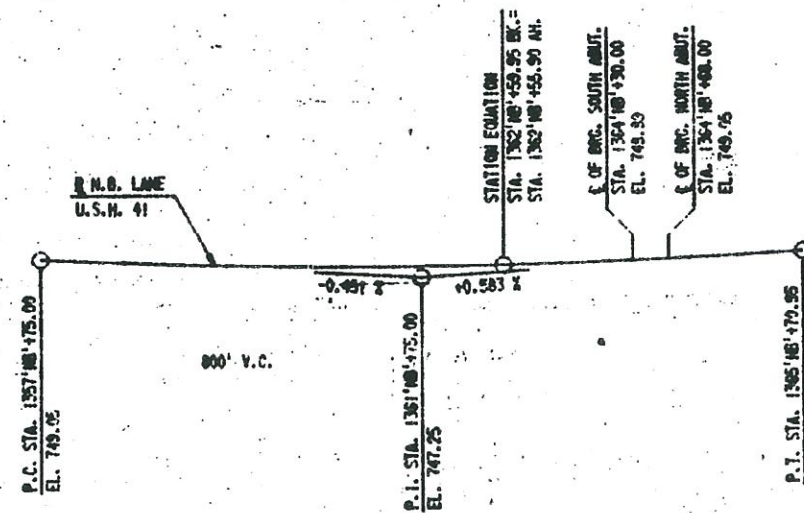
B-70-133

CROSS SECTION THRU ROADWAY
(LOOKING NORTH)

B-70-134 $\begin{array}{r} -.08 \\ +.135 \\ \hline =+.06 \end{array}$

FULL SUPER = 3.35% FOR 5700' R.
ASSUME BRIDGES ARE IN SE TRANS.
SE TRANS MAY BE IMPLEMENTED
DIFFERENTLY THAN WHAT IS CURRENTLY
SHOWN. ASSUME CROSS SLOPE SHOWN AS
SIMILAR FOR PROPOSED.

NO ANTICIPATED ISSUES FOR REHAB + WIDEN.



B-70-133

B-70-134

PROFILE GRADE LINE, U.S.H. 41

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-70-133			
Const. Spec.	WIS. 1989	Draw by	Plan Checked
		B.F.K.	LEN
CROSS SECTION & GRADE LINES			SHEET 2 OF 21 X83837