

PLAN  
CONCRETE OVERLAY

Preliminary Plans Approved:  
JDB  
12/3/15

PRELIMINARY PLANS

DESIGN DATA

LIVE LOAD:  
 DESIGN LOADING: HS-20  
 INVENTORY RATING: HS-XX  
 OPERATING RATING: HS-XX  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = XXX KIPS

ULTIMATE DESIGN STRESSES: **Material Properties**  
 CONCRETE MASONRY BRIDGES  
 SUPERSTRUCTURE.....f'c = 4,000 P.S.I.

BAR STEEL REINFORCEMENT  
 HIGH STRENGTH, GRADE 60.....fy = 60,000 P.S.I.

TRAFFIC DATA

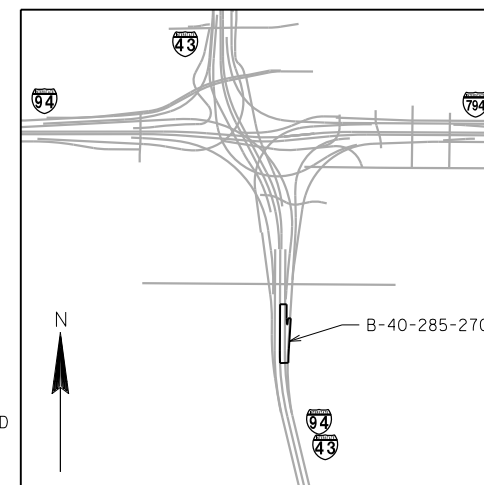
IH 94 EB/WB, IH43 SB/NB  
 A.A.D.T. = 132,000 (2017)  
 A.A.D.T. = 145,000 (2037)  
 RDS = 55 MPH

GEOMETRY REFERENCE POINTS	
POINT	STATION
CL BRG. EXP. JT. 5	202HR+00.75
CL PIER N14	A 203HR+57.21
CL PIER N15	A 205HR+18.21
CL PIER N16 & EXP. JT. 5A	A 206HR+79.21
CL BRG. EXP. JT. 6	A 208HR+25.21

LEGEND

- \* END TO END OVERLAY
- ▲ SPAN LENGTHS ARE MEASURED  
CL EXP. JT. TO CL EXP. JT.
- EXISTING FLOOR DRAIN TO  
REMAIN

LOCATION MAP



LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. GENERAL NOTES AND QUANTITIES
3. TYPICAL SECTIONS
4. STAGED CONSTRUCTION SECTIONS (1 OF 2)
5. STAGED CONSTRUCTION SECTIONS (2 OF 2)

NO.	DATE	REVISION	BY

**Michael Baker International**  
 735 N. WATER STREET  
 SUITE 1205  
 MILWAUKEE, WI 53202

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

ACCEPTED \_\_\_\_\_ DATE \_\_\_\_\_  
 CHIEF STRUCTURES DESIGN ENGINEER

STRUCTURE B-40-285-27G

IH 94 WB/IH 43 NB OVER LAND

COUNTY: MILWAUKEE TOWN/CITY/VILLAGE: MILWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	JMK	DESIGN CK'D.	JRB	DRAWN BY	MMW	PLANS CK'D.	JRS

CONCRETE OVERLAY

SHEET 1 OF 5

**GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT. THE EXISTING ASPHALTIC OVERLAY AND 1/4" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK.

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2". CONTACT THE STRUCTURES DESIGN SECTION.

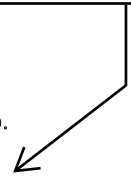
THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1968.

EXISTING FLOOR DRAINS TO REMAIN IN PLACE. REMOVE TOP OF DECK IN DRAIN AREA AS DIRECTED BY THE FIELD ENGINEER TO ALLOW PLACING AND SLOPING OF 1/2" MINIMUM CONCRETE OVERLAY AROUND THE RIM OF THE DRAIN.

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

EXPANSION JOINT ASSEMBLIES, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE MODULAR B-40-285-27G".

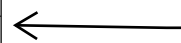
How long after overlay is placed is the contractor responsible for sealing cracks?



**TOTAL ESTIMATED QUANTITIES**

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
203.0225.S.XX	DEBRIS CONTAINMENT B-40-285-27G	LS	---
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---
502.3210	PIGMENTED SURFACE SEALER	SY	---
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	---
509.0301	PREPARATION DECKS TYPE 1	SY	---
509.0302	PREPARATION DECKS TYPE 2	SY	---
509.2000	FULL-DEPTH DECK REPAIR	SY	---
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	---
502.3110.S	EXPANSION DEVICE MODULAR B-40-285-27G	LS	---
509.1000	JOINT REPAIR	SY	---
SPV.0180.XX	REMOVING ASPHALTIC CONCRETE OVERLAY SPECIAL	SY	---
SPV.0180.XX	REMOVE AND RESET EXISTING CRASH CUSHION	EA	---

Does bid item include removal of 1/4" of concrete in addition to asphalt? If not, include "cleaning decks" bid item as well.



LIMITS OF PIGMENTED SURFACE SEALER WITHIN JOINT REPAIR LIMITS ONLY

LIMITS OF PROTECTIVE SURFACE TREATMENT



**PROTECTIVE SURFACE TREATMENT DETAIL**

Note not required if existing name plate is not impacted by proposed work

If deck surface preparation is included in "removing asphaltic concrete overlay special", include general note stating that that is the case

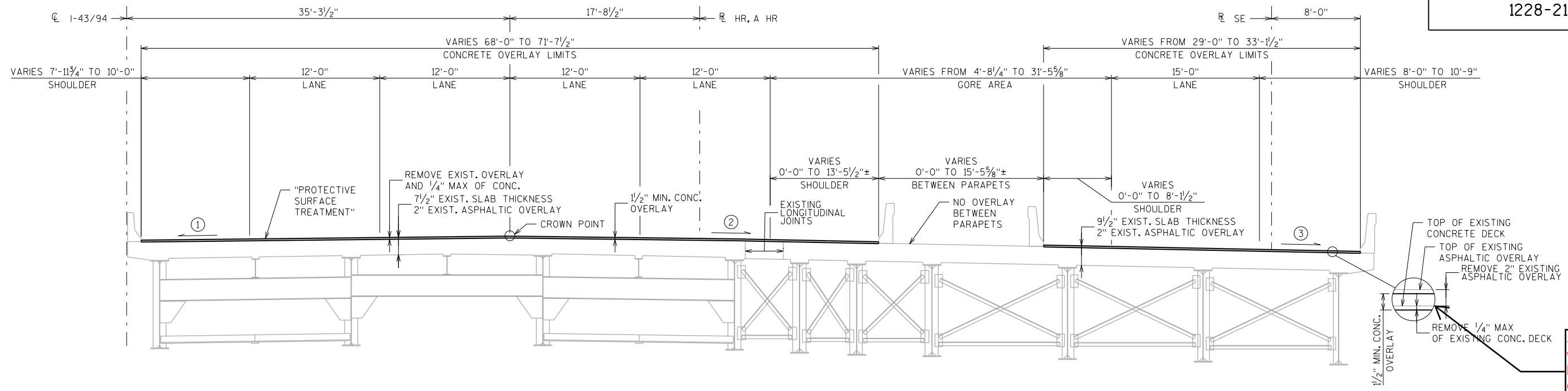
**HORIZONTAL ALIGNMENTS**

LOC'N	STATION	NORTHING	EASTING	BEARING	RADIUS	ARC LENGTH	DEFL'N ANGLE
PC	196+46.69	295541.10	602523.88	N 13°32'51" W			
PI	199+94.43	295879.16	602442.42		2864.79	692.10	13°50'31" RT
PT	203+38.79	296226.90	602444.21	N 0°17'40" E			
PC	196HR+46.69	295553.51	602575.41	N 13°32'51" W			
PI	199HR+88.00	295885.33	602495.45		2811.79	679.30	13°50'31" RT
PT	A 203HR+38.79	296226.63	602497.21	N 0°17'40" E			
PC	20SE+97.01	295582.07	602568.68	N 10°01'47" W			
PI	24SE+32.76	295912.69	602510.21		2803.29	668.32	13°39'34" RT
PT	27SE+65.33	296247.76	602531.47	N 3°37'47" E			

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-40-285-27G</b>			
DRAWN BY		MMW	PLANS CK'D. JRS
GENERAL NOTES AND QUANTITIES			SHEET 2 OF 5



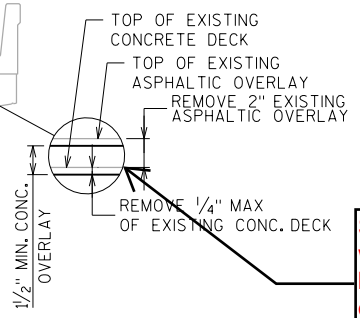
Include girder size / spacing on typical section drawings

AVERAGE OVERLAY THICKNESS = 2.0"

TYPICAL SECTION A

(LOOKING NORTH)  
 STA. 202HR+00.75 TO STA. 203HR+25.98  
 STA. A 203HR+38.79 TO STA. A 206HR+79.21

TYPICAL DECK DETAIL



Sheet membrane waterproofing layer between asphaltic overlay and concrete deck

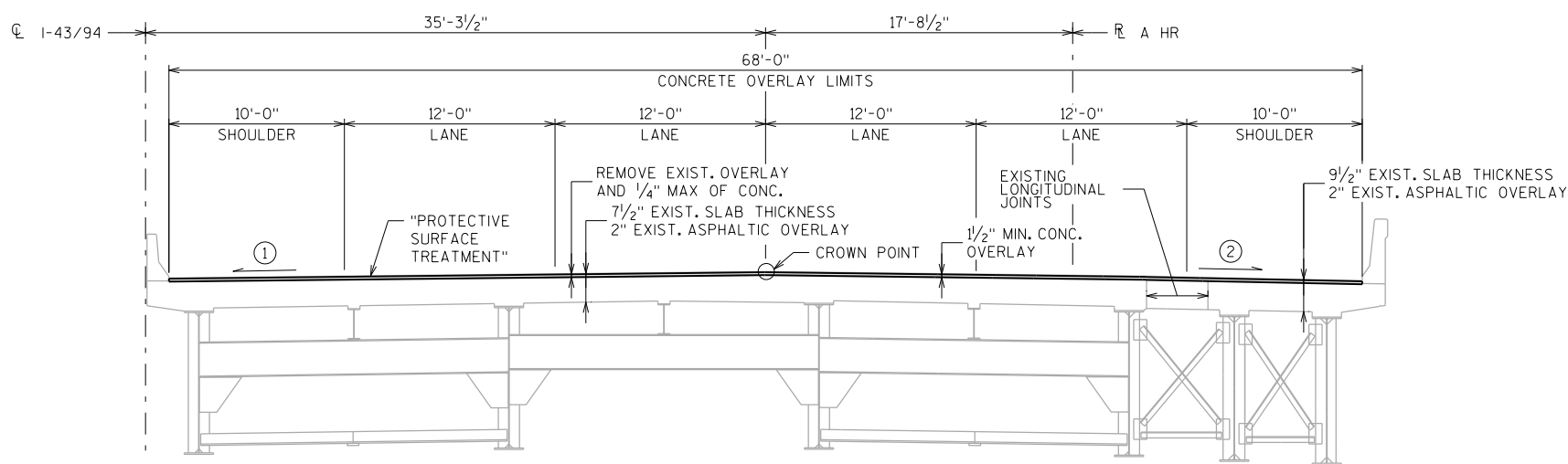
DECK CROSS SLOPE TABLE					
LOCATION	①	②	③	JOINT	
202HR+00.75	-3.00%	3.00%	3.00%	EXP. JT. 5	
203+00.00 C 1-43/94	-3.00%	3.00%	*	N/A	
203+75.00 C 1-43/94	-2.00%	2.00%	*	N/A	
204+75.00 C 1-43/94	0.00%	2.00%	*	N/A	
205+75.00 C 1-43/94	1.56%	2.00%	*	N/A	
A 206HR+79.21	1.56%	2.00%	2.00%	EXP. JT. 5A	
207+50.00 C 1-43/94	1.56%	2.00%	N/A	N/A	
208+25.00 C 1-43/94	1.56%	2.40%	N/A	N/A	
A 208HR+25.21	1.56%	2.40%	N/A	EXP. JT. 6	

CORRESPONDING X-SEC. → A

ALL CROSS-SLOPES ARE APPROXIMATE. A NEGATIVE SIGN INDICATES CROSS-SLOPE DIRECTION OPPOSITE OF THAT SHOWN IN TYPICAL SECTION.

PROPOSED OVERLAY TO MATCH EXISTING DECK CROSS SLOPE.

\*CROSS SLOPE BETWEEN STA. 26SE+50.00 AND EXP. JT. 5A VARIES FROM 3.00% TO 2.00%. ACTUAL CROSS SLOPE IS NOT AN INTERPOLATION BETWEEN THE SLOPES.



TYPICAL SECTION B

(LOOKING NORTH)  
 STA. A 206HR+79.21 TO A 208HR+25.21

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-0285-27G			
DRAWN BY		TJN	PLANS CK'D. JRS
TYPICAL SECTIONS			SHEET 3 OF 5

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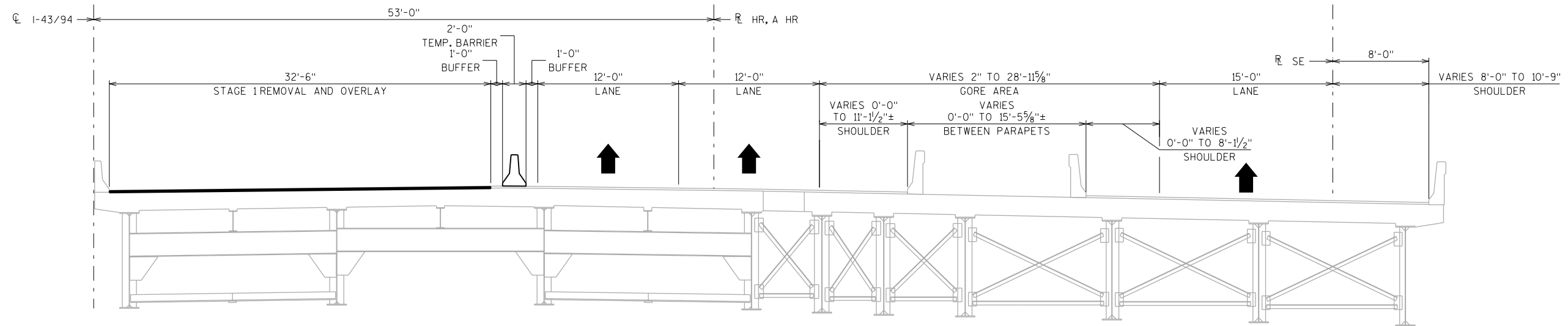
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**STAGING NOTES**

1. SEE ROADWAY PLANS FOR TRAFFIC CONTROL AND STAGE CONSTRUCTION DETAILS

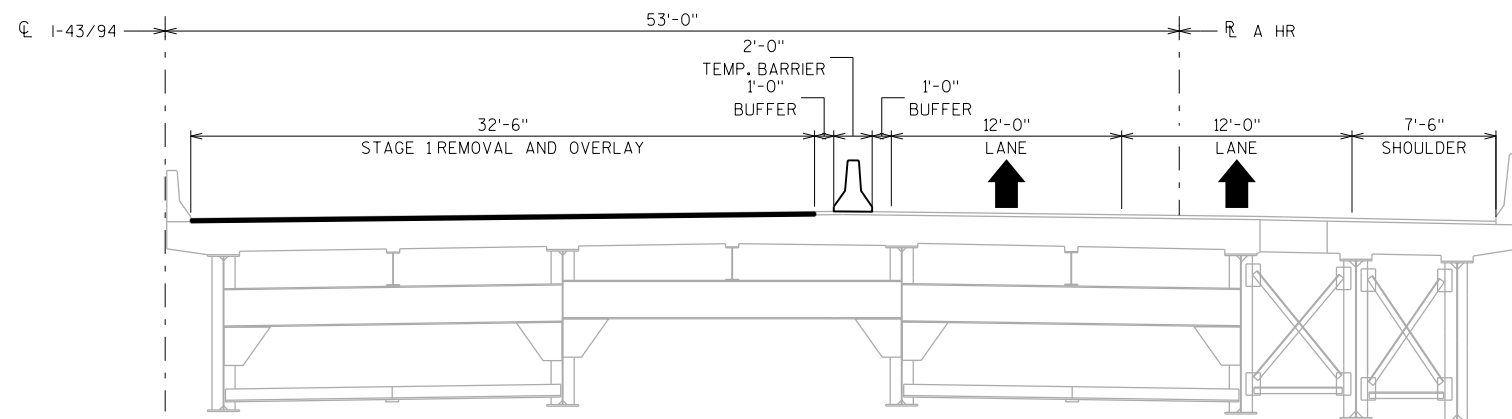
**LEGEND**

■ CONCRETE OVERLAY PLACED UNDER STAGE 1



**STAGE 1 - CONSTRUCTION SECTION**

(LOOKING NORTH)  
 STA. 202HR+00.75 TO STA. 203HR+25.98  
 STA. A 203HR+38.79 TO STA. A 206HR+79.21



**STAGE 1 - CONSTRUCTION SECTION**

(LOOKING NORTH)  
 STA. A 206HR+79.21 TO A 208HR+25.21

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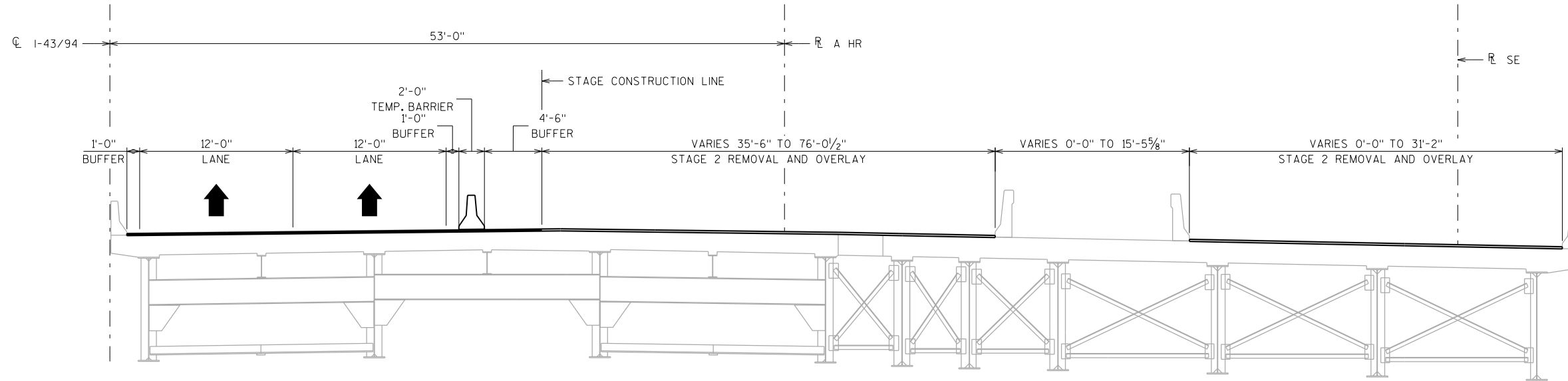
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-40-0285-27G			
DRAWN BY		TJN	PLANS CK'D. LMK
STAGED CONSTRUCTION SECTIONS (1 OF 2)			SHEET 4 OF 5

**STAGING NOTES**

1. SEE ROADWAY PLANS FOR TRAFFIC CONTROL AND STAGE CONSTRUCTION DETAILS

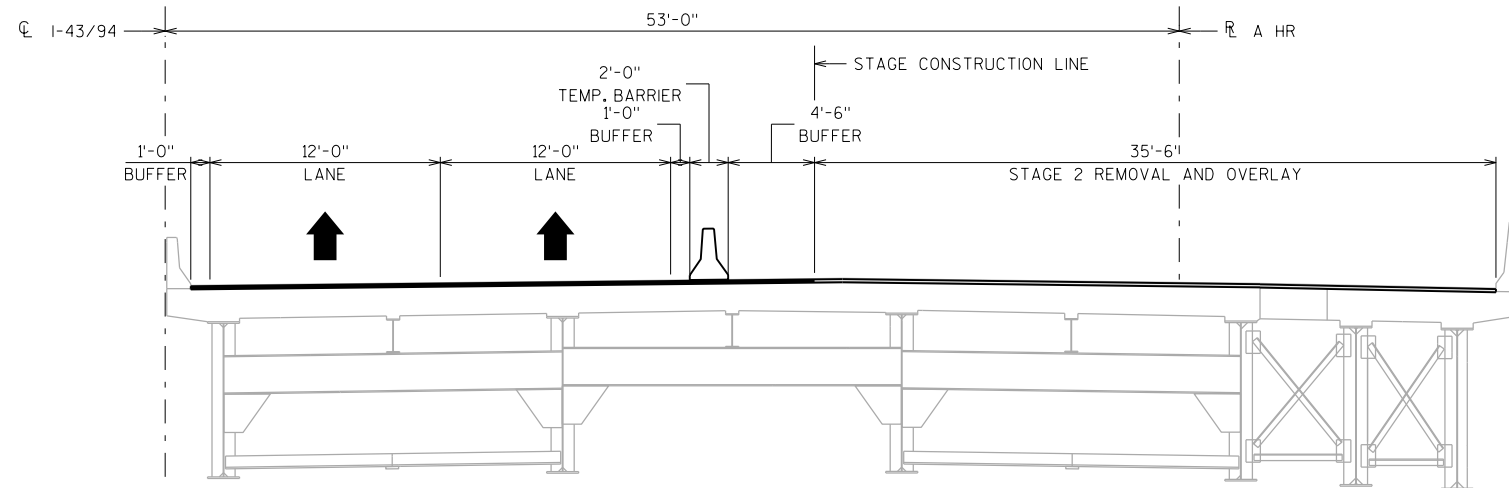
**LEGEND**

- CONCRETE OVERLAY PLACED UNDER STAGE 1
- CONCRETE OVERLAY PLACED UNDER STAGE 2



**STAGE 2 - CONSTRUCTION SECTION**

(LOOKING NORTH)  
 STA. 202HR+00.75 TO STA. 203HR+25.98  
 STA. A 203HR+38.79 TO STA. A 206HR+79.21



**STAGE 2 - CONSTRUCTION SECTION**

(LOOKING NORTH)  
 STA. A 206HR+79.21 TO A 208HR+25.21

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STRUCTURE B-40-0285-27G			
DRAWN BY		TJN	PLANS CK'D. LMK
STAGED CONSTRUCTION SECTIONS (2 OF 2)			SHEET 5 OF 5