

Preliminary Plans Approved:
JDB
12/3/15

PLAN
CONCRETE OVERLAY

DESIGN DATA

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

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

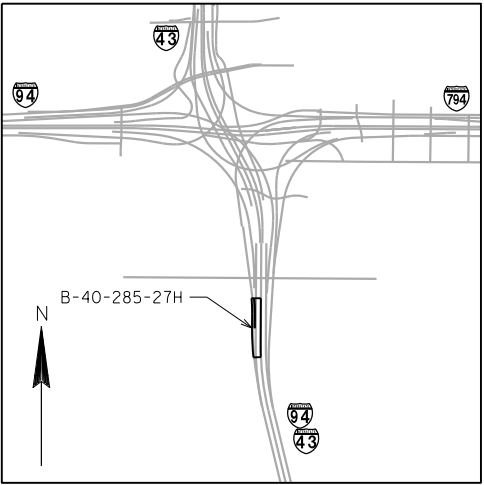
IH 94 EB/WB, IH 43 SB/NB
A.A.D.T. = 132,000 (2017)
A.A.D.T. = 145,000 (2037)
RDS = 55 MPH

| GEOMETRY REFERENCE POINTS | |
|---------------------------|---------------|
| POINT | STATION |
| CL BRG. EXP. JT. 5 | 202HL+21.60 |
| CL PIER S14 | A 303HL+57.18 |
| CL PIER S15 | A 305HL+18.18 |
| CL PIER S16 | A 306HL+79.18 |
| CL BRG. EXP. JT. 6 | A 308HL+25.18 |

LEGEND

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

LOCATION MAP



PRELIMINARY PLANS

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. GENERAL NOTES AND QUANTITIES
3. TYPICAL SECTIONS
4. STAGED CONSTRUCTION SECTIONS

| NO. | DATE | REVISION | BY |
|--|-----------|-------------------|--------------|
| Michael Baker MICHAEL BAKER INTERNATIONAL 735 N. WATER STREET SUITE 1205 MILWAUKEE, WI 53202 | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| ACCEPTED _____ CHIEF STRUCTURES DESIGN ENGINEER DATE _____ | | | |
| STRUCTURE B-40-285-27H | | | |
| IH 94 EB/IH 43 SB 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 4 |

STRUCTURE DESIGN CONTACTS
BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
JASON SADOWSKI (414) 751-9986

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 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 1/2" MINIMUM CONCRETE OVERLAY AROUND THE RIM OF THE DRAIN.

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATOINS 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-40-285-27H".

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

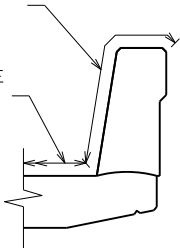
TOTAL ESTIMATED QUANTITIES

| ITEM NUMBER | ITEM DESCRIPTION | UNIT | TOTALS |
|---------------|--|------|--------|
| 203.0225.S.XX | DEBRIS CONTAINMENT B-40-285-27H | 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-40-285-27H | LS | --- |
| 509.1000 | JOINT REPAIR | SY | --- |
| SPV.0180.XX | REMOVING ASPHALTIC CONCRETE OVERLAY SPECIAL | SY | --- |

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



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

PROTECTIVE SURFACE TREATMENT DETAIL

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 | 196HL+46.69 | 295528.68 | 602472.36 | N 13°32'51" W | | | |
| PI | 200HL+00.86 | 295873.00 | 602389.39 | | 2917.79 | 704.91 | 13°50'31" RT |
| PT | A 303HL+38.79 | 296227.18 | 602391.21 | N 0°17'40" E | | | |
| | | | | | | | |
| PC | 20ES+23.22 | 295941.50 | 602395.85 | N 8°56'17" W | | | |
| PI | 22ES+54.53 | 296170.00 | 602359.92 | | 2864.79 | 461.62 | 9°13'57" RT |
| PT | 24ES+84.83 | 296401.30 | 602361.10 | N 0°17'40" E | | | |
| | | | | | | | |
| PC | 26ES+33.93 | 296550.40 | 602361.87 | N 0°17'40" E | | | |
| PI | 27ES+65.03 | 296681.50 | 602362.54 | | 1909.86 | 261.79 | 7°51'13" RT |
| PT | 28ES+95.72 | 296811.46 | 602345.30 | N 7°33'34" W | | | |

STATE PROJECT NUMBER

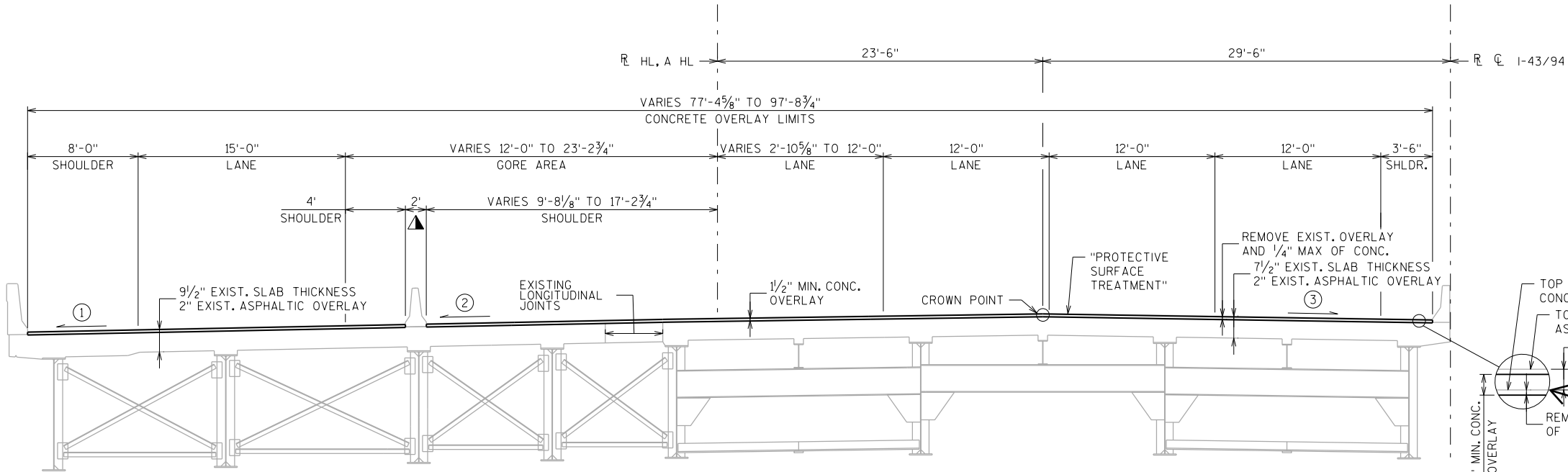
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| | | | |
|--|------|-----------------|--------------------|
| | | | |
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-40-285-27H | | | |
| | | DRAWN BY MMW | PLANS CK'D. JRS |
| GENERAL NOTES AND QUANTITIES | | SHEET 2 OF 4 | |

| DECK CROSS SLOPE TABLE | | | | |
|------------------------|---|--------|-------|------------|
| LOCATION | ① | ② | ③ | JOINT |
| 202HL+21.60 | * | -3.00% | 3.00% | EXP. JT. 5 |
| 202+75.00 C 1-43/94 | * | -3.00% | 3.00% | N/A |
| 203+60.00 C 1-43/94 | * | -1.56% | 1.56% | N/A |
| 204+25.00 C 1-43/94 | * | 0.00% | 1.56% | N/A |
| 205+75.00 C 1-43/94 | * | 2.00% | 1.56% | N/A |
| A 308HL+25.18 | * | 2.00% | 1.56% | EXP. JT. 6 |

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

*CROSS SLOPE BETWEEN STA. 21ES+75.00 AND EXP. JT. 6A VARIES FROM -3.00% TO 2.10%. ACTUAL CROSS SLOPE IS NOT AN INTERPOLATION BETWEEN THE SLOPES.



TYPICAL SECTION
(LOOKING NORTH)

AVERAGE OVERLAY
THICKNESS = 2.0"

Include girder size / spacing
on typical section drawings

TYPICAL DECK DETAIL

Sheet membrane
waterproofing layer
between asphaltic
overlay and concrete
deck

LEGEND

▲ EXISTING DOUBLE FACE BARRIER BEGINS AT STA. 305HL+12.76.

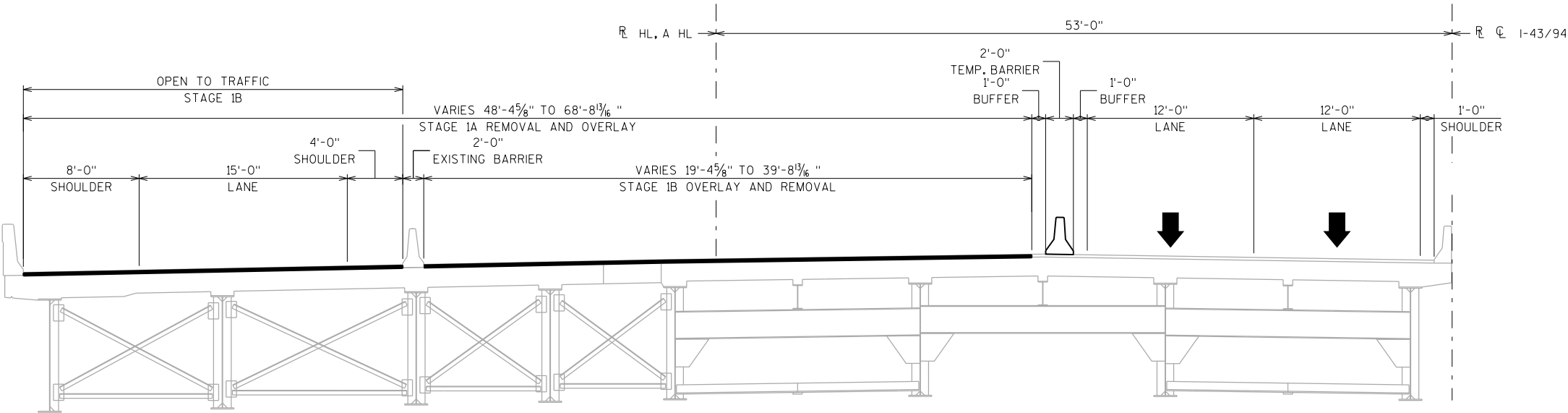
| | | | |
|--|------|--------------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-40-0285-27H | | | |
| DRAWN BY | | TJN | PLANS CK'D. JRS |
| TYPICAL SECTIONS | | SHEET 3 OF 4 | |

STAGING NOTES

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

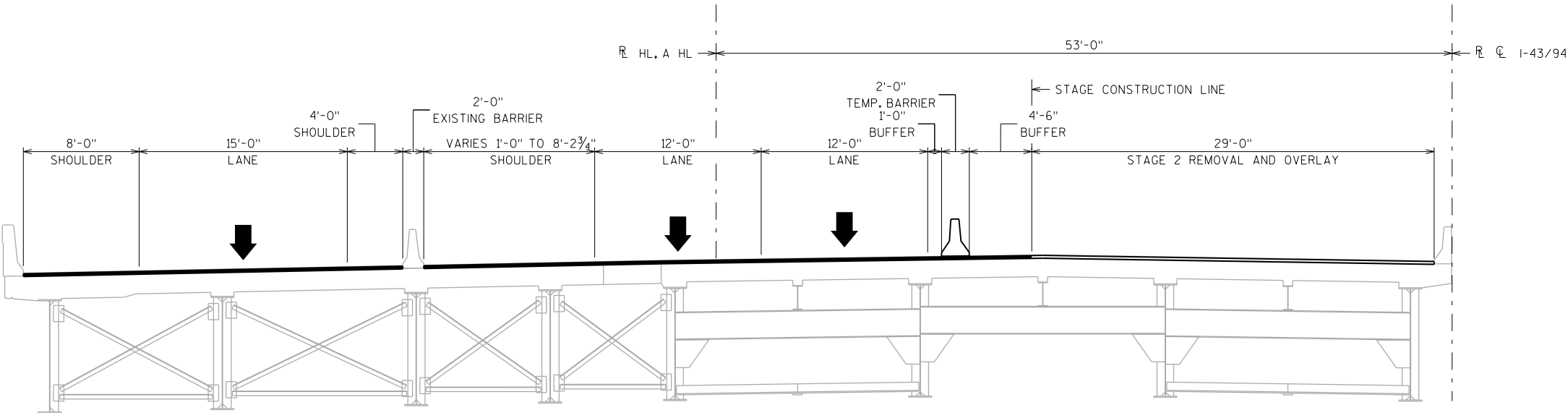
LEGEND

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



STAGE 1 - CONSTRUCTION SECTION

(LOOKING NORTH)
STA 202HL+21.60 TO A 308HL+25.18



STAGE 2 - CONSTRUCTION SECTION

(LOOKING NORTH)
STA 202HL+21.60 TO A 308HL+25.18

| | | | |
|--|------|----------------|-----|
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| STRUCTURE B-40-0285-27H | | | |
| DRAWN BY | | PLANS CK'D. | LMK |
| STAGED CONSTRUCTION SECTIONS | | SHEET 4 OF 4 | |