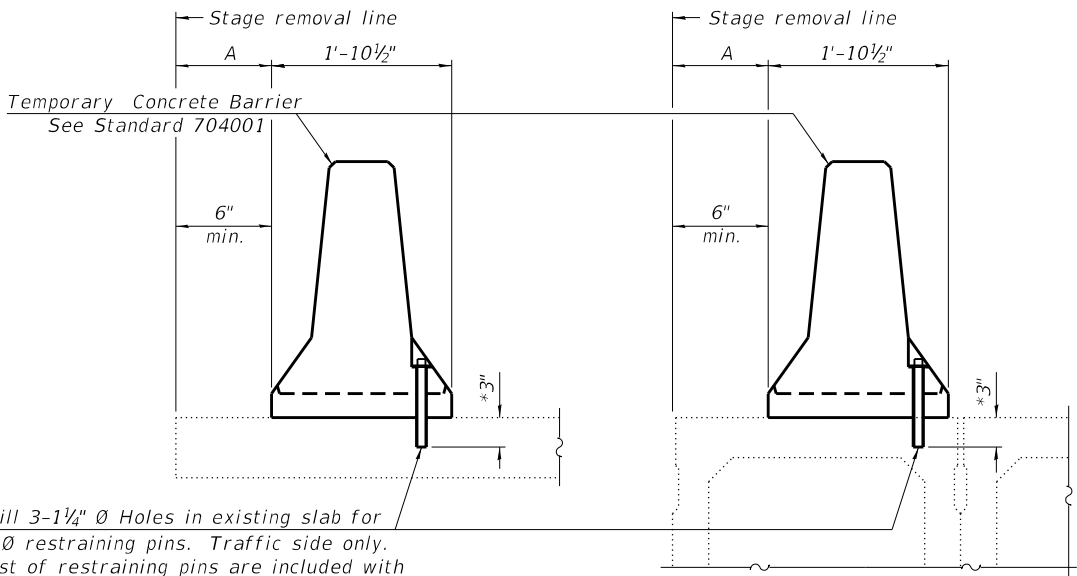


When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



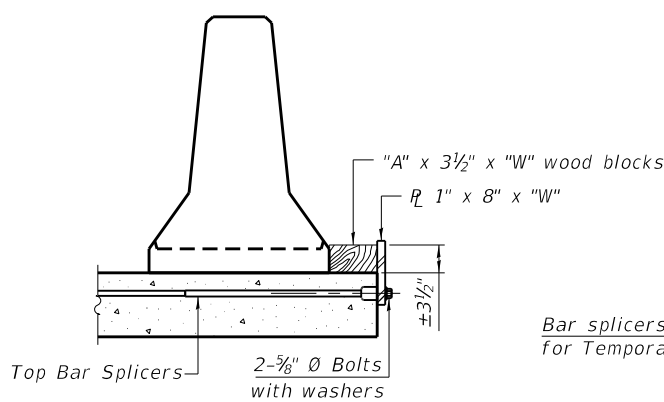
Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

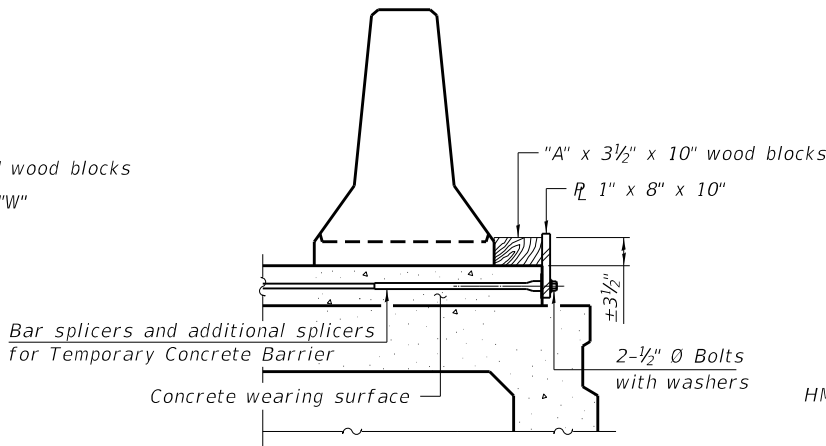
\*When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

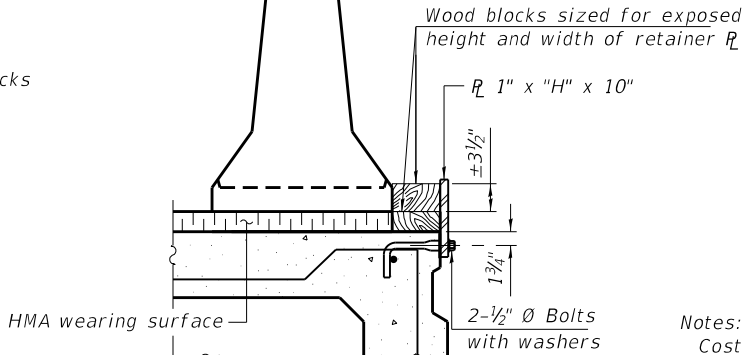
SECTIONS THRU SLAB OR DECK BEAM



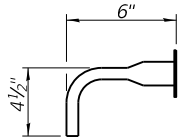
DETAIL I



DETAIL II



DETAIL III



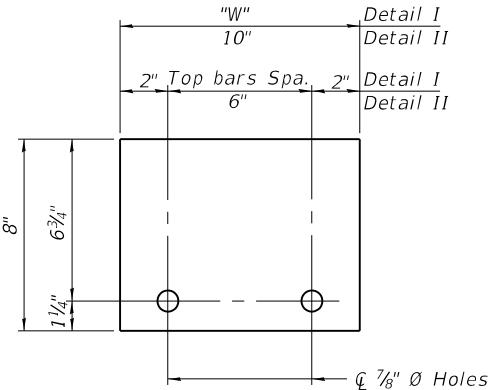
BAR SPLICER FOR #4 BAR - DETAIL III

Notes:  
Cost of retainer assembly is included with Temporary Concrete Barrier.  
A retainer assembly shall be located at the approximate  $\mathcal{C}$  of each temporary concrete barrier.  
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

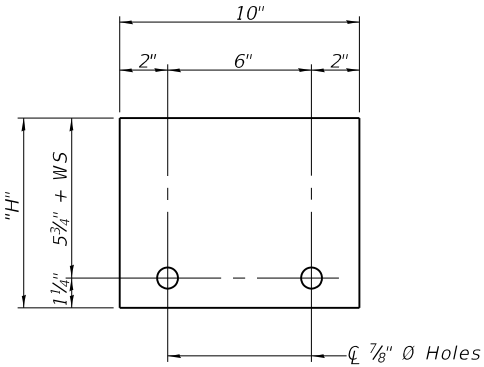
Detail I - Installation for a new bridge deck or bridge slab.  
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.  
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

| RAILING CRITERIA     |     |
|----------------------|-----|
| NCHRP 350 Test Level | 3   |
| Railing Weight (plf) | 440 |

R-27 5-15-2023



STEEL RETAINER R 1" x 8" x "W"  
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"  
(Detail III)

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**HBM**  
ENGINEERING GROUP, LLC

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| PLOT DATE =  | 12/6/2024        | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER  
STRUCTURE NO. 016-0158

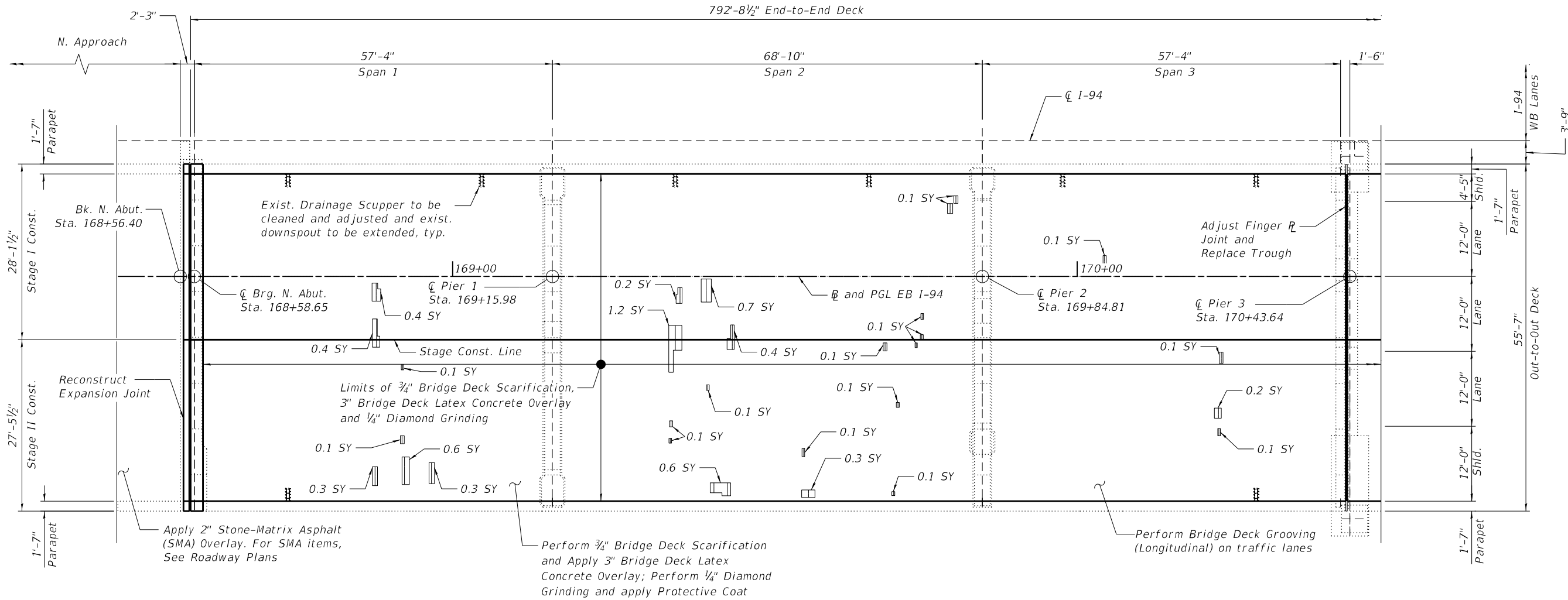
SHEET S02-05 OF S02-36 SHEETS

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 501       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |



BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Protective Coat                              | Sq Yd | 1,319    |
| Bridge Deck Grooving (Longitudinal)          | Sq Yd | 743      |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,054    |
| Bridge Deck Scarification 3/4"               | Sq Yd | 1,054    |
| Diamond Grinding (Bridge Section)            | Sq Yd | 995      |



DECK PLAN

NOTES:

- Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
- For bridge deck final cross section, see Sheet S02-04.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatch block.
- For North Abutment expansion joint removal and reconstruction, see Sheets S02-11 thru S02-13.
- For Pier 3 finger plate joint adjustment and trough replacement details, see Sheets S02-14 and S02-15.
- Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.

LEGEND



\*Deck Slab Repair (Partial Depth)

SY

Square Yard

\*Areas of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3"

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| PLOT DATE =  | 12/6/2024       | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN (SHEET 1 OF 4)  
STRUCTURE NO. 016-0158

SHEET S02-06 OF S02-36 SHEETS

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
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| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |

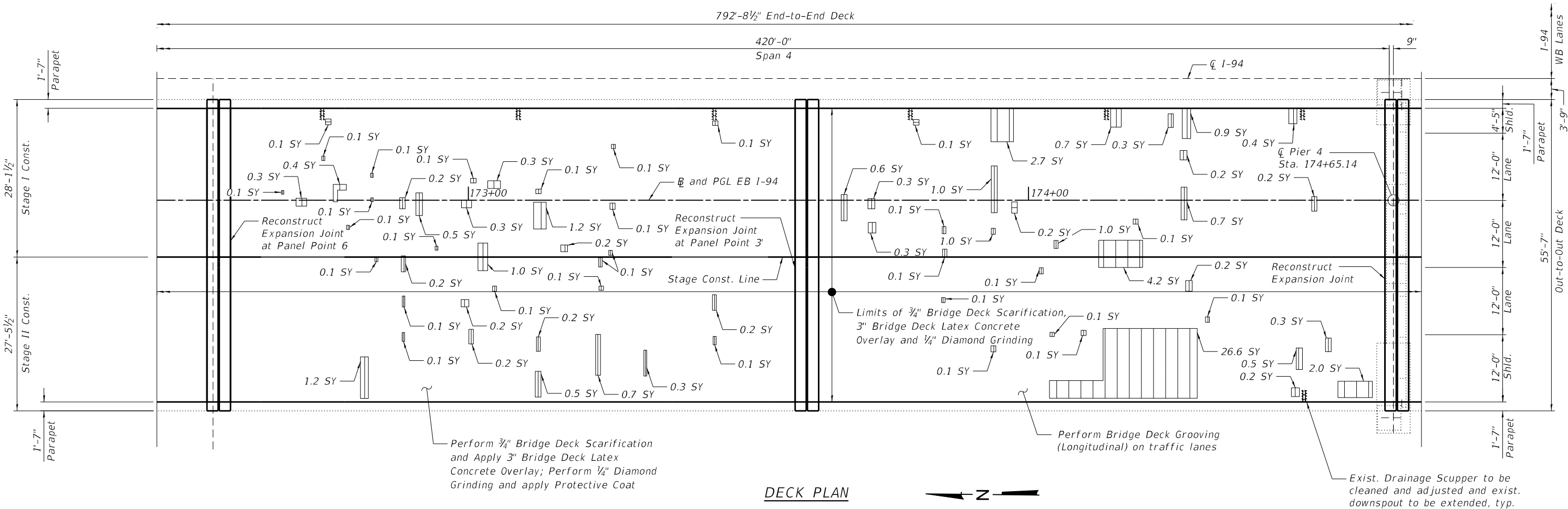






BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Protective Shield                            | Sq Yd | 2,594    |
| Protective Coat                              | Sq Yd | 2,746    |
| Bridge Deck Grooving (Longitudinal)          | Sq Yd | 1,686    |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 2,364    |
| Bridge Deck Scarification 3/4"               | Sq Yd | 2,364    |
| Deck Slab Repair (Full Depth, Type I)        | Sq Yd | 0.5      |
| Diamond Grinding (Bridge Section)            | Sq Yd | 2,273    |



NOTES:

- For expansion joint removal and reconstruction at truss Panel Point 6, see Sheets S02-18 and S02-19.
- For expansion joint removal and reconstruction at truss Panel Point 3', see Sheets S02-20 and S02-21.
- For expansion joint removal and reconstruction at Pier 4, see Sheets S02-22 and S02-23.
- For additional notes, see Sheet S02-06.

LEGEND

- \*Deck Slab Repair (Partial Depth)
- Deck Slab Repair (Full Depth, Type I)
- SY

Square Yard

\*Areas of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3"

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN (SHEET 3 OF 4)  
STRUCTURE NO. 016-0158

SHEET S02-08 OF S02-36 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 504          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |



| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Protective Coat                              | Sq Yd | 1,319    |
| Bridge Deck Grooving (Longitudinal)          | Sq Yd | 743      |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,054    |
| Bridge Deck Scarification 3/4"               | Sq Yd | 1,054    |
| Diamond Grinding (Bridge Section)            | Sq Yd | 995      |



1. For expansion joint removal and reconstruction at Pier 4, see Sheets S02-22 and S02-23.
2. For South Abutment expansion joint removal and reconstruction, see Sheets S02-24 thru S02-26.
3. For additional notes, see Sheet S02-06.

SY Square Yard

**HBM**  
ENGINEERING GROUP, LLC

|            |   |                   |          |   |           |         |   |
|------------|---|-------------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11cs01\$    | DESIGNED | - | LR, AWD   | REVISED | - |
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**DECK REPAIR PLAN (SHEET 4 OF 4)**  
**STRUCTURE NO. 016-0158**

SHEET S02-09 OF S02-36 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY           | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|------------------|-----------------|--------------|
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| ILLINOIS       |                        | FED. AID PROJECT |                 |              |



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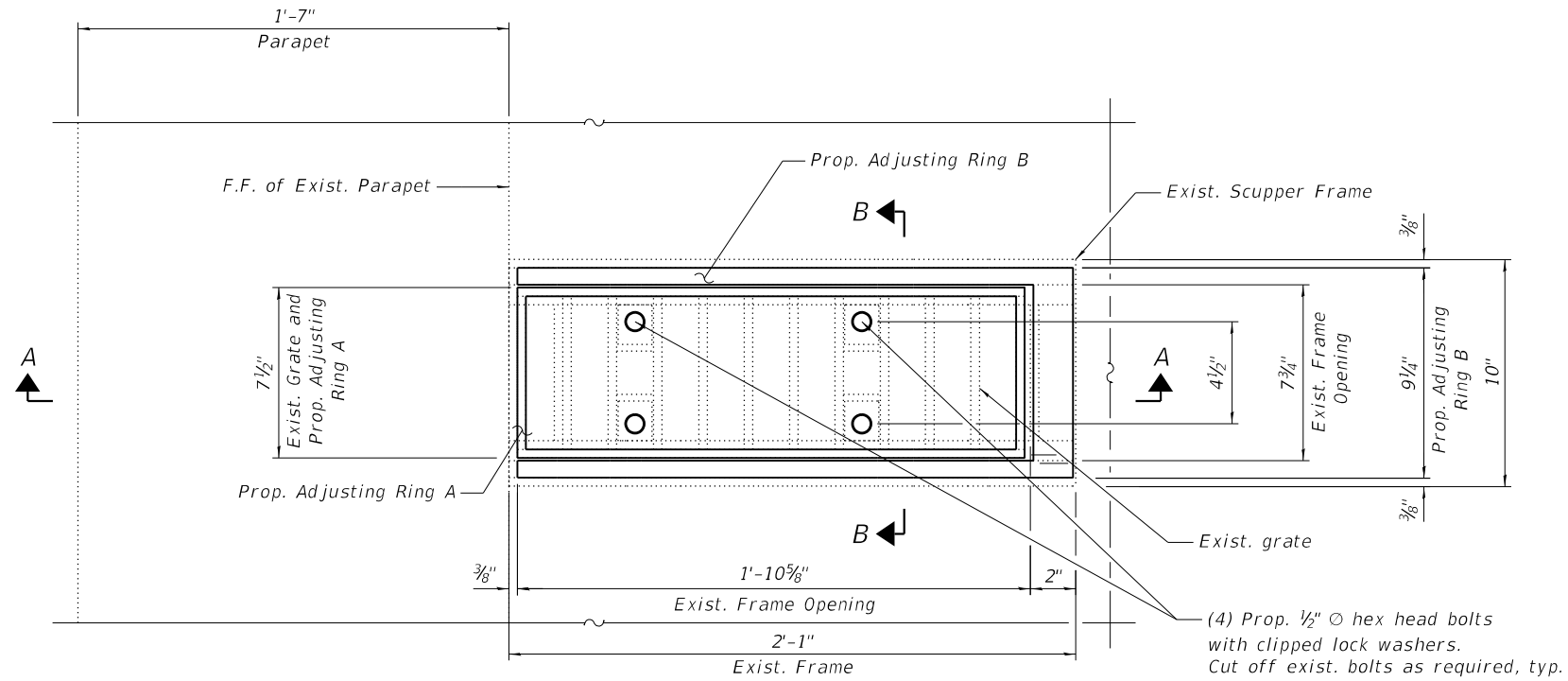
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

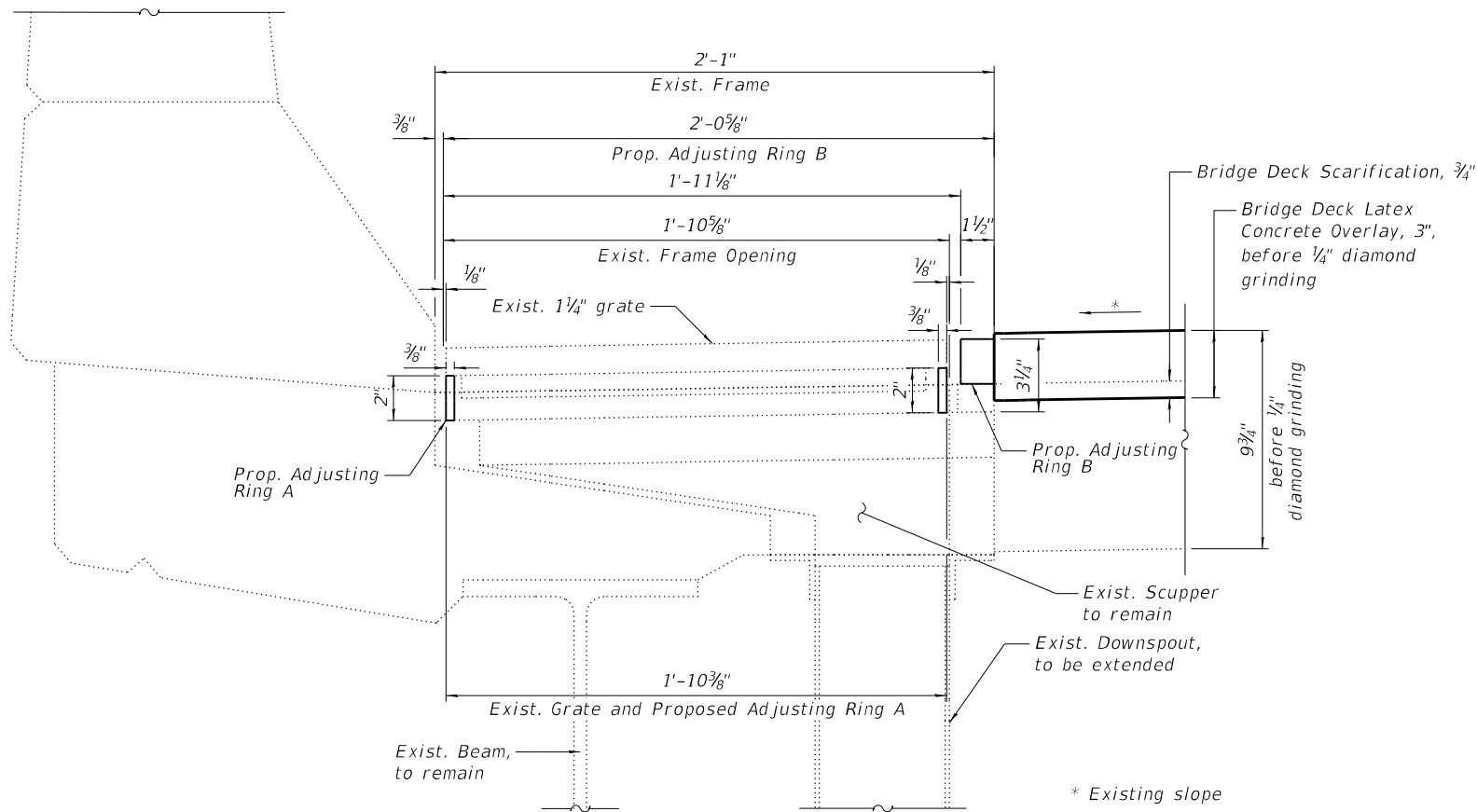
DRAINAGE SCUPPER ADJUSTMENT DETAILS  
STRUCTURE NO. 016-0158

SHEET S02-10 OF S02-36 SHEETS

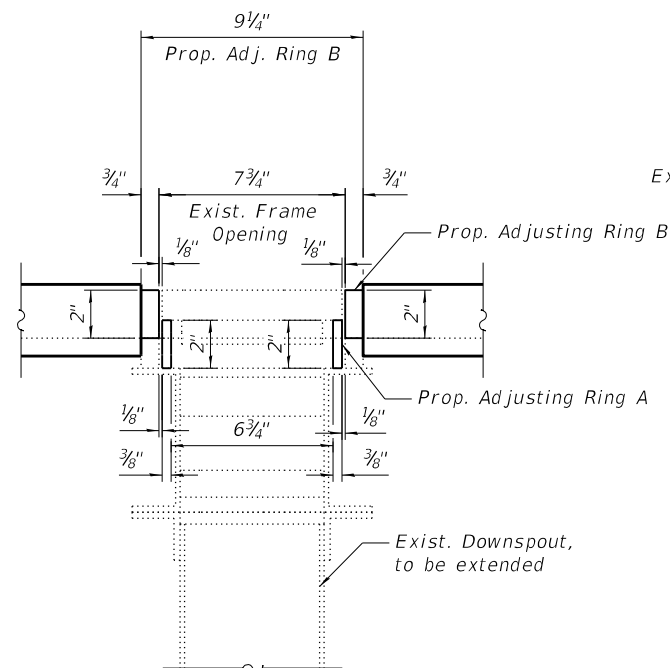
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| CONTRACT NO.   |                        |                  | 62W87           |              |
| ILLINOIS       |                        | FED. AID PROJECT |                 |              |



TYPICAL SCUPPER PLAN



SECTION A-A



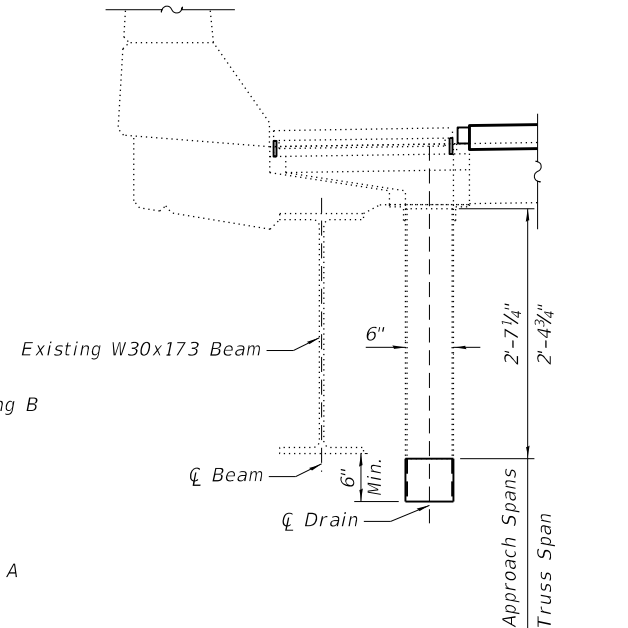
SECTION B-B

NOTES:

- The Contractor shall field-verify Existing Dimensions and Details of the Existing Scuppers, grates and downspouts, and make necessary approved adjustments, prior to construction or ordering of material for Drainage Scuppers to be Adjusted and downspout extensions.
- All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 30.
- Cast Iron Parts shall be unfinished.
- Bolts, washers and nuts shall conform to the requirements of ASTM A307 and be galvanized according to the requirements of AASHTO M232.
- The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
- Adjusting Rings shall be from Neenah or approved equal. Structural steel weldments or equal sections and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
- Provide 1/8" Fillet Weld around perimeter of new Adjusting Rings to secure to existing Scupper. Electrode shall be compatible with cast iron if existing scupper elements are cast iron construction.
- Cost of all labor and materials necessary to clean all existing floor drains and scuppers, fabricate and install adjusting scupper rings, remove and reinstall grates is included in the cost of Drainage Scuppers to be Adjusted

BILL OF MATERIAL

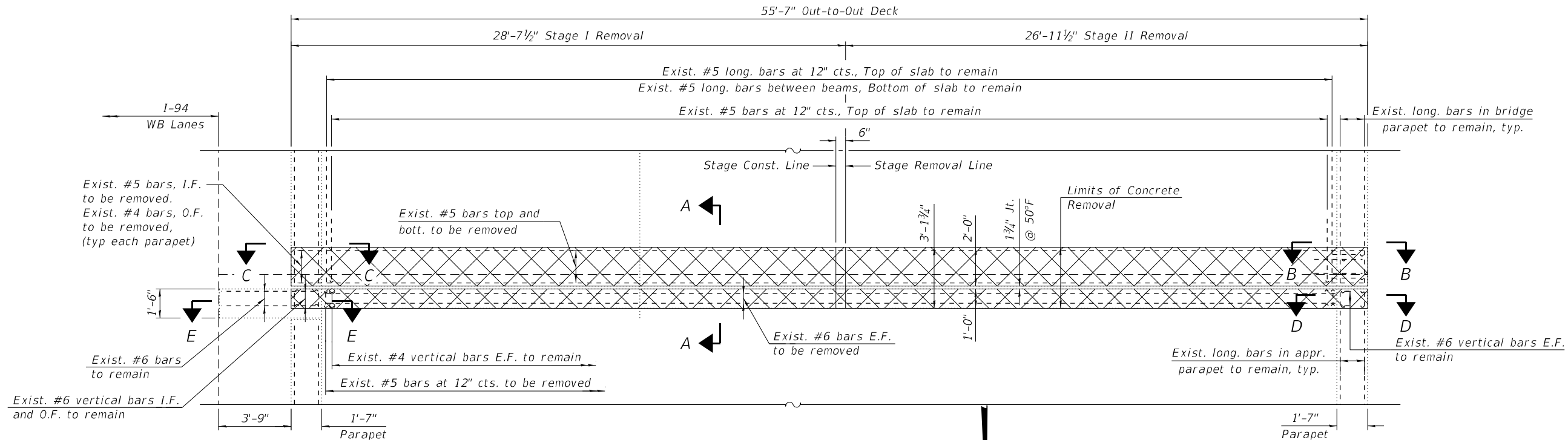
| ITEM                             | UNIT | QUANTITY |
|----------------------------------|------|----------|
| Deck Drain Extensions            | Each | 28       |
| Drainage Scuppers To Be Adjusted | Each | 28       |



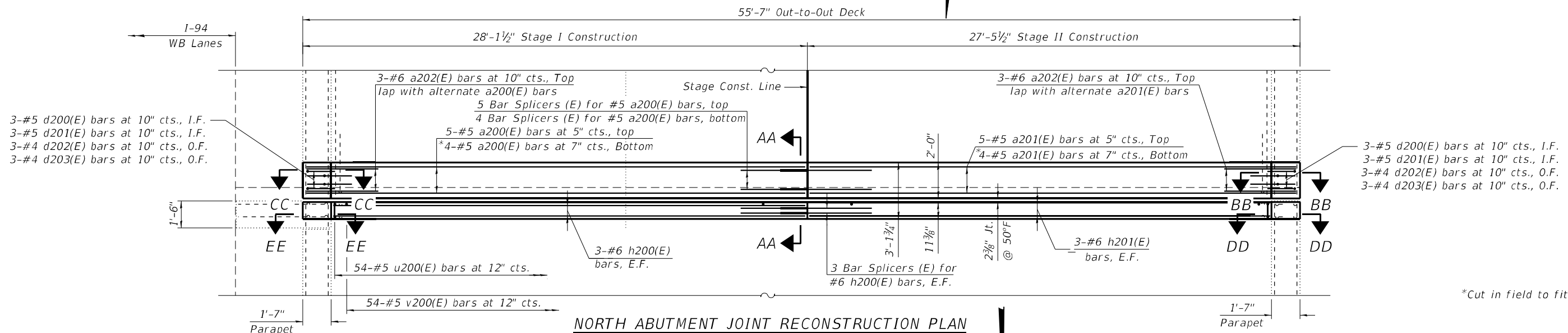
DRAIN EXTENSION DETAIL



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NORTH ABUTMENT JOINT REMOVAL PLAN



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN

**NOTES:**

- Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S02-27.
- For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-12.
- For Sections D-D, E-E, DD-DD and EE-EE, Bar Diagrams, additional Notes and Bill of Material, see Sheet S02-13.

- For preformed joint strip seal details, see Sheet S02-27.
- For bar splicer assembly details, see Sheet S02-36.
- Removal and disposal of existing expansion joint shall be included with Concrete Removal.
- Epoxy grout v200(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

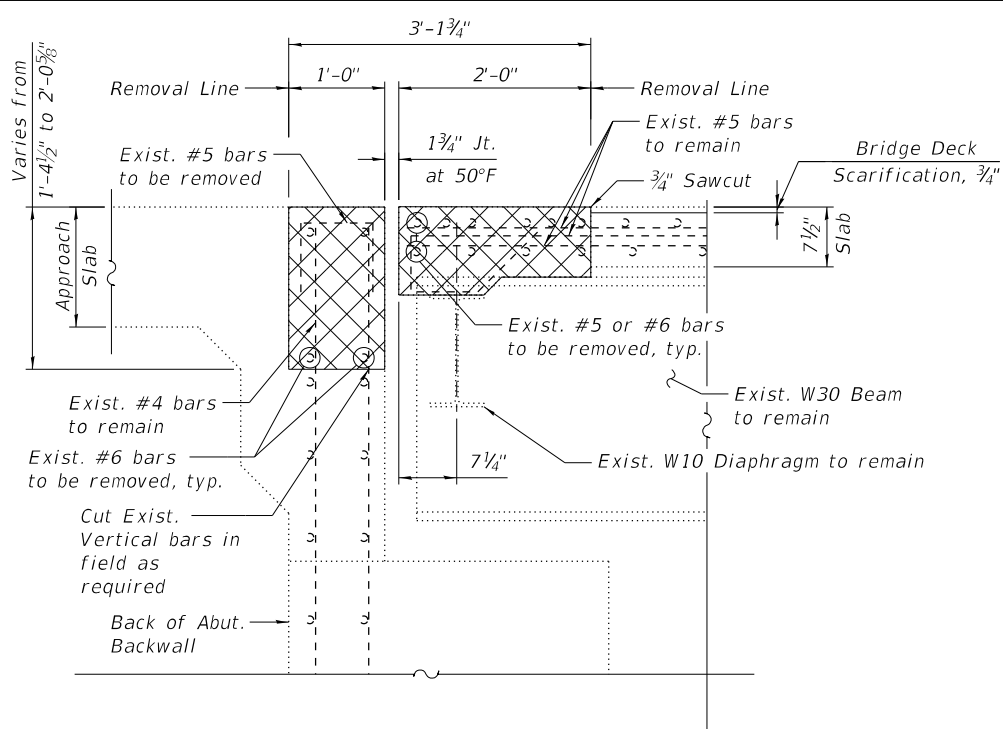
**LEGEND**

|      |                  |
|------|------------------|
|      | Concrete Removal |
| E.F. | Each Face        |
| I.F. | Inside Face      |
| O.F. | Outside Face     |

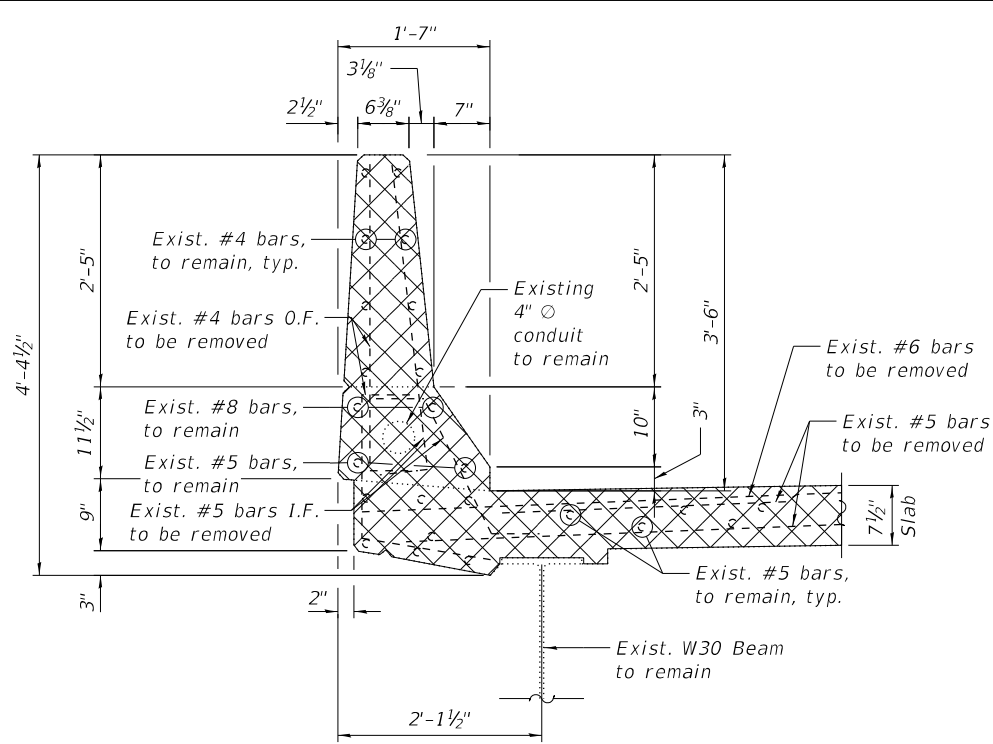
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|              |                       | DRAWN -    | LAB       | REVISED - |  |
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| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO.          |
|---------------------------|------------------------|--------|--------------|--------------------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 507                |
|                           |                        |        |              | CONTRACT NO. 62W87 |
| ILLINOIS FED. AID PROJECT |                        |        |              |                    |

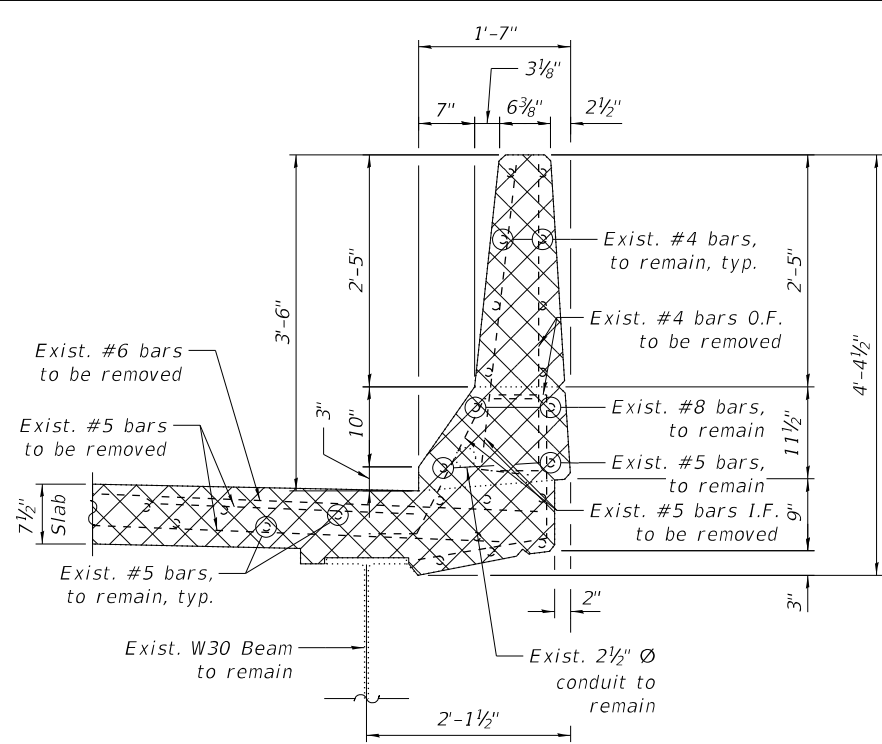




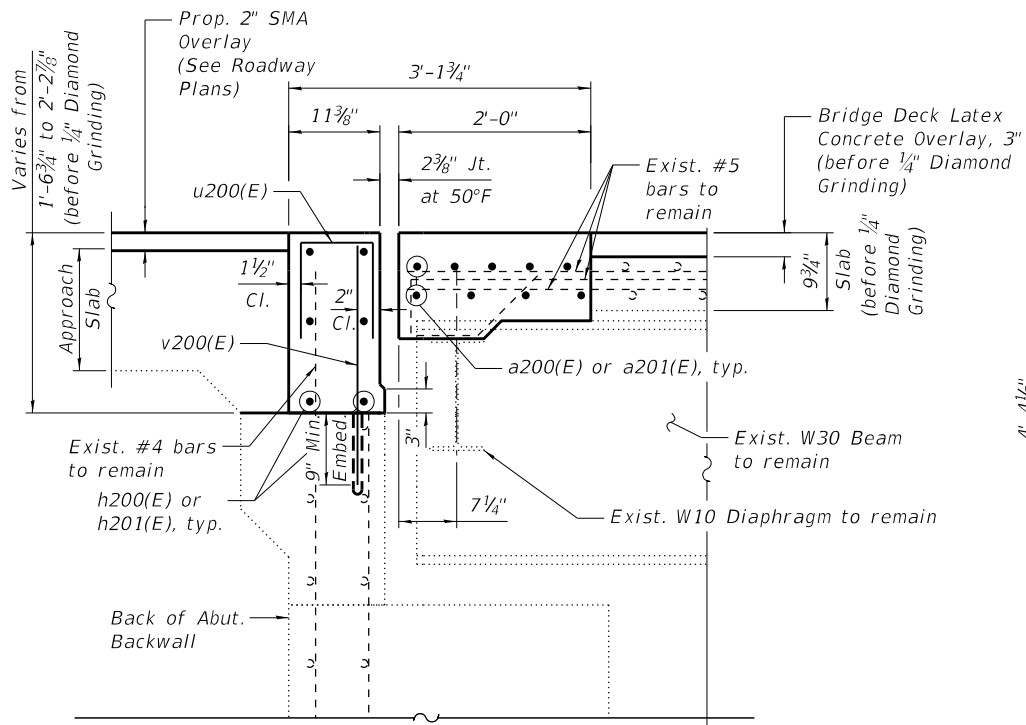
SECTION A-A



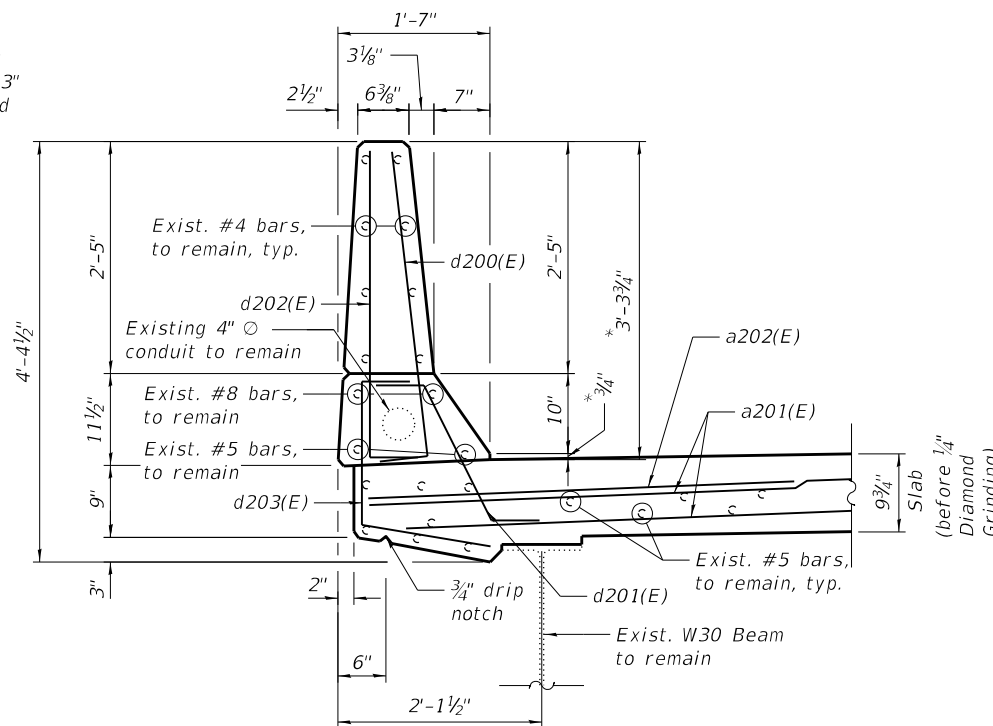
SECTION B-B



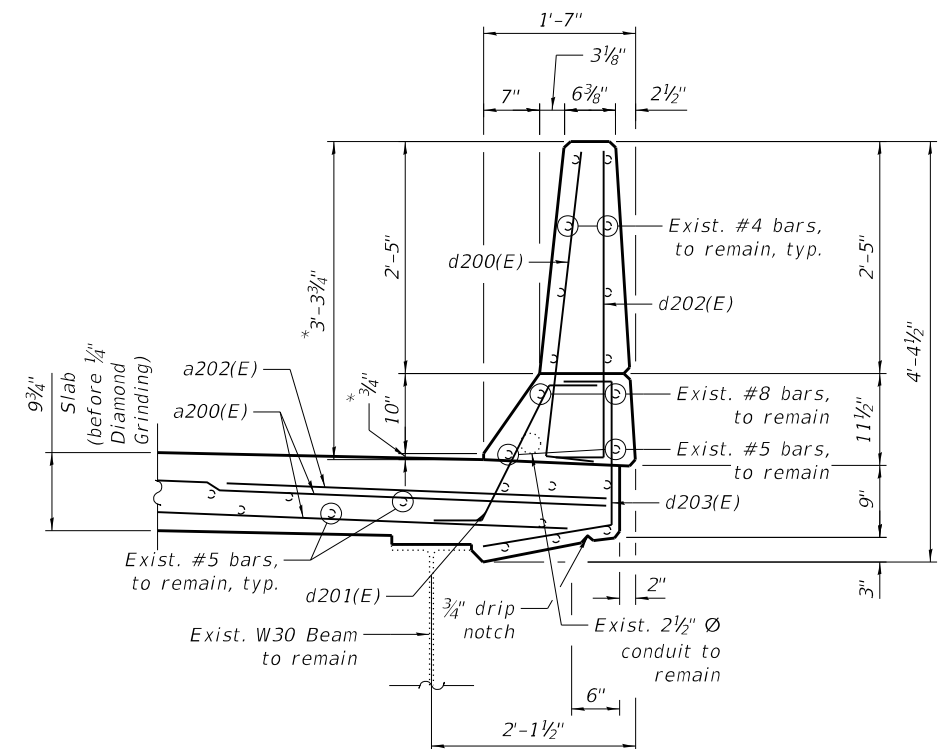
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

- For legend and additional notes, see Sheet S02-11.
- For Bar Diagrams and Bill of Material, see Sheet S02-13.
- It shall be the Contractor's responsibility to provide adequate temporary support for existing conduits during joint reconstruction. Cost included with Concrete Superstructure.

\* Before 1/4" Diamond Grinding

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)  
STRUCTURE NO. 016-0158

SHEET S02-12 OF S02-36 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 508       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |

**HBM**  
ENGINEERING GROUP, LLC

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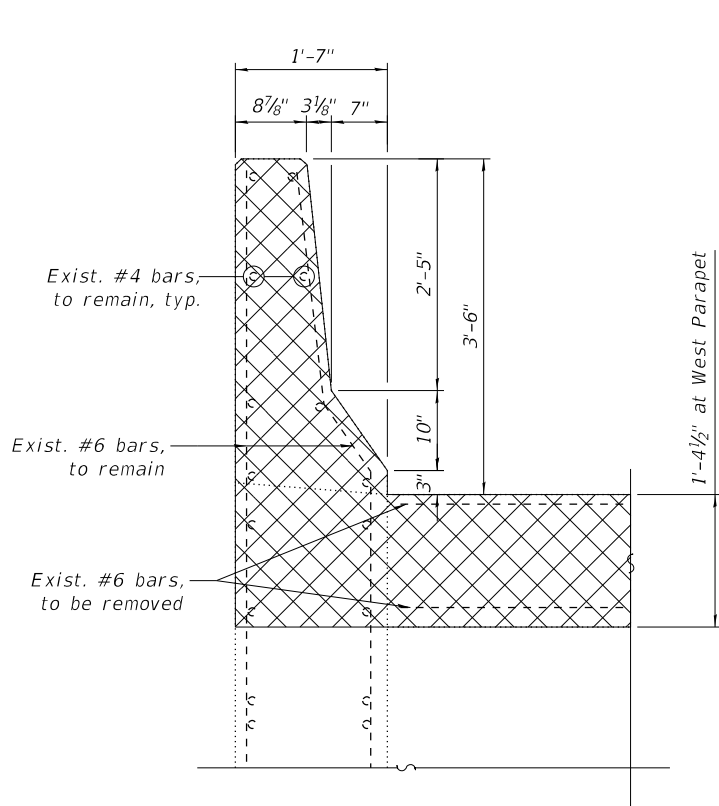
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
STRUCTURE NO. 016-0158

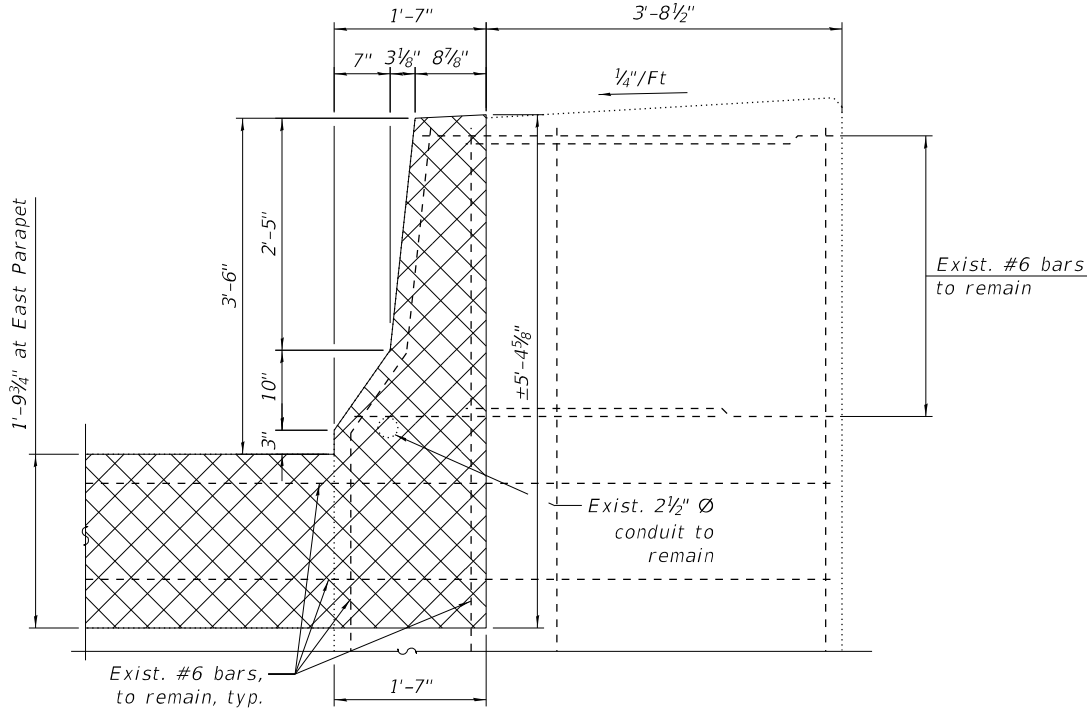
SHEET S02-13 OF 502-36 SHEETS

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| 94          | (42-B-11-1) BR, BJR 24 | COOK               | 761              | 509       |
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|             |                        | ILLINOIS           | FED. AID PROJECT |           |

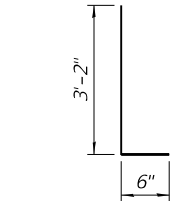
**SECTION D-D**  
(Reinforcement in abutment hatch block is not shown for clarity)



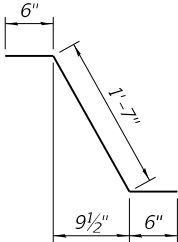
**SECTION E-E**  
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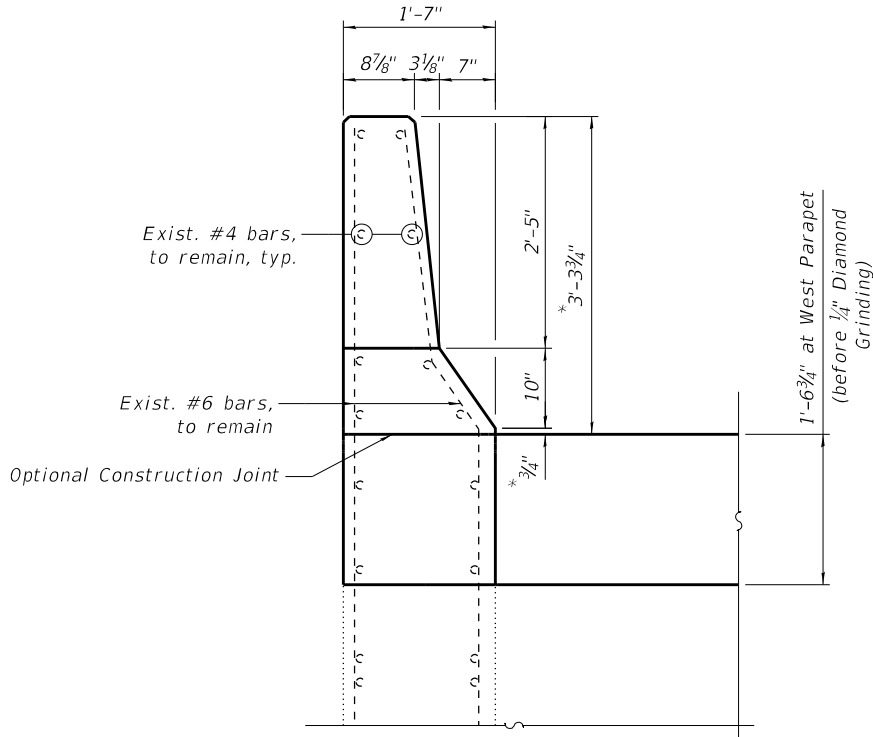
**BAR d200(E) & d202(E)**



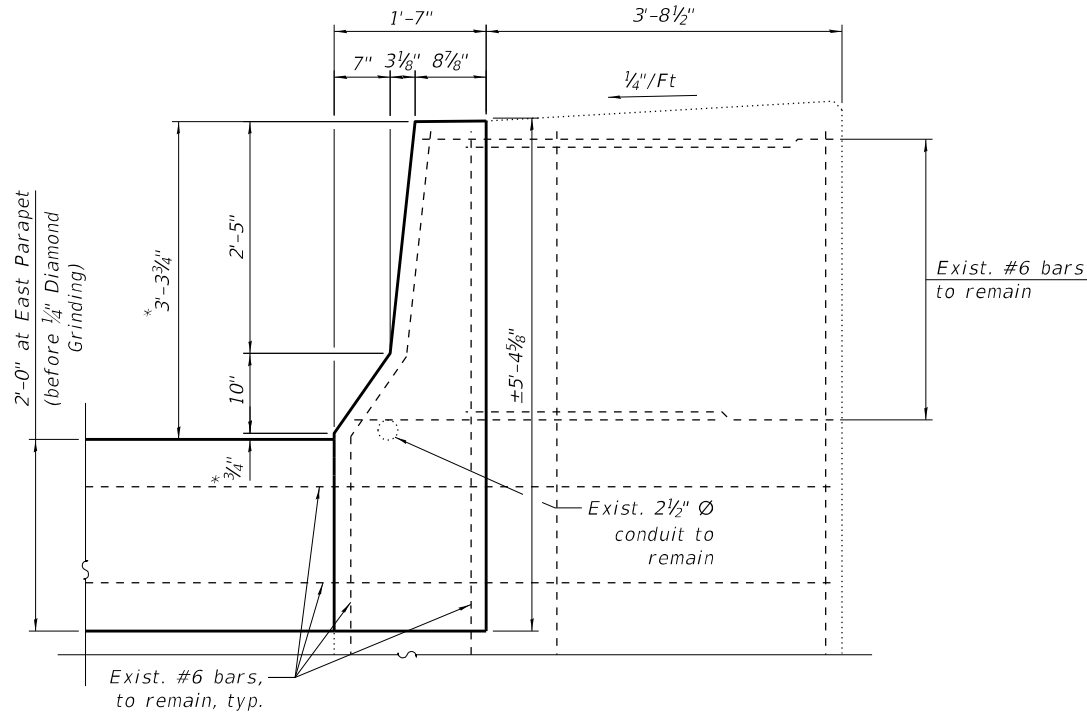
**BAR d201(E)**



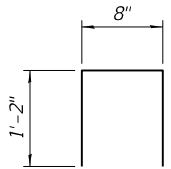
**SECTION DD-DD**  
(Reinforcement in abutment hatch block is not shown for clarity)



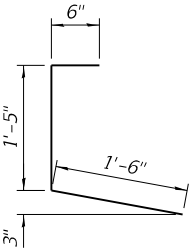
**SECTION EE-EE**  
(Reinforcement in abutment hatch block is not shown for clarity)



**Bar u200(E)**



**BAR d203(E)**



**NOTE:**

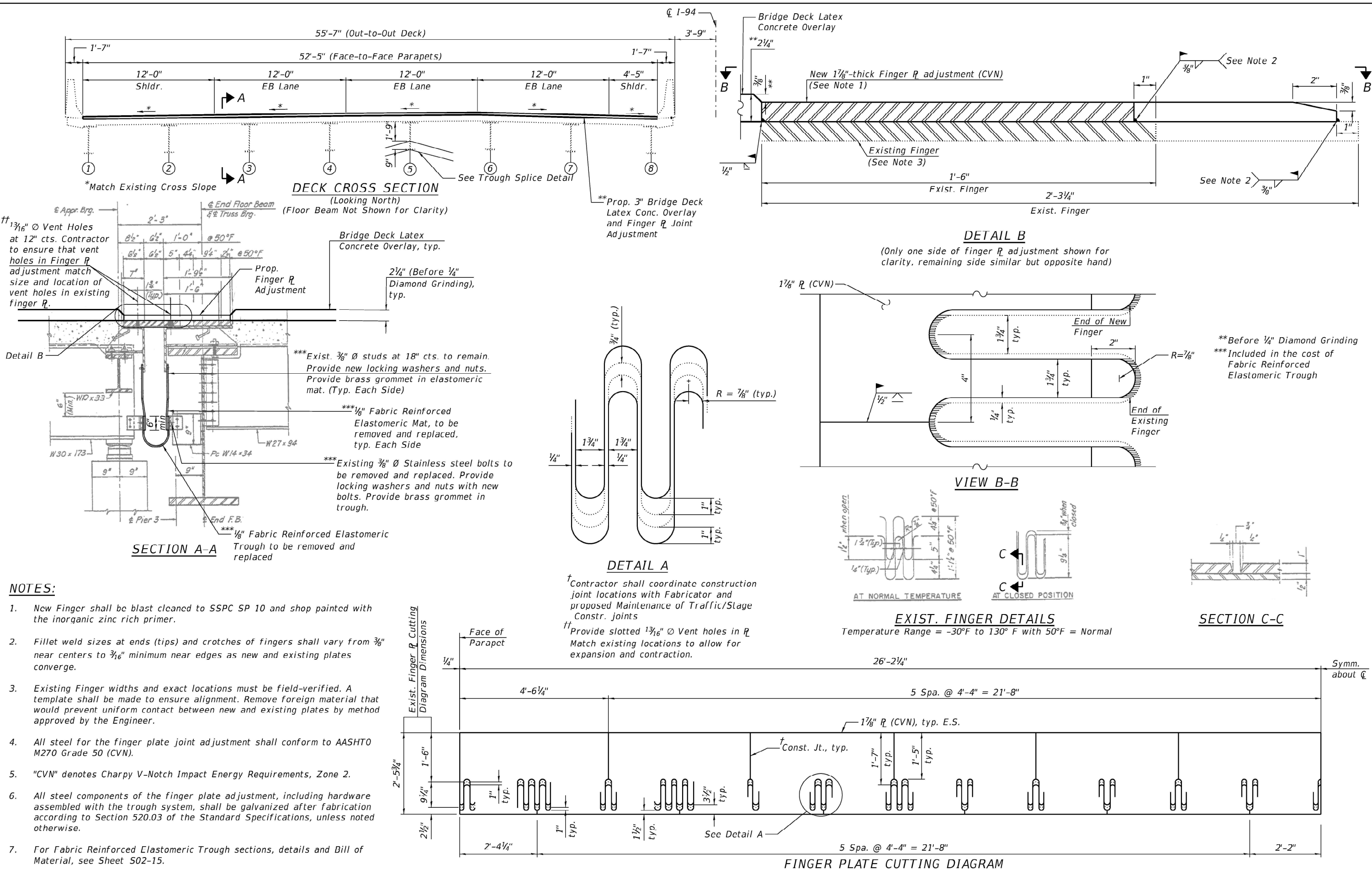
1. For legend and additional notes, see Sheet S02-11.

**BILL OF MATERIAL**

| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a200(E)                          | 9   | #5   | 27'-10" | —     |
| a201(E)                          | 9   | #5   | 27'-1"  | —     |
| a202(E)                          | 6   | #6   | 6'-0"   | —     |
| d200(E)                          | 6   | #5   | 3'-8"   | L     |
| d201(E)                          | 6   | #5   | 2'-7"   | L     |
| d202(E)                          | 6   | #4   | 3'-8"   | L     |
| d203(E)                          | 6   | #4   | 3'-5"   | L     |
| h200(E)                          | 6   | #6   | 26'-3"  | —     |
| h201(E)                          | 6   | #6   | 25'-9"  | —     |
| u200(E)                          | 54  | #5   | 3'-0"   | □     |
| v200(E)                          | 54  | #5   | 2'-1"   | —     |
| Concrete Removal                 |     |      | Cu Yd   | 8.0   |
| Concrete Superstructure          |     |      | Cu Yd   | 9.0   |
| Protective Coat                  |     |      | Sq Yd   | 20    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,400 |



MODEL: Default  
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NOTES:

1. New Finger shall be blast cleaned to SSPC SP 10 and shop painted with the inorganic zinc rich primer.
2. Fillet weld sizes at ends (tips) and crotches of fingers shall vary from  $\frac{3}{8}$ " near centers to  $\frac{1}{16}$ " minimum near edges as new and existing plates converge.
3. Existing Finger widths and exact locations must be field-verified. A template shall be made to ensure alignment. Remove foreign material that would prevent uniform contact between new and existing plates by method approved by the Engineer.
4. All steel for the finger plate joint adjustment shall conform to AASHTO M270 Grade 50 (CVN).
5. "CVN" denotes Charpy V-Notch Impact Energy Requirements, Zone 2.
6. All steel components of the finger plate adjustment, including hardware assembled with the trough system, shall be galvanized after fabrication according to Section 520.03 of the Standard Specifications, unless noted otherwise.
7. For Fabric Reinforced Elastomeric Trough sections, details and Bill of Material, see Sheet S02-15.

**HBM**  
ENGINEERING GROUP, LLC

|            |   |                   |
|------------|---|-------------------|
| USER NAME  | = | hbmepw11cs01s     |
| DESIGNED   | - | AWD               |
| DRAWN      | - | AWD               |
| PLOT SCALE | = | 8:0.0000 1" = 16' |
| PLOT DATE  | = | 12/6/2024         |

|          |   |           |
|----------|---|-----------|
| DESIGNED | - | AWD       |
| REVIS    | - |           |
| CHECKED  | - | MI, JJS   |
| DATE     | - | 12/9/2024 |
| REVIS    | - |           |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 3 FINGER PLATE JOINT ADJUSTMENT (SHT. 1 OF 2)  
STRUCTURE NO. 016-0158

SHEET S02-14 OF S02-36 SHEETS

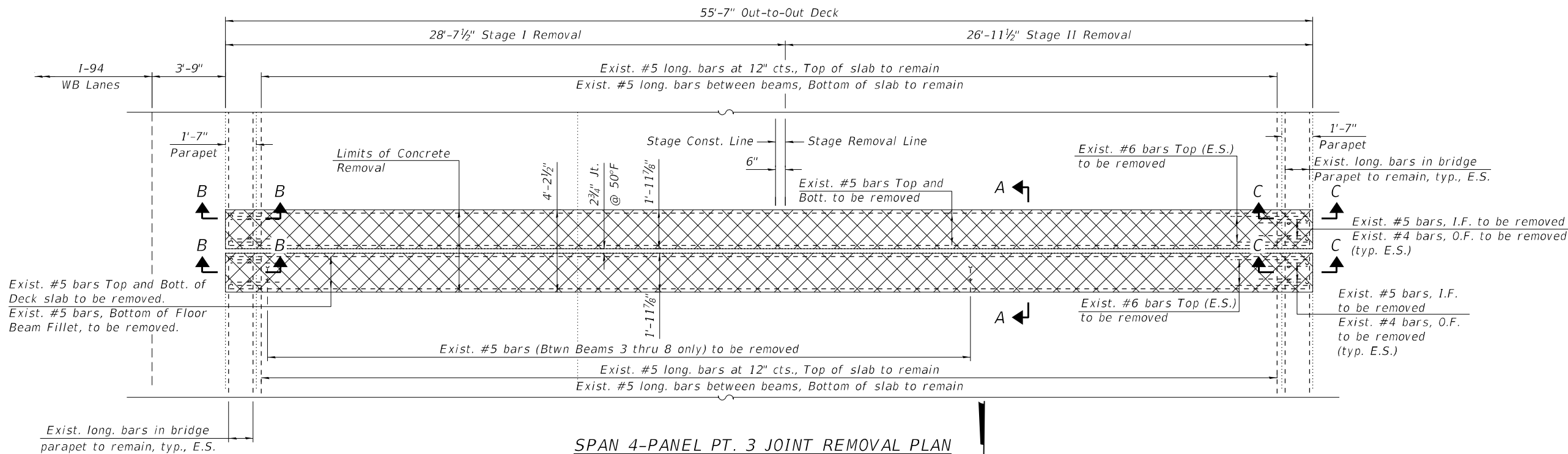
| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 510       |
| CONTRACT NO. 62W87        |                        |        |              |           |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



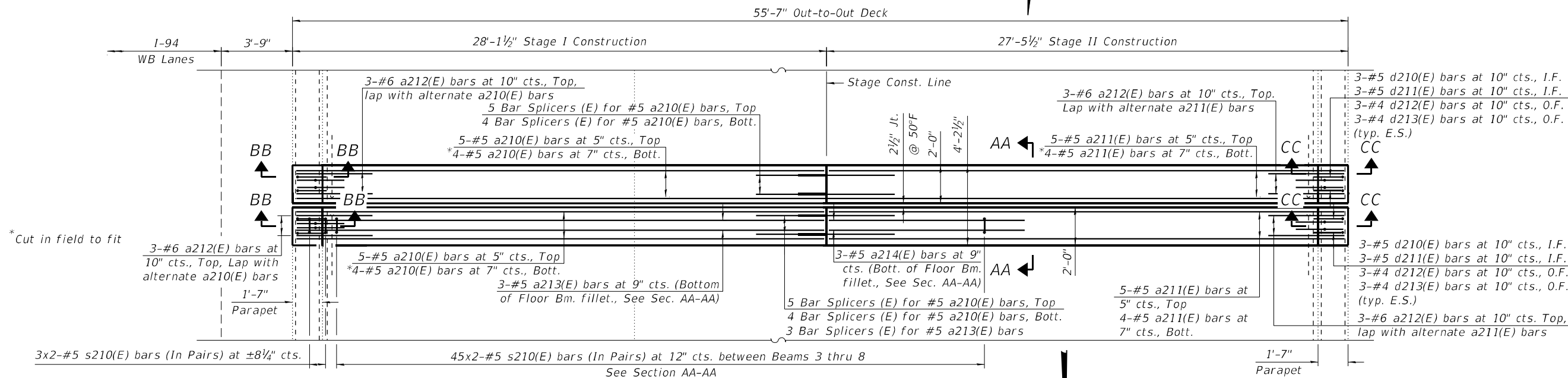




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12/6/2024 3:32:24 PM



SPAN 4-PANEL PT. 3 JOINT REMOVAL PLAN



SPAN 4-PANEL PT. 3 JOINT RECONSTRUCTION PLAN

NOTES:

- Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S02-27.
- For Sections A-A, B-B, C-C, AA-AA, BB-BB, and CC-CC, Bar Diagrams and Bill of Material, see Sheet S02-17.
- For preformed joint strip seal details, see Sheet S02-27.
- For bar splicer assembly details, see Sheet S02-36.
- Removal and disposal of existing expansion joint shall be included with Concrete Removal.

LEGEND



- Concrete Removal
- E.F. Each Face
- I.F. Inside Face
- O.F. Outside Face
- E.S. Each Side
- E.E. Each End



|            |   |                     |          |   |           |          |   |
|------------|---|---------------------|----------|---|-----------|----------|---|
| USER NAME  | = | adam.daoud          | DESIGNED | - | LR        | REVISED  | - |
| DRAWN      | - | LR                  | REVISION | - |           | REVISION | - |
| PLOT SCALE | = | 6:0.0000 " = 1' in. | CHECKED  | - | ML JJS    | REVISION | - |
| PLOT DATE  | = | 12/6/2024           | DATE     | - | 12/9/2024 | REVISION | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SPAN 4 PANEL PT. 3 JT. REM. & REPL. (SHT. 1 OF 2)  
STRUCTURE NO. 016-0158

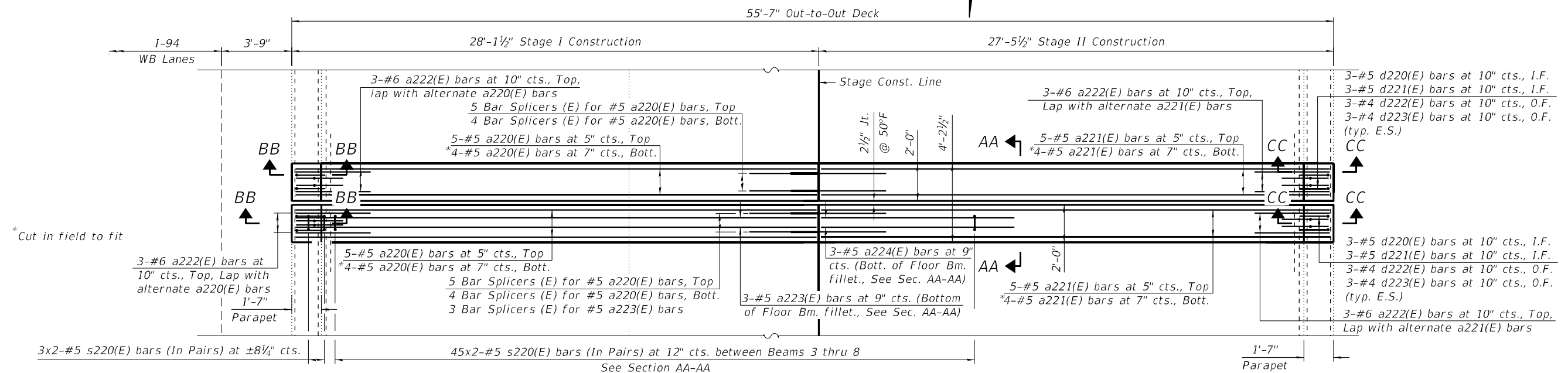
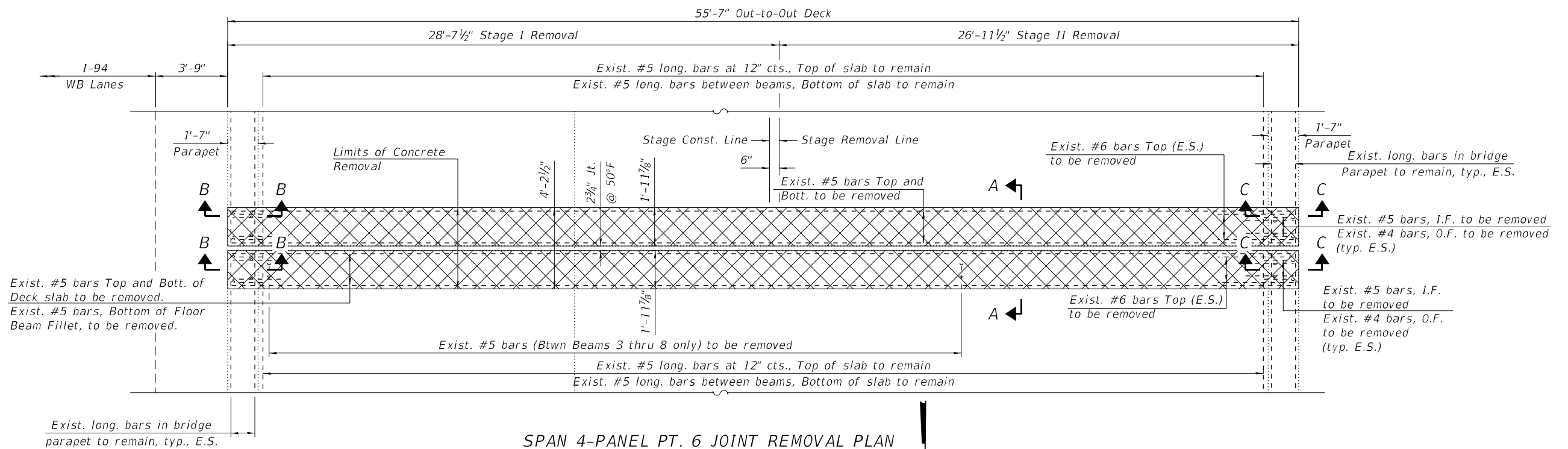
SHEET S02-16 OF S02-36 SHEETS

| F.A.I. RTE.      | SECTION                | COUNTY | TOTAL SHEETS       | SHEET NO. |
|------------------|------------------------|--------|--------------------|-----------|
| 94               | (42-B-11-1) BR, BJR 24 | COOK   | 761                | 512       |
| ILLINOIS         |                        |        | CONTRACT NO. 62W87 |           |
| FED. AID PROJECT |                        |        |                    |           |



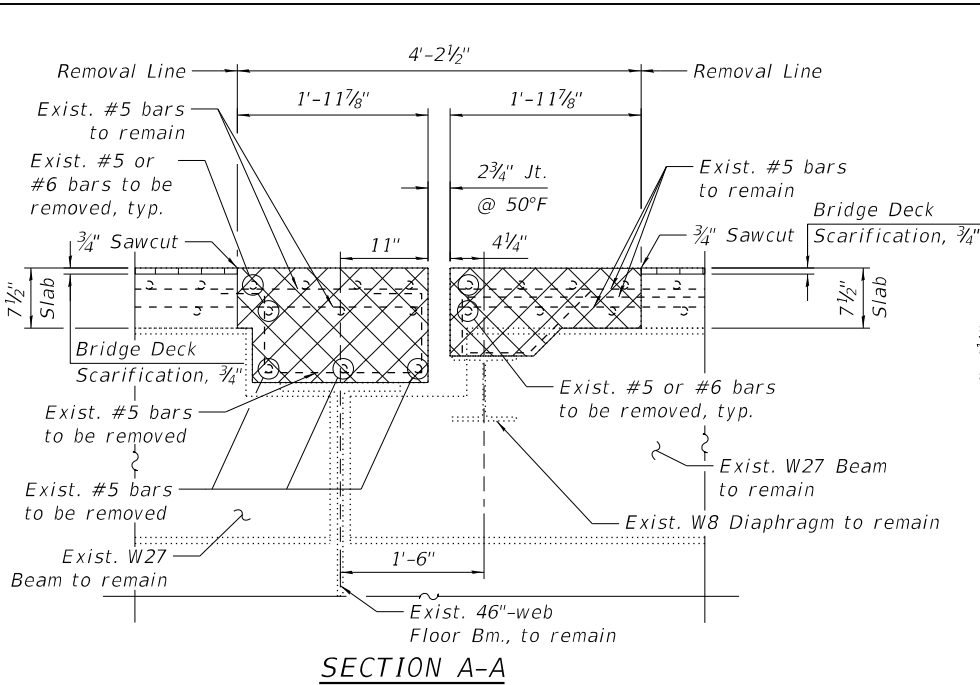




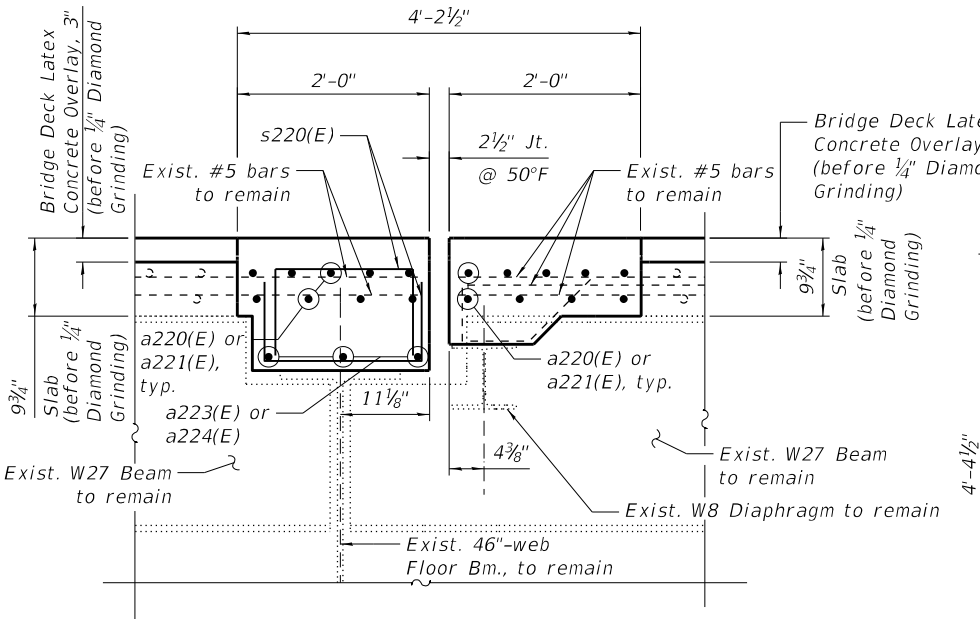




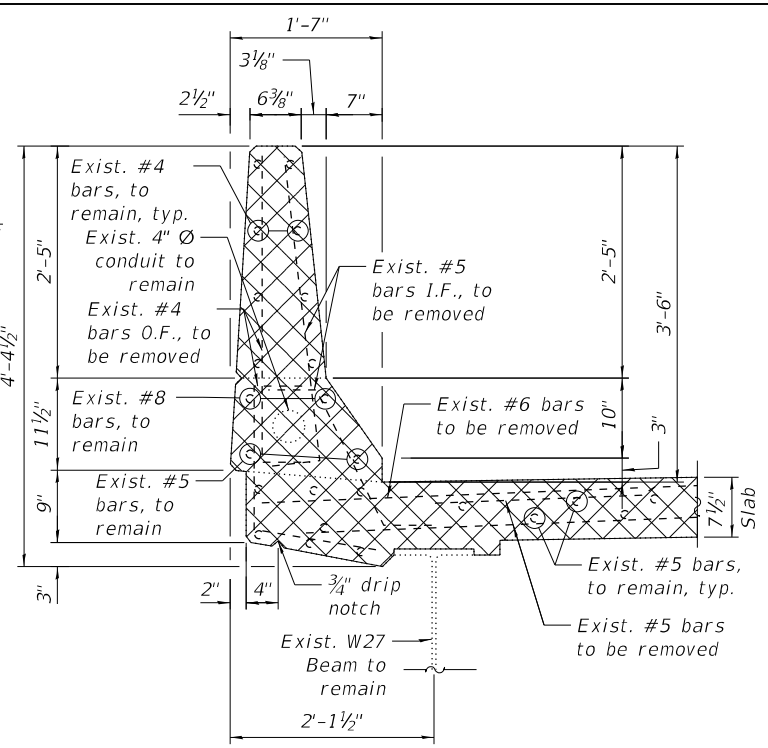
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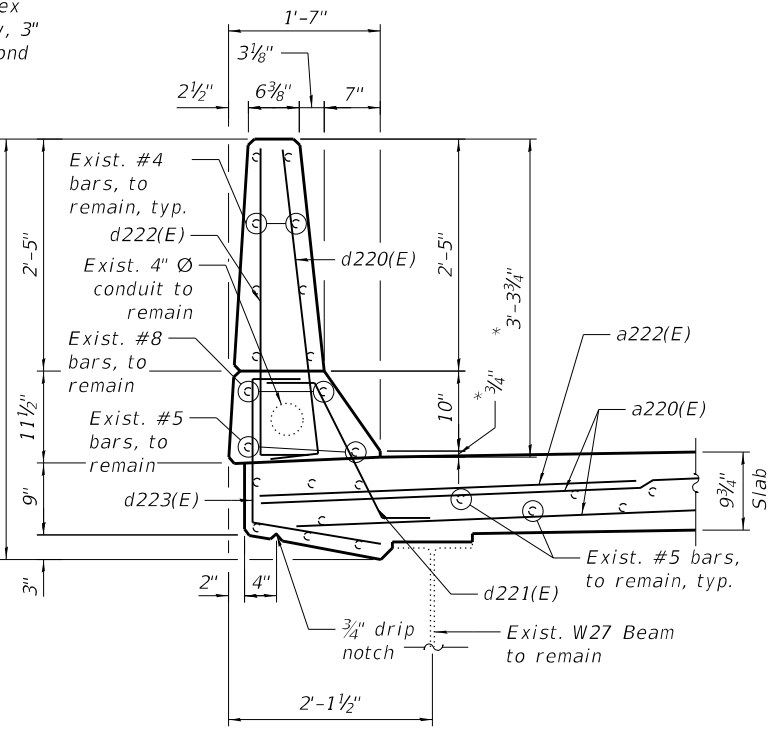
SECTION A-A



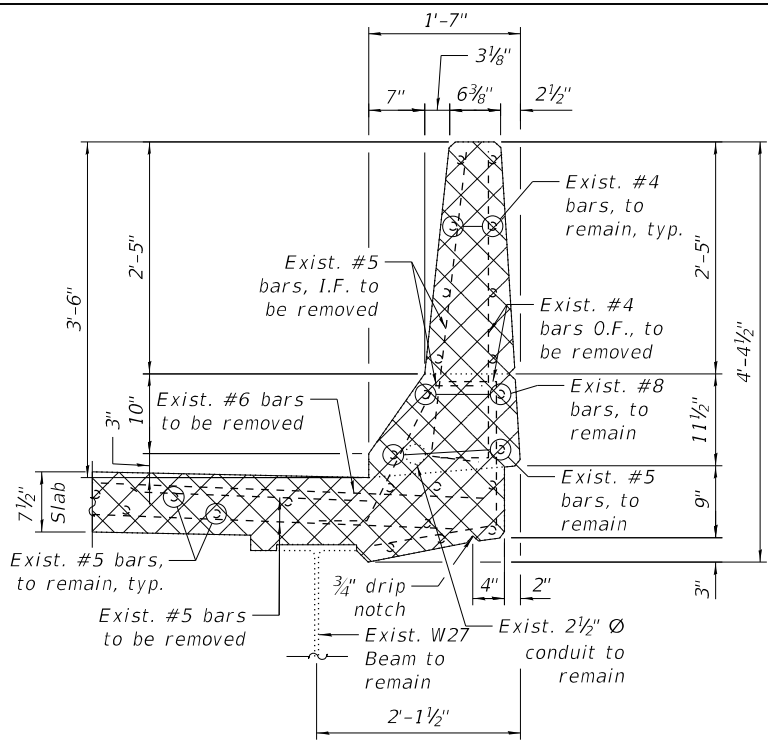
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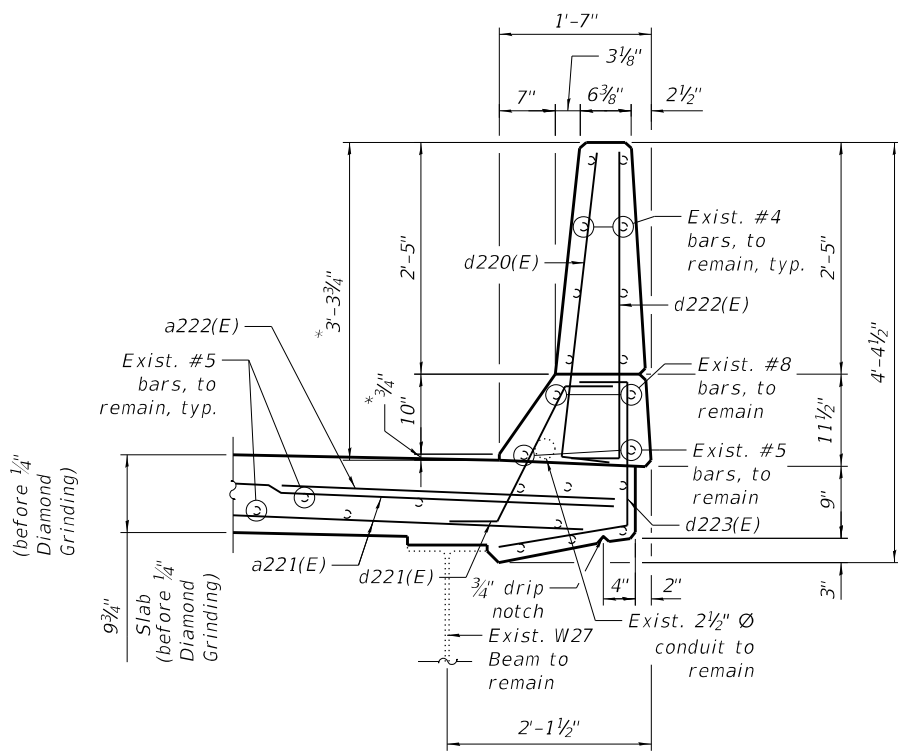
SECTION B-B



SECTION BB-BB



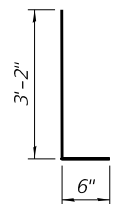
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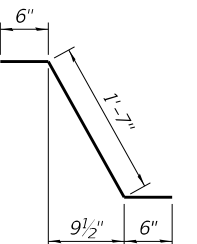
SECTION CC-CC

BILL OF MATERIAL

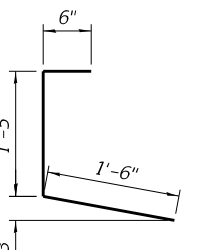
| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a220(E)                          | 18  | #5   | 27'-10" |       |
| a221(E)                          | 18  | #5   | 27'-1"  |       |
| a222(E)                          | 12  | #6   | 6'-0"   |       |
| a223(E)                          | 3   | #5   | 27'-10" |       |
| a224(E)                          | 3   | #5   | 11'-0"  |       |
| d220(E)                          | 12  | #5   | 3'-8"   |       |
| d221(E)                          | 12  | #5   | 2'-7"   |       |
| d222(E)                          | 12  | #4   | 3'-8"   |       |
| d223(E)                          | 12  | #4   | 3'-5"   |       |
| s220(E)                          | 96  | #5   | 2'-10"  |       |
| Concrete Removal                 |     |      | Cu Yd   | 9.0   |
| Concrete Superstructure          |     |      | Cu Yd   | 10.0  |
| Protective Coat                  |     |      | Sq Yd   | 27    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,680 |



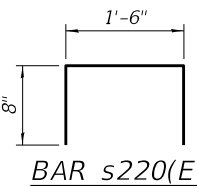
BAR d220(E) & d222(E)



BAR d221(E)



BAR d223(E)



BAR s220(E)

NOTE:

1. For legend and additional Notes, see Sheet S02-18.

\* Before 1/4" Diamond Grinding



|              |                  |            |           |           |  |
|--------------|------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$   | DESIGNED - | LR        | REVISED - |  |
| PLOT SCALE = | 2:0.0000 " / in. | DRAWN -    | LR        | REVISED - |  |
| PLOT DATE =  | 12/6/2024        | CHECKED -  | ML JJS    | REVISED - |  |
|              |                  | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

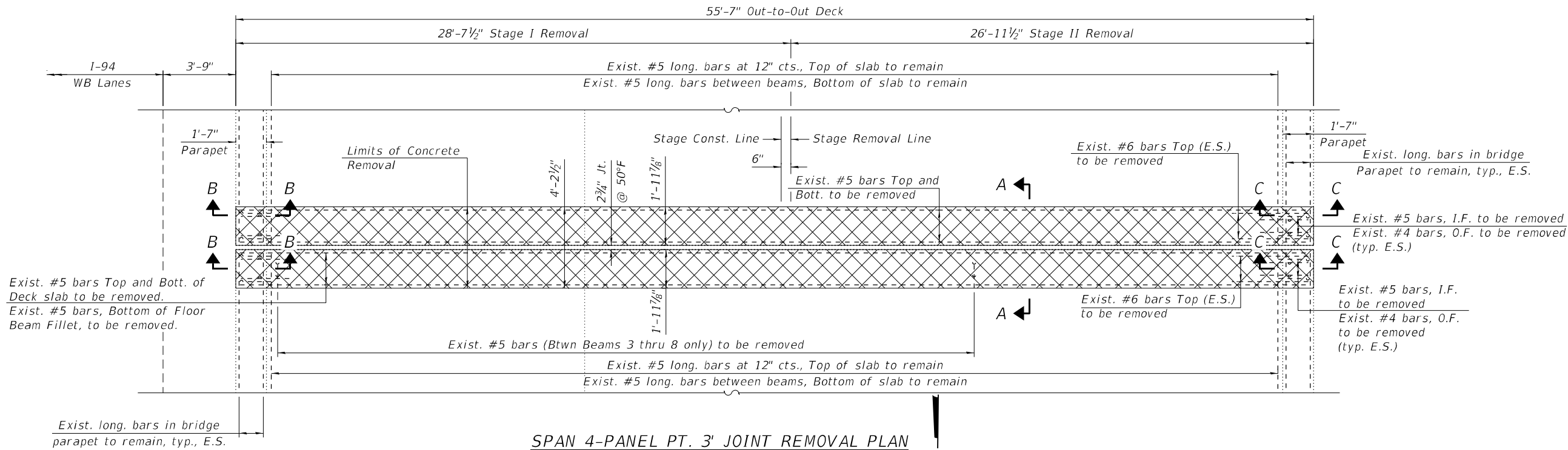
SPAN 4 PANEL PT. 6 JT. REM. & REPL. (SHT. 2 OF 2)  
STRUCTURE NO. 016-0158

SHEET S02-19 OF S02-36 SHEETS

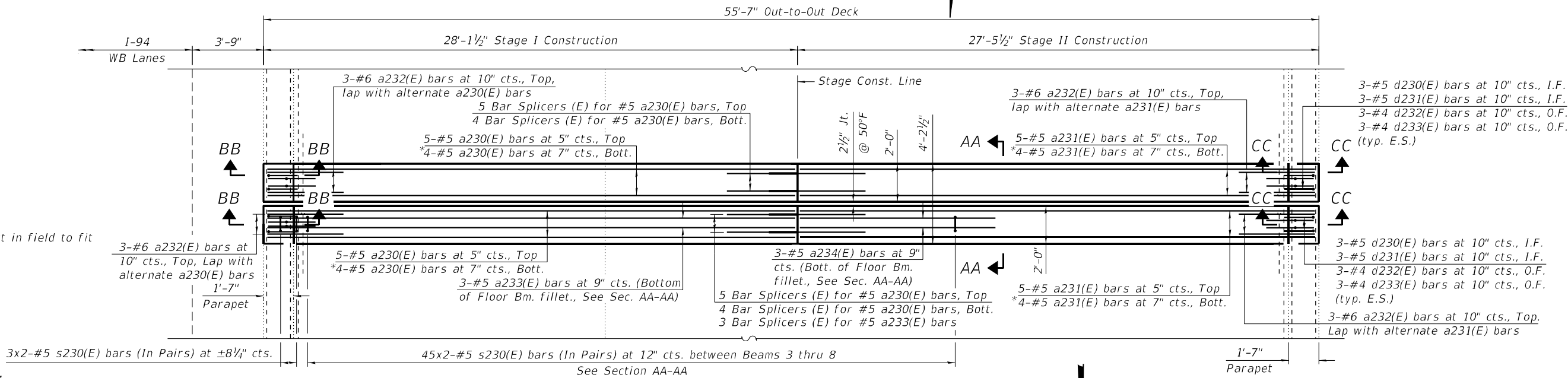
| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 515       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



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SPAN 4-PANEL PT. 3' JOINT REMOVAL PLAN



SPAN 4-PANEL PT. 3' JOINT RECONSTRUCTION PLAN

NOTES:

- Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S02-27.
- For Sections A-A, B-B, C-C, AA-AA, BB-BB, and CC-CC, Bar Diagrams and Bill of Material, see Sheet S02-21.
- For preformed joint strip seal details, see Sheet S02-27.
- For bar splicer assembly details, see Sheet S02-36.
- Removal and disposal of existing expansion joint shall be included with Concrete Removal.

LEGEND

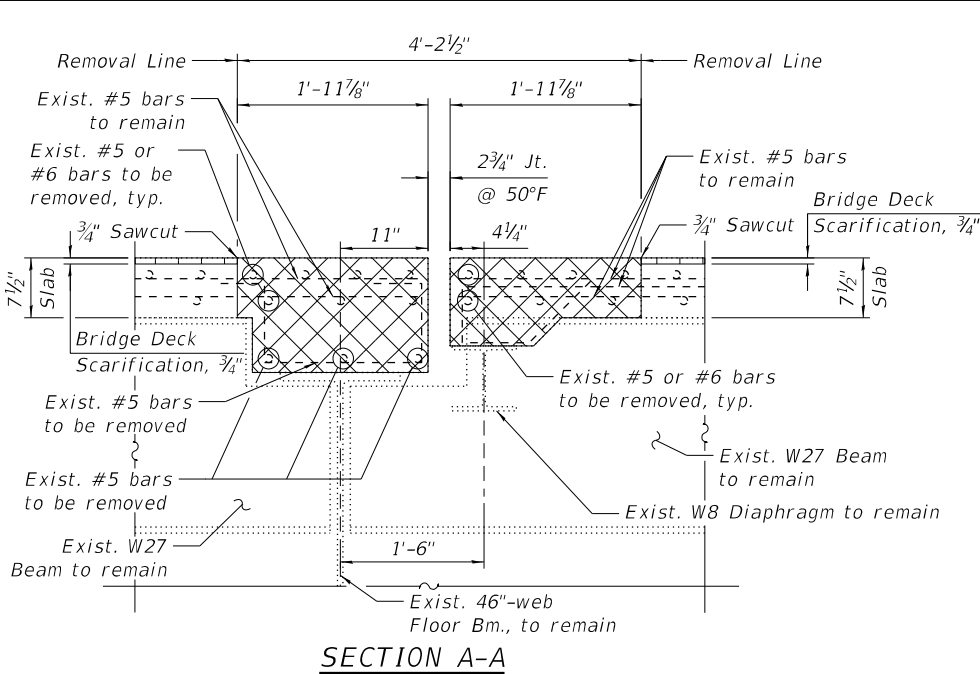
|      |                  |
|------|------------------|
|      | Concrete Removal |
| E.F. | Each Face        |
| I.F. | Inside Face      |
| O.F. | Outside Face     |
| E.S. | Each Side        |
| E.E. | Each End         |

|              |                  |            |           |           |  |
|--------------|------------------|------------|-----------|-----------|--|
| USER NAME =  | adam.daoud       | DESIGNED - | LR        | REVISED - |  |
|              |                  | DRAWN -    | LR        | REVISED - |  |
| PLOT SCALE = | 6:0.0000 " / in. | CHECKED -  | ML JJS    | REVISED - |  |
| PLOT DATE =  | 12/6/2024        | DATE -     | 12/9/2024 | REVISED - |  |

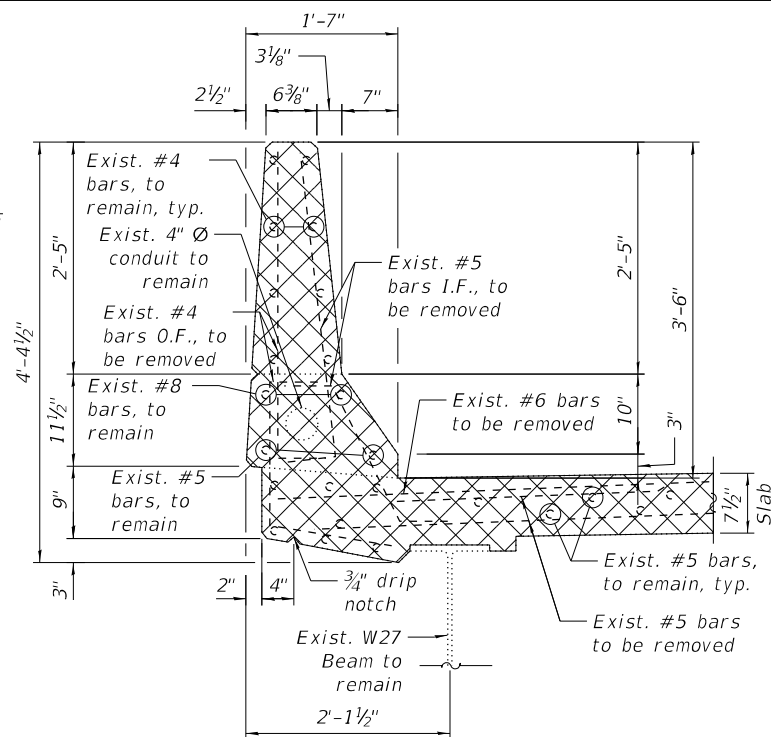
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|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 516       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



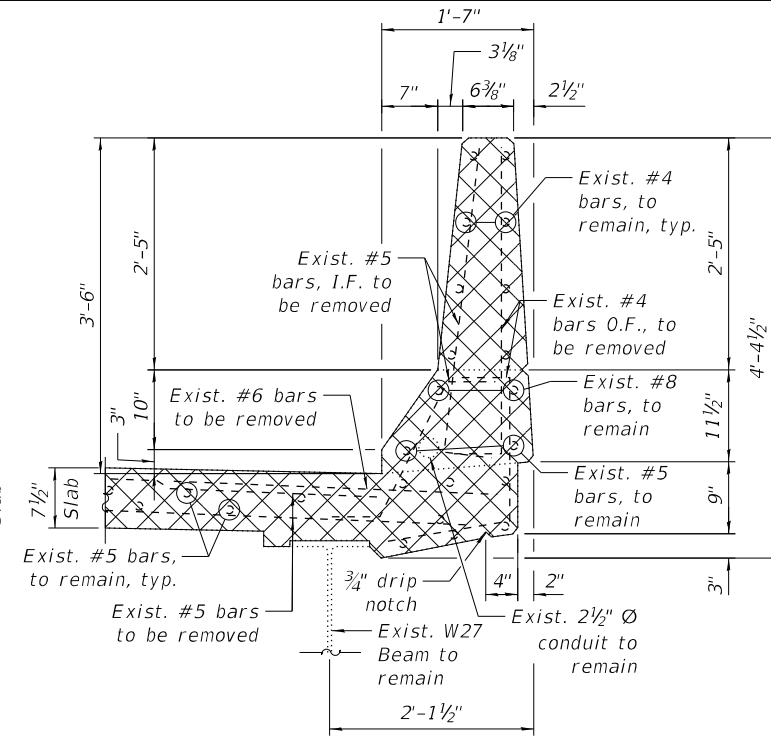
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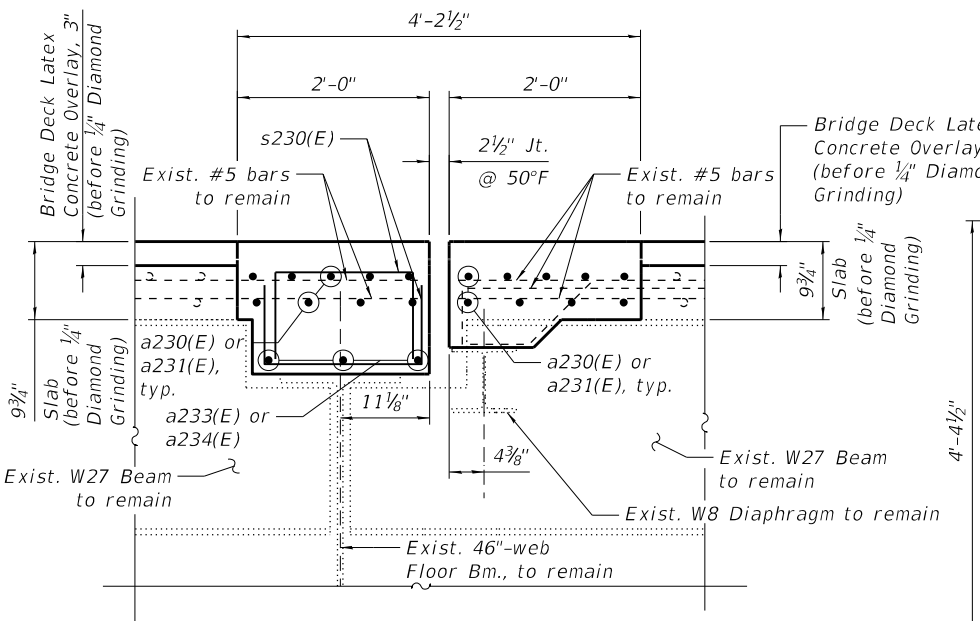
SECTION A-A



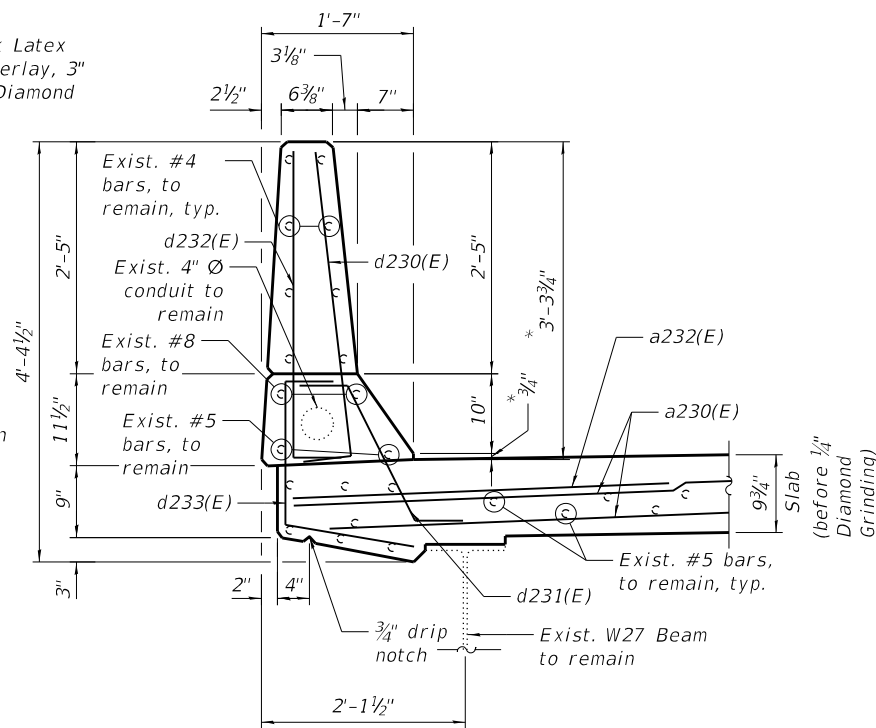
SECTION B-B



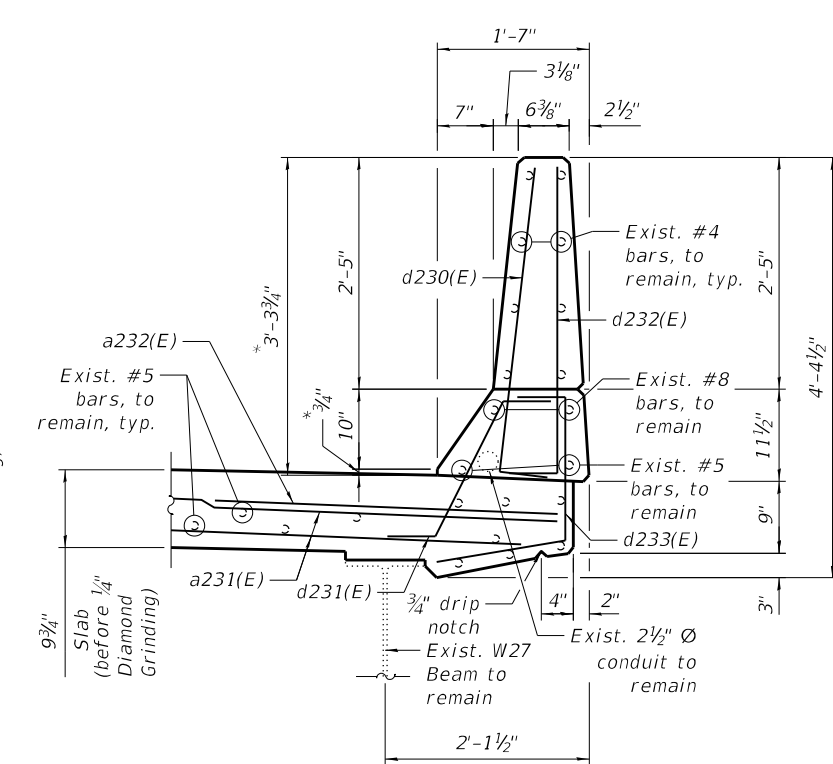
SECTION C-C



SECTION AA-AA



SECTION BB-BB



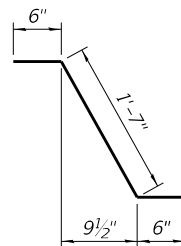
SECTION CC-CC

BILL OF MATERIAL

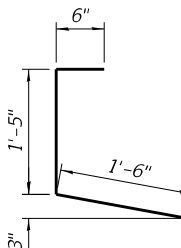
| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a230(E)                          | 18  | #5   | 27'-10" | —     |
| a231(E)                          | 18  | #5   | 27'-1"  | —     |
| a232(E)                          | 12  | #6   | 6'-0"   | —     |
| a233(E)                          | 3   | #5   | 27'-10" | —     |
| a234(E)                          | 3   | #5   | 11'-0"  | —     |
| d230(E)                          | 12  | #5   | 3'-8"   | L     |
| d231(E)                          | 12  | #5   | 2'-7"   | —     |
| d232(E)                          | 12  | #4   | 3'-8"   | L     |
| d233(E)                          | 12  | #4   | 3'-5"   | L     |
| s230(E)                          | 96  | #5   | 2'-10"  | —     |
| Concrete Removal                 |     |      | Cu Yd   | 9.0   |
| Concrete Superstructure          |     |      | Cu Yd   | 10.0  |
| Protective Coat                  |     |      | Sq Yd   | 27    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,680 |



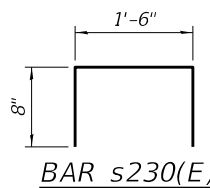
BAR d230(E) & d232(E)



BAR d231(E)



BAR d233(E)



BAR s230(E)

NOTE:

- For legend and additional Notes, see Sheet S02-20.

\* Before 1/4" Diamond Grinding



|              |                  |            |           |           |  |
|--------------|------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$   | DESIGNED - | LR        | REVISED - |  |
|              |                  | DRAWN -    | LR        | REVISED - |  |
| PLOT SCALE = | 2:0.0000 " / in. | CHECKED -  | ML JJS    | REVISED - |  |
| PLOT DATE =  | 12/6/2024        | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SPAN 4 PANEL PT. 3' JT. REM. & REPL. (SHT. 2 OF 2)  
STRUCTURE NO. 016-0158

SHEET S02-21 OF S02-36 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 517       |
| CONTRACT NO. 62W87        |                        |        |              |           |
| ILLINOIS FIED. AD PROJECT |                        |        |              |           |



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Exist. #5 bars, I.F. to be removed  
Exist. #4 bars, O.F. to be removed  
(typ. E.S.)

Exist. #5 bars Top and Bott. of  
Deck slab to be removed.  
Exist. #5 bars, Bottom of Floor  
Beam Fillet, to be removed.

Exist. long. bars in bridge  
parapet to remain, typ., E.S.

Exist. #5 long. bars at 12" cts., Top of slab to remain  
Exist. #5 long. bars between beams, Bottom of slab to remain  
Exist. #5 bars at 12" cts., Top of slab to remain

Exist. #6 bars Top (E.S.)  
to be removed

Exist. long. bars in bridge  
Parapet to remain, typ., E.S.

Exist. #5 bars Top and  
Bott. to be removed

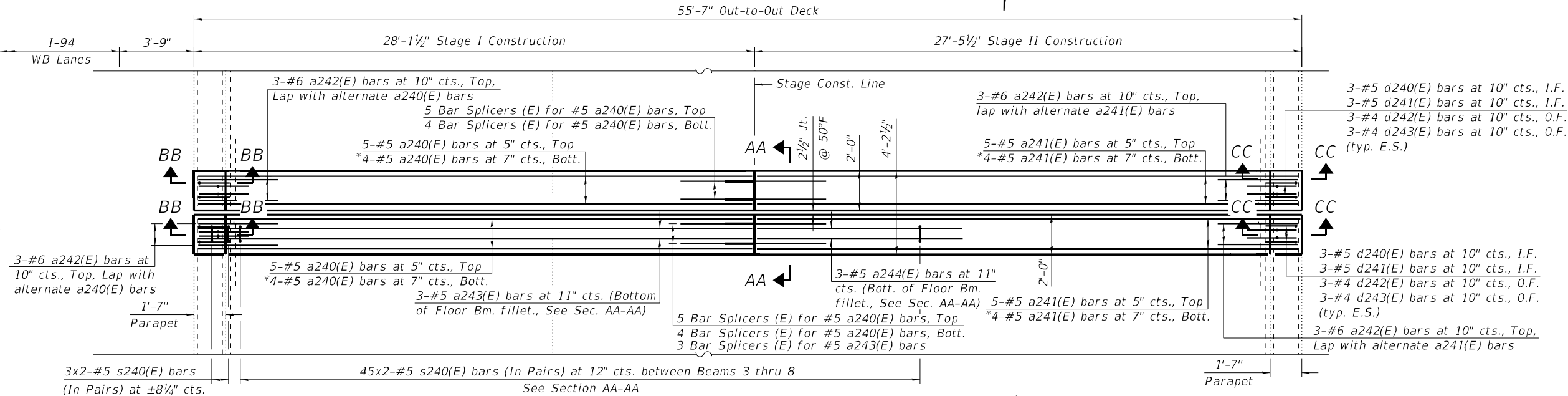
Exist. #6 bars Top (E.S.)  
to be removed

Exist. #5 bars, I.F.  
to be removed  
Exist. #4 bars, O.F.  
to be removed  
(typ. E.S.)

Exist. #5 bars (Btwn Beams 3 thru 8 only) to be removed

Exist. #5 long. bars at 12" cts., Top of slab to remain  
Exist. #5 long. bars between beams, Bottom of slab to remain

### PIER 4 JOINT REMOVAL PLAN



#### NOTES:

- Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S02-27.
- For Sections A-A, B-B, C-C, AA-AA, BB-BB, and CC-CC, Bar Diagrams and Bill of Material, see Sheet S02-23.
- For preformed joint strip seal details, see Sheet S02-27.
- For bar splicer assembly details, see Sheet S02-36.
- Removal and disposal of existing expansion joint shall be included with Concrete Removal.

### PIER 4 JOINT RECONSTRUCTION PLAN

#### LEGEND



Concrete Removal

E.F. Each Face

I.F. Inside Face

O.F. Outside Face

E.S. Each Side

E.E. Each End

**HBM**  
ENGINEERING GROUP, LLC

|            |   |                     |          |   |           |         |   |
|------------|---|---------------------|----------|---|-----------|---------|---|
| USER NAME  | = | adam.daoud          | DESIGNED | - | LR        | REVISED | - |
| DRAWN      | - | LR                  | REVISION | - |           |         |   |
| PLOT SCALE | = | 6:0.0000 " = 1" in. | CHECKED  | - | ML JJS    | REVISED | - |
| PLOT DATE  | = | 12/6/2024           | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

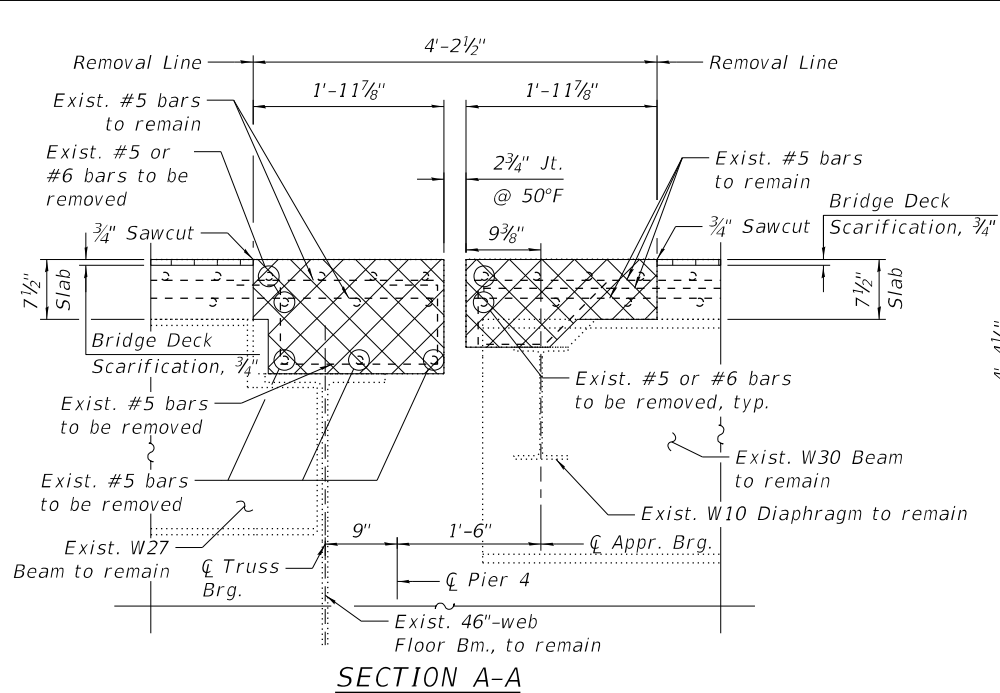
PIER 4 JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 2)  
STRUCTURE NO. 016-0158

SHEET S02-22 OF S02-36 SHEETS

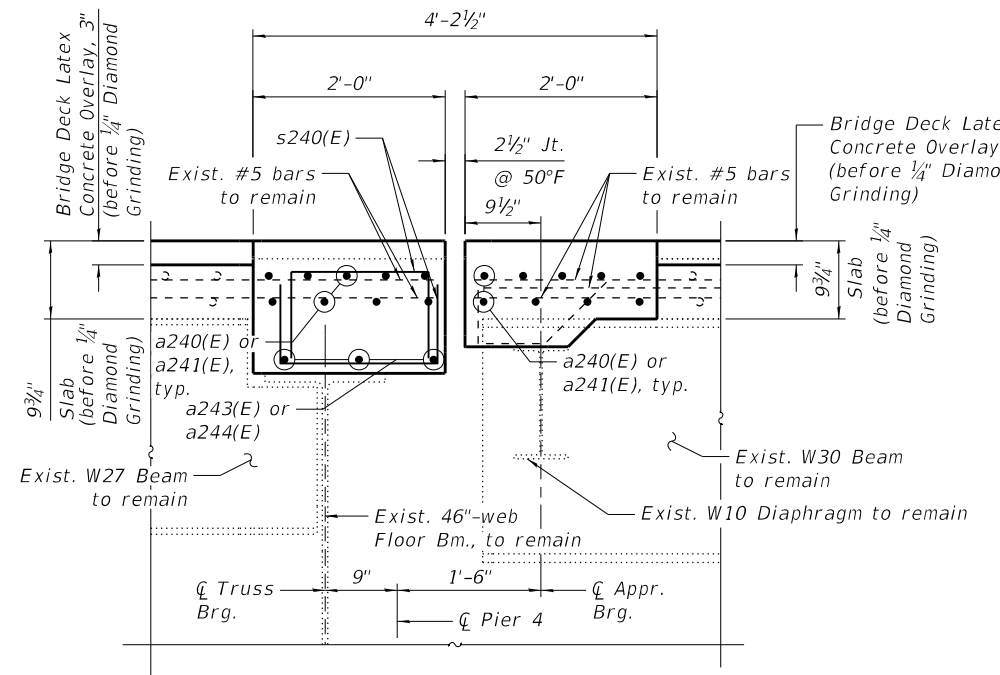
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|---------------------------|------------------------|--------|-----------------|--------------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761             | 518          |
| CONTRACT NO. 62W87        |                        |        |                 |              |
| ILLINOIS FED. AID PROJECT |                        |        |                 |              |



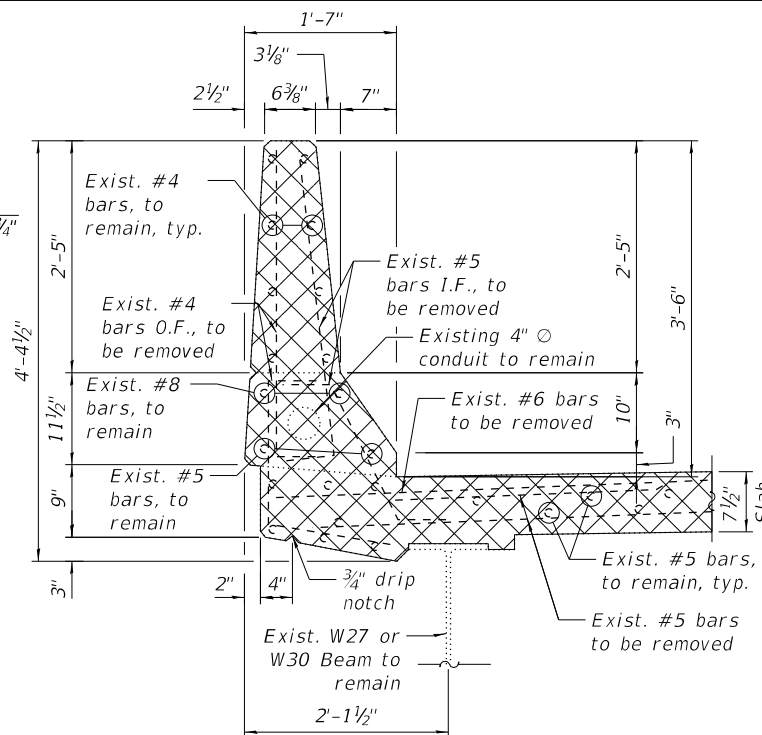
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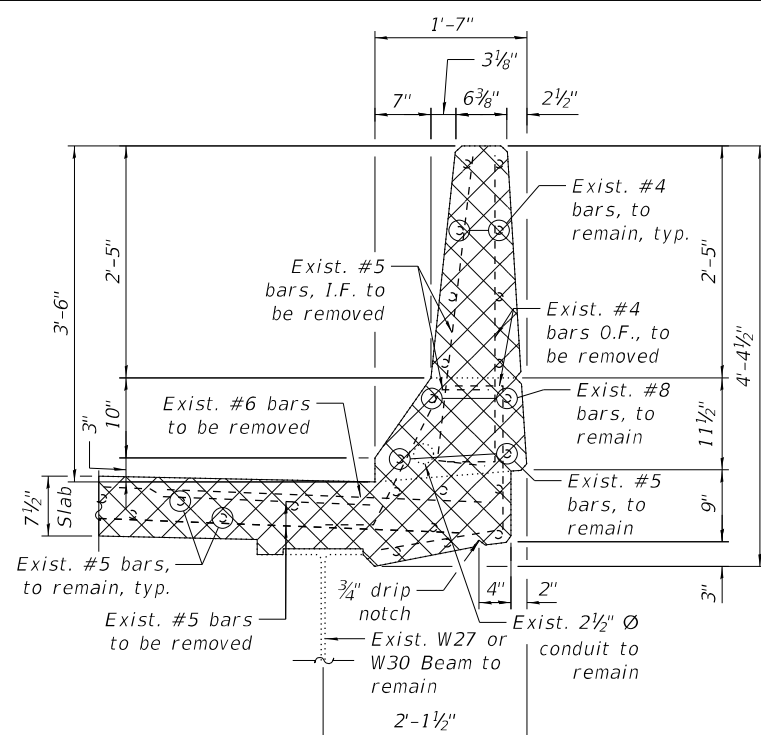
SECTION A-A



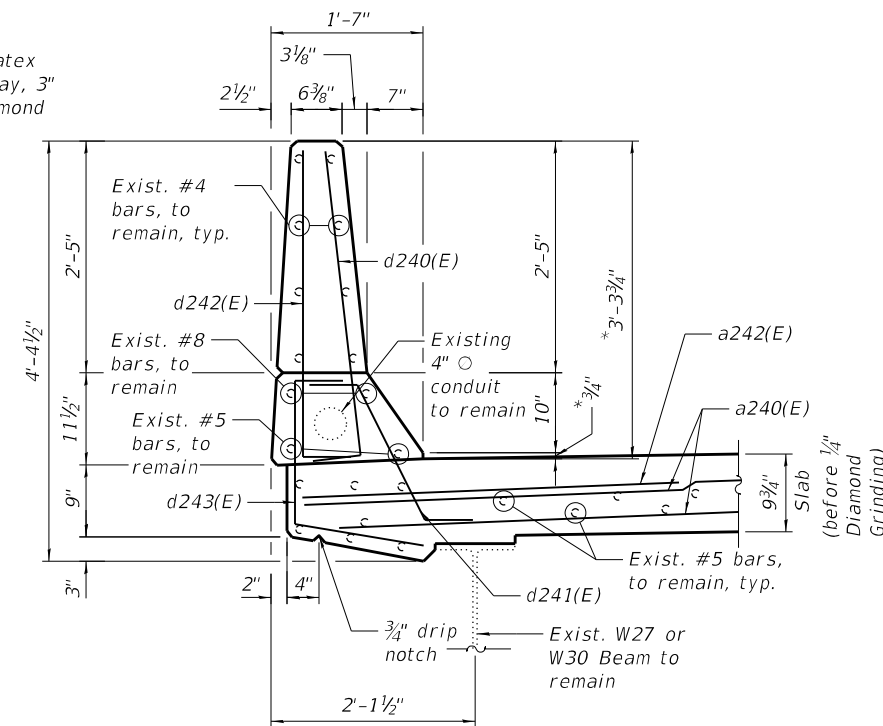
SECTION AA-AA



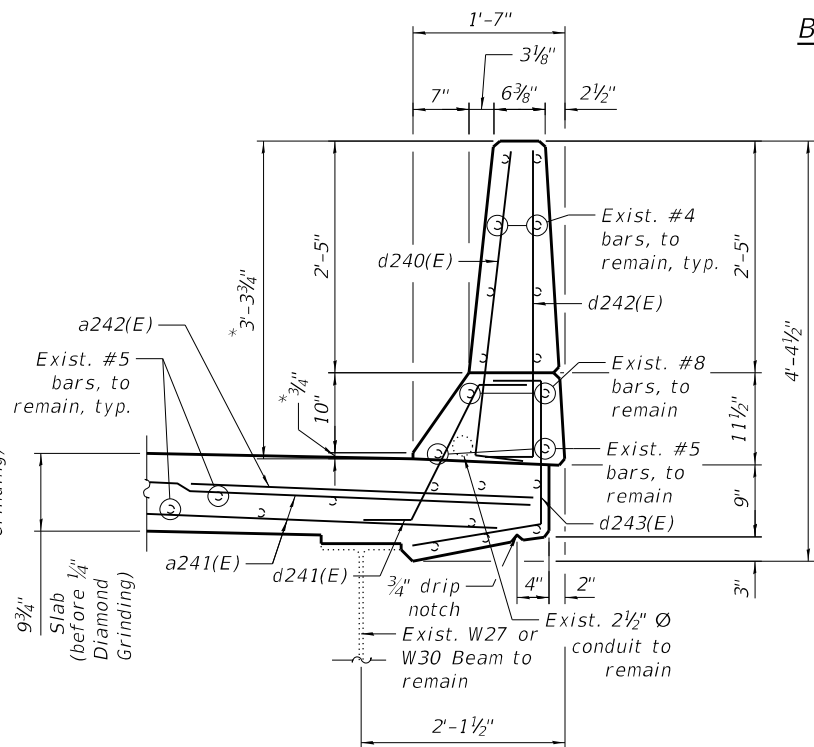
SECTION B-B



SECTION C-C

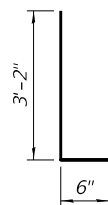


SECTION BB-BB

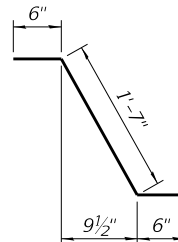


SECTION CC-CC

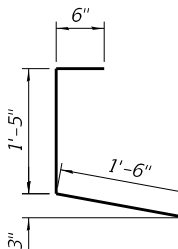
| BILL OF MATERIAL                 |     |      |         |       |
|----------------------------------|-----|------|---------|-------|
| Bar                              | No. | Size | Length  | Shape |
| a240(E)                          | 18  | #5   | 27'-10" |       |
| a241(E)                          | 18  | #5   | 27'-1"  |       |
| a242(E)                          | 12  | #6   | 6'-0"   |       |
| a243(E)                          | 3   | #5   | 27'-10" |       |
| a244(E)                          | 3   | #5   | 11'-0"  |       |
| d240(E)                          | 12  | #5   | 3'-8"   |       |
| d241(E)                          | 12  | #5   | 2'-7"   |       |
| d242(E)                          | 12  | #4   | 3'-8"   |       |
| d243(E)                          | 12  | #4   | 3'-5"   |       |
| s240(E)                          | 96  | #5   | 3'-2"   |       |
| Concrete Removal                 |     |      | Cu Yd   | 9.0   |
| Concrete Superstructure          |     |      | Cu Yd   | 10.0  |
| Protective Coat                  |     |      | Sq Yd   | 27    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,720 |



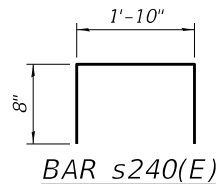
BAR d240(E) & d242(E)



BAR d241(E)



BAR d243(E)



BAR s240(E)

NOTE:

- For legend and additional Notes, see Sheet S02-22.

\* Before 1/4" Diamond Grinding



|              |                 |            |           |           |  |
|--------------|-----------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$  | DESIGNED - | LR        | REVISED - |  |
|              |                 | DRAWN -    | LR        | REVISED - |  |
| PLOT SCALE = | 2:0.0000 " = 1" | CHECKED -  | ML JJS    | REVISED - |  |
| PLOT DATE =  | 12/6/2024       | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

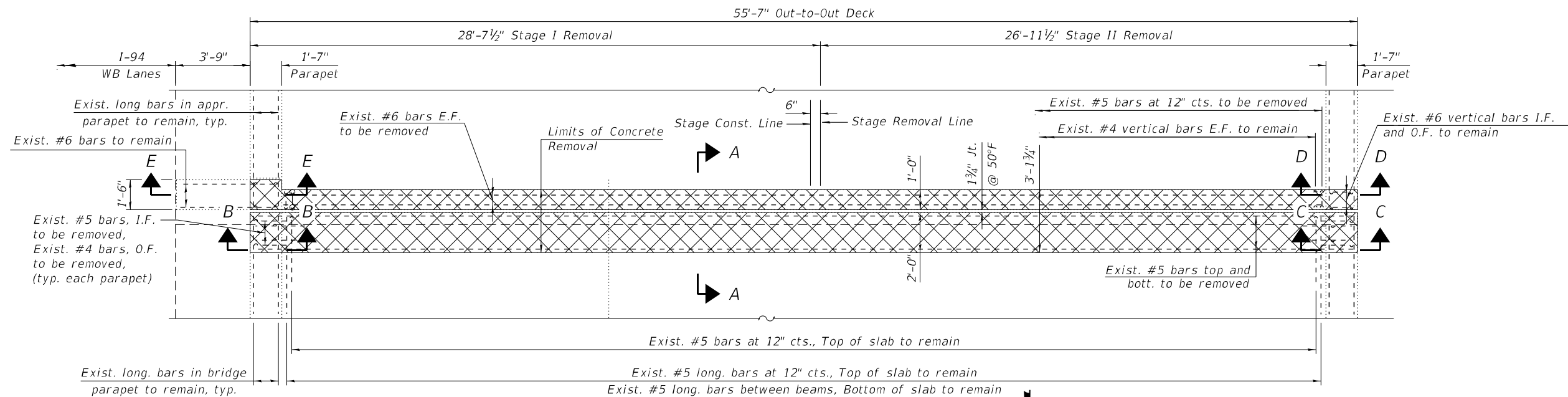
PIER 4 JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 2)  
STRUCTURE NO. 016-0158

SHEET S02-23 OF S02-36 SHEETS

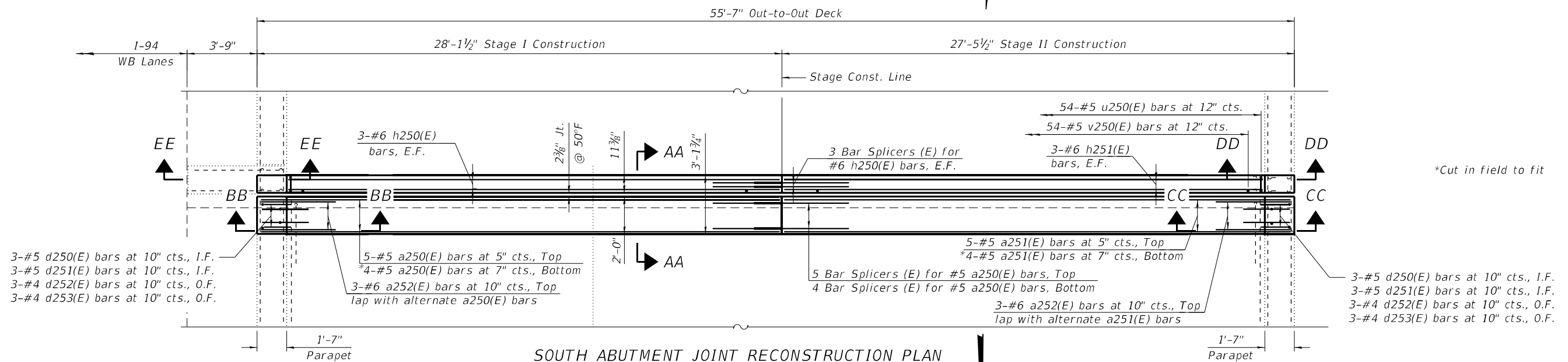
| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 519          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |



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SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

**NOTES:**

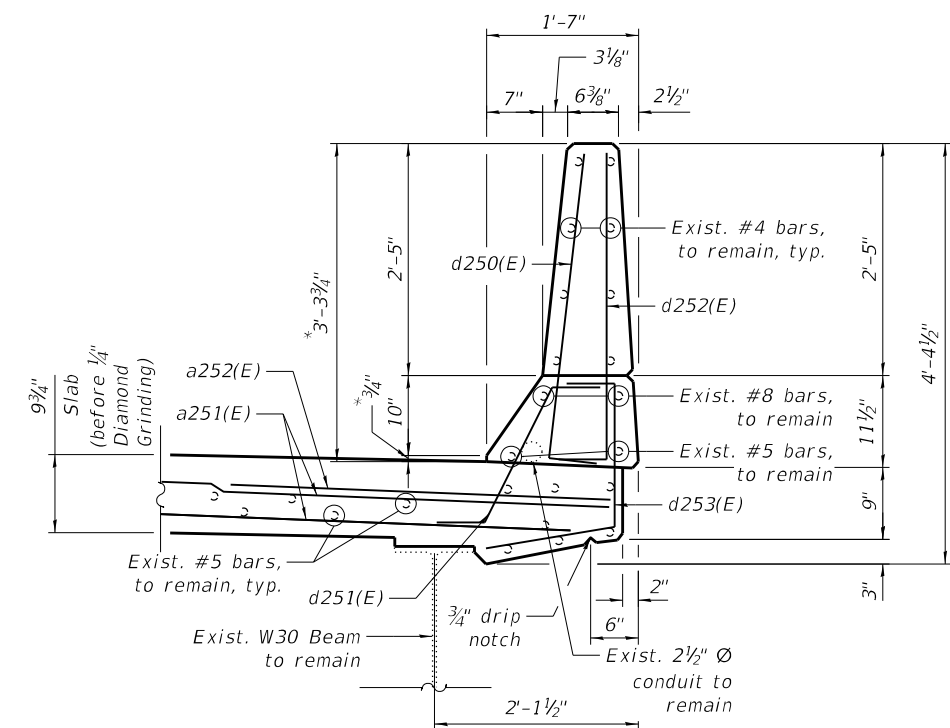
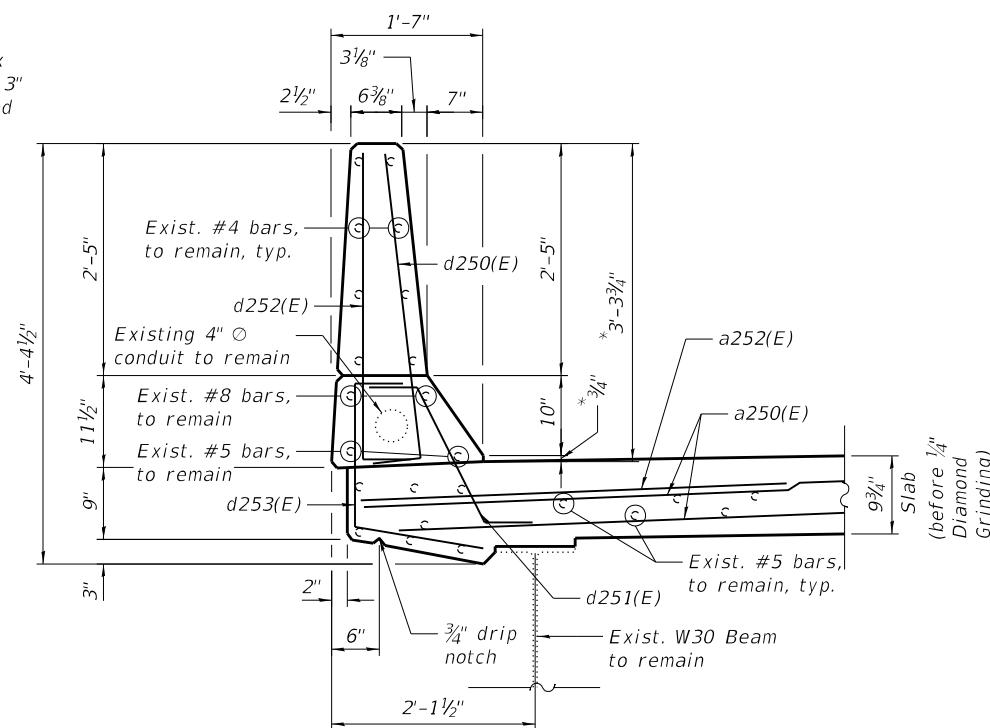
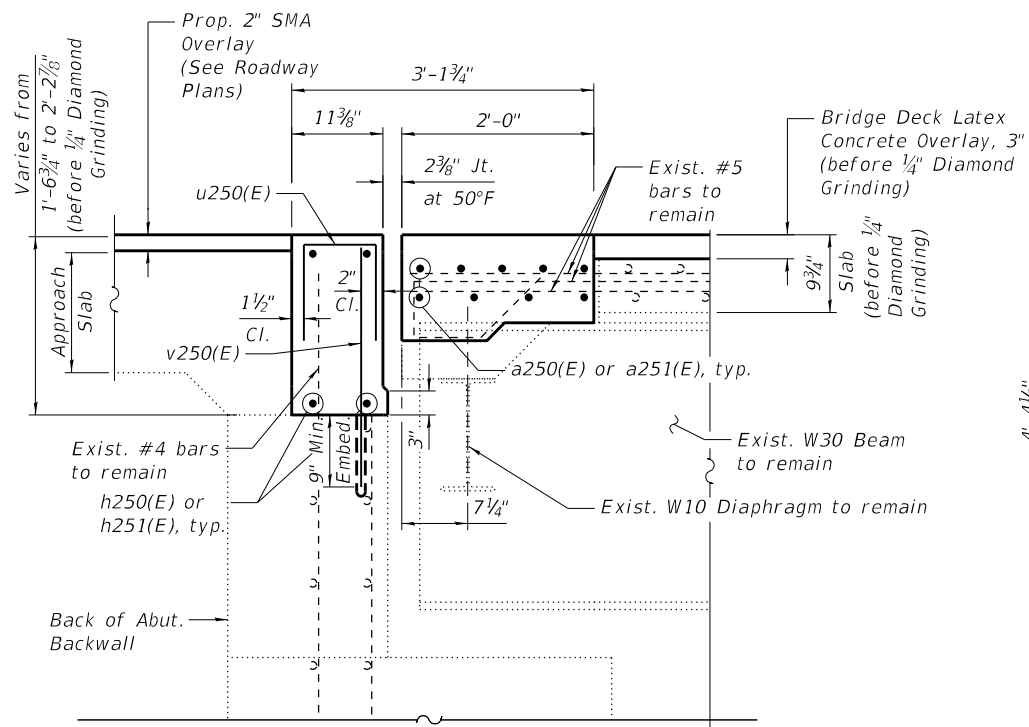
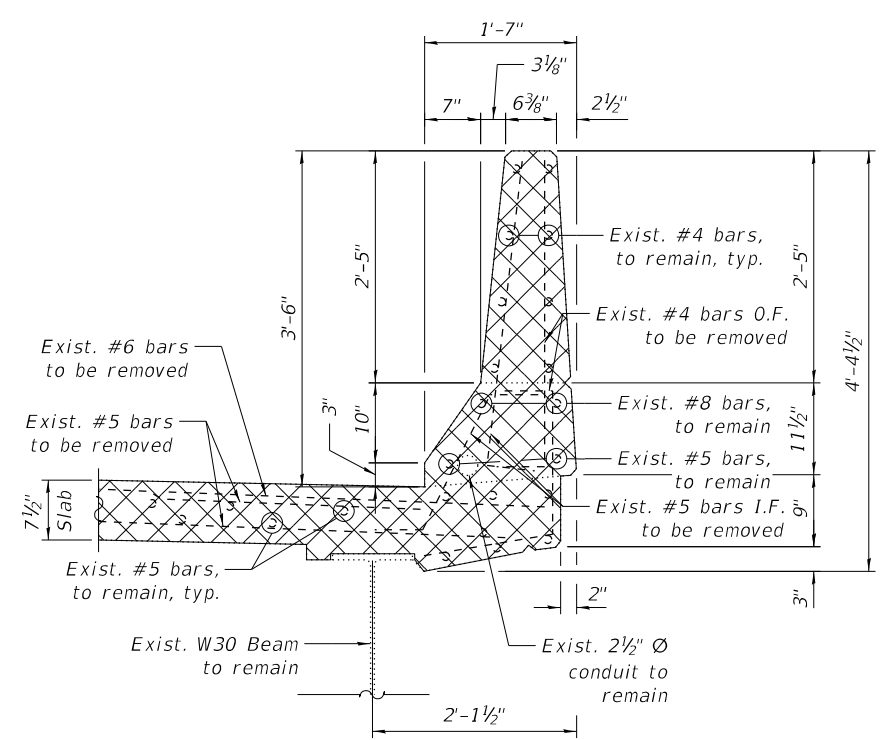
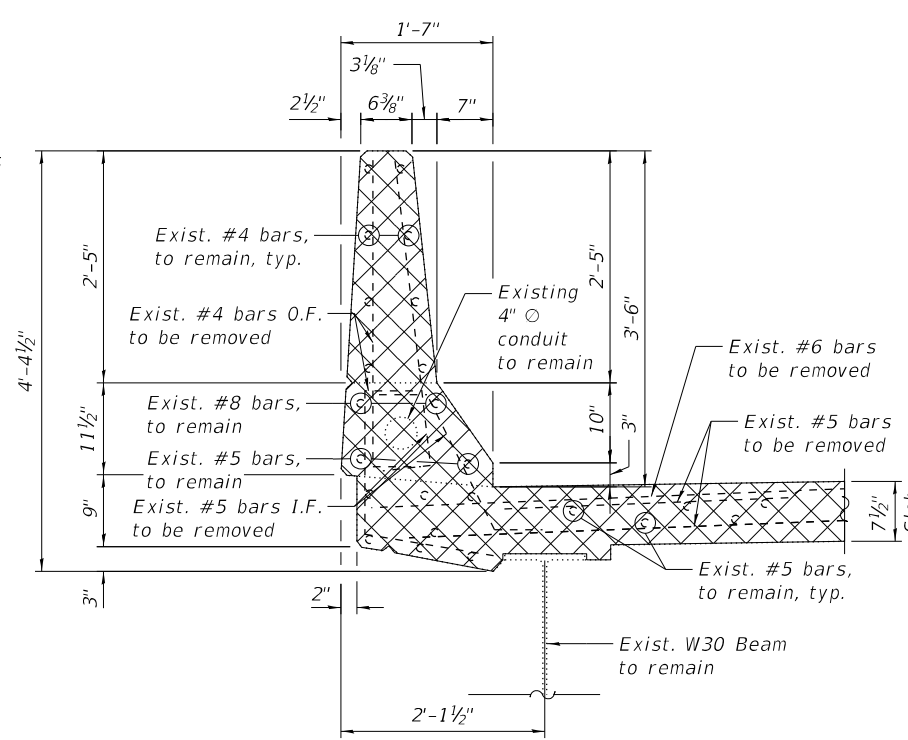
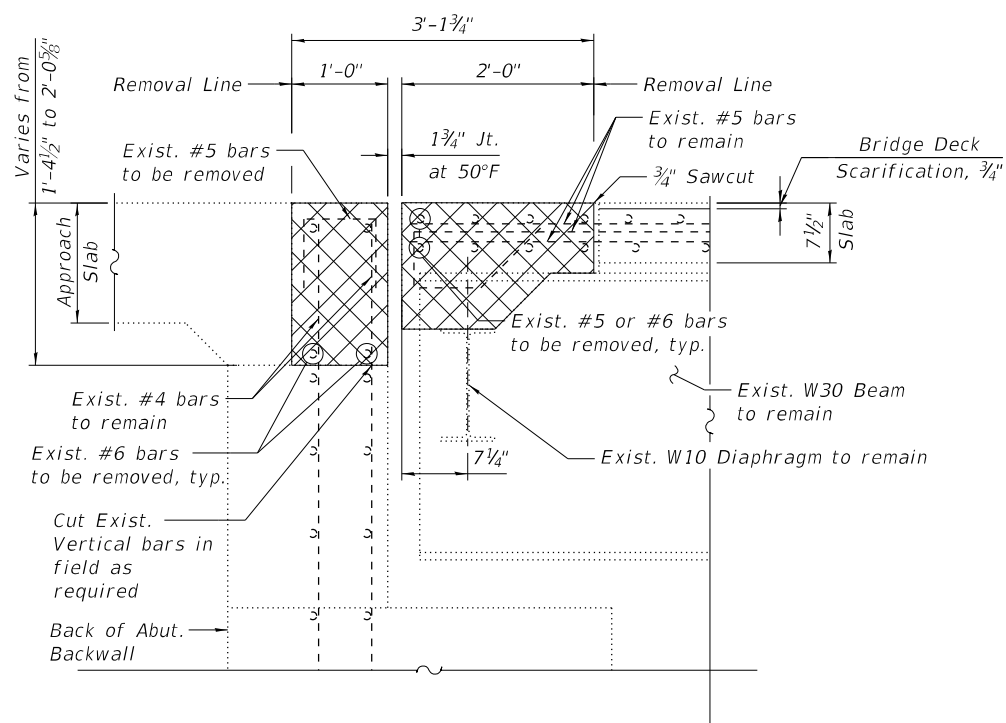
- Existing reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S02-27.
- For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-25.
- For Sections D-D, E-E, DD-DD and EE-EE, Bar Diagrams, and Bill of Material, see Sheet S02-26.

- For preformed joint strip seal details, see Sheet S02-27.
- For bar splicer assembly details, see Sheet S02-36.
- Removal and disposal of existing expansion joint shall be included with Concrete Removal.
- Epoxy grout v250(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

**LEGEND**

|      |                  |
|------|------------------|
|      | Concrete Removal |
| E.F. | Each Face        |
| I.F. | Inside Face      |
| O.F. | Outside Face     |





NOTES:

1. For legend and additional Notes, see Sheet S02-24.
2. For Bar Diagrams and Bill of Material, see Sheet S02-26.
3. It shall be the Contractor's responsibility to provide adequate temporary support for existing conduits during joint reconstruction. Cost included with Concrete Superstructure.

|            |   |                  |          |   |           |         |   |  |
|------------|---|------------------|----------|---|-----------|---------|---|--|
| USER NAME  | = | hbmepw11cs01\$   | DESIGNED | - | HMI       | REVISED | - |  |
|            |   |                  | DRAWN    | - | HMI       | REVISED | - |  |
| PLOT SCALE | = | 2:0.0000 '"/ in. | CHECKED  | - | MI, JJS   | REVISED | - |  |
| PLOT DATE  | = | 12/6/2024        | DATE     | - | 12/9/2024 | REVISED | - |  |

|                |                        |                    |                  |              |
|----------------|------------------------|--------------------|------------------|--------------|
| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS  | SHEET<br>NO. |
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761              | 521          |
|                |                        | CONTRACT NO. 62W87 |                  |              |
|                |                        | ILLINOIS           | FED. AID PROJECT |              |



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|            |   |                  |          |   |           |         |   |
|------------|---|------------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11cs01\$   | DESIGNED | - | HMI       | REVISED | - |
|            |   |                  | DRAWN    | - | HMI       | REVISED | - |
| PLOT SCALE | = | 2:0.0000 " / in. | CHECKED  | - | MI, JJS   | REVISED | - |
| PLOT DATE  | = | 12/6/2024        | DATE     | - | 12/9/2024 | REVISED | - |

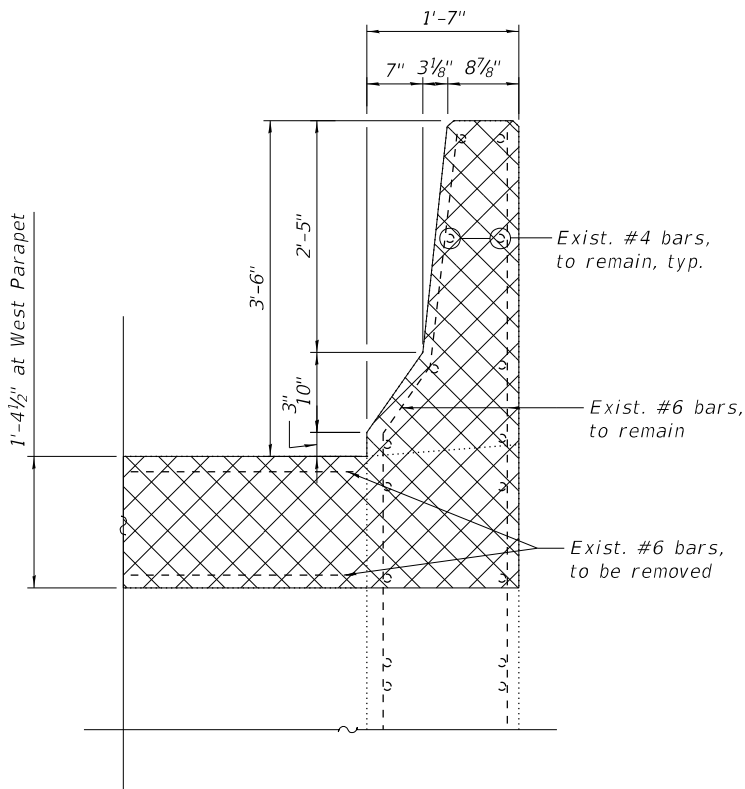
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|----------|---|-----------|---------|---|
| DESIGNED | - | HMI       | REVISED | - |
| DRAWN    | - | HMI       | REVISED | - |
| CHECKED  | - | MI, JJS   | REVISED | - |
| DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
STRUCTURE NO. 016-0158

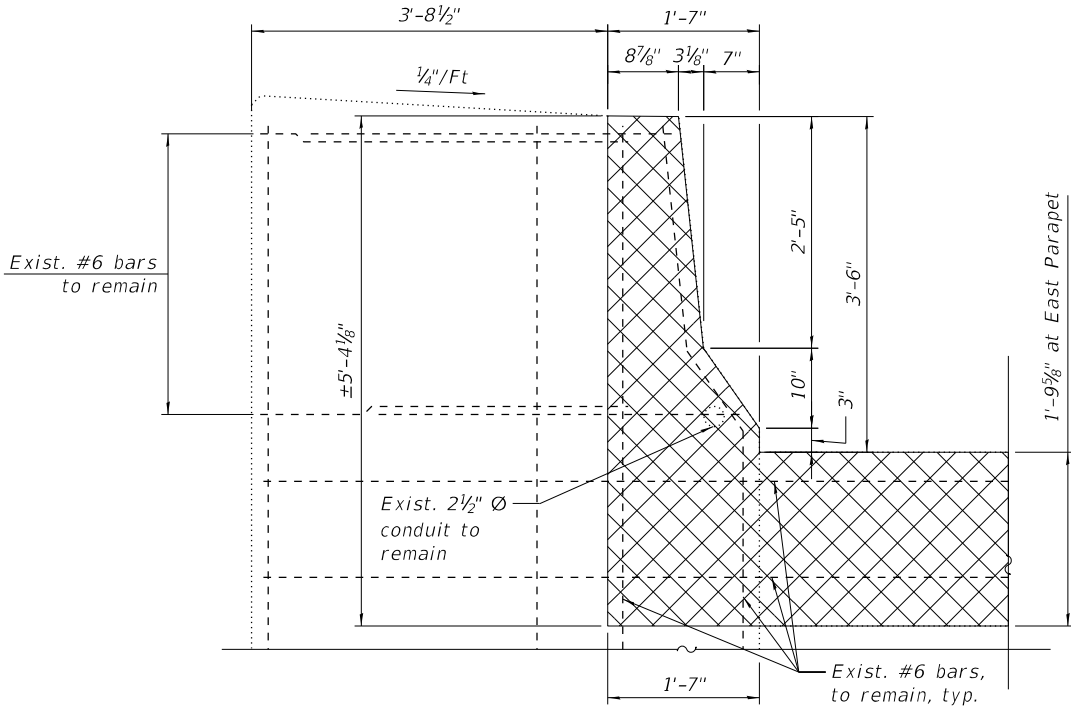
SHEET S02-26 OF 502-36 SHEETS

|              |                        |                  |              |           |
|--------------|------------------------|------------------|--------------|-----------|
| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 522       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |



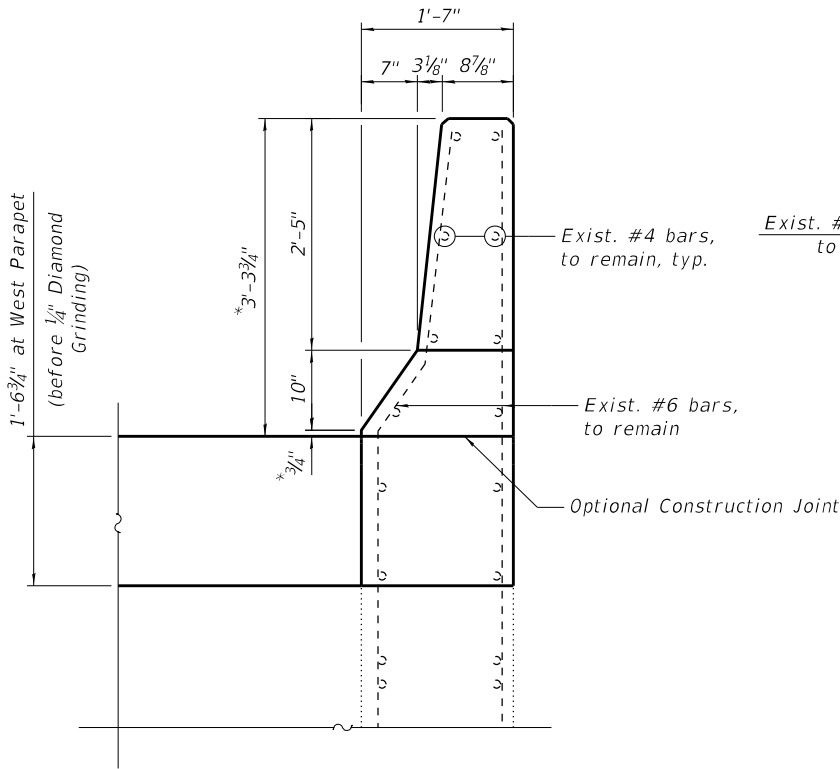
SECTION D-D

(Reinforcement in abutment hatch block is not shown for clarity)



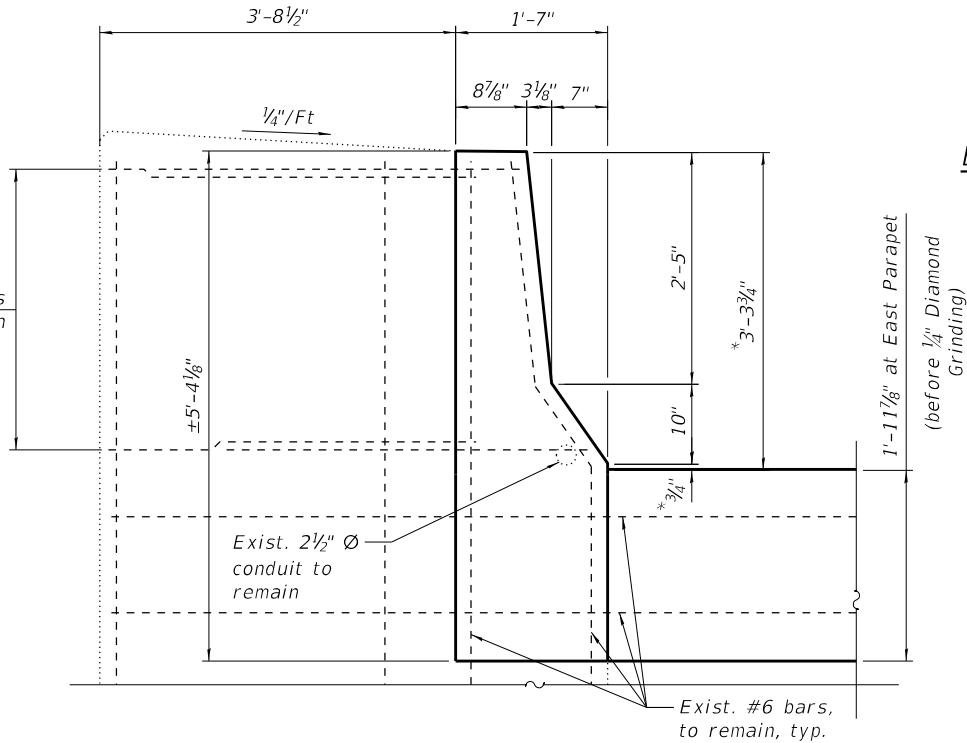
SECTION E-E

(Reinforcement in abutment hatch block is not shown for clarity)



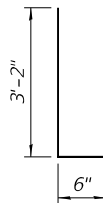
SECTION DD-DD

(Reinforcement in abutment hatch block is not shown for clarity)

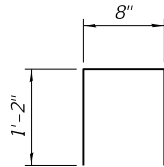


SECTION EE-EE

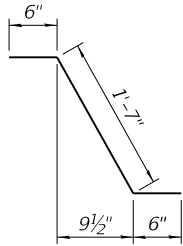
(Reinforcement in abutment hatch block is not shown for clarity)



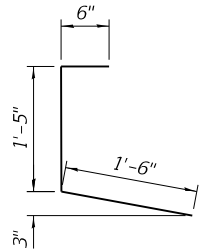
BAR d250(E) & d252(E)



BAR u250(E)



BAR d251(E)



BAR d253(E)

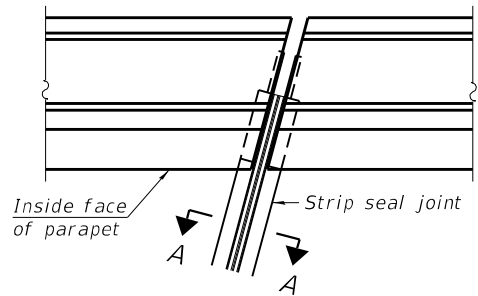
BILL OF MATERIAL

| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a250(E)                          | 9   | #5   | 27'-10" | —     |
| a251(E)                          | 9   | #5   | 27'-1"  | —     |
| a252(E)                          | 6   | #6   | 6'-0"   | —     |
| d250(E)                          | 6   | #5   | 3'-8"   | L     |
| d251(E)                          | 6   | #5   | 2'-7"   | L     |
| d252(E)                          | 6   | #4   | 3'-8"   | L     |
| d253(E)                          | 6   | #4   | 3'-5"   | L     |
| h250(E)                          | 6   | #6   | 26'-3"  | —     |
| h251(E)                          | 6   | #6   | 25'-9"  | —     |
| u250(E)                          | 54  | #5   | 3'-0"   | □     |
| v250(E)                          | 54  | #5   | 2'-1"   | —     |
| Concrete Removal                 |     |      | Cu Yd   | 8.0   |
| Concrete Superstructure          |     |      | Cu Yd   | 9.0   |
| Protective Coat                  |     |      | Sq Yd   | 20    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,400 |

NOTE:

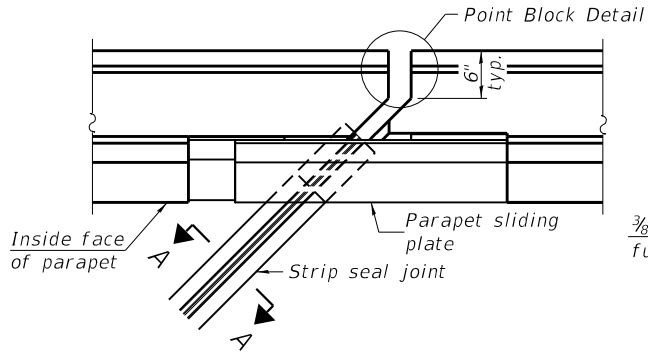
1. For legend, see Sheet S02-24.



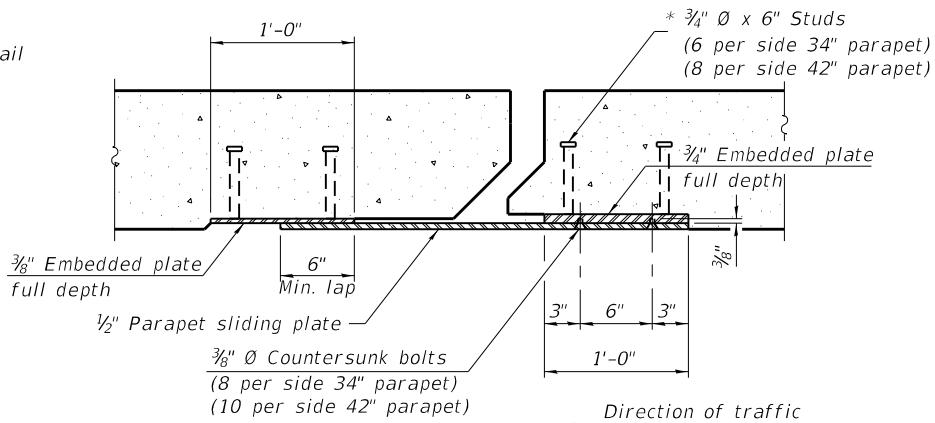


FOR SKEWS  $\leq 30^\circ$

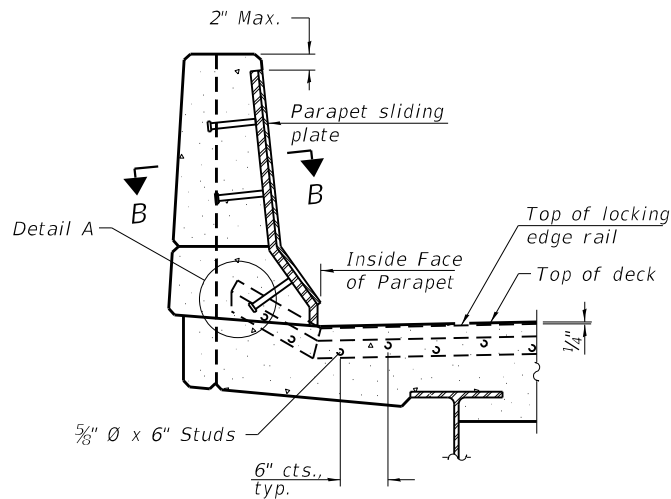
PLAN AT PARAPET



FOR SKEWS  $> 30^\circ$

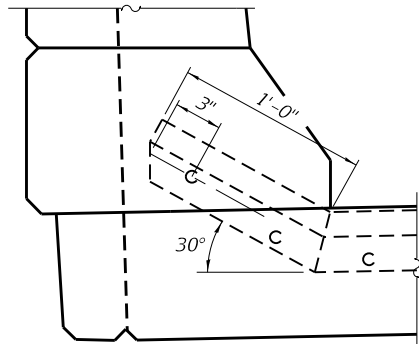


SECTION B-B

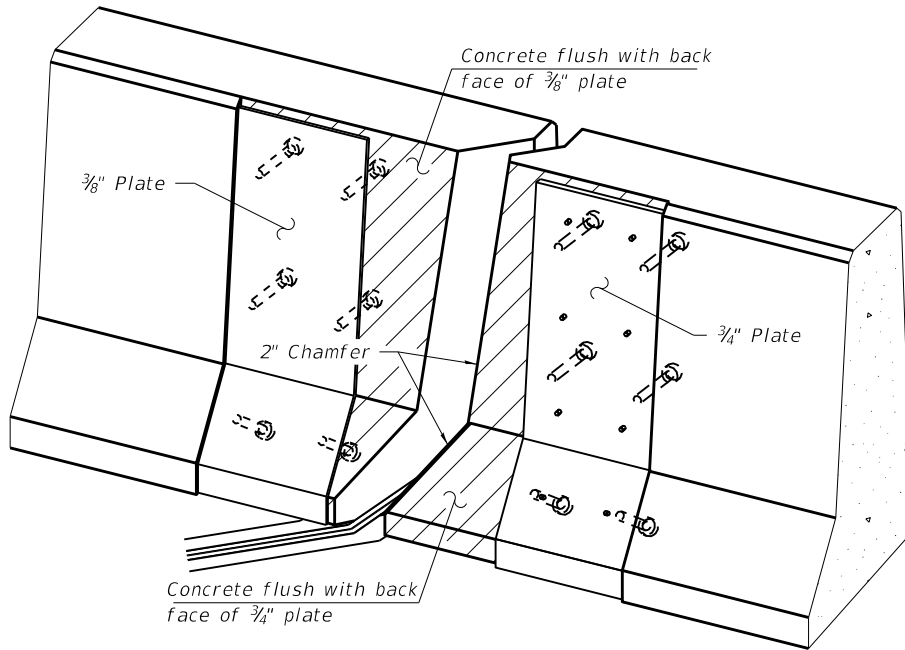


ELEVATION AT PARAPET

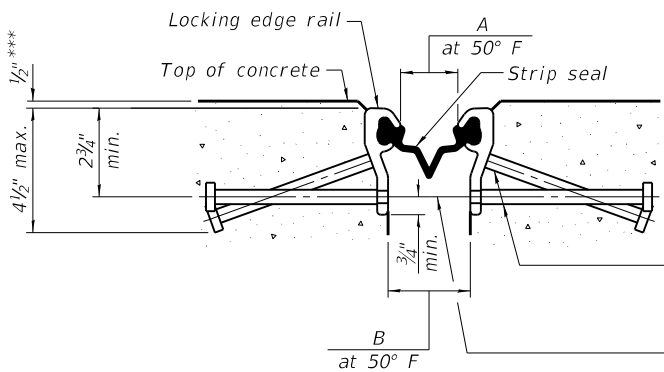
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

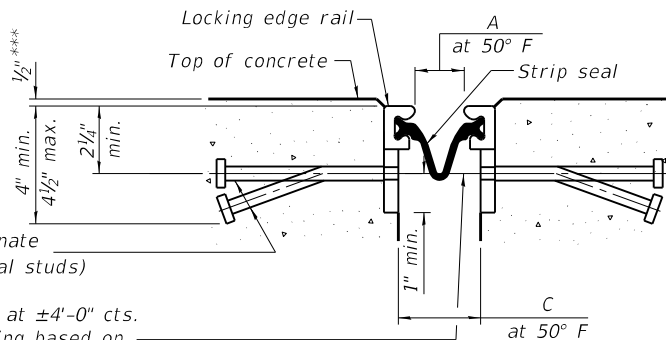
\*  $\frac{5}{8}$ "  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$\frac{3}{8}$ "  $\phi$  threaded rods in  $\frac{7}{16}$ "  $\phi$  holes at  $\pm 4$ '-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

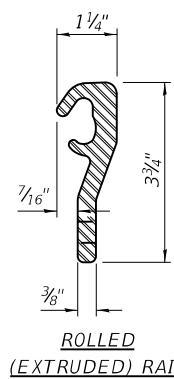
SECTION A-A

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

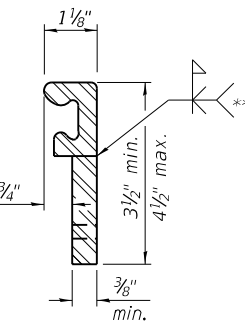
\*\*\* Before  $\frac{1}{4}$ " Diamond Grinding



SHOWING WELDED RAIL JOINT



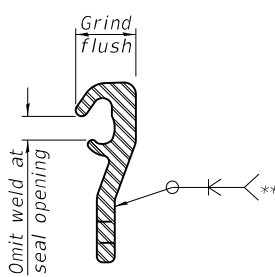
ROLLED  
(EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

\*\* Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

| ITEM                       | UNIT | QUANTITY |
|----------------------------|------|----------|
| Preformed Joint Strip Seal | Foot | 330      |

| Joint              | A      | B      | C      |
|--------------------|--------|--------|--------|
| North Abut.        | 1 1/2" | 2 3/8" | 3"     |
| Span 4 P.P. 3 Jt.  | 1 5/8" | 2 1/2" | 3 1/8" |
| Span 4 P.P. 6 Jt.  | 1 7/8" | 2 1/2" | 3 1/8" |
| Span 4 P.P. 3" Jt. | 1 3/8" | 2 1/2" | 3 1/8" |
| Pier 4             | 1 3/8" | 2 1/2" | 3 1/8" |
| South Abut.        | 1 1/2" | 2 3/8" | 3"     |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 016-0158

SHEET 502-27 OF 502-36 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 523       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |

**HBM**  
ENGINEERING GROUP, LLC

|            |   |                  |          |   |           |         |   |
|------------|---|------------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11cs01\$   | DESIGNED | - | LR        | REVISED | - |
|            |   |                  | DRAWN    | - | LR        | REVISED | - |
| PLOT SCALE | = | 0:2.0000 " / in. | CHECKED  | - | MI, JJS   | REVISED | - |
| PLOT DATE  | = | 12/6/2024        | DATE     | - | 12/9/2024 | REVISED | - |

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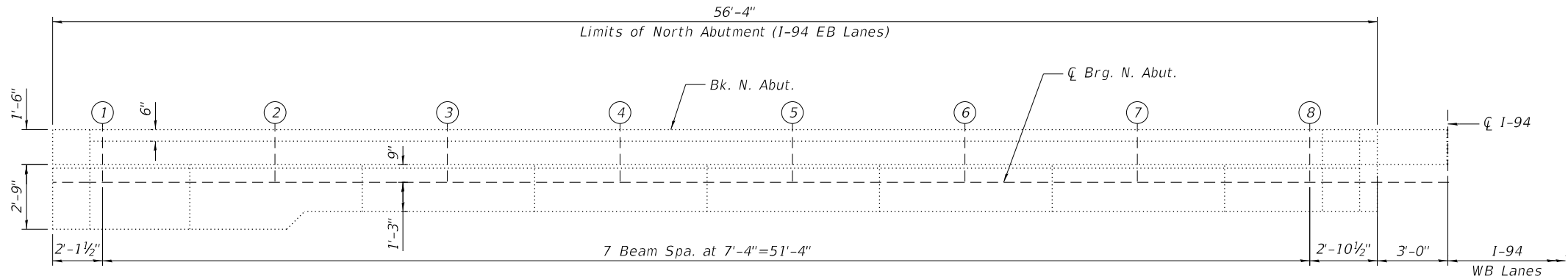




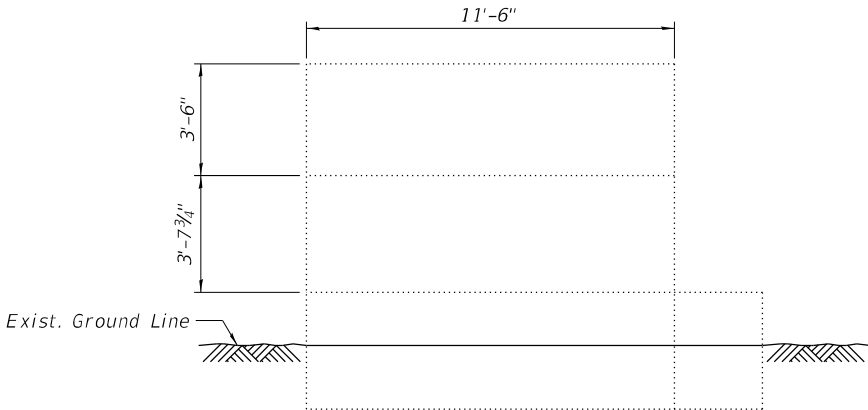
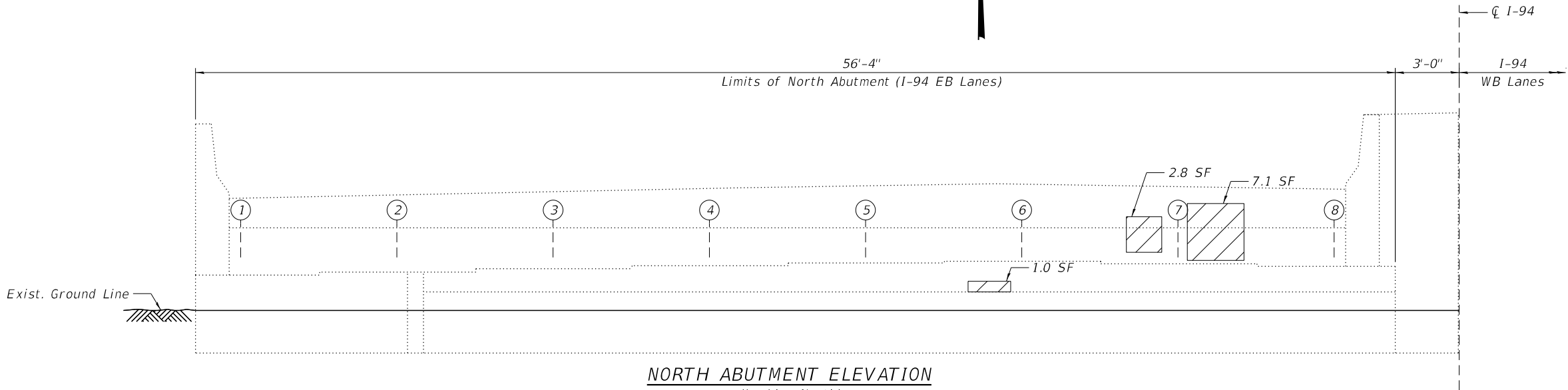


BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 232      |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 11       |



NORTH ABUTMENT PLAN



LEGEND

-  Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
- SF Square Foot

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft. of the abutment backwall.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT REPAIRS  
STRUCTURE NO. 016-0158

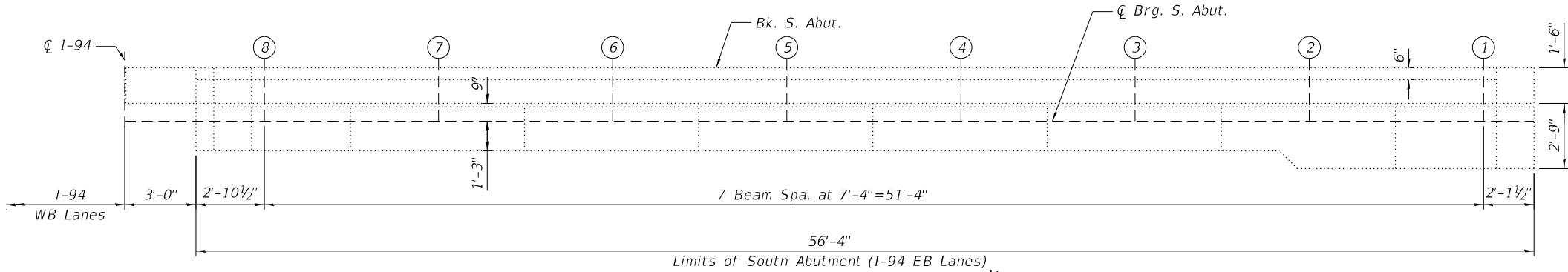
SHEET S02-28 OF S02-36 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 524          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |

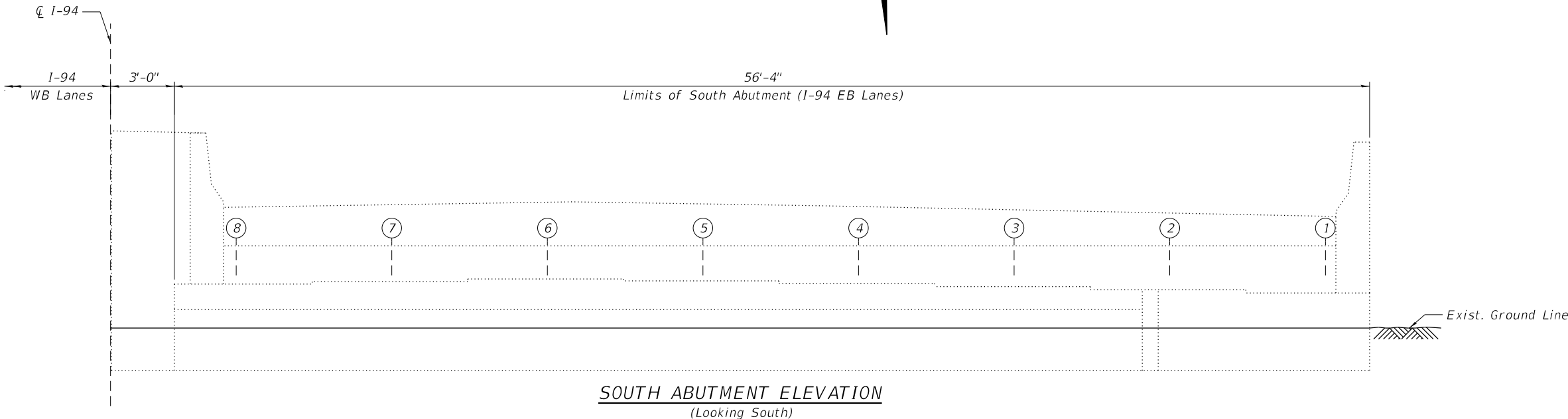


BILL OF MATERIAL

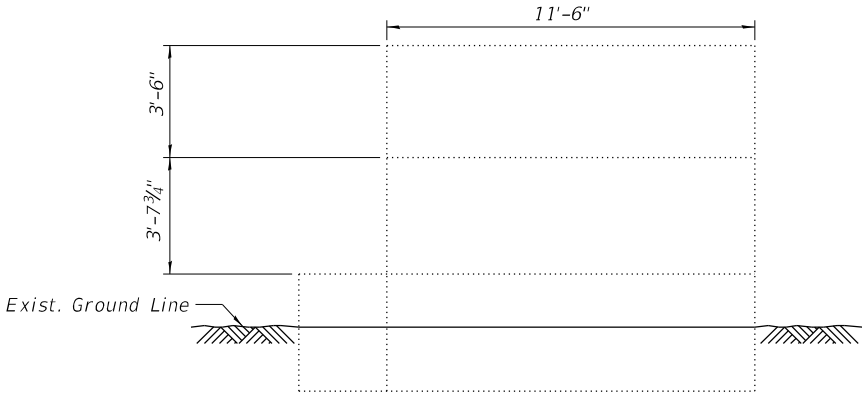
| ITEM            | UNIT  | QUANTITY |
|-----------------|-------|----------|
| Concrete Sealer | Sq Ft | 232      |



SOUTH ABUTMENT PLAN



SOUTH ABUTMENT ELEVATION  
(Looking South)



SOUTHWEST WING WALL ELEVATION  
(Looking East)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft. of the abutment backwall.

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|              |                  |            |           |           |  |
|--------------|------------------|------------|-----------|-----------|--|
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|              |                  | DRAWN -    | LR, AWD   | REVISED - |  |
| PLOT SCALE = | 6:0.0000 " / in. | CHECKED -  | MI, JJS   | REVISED - |  |
| PLOT DATE =  | 12/6/2024        | DATE -     | 12/9/2024 | REVISED - |  |

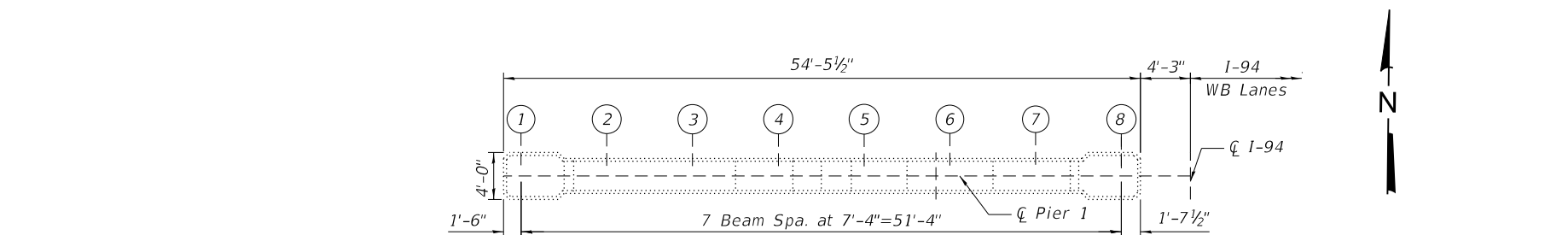
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT REPAIRS  
STRUCTURE NO. 016-0158

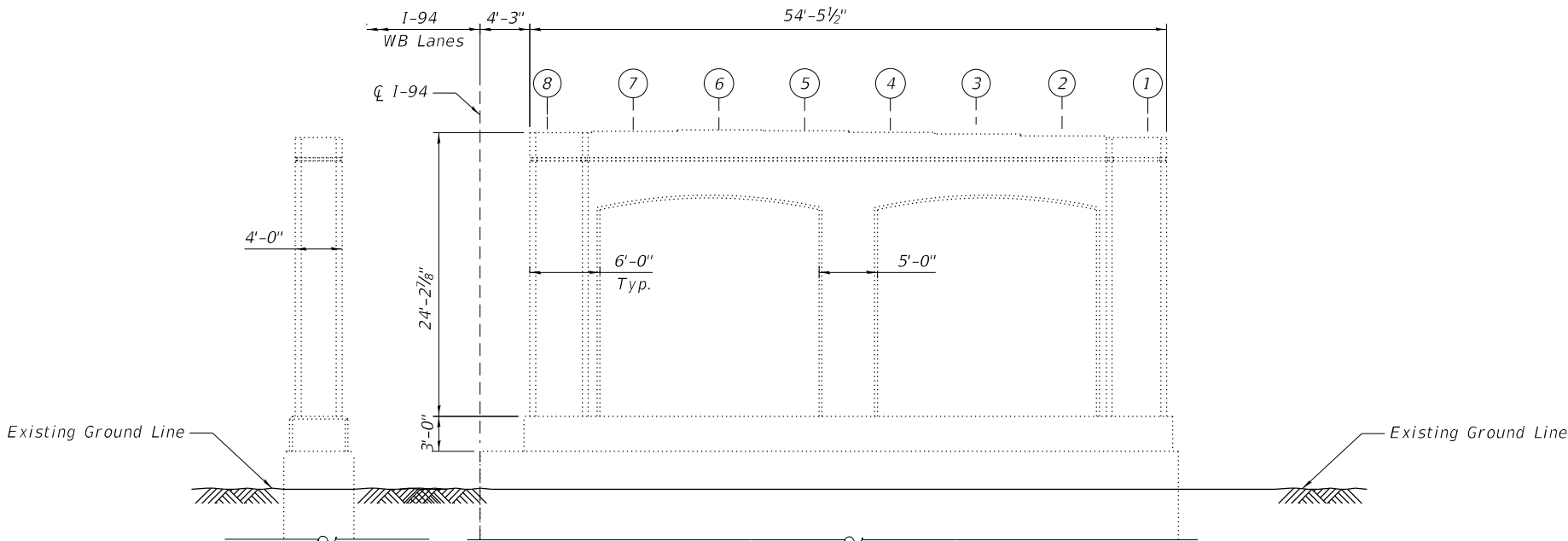
SHEET S02-29 OF S02-36 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 525          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |



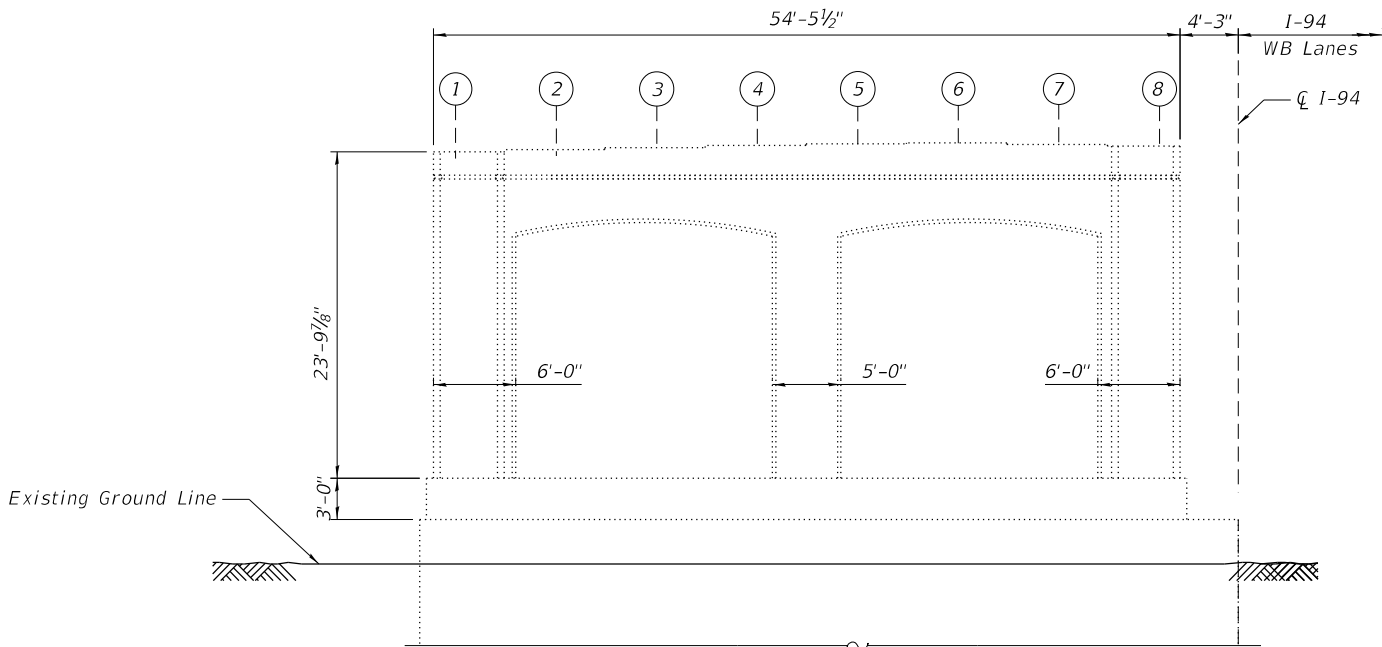


PIER 1 PLAN



PIER 1 ELEVATION  
(Looking South)

END VIEW



PIER 1 ELEVATION  
(Looking North)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- The Contractor is responsible to remove, support, and reinstall all existing utilities interfering with the work. Cost shall be included with Structural Repair of Concrete (Depth Equal To or Less Than 5").

LEGEND



Structural Repair of Concrete (Depth Equal to or Less than 5 inches)

SF

Square Foot

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|------------|---|---|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11cs01\$  | DESIGNED | - | LR, AWD   | REVISED | - |
|            |   |   | DRAWN    | - | LR, AWD   | REVISED | - |
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| PLOT DATE  | = | 12/6/2024   | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS  
STRUCTURE NO. 016-0158

SHEET S02-30 OF S02-36 SHEETS

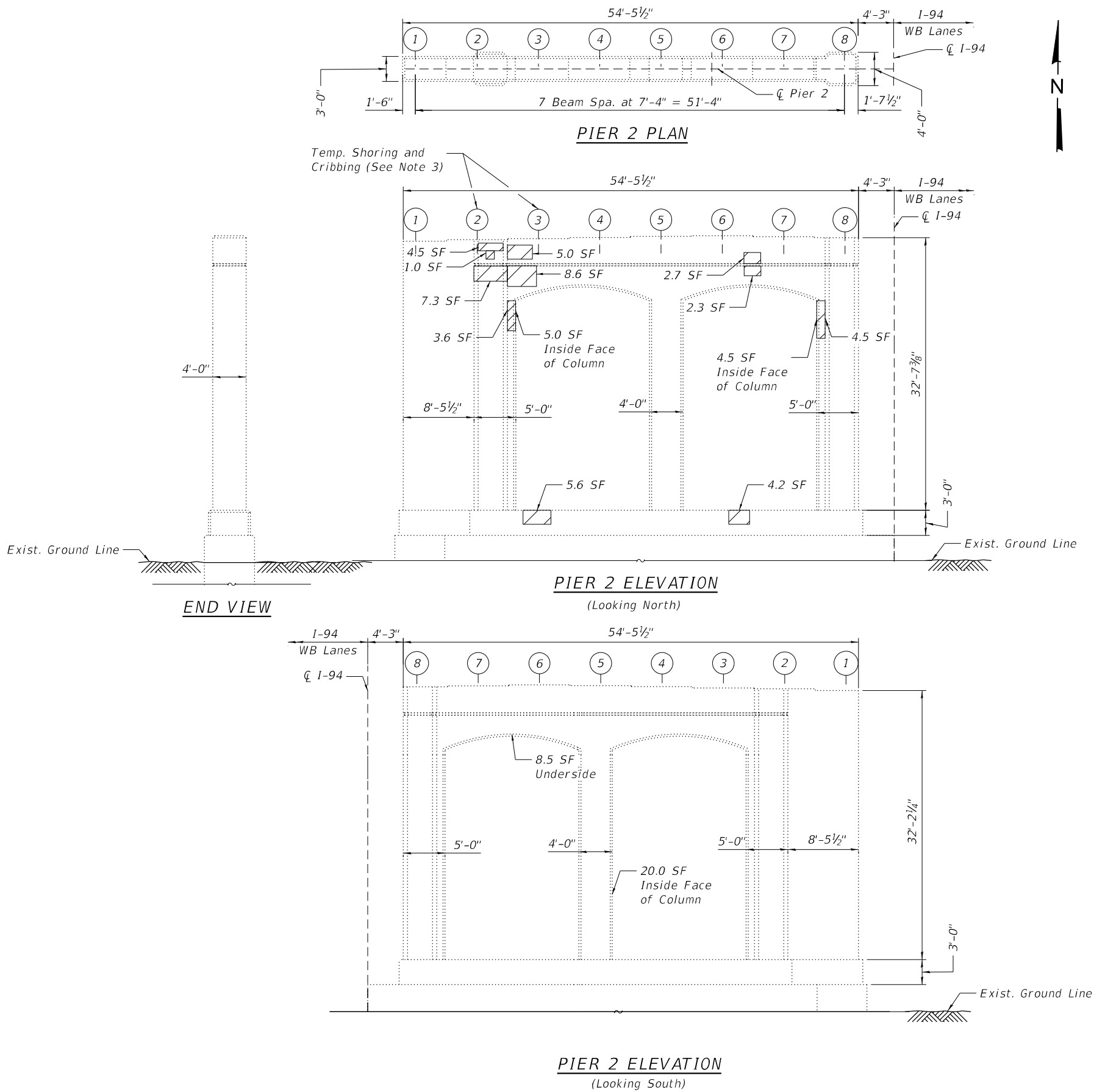
| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 526          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |



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|            |   |                  | DRAWN    | - | LR, AWD   | REVISED | - |
| PLOT SCALE | = | 14:0.0000'"/ in. | CHECKED  | - | MI, JJS   | REVISED | - |
| PLOT DATE  | = | 12/6/2024        | DATE     | - | 12/9/2024 | REVISED | - |

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 527       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |



**BILL OF MATERIAL**

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 88       |
| Temporary Shoring And Cribbing                                       | Each  | 2        |

**\*SUMMARY OF REACTIONS**

| Pier 2, Beams 2 & 3 |     |       |
|---------------------|-----|-------|
| R DL                | (k) | 91.0  |
| R LL                | (k) | 54.0  |
| R IM                | (k) | 14.6  |
| R Total             | (k) | 159.6 |

\*Taken from Existing Plans

**NOTES:**

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- The Contractor is responsible to remove, support, and reinstall all existing utilities interfering with the work. Cost shall be included with Structural Repair of Concrete (Depth Equal To or Less Than 5").
- Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

**LEGEND**



Structural Repair of Concrete (Depth Equal to or Less than 5 inches)

SF

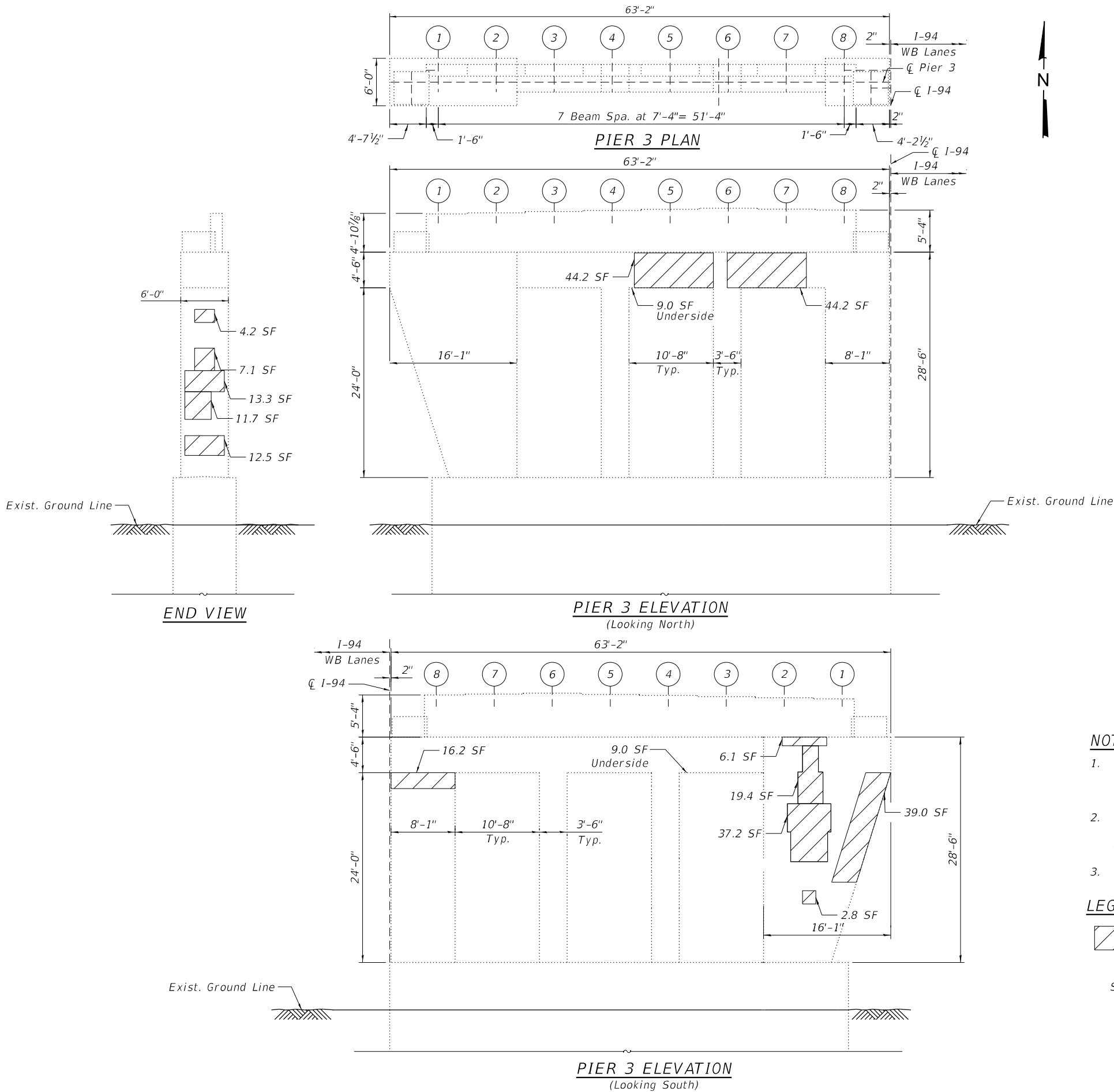
Square Foot



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|------------|---|---|----------|---|-----------|---------|---|
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|            |   |   | DRAWN    | - | LR, AWD   | REVISED | - |
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| PLOT DATE  | = | 12/6/2024   | DATE     | - | 12/9/2024 | REVISED | - |

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 528       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |



BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 1586     |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 276      |

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- The Contractor is responsible to remove, support, and reinstall all existing utilities interfering with the work. Cost shall be included with Structural Repair of Concrete (Depth Equal To or Less Than 5").
- Concrete Sealer shall be applied to the beam seats and the faces of the pier cap.

LEGEND



Structural Repair of Concrete (Depth Equal to or Less than 5 inches)

SF

Square Foot



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|            |   |                      | DRAWN    | - | LR, AWD   | REVISED | - |
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| PLOT DATE  | = | 12/6/2024            | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 4 REPAIRS  
STRUCTURE NO. 016-0158

SHEET 502-33 OF 502-36 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 529          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |

BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 1,586    |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 326      |
| Temporary Shoring And Cribbing                                       | Each  | 1        |

\*SUMMARY OF REACTIONS

| Pier 4, Beam 6 |     |      |
|----------------|-----|------|
| R DL           | (k) | 28.2 |
| R LL           | (k) | 43.6 |
| R IM           | (k) | 11.8 |
| R Total        | (k) | 83.6 |

\*Taken from Existing Plans

NOTES:

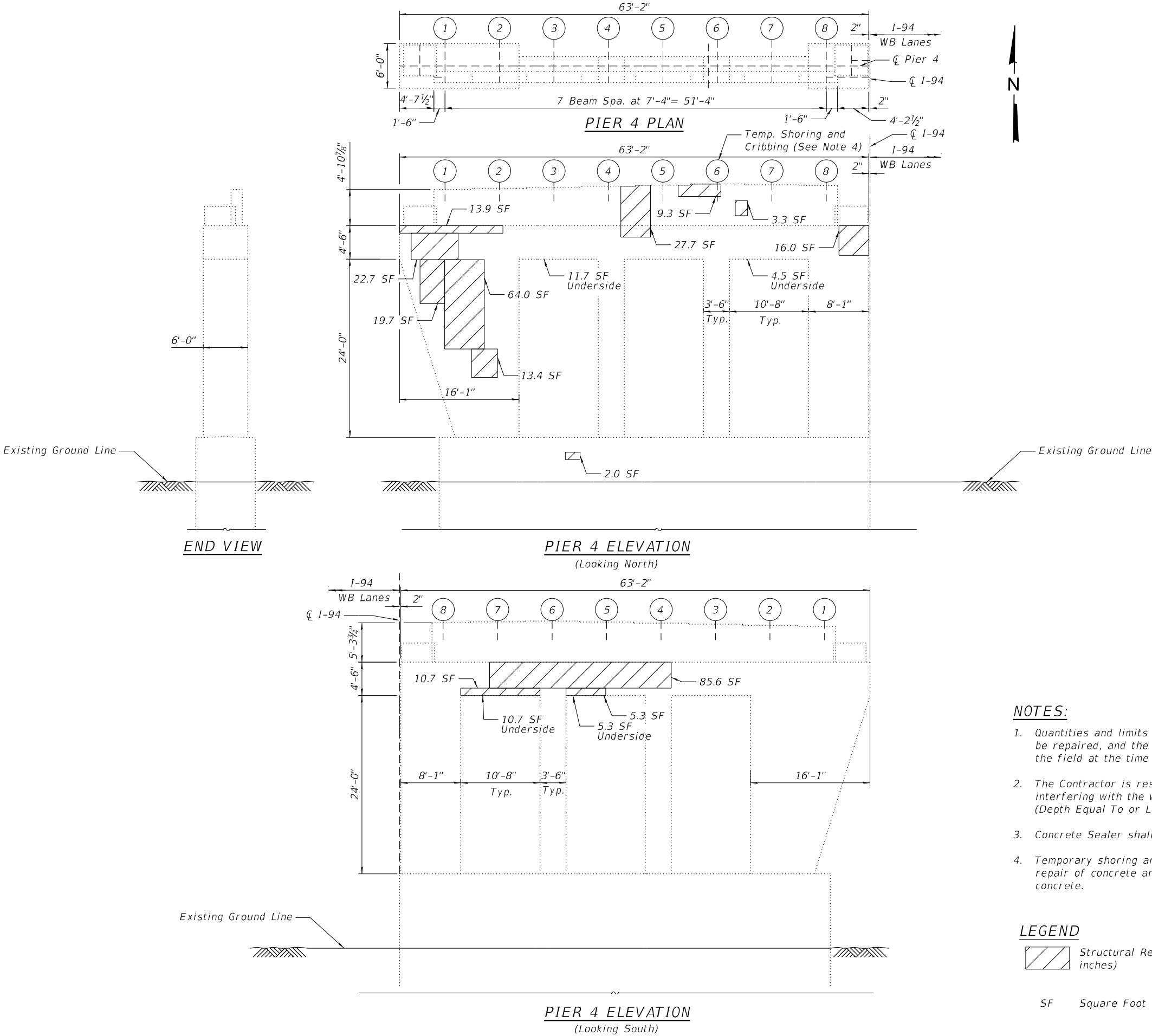
- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- The Contractor is responsible to remove, support, and reinstall all existing utilities interfering with the work. Cost shall be included with Structural Repair of Concrete (Depth Equal To or Less Than 5").
- Concrete Sealer shall be applied to the beam seats and the faces of the pier cap.
- Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

LEGEND

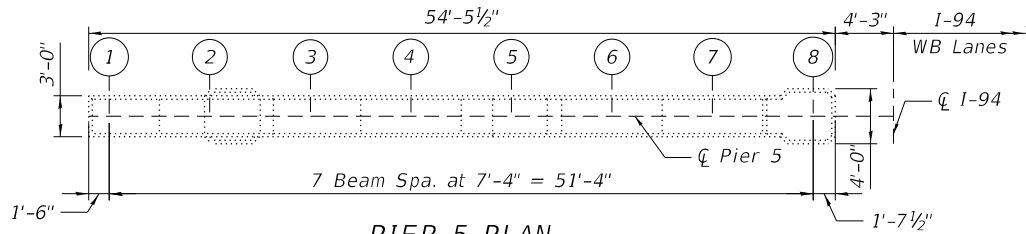


Structural Repair of Concrete (Depth Equal to or Less than 5 inches)

SF Square Foot

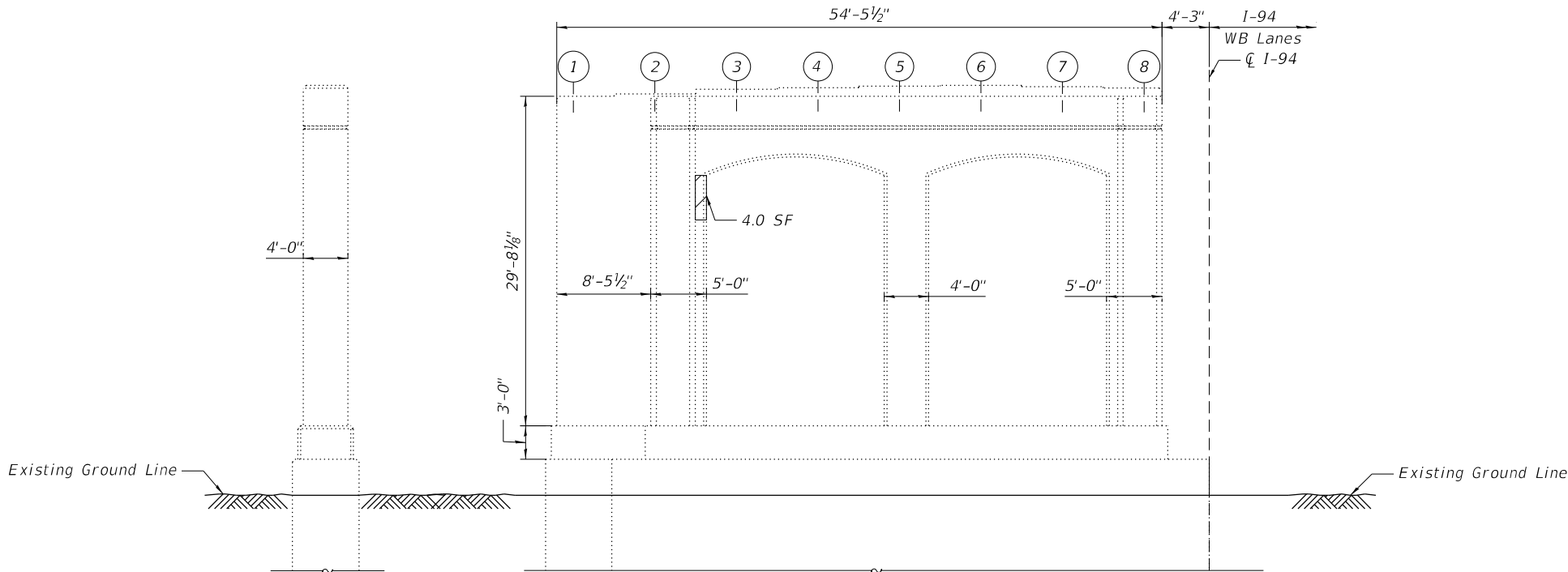




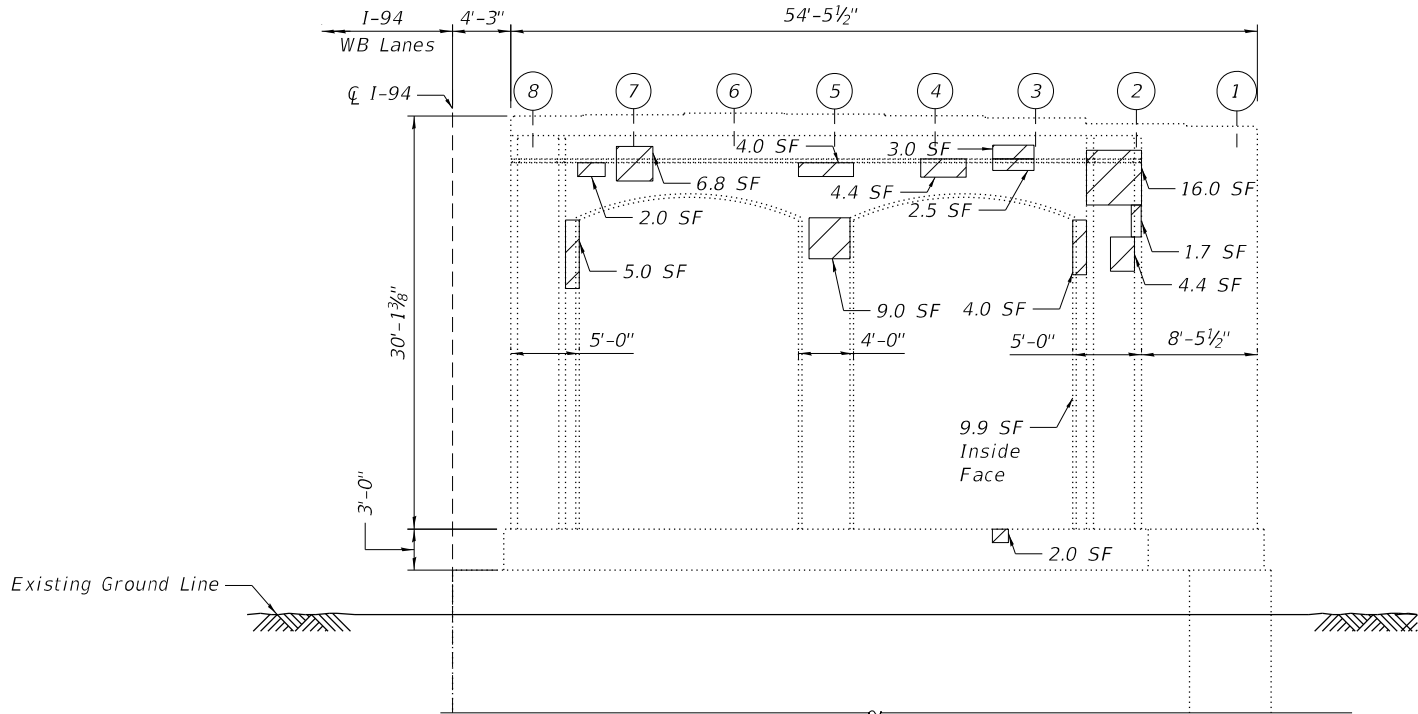


PIER 5 PLAN

| BILL OF MATERIAL   |       |          |
|--|-------|----------|
| ITEM   | UNIT  | QUANTITY |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 79       |



PIER 5 ELEVATION  
(Looking North)



PIER 5 ELEVATION  
(Looking South)

- NOTES:**
- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
  - The Contractor is responsible to remove, support, and reinstall all existing utilities interfering with the work. Cost shall be included with Structural Repair of Concrete (Depth Equal To or Less Than 5").

**LEGEND**

- Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
- SF      Square Foot

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| PLOT SCALE | = | 14:0.0000 '": / in. | CHECKED  | - | ML, JJS   | REVISED | - |
| PLOT DATE  | = | 12/6/2024           | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 5 REPAIRS  
STRUCTURE NO. 016-0158

SHEET 502-34 OF 502-36 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 530          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |



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|            |   |                  | DRAWN    | - | LR, AWD | REVISED | - |
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 6 REPAIRS  
STRUCTURE NO. 016-0158

SHEET S02-35 OF S02-36 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 531          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |

BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 67       |
| Temporary Shoring And Cribbing                                       | Each  | 1        |

Existing Ground Line

Existing Ground Line

END VIEW

PIER 6 ELEVATION  
(Looking North)

Existing Ground Line

PIER 6 ELEVATION  
(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- The Contractor is responsible to remove, support, and reinstall all existing utilities interfering with the work. Cost shall be included with Structural Repair of Concrete (Depth Equal To or Less Than 5").
- Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

LEGEND



Structural Repair of Concrete (Depth Equal to or Less than 5 inches)

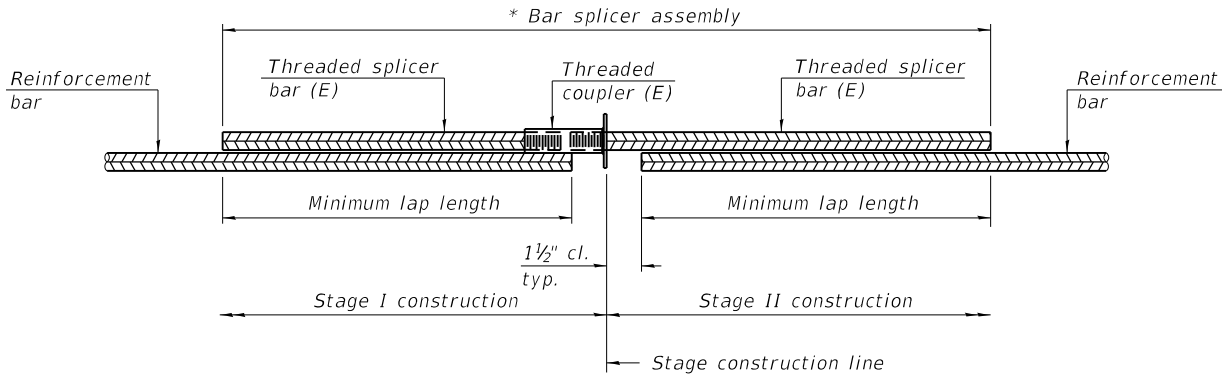
SF Square Foot

\*Taken from Existing Plans

\*SUMMARY OF REACTIONS

| Pier 6, Beam 2 |     |       |
|----------------|-----|-------|
| R DL           | (k) | 91.0  |
| R LL           | (k) | 54.0  |
| R IM           | (k) | 14.6  |
| R Total        | (k) | 159.6 |





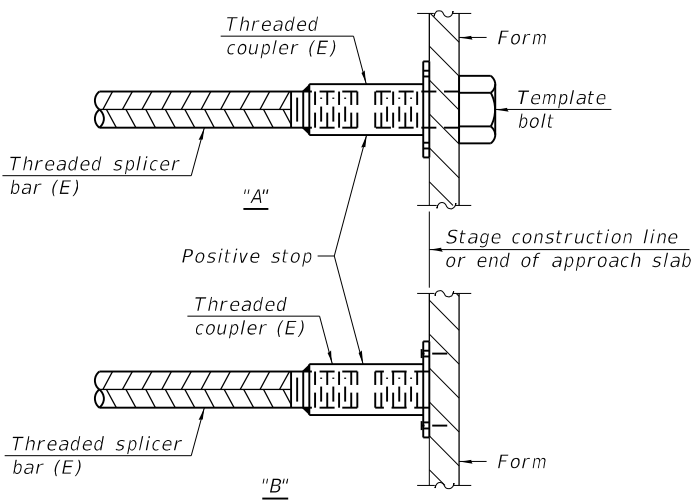
**STANDARD BAR SPLICER ASSEMBLY PLAN**

Only bar splicer assemblies as presented on the approved QPL list may be used.

Threaded splicer bar length = min. lap length + 1½" + thread length

\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location           | Bar Size | No. assemblies required | Minimum lap length |
|--------------------|----------|-------------------------|--------------------|
| North Abut.        | #5       | 9                       | 3'-6"              |
|                    | #6       | 6                       | 5'-6"              |
| Span 4 P.P. 3 Jt.  | #5       | 21                      | 3'-6"              |
| Span 4 P.P. 6 Jt.  | #5       | 21                      | 3'-6"              |
| Span 4 P.P. 3' Jt. | #5       | 21                      | 3'-6"              |
| Pier 4             | #5       | 21                      | 3'-6"              |
| South Abut.        | #5       | 9                       | 3'-6"              |
|                    | #6       | 6                       | 5'-6"              |

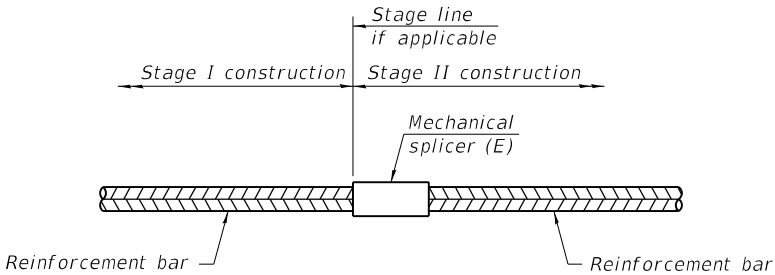


**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.

"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
|          |          |                         |
|          |          |                         |
|          |          |                         |
|          |          |                         |

Notes:  
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

5-15-2023

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|--------------|--------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$     | DESIGNED - | LR, AWD   | REVISED - |  |
|              |                    | DRAWN -    | LR, AWD   | REVISED - |  |
| PLOT SCALE = | 0:2,0000 " = 1 in. | CHECKED -  | MI, JJS   | REVISED - |  |
| PLOT DATE =  | 12/6/2024          | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAIL  
STRUCTURE NO. 016-0158

SHEET 502-36 OF 502-36 SHEETS

| F.A.I. RTE. | SECTION                | COUNTY   | TOTAL SHEETS       | SHEET NO. |
|-------------|------------------------|----------|--------------------|-----------|
| 94          | (42-B-11-1) BR, BJR 24 | COOK     | 761                | 532       |
|             |                        |          | CONTRACT NO. 62W87 |           |
|             |                        | ILLINOIS | FED. AID PROJECT   |           |



Existing Structure: S.N. 016-0160 (WB) was originally built in 1949 and was reconstructed in 1993. Structural steel repairs were performed in 2023. The bridge is a six-span structure (six rolled beam spans) carrying four lanes of WB I-94 over three railroads (IHB, Conrail, and Baltimore and Ohio Chicago Terminal). The structure has a back-to-back abutment length of 416'-7 $\frac{5}{8}$ " and an out-to-out deck width of 61'-6 $\frac{1}{2}$ ". The superstructure consists of a 7 $\frac{1}{2}$ "-thick reinforced concrete deck supported on noncomposite W36x160 and W36x210 beams at 6'-6" spacing. The substructure consists of reinforced concrete abutments and multi-column piers on concrete piles.

Traffic is to be maintained utilizing staged construction.

No salvage.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges (17th Edition)

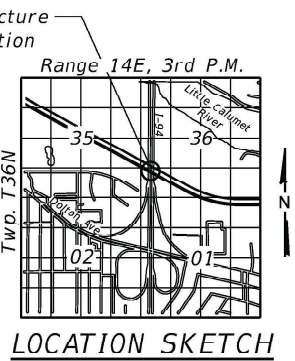
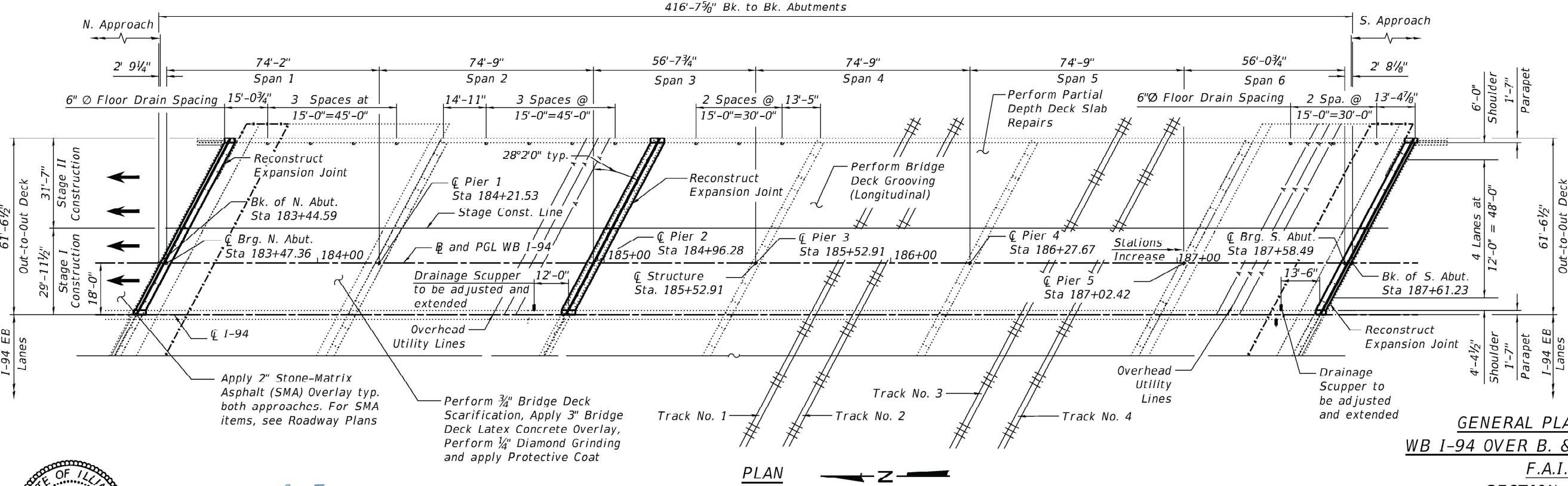
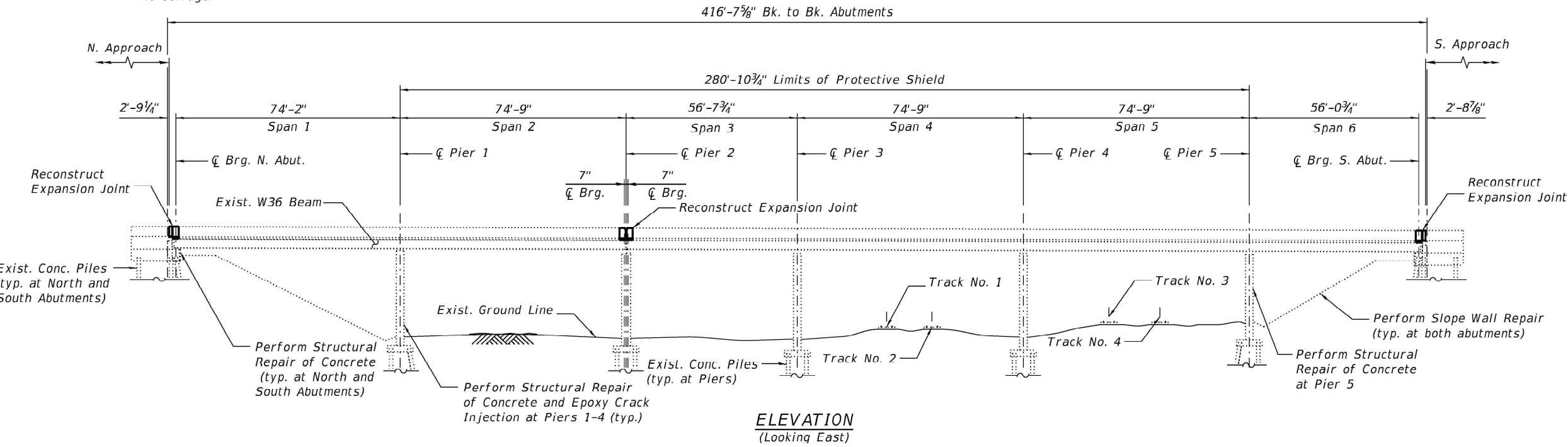
RECONSTRUCTION 1992

1983 AASHTO Standard Specifications for Highway Bridges with 1984 thru 1988 Interims

1983 Guide Specifications for Seismic Design of Highway Bridges with 1985 & 1988 Interim Specifications

NOTES:

- All stations are to the I-94 WB P.G.L. and taken from existing plans.
- No future wearing surface is allowed.



GENERAL PLAN AND ELEVATION  
WB I-94 OVER B. & O.C.T. R.R. & I.H.B. R.R.  
F.A.I. ROUTE 94  
SECTION 2019-180-RS&T  
COOK COUNTY  
STATION 185+52.91  
S.N. 016-0160 (WB)

Signed Moussa A. Issa  
Dr. Moussa A. Issa, S.E. IL Lic. No. 081-005738  
Expires 11-30-2026  
Date 12/06/2024 For Sheets S03-01 thru S03-26.

|                               |                                 |                    |           |   |                             |                               |                |                                |             |                  |               |
|-------------------------------|---------------------------------|--------------------|-----------|---|-----------------------------|-------------------------------|----------------|--------------------------------|-------------|------------------|---------------|
| HBM<br>ENGINEERING GROUP, LLC | USER NAME = hbmeppw11cs01\$     | DESIGNED - CJS, AA | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | STRUCTURE NO. 016-0160 (WB) | SHEET S03-01 OF S03-26 SHEETS | F.A.I. RTE. 94 | SECTION (42-B-11-1) BR. BJR 24 | COUNTY COOK | TOTAL SHEETS 761 | SHEET NO. 533 |
|                               | PLOT SCALE = 40:0.0000 1" = 40' | CHECKED - MI, LAB  | REVISED - |   |                             |                               |                |                                |             |                  |               |
|                               | PLOT DATE = 12/6/2024           | DATE = 12/9/2024   | REVISED - |   |                             |                               |                |                                |             |                  |               |
|                               |                                 |                    |           |   |                             |                               |                |                                |             |                  |               |

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GENERAL NOTES:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. The Contractor shall field-verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not cause for additional compensation for a change in the scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. The Contractor may request copies of existing construction plans that are currently on file with the Illinois Department of Transportation (IDOT). The request shall be in writing with the understanding that any reproduction cost will be the Contractors expense and at no additional cost to the Department.
4. All exposed concrete edges shall have a ¾" x 45" chamfer except where shown otherwise.
5. Protective coat shall be applied to the top of reconstructed transverse joint areas, top of new latex concrete overlay, and top and inside faces of parapets.
6. Joint openings shall be adjusted according to Article 520.04 of the standard specifications when the deck is poured at an ambient temperature other than 50°F.
7. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose detrimental foreign material shall be removed from the surfaces in contact with concrete (SSPC-SP3 standards). Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be paid for according to Article 109.04 of the Standard Specifications. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding ¼ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
8. The Contractor shall take all necessary precautions for the protection of passing vehicles and pedestrians from falling objects and/or materials until completion of the work.
9. It shall be the Contractors responsibility to locate and protect any utilities or facilities on, within or under the bridge deck including but not limited to under deck lighting, traffic signals or signs attached to the structure. Any damage to existing utilities caused by the Contractor in the performance of the work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
10. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to existing elements to remain cause by the Contractor in the performance of the work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
11. Cleaning and field painting of structural steel shall be done under a separate painting contract.
12. For SMA overlay on Approach Slab, see Civil Sheets.
13. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
14. Adjacent I-94 EB bridge is not shown throughout the plans for clarity.
15. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
16. Concrete Sealer shall be applied to the designated areas of the abutments and piers.
17. Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. See special provision for Debris Removal.
18. The Engineer shall show actual locations and size of deck repairs on As-built Plans.

INDEX OF SHEETS

- S03-01 General Plan and Elevation
- S03-02 General Notes, Index of Sheets & TBOM
- S03-03 Stage Construction (Sheet 1 of 2)
- S03-04 Stage Construction (Sheet 2 of 2)
- S03-05 Temporary Concrete Barrier
- S03-06 Deck Repair Plan (Sheet 1 of 2)
- S03-07 Deck Repair Plan (Sheet 2 of 2)
- S03-08 Drainage Scupper Adjustment Details
- S03-09 N. Abut. Joint Removal & Replacement (Sht. 1 of 3)
- S03-10 N. Abut. Joint Removal & Replacement (Sht. 2 of 3)
- S03-11 N. Abut. Joint Removal & Replacement (Sht. 3 of 3)
- S03-12 Pier 2 Joint Removal & Replacement (Sht. 1 of 2)
- S03-13 Pier 2 Joint Removal & Replacement (Sht. 2 of 2)
- S03-14 S. Abut. Joint Removal & Replacement (Sht. 1 of 3)
- S03-15 S. Abut. Joint Removal & Replacement (Sht. 2 of 3)
- S03-16 S. Abut. Joint Removal & Replacement (Sht. 3 of 3)
- S03-17 Preformed Joint Strip Seal
- S03-18 North Abutment Repairs
- S03-19 South Abutment Repairs
- S03-20 Pier 1 Repairs
- S03-21 Pier 2 Repairs
- S03-22 Pier 3 Repairs
- S03-23 Pier 4 Repairs
- S03-24 Pier 5 Repairs
- S03-25 Slope Wall Repairs
- S03-26 Bar Splicer Assembly & Mechanical Splicer Detail

TOTAL BILL OF MATERIAL

| ITEM   | UNIT  | SUPER | SUB   | TOTAL |
|--|-------|-------|-------|-------|
| Porous Granular Embankment   | Cu Yd | -     | 1     | 1     |
| Concrete Removal   | Cu Yd | 33.2  | -     | 33.2  |
| Protective Shield  | Sq Yd | 1,921 | -     | 1,921 |
| Concrete Superstructure  | Cu Yd | 37.3  | -     | 37.3  |
| Protective Coat  | Sq Yd | 3,099 | -     | 3,099 |
| Reinforcement Bars, Epoxy Coated                                     | Pound | 5,020 | -     | 5,020 |
| Bar Splicers   | Each  | 48    | -     | 48    |
| Preformed Joint Strip Seal   | Foot  | 210   | -     | 210   |
| Concrete Sealer  | Sq Ft | -     | 4,189 | 4,189 |
| Epoxy Crack Injection  | Foot  | -     | 16    | 16    |
| Chain Link Fence, 5'   | Foot  | -     | 5     | 5     |
| Slope Wall Crack Sealing   | Foot  | -     | 84    | 84    |
| Bridge Deck Grooving (Longitudinal)                                  | Sq Yd | 2,217 | -     | 2,217 |
| Deck Drain Extensions  | Each  | 16    | -     | 16    |
| Bridge Deck Latex Concrete Overlay, 3 Inches                         | Sq Yd | 2,617 | -     | 2,617 |
| Bridge Deck Scarification 3/4"                                       | Sq Yd | 2,617 | -     | 2,617 |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | -     | 160   | 160   |
| Structural Repair Of Concrete (Depth Greater Than 5 Inches)          | Sq Ft | -     | 19    | 19    |
| Drainage Scuppers To Be Adjusted                                     | Each  | 2     | -     | 2     |
| Diamond Grinding (Bridge Section)                                    | Sq Yd | 2,511 | -     | 2,511 |
| Temporary Shoring And Cribbing                                       | Each  | -     | 2     | 2     |

PROPOSED SCOPE OF WORK

1. Provide Protective shield within limits indicated on the plans.
2. Perform Deck Slab Repairs and adjust and extend existing scuppers and floor drains as required.
3. Perform ¾" Bridge Deck Scarification.
4. Reconstruct Expansion Joints at the North and South abutments and Pier 2 and install new preformed joint strip seals.
5. Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
6. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatch block.
7. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
8. Apply protective coat to the top of reconstructed transverse joint areas, top of new latex concrete overlay and top and inside faces of parapets.
9. Perform structural repair of concrete to all spalled and delaminated areas, and perform low pressure epoxy injection to all open cracks (⅛"-wide and wider), for the abutments and piers as noted on the plans.
10. Perform Slope Wall repairs.



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STATE OF ILLINOIS  
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GENERAL NOTES, INDEX OF SHEETS & TBOM  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-02 OF S03-26 SHEETS

|             |                        |          |                  |           |
|-------------|------------------------|----------|------------------|-----------|
| F.A.I. RTE. | SECTION                | COUNTY   | TOTAL SHEETS     | SHEET NO. |
| 94          | (42-B-11-1) BR, BJR 24 | COOK     | 761              | 534       |
|             |                        |          | CONTRACT NO.     | 62W87     |
|             |                        | ILLINOIS | FED. AID PROJECT |           |



STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. Perform  $\frac{3}{4}$ " bridge deck scarification.
3. Remove portions of bridge deck/approach slab adjacent to expansion joints at the North and South Abutments, and remove portions of bridge deck slab adjacent to expansion joint at Pier 2.

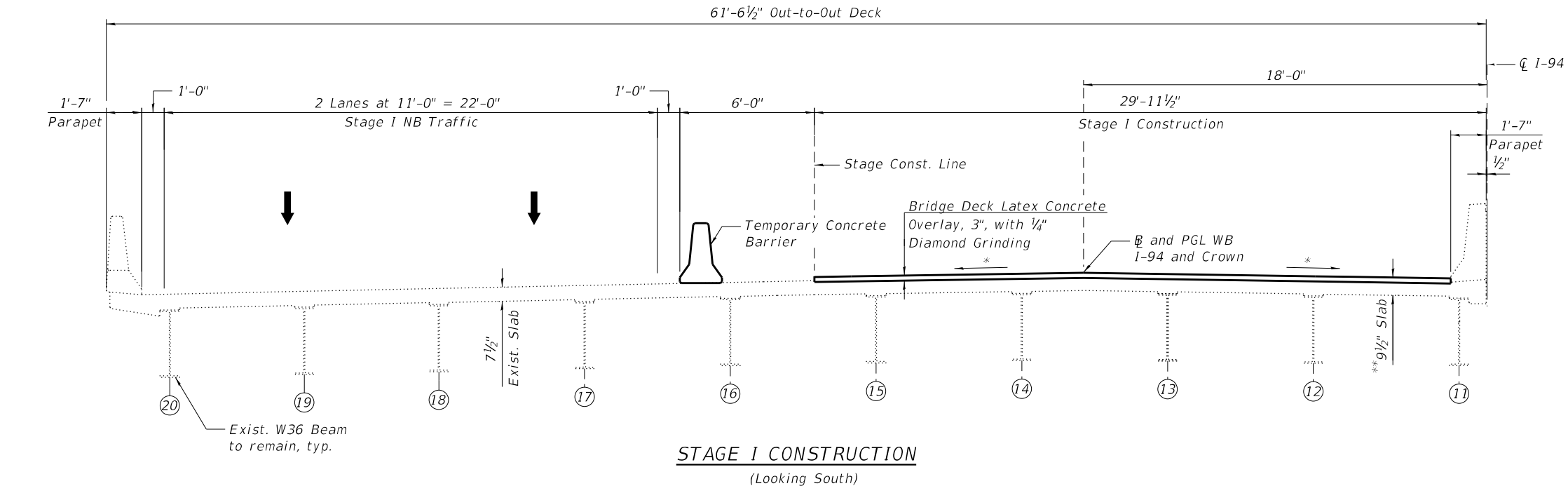
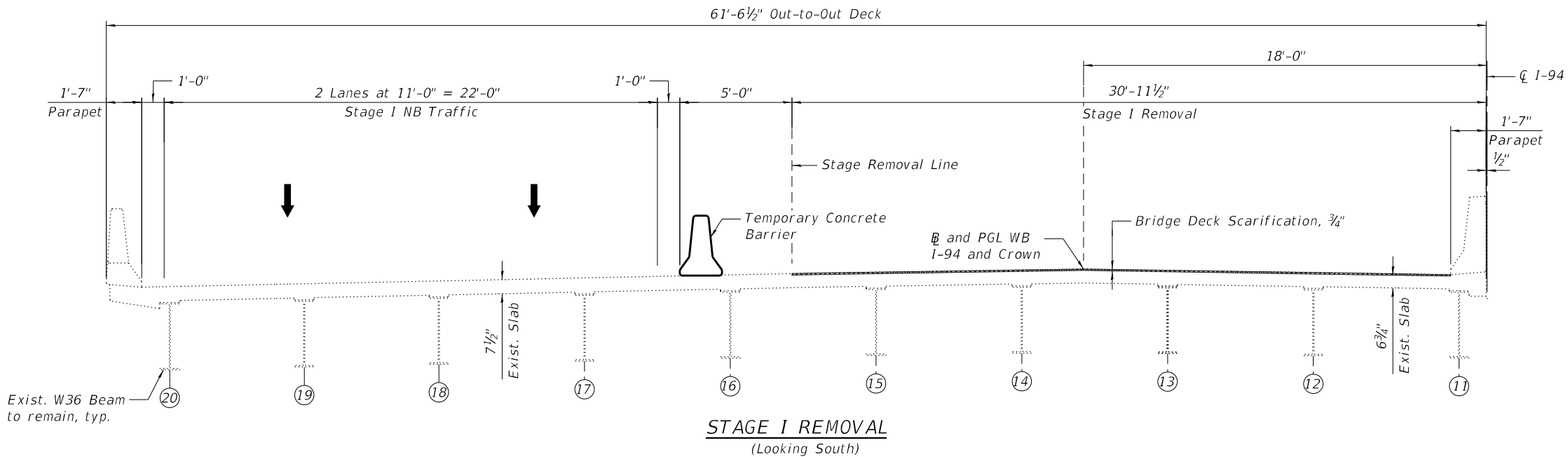
STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
3. Adjust existing drainage scuppers per the details shown in the plans.
4. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
5. Apply 3" bridge deck latex concrete overlay.
6. Perform  $\frac{1}{4}$ " diamond grinding to bridge deck and abutment hatch block.
7. Perform Bridge Deck Grooving (Longitudinal) for the 3" bridge deck latex concrete overlay and reconstructed expansion joint areas.
8. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach slab and taper into existing roadway. See Roadway Plans.
9. Apply protective coat to top and inside faces of parapets, reconstructed transverse expansion joint areas and to the surface of the new overlay.
10. Perform slope wall repairs as shown on the plans.

NOTES:

1. For Temporary Concrete Barrier details, see Sheet 503-05.
2. For quantity of Temporary Concrete Barrier, see Roadway Plans.

\*Match Existing Cross-slopes  
\*\*After grinding



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

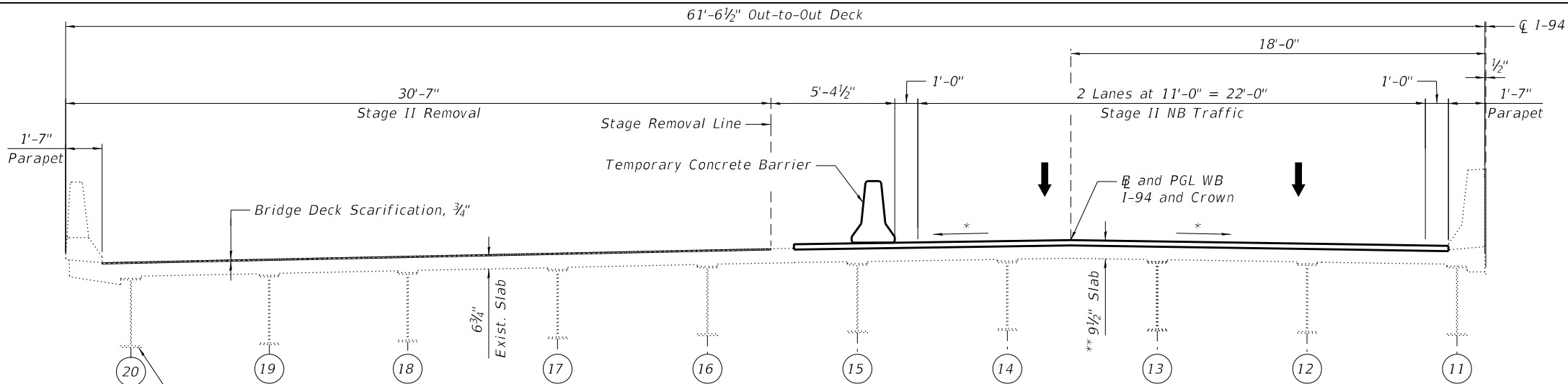
STAGE CONSTRUCTION (SHEET 1 OF 2)  
STRUCTURE NO. 016-0160 (WB)

SHEET 503-03 OF 503-26 SHEETS

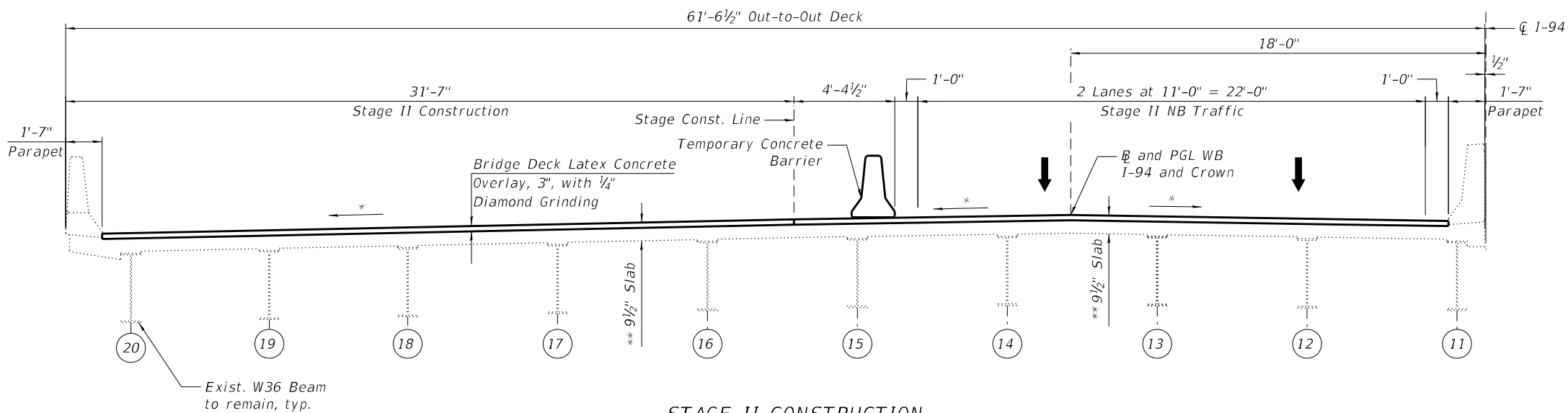
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|---------------------------|------------------------|--------|--------------|-----------|
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| CONTRACT NO. 62W87        |                        |        |              |           |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



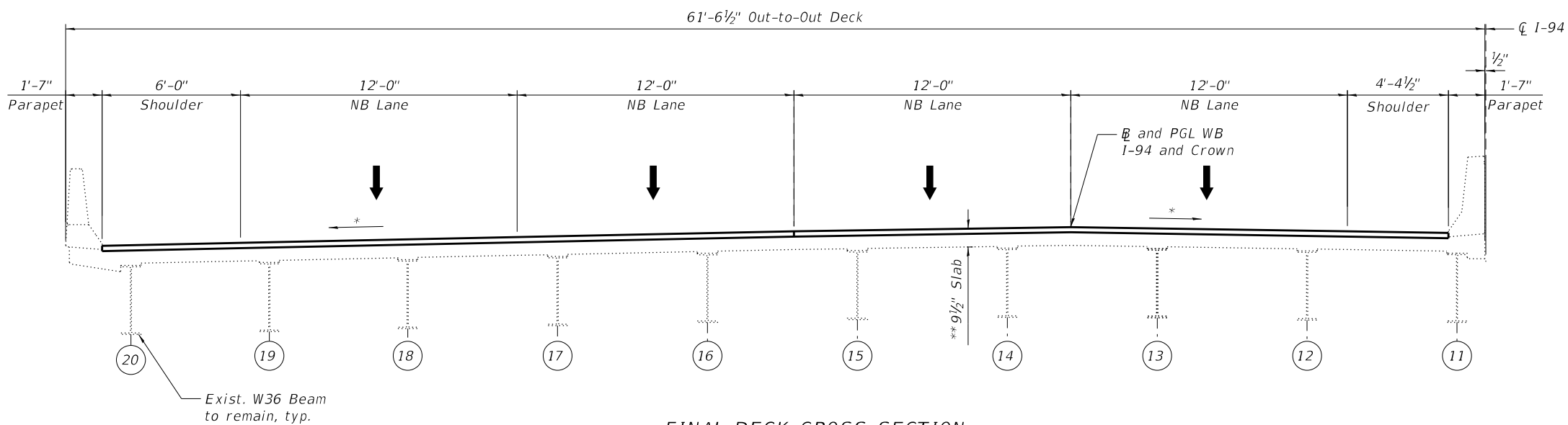
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**STAGE II REMOVAL**  
(Looking South)



**STAGE II CONSTRUCTION**  
(Looking South)



**FINAL DECK CROSS SECTION**  
(Looking South)

### STAGE II REMOVAL

1. Relocate temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. Perform  $\frac{3}{4}$ " bridge deck scarification.
3. Remove portions of bridge deck/approach slab adjacent to expansion joints at the North and South Abutments, and remove portions of bridge deck slab adjacent to expansion joint at Pier 2.

### STAGE II CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage II Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform  $\frac{1}{4}$ " diamond grinding to bridge deck and abutment hatch block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" bridge deck latex concrete overlay and reconstructed expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach slab and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of parapets, reconstructed transverse expansion joint areas, and to the surface of the new overlay.
9. Perform slope wall repairs as shown on the plans.

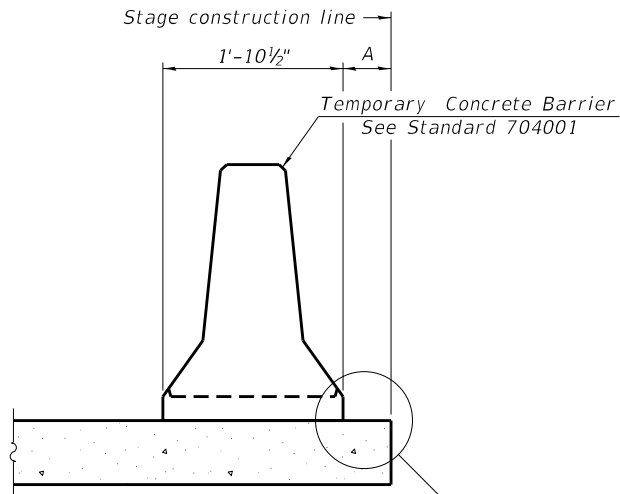
### NOTES:

1. For Temporary Concrete Barrier details, see Sheet S03-05.
2. For quantity of Temporary concrete Barrier, see Roadway Plans.

\*Match Existing Cross-slopes

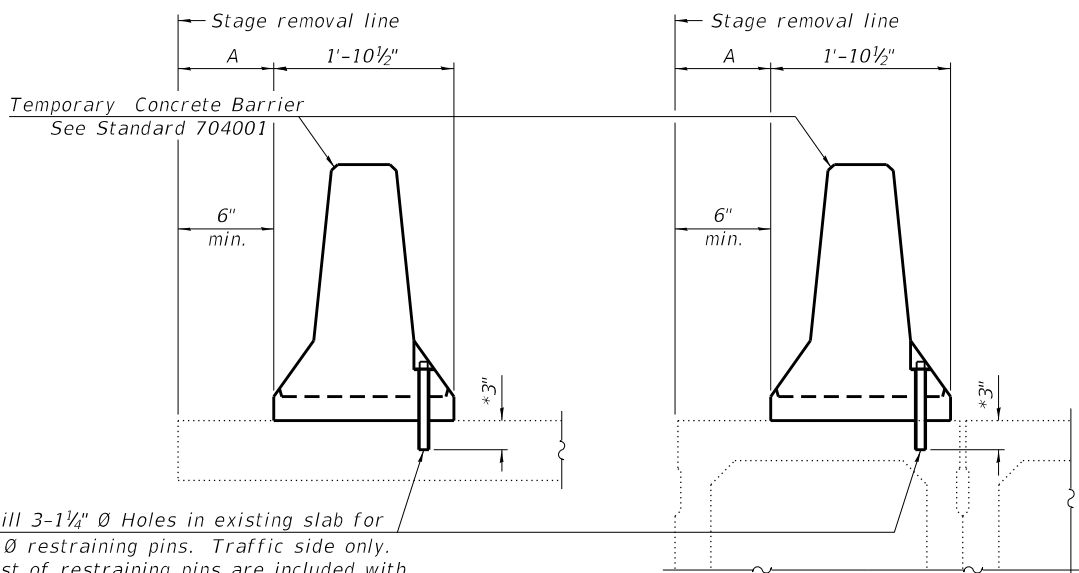
\*\*After grinding





When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



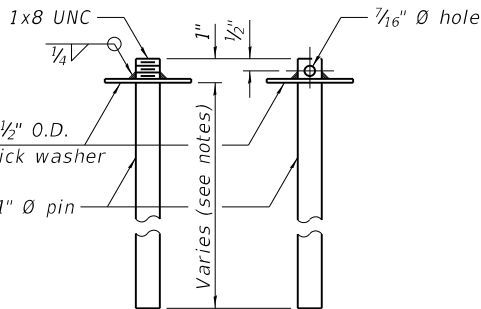
Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

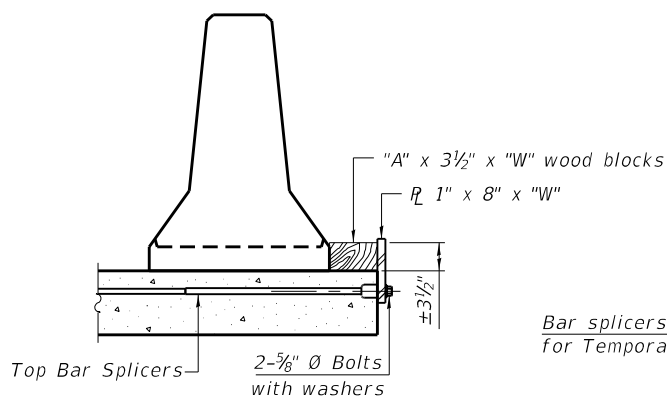
\*When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

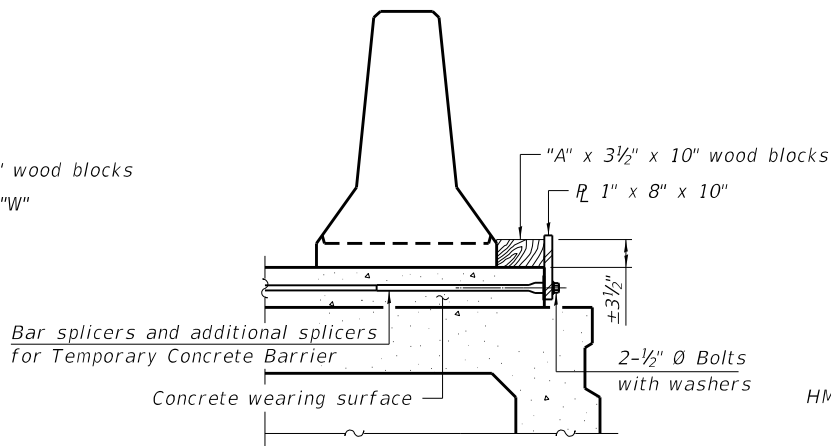
SECTIONS THRU SLAB OR DECK BEAM



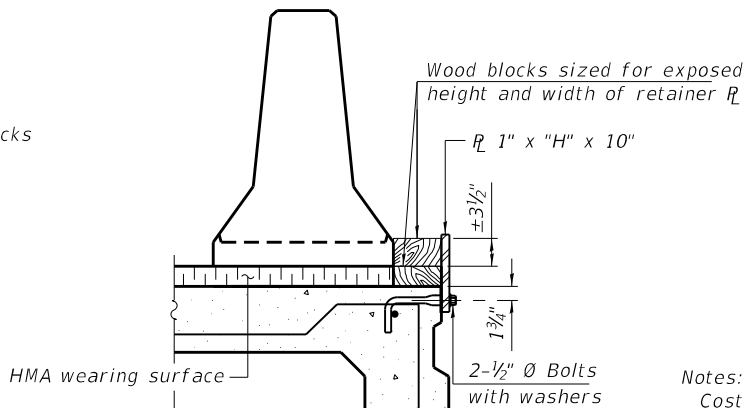
RESTRAINING PIN



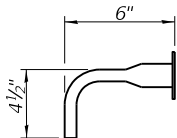
DETAIL I



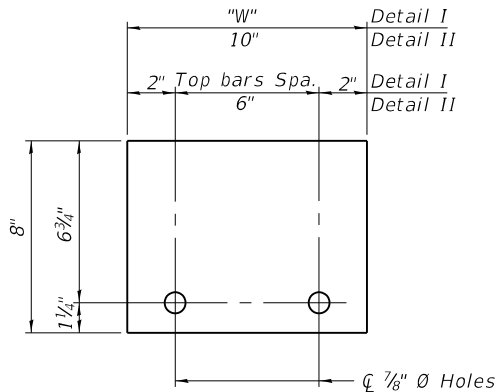
DETAIL II



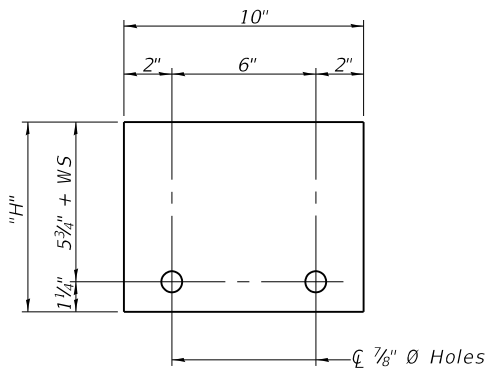
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"  
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"  
(Detail III)

Notes:  
Cost of retainer assembly is included with Temporary Concrete Barrier.  
A retainer assembly shall be located at the approximate  $\frac{1}{4}$  of each temporary concrete barrier.  
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

- Detail I - Installation for a new bridge deck or bridge slab.
- Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
- Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

RAILING CRITERIA

|                      |     |
|----------------------|-----|
| NCHRP 350 Test Level | 3   |
| Railing Weight (plf) | 440 |

R-27

5-15-2023

**HBM**  
ENGINEERING GROUP, LLC

|              |                       |            |           |           |  |
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|              |                       | DRAWN -    | DEO       | REVISED - |  |
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| PLOT DATE =  | 12/6/2024             | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER  
STRUCTURE NO. 016-0160 (WB)

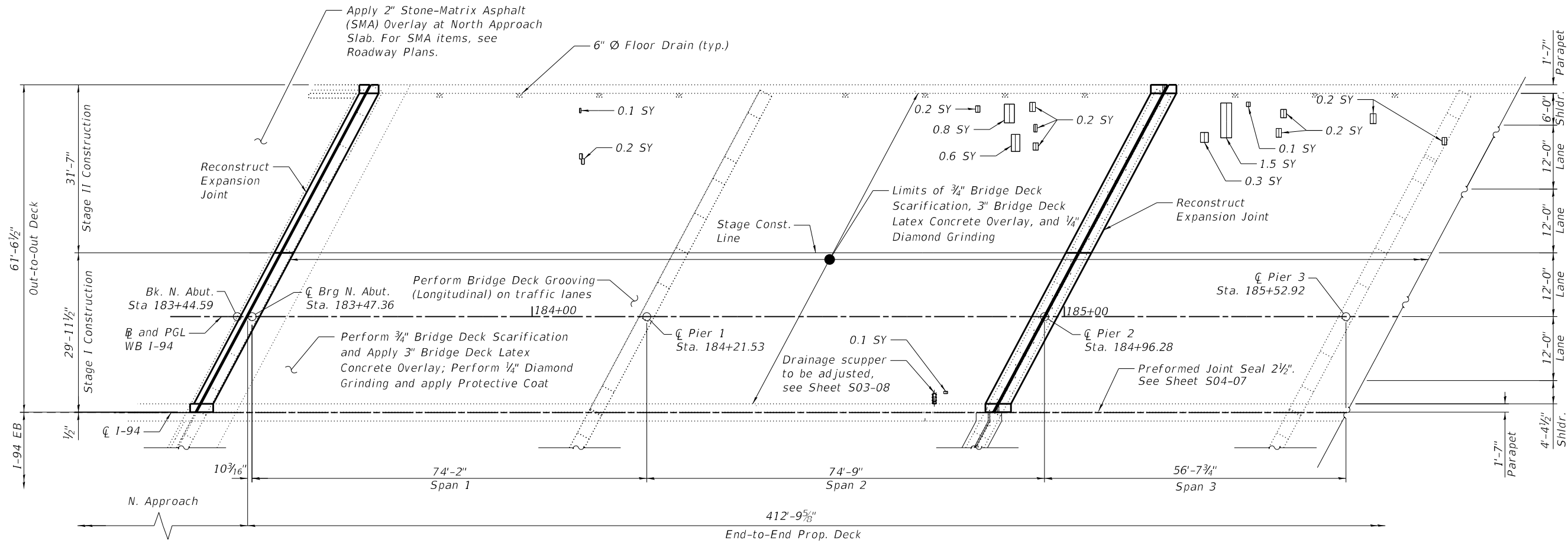
SHEET S03-05 OF S03-26 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
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| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 537          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
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DECK PLAN



\*Areas of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3"

LEGEND

|    |                             |
|----|-----------------------------|
|    | Deck Slab Repair (Partial)* |
| SY | Square Yard                 |

NOTE:

- For Notes and Bill of Material, see Sheet S03-07.

**HBM**  
ENGINEERING GROUP, LLC

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| USER NAME =  | hbmepw11cs01\$        | DESIGNED - | DEO, AWD  | REVISED - |  |
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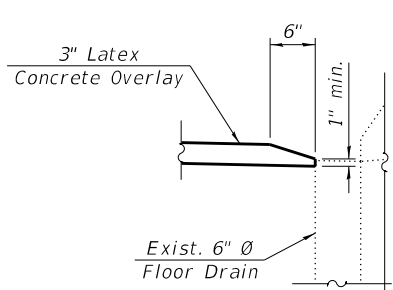
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN (SHEET 1 OF 2)  
STRUCTURE NO. 016-0160 (WB)

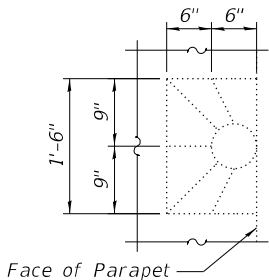
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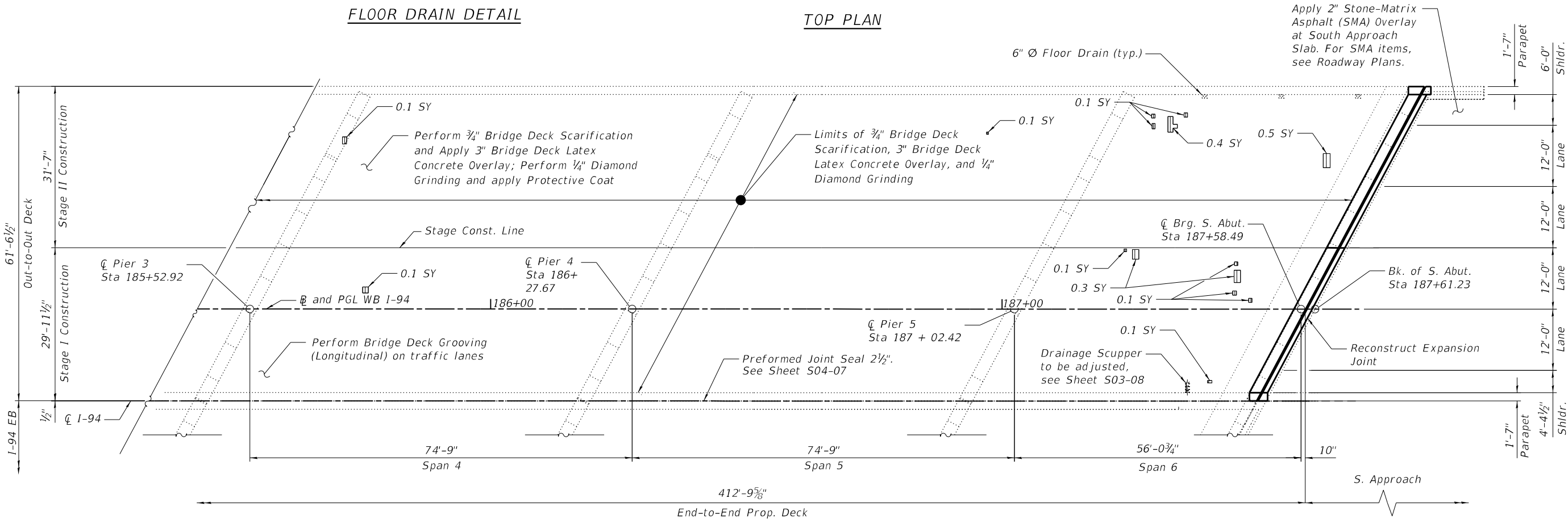
FLOOR DRAIN DETAIL



TOP PLAN

BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Protective Coat                              | Sq Yd | 3,019    |
| Bridge Deck Grooving (Longitudinal)          | Sq Yd | 2,217    |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 2,617    |
| Bridge Deck Scarification 3/4"               | Sq Yd | 2,617    |
| Diamond Grinding (Bridge Section)            | Sq Yd | 2,511    |



DECK PLAN

NOTES:

- Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
- For bridge deck final cross section, see Sheet S03-04.
- For North Abutment, Pier 2, and South Abutment transverse joint removal and reconstruction, see Sheets S03-09 thru S03-16.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatch block.
- Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.

\*Areas of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3"

LEGEND

|    |                             |
|----|-----------------------------|
|    | Deck Slab Repair (Partial)* |
| SY | Square Yard                 |

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN (SHEET 2 OF 2)  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-07 OF S03-26 SHEETS

| F.A.I. RTE. | SECTION                | COUNTY             | TOTAL SHEETS | SHEET NO. |
|-------------|------------------------|--------------------|--------------|-----------|
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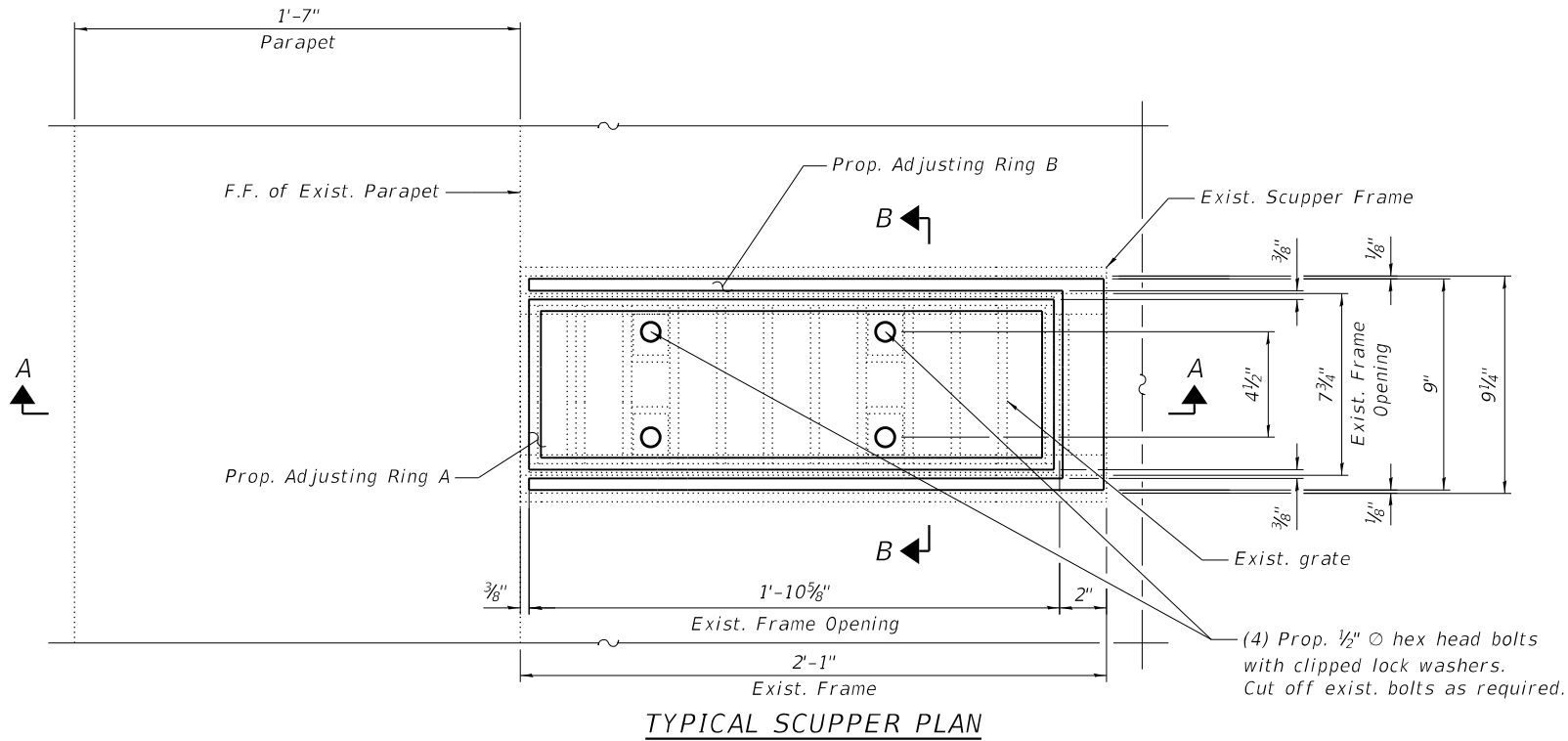
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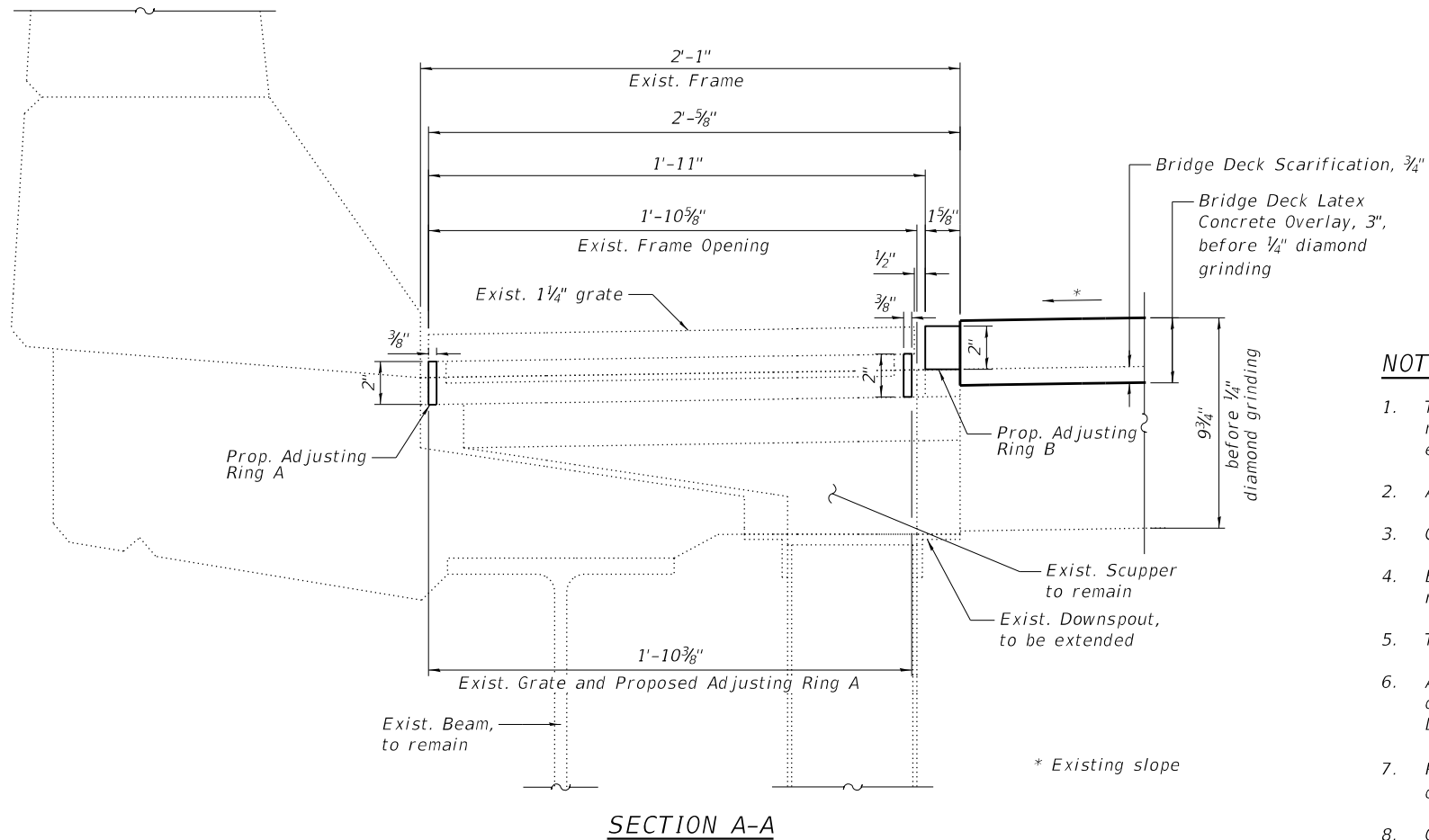
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| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 540       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |

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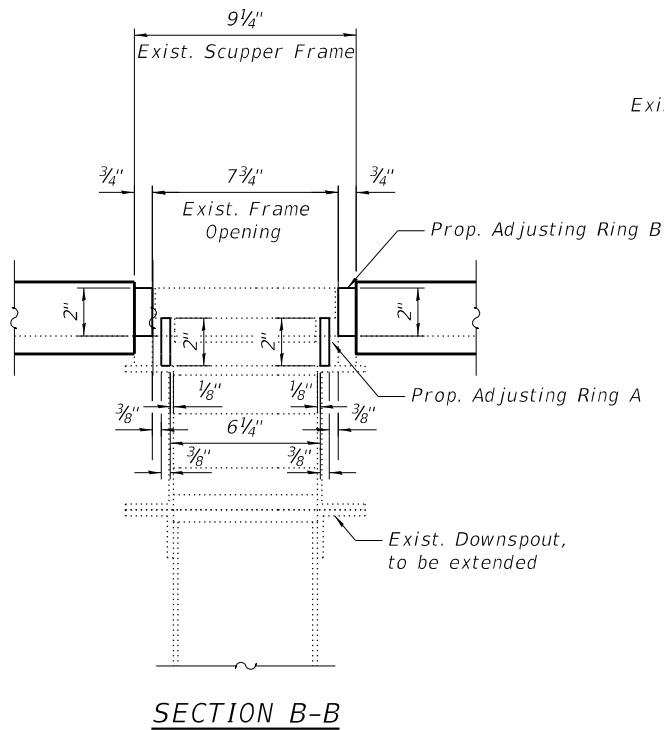
| ITEM                             | UNIT | QUANTITY |
|----------------------------------|------|----------|
| Deck Drain Extensions            | Each | 16       |
| Drainage Scuppers To Be Adjusted | Each | 2        |



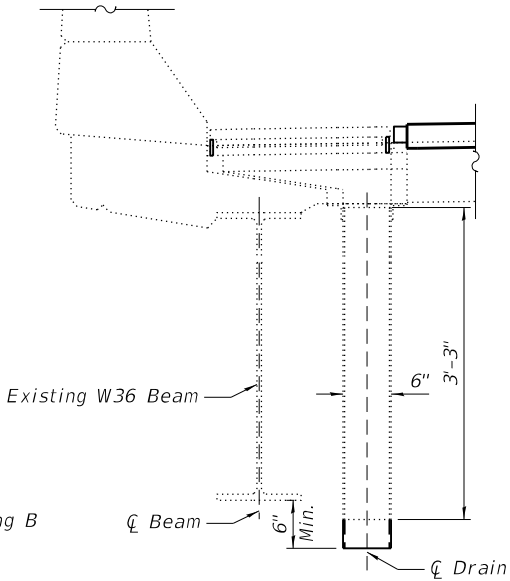
TYPICAL SCUPPER PLAN



SECTION A-A



SECTION B-B



DRAIN EXTENSION DETAIL

NOTES:

- The Contractor shall field-verify Existing Dimensions and Details of the Existing Scuppers and downspouts and make necessary approved adjustments prior to construction or ordering of material for Adjusting Drainage Scuppers and extending downspouts.
- All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 35B.
- Cast Iron Parts shall be unfinished.
- Bolts, washers and nuts shall conform to the requirements of ASTM A307 and be galvanized according to the requirements of AASHTO M232.
- The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
- Adjusting Rings shall be from Neenah or approved equal. Structural steel weldments or equal sections and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
- Provide 1/8" Fillet Weld around perimeter of new Adjusting Rings to secure to existing Scupper. Electrode shall be compatible with cast iron if existing scupper elements are cast iron construction.
- Cost of all labor and materials necessary to clean all existing floor drains and scuppers, fabricate and install adjusting scupper rings, remove and reinstall grates is included in the cost of Drainage Scuppers to be Adjusted.



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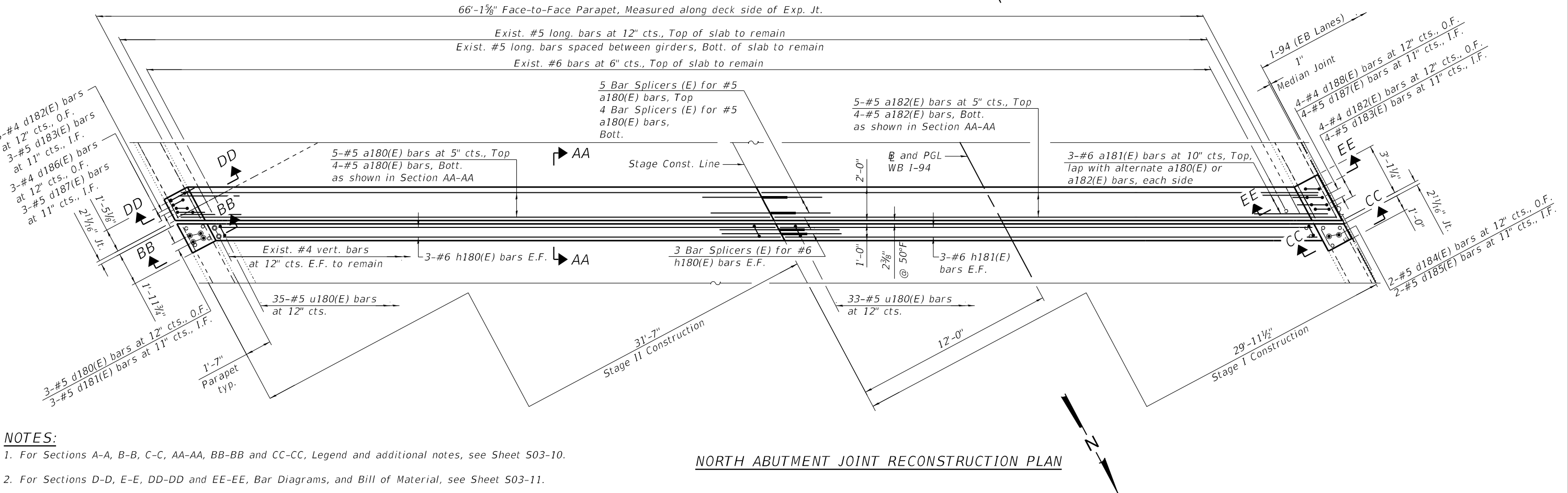
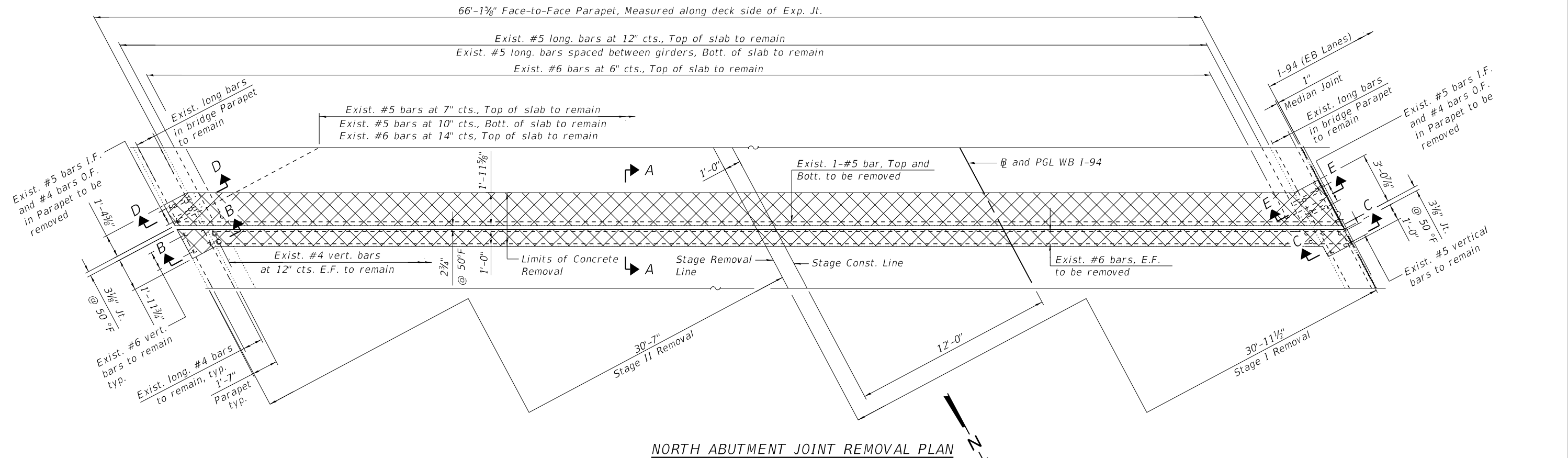
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|            |   |                | DRAWN    | - | FL, JMI   | REVISED | - |  |
| PLOT SCALE | = | 6:0 "/in.      | CHECKED  | - | MI, LAB   | REVISED | - |  |
| PLOT DATE  | = | 12/6/2024      | DATE     | - | 12/9/2024 | REVISED | - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-09 OF S03-26 SHEETS

| F.A.I. RTE. | SECTION                | COUNTY             | TOTAL SHEETS | SHEET NO. |
|-------------|------------------------|--------------------|--------------|-----------|
| 94          | (42-B-11-1) BR, BJR 24 | COOK               | 761          | 541       |
|             |                        | CONTRACT NO. 62W87 |              |           |
| ILLINOIS    |                        | FED. AID PROJECT   |              |           |



NOTES:

- For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, Legend and additional notes, see Sheet S03-10.
- For Sections D-D, E-E, DD-DD and EE-EE, Bar Diagrams, and Bill of Material, see Sheet S03-11.

NORTH ABUTMENT JOINT RECONSTRUCTION PLAN



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|------------|---|-----------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11\cs01\$ | DESIGNED | - | FL, JMI   | REVISED | - |
|            |   |                 | DRAWN    | - | FL, JMI   | REVISED | - |
| PLOT SCALE | = | 2:0' = 1"       | CHECKED  | - | MI, LAB   | REVISED | - |
| PLOT DATE  | = | 12/6/2024       | DATE     | - | 12/9/2024 | REVISED | - |

|          |   |           |         |   |
|----------|---|-----------|---------|---|
| DESIGNED | - | FL, JMI   | REVISED | - |
| DRAWN    | - | FL, JMI   | REVISED | - |
| CHECKED  | - | MI, LAB   | REVISED | - |
| DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

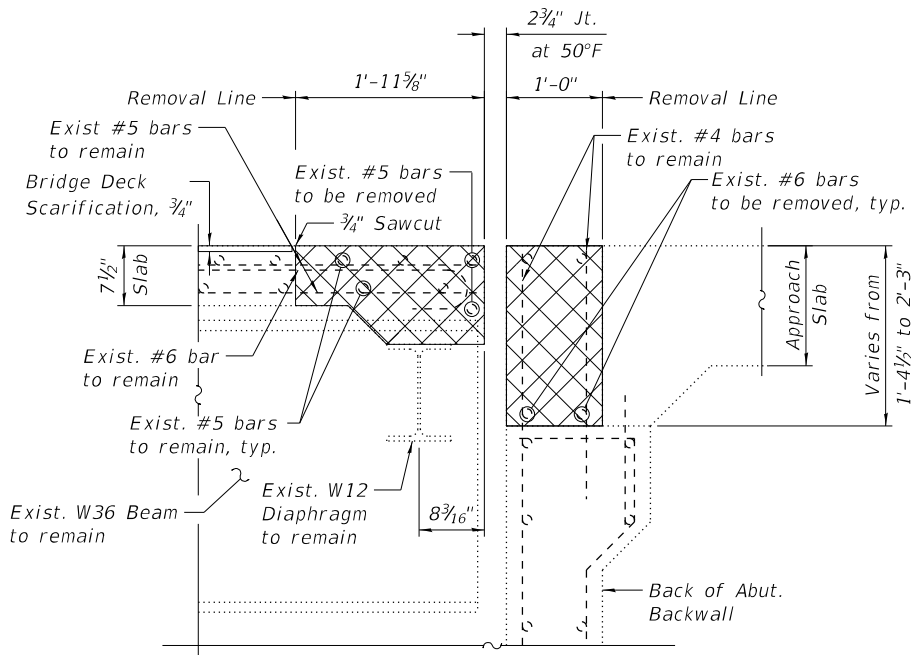
N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-10 OF S03-26 SHEETS

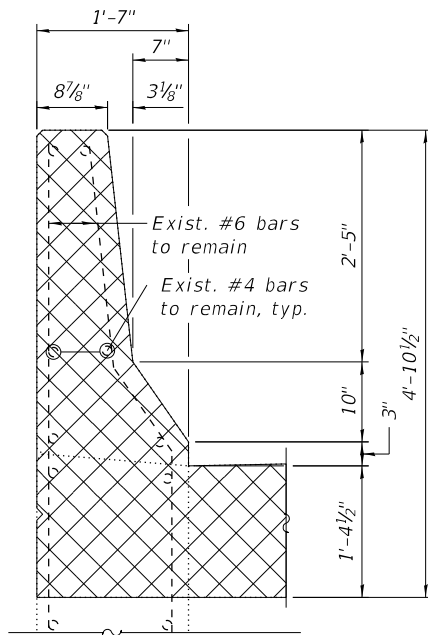
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|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 542       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |

NOTES:

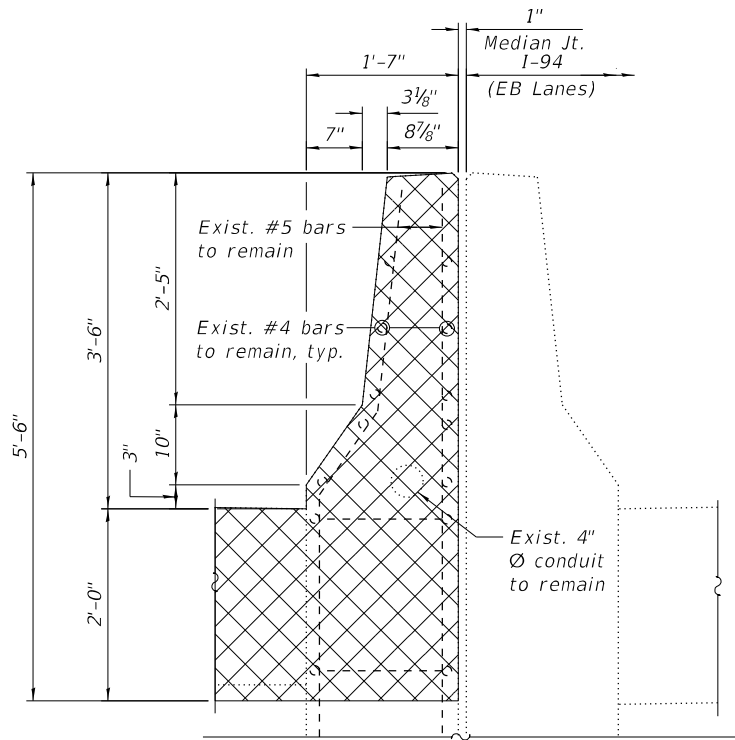
- For preformed joint strip seal details, see Sheet S03-17.
- For bar splicer assembly details, see Sheet S03-26.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- Epoxy grout d180(E), d181(E), d184(E) and d185(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system at the contractor's expense.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on Roller Rail Strip Seal joint. If the Contractor elects to use the Welded Rail Strip Seal joint, deck dimensions may require adjustments to satisfy the details on Sheet S03-17.



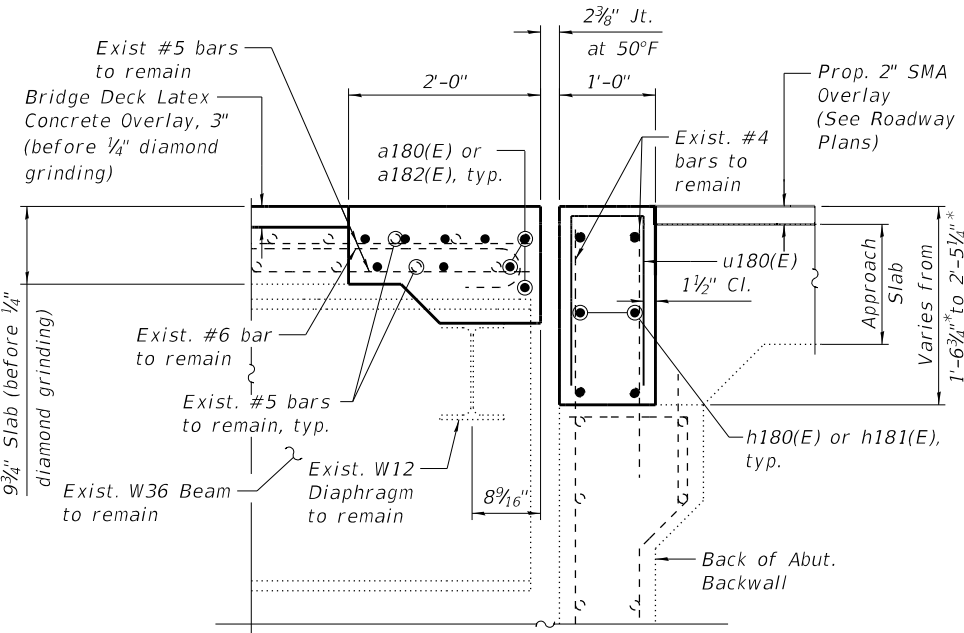
SECTION A-A



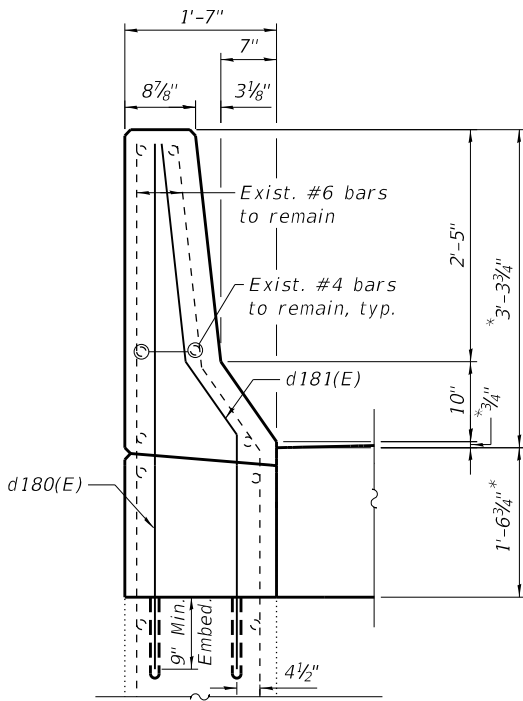
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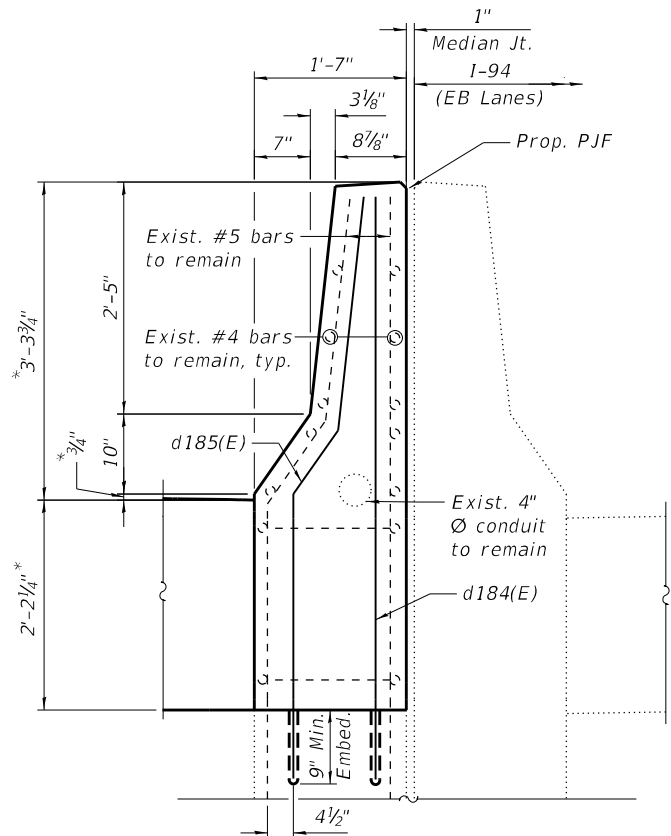
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SECTION AA-AA



SECTION BB-BB  
(Reinforcement in the pour strip not shown for clarity)



SECTION CC-CC  
(Reinforcement in the pour strip not shown for clarity)

\*Before 1/4" Diamond Grinding

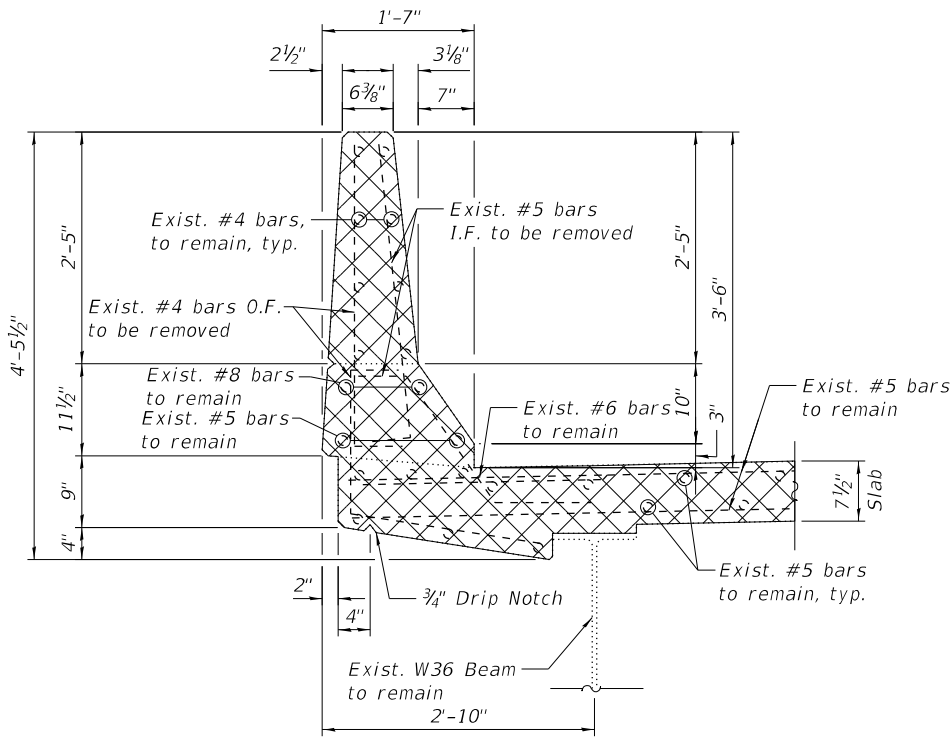
LEGEND

|      |                  |
|------|------------------|
|      | Concrete Removal |
| E.F. | Each Face        |
| I.F. | Inside Face      |
| O.F. | Outside Face     |

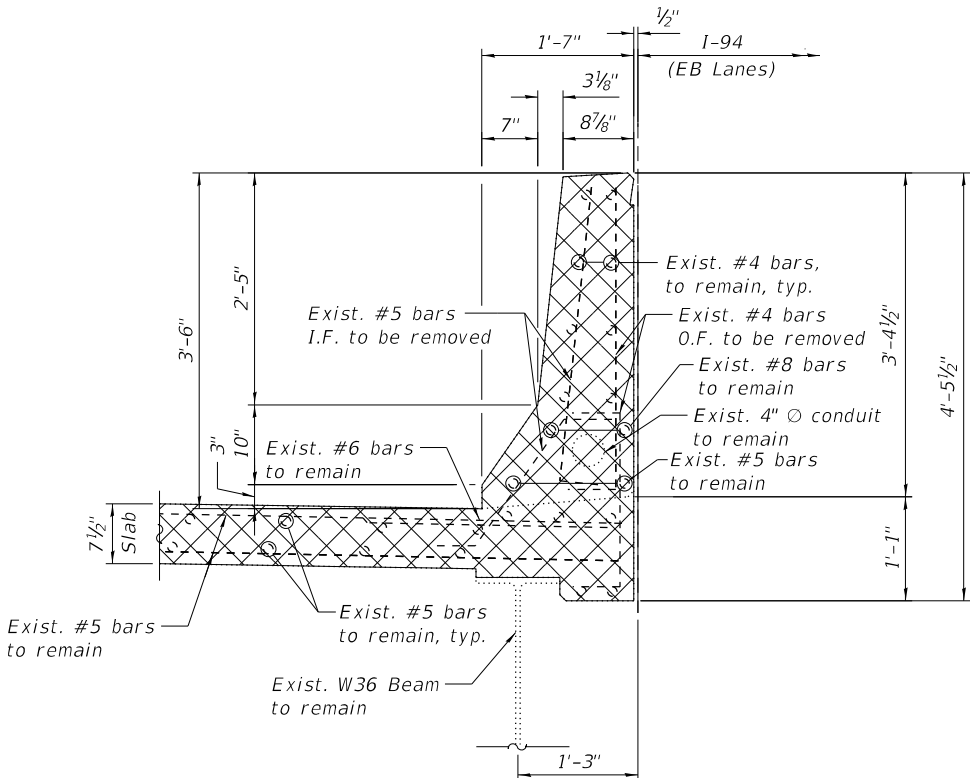


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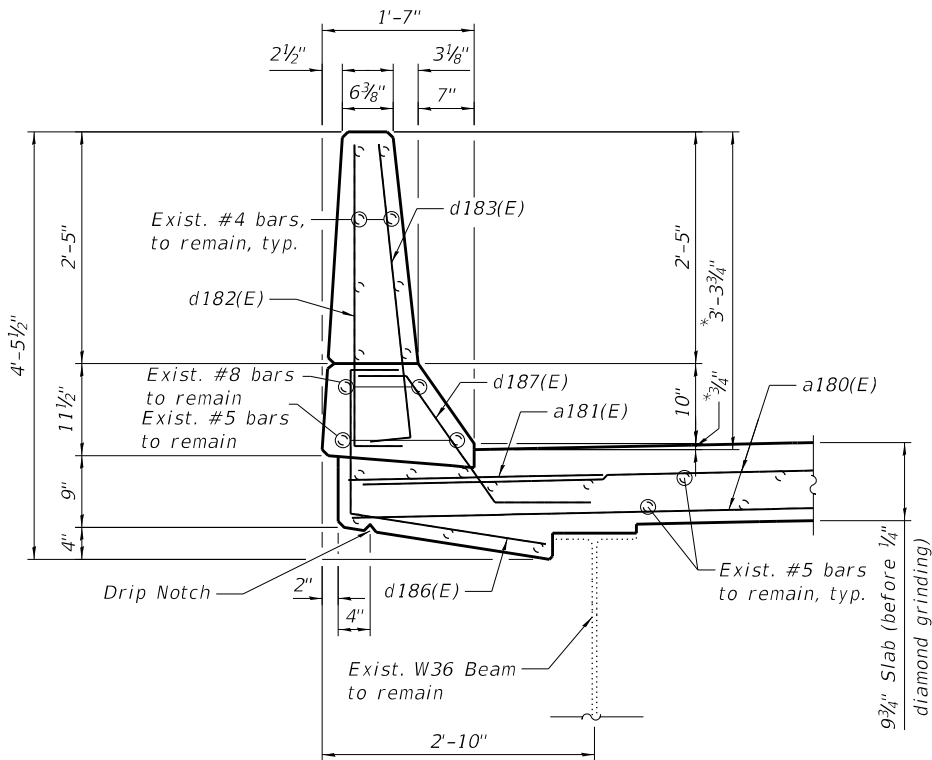
| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a180(E)                          | 9   | #5   | 35'-5"  | —     |
| a181(E)                          | 6   | #6   | 6'-6"   | —     |
| a182(E)                          | 9   | #5   | 33'-7"  | —     |
| d180(E)                          | 3   | #5   | 5'-6"   | —     |
| d181(E)                          | 3   | #5   | 5'-9"   | —     |
| d182(E)                          | 7   | #4   | 3'-8"   | —     |
| d183(E)                          | 7   | #5   | 3'-8"   | —     |
| d184(E)                          | 2   | #5   | 6'-1"   | —     |
| d185(E)                          | 2   | #5   | 6'-4"   | —     |
| d186(E)                          | 3   | #4   | 3'-11"  | —     |
| d187(E)                          | 7   | #5   | 2'-7"   | —     |
| d188(E)                          | 4   | #4   | 2'-7"   | —     |
| h180(E)                          | 6   | #6   | 33'-8"  | —     |
| h181(E)                          | 6   | #6   | 31'-10" | —     |
| u180(E)                          | 68  | #5   | 3'-0"   | —     |
| Concrete Removal                 |     |      | Cu Yd   | 10.4  |
| Concrete Superstructure          |     |      | Cu Yd   | 11.9  |
| Protective Coat                  |     |      | Sq Yd   | 23    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,650 |



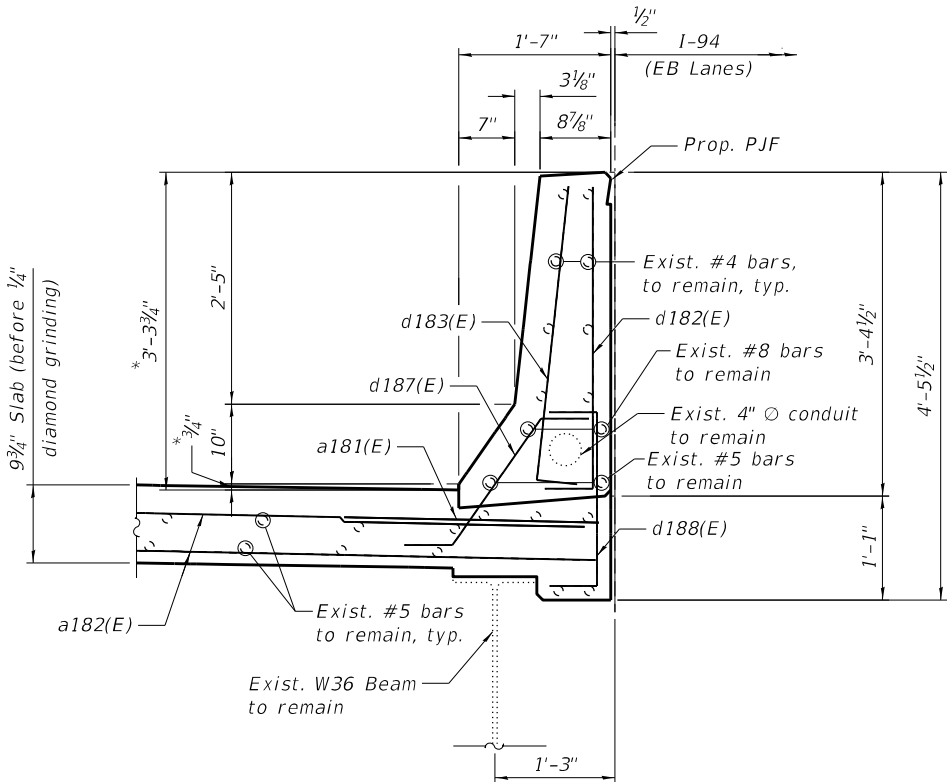
SECTION D-D



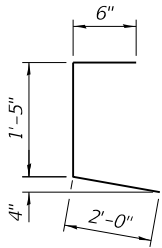
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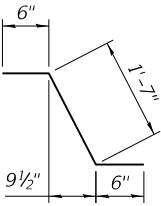
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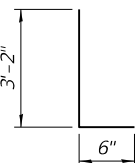
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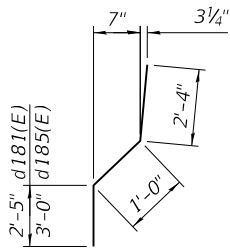
BARS d186(E)



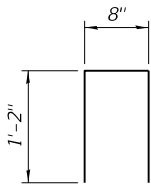
BAR d187(E)



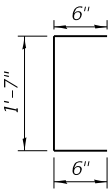
BARS d182(E) & d183(E)



BARS d181(E) & d185(E)



BARS u180(E)



BARS d188(E)

\* Before 1/4" Diamond Grinding

NOTE:

1. For Legend and Notes, see Sheet S03-10.

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**HBM**  
ENGINEERING GROUP, LLC

|              |                |            |           |           |  |
|--------------|----------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$ | DESIGNED - | FL, JMI   | REVISED - |  |
|              |                | DRAWN -    | FL, JMI   | REVISED - |  |
| PLOT SCALE = | 2:0 "/ in.     | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024      | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-11 OF S03-26 SHEETS

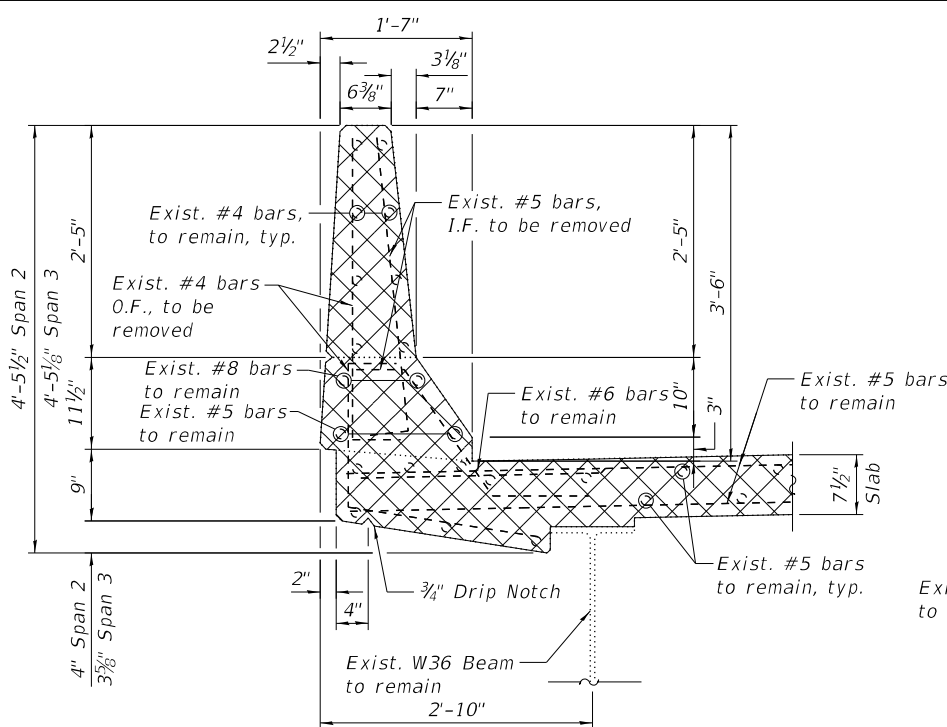
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|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |



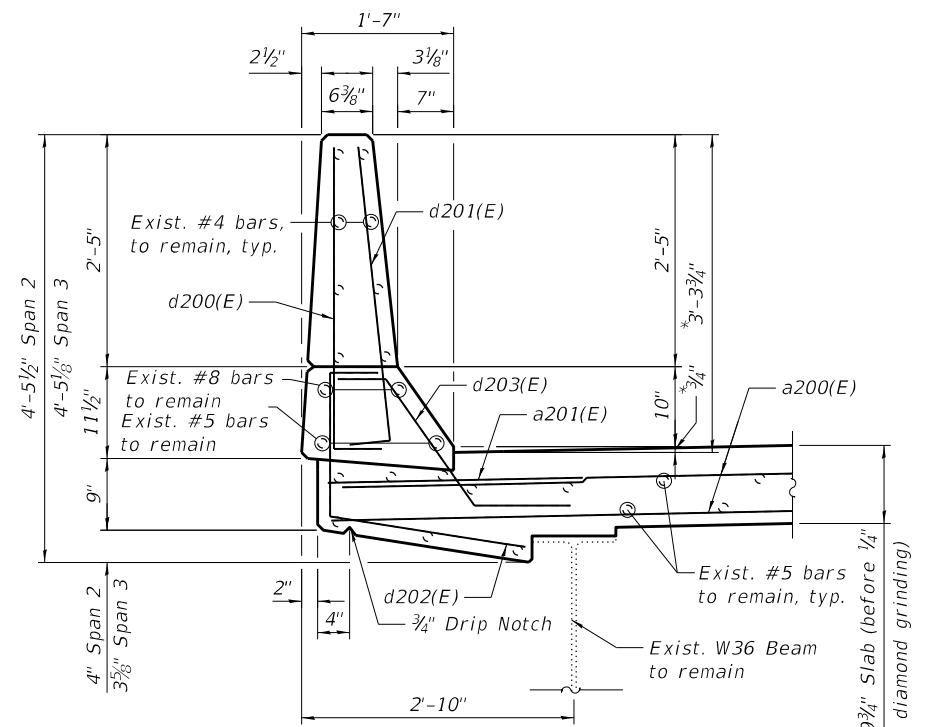




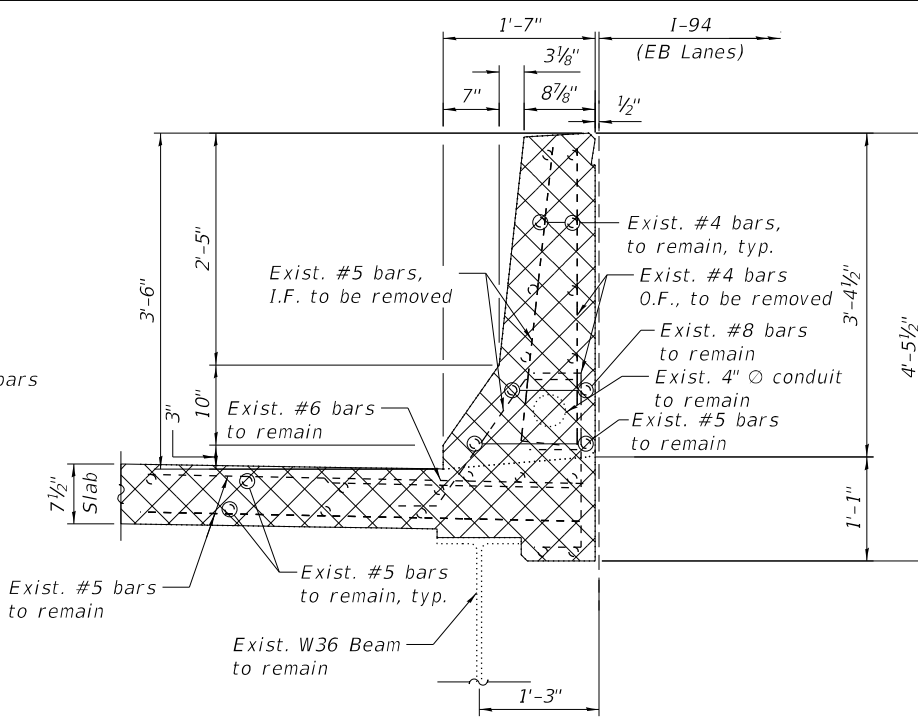
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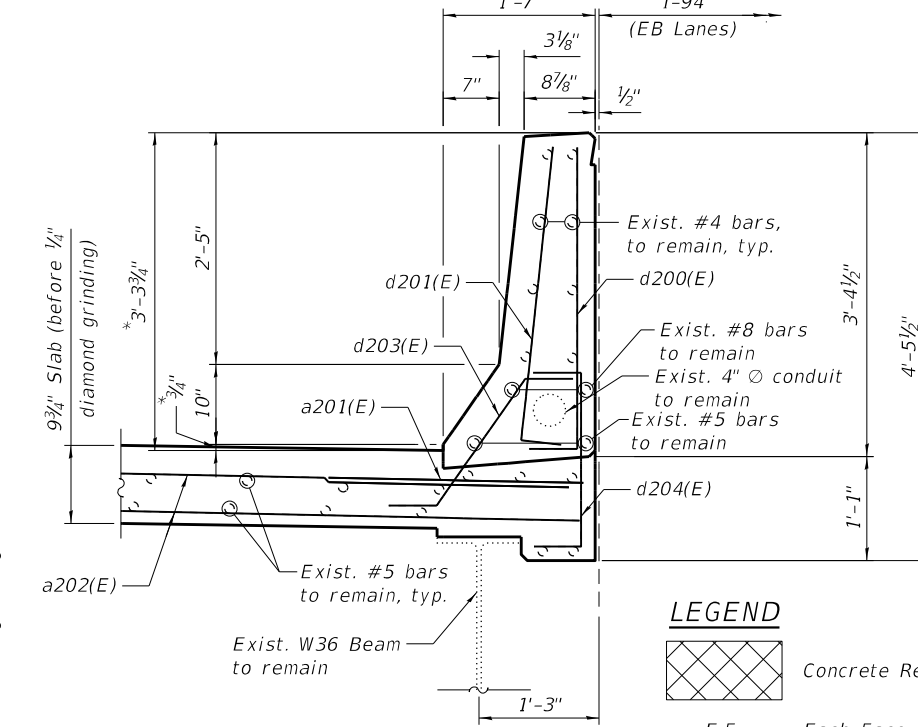
SECTION B-B



SECTION BB-BB



SECTION C-C



SECTION CC-CC

LEGEND



Concrete Removal

E.F. Each Face

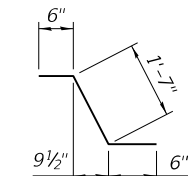
I.F. Inside Face

O.F. Outside Face

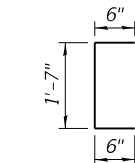
\*Before 1/4" Diamond Grinding

BARS d200(E) & d201(E)

BARS d202(E)



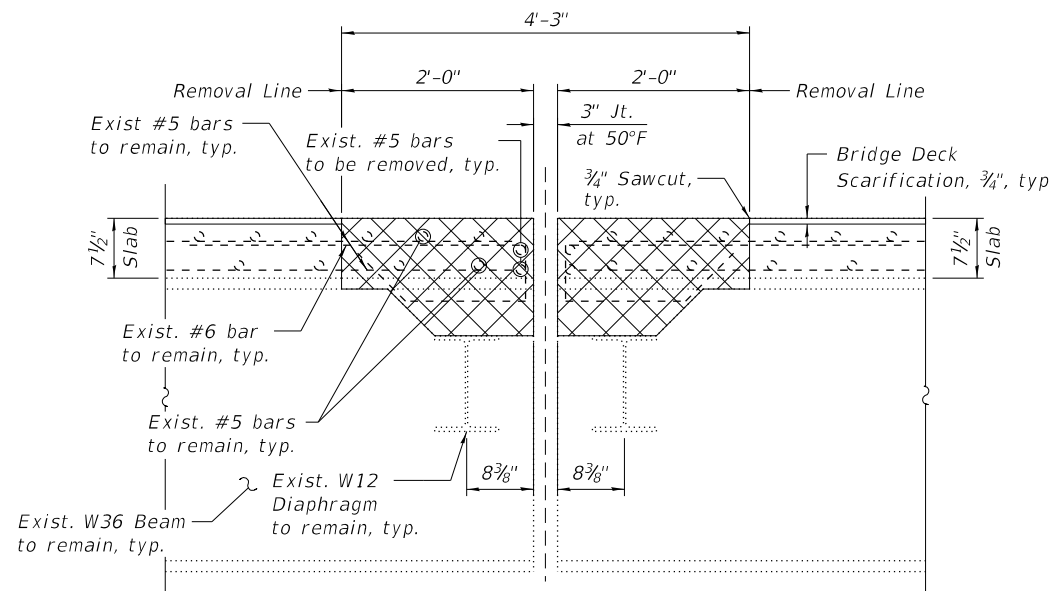
BARS d203(E)



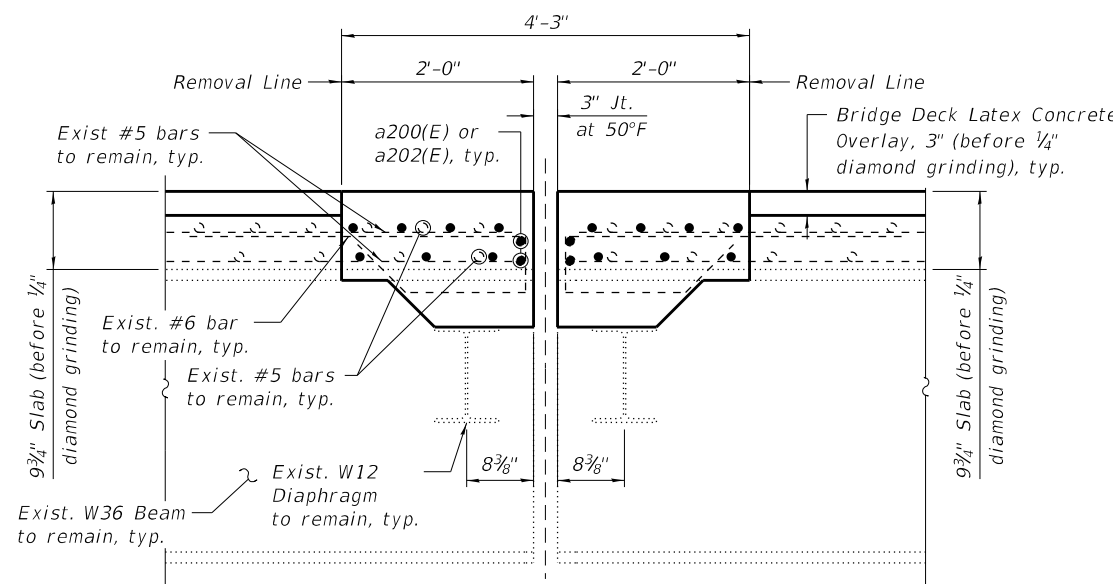
BARS d204(E)

BILL OF MATERIAL

| Bar                              | No. | Size | Length | Shape |
|----------------------------------|-----|------|--------|-------|
| a200(E)                          | 18  | #5   | 35'-5" | —     |
| a201(E)                          | 12  | #6   | 6'-6"  | —     |
| a202(E)                          | 18  | #5   | 33'-7" | —     |
| d200(E)                          | 14  | #4   | 3'-8"  | L     |
| d201(E)                          | 14  | #5   | 3'-8"  | L     |
| d202(E)                          | 7   | #4   | 3'-11" | L     |
| d203(E)                          | 14  | #5   | 2'-7"  | ~     |
| d204(E)                          | 7   | #4   | 2'-7"  | ~     |
| Concrete Removal                 |     |      | Cu Yd  | 12.0  |
| Concrete Superstructure          |     |      | Cu Yd  | 13.9  |
| Protective Coat                  |     |      | Sq Yd  | 34    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound  | 1,570 |



SECTION A-A



SECTION AA-AA

NOTES:

- For preformed joint strip seal details, see Sheet S03-17.
- For bar splicer assembly details, see Sheet S03-26.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system at the contractor's expense.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on Roller Rail Strip Seal joint. If the Contractor elects to use the Welded Rail Strip Seal joint, deck dimensions may require adjustments to satisfy the details on Sheet S03-17.

**HBM**  
ENGINEERING GROUP, LLC

|              |                 |            |           |           |  |
|--------------|-----------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11\cs01\$ | DESIGNED - | HMI       | REVISED - |  |
|              |                 | DRAWN -    | HMI       | REVISED - |  |
| PLOT SCALE = | 2:0'"/in.       | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024       | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 2 JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 2)  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-13 OF S03-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 545       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



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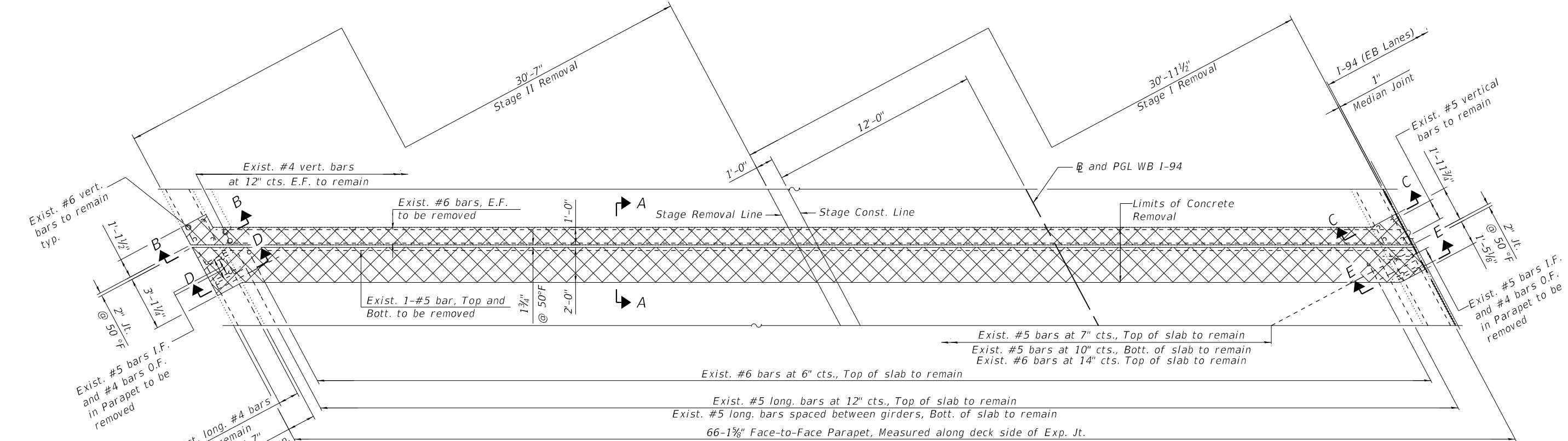
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| PLOT DATE  | = | 12/6/2024      | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

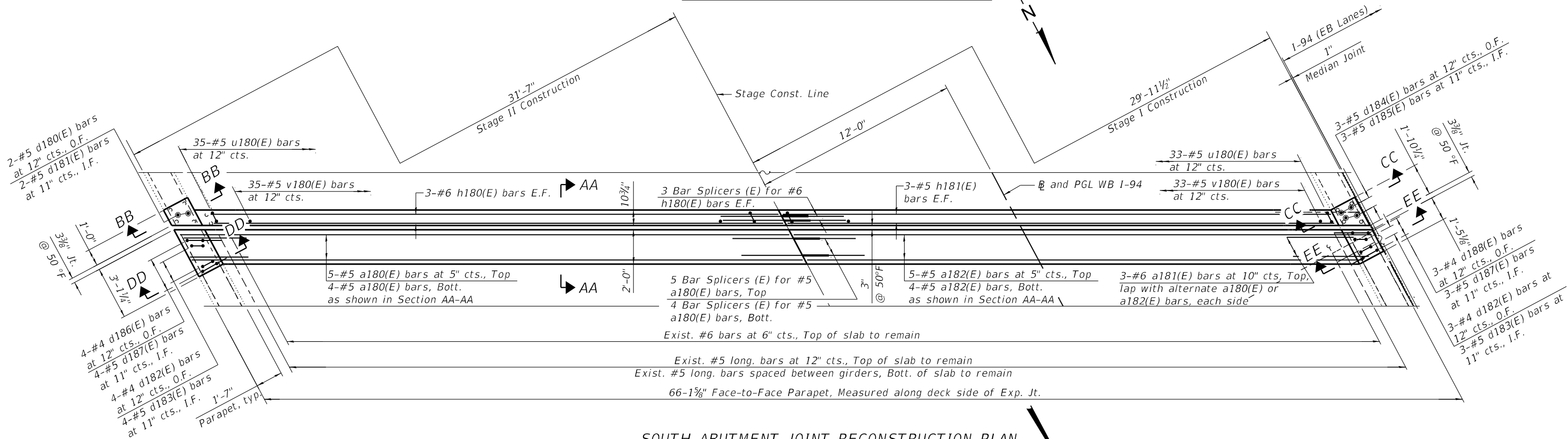
S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-14 OF S03-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 546       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For Sections A-A, B-B, C-C, AA-AA, BB-BB, CC-CC, Legend, and additional notes, see Sheet S03-15.
- For Sections D-D, E-E, DD-DD and EE-EE, Bar Diagrams, and Bill of Material, see Sheet S03-16.



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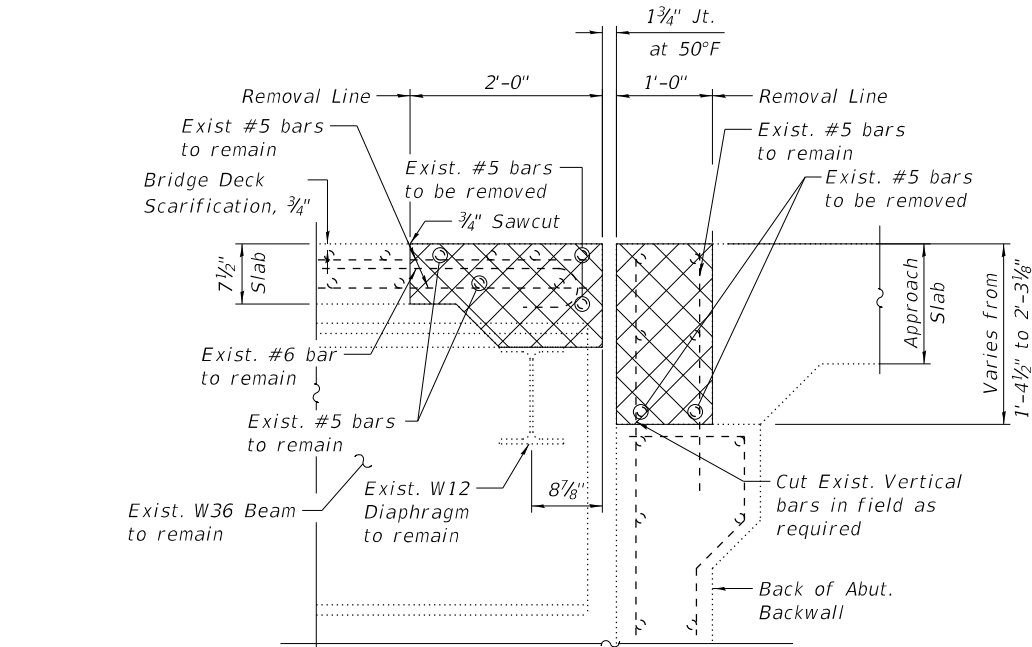
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|              |                | DRAWN -    | DEO       | REVISED - |  |
| PLOT SCALE = | 2:0'"/in.      | CHECKED -  | MI. LAB   | REVISED - |  |
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

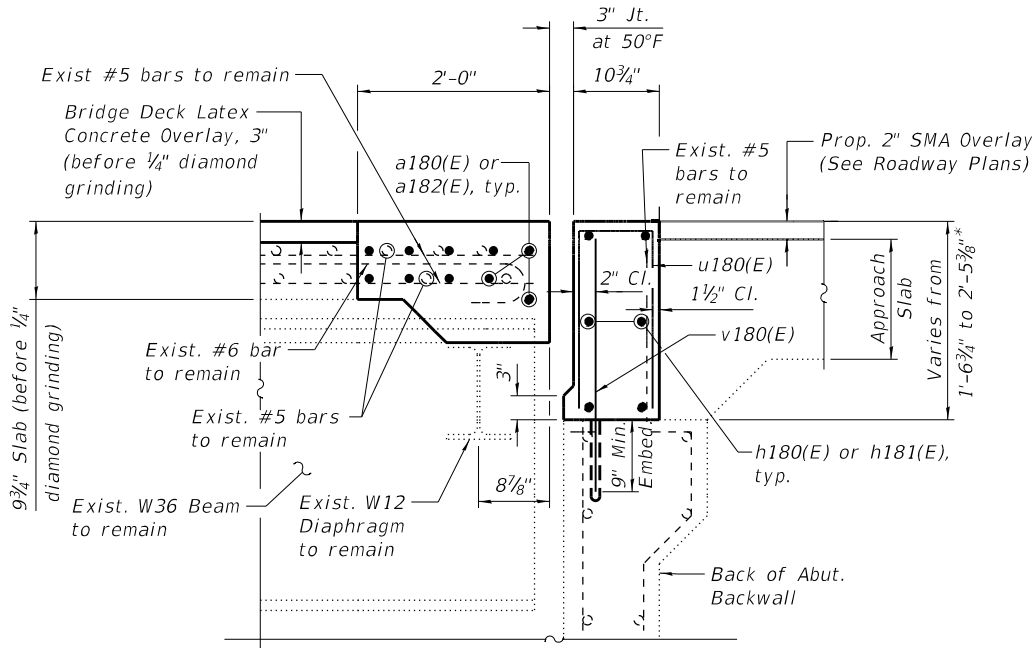
S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-15 OF S03-26 SHEETS

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 547       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |



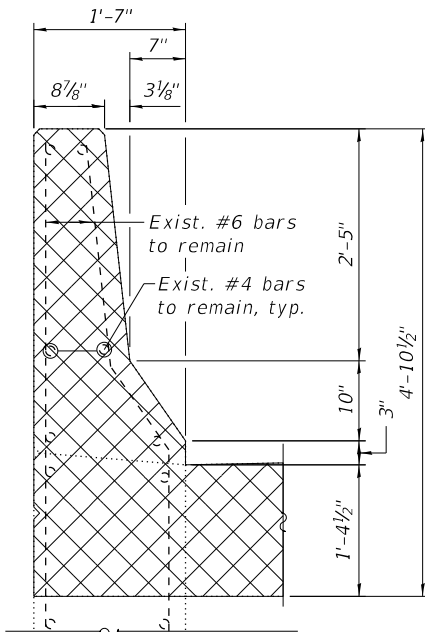
SECTION A-A



SECTION AA-AA

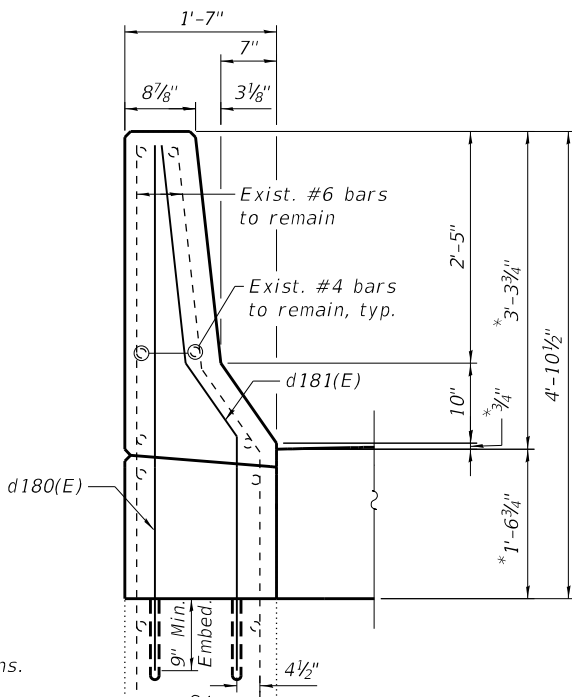
NOTES:

- For preformed joint strip seal details, see Sheet S03-17.
- For bar splicer assembly details, see Sheet S03-26.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- Epoxy grout d180(E), d181(E), d184(E), d185(E) and v180(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system at the contractor's expense.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on a Roller Rail Strip Seal joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S03-17.



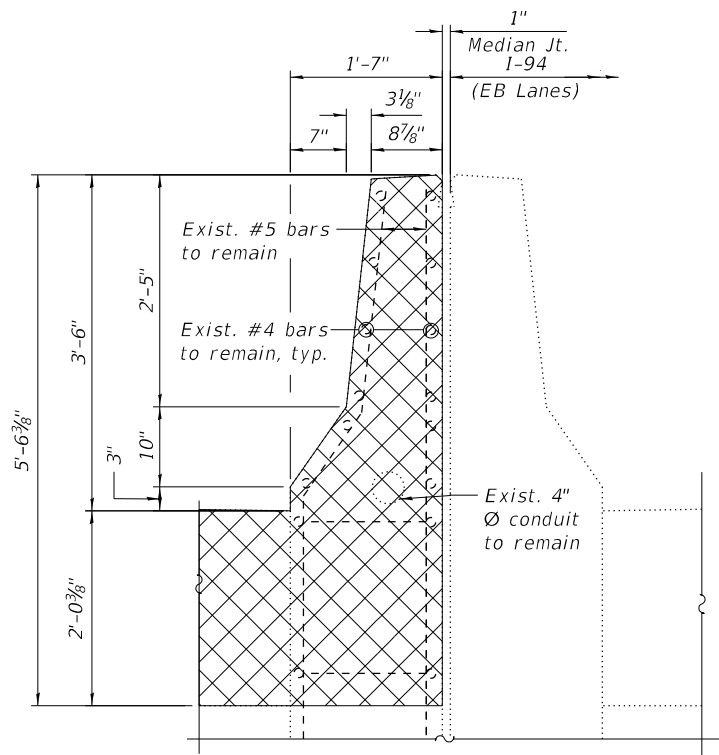
SECTION B-B

(Reinforcement in the pour strip  
not shown for clarity)



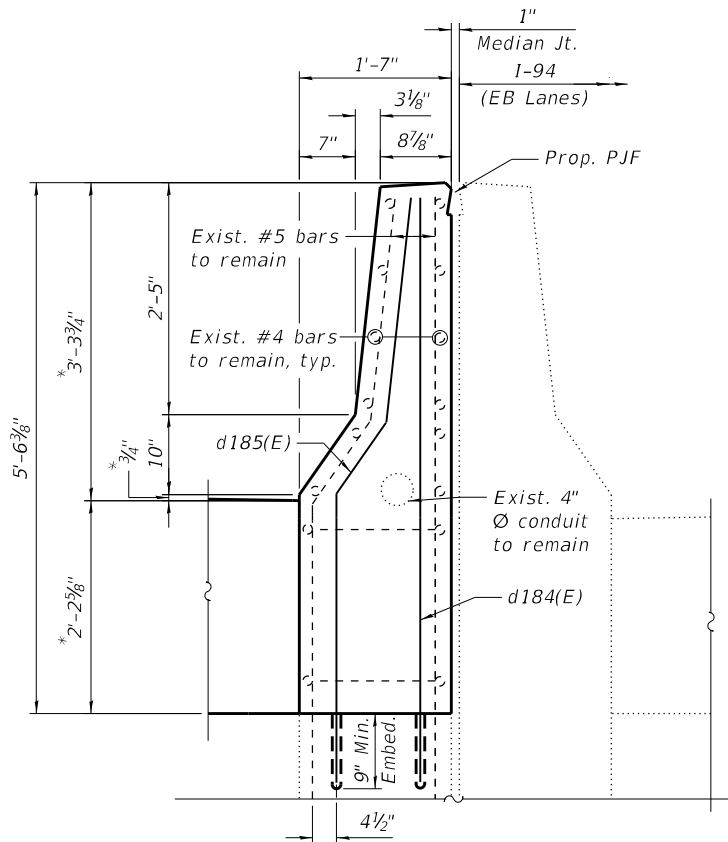
SECTION BB-BB

(Reinforcement in the pour strip  
not shown for clarity)



SECTION C-C

(Reinforcement in the pour strip  
not shown for clarity)



SECTION CC-CC

(Reinforcement in the pour strip  
not shown for clarity)

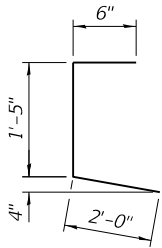
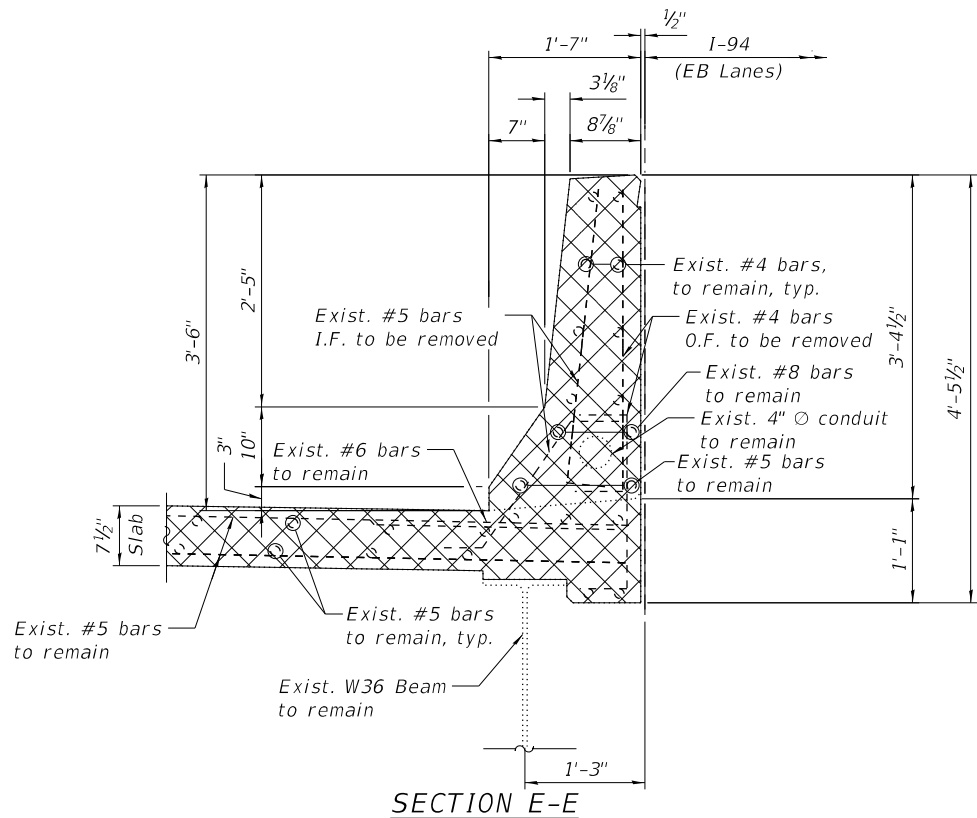
\* Before 1/4" Diamond Grinding

LEGEND

|      |                  |
|------|------------------|
|      | Concrete Removal |
| E.F. | Each Face        |
| I.F. | Inside Face      |
| O.F. | Outside Face     |



| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a180(E)                          | 9   | #5   | 35'-5"  | —     |
| a181(E)                          | 6   | #6   | 6'-6"   | —     |
| a182(E)                          | 9   | #5   | 33'-7"  | —     |
| d180(E)                          | 2   | #5   | 5'-6"   | —     |
| d181(E)                          | 2   | #5   | 5'-9"   | ↘     |
| d182(E)                          | 7   | #4   | 3'-8"   | └     |
| d183(E)                          | 7   | #5   | 3'-8"   | └     |
| d184(E)                          | 3   | #5   | 6'-1"   | —     |
| d185(E)                          | 3   | #5   | 6'-4"   | ↘     |
| d186(E)                          | 4   | #4   | 3'-11"  | └     |
| d187(E)                          | 7   | #5   | 2'-7"   | ↘     |
| d188(E)                          | 3   | #4   | 2'-7"   | └     |
| h180(E)                          | 6   | #6   | 33'-8"  | —     |
| h181(E)                          | 6   | #6   | 31'-10" | —     |
| u180(E)                          | 68  | #5   | 3'-0"   | □     |
| v180(E)                          | 68  | #5   | 2'-1"   | —     |
| Concrete Removal                 |     |      | Cu Yd   | 10.8  |
| Concrete Superstructure          |     |      | Cu Yd   | 11.5  |
| Protective Coat                  |     |      | Sq Yd   | 23    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,800 |

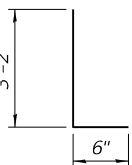


A diagram of a stepped profile. It consists of a horizontal top section, a sloped middle section, and a horizontal bottom section. The top horizontal section is labeled with a dimension of 6". The sloped middle section is labeled with a dimension of 1'-7". The bottom horizontal section is labeled with a dimension of 6".

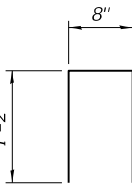
Technical drawing of a bridge deck cross-section showing dimensions and reinforcement details. The drawing includes the following labels and dimensions:

- Dimensions:**
  - Overall width: 1'-7"
  - Overall height: 3'-3 3/4"
  - Top flange width: 1'-94"
  - Top flange height: 2'-5"
  - Web height: 3'-4 1/2"
  - Bottom flange height: 1'-1"
  - Bottom flange width: 1'-3"
  - Top flange thickness: 3 1/8"
  - Web thickness: 7"
  - Bottom flange thickness: 8 7/8"
  - Top flange offset: 1/2"
  - Bottom flange offset: 9 3/4"
  - Bottom flange width offset: 10"
  - Bottom flange width offset: 3 1/4"
- Reinforcement Details:**
  - Prop. PJF
  - Exist. #4 bars, to remain, typ.
  - Exist. #8 bars to remain
  - Exist. 4" O conduit to remain
  - Exist. #5 bars to remain
  - Exist. #5 bars to remain, typ.
  - Exist. W36 Beam to remain
  - Reinforcement bars: d183(E), d187(E), d182(E), d188(E), a181(E), a182(E)

*BARS d181(E) & d185(E)*

[illegible]

*BARS d181(E) & d185(E)*



A diagram of a rectangular plate. The width is labeled as 6" and the height is labeled as 1'-7".

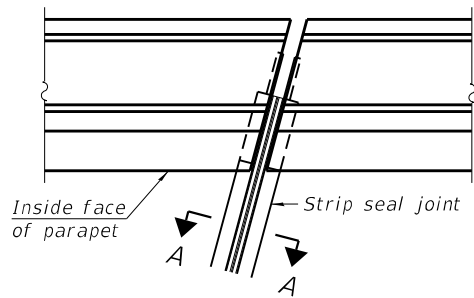
BARS d188(E)

1. For Legend and Notes, see Sheet S03-15.

\*Before 1/4" Diamond Grinding

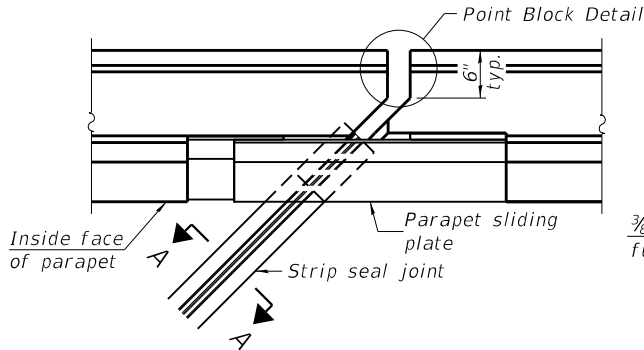


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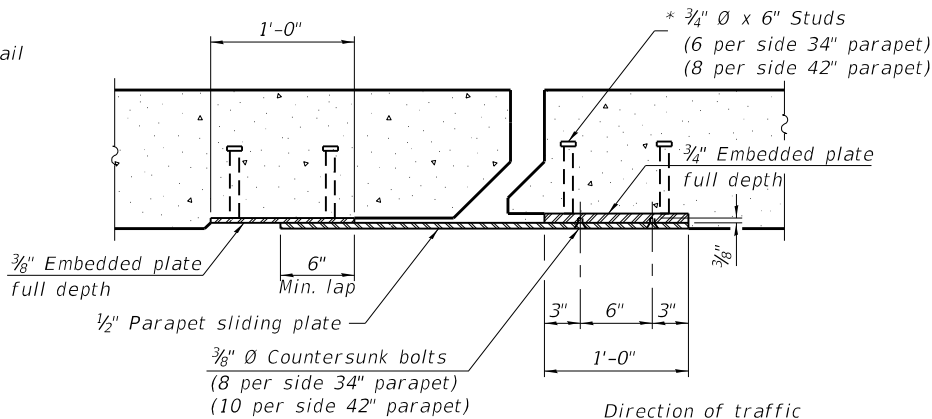


FOR SKEWS  $\leq 30^\circ$

PLAN AT PARAPET

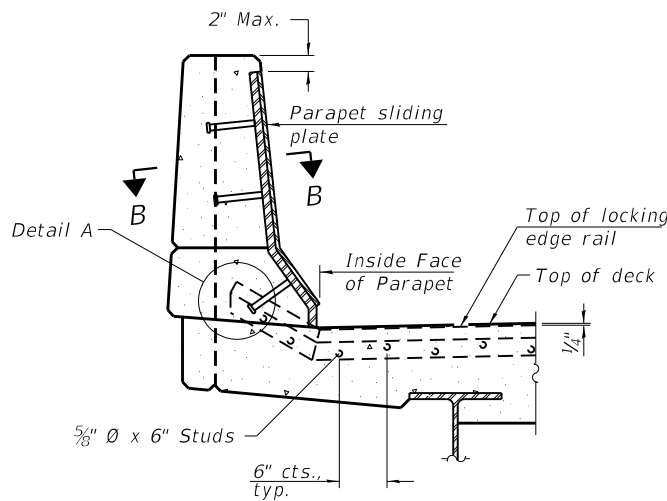


FOR SKEWS  $> 30^\circ$



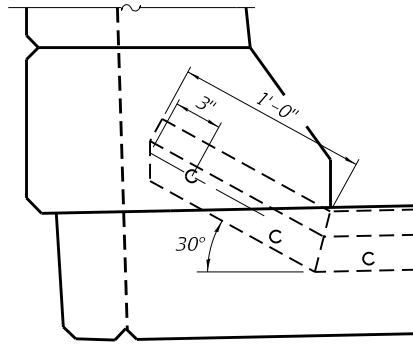
SECTION B-B

Notes:  
The strip seal shall be made continuous and shall have a minimum thickness of  $\frac{1}{4}$ ". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the  $4\frac{1}{2}$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.  
The manufacturer's recommended installation methods shall be followed.  
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
The Maximum space between locking edge rail segments shall be  $\frac{3}{16}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.  
The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.  
Cost of parapet sliding plates, sidewalk sliding plates, embedded plates, anchorage studs, and expansion anchors included with Preformed Joint Strip Seal.  
39" constant slope barrier shown, 44" constant slope barrier similar as noted.  
The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

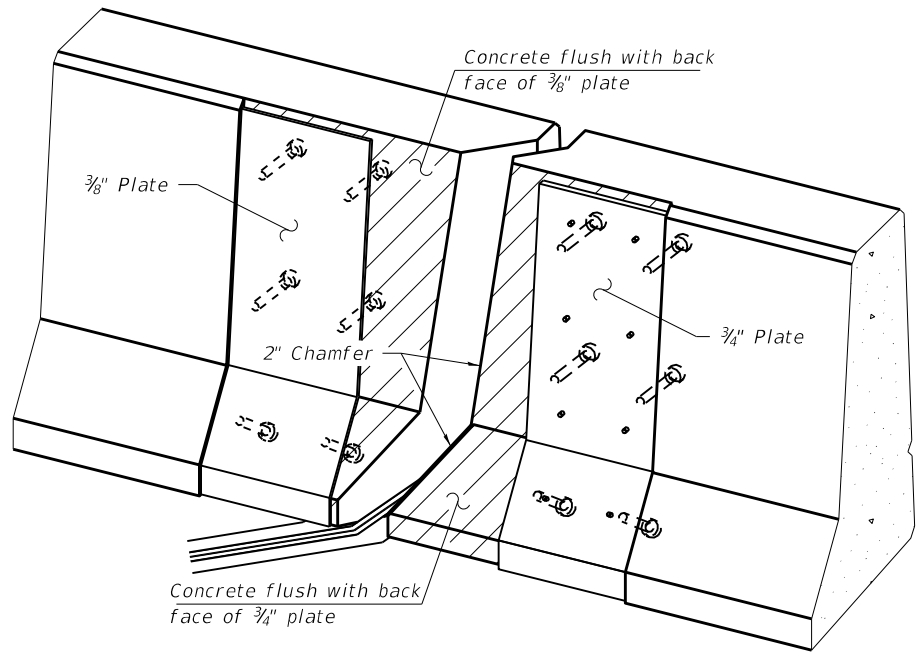


ELEVATION AT PARAPET

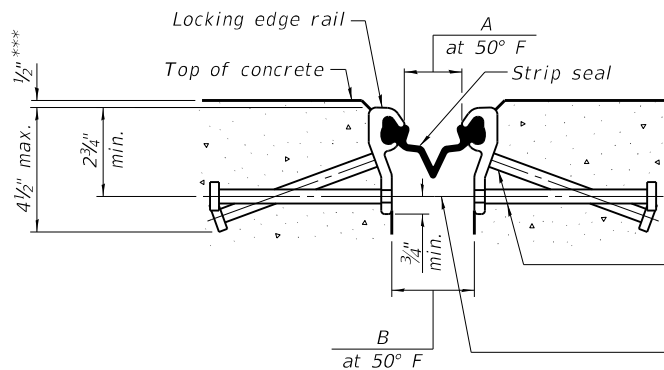
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

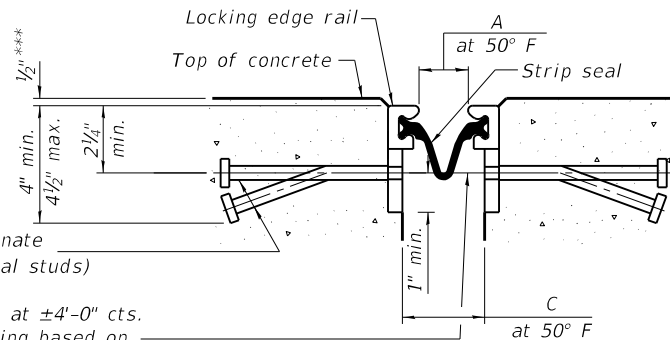
\*  $\frac{5}{8}$ "  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$\frac{3}{8}$ "  $\phi$  threaded rods in  $\frac{7}{16}$ "  $\phi$  holes at  $\pm 4$ '-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

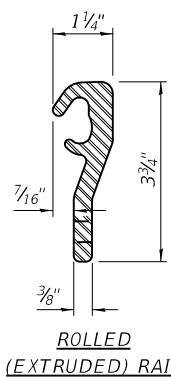
SECTION A-A

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

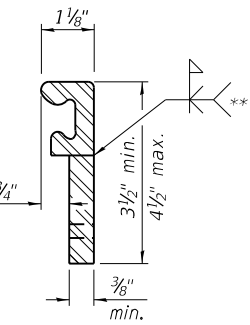
\*\*\* Before  $\frac{1}{4}$ " Diamond Grinding



SHOWING WELDED RAIL JOINT



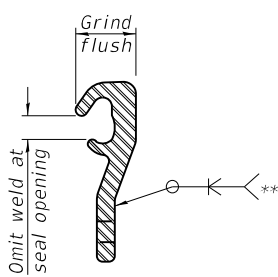
ROLLED  
(EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

\*\* Back gouge not required if complete joint penetration is verified by mock-up.



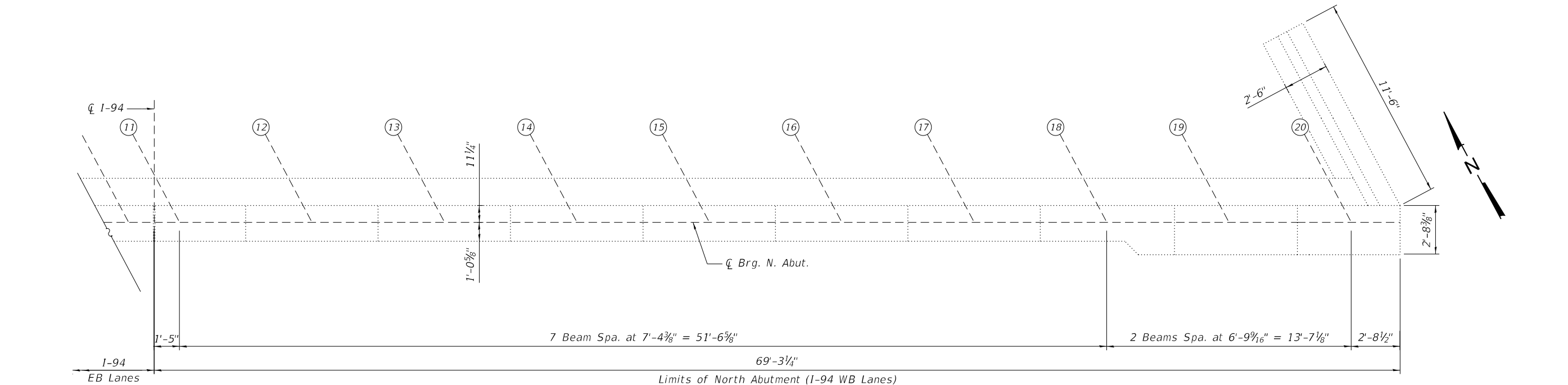
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

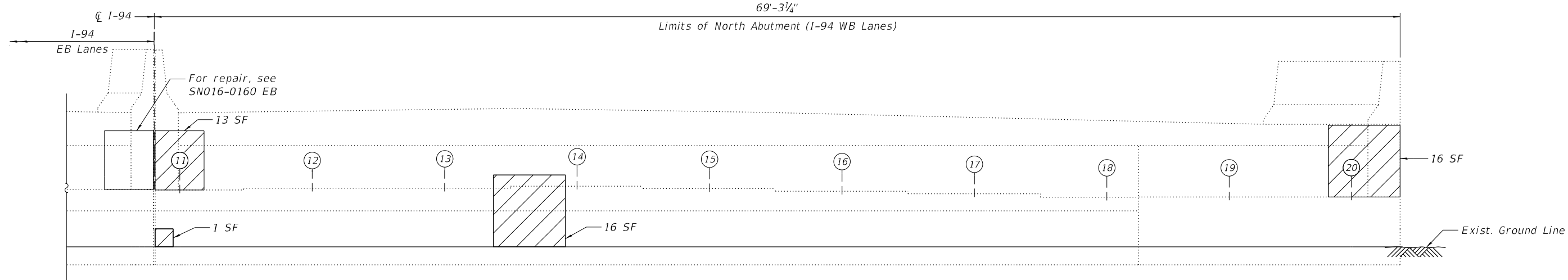
BILL OF MATERIAL

| Item                       | Unit | Total |
|----------------------------|------|-------|
| Preformed Joint Strip Seal | Foot | 210   |

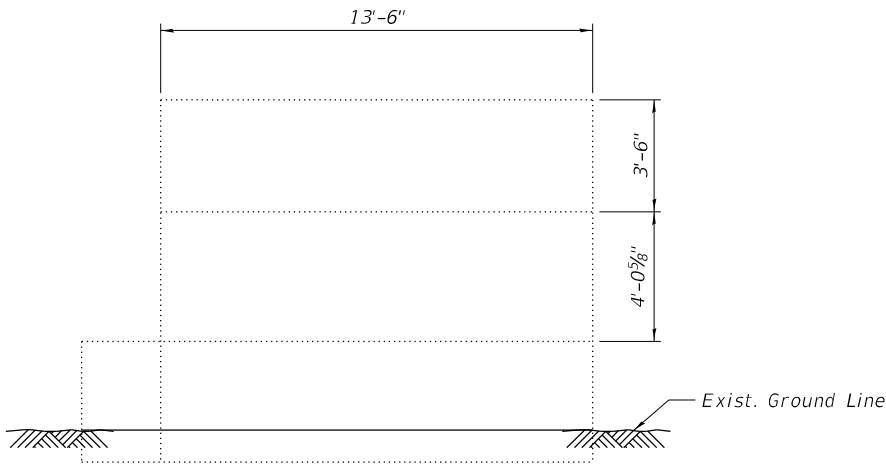




NORTH ABUTMENT PLAN



NORTH ABUTMENT ELEVATION  
(Looking North)



NORTHEAST WINGWALL ELEVATION  
(Looking West)

BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 294      |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 46       |

LEGEND



Structural Repair of Concrete  
(Depth Equal to or Less than 5 inches)

SF Square Foot

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.

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|              |                 |            |           |           |  |
|--------------|-----------------|------------|-----------|-----------|--|
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|              |                 | DRAWN -    | DEO, AWD  | REVISED - |  |
| PLOT SCALE = | 6:0.0000 "/ in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024       | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

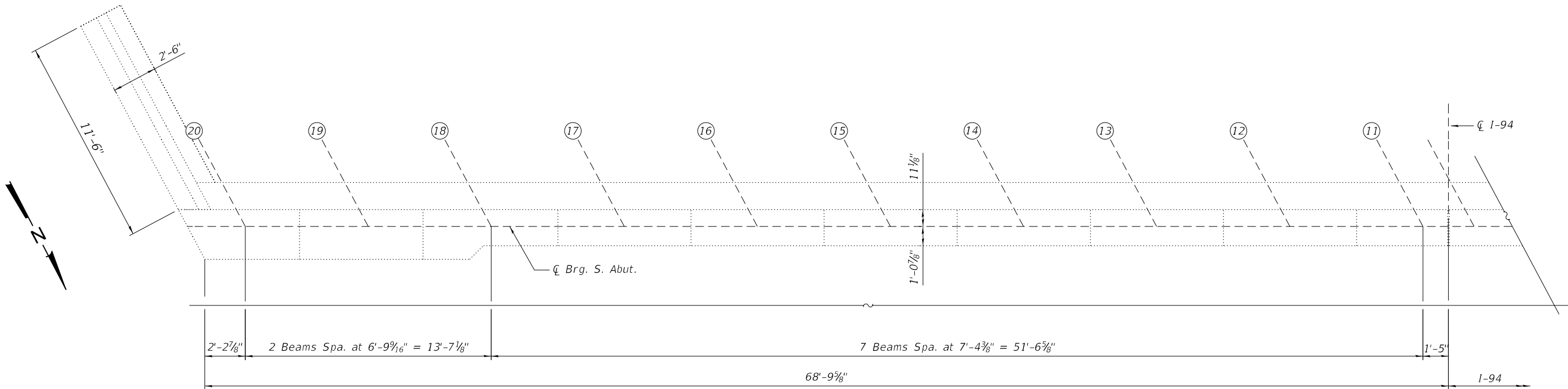
NORTH ABUTMENT REPAIRS  
STRUCTURE NO. 016-0160 (WB)

SHEET 503-18 OF 503-26 SHEETS

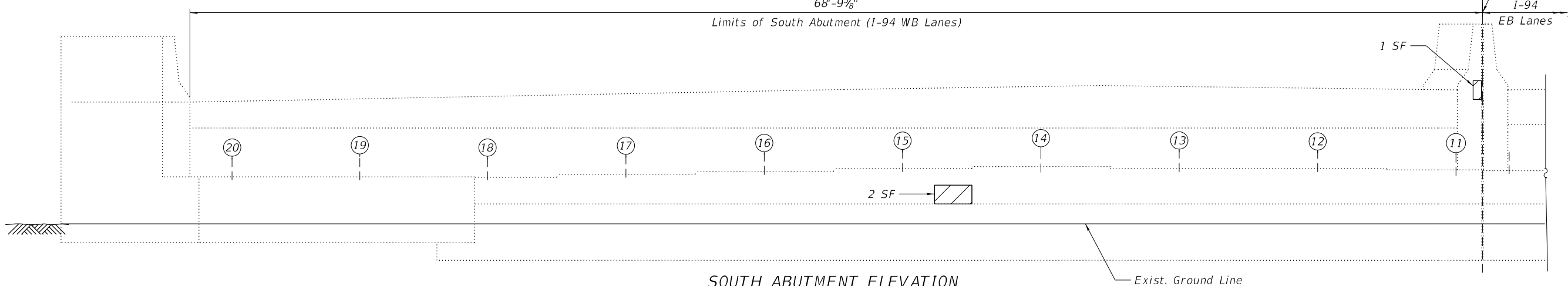
| F.A.I. RTE. | SECTION                | COUNTY   | TOTAL SHEETS     | SHEET NO.          |
|-------------|------------------------|----------|------------------|--------------------|
| 94          | (42-B-11-1) BR, BJR 24 | COOK     | 761              | 550                |
|             |                        |          |                  | CONTRACT NO. 62W87 |
|             |                        | ILLINOIS | FED. AID PROJECT |                    |



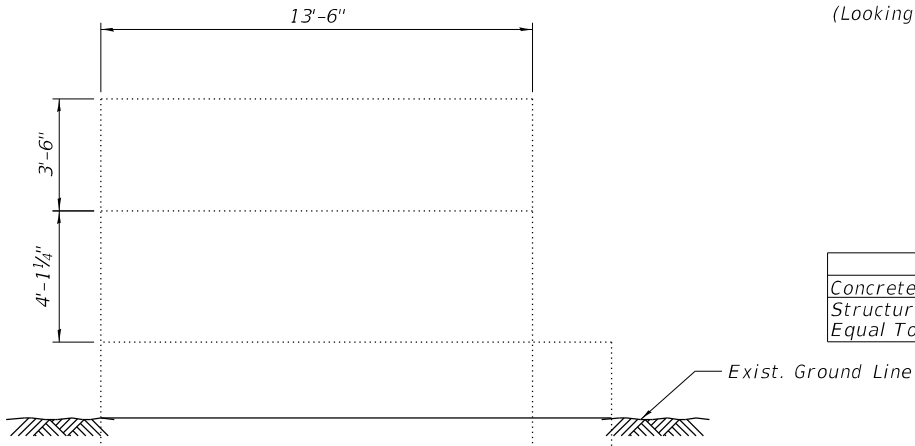
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SOUTH ABUTMENT PLAN



SOUTH ABUTMENT ELEVATION  
(Looking South)



SOUTHEAST WINGWALL ELEVATION  
(Looking West)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.

BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 295      |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 3        |

LEGEND



Structural Repair of Concrete  
(Depth Equal to or Less than 5 inches)

SF

Square Foot



|              |                  |            |           |           |  |
|--------------|------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$   | DESIGNED - | DEO, AWD  | REVISED - |  |
| DRAWN -      | DEO, AWD         | REVIS      |           |           |  |
| PLOT SCALE = | 6:0.0000 " / in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024        | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT REPAIRS  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-19 OF S03-26 SHEETS

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 551       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

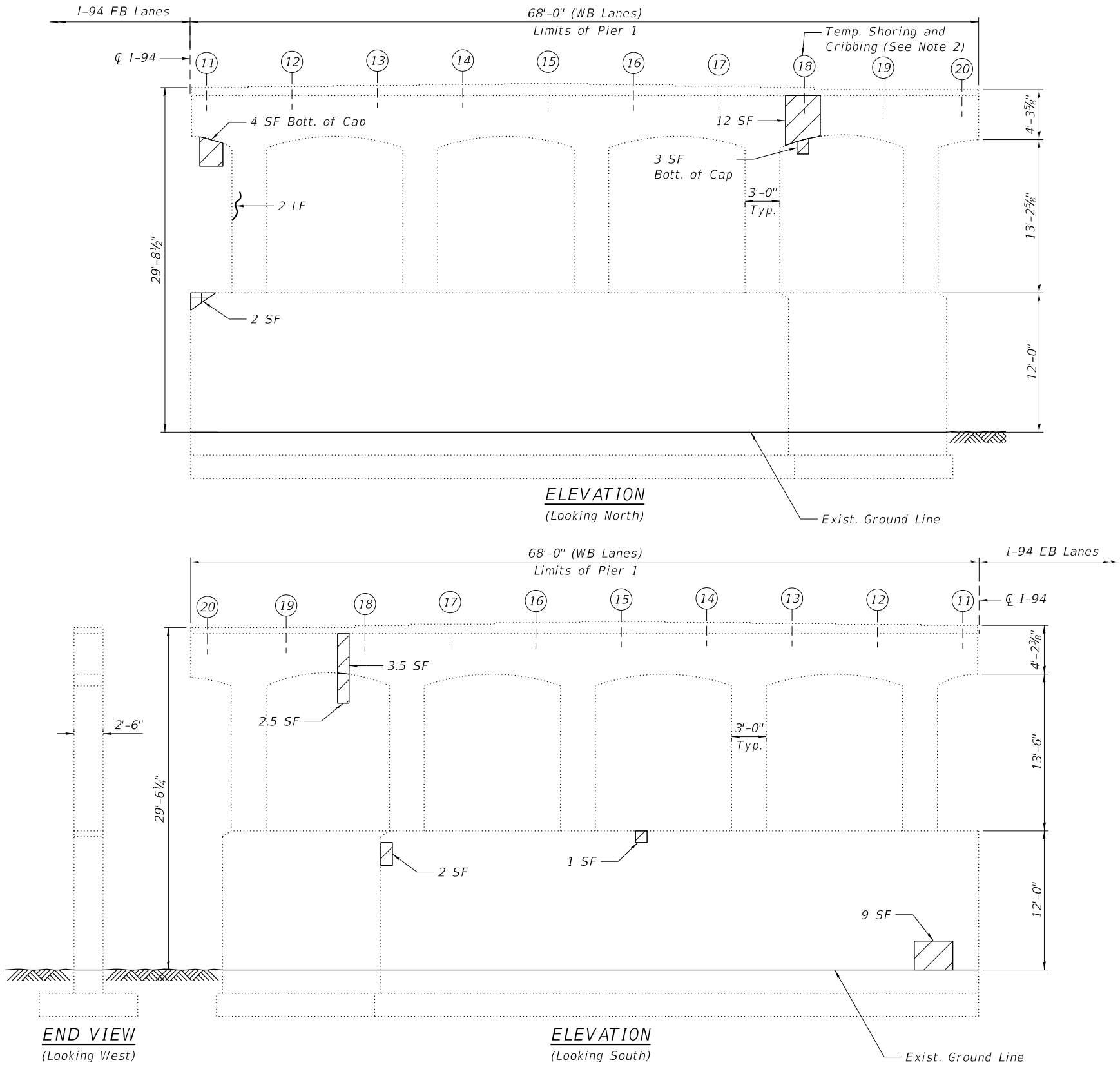
PIER 1 REPAIRS  
STRUCTURE NO. 016-0160 (WB)

SHEET 503-20 OF 503-26 SHEETS

| F.A.I. RTE.  | SECTION                | COUNTY   | TOTAL SHEETS     | SHEET NO. |
|--------------|------------------------|----------|------------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK     | 761              | 552       |
| CONTRACT NO. |                        |          | 62W87            |           |
|              |                        | ILLINOIS | FED. AID PROJECT |           |

BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Epoxy Crack Injection  | Foot  | 2        |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 37       |
| Structural Repair Of Concrete (Depth Greater Than 5 Inches)          | Sq Ft | 2        |
| Temporary Shoring And Cribbing                                       | Each  | 1        |



NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
- Structural Repair of Concrete (Depth Greater than 5 inches)
- Epoxy Crack Injection (Width > 0.06")
- SF Square Foot
- LF Linear Foot



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

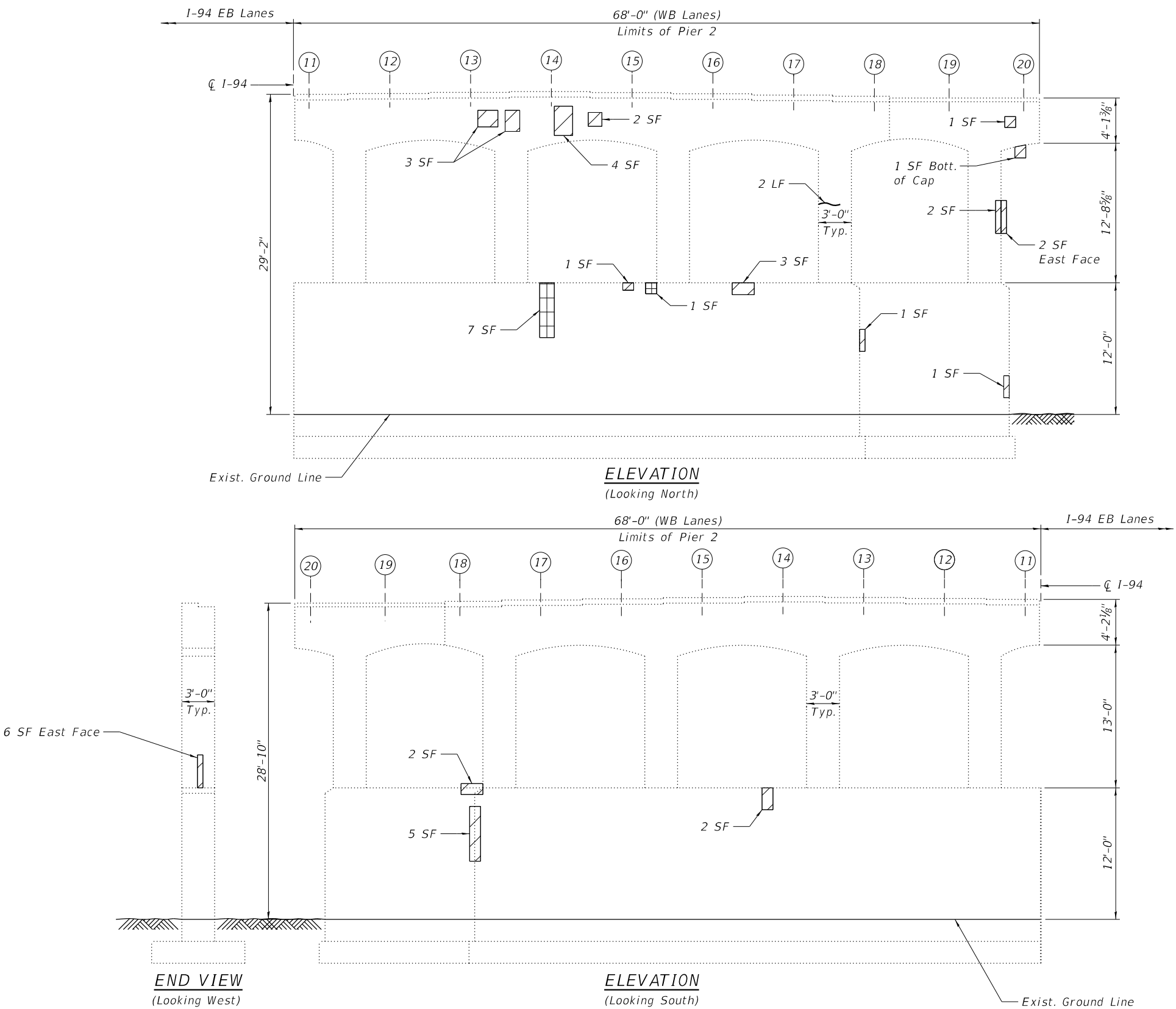
PIER 2 REPAIRS  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-21 OF S03-26 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 553          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |

BILL OF MATERIAL

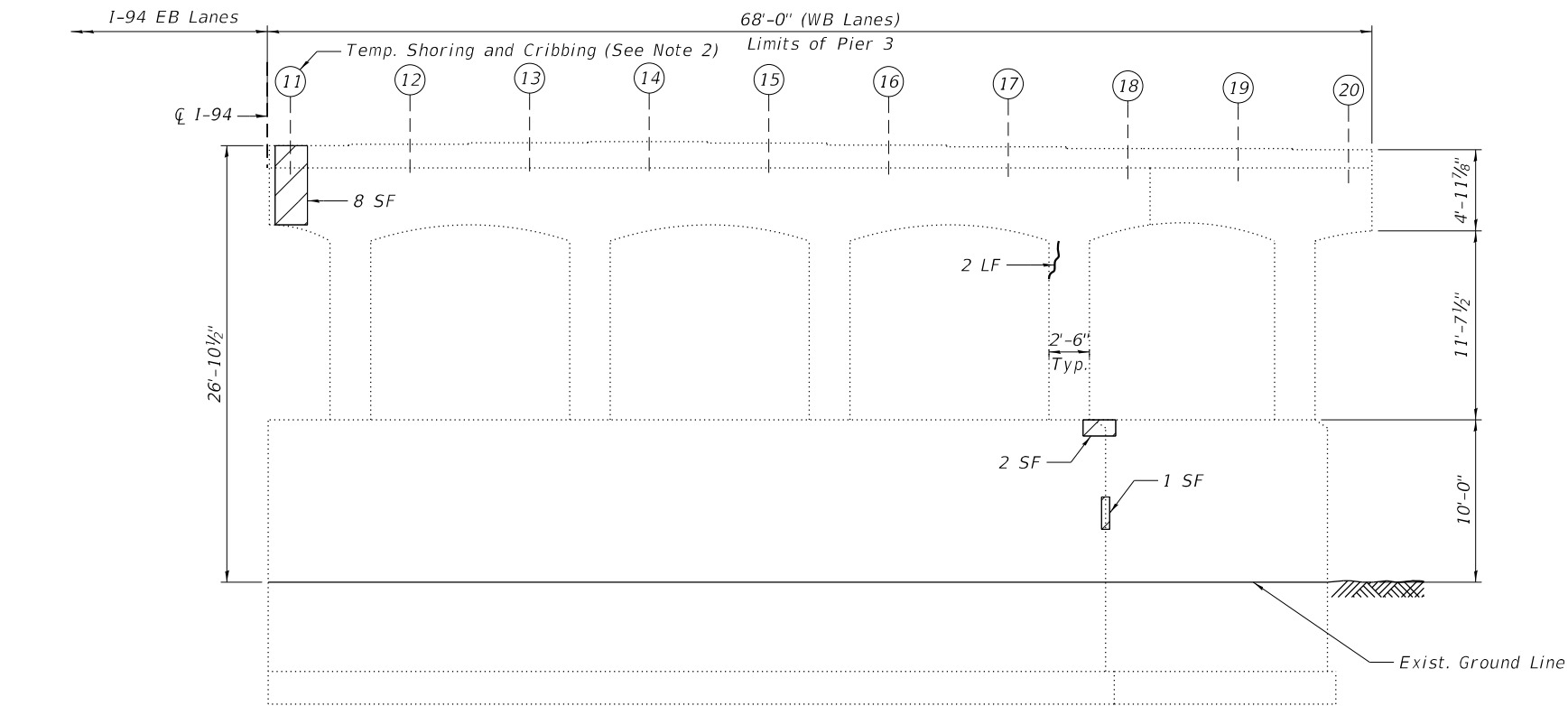
| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 3600     |
| Epoxy Crack Injection  | Foot  | 2        |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 39       |
| Structural Repair Of Concrete (Depth Greater Than 5 Inches)          | Sq Ft | 8        |



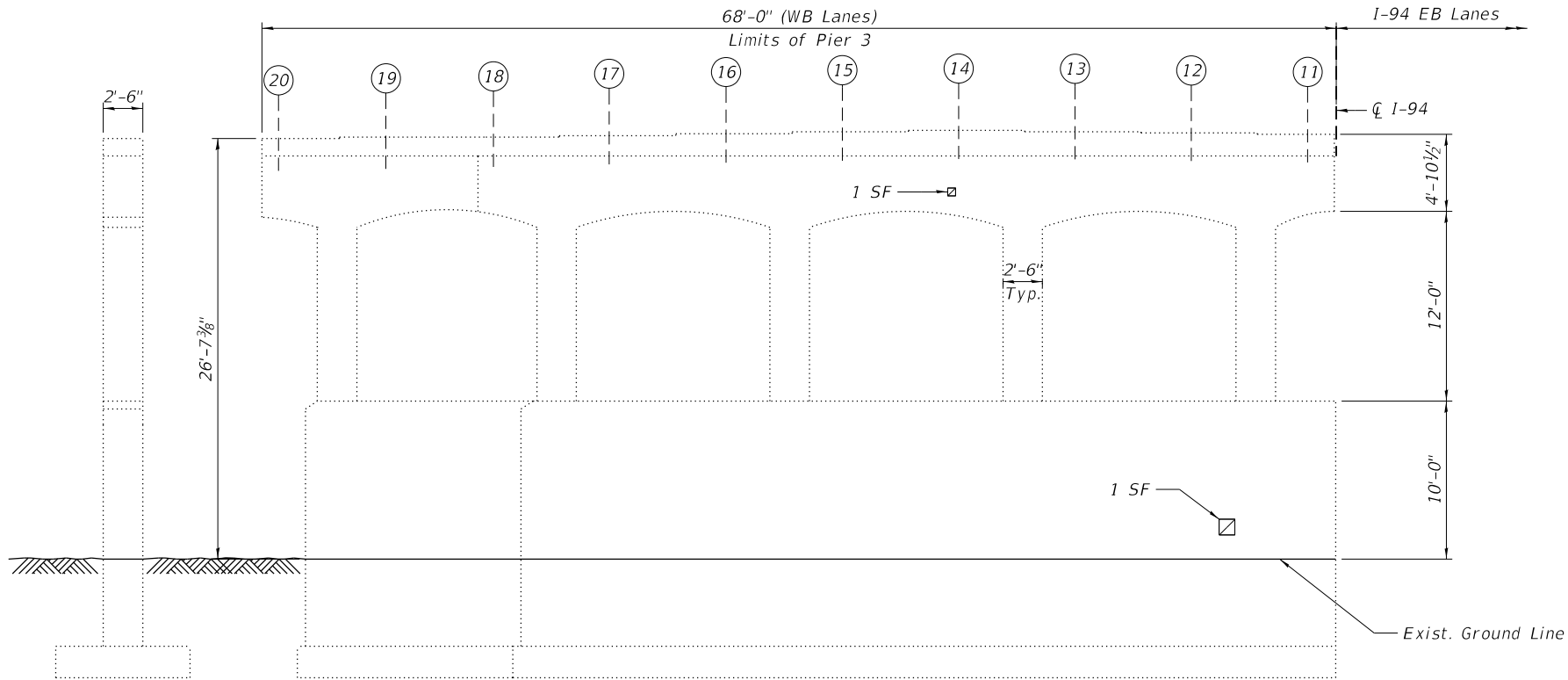
NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the exposed surfaces of the pier.





**ELEVATION**  
(Looking North)



**ELEVATION**  
(Looking South)

**END VIEW**  
(Looking West)

**BILL OF MATERIAL**

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Epoxy Crack Injection  | Foot  | 2        |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 13       |
| Temporary Shoring And Cribbing                                       | Each  | 1        |

**SUMMARY OF REACTIONS**

|             | Pier 3, Beam 11 |
|-------------|-----------------|
| R DL (k)    | 74.5            |
| R LL (k)    | 48.8            |
| R IM (k)    | 12.8            |
| R Total (k) | 136.1           |

**LEGEND**

|    |   |
|----|---|
|    | Structural Repair of Concrete<br>(Depth Equal to or Less than 5 inches) |
|    | Epoxy Crack Injection<br>(Width > 0.06")                                |
| SF | Square Foot   |
| LF | Linear Foot   |

**NOTES:**

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

|              |                      |            |           |           |  |
|--------------|----------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11ics01\$      | DESIGNED - | DEO, AWD  | REVISED - |  |
|              |                      | DRAWN -    | DEO, AWD  | REVISED - |  |
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| PLOT DATE =  | 12/6/2024            | DATE -     | 12/9/2024 | REVISED - |  |

| F.A.I. RTE. | SECTION                | COUNTY   | TOTAL SHEETS     | SHEET NO.          |
|-------------|------------------------|----------|------------------|--------------------|
| 94          | (42-B-11-1) BR, BJR 24 | COOK     | 761              | 554                |
|             |                        |          |                  | CONTRACT NO. 62W87 |
|             |                        | ILLINOIS | FED. AID PROJECT |                    |



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|            |   |                     | DRAWN    | - | DEO, AWD  | REVISED | - |
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| PLOT DATE  | = | 12/6/2024           | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

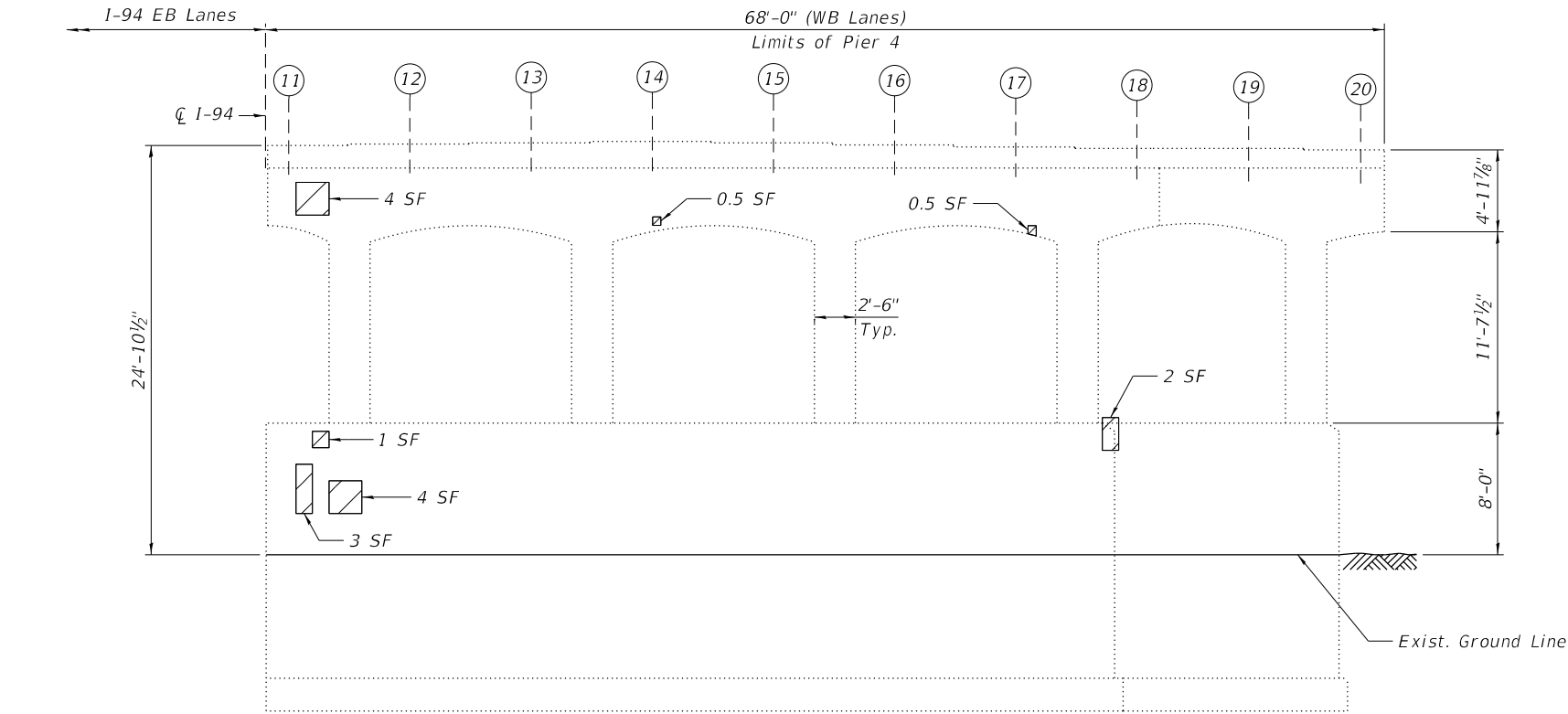
PIER 4 REPAIRS  
STRUCTURE NO. 016-0160 (WB)

SHEET S03-23 OF S03-26 SHEETS

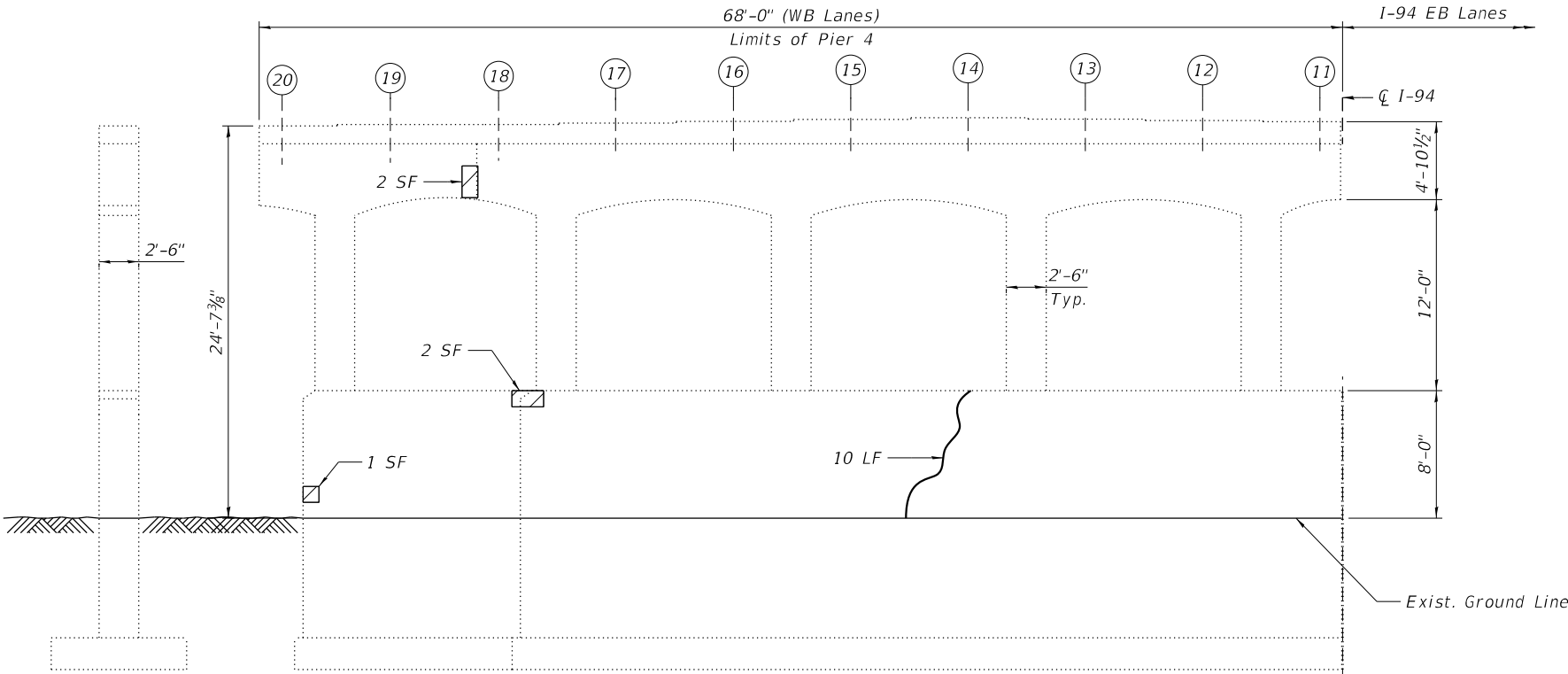
| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 555          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |

BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Epoxy Crack Injection  | Foot  | 10       |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 20       |



ELEVATION  
(Looking North)



ELEVATION  
(Looking South)

END VIEW  
(Looking West)

LEGEND



Structural Repair of Concrete  
(Depth Equal to or Less than 5  
inches)



Epoxy Crack Injection  
(Width > 0.06")

SF

Square Foot

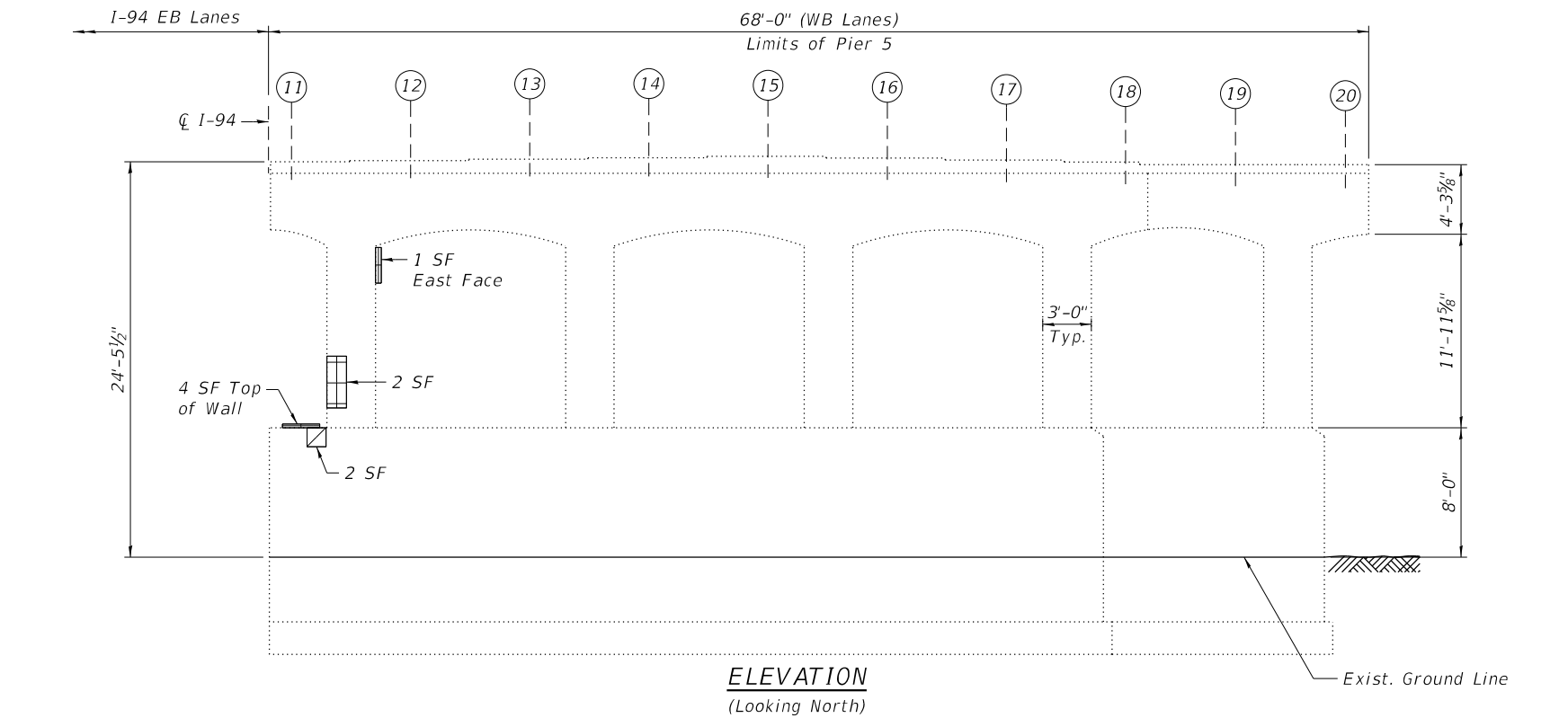
LF

Linear Foot

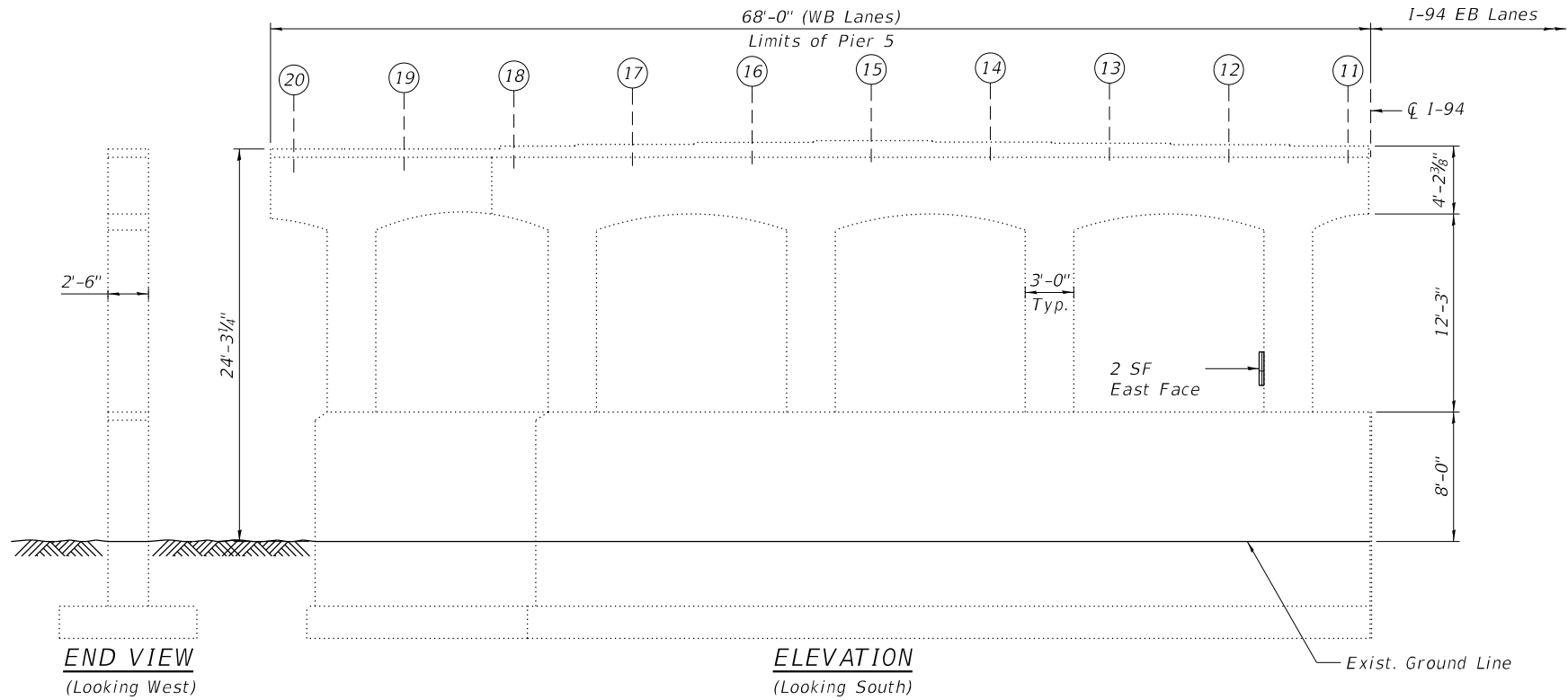
NOTE:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.





**ELEVATION**  
(Looking North)



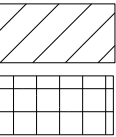
**ELEVATION**  
(Looking South)

**END VIEW**  
(Looking West)

**BILL OF MATERIAL**

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 2        |
| Structural Repair Of Concrete (Depth Greater Than 5 Inches)          | Sq Ft | 9        |

**LEGEND**



Structural Repair of Concrete  
(Depth Equal to or Less than 5 inches)

Structural Repair of Concrete  
(Depth Greater than 5 inches)

SF

Square Foot

**NOTE:**

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

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|                                   | DRAWN - DEO, AWD    | REVISED - |
| PLOT SCALE = 10:8.0000 '":' / in. | CHECKED - MI, LAB   | REVISED - |
| PLOT DATE = 12/6/2024             | DATE - 12/9/2024    | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 5 REPAIRS  
STRUCTURE NO. 016-0160 (WB)

SHEET 503-24 OF 503-26 SHEETS

| F.A.I. RTE.        | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------------|------------------------|------------------|--------------|-----------|
| 94                 | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 556       |
| CONTRACT NO. 62W87 |                        |                  |              |           |
| ILLINOIS           |                        | FED. AID PROJECT |              |           |



BILL OF MATERIAL

| ITEM                       | UNIT  | QUANTITY |
|----------------------------|-------|----------|
| Porous Granular Embankment | Cu Yd | 1        |
| Chain Link Fence, 5'       | Foot  | 5        |
| Slope Wall Crack Sealing   | Foot  | 84       |

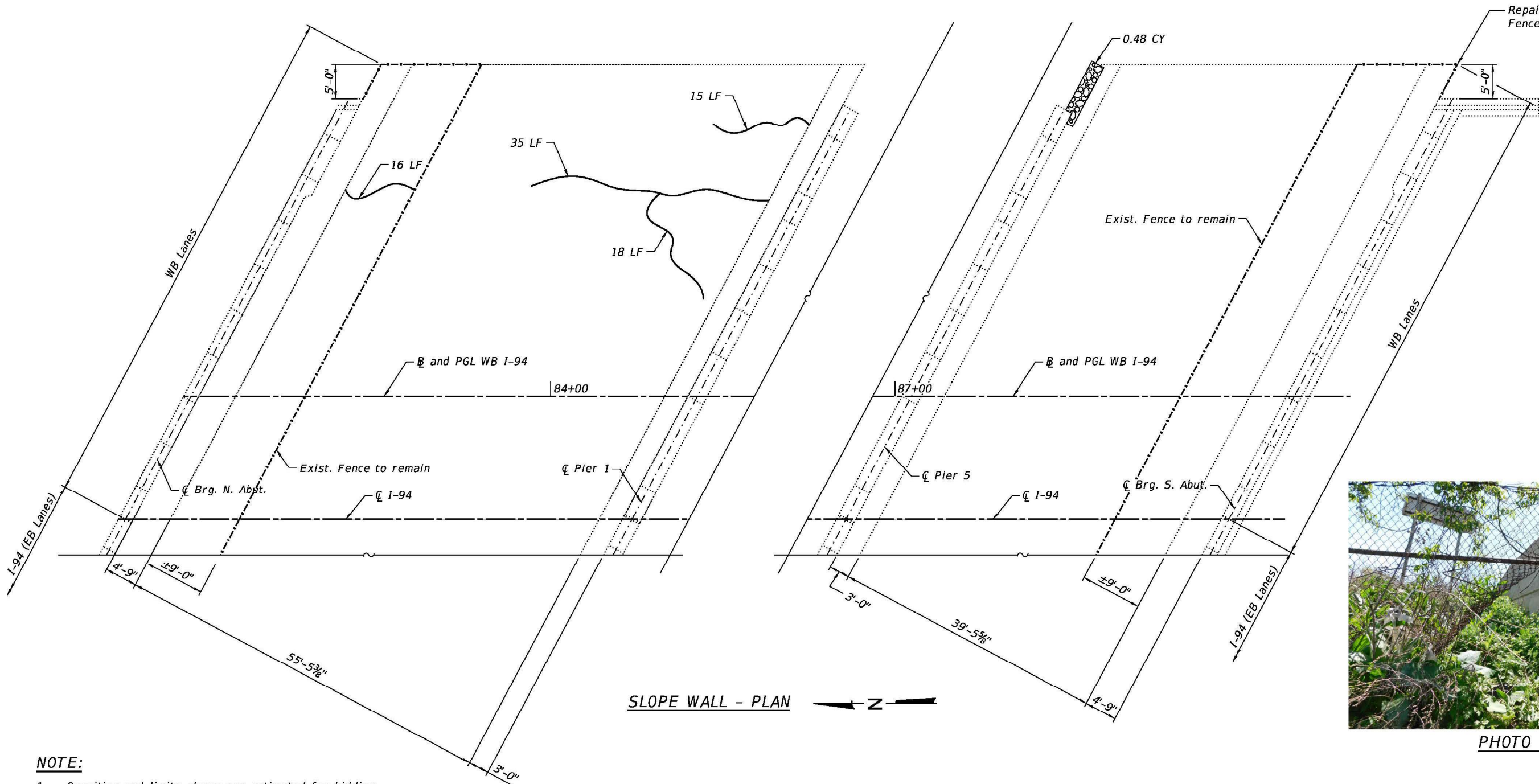


PHOTO 1

NOTE:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND



Porous Granular Embankment

Slope Wall Crack Sealing

Linear Foot

Cubic Yard

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|              |                    | DRAWN -    | DEO, AWD  | REVISED - |  |
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| PLOT DATE =  | 12/6/2024          | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SLOPE WALL REPAIRS  
STRUCTURE NO. 016-0160 (WB)

SHEET 503-25 OF 503-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 557       |
| CONTRACT NO. 62W87        |                        |        |              |           |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



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BSD-1

5-15-2023



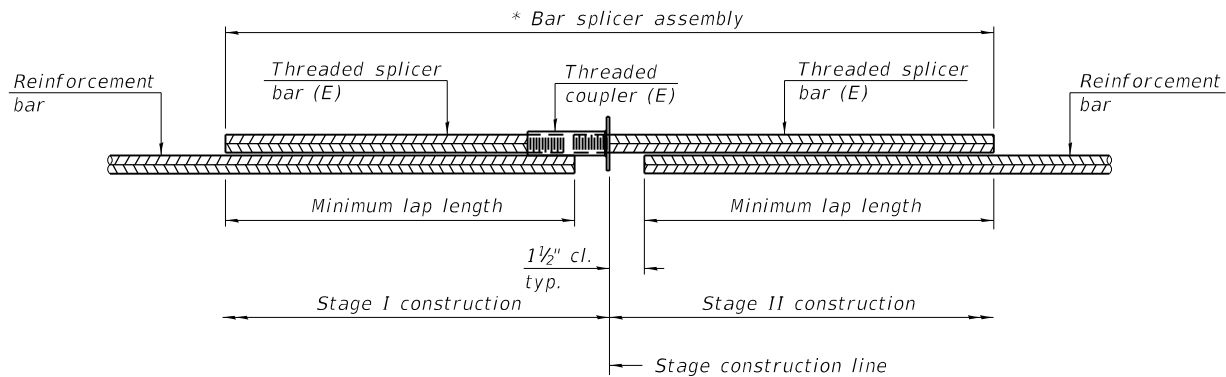
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| PLOT DATE  | = | 12/6/2024      | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY & MECHANICAL SPLICER DETAIL  
STRUCTURE NO. 016-0160 (WB)

SHEET 503-26 OF 503-26 SHEETS

| F.A.I. RTE. | SECTION                | COUNTY             | TOTAL SHEETS     | SHEET NO. |
|-------------|------------------------|--------------------|------------------|-----------|
| 94          | (42-B-11-1) BR, BJR 24 | COOK               | 761              | 558       |
|             |                        | CONTRACT NO. 62W87 |                  |           |
|             |                        | ILLINOIS           | FED. AID PROJECT |           |



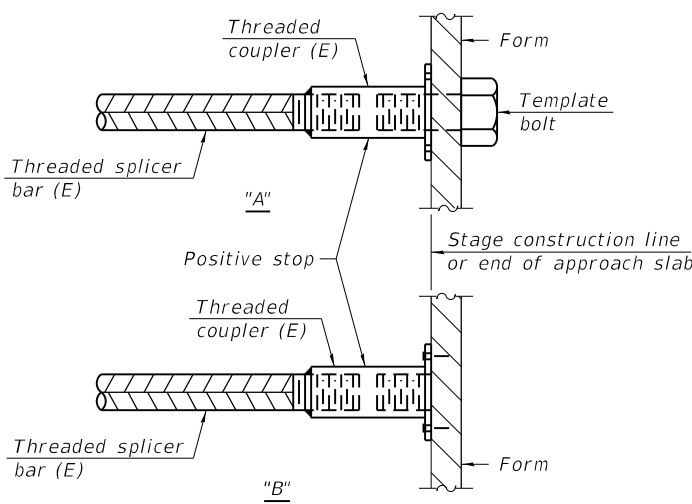
**STANDARD BAR SPLICER ASSEMBLY PLAN**

Only bar splicer assemblies as presented on the approved QPL list may be used.

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location        | Bar Size | No. assemblies | Minimum lap length |
|-----------------|----------|----------------|--------------------|
| N. Abutment Jt. | #5       | 9              | 3'-0"              |
|                 | #6       | 6              | 3'-7"              |
| Pier 2 Jt.      | #5       | 18             | 3'-0"              |
| S. Abutment Jt. | #5       | 9              | 3'-0"              |
|                 | #6       | 6              | 3'-7"              |

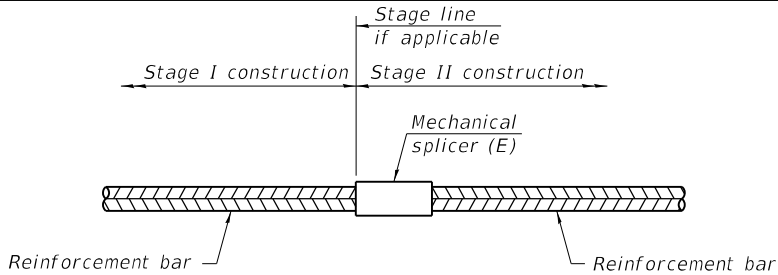


**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.

"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
|          |          |                         |
|          |          |                         |
|          |          |                         |
|          |          |                         |

Notes:  
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.



Existing Structure: S.N. 016-0160 (EB) was originally built in 1949 and was reconstructed in 1993. Structural steel repairs were performed in 2023. The bridge is a six-span structure (six rolled beam spans) carrying four lanes of EB I-94 over three railroads (IHB, Conrail, and Baltimore and Ohio Chicago Terminal). The structure has a back-to-back abutment length of 416'-7 $\frac{3}{8}$ " and an out-to-out deck width of 61'-6 $\frac{1}{2}$ ". The superstructure consists of a 7 $\frac{1}{2}$ "-thick reinforced concrete deck supported on noncomposite W36x160 and W36x210 beams at 6'-6" spacing. The substructure consists of reinforced concrete abutments and multi-column piers on concrete piles.

Traffic is to be maintained utilizing staged construction.

No salvage.

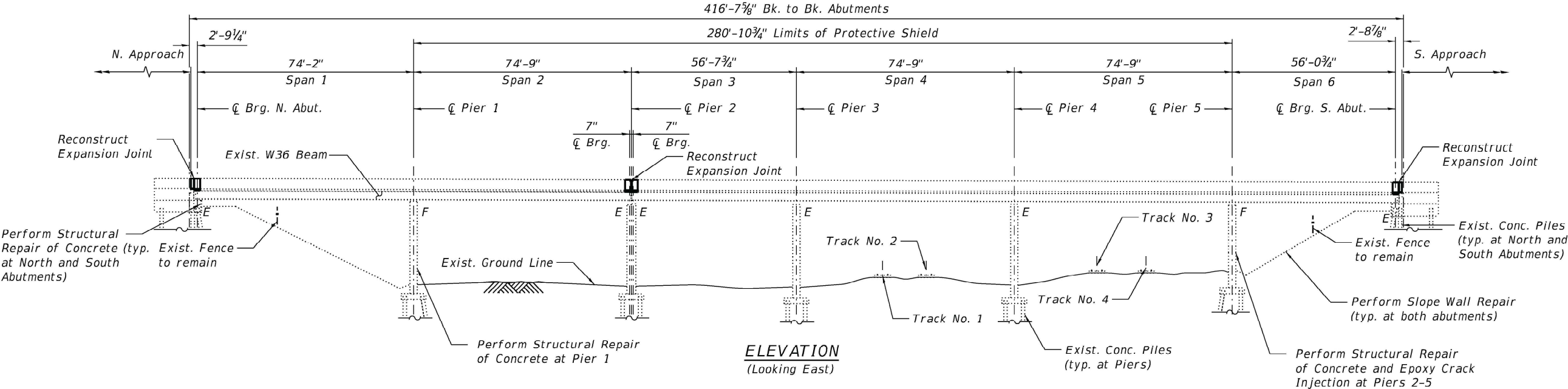
DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges (17th Edition)

RECONSTRUCTION 1992

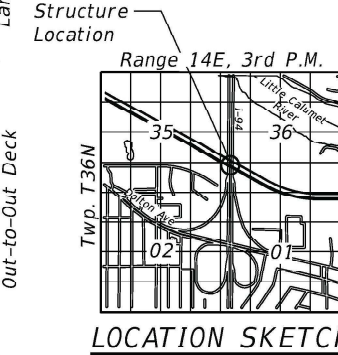
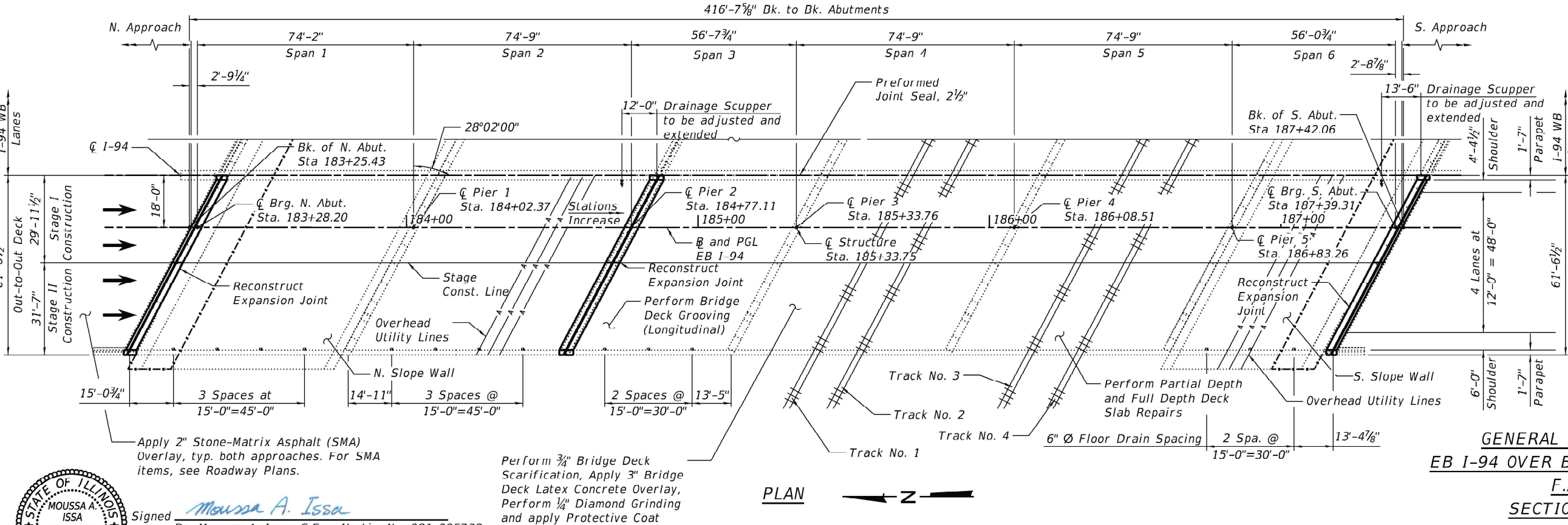
1983 AASHTO Standard Specifications for Highway Bridges with 1984 thru 1988 Interims

1983 Guide Specifications for Seismic Design of Highway Bridges with 1985 & 1988 Interim Specifications



NOTES:

- All stations are to the I-94 EB PGL and taken from existing plans.
- No future wearing surface is allowed.



GENERAL PLAN AND ELEVATION  
EB I-94 OVER B. & O.C.T. R.R. & I.H.B. R.R.  
F.A.I. ROUTE 94  
SECTION 2019-180-RS&T  
COOK COUNTY  
STATION 185+33.75  
S.N. 016-0160 (EB)



Signed Moussa A. Issa  
Dr. Moussa A. Issa, S.E. IL Lic. No. 081-005738  
Expires 11-30-2026  
Date 12/06/2024 For Sheets S04-01 thru S04-26.

HBM  
ENGINEERING GROUP, LLC

|              |                      |            |           |           |  |
|--------------|----------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$       | DESIGNED - | CJS, LR   | REVISED - |  |
| DRAWN -      | CJS, LR              | REVISED -  |           |           |  |
| PLOT SCALE = | 40:0.0000 1" = 1 in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024            | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 016-0160 (EB)

SHEET S04-01 OF S04-26 SHEETS

| F.A.I. RTE.  | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|--------|--------------|-----------|
| 94           | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 559       |
| CONTRACT NO. |                        |        | 62W87        |           |

ILLINOIS FED. AID PROJECT

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GENERAL NOTES:

1.

Reinforcement bars designated (E) shall be epoxy coated.
2.

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. The Contractor shall field-verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not cause for additional compensation for a change in the scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3.

The Contractor may request copies of existing construction plans that are currently on file with the Illinois Department of Transportation (IDOT). The request shall be in writing with the understanding that any reproduction cost will be the Contractors expense and at no additional cost to the Department.
4.

All exposed concrete edges shall have a ¾" x 45" chamfer except where shown otherwise.
5.

Protective coat shall be applied to the top of reconstructed transverse joint areas, top of new latex concrete overlay, and top and inside faces of parapets.
6.

Joint openings shall be adjusted according to Article 520.04 of the standard specifications when the deck is poured at an ambient temperature other than 50°F.
7.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose detrimental foreign material shall be removed from the surfaces in contact with concrete (SSPC-SP3 standards). Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be paid for according to Article 109.04 of the Standard Specifications. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding ¼ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
8.

The Contractor shall take all necessary precautions for the protection of passing vehicles and pedestrians from falling objects and/or materials until completion of the work.
9.

It shall be the Contractors responsibility to locate and protect any utilities or facilities on, within or under the bridge deck including but not limited to under deck lighting, traffic signals or signs attached to the structure. Any damage to existing utilities caused by the Contractor in the performance of the work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
10.

The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to existing elements to remain cause by the Contractor in the performance of the work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
11.

Cleaning and field painting of structural steel shall be done under a separate painting contract.
12.

For SMA overlay on Approach Slab, see Civil Sheets.
13.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
14.

Adjacent I-94 WB bridge is not shown throughout the plans for clarity.
15.

The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
16.

Concrete Sealer shall be applied to the designated areas of the abutments and piers.
17.

Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. See special provision for Debris Removal.
18.

The Engineer shall show actual locations and size of deck repairs on As-built Plans.

INDEX OF SHEETS

|        |  |
|--------|--|
| S04-01 | General Plan and Elevation                         |
| S04-02 | General Notes, Index of Sheets & TBOM              |
| S04-03 | Stage Construction (Sheet 1 of 2)                  |
| S04-04 | Stage Construction (Sheet 2 of 2)                  |
| S04-05 | Temporary Concrete Barrier                         |
| S04-06 | Deck Repair Plan (Sheet 1 of 2)                    |
| S04-07 | Deck Repair Plan (Sheet 2 of 2)                    |
| S04-08 | Drainage Scupper Adjustment Details                |
| S04-09 | N. Abut. Joint Removal & Replacement (Sht. 1 of 3) |
| S04-10 | N. Abut. Joint Removal & Replacement (Sht. 2 of 3) |
| S04-11 | N. Abut. Joint Removal & Replacement (Sht. 3 of 3) |
| S04-12 | Pier 2 Joint Removal & Replacement (Sht. 1 of 2)   |
| S04-13 | Pier 2 Joint Removal & Replacement (Sht. 2 of 2)   |
| S04-14 | S. Abut. Joint Removal & Replacement (Sht. 1 of 3) |
| S04-15 | S. Abut. Joint Removal & Replacement (Sht. 2 of 3) |
| S04-16 | S. Abut. Joint Removal & Replacement (Sht. 3 of 3) |
| S04-17 | Preformed Joint Strip Seal                         |
| S04-18 | North Abutment Repairs                             |
| S04-19 | South Abutment Repairs                             |
| S04-20 | Pier 1 Repairs                                     |
| S04-21 | Pier 2 Repairs                                     |
| S04-22 | Pier 3 Repairs                                     |
| S04-23 | Pier 4 Repairs                                     |
| S04-24 | Pier 5 Repairs                                     |
| S04-25 | Slope Wall Repairs                                 |
| S04-26 | Bar Splicer Assembly & Mechanical Splicer Detail   |

TOTAL BILL OF MATERIAL

| ITEM   | UNIT  | SUPER | SUB   | TOTAL |
|--|-------|-------|-------|-------|
| Porous Granular Embankment   | Cu Yd | -     | 1     | 1     |
| Concrete Removal   | Cu Yd | 32.6  | -     | 32.6  |
| Protective Shield  | Sq Yd | 1,921 | -     | 1,921 |
| Concrete Superstructure  | Cu Yd | 36.9  | -     | 36.9  |
| Protective Coat  | Sq Yd | 3,120 | -     | 3,120 |
| Reinforcement Bars, Epoxy Coated                                     | Pound | 5,050 | -     | 5,050 |
| Bar Splicers   | Each  | 48    | -     | 48    |
| Preformed Joint Seal 2 1/2"  | Foot  | 414   | -     | 414   |
| Preformed Joint Strip Seal   | Foot  | 210   | -     | 210   |
| Concrete Sealer  | Sq Ft | -     | 4,241 | 4,241 |
| Epoxy Crack Injection  | Foot  | -     | 36    | 36    |
| Bolt Replacement   | Each  | -     | 2     | 2     |
| Slope Wall Crack Sealing   | Foot  | -     | 50    | 50    |
| Bridge Deck Grooving (Longitudinal)                                  | Sq Yd | 2,217 | -     | 2,217 |
| Deck Drain Extensions  | Each  | 16    | -     | 16    |
| Bridge Deck Latex Concrete Overlay, 3 Inches                         | Sq Yd | 2,617 | -     | 2,617 |
| Bridge Deck Scarification 3/4"                                       | Sq Yd | 2,617 | -     | 2,617 |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | -     | 268   | 268   |
| Structural Repair Of Concrete (Depth Greater Than 5 Inches)          | Sq Ft | -     | 3     | 3     |
| Deck Slab Repair (Full Depth, Type I)                                | Sq Yd | 0.1   | -     | 0.1   |
| Drainage Scuppers To Be Adjusted                                     | Each  | 2     | -     | 2     |
| Diamond Grinding (Bridge Section)                                    | Sq Yd | 2,511 | -     | 2,511 |
| Temporary Shoring And Cribbing                                       | Each  | -     | 2     | 2     |

PROPOSED SCOPE OF WORK

1.

Provide Protective shield within limits indicated on the plans.
2.

Perform Deck Slab Repairs and adjust and extend existing scuppers and floor drains as required.
3.

Perform ¾" Bridge Deck Scarification.
4.

Reconstruct Expansion Joints at the North and South abutments and Pier 2 and install new preformed joint strip seals.
5.

Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
6.

Perform ¼" Diamond Grinding to top of bridge deck and abutment hatch block.
7.

Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
8.

Apply protective coat to the top of reconstructed transverse joint areas, top of new latex concrete overlay and top and inside faces of parapets.
9.

Perform structural repair of concrete to all spalled and delaminated areas, and perform low pressure epoxy injection to all open cracks (⅛"-wide and wider), for the abutments and piers as noted on the plans.
10.

Perform Slope Wall repairs.

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DEPARTMENT OF TRANSPORTATION

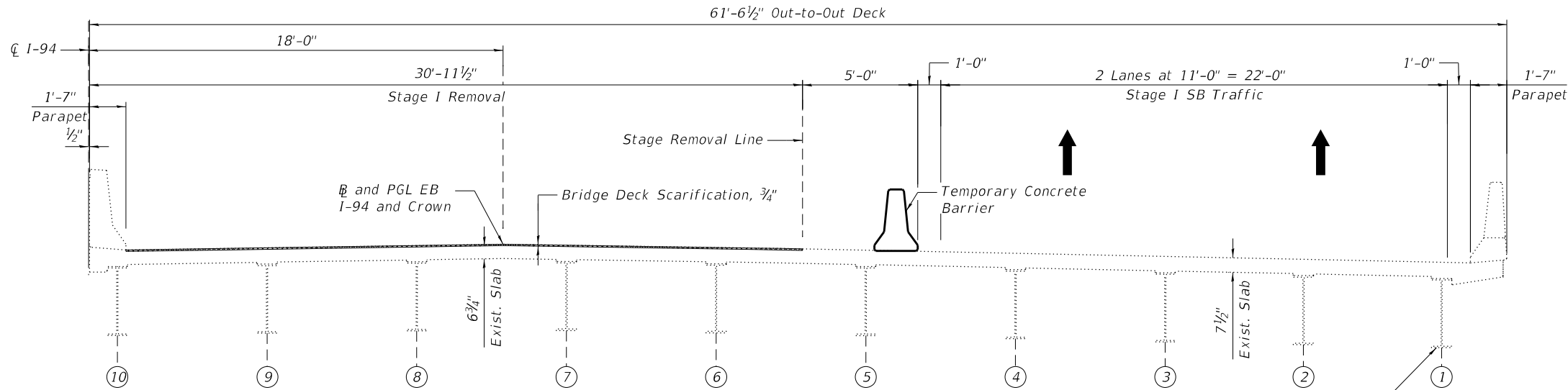
GENERAL NOTES, INDEX OF SHEETS & TBOM  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-02 OF S04-26 SHEETS

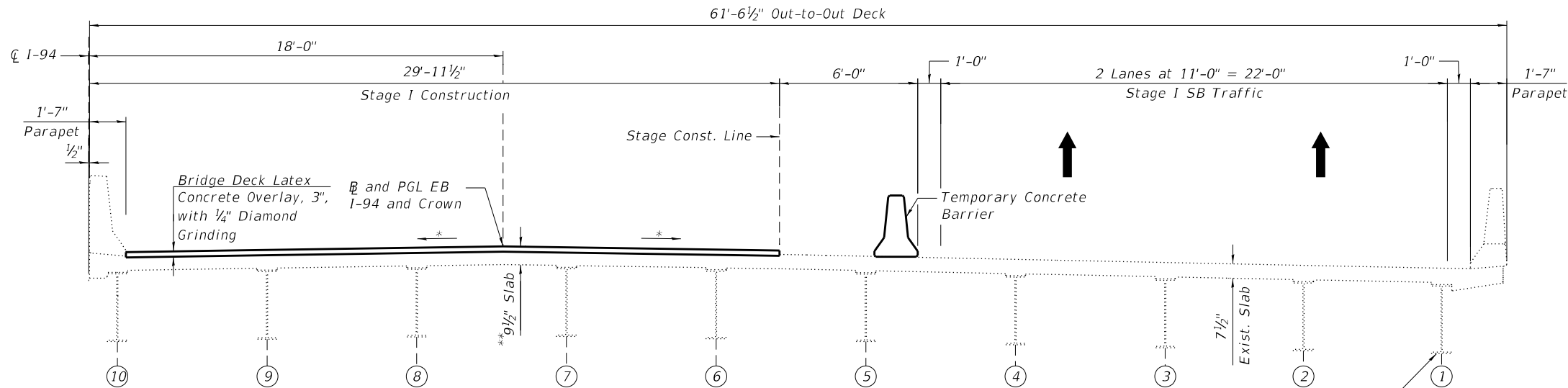
| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 560          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED.AID PROJECT    |                 |              |







**STAGE I REMOVAL**  
(Looking South)



**STAGE I CONSTRUCTION**  
(Looking South)

### STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. Perform  $\frac{3}{4}$ " bridge deck scarification.
3. Remove portions of bridge deck/approach slab adjacent to expansion joints at the North and South Abutments, and remove portions of bridge deck slab adjacent to expansion joint at Pier 2.

### STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
3. Adjust existing drainage scuppers per the details shown in the plans.
4. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
5. Apply 3" bridge deck latex concrete overlay.
6. Perform  $\frac{1}{4}$ " diamond grinding to bridge deck and abutment hatch block.
7. Perform Bridge Deck Grooving (Longitudinal) for the 3" bridge deck latex concrete overlay and reconstructed expansion joint areas.
8. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach slab and taper into existing roadway. See Roadway Plans.
9. Apply protective coat to top and inside faces of parapets, reconstructed transverse expansion joint areas and to the surface of the new overlay.
10. Perform slope wall repairs as shown on the plans.

### NOTES:

1. For Temporary Concrete Barrier details, see Sheet S04-05.
2. For quantity of Temporary Concrete Barrier, see Roadway Plans.

\*Match Existing Cross-Slopes

\*\*After grinding

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|            |   |                  |          |   |           |         |   |
|------------|---|------------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11\cs01\$  | DESIGNED | - | DEO, AWD  | REVISED | - |
|            |   |                  | DRAWN    | - | DEO, AWD  | REVISED | - |
| PLOT SCALE | = | 6:0.0000 " / in. | CHECKED  | - | MI, LAB   | REVISED | - |
| PLOT DATE  | = | 12/6/2024        | DATE     | - | 12/9/2024 | REVISED | - |

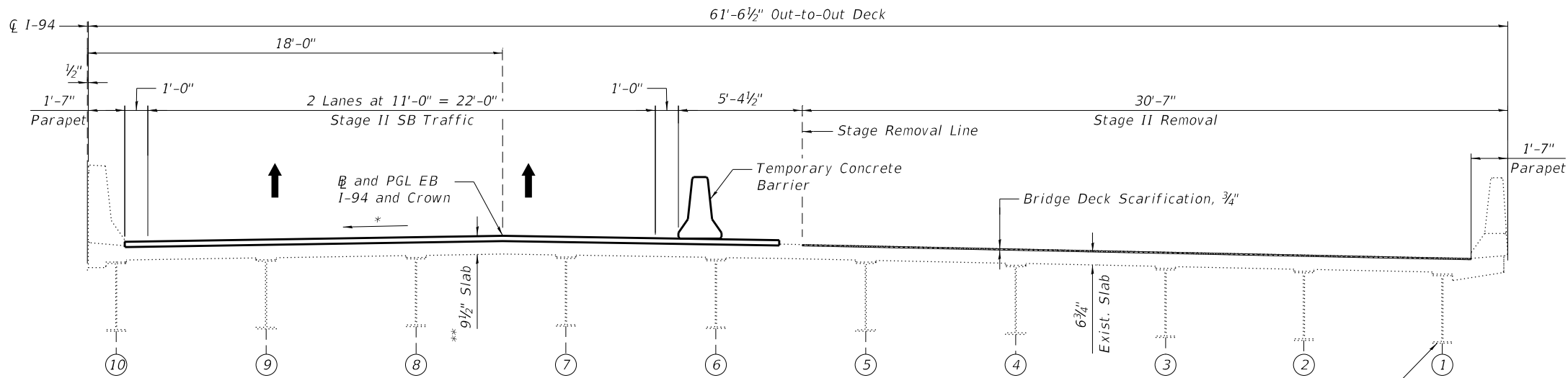
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION (SHEET 1 OF 2)  
STRUCTURE NO. 016-0160 (EB)

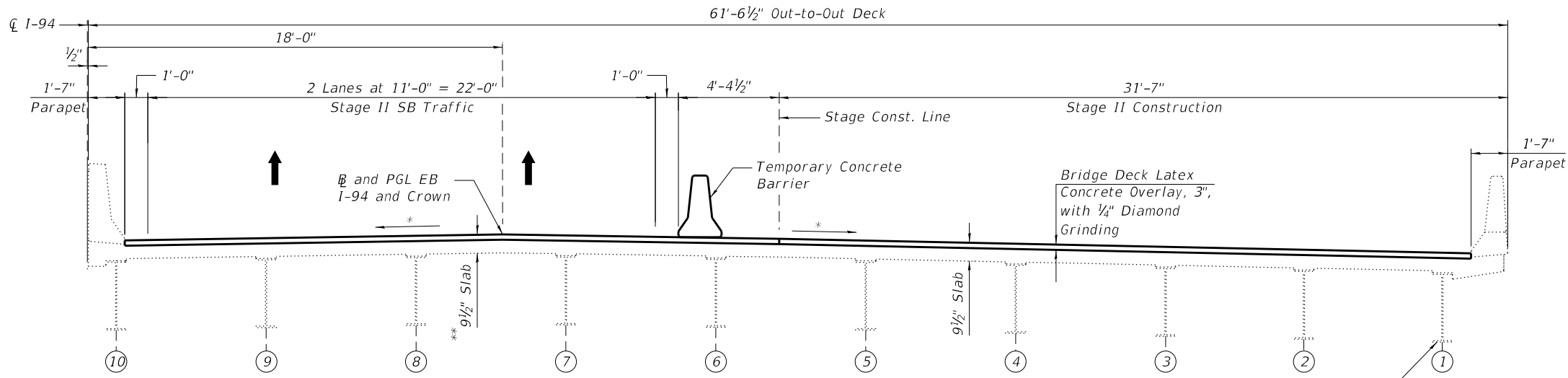
SHEET S04-03 OF S04-26 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 561          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |

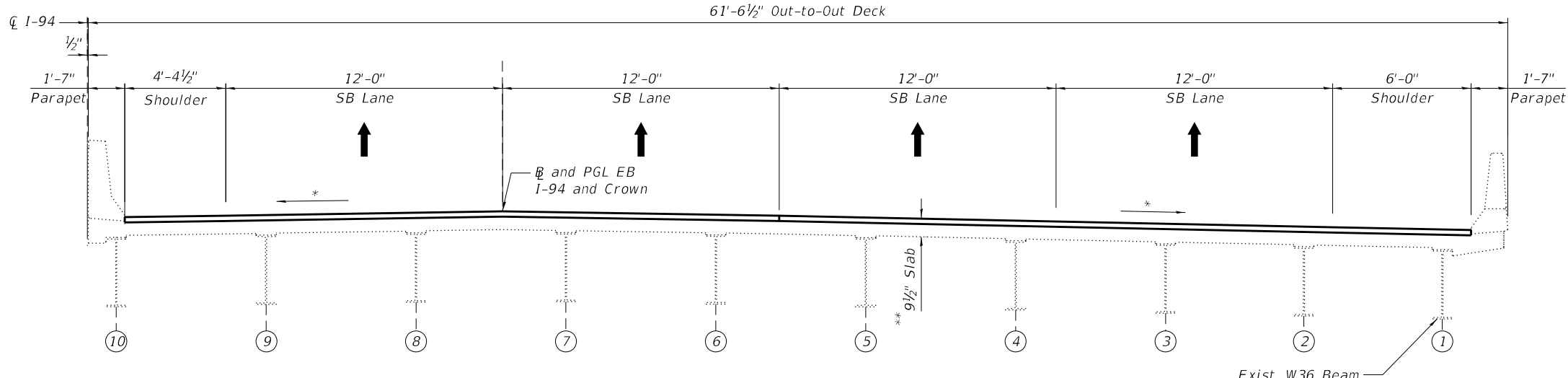




STAGE II REMOVAL  
(Looking South)



STAGE II CONSTRUCTION  
(Looking South)



FINAL DECK CROSS SECTION  
(Looking South)

STAGE II REMOVAL

1. Relocate temporary concrete barrier as shown to locate traffic on the east side of the existing structure.
2. Perform  $\frac{3}{4}$ " bridge deck scarification.
3. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
4. Remove portions of bridge deck/approach slab adjacent to expansion joints at the North and South Abutments and remove portions of bridge deck slab adjacent to expansion joint at pier 2.

STAGE II CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage II Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform  $\frac{1}{4}$ " diamond grinding to bridge deck and abutment hatch block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" bridge deck latex concrete overlay and reconstructed expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach slab and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of parapets, reconstructed transverse expansion joint areas, and to the surface of the new overlay.
9. Perform slope wall repairs as shown on the plans.

NOTES:

1. For Temporary Concrete Barrier details, see Sheet S04-05.
2. For quantity of Temporary Concrete Barrier, see Roadway Plans.

\*Match Existing Cross-Slopes

\*\*After grinding

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|              |                       |            |           |           |  |
|--------------|-----------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$        | DESIGNED - | DEO, AWD  | REVISED - |  |
|              |                       | DRAWN -    | DEO, AWD  | REVISED - |  |
| PLOT SCALE = | 6:0.0000 " = 1" / in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024             | DATE -     | 12/9/2024 | REVISED - |  |

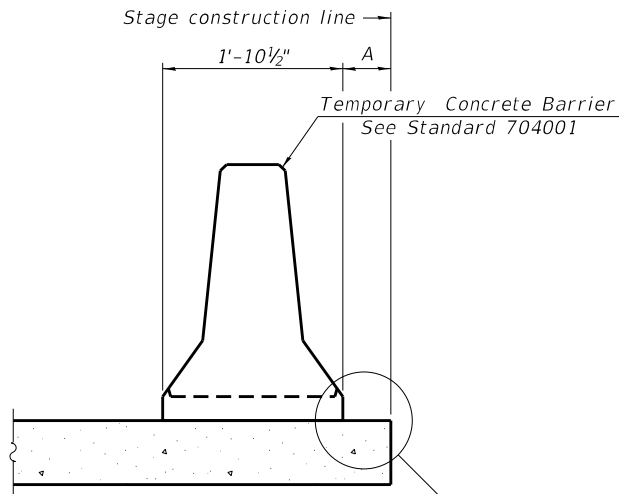
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION (SHEET 2 OF 2)  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-04 OF S04-26 SHEETS

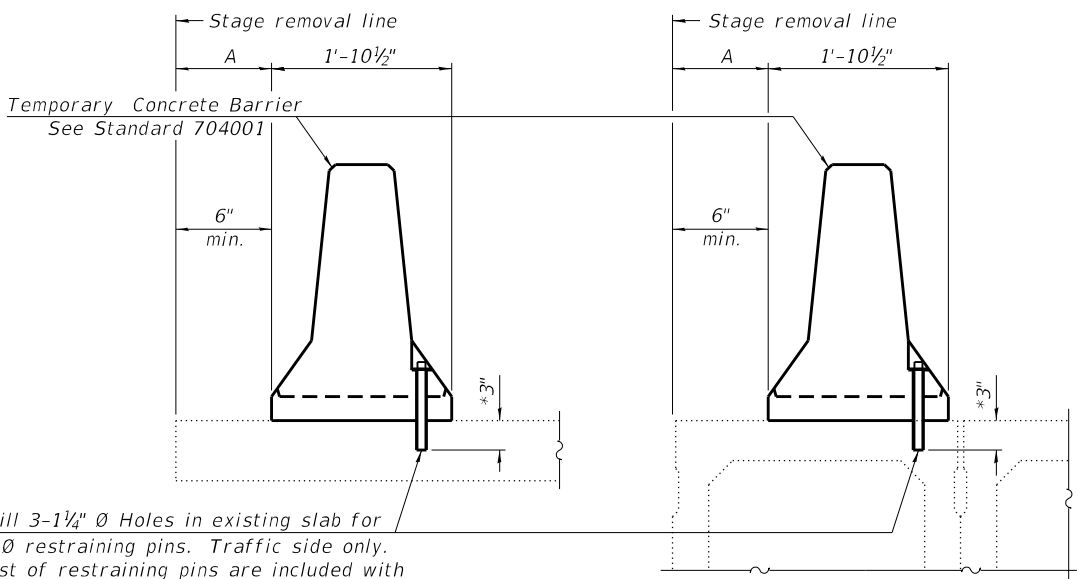
| F.A.I. RTE. | SECTION                | COUNTY   | TOTAL SHEETS     | SHEET NO.          |
|-------------|------------------------|----------|------------------|--------------------|
| 94          | (42-B-11-1) BR, BJR 24 | COOK     | 761              | 562                |
|             |                        |          |                  | CONTRACT NO. 62W87 |
|             |                        | ILLINOIS | FED. AID PROJECT |                    |





When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



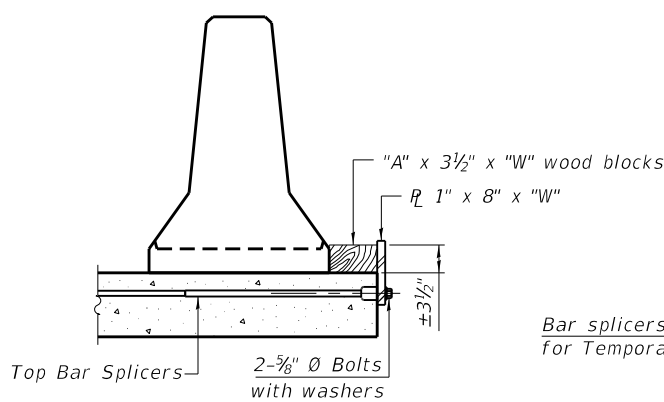
Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

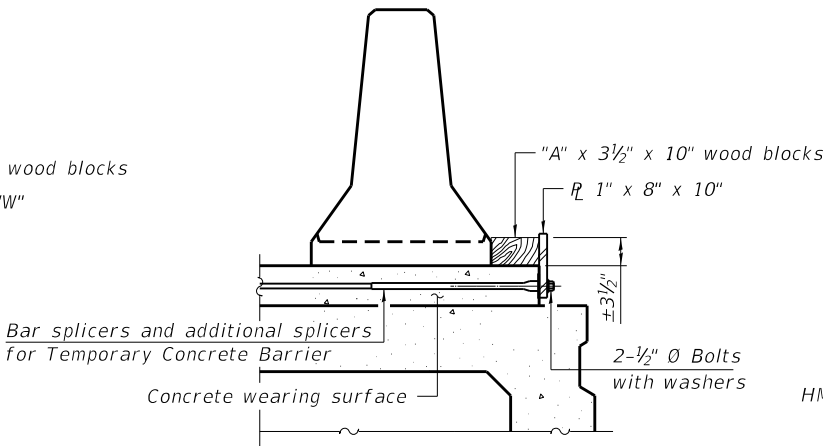
\*When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

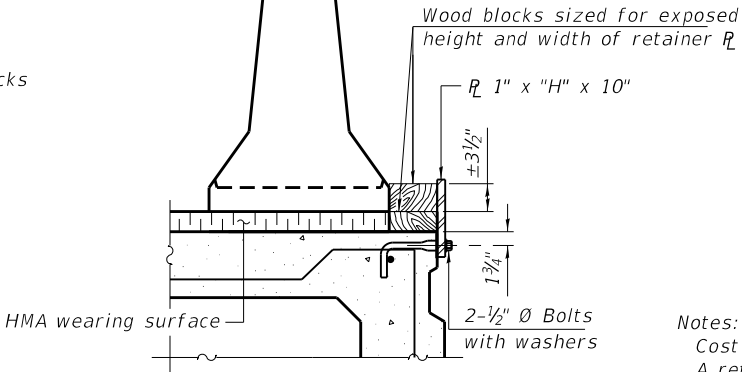
SECTIONS THRU SLAB OR DECK BEAM



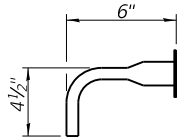
DETAIL I



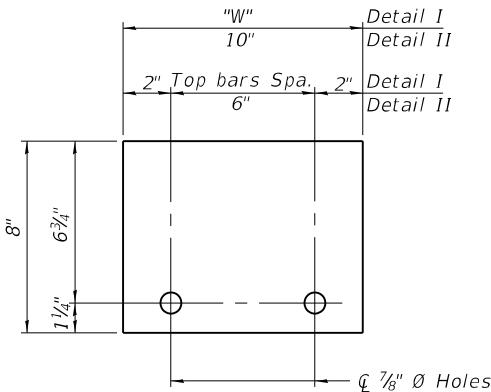
DETAIL II



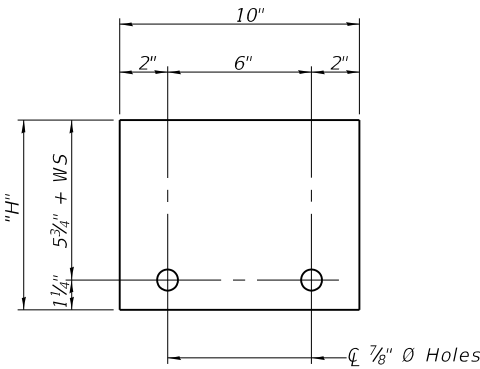
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"  
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"  
(Detail III)

Notes:  
Cost of retainer assembly is included with Temporary Concrete Barrier.  
A retainer assembly shall be located at the approximate  $\mathcal{C}$  of each temporary concrete barrier.  
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.  
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.  
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

| RAILING CRITERIA     |     |
|----------------------|-----|
| NCHRP 350 Test Level | 3   |
| Railing Weight (plf) | 440 |

R-27 5-15-2023

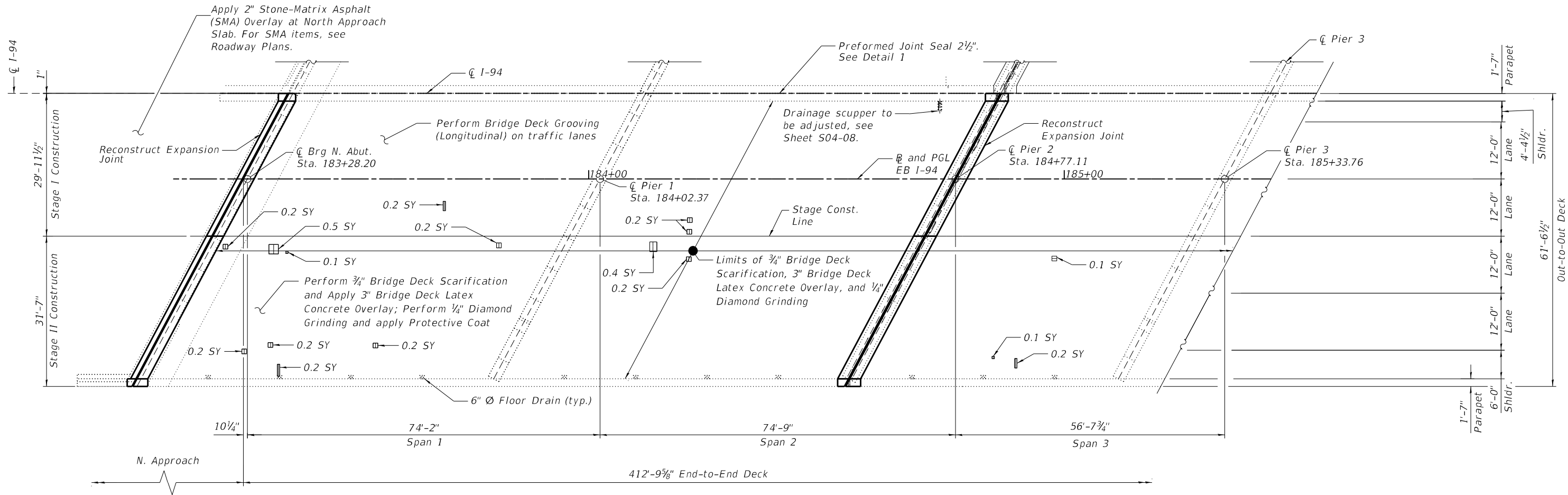
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER  
STRUCTURE NO. 016-0160 (EB)

| F.A.I. RTE. | SECTION                | COUNTY   | TOTAL SHEETS     | SHEET NO.          |
|-------------|------------------------|----------|------------------|--------------------|
| 94          | (42-B-11-1) BR, BJR 24 | COOK     | 761              | 563                |
|             |                        |          |                  | CONTRACT NO. 62W87 |
|             |                        | ILLINOIS | FED. AID PROJECT |                    |



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DECK PLAN

\*Areas of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3"

NOTE:

- For Notes, Bill of Material and Detail 1, see Sheet S04-07.

LEGEND

|    |                                       |
|----|---------------------------------------|
|    | Deck Slab Repair (Partial)*           |
|    | Deck Slab Repair (Full Depth, Type I) |
| SY | Square Yard                           |



|            |   |                       |          |   |           |         |   |
|------------|---|-----------------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11ics01\$       | DESIGNED | - | DEO, AWD  | REVISED | - |
| DRAWN      | - | DEO, AWD              | REVISED  | - |           |         |   |
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| PLOT DATE  | = | 12/6/2024             | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN (SHEET 1 OF 2)  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-06 OF S04-26 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 564          |
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| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |







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|            |   |                 | DRAWN    | - | DEO       | REVISED | - |
| PLOT SCALE | = | 2:0.0000 " = 1" | CHECKED  | - | MI, LAB   | REVISED | - |
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

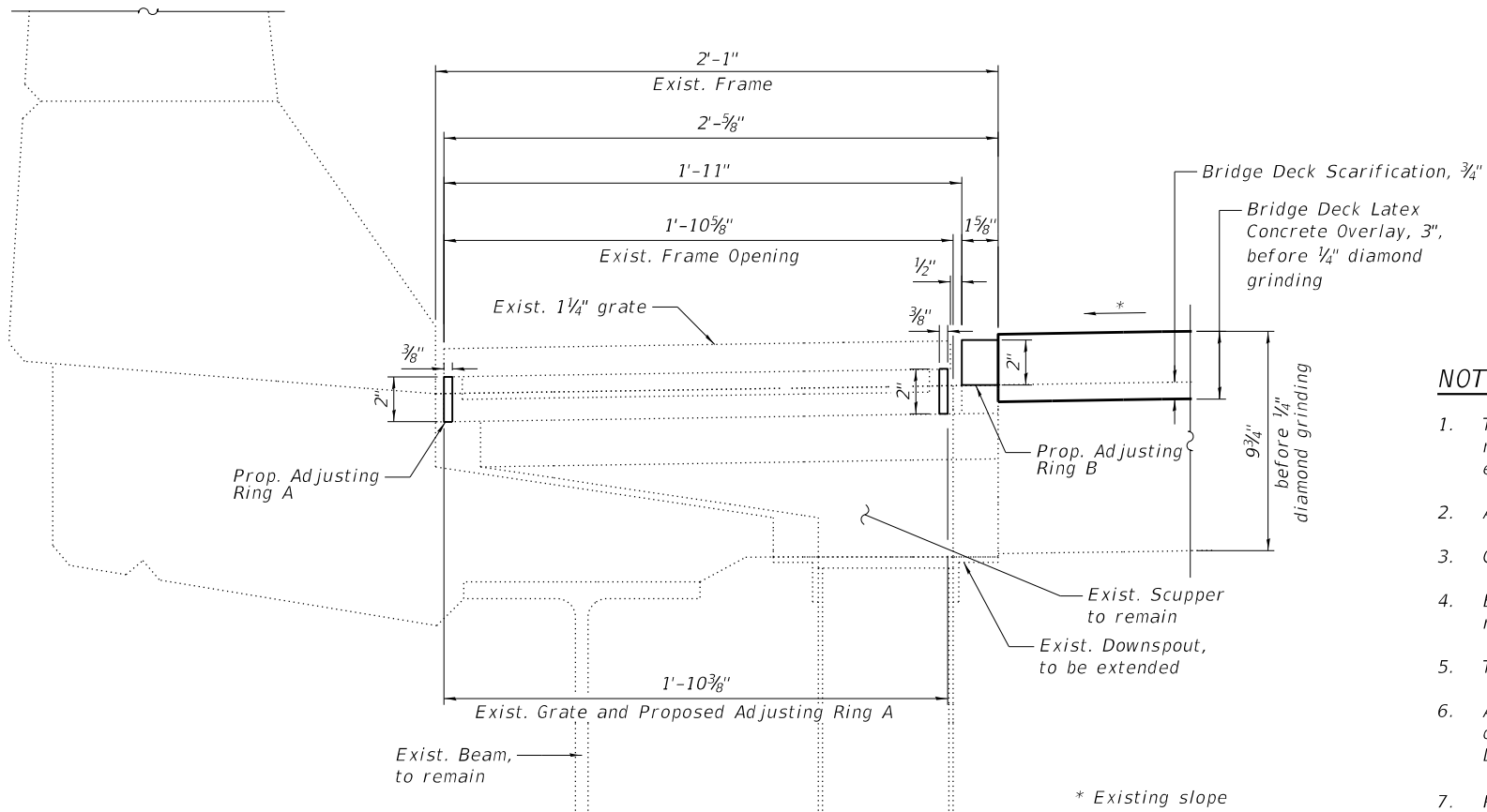
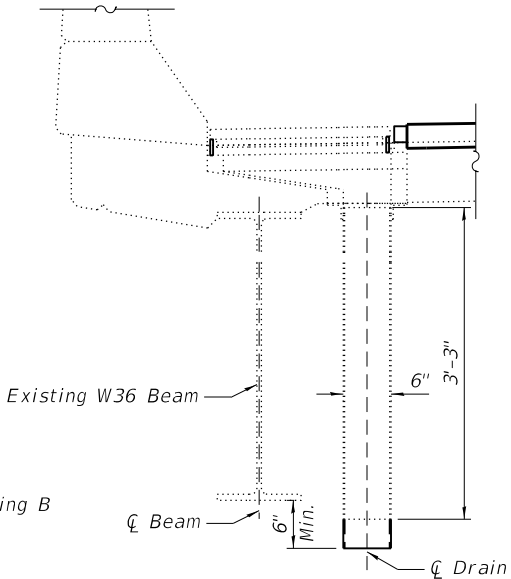
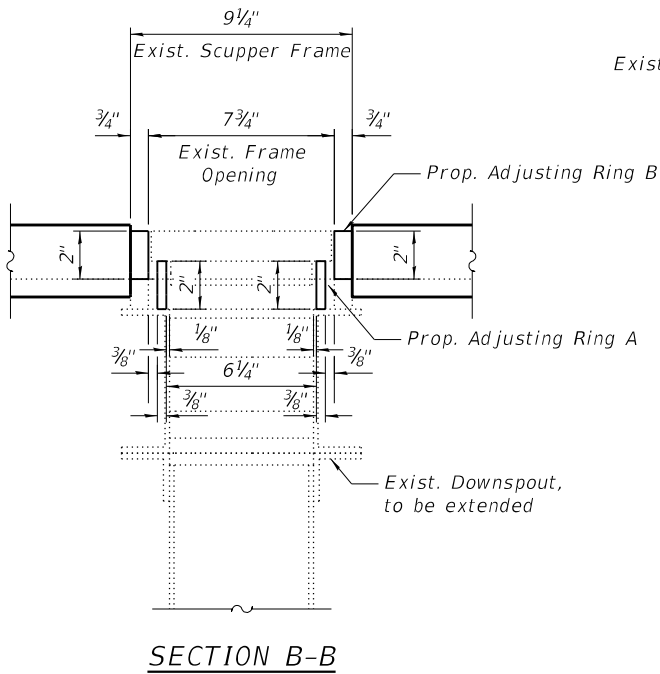
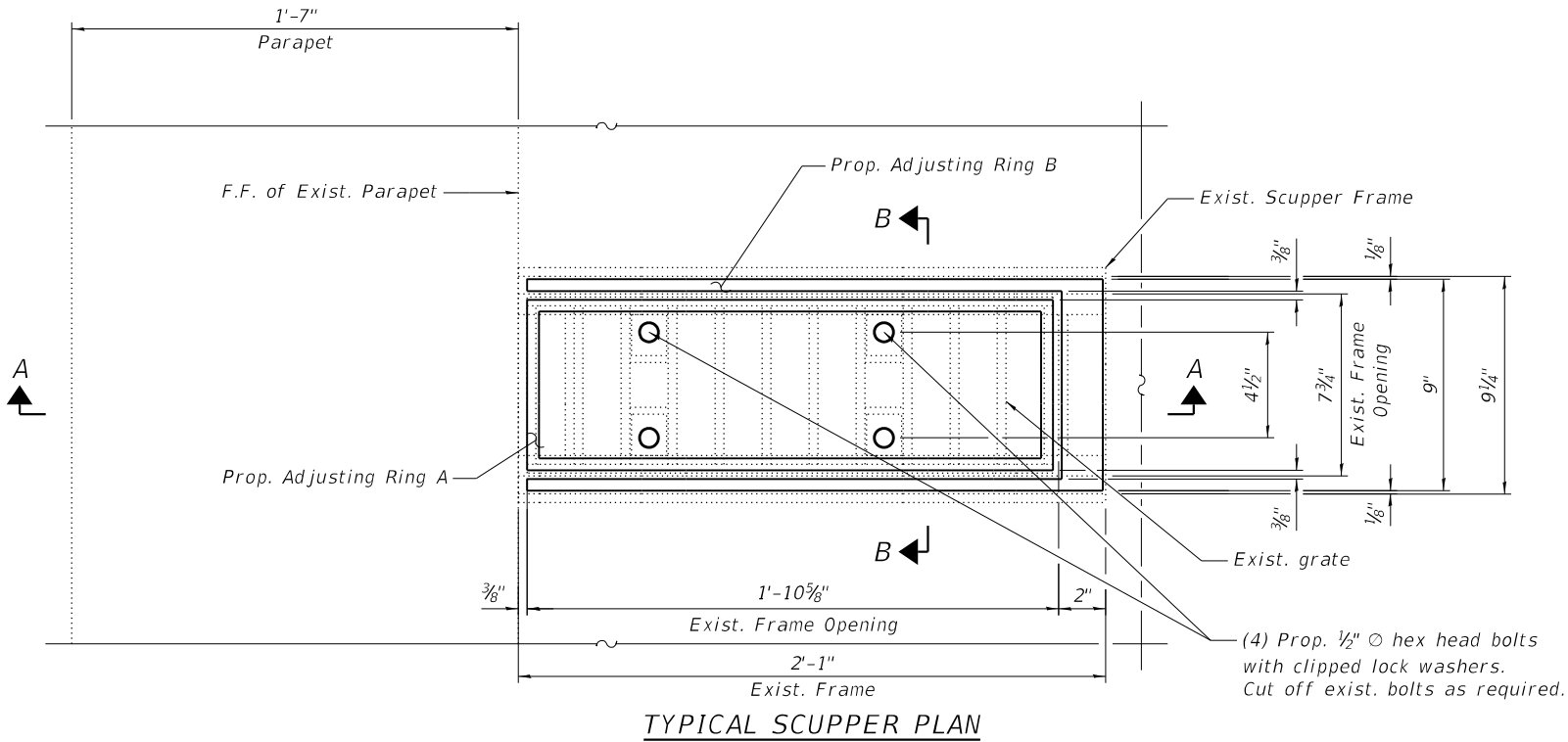
DRAINAGE SCUPPER ADJUSTMENT DETAILS  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-08 OF S04-26 SHEETS

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 566       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |

BILL OF MATERIAL

| ITEM                             | UNIT | QUANTITY |
|----------------------------------|------|----------|
| Deck Drain Extensions            | Each | 16       |
| Drainage Scuppers To Be Adjusted | Each | 2        |

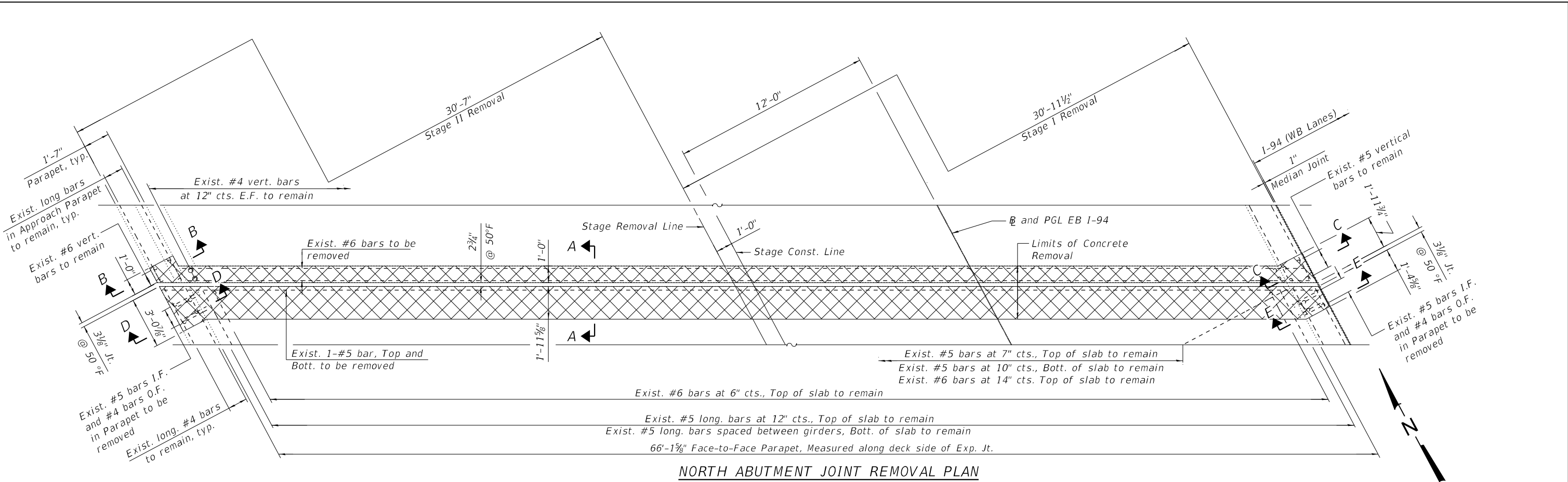


NOTES:

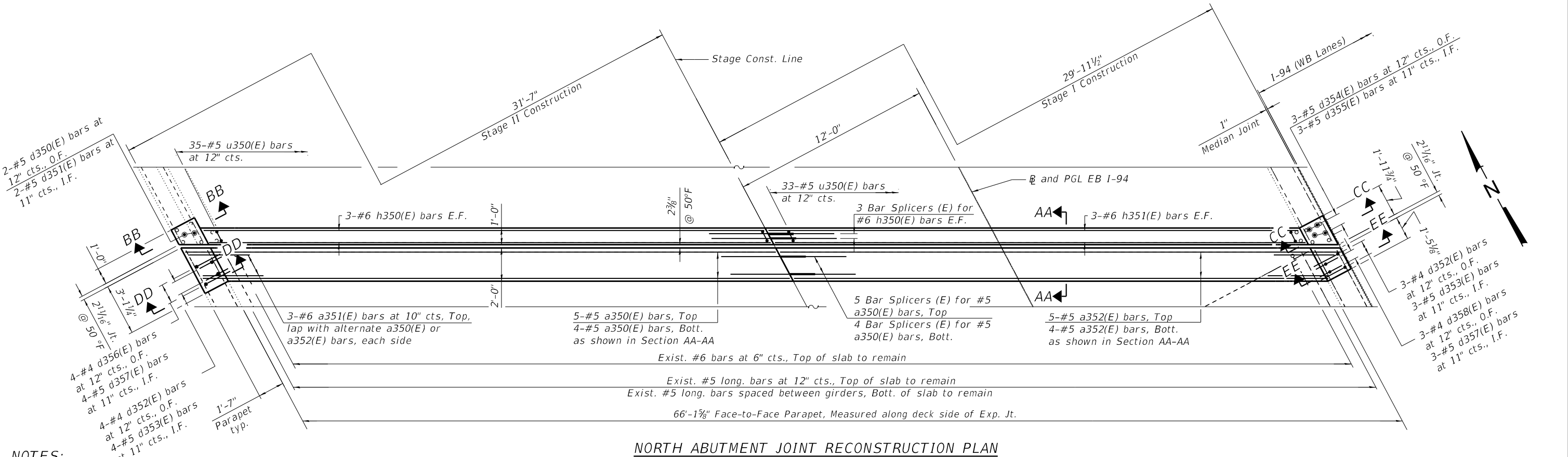
- The Contractor shall field-verify Existing Dimensions and Details of the Existing Scuppers and downspouts and make necessary approved adjustments prior to construction or ordering of material for Adjusting Drainage Scuppers and extending downspouts.
- All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 35B.
- Cast Iron Parts shall be unfinished.
- Bolts, washers and nuts shall conform to the requirements of ASTM A307 and be galvanized according to the requirements of AASHTO M232.
- The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
- Adjusting Rings shall be from Neenah or approved equal. Structural steel weldments or equal sections and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
- Provide 1/8" Fillet Weld around perimeter of new Adjusting Rings to secure to existing Scupper. Electrode shall be compatible with cast iron if existing scupper elements are cast iron construction.
- Cost of all labor and materials necessary to clean all existing floor drains and scuppers, fabricate and install adjusting scupper rings, remove and reinstall grates is included in the cost of Drainage Scuppers to be Adjusted.



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**NORTH ABUTMENT JOINT REMOVAL PLAN**



**NORTH ABUTMENT JOINT RECONSTRUCTION PLAN**

**NOTES:**

- For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, Legend, and additional notes, see Sheet S04-10.
- For Sections D-D, E-E, DD-DD and EE-EE, Bar Diagrams, and Bill of Material, see Sheet S04-11.



|            |   |                  |          |   |           |         |   |
|------------|---|------------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11cs01\$   | DESIGNED | - | JMI       | REVISED | - |
| DRAWN      | - | JMI              | REVISION | - |           | REVISED | - |
| PLOT SCALE | = | 6:0.0000 " / in. | CHECKED  | - | MI, LAB   | REVISED | - |
| PLOT DATE  | = | 12/6/2024        | DATE     | - | 12/9/2024 | REVISED | - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)  
STRUCTURE NO. 016-0160 (EB)**

SHEET S04-09 OF S04-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
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| CONTRACT NO. 62W87        |                        |        |              |           |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



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|            |   |                   | DRAWN    | - | JMI       | REVISED | - |
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

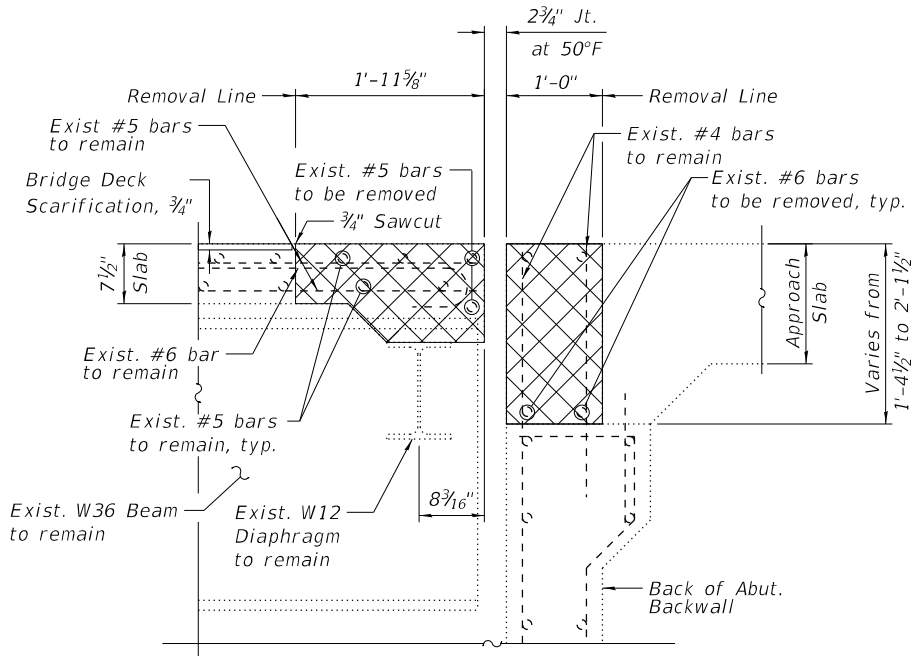
N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-10 OF S04-26 SHEETS

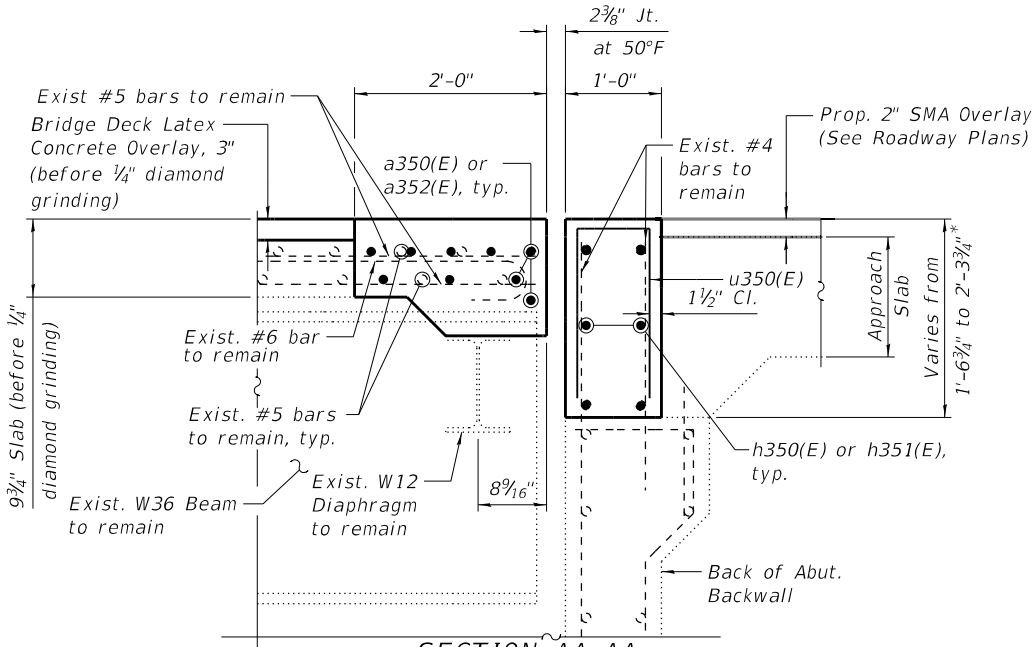
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| ILLINOIS FED. AID PROJECT |                        |        |                 |              |

NOTES:

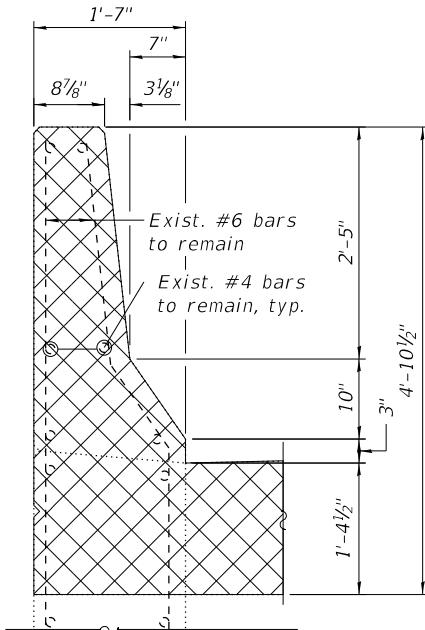
1. For preformed joint strip seal details, see Sheet S04-17.
2. For bar splicer assembly details, see Sheet S04-26.
3. Removal and disposal of the existing expansion joints is included with Concrete Removal.
4. Epoxy grout d350(E), d351(E), d354(E) and d355(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
5. Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system at the contractor's expense.
6. Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
7. Dimensions are based on a Roller Rail Strip Seal joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S04-17.



SECTION A-A

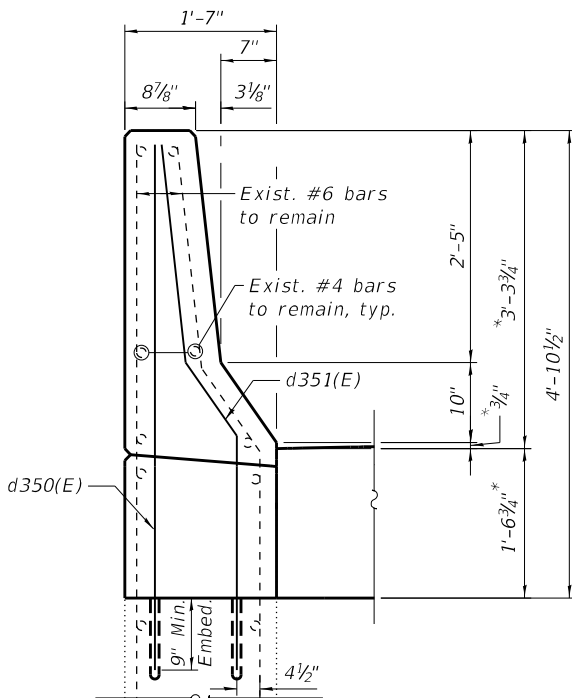


SECTION AA-AA



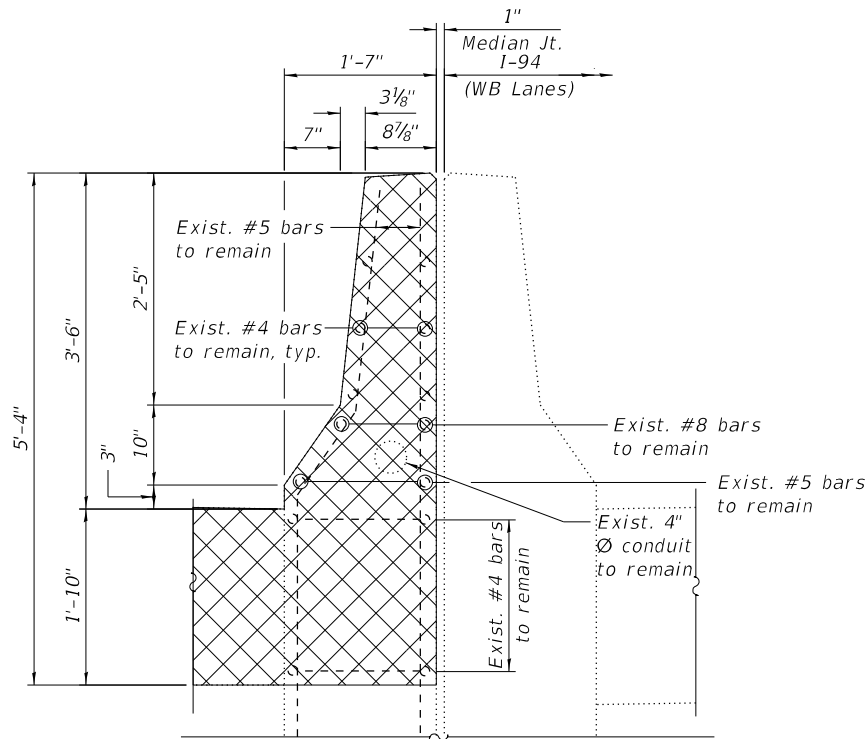
SECTION B-B

(Reinforcement in the pour strip  
not shown for clarity)



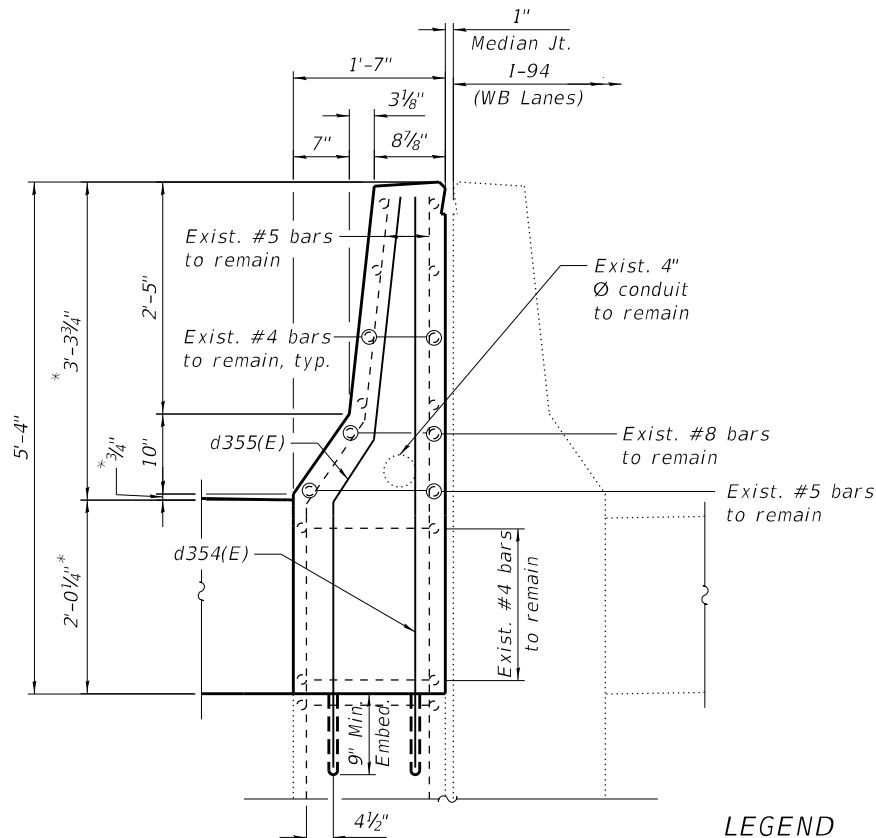
SECTION BB-BB

(Reinforcement in the pour strip  
not shown for clarity)



SECTION C-C

(Reinforcement in the pour strip  
not shown for clarity)



SECTION CC-CC

(Reinforcement in the pour strip  
not shown for clarity)

\*Before 1/4" Diamond Grinding

LEGEND



Concrete Removal

E.F. Each Face

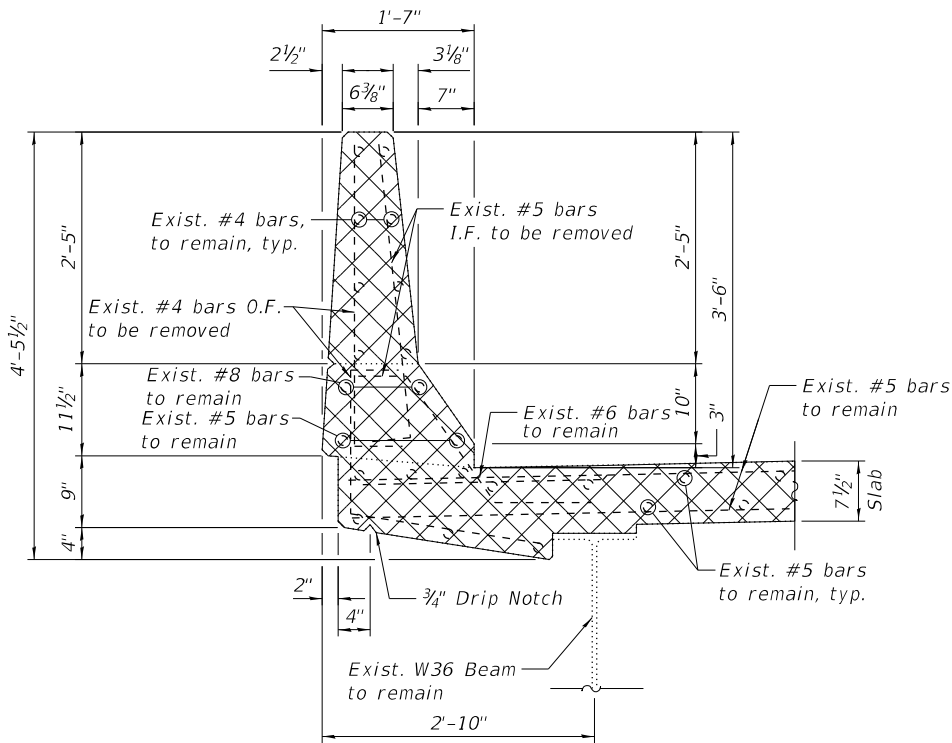
I.F. Inside Face

O.F. Outside Face

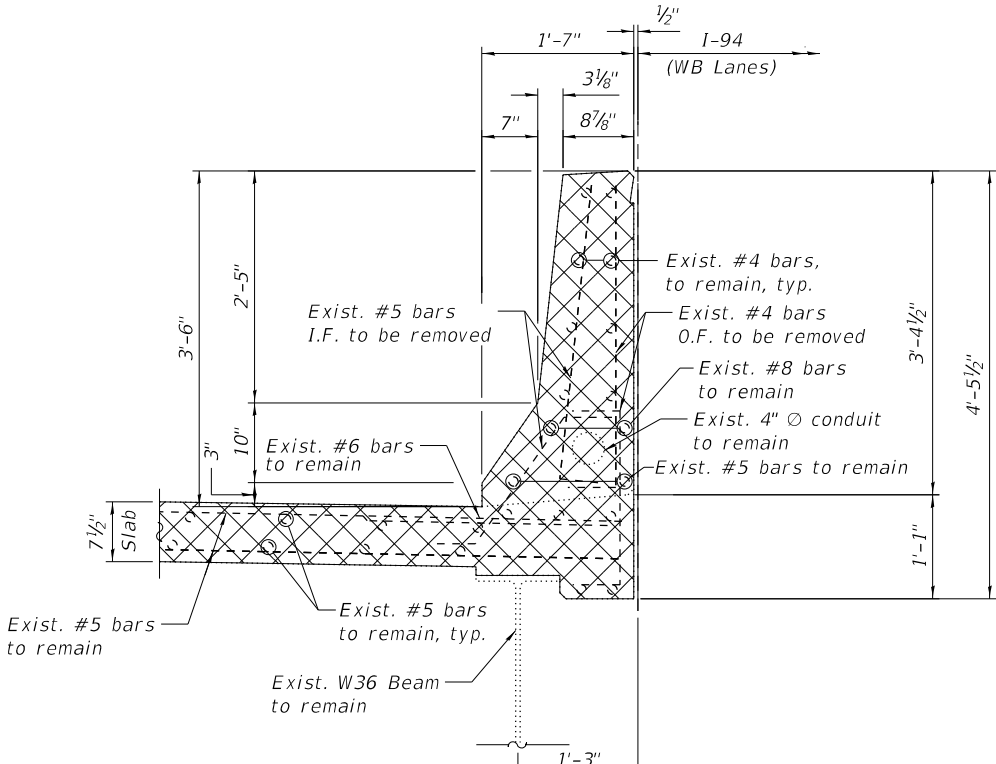


BILL OF MATERIAL

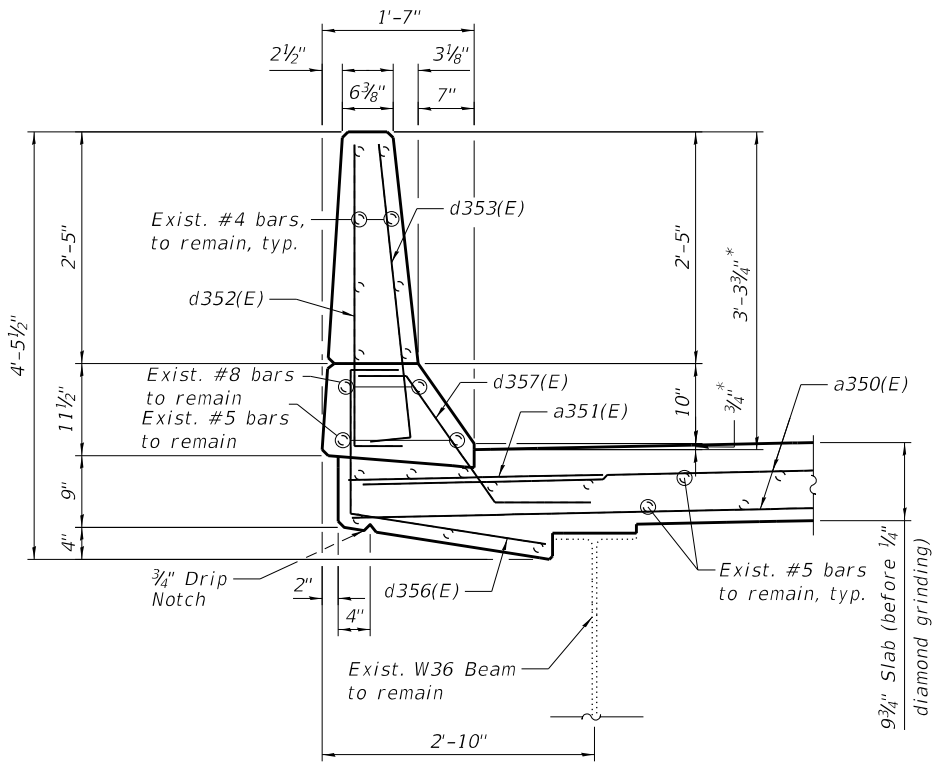
| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a350(E)                          | 9   | #5   | 35'-5"  | —     |
| a351(E)                          | 6   | #6   | 6'-6"   | —     |
| a352(E)                          | 9   | #5   | 33'-7"  | —     |
| d350(E)                          | 2   | #5   | 5'-6"   | —     |
| d351(E)                          | 2   | #5   | 5'-9"   | ⌋     |
| d352(E)                          | 7   | #4   | 3'-8"   | ⌋     |
| d353(E)                          | 7   | #5   | 3'-8"   | ⌋     |
| d354(E)                          | 3   | #5   | 6'-1"   | —     |
| d355(E)                          | 3   | #5   | 6'-4"   | —     |
| d356(E)                          | 4   | #4   | 3'-11"  | ⌋     |
| d357(E)                          | 7   | #5   | 2'-7"   | ⌋     |
| d358(E)                          | 3   | #4   | 2'-7"   | ⌋     |
| h350(E)                          | 6   | #6   | 33'-8"  | —     |
| h351(E)                          | 6   | #6   | 31'-10" | —     |
| u350(E)                          | 68  | #5   | 2'-8"   | ⌋     |
| Concrete Removal                 |     |      | Cu Yd   | 10.1  |
| Concrete Superstructure          |     |      | Cu Yd   | 11.7  |
| Protective Coat                  |     |      | Sq Yd   | 24    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,620 |



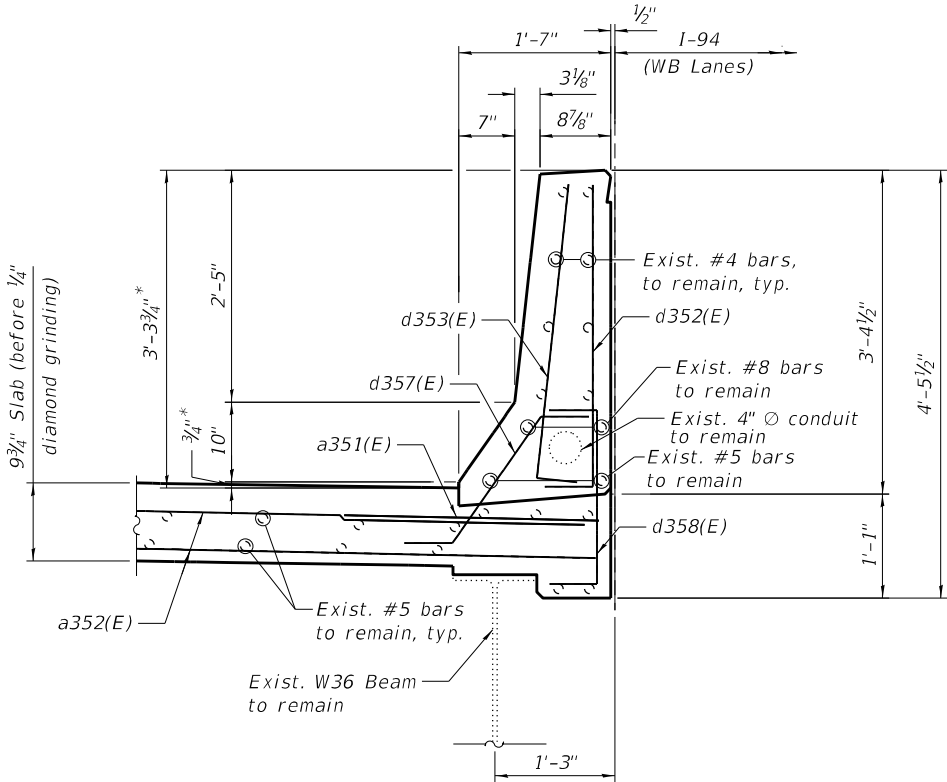
SECTION D-D



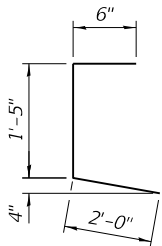
SECTION E-E



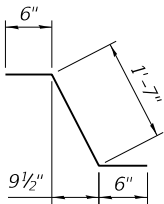
SECTION DD-DD



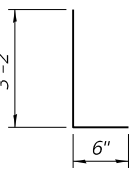
SECTION EE-EE



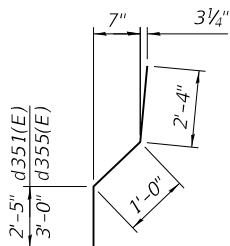
BARS d356(E)



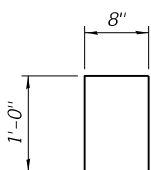
BAR d357(E)



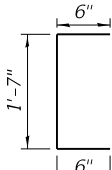
BARS d352(E) & d353(E)



BARS d351(E) & d355(E)



BARS u350(E)



BAR d358(E)

NOTE:

1. For Legend and Notes, see Sheet S04-10.

\* Before 1/4" Diamond Grinding

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**HBM**  
ENGINEERING GROUP, LLC

|            |   |                |          |   |           |         |   |
|------------|---|----------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11cs01\$ | DESIGNED | - | JMI       | REVISED | - |
| PLOT SCALE | = | 2:0 "/ in.     | DRAWN    | - | JMI       | REVISED | - |
| PLOT DATE  | = | 12/6/2024      | CHECKED  | - | MI, LAB   | REVISED | - |
|            |   |                | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-11 OF S04-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 569       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



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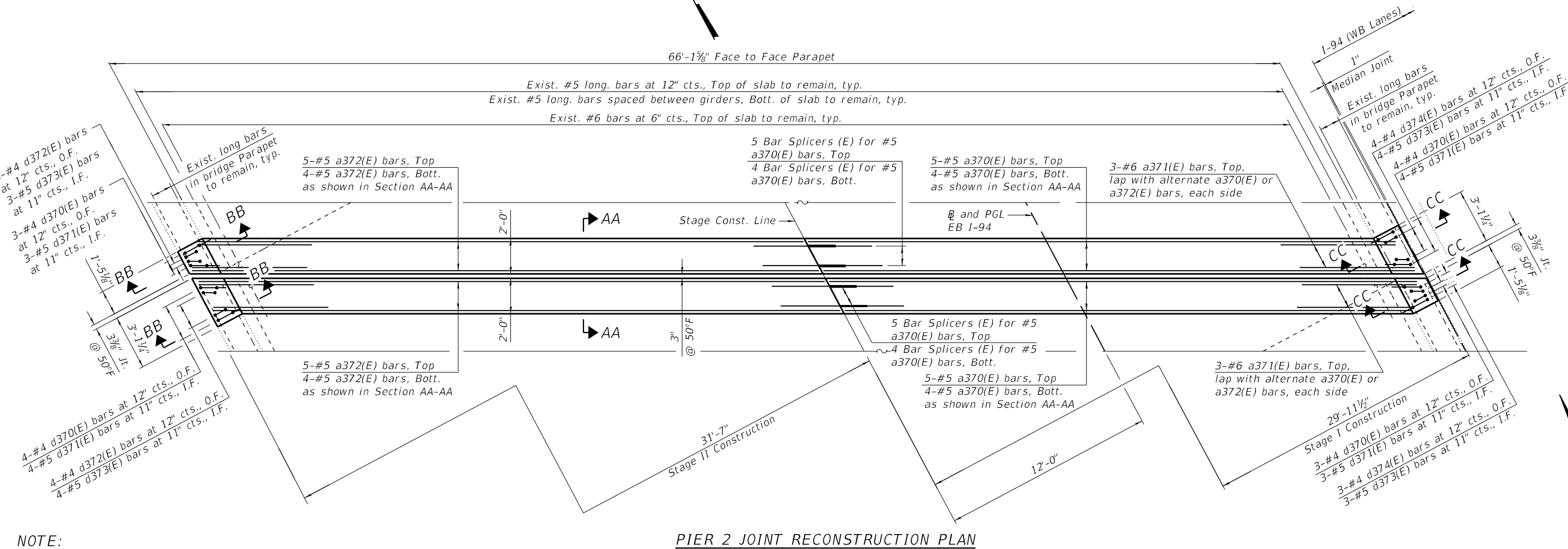
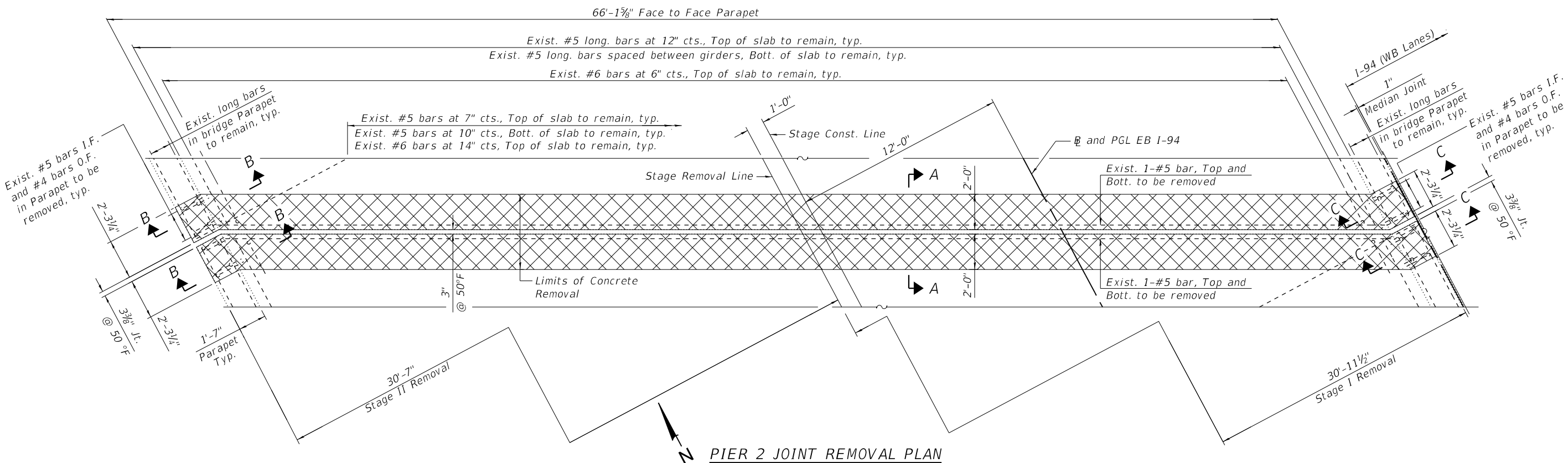
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| PLOT SCALE | = | 6:0 "/ in.      | DRAWN    | - | JMI       | REVISED | - |
| PLOT DATE  | = | 12/6/2024       | CHECKED  | - | MI, LAB   | REVISED | - |
|            |   |                 | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 2 JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 2)  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-12 OF S04-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 570       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |

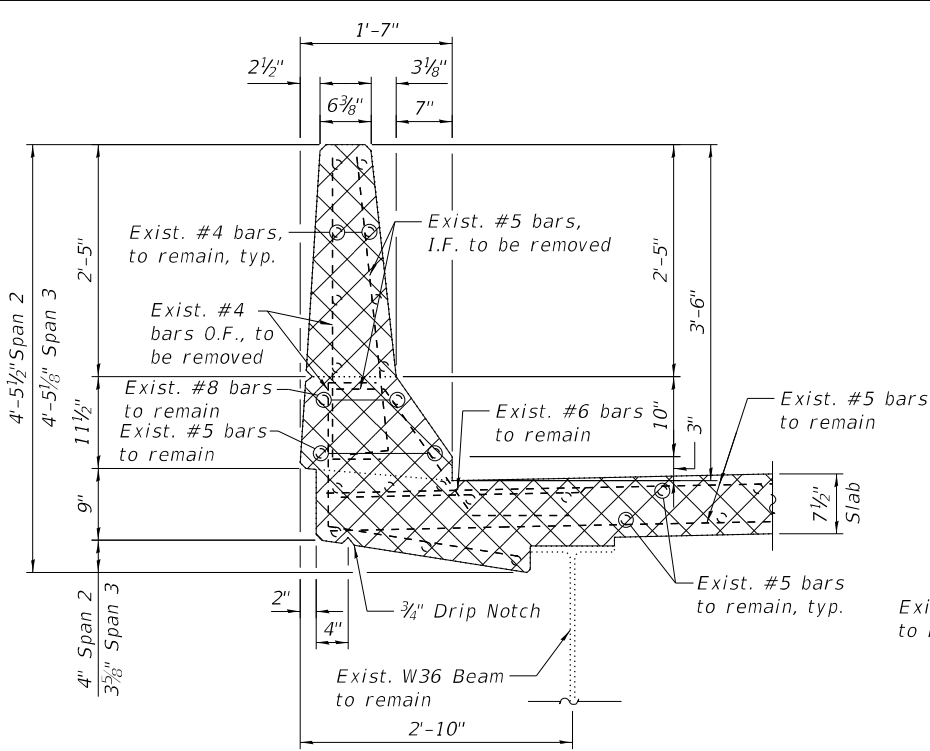


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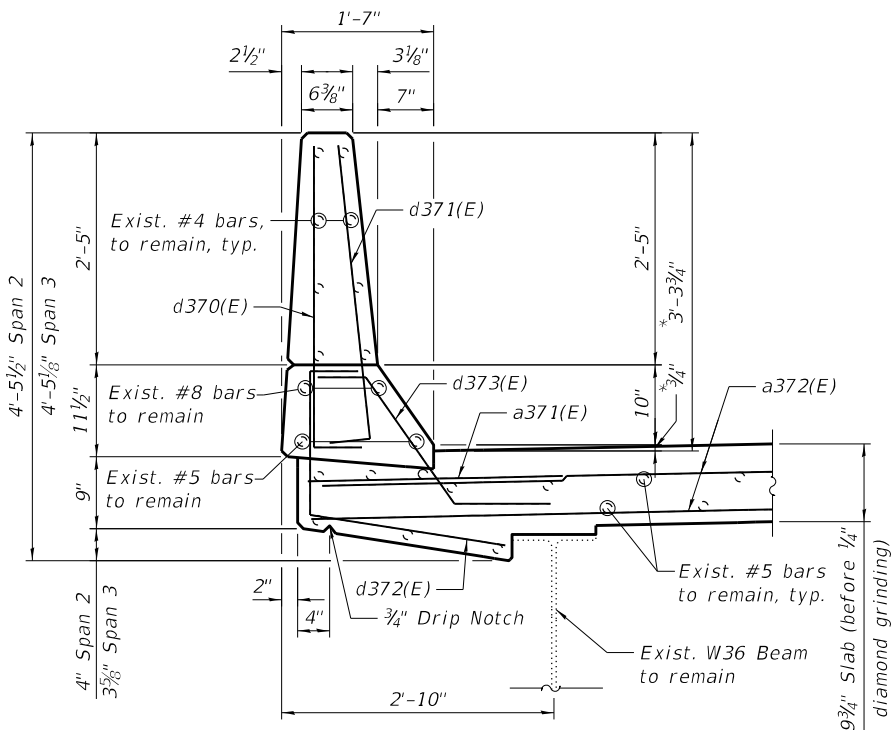
- For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, Bar Diagrams, Bill of Material, Legend and additional notes, see Sheet S04-13.



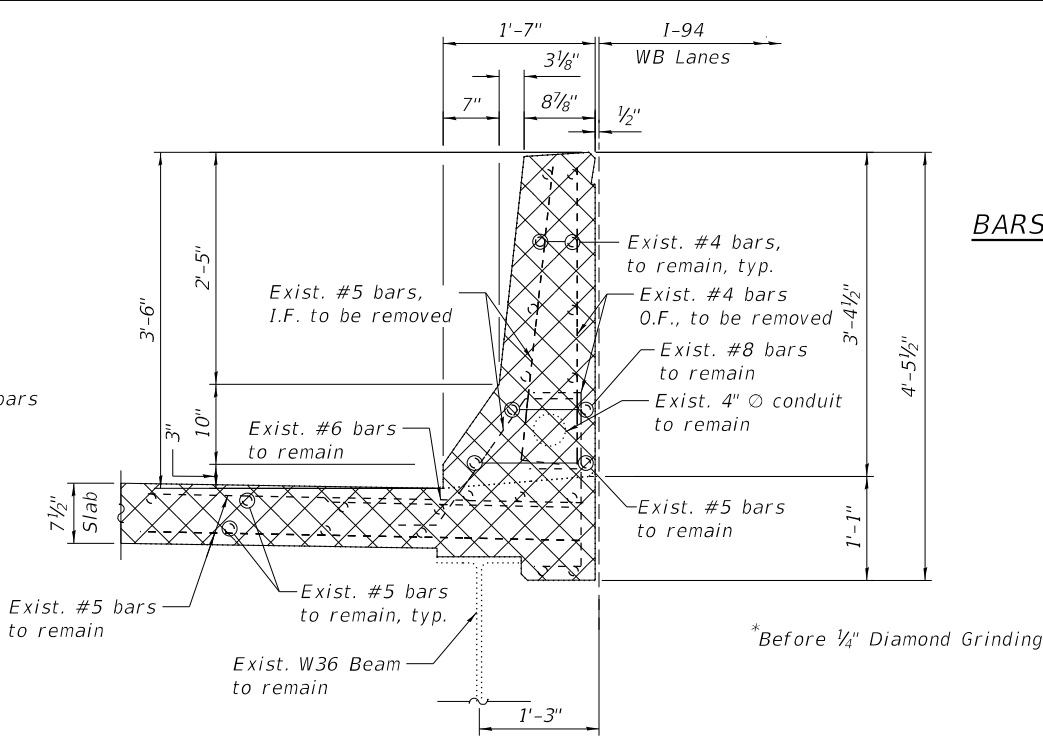
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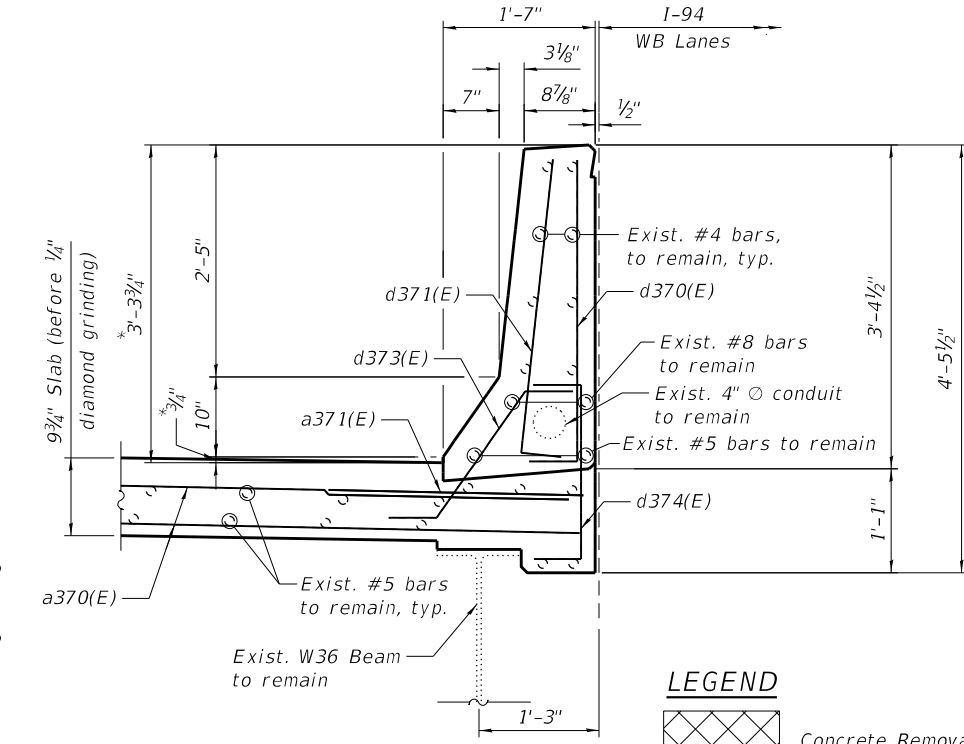
SECTION B-B



SECTION BB-BB



SECTION C-C



SECTION CC-CC

LEGEND



Concrete Removal

E.F. Each Face

I.F. Inside Face

O.F. Outside Face

BARS d370(E) & d371(E)

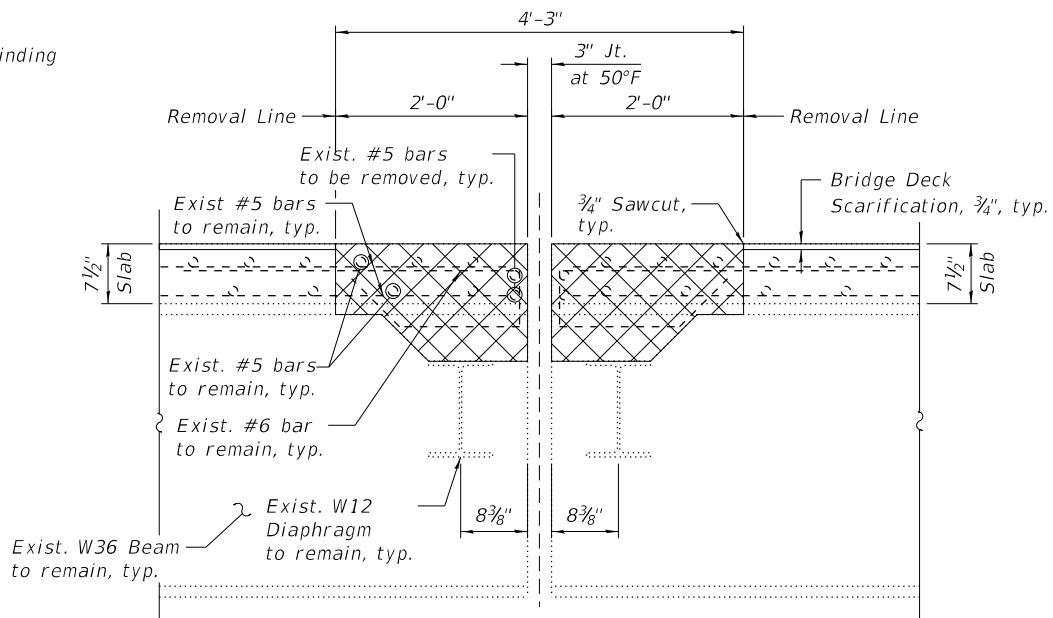
BARS d372(E)

BARS d373(E)

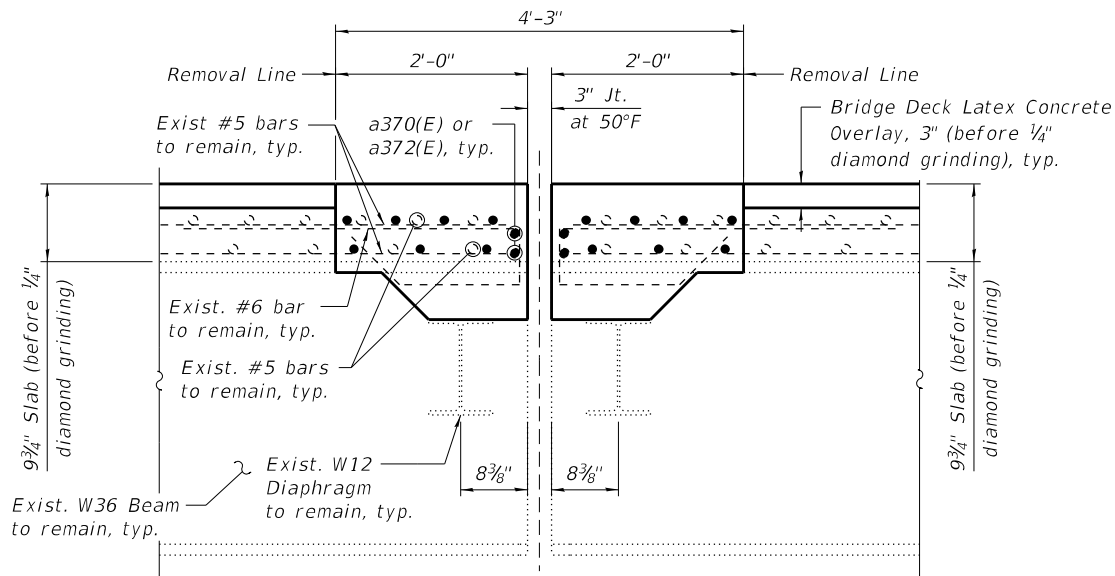
BARS d374(E)

BILL OF MATERIAL

| Bar                              | No. | Size | Length | Shape |
|----------------------------------|-----|------|--------|-------|
| a370(E)                          | 18  | #5   | 35'-5" | —     |
| a371(E)                          | 12  | #6   | 6'-6"  | —     |
| a372(E)                          | 18  | #5   | 33'-7" | —     |
| d370(E)                          | 14  | #4   | 3'-8"  | L     |
| d371(E)                          | 14  | #5   | 3'-8"  | L     |
| d372(E)                          | 7   | #4   | 3'-11" | L     |
| d373(E)                          | 14  | #5   | 2'-7"  | U     |
| d374(E)                          | 7   | #4   | 2'-7"  | L     |
| Concrete Removal                 |     |      | Cu Yd  | 12.0  |
| Concrete Superstructure          |     |      | Cu Yd  | 13.9  |
| Protective Coat                  |     |      | Sq Yd  | 31    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound  | 1,570 |



SECTION A-A



SECTION AA-AA

NOTES:

- For preformed joint strip seal details, see Sheet S04-17.
- For bar splicer assembly details, see Sheet S04-26.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system at the contractor's expense.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S04-17.

**HBM**  
ENGINEERING GROUP, LLC

|              |                 |            |           |           |  |
|--------------|-----------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11\cs01\$ | DESIGNED - | JMI       | REVISED - |  |
| DRAWN -      | JMI             | REVISED -  |           |           |  |
| PLOT SCALE = | 2:0' = 1" / in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024       | DATE -     | 12/9/2024 | REVISED - |  |

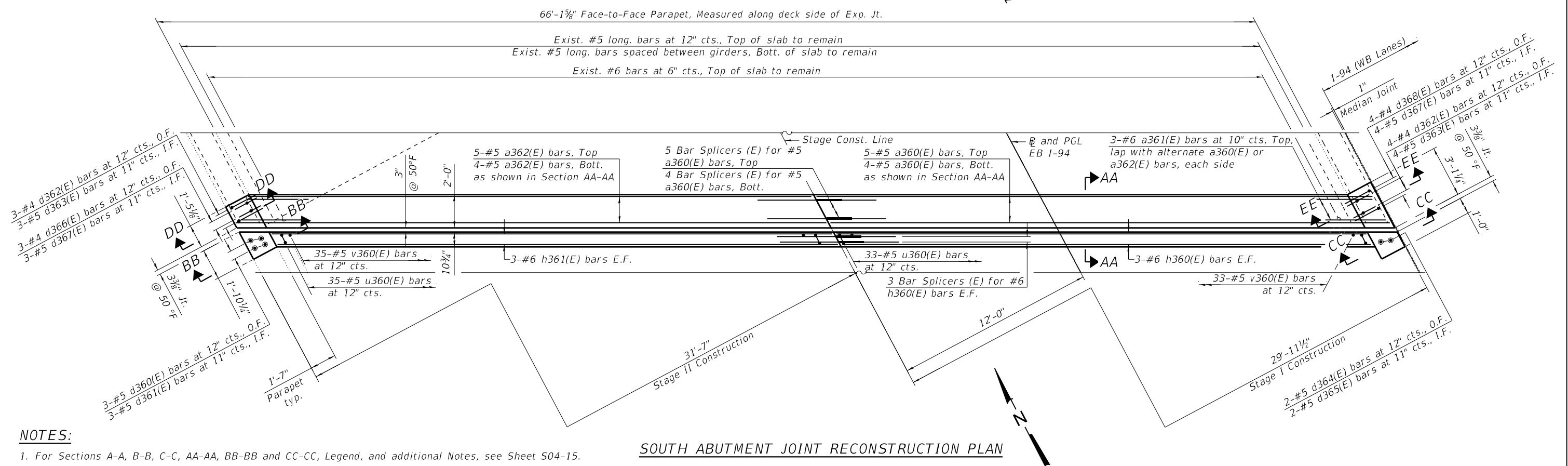
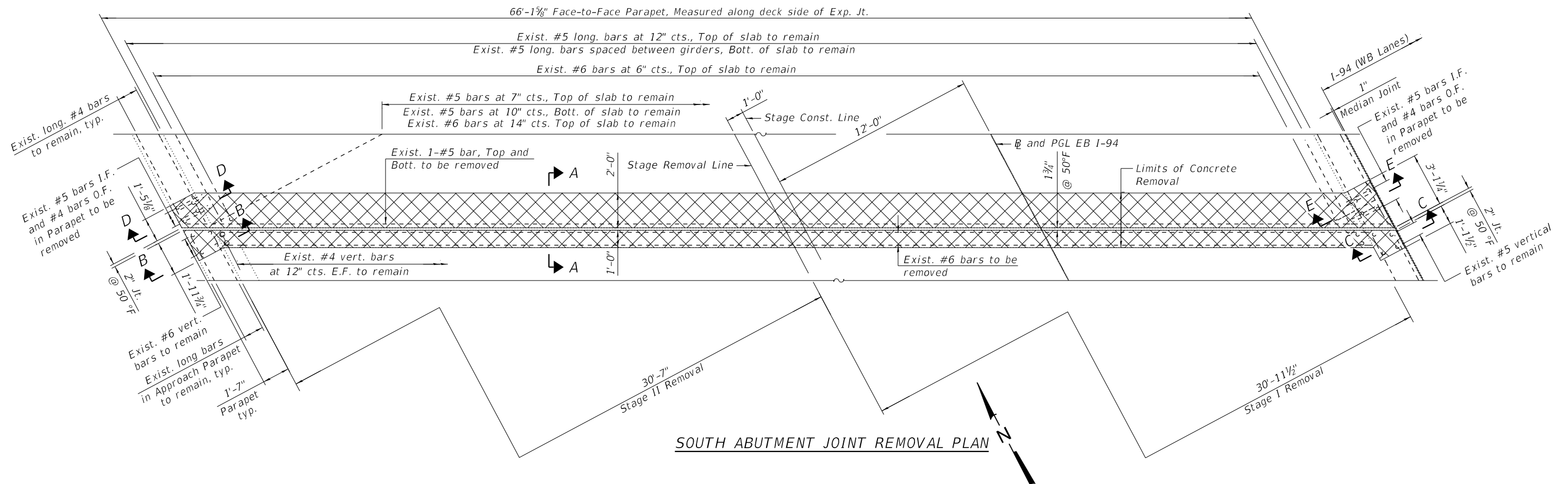
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 2 JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 2)  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-13 OF S04-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 571       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |





NOTES:

1. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, Legend, and additional Notes, see Sheet S04-15.
2. For Sections D-D, E-E, DD-DD and EE-EE, Bar Diagrams, and Bill of Material, see Sheet S04-16.



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| DRAWN      | - | JMI              | REVIS    | - |           |
| PLOT SCALE | = | 2:0.00 " = 1 in. | CHECKED  | - | MI, LAB   |
| PLOT DATE  | = | 12/6/2024        | DATE     | - | 12/9/2024 |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

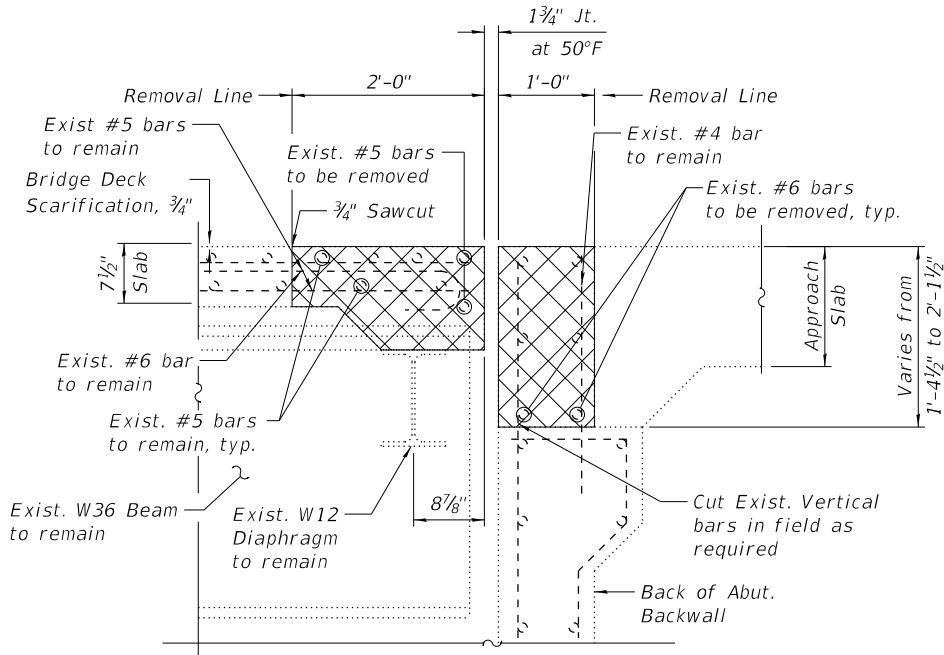
S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-15 OF S04-26 SHEETS

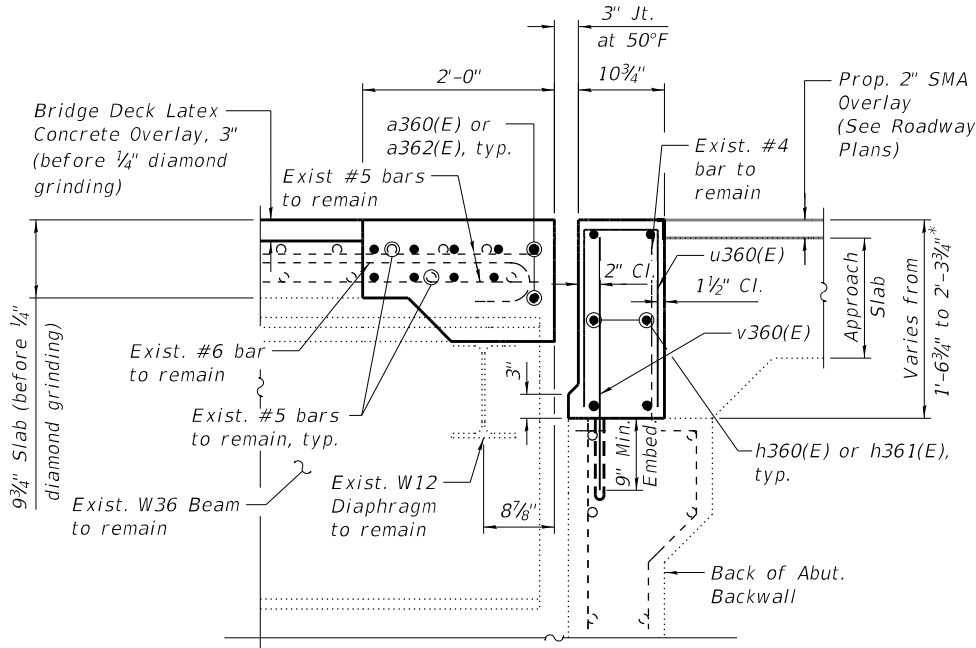
| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
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| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 573          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |

NOTES:

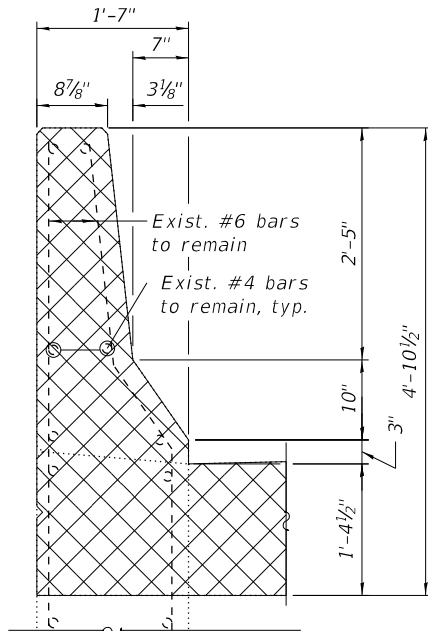
- For preformed joint strip seal details, see Sheet S04-17.
- For bar splicer assembly details, see Sheet S04-26.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- Epoxy grout d360(E), d361(E), d364(E), d365(E) and v360(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system at the contractor's expense.
- Any reinforcement bars that are damaged during Concrete Removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".
- Dimensions are based on a Roller Rail Strip Seal joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S04-17.



SECTION A-A

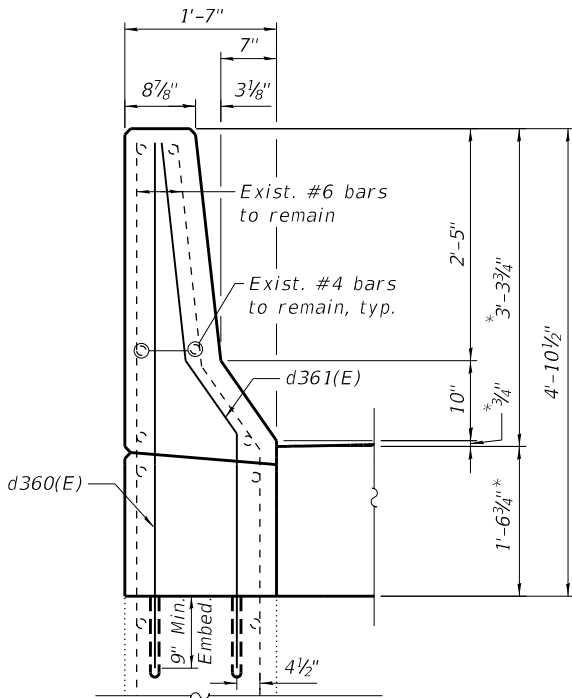


SECTION AA-AA



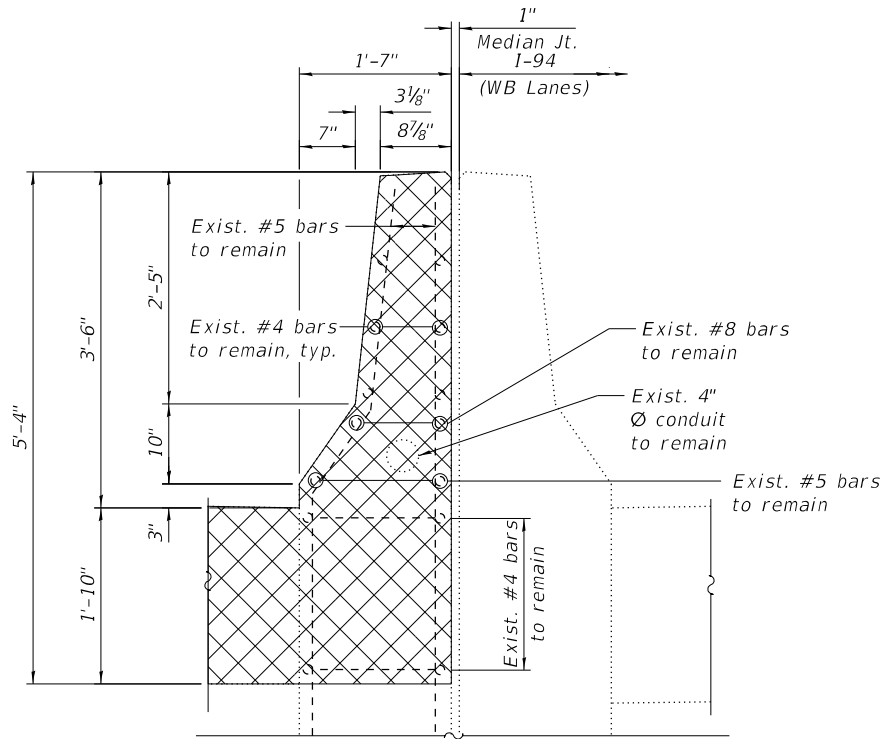
SECTION B-B

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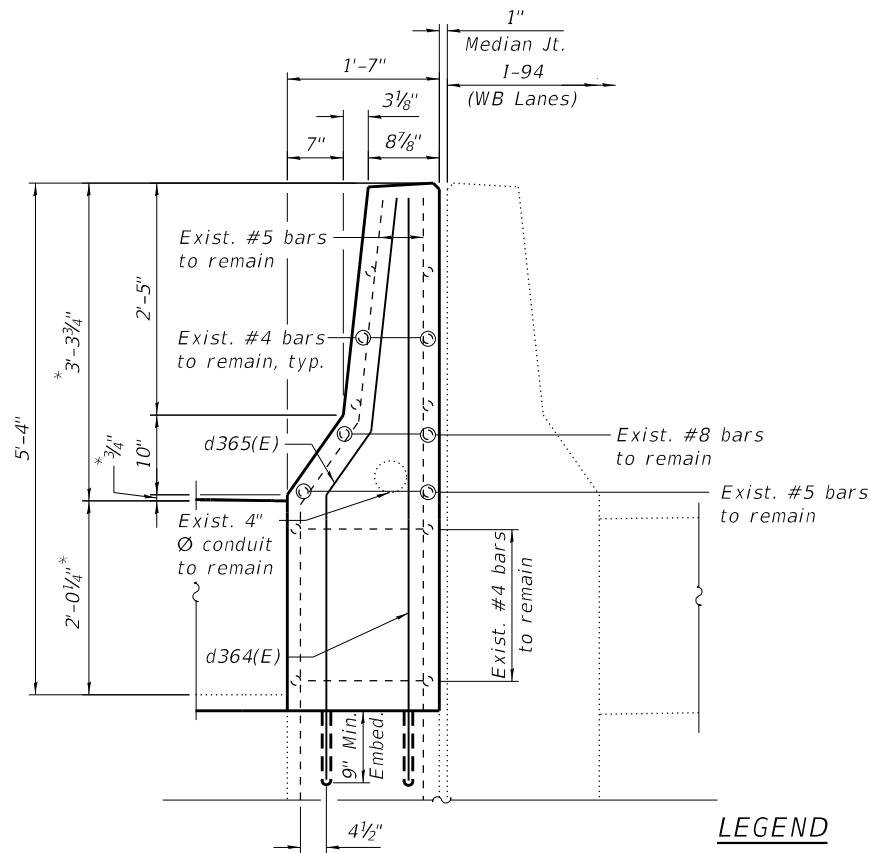
SECTION BB-BB

(Reinforcement in the pour strip not shown for clarity)



SECTION C-C

(Reinforcement in the pour strip not shown for clarity)



SECTION CC-CC

(Reinforcement in the pour strip not shown for clarity)

LEGEND



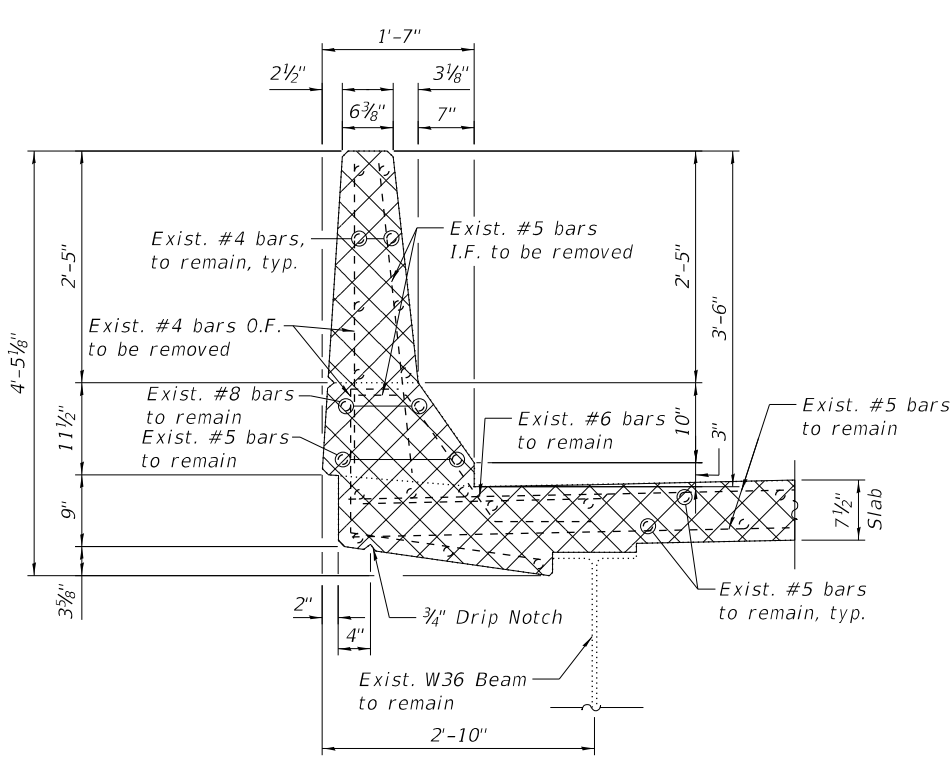
- E.F. Each Face  
I.F. Inside Face  
O.F. Outside Face

\*Before 1/4" Diamond Grinding

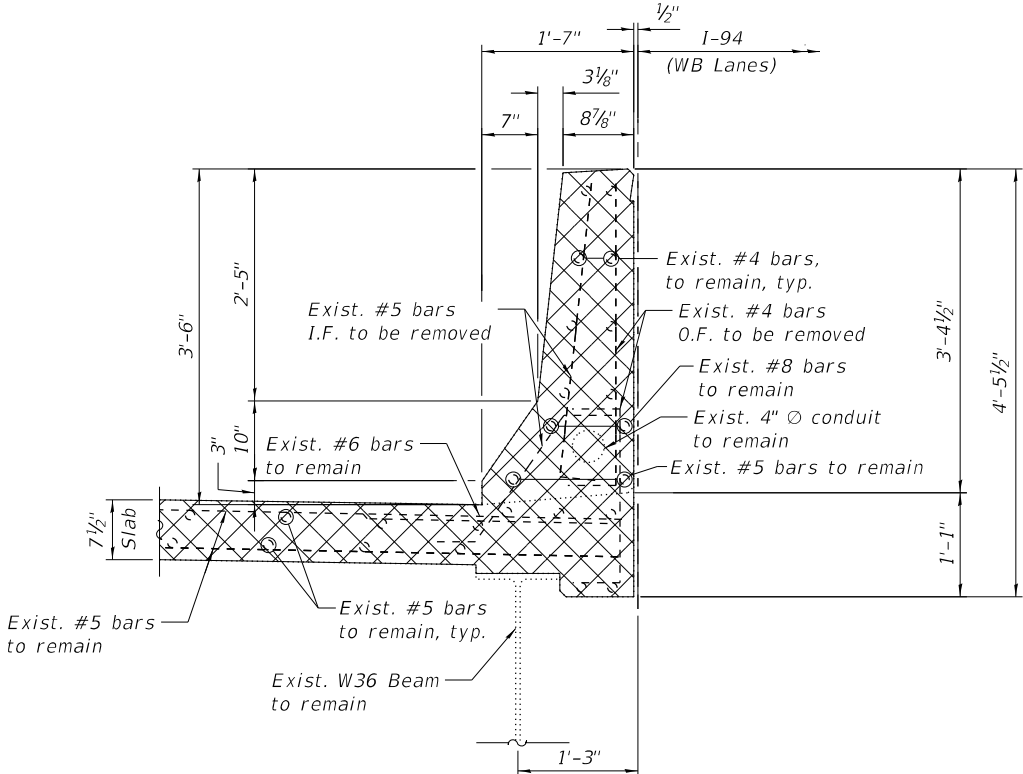


BILL OF MATERIAL

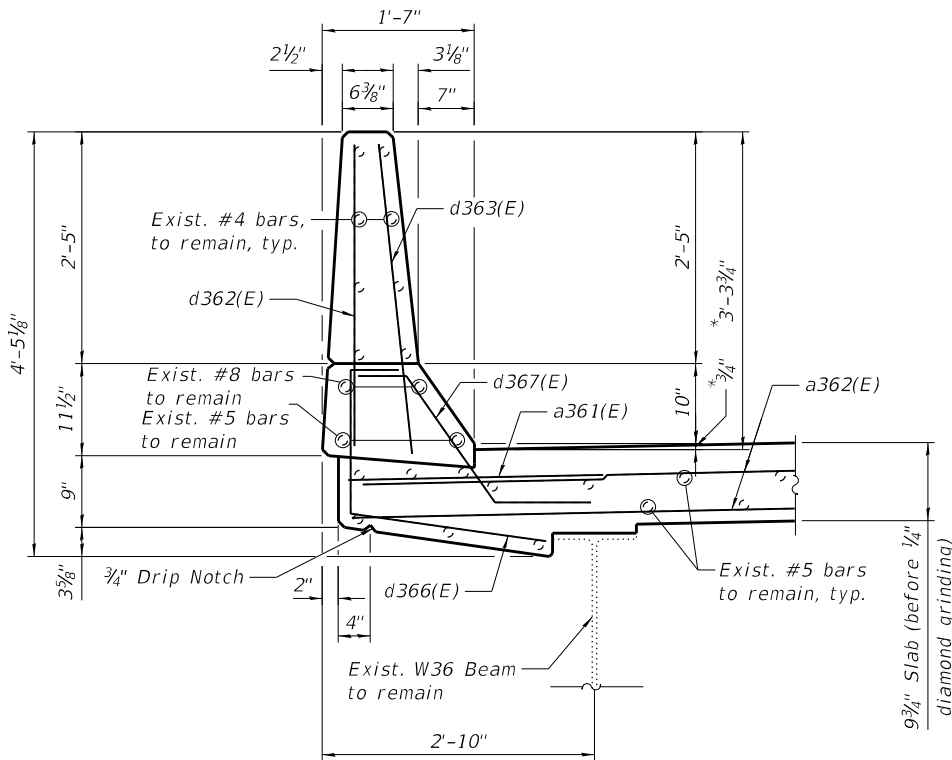
| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a360(E)                          | 9   | #5   | 33'-7"  | —     |
| a361(E)                          | 6   | #6   | 6'-6"   | —     |
| a362(E)                          | 9   | #5   | 35'-5"  | —     |
| d360(E)                          | 3   | #5   | 5'-6"   | —     |
| d361(E)                          | 3   | #5   | 5'-9"   | —     |
| d362(E)                          | 7   | #4   | 3'-8"   | —     |
| d363(E)                          | 7   | #5   | 3'-8"   | —     |
| d364(E)                          | 2   | #5   | 6'-1"   | —     |
| d365(E)                          | 2   | #5   | 6'-4"   | —     |
| d366(E)                          | 3   | #4   | 3'-11"  | —     |
| d367(E)                          | 7   | #5   | 2'-7"   | —     |
| d368(E)                          | 4   | #4   | 2'-7"   | —     |
| h360(E)                          | 6   | #6   | 31'-10" | —     |
| h361(E)                          | 6   | #6   | 33'-8"  | —     |
| u360(E)                          | 68  | #5   | 3'-0"   | —     |
| v360(E)                          | 68  | #5   | 2'-1"   | —     |
| Concrete Removal                 |     |      | Cu Yd   | 10.5  |
| Concrete Superstructure          |     |      | Cu Yd   | 11.3  |
| Protective Coat                  |     |      | Sq Yd   | 24    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,860 |



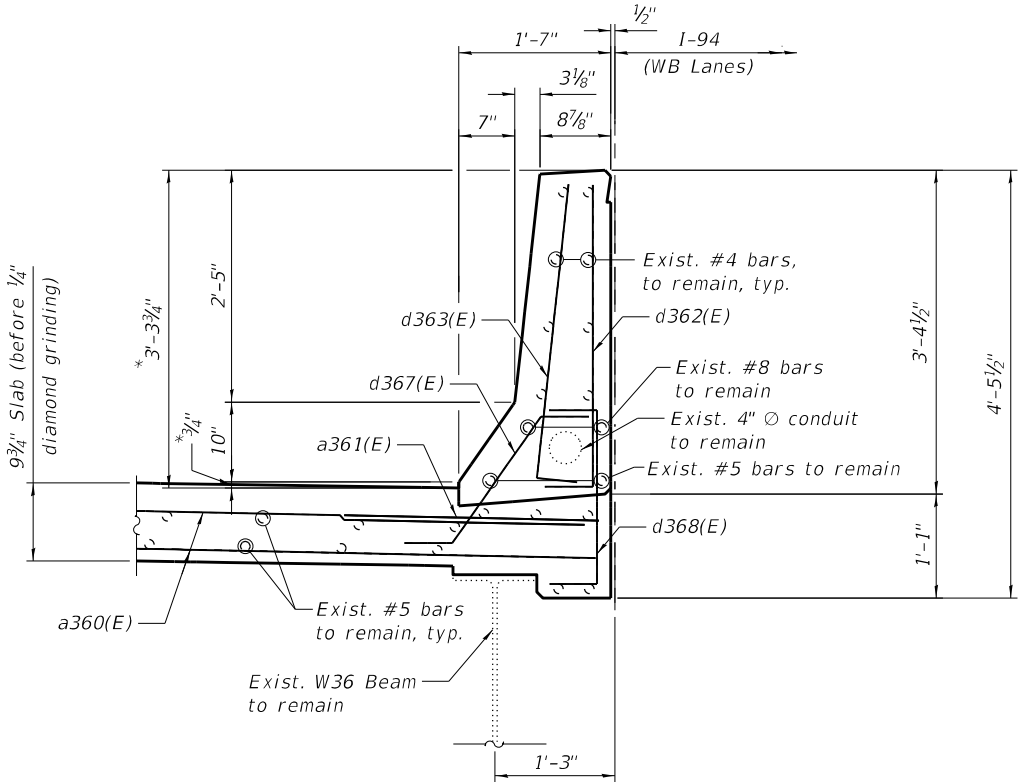
SECTION D-D



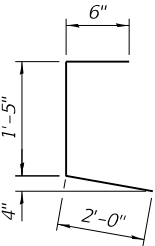
SECTION E-E



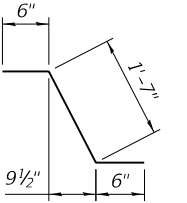
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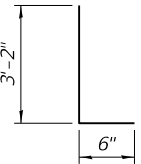
SECTION EE-EE



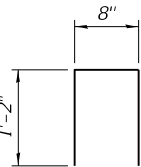
BARS d366(E)



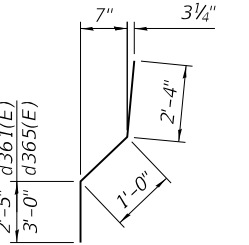
BAR d367(E)



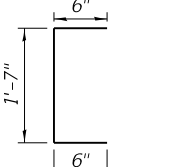
BARS d362(E) & d363(E)



BARS u360(E)



BARS d361(E) & d365(E)



BARS d368(E)

NOTE:

1. For Legend and Notes, see Sheet S04-15.

\*Before 1/4" Diamond Grinding

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-16 OF S04-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 574       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |

**HBM**  
ENGINEERING GROUP, LLC

|            |   |                |          |   |           |         |   |
|------------|---|----------------|----------|---|-----------|---------|---|
| USER NAME  | = | hbmepw11cs01\$ | DESIGNED | - | JMI       | REVISED | - |
| PLOT SCALE | = | 2:0" = 1"      | DRAWN    | - | JMI       | REVISED | - |
| PLOT DATE  | = | 12/6/2024      | CHECKED  | - | MI, LAB   | REVISED | - |
|            |   |                | DATE     | - | 12/9/2024 | REVISED | - |



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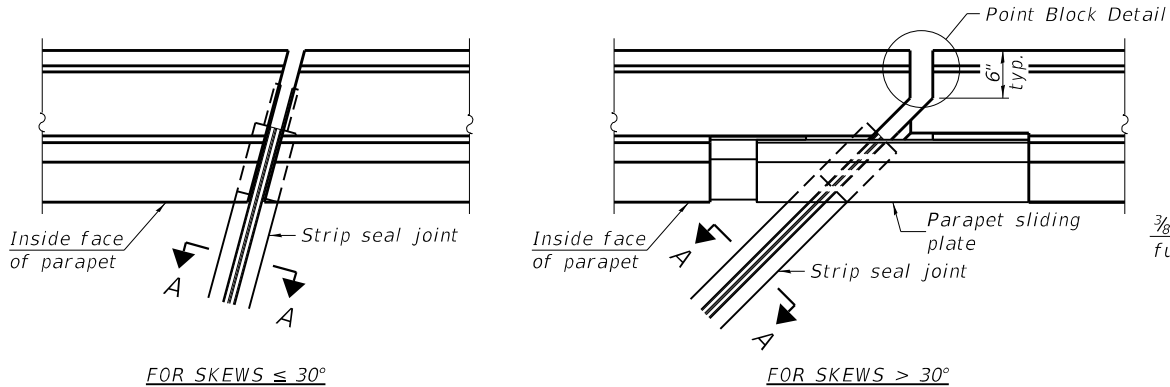
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

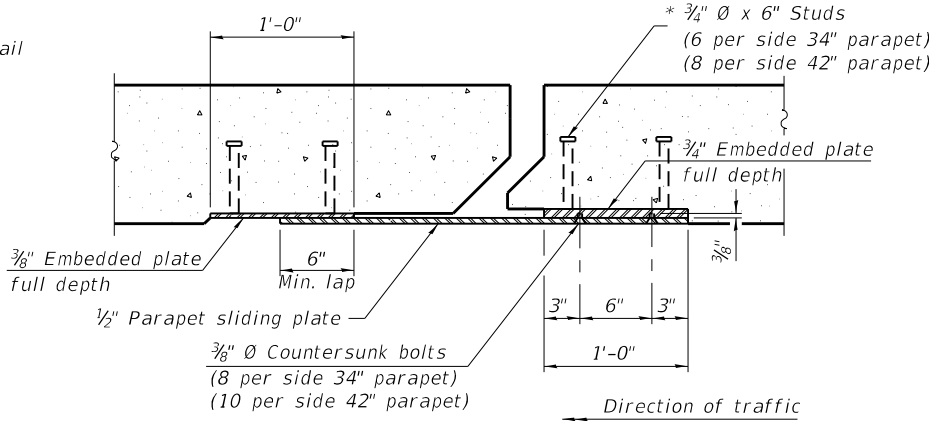
PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-17 OF S04-26 SHEETS

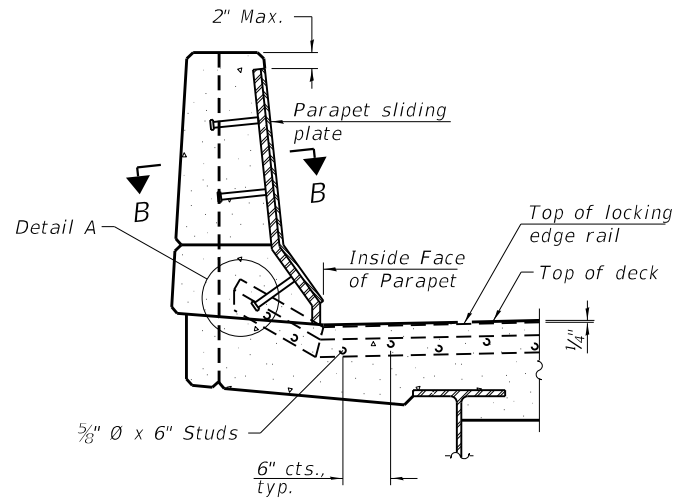
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|---------------------------|------------------------|--------|--------------|-----------|
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| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



PLAN AT PARAPET

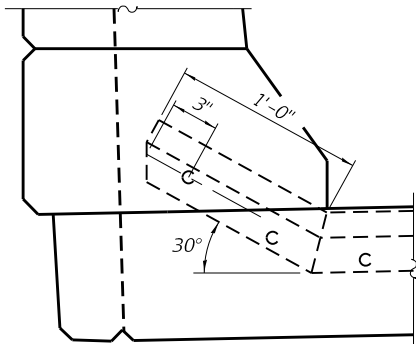


SECTION B-B

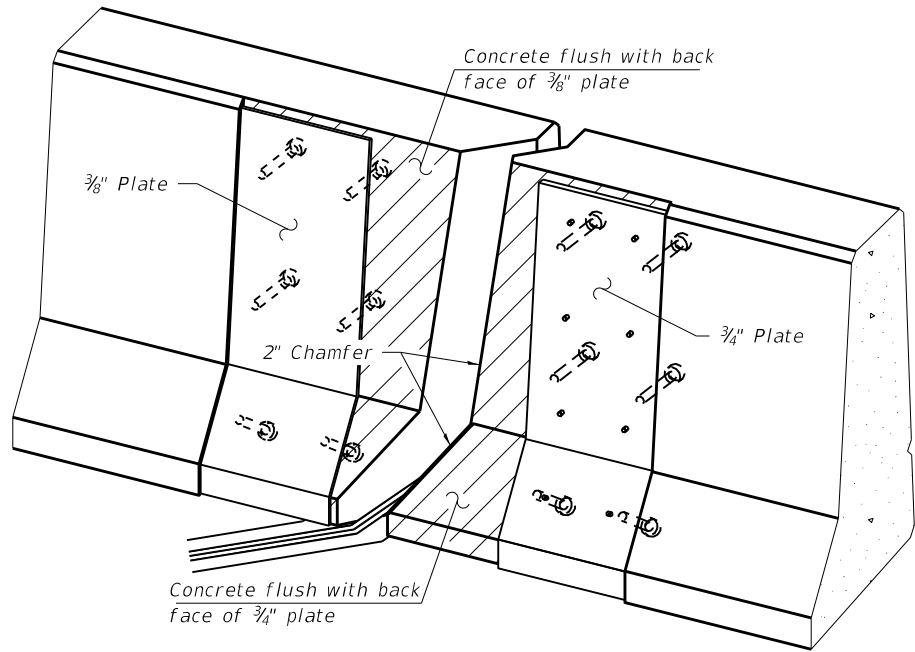


ELEVATION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)

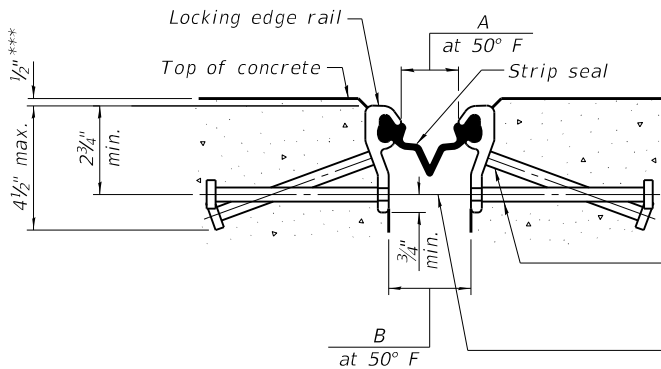


DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

| Joint       | A      | B      | C      |
|-------------|--------|--------|--------|
| North Abut. | 1 1/2" | 2 3/8" | 3"     |
| Pier 2      | 2 1/8" | 3"     | 3 3/8" |
| South Abut. | 1 1/2" | 2 3/8" | 3"     |

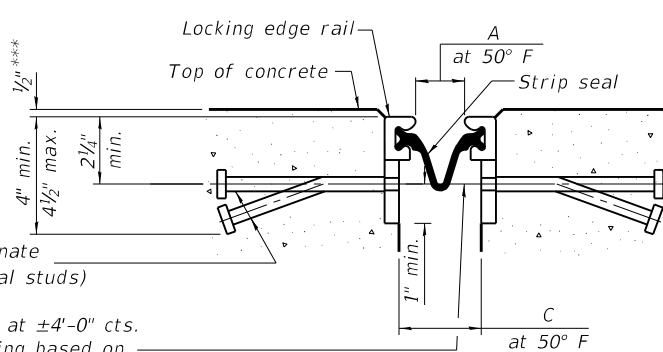
\* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

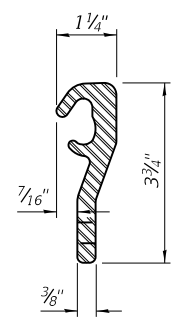
SECTION A-A

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

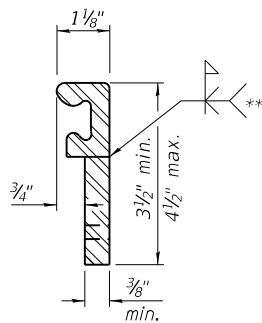
\*\*\* Before 1/4" Diamond Grinding



SHOWING WELDED RAIL JOINT



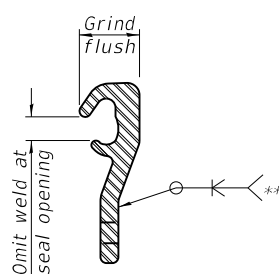
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

\*\* Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

| Item                       | Unit | Total |
|----------------------------|------|-------|
| Preformed Joint Strip Seal | Foot | 210   |

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/8" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.

Cost of parapet sliding plates, sidewalk sliding plates, embedded plates, anchorage studs, and expansion anchors included with Preformed Joint Strip Seal.

39" constant slope barrier shown, 44" constant slope barrier similar as noted.

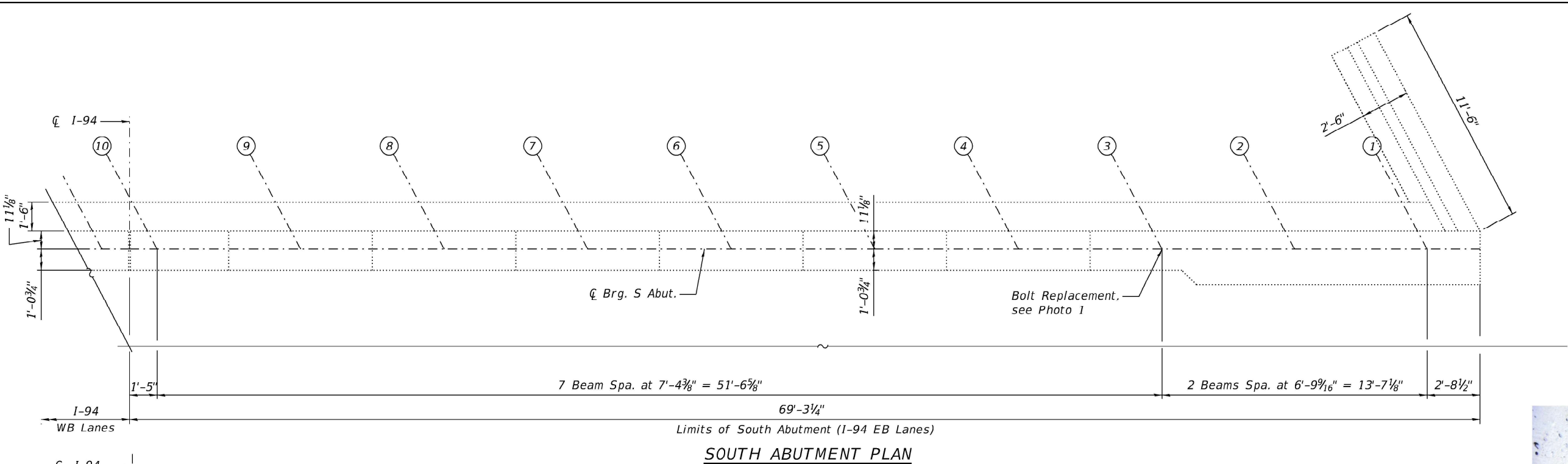
The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



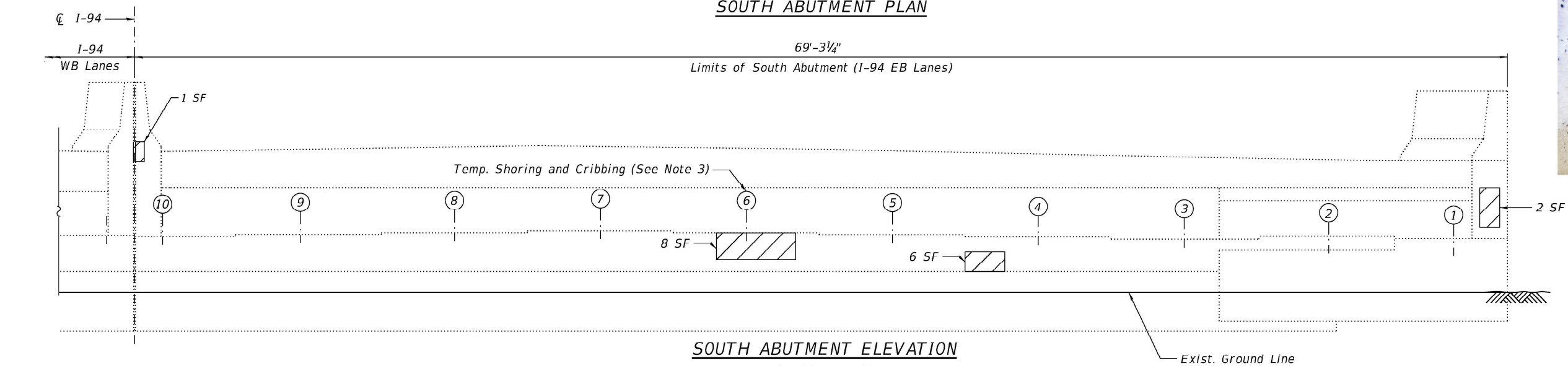




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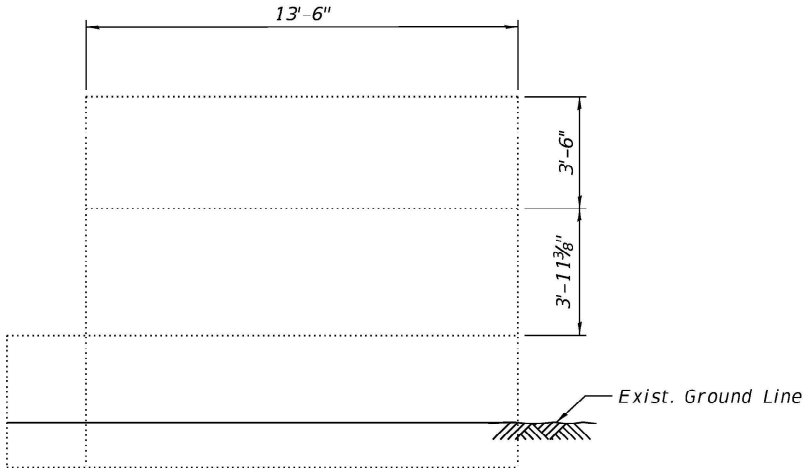


**SOUTH ABUTMENT PLAN**



**SOUTH ABUTMENT ELEVATION**

(Looking South)



**SOUTHWEST WINGWALL ELEVATION**

(Looking East)



**PHOTO 1**

**NOTES:**

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.
- Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.
- Fasteners shall be ASTM F 3125 Grade A325 Type 1, mechanically galvanized bolts. Bolts 3/4 in. diameter, unless otherwise noted.


**SUMMARY OF REACTIONS**

| S. Abut, Beam 6 |     |      |
|-----------------|-----|------|
| R DL            | (k) | 21.2 |
| R LL            | (k) | 38.0 |
| R IM            | (k) | 11.0 |
| R Total         | (k) | 70.2 |

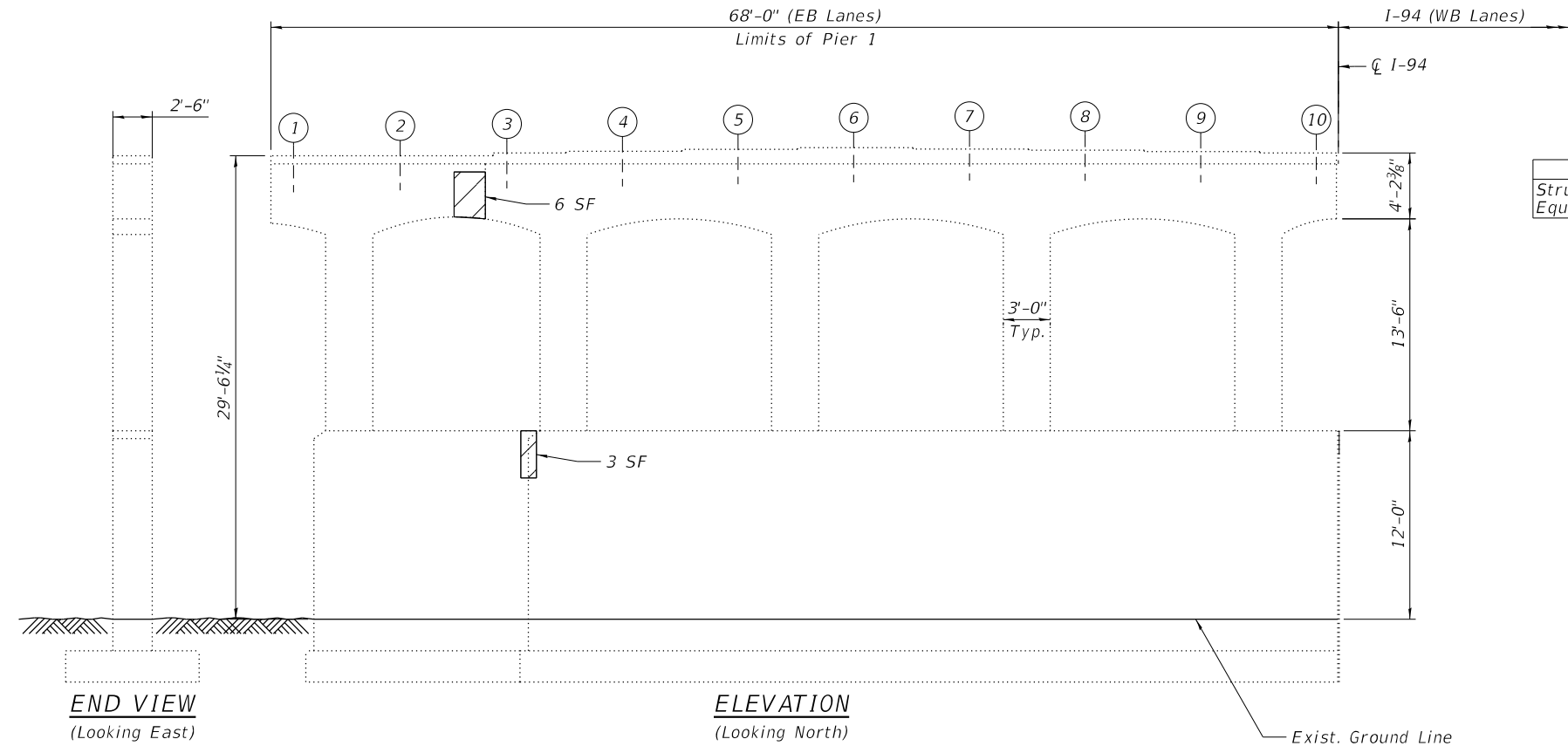
**BILL OF MATERIAL**

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 294      |
| Bolt Replacement   | Each  | 2        |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 17       |
| Temporary Shoring And Cribbing                                       | Each  | 1        |

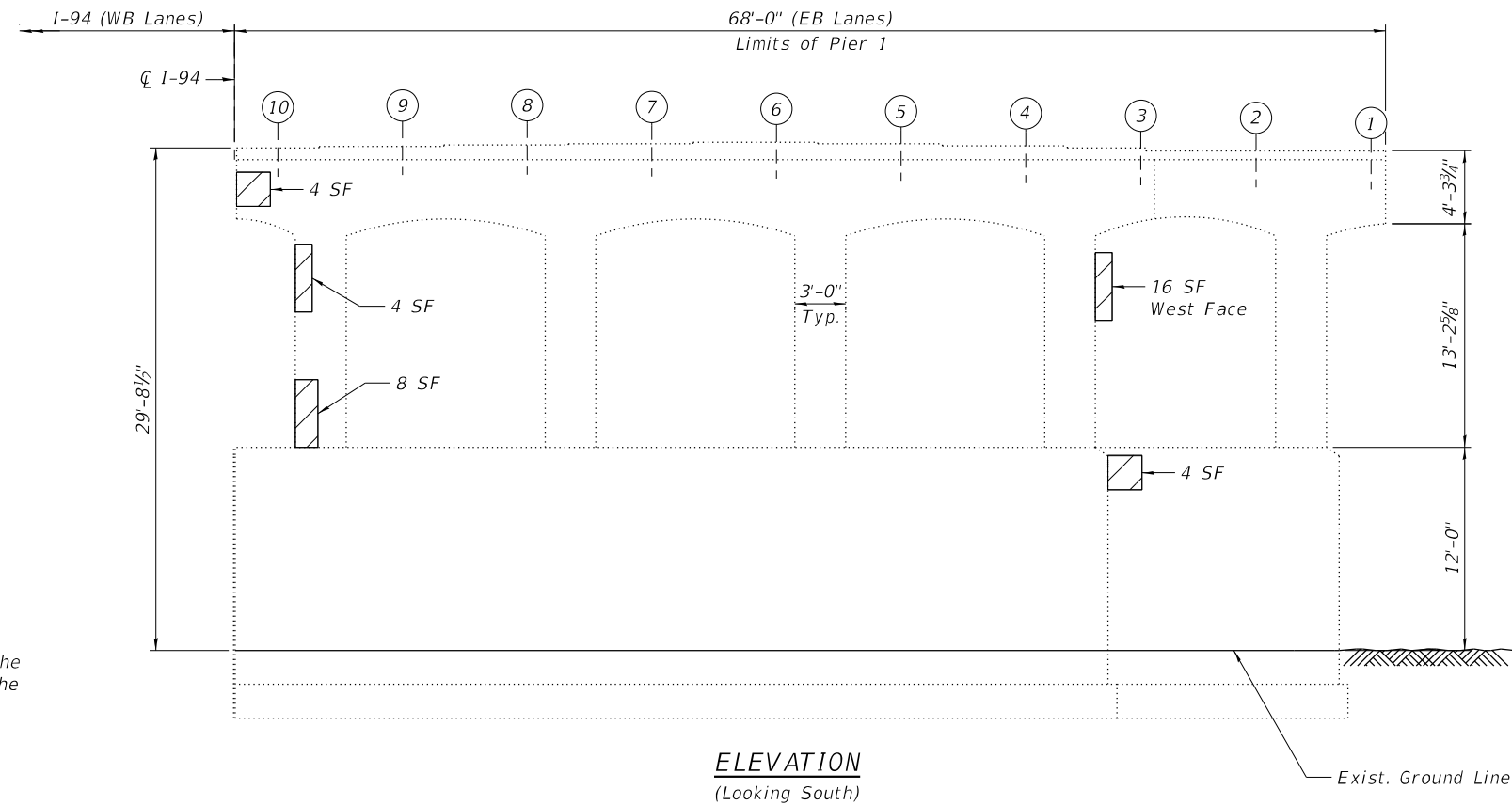
**LEGEND**

-  Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
- SF Square Foot





| BILL OF MATERIAL   |       |          |
|--|-------|----------|
| ITEM   | UNIT  | QUANTITY |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 45       |



**NOTE:**

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

**LEGEND**

|    |  |
|----|--|
|    | Structural Repair of Concrete (Depth Equal to or Less than 5 inches) |
| SF | Square Foot  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS  
STRUCTURE NO. 016-0160 (EB)

| F.A.I. RTE.  | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|--------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 578       |
| CONTRACT NO. |                        |        |              | 62W87     |

**HBM**  
ENGINEERING GROUP, LLC

|              |                       |            |           |           |  |
|--------------|-----------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$        | DESIGNED - | DEO, AWD  | REVISED - |  |
| DRAWN -      | DEO, AWD              | REVIS      |           |           |  |
| PLOT SCALE = | 10:8.0000 " : " / in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024             | DATE -     | 12/9/2024 | REVISED - |  |

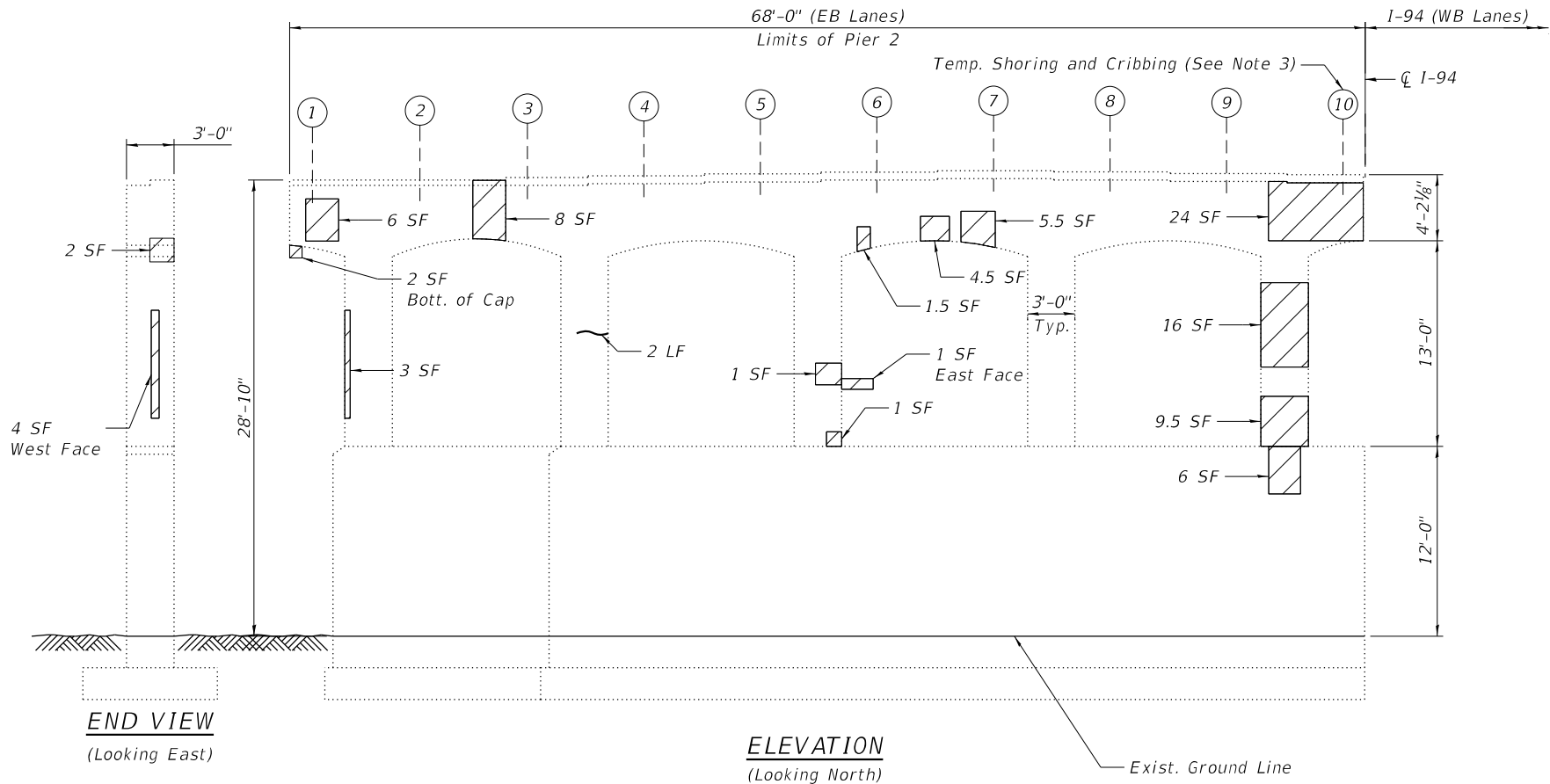
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SHEET S04-20 OF S04-26 SHEETS

ILLINOIS FED. AID PROJECT

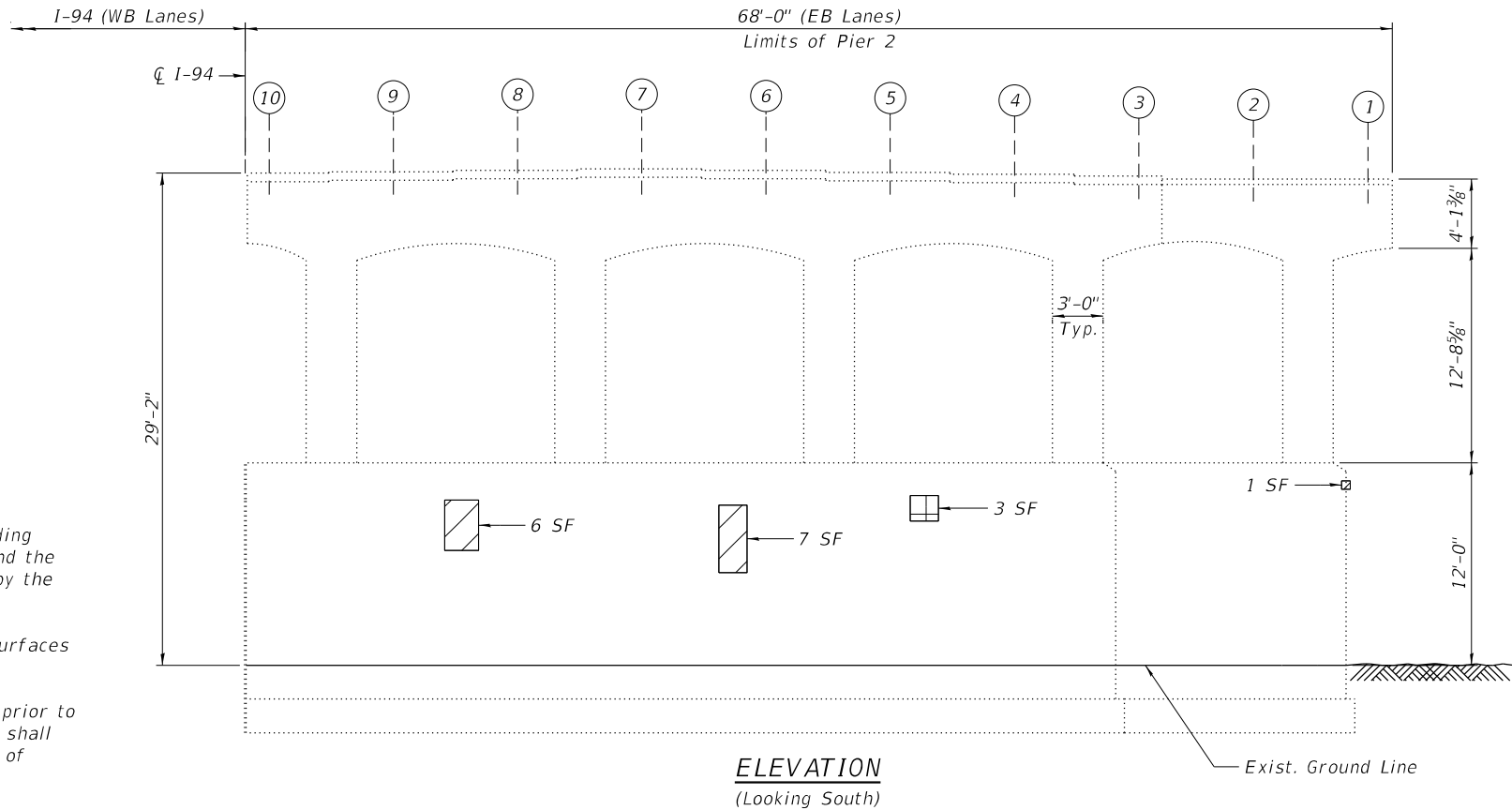


MODEL: Default  
FILE NAME: \\hbmepw11cs01\CS\_pdf\_work\_dir\2387\1428\_25\0160160-62K53-23-EB-Pier2.dgn



### BILL OF MATERIAL

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 3,648    |
| Epoxy Crack Injection  | Foot  | 2        |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 109      |
| Structural Repair Of Concrete (Depth Greater Than 5 Inches)          | Sq Ft | 3        |
| Temporary Shoring And Cribbing                                       | Each  | 1        |



| SUMMARY OF REACTIONS |     |      |
|----------------------|-----|------|
| Pier 2, Beam 10      |     |      |
| R DL                 | (k) | 21.2 |
| R LL                 | (k) | 38.0 |
| R IM                 | (k) | 11.0 |
| R Total              | (k) | 70.2 |

### NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the exposed surfaces of the pier.
- Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

### LEGEND

|    |  |
|----|--|
|    | Structural Repair of Concrete (Depth Equal to or Less than 5 inches) |
|    | Structural Repair of Concrete (Depth Greater than 5 inches)          |
|    | Epoxy Crack Injection (Width > 0.06")                                |
| SF | Square Foot  |
| LF | Linear Feet  |

**HBM**  
ENGINEERING GROUP, LLC

|            |   |                       |
|------------|---|-----------------------|
| USER NAME  | = | hbmepw11cs01\$        |
| DESIGNED   | - | DEO, AWD              |
| DRAWN      | - | DEO, AWD              |
| PLOT SCALE | = | 10:8.0000 " : " / in. |
| CHECKED    | - | MI, LAB               |
| DATE       | - | 12/9/2024             |
| PLOT DATE  | = | 12/6/2024             |

|         |   |
|---------|---|
| REVISED | - |
| REVISED | - |
| REVISED | - |
| REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 2 REPAIRS  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-21 OF S04-26 SHEETS

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 579       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |



MODEL: Default  
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|            |   |                      | DRAWN    | - | DEO, AWD  | REVISED | - |
| PLOT SCALE | = | 10:8.0000 '":' / in. | CHECKED  | - | MI, LAB   | REVISED | - |
| PLOT DATE  | = | 12/6/2024            | DATE     | - | 12/9/2024 | REVISED | - |

| F.A.I. RTE.  | SECTION                | COUNTY           | TOTAL SHEETS | SHEET NO. |
|--------------|------------------------|------------------|--------------|-----------|
| 94           | (42-B-11-1) BR, BJR 24 | COOK             | 761          | 580       |
| CONTRACT NO. |                        |                  |              | 62W87     |
| ILLINOIS     |                        | FED. AID PROJECT |              |           |



BILL OF MATERIAL

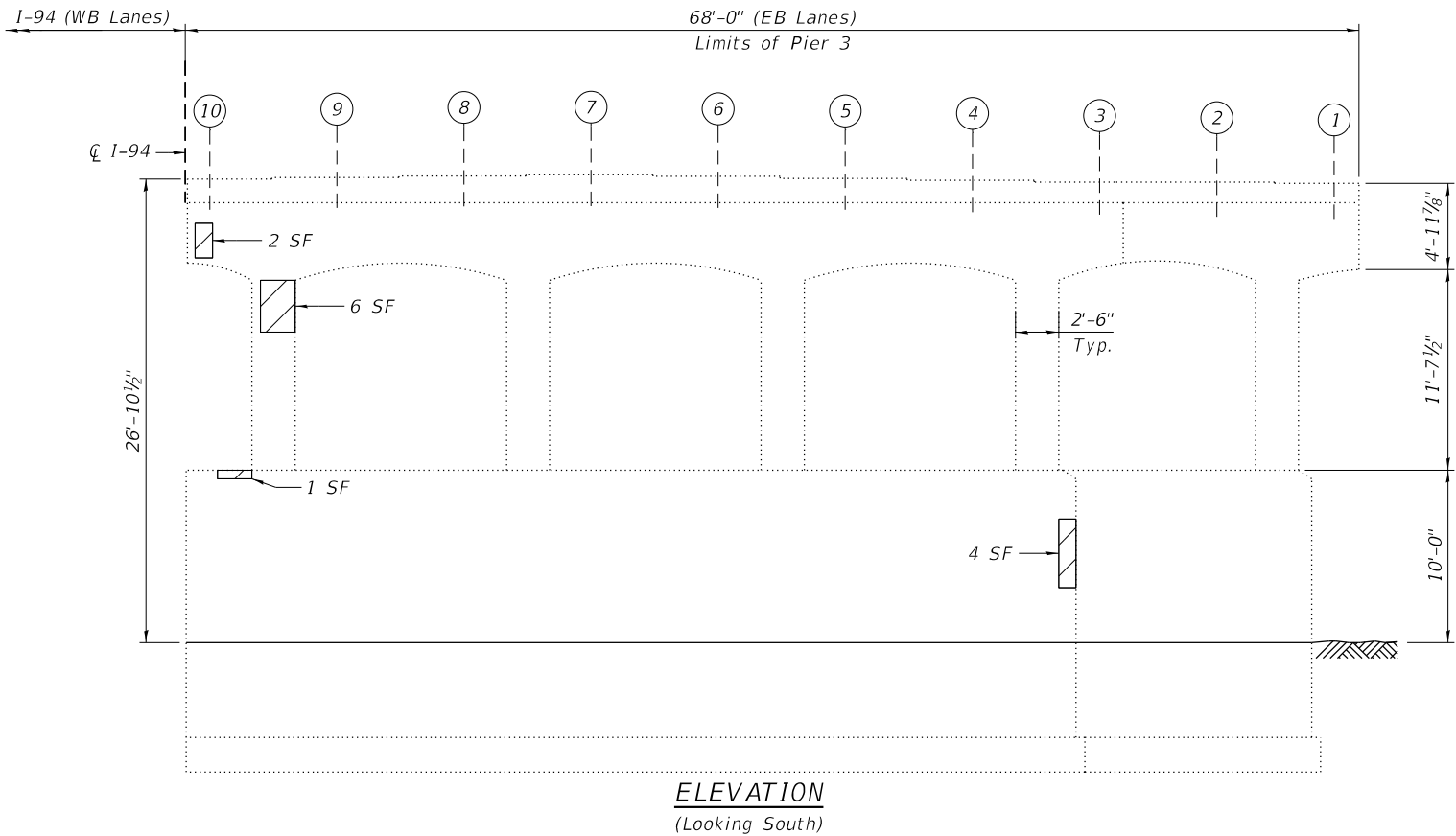
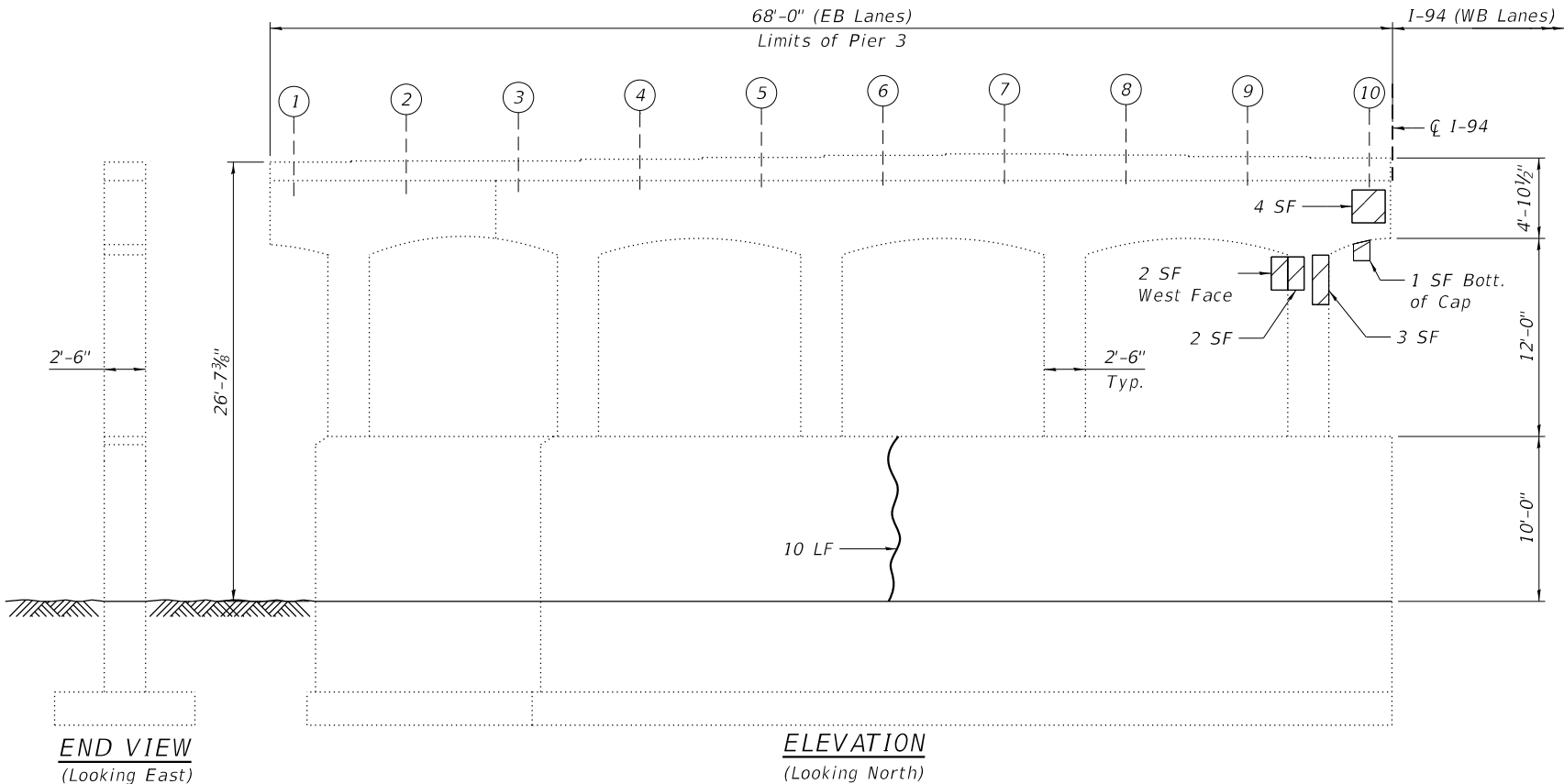
| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Epoxy Crack Injection  | Foot  | 10       |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 25       |

NOTE:

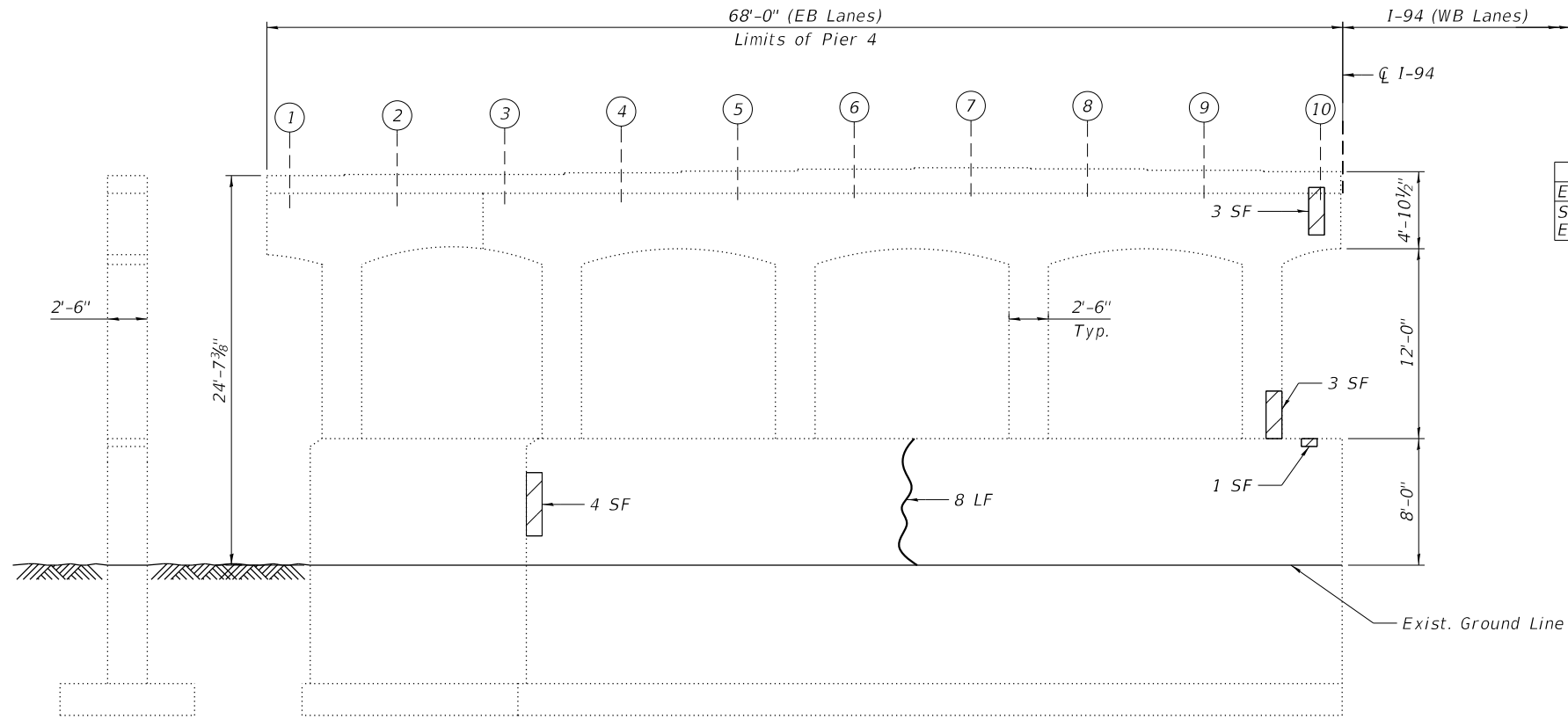
- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

-  Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
-  Epoxy Crack Injection (Width > 0.06")
- SF      Square Foot
- LF      Linear Foot

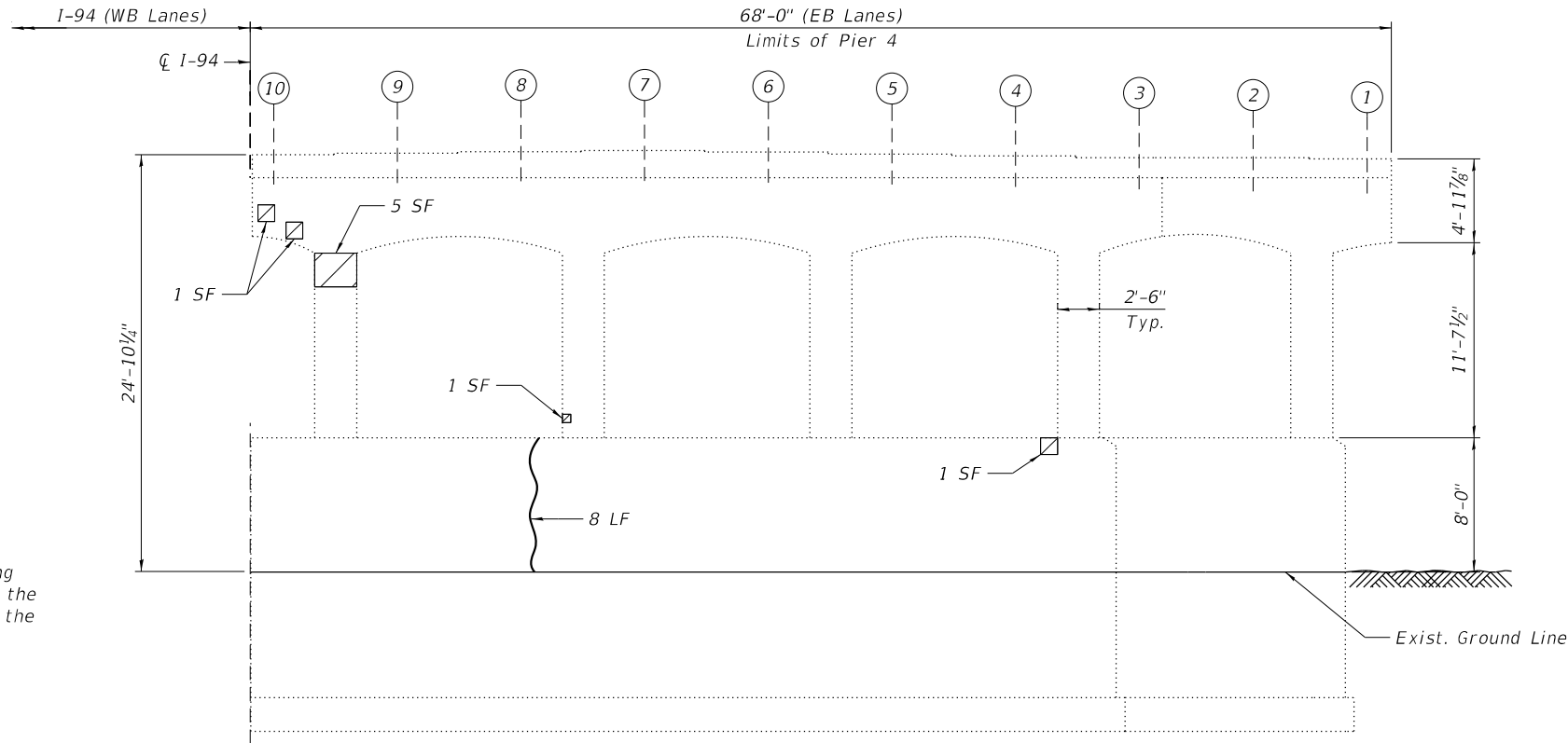






**END VIEW**  
(Looking East)

**ELEVATION**  
(Looking North)



**ELEVATION**  
(Looking South)

**BILL OF MATERIAL**

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Epoxy Crack Injection  | Foot  | 16       |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 20       |

**NOTE:**

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

**LEGEND**

|    |  |
|----|--|
|    | Structural Repair of Concrete (Depth Equal to or Less than 5 inches) |
|    | Epoxy Crack Injection (Width > 0.06")                                |
| SF | Square Foot  |
| LF | Linear Foot  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 4 REPAIRS  
STRUCTURE NO. 016-0160 (EB)

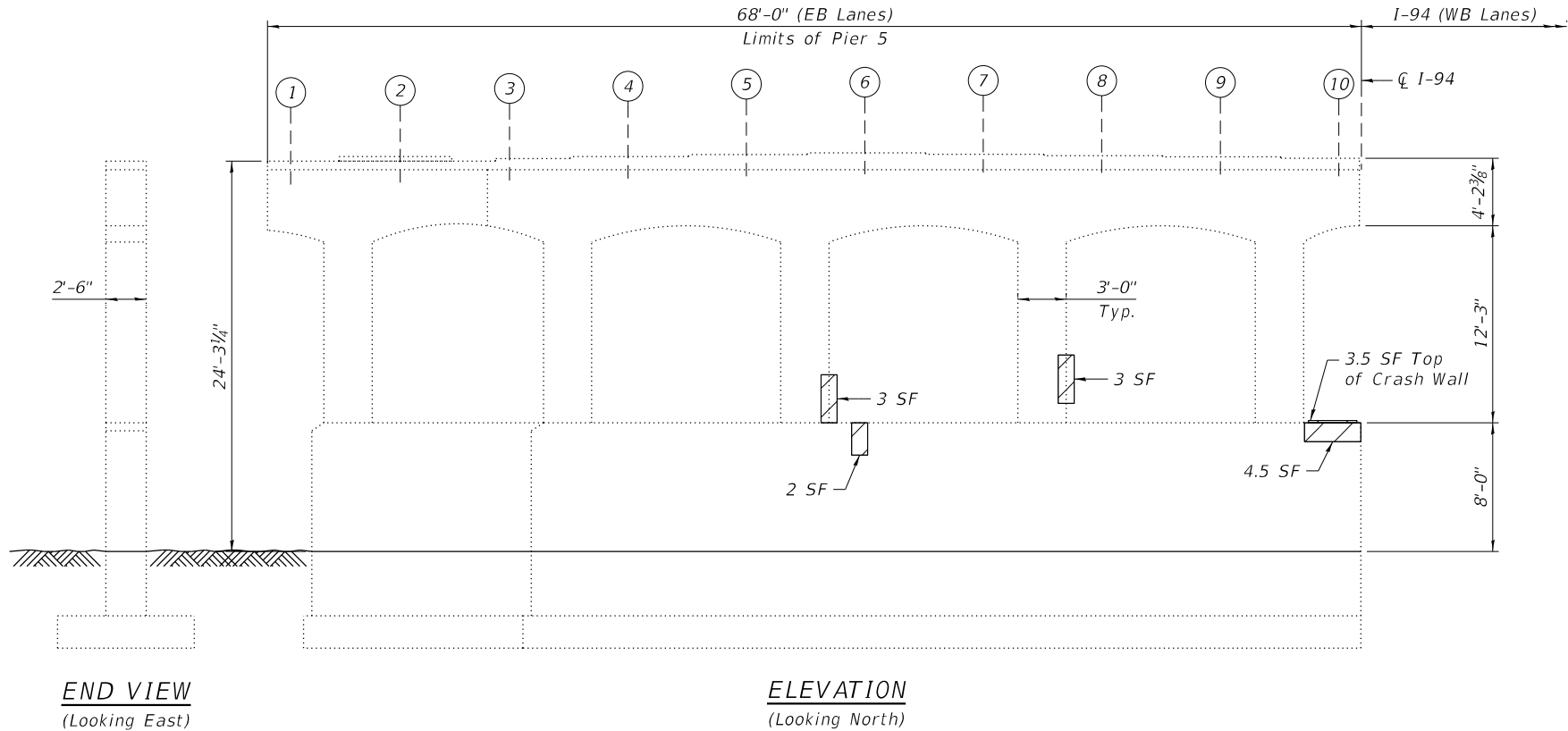
SHEET S04-23 OF S04-26 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR, BJR 24 | COOK   | 761          | 581       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |

**HBM**  
ENGINEERING GROUP, LLC

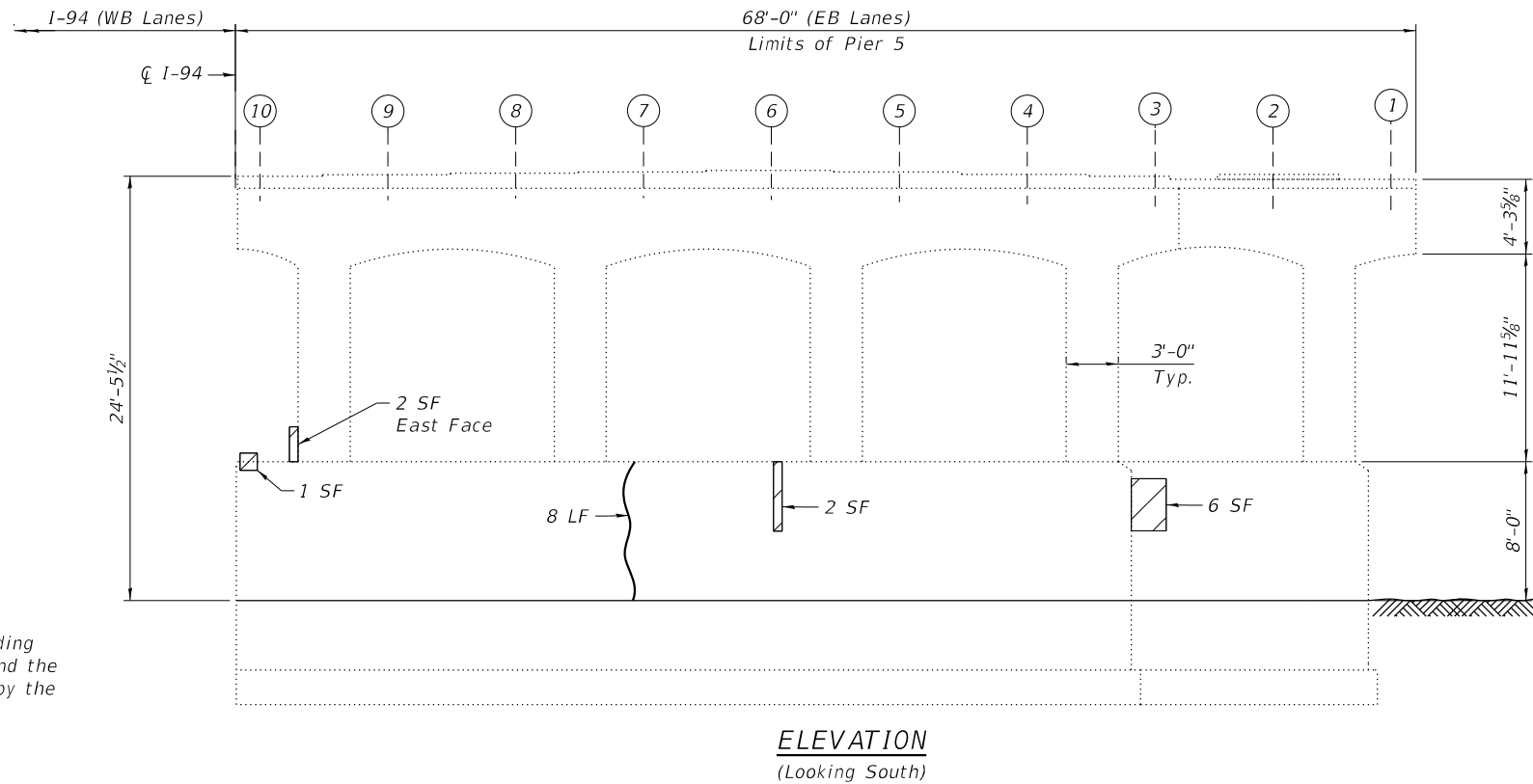
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| DRAWN -      | DEO, AWD               | REVIS      |           |           |  |
| PLOT SCALE = | 10:8.0000 " = 1" / in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024              | DATE -     | 12/9/2024 | REVISED - |  |





**BILL OF MATERIAL**

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Epoxy Crack Injection  | Foot  | 8        |
| Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches) | Sq Ft | 27       |



**NOTE:**

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

**LEGEND**



Structural Repair of Concrete (Depth Equal to or Less than 5 inches)



Epoxy Crack Injection (Width > 0.06")

SF

Square Foot

LF

Linear Foot

MODEL: Default  
FILE NAME: \\hbmepw11cs01\CS\_pdf\_work\_dir\2387\1428\_2810160160-62K53-26-EB-Pier5.dgn



|            |   |                      |          |   |           |         |   |
|------------|---|----------------------|----------|---|-----------|---------|---|
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| DRAWN      | - | DEO, AWD             | REVISED  | - |           |         |   |
| PLOT SCALE | = | 10:8.0000' : " / in. | CHECKED  | - | MI, LAB   | REVISED | - |
| PLOT DATE  | = | 12/6/2024            | DATE     | - | 12/9/2024 | REVISED | - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 5 REPAIRS  
STRUCTURE NO. 016-0160 (EB)

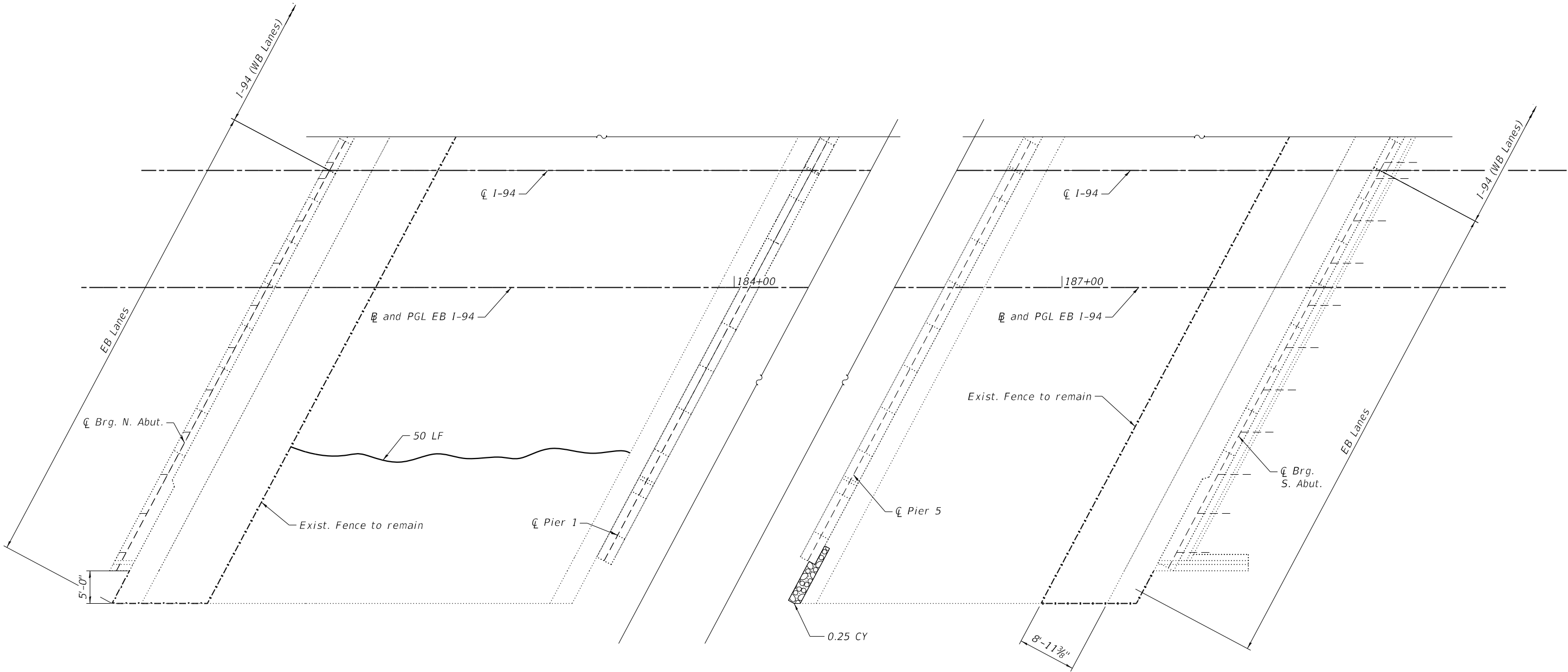
SHEET S04-24 OF S04-26 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 582          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |



BILL OF MATERIAL

| ITEM                       | UNIT  | QUANTITY |
|----------------------------|-------|----------|
| Porous Granular Embankment | Cu Yd | 1        |
| Slope Wall Crack Sealing   | Foot  | 50       |



SLOPE WALL - PLAN



NOTE:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND



Porous Granular Embankment



Slope Wall Crack Sealing

LF

Linear Foot

CY

Cubic Yard

MODEL: Default  
FILE NAME: \\hbmepw11cs01\CS\_pdf\_work\_dir\2387\1428\_2310160160-62K53-27-EB-SlopeWall.dgn  
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|              |                        |            |           |           |  |
|--------------|------------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$         | DESIGNED - | DEO, AWD  | REVISED - |  |
|              |                        | DRAWN -    | DEO, AWD  | REVISED - |  |
| PLOT SCALE = | 16:0.0000 " = 1' / in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024              | DATE -     | 12/9/2024 | REVISED - |  |

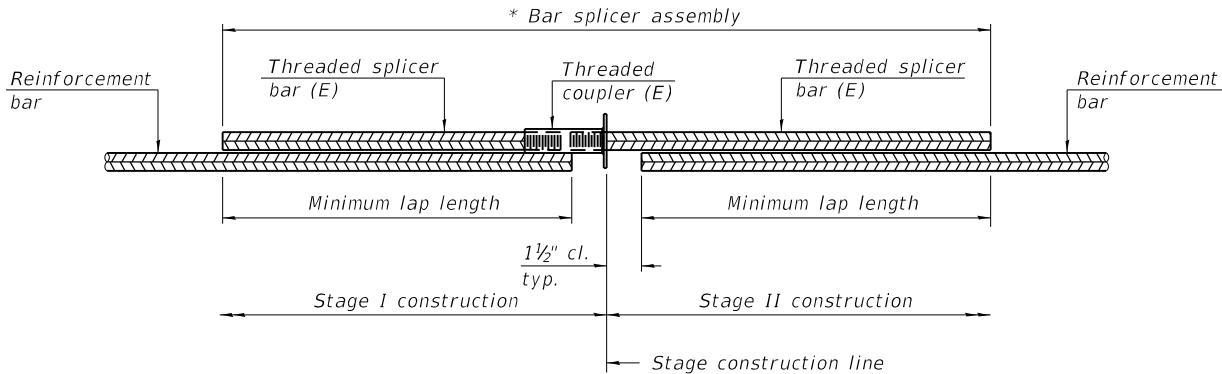
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SLOPE WALL REPAIRS  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-25 OF S04-26 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 583          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |





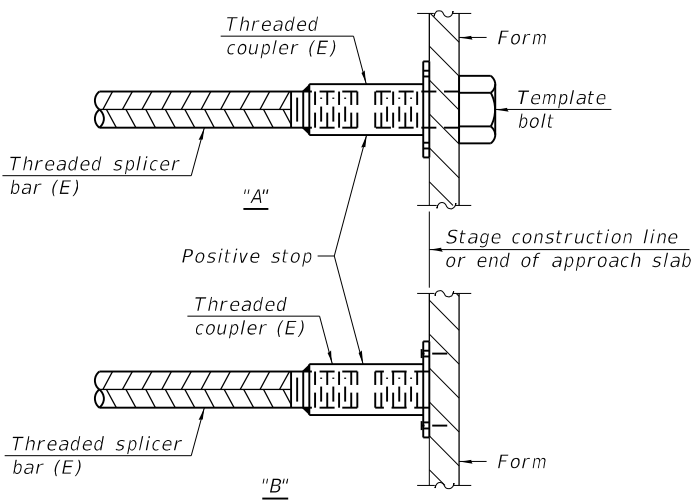
**STANDARD BAR SPLICER ASSEMBLY PLAN**

Only bar splicer assemblies as presented on the approved QPL list may be used.

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location        | Bar Size | No. assemblies required | Minimum lap length |
|-----------------|----------|-------------------------|--------------------|
| N. Abutment Jt. | #5       | 9                       | 3'-0"              |
|                 | #6       | 6                       | 3'-7"              |
| Pier 2 Jt.      | #5       | 18                      | 3'-0"              |
| S. Abutment Jt. | #5       | 9                       | 3'-0"              |
|                 | #6       | 6                       | 3'-7"              |

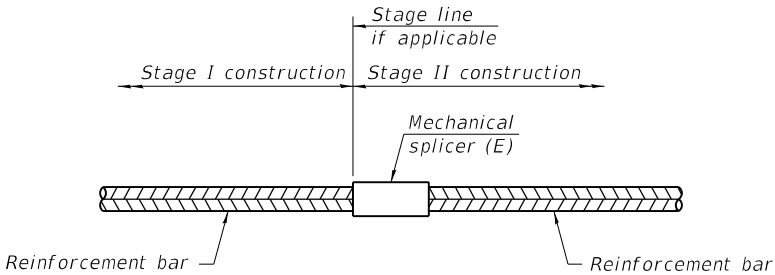


**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.

"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
|          |          |                         |
|          |          |                         |
|          |          |                         |
|          |          |                         |

Notes:  
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

5-15-2023

MODEL: Default  
FILE NAME: \\hbmepw11cs01\CS\_pdf\_work\_dir\2387\1428\_43\0160160-62K53-28-EB-BarSplicers.dgn



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|--------------|------------------|------------|-----------|-----------|--|
| USER NAME =  | hbmepw11cs01\$   | DESIGNED - | DEO, AWD  | REVISED - |  |
|              |                  | DRAWN -    | DEO, AWD  | REVISED - |  |
| PLOT SCALE = | 0:2 " = 1" / in. | CHECKED -  | MI, LAB   | REVISED - |  |
| PLOT DATE =  | 12/6/2024        | DATE -     | 12/9/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY & MECHANICAL SPLICER DETAIL  
STRUCTURE NO. 016-0160 (EB)

SHEET S04-26 OF S04-26 SHEETS

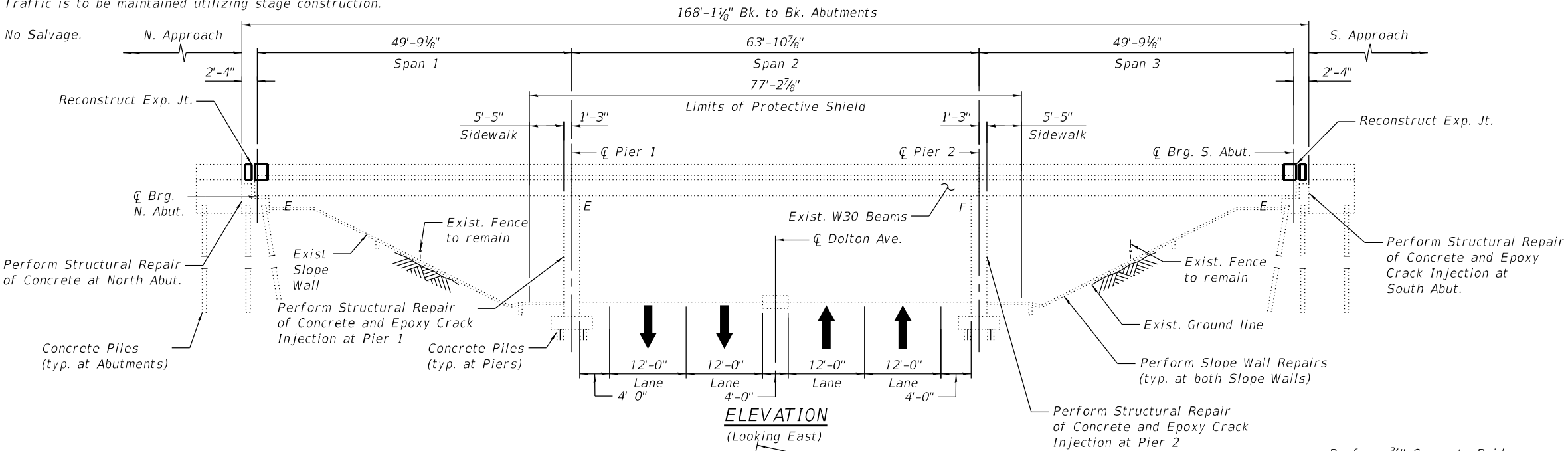
| F.A.I.<br>RTE. | SECTION                | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|--------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK               | 761             | 584          |
|                |                        | CONTRACT NO. 62W87 |                 |              |
| ILLINOIS       |                        | FED. AID PROJECT   |                 |              |



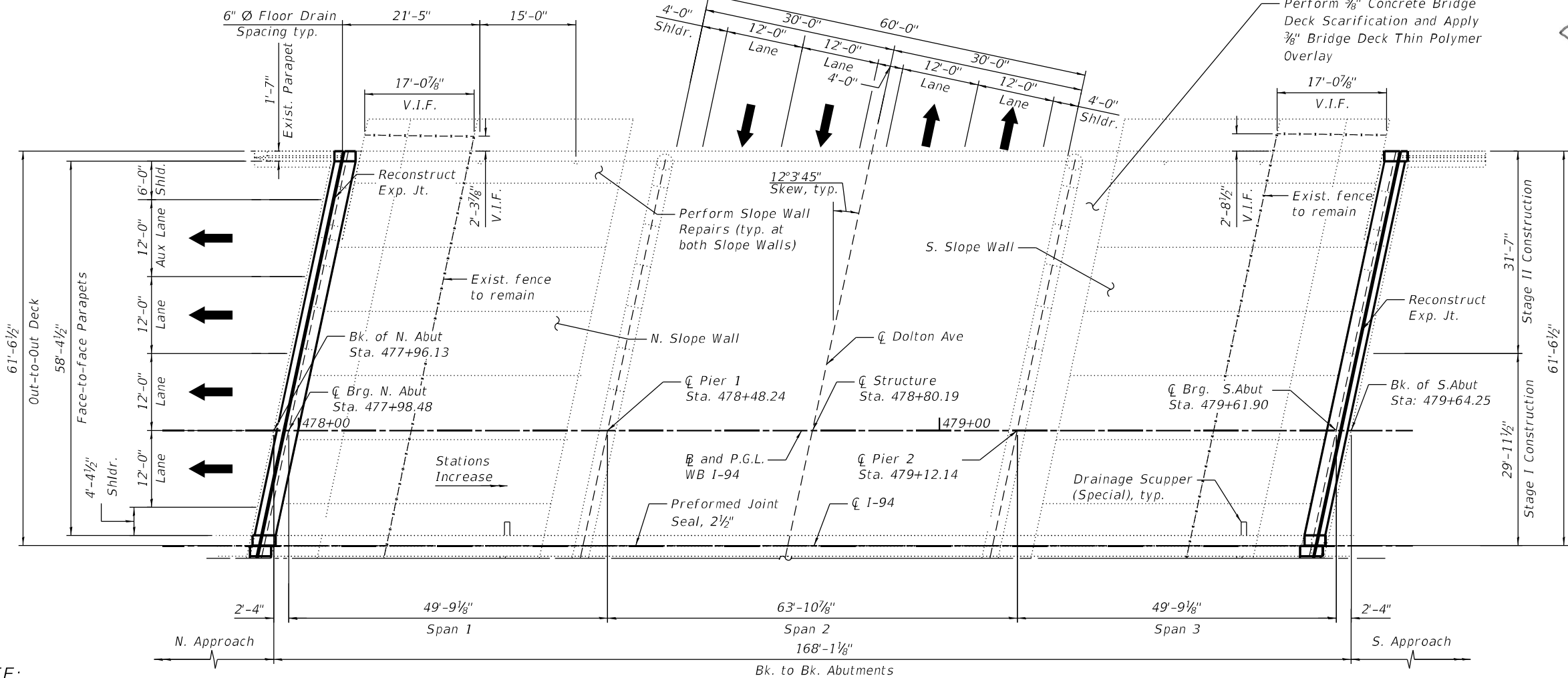
Existing Structure:

The bridge was constructed in 1948 under Section 0707.1-HB. It was widened in 1990 under Section 42 (VB 10, 12) and 0707.1 HB (B-Y-I-86). In 1992, the bridge was reconstructed under Section 42 (VB 10, 12, HB 14, B-11) and 0707.1 HB (R-3)90. This structure carries eight 12' lanes (four eastbound & four westbound) of I-94 over Dolton Avenue. The outer shoulder is 6' wide, and the inner shoulder is 4'-4½". The bridge has three spans (49'-9⅞", 63'-10⅞", 49'-9⅞") and a skew of 12°-03'-45". The abutments are pile-supported stub abutments. The bridge has reinforced concrete column piers on pile foundations with an extension at each end.

Traffic is to be maintained utilizing stage construction.



ELEVATION  
(Looking East)



PLAN

NOTE:

- All stations are to I-94 WB P.G.L. and taken from existing plans.

LOADING HS 20-44

No future wearing surface is allowed.

DESIGN SPECIFICATION

2002 AASHTO Standard Specifications  
for Highway Bridges, 17th Edition

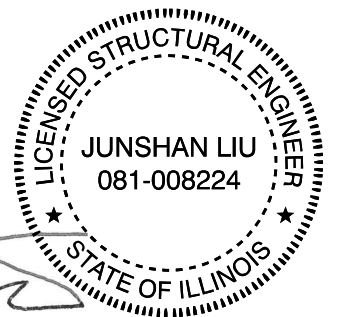
EXISTING DESIGN STRESSES

(1992 RECONSTRUCTION)

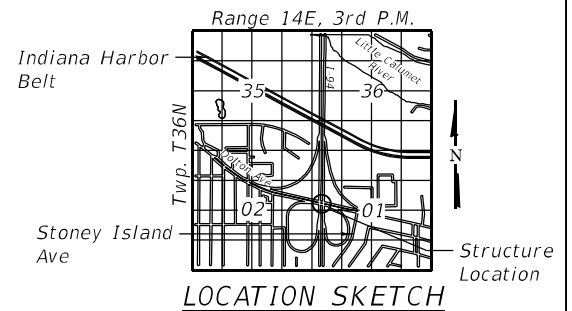
$f'_c$  = 3500 psi (Superstructure)  
 $f_y$  = 60,000 psi (Reinforcement Superstructure)  
 $f_s$  = 24,000 psi (Structural Steel)

PROPOSED DESIGN STRESSES

$f'_c$  = 4,000 psi (Superstructure)  
 $f_y$  = 60,000 psi (Reinforcement)



Exp: 11/30/2026  
Date: 12/05/2024



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

WB I-94 OVER DOLTON AVE

F.A.I. ROUTE 94

SECTION 2019 180-RS & T

COOK COUNTY

STATION: 478+80.19

S.N. 016-0161



|              |                  |            |           |           |  |
|--------------|------------------|------------|-----------|-----------|--|
| USER NAME =  | imranh           | DESIGNED - | SUR       | REVISED - |  |
|              |                  | DRAWN -    | ME        | REVISED - |  |
| PLOT SCALE = | 20:0' = 1" / in. | CHECKED -  | JL        | REVISED - |  |
| PLOT DATE =  | 12/9/2024        | DATE -     | 12/6/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 016-0161 (WB)

SHEET S05-01 OF S05-27 SHEETS

| F.A.I.<br>RTE. | SECTION                | COUNTY                    | TOTAL<br>SHEETS | SHEET<br>NO. |
|----------------|------------------------|---------------------------|-----------------|--------------|
| 94             | (42-B-11-1) BR, BJR 24 | COOK                      | 761             | 585          |
|                |                        | CONTRACT NO. 62W87        |                 |              |
|                |                        | ILLINOIS FED. AID PROJECT |                 |              |



MODEL: Default  
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GENERAL NOTES

1. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
2. During repair operations the contractor shall locate and protect any utilities or facilities including but not limited to the fiber optic and/or electrical conduits, conduits under the bridge deck, under lighting, traffic signals or signs attached to the structure. This work is to be performed to the satisfaction of the engineer and will not be paid for separately, but shall be included with the contract. It will be the contractor's responsibility to restore and replace any damage utilities or facilities to the satisfaction of the engineer and the department.
3. All exposed concrete edges shall have a ¾" x 45" chamfer except where shown otherwise.
4. Protective Coat shall be applied to the top and inside face of parapets.
5. Repairs shown are based upon inspection carried out at the time of plan preparation are for bidding purposes only. Actual area to be repaired and the type(s) of repairs to be used shall be determined by the engineer in the field at the time of construction.
6. The contractor shall take the necessary precautions for the protection of passing vehicles, bicycles, and pedestrians from falling objects and/or materials until completion of work.
7. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to ride above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
8. Any adjustment done to the Protective Shield System must not change the load carrying capacity (or containment specifications) as indicated in the Standard Specifications, Cost of adjusting shielding is included in the cost of Protective Shield.
9. Concrete Sealer shall be applied to the designated areas of the abutments.
10. Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. See Special provision for Debris Removal.
11. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose detrimental foreign material shall be removed from the surfaces in contact with concrete (SSPCSP3 standards). Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be paid for according to Article 109.04 of the Standard Specifications. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding ¼ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
12. Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Beam Straightening.
13. Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction cost is included with concrete removal. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system at the Contractor's expense.
14. Cleaning and field painting of structural steel shall be done under a separate painting contract.
15. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
16. Reinforcement bars designated (E) shall be epoxy coated.

17. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
18. No field welding is permitted except as specified in the contract documents.
19. The Engineer shall show actual locations and size of deck repairs on As-built Plans.
20. Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
21. Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when the deck is poured at an ambient temperature other than 50° F.
22. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

INDEX OF SHEETS

- S05-01 General Plan and Elevation
- S05-02 General Notes, Index of Sheets & TBOM
- S05-03 Stage Construction (Sheet 1 of 2)
- S05-04 Stage Construction (Sheet 2 of 2)
- S05-05 Temporary Concrete Barrier
- S05-06 Deck Repair Plan
- S05-07 S. Abut. Joint Removal & Replacement (Sht. 1 of 3)
- S05-08 S. Abut. Joint Removal & Replacement (Sht. 2 of 3)
- S05-09 S. Abut. Joint Removal & Replacement (Sht. 3 of 3)
- S05-10 N. Abut. Joint Removal & Replacement (Sht. 1 of 3)
- S05-11 N. Abut. Joint Removal & Replacement (Sht. 2 of 3)
- S05-12 N. Abut. Joint Removal & Replacement (Sht. 3 of 3)
- S05-13 Preformed Joint Strip Seal
- S05-14 Framing Plan
- S05-15 Beam Straightening Details
- S05-16 South Abutment Rcpairs
- S05-17 North Abutment Repairs
- S05-18 Pier 1 Repairs
- S05-19 Pier 2 Repairs
- S05-20 Slope Wall Repairs
- S05-21 Bar Splicer Assembly & Mechanical Splicer Details
- S05-22 Existing Plans (Sheet 1 of 6)
- S05-23 Existing Plans (Sheet 2 of 6)
- S05-24 Existing Plans (Sheet 3 of 6)
- S05-25 Existing Plans (Sheet 4 of 6)
- S05-26 Existing Plans (Sheet 5 of 6)
- S05-27 Existing Plans (Sheet 6 of 6)

SCOPE OF WORK

1. Provide Protective Shield within limits indicated on the plans.
2. Scarify ¾" from the bridge deck slab.
3. Remove and Reconstruct Expansion joints at North and South abutments and install new Preformed Joint Strip Seals.
4. Apply ¾" Thin Polymer Overlay on Bridge Deck.
5. Refer to Roadway plans for Approach Pavement Rehabilitation.
6. Apply Protective Coat to the top of reconstructed transverse joint areas and top and inside faces of parapets.
7. Perform structural concrete repairs to abutments and piers, as noted on plans.
8. Perform structural steel repairs to beams, as noted on plans.
9. Perform Slope Wall repairs.

TOTAL BILL OF MATERIAL

| ITEM   | UNIT  | SUPER | SUB | TOTAL |
|--|-------|-------|-----|-------|
| Porous Granular Embankment                                     | Cu Yd | -     | 10  | 10    |
| Concrete Removal   | Cu Yd | 18.2  | -   | 18.2  |
| Slope Wall Removal   | Sq Yd | -     | 29  | 29    |
| Protective Shield  | Sq Yd | 529   | -   | 529   |
| Concrete Superstructure  | Cu Yd | 18.2  | -   | 18.2  |
| Protective Coat  | Sq Yd | 203   | -   | 203   |
| Reinforcement Bars, Epoxy Coated                               | Pound | 3,150 | -   | 3,150 |
| Bar Splicers   | Each  | 32    | -   | 32    |
| Slope Wall 4 Inch  | Sq Yd | -     | 29  | 29    |
| Preformed Joint Seal, 2½"                                      | Foot  | 167   | -   | 167   |
| Preformed Joint Strip Seal                                     | Foot  | 120   | -   | 120   |
| Concrete Sealer  | Sq Ft | -     | 942 | 942   |
| Epoxy Crack Injection  | Foot  | -     | 44  | 44    |
| Slope Wall Crack Sealing                                       | Foot  | -     | 139 | 139   |
| Beam Straightening   | L Sum | 0.33  | -   | 0.33  |
| Bridge Deck Scarification ¾"                                   | Sq Yd | 1,042 | -   | 1,042 |
| Bridge Deck Thin Polymer Overlay ¾"                            | Sq Yd | 1,042 | -   | 1,042 |
| Structural Repair of Concrete (Depth Equal to or less than 5") | Sq Ft | -     | 79  | 79    |
| Structural Repair of Concrete (Depth Greater Than 5")          | Sq Ft | -     | 9   | 9     |



|              |                   |            |           |           |  |
|--------------|-------------------|------------|-----------|-----------|--|
| USER NAME =  | imranh            | DESIGNED - | SUR       | REVISED - |  |
|              |                   | DRAWN -    | ME        | REVISED - |  |
| PLOT SCALE = | 0:2.0000 1" / in. | CHECKED -  | JL        | REVISED - |  |
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

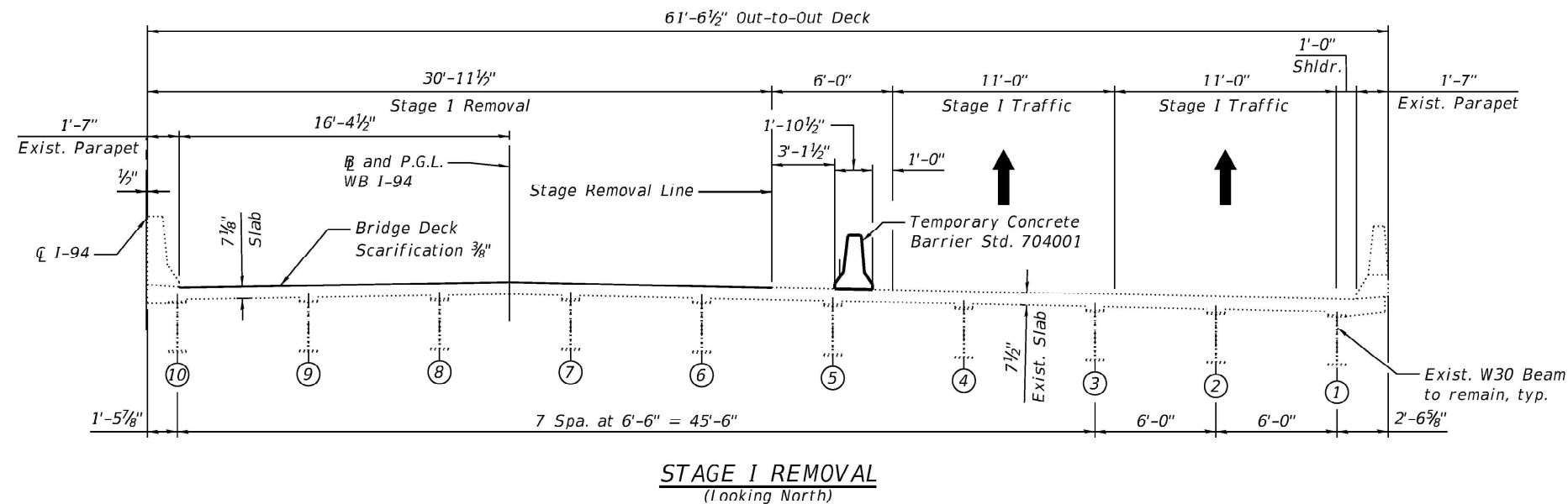
GENERAL NOTES, INDEX OF SHEETS & TBOM  
STRUCTURE NO. 016-0161 (WB)

SHEET S05-02 OF S05-27 SHEETS

| F.A.I. RTE.                 | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------------------|------------------------|--------|--------------|-----------|
| 94                          | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 586       |
| CONTRACT NO. 62W87          |                        |        |              |           |
| ILLINOIS   FED. AID PROJECT |                        |        |              |           |

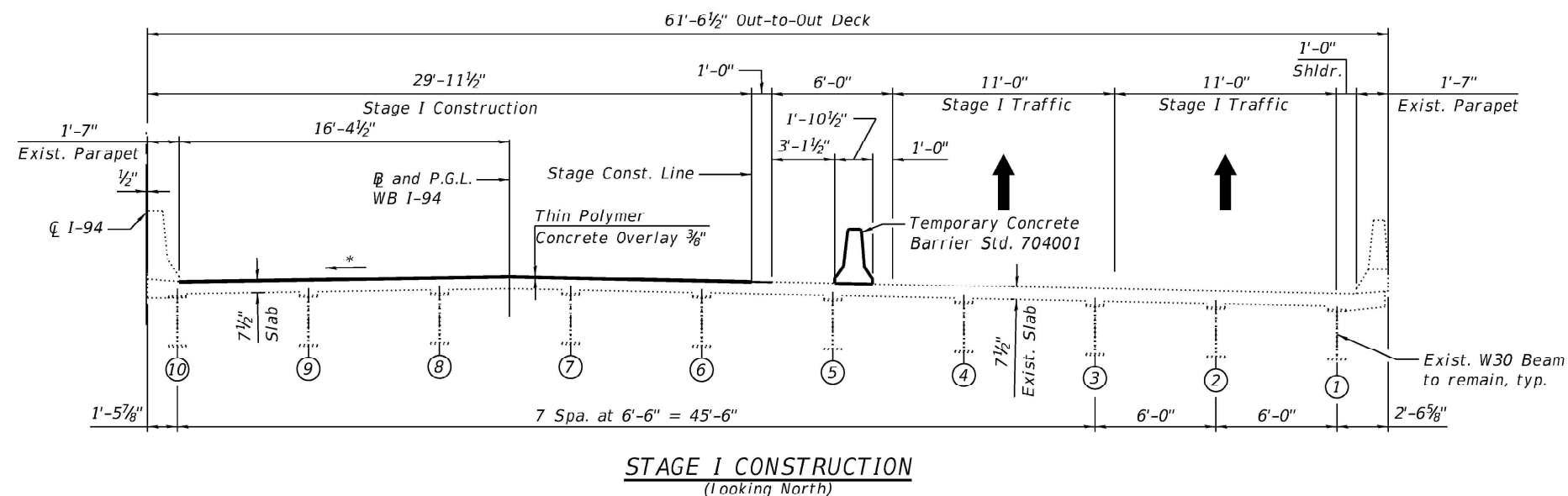


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### STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. Perform ⅜" bridge deck scarification.
3. Remove portions of bridge concrete deck/approach slab adjacent to expansion joints at the North and South Abutments.



### STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip steals within the limits of Stage I Construction.
3. Perform Structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply ⅜" Bridge Deck Thin polymer Overlay.
5. Refer to Roadway plans for Approach Pavement Rehabilitation.
6. Apply protective coat to top and inside faces of West parapet, and reconstructed transverse expansion joints.
7. Perform Slope Wall repairs as shown on the plans.
8. Replace existing longitudinal preformed joint seal between NB West parapet and SB East parapet.

\*Match existing cross slopes



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| USER NAME =  | imranh       | DESIGNED - | SUR       | REVISED - |  |
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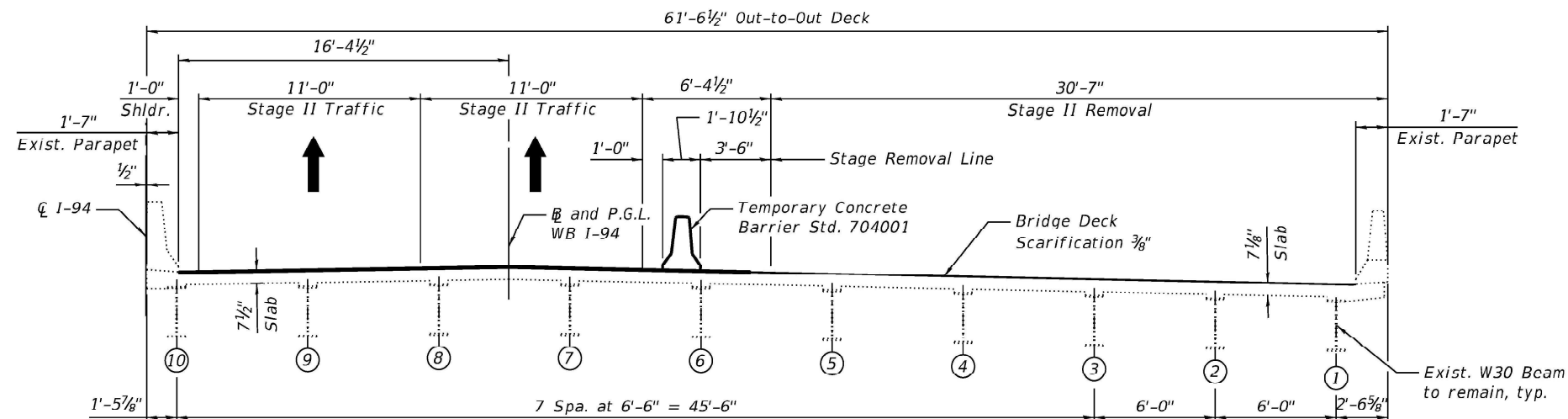
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION (SHEET 1 OF 2)  
STRUCTURE NO. 016-0161 (WB)

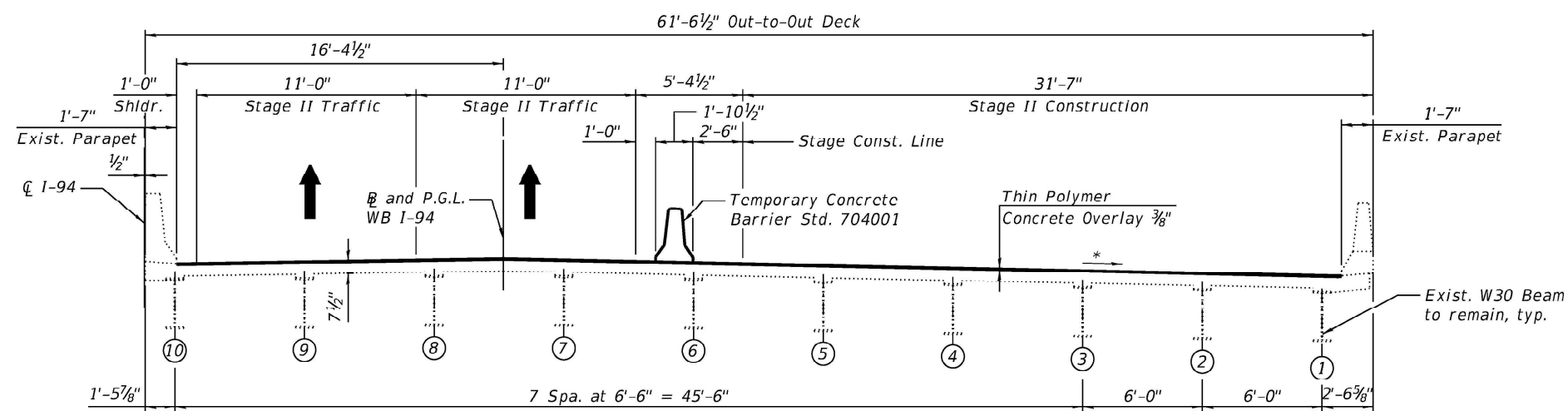
SHEET 505-03 OF 505-27 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
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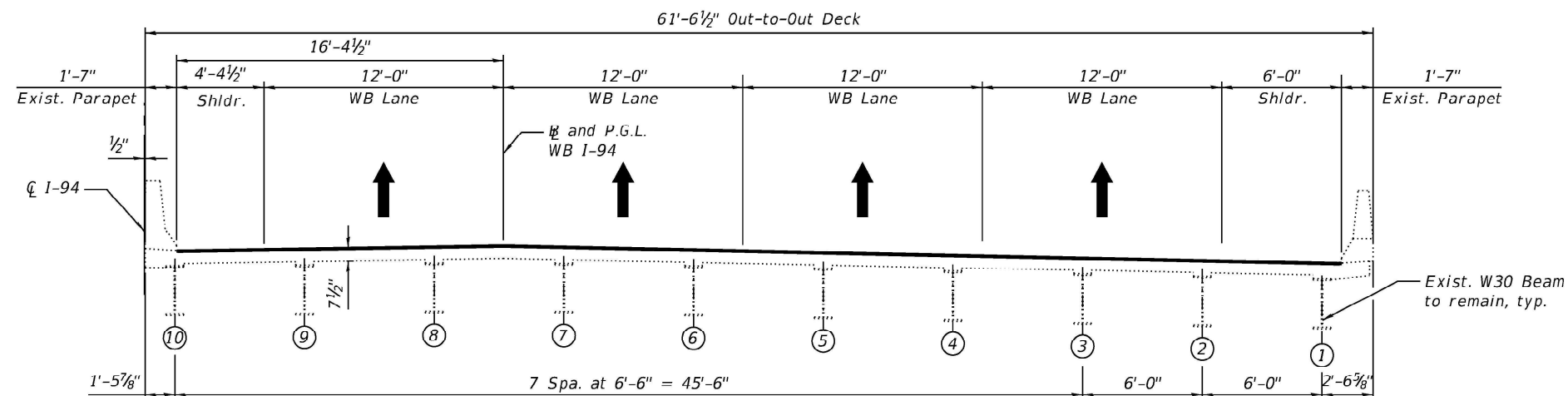




**STAGE II REMOVAL**  
(Looking North)



**STAGE II CONSTRUCTION**  
(Looking North)



**FINAL CROSS SECTION**  
(Looking North)

### STAGE II REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the East side of the existing structure.
2. Perform  $\frac{3}{8}$ " bridge deck scarification.
3. Remove portions of bridge concrete deck/approach slab adjacent to expansion joints at the North and South Abutments.

### STAGE II CONSTRUCTION

1. Reconstruct expansion joints and install new preformed joint strip seal within the limits of Stage II Construction.
2. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
3. Apply  $\frac{3}{8}$ " bridge deck thin polymer overlay.
4. Apply protective coat to top and inside faces of East parapet, and reconstructed abutment expansion joint areas.

\*Match existing cross slopes

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|              |              | DRAWN -    | ME        | REVISED - |  |
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

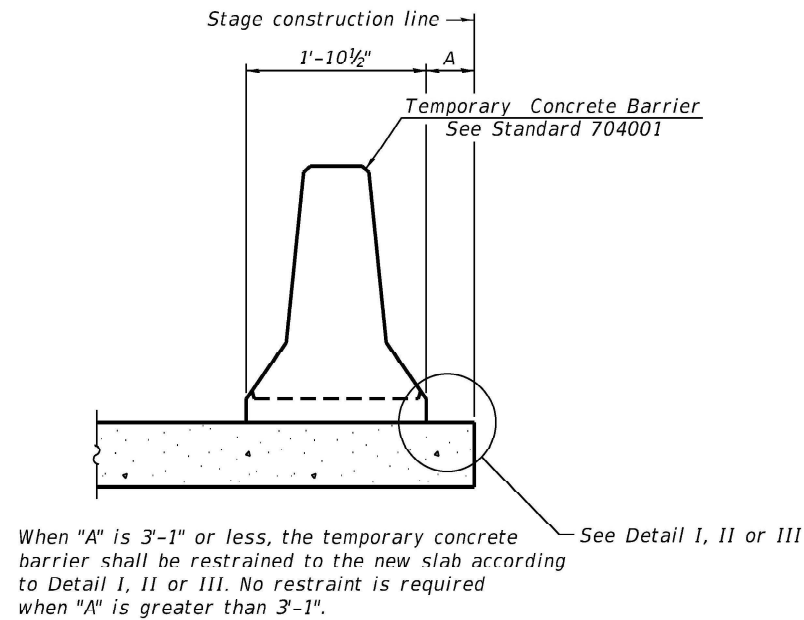
**STAGE CONSTRUCTION (SHEET 2 OF 2)**  
**STRUCTURE NO. 016-0161 (WB)**

SHEET 505-04 OF 505-27 SHEETS

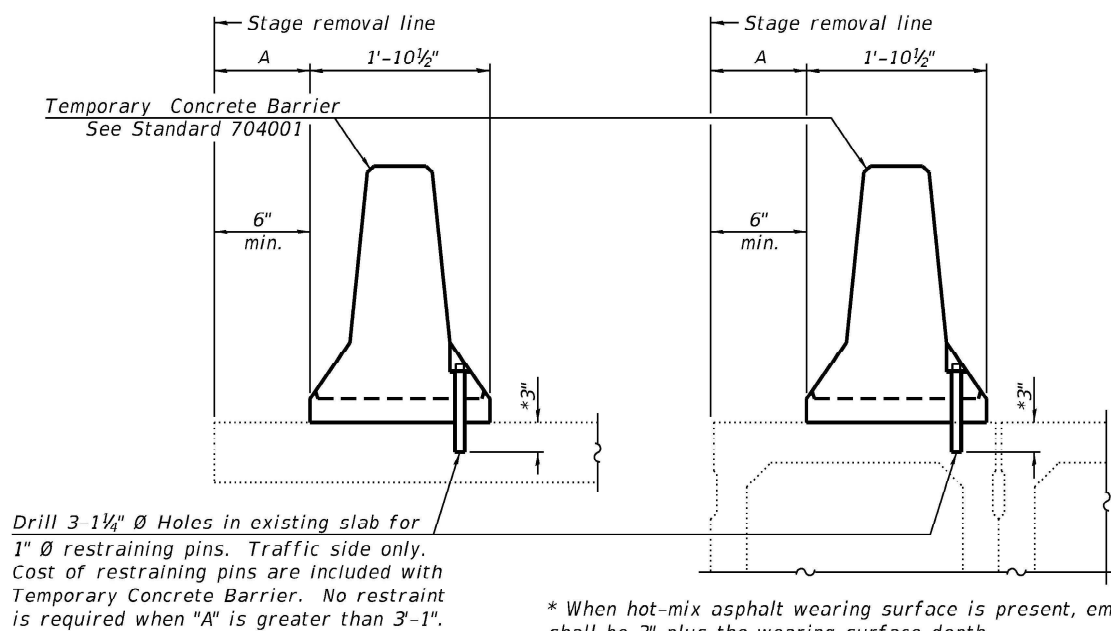
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| ILLINOIS FED. AID PROJECT |                        |        |              |           |



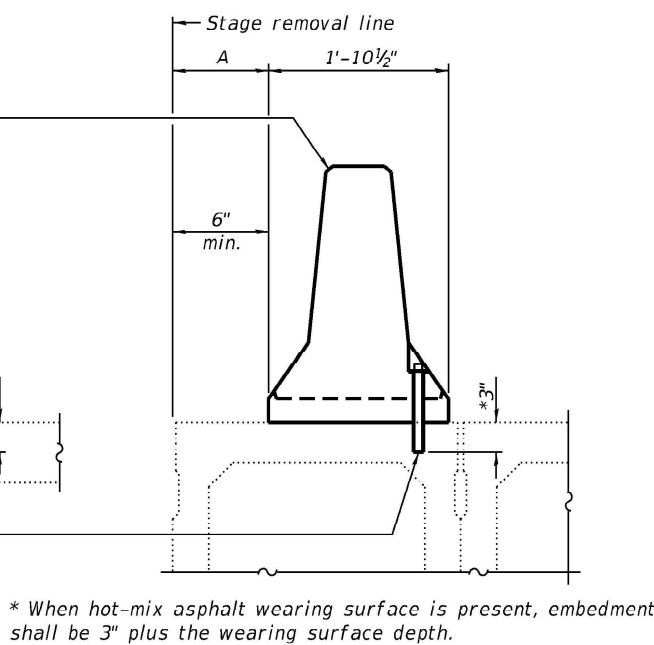
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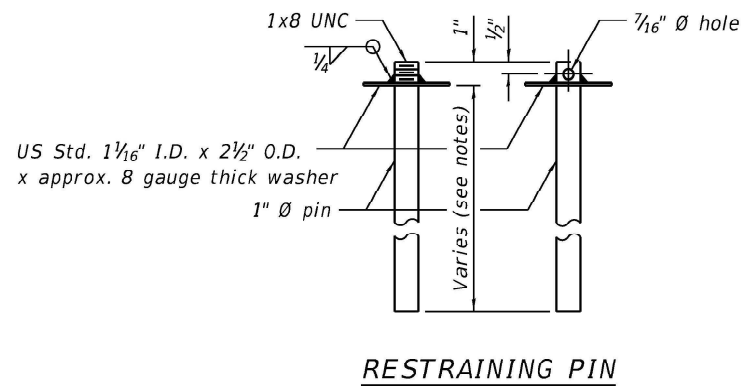
NEW SLAB OR NEW DECK BEAM



EXISTING SLAB

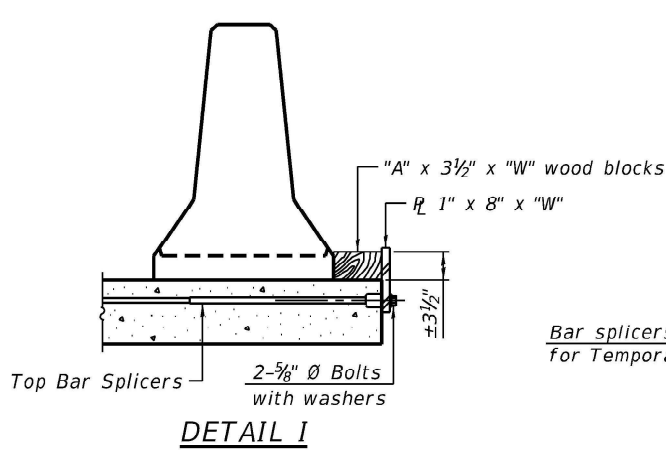


EXISTING DECK BEAM

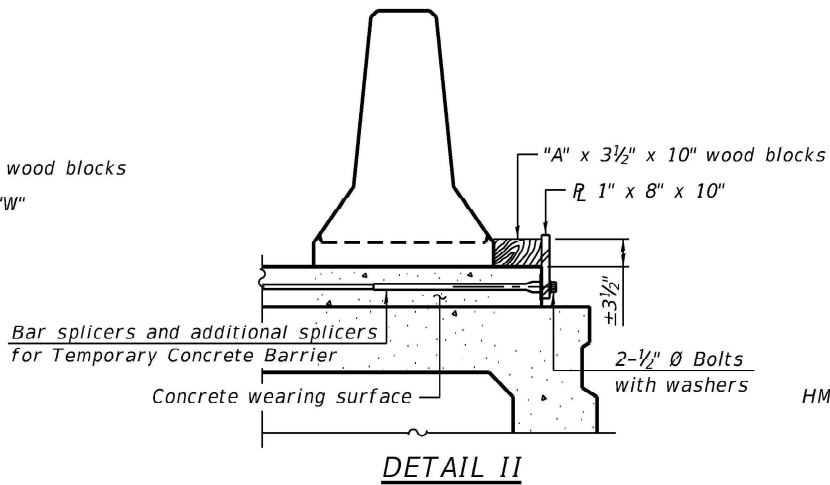


RESTRAINING PIN

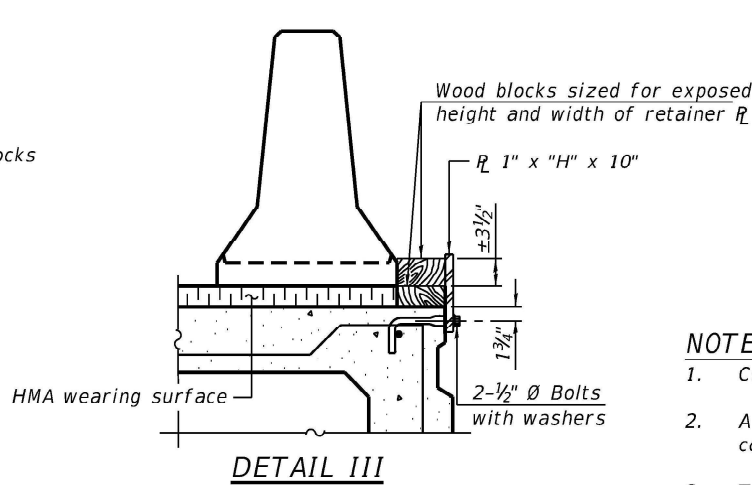
SECTIONS THRU SLAB OR DECK BEAM



DETAIL I



DETAIL II



DETAIL III

BAR SPLICER FOR #4 BAR - DETAIL III

- NOTES:**
- Cost of retainer assembly is included with Temporary Concrete Barrier.
  - A retainer assembly shall be located at the approximate  $\frac{1}{2}$  of each temporary concrete barrier.
  - The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
  - When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

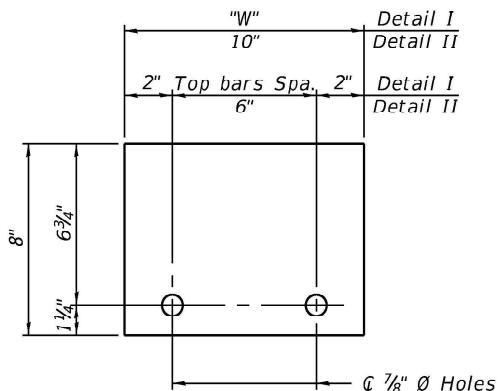
RAILING CRITERIA

|                      |     |
|----------------------|-----|
| NCHRP 350 Test Level | 3   |
| Railing Weight (plf) | 440 |

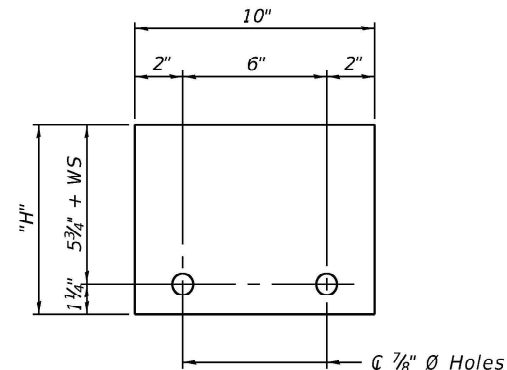
R-27

05-15-2023

STEEL RETAINER  $R$  1" x 8" x "W"  
(Detail I and II)



STEEL RETAINER  $R$  1" x "H" x 10"  
(Detail III)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER  
STRUCTURE NO. 016-0161 (WB)

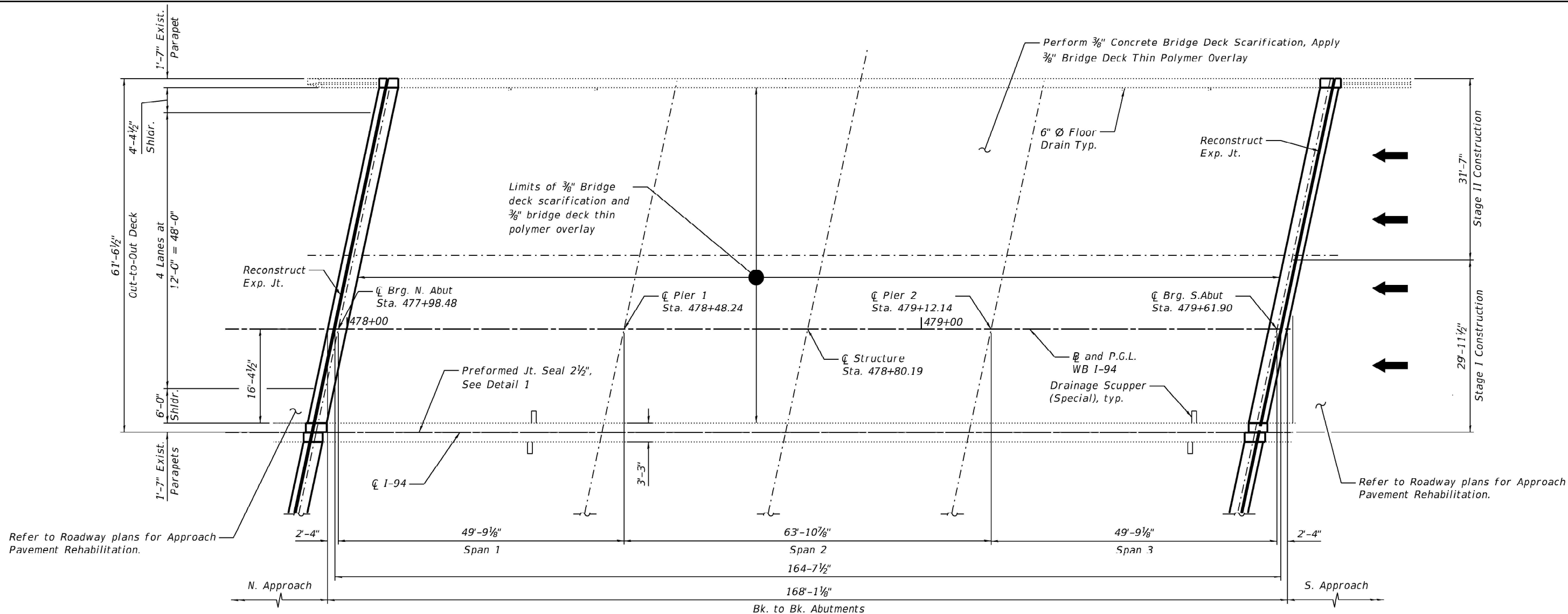
SHEET 505-05 OF 505-27 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
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| 94                        | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 589       |
| CONTRACT NO. 62W87        |                        |        |              |           |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |





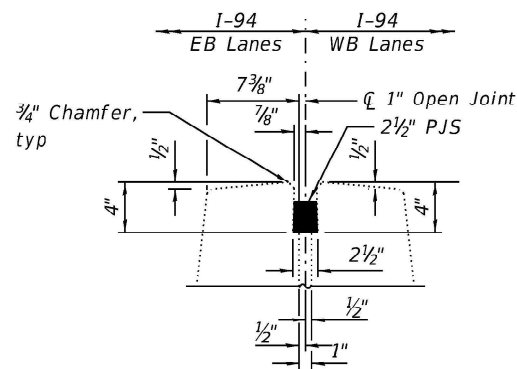
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DECK PLAN

NOTES:

- No deck slab repairs required, unless otherwise directed by Engineer.
- For bridge deck final cross section, See Sheet S05-04.
- For North and South Joint Removal and Replacement, See Sheets S05-07 through S05-12.
- Protective Coat shall be applied to top and inside face of parapets, and the joint areas.
- Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
- The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.



DETAIL 1

(Reinforcement not shown for clarity)

BILL OF MATERIAL

| ITEM                                  | UNIT  | QUANTITY |
|---------------------------------------|-------|----------|
| Protective Coat                       | Sq Yd | 149      |
| Preformed Joint Seal 2 1/2"           | Foot  | 167      |
| Bridge Deck Thin Polymer Overlay 3/8" | Sq Yd | 1042     |
| Bridge Deck Scarification 3/8"        | Sq Yd | 1042     |



|              |                 |            |           |           |  |
|--------------|-----------------|------------|-----------|-----------|--|
| USER NAME =  | imranh          | DESIGNED - | ME        | REVISED - |  |
|              |                 | DRAWN -    | SUR       | REVISED - |  |
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

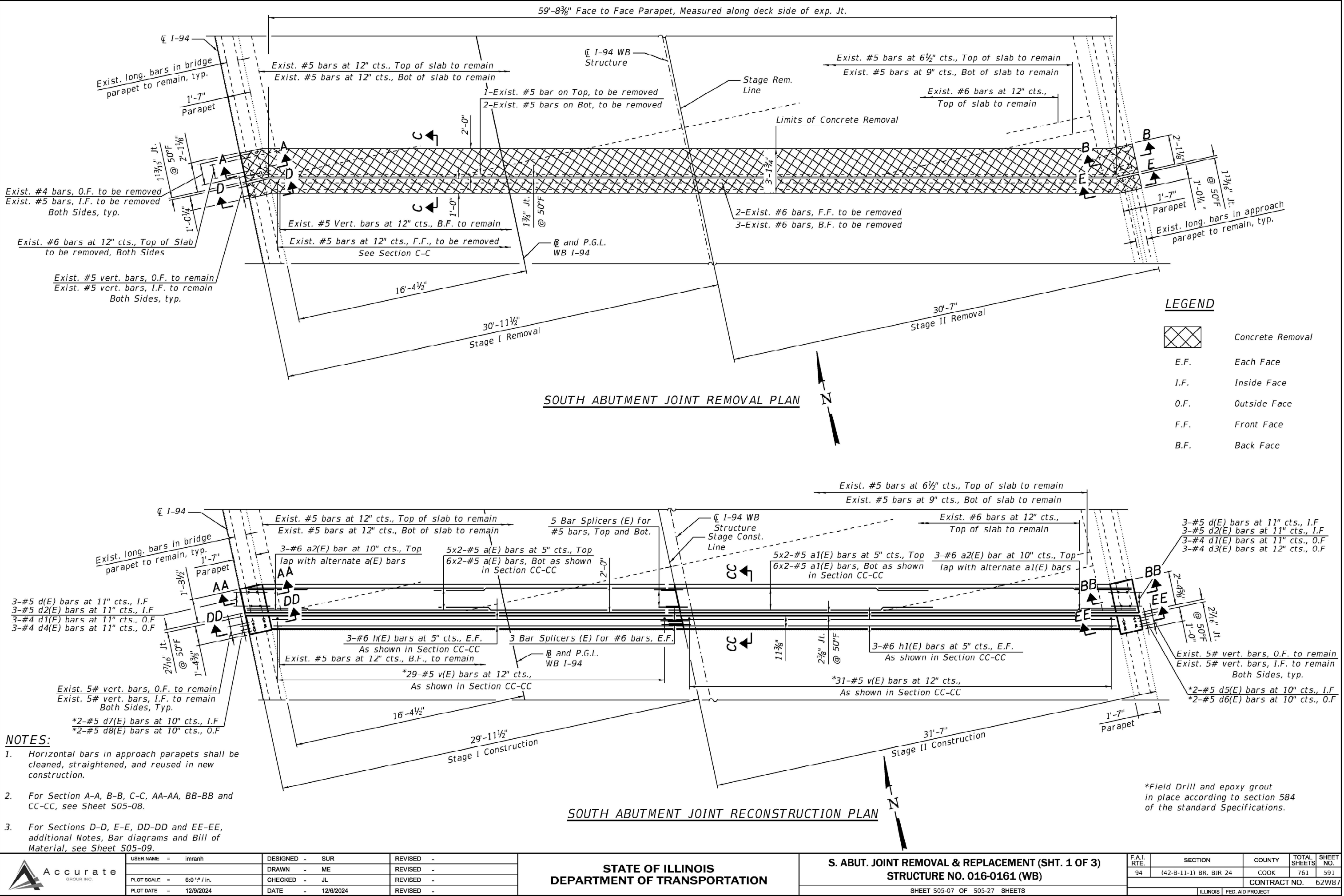
DECK REPAIR PLAN  
STRUCTURE NO. 016-0161 (WB)

SHEET S05-06 OF S05-27 SHEETS

| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
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| ILLINOIS FED. AID PROJECT |                        |        |              |           |

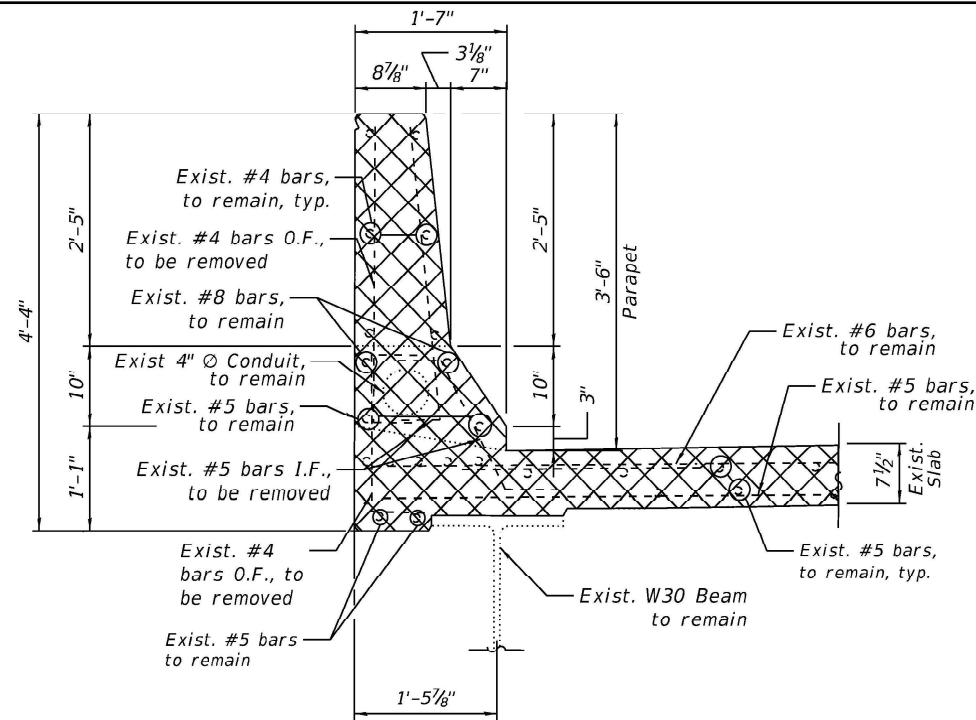


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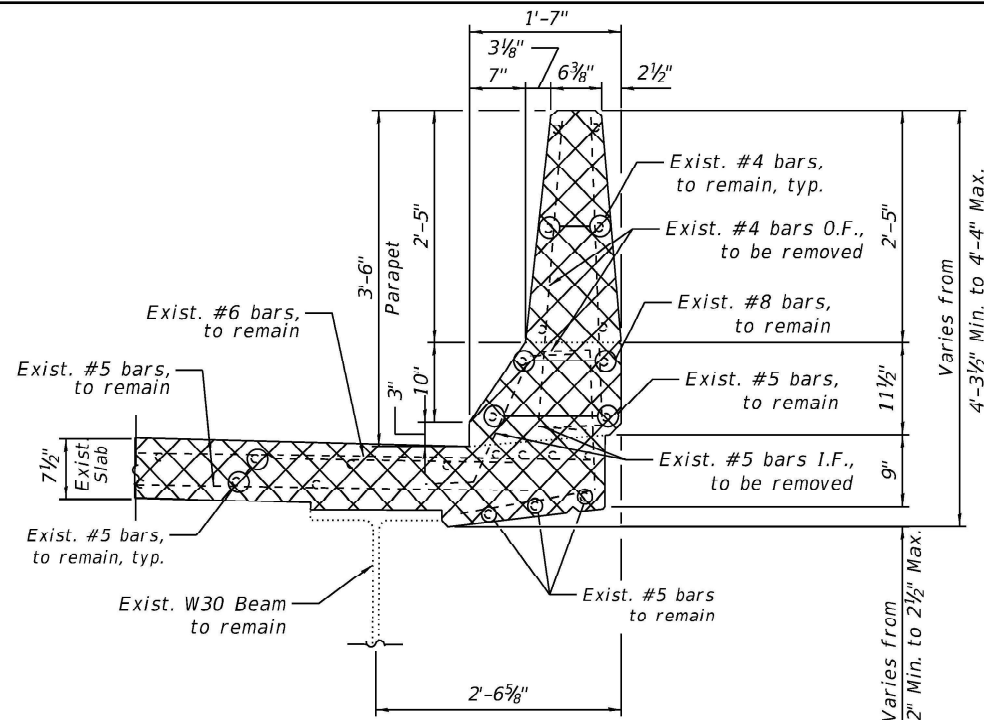




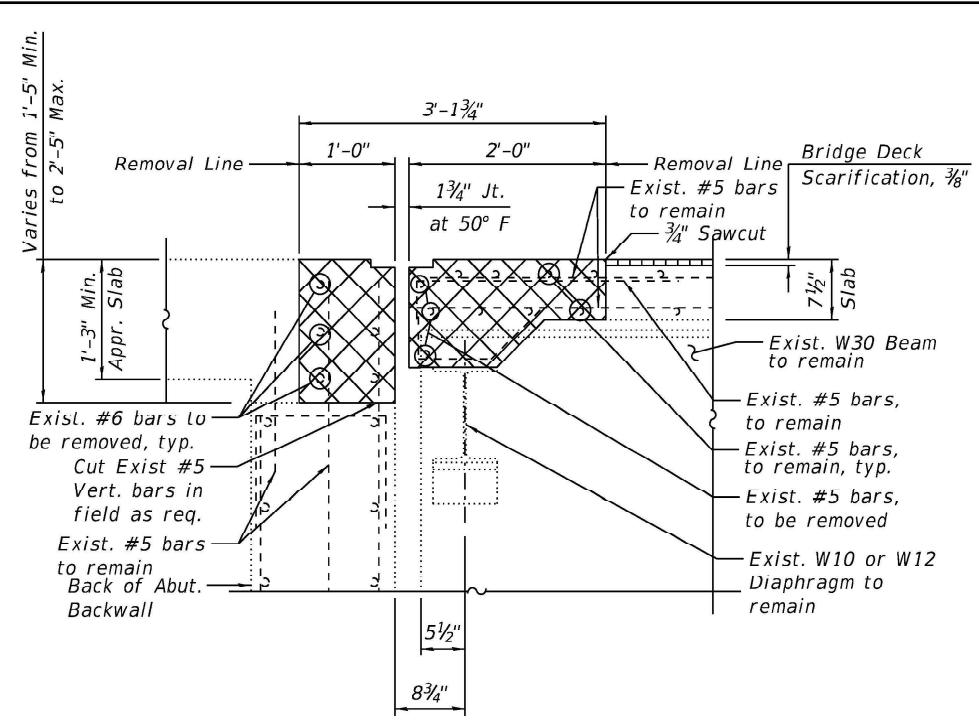
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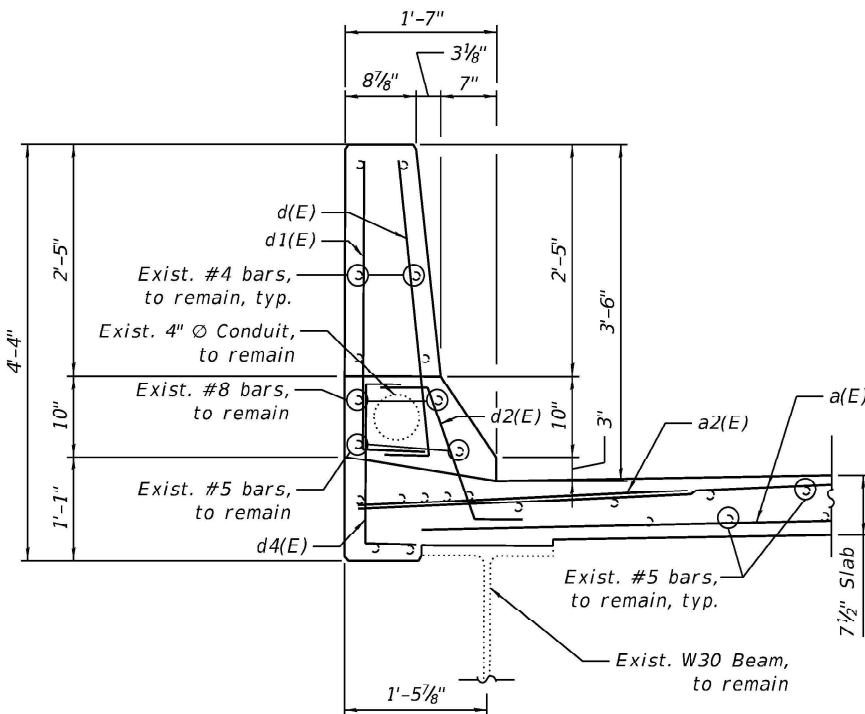
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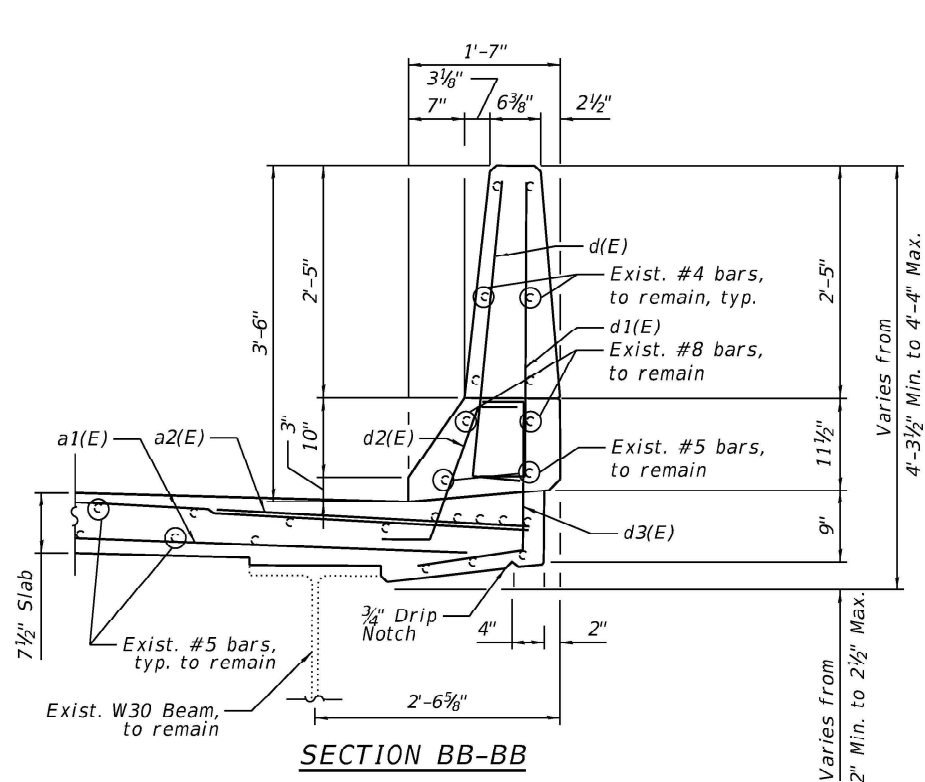
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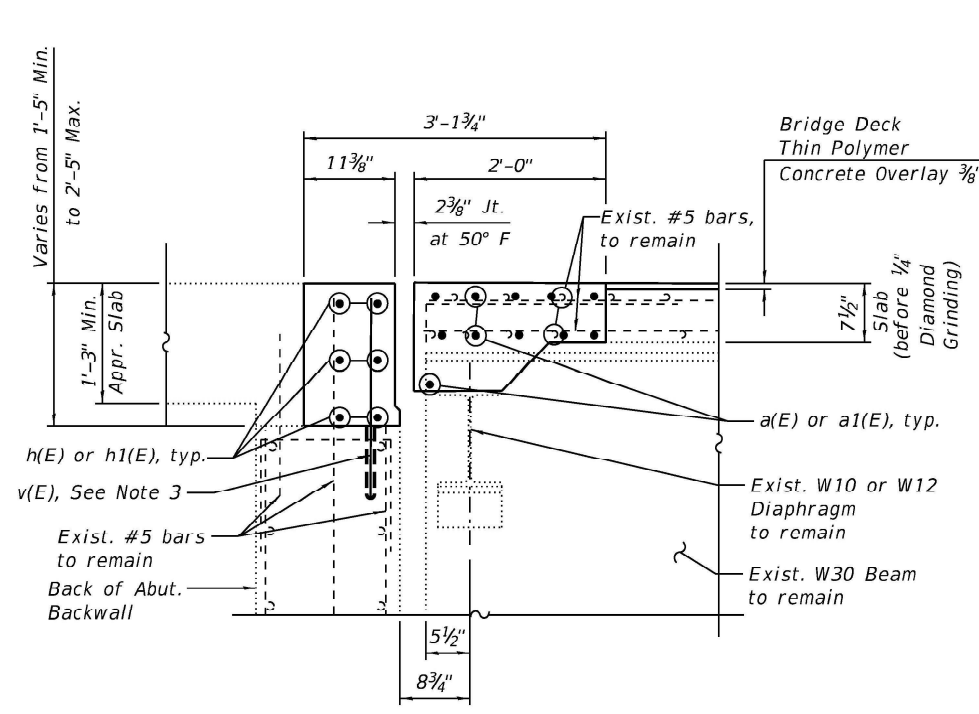
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

- For Legend, see Sheet S05-07.
- For Sections D-D, E-E, DD-DD and EE-EE, Bar diagrams, additional Notes and Bill of Material, see Sheet S05-09.
- Epoxy grout v(E) bars in 9" min. holes in accordance with Section 584 of the Standard Specifications, Drill to miss existing reinforcement. Cost included with Concrete Superstructure.



|              |                  |            |           |           |  |
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| USER NAME =  | imranh           | DESIGNED - | SUR       | REVISED - |  |
|              |                  | DRAWN -    | ME        | REVISED - |  |
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)  
STRUCTURE NO. 016-0161 (WB)

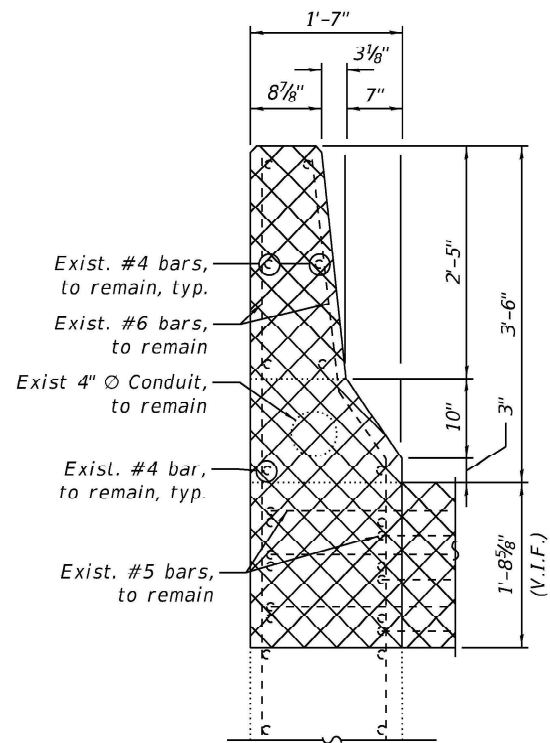
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|             |                        |        |              | CONTRACT NO. 62W87 |

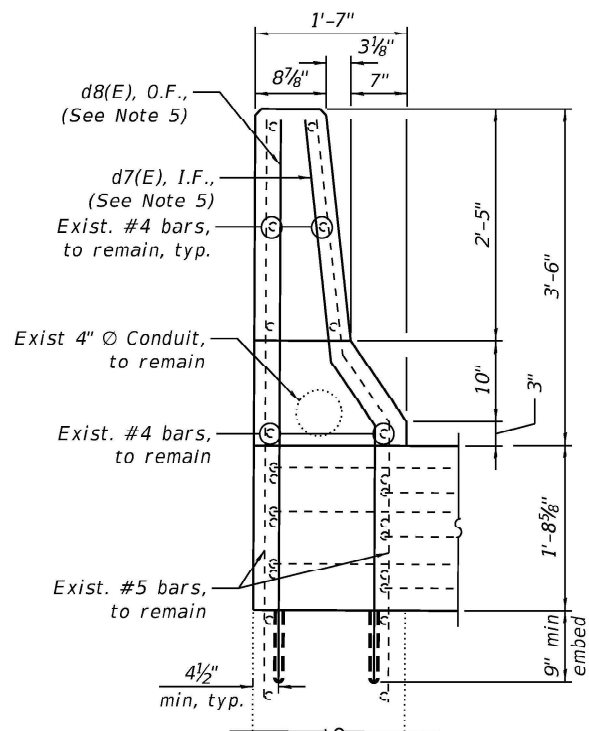
ILLINOIS FED. AID PROJECT



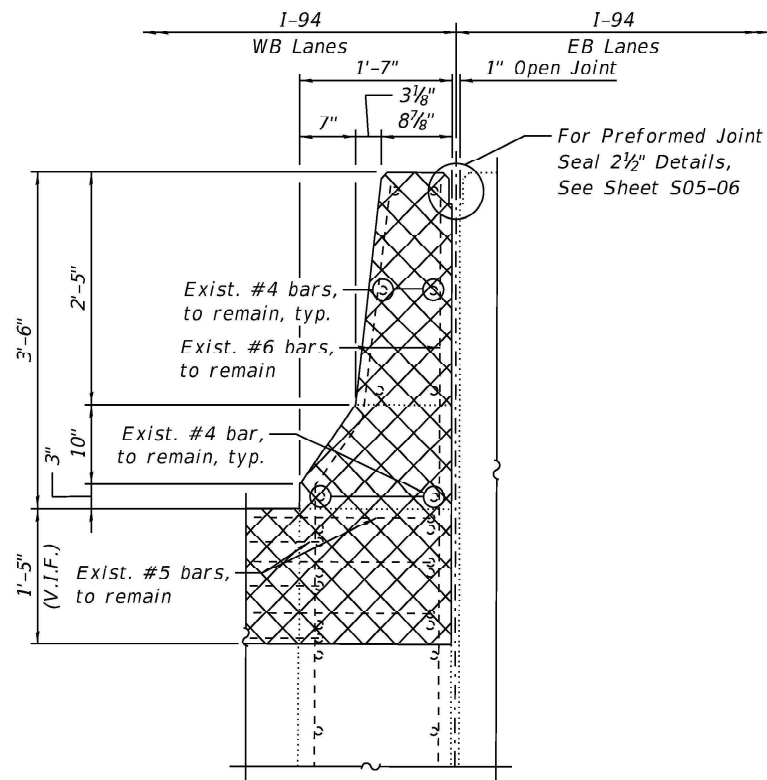
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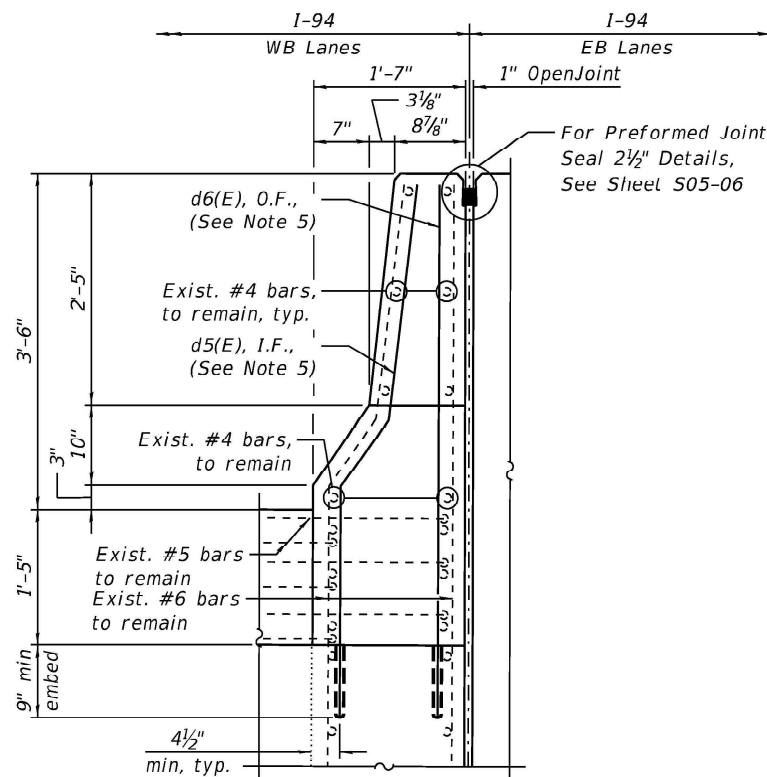
SECTION D-D



SECTION DD-DD



SECTION E-E



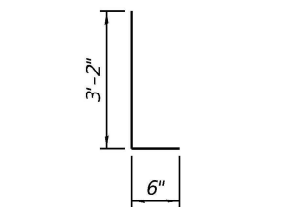
SECTION EE-EE

MIN BAR LAPS

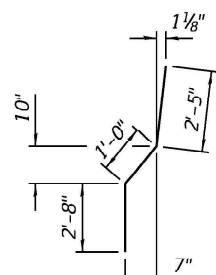
|    |        |
|----|--------|
| #5 | 3'-6"  |
| #6 | 4'-10" |

BILL OF MATERIAL

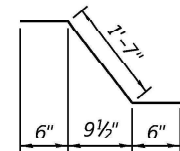
| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a(E)                             | 22  | #5   | 17'-1"  | —     |
| a1(E)                            | 22  | #5   | 17'-10" | —     |
| a2(E)                            | 6   | #6   | 6'-6"   | —     |
| d(E)                             | 6   | #5   | 3'-8"   | L     |
| d1(E)                            | 6   | #4   | 3'-8"   | L     |
| d2(E)                            | 6   | #5   | 2'-7"   | —     |
| d3(E)                            | 3   | #4   | 3'-5"   | —     |
| d4(E)                            | 3   | #4   | 2'-7"   | —     |
| d5(E)                            | 2   | #5   | 5'-8"   | —     |
| d6(E)                            | 2   | #5   | 5'-6"   | —     |
| d7(E)                            | 2   | #5   | 6'-1"   | —     |
| d8(E)                            | 2   | #5   | 5' 10"  | —     |
| h(E)                             | 6   | #6   | 28'-10" | —     |
| h1(E)                            | 6   | #6   | 30'-6"  | —     |
| v(E)                             | 60  | #5   | 2'-0"   | —     |
| Concrete Removal                 |     |      | Cu Yd   | 8.6   |
| Concrete Superstructure          |     |      | Cu Yd   | 8.6   |
| Protective Coat                  |     |      | Sq Yd   | 27    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,640 |



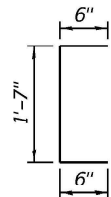
BAR d(E) & d1(E)



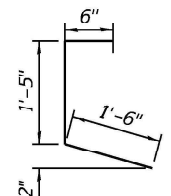
BAR d7(E)



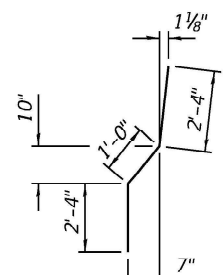
BAR d2(E)



BAR d4(E)



BAR d3(E)



BAR d5(E)

NOTES:

- For Legend, see Sheet S05-07.
- For Preformed Joint Strip Seal Details, see Sheet S05-13.
- For Bar Splicer Assembly Details, see Sheet S05-21.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- Epoxy grout d5(E), d6(E), d7(E) and d8(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.



|              |                |            |           |           |  |
|--------------|----------------|------------|-----------|-----------|--|
| USER NAME =  | imranh         | DESIGNED - | SUR       | REVISED - |  |
|              |                | DRAWN -    | ME        | REVISED - |  |
| PLOT SCALE = | 2:0 1/4" / in. | CHECKED -  | JL        | REVISED - |  |
| PLOT DATE =  | 12/9/2024      | DATE -     | 12/6/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

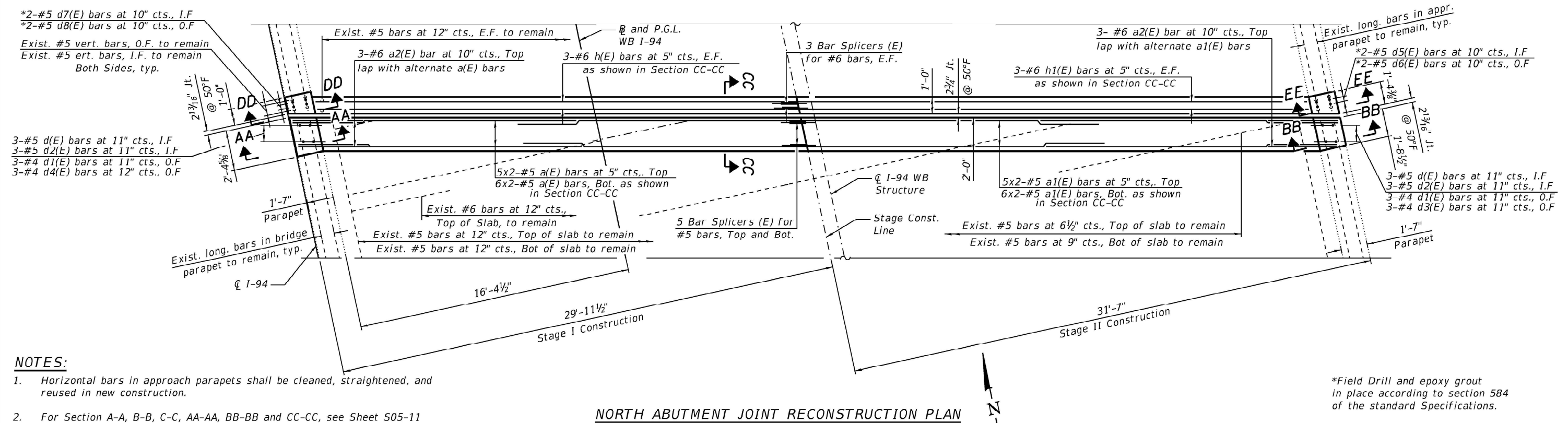
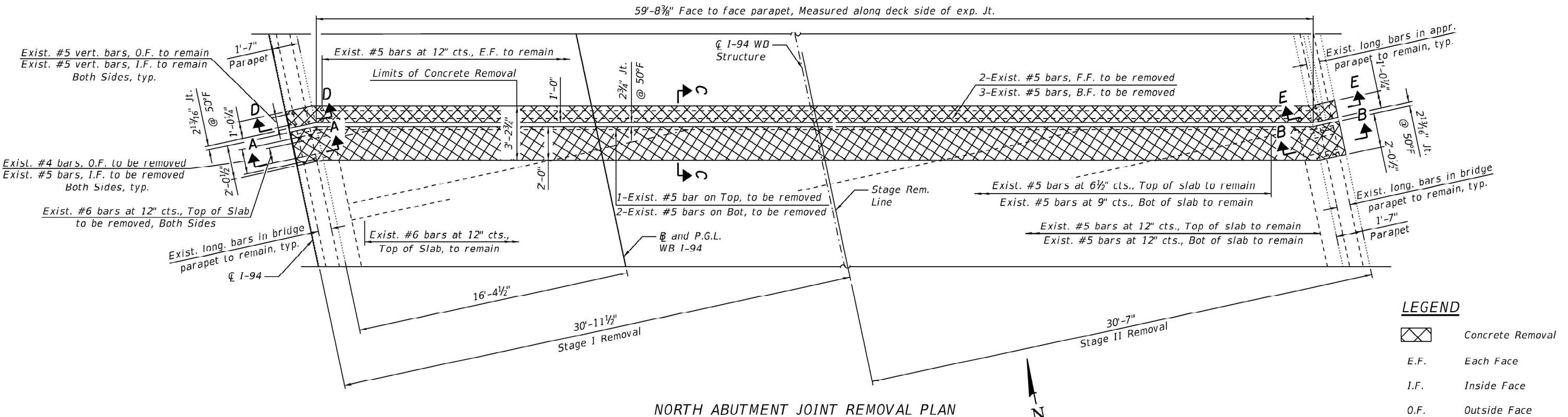
S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
STRUCTURE NO. 016-0161 (WB)

SHEET S05-09 OF S05-27 SHEETS

| F.A.I. RTE.                 | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------------------|------------------------|--------|--------------|-----------|
| 94                          | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 593       |
| CONTRACT NO. 62W8 /         |                        |        |              |           |
| ILLINOIS   FED. AID PROJECT |                        |        |              |           |

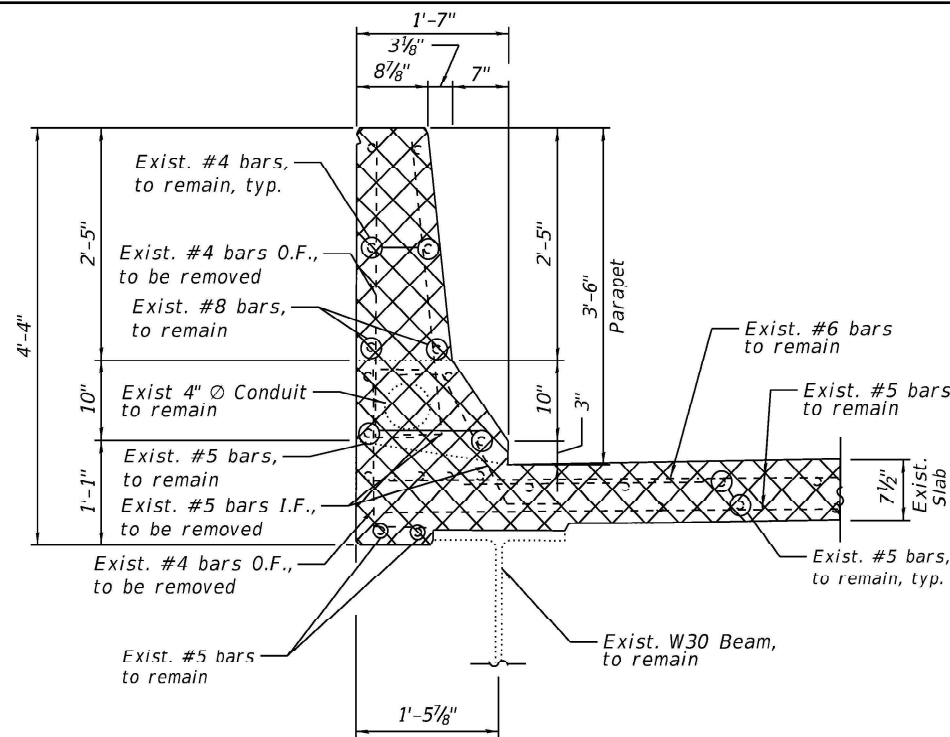


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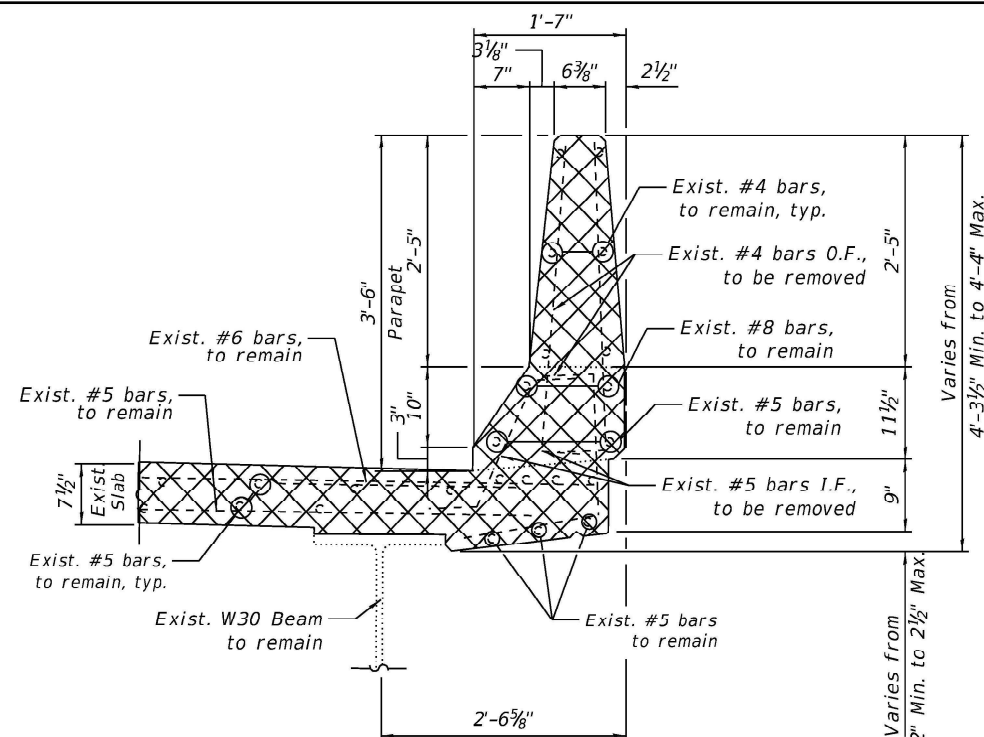




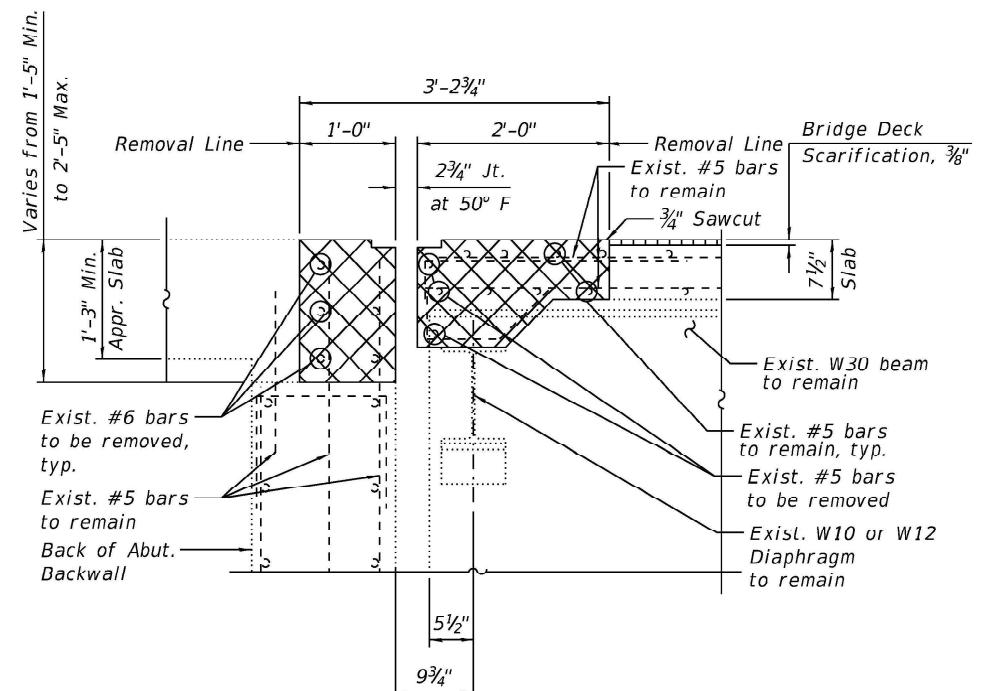
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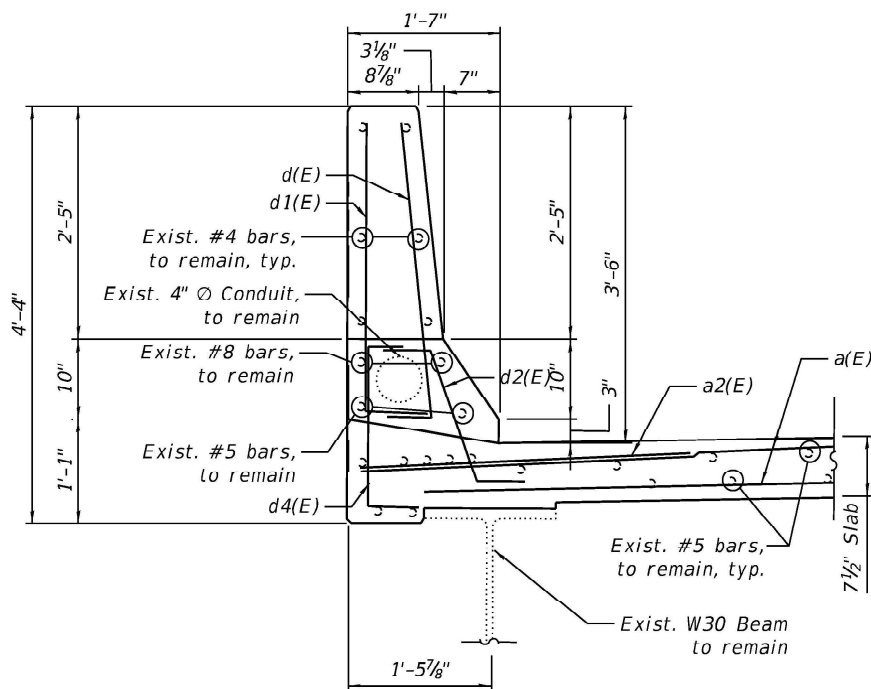
SECTION A-A



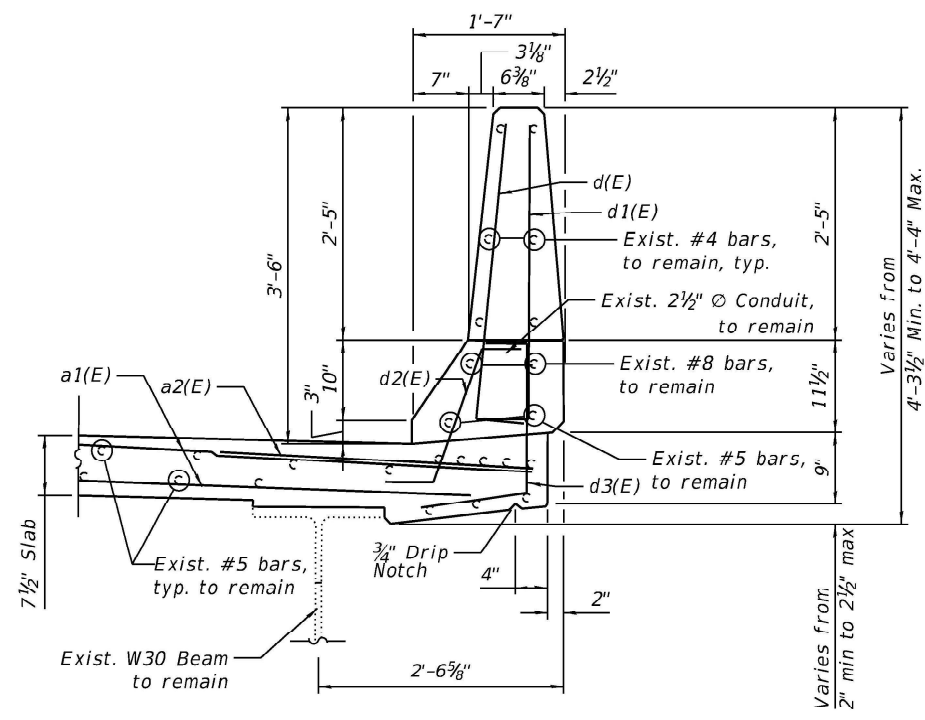
SECTION B-B



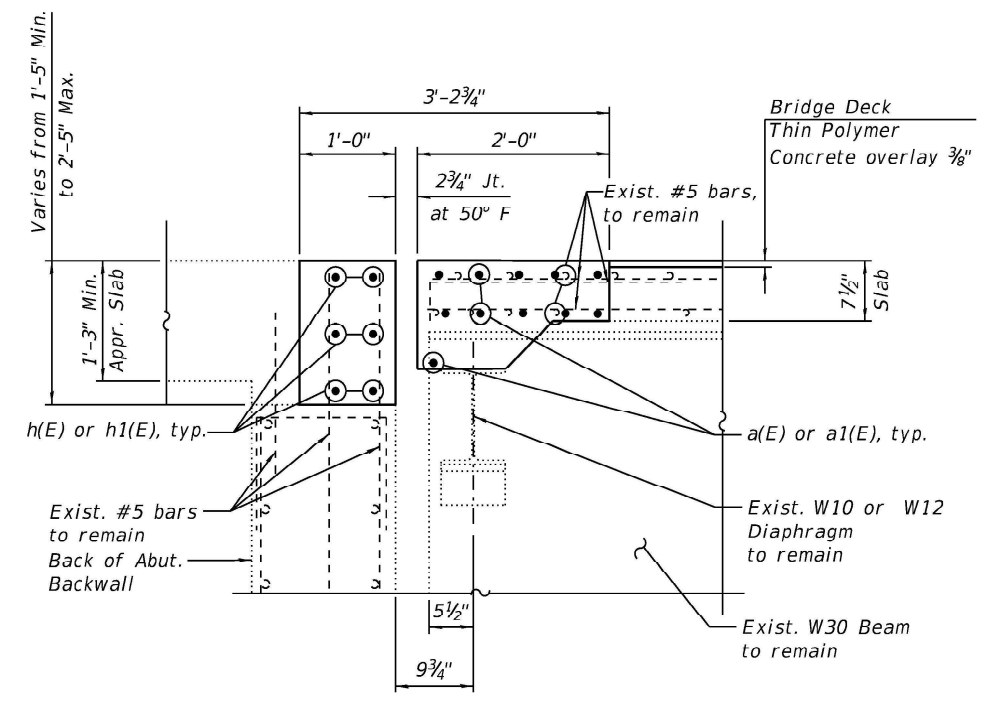
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

- For Legend, see Sheet S05-10.
- For Sections D-D, E-E, DD-DD and EE-EE, Bar diagrams, additional Notes and Bill of Material, see Sheet S05-12.



|              |                |            |           |           |  |
|--------------|----------------|------------|-----------|-----------|--|
| USER NAME =  | imranh         | DESIGNED - | SUR       | REVISED - |  |
|              |                | DRAWN -    | ME        | REVISED - |  |
| PLOT SCALE = | 2:0 1/4" / in. | CHECKED -  | JL        | REVISED - |  |
| PLOT DATE =  | 12/9/2024      | DATE -     | 12/6/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

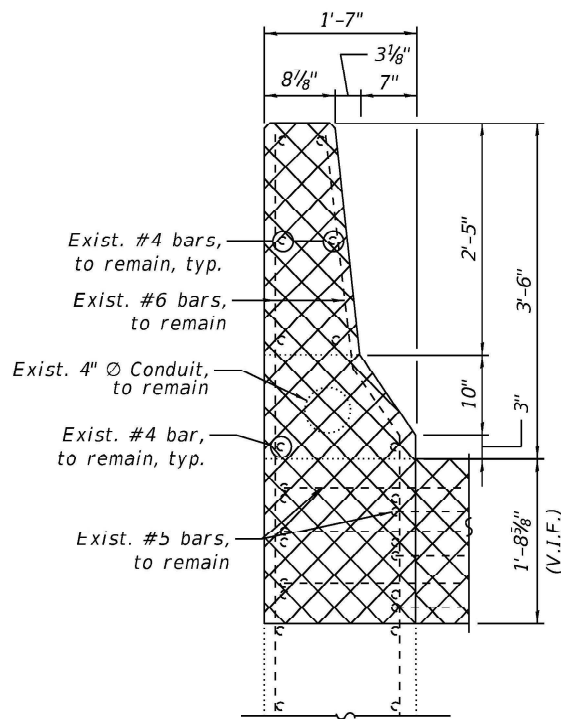
N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)  
STRUCTURE NO. 016-0161 (WB)

SHEET S05-11 OF S05-27 SHEETS

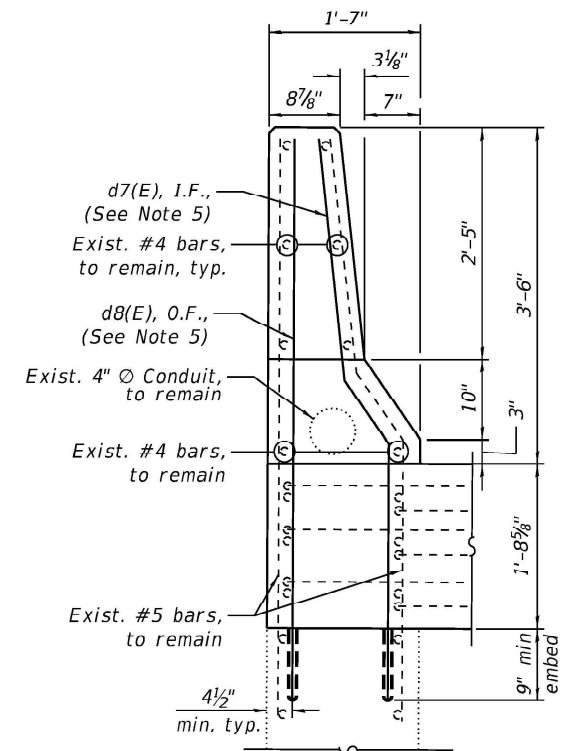
| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 595       |
| CONTRACT NO.              |                        |        |              | 62W87     |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



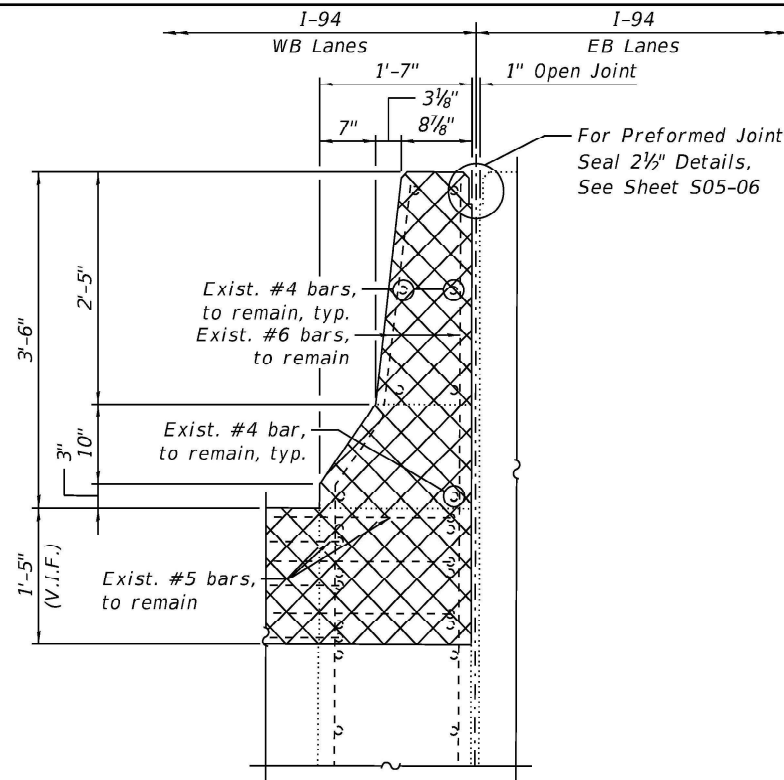
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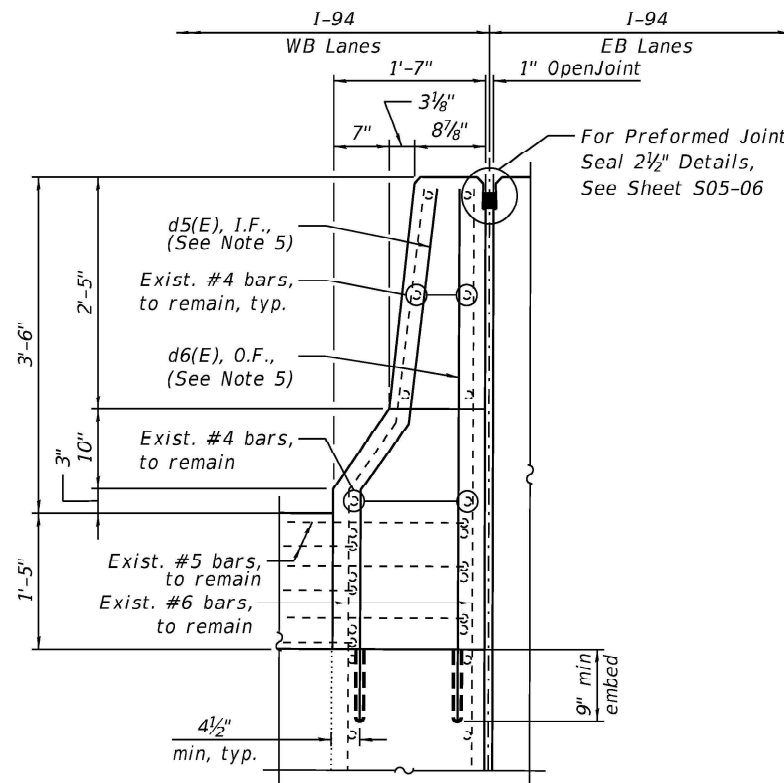
SECTION D-D



SECTION DD-DD



SECTION E-E



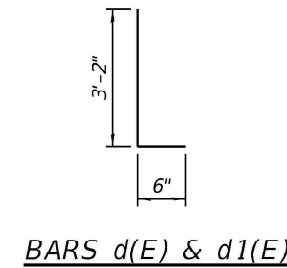
SECTION EE-EE

MIN BAR LAPS

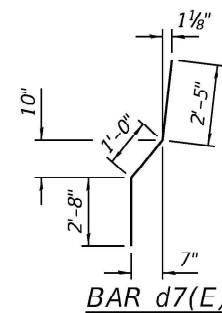
|    |        |
|----|--------|
| #5 | 3'-6"  |
| #6 | 4'-10" |

BILL OF MATERIAL

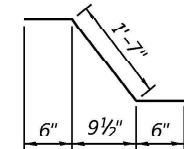
| Bar                              | No. | Size | Length  | Shape |
|----------------------------------|-----|------|---------|-------|
| a(E)                             | 22  | #5   | 17'-1"  | —     |
| a1(E)                            | 22  | #5   | 17'-10" | —     |
| a2(E)                            | 6   | #6   | 6'-6"   | —     |
| d(E)                             | 6   | #5   | 3'-8"   | L     |
| d1(E)                            | 6   | #4   | 3'-8"   | L     |
| d2(E)                            | 6   | #5   | 2'-7"   | —     |
| d3(E)                            | 3   | #4   | 3'-5"   | —     |
| d4(E)                            | 3   | #4   | 2'-7"   | —     |
| d5(E)                            | 2   | #5   | 5'-8"   | —     |
| d6(E)                            | 2   | #5   | 5'-6"   | —     |
| d7(E)                            | 2   | #5   | 6'-1"   | —     |
| d8(E)                            | 2   | #5   | 5'-10"  | —     |
| h(E)                             | 6   | #6   | 28'-10" | —     |
| h1(E)                            | 6   | #6   | 30'-6"  | —     |
| Concrete Removal                 |     |      | Cu Yd   | 9.6   |
| Concrete Superstructure          |     |      | Cu Yd   | 9.6   |
| Protective Coat                  |     |      | Sq Yd   | 27    |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 1,510 |



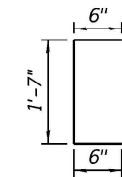
BARS d(E) & d1(E)



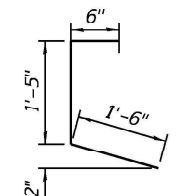
BAR d7(E)



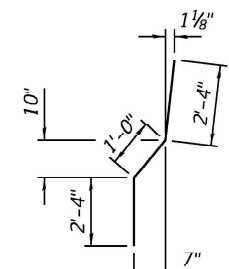
BAR d2(E)



BAR d4(E)



BAR d3(E)



BAR d5(E)

NOTES:

- For Legend, see Sheet S05-10.
- For Preformed Joint Strip Seal Details, see Sheet S05-13.
- For Bar Splicer Assembly Details, see Sheet S05-21.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- Epoxy grout d4(E) and d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.



|              |                |            |           |           |  |
|--------------|----------------|------------|-----------|-----------|--|
| USER NAME =  | imranh         | DESIGNED - | SUR       | REVISED - |  |
|              |                | DRAWN -    | ME        | REVISED - |  |
| PLOT SCALE = | 2:0 1/4" / in. | CHECKED -  | JL        | REVISED - |  |
| PLOT DATE =  | 12/9/2024      | DATE -     | 12/6/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

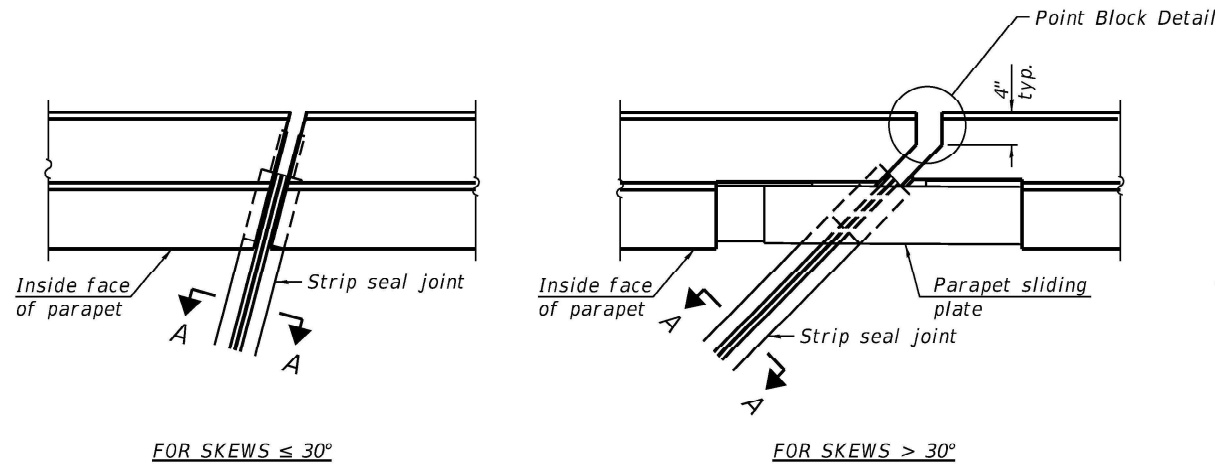
N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
STRUCTURE NO. 016-0161 (WB)

SHEET S05-12 OF S05-27 SHEETS

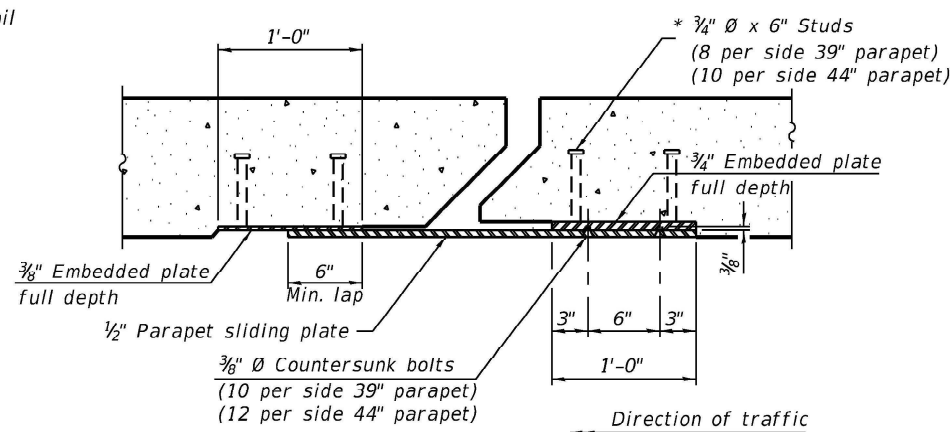
| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 596       |
| CONTRACT NO. 62W87        |                        |        |              |           |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



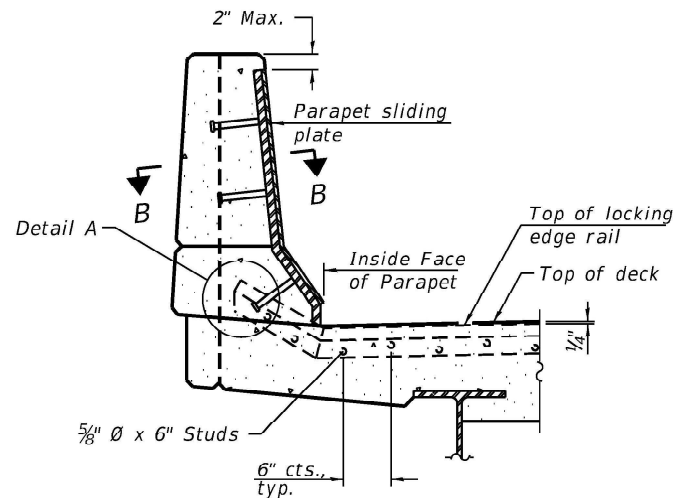
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PLAN AT PARAPET

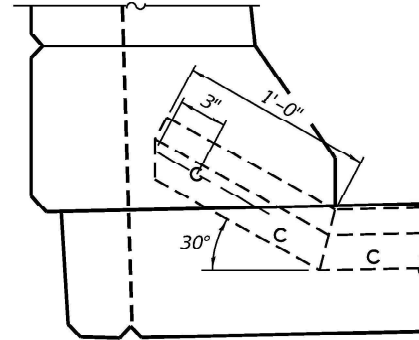


SECTION B-B

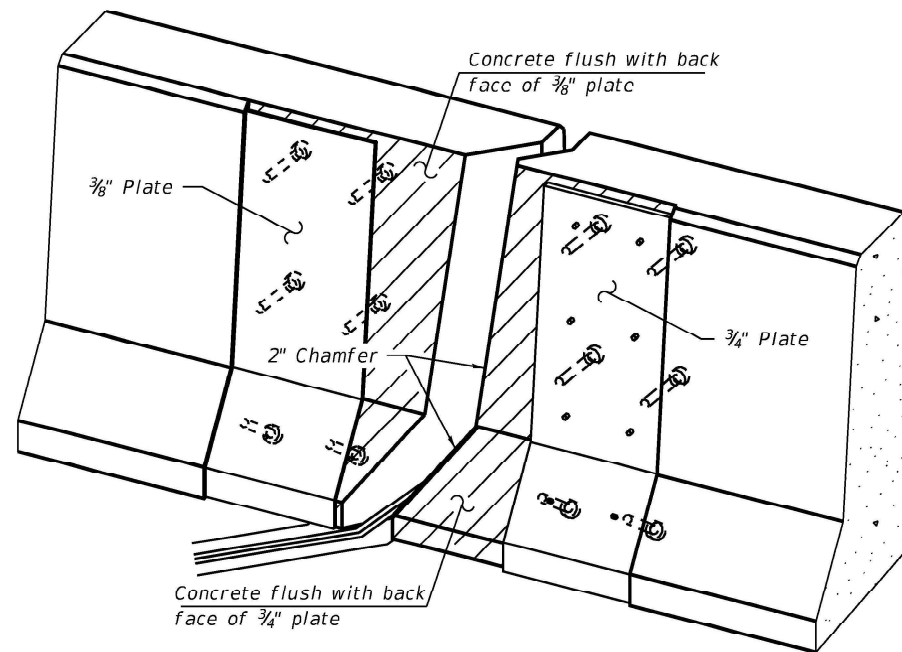


ELEVATION AT PARAPET

(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)

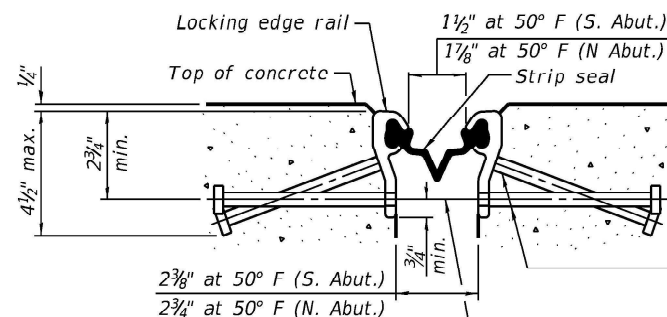


DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)



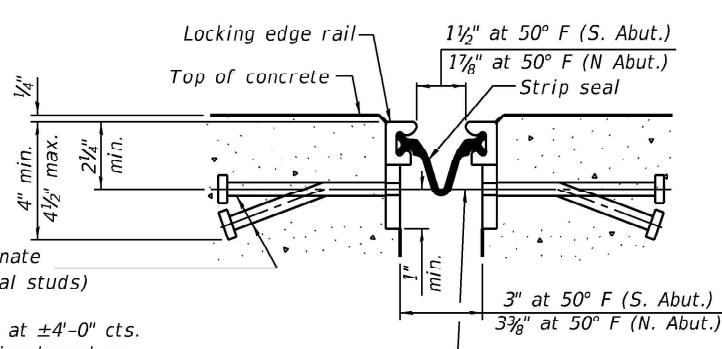
SHOWING ROLLED RAIL JOINT

\* 5/8"  $\emptyset$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

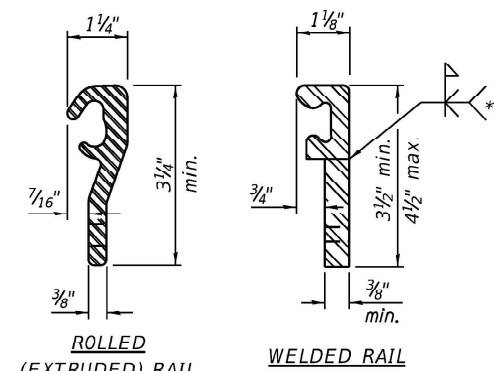
3/8"  $\phi$  threaded rods in 1/16"  $\phi$  holes at  $\pm 4$ -0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

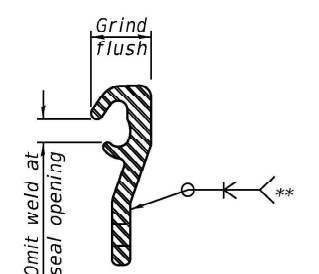


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

\*\* Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

| Item                       | Unit | Total |
|----------------------------|------|-------|
| Preformed Joint Strip Seal | Foot | 120   |



|              |                  |            |           |           |  |
|--------------|------------------|------------|-----------|-----------|--|
| USER NAME =  | imranh           | DESIGNED - | SUR       | REVISED - |  |
|              |                  | DRAWN -    | ME        | REVISED - |  |
| PLOT SCALE = | 0:2.0000 1" = 1' | CHECKED -  | JL        | REVISED - |  |
| PLOT DATE =  | 12/9/2024        | DATE -     | 12/6/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

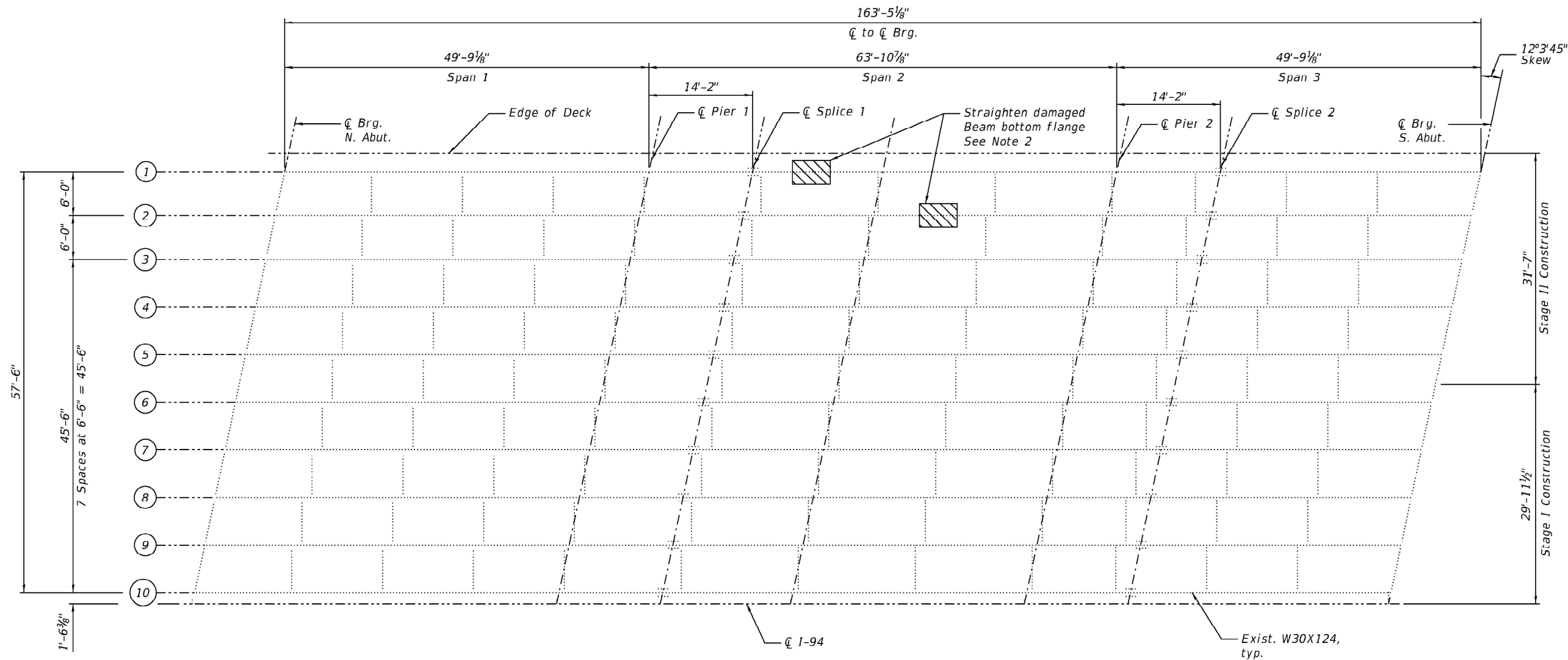
PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 016-0161 (WB)

SHEET 505-13 OF 505-27 SHEETS

| F.A.I. RTE.                 | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO.           |
|-----------------------------|------------------------|--------|--------------|---------------------|
| 94                          | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 597                 |
|                             |                        |        |              | CONTRACT NO. 62WB / |
| ILLINOIS   FED. AID PROJECT |                        |        |              |                     |



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FRAMING PLAN

BILL OF MATERIAL

| ITEM               | UNIT  | QUANTITY |
|--------------------|-------|----------|
| Beam Straightening | I Sum | 0.33     |

NOTES:

- All work is to be performed utilizing stage construction, See sheets S05-03 and S05-04 for details.
- Gouges caused by the impact should be ground to eliminate sharp or sudden irregularities in the beam surface. Grinding should be done in such a way as to provide a smooth transition with a maximum slope of 3:1 between the damaged and undamaged surfaces. Cost included in Beam straightening.

LEGEND



|              |                 |            |           |           |  |
|--------------|-----------------|------------|-----------|-----------|--|
| USER NAME =  | imranh          | DESIGNED - | IH        | REVISED - |  |
|              |                 | DRAWN -    | SUR       | REVISED - |  |
| PLOT SCALE = | 16:0 1/8" / in. | CHECKED -  | JL        | REVISED - |  |
| PLOT DATE =  | 12/9/2024       | DATE -     | 12/6/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

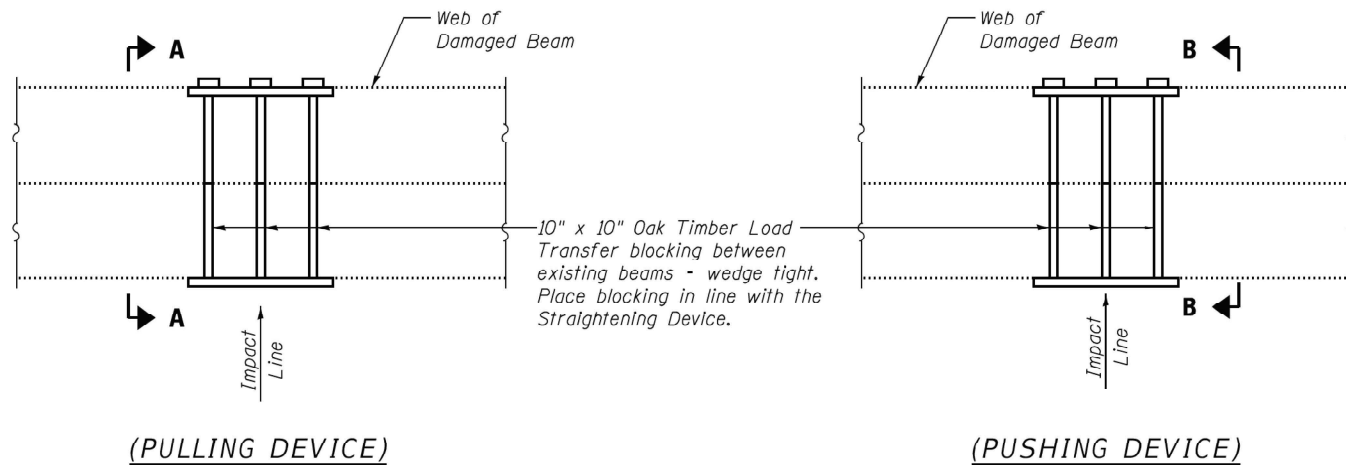
FRAMING PLAN  
STRUCTURE NO. 016-0161 (WB)

SHEET S05-14 OF S05-27 SHEETS

| F.A.I. RTE.                 | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------------------|------------------------|--------|--------------|-----------|
| 94                          | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 598       |
| CONTRACT NO. 62WB8 /        |                        |        |              |           |
| ILLINOIS   FED. AID PROJECT |                        |        |              |           |

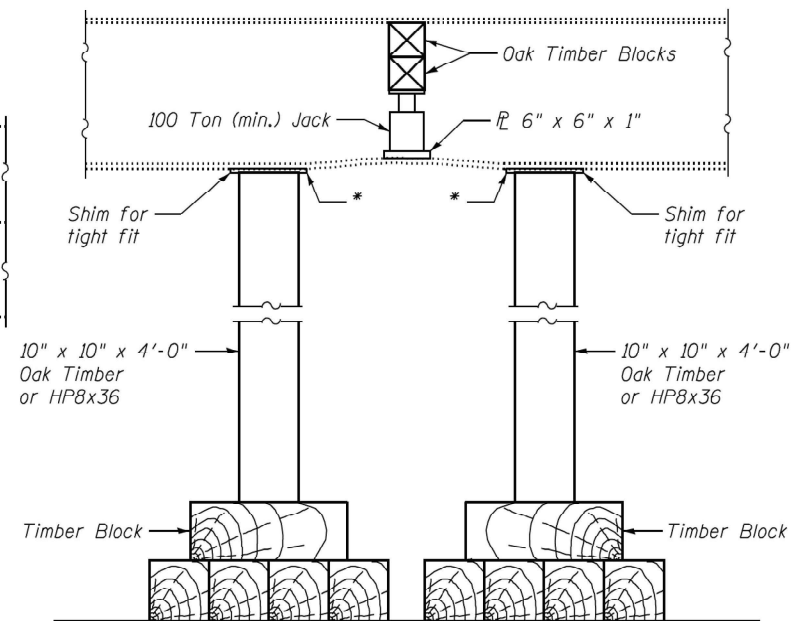
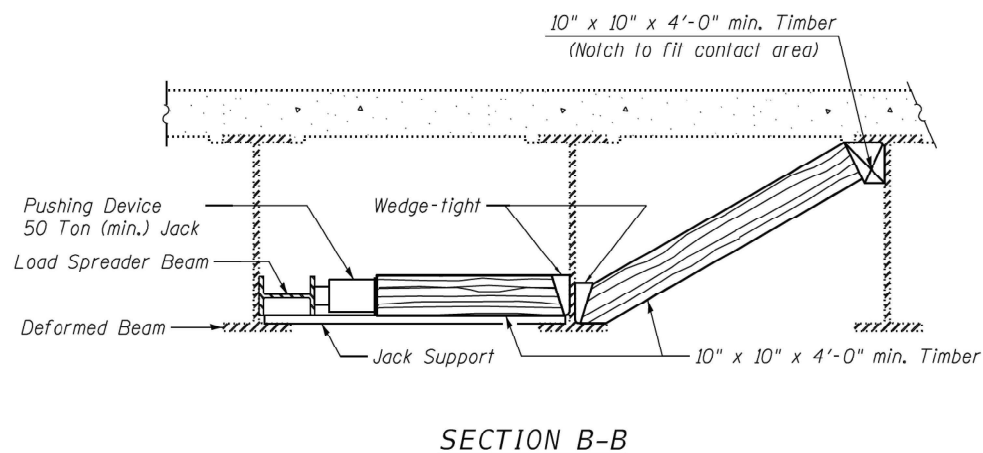
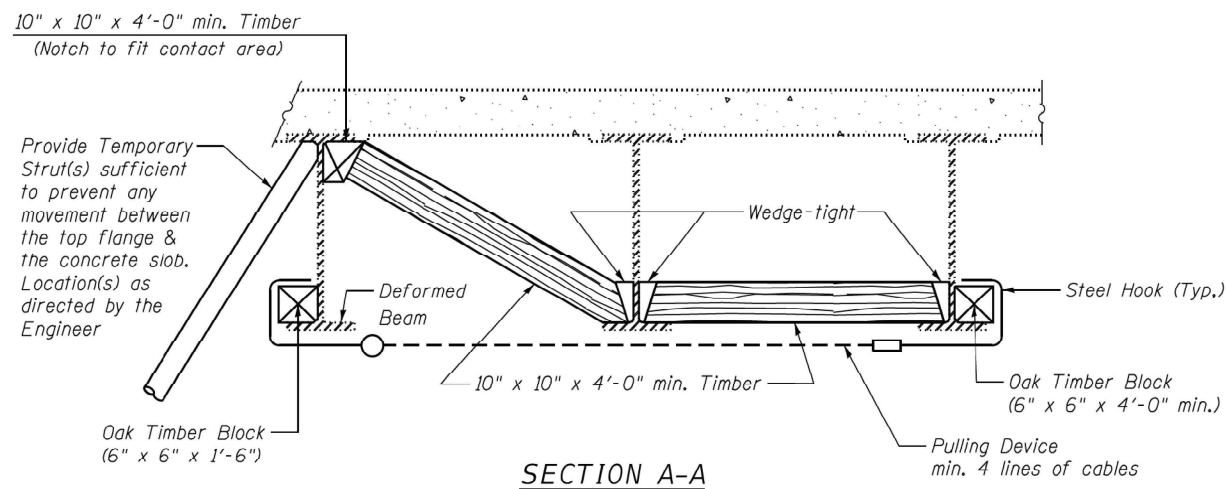


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### PARTIAL PLAN SUGGESTED BEAM STRAIGHTENING METHODS

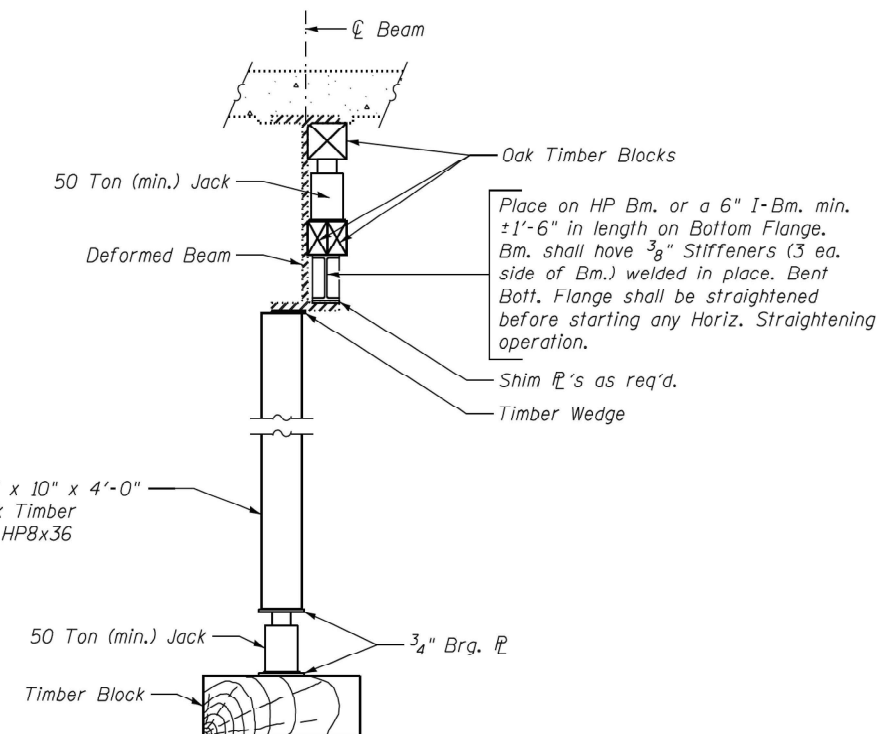
NOTE: Straightening force shall be maintained on all load transfer blocking during beam straightening.



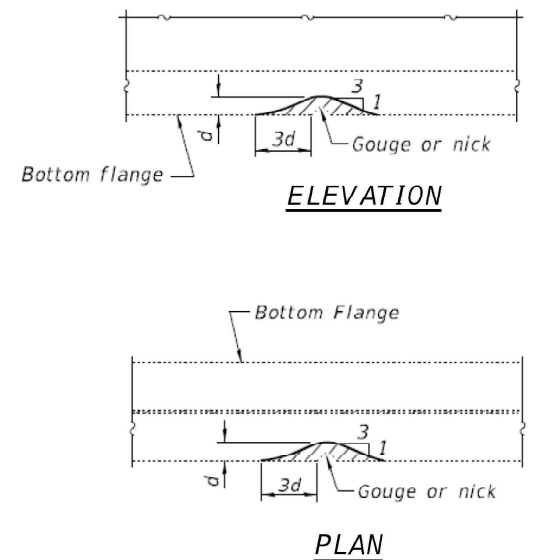
### SUGGESTED VERTICAL STRAIGHTENING DETAIL (To correct localized vertical flange deformations.)

\* Edge of plate shall line up with edge of deformation.

NOTE:  
Braces and jack assembly shall be placed on same side of web.  
Bent bottom flange shall be straightened before starting any horizontal straightening operations.



### VERTICAL STRAIGHTENING DETAIL

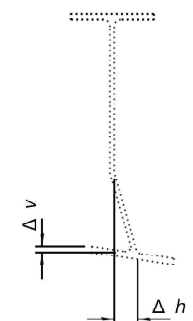


### GRINDING DETAILS

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Grinding shall be done parallel to the longitudinal axis of member. Ground surfaces shall be inspected for cracks using dye penetrant or magnetic particle testing prior to initiating any beam straightening operations. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting is included with Beam Straightening.

$\Delta h$ : Measure in Field

$\Delta v$ : Measure in Field



### EXISTING DEFORMATION TO BE STRAIGHTENED

(Looking North)  
(Approximate max. deflections)  
Deflected length of beam to be straightened is approximately 4'-0".



|              |                   |            |           |           |  |
|--------------|-------------------|------------|-----------|-----------|--|
| USER NAME =  | imranh            | DESIGNED - | SUR       | REVISED - |  |
| DRAWN -      | ME                | REVISED -  |           |           |  |
| PLOT SCALE = | 0:2.0000 1" / in. | CHECKED -  | JL        | REVISED - |  |
| PLOT DATE =  | 12/9/2024         | DATE -     | 12/6/2024 | REVISED - |  |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

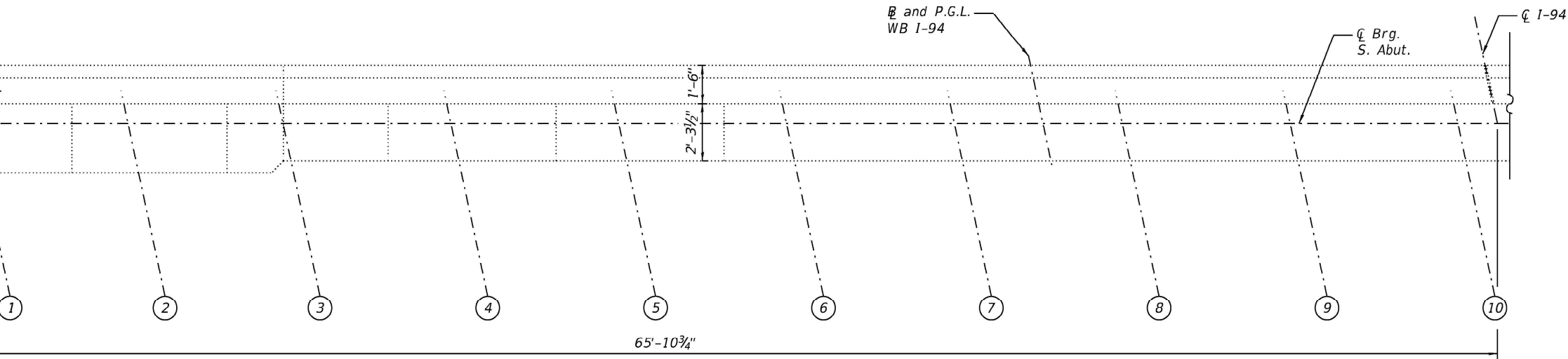
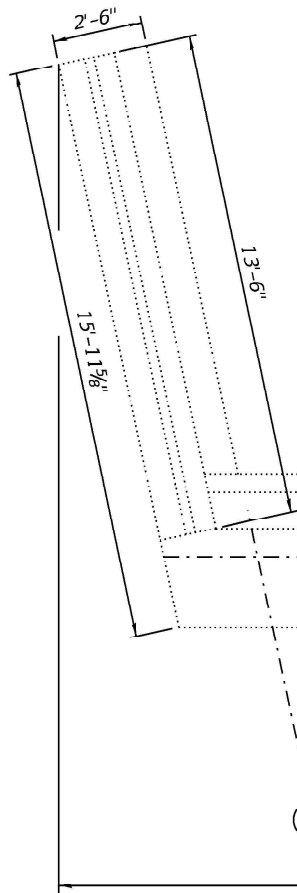
BEAM STRAIGHTENING DETAILS  
STRUCTURE NO. 016-0161 (WB)

SHEET 505-15 OF 505-27 SHEETS

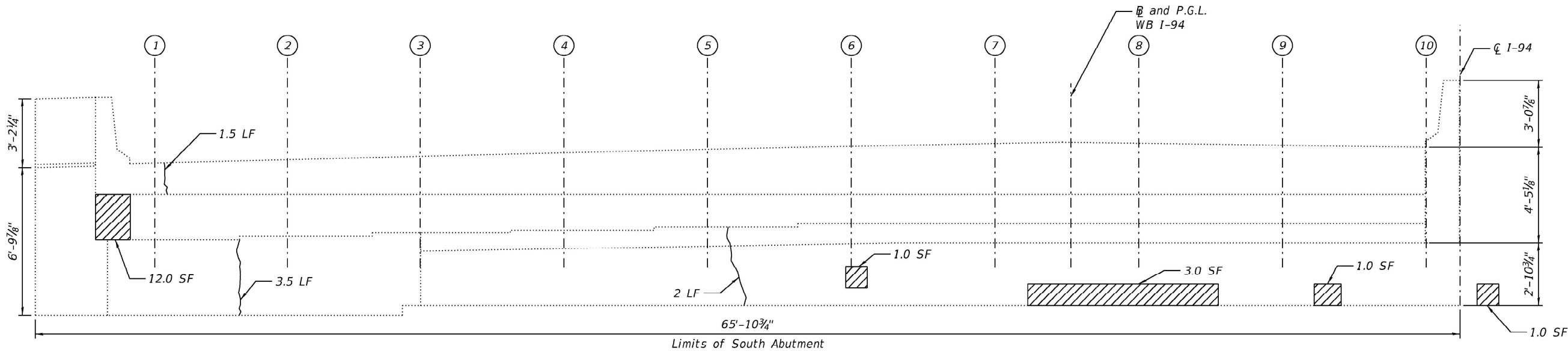
| F.A.I. RTE.               | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------------------|--------|--------------|-----------|
| 94                        | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 599       |
| CONTRACT NO. 62WB7        |                        |        |              |           |
| ILLINOIS FED. AID PROJECT |                        |        |              |           |



MODEL: Default  
FILE NAME: pw:\bhmeng pw.bentley.com\hbmeng pw-0\Documents\220012207-90904-SOUTH\_CONTRACT\01-DGN\12-5HT\16-Structures\016-0161\_NB\016-0161-62K53-016-WB-SouthAbutmentRepair.dgn



Limits of South Abutment  
**SOUTH ABUTMENT PLAN**



Limits of South Abutment  
**SOUTH ABUTMENT EVELATION**  
(Looking South)

**NOTES:**

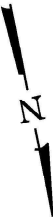
- Quantities and limit shown are estimated for bidding purpose only. The actual areas to be repaired and the type(s) of repairs to be used will be determined by the engineer in the field at the time of construction.
- For slope wall repairs, see sheet S05-20.
- Concrete Sealer is to be applied to the Abutment seals and the bottom 2 feet of the Abutment Backwall.

**LEGEND**

- Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
- Epoxy Crack Injection
- Linear Foot
- Square Foot

**BILL OF MATERIAL**

| ITEM   | UNIT  | QUANTITY |
|--|-------|----------|
| Concrete Sealer  | Sq Ft | 471      |
| Epoxy Crack Injection  | Foot  | 7        |
| Structural Repair Of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 18       |



|              |                |            |           |           |  |
|--------------|----------------|------------|-----------|-----------|--|
| USER NAME =  | imranh         | DESIGNED - | SUR       | REVISED - |  |
|              |                | DRAWN -    | ME        | REVISED - |  |
| PLOT SCALE = | 5/4 1/2" / in. | CHECKED -  | JL        | REVISED - |  |
| PLOT DATE =  | 12/9/2024      | DATE -     | 12/6/2024 | REVISED - |  |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT REPAIRS  
STRUCTURE NO. 016-0161 (WB)**

SHEET S05-16 OF S05-27 SHEETS

| F.A.I. RTE.          | SECTION                | COUNTY | TOTAL SHEETS | SHEET NO. |
|----------------------|------------------------|--------|--------------|-----------|
| 94                   | (42-B-11-1) BR. BJR 24 | COOK   | 761          | 600       |
| CONTRACT NO. 62WB8 / |                        |        |              |           |

ILLINOIS | FED. AID PROJECT