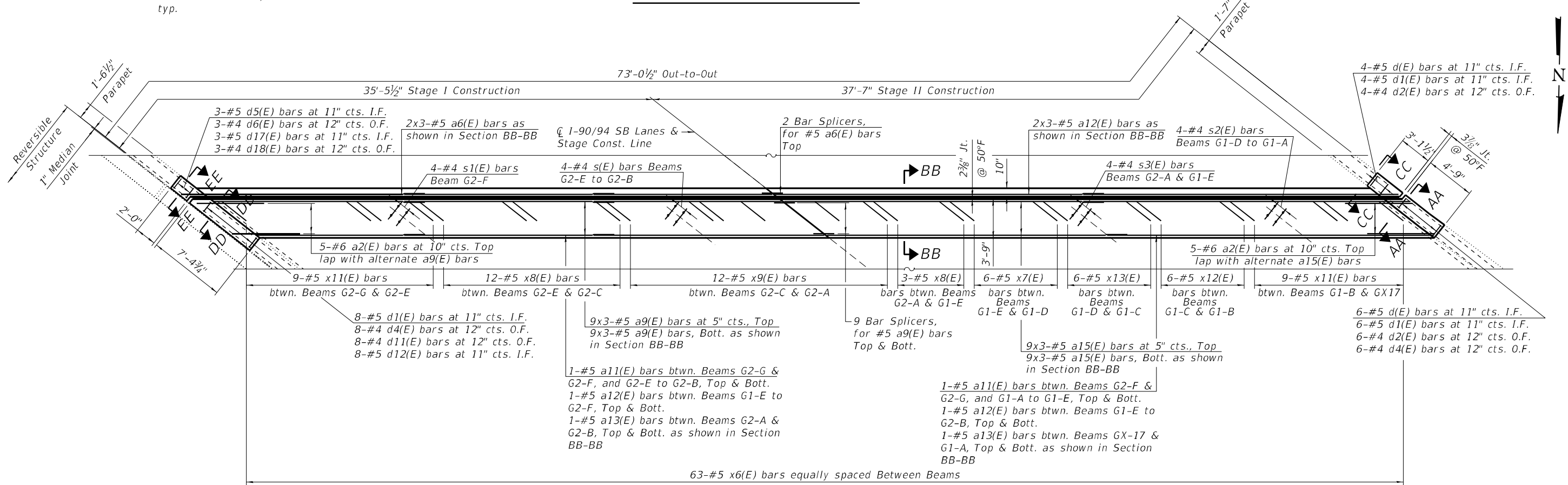


PIER 1 JOINT REMOVAL PLAN



PIER 1 JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S29-15.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S29-16.

* Existing longitudinal bars to remain in the parapets can be cut in the field as required

LEGEND

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

MODEL: SMOELNAME5
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GR&E
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

| | | | |
|--------------|------------|--------|-----------|
| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | F.B. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

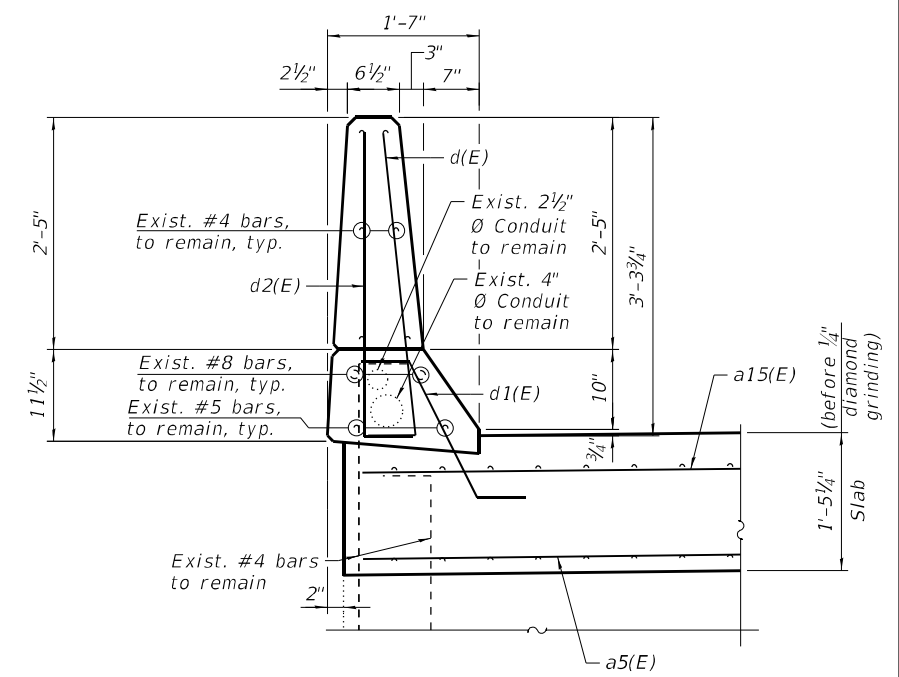
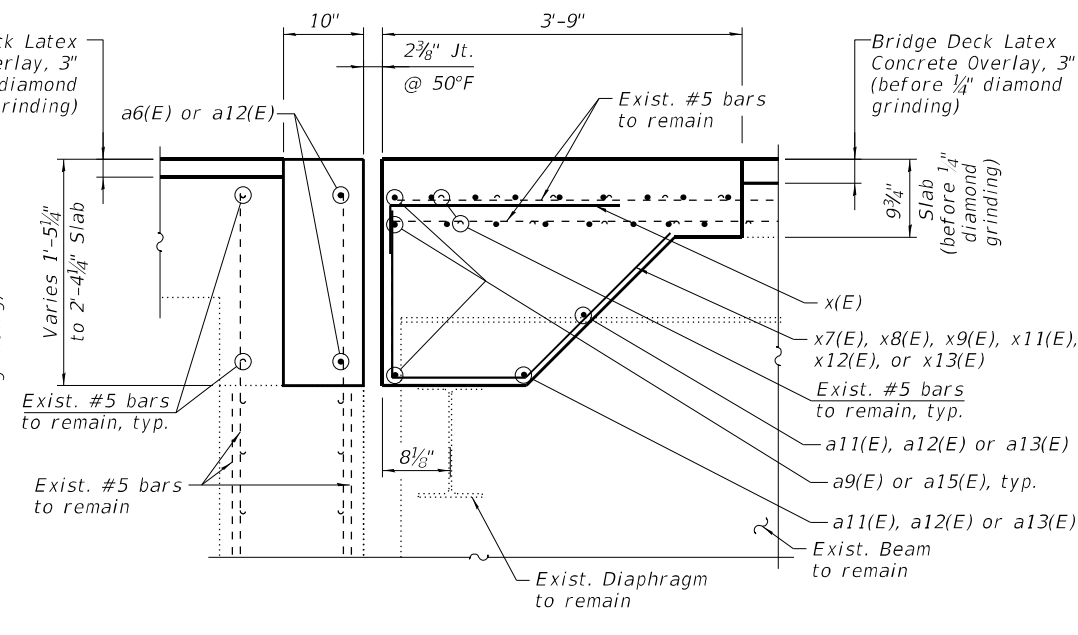
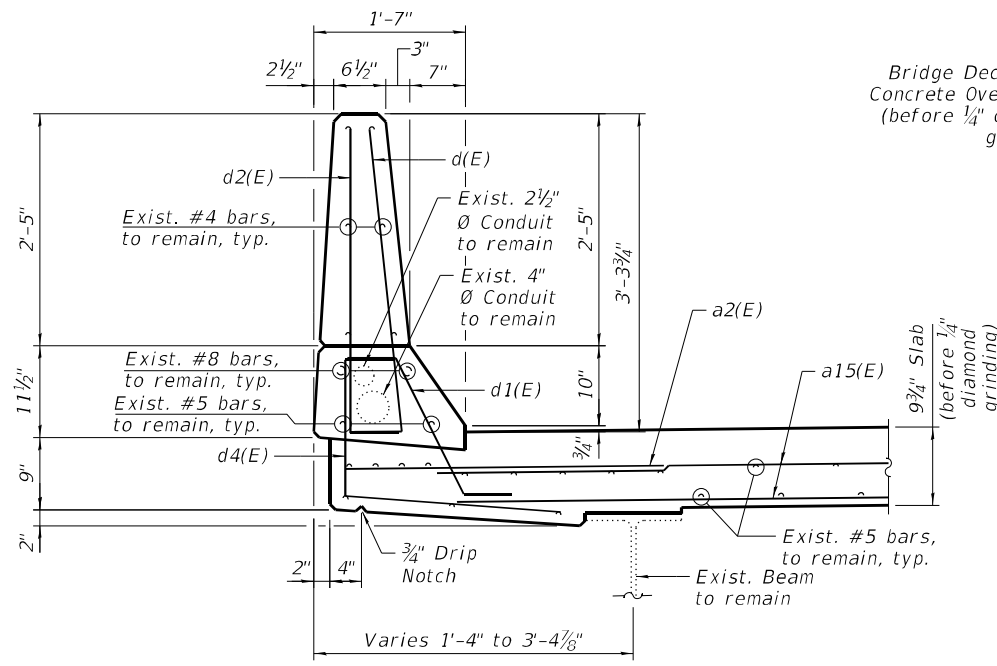
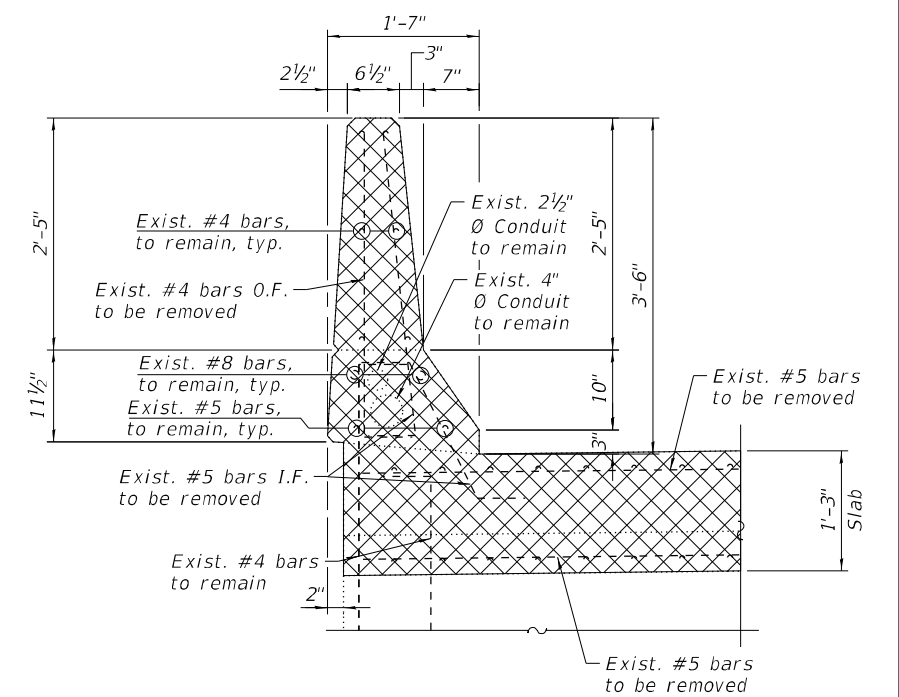
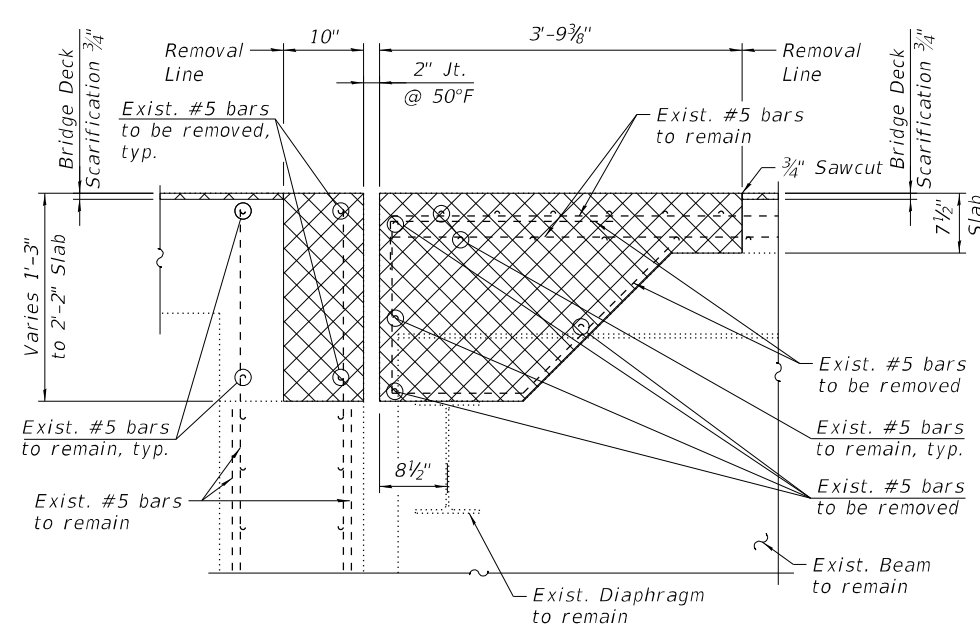
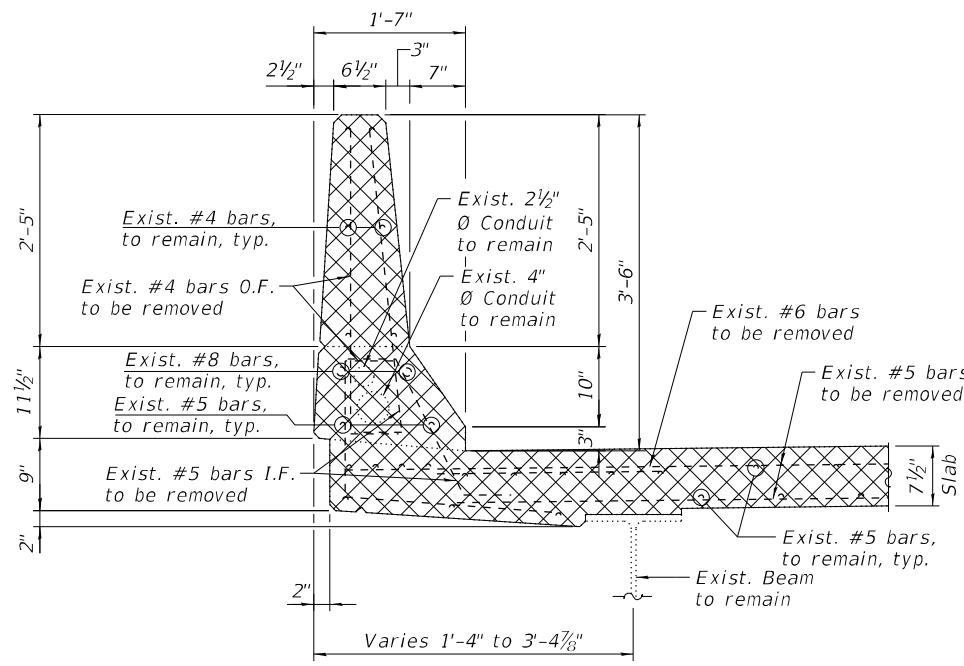
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 1 EXPANSION JOINT DETAILS I
SN 016-0121 (SB)**

SHEET S29-14 OF S29-29 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1203 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

MODEL: sMODELNAME
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LEGEND

Concrete Removal
 I.F. Inside Face
 O.F. Outside Face
 V.I.F. Verify in Field



| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

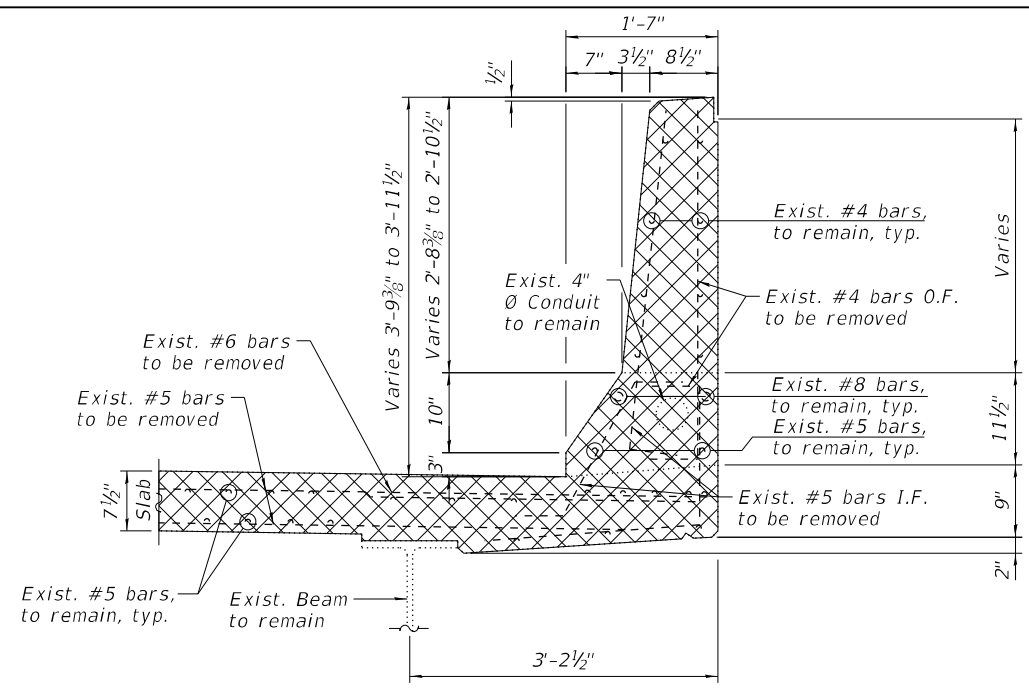
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 1 EXPANSION JOINT DETAILS II
 SN 016-0121 (SB)

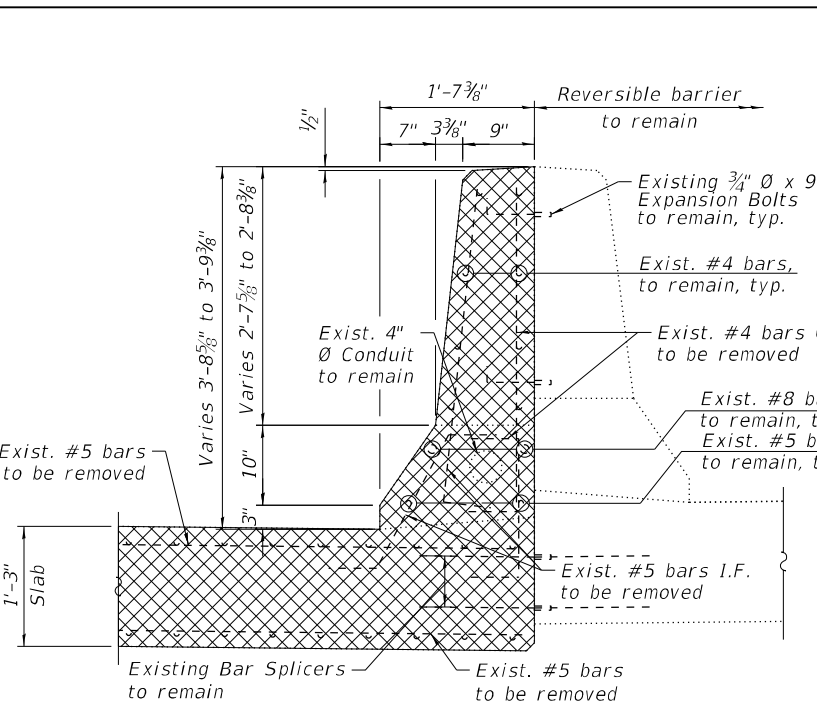
SHEET S29-15 OF S29-29 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1204 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

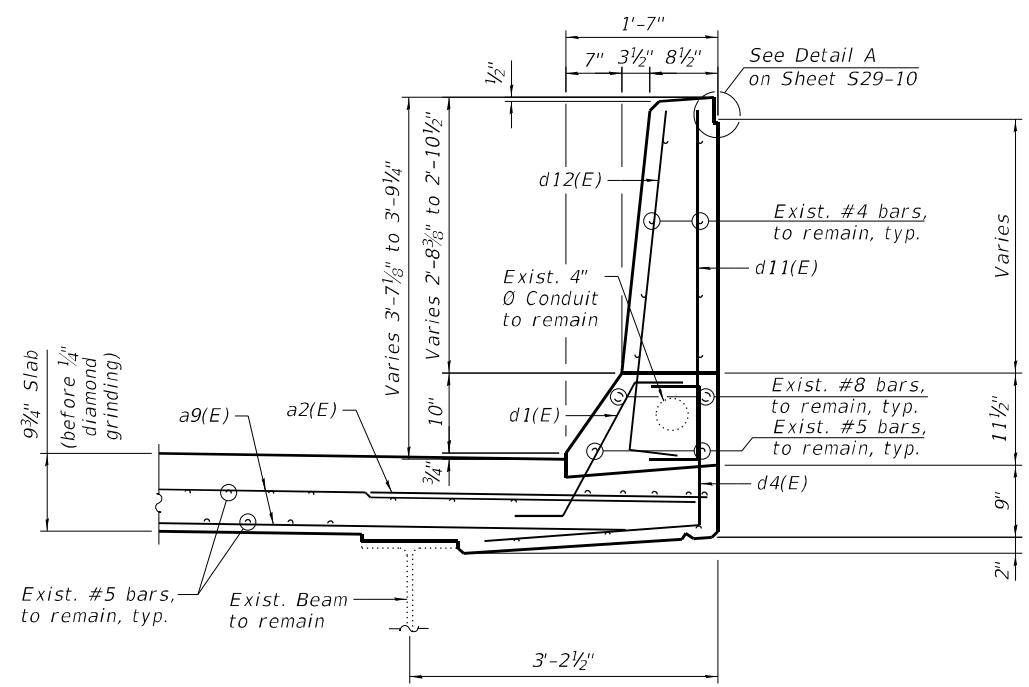
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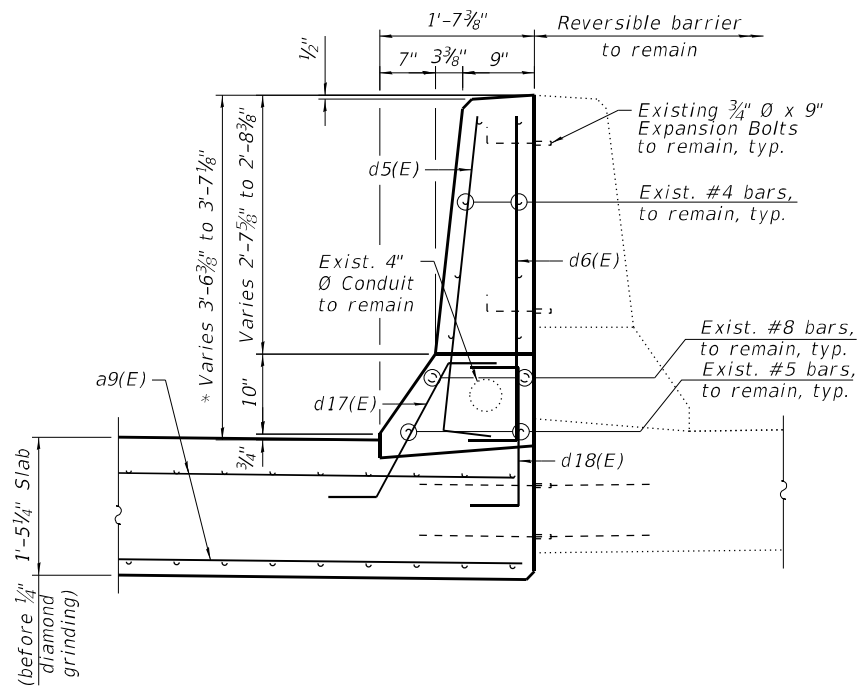
SECTION D-D
(North parapet removal)



SECTION E-E
(North parapet removal)



SECTION DD-DD
(North parapet reconstruction)

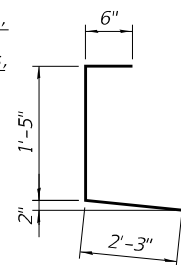


SECTION EE-EE
(North parapet reconstruction)

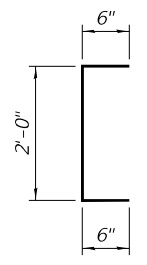
* Adjust in field as required to match reversible parapet

| Bar | A |
|--------|-------|
| d(E) | 3'-2" |
| d2(E) | 3'-2" |
| d5(E) | 3'-4" |
| d6(E) | 3'-4" |
| d11(E) | 3'-6" |
| d12(E) | 3'-6" |

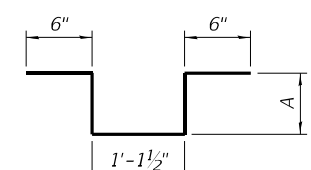
BARS d(E), d2(E), d5(E), d6(E), d11(E) & d12(E) BAR d1(E)



BARS d4(E)



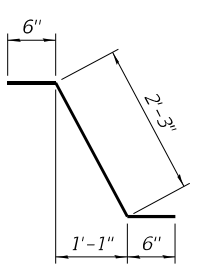
BARS d18(E)



BARS s(E), s1(E), s2(E) & s3(E)

| Bar | A |
|-------|-----|
| s(E) | 11" |
| s1(E) | 7" |
| s2(E) | 8" |
| s3(E) | 9" |

BARS x7(E), x8(E), x9(E), x11(E), x12(E), & x13(E)



BAR d17(E)

NOTES:

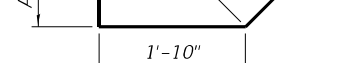
- For Preformed Joint Strip Seal details, see sheet S29-20.
- For Bar Splicer Assembly details, see sheet S29-29.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

**BILL OF MATERIAL
PIER 1**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|-------|--------|-------|
| a2(E) | 10 | #6 | 6'-6" | — |
| a9(E) | 60 | #5 | 21'-8" | — |
| a11(E) | 8 | #5 | 10'-2" | — |
| a12(E) | 3 | #5 | 6'-1" | — |
| a13(E) | 2 | #5 | 3'-3" | — |
| a15(E) | 60 | #5 | 23'-1" | — |
| d(E) | 10 | #5 | 3'-8" | — |
| d1(E) | 18 | #5 | 2'-7" | — |
| d2(E) | 10 | #4 | 3'-8" | — |
| d4(E) | 14 | #4 | 4'-2" | — |
| d5(E) | 3 | #5 | 3'-10" | — |
| d6(E) | 3 | #4 | 3'-10" | — |
| d11(E) | 8 | #4 | 4'-0" | — |
| d12(E) | 8 | #5 | 4'-0" | — |
| d17(E) | 3 | #5 | 3'-3" | — |
| d18(E) | 3 | #4 | 3'-0" | — |
| s(E) | 16 | #4 | 4'-0" | — |
| s1(E) | 4 | #4 | 3'-4" | — |
| s2(E) | 16 | #4 | 3'-6" | — |
| s3(E) | 8 | #4 | 3'-8" | — |
| x6(E) | 63 | #5 | 3'-7" | — |
| x7(E) | 6 | #5 | 6'-11" | — |
| x8(E) | 15 | #5 | 7'-5" | — |
| x9(E) | 12 | #5 | 7'-11" | — |
| x11(E) | 18 | #5 | 5'-6" | — |
| x12(E) | 6 | #5 | 5'-11" | — |
| x13(E) | 6 | #5 | 6'-5" | — |
| Concrete Removal | | Cu Yd | 46.7 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 3,870 | |
| Concrete Superstructure | | Cu Yd | 50.4 | |



BAR x6(E)

| Bar | A | B |
|--------|--------|-------|
| x7(E) | 1'-9" | 3'-4" |
| x8(E) | 1'-11" | 3'-8" |
| x9(E) | 2'-1" | 4'-0" |
| x11(E) | 1'-3" | 2'-5" |
| x12(E) | 1'-5" | 2'-8" |
| x13(E) | 1'-5" | 3'-0" |

MIN BAR LAPS
#5 3'-6"



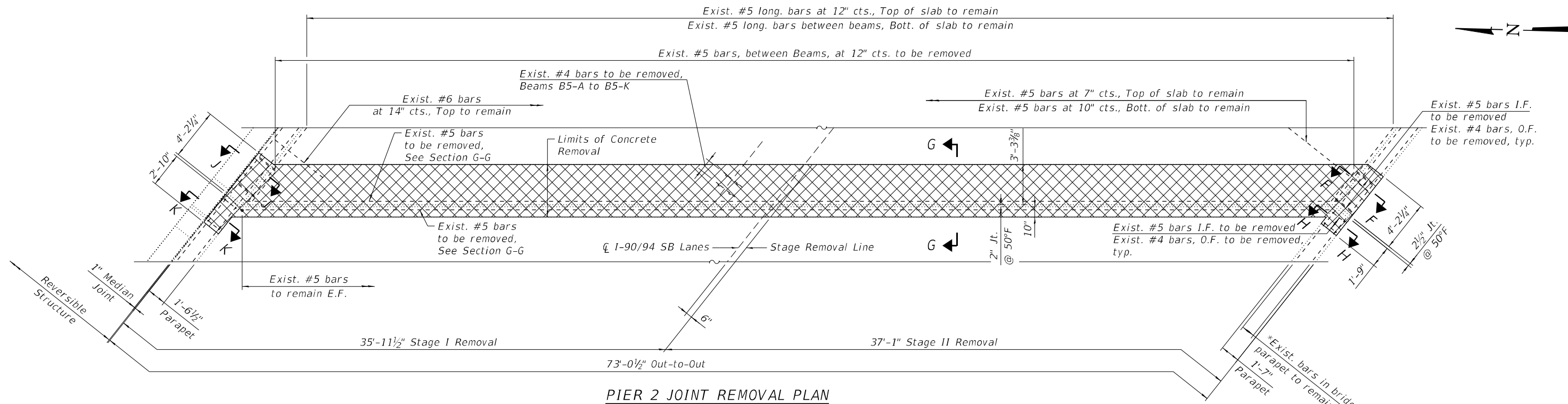
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|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

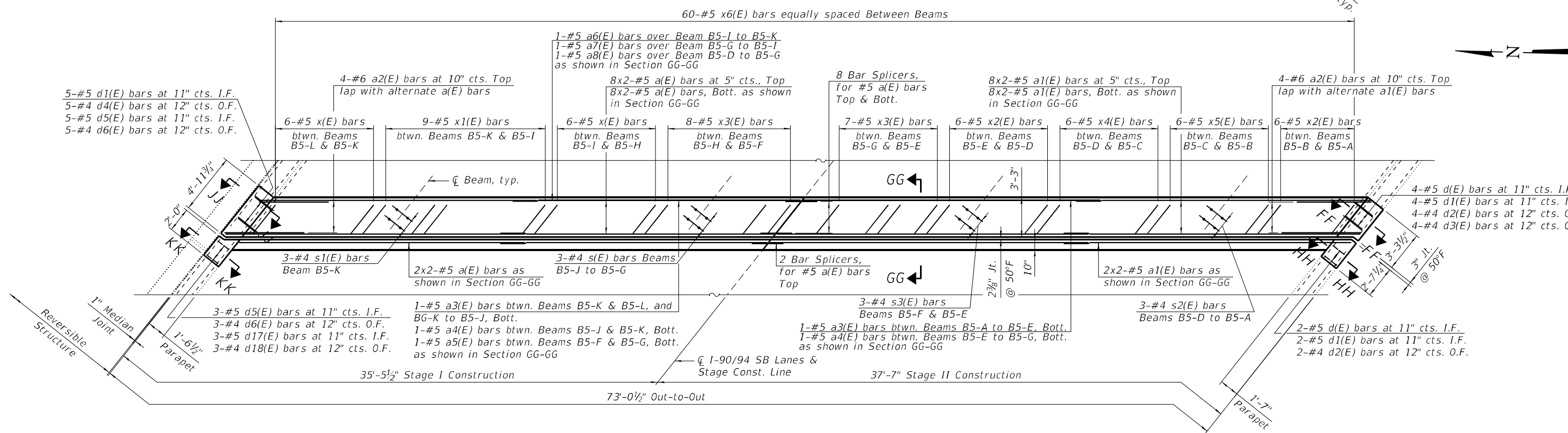
**PIER 1 EXPANSION JOINT DETAILS III
SN 016-0121 (SB)**

SHEET S29-16 OF S29-29 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1205 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



PIER 2 JOINT REMOVAL PLAN



PIER 2 JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S29-18.
- For sections J-J, K-K, JJ-JJ and KK-KK see sheet S29-19.

* Existing longitudinal bars to remain in the parapets can be cut in the field as required

LEGEND

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

MODEL: SMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SB\0160121-62K74-5017-EXPS.dgn

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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

| | | | |
|--------------|------------|--------|----------------|
| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | | REVISED - F.B. |
| | CHECKED - | K.G.W. | REVISED - |

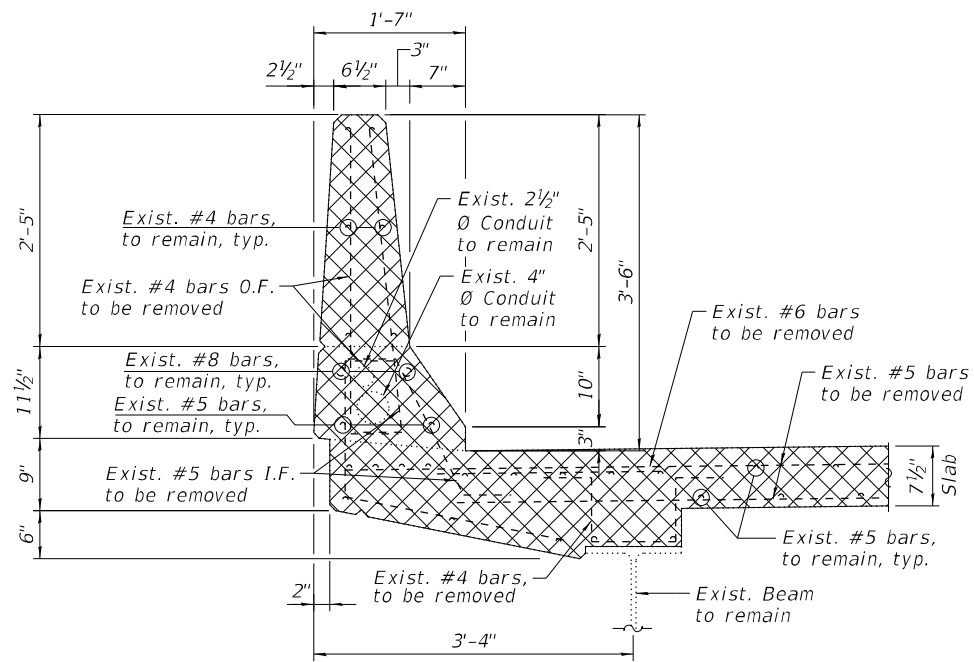
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 2 EXPANSION JOINT DETAILS I
SN 016-0121 (SB)**

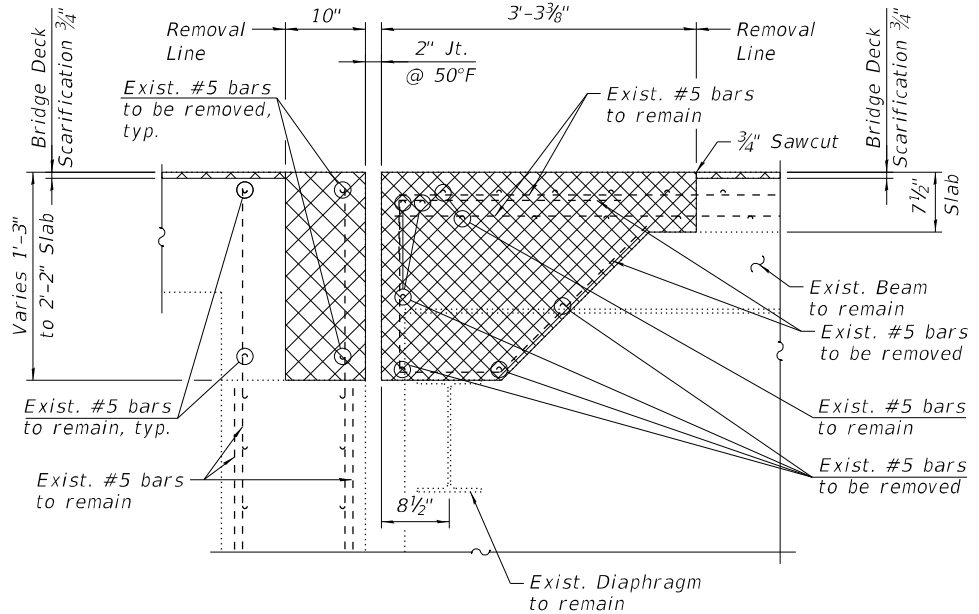
SHEET S29-17 OF S29-29 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1206 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

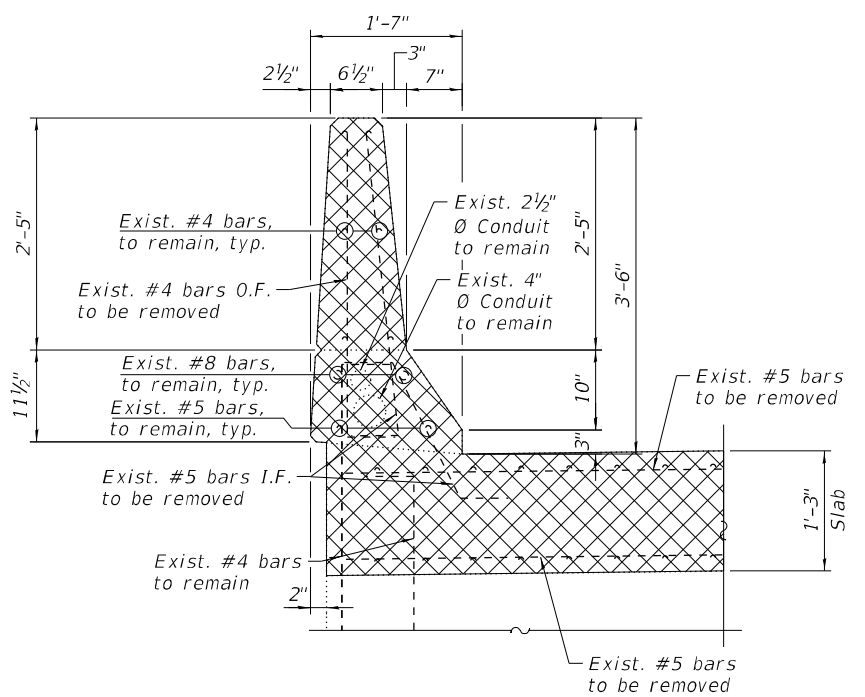
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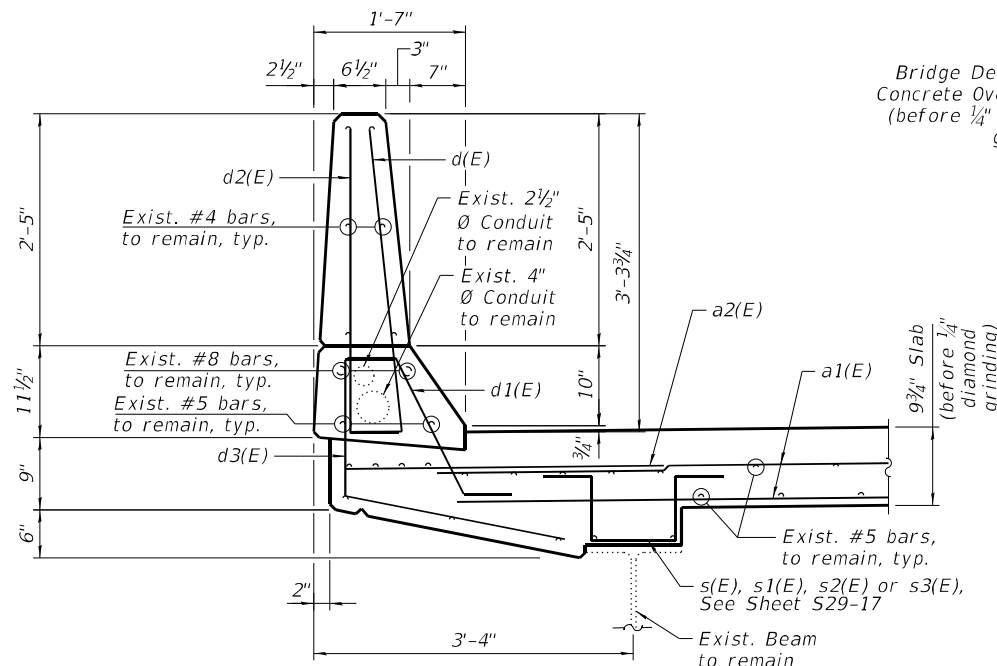
SECTION F-F
 (West parapet removal)



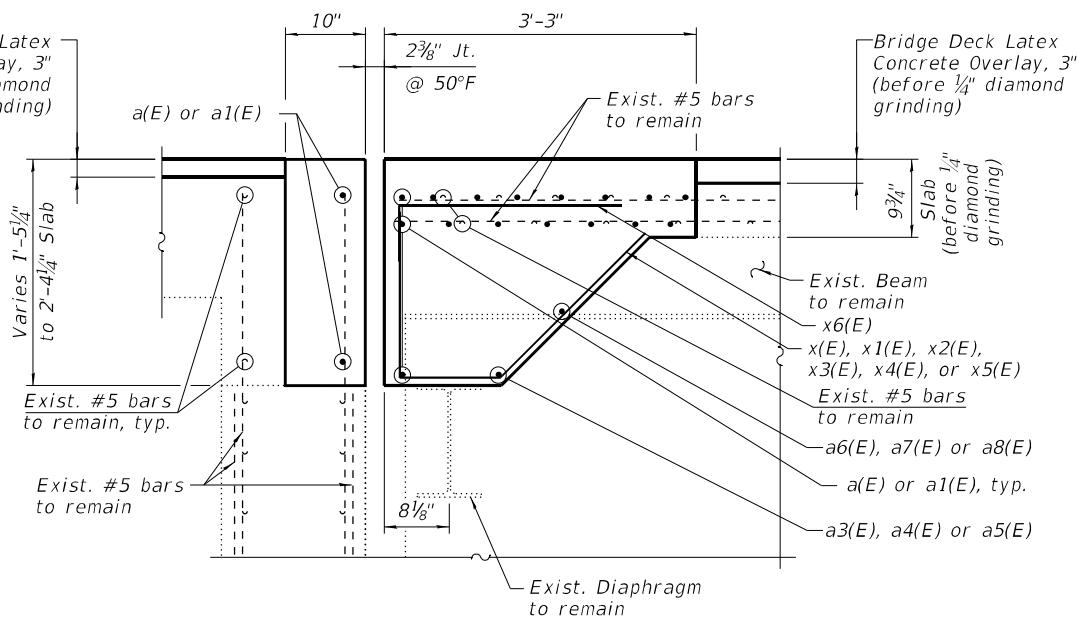
SECTION G-G



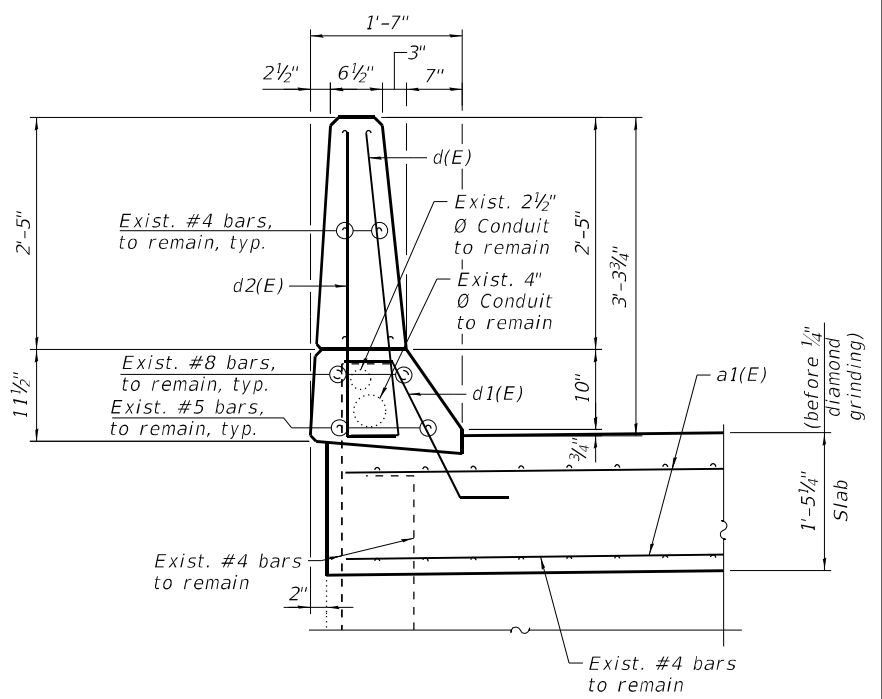
SECTION H-H
 (South parapet removal)



SECTION FF-FF
 (West parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
 (South parapet removal)

LEGEND

| | |
|--------|------------------|
| | Concrete Removal |
| I.F. | Inside Face |
| O.F. | Outside Face |
| V.I.F. | Verify in Field |



| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

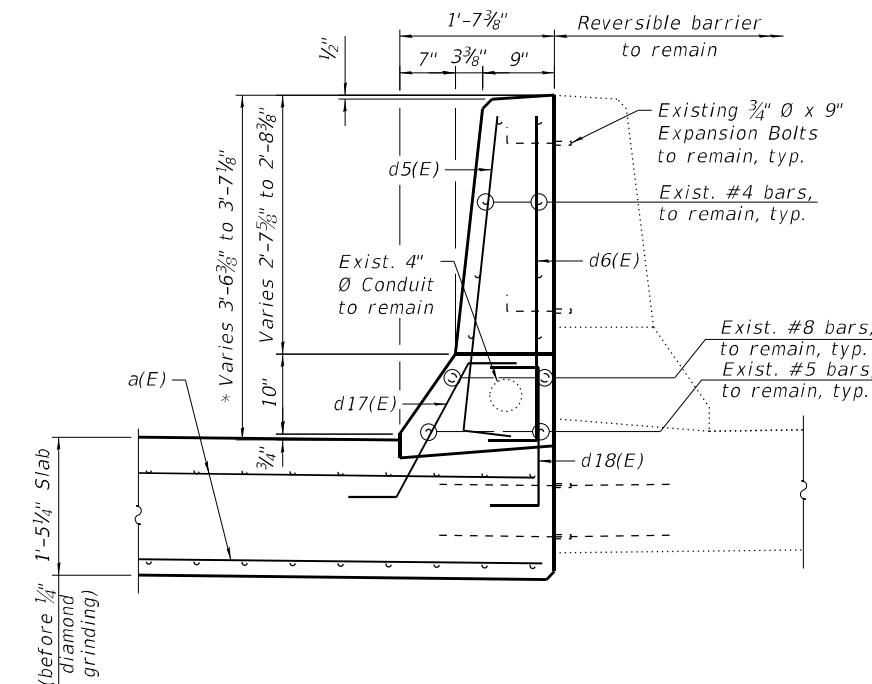
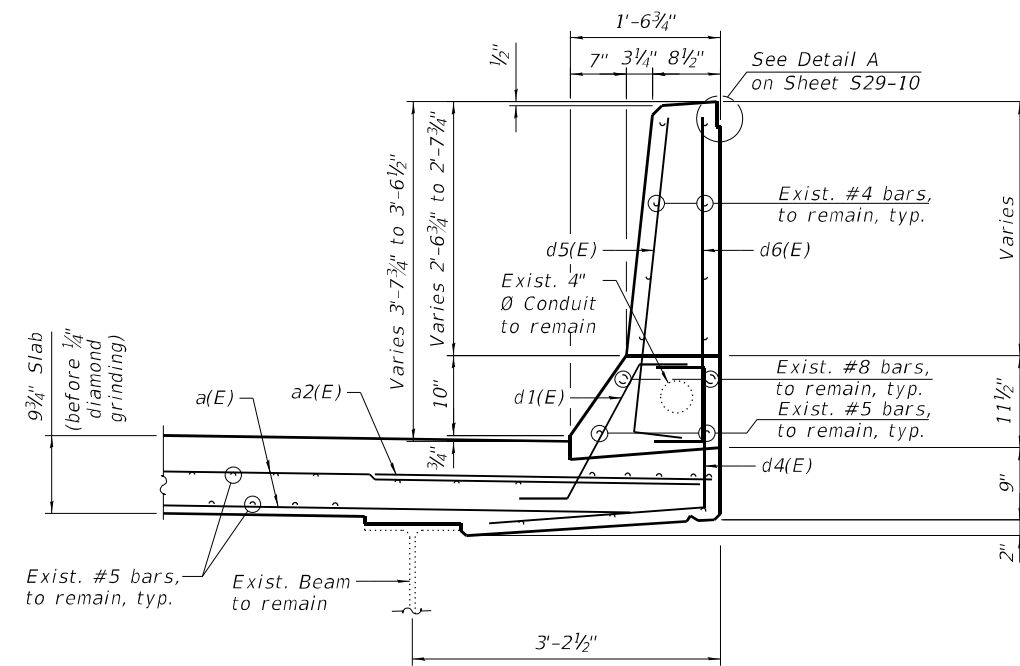
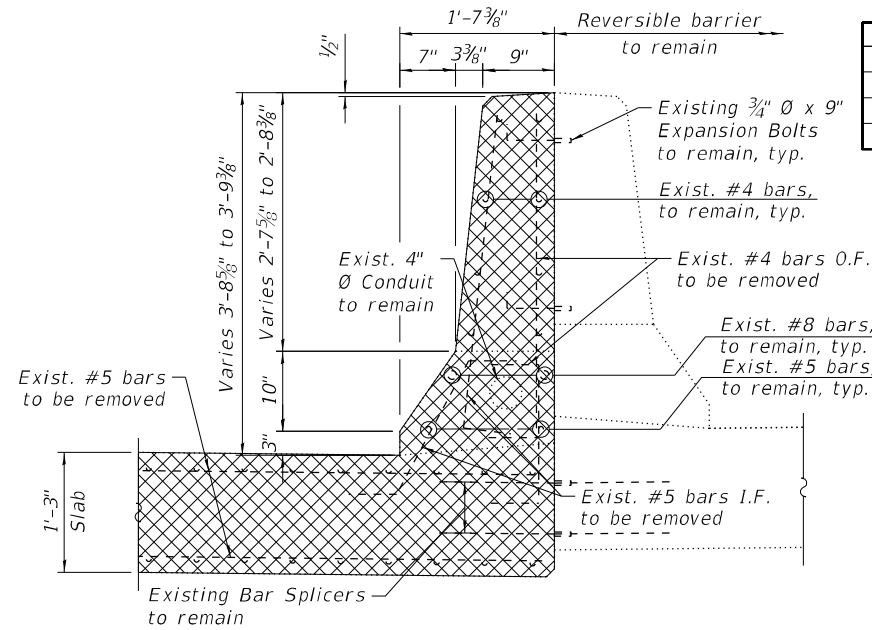
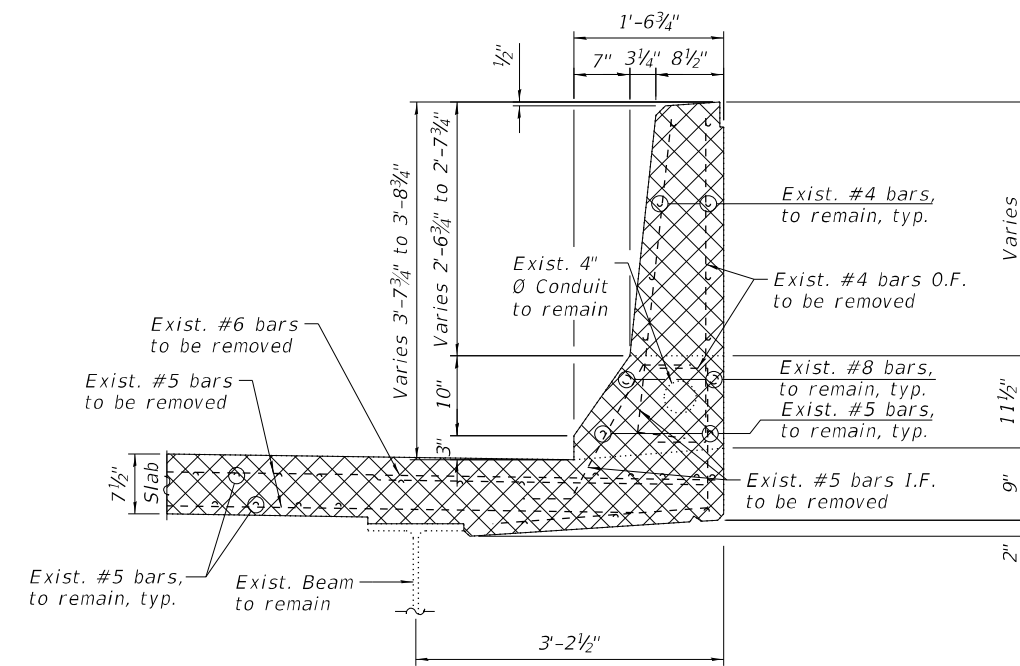
PIER 2 EXPANSION JOINT DETAILS II
SN 016-0121 (SB)

SHEET S29-18 OF S29-29 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1207 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

**BILL OF MATERIAL
PIER 2**

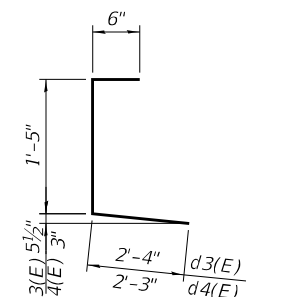
| Bar | No. | Size | Length | Shape |
|-------------------------------------|-----|-------|---------|-------|
| a(E) | 36 | #5 | 24'-6" | — |
| a1(E) | 36 | #5 | 25'-10" | — |
| a2(E) | 8 | #6 | 6'-6" | — |
| a3(E) | 8 | #5 | 8'-0" | — |
| a4(E) | 3 | #5 | 4'-10" | — |
| a5(E) | 1 | #5 | 2'-8" | — |
| a6(E) | 1 | #5 | 13'-0" | — |
| a7(E) | 1 | #5 | 22'-7" | — |
| a8(E) | 1 | #5 | 23'-11" | — |
| | | | | |
| d(E) | 6 | #5 | 3'-8" | ┘ |
| d1(E) | 11 | #5 | 2'-7" | ┘ |
| d2(E) | 6 | #4 | 3'-8" | ┘ |
| d3(E) | 4 | #4 | 4'-3" | ┘ |
| d4(E) | 5 | #4 | 4'-2" | ┘ |
| d5(E) | 8 | #5 | 3'-10" | ┘ |
| d6(E) | 8 | #4 | 3'-10" | ┘ |
| d17(E) | 3 | #5 | 3'-3" | ┘ |
| d18(E) | 3 | #4 | 3'-0" | ┘ |
| | | | | |
| s(E) | 12 | #4 | 4'-0" | ┘ |
| s1(E) | 3 | #4 | 3'-4" | ┘ |
| s2(E) | 12 | #4 | 3'-6" | ┘ |
| s3(E) | 6 | #4 | 3'-8" | ┘ |
| | | | | |
| x(E) | 12 | #5 | 3'-2" | ┘ |
| x1(E) | 9 | #5 | 5'-7" | ┘ |
| x2(E) | 12 | #5 | 4'-8" | ┘ |
| x3(E) | 15 | #5 | 5'-2" | ┘ |
| x4(E) | 6 | #5 | 4'-3" | ┘ |
| x5(E) | 6 | #5 | 3'-10" | ┘ |
| x6(E) | 60 | #5 | 3'-7" | ┘ |
| | | | | |
| Concrete Removal | | Cu Yd | 30.7 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 2,870 | |
| Concrete Superstructure | | Cu Yd | 33.1 | |



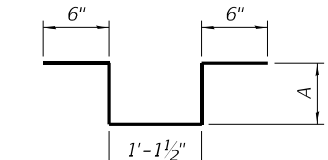
| Bar | A |
|-------|-------|
| d(E) | 3'-2" |
| d2(E) | 3'-2" |
| d5(E) | 3'-4" |
| d6(E) | 3'-4" |

**BARS d(E), d2(E),
d5(E) & d6(E)**

BAR d1(E)



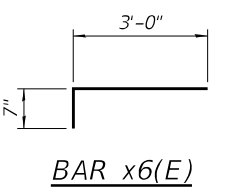
BARS d18(E)



| Bar | A |
|-------|-----|
| s(E) | 11" |
| s1(E) | 7" |
| s2(E) | 8" |
| s3(E) | 9" |

**BARS x(E), x1(E), x2(E),
x3(E), x4(E), & x5(E)**

| Bar | A | B |
|-------|-------|-------|
| x(E) | 8" | 1'-1" |
| x1(E) | 1'-7" | 2'-7" |
| x2(E) | 1'-3" | 2'-0" |
| x3(E) | 1'-5" | 2'-4" |
| x4(E) | 1'-1" | 1'-9" |
| x5(E) | 11" | 1'-6" |



NOTES:

- For Preformed Joint Strip Seal details, see sheet S29-20.
- For Bar Splicer Assembly details, see sheet S29-29.
- 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. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

#5 3'-6"

MODEL: SMODELNAMES
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SB\0160121-62K74-5019-EXPS.dgn
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GRAEF
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

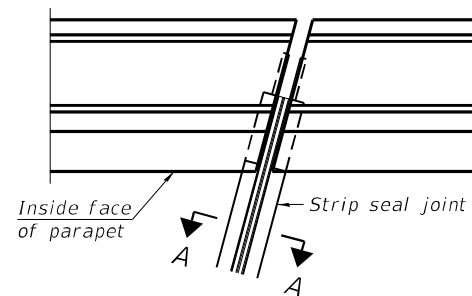
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 2 EXPANSION JOINT DETAILS III
SN 016-0121 (SB)**

SHEET S29-19 OF S29-29 SHEETS

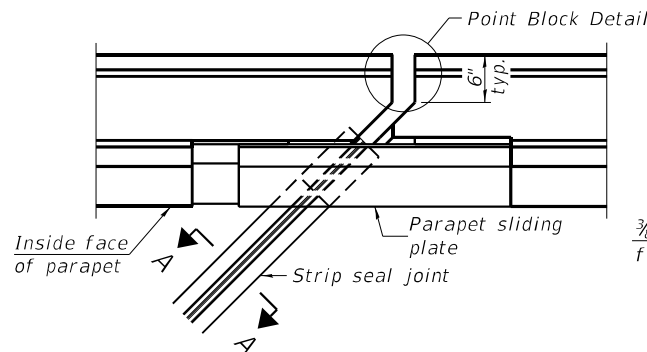
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1208 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

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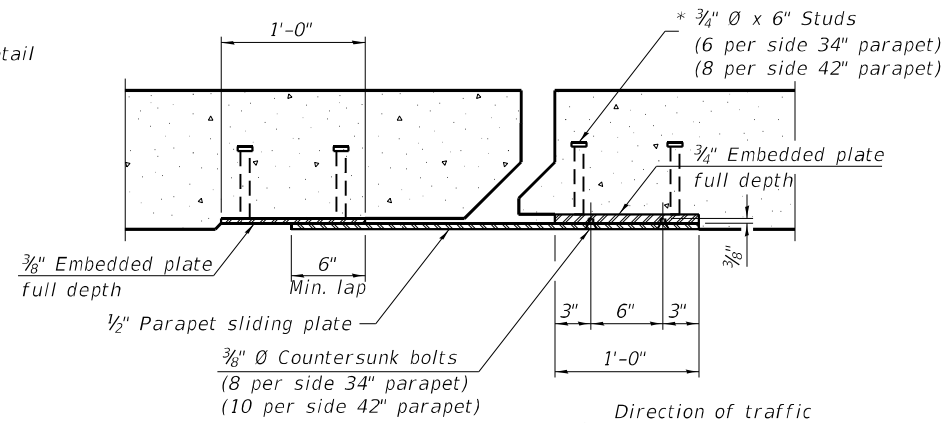


FOR SKEWS $\leq 30^\circ$

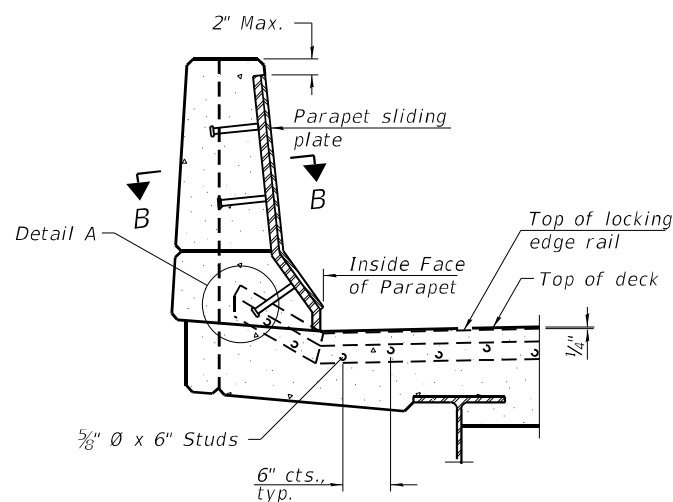
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

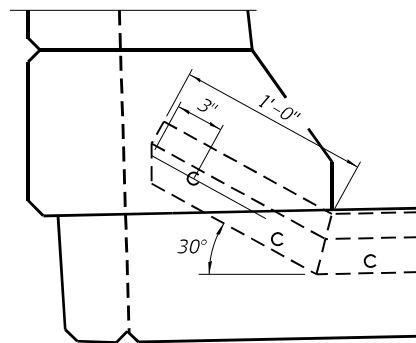


SECTION B-B

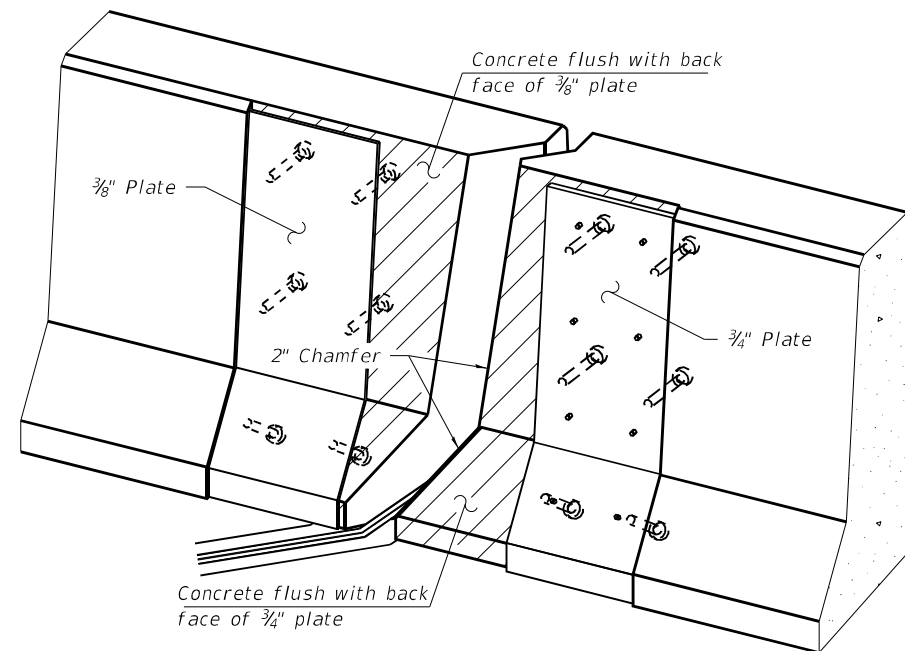


ELEVATION AT PARAPET

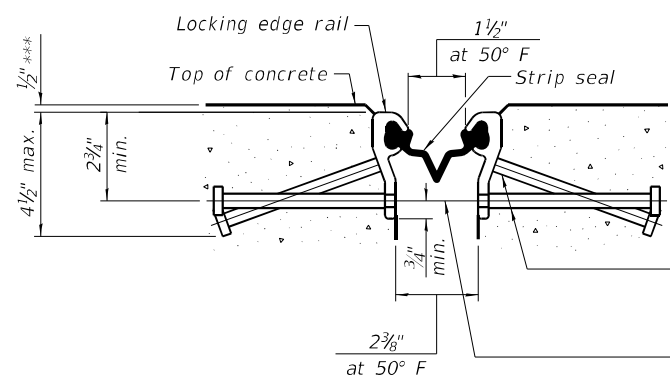
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



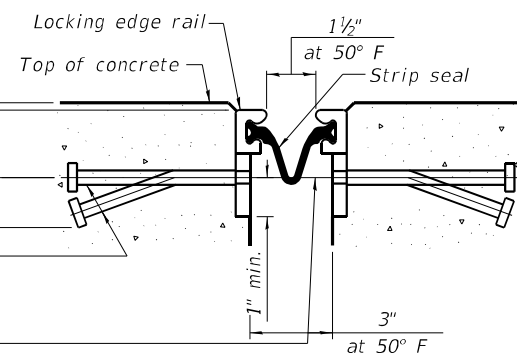
TRIMETRIC VIEW
(Showing embedded plates only)



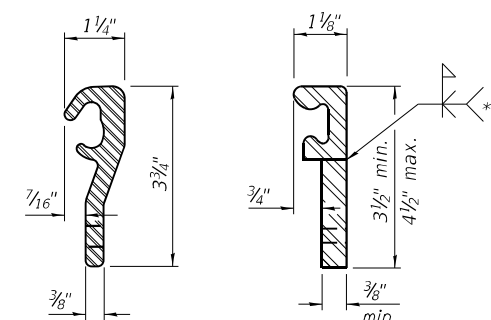
SHOWING ROLLED RAIL JOINT

* $3/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$3/8"$ ϕ threaded rods in $1/16"$ ϕ 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.

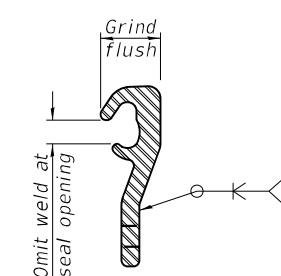


SHOWING WELDED RAIL JOINT



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

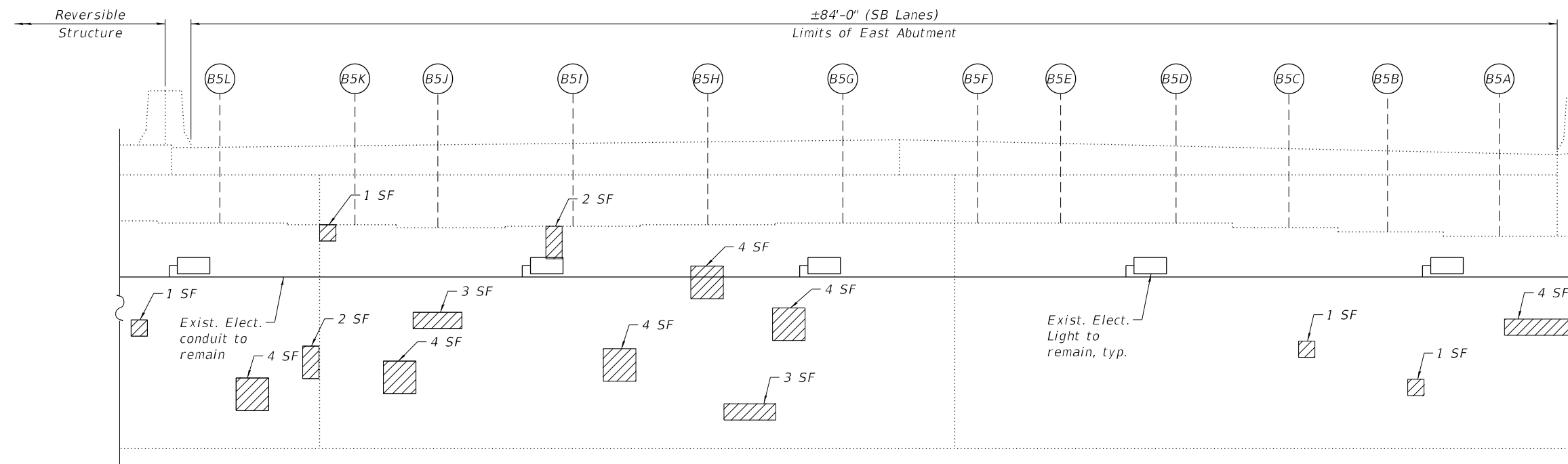
| Item | Unit | Total |
|----------------------------|------|-------|
| Preformed Joint Strip Seal | Foot | 437 |

| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1209 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



EXISTING LIGHTING: EAST ABUTMENT
(Looking Southeast)



ELEVATION - EAST ABUTMENT
(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 lower 2 feet of the backwalls and to the seats of the abutments.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 540 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 38 |

MODEL: sMODELNAME5
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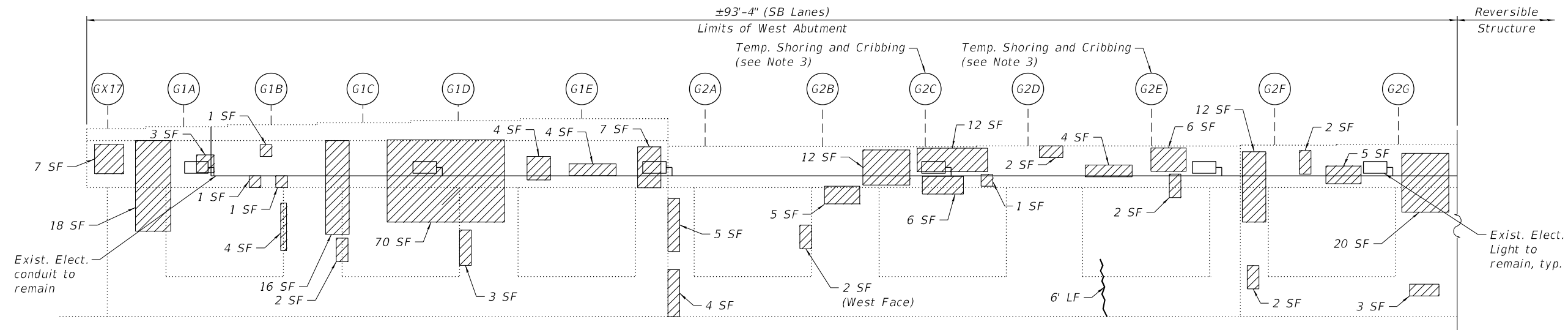
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|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| | CHECKED - H.A. | REVISED - |
| PLOT SCALE = | DRAWN - D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT REPAIRS
SN 016-0121 (SB)

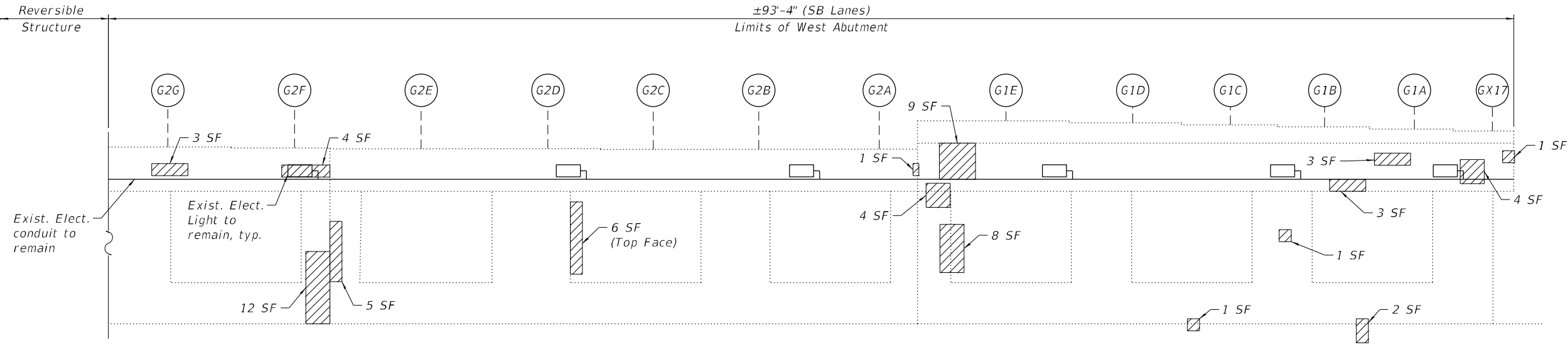
SHEET S29-21 OF S29-29 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1210 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



ELEVATION - WEST ABUTMENT
(South Face, Looking North)

| SUMMARY OF REACTIONS | |
|----------------------|-----------------|
| | Beams G2C & G2E |
| R DL (k) | 86.8 |
| R LL (k) | 44.0 |
| R IM (k) | 8.6 |
| R Total (k) | 139.4 |



ELEVATION - WEST ABUTMENT
(North Face, Looking South)



EXISTING LIGHTING: WEST ABUTMENT
(Looking Northwest)



EXISTING LIGHTING: WEST ABUTMENT
(Looking Southwest)

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 lower 2 feet of the backwalls and to the seats of the abutments.
- 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.

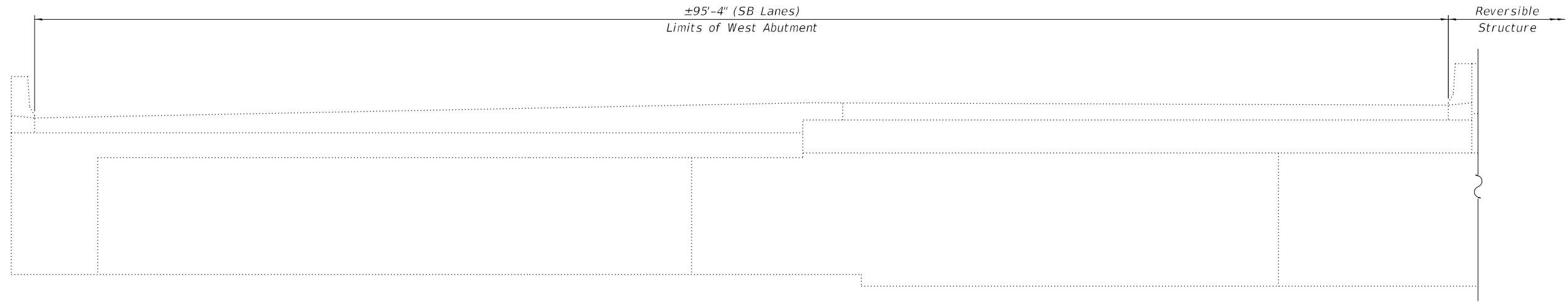
LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- Epoxy Crack Injection (Width > 0.06")
- Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 743 |
| Epoxy Crack Injection | Foot | 6 |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 313 |

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ELEVATION - WEST ABUTMENT WALL
(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.

MODEL: sMODELNAME5
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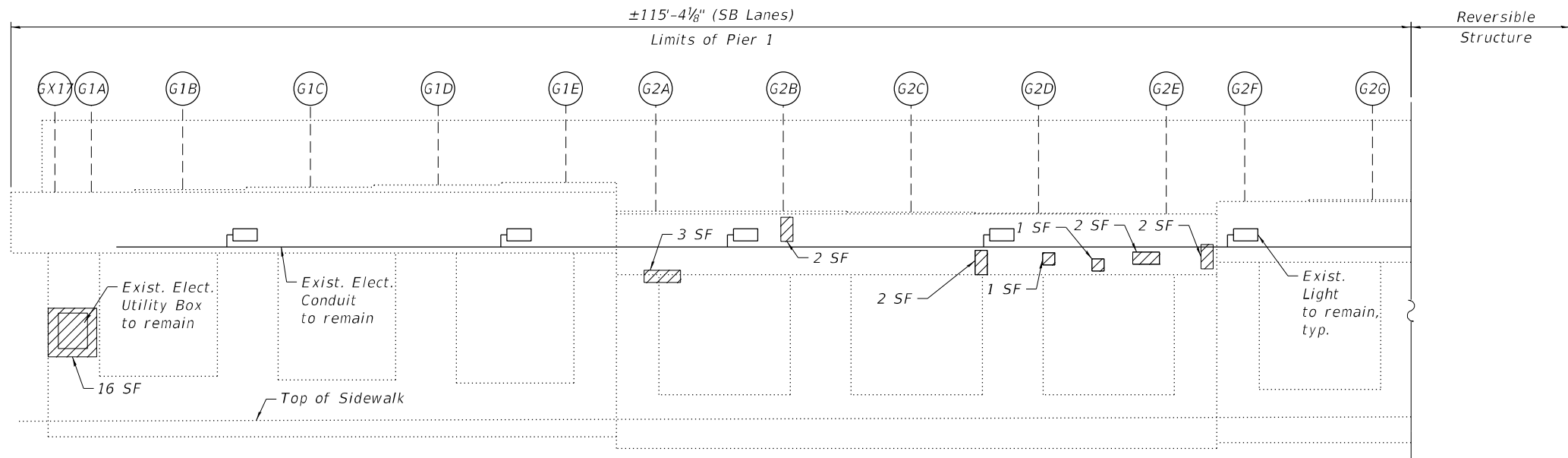
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| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | D.G.P. | REVISED - |
| PLOT DATE = | CHECKED - | H.B.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

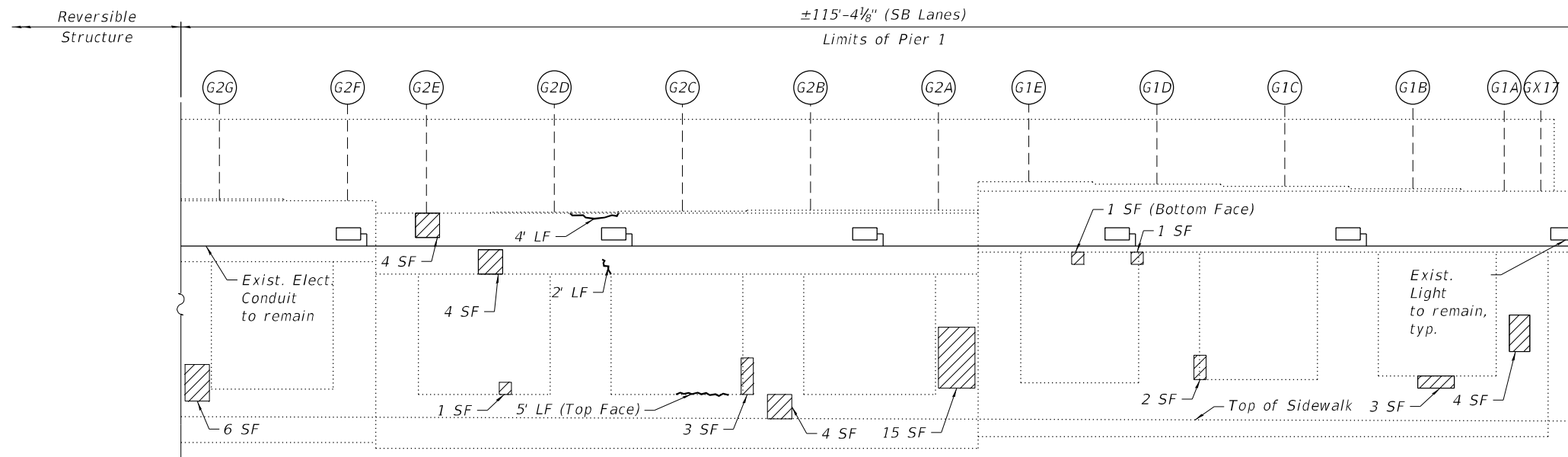
**WEST ABUTMENT REPAIRS II
SN 016-0121 (SB)**

SHEET S29-23 OF S29-29 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|------------------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1212 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |



ELEVATION - PIER 1
(Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1
(Looking Northeast)



EXISTING LIGHTING: PIER 1
(Looking Southwest)

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 seats of the piers.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- 6' LF Epoxy Crack Injection (Width > 0.06")
- SF Square Foot
- LF Linear Foot

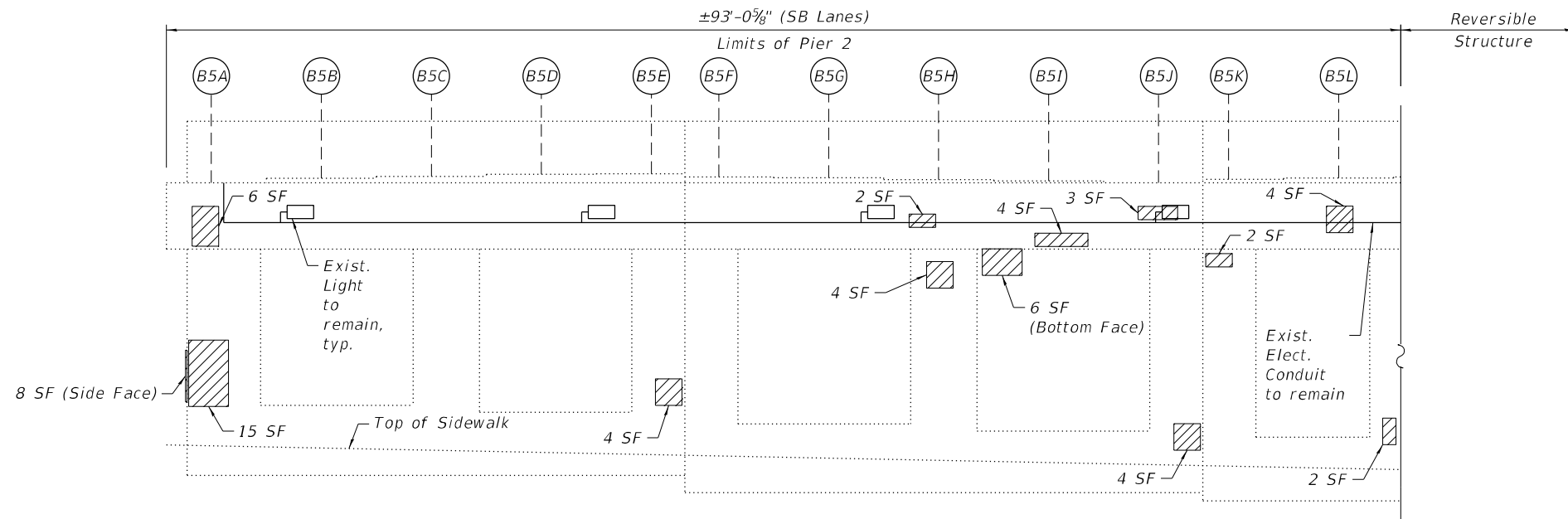
BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 445 |
| Epoxy Crack Injection | Foot | 11 |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 77 |

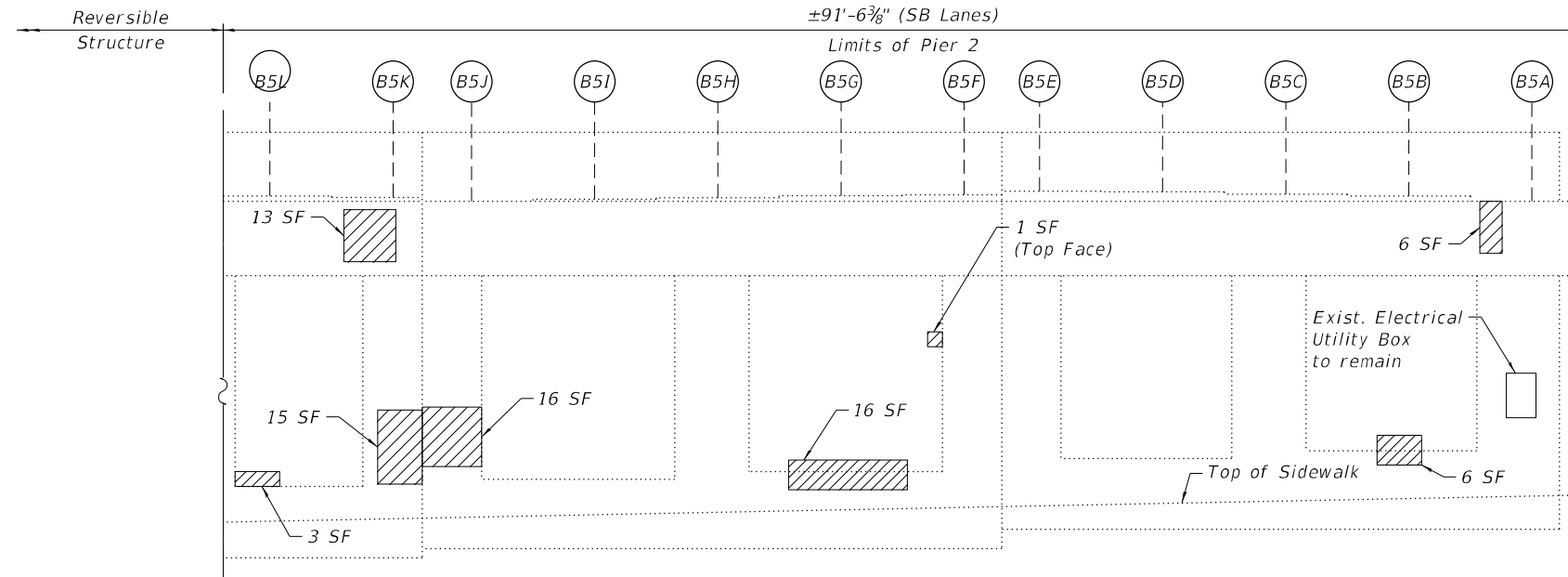
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| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| | CHECKED - H.A. | REVISED - |
| PLOT SCALE = | DRAWN - D.W.P. | REVISED - |
| PLOT DATE = | CHECKED - H.B.W. | REVISED - |

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|--------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1213 |
| CONTRACT NO. 62K74 | | | | |



ELEVATION - PIER 2
(Looking West)



ELEVATION - PIER 2
(Looking East)



EXISTING LIGHTING: PIER 2
(Looking Southeast)

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 seats of the piers.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 359 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 140 |

MODEL: sMODELNAME5
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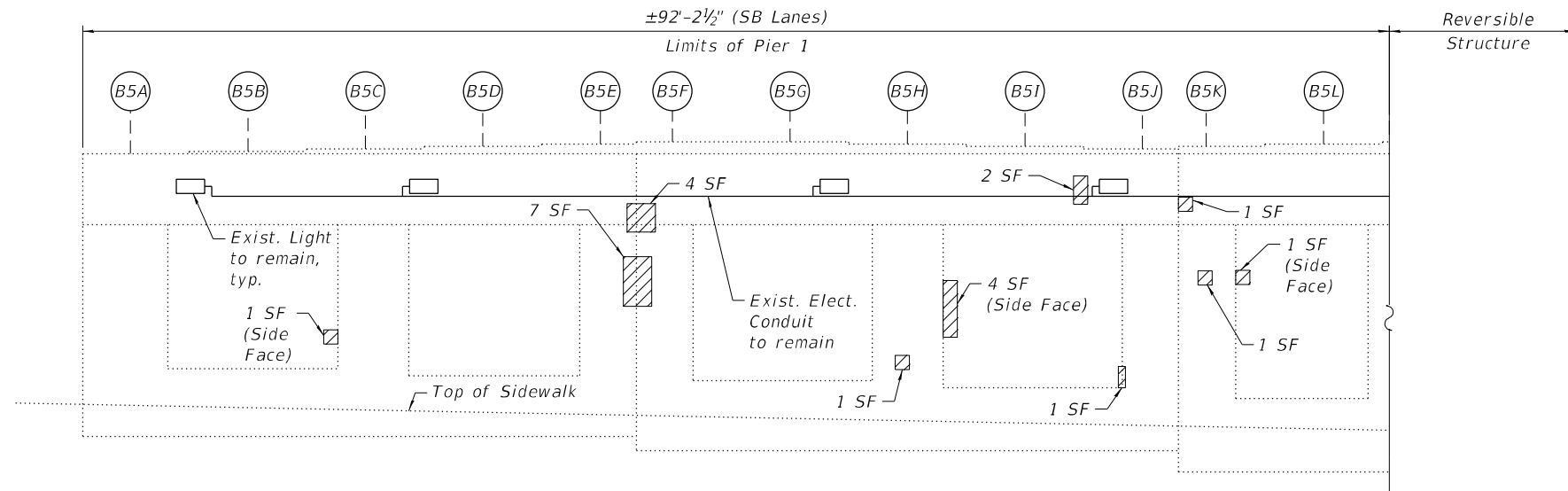
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| | CHECKED - H.A. | REVISED - |
| PLOT SCALE = | DRAWN - D.O.P. | REVISED - |
| PLOT DATE = | CHECKED - H.B.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 REPAIRS
SN 016-0121 (SB)

SHEET S29-25 OF S29-29 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1214 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



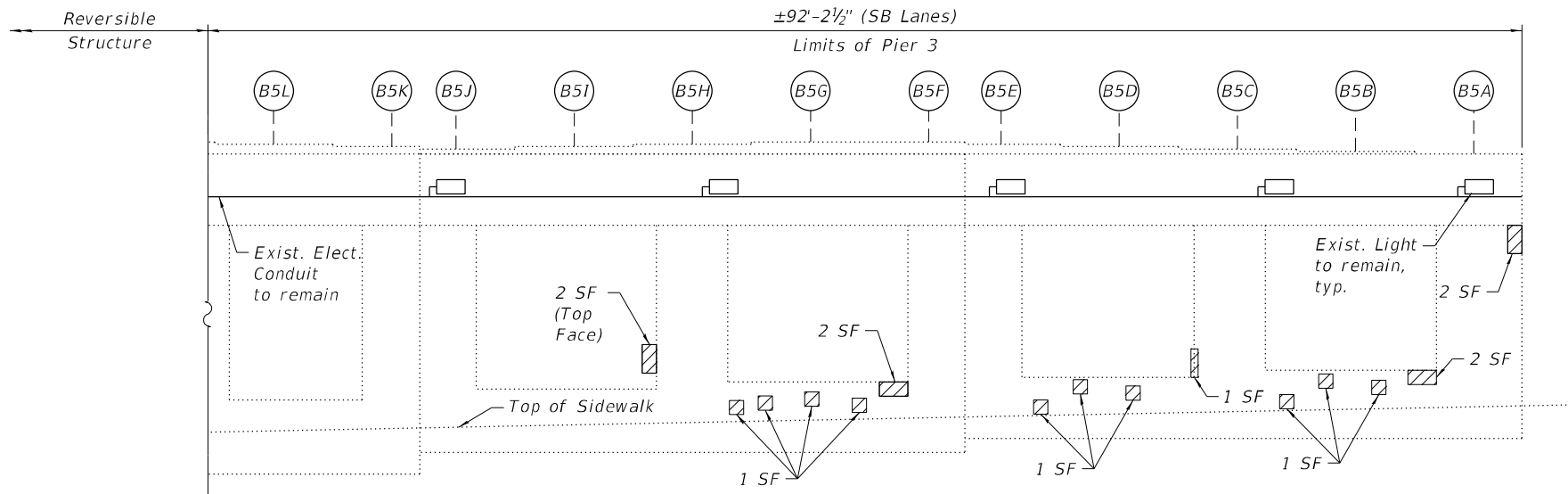
ELEVATION - PIER 3
(Looking West)



EXISTING LIGHTING: PIER 3
(Looking Southwest)



EXISTING LIGHTING: PIER 3
(Looking Southeast)



ELEVATION - PIER 3
(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.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

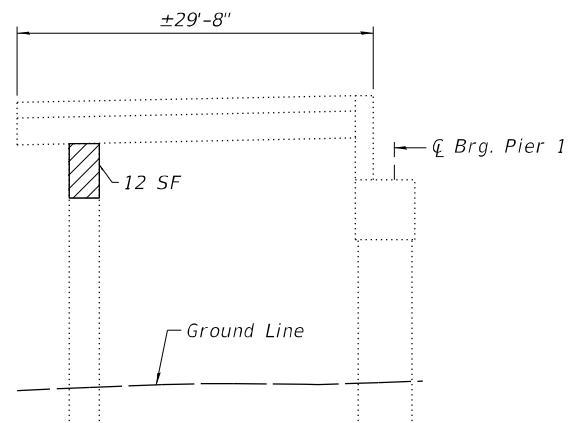
BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 42 |

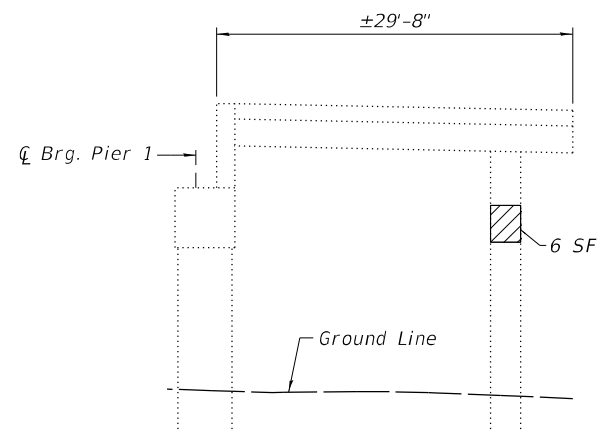
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| | CHECKED - H.A. | REVISED - |
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| PLOT DATE = | CHECKED - H.B.W. | REVISED - |

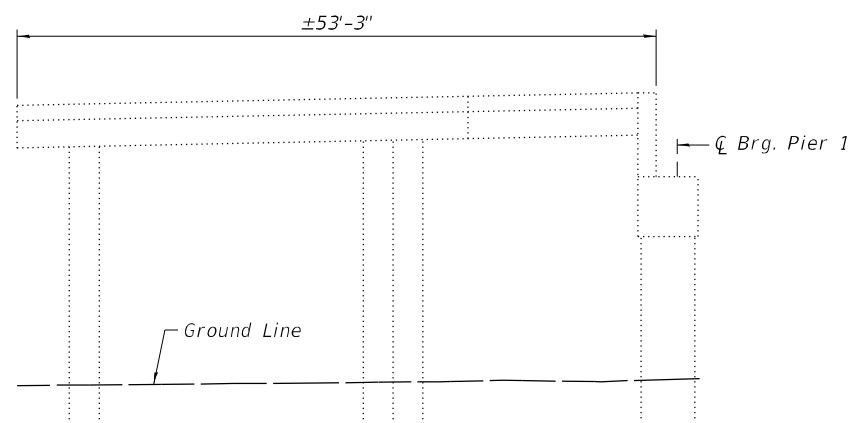
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1215 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



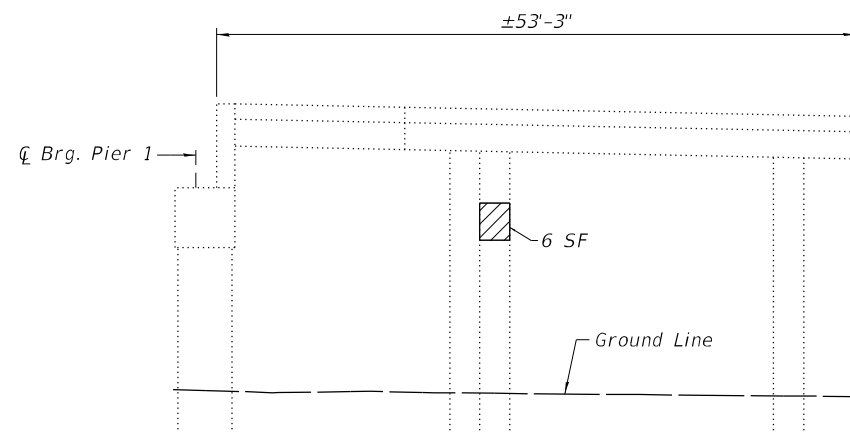
SECTION AT Ç PIER 1A
(Looking West)



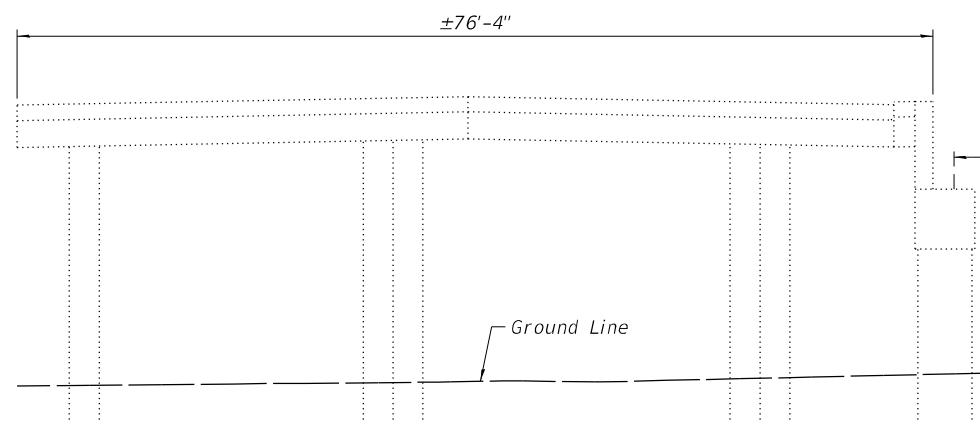
SECTION AT Ç PIER 1A
(Looking East)



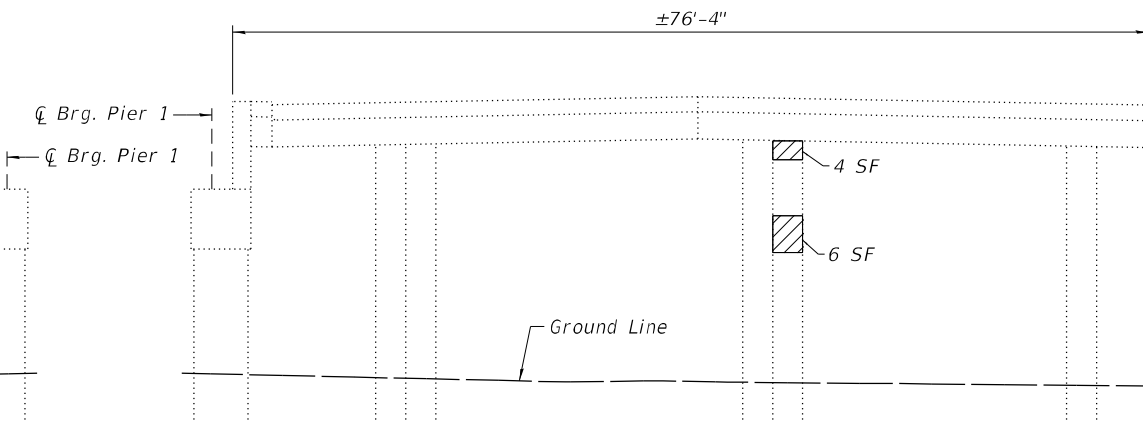
SECTION AT Ç PIER 1B
(Looking West)



SECTION AT Ç PIER 1B
(Looking East)



SECTION AT Ç PIER 1C
(Looking West)



SECTION AT Ç PIER 1C
(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.

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 | 34 |

MODEL: sMODELNAME5
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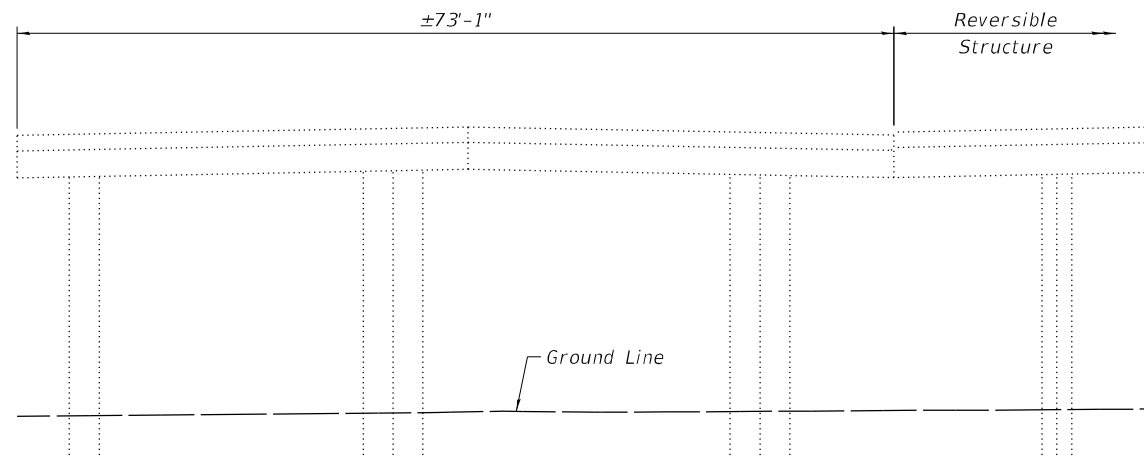
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|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| | CHECKED - H.A. | REVISED - |
| PLOT SCALE = | DRAWN - D.O.P. | REVISED - |
| PLOT DATE = | CHECKED - H.B.W. | REVISED - |

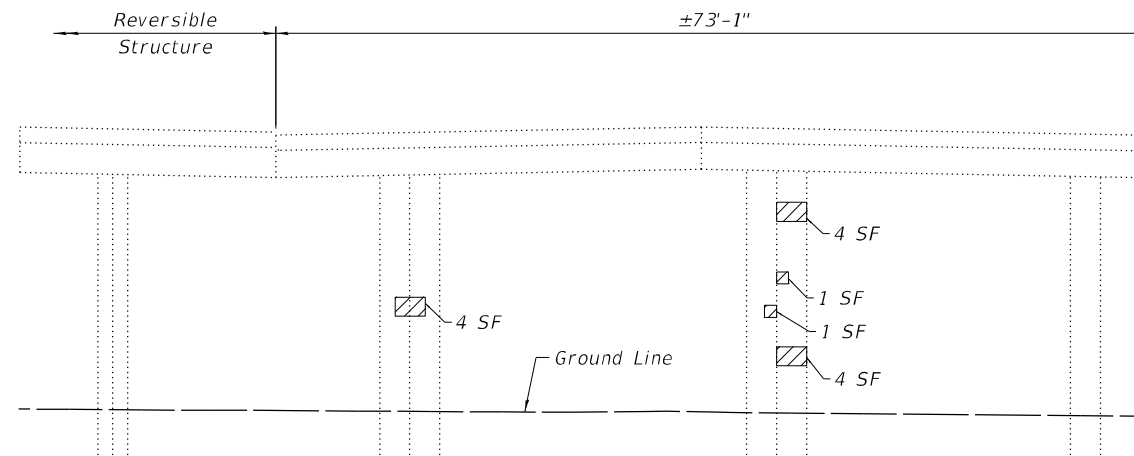
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLAB SPANS REPAIRS
SN 016-0121 (SB)
SHEET S29-27 OF S29-29 SHEETS

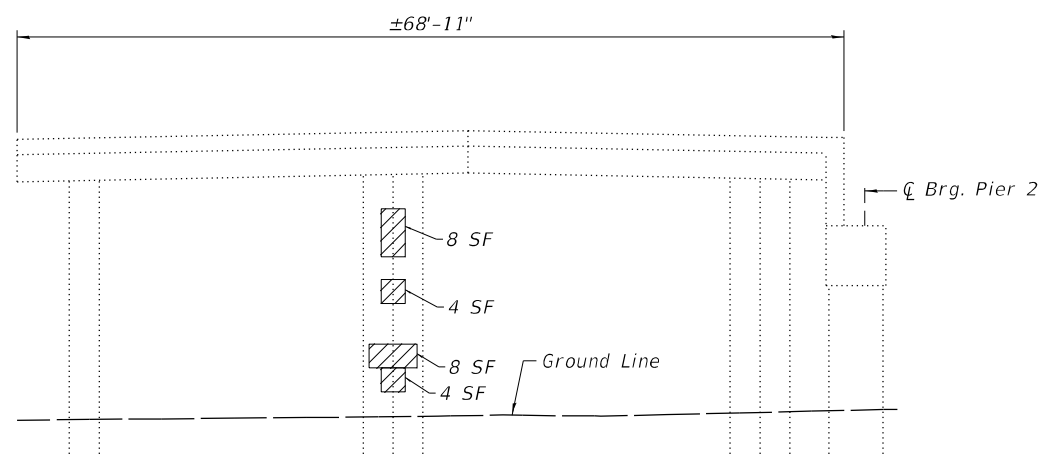
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|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1216 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



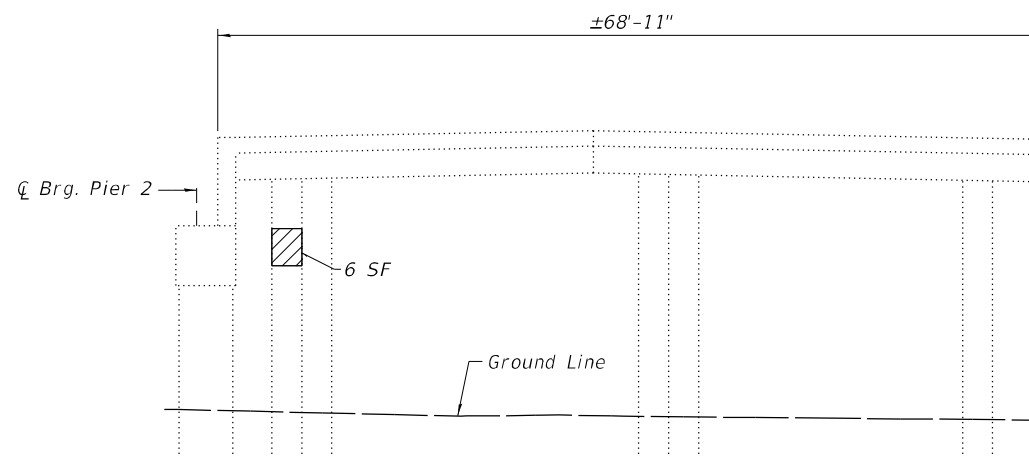
SECTION AT Ç PIER 1D
(Looking West)



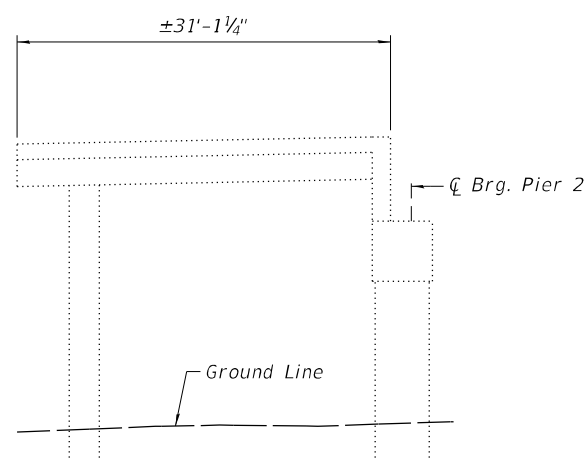
SECTION AT Ç PIER 1D
(Looking East)



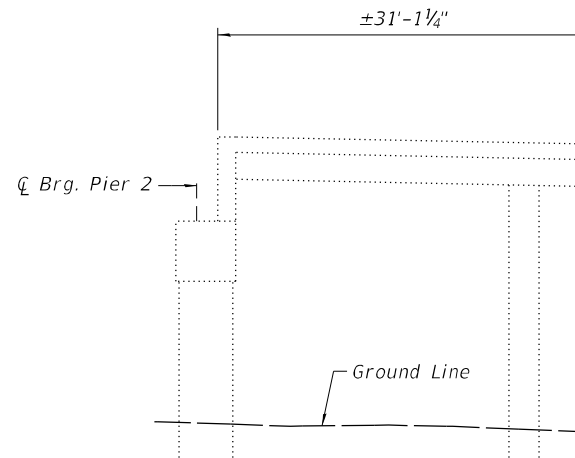
SECTION AT Ç PIER 1E
(Looking West)



SECTION AT Ç PIER 1E
(Looking East)



SECTION AT Ç PIER 1F
(Looking West)



SECTION AT Ç PIER 1F
(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.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

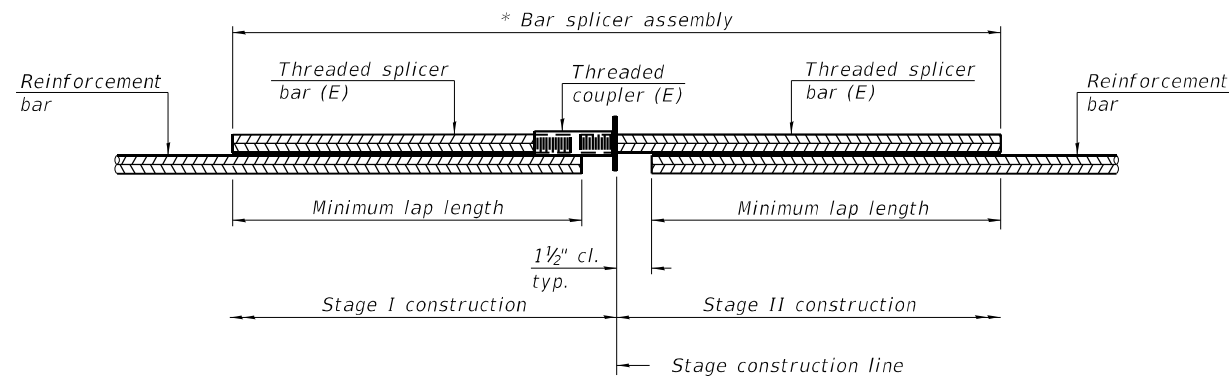
BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 44 |

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\1016-0121_Kedzie_Belmont\SB\0160121-62K74-5028-PAFS.dgn

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| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| | CHECKED - H.A. | REVISED - |
| PLOT SCALE = | DRAWN - D.O.P. | REVISED - |
| PLOT DATE = | CHECKED - H.B.W. | REVISED - |

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|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1217 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |

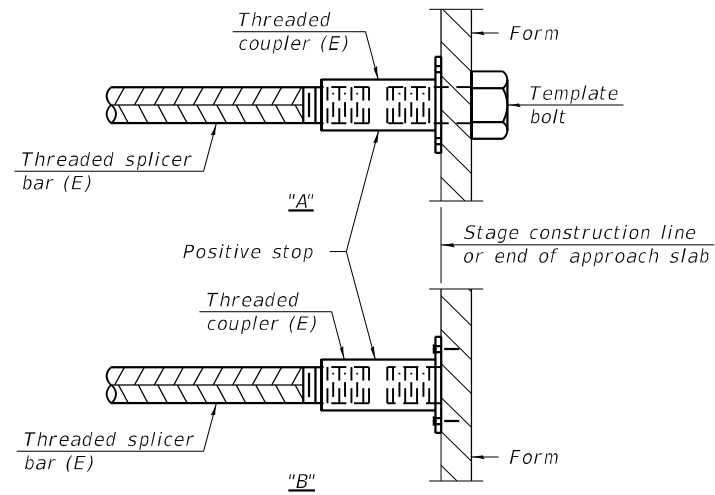


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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 |
|------------------------|----------|-------------------------|--------------------|
| East Abutment Exp. Jt. | #5 | 16 | 3'-6" |
| | #6 | 6 | 4'-0" |
| West Abutment Exp. Jt. | #5 | 18 | 3'-6" |
| | #6 | 4 | 4'-0" |
| Pier 1 Exp. Jt. | #5 | 20 | 3'-6" |
| Pier 2 Exp. Jt. | #5 | 18 | 3'-6" |

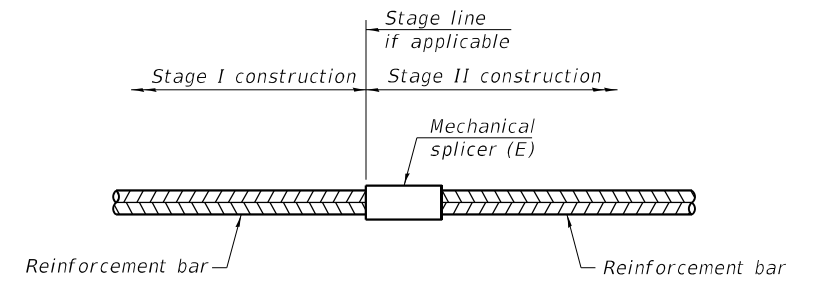


INSTALLATION AND SETTING METHODS

"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.

MODEL: sMODELNAME5
 FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\1016-0121_Kedzie_Belmont\SB\016-0121-62K74-5029-BSPS.dgn

BSD-1

1-1-2020

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| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | D.G.P. | REVISED - |
| PLOT DATE = | CHECKED - | H.B.W. | REVISED - |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 SN 016-0121 (SB)**

SHEET S29-29 OF S29-29 SHEETS

| | | | | |
|-------------|-------------|--------|------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1218 |
| ILLINOIS | | | FED. AID PROJECT | |

CONTRACT NO. 62K74

Existing Structure: S.N. 016-0121 was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a bearing-to-bearing length of 429'-8½" and an out-to-out deck width of 50'-3". The superstructure consists of a 7½" thick reinforced concrete deck, a simple steel beam span, multiple reinforced concrete slab spans and a 2-span continuous steel beam superstructure. The substructure consists of by reinforced concrete columns, piers, and abutments founded on metal shell CIP concrete piles.

The reversible lanes will be closed to traffic during construction.

No salvage.

LOADING

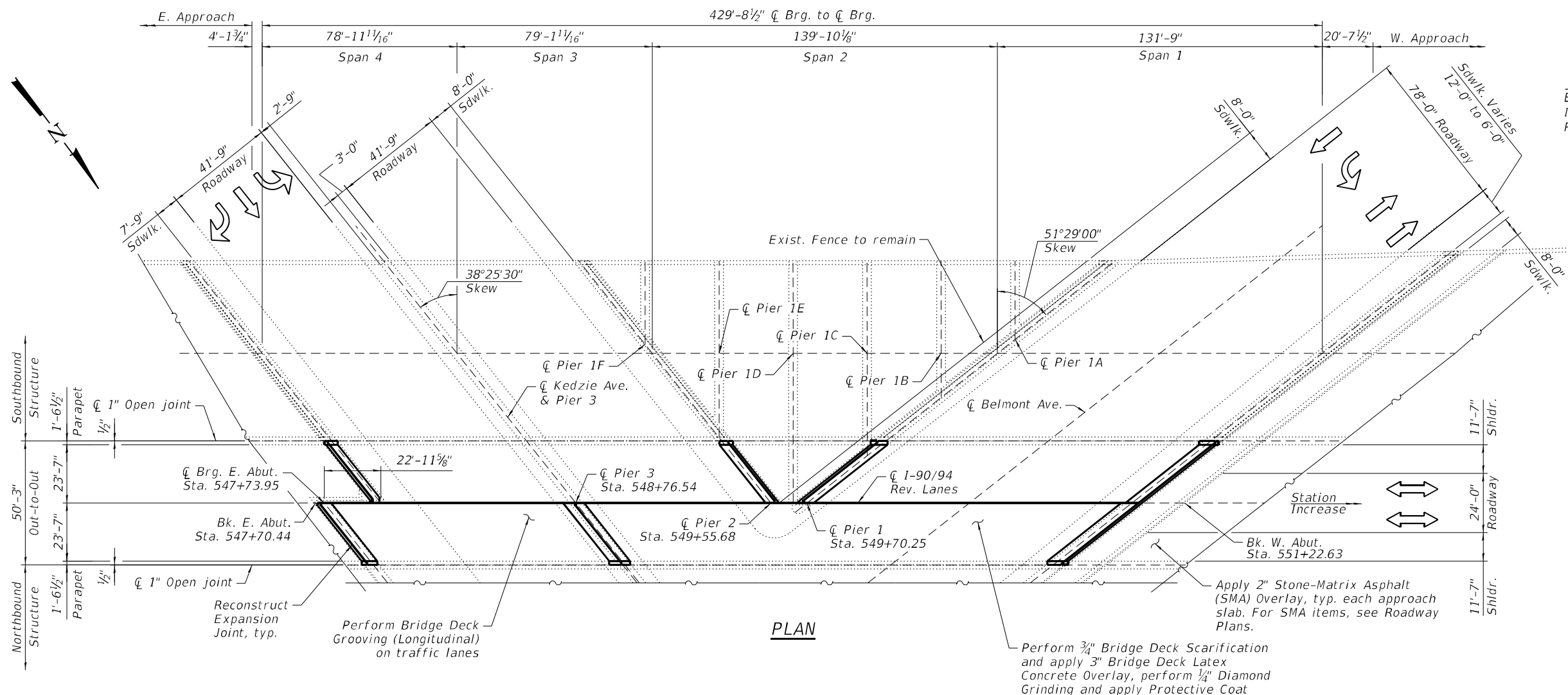
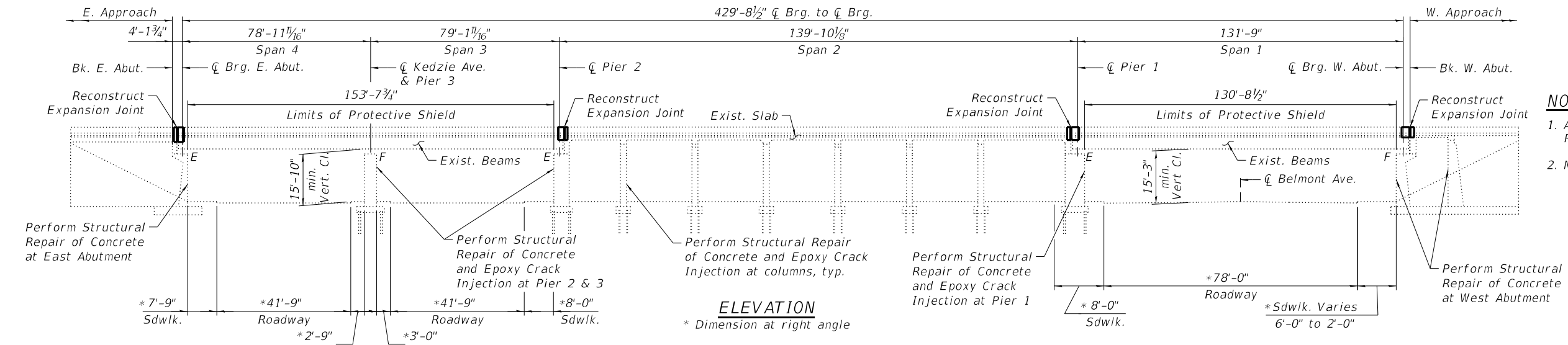
HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

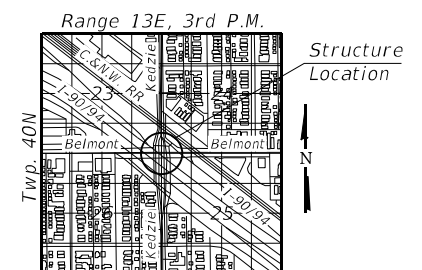
NOTE:

1. All stations are to the ϕ I-90/94 REV Roadway and taken from existing plans.
2. No Future Wearing Surface is allowed.



Kevin Wood

Engineer Full Name: Kevin Wood Date: 10-20-2022
Illinois Registered Engineer No. 081-006515
Registration Expires 11. 30, 2024



**GENERAL PLAN AND ELEVATION
REVERSIBLE I-90 OVER KEDZIE AVE
AND BELMONT AVE
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 548+76.54 (REV)
STRUCTURE NO. 016-0121 (REV)**

MODEL: SMODELNAME5
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| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SHEET S30-01 OF S30-25 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1219 |
| | | | CONTRACT NO. 62K74 | |
| ILLINOIS FED. AID PROJECT | | | | |

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. 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 included in the Concrete Removal pay item. 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 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
- Plan dimensions and details relative to the 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 furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Plans.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- 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.
- Adjacent I-90/94 Southbound bridge is not shown throughout the plans for clarity.
- 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.
- 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".
- The Contractor shall exercise 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.
- The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete 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.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed 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.
- Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 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. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.
- City of Chicago Department of Water Management's Water Valve for feeder line near intersection of Kedzie Ave & Belmont Ave cannot be adjusted. Access to valve must be maintained throughout construction.

INDEX OF SHEETS

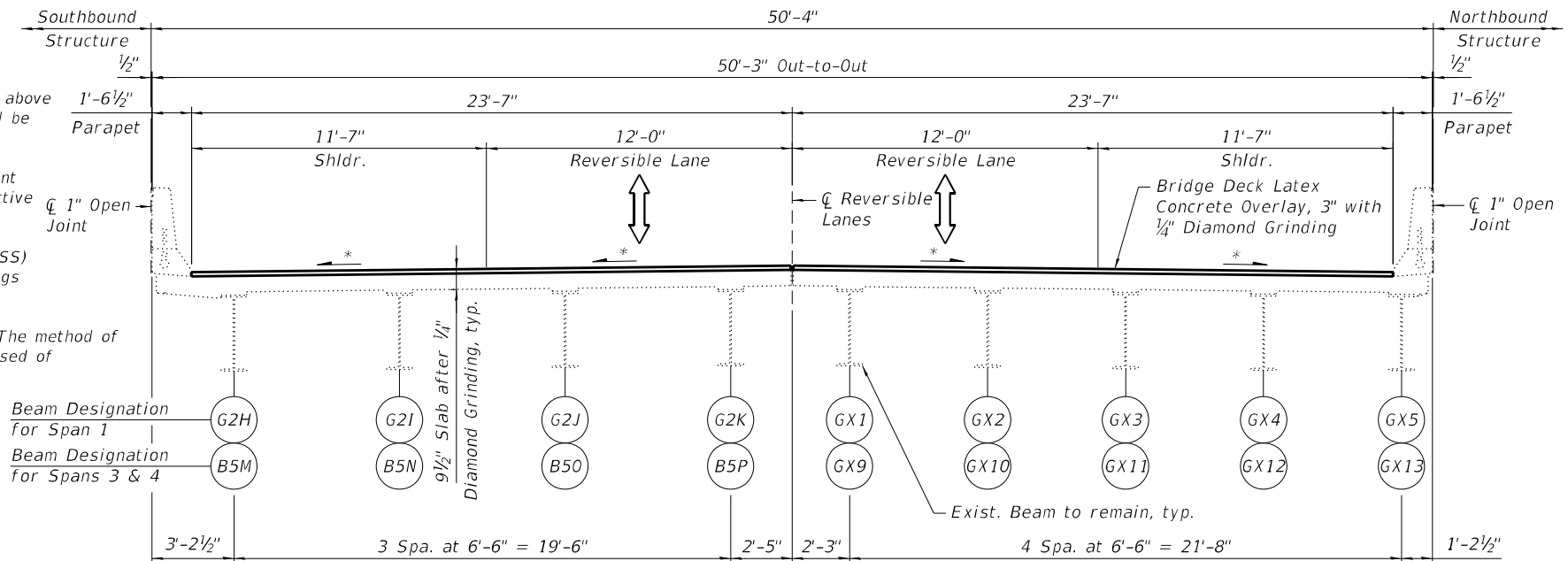
| | |
|---------------|---|
| S30-01 | General Plan & Elevation |
| S30-02 | General Data |
| S30-03-S30-04 | Bridge Deck Repair Plan and Details I & II |
| S30-05-S30-07 | East Abutment Expansion Joint Details I, II & III |
| S30-08-S30-10 | West Abutment Expansion Joint Details I, II & III |
| S30-11-S30-13 | Pier 1 Expansion Joint Details I, II & III |
| S30-14-S30-16 | Pier 2 Expansion Joint Details I, II & III |
| S30-17-S30-18 | Pier 3 Expansion Joint Details I & II |
| S30-19 | Preformed Joint Strip Seal |
| S30-20 | East Abutment Repairs |
| S30-21-S30-22 | West Abutment Repairs I & II |
| S30-23 | Pier 1 Repairs |
| S30-24 | Pier 2 and Pier 1D Repairs |
| S30-25 | Pier 3 Repairs |

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform deck repairs.
- Remove and reconstruct expansion joints at north and south abutments and install new Preformed Joint Strip Seals.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- Perform Structural Repair of Concrete to the Abutments and Piers as noted in the plans.
- Epoxy crack injection at the abutments and piers for cracks greater than hairline.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|--------|-------|-------|-------|
| Concrete Removal | Cu Yd | 103.0 | | 103.0 |
| Protective Shield | Sq Yd | 1,618 | | 1,618 |
| Concrete Superstructure | Cu Yd | 114.0 | | 114.0 |
| Protective Coat | Sq Yd | 2,120 | | 2,120 |
| Reinforcement Bars, Epoxy Coated | Pound | 8,860 | | 8,860 |
| Preformed Joint Seal 1" | Foot | 332 | | 332 |
| Preformed Joint Seal 2 1/2" | Foot | 430 | | 430 |
| Preformed Joint Strip Seal | Foot | 245 | | 245 |
| Concrete Sealer | Sq Ft | | 1,229 | 1,229 |
| Epoxy Crack Injection | Foot | | 12 | 12 |
| Protect and Maintain Existing Underpass Luminaire | L Sum | | 0.022 | 0.022 |
| Bridge Deck Grooving (Longitudinal) | Sq Yd | 872 | | 872 |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,759 | | 1,759 |
| Bridge Deck Scarification 3/4" | Sq Yd | 1,759 | | 1,759 |
| Structural Repair of Concrete (Depth Equal to or less than 5 Inches) | Sq Ft | | 360 | 360 |
| Diamond Grinding (Bridge Section) | Sq Yd | 1,828 | | 1,828 |
| Maintenance of Lighting System | Cal Mo | | 6 | 6 |
| Temporary Shoring and Cribbing | Each | | 1 | 1 |



FINAL CROSS SECTION
(Looking West)

* Match existing deck surface profile

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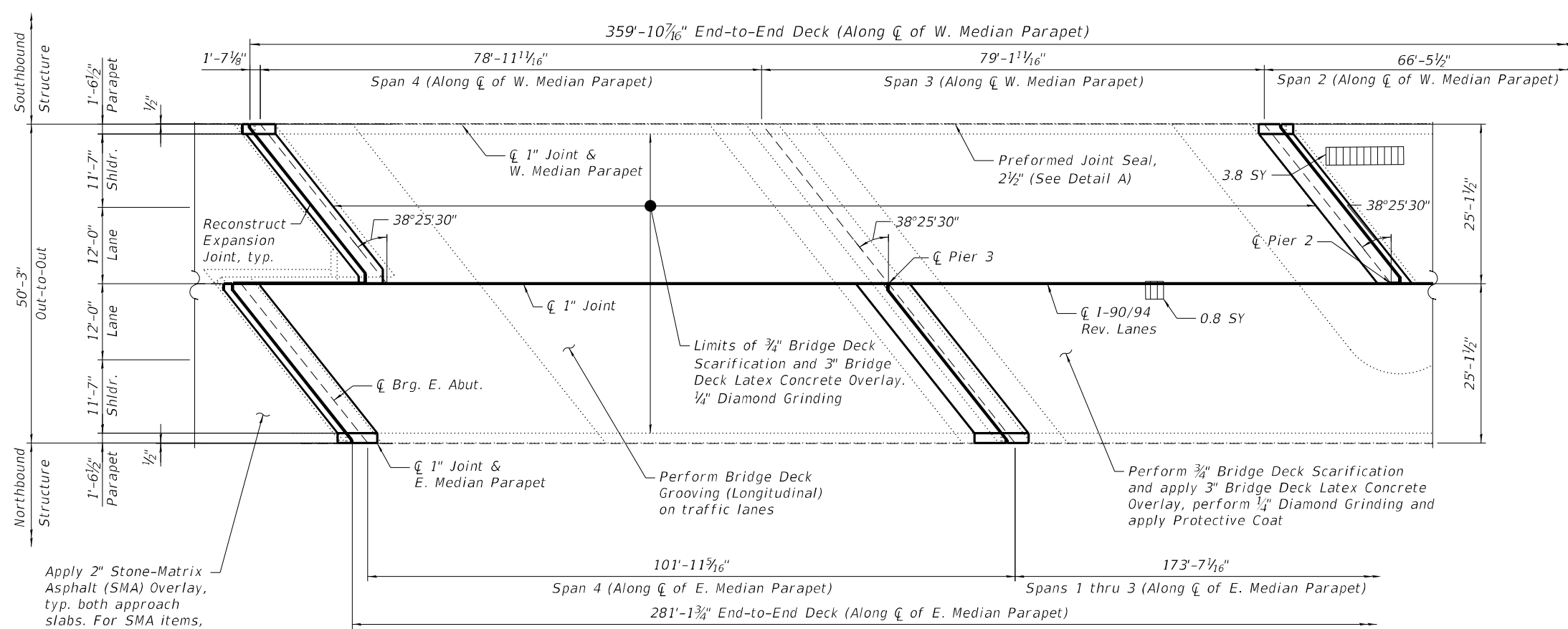
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| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

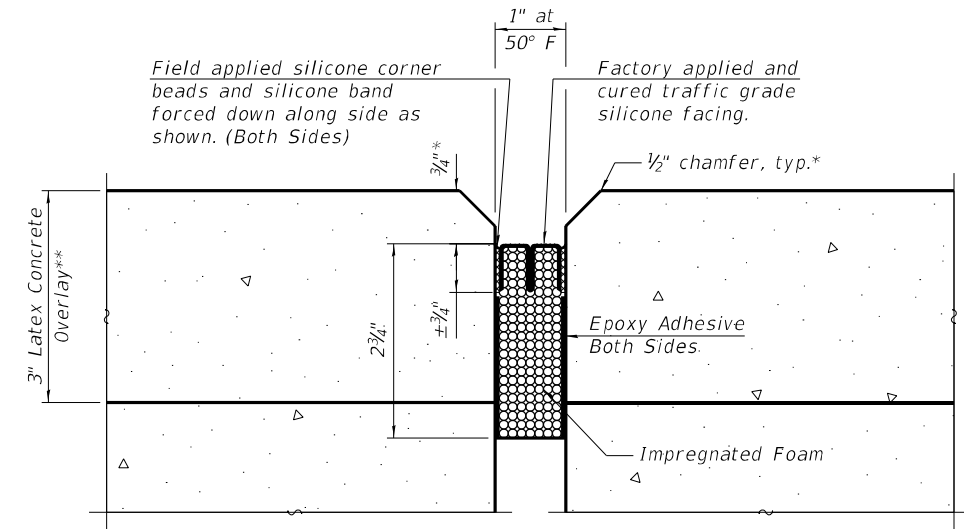
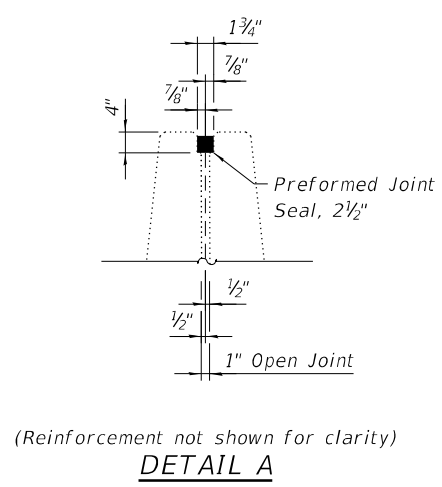
GENERAL DATA
SN 016-0121 (REV)

SHEET S30-02 OF S30-25 SHEETS

| | | | | |
|--------------------|---------------------|-------------|---------------------------|----------------|
| F.A.I. RTE. 90 | SECTION 2020-004-BR | COUNTY COOK | TOTAL SHEETS 1492 | SHEET NO. 1220 |
| CONTRACT NO. 62K74 | | | ILLINOIS FED. AID PROJECT | |



DECK PLAN



**Before 1/4" diamond grinding

PERFORMED JOINT SEAL 1"
(at Longitudinal Joint)

- NOTES:**
- For Notes and Bill of Material, see Sheet 30-04.

- LEGEND**
- *Deck Slab Repair (Partial Depth)
 - SY Square Yard
- * Areas of Deck Slab Repair (Partial Depth) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3 Inches

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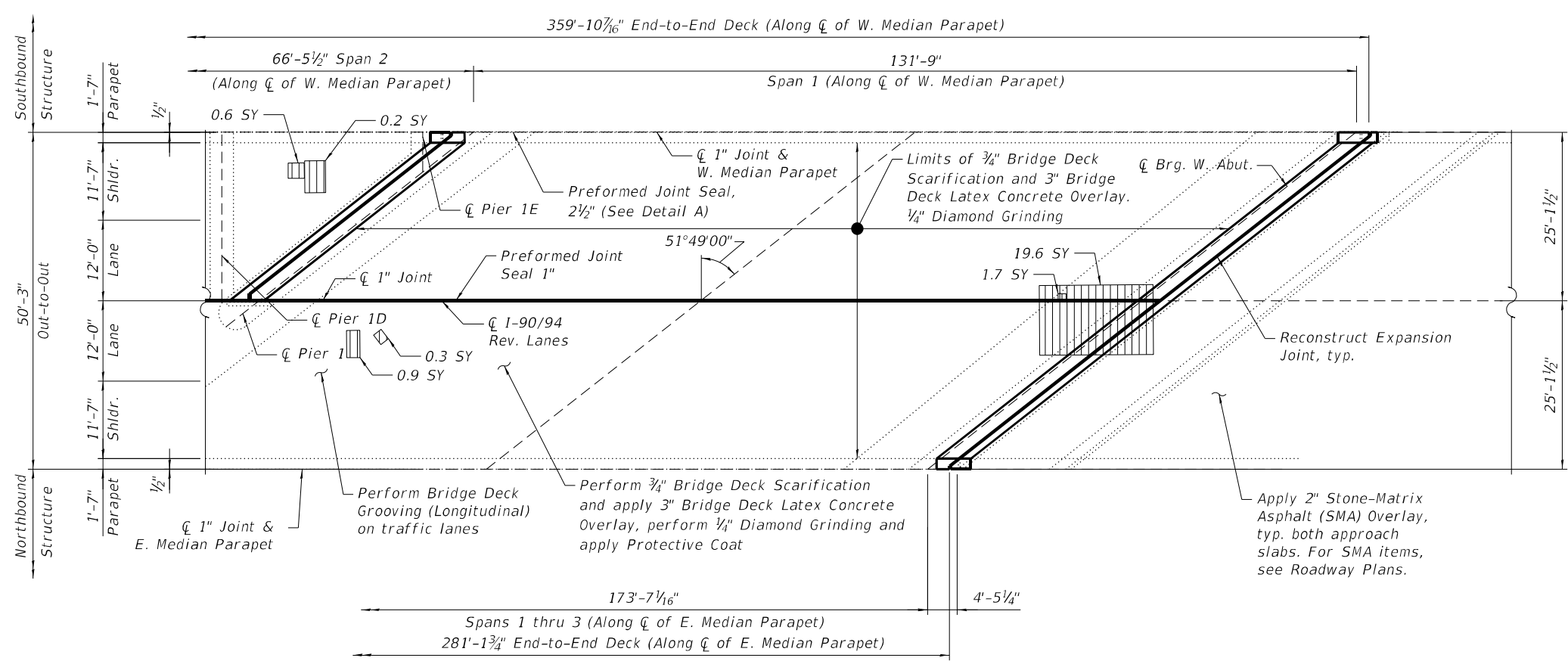
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| PLOT DATE = | DRAWN - | D.C.P. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK REPAIR PLAN AND DETAILS I
SN 016-0121 (REV)

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1221 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

SHEET S30-03 OF S30-25 SHEETS



DECK PLAN

LEGEND

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

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

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|---|--------|----------|
| Protective Shield | Sq Yd | 1,618 |
| Protective Coat | Sq Yd | 2,120 |
| Preformed Joint Seal 1" | Foot | 332 |
| Preformed Joint Seal 2 1/2" | Foot | 430 |
| Protect and Maintain Existing Underpass Luminaire | L Sum | 0.022 |
| Bridge Deck Grooving (Longitudinal) | Sq Yd | 872 |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,759 |
| Bridge Deck Scarification 3/4" | Sq Yd | 1,759 |
| Diamond Grinding (Bridge Section) | Sq Yd | 1,828 |
| Maintenance of Lighting System | Cal Mo | 6 |

NOTES:

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
2. For bridge deck final cross section, see Sheet S30-02.
3. For East, West and Pier transverse joint removal and reconstruction, see Sheet S30-05 thru S30-18.
4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. 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.

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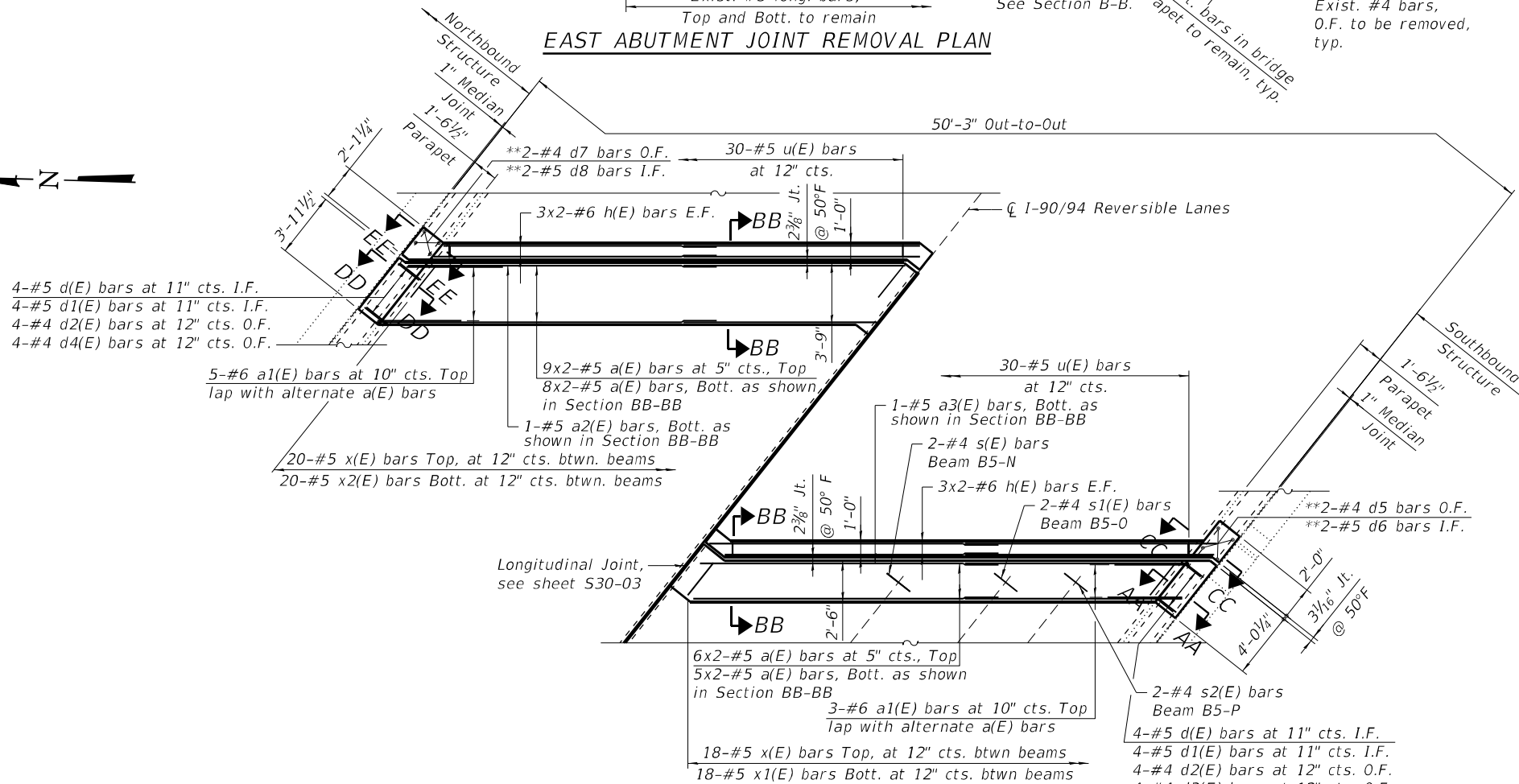
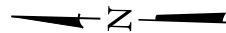
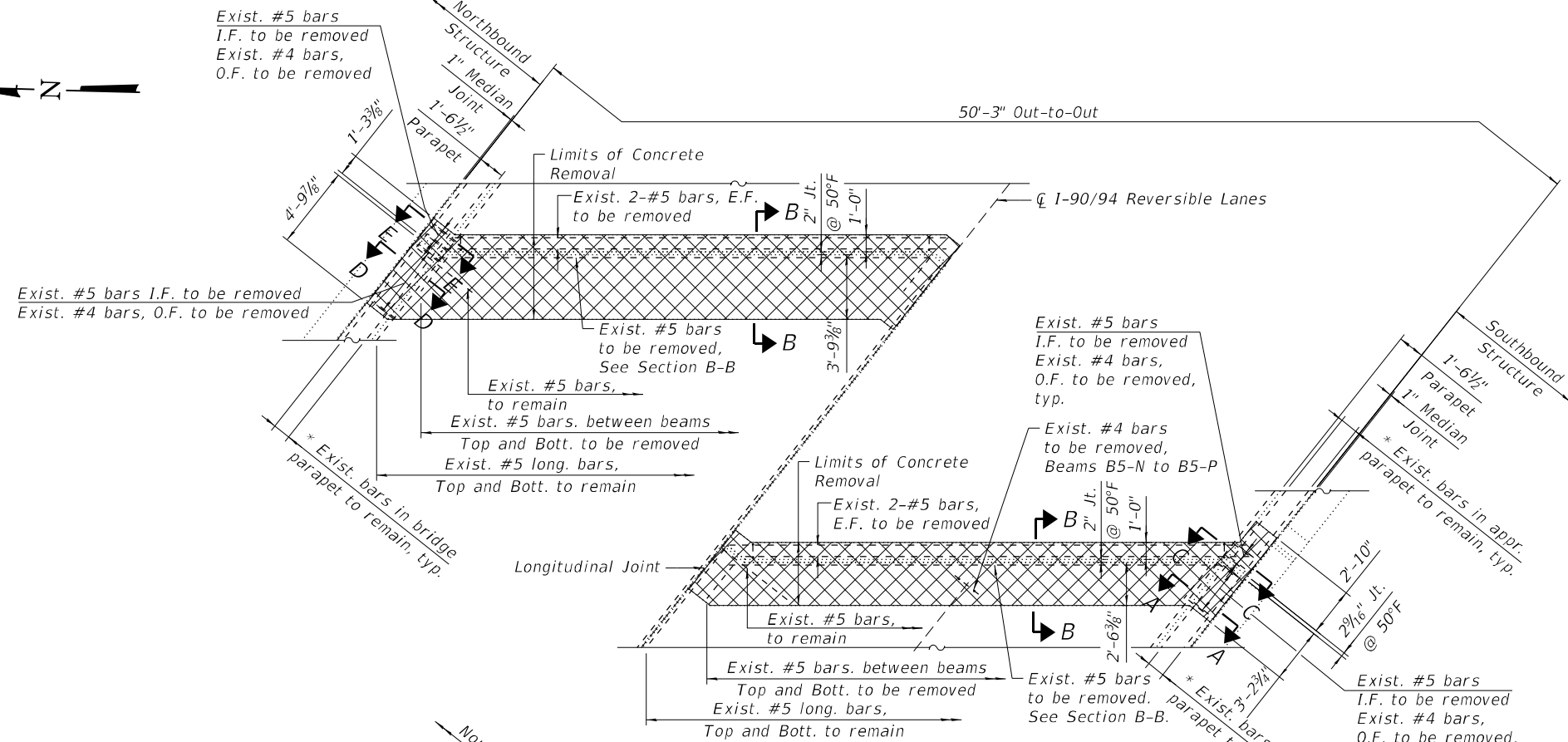
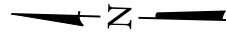
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK REPAIR PLAN AND DETAILS II
SN 016-0121 (REV)**

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|--------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1222 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |

SHEET S30-04 OF S30-25 SHEETS



NOTES:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S30-06.
2. For sections D-D, E-E, DD-DD and EE-EE, see sheet S30-07.

- * Existing longitudinal bars to remain can be cut in the field as required.
- ** Epoxy grout #4 d5(E) & d7(E) and #5 d6(E) & d8(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

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

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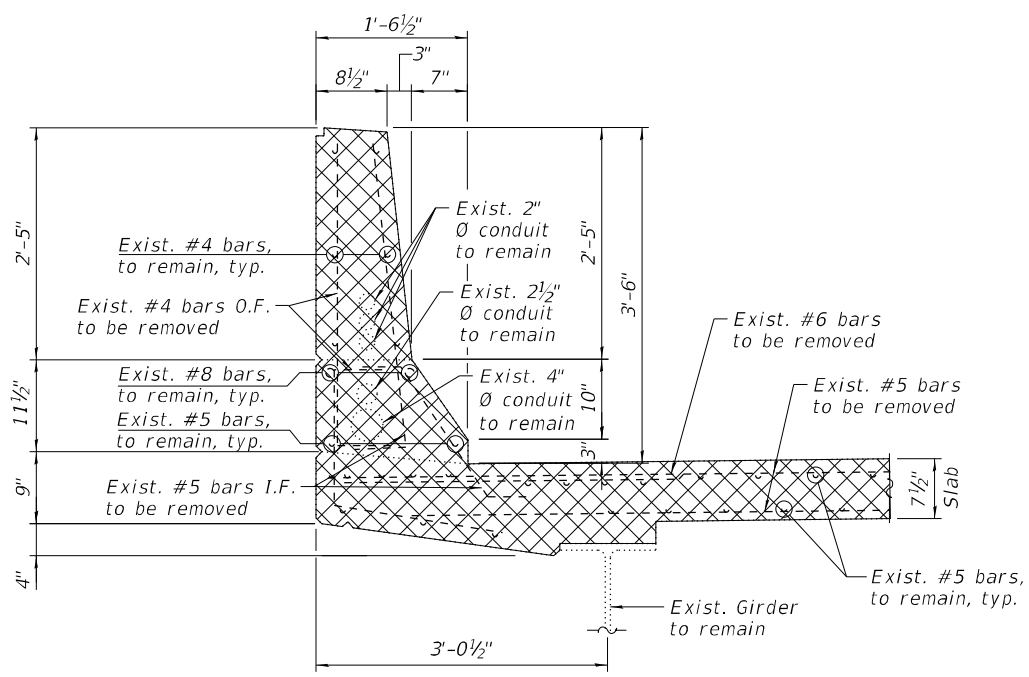
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

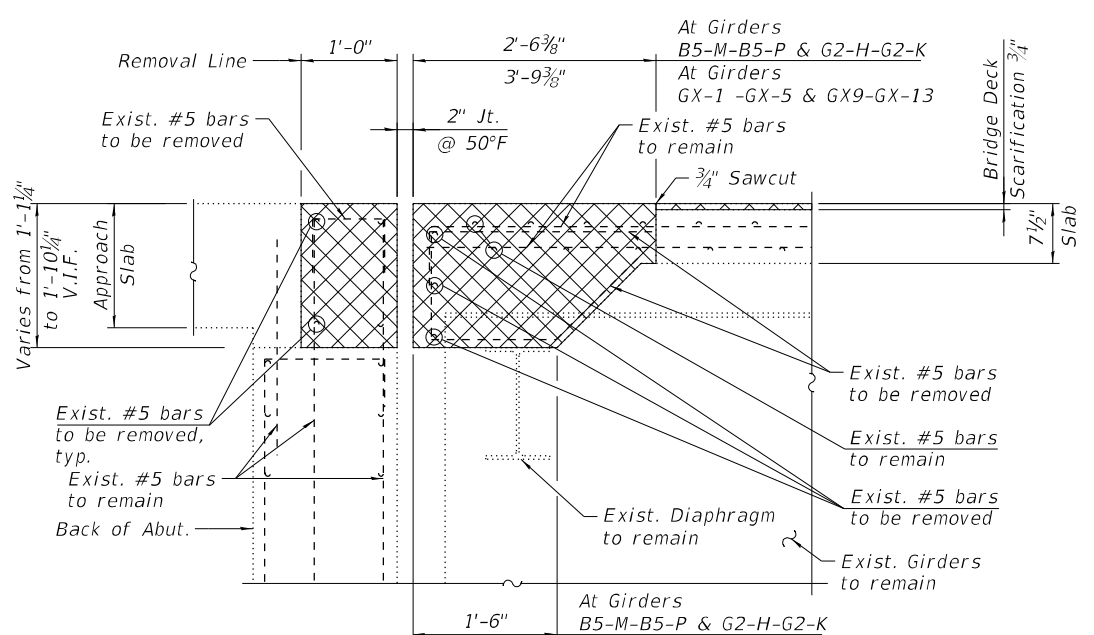
**EAST ABUTMENT EXPANSION JOINT DETAILS I
 SN 016-0121 (REV)**

| | | | | |
|---------------------------|---------------------|-------------|-------------------|----------------|
| F.A.I. RTE. 90 | SECTION 2020-004-BR | COUNTY COOK | TOTAL SHEETS 1492 | SHEET NO. 1223 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

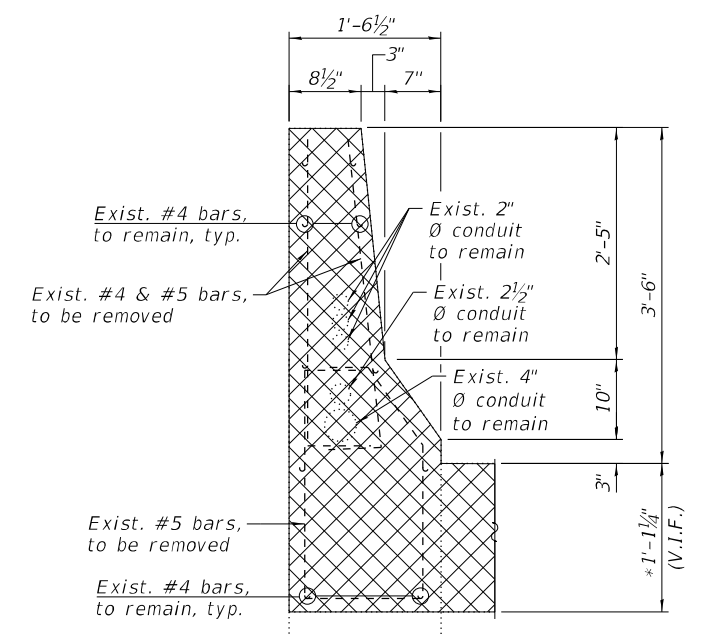
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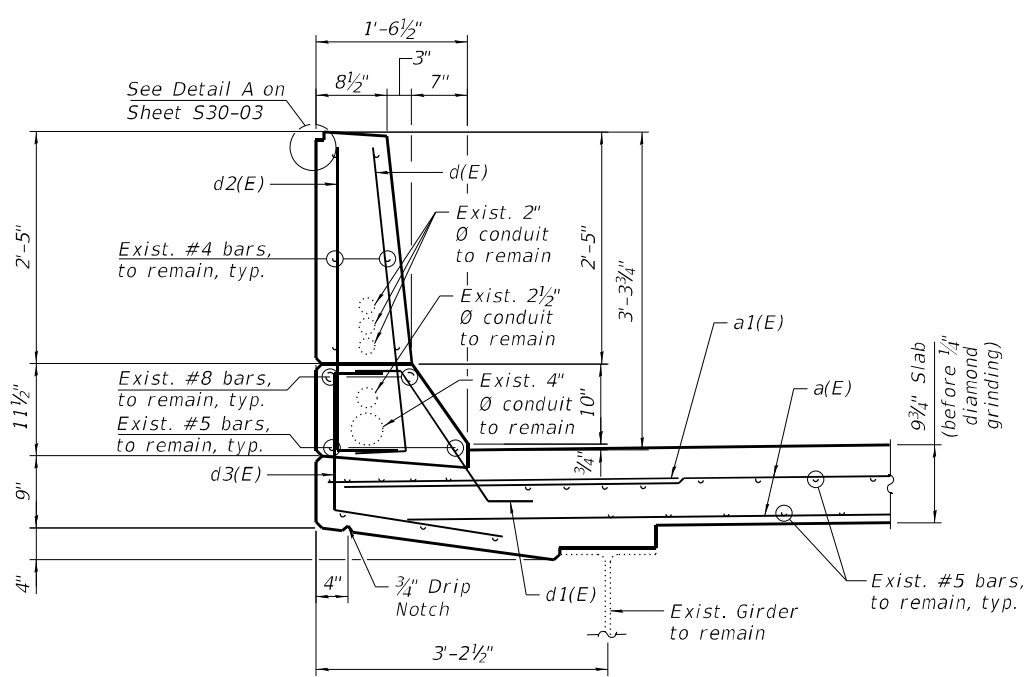
SECTION A-A
(South parapet removal)



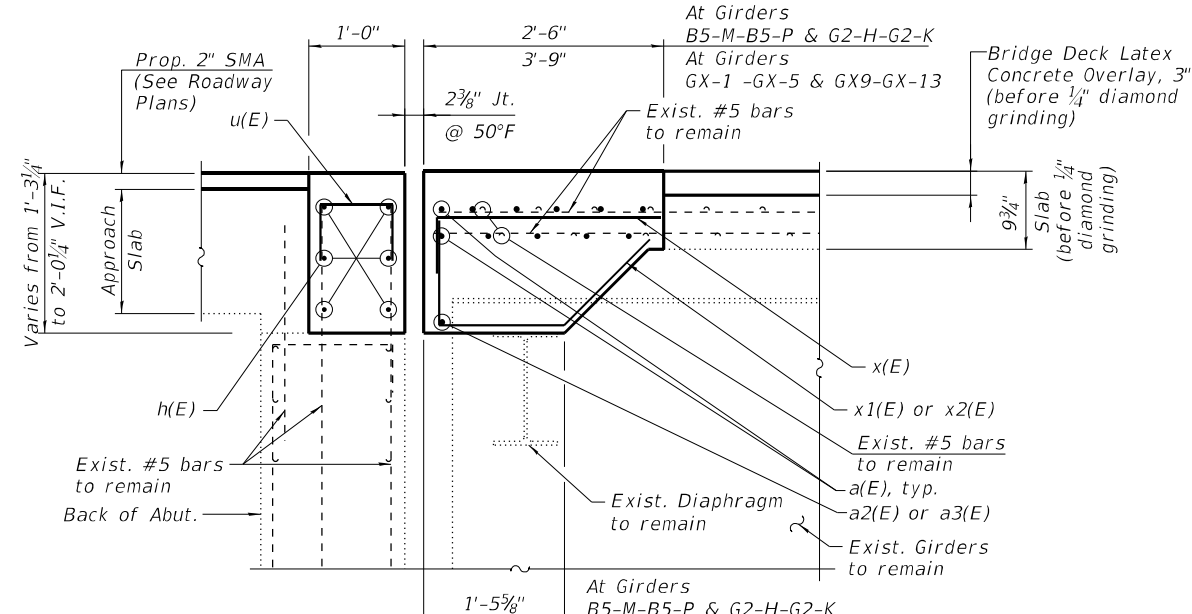
SECTION B-B



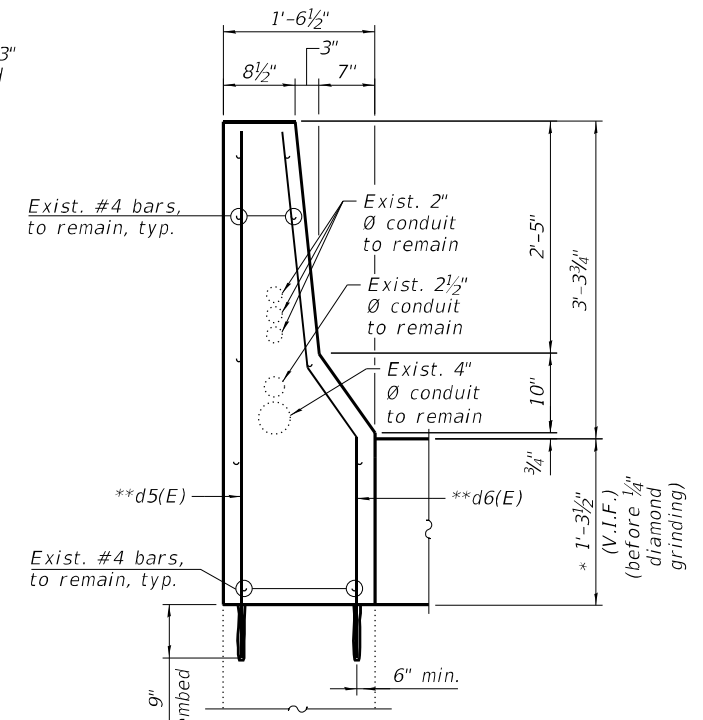
SECTION C-C
(South parapet removal)



SECTION AA-AA
(North parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(South parapet reconstruction)

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

* Dimension is taken at the Back of Abut.

** Epoxy grout #4 d5(E) & #5 d6(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

MODEL: SMODELNAMES
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| | CHECKED - K.G.W. | REVISED - |

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DEPARTMENT OF TRANSPORTATION

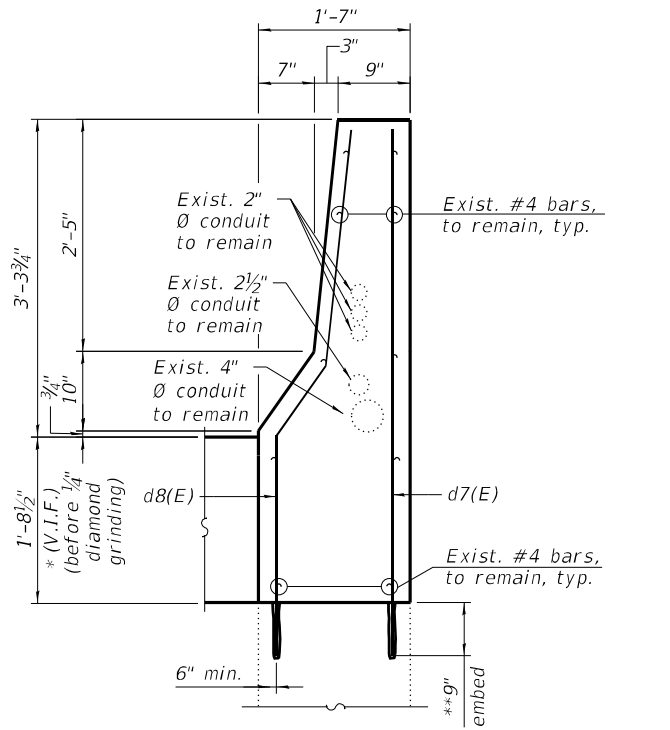
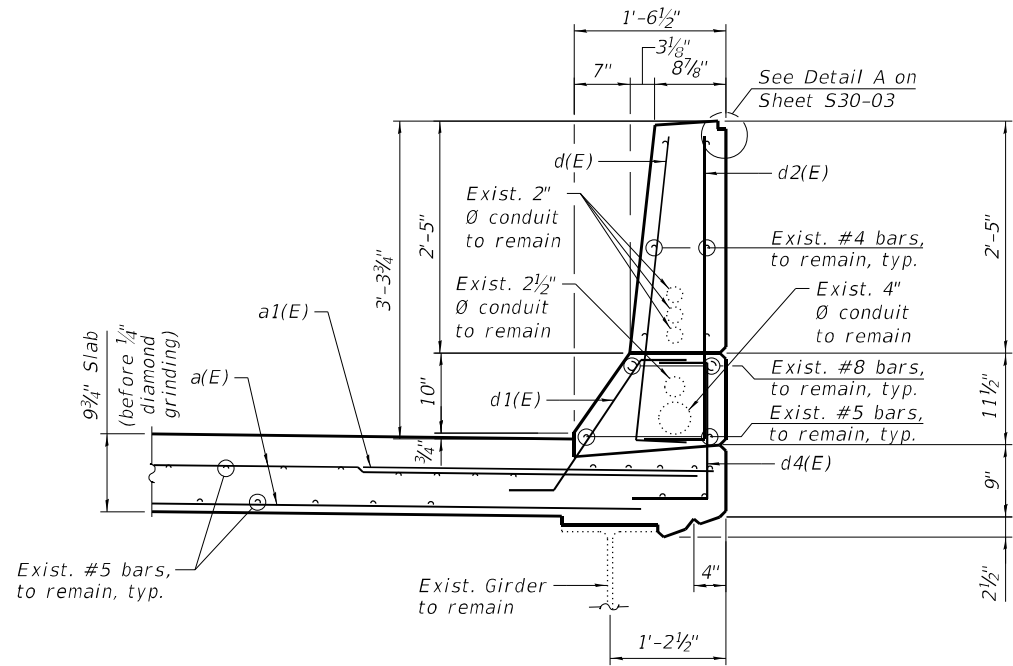
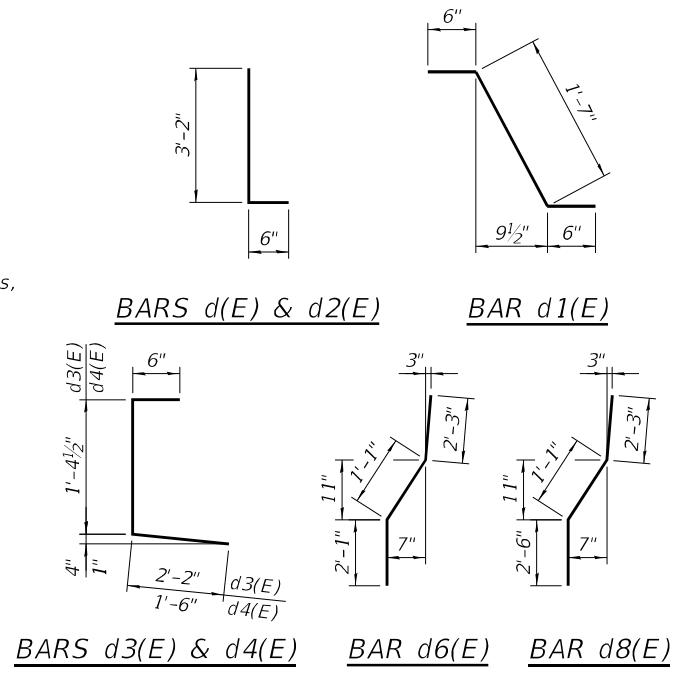
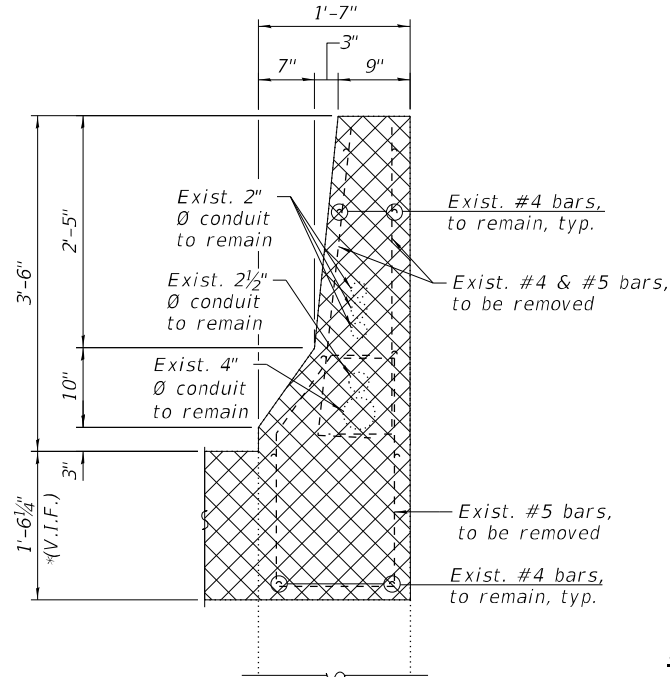
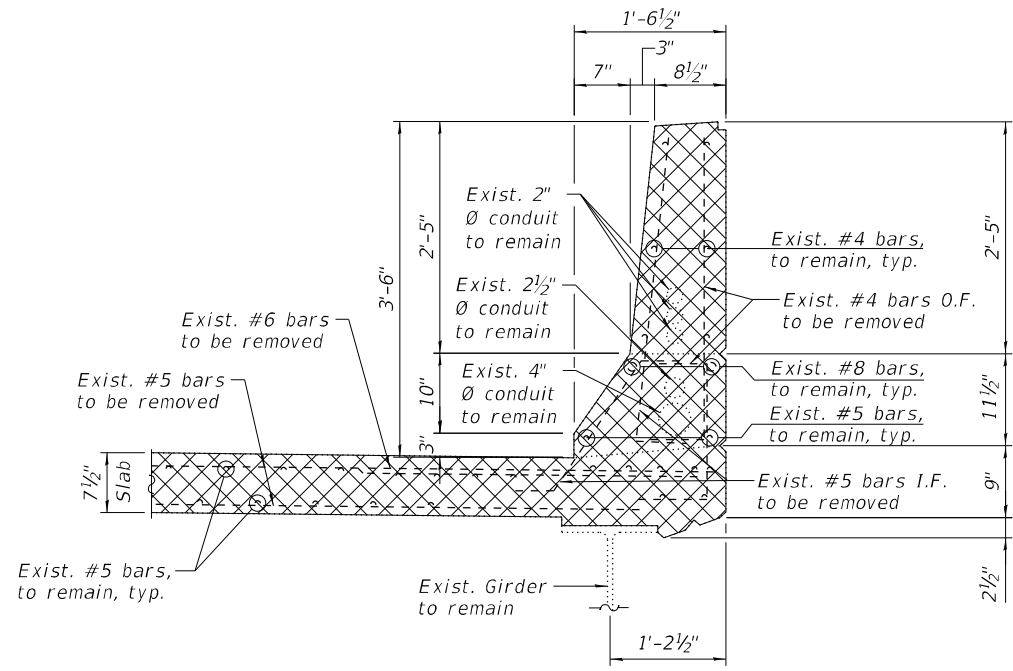
EAST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0121 (REV)

SHEET S30-06 OF S30-25 SHEETS

| | | | | |
|---------------------------|---------------------|-------------|-------------------|----------------|
| F.A.I. RTE. 90 | SECTION 2020-004-BR | COUNTY COOK | TOTAL SHEETS 1492 | SHEET NO. 1224 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

**BILL OF MATERIAL
EAST ABUTMENT**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|-------|---------|-------|
| a(E) | 56 | #5 | 17'-11" | — |
| a1(E) | 8 | #6 | 6'-6" | — |
| a2(E) | 1 | #5 | 27'-8" | — |
| a3(E) | 1 | #5 | 25'-0" | — |
| d(E) | 8 | #5 | 3'-8" | — |
| d1(E) | 8 | #5 | 2'-7" | — |
| d2(E) | 8 | #4 | 3'-8" | — |
| d3(E) | 4 | #4 | 4'-1" | — |
| d4(E) | 4 | #4 | 3'-5" | — |
| d5(E) | 2 | #4 | 5'-4" | — |
| d6(E) | 2 | #5 | 5'-5" | — |
| d7(E) | 2 | #4 | 5'-9" | — |
| d8(E) | 2 | #5 | 5'-10" | — |
| h(E) | 24 | #6 | 18'-2" | — |
| s(E) | 2 | #4 | 3'-4" | — |
| s1(E) | 2 | #4 | 3'-8" | — |
| s2(E) | 2 | #4 | 3'-10" | — |
| u(E) | 60 | #5 | 1'-11" | — |
| x(E) | 38 | #5 | 3'-3" | — |
| x1(E) | 18 | #5 | 4'-3" | — |
| x2(E) | 20 | #5 | 5'-0" | — |
| Concrete Removal | | Cu Yd | 27.2 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 2,390 | |
| Concrete Superstructure | | Cu Yd | 30.2 | |



| Bar | A |
|-------|-----|
| s(E) | 7" |
| s1(E) | 9" |
| s2(E) | 10" |

| Bar | A | B | C | D |
|-------|-----|--------|-------|-------|
| x1(E) | 11" | 1'-10" | 1'-2" | 1'-6" |
| x2(E) | 9" | 3'-1" | 11" | 1'-2" |

NOTES:

- For Preformed Joint Strip Seal details, see sheet S30-19.
- 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. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

* Dimension is taken at the Back of Abutment

** Epoxy grout #4 d7(E) & #5 d8(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT JOINT DETAILS III
SN 016-0121 (REV)**

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1225 |

CONTRACT NO. 62K74

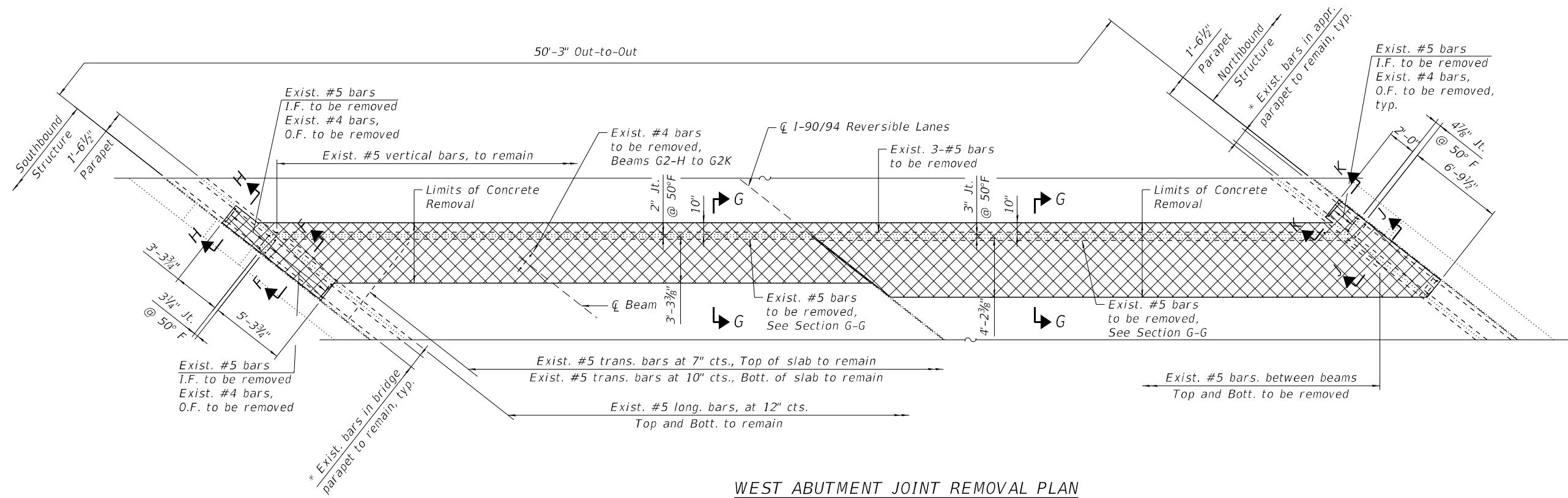
SHEET S30-07 OF S30-25 SHEETS

ILLINOIS FED. AID PROJECT

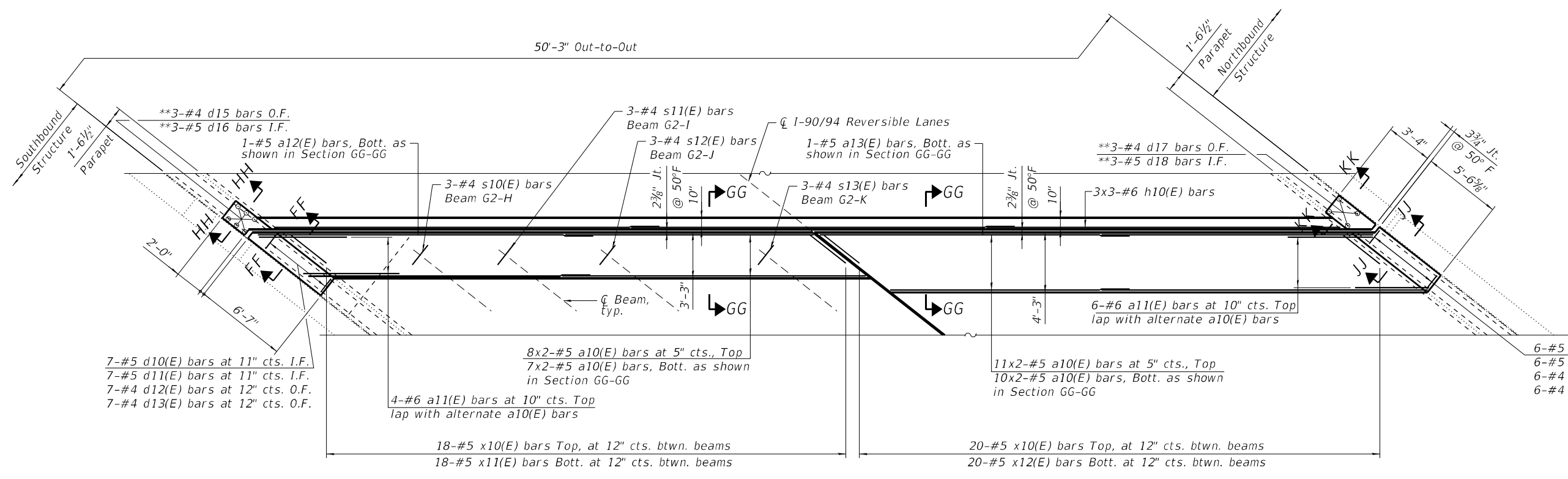
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12/2/2022 2:53:31 PM

GR&E
8501 N. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

| USER NAME | DESIGNED | J.T.B. | REVISED |
|-----------|----------|--------|---------|
| | CHECKED | H.A. | REVISED |
| | DRAWN | D.C.P. | REVISED |
| | CHECKED | K.G.W. | REVISED |



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S30-09.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S30-10.

- * Existing longitudinal bars to remain can be cut in the field as required.
- ** Epoxy grout #4 d15(E) & d17(E) and #5 d16(E) & d18(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

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

MODEL: SMODELNAME5
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GR&EF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

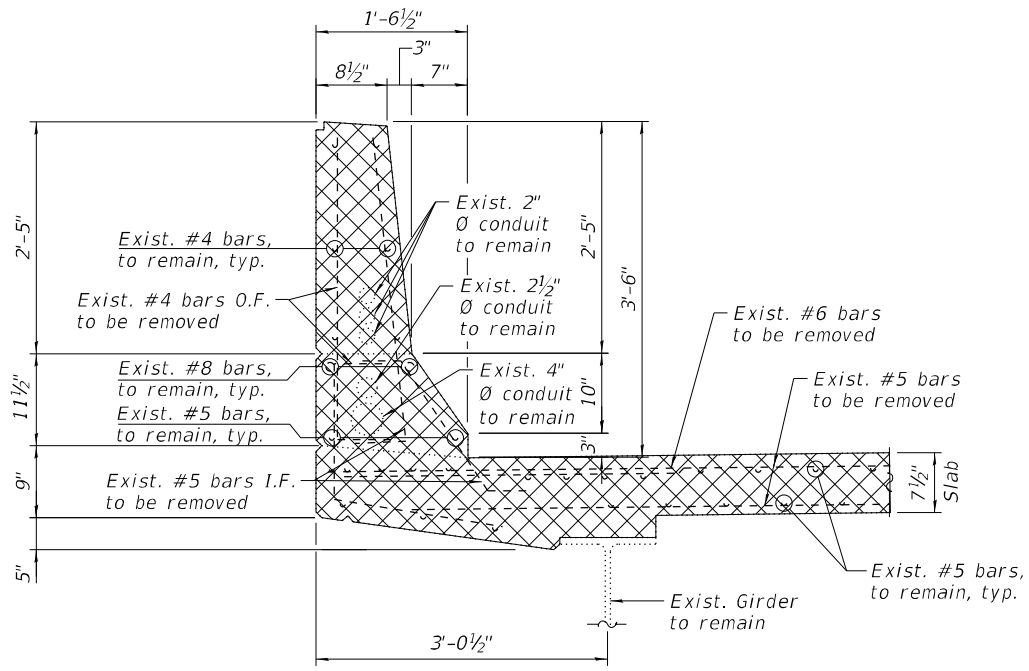
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|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

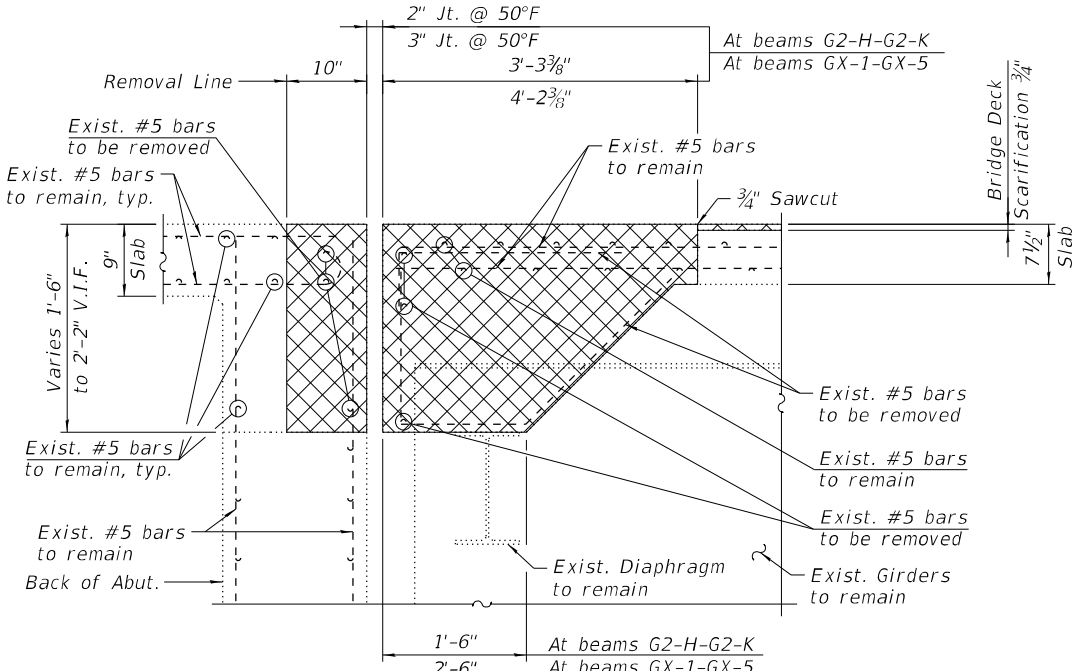
WEST ABUTMENT EXPANSION JOINT DETAILS
SN 016-0121 (REV)

| | | | | |
|---------------------------|---------------------|-------------|--------------------|----------------|
| F.A.I. RTE. 90 | SECTION 2020-004-BR | COUNTY COOK | TOTAL SHEETS 1492 | SHEET NO. 1226 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |

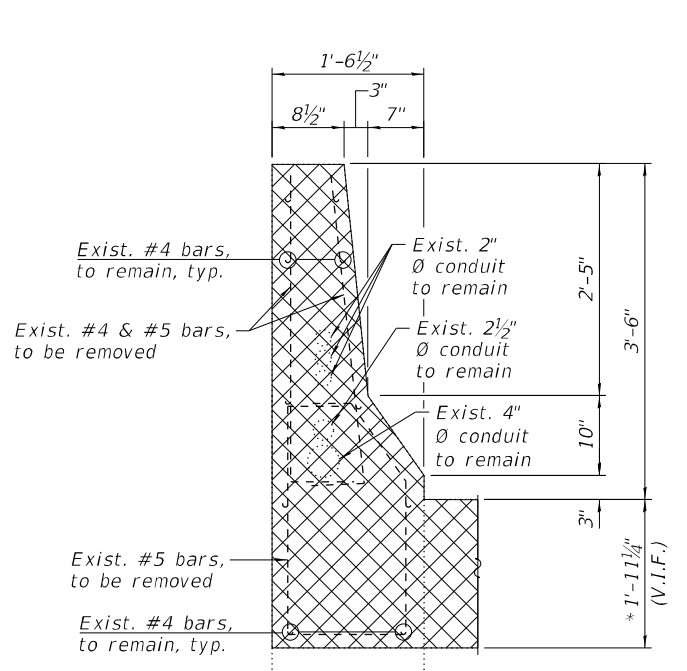
SHEET S30-08 OF S30-25 SHEETS



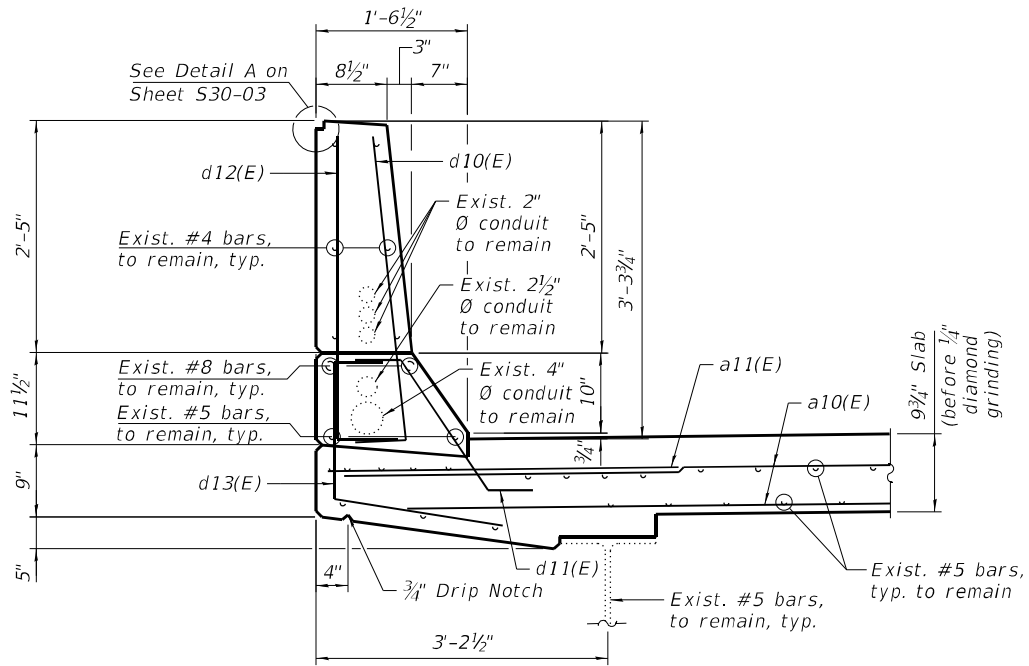
SECTION F-F
(West parapet removal)



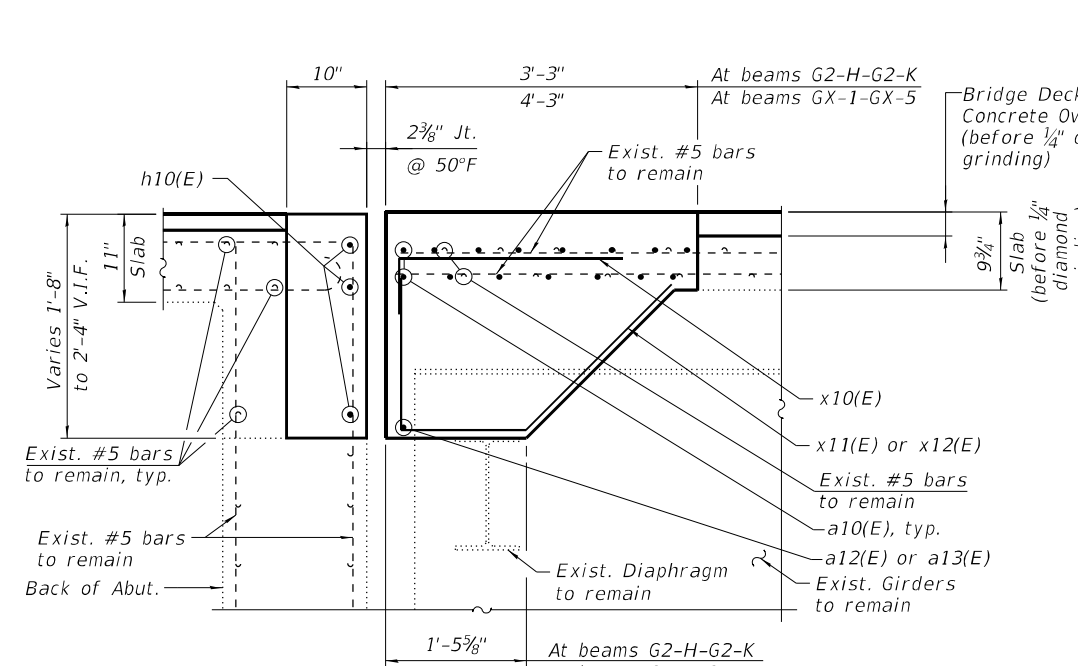
SECTION G-G



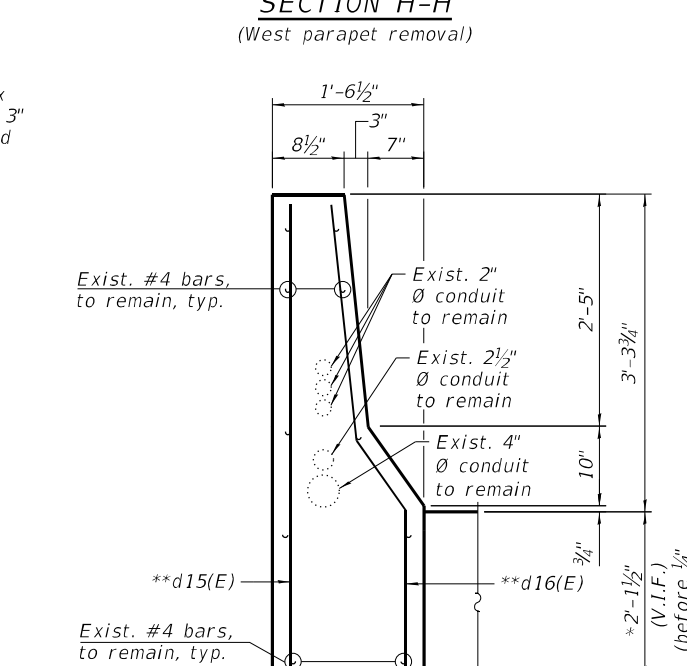
SECTION H-H
(West parapet removal)



SECTION FF-FF
(West parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
(West parapet reconstruction)

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

* Dimension is taken at the Back of Abut.

** Epoxy grout #4 d15(E) & #5 d16(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

MODEL: SMODELNAME5
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12/2/2022 2:53:33 PM



| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

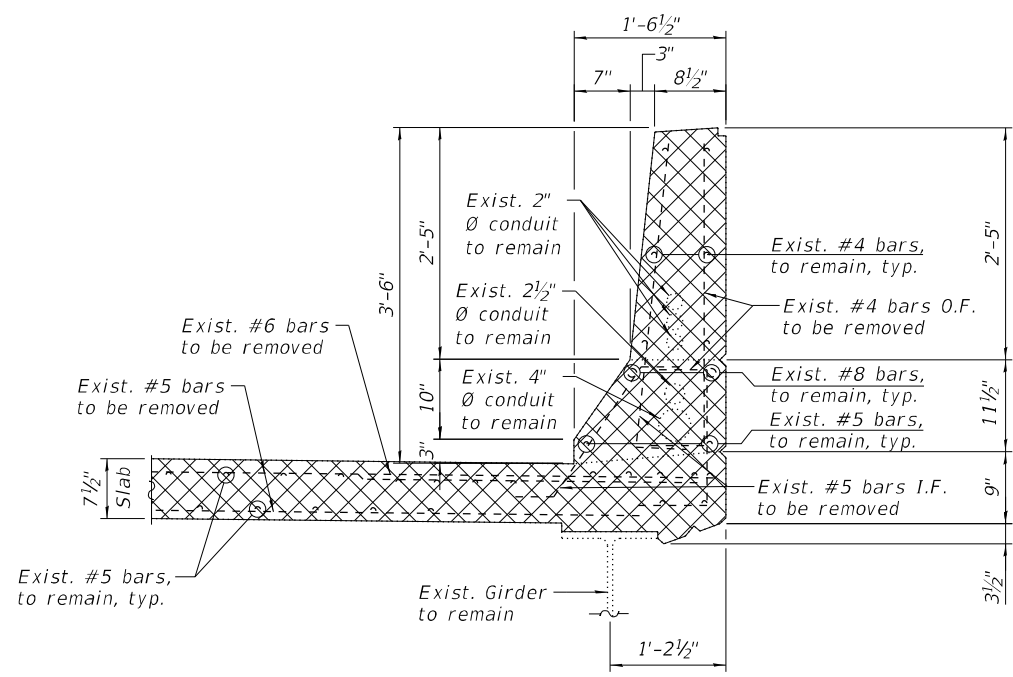
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0121 (REV)**

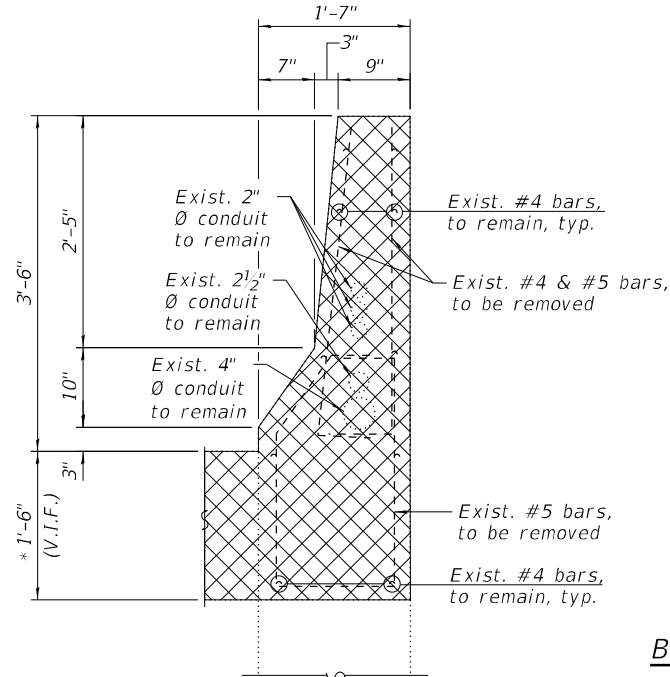
SHEET S30-09 OF S30-25 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1227 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

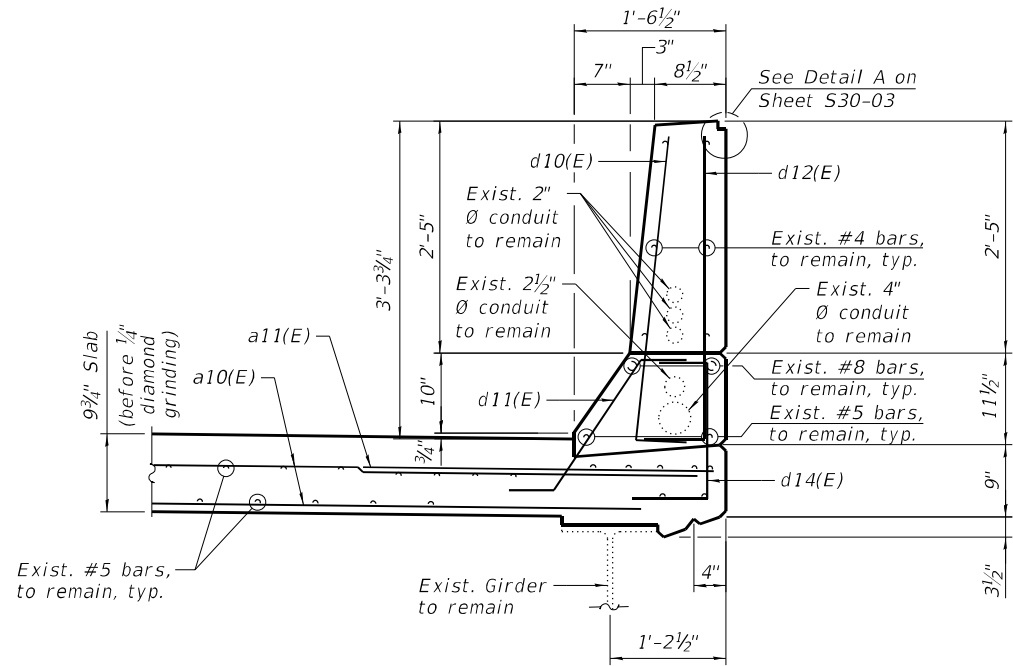
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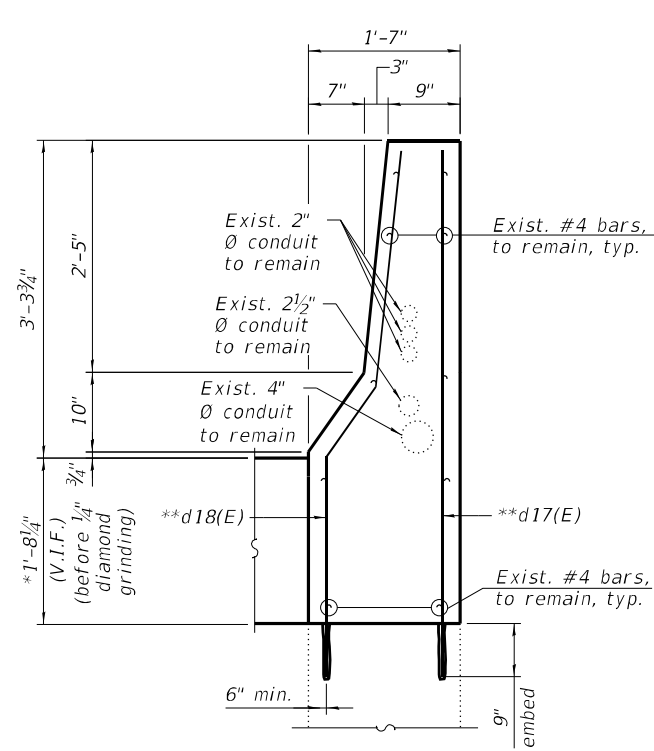
SECTION J-J
(East parapet removal)



SECTION K-K
(East parapet removal)

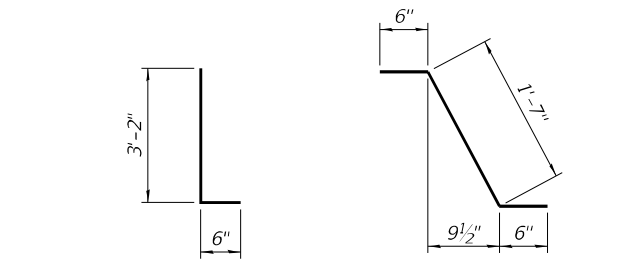


SECTION JJ-JJ
(East parapet reconstruction)

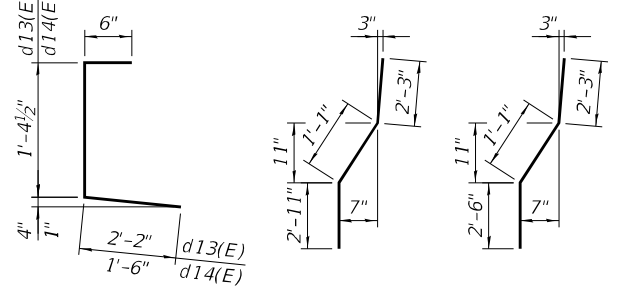


SECTION KK-KK
(East parapet reconstruction)

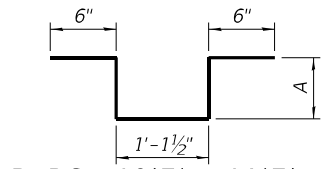
* Dimension is taken at the Back of Abut.
 ** Epoxy grout #4 d17(E) & #5 d18(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.



BARS d10(E) & d12(E) BAR d11(E)

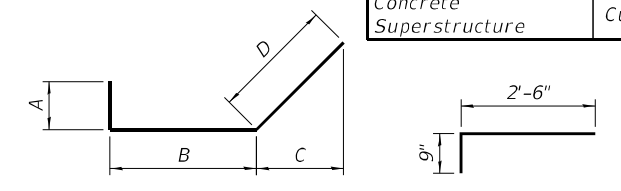


BARS d13(E) & d14(E) BAR d16(E) BAR d18(E)



BARS s10(E), s11(E), s12(E) & s13(E)

| Bar | A |
|--------|-------|
| s10(E) | 8" |
| s11(E) | 9" |
| s12(E) | 11" |
| s13(E) | 1'-1" |



BARS x11(E) & x12(E), BAR x10(E)

| Bar | A | B | C | D |
|--------|-------|--------|-------|-------|
| x11(E) | 1'-7" | 2'-3" | 2'-7" | 3'-0" |
| x12(E) | 9" | 3'-11" | 1'-3" | 1'-6" |

NOTES:

- For Preformed Joint Strip Seal details, see sheet S30-19.
- 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. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

BILL OF MATERIAL WEST ABUTMENT

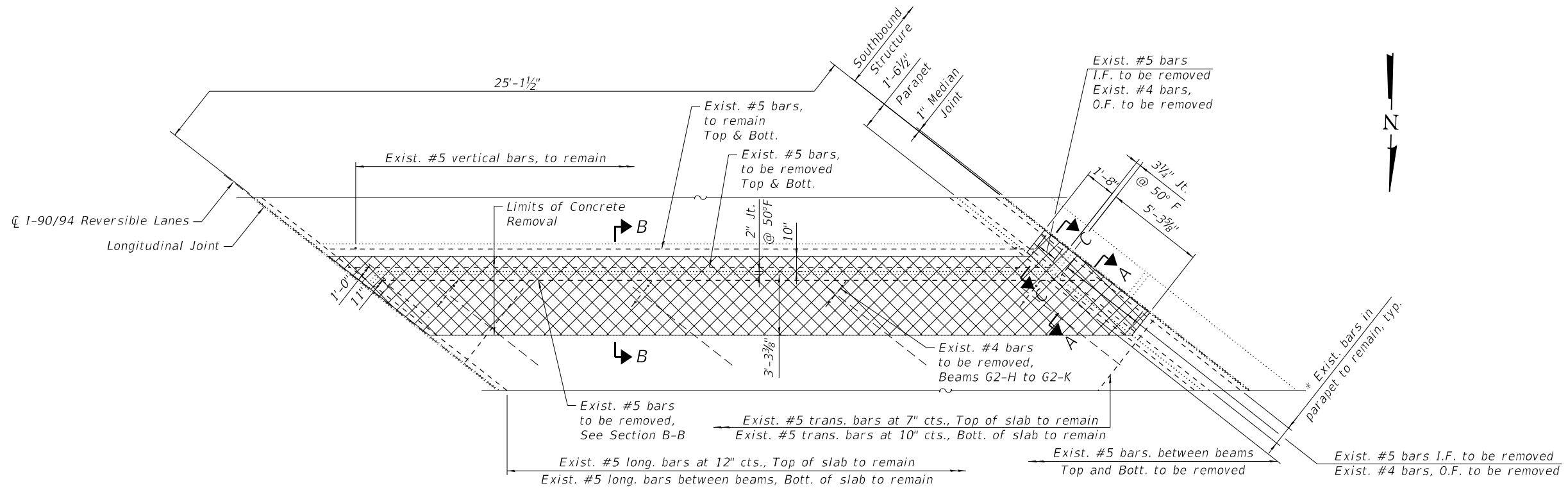
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|-------|--------|-------|
| a10(E) | 72 | #5 | 22'-2" | — |
| a11(E) | 10 | #6 | 6'-6" | — |
| a12(E) | 1 | #5 | 31'-6" | — |
| a13(E) | 1 | #5 | 35'-0" | — |
| d10(E) | 13 | #5 | 3'-8" | — |
| d11(E) | 13 | #5 | 2'-7" | — |
| d12(E) | 13 | #4 | 3'-8" | — |
| d13(E) | 7 | #4 | 4'-1" | — |
| d14(E) | 6 | #4 | 3'-5" | — |
| d15(E) | 3 | #4 | 6'-2" | — |
| d16(E) | 3 | #5 | 6'-3" | — |
| d17(E) | 3 | #4 | 5'-7" | — |
| d18(E) | 3 | #5 | 5'-10" | — |
| h10(E) | 9 | #6 | 23'-6" | — |
| s10(E) | 3 | #4 | 3'-6" | — |
| s11(E) | 3 | #4 | 3'-8" | — |
| s12(E) | 3 | #4 | 4'-0" | — |
| s13(E) | 3 | #4 | 4'-4" | — |
| x10(E) | 38 | #5 | 3'-3" | — |
| x11(E) | 18 | #5 | 6'-10" | — |
| x12(E) | 20 | #5 | 6'-2" | — |
| Concrete Removal | | Cu Yd | 43.7 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 2,740 | |
| Concrete Superstructure | | Cu Yd | 48.3 | |

MIN BAR LAPS

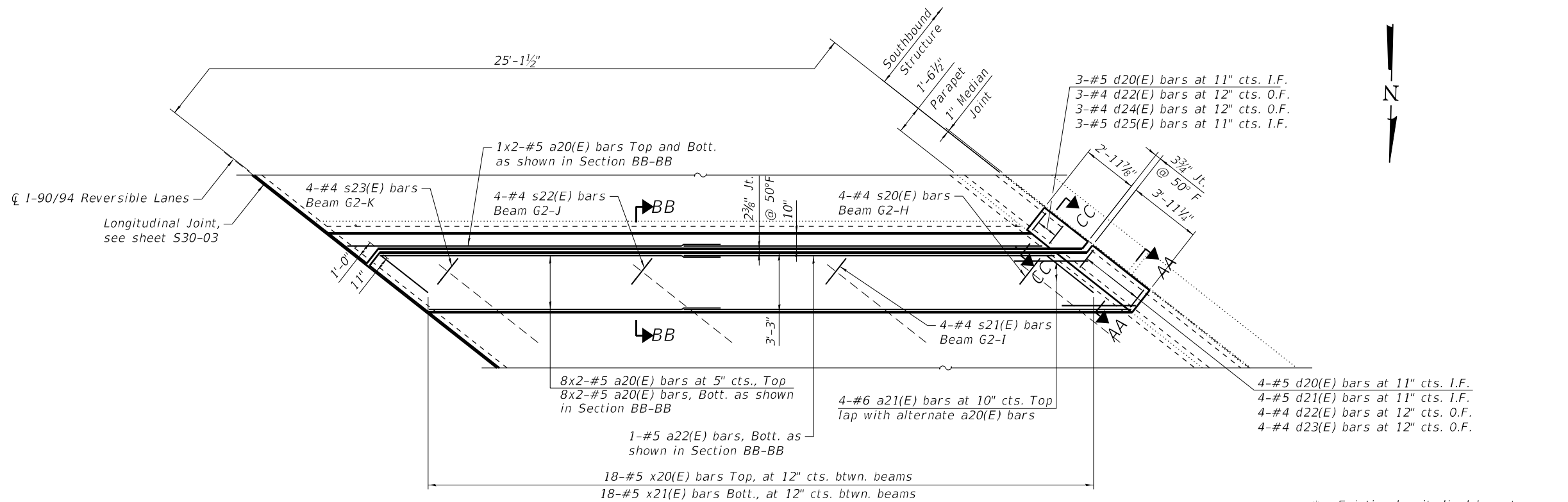
- #5 3'-6"
- #6 4'-0"

| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1228 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



PIER 1 JOINT REMOVAL PLAN



PIER 1 JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S30-12.

* Existing longitudinal bars to remain in the parapets can be cut in the field as required

LEGEND

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

MODEL: SMODELNAME5
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GR&EF
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

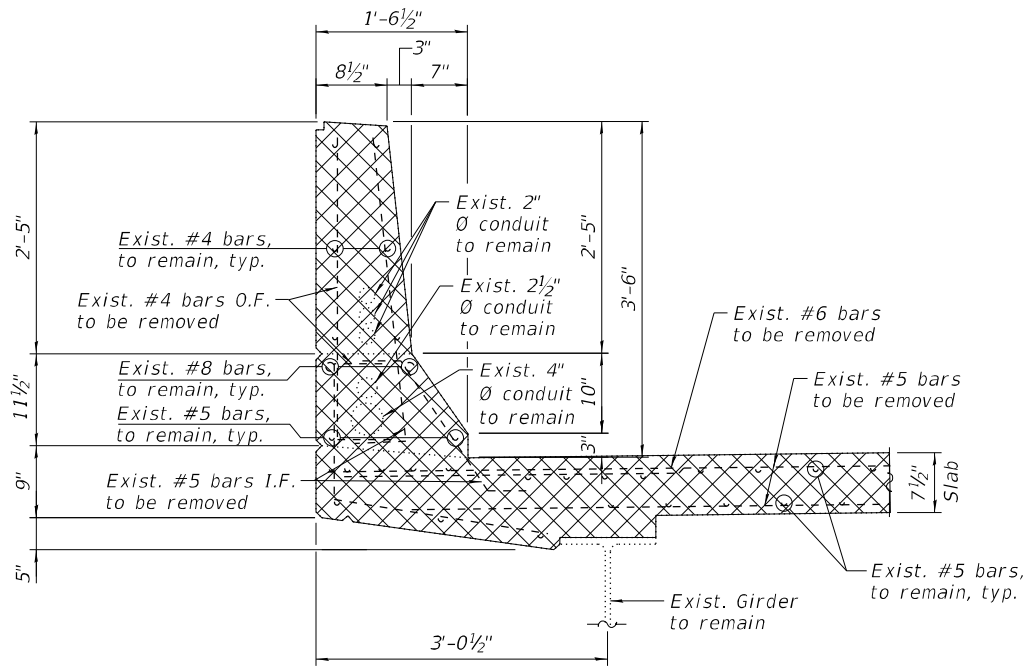
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| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | D.C.P. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

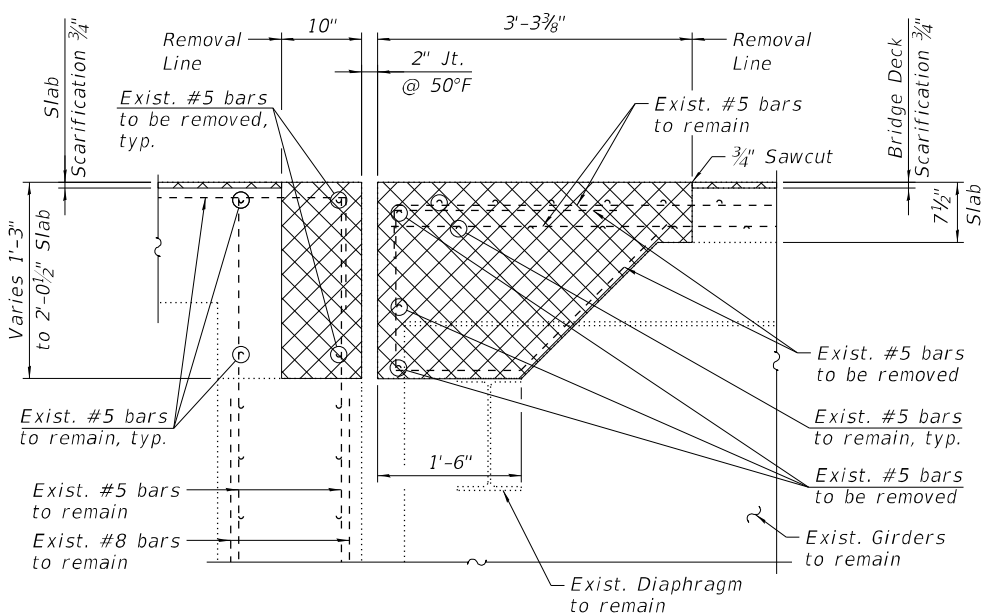
**PIER 1 EXPANSION JOINT DETAILS I
SN 016-0121 (REV)**

SHEET S30-11 OF S30-25 SHEETS

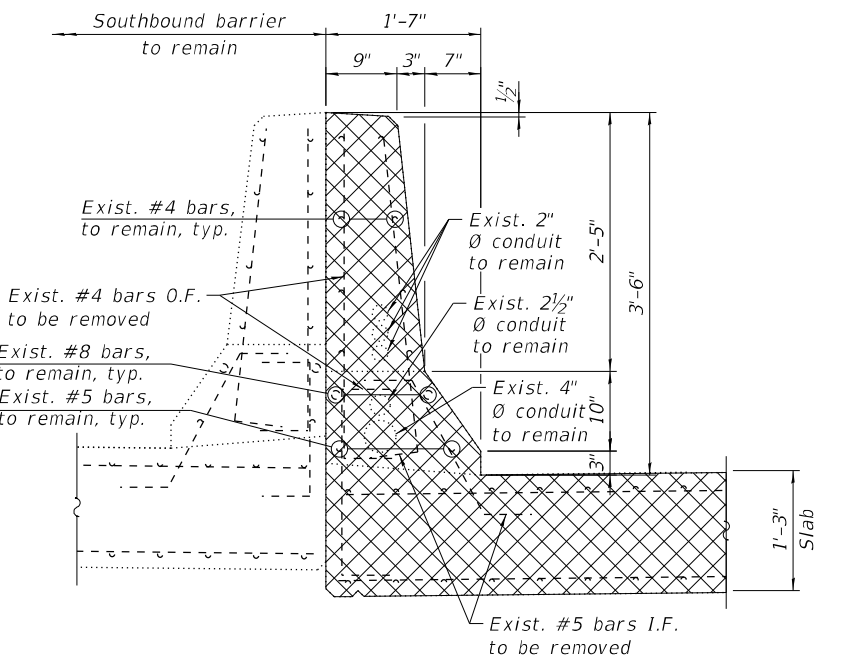
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| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



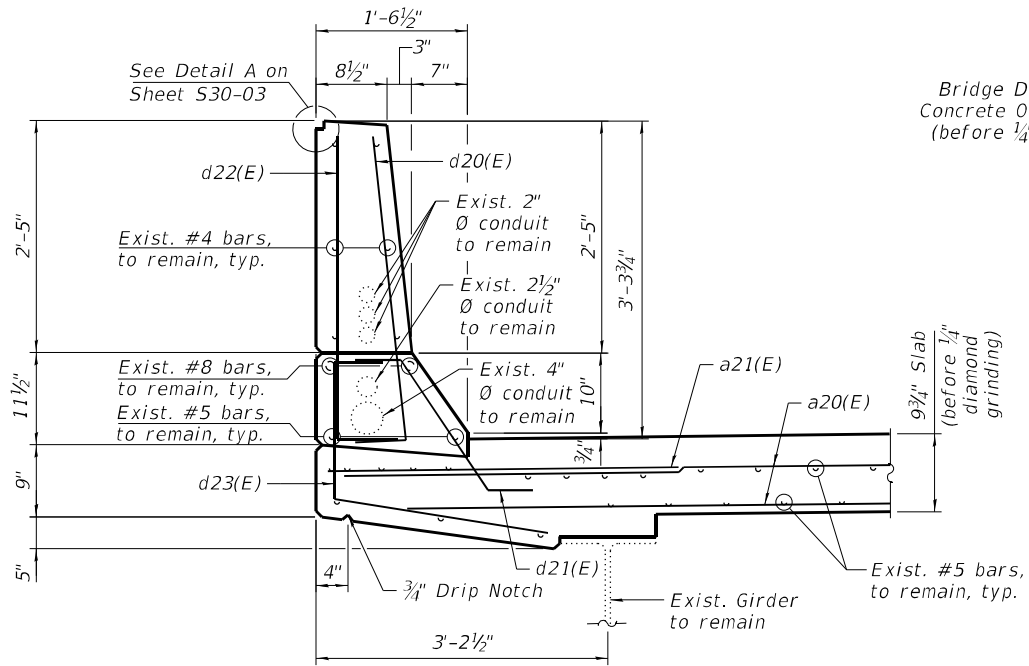
SECTION A-A
(West parapet removal)



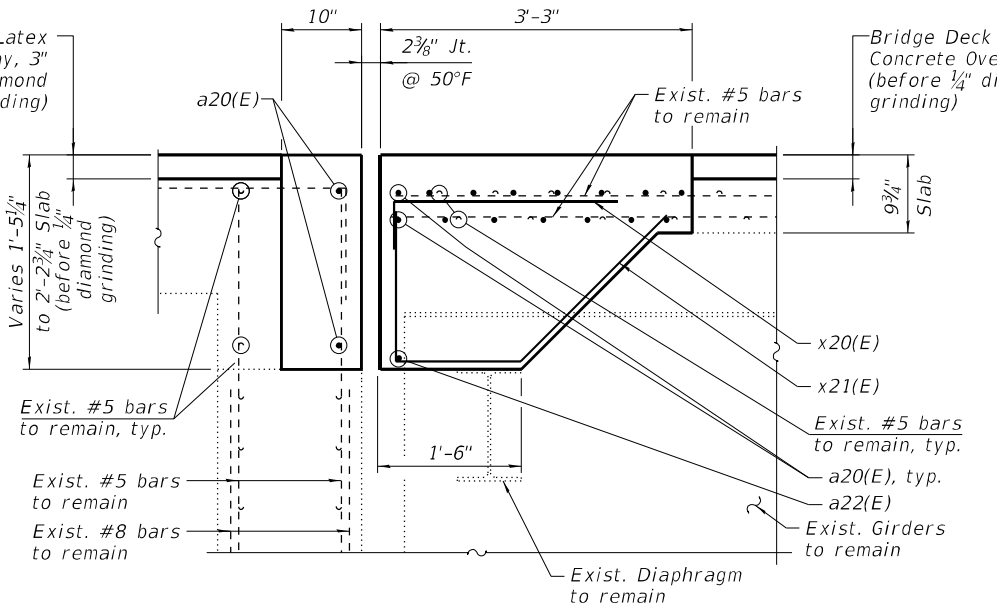
SECTION B-B



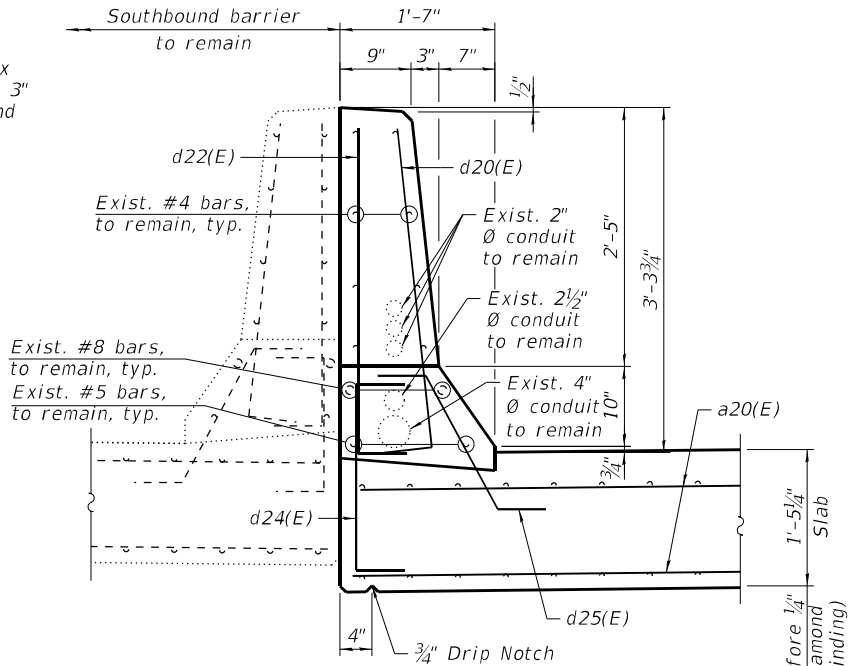
SECTION C-C
(West parapet removal)



SECTION AA-AA
(West parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(West parapet reconstruction)

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MODEL: SMOELNAMES
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH016-0121_Kedzle_Belmont\Rev\0160121-62K74-5012-EXPR.dgn

GR&E
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

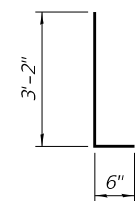
PIER 1 EXPANSION JOINT DETAILS II
SN 016-0121 (REV)

SHEET S30-12 OF S30-25 SHEETS

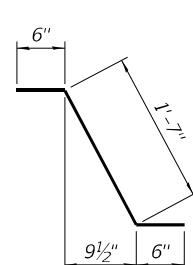
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1230 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |

**BILL OF MATERIAL
PIER 1**

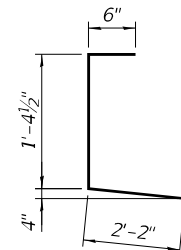
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|--------|-------|
| a20(E) | 34 | #5 | 22'-2" | — |
| a21(E) | 4 | #6 | 6'-6" | — |
| a22(E) | 1 | #5 | 31'-6" | — |
| d20(E) | 7 | #5 | 3'-8" | ┘ |
| d21(E) | 4 | #5 | 2'-7" | ┘ |
| d22(E) | 7 | #4 | 3'-8" | ┘ |
| d23(E) | 4 | #4 | 4'-1" | ┘ |
| d24(E) | 3 | #4 | 3'-0" | ┘ |
| d25(E) | 3 | #5 | 3'-3" | ┘ |
| s20(E) | 4 | #4 | 3'-4" | ┘ |
| s21(E) | 4 | #4 | 3'-6" | ┘ |
| s22(E) | 4 | #4 | 3'-10" | ┘ |
| s23(E) | 4 | #4 | 4'-2" | ┘ |
| x20(E) | 18 | #5 | 3'-3" | ┘ |
| x21(E) | 18 | #5 | 6'-10" | ┘ |
| Concrete Removal | | | Cu Yd | 10.9 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 1,160 |
| Concrete Superstructure | | | Cu Yd | 12.0 |



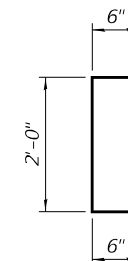
**BARS d20(E)
& d22(E)**



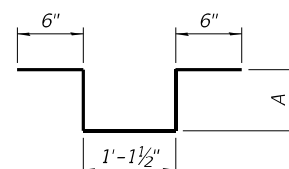
BAR d21(E)



BAR d23(E)

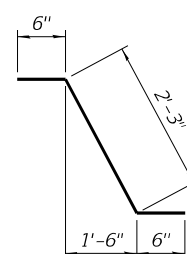


BARS d24(E)

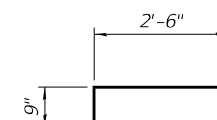


**BARS s20(E), s21(E),
s22(E) & s23(E)**

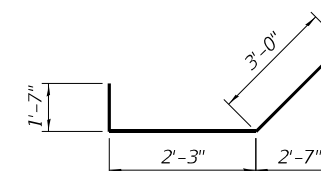
| Bar | A |
|--------|-------|
| s20(E) | 7" |
| s21(E) | 8" |
| s22(E) | 10" |
| s23(E) | 1'-0" |



BAR d25(E)



BAR x20(E)



BAR x21(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S30-19.
- 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. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

MIN BAR LAPS
#5 3'-6"

MODEL: sMODELNAME5
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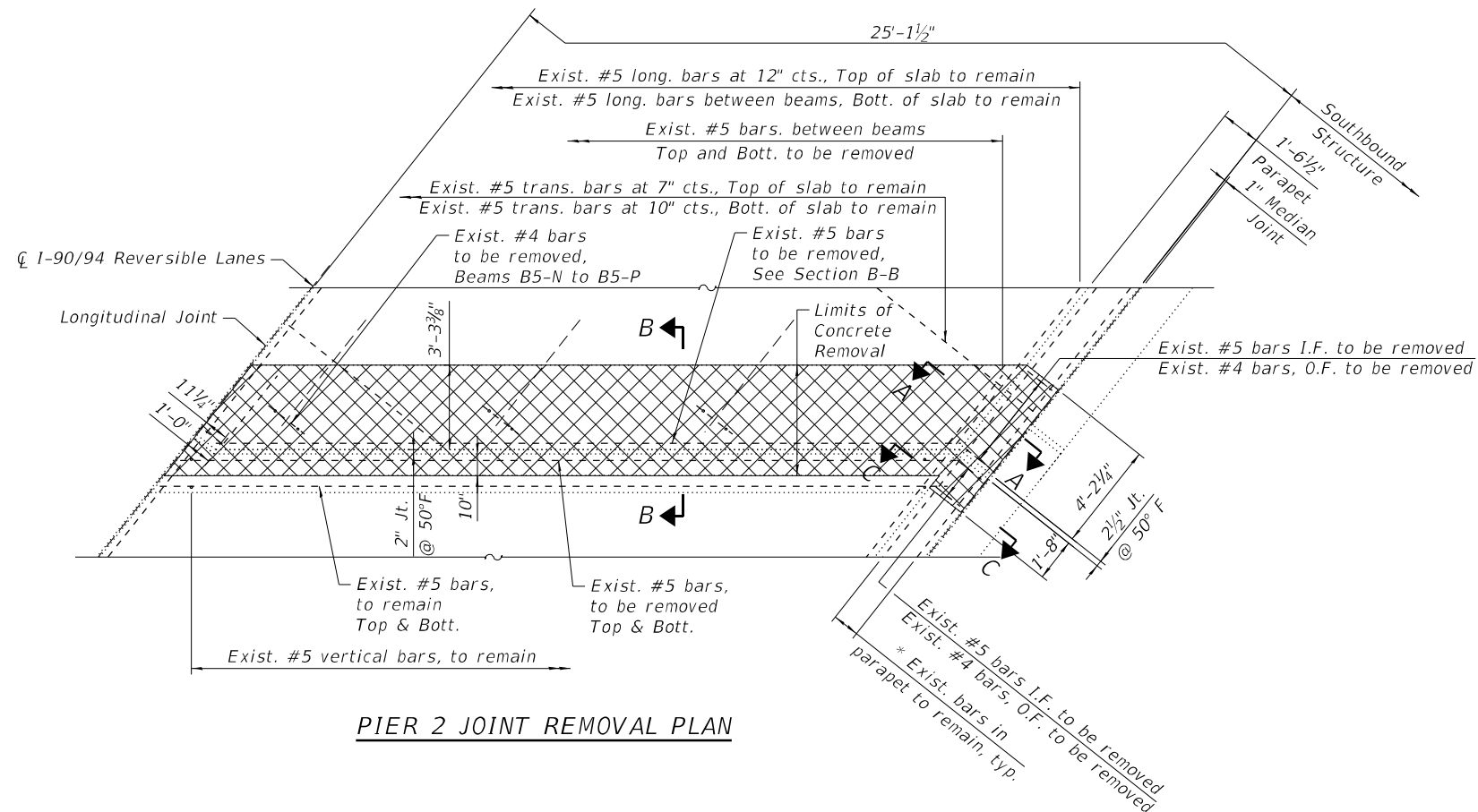
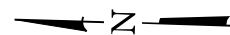
| | | | |
|--------------|------------|--------|-----------|
| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

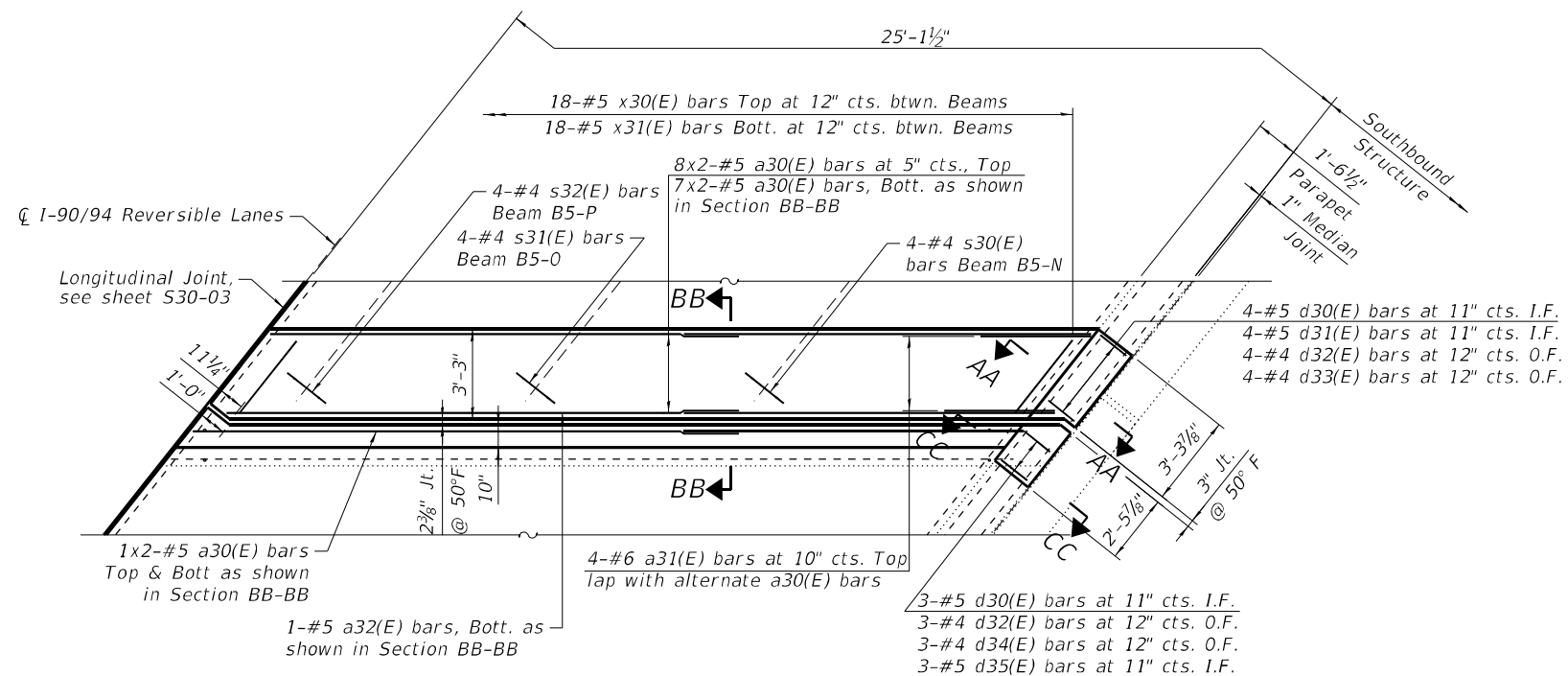
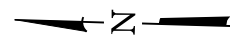
**PIER 1 EXPANSION JOINT DETAILS III
SN 016-0121 (REV)**

SHEET S30-13 OF S30-25 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1231 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



PIER 2 JOINT REMOVAL PLAN



PIER 2 JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC see sheet S30-15.

* Existing longitudinal bars to remain in the parapets can be cut in the field as required

LEGEND

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

MODEL: SMODELNAMES
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-0121_Kedzie_Belmont\Rev\0160121-1-62K74-5014-EXPR.dgn

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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

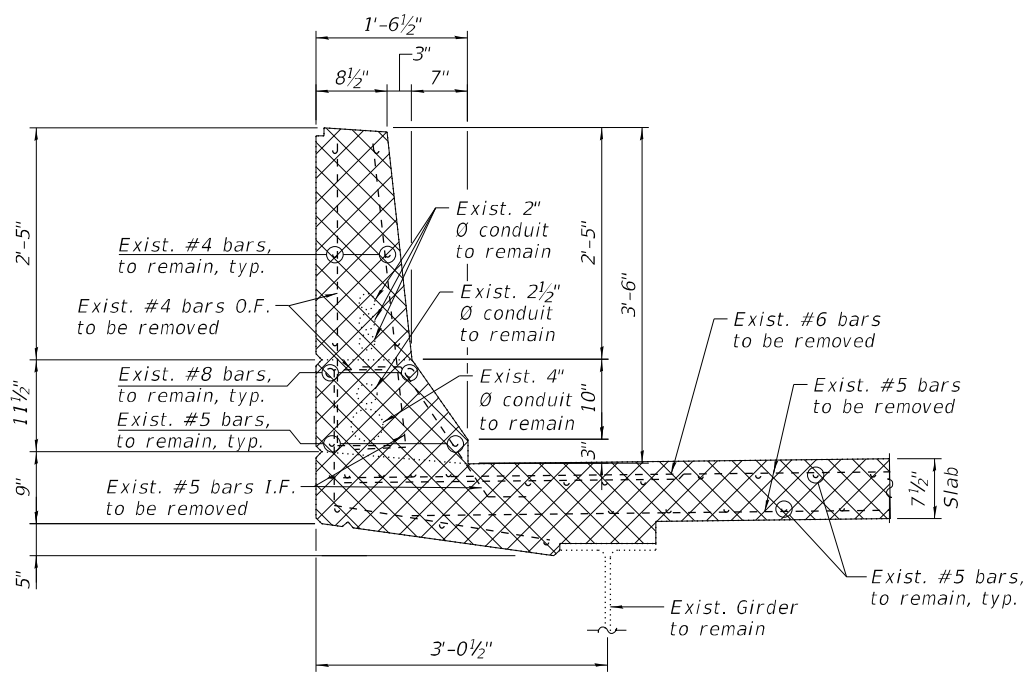
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|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

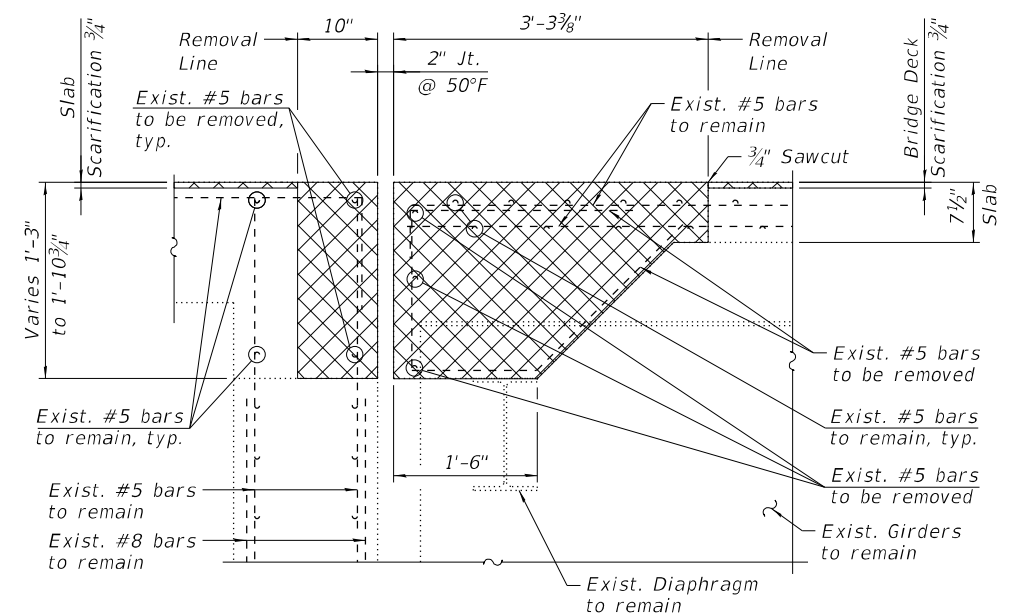
**PIER 2 EXPANSION JOINT DETAILS I
SN 016-0121 (REV)**

SHEET S30-14 OF S30-25 SHEETS

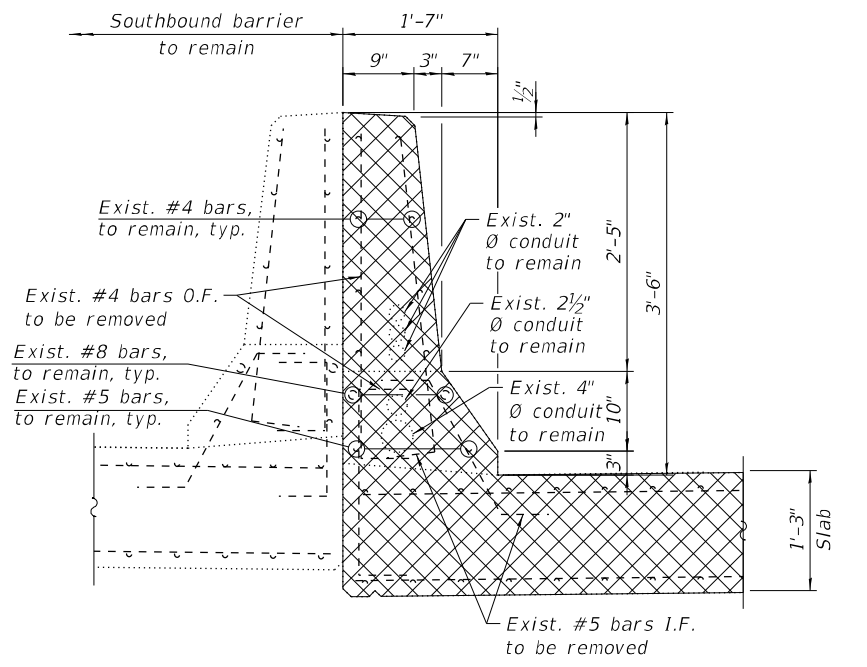
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1232 |
| | | | CONTRACT NO. 62K74 | |
| | | ILLINOIS | FED. AID PROJECT | |



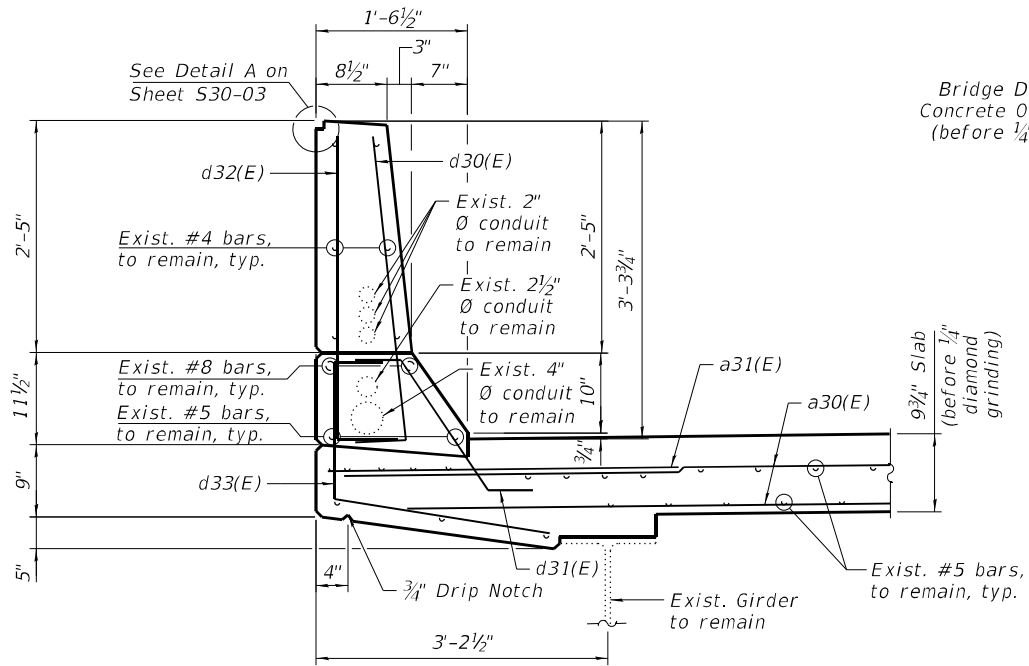
SECTION A-A
(West parapet removal)



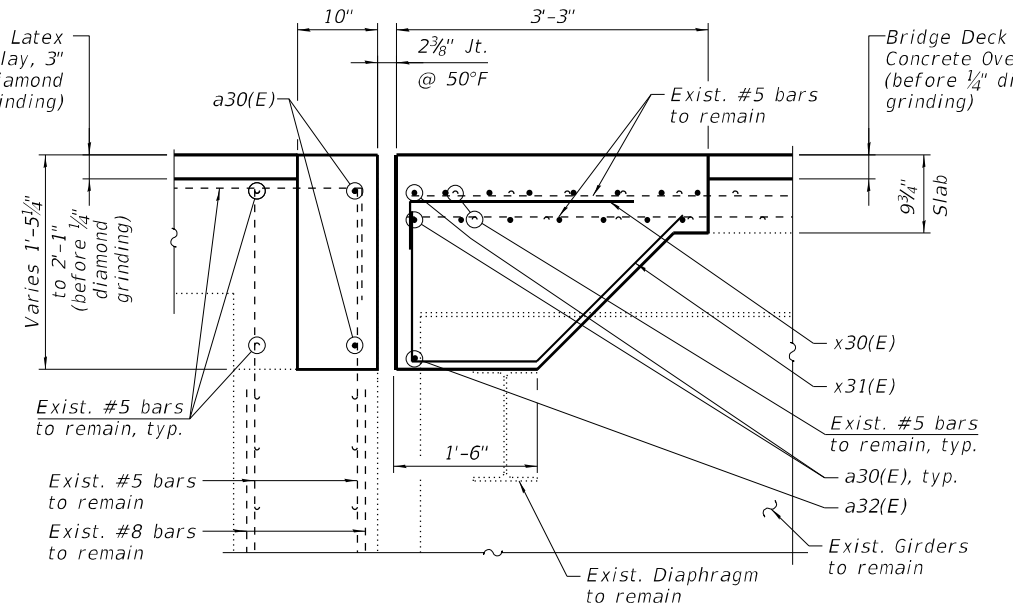
SECTION B-B



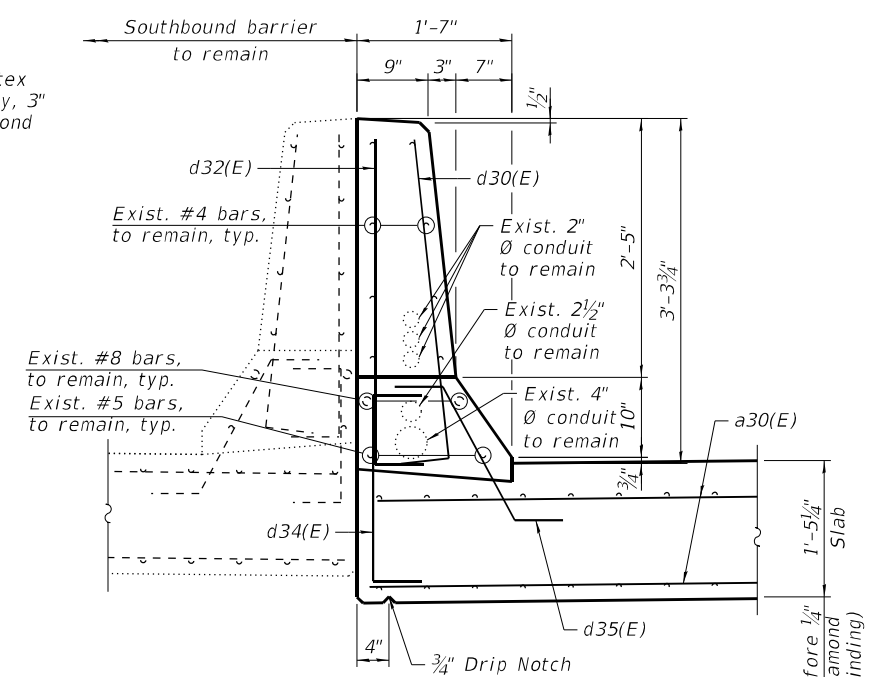
SECTION C-C
(West parapet removal)



SECTION AA-AA
(West parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(West parapet reconstruction)

LEGEND

Concrete Removal
 I.F. Inside Face
 O.F. Outside Face

MODEL: SMODELNAMES
 FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH016-0121_Kedzle_Belmont\Rev\0160121-62K74-5015-EXPR.dgn
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| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

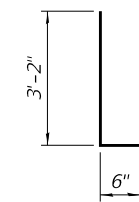
PIER 2 EXPANSION JOINT DETAILS II
SN 016-0121 (REV)

SHEET S30-15 OF S30-25 SHEETS

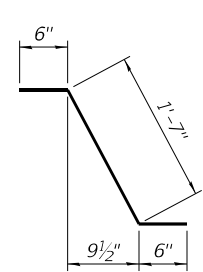
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1233 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |

**BILL OF MATERIAL
PIER 2**

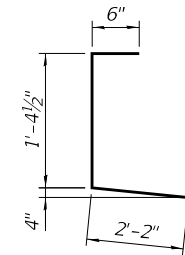
| Bar | No. | Size | Length | Shape |
|-------------------------------------|-----|------|---------|-------|
| a30(E) | 34 | #5 | 17'-11" | — |
| a31(E) | 4 | #6 | 6'-6" | — |
| a32(E) | 1 | #5 | 25'-0" | — |
| d30(E) | 7 | #5 | 3'-8" | ┌ |
| d31(E) | 4 | #5 | 2'-7" | ┌ |
| d32(E) | 7 | #4 | 3'-8" | ┌ |
| d33(E) | 4 | #4 | 4'-1" | ┌ |
| d34(E) | 3 | #4 | 3'-0" | ┌ |
| d35(E) | 3 | #5 | 3'-3" | ┌ |
| s30(E) | 4 | #4 | 3'-4" | ┌ |
| s31(E) | 4 | #4 | 3'-8" | ┌ |
| s32(E) | 4 | #4 | 4'-0" | ┌ |
| x30(E) | 18 | #5 | 3'-3" | ┌ |
| x31(E) | 18 | #5 | 4'-3" | ┌ |
| Concrete Removal | | | Cu Yd | 8.5 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 940 |
| Concrete Superstructure | | | Cu Yd | 9.4 |



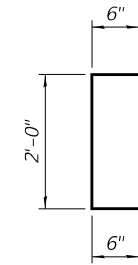
**BARS d30(E)
& d32(E)**



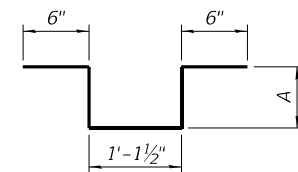
BAR d31(E)



BAR d33(E)

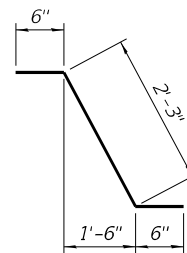


BARS d34(E)

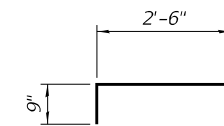


**BARS s30(E), s31(E),
s32(E) & s33(E)**

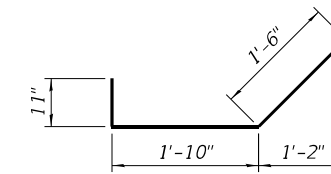
| Bar | A |
|--------|-----|
| s30(E) | 7" |
| s31(E) | 9" |
| s32(E) | 11" |



BAR d35(E)



BAR x30(E)



BAR x31(E)

NOTES:

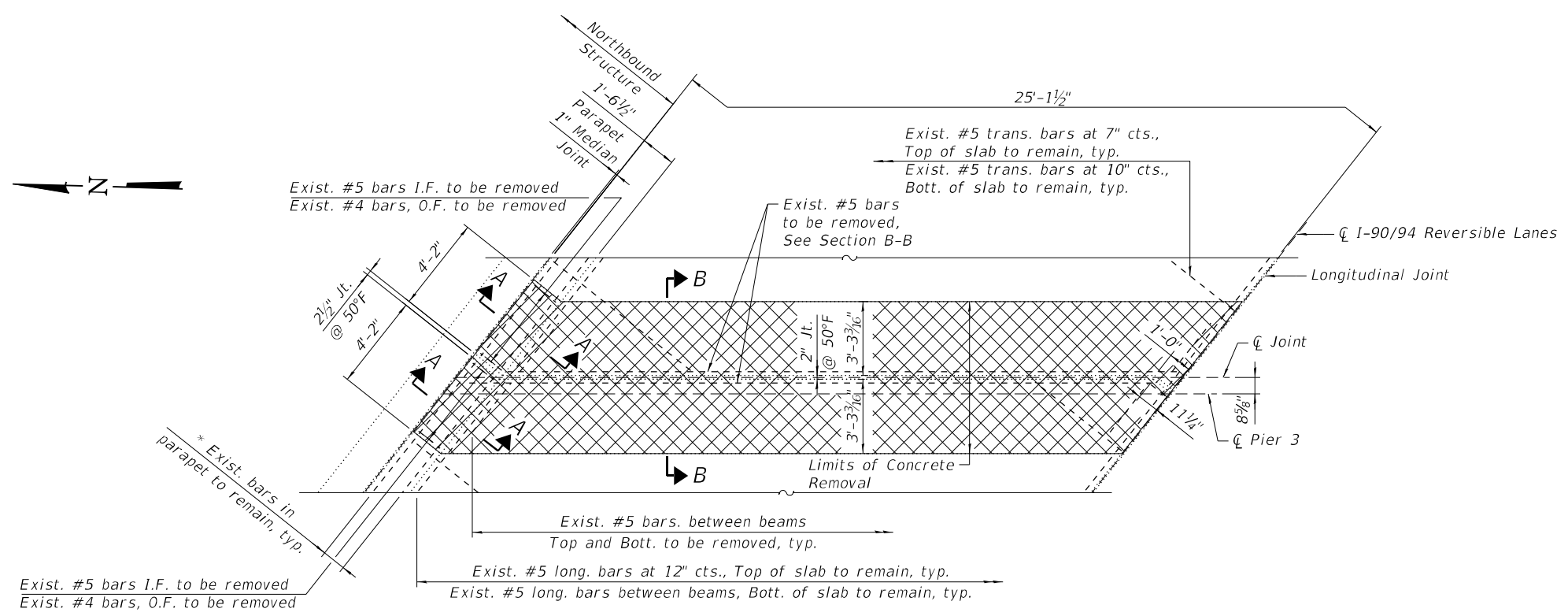
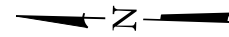
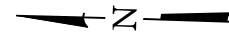
- For Preformed Joint Strip Seal details, see sheet S30-19.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

MIN BAR LAPS
#5 3'-6"

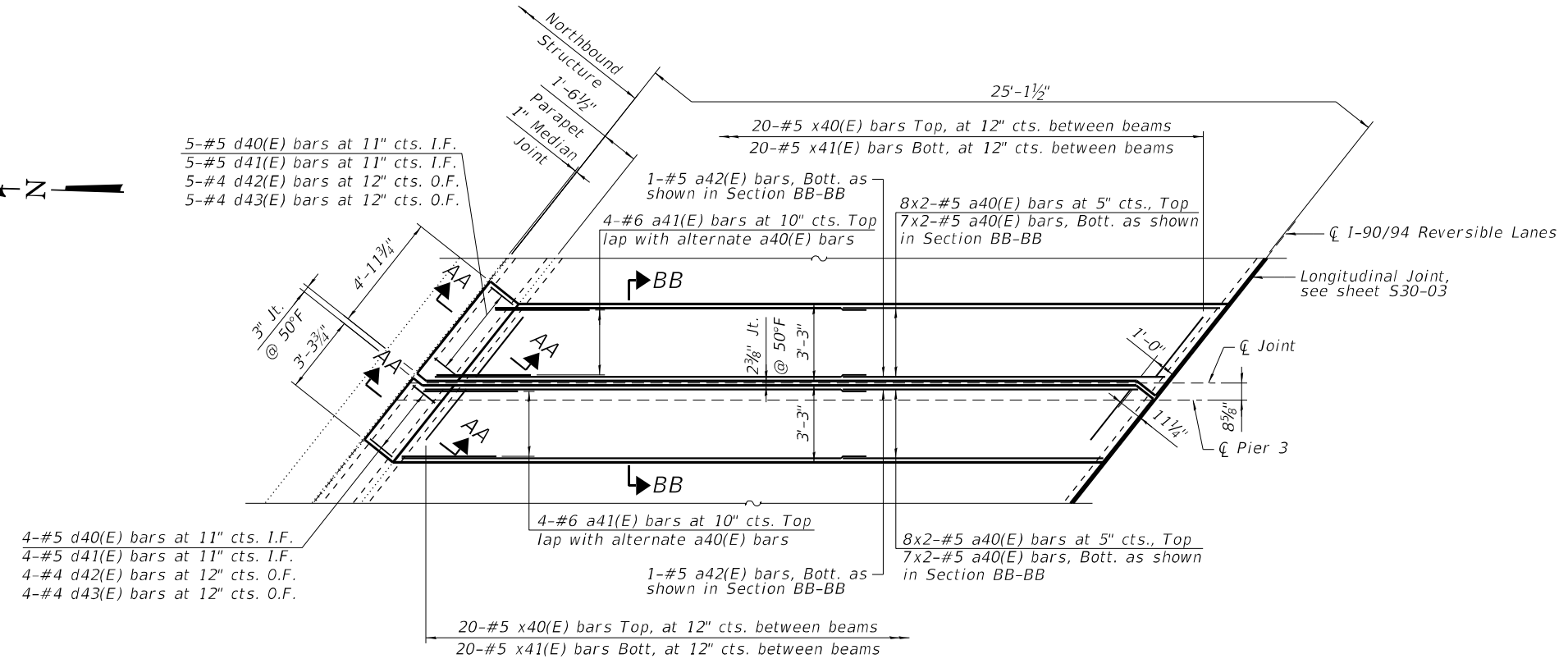
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| | | | |
|--------------|------------|--------|-----------|
| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | D.C.P. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|-------------|----------|--------------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1234 |
| | | | CONTRACT NO. 62K74 | |
| | | ILLINOIS | FED. AID PROJECT | |



PIER 3 JOINT REMOVAL PLAN



PIER 3 JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, AA-AA and BB-BB, see sheet S30-18.

* Existing longitudinal bars to remain in the parapets can be cut in the field as required

LEGEND

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

MODEL: SMOELNAMES
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-0121_Kedzie_Belmont\Rev\0160121-62K74-5017-EXPR.dgn

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| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| | CHECKED - H.A. | REVISED - |
| PLOT SCALE = | DRAWN - D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 3 EXPANSION JOINT DETAILS I
SN 016-0121 (REV)**

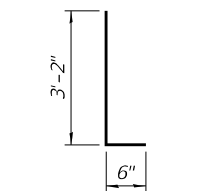
SHEET S30-17 OF S30-25 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1235 |
| CONTRACT NO. 62K74 | | | | |

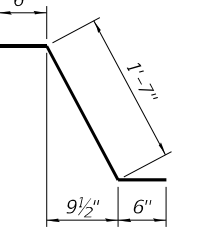
ILLINOIS FED. AID PROJECT

BILL OF MATERIAL
PIER 3

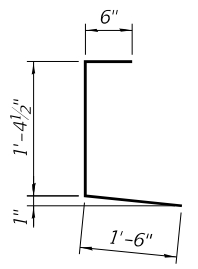
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|-------|---------|-------|
| a40(E) | 64 | #5 | 17'-11" | — |
| a41(E) | 8 | #6 | 6'-6" | — |
| a42(E) | 2 | #5 | 27'-8" | — |
| d40(E) | 9 | #5 | 3'-8" | ┌ |
| d41(E) | 9 | #5 | 2'-7" | ┌ |
| d42(E) | 9 | #4 | 3'-8" | ┌ |
| d43(E) | 9 | #4 | 3'-5" | ┌ |
| x40(E) | 40 | #5 | 3'-3" | ┌ |
| x41(E) | 40 | #5 | 3'-9" | ┌ |
| Concrete Removal | | Cu Yd | 12.7 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 1,630 | |
| Concrete Superstructure | | Cu Yd | 14.1 | |



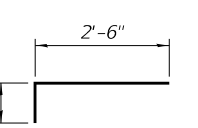
BAR d40(E) & d42(E)



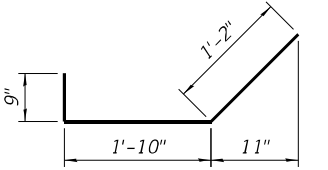
BAR d41(E)



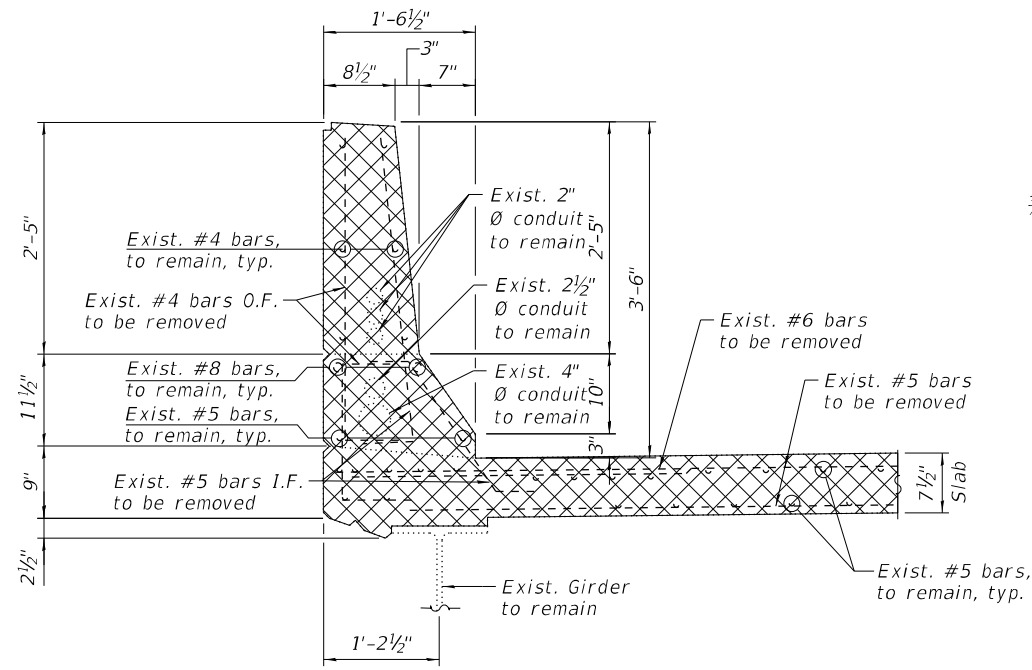
BARS d43(E)



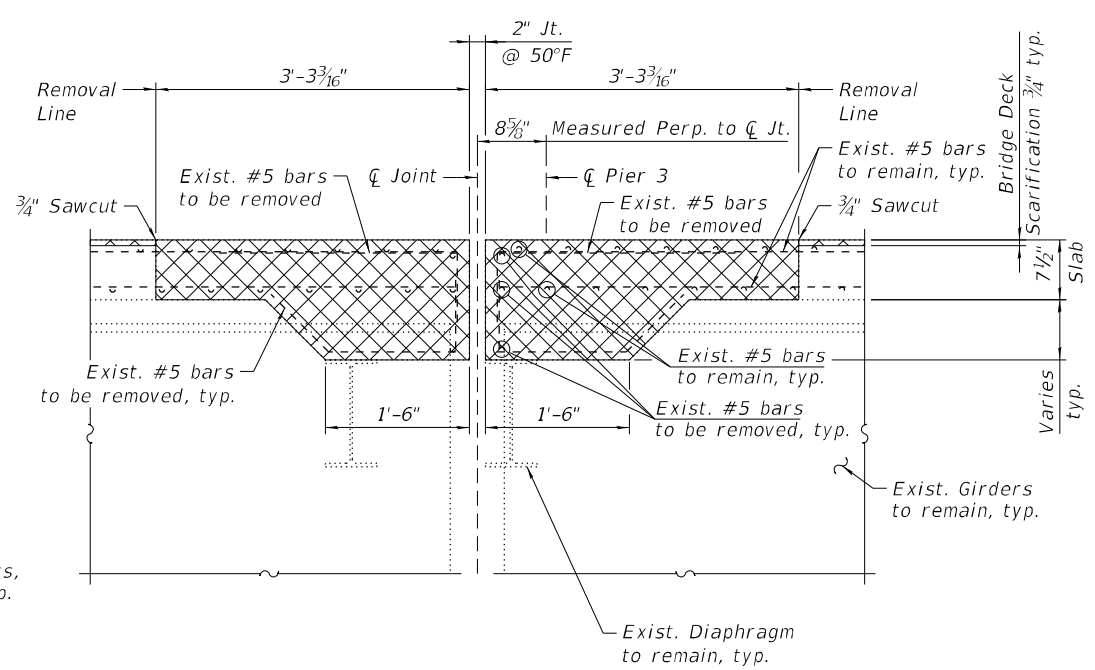
BAR x40(E)



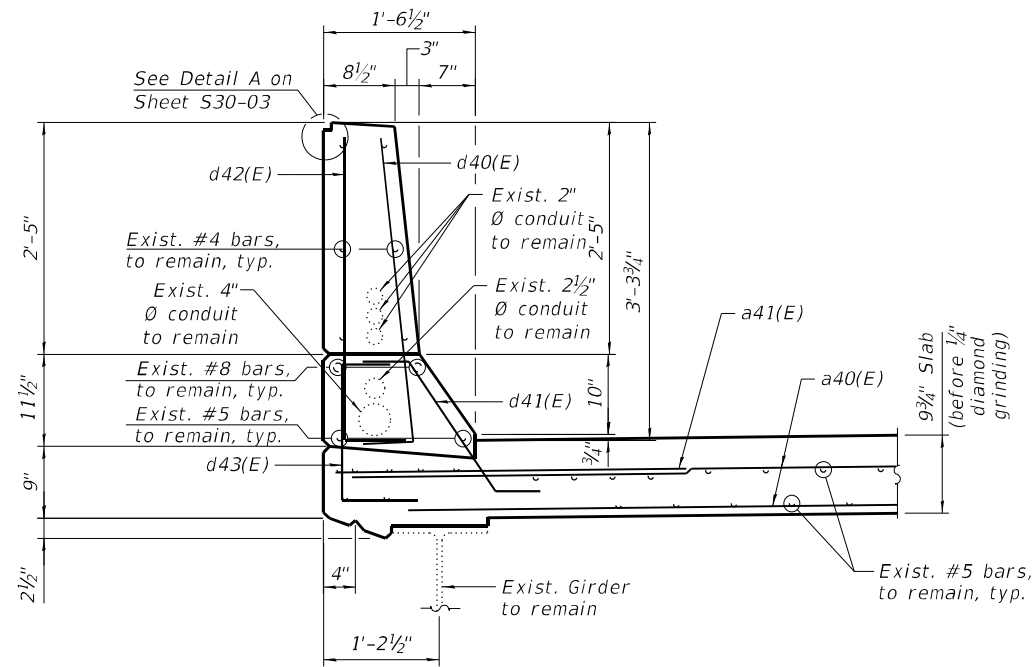
BAR x41(E)



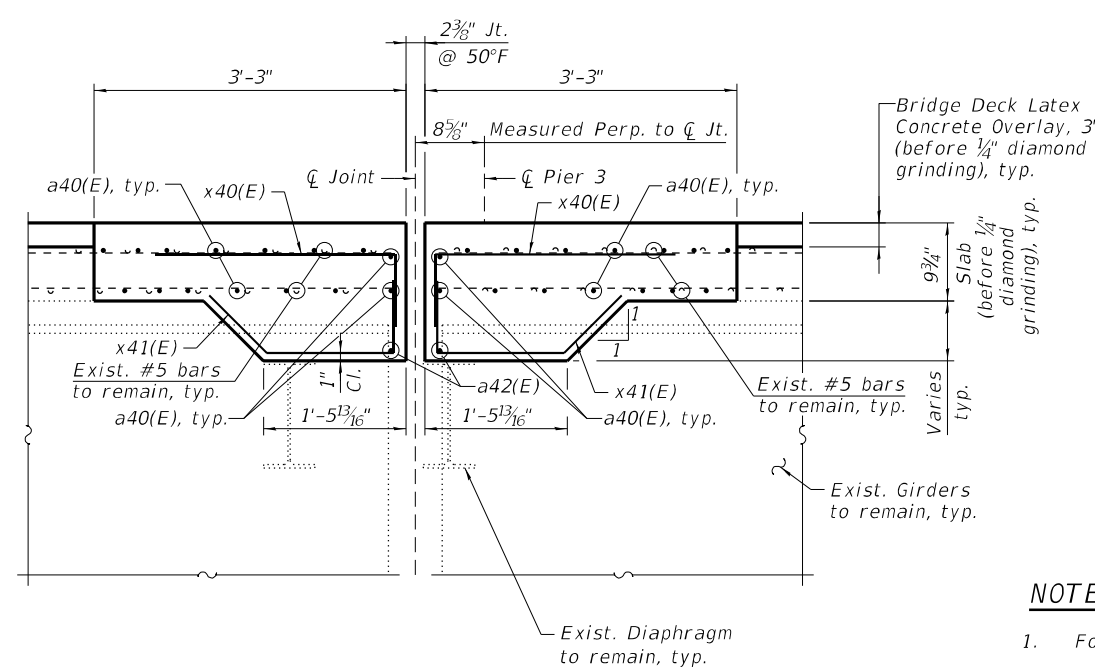
SECTION A-A
(North parapet removal)



SECTION B-B



SECTION AA-AA
(North parapet reconstruction)



SECTION BB-BB

NOTES:

- For Preformed Joint Strip Seal details, see sheet S30-19.
- 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. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face

MIN BAR LAPS

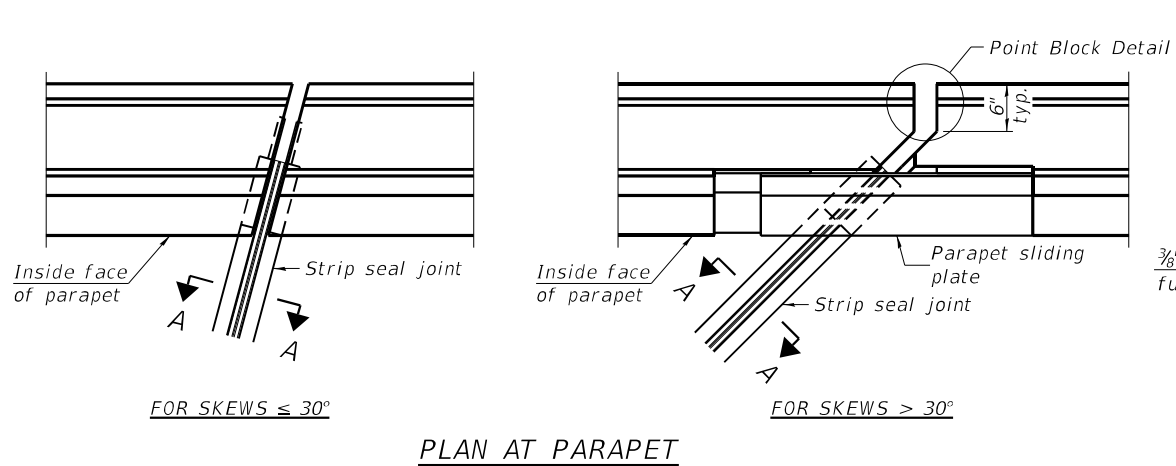
#5 3'-6"

MODEL: SMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-0121_Kedzie_Belmont\Rev\0160121-62K74-5018-EXPR.dgn
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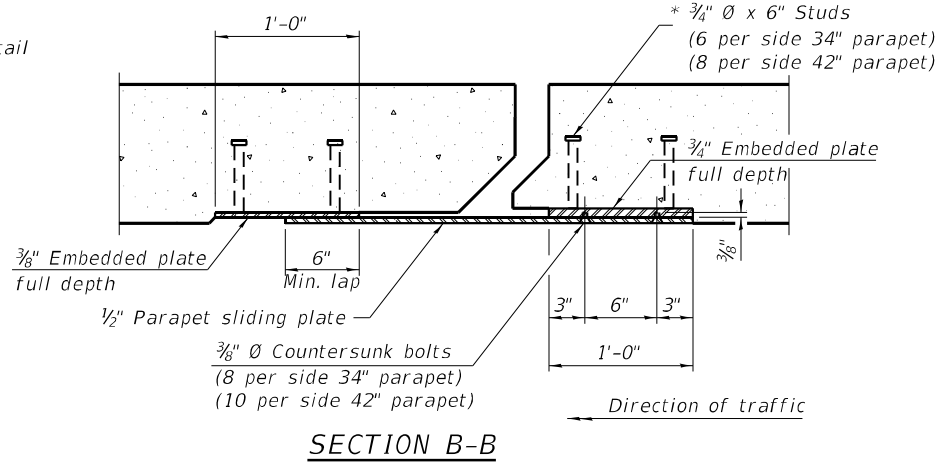
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| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1236 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

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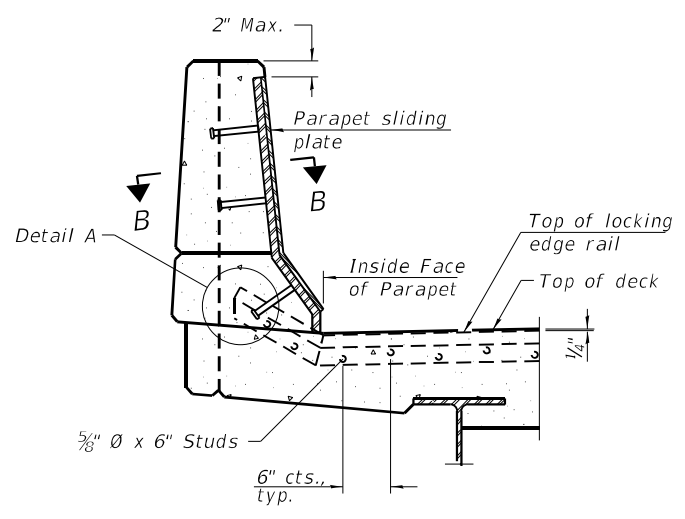


PLAN AT PARAPET



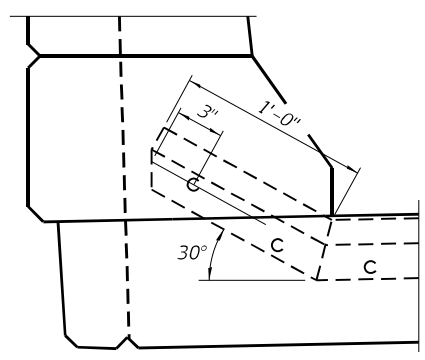
SECTION B-B

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 3/16" 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.
 Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.
 34" F-shape barrier shown, 42" F-shape 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.

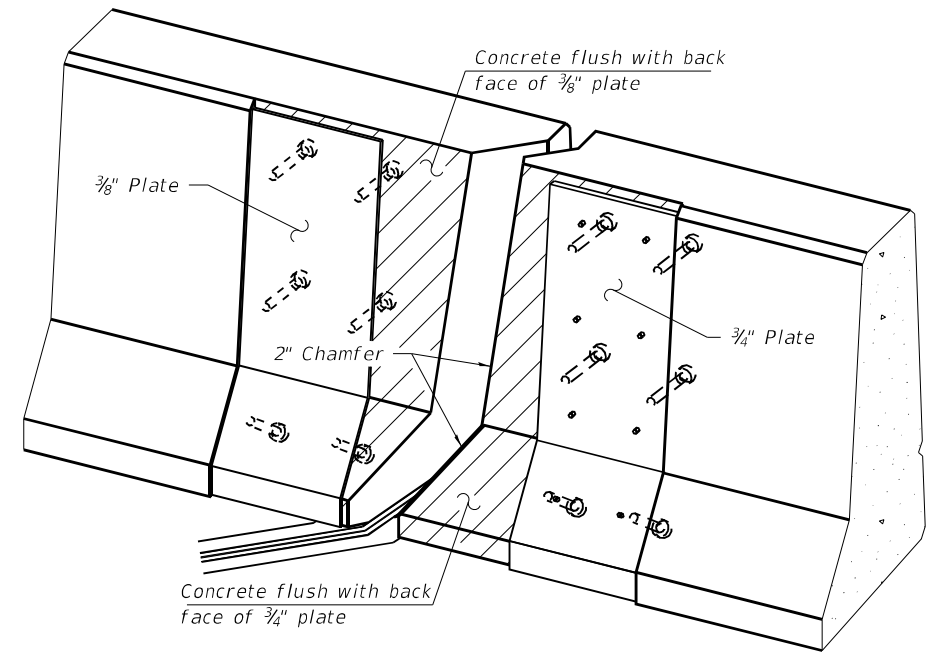


ELEVATION AT PARAPET

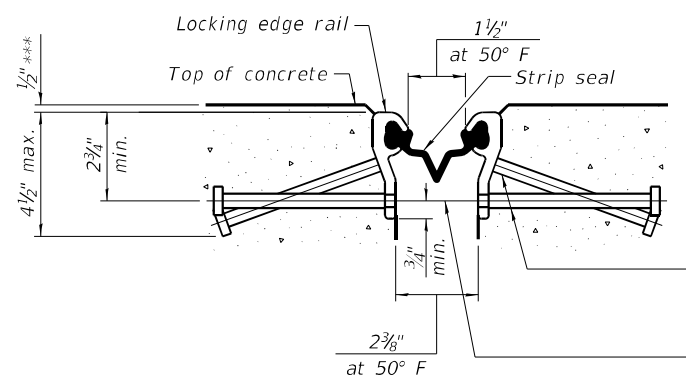
(Skews > 30° shown. Skews <= 30° similar except as shown in plan view.)



DETAIL A

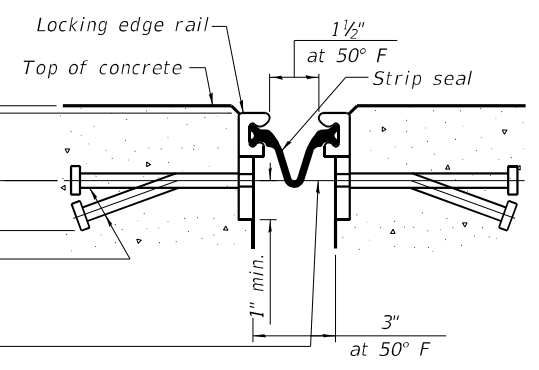


TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

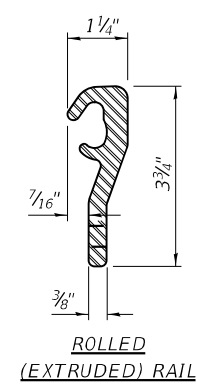
* 3/8" diameter x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 3/8" diameter threaded rods in 1/16" diameter holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.



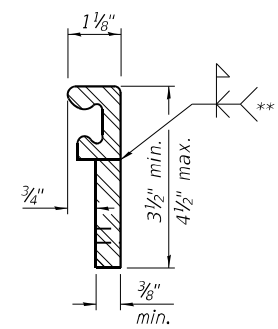
SHOWING WELDED RAIL JOINT

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.



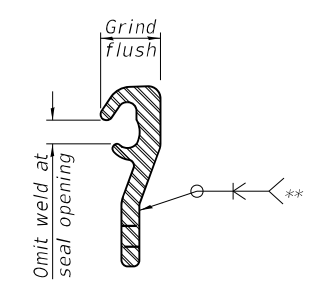
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

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

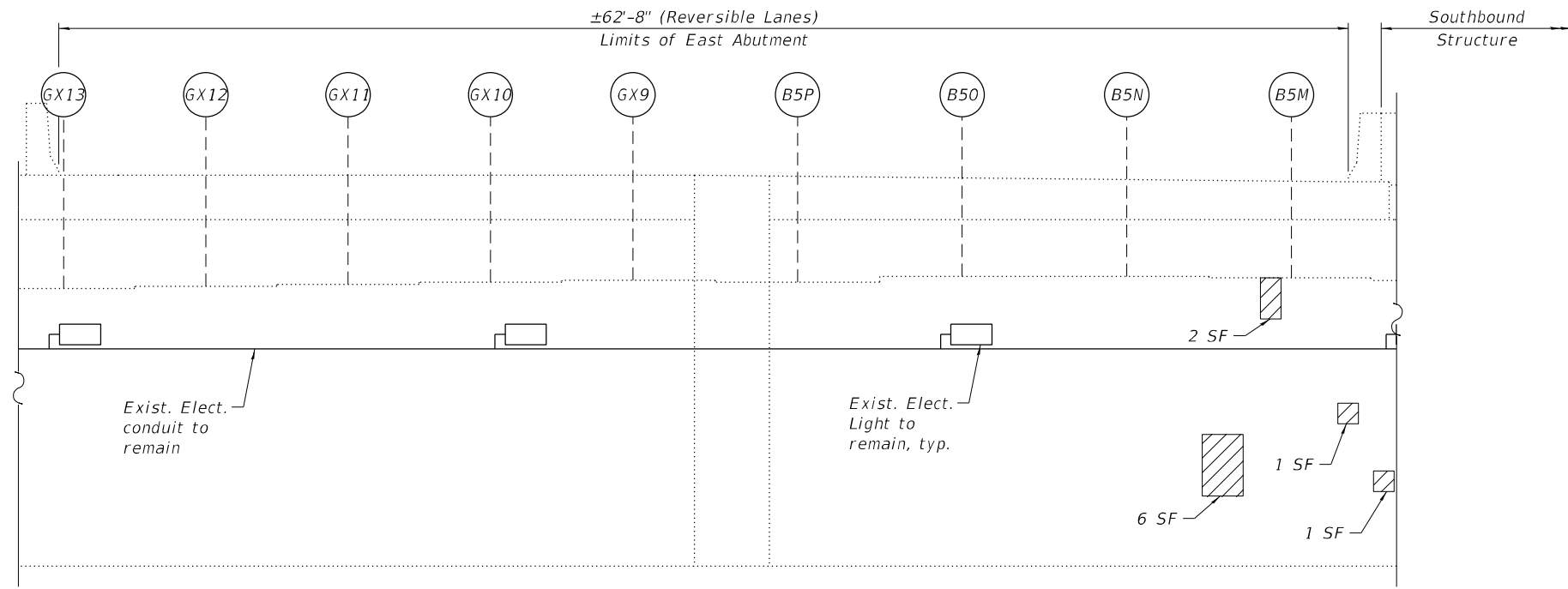


LOCKING EDGE RAIL SPLICE

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 | 245 |



ELEVATION - EAST ABUTMENT
(Looking East)



EXISTING LIGHTING: EAST ABUTMENT
(Looking Southeast)

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 lower 2 feet of the backwalls and to the seats of the abutments.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 353 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 10 |

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\1016-0121_Kedzie_Belmont\Rev\0160121-62K74-5020-EABR.dgn

GRÄEF
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

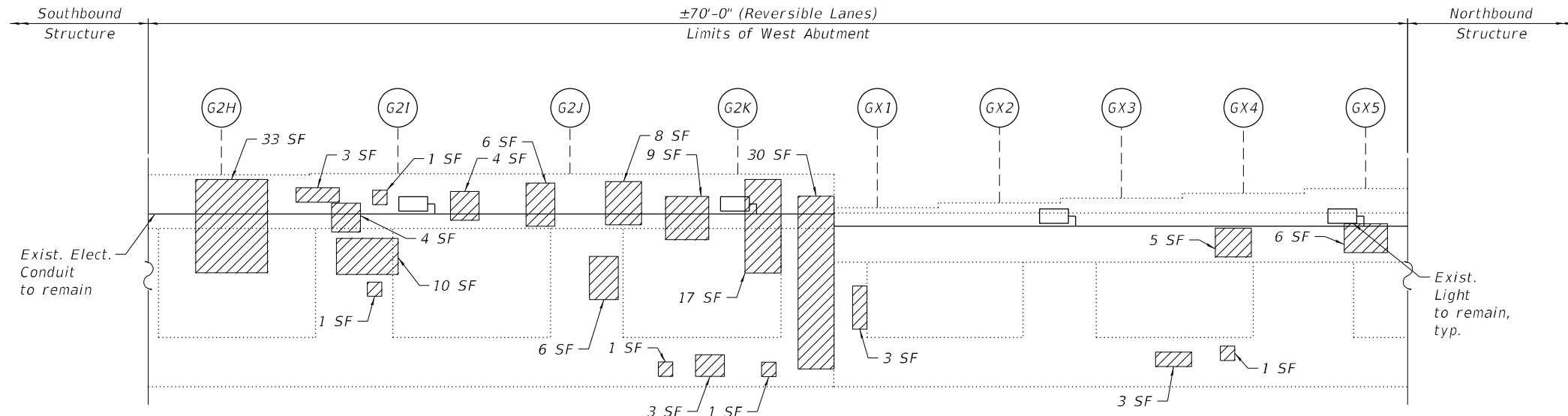
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|--------------|------------|--------|-----------|
| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

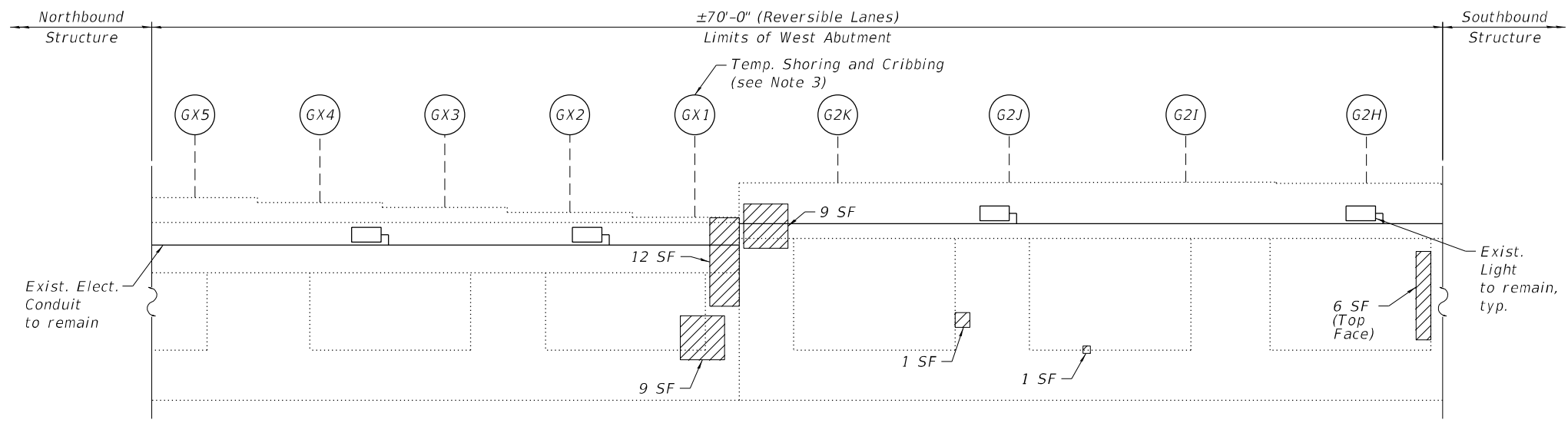
**EAST ABUTMENT REPAIRS
SN 016-0121 (REV)**

SHEET S30-20 OF S30-25 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1238 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



ELEVATION - WEST ABUTMENT
(South Face, Looking North)



ELEVATION - WEST ABUTMENT
(North Face, Looking South)

| SUMMARY OF REACTIONS | | Beam GX1 |
|----------------------|-----|----------|
| R DL | (k) | 157.5 |
| R LL | (k) | 51.1 |
| R IM | (k) | 7.4 |
| R Total | (k) | 216.0 |



EXISTING LIGHTING: WEST ABUTMENT
(Looking Northwest)



EXISTING LIGHTING: WEST ABUTMENT
(Looking Southwest)

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 lower 2 feet of the backwalls and to the seats of the abutments.
- 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

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 493 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 193 |
| Temporary Shoring and Cribbing | Each | 1 |

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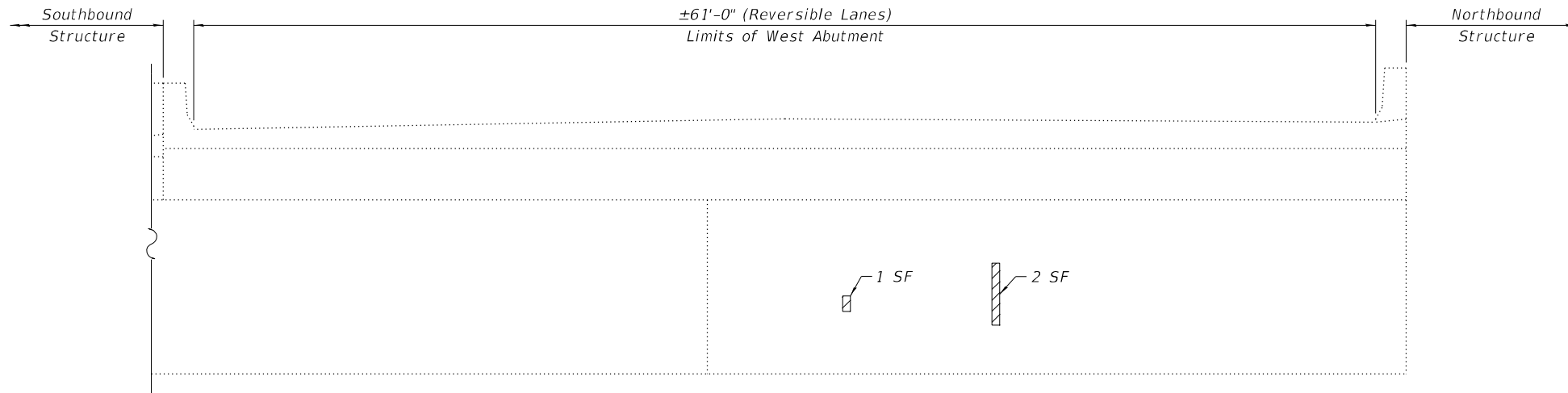
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| PLOT DATE = | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT REPAIRS I
SN 016-0121 (REV)**

SHEET S30-21 OF S30-25 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1239 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



ELEVATION - WEST WALL ABUTMENT
(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.

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 | 3 |

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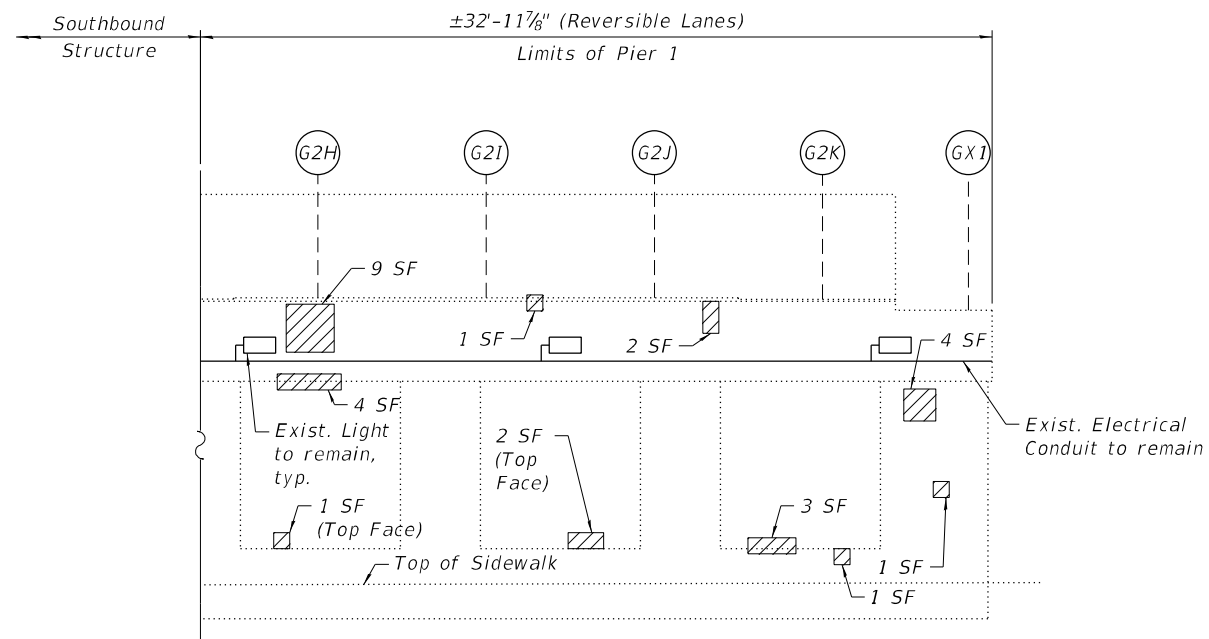
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| PLOT SCALE = | DRAWN - | D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

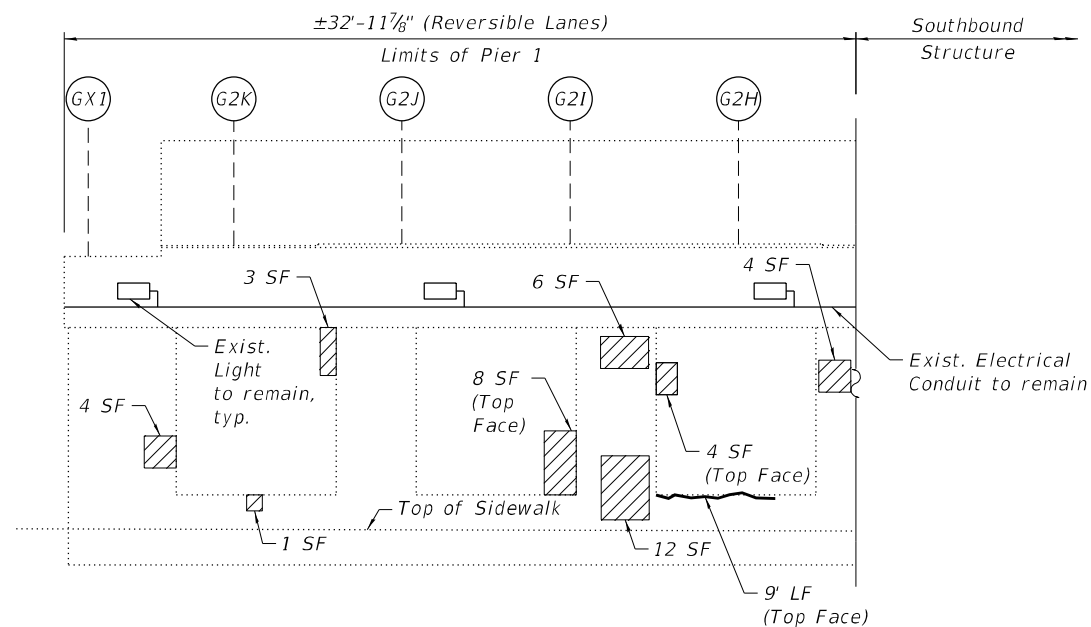
**WEST ABUTMENT REPAIRS II
SN 016-0121 (REV)**

SHEET S30-22 OF S30-25 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1240 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



ELEVATION - PIER 1
(Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1
(Looking Northwest)



EXISTING LIGHTING: PIER 1
(Looking Southeast)

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 seats of the piers.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- 6' LF Epoxy Crack Injection (Width > 0.06")
- SF Square Foot
- LF Linear Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 128 |
| Epoxy Crack Injection | Foot | 9 |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 70 |

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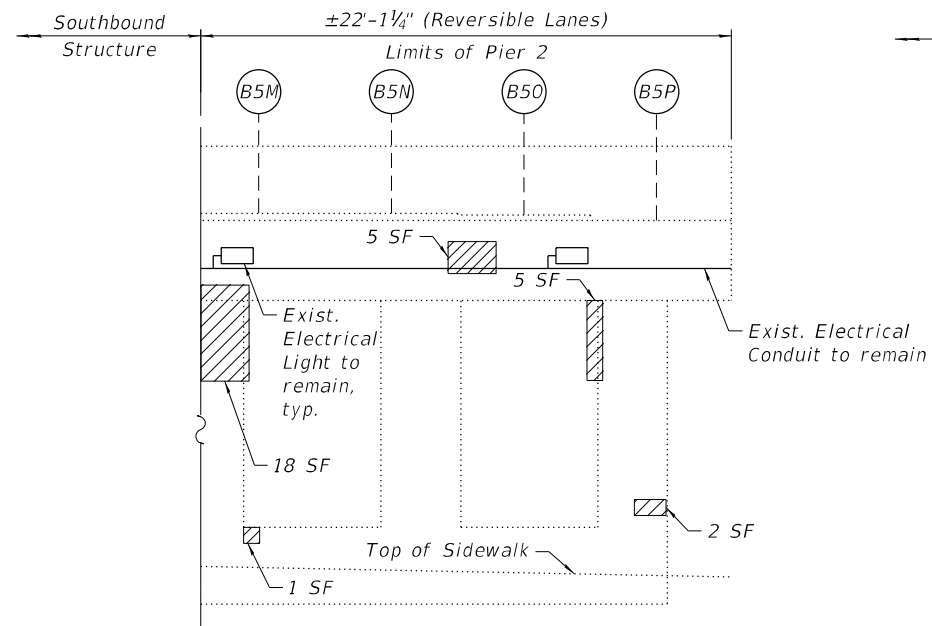
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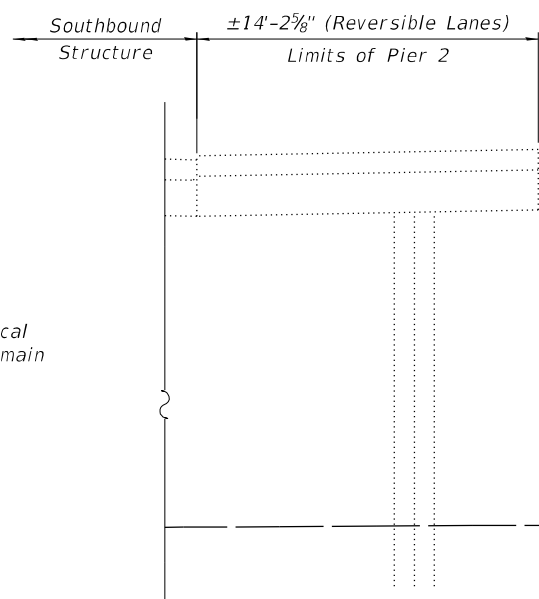
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS
SN 016-0121 (REV)

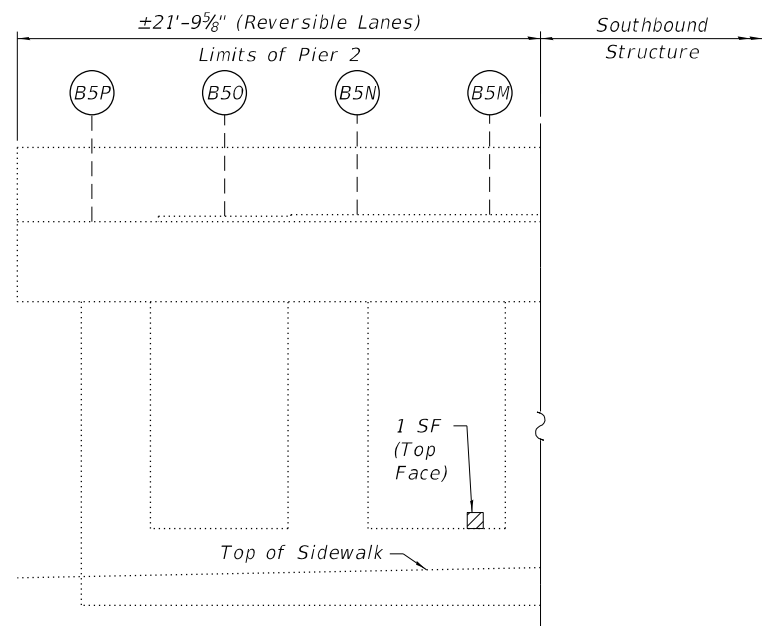
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| CONTRACT NO. 62K74 | | | | |
| | | ILLINOIS FED. AID PROJECT | | |



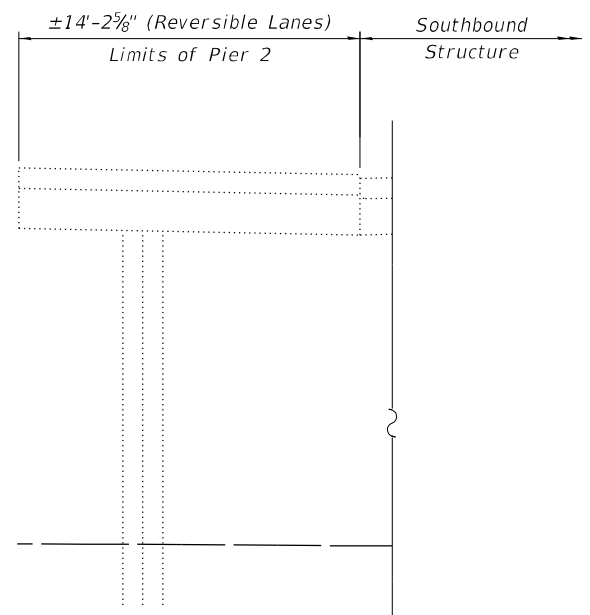
ELEVATION - PIER 2
(Looking West)



ELEVATION - PIER 1D
(Looking West)



ELEVATION - PIER 2
(Looking East)



ELEVATION - PIER 1D
(Looking East)



EXISTING LIGHTING: PIER 2
(Looking Northwest)

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 seats of the piers.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 86 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 32 |

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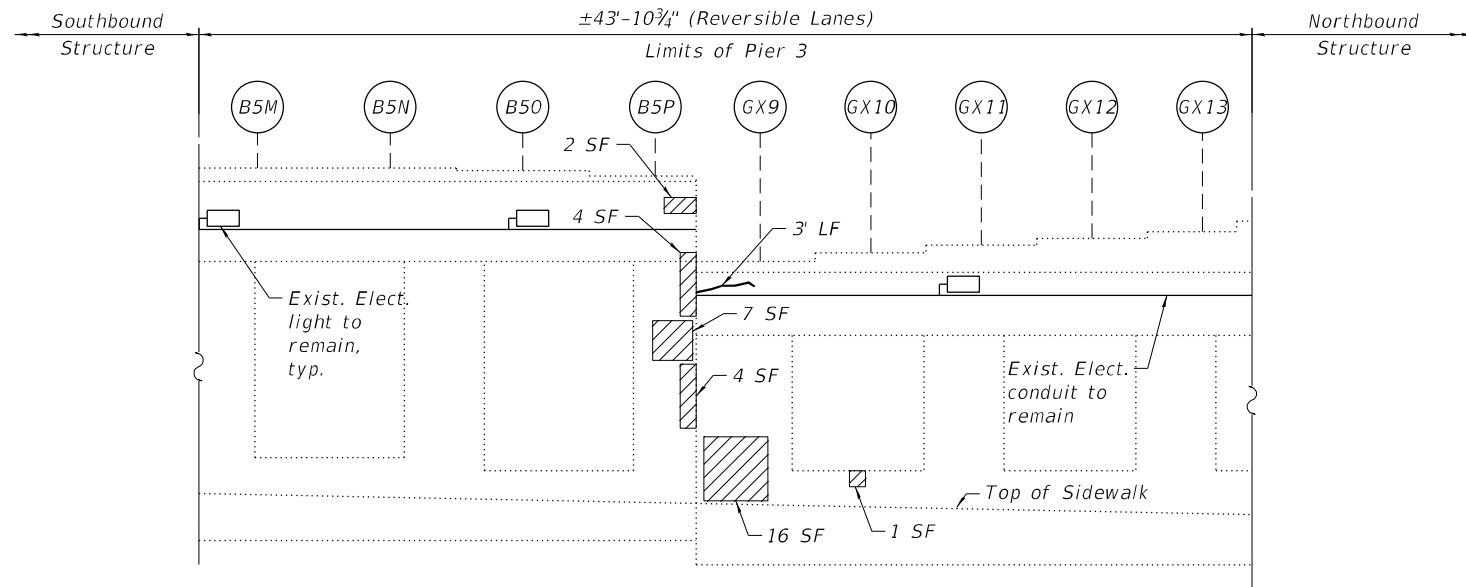
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

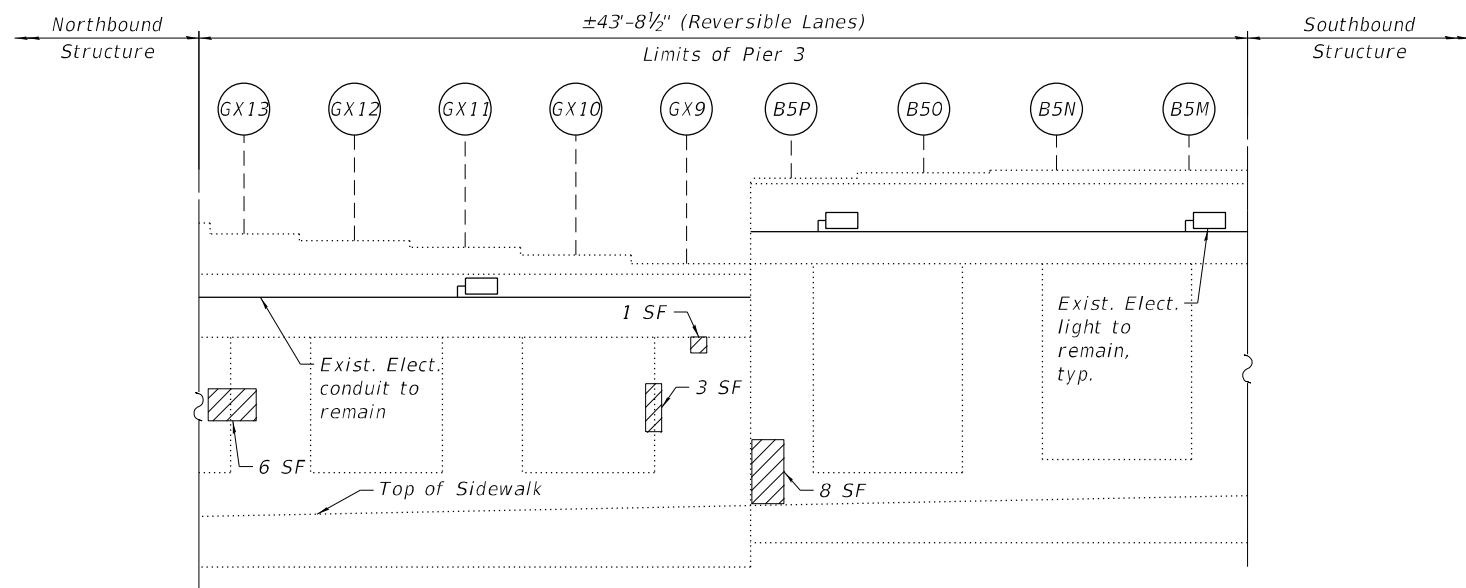
**PIER 2 & PIER 1D REPAIRS
SN 016-0121 (REV)**

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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1242 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |

SHEET S30-24 OF S30-25 SHEETS



ELEVATION - PIER 3
(Looking West)



ELEVATION - PIER 3
(Looking East)



EXISTING LIGHTING: PIER 3
(Looking Southwest)



EXISTING LIGHTING: PIER 3
(Looking Southeast)

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 seats of the piers.

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

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 169 |
| Epoxy Crack Injection | Foot | 3 |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 52 |

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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1243 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |

Existing Structure: S.N. 016-0120 (I-90 over Kimball Ave.) was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1992. The superstructure was repainted in 1995. In 2013, portions of the joints were removed and replaced with a silicone joint sealer and parapet damage was repaired in 2015. The structure has a back-to-back of abutment length is 218'-2½" and an out-to-out deck width of 73'-0½". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 62'-0", 89'-0½", and 62'-0". The substructure consists of reinforced concrete piers founded on timber piles and reinforced concrete abutments founded on concrete piles.

Traffic will be maintained utilizing stage construction.

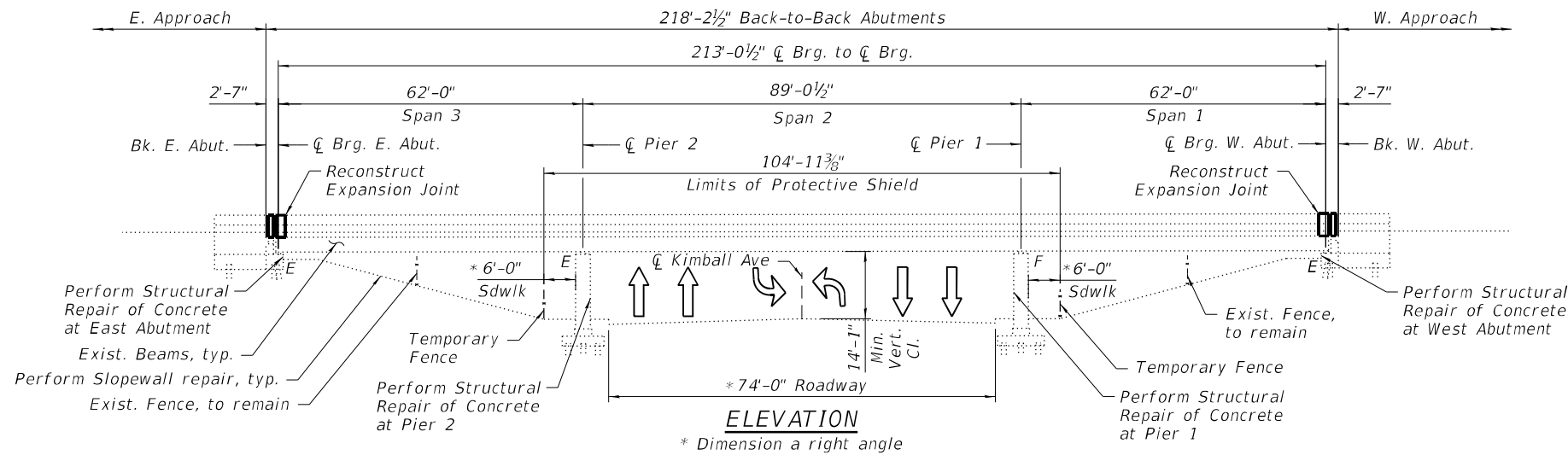
No salvage.

LOADING

HS20-44 and alternate military loading

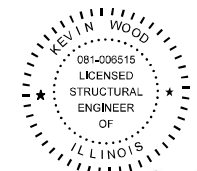
DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition



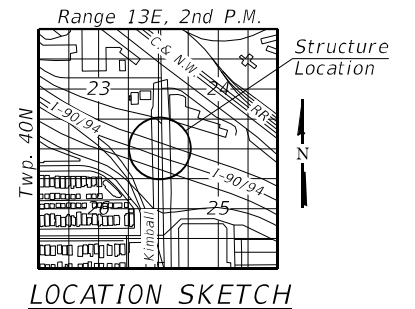
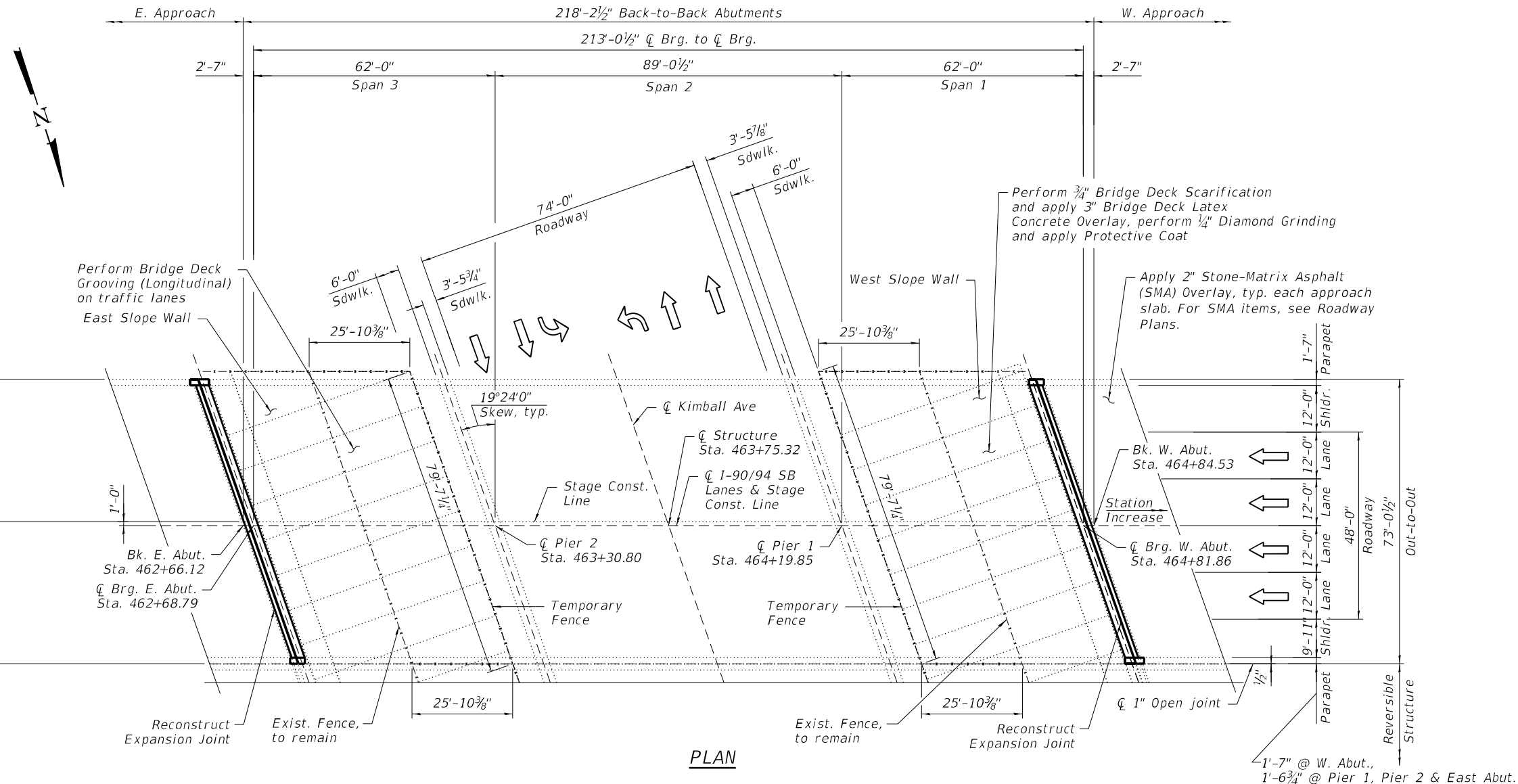
NOTE:

1. All stations are to the CL I-90/94 SB Roadway and taken from existing plans.
2. No Future Wearing Surface is allowed.



Kevin Wood

Engineer Full Name: Kevin Wood Date: 10-20-2022
 Illinois Registered Engineer No. 081-006515
 Registration Expires 11. 30, 2024



PLAN

GENERAL PLAN AND ELEVATION
SB I-90 OVER KIMBALL AVE
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 463+75.32
STRUCTURE NO. 016-0120 (SB)

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| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET S31-01 OF S31-24 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1244 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

GENERAL NOTES

- Fasteners shall be ASTM A325 Type 1, galvanized according to ASTM F 2329. Bolts 3/4 in., holes 13/16 in., unless otherwise noted. Diaphragm connection holes be 15/16" for 3/4" bolts. Two hardened washers shall be required at diaphragm connections.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. 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 included in the Concrete Removal pay item. 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 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
- Plan dimensions and details relative to the 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 furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Plans.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- 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.
- Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provisions "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanized for Structural Steel".
- Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.
- 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.
- 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".
- The Contractor shall exercise 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.
- The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete 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.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed 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.
- Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 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. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

- S31-01 General Plan & Elevation
- S31-02 General Data
- S31-03-S31-04 Stage Construction Details I & II
- S31-05 Temporary Concrete Barrier
- S31-06 Bridge Deck Repair Plan and Details
- S31-07-S31-09 East Abutment Expansion Joint Details I, II & III
- S31-10-S31-12 West Abutment Expansion Joint Details I, II & III
- S31-13 Preformed Joint Strip Seal
- S31-14 Framing Plan
- S31-15-S31-18 Structural Steel Repair Details I, II, III and IV
- S31-19 East Abutment Repairs
- S31-20 West Abutment Repairs
- S31-21 Pier 1 Repairs
- S31-22 Pier 2 Repairs
- S31-23 Slope Wall Repairs
- S31-24 Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform deck repairs.
- Remove and reconstruct expansion joints at north and south abutments, and install new Preformed Joint Strip Seals.
- Repair steel diaphragms as shown on the plans.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- Perform Structural Repair of Concrete to the Abutments and Piers as noted in the plans.
- Perform slope wall repairs.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|--------|-------|-------|-------|
| Porous Granular Embankment | Cu Yd | | 9 | 9 |
| Concrete Removal | Cu Yd | 32.5 | | 32.5 |
| Slope Wall Removal | Sq Yd | | 9 | 9 |
| Protective Shield | Sq Yd | 852 | | 852 |
| Concrete Superstructure | Cu Yd | 36.5 | | 36.5 |
| Protective Coat | Sq Yd | 1,883 | | 1,883 |
| Furnishing and Erecting Structural Steel | Pound | 1,630 | | 1,630 |
| Reinforcement Bars, Epoxy Coated | Pound | 5,100 | | 5,100 |
| Bar Splicers | Each | 38 | | 38 |
| Slope Wall 4 Inch | Sq Yd | | 9 | 9 |
| Preformed Joint Strip Seal | Foot | 153 | | 153 |
| Concrete Sealer | Sq Ft | | 754 | 754 |
| Slope Wall Crack Sealing | Foot | | 147 | 147 |
| Protect and Maintain Existing Underpass Luminaire | L Sum | | 0.022 | 0.022 |
| Bridge Deck Grooving (Longitudinal) | Sq Yd | 1,145 | | 1,145 |
| Structural Steel Removal | Pound | 1,630 | | 1,630 |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,638 | | 1,638 |
| Bridge Deck Scarification 3/4" | Sq Yd | 1,638 | | 1,638 |
| Structural Repair of Concrete (Depth Equal to or less than 5 Inches) | Sq Ft | | 16 | 16 |
| Deck Slab Repair (Full Deck, Type II) | Sq Yd | 8.5 | | 8.5 |
| Diamond Grinding (Bridge Section) | Sq Yd | 1,686 | | 1,686 |
| Maintenance of Lighting System | Cal Mo | | 6 | 6 |
| Temporary Construction Fence | Foot | | 263 | 263 |

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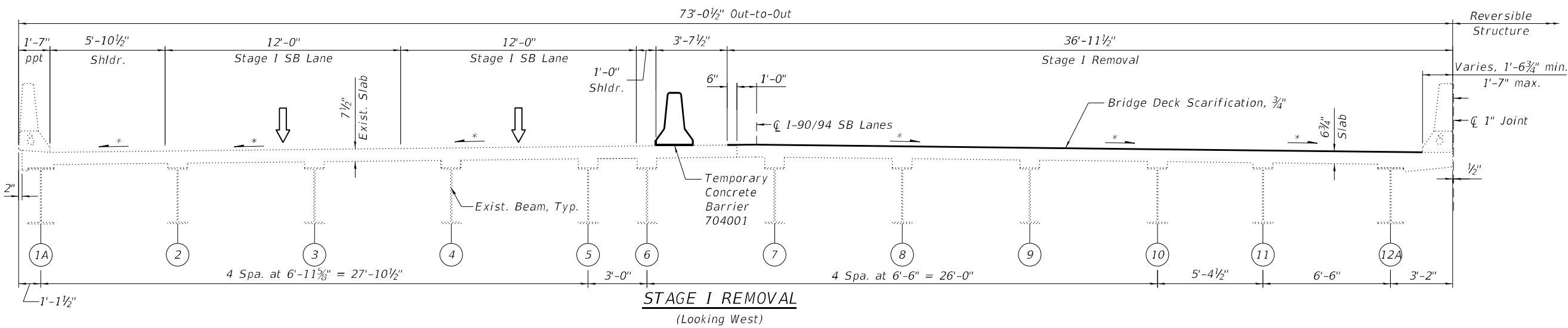
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| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

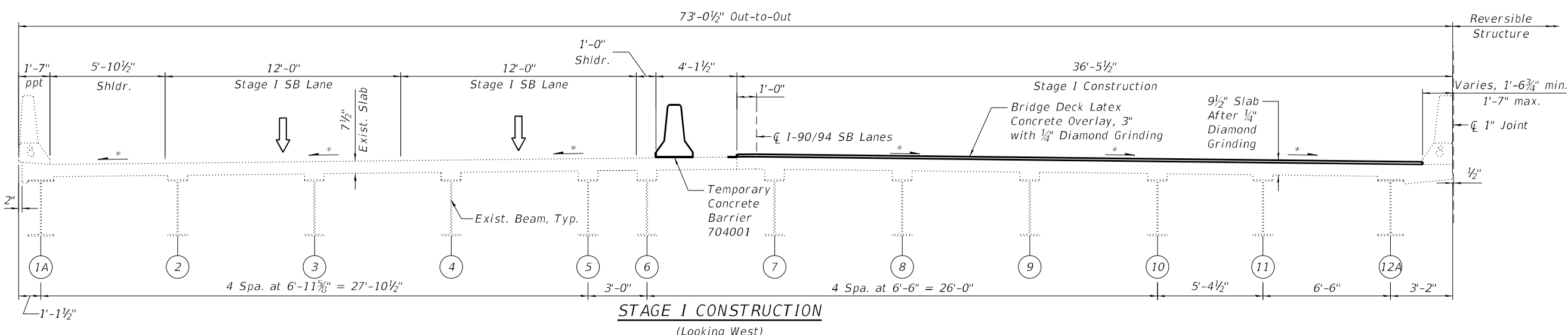
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SN 016-0120 (SB)**

SHEET S31-02 OF S31-24 SHEETS

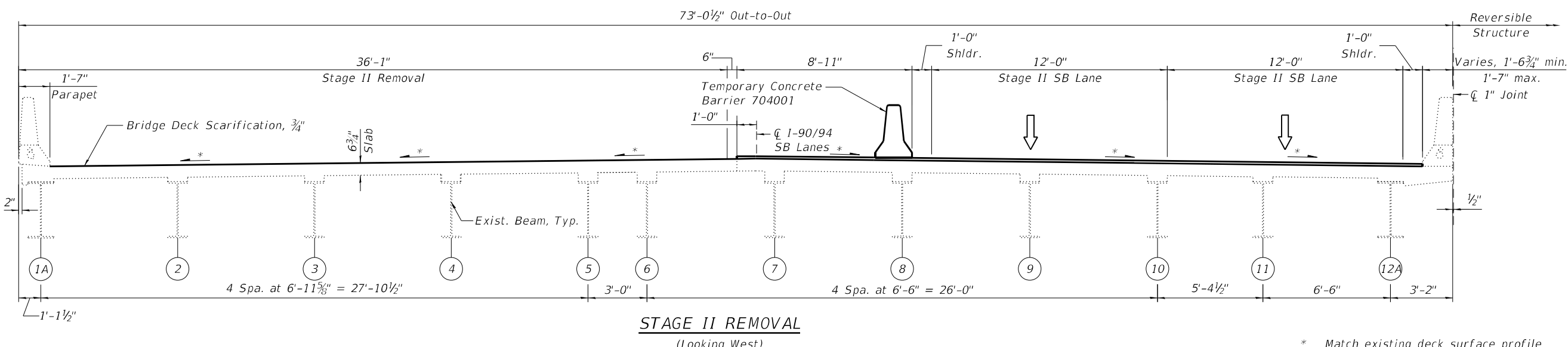
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1245 |
| CONTRACT NO. 62K74 | | | ILLINOIS FED. AID PROJECT | |



STAGE I REMOVAL
(Looking West)



STAGE I CONSTRUCTION
(Looking West)



STAGE II REMOVAL
(Looking West)

* Match existing deck surface profile

STAGE I REMOVAL

1. Install Temporary Concrete Barrier as shown to locate traffic on the south side of the existing structure.
2. Scarify 3/4" from the top of the deck.
3. Remove portions of bridge deck adjacent to abutment joints, as shown in the plans.

STAGE I CONSTRUCTION

1. Perform Deck Slab Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at east and west abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete at abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
5. Perform 1/4" diamond grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.
9. Perform Slope Wall Repairs as shown in the plans

STAGE II REMOVAL

1. Install Temporary Concrete Barrier as shown to locate traffic on the north side of the existing structure.
2. Scarify 3/4" from the top of the deck.
3. Remove portions of bridge deck adjacent to abutment joints, as shown in the plans.

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| USER NAME = | DESIGNED - W.A.R. | REVISED - |
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| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS I
SN 016-0120 (SB)**

SHEET S31-03 OF S31-24 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1246 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

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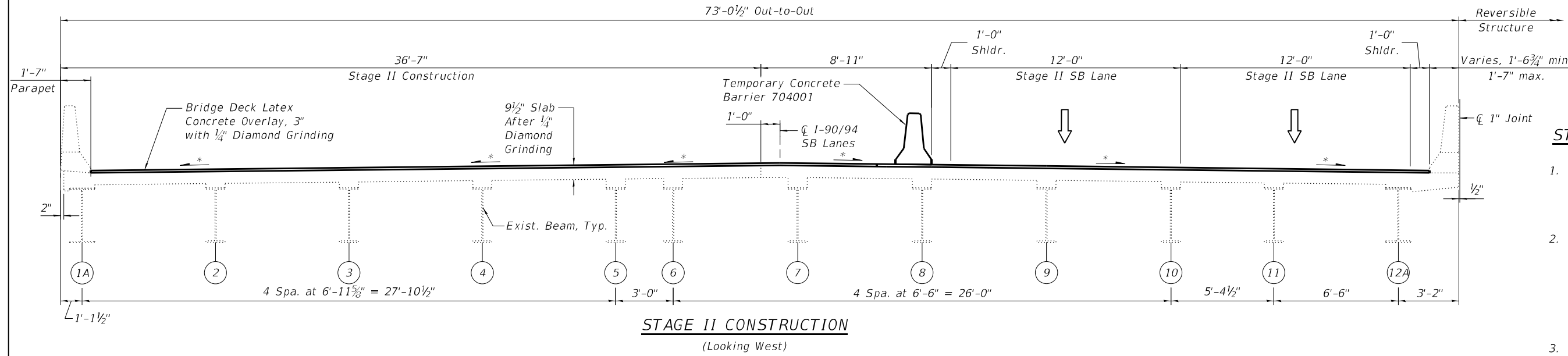
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| PLOT SCALE = | DRAWN - | D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS II
 SN 016-0120 (SB)**

SHEET S31-04 OF S31-24 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1247 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |

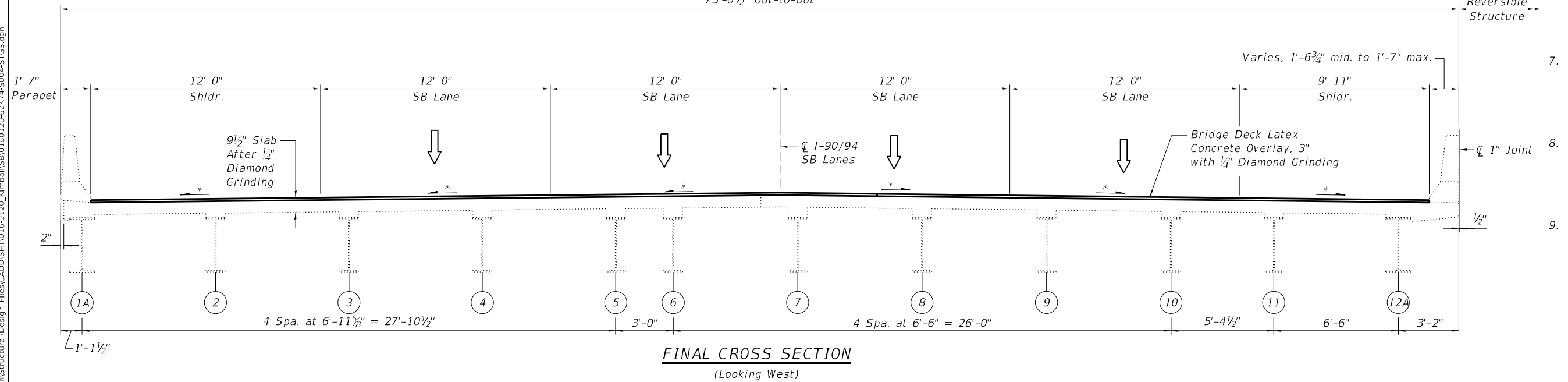


STAGE II CONSTRUCTION
 (Looking West)

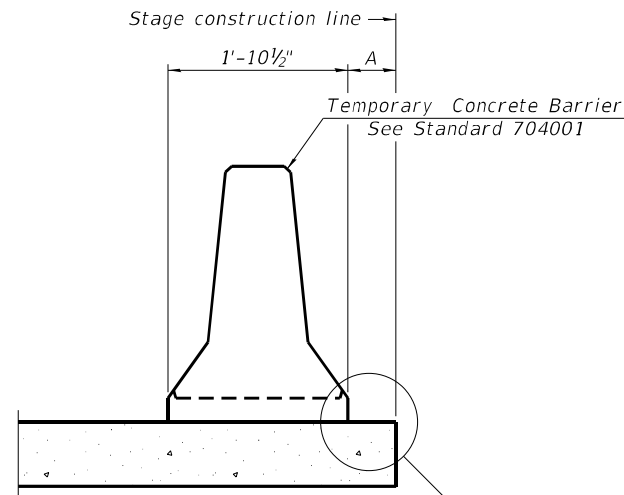
STAGE II CONSTRUCTION

1. Perform Deck Slab Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at east and west abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete at abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
5. Perform 1/4" diamond grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.
9. Perform Slope Wall Repairs as shown in the plans

* Match existing deck surface profile

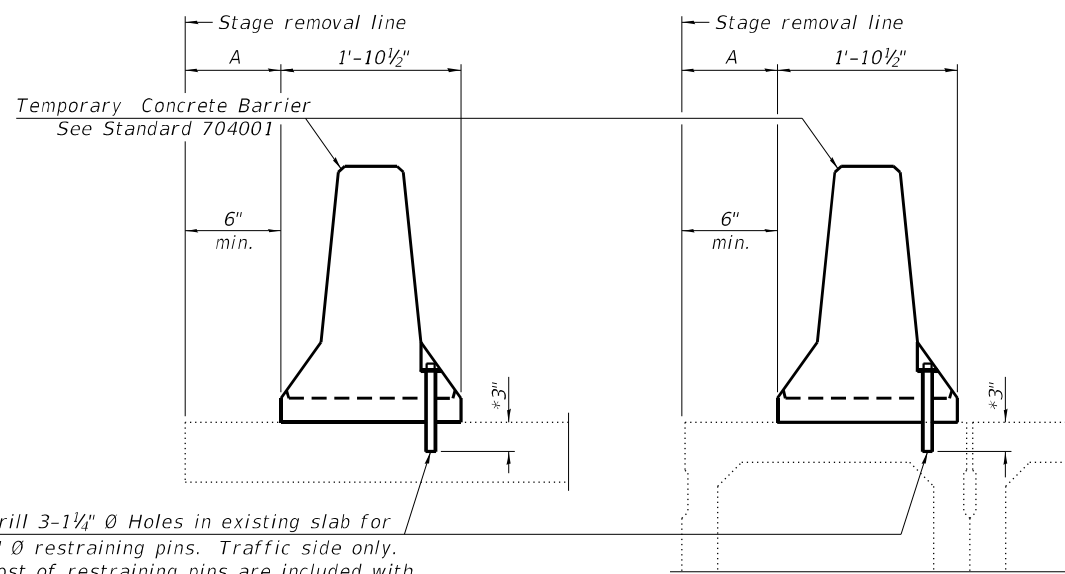


FINAL CROSS SECTION
 (Looking West)



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".

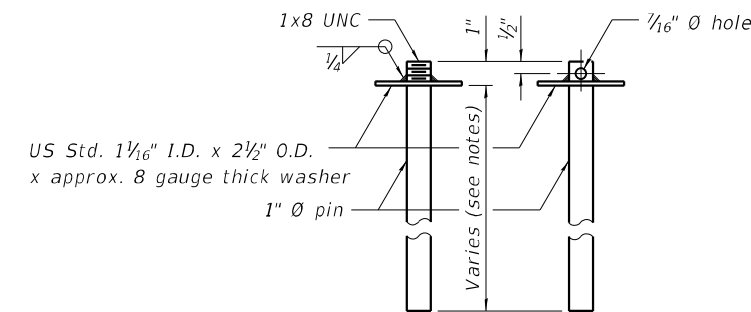
NEW SLAB OR NEW DECK BEAM



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

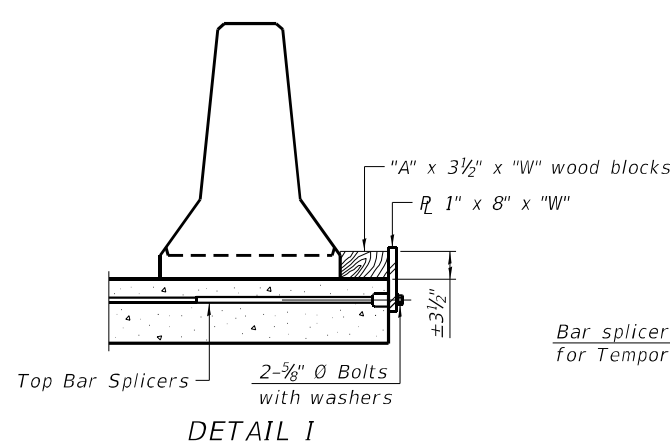
EXISTING DECK BEAM



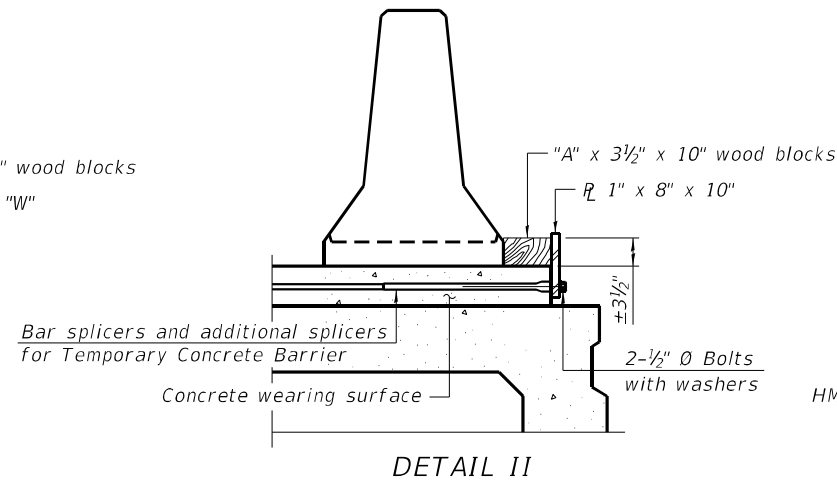
RESTRAINING PIN

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

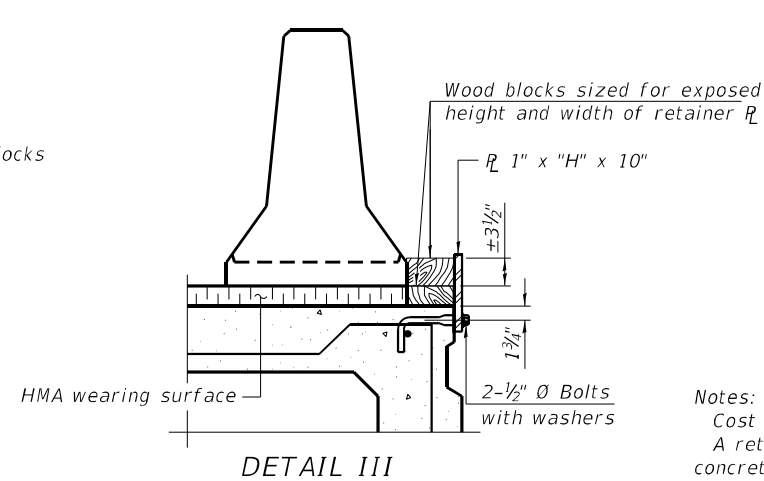
SECTIONS THRU SLAB OR DECK BEAM



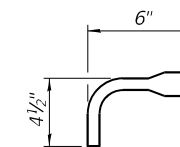
DETAIL I



DETAIL II



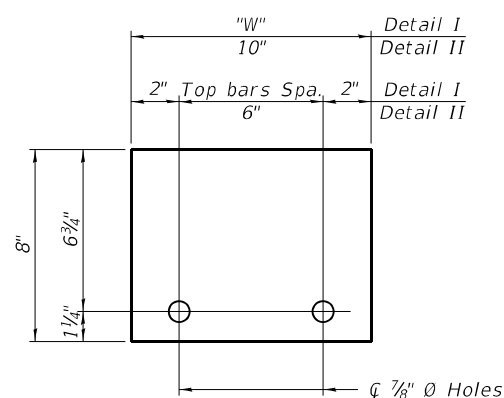
DETAIL III



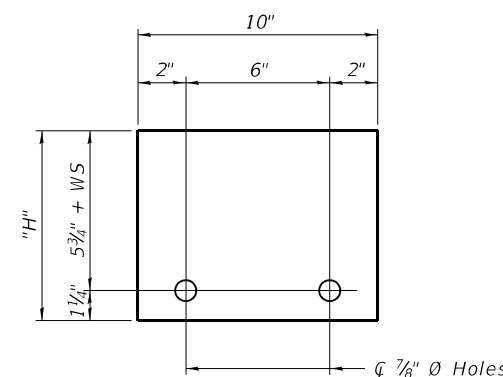
BAR SPLICER FOR #4 BAR - DETAIL III

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate \bar{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.



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



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

RAILING CRITERIA

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

R-27 10-12-2021

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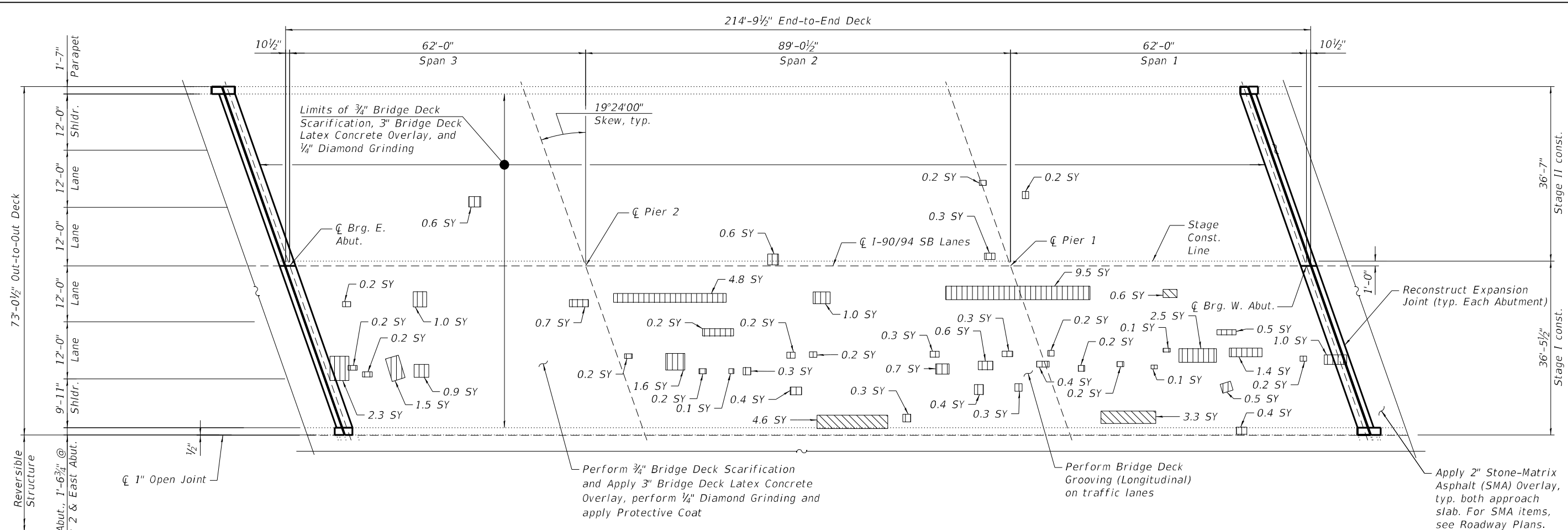
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| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
 SN 016-0120 (SB)

SHEET S31-05 OF S31-24 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1248 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



DECK PLAN

LEGEND

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

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

NOTES:

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
2. For bridge deck final cross section, see Sheet S31-04.
3. For East and West transverse joint removal and reconstruction, see Sheet S31-07 thru S31-12.
4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. 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.
9. Prior to any reconstruction or resurfacing of the bridge deck, a team of the consultant WJE will require access to contractor work zone to take cores of existing deck for independent study with IDOT. Contractor to coordinate with IDOT/WJE in advance. There is no cost to the contractor.

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|---|--------|----------|
| Protective Shield | Sq Yd | 852 |
| Protective Coat | Sq Yd | 1,883 |
| Protect and Maintain Existing Underpass Luminaire | L Sum | 0.022 |
| Bridge Deck Grooving (Longitudinal) | Sq Yd | 1,145 |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,638 |
| Bridge Deck Scarification 3/4" | Sq Yd | 1,638 |
| Deck Slab Repair (Full Depth, Type II) | Sq Yd | 8.5 |
| Diamond Grinding (Bridge Section) | Sq Yd | 1,686 |
| Maintenance of Lighting System | Cal Mo | 6 |

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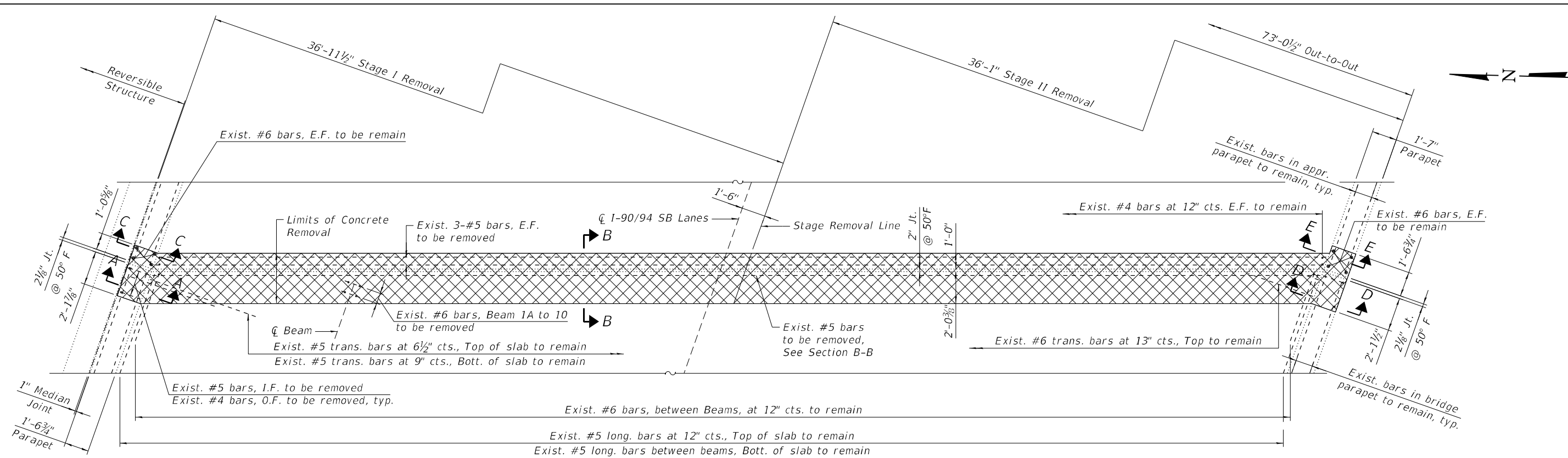
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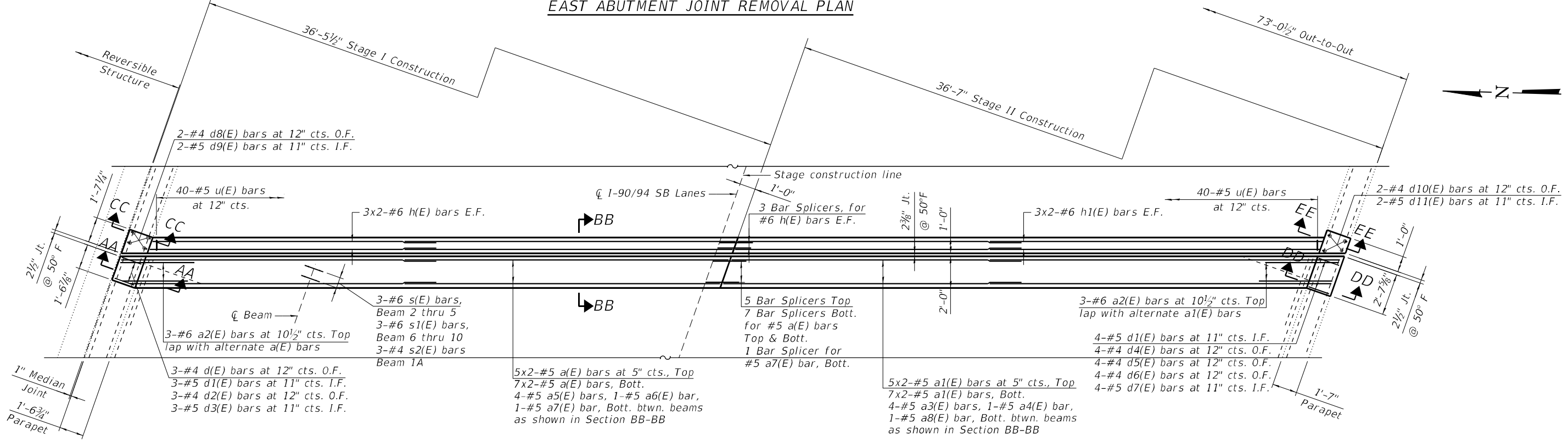
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK REPAIR PLAN AND DETAILS
 SN 016-0120 (SB)**

| | | | | |
|---------------------------|---------------------|-------------|-------------------|----------------|
| F.A.I. RTE. 90 | SECTION 2020-004-BR | COUNTY COOK | TOTAL SHEETS 1492 | SHEET NO. 1249 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



EAST ABUTMENT JOINT REMOVAL PLAN



EAST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S31-08.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S31-09.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #4 d8(E) and d10(E) bars and #5 d9(E) and d11(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

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

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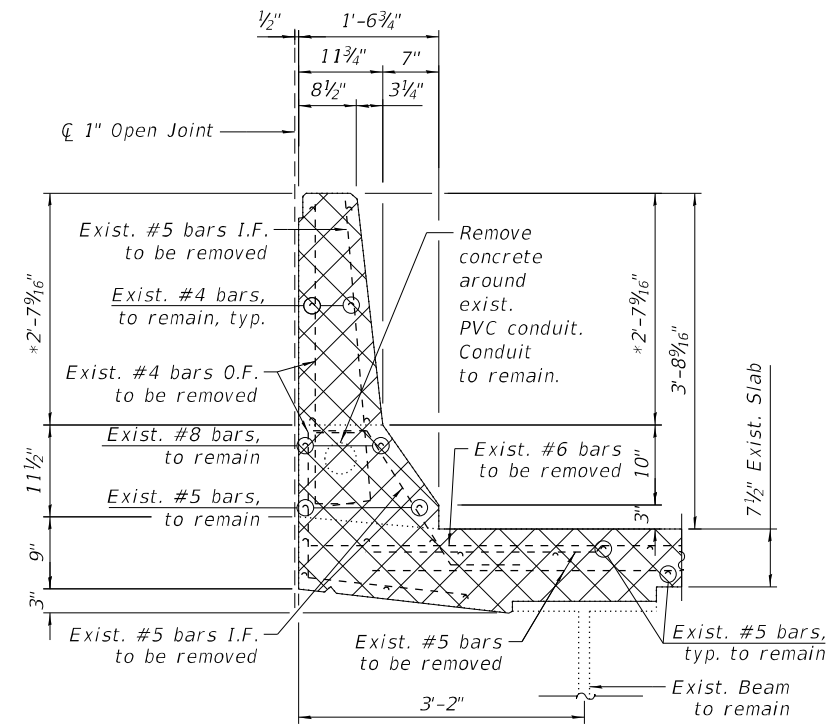
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

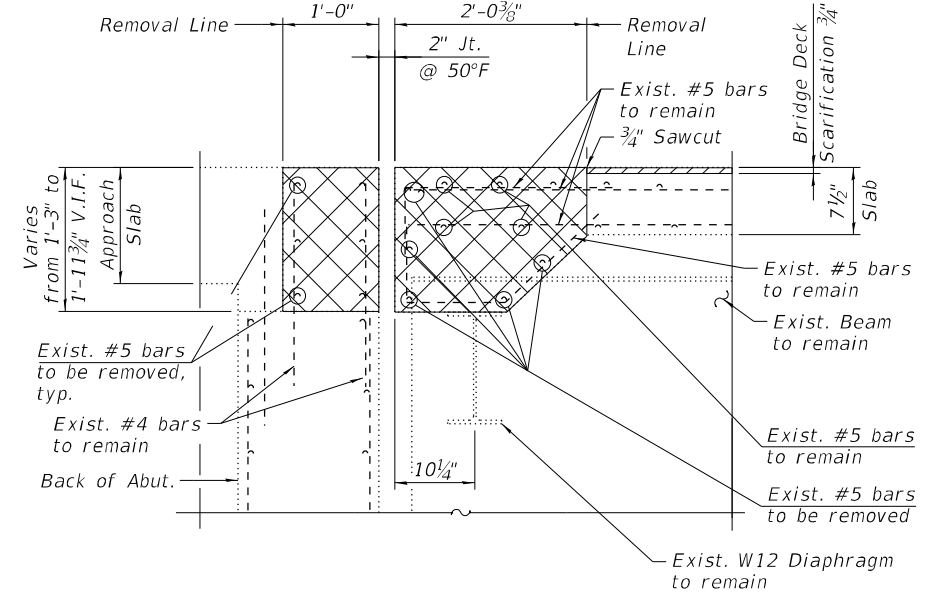
**EAST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0120 (SB)**

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
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| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

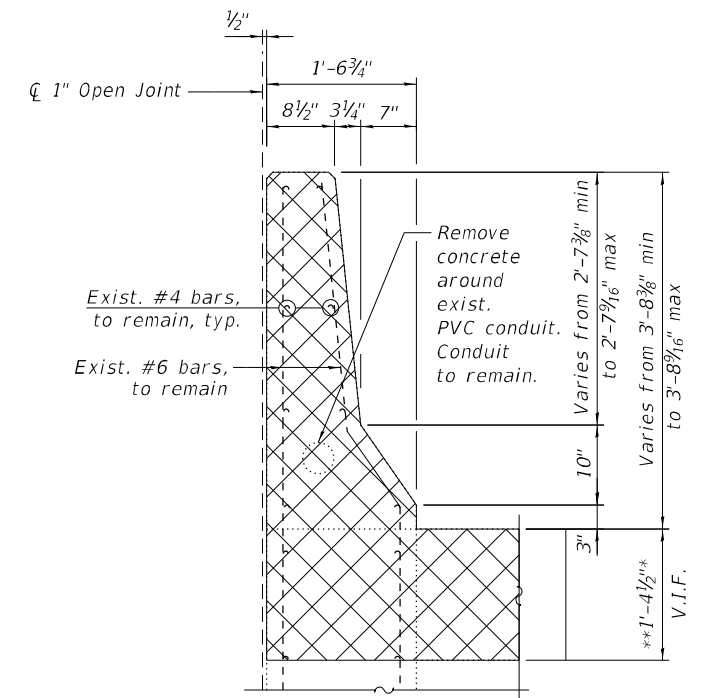
SHEET S31-07 OF S31-24 SHEETS



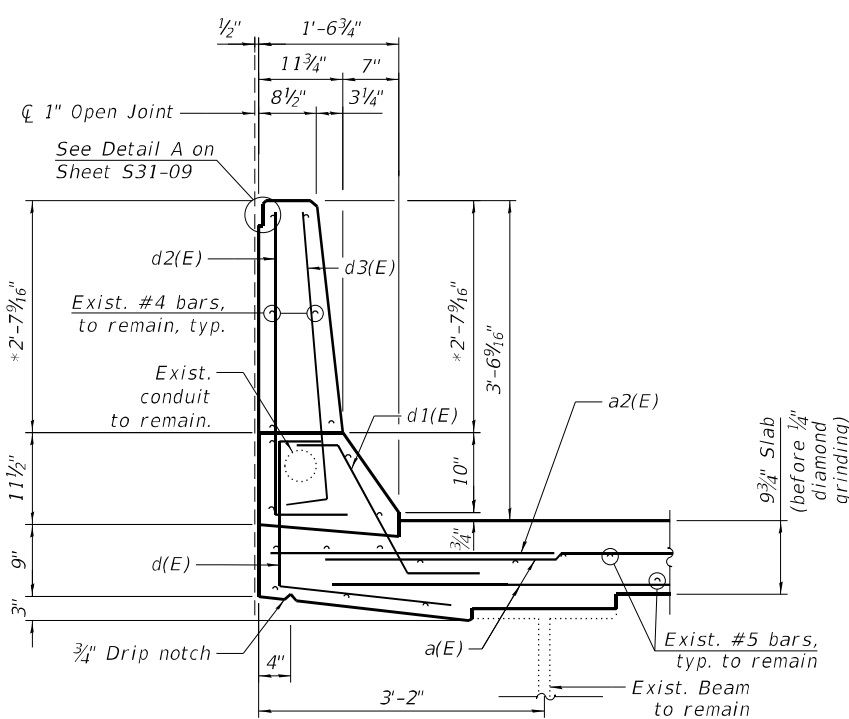
SECTION A-A
(North parapet removal)



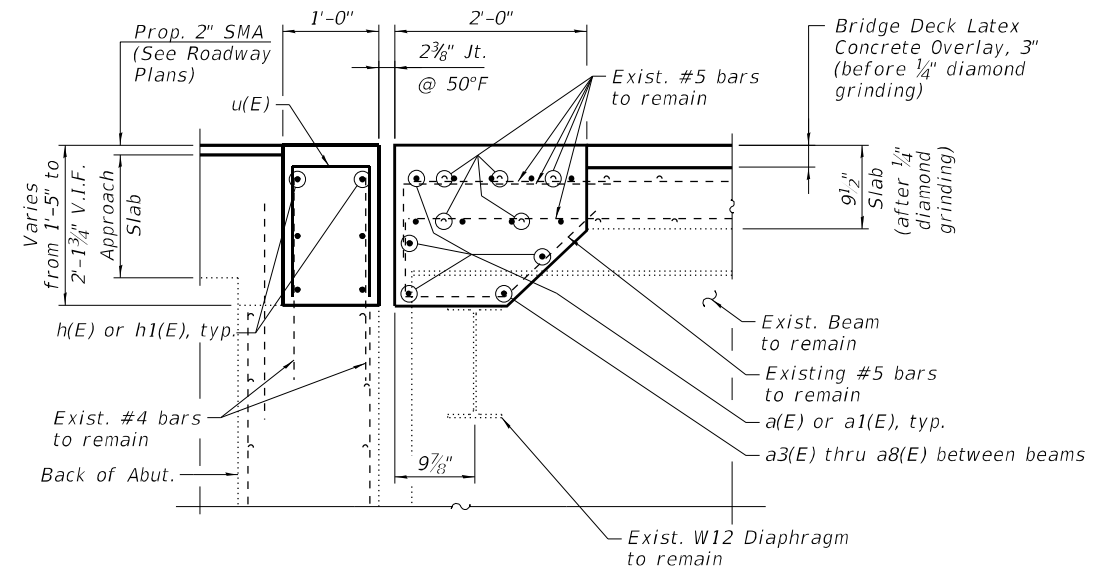
SECTION B-B



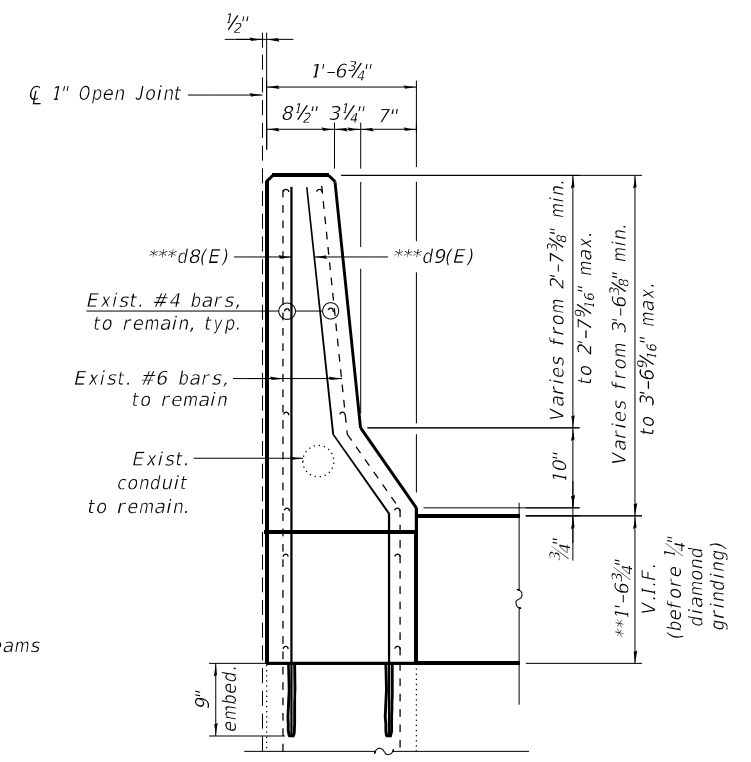
SECTION C-C
(North parapet removal)



SECTION AA-AA
(North parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(North parapet reconstruction)

- * Adjust in field as required to match reversible parapet
- ** Dimension is taken at the front of Abut.
- *** Epoxy grout #4 d8(E) and #5 d9(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

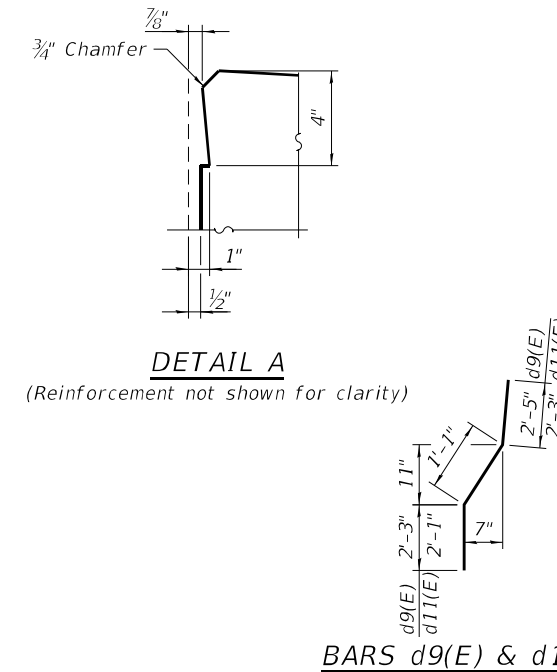
**EAST ABUTMENT EXPANSION JOINT DETAILS II
 SN 016-0120 (SB)**

SHEET S31-08 OF S31-24 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1251 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

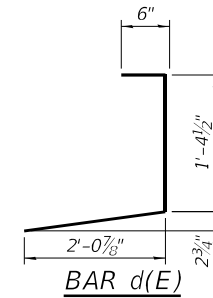
**BILL OF MATERIAL
EAST ABUTMENT**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| a1(E) | 24 | #5 | 21'-9" | — |
| a2(E) | 6 | #6 | 6'-6" | — |
| a3(E) | 4 | #5 | 7'-0" | — |
| a4(E) | 1 | #5 | 2'-10" | — |
| a5(E) | 4 | #5 | 6'-6" | — |
| a6(E) | 1 | #5 | 5'-4" | — |
| a7(E) | 1 | #5 | 1'-11" | — |
| a8(E) | 1 | #5 | 4'-7" | — |
| d(E) | 3 | #4 | 4'-0" | ┌ |
| d1(E) | 7 | #5 | 2'-7" | ┌ |
| d2(E) | 3 | #4 | 4'-1" | ┌ |
| d3(E) | 3 | #5 | 4'-1" | ┌ |
| d4(E) | 4 | #4 | 1'-1" | ┌ |
| d5(E) | 4 | #4 | 3'-7" | ┌ |
| d6(E) | 4 | #4 | 4'-9" | ┌ |
| d7(E) | 4 | #5 | 3'-7" | ┌ |
| d8(E) | 2 | #4 | 5'-9" | ┌ |
| d9(E) | 2 | #5 | 5'-9" | ┌ |
| d10(E) | 2 | #4 | 5'-4" | ┌ |
| d11(E) | 2 | #5 | 5'-5" | ┌ |
| h(E) | 12 | #6 | 20'-9" | — |
| h1(E) | 12 | #6 | 20'-10" | — |
| s(E) | 12 | #6 | 4'-1" | ┌ |
| s1(E) | 15 | #6 | 4'-7" | ┌ |
| s2(E) | 3 | #4 | 4'-2" | ┌ |
| u(E) | 80 | #5 | 3'-1" | ┌ |
| Concrete Removal | | | Cu Yd | 16.2 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 2,540 |
| Concrete Superstructure | | | Cu Yd | 18.2 |

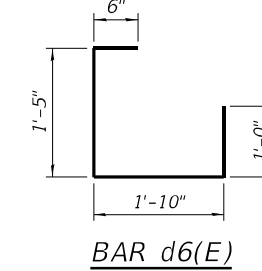


DETAIL A
(Reinforcement not shown for clarity)

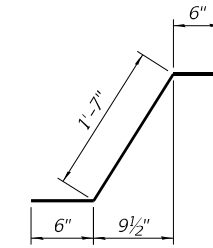
BARS d9(E) & d11(E)



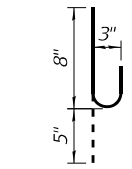
BAR d(E)



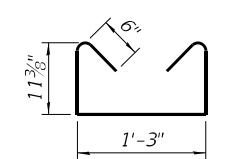
BAR d6(E)



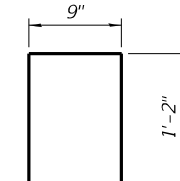
BAR d1(E)



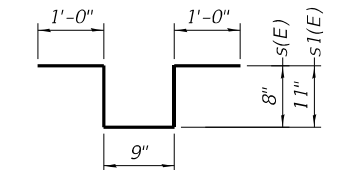
BAR d4(E)



BAR s2(E)



BAR u(E)

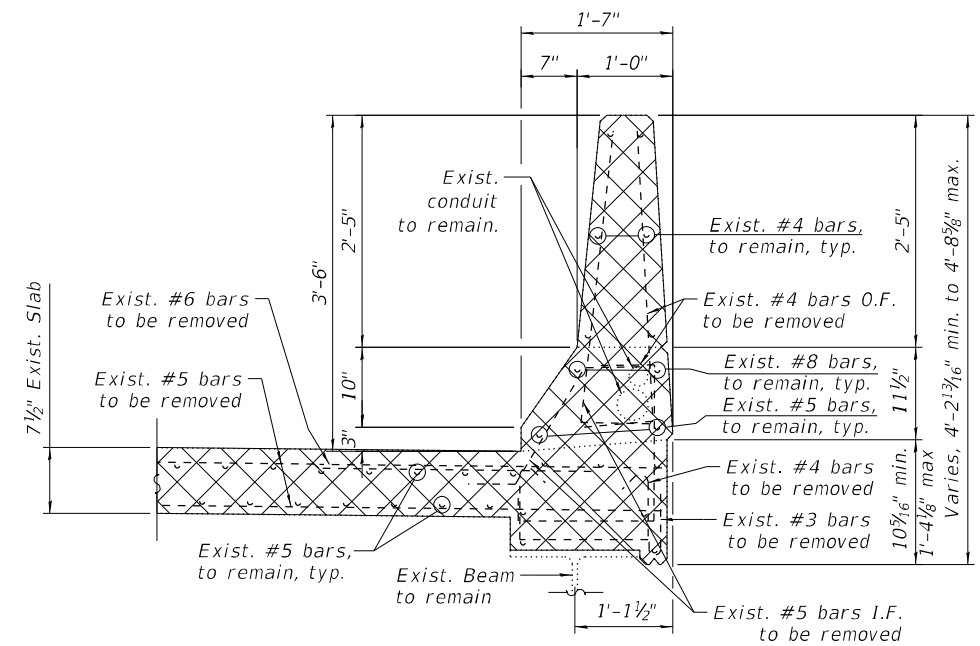


BAR s(E) & s1(E)

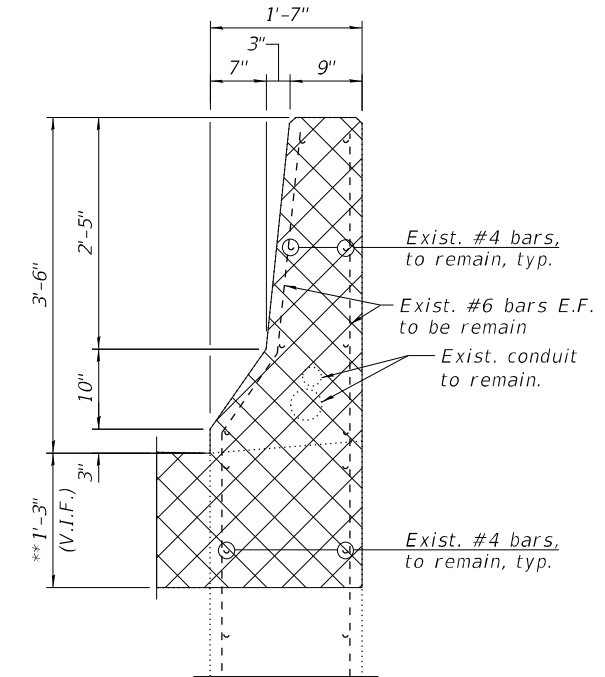
| Bar | A | B |
|-------|-------|----|
| d3(E) | 3'-7" | 6" |
| d4(E) | 3'-7" | 6" |
| d5(E) | 3'-1" | 6" |
| d7(E) | 3'-1" | 6" |

MIN BAR LAPS

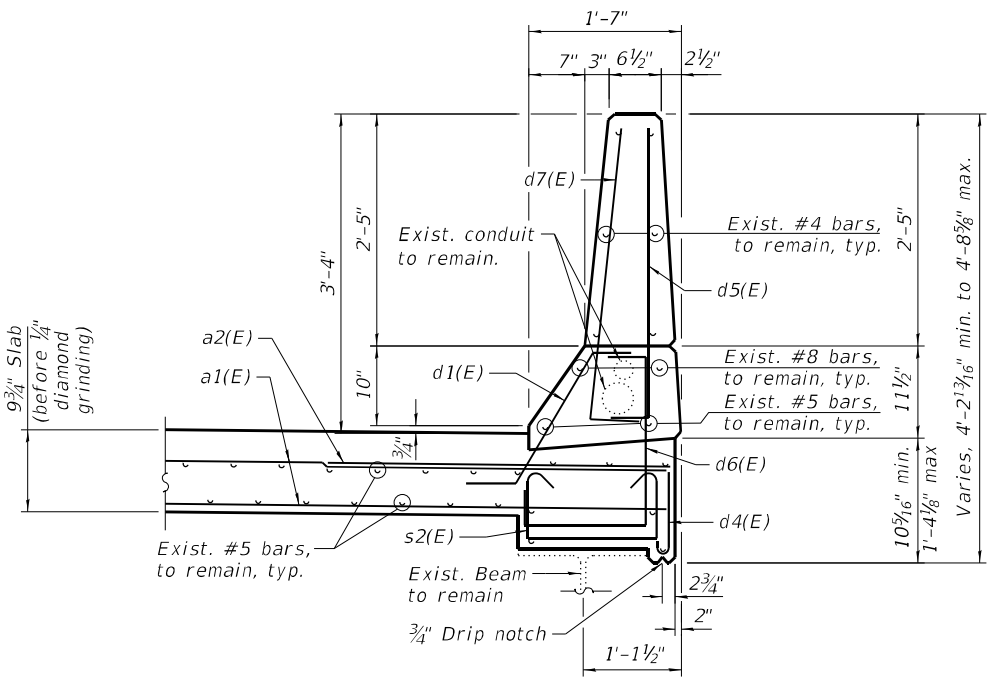
| | |
|----|-------|
| #5 | 3'-6" |
| #6 | 4'-0" |



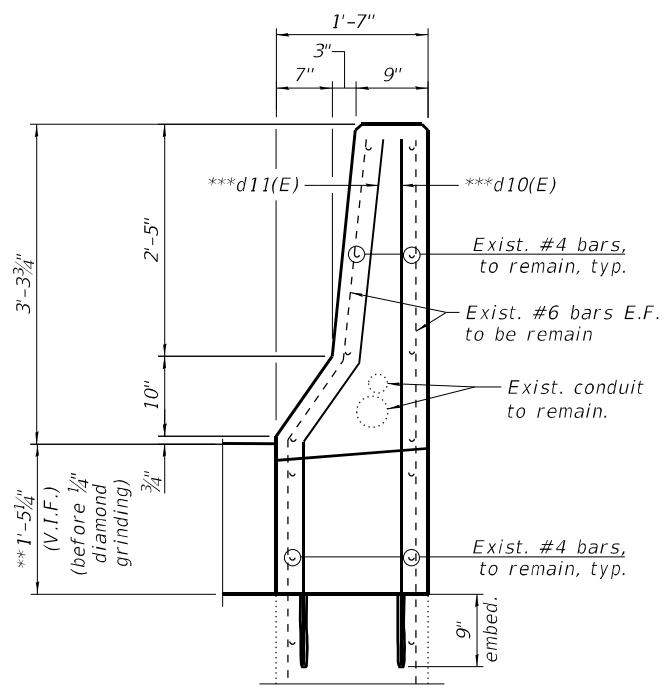
SECTION D-D
(South parapet removal)



SECTION E-E
(South parapet removal)



SECTION DD-DD
(South parapet reconstruction)



SECTION EE-EE
(South parapet reconstruction)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S31-13.
- For Bar Splicer Assembly details, see sheet S31-24.
- 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. Cost shall be included with Concrete Removal.
- Removal of Existing Expansion Joint will not be paid for separately but will be included in the cost of Concrete Removal.

- * Adjust in field as required to match reversible parapet
- ** Dimension is taken at the front of Abut.
- *** Epoxy grout #4 d10(E) and #5 d11(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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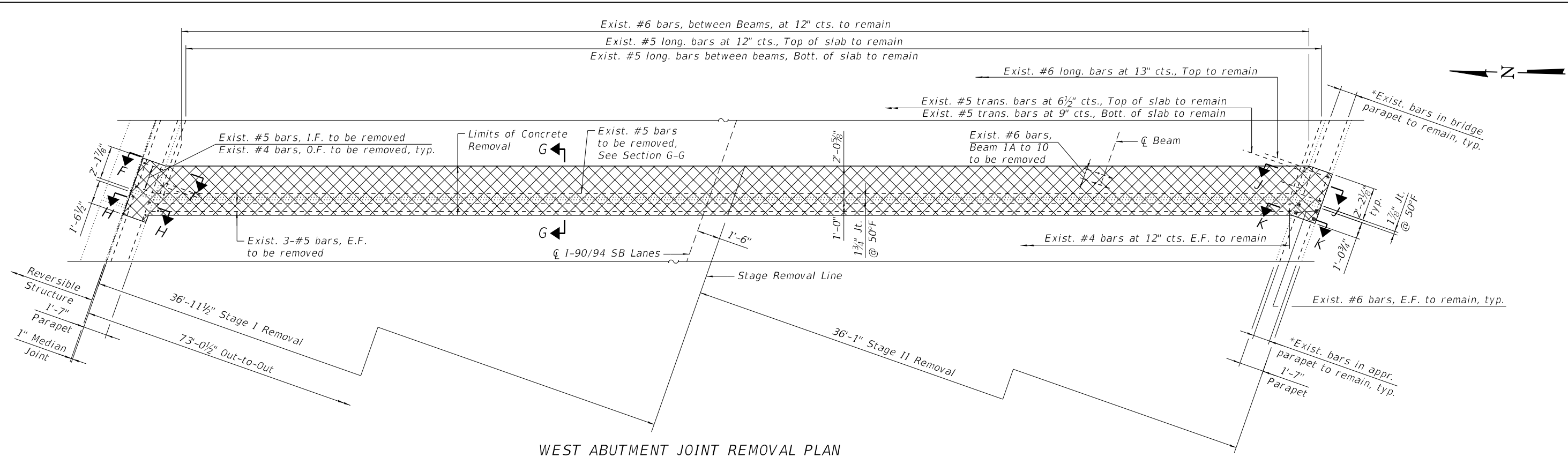
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| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

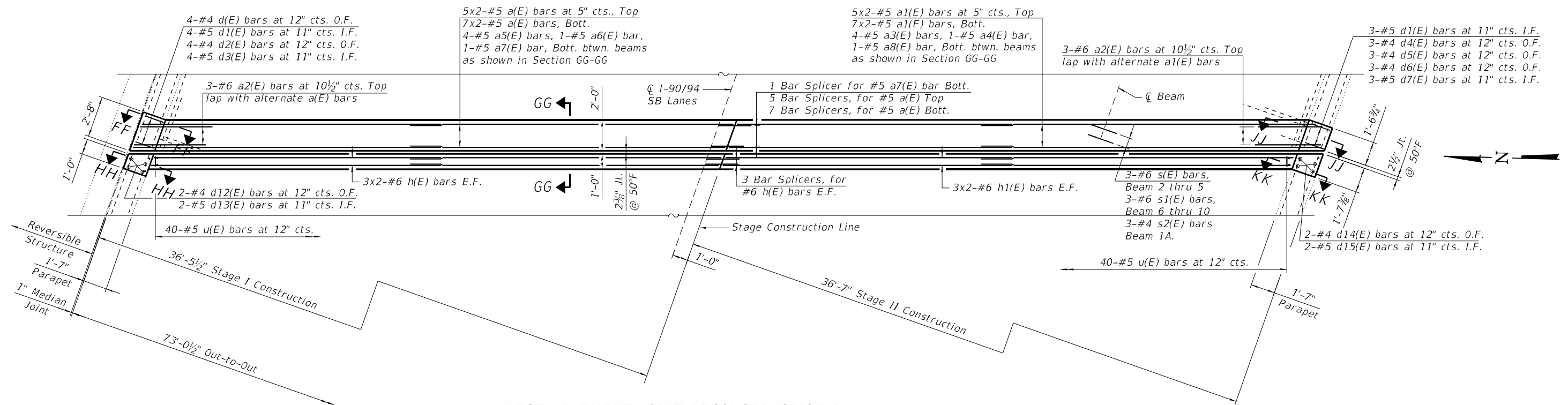
**EAST ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0120 (SB)**

SHEET S31-09 OF S31-24 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1252 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S31-11.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S31-12.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #4 d12(E) and d14(E) bars and #5 d13(E) and d15(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

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

MODEL: SMOELNAMES
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 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

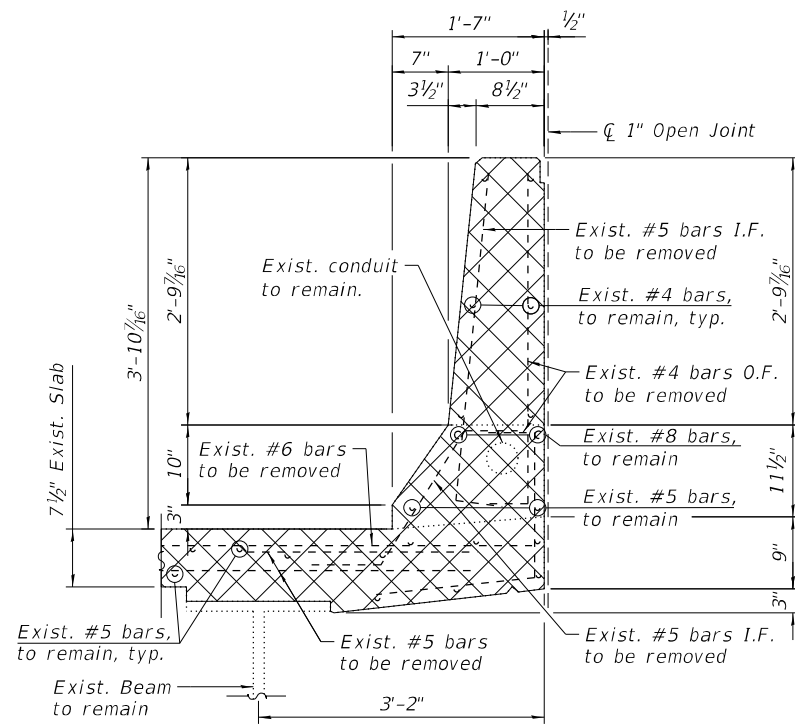
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| PLOT SCALE = | DRAWN - D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

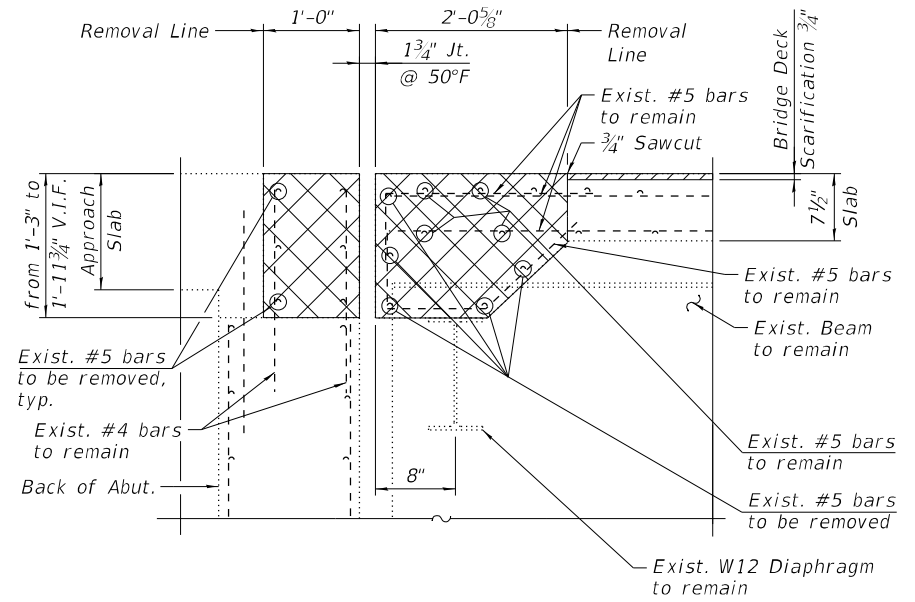
**WEST ABUTMENT EXPANSION JOINT DETAILS I
 SN 016-0120 (SB)**

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
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| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

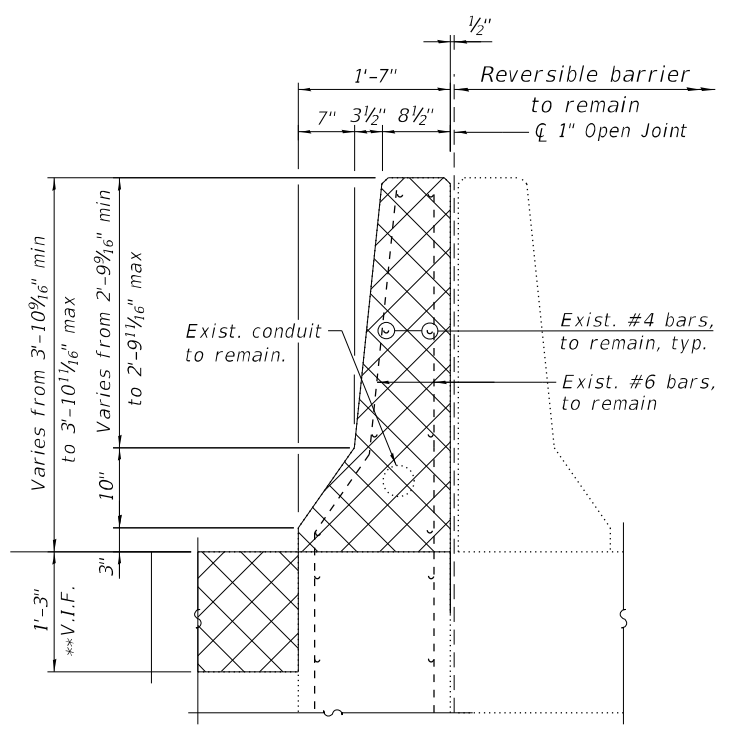
SHEET S31-10 OF S31-24 SHEETS



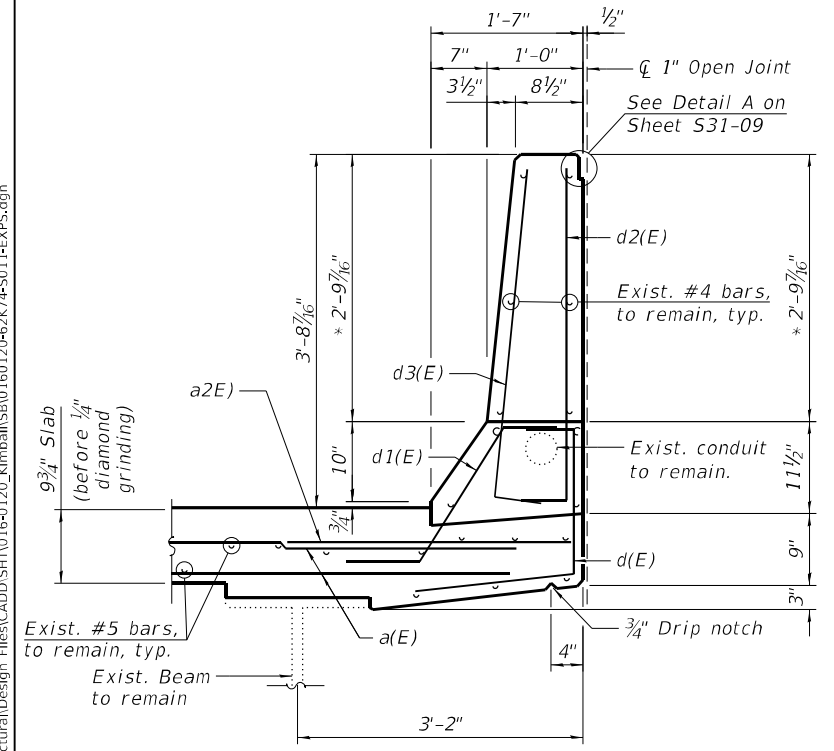
SECTION F-F
(North parapet removal)



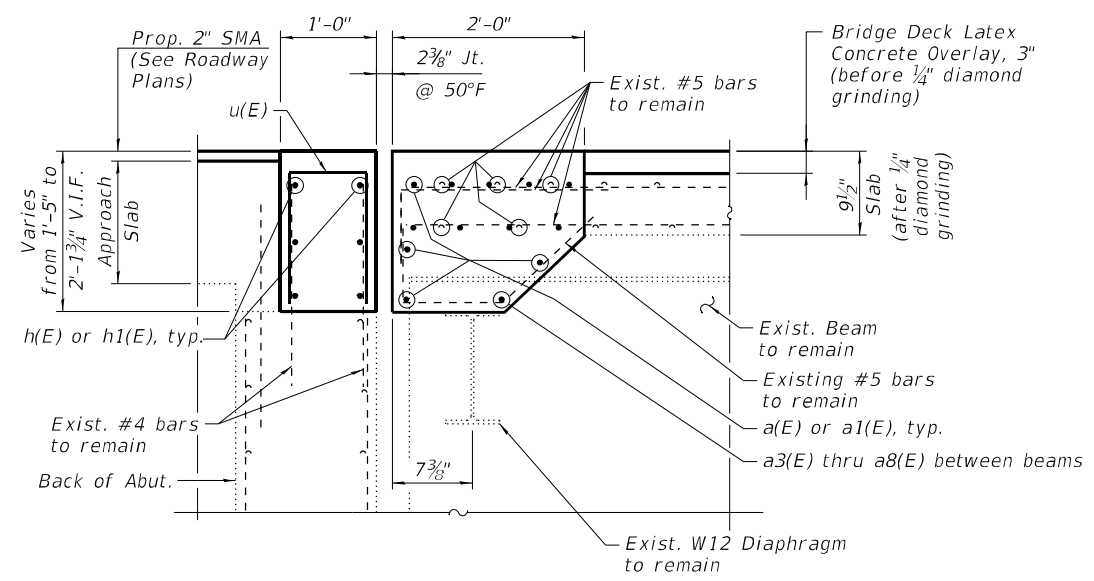
SECTION G-G



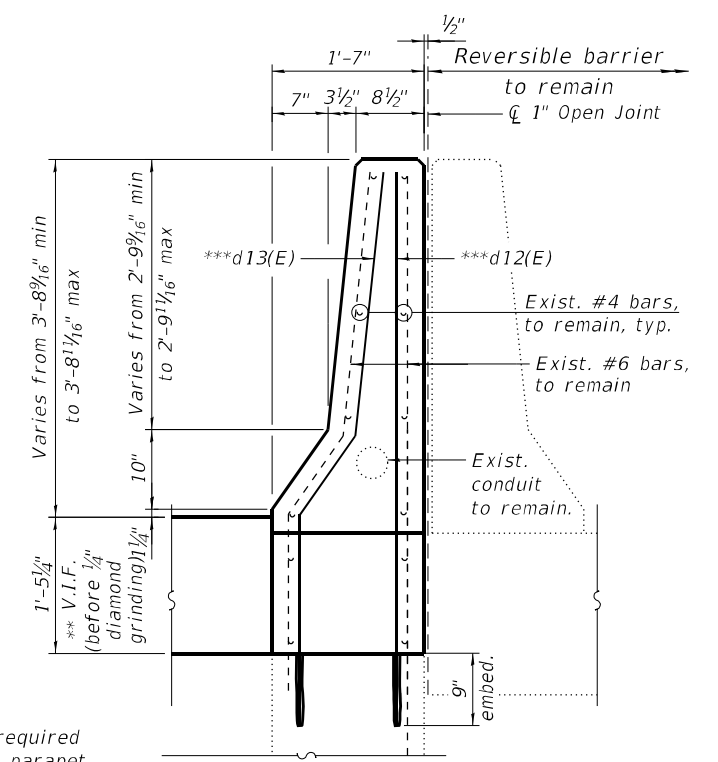
SECTION H-H
(North parapet removal)



SECTION FF-FF
(North parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
(North parapet reconstruction)

- LEGEND**
- Concrete Removal
 - I.F. Inside Face
 - O.F. Outside Face
 - V.I.F. Verify In Field

- * Adjust in field as required to match reversible parapet
- ** Dimension is taken at the front of Abut.
- *** Epoxy grout #4 d12(E) and #5 d13(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications

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| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

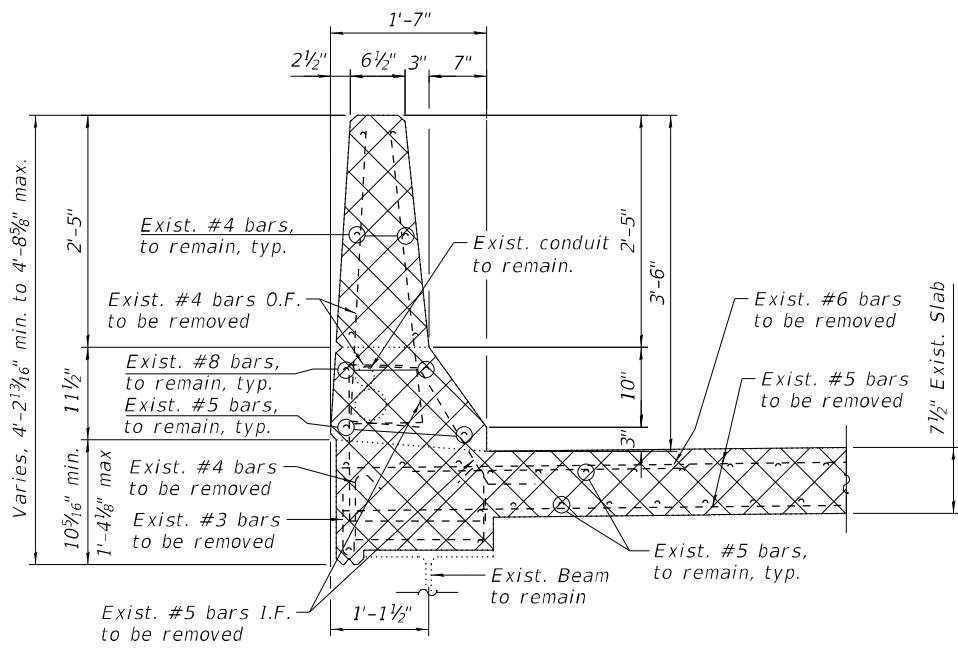
**WEST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0120 (SB)**

SHEET S31-11 OF S31-24 SHEETS

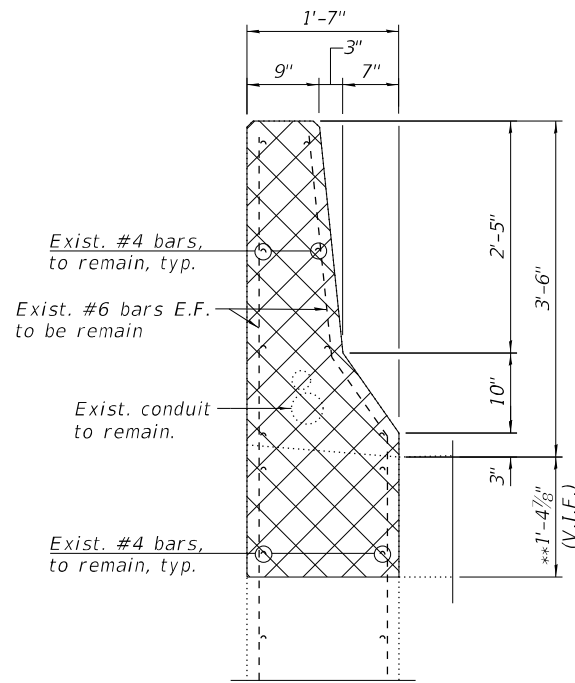
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|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1254 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

**BILL OF MATERIAL
WEST ABUTMENT**

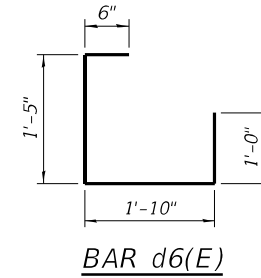
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| a(E) | 24 | #5 | 21'-9" | — |
| a1(E) | 24 | #5 | 21'-10" | — |
| a2(E) | 6 | #6 | 6'-6" | — |
| a3(E) | 4 | #5 | 7'-0" | — |
| a4(E) | 1 | #5 | 2'-10" | — |
| a5(E) | 4 | #5 | 6'-6" | — |
| a6(E) | 1 | #5 | 5'-4" | — |
| a7(E) | 1 | #5 | 1'-11" | — |
| a8(E) | 1 | #5 | 4'-7" | — |
| d(E) | 4 | #4 | 4'-0" | ┌ |
| d1(E) | 7 | #5 | 2'-7" | ┌ |
| d2(E) | 4 | #4 | 4'-1" | ┌ |
| d3(E) | 4 | #5 | 4'-1" | ┌ |
| d4(E) | 3 | #4 | 1'-1" | ┌ |
| d5(E) | 3 | #4 | 3'-7" | ┌ |
| d6(E) | 3 | #4 | 4'-9" | ┌ |
| d7(E) | 3 | #5 | 3'-7" | ┌ |
| d12(E) | 2 | #4 | 5'-7" | ┌ |
| d13(E) | 2 | #5 | 5'-7" | ┌ |
| d14(E) | 2 | #4 | 5'-6" | ┌ |
| d15(E) | 2 | #5 | 5'-7" | ┌ |
| h(E) | 12 | #6 | 20'-9" | — |
| h1(E) | 12 | #6 | 20'-10" | — |
| s(E) | 12 | #6 | 4'-1" | ┌ |
| s1(E) | 15 | #6 | 4'-7" | ┌ |
| s2(E) | 3 | #4 | 3'-10" | ┌ |
| u(E) | 80 | #5 | 3'-1" | ┌ |
| Concrete Removal | | | Cu Yd | 16.3 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 2,560 |
| Concrete Superstructure | | | Cu Yd | 18.3 |



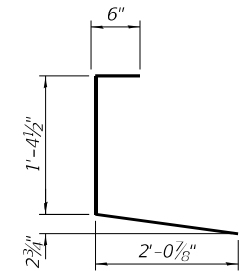
SECTION J-J
(South parapet removal)



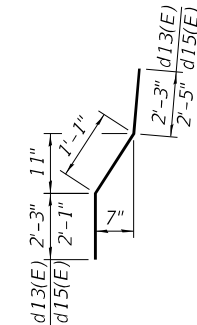
SECTION K-K
(South parapet removal)



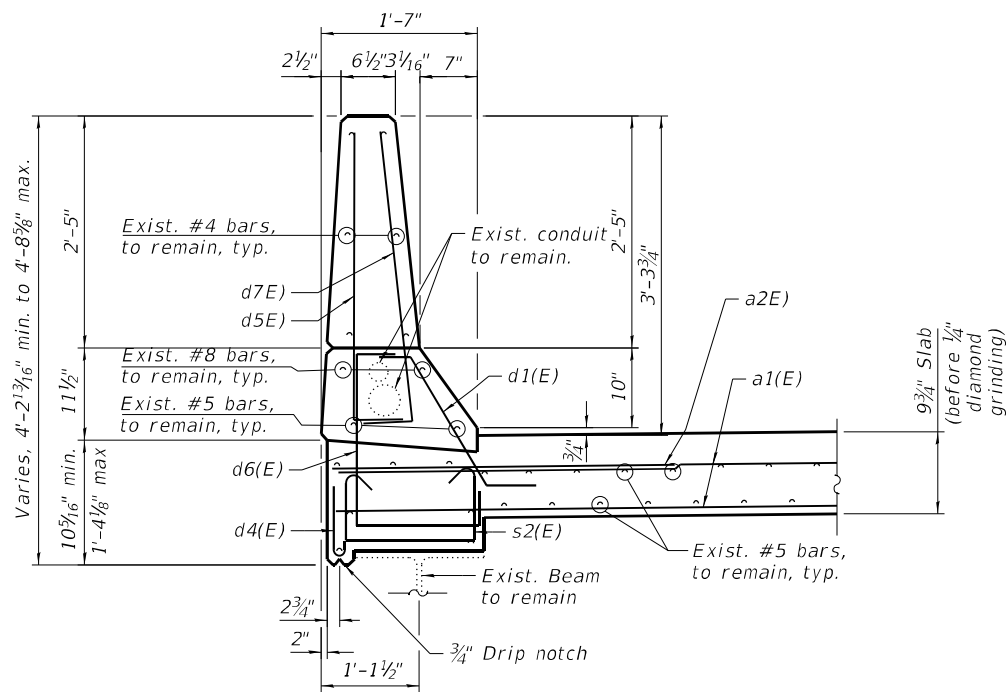
BAR d6(E)



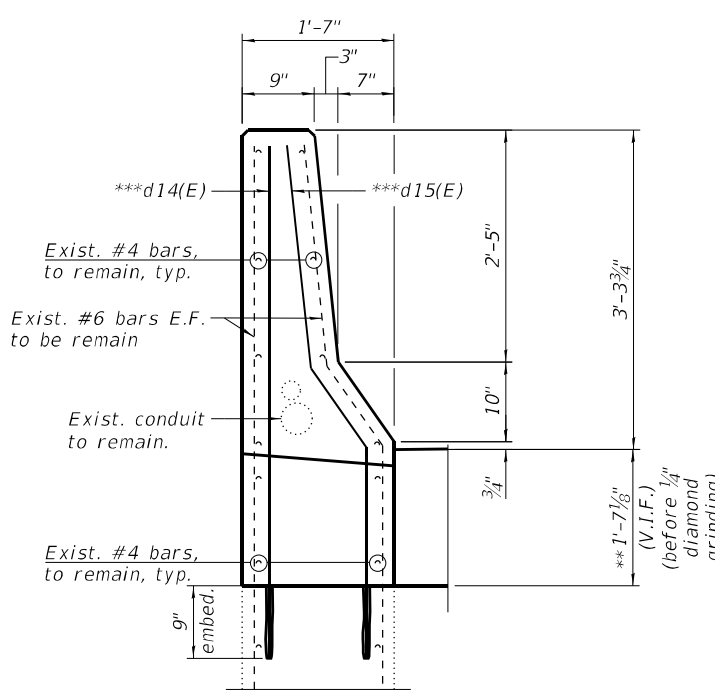
BAR d(E)



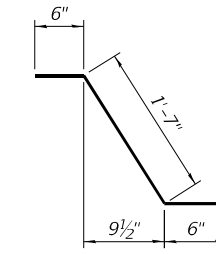
BARS d13(E) & d15(E)



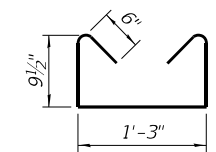
SECTION JJ-JJ
(South parapet reconstruction)



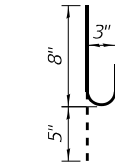
SECTION KK-KK
(South parapet reconstruction)



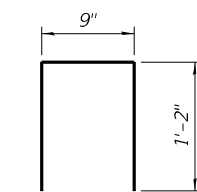
BAR d1(E)



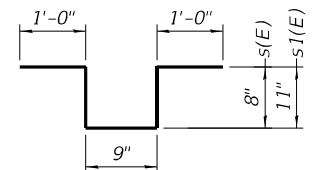
BAR s2(E)



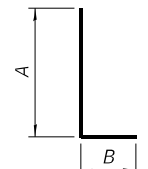
BAR d4(E)



BAR u(E)



BAR s(E) & s1(E)



**BAR d2(E), d3(E),
d5(E) & d7(E)**

| Bar | A | B |
|-------|-------|----|
| d2(E) | 3'-7" | 6" |
| d3(E) | 3'-7" | 6" |
| d5(E) | 3'-1" | 6" |
| d7(E) | 3'-1" | 6" |

NOTES:

- For Preformed Joint Strip Seal details, see sheet S31-13.
- For Bar Splicer Assembly details, see sheet S31-24.
- 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. Cost shall be included with Concrete Removal.
- Removal of Existing Expansion Joint will not be paid for separately but will be included in the cost of Concrete Removal.

* Adjust in field as required to match reversible parapet

** Dimension is taken at the front of Abut.

*** Epoxy grout #4 d14(E) and #5 d15(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify In Field

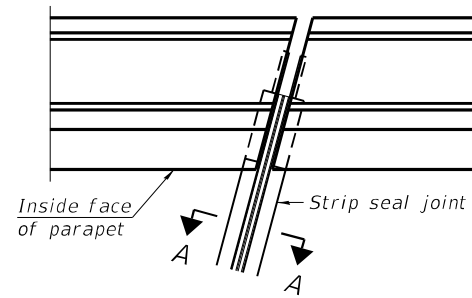
MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

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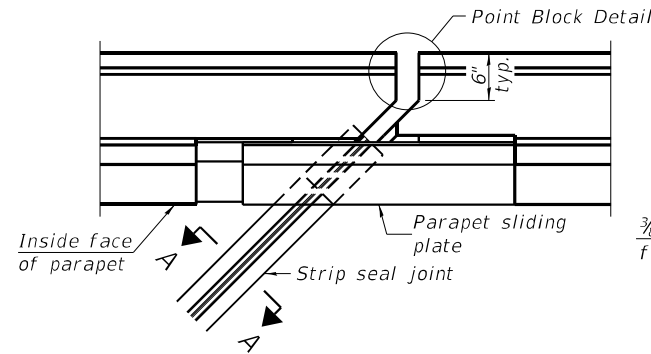
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| PLOT DATE = | DRAWN - | D.C.P. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
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| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

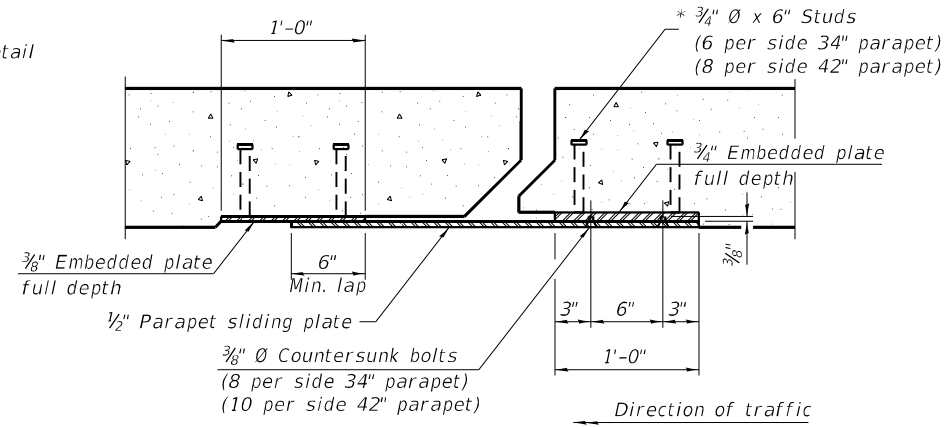


FOR SKEWS $\leq 30^\circ$

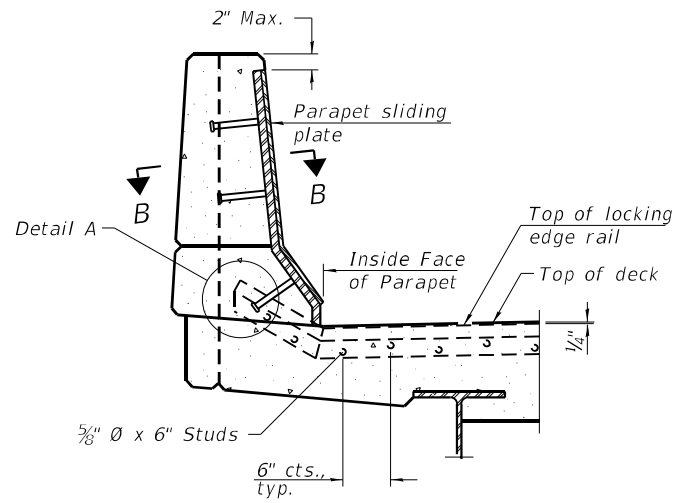
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

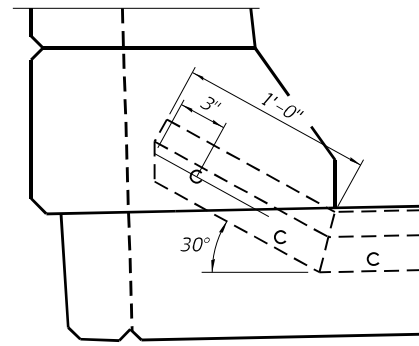


SECTION B-B

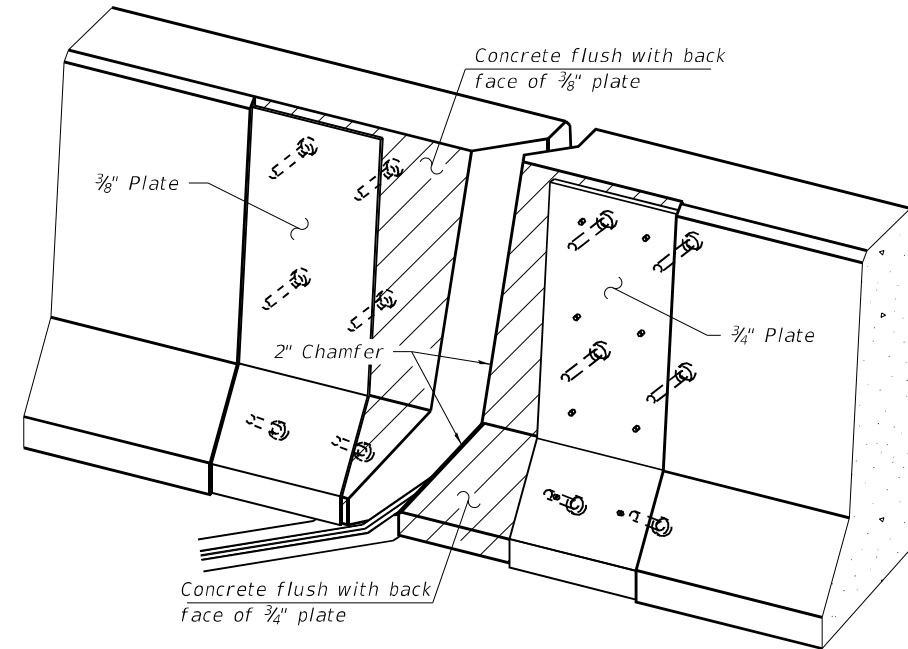


ELEVATION AT PARAPET

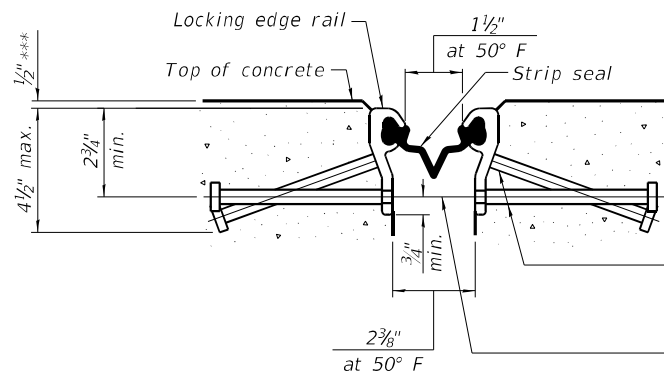
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

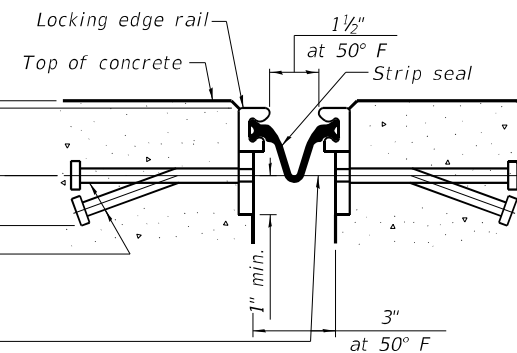
* $3/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$3/8"$ ϕ threaded rods in $1/16"$ ϕ holes at $\pm 4"$ 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.

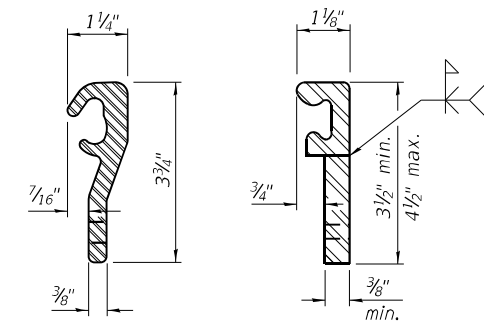
SECTION A-A

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

*** Before $1/4"$ Diamond Grinding.

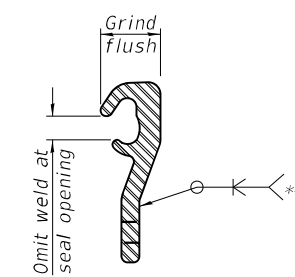


SHOWING WELDED RAIL JOINT



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 | 153 |

MODEL: SMODELNAMES
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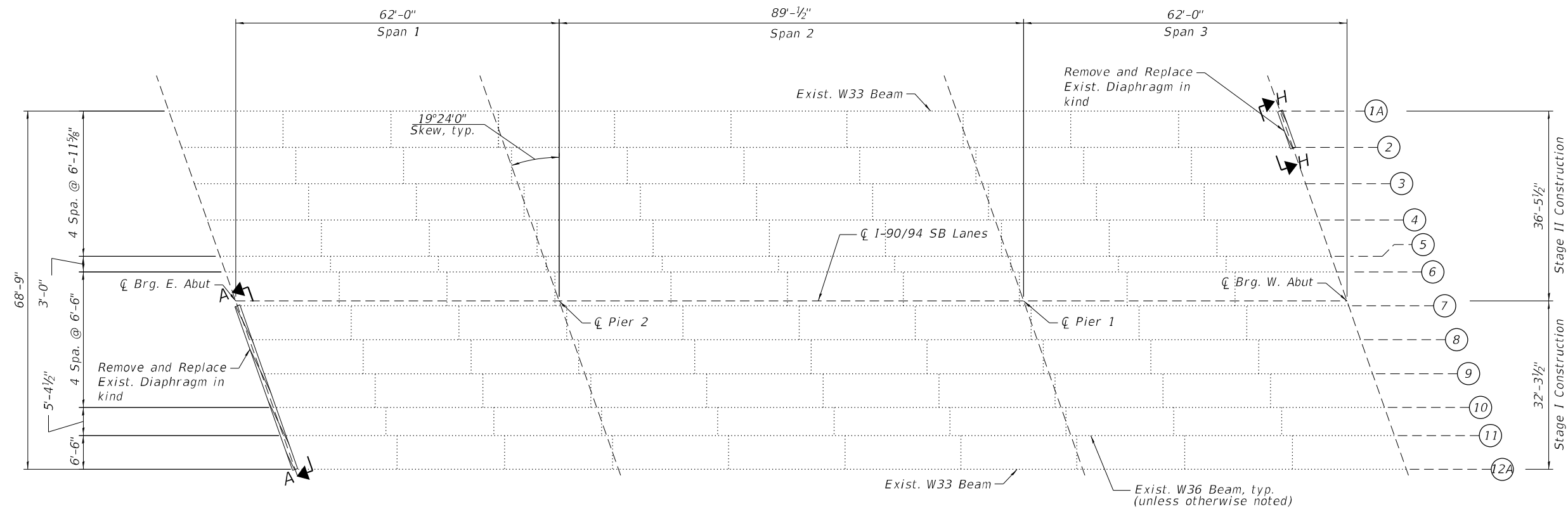
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| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
SN 016-0120 (SB)

SHEET S31-13 OF S31-24 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1256 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



FRAMING PLAN

NOTES:

1. All work is to be performed utilizing staged construction. See Sheets S31-03 and S31-04 for details.
2. For Section A-A, see Sheets S31-15 thru S31-17.
3. For Section H-H, see Sheet S31-18.

LEGEND

Remove and Replace Exist. Diaphragm

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Furnishing and Erecting Structural Steel | Pound | 1,630 |
| Structural Steel Removal | Pound | 1,630 |

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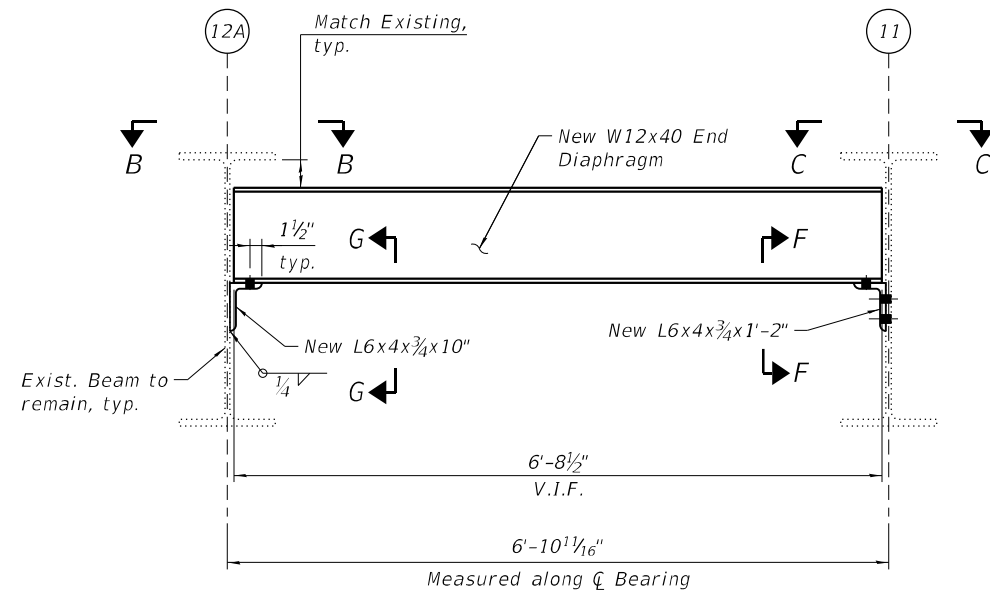
GRAEF
 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

| | | | |
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| USER NAME = | DESIGNED - | W.A.R. | REVISED - |
| | CHECKED - | H.A. | REVISED - |
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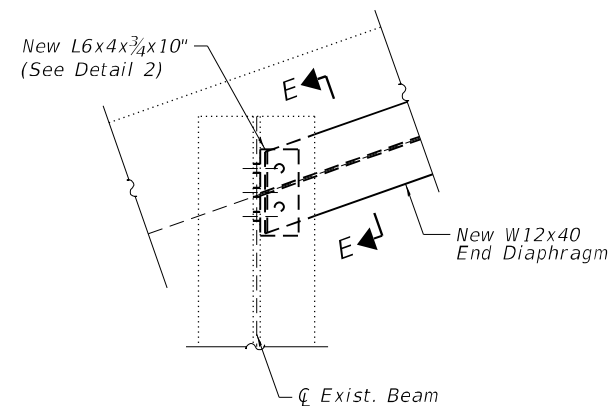
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
SN 016-0120 (SB)
 SHEET S31-14 OF S31-24 SHEETS

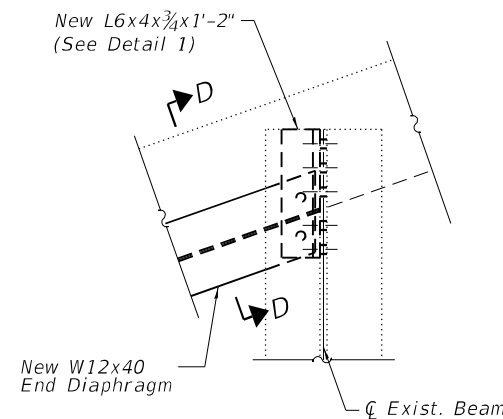
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
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| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



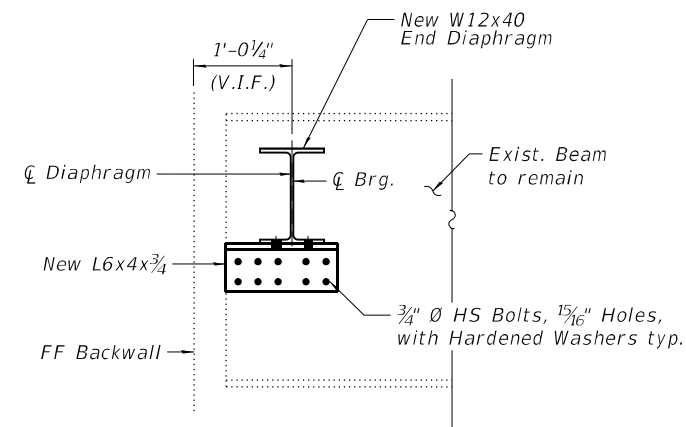
SECTION A-A
East Abutment shown
(1 Required)



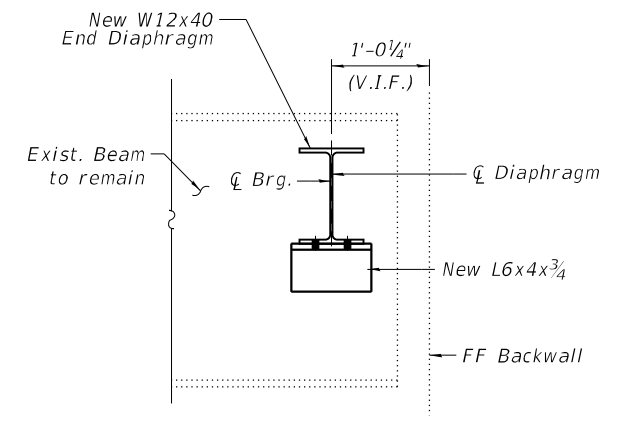
SECTION B-B



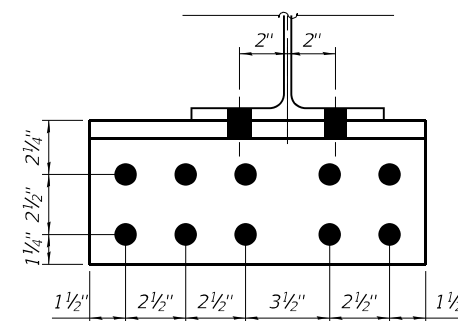
SECTION C-C



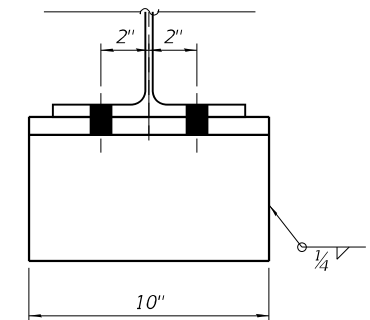
SECTION D-D



SECTION E-E



SECTION F-F



SECTION G-G

NOTES

1. For location of Diaphragm Repair and Bill of Material, see Sheet S31-14.
2. All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
3. All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
4. The cost of all field drilling shall be included in the cost of Furnishing and Erecting Structural Steel.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection. Cost shall be included with Furnishing and Erecting Structural Steel.
6. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
7. All proposed steel dimensions shall be verified in the field prior to fabrication.

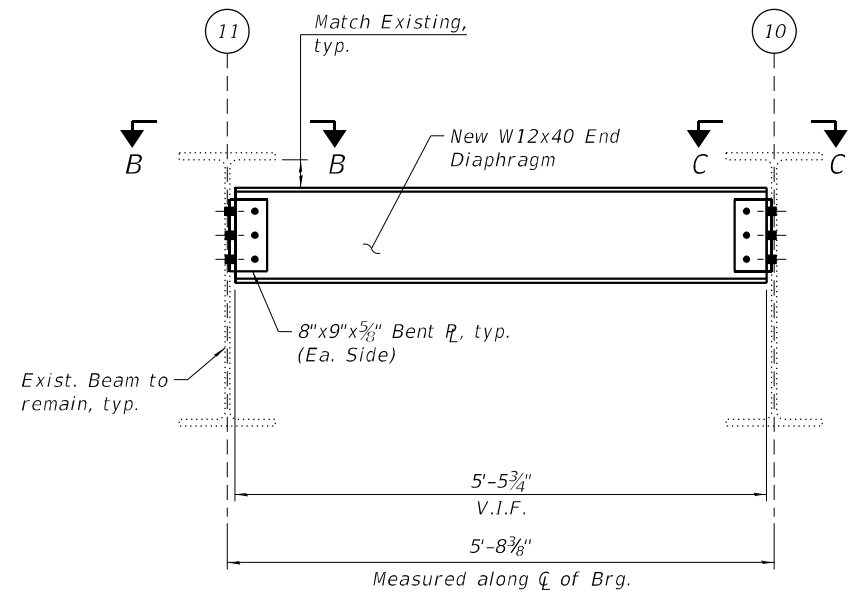
LEGEND

- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.

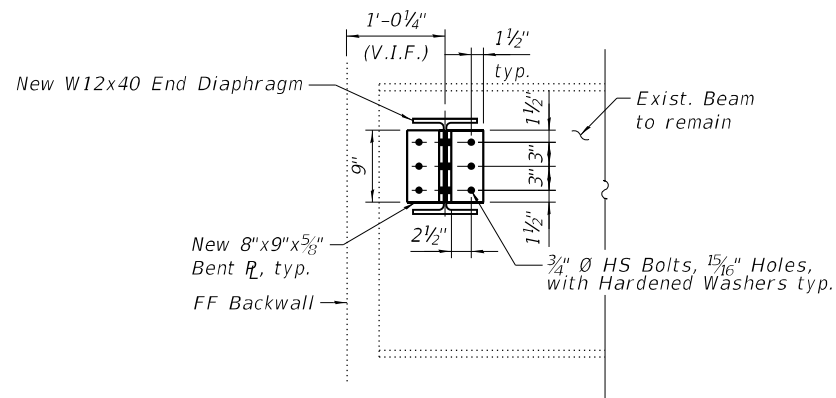
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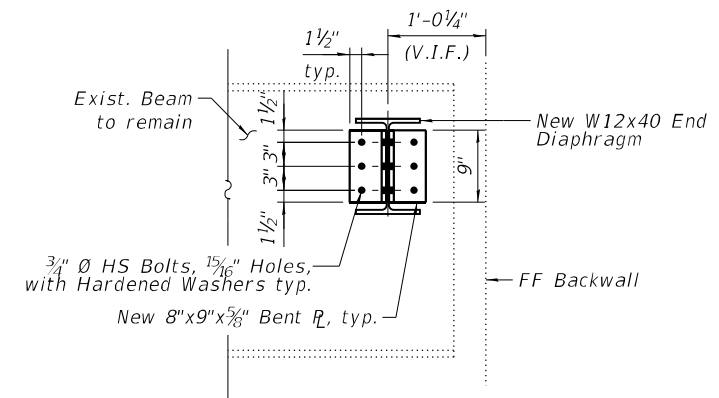
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
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| | | | CONTRACT NO. 62K74 | |
| | | ILLINOIS FED. AID PROJECT | | |



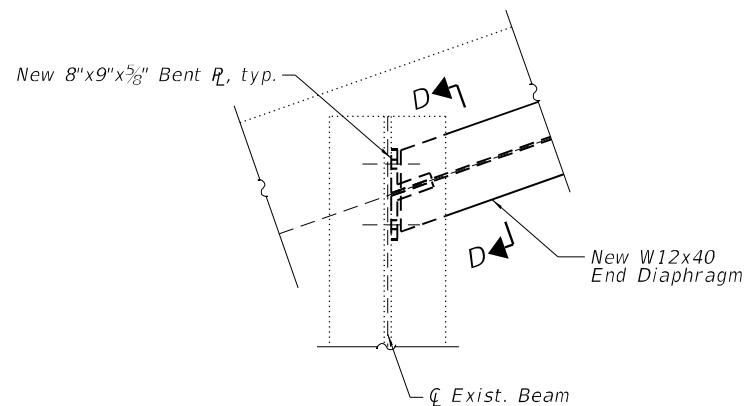
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(1 Required)



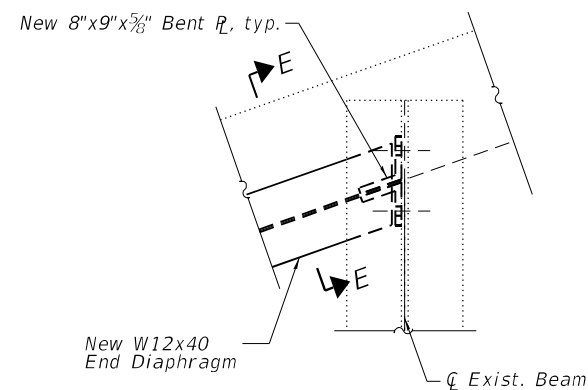
SECTION D-D



SECTION E-E



SECTION B-B



SECTION C-C

NOTES

1. For location of Diaphragm Repair and Bill of Material, see Sheet S31-14.
2. All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
3. All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
4. The cost of all field drilling shall be included in the cost of Furnishing and Erecting Structural Steel.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection. Cost shall be included with Furnishing and Erecting Structural Steel.
6. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
7. All proposed steel dimensions shall be verified in the field prior to fabrication.

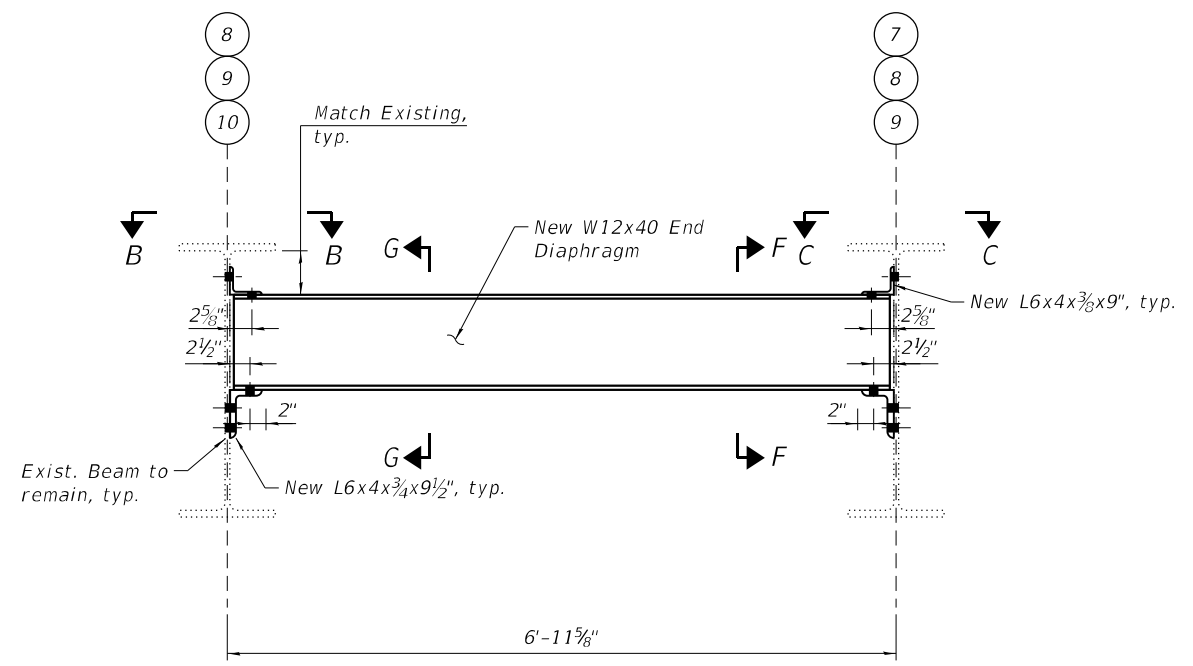
LEGEND

- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.

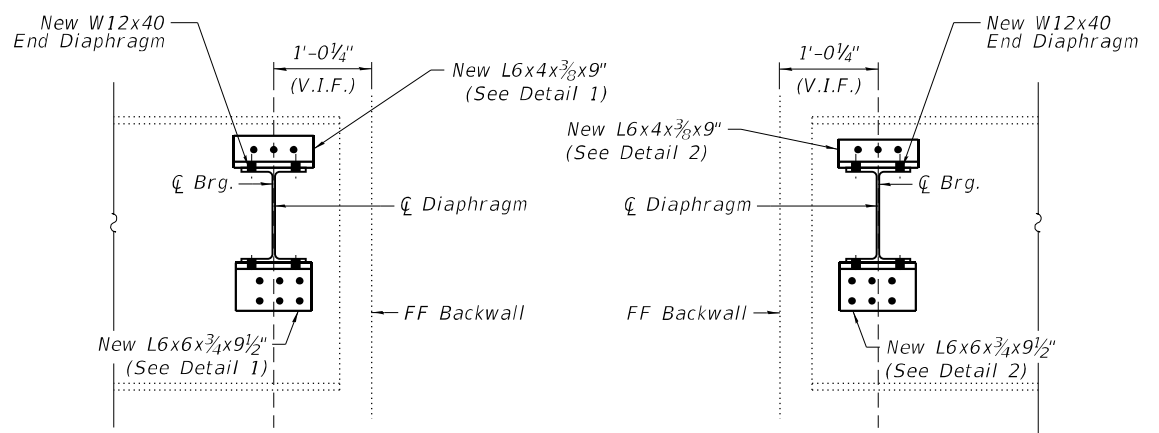
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| USER NAME = | DESIGNED - | W.A.R. | REVISED - |
| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | J.T.B. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

| | | | | |
|-------------|-------------|---------------------------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1259 |
| | | | CONTRACT NO. 62K74 | |
| | | ILLINOIS FED. AID PROJECT | | |

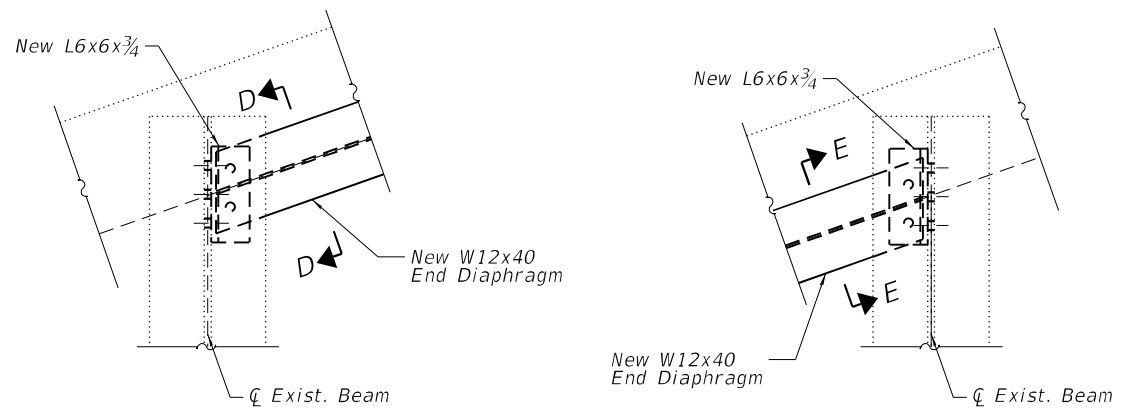


SECTION A-A
East Abutment shown
(3 Required)



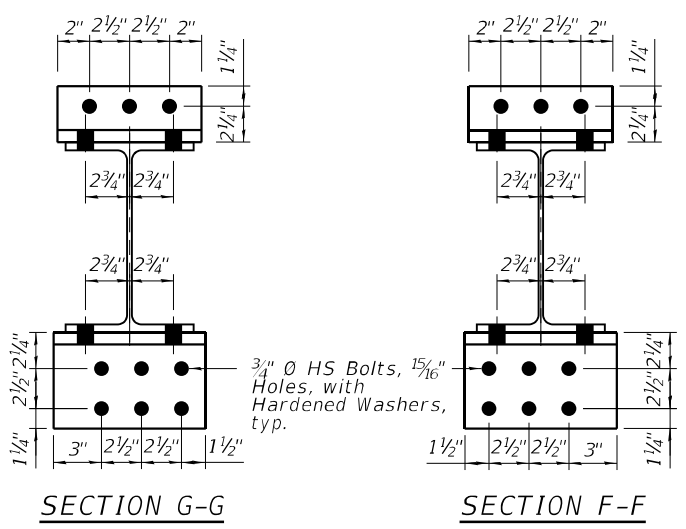
SECTION D-D

SECTION E-E



SECTION B-B

SECTION C-C



SECTION G-G

SECTION F-F

NOTES

1. For location of Diaphragm Repair and Bill of Material, see Sheet S31-14.
2. All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
3. All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
4. The cost of all field drilling shall be included in the cost of Furnishing and Erecting Structural Steel.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection. Cost shall be included with Furnishing and Erecting Structural Steel.
6. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
7. All proposed steel dimensions shall be verified in the field prior to fabrication.

LEGEND

- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.

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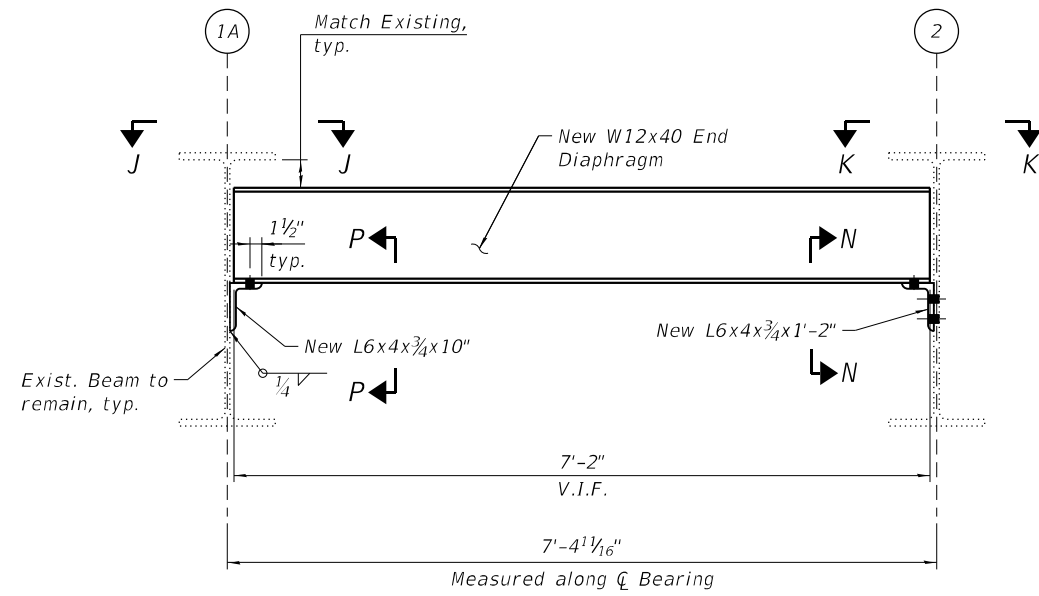
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| PLOT DATE = | DRAWN - J.T.B. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

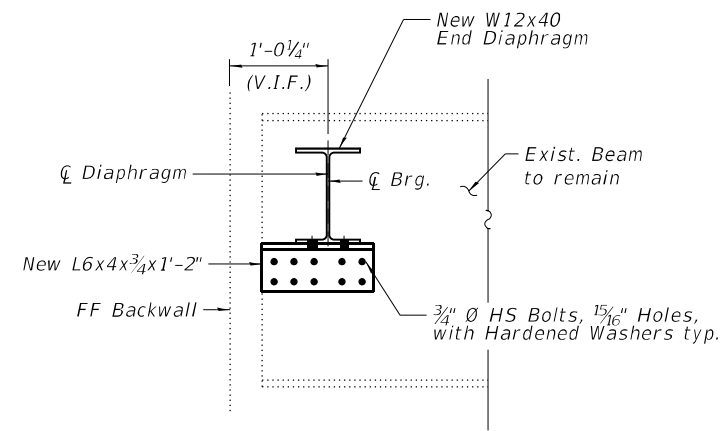
**STRUCTURAL STEEL REPAIR DETAILS III
SN 016-0120 (SB)**

SHEET S31-17 OF S31-24 SHEETS

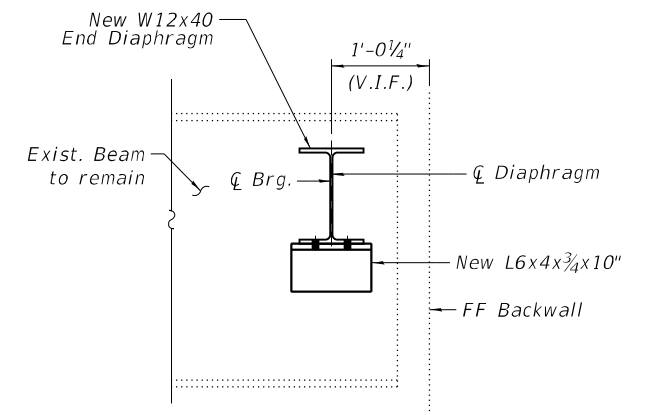
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1260 |
| CONTRACT NO. 62K74 | | | ILLINOIS FED. AID PROJECT | |



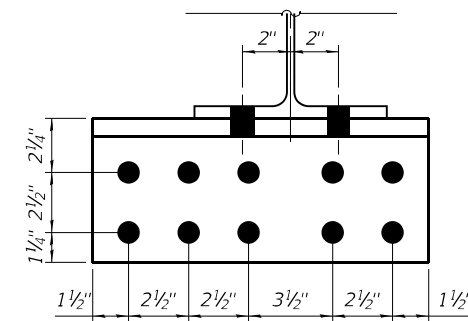
SECTION H-H
West Abutment shown
(1 Required)



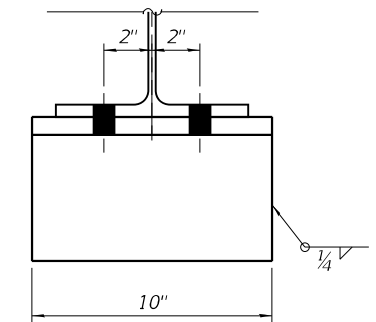
SECTION L-L



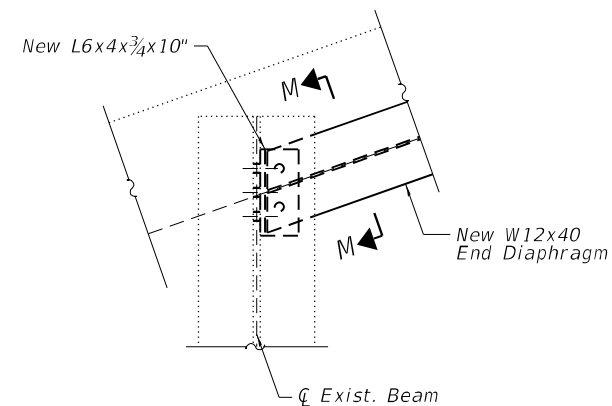
SECTION M-M



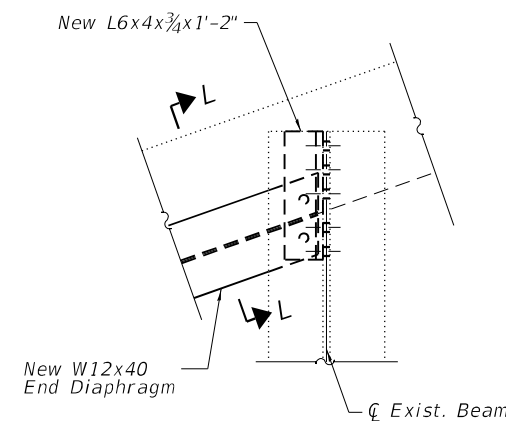
SECTION N-N



SECTION P-P



SECTION J-J



SECTION K-K

NOTES

1. For location of Diaphragm Repair and Bill of Material, see Sheet S31-14.
2. All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
3. All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
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6. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
7. All proposed steel dimensions shall be verified in the field prior to fabrication.

LEGEND

- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.

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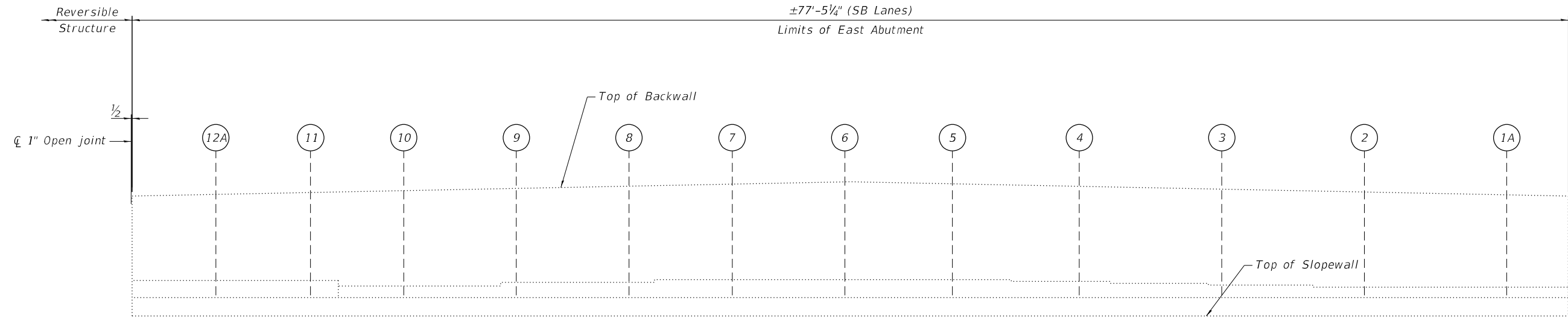
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| PLOT DATE = | DRAWN - J.T.B. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS IV
SN 016-0120 (SB)**

SHEET S31-18 OF S31-24 SHEETS

| | | | | |
|-------------|-------------|---------------------------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1261 |
| | | | CONTRACT NO. 62K74 | |
| | | ILLINOIS FED. AID PROJECT | | |



ELEVATION - EAST ABUTMENT
(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 lower 2 feet of the backwalls and to the seats of the abutments.
- For slope wall repairs see sheet S31-23.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|-----------------|-------|----------|
| Concrete Sealer | Sq Ft | 377 |

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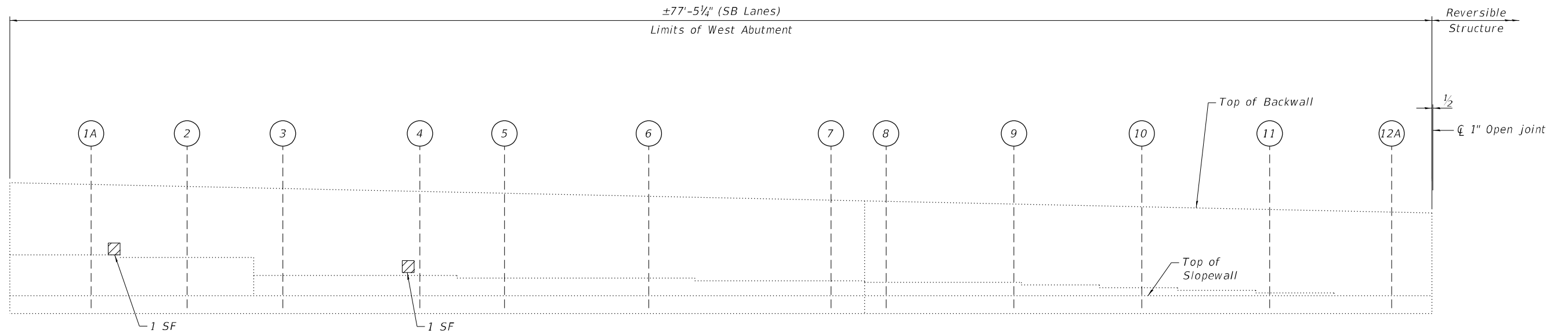
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| PLOT SCALE = | DRAWN - D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS
SN 016-0120 (SB)**

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|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1262 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



ELEVATION - WEST ABUTMENT
(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 lower 2 feet of the backwalls and to the seats of the abutments.
- For slope wall repairs see sheet S31-23.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 377 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 2 |

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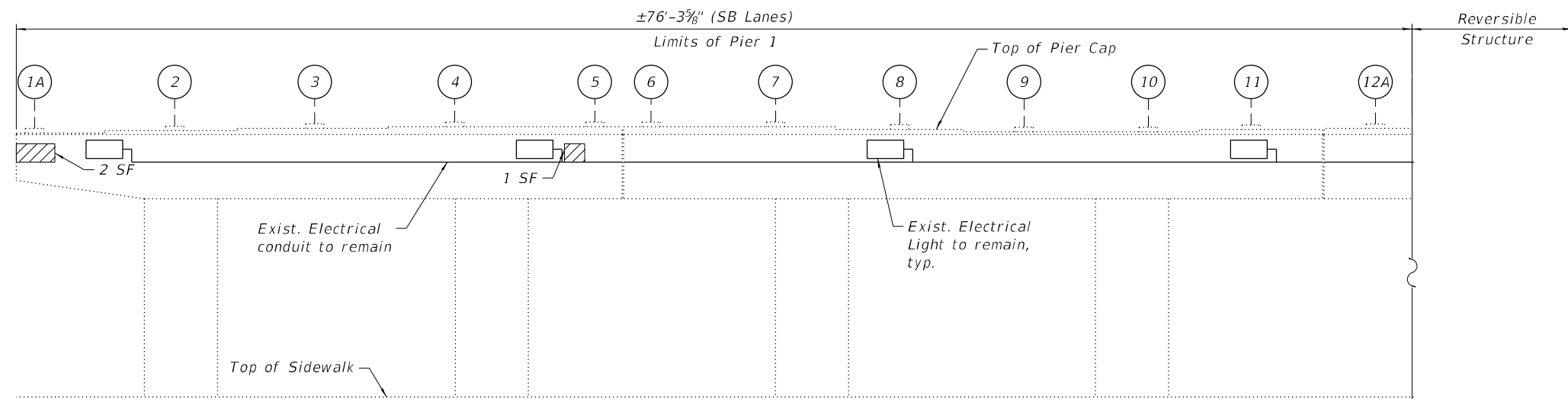
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| USER NAME = | DESIGNED - W.A.R. | REVISED - |
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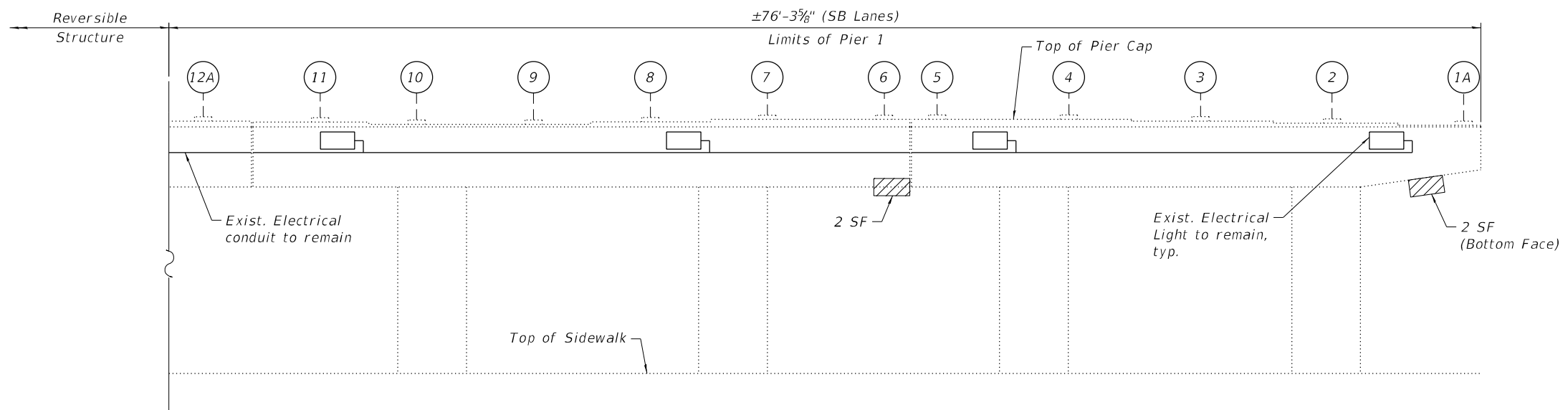
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT REPAIRS
SN 016-0120 (SB)

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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1263 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



ELEVATION - PIER 1
(Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1
(Looking Southwest)



EXISTING LIGHTING: PIER 1
(Looking Southeast)

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.

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 | 7 |

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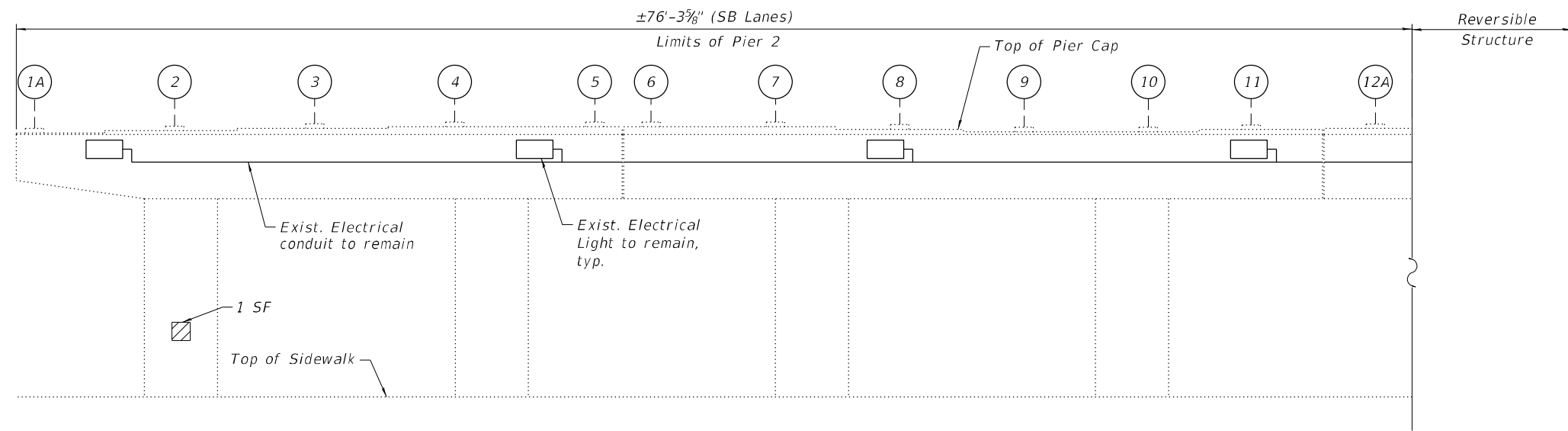
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| PLOT DATE = | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

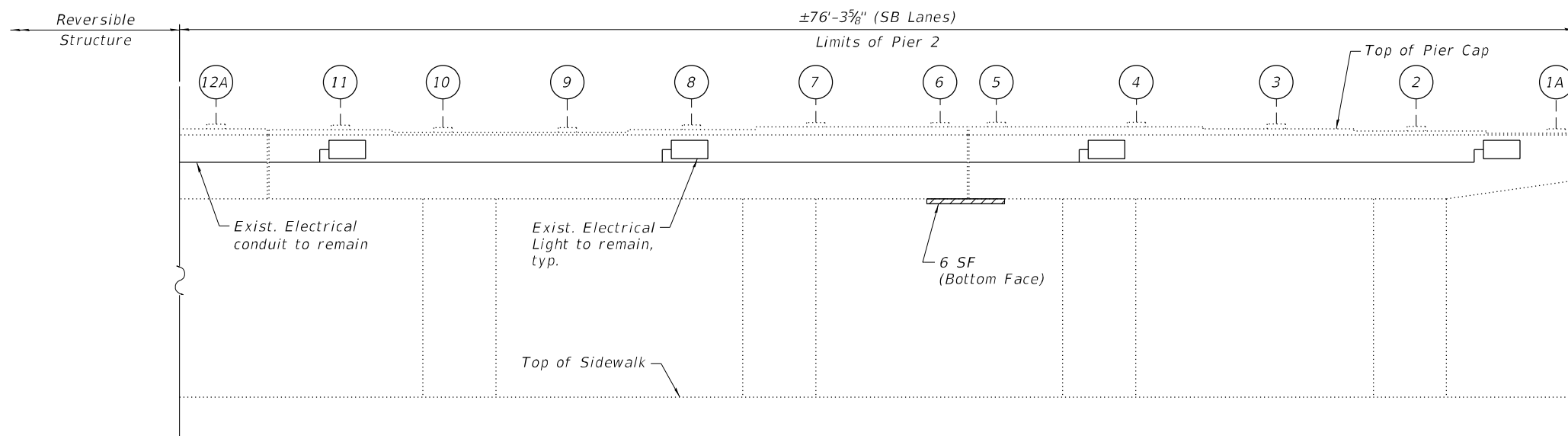
**PIER 1 REPAIRS
SN 016-0120 (SB)**

SHEET S31-21 OF S31-24 SHEETS

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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1264 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



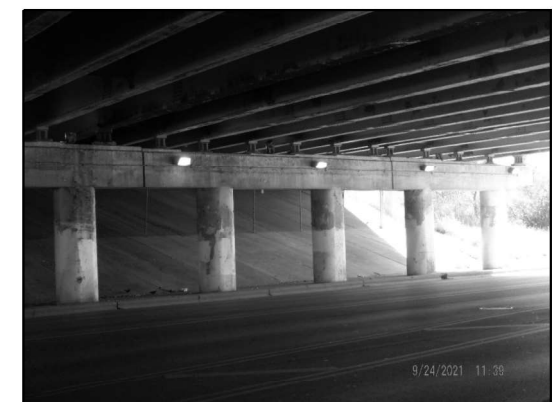
ELEVATION - PIER 2
(Looking West)



ELEVATION - PIER 2
(Looking East)



EXISTING LIGHTING: PIER 2
(Looking Southwest)



EXISTING LIGHTING: PIER 2
(Looking Northeast)

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.

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 | 7 |

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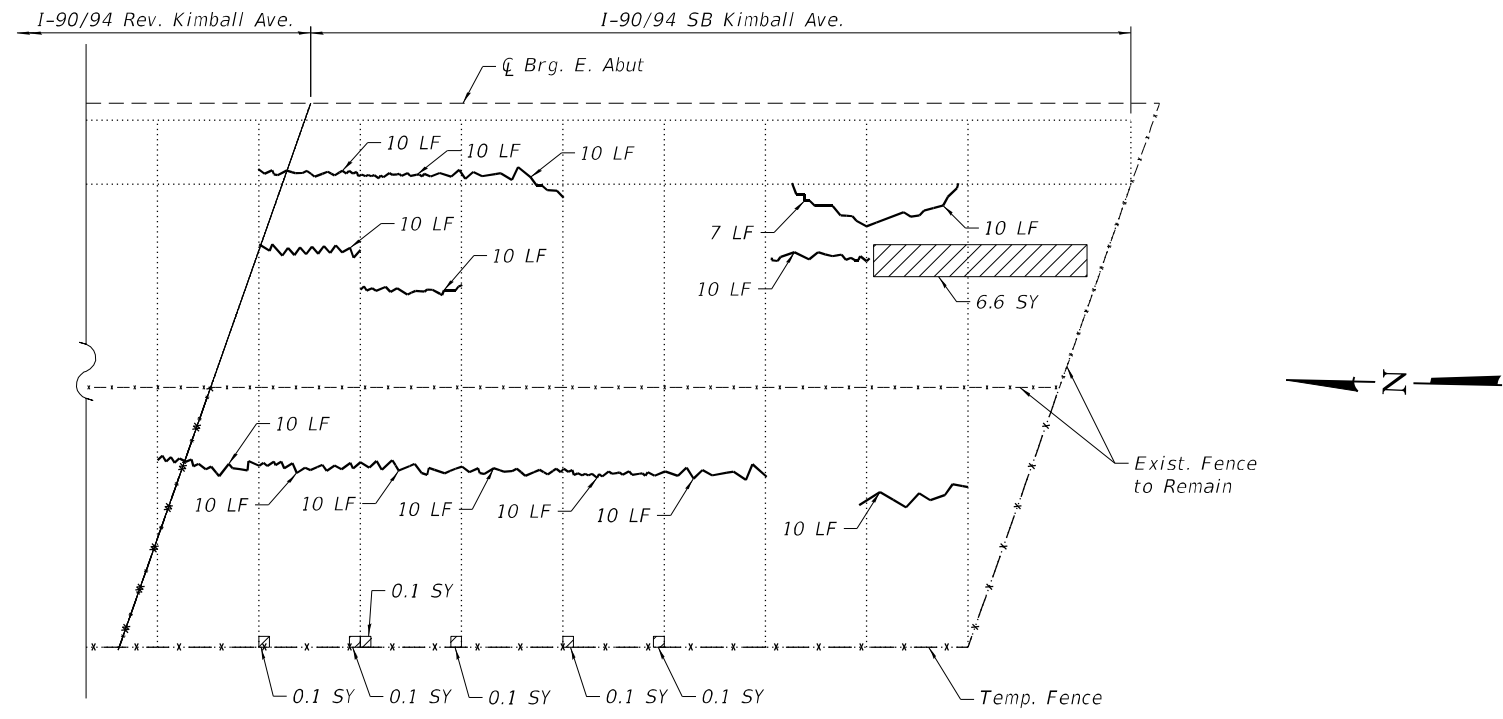
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

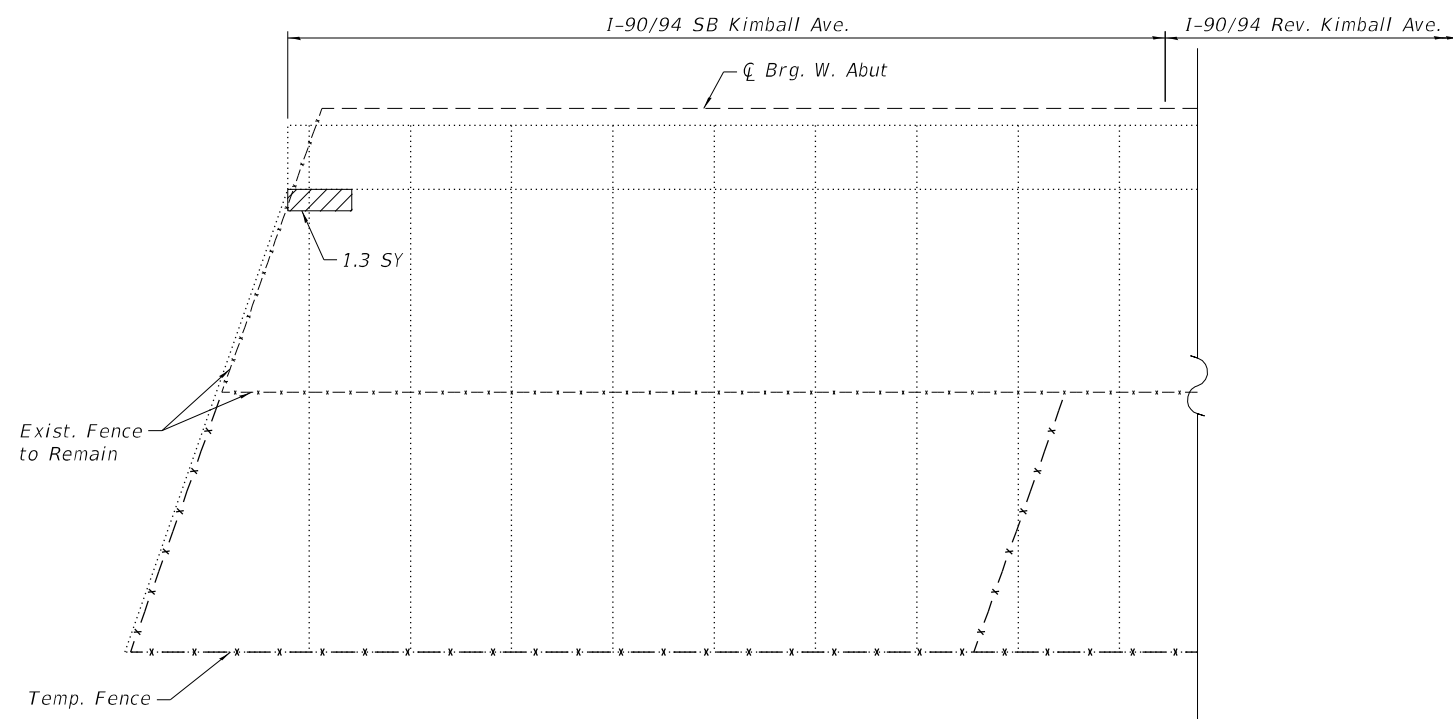
PIER 2 REPAIRS
SN 016-0120 (SB)

SHEET S31-22 OF S31-24 SHEETS

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|--------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1265 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |



EAST SLOPE WALL - PLAN
(Looking East)



WEST SLOPE WALL - PLAN
(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.
- Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq ft

LEGEND

- Slope Wall Removal and Replacement with 4 Inch Slope Wall
- Square Yard
- Linear Foot
- Slope Wall Crack Sealing

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|----------------------------|-------|----------|
| Porous Granular Embankment | Cu Yd | 9 |
| Slope Wall Removal | Sq Yd | 9 |
| Slope Wall 4 Inch | Sq Yd | 9 |
| Slope Wall Crack Sealing | Foot | 147 |

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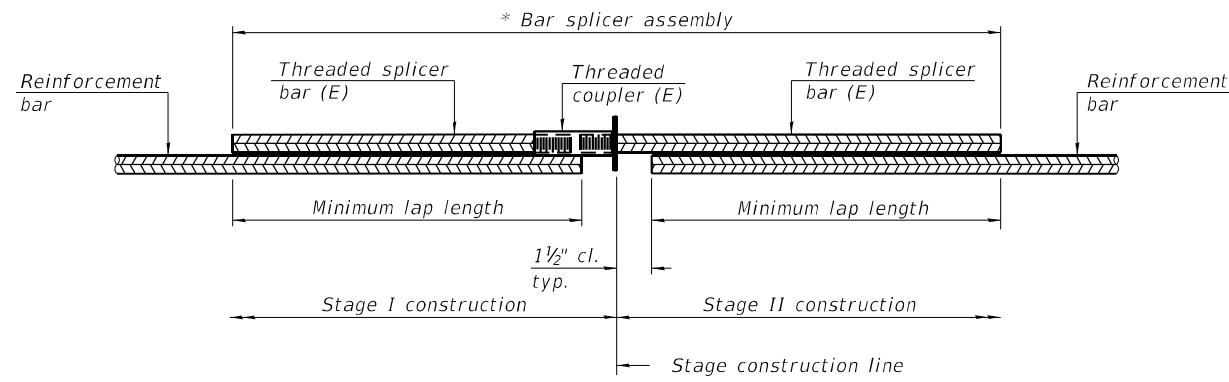
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SLOPE WALL REPAIRS
SN 016-0120 (SB)**

| | | | | |
|-------------|-------------|----------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1266 |
| | | | CONTRACT NO. 62K74 | |
| | | ILLINOIS | FED. AID PROJECT | |

SHEET S31-23 OF S31-24 SHEETS

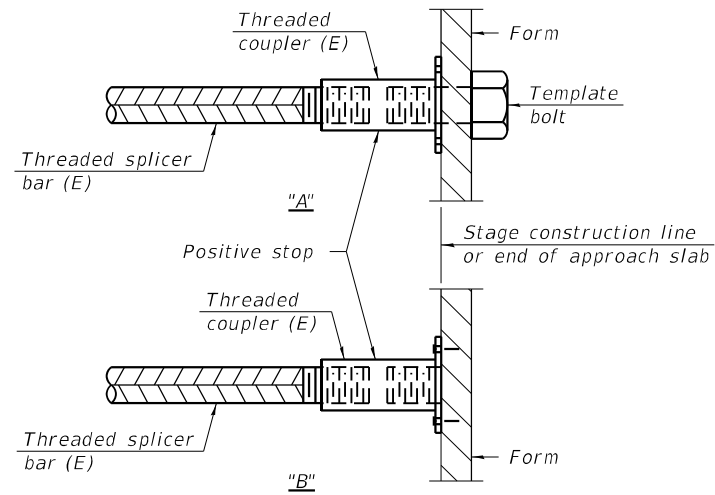


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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

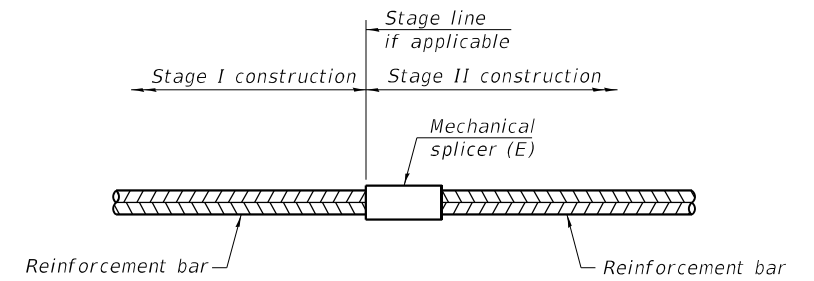
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location | Bar size | No. assemblies required | Minimum lap length |
|---------------|----------|-------------------------|--------------------|
| East Abutment | #5 | 13 | 3'-6" |
| Exp. Jt. | #6 | 6 | 4'-0" |
| West Abutment | #5 | 13 | 3'-6" |
| Exp. Jt. | #6 | 6 | 4'-0" |



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.

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| | CHECKED - H.A. | REVISED - |
| PLOT SCALE = | DRAWN - D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 SN 016-0120 (SB)**

SHEET S31-24 OF S31-24 SHEETS

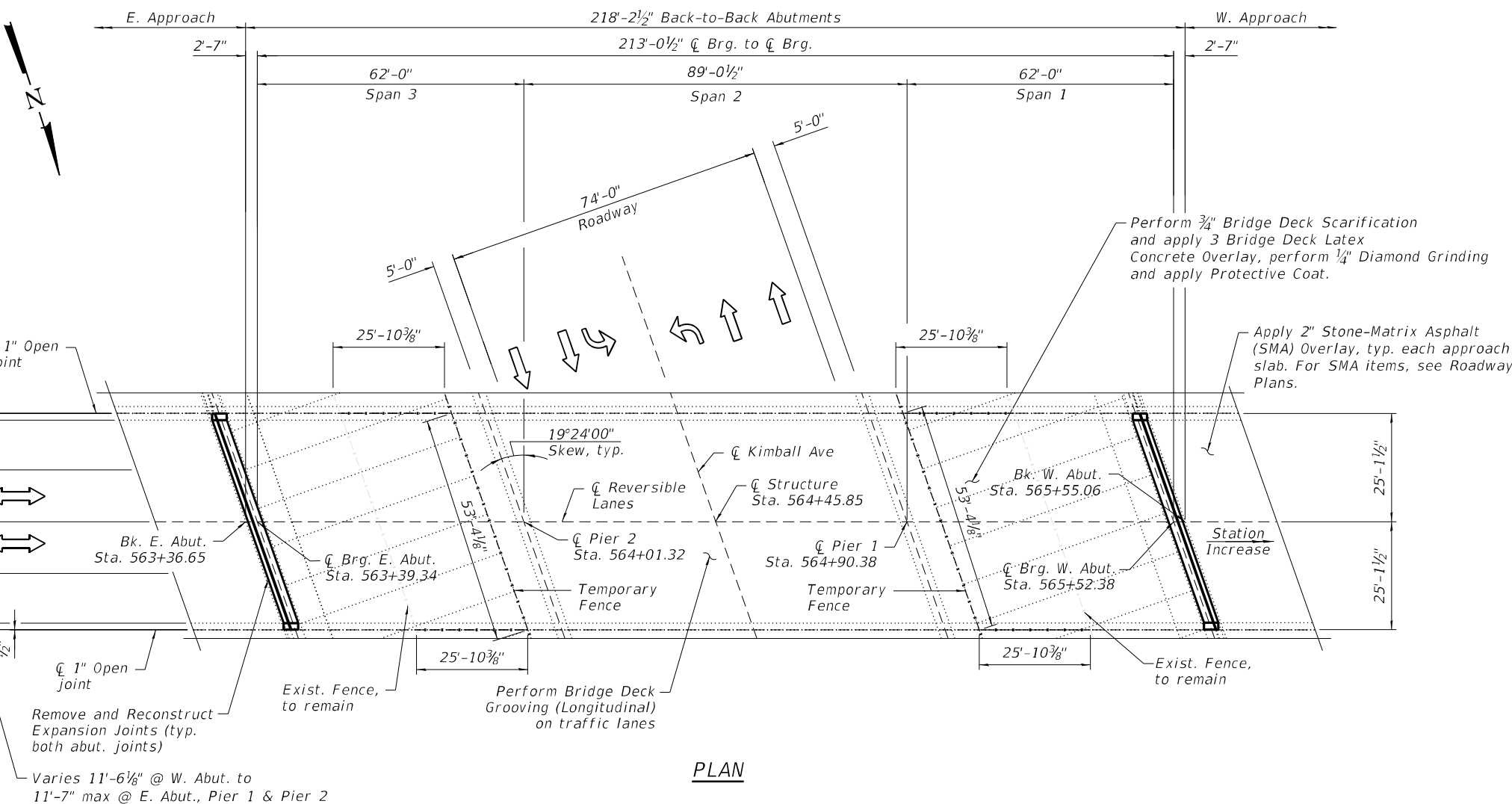
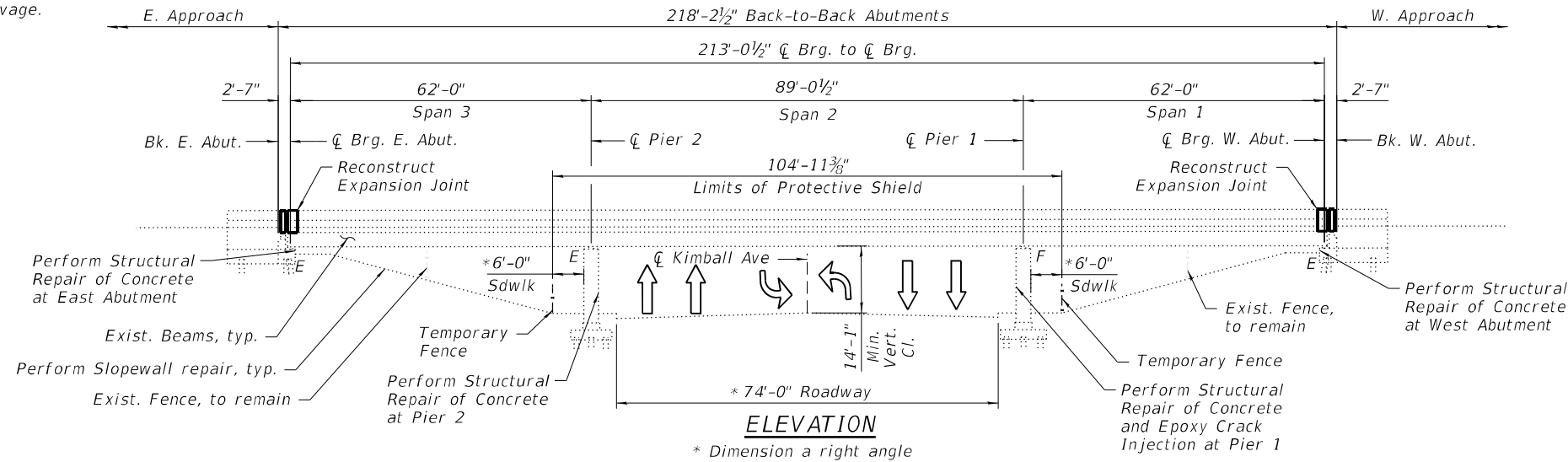
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1267 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |

Existing Structure:

S.N. 016-0120 (I-90 over Kimball Ave.) was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1992. The superstructure was repainted in 1995. In 2013, portions of the joints were removed and replaced with a silicone joint sealer and parapet damage was repaired in 2015. The structure has a back-to-back of abutment length is 218'-2½" and an out-to-out deck width of 50'-3". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 62'-0", 89'-0½", and 62'-0". The substructure consists of reinforced concrete piers founded on timber piles and reinforced concrete abutments founded on concrete piles.

The reversible lanes will be closed to traffic during construction.

No salvage.



LOADING

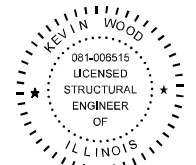
HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

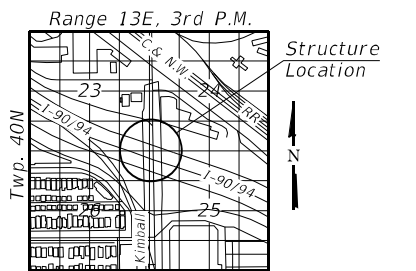
NOTE:

1. All stations are to the CL I-90/94 Reversible Roadway and taken from existing plans.
2. No Future Wearing Surface is allowed.



Kevin Wood

Engineer Full Name: Kevin Wood Date: 10-20-2022
 Illinois Registered Engineer No. 081-006515
 Registration Expires 11. 30, 2024



LOCATION SKETCH

**GENERAL PLAN AND ELEVATION
 REVERSIBLE I-90 OVER KIMBALL AVE
 F.A.I. SEC 2020-004-BR
 COOK COUNTY
 STATION: 564+45.85
 STRUCTURE NO. 016-0120 (REV)**

MODEL: SMODELNAMES
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| PLOT SCALE = | DRAWN - | D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SHEET S32-01 OF S32-15 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1268 |
| CONTRACT NO. 62K74 | | | | |

ILLINOIS FED. AID PROJECT

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. 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 included in the Concrete Removal pay item. 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 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
- Plan dimensions and details relative to the 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 furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Plans.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- 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.
- Adjacent I-90/94 Northbound and Southbound bridge is not shown throughout the plans for clarity.
- 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.
- 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".
- The Contractor shall exercise 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.
- The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete 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.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed 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.
- Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 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. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

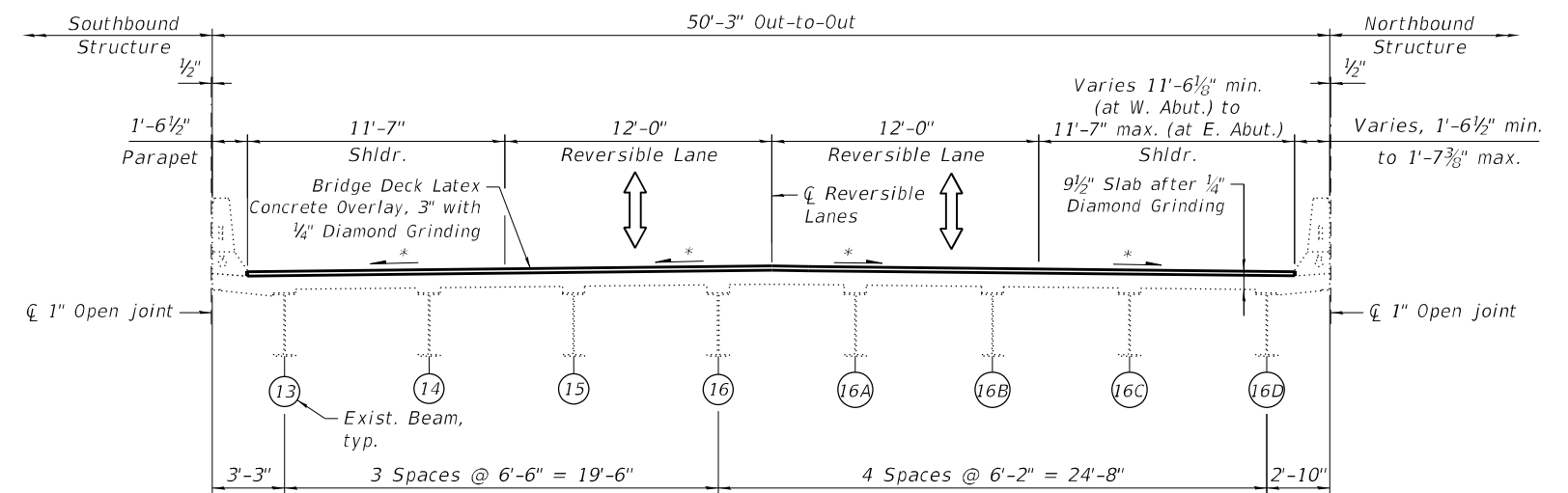
| | |
|---------------|---|
| S32-01 | General Plan & Elevation |
| S32-02 | General Data |
| S32-03 | Bridge Deck Repair Plan and Details |
| S32-04-S32-06 | East Abutment Expansion Joint Details I, II & III |
| S32-07-S32-09 | West Abutment Expansion Joint Details I, II & III |
| S32-10 | Preformed Joint Strip Seal |
| S32-11 | East Abutment Repairs |
| S32-12 | West Abutment Repairs |
| S32-13 | Pier 1 Repairs |
| S32-14 | Pier 2 Repairs |
| S32-15 | Slope Wall Repairs |

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform deck repairs.
- Remove and reconstruct expansion joints at east and west abutments and install new Preformed Joint Strip Seals.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- Perform Structural Concrete repairs to the Abutments and Piers as noted in the plans.
- Epoxy crack injection at the abutments and piers for cracks greater than hairline.
- Perform slope wall repairs.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|--------|-------|-------|-------|
| Porous Granular Embankment | Cu Yd | | 1 | 1 |
| Concrete Removal | Cu Yd | 19.1 | | 19.1 |
| Slope Wall Removal | Sq Yd | | 1 | 1 |
| Protective Shield | Sq Yd | 586 | | 586 |
| Concrete Superstructure | Cu Yd | 23.0 | | 23.0 |
| Protective Coat | Sq Yd | 1,361 | | 1,361 |
| Reinforcement Bars Epoxy Coated | Pound | 3,220 | | 3,220 |
| Slope Wall 4 Inch | Sq Yd | | 1 | 1 |
| Preformed Joint Seal 2 1/2" | Foot | 215 | | 215 |
| Preformed Joint Strip Seal | Foot | 104 | | 104 |
| Concrete Sealer | Sq Ft | | 508 | 508 |
| Epoxy Crack Injection | Foot | | 5 | 5 |
| Slope Wall Crack Sealing | Foot | | 60 | 60 |
| Protect and Maintain Existing Underpass Luminaire | L Sum | | 0.022 | 0.022 |
| Bridge Deck Grooving (Longitudinal) | Sq Yd | 573 | | 573 |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,105 | | 1,105 |
| Bridge Deck Scarification 3/4" | Sq Yd | 1,105 | | 1,105 |
| Structural Repair of Concrete (Depth Equal to or less than 5 Inches) | Sq Ft | | 24 | 24 |
| Deck Slab Repair (Full Depth, Type I) | Sq Yd | 2.5 | | 2.5 |
| Deck Slab Repair (Full Depth, Type II) | Sq Yd | 13.9 | | 13.9 |
| Diamond Grinding (Bridge Section) | Sq Yd | 1,138 | | 1,138 |
| Maintenance of Lighting System | Cal Mo | | 6 | 6 |
| Temporary Construction Fence | Foot | | 211 | 211 |



FINAL CROSS SECTION
(Looking West)

* Match existing deck surface profile

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Chicago, Illinois 60631; (773) 399-0112

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| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | D.C.P. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

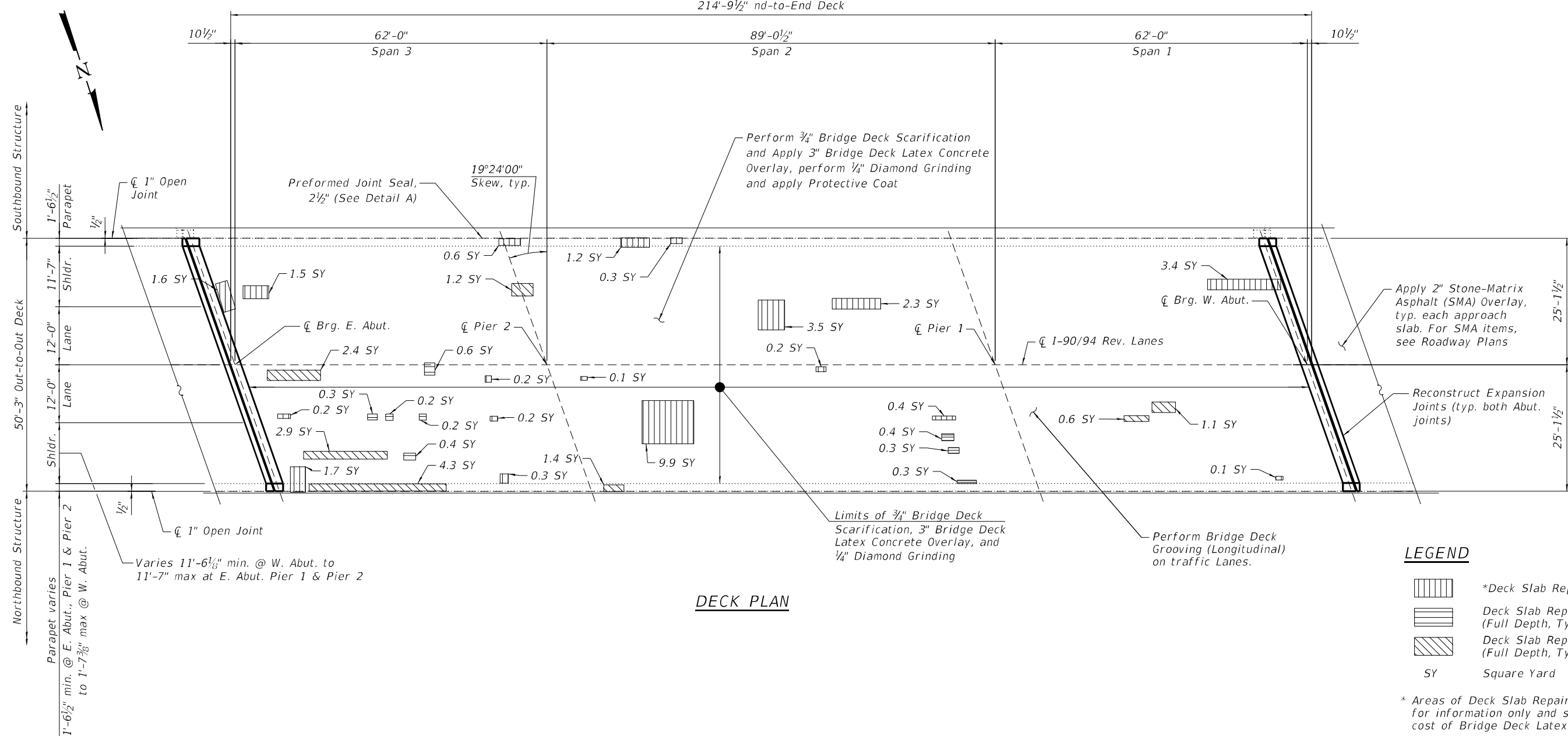
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
SN 016-0120 (REV)**

SHEET S32-02 OF S32-15 SHEETS

| | | | | |
|--------------------|-------------|--------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1269 |
| CONTRACT NO. 62K74 | | | ILLINOIS FED. AID PROJECT | |

214'-9 1/2" nd-to-End Deck



DECK PLAN

LEGEND

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

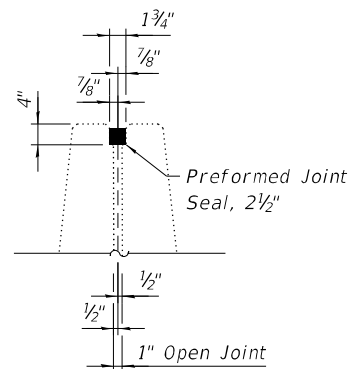
* Areas of Deck Slab Repair (Partial Depth) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3 Inches

NOTES:

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
2. For bridge deck final cross section, see Sheet S32-02.
3. For East and West transverse joint removal and reconstruction, see Sheet S32-04 thru S32-10.
4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. 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.

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|---|--------|----------|
| Protective Shield | Sq Yd | 586 |
| Protective Coat | Sq Yd | 1,361 |
| Preformed Joint Seal 2 1/2" | Foot | 215 |
| Protect and Maintain Existing Underpass Luminaire | L Sum | 0.022 |
| Bridge Deck Grooving (Longitudinal) | Sq Yd | 573 |
| Bridge Deck Latex Concrete Overlay, 3" | Sq Yd | 1,105 |
| Bridge Deck Scarification 3/4" | Sq Yd | 1,105 |
| Deck Slab Repair (Full Depth, Type I) | Sq Yd | 2.5 |
| Deck Slab Repair (Full Depth, Type II) | Sq Yd | 13.9 |
| Diamond Grinding (Bridge Section) | Sq Yd | 1,138 |
| Maintenance of Lighting System | Cal Mo | 6 |



DETAIL A

(Reinforcement not shown for clarity)

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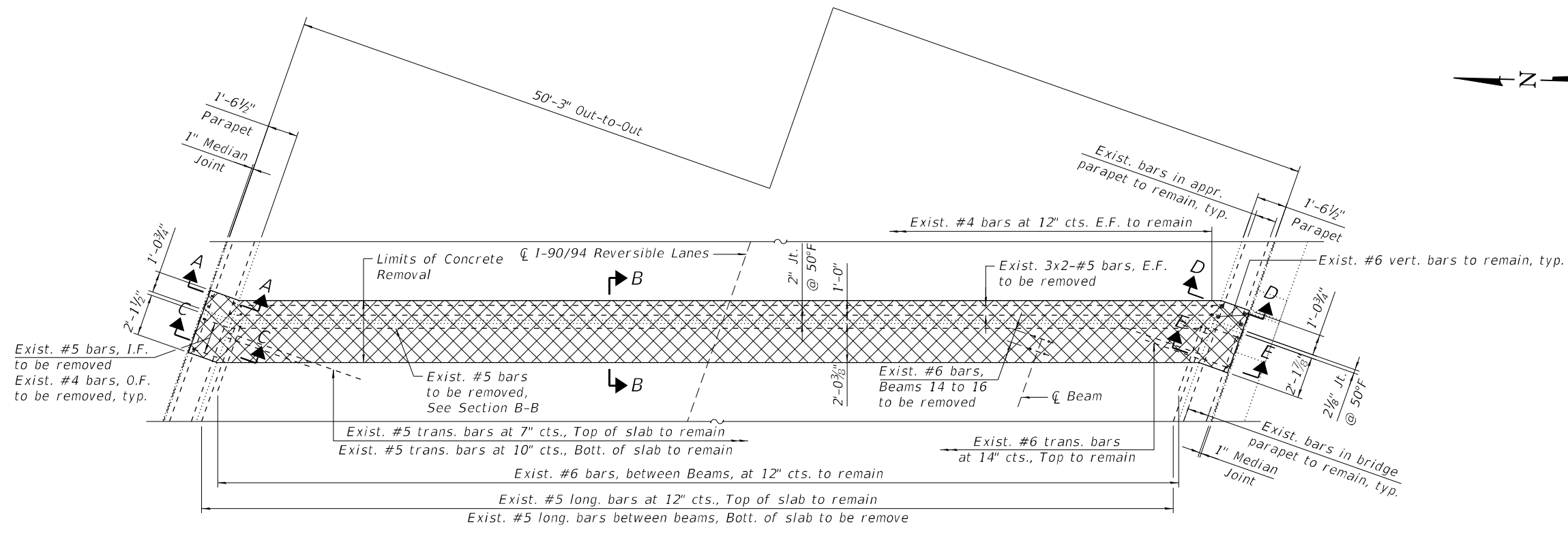
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

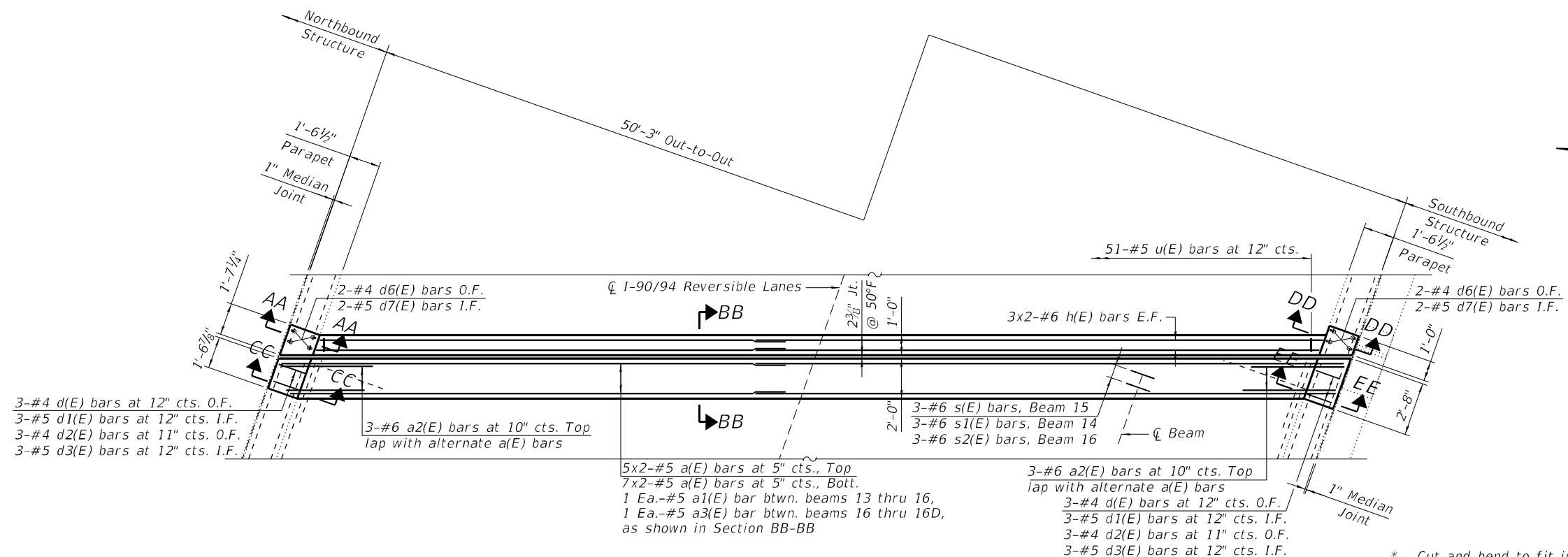
BRIDGE DECK REPAIR PLAN AND DETAILS
SN 016-0120 (REV)

SHEET S32-03 OF S32-15 SHEETS

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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1270 |
| ILLINOIS | | | CONTRACT NO. 62K74 | |
| FED. AID PROJECT | | | | |



EAST ABUTMENT JOINT REMOVAL PLAN



EAST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S32-05.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S32-06.

* Cut and bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.

** Epoxy grout #4 d6(E) and #5 d7(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

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

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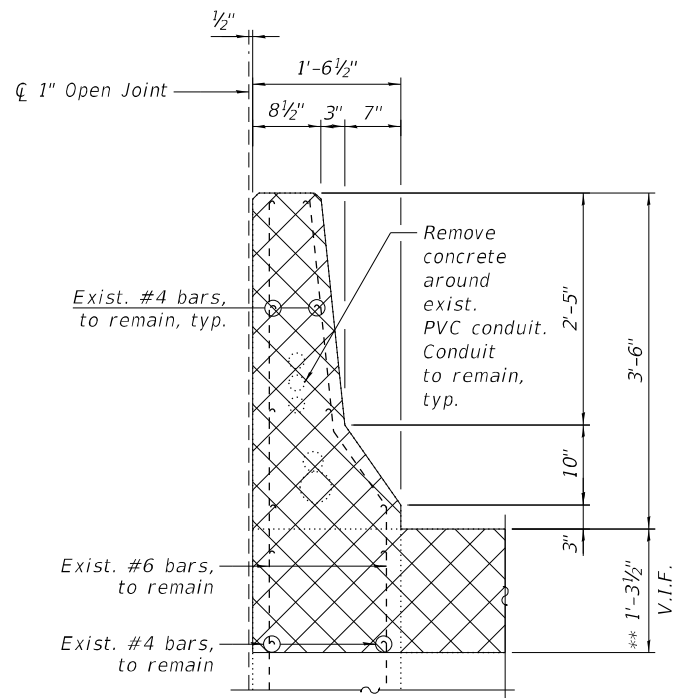
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

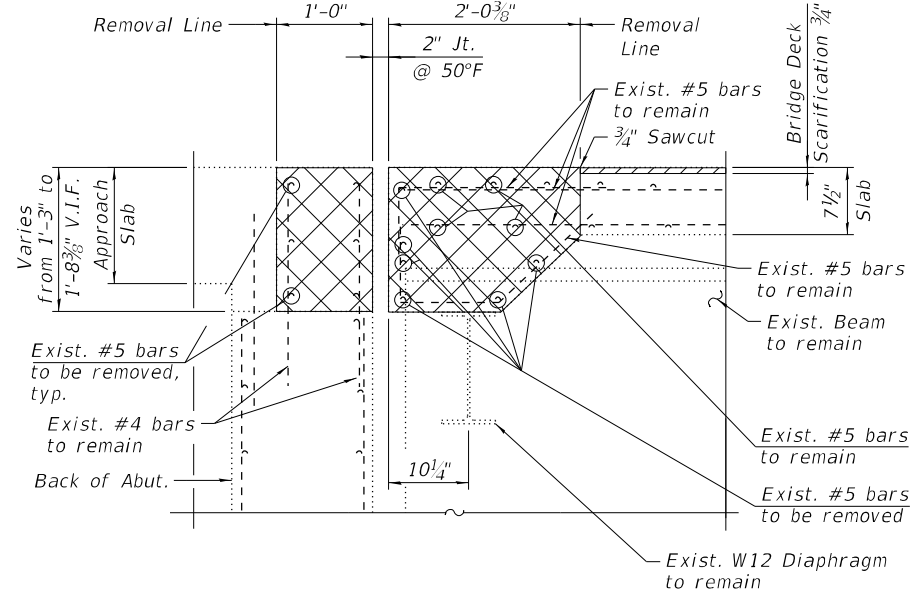
**EAST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0120 (REV)**

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| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |

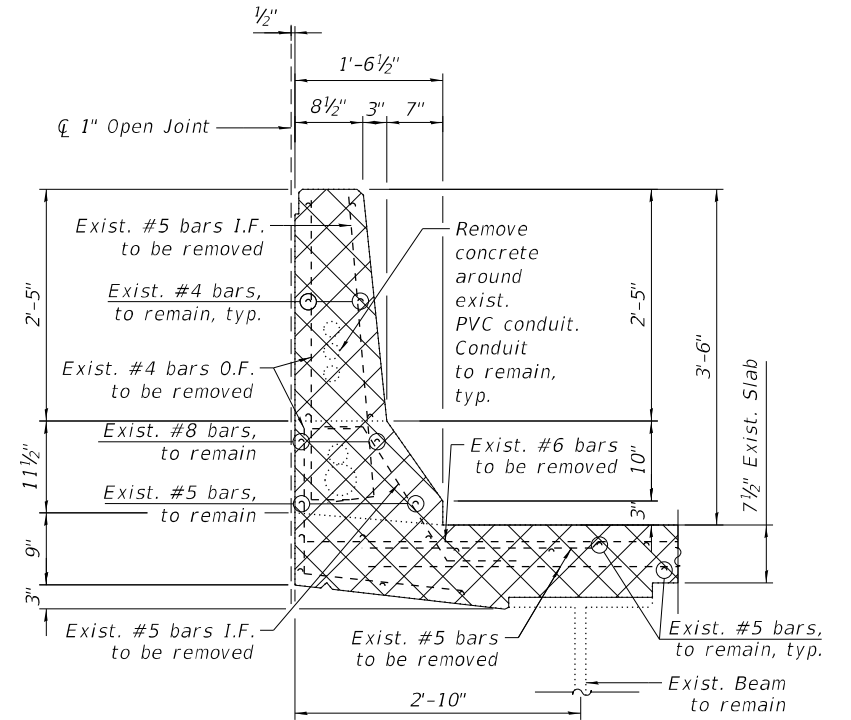
SHEET S32-04 OF S32-15 SHEETS



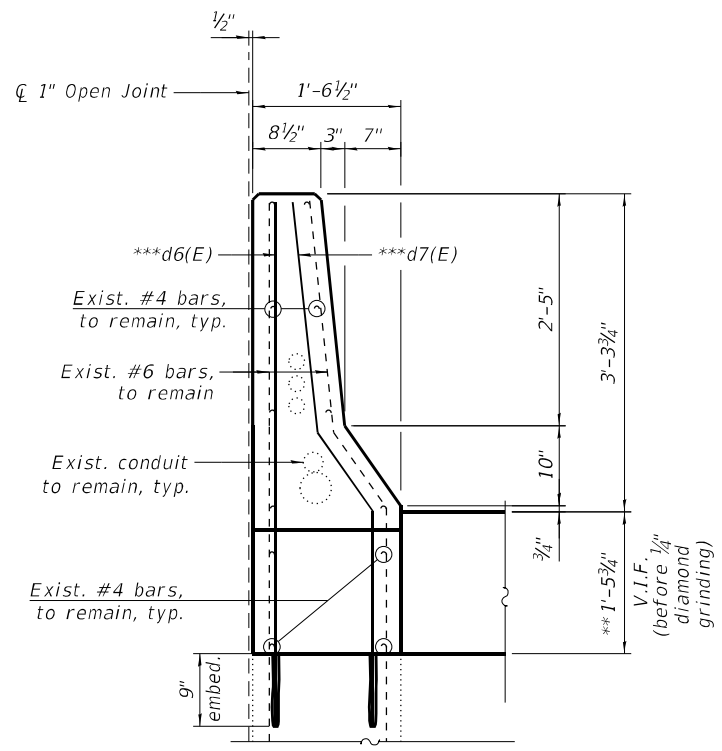
SECTION A-A
(North parapet removal)



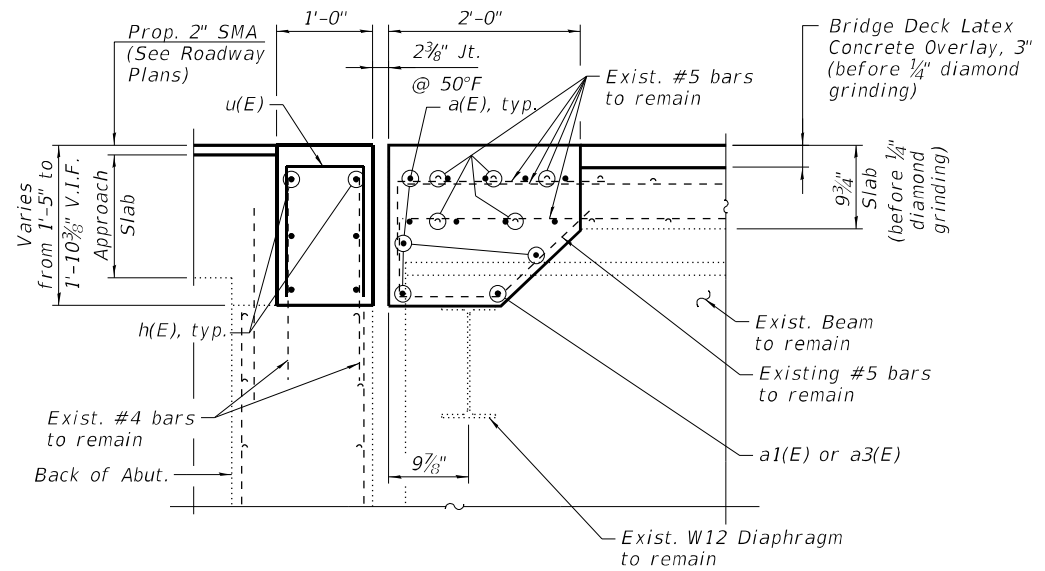
SECTION B-B



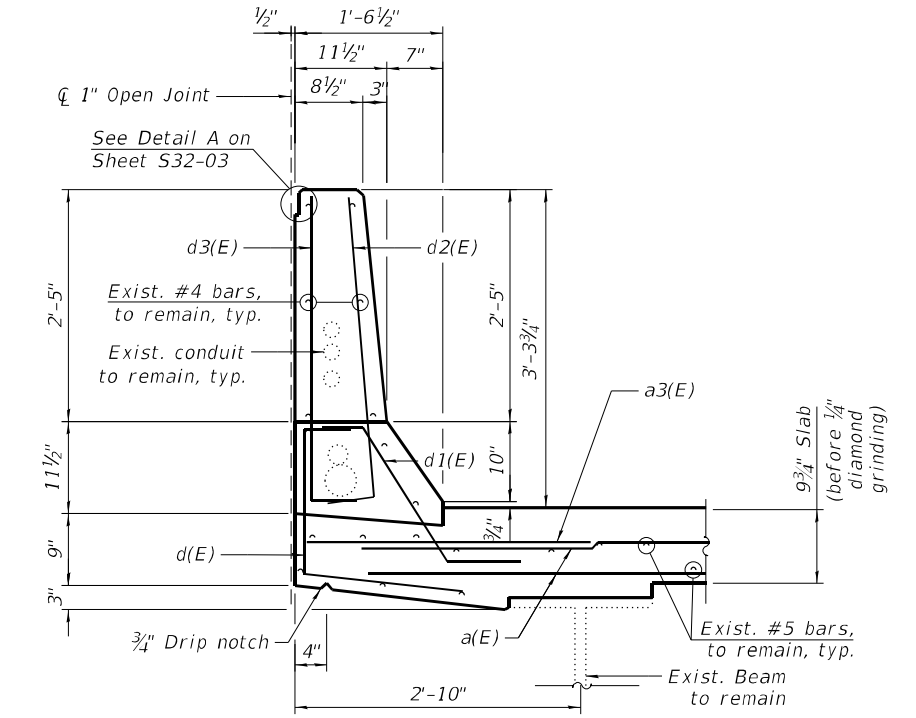
SECTION C-C
(North parapet removal)



SECTION AA-AA
(North parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(North parapet reconstruction)

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

- ** Dimension is taken at the front of Abut.
- *** Epoxy grout #4 d6(E) and #5 d7(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

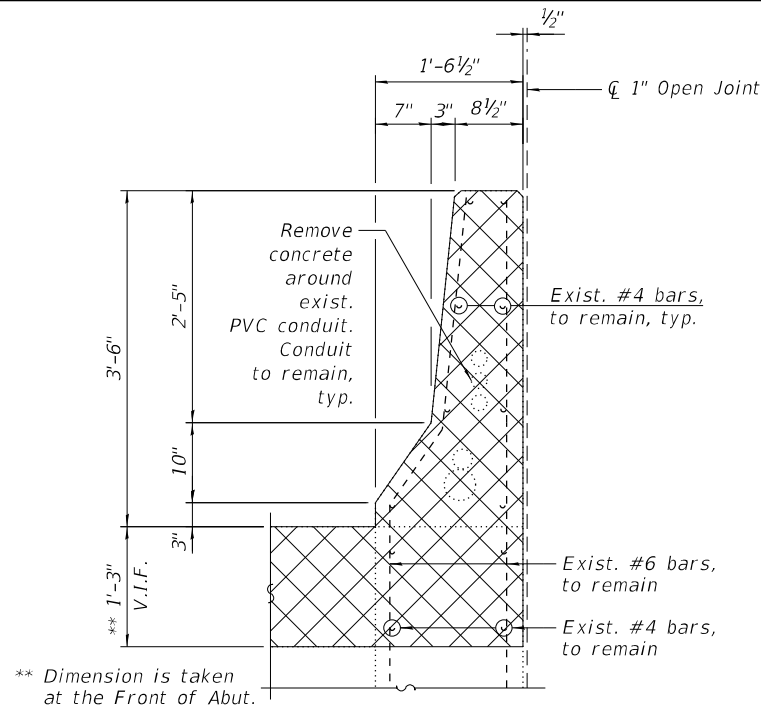
EAST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0120 (REV)

SHEET S32-05 OF S32-15 SHEETS

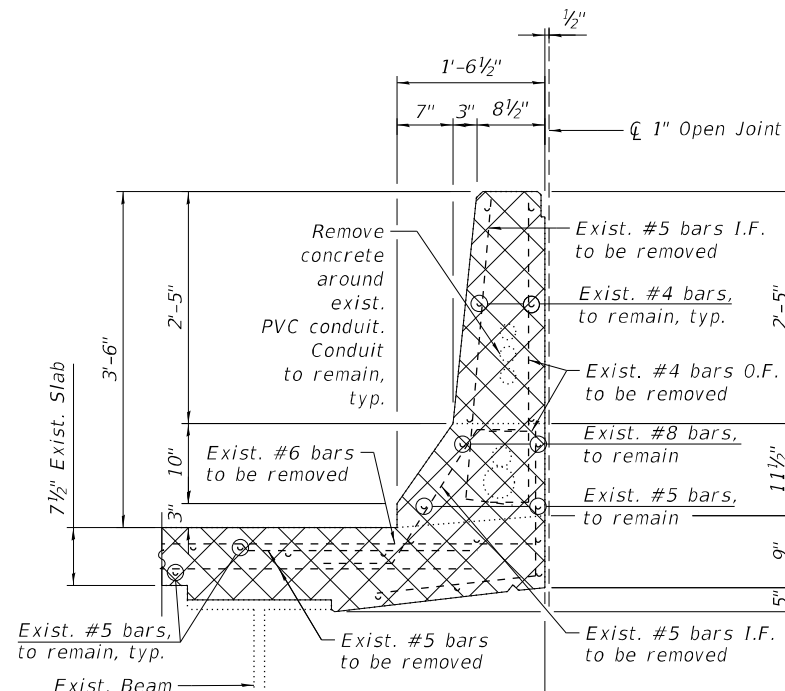
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1272 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |

**BILL OF MATERIAL
EAST ABUTMENT**

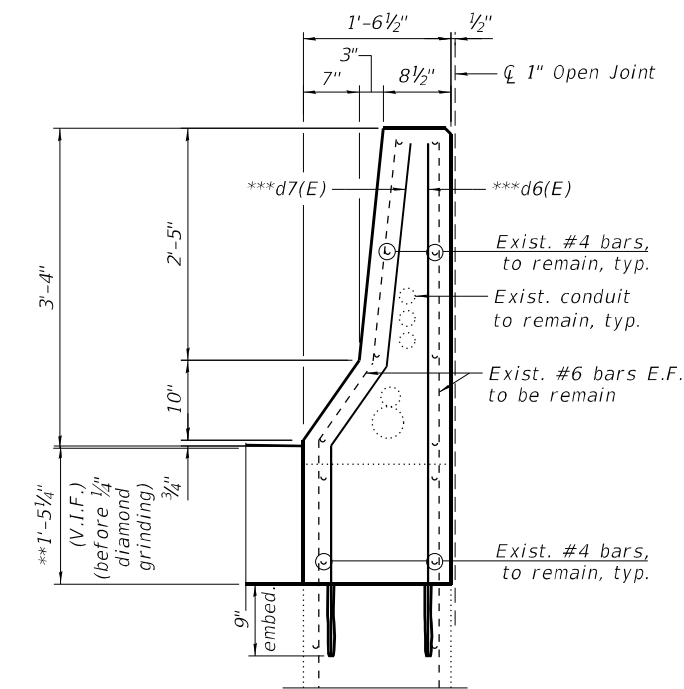
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|-------|--------|-------|
| a(E) | 24 | #5 | 26'-5" | — |
| a1(E) | 3 | #5 | 6'-4" | — |
| a2(E) | 6 | #6 | 6'-6" | — |
| a3(E) | 4 | #5 | 6'-0" | — |
| d(E) | 6 | #4 | 4'-0" | — |
| d1(E) | 6 | #5 | 2'-7" | — |
| d2(E) | 6 | #4 | 3'-8" | — |
| d3(E) | 6 | #5 | 3'-8" | — |
| d6(E) | 4 | #4 | 5'-5" | — |
| d7(E) | 4 | #5 | 5'-6" | — |
| s(E) | 3 | #6 | 4'-1" | — |
| s1(E) | 3 | #6 | 4'-5" | — |
| s2(E) | 3 | #6 | 4'-9" | — |
| h(E) | 12 | #6 | 26'-5" | — |
| u(E) | 51 | #5 | 3'-1" | — |
| Concrete Removal | | Cu Yd | 8.2 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 1,590 | |
| Concrete Superstructure | | Cu Yd | 11.0 | |



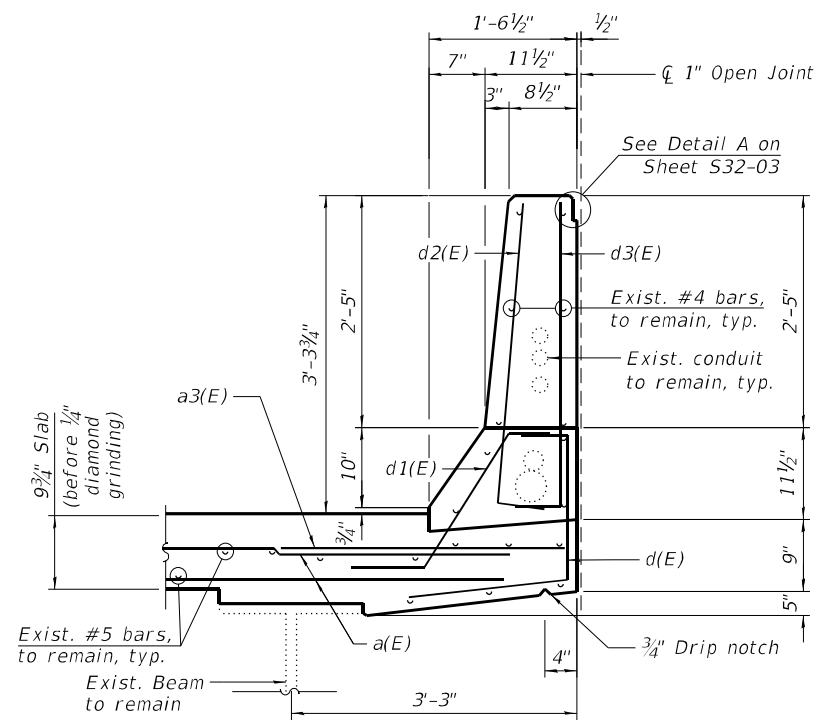
SECTION D-D
(South parapet removal)



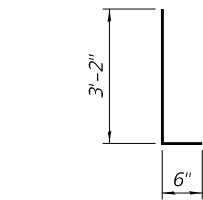
SECTION E-E
(South parapet removal)



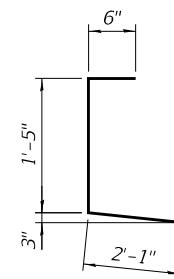
SECTION DD-DD
(South parapet reconstruction)



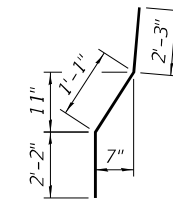
SECTION EE-EE
(South parapet reconstruction)



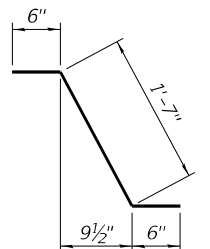
BARS d2(E) & d3(E)



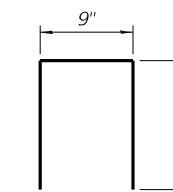
BAR d(E)



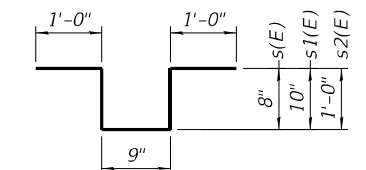
BARS d7(E)



BAR d1(E)



BAR u(E)



BAR s(E), s1(E) & s2(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S32-10.
- 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. Cost shall be included with Concrete Removal.
- Removal of Existing Expansion Joint will not be paid for separately but will be included in the cost of Concrete Removal.

** Dimension is taken at the front of Abut.

*** Epoxy grout #4 d6(E) and #5 d7(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

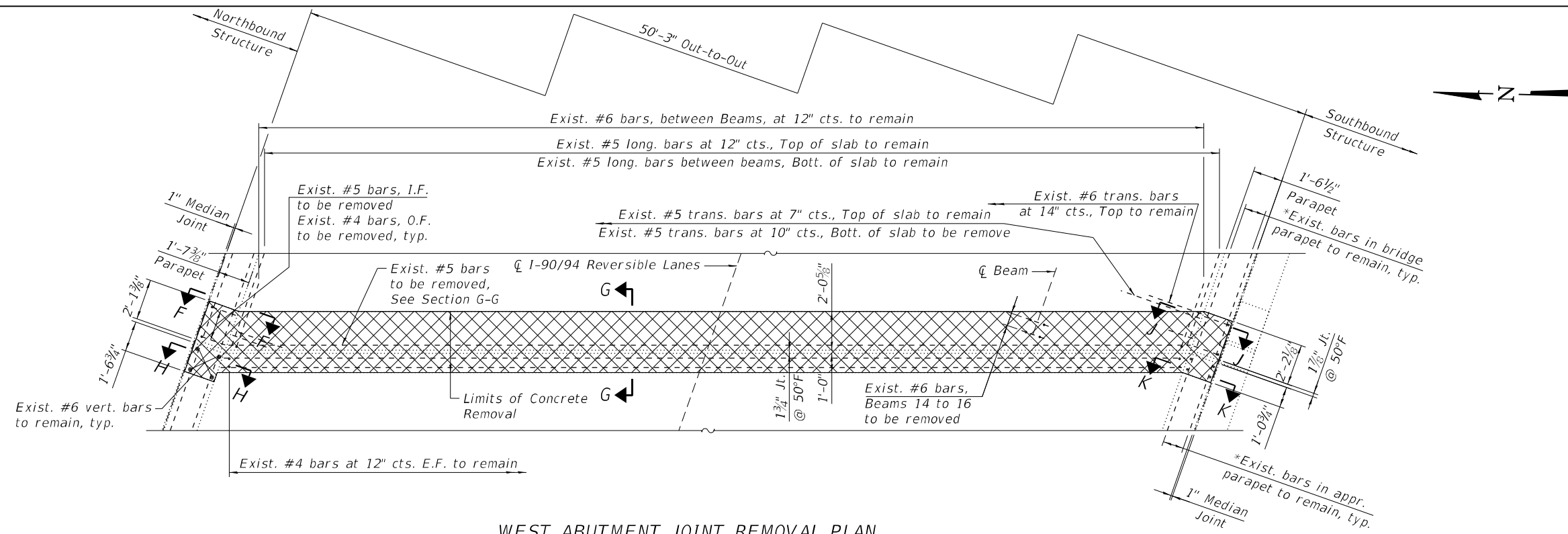
LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

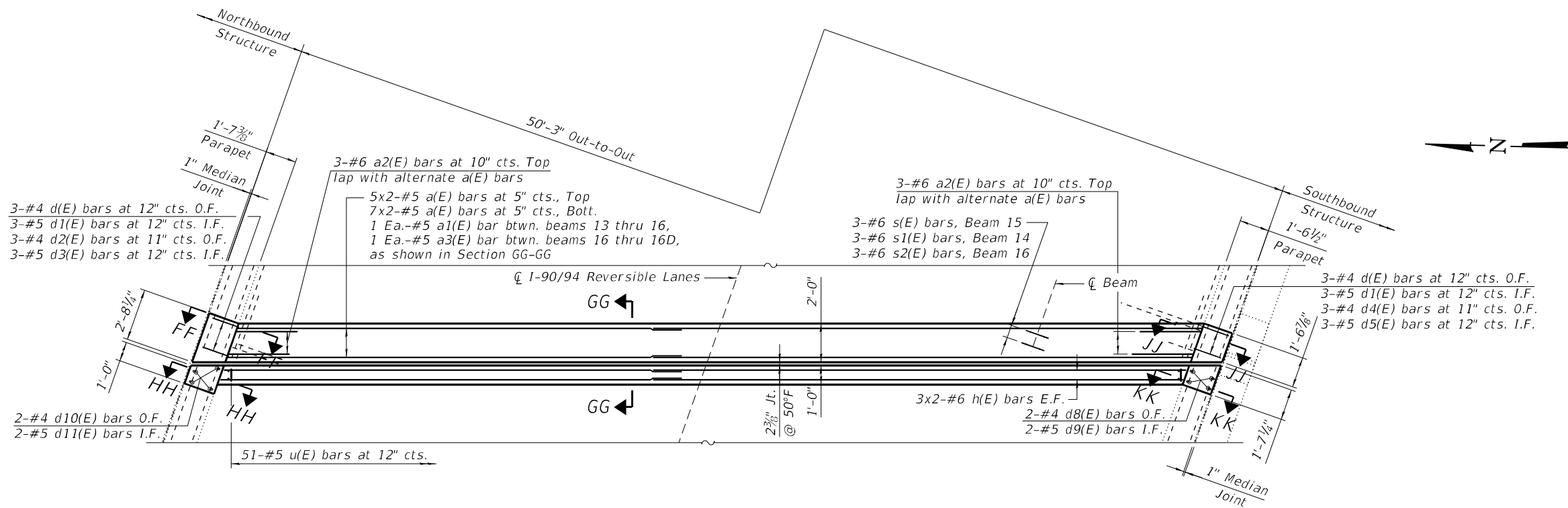
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| | CHECKED - | K.G.W. | REVISED - |

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1273 |
| CONTRACT NO. 62K74 | | | | |



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN


NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S32-08.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S32-09.

* Cut and bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.

** Epoxy grout #4 d8(E) and d10(E), and #5 d9(E) and d11(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

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

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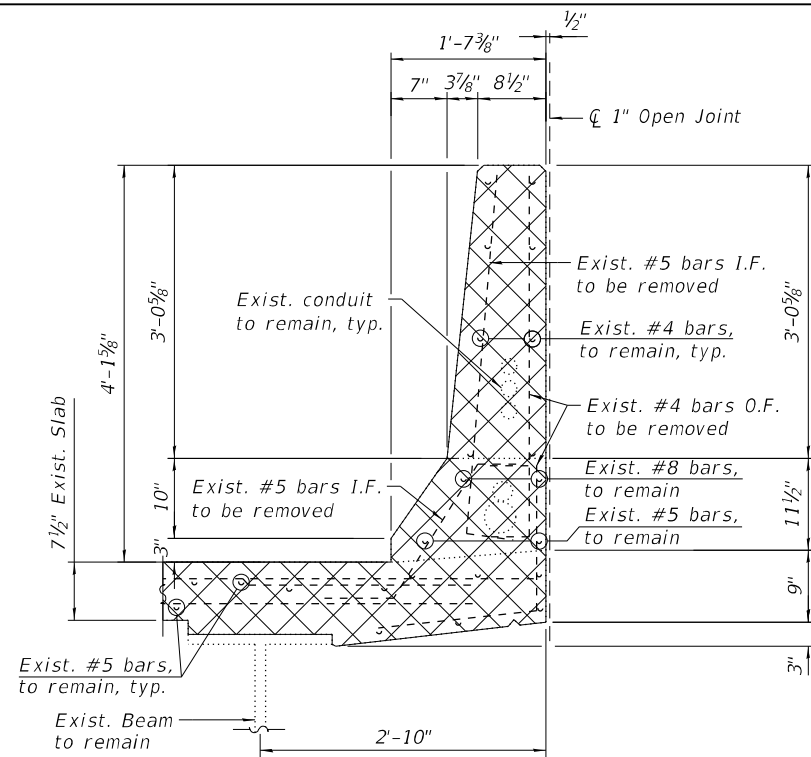
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| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

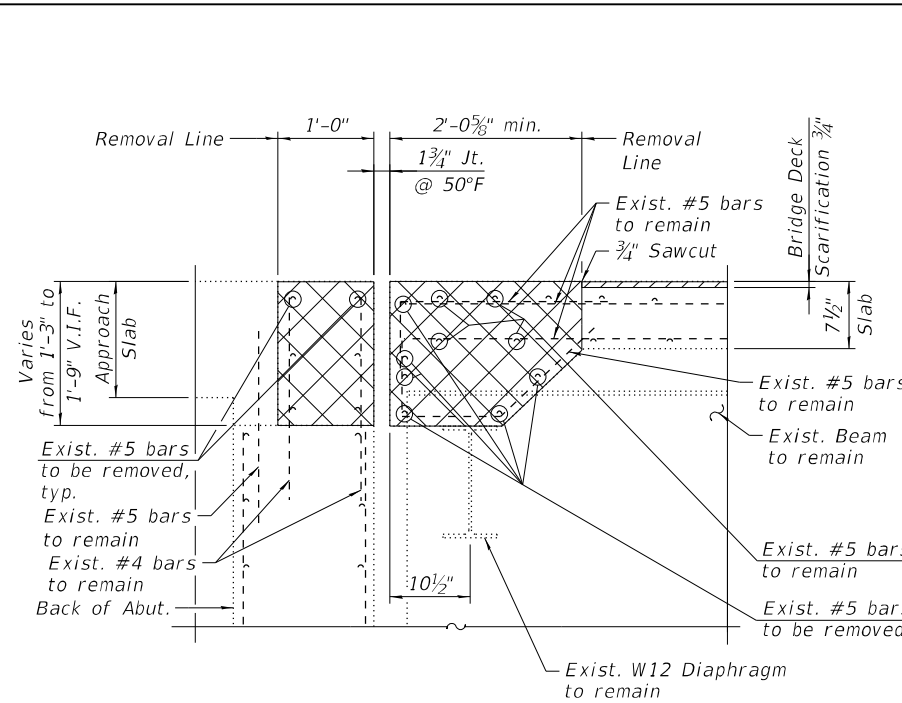
**WEST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0120 (REV)**

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1274 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

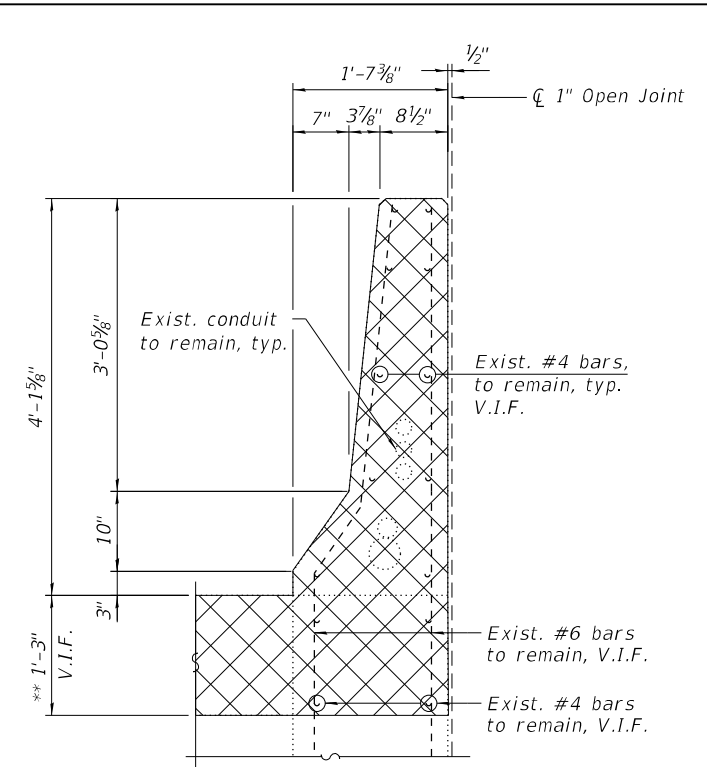
SHEET S32-07 OF S32-15 SHEETS



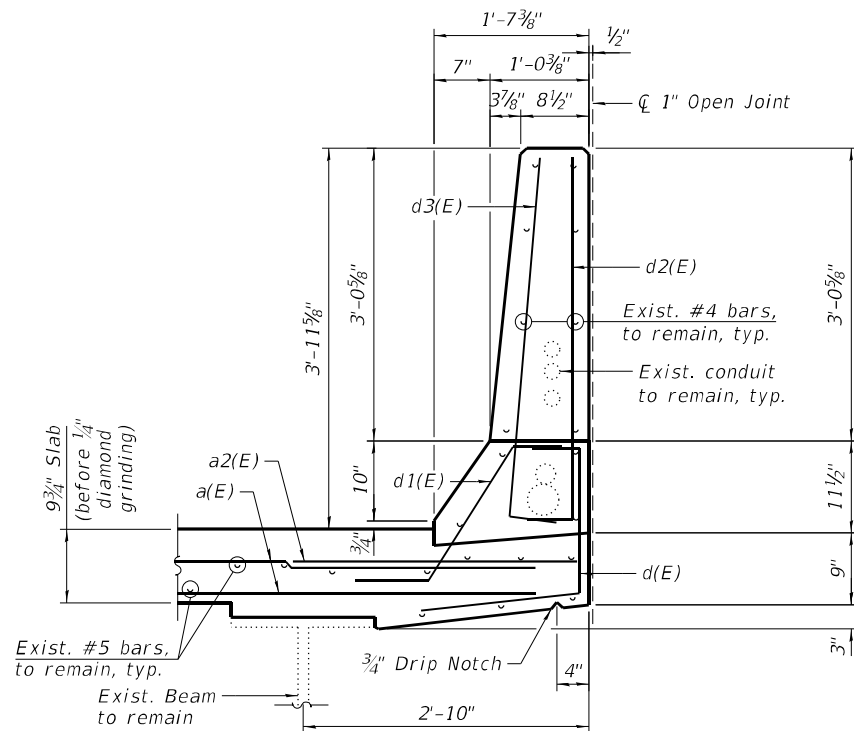
SECTION F-F
(North parapet removal)



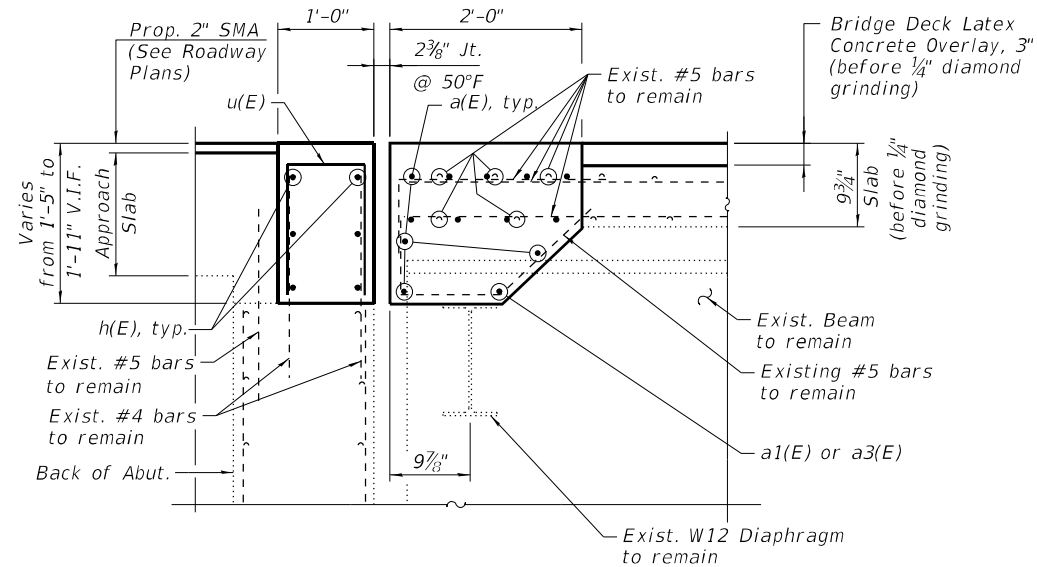
SECTION G-G



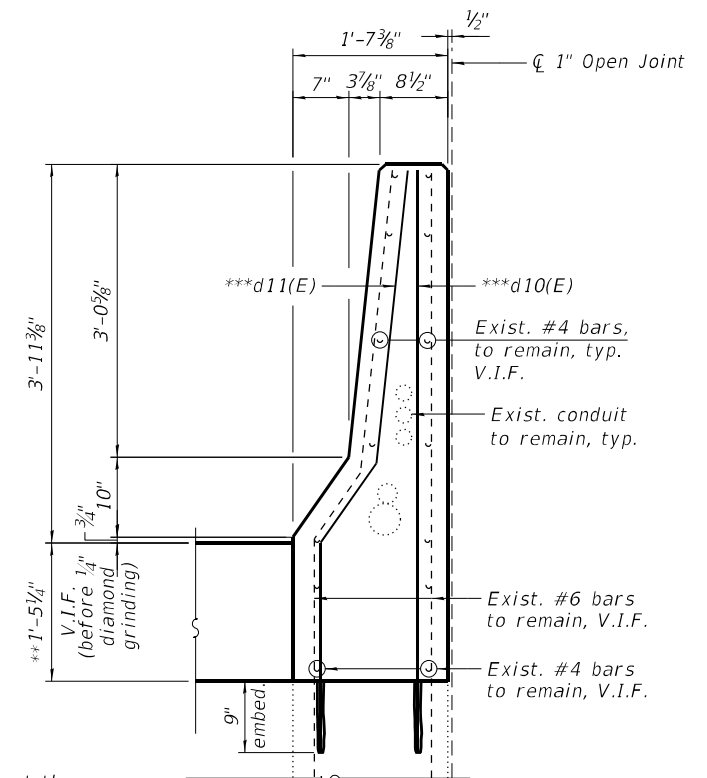
SECTION H-H
(North parapet removal)



SECTION FF-FF
(North parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
(North parapet reconstruction)

- LEGEND**
- Concrete Removal
 - I.F. Inside Face
 - O.F. Outside Face
 - V.I.F. Verify in Field

- ** Dimension is taken at the front of Abut.
- *** Epoxy grout #4 d10(E) and #5 d11(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications

MODEL: SMODELNAME5
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| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | W.A.R. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

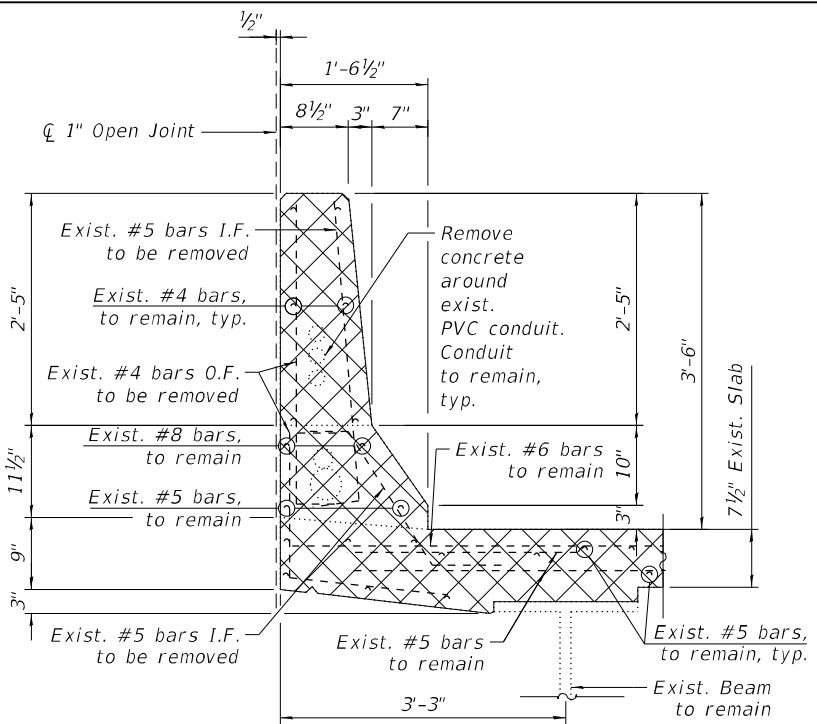
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS II
 SN 016-0120 (REV)**

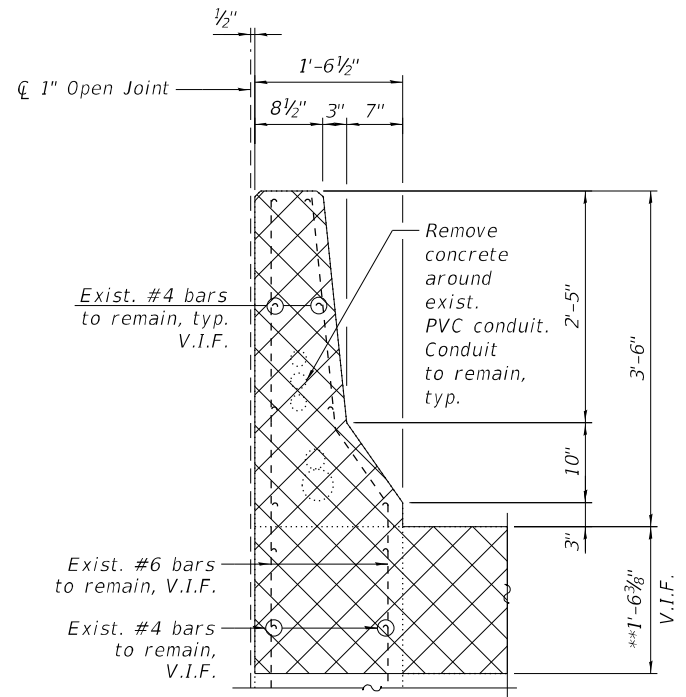
SHEET S32-08 OF S32-15 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1275 |
| CONTRACT NO. 62K74 | | | | |

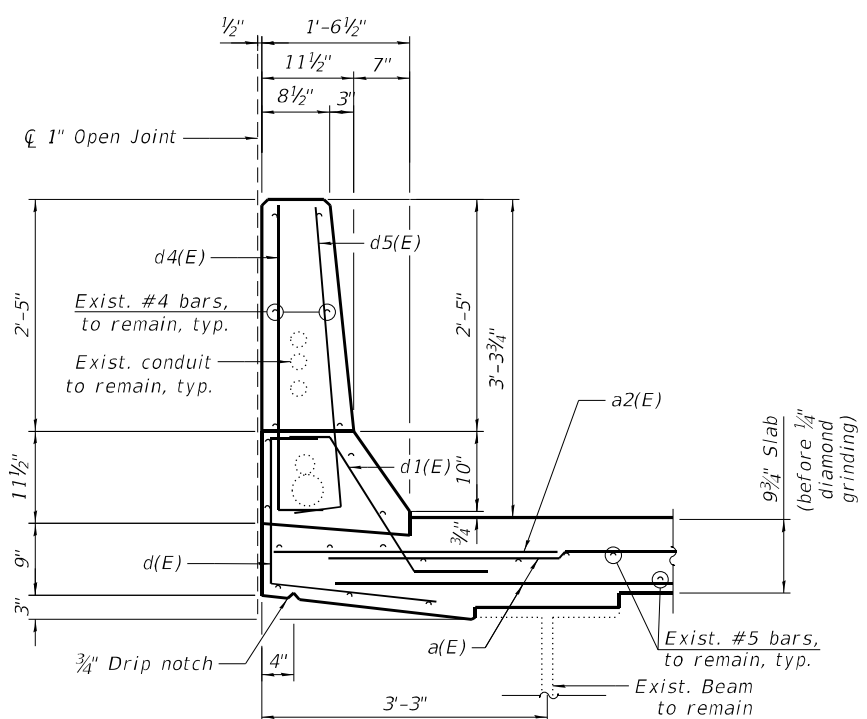
ILLINOIS FED. AID PROJECT



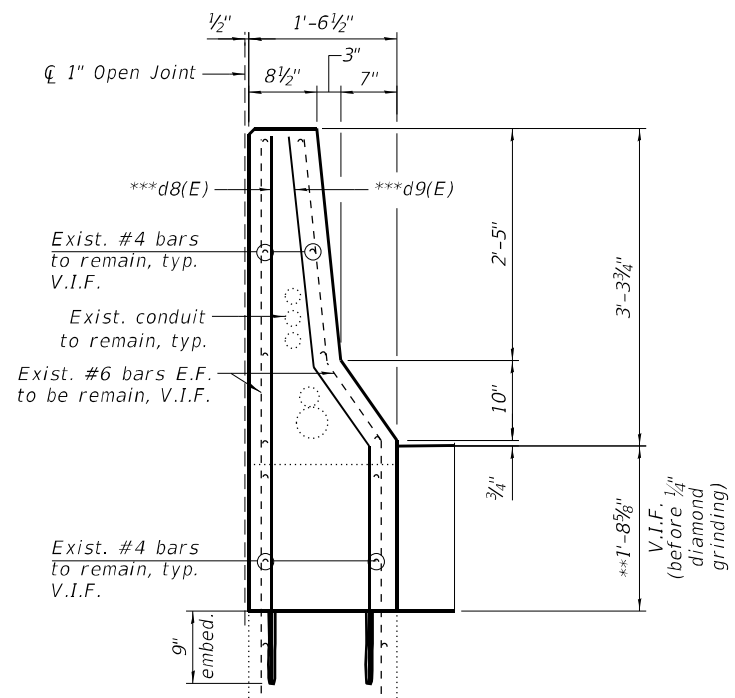
SECTION J-J
(South parapet removal)



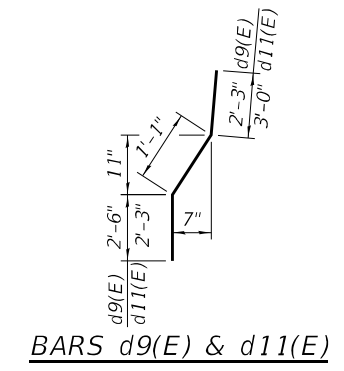
SECTION K-K
(South parapet removal)



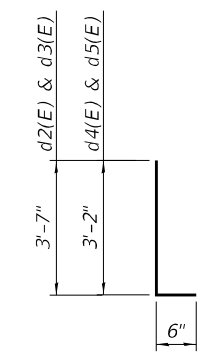
SECTION JJ-JJ
(South parapet reconstruction)



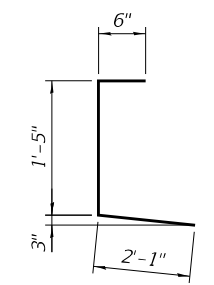
SECTION KK-KK
(South parapet reconstruction)



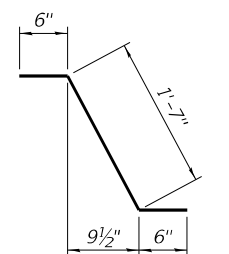
BARS d9(E) & d11(E)



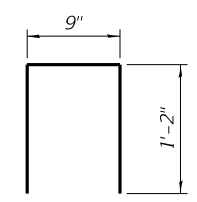
**BARS d2(E), d3(E),
d4(E) & d5(E)**



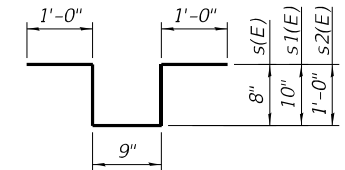
BAR d(E)



BAR d1(E)



BAR u(E)



BAR s(E), s1(E) & s2(E)

**BILL OF MATERIAL
WEST ABUTMENT**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|--------|-------|
| a(E) | 24 | #5 | 26'-5" | — |
| a1(E) | 3 | #5 | 6'-4" | — |
| a2(E) | 6 | #6 | 6'-6" | — |
| a3(E) | 4 | #5 | 6'-0" | — |
| d(E) | 6 | #5 | 4'-0" | — |
| d1(E) | 6 | #5 | 2'-7" | — |
| d2(E) | 3 | #4 | 4'-1" | — |
| d3(E) | 3 | #5 | 4'-1" | — |
| d4(E) | 3 | #4 | 3'-8" | — |
| d5(E) | 3 | #5 | 3'-8" | — |
| d8(E) | 2 | #4 | 5'-9" | — |
| d9(E) | 2 | #5 | 5'-10" | — |
| d10(E) | 2 | #4 | 6'-1" | — |
| d11(E) | 2 | #5 | 6'-4" | — |
| s(E) | 3 | #6 | 4'-1" | — |
| s1(E) | 3 | #6 | 4'-5" | — |
| s2(E) | 3 | #6 | 4'-9" | — |
| h(E) | 12 | #6 | 26'-5" | — |
| u(E) | 51 | #5 | 3'-1" | — |
| Concrete Removal | | | Cu Yd | 10.9 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 1,630 |
| Concrete Superstructure | | | Cu Yd | 11.9 |

NOTES:

- For Preformed Joint Strip Seal details, see sheet S32-10.
- 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. Cost shall be included with Concrete Removal.
- Removal of Existing Expansion Joint will not be paid for separately but will be included in the cost of Concrete Removal.

** Dimension is taken at the front of Abut.

*** Epoxy grout #4 d8(E) and #5 d9(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MODEL: sMODELNAME5
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| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | W.A.R. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

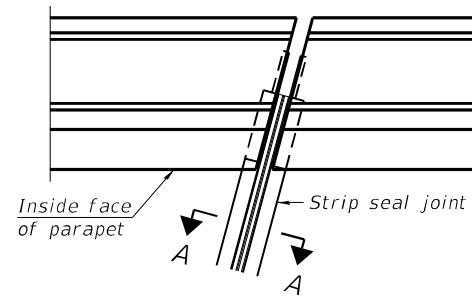
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0120 (REV)**

SHEET S32-09 OF S32-15 SHEETS

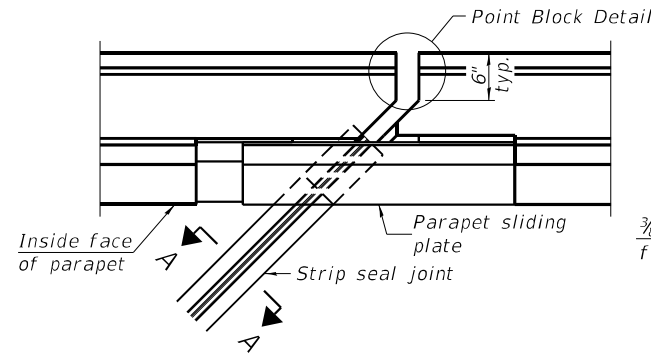
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|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1276 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

MODEL: sMODELNAME5
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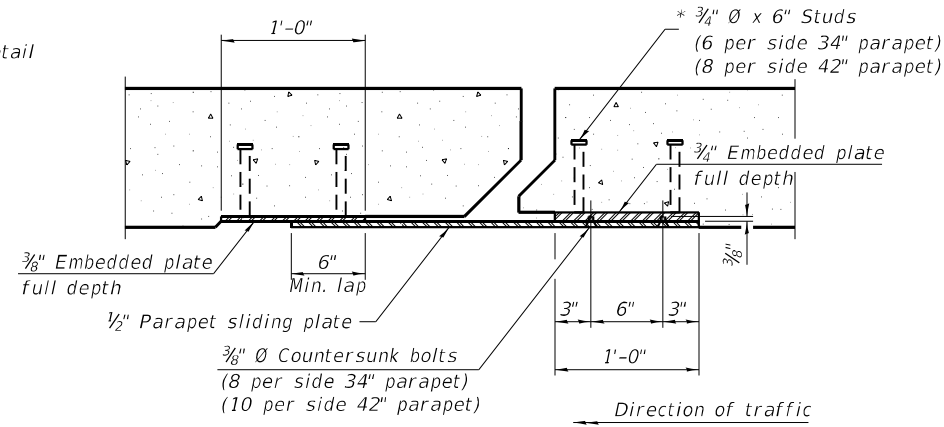


FOR SKEWS $\leq 30^\circ$

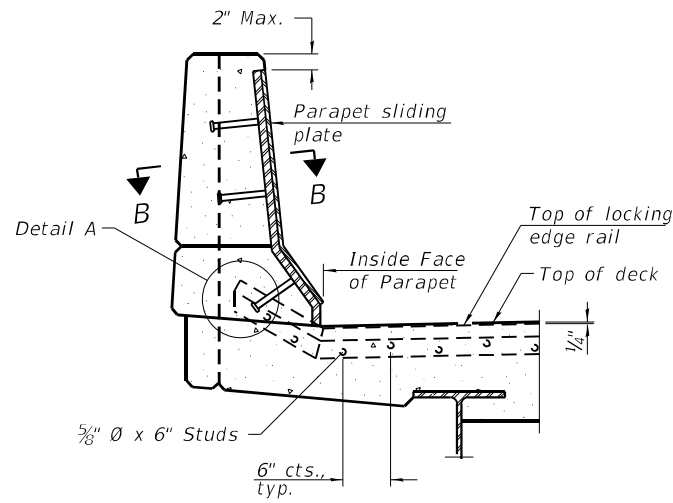
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

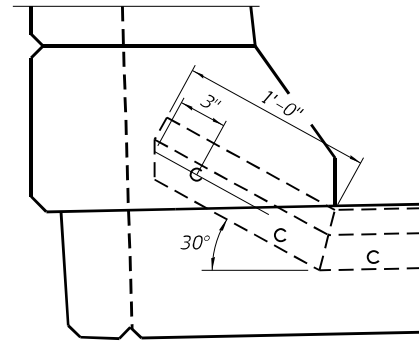


SECTION B-B

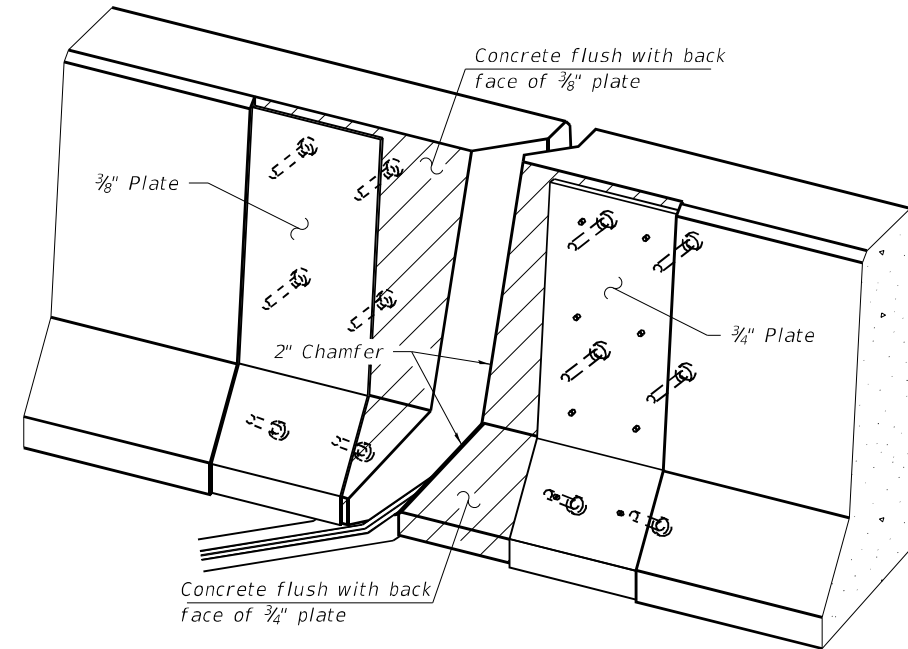


ELEVATION AT PARAPET

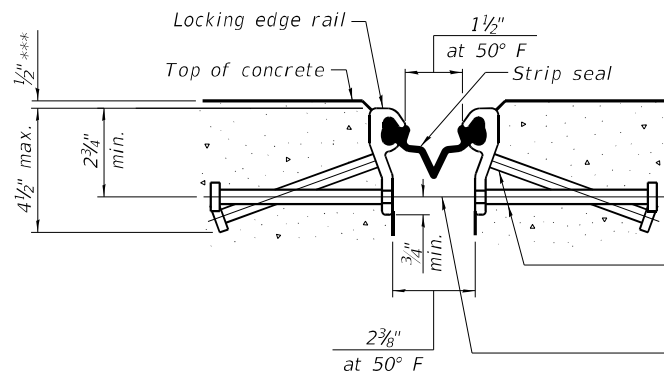
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
 (Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

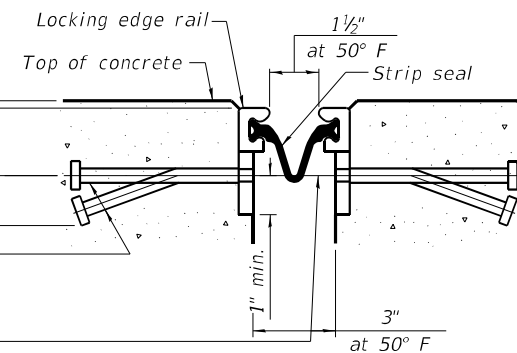
* $3/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$3/8"$ ϕ threaded rods in $1/16"$ ϕ holes at $\pm 4"$ 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.

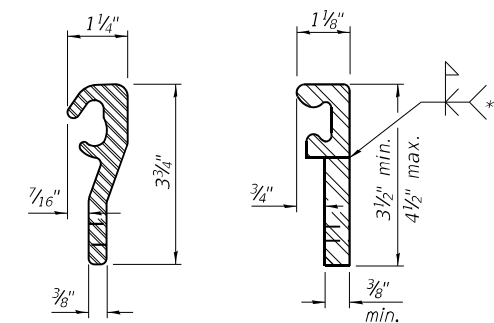
SECTION A-A

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

*** Before $1/4"$ Diamond Grinding.

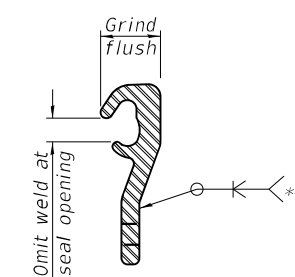


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

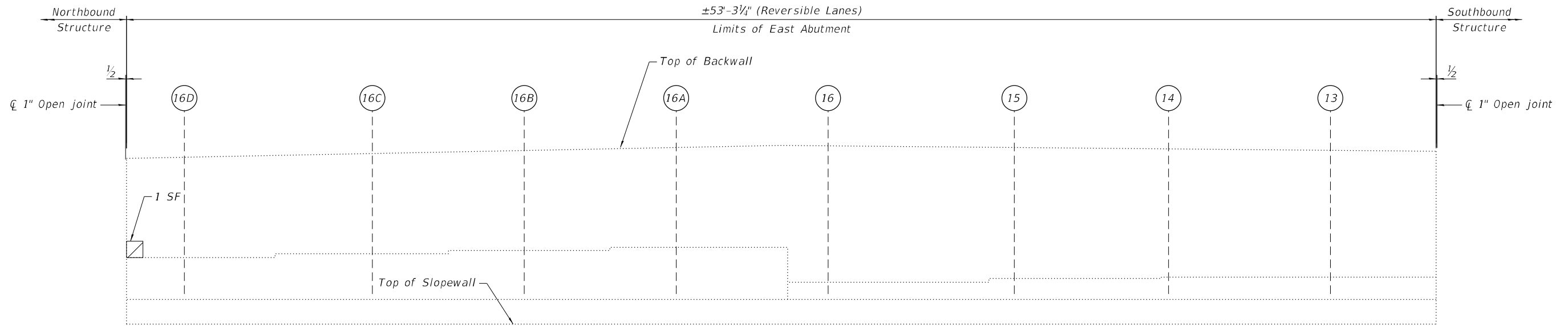
The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

| Item | Unit | Total |
|----------------------------|------|-------|
| Preformed Joint Strip Seal | Foot | 104 |

| | | | |
|--------------|------------|--------|-----------|
| USER NAME = | DESIGNED - | W.A.R. | REVISED - |
| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | W.A.R. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

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|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1277 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



ELEVATION - EAST ABUTMENT
(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 lower 2 feet of the backwalls and to the seats of the abutments.
- For slope wall repairs see sheet S32-15.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 254 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 1 |

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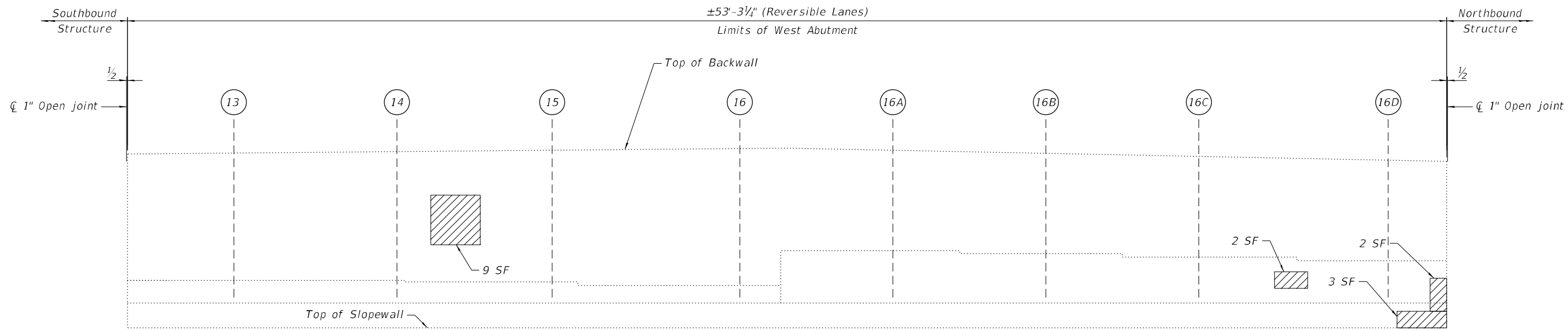
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| USER NAME = | DESIGNED - | W.A.R. | REVISED - |
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| PLOT SCALE = | DRAWN - | W.A.R. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS
SN 016-0120 (REV)**

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1278 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

SHEET S32-12 OF S32-15 SHEETS



ELEVATION - WEST ABUTMENT
(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 lower 2 feet of the backwalls and to the seats of the abutments.
- For slope wall repairs see sheet S32-15.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 254 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 16 |

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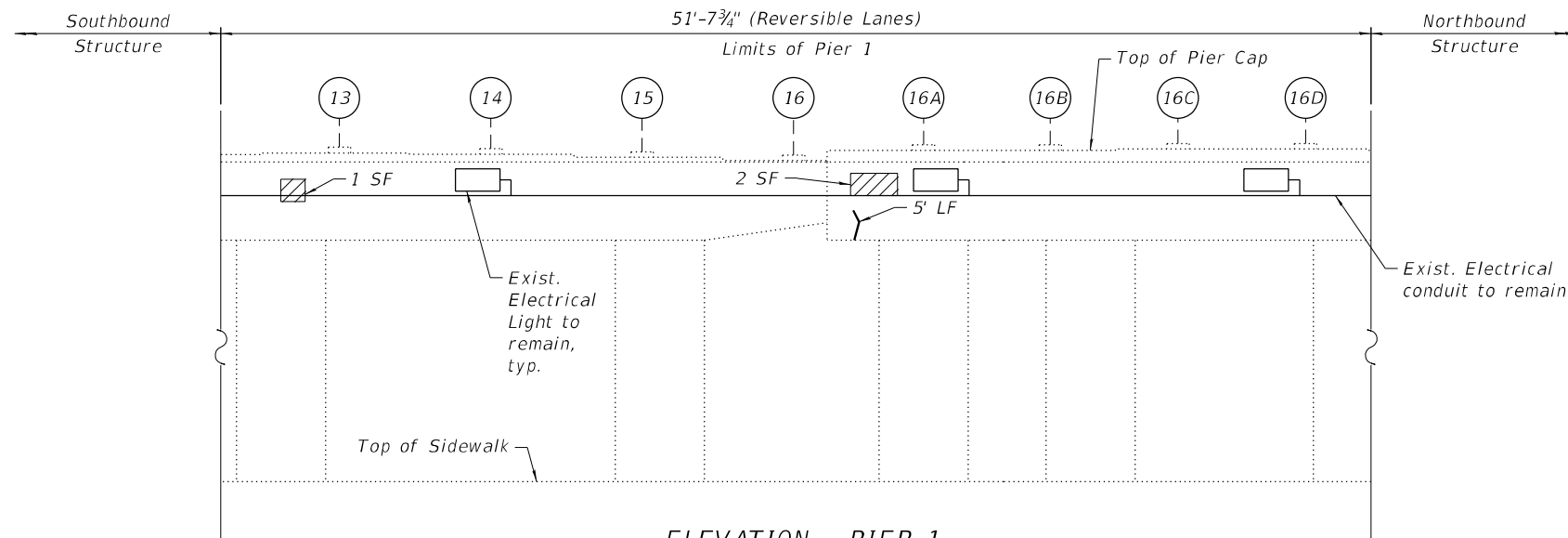
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| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

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DEPARTMENT OF TRANSPORTATION

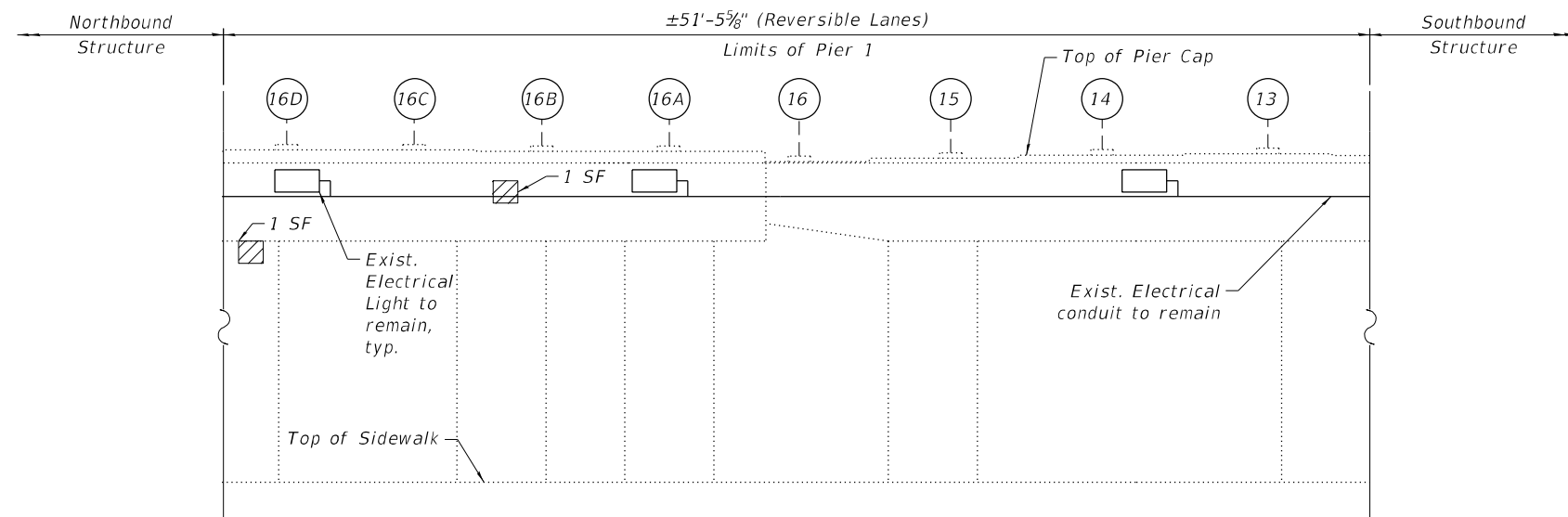
WEST ABUTMENT REPAIRS
SN 016-0120 (REV)

SHEET S32-11 OF S32-15 SHEETS

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|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1279 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



ELEVATION - PIER 1
(Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1
(Looking Northwest)



EXISTING LIGHTING: PIER 1
(Looking Northeast)

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.

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

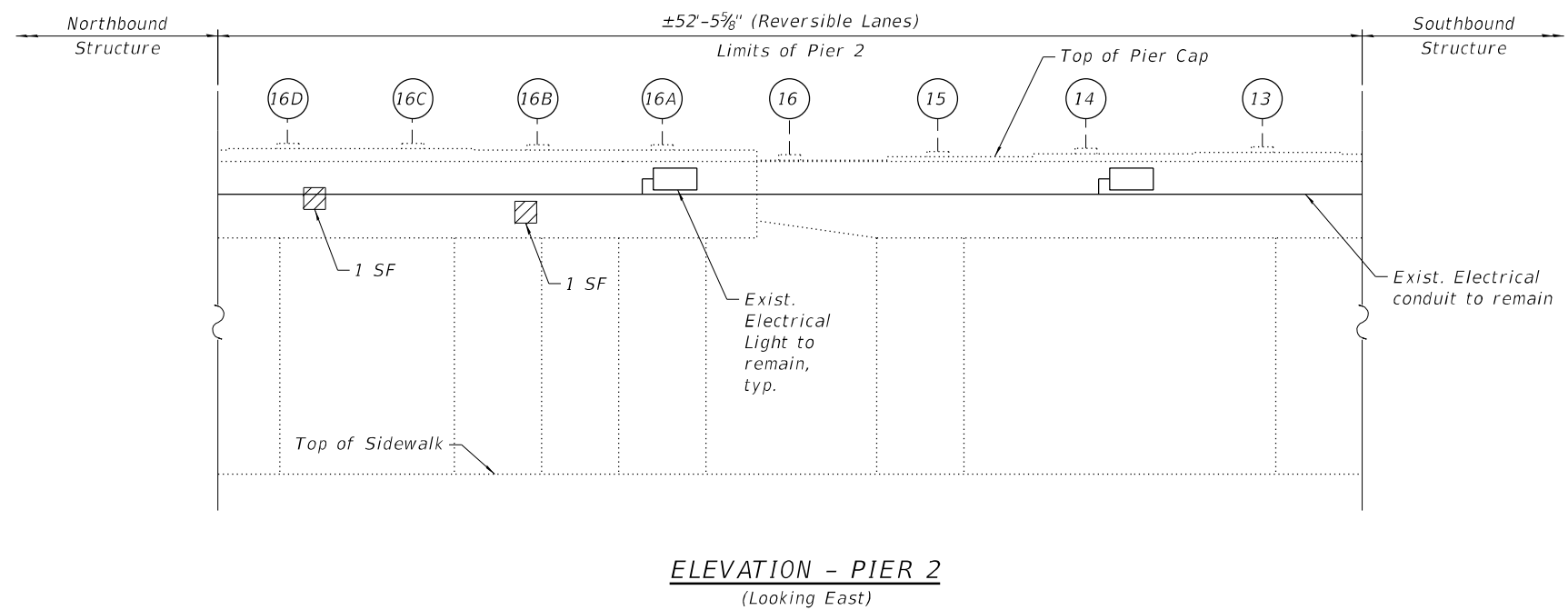
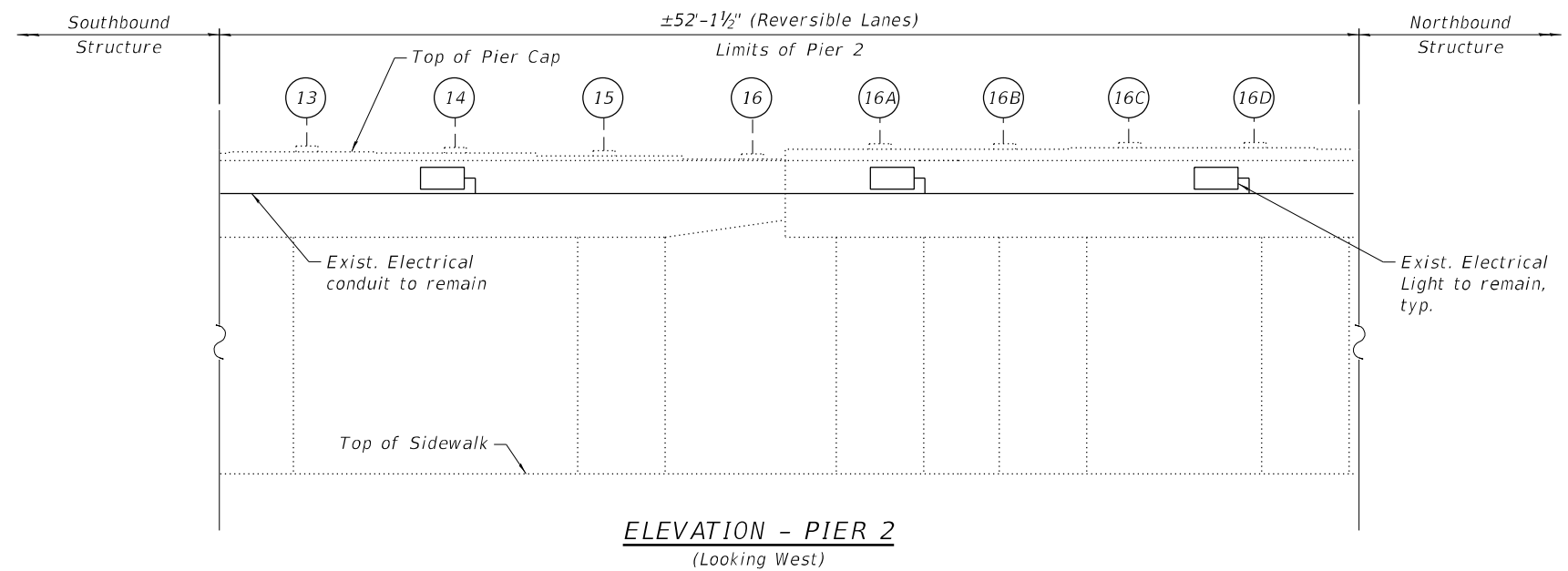
BILL OF MATERIAL

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

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| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | W.A.R. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1280 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



EXISTING LIGHTING: PIER 2
(Looking Southwest)



EXISTING LIGHTING: PIER 2
(Looking Southeast)

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.

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 | 2 |

MODEL: sMODELNAME5
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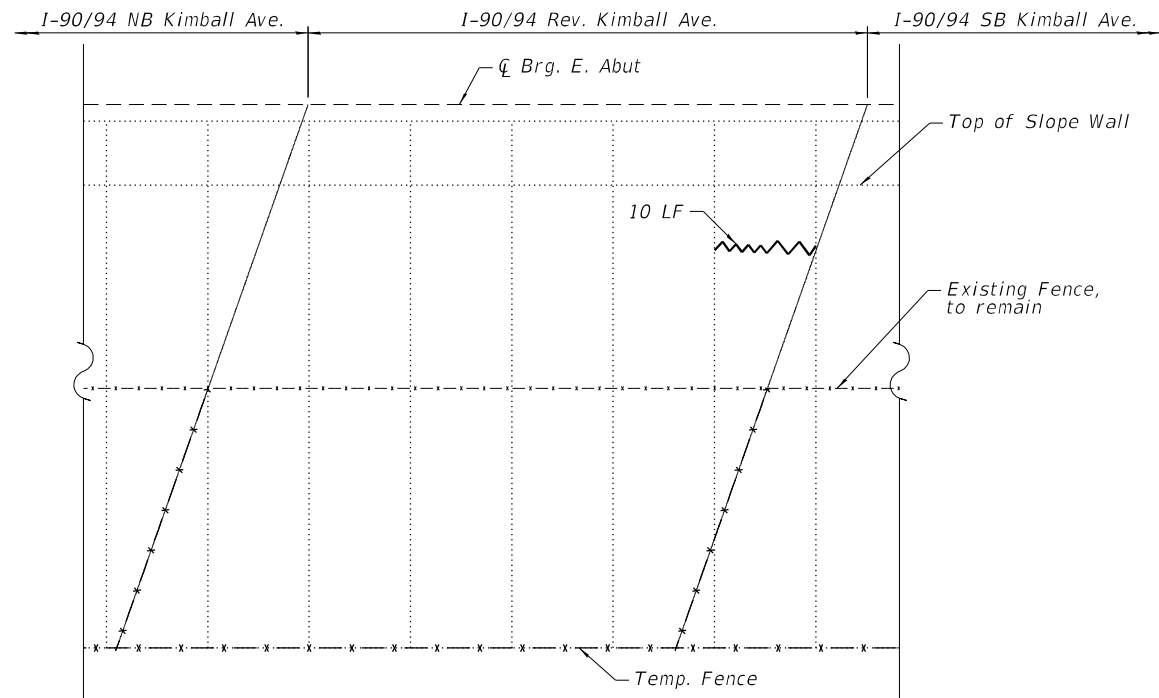
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| USER NAME = | DESIGNED - | W.A.R. | REVISED - |
| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | W.A.R. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

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DEPARTMENT OF TRANSPORTATION

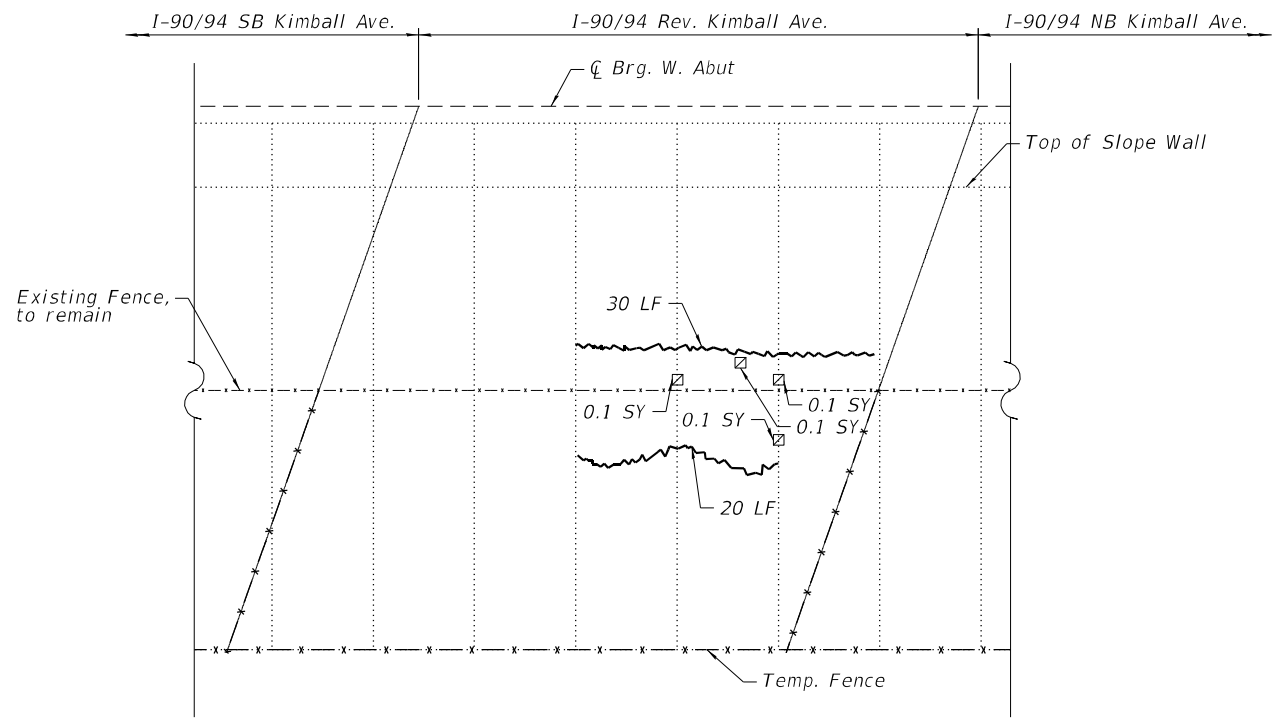
PIER 2 REPAIRS
SN 016-0120 (REV)

SHEET S32-14 OF S32-15 SHEETS

| | | | | |
|--------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1281 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |



EAST SLOPE WALL - PLAN
(Looking East)



WEST SLOPE WALL - PLAN
(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.
- Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq ft

LEGEND

- Slope Wall Removal and Replacement with 4 Inch Slope Wall
- SY Square Yard
- LF Linear Foot
- Slope Wall Crack Sealing

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|----------------------------|-------|----------|
| Porous Granular Embankment | Cu Yd | 1 |
| Slope Wall Removal | Sq Yd | 1 |
| Slope Wall 4 Inch | Sq Yd | 1 |
| Slope Wall Crack Sealing | Foot | 60 |

MODEL: sMODELNAME5
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| PLOT SCALE = | DRAWN - W.A.R. | REVISED - |
| PLOT DATE = | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SLOPE WALL REPAIRS
SN 016-0120 (REV)**

SHEET S32-15 OF S32-15 SHEETS

| | | | | |
|-------------|-------------|------------------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1282 |
| | | | CONTRACT NO. 62K74 | |
| ILLINOIS | | FED. AID PROJECT | | |

Existing Structure: S.N. 016-0118 was originally built in 1958 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a back-to-back abutment length of 199'-11 $\frac{1}{8}$ " and an out-to-out deck that varies from 74'-1 $\frac{1}{2}$ " to 77'-11 $\frac{3}{4}$ ". The superstructure consists of a 7 $\frac{1}{2}$ " thick reinforced concrete deck supported on three span continuous steel beams of span lengths 55'-6 $\frac{7}{8}$ ", 82'-4 $\frac{3}{4}$ " and 55'-6 $\frac{7}{8}$ ". The substructure consists of reinforced concrete piers and abutments supported on reinforced concrete piles.

Traffic will be maintained utilizing stage construction.

No salvage.

LOADING

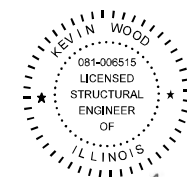
HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

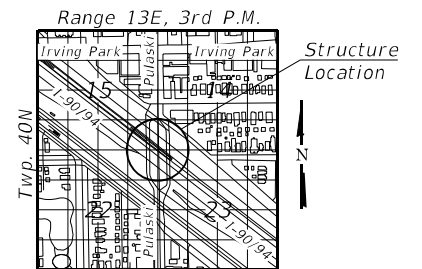
NOTE:

- All stations are to the CL I-90/94 SB Roadway and taken from existing plans.
- No Future Wearing Surface is allowed.

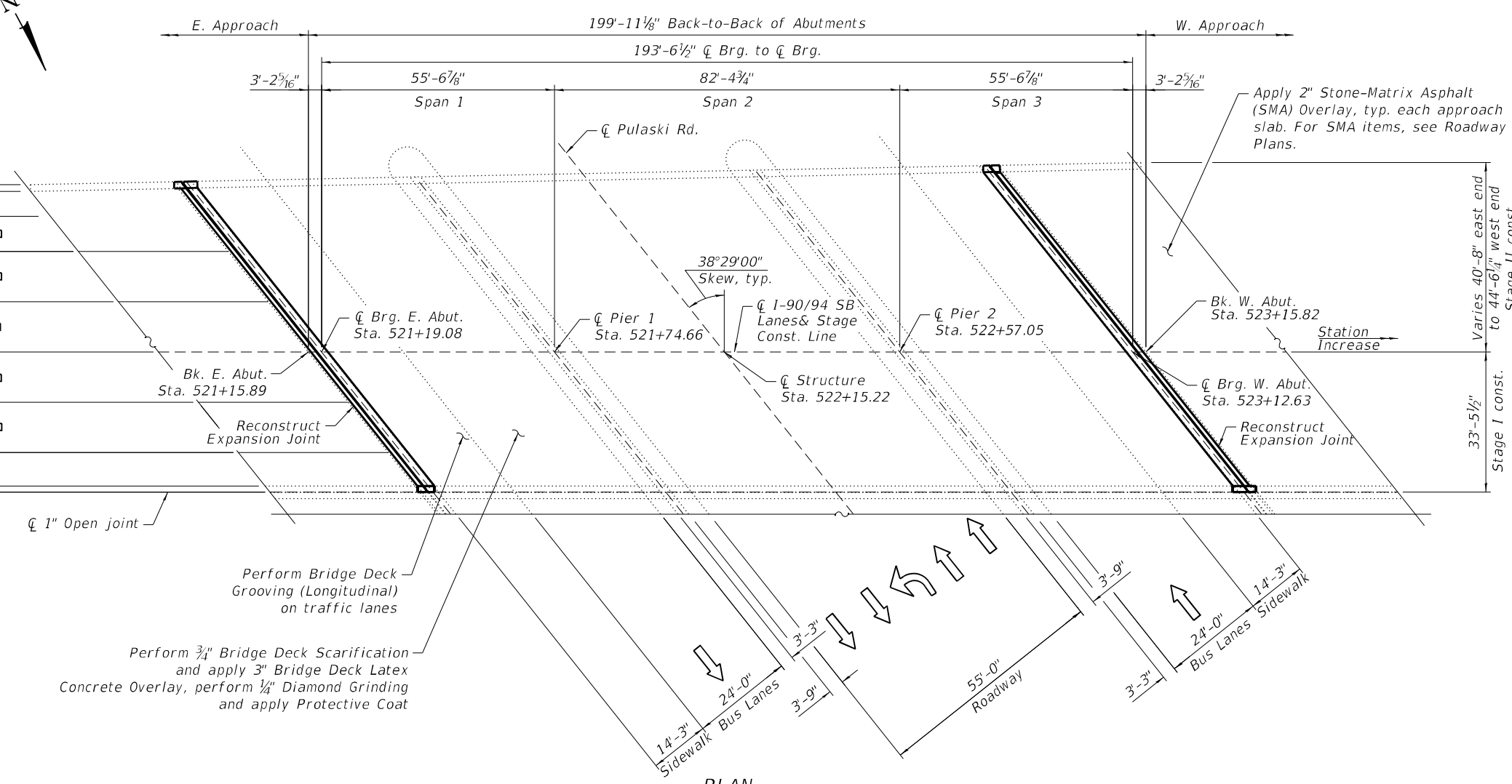
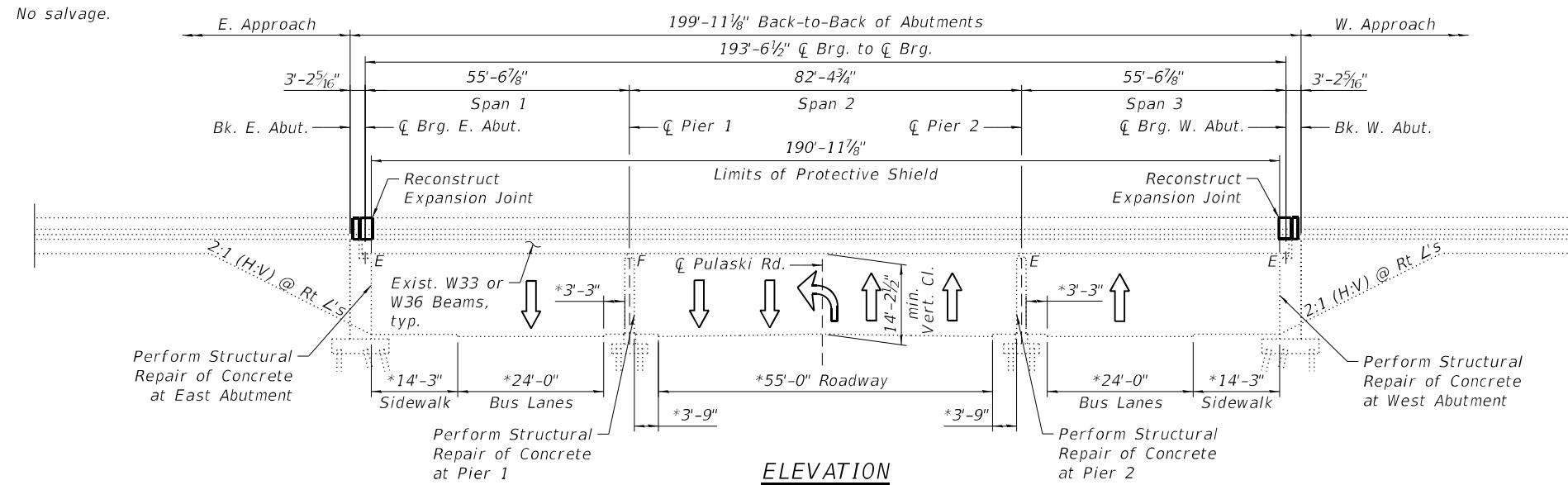


Kevin Wood

Engineer Full Name: Kevin Wood Date: 10-20-2022
 Illinois Registered Engineer No. 081-006515
 Registration Expires 11. 30, 2024



LOCATION SKETCH



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| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
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| PLOT DATE = | DRAWN - | D.C.P. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SHEET S33-01 OF S33-18 SHEETS

**GENERAL PLAN AND ELEVATION
 SB I-90 OVER PULASKI ROAD
 F.A.I. SEC 2020-004-BR
 COOK COUNTY
 STATION: 522+15.22
 STRUCTURE NO. 016-0118 (SB)**

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1283 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. 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 included in the Concrete Removal pay item. 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 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
- Plan dimensions and details relative to the 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 furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Plans.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- 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.
- Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provisions "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.
- 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.
- 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".
- The Contractor shall exercise 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.
- The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete 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.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed 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.
- Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 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. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

| | |
|---------------|---|
| S33-01 | General Plan & Elevation |
| S33-02 | General Data |
| S33-03-S33-04 | Stage Construction Details I & II |
| S33-05 | Temporary Concrete Barrier |
| S33-06 | Bridge Deck Repair Plan and Details |
| S33-07-S33-09 | East Abutment Expansion Joint Details I, II & III |
| S33-10-S33-12 | West Abutment Expansion Joint Details I, II & III |
| S33-13 | Preformed Joint Strip Seal |
| S33-14 | East Abutment Repairs |
| S33-15 | West Abutment Repairs |
| S33-16 | Pier 1 Repairs |
| S33-17 | Pier 2 Repairs |
| S33-18 | Bar Splicer Assembly and Mechanical Splicer Details |

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform deck repairs.
- Remove and reconstruct expansion joints at north and south abutments and install new Preformed Joint Strip Seals.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- Perform Structural Repair of Concrete to the Abutments and Piers as noted in the plans.
- Epoxy crack injection at the abutments and piers for cracks greater than hairline.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|--------|-------|-------|-------|
| Concrete Removal | Cu Yd | 30.6 | | 30.6 |
| Protective Shield | Sq Yd | 1,614 | | 1,614 |
| Concrete Superstructure | Cu Yd | 34.0 | | 34.0 |
| Protective Coat | Sq Yd | 1,824 | | 1,824 |
| Reinforcement Bars, Epoxy Coated | Pound | 5,310 | | 5,310 |
| Bar Splicers | Each | 32 | | 32 |
| Preformed Joint Strip Seal | Foot | 199 | | 199 |
| Concrete Sealer | Sq Ft | | 832 | 832 |
| Epoxy Crack Injection | Foot | | 7 | 7 |
| Protect and Maintain Existing Underpass Luminaire | L Sum | | 0.022 | 0.022 |
| Bridge Deck Grooving (Longitudinal) | Sq Yd | 1,279 | | 1,279 |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,542 | | 1,542 |
| Bridge Deck Scarification 3/4" | Sq Yd | 1,542 | | 1,542 |
| Structural Repair of Concrete (Depth Equal to or less than 5 Inches) | Sq Ft | | 86 | 86 |
| Deck Slab Repair (Full Depth, Type I) | Sq Yd | 0.5 | | 0.5 |
| Deck Slab Repair (Full Depth, Type II) | Sq Yd | 7.3 | | 7.3 |
| Diamond Grinding (Bridge Section) | Sq Yd | 1,582 | | 1,582 |
| Maintenance of Lighting System | Cal Mo | | 6 | 6 |

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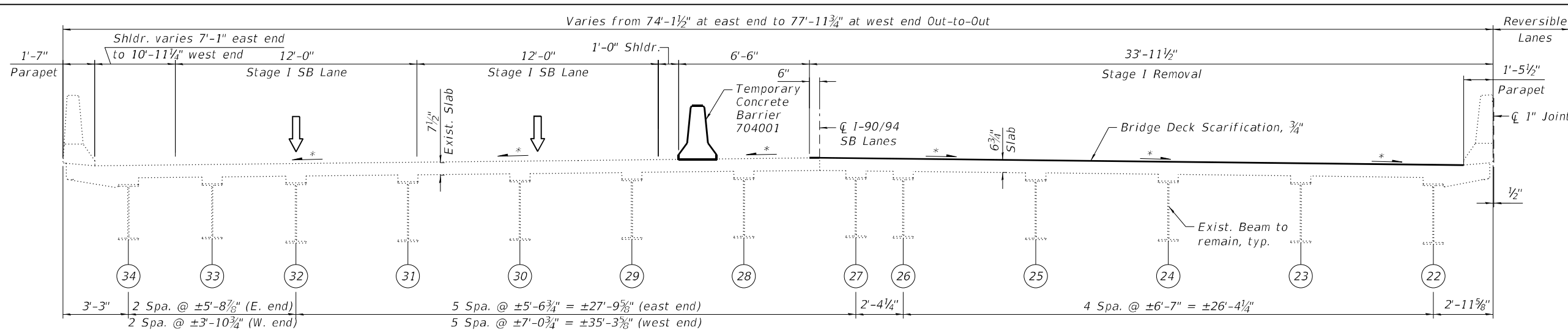
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

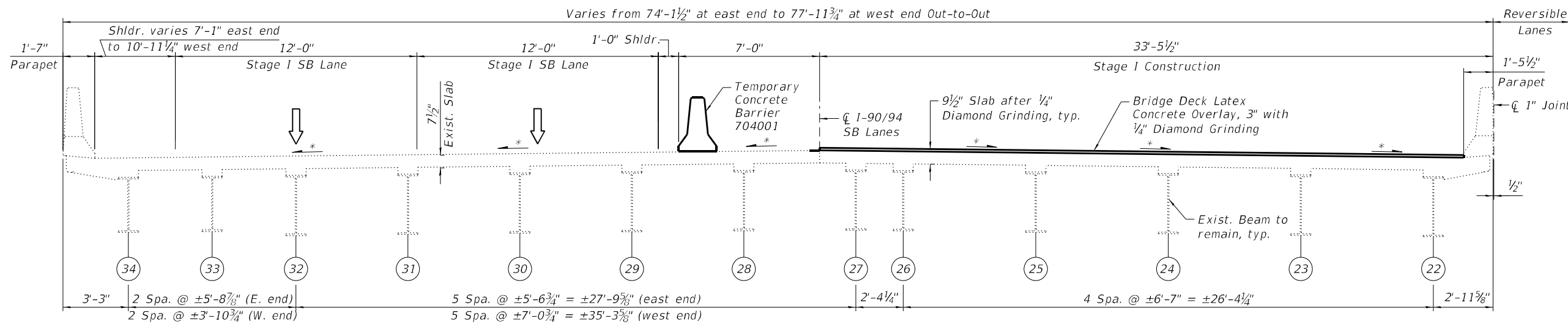
**GENERAL DATA
SN 016-0118 (SB)**

SHEET S33-02 OF S33-18 SHEETS

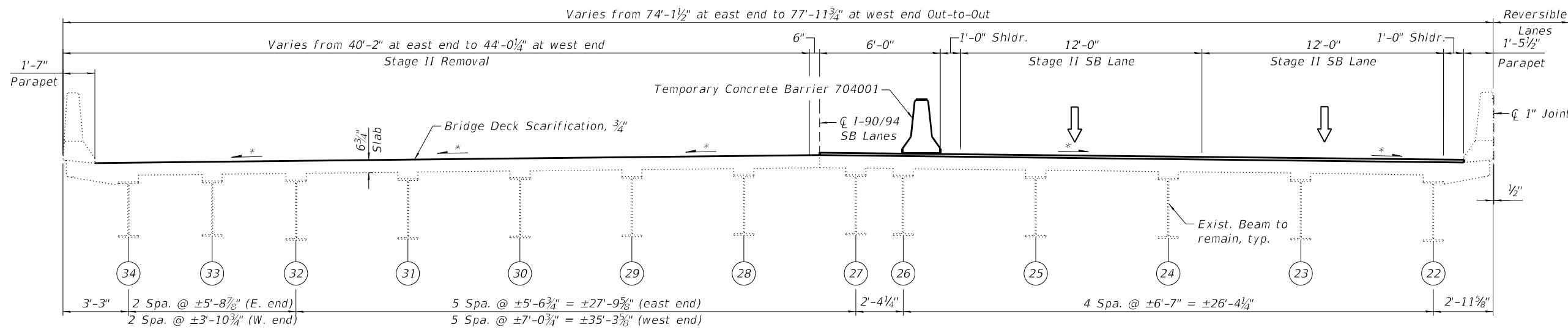
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1284 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



STAGE I REMOVAL
(Looking West)



STAGE I CONSTRUCTION
(Looking West)



STAGE II REMOVAL
(Looking West)

* Match existing deck surface profile

STAGE I REMOVAL

1. Install Temporary Concrete Barrier as shown to locate traffic on the south side of the existing structure.
2. Scarify 3/4" from the top of the deck.
3. Remove portions of bridge deck adjacent to abutment joints, as shown in the plans.

STAGE I CONSTRUCTION

1. Perform Deck Slab Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at east and west abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete and Epoxy Crack Injection at abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
5. Perform 1/4" diamond grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.

STAGE II REMOVAL

1. Install Temporary Concrete Barrier as shown to locate traffic on the north side of the existing structure.
2. Scarify 3/4" from the top of the deck.
3. Remove portions of bridge deck adjacent to abutment joints, as shown in the plans.

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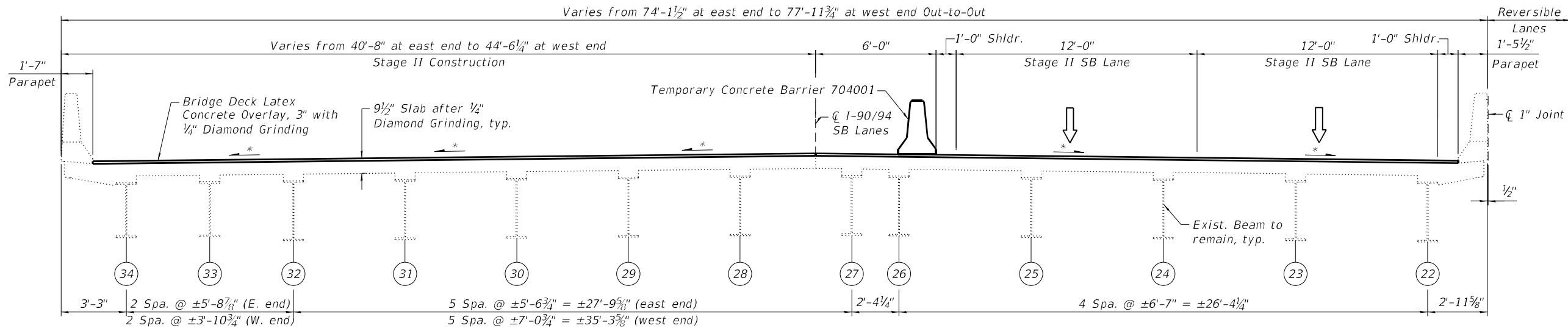
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS I
SN 016-0118 (SB)

SHEET S33-03 OF S33-18 SHEETS

| | | | | |
|--------------------|-------------|--------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1285 |
| CONTRACT NO. 62K74 | | | ILLINOIS FED. AID PROJECT | |

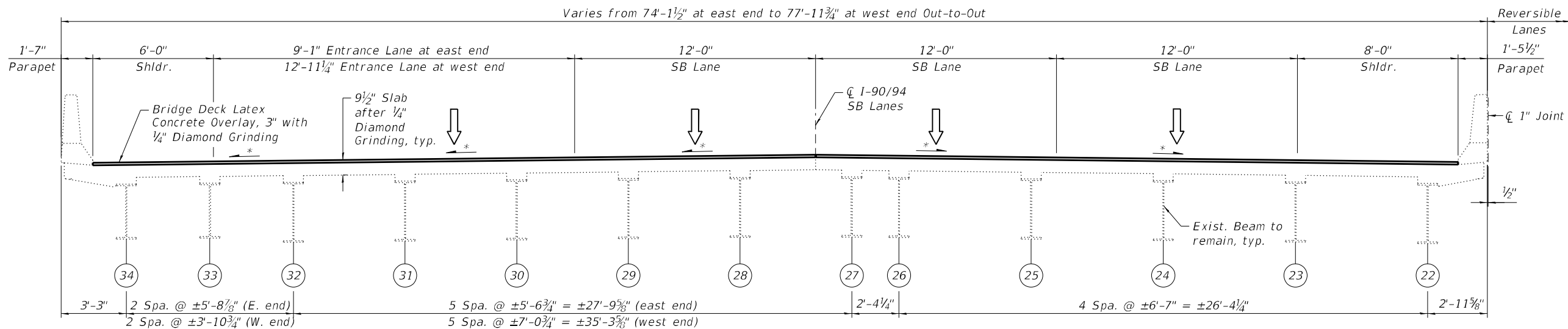


STAGE II CONSTRUCTION

(Looking West)

STAGE II CONSTRUCTION

1. Perform Deck Slab Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at east and west abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete and Epoxy Crack Injection at abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
5. Perform 1/4" diamond grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.



FINAL CROSS SECTION

(Looking West)

* Match existing deck surface profile

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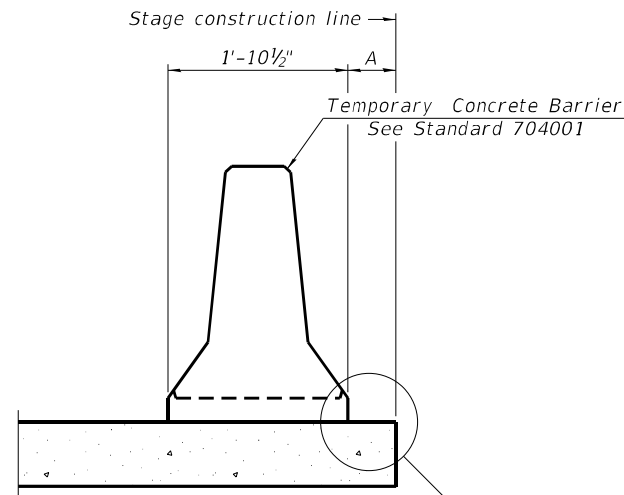
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| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS II
 SN 016-0118 (SB)**

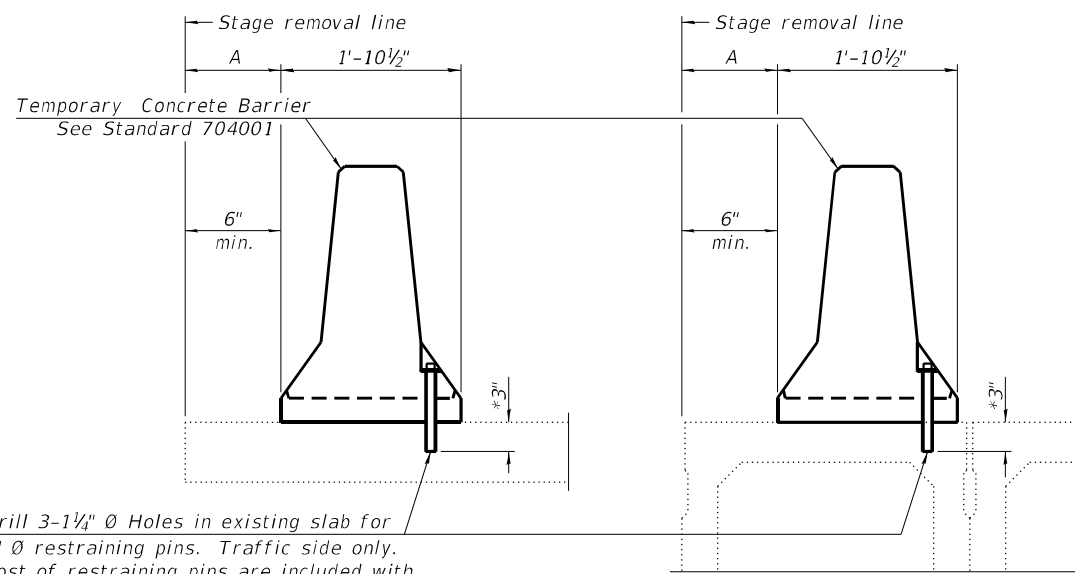
SHEET S33-04 OF S33-18 SHEETS

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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1286 |
| 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".

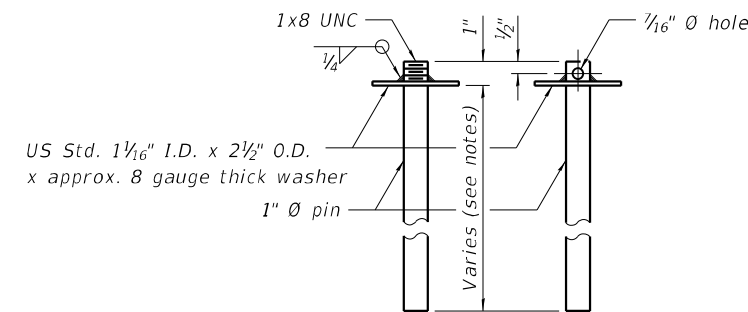
NEW SLAB OR NEW DECK BEAM



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

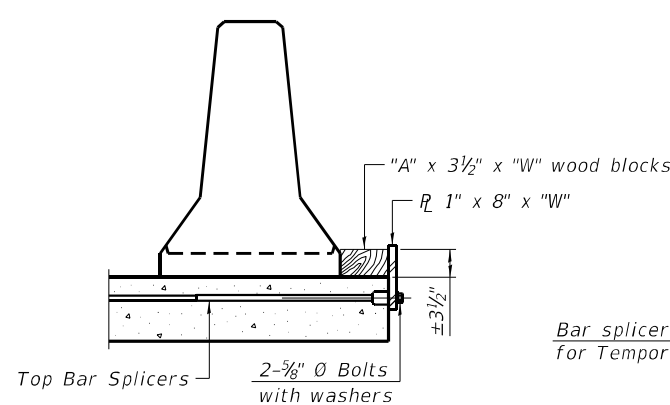
EXISTING DECK BEAM



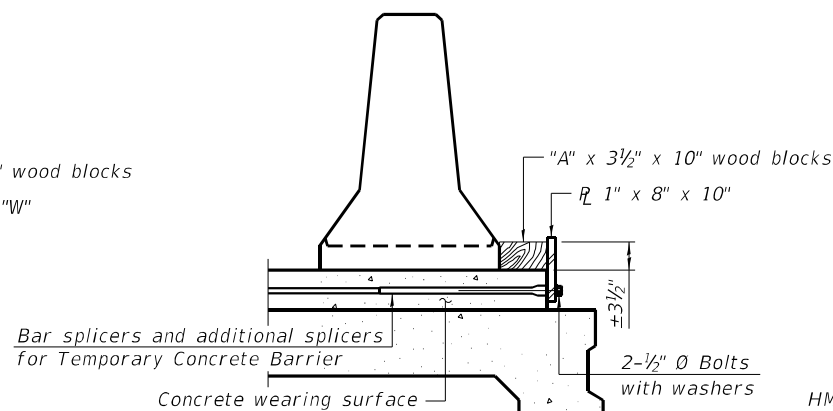
RESTRAINING PIN

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

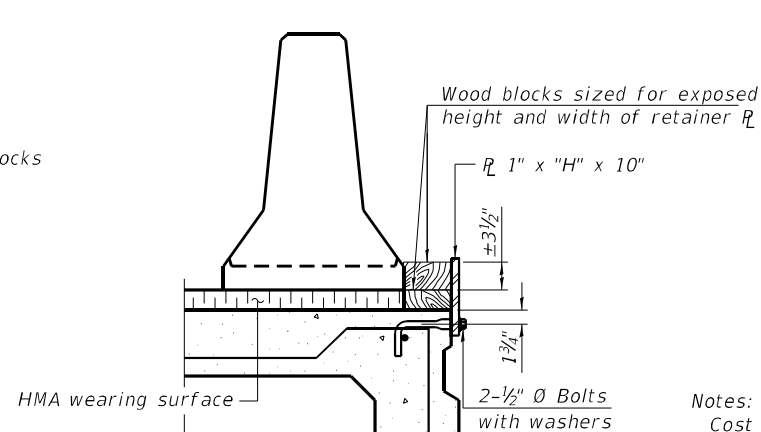
SECTIONS THRU SLAB OR DECK BEAM



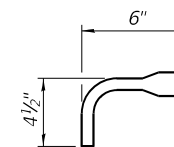
DETAIL I



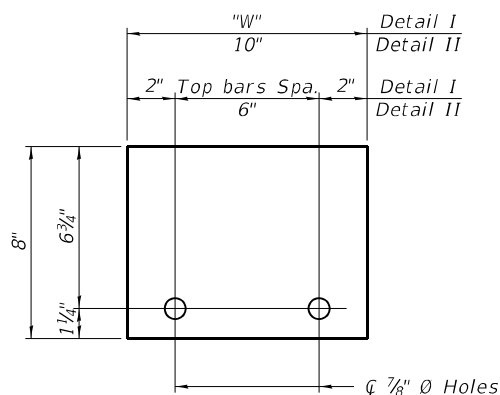
DETAIL II



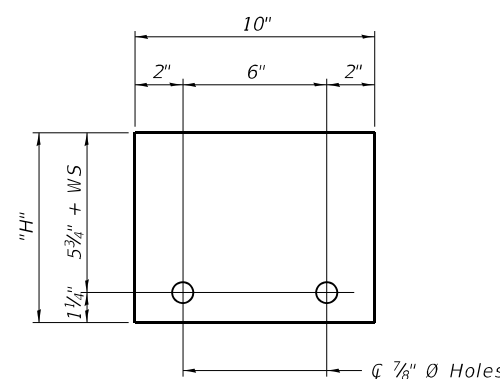
DETAIL III



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 \bar{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 10-12-2021

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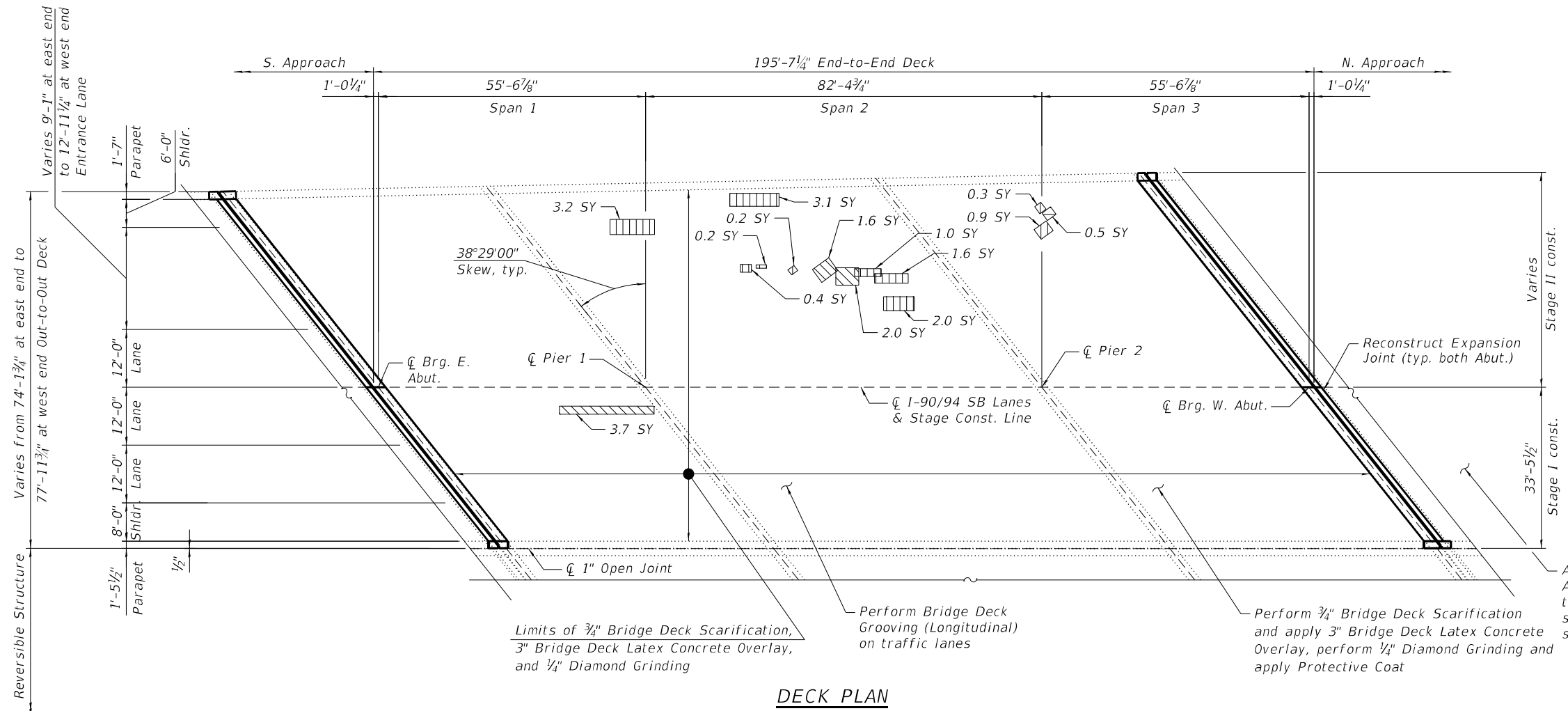
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER
SN 016-0118 (SB)**

SHEET S33-05 OF S33-18 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1287 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



DECK PLAN

LEGEND

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

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

NOTES:

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
2. For bridge deck final cross section, see Sheet S33-04.
3. For East and West transverse joint removal and reconstruction, see Sheet S33-07 thru S33-12.
4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. 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.
9. Prior to any reconstruction or resurfacing of the bridge deck, a team of the consultant WJE will require access to contractor work zone to take cores of existing deck for independent study with IDOT. Contractor to coordinate with IDOT/WJE in advance. There is no cost to the contractor.

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|---|--------|----------|
| Protective Shield | Sq Yd | 1,614 |
| Protective Coat | Sq Yd | 1,824 |
| Protect and Maintain Existing Underpass Luminaire | L Sum | 0.022 |
| Bridge Deck Grooving (Longitudinal) | Sq Yd | 1,279 |
| Bridge Deck Latex Concrete Overlay, 3 Inches | Sq Yd | 1,542 |
| Bridge Deck Scarification 3/4" | Sq Yd | 1,542 |
| Deck Slab Repair (Full Depth, Type I) | Sq Yd | 0.5 |
| Deck Slab Repair (Full Depth, Type II) | Sq Yd | 7.3 |
| Diamond Grinding (Bridge Section) | Sq Yd | 1,582 |
| Maintenance of Lighting System | Cal Mo | 6 |

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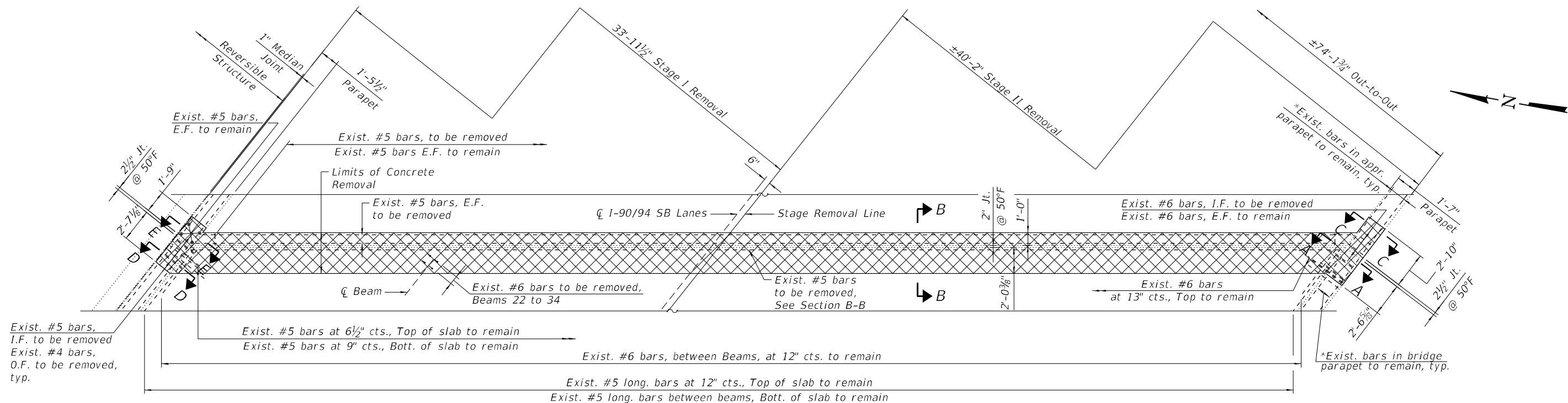
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| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | J.T.B. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

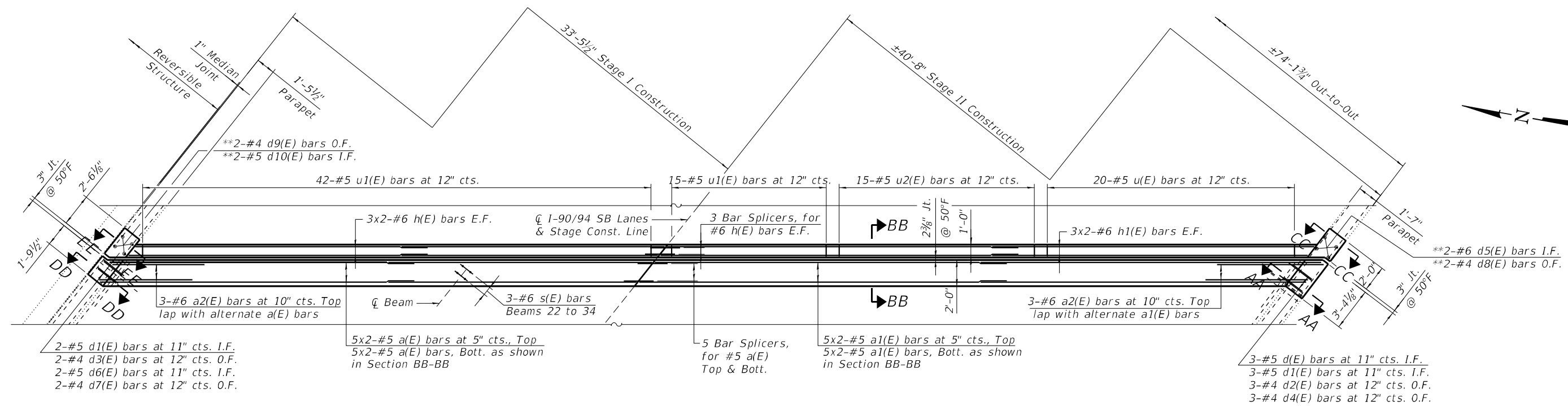
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK REPAIR PLAN AND DETAILS
SN 016-0118 (SB)**

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1288 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



EAST ABUTMENT JOINT REMOVAL PLAN



EAST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S33-08.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S33-09.

* Existing longitudinal bars to remain in the parapets can be cut in the field as required

** Epoxy grout #4 d8(E) and d9(E) bars, #5 d10(E) and #6 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

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

MODEL: SMOELNAMES
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH016-0118_P\Jbski\SB0160118-62K74-5007-EXPS.dgn

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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

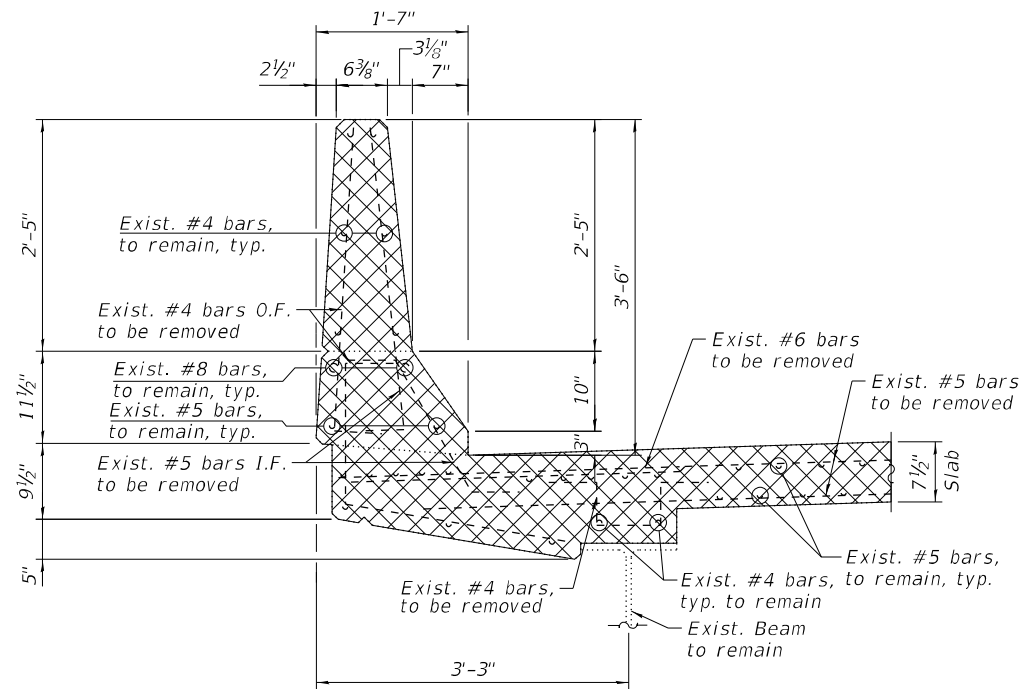
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|--------------|------------|--------|-----------|
| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - | H.A. | REVISED - |
| PLOT DATE = | DRAWN - | J.T.B. | REVISED - |
| | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

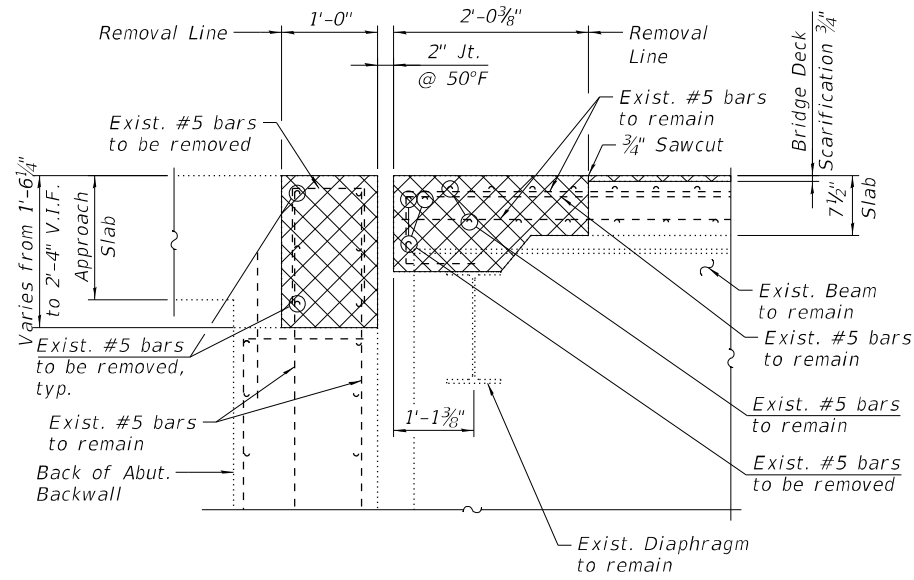
**EAST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0118 (SB)**

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1289 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

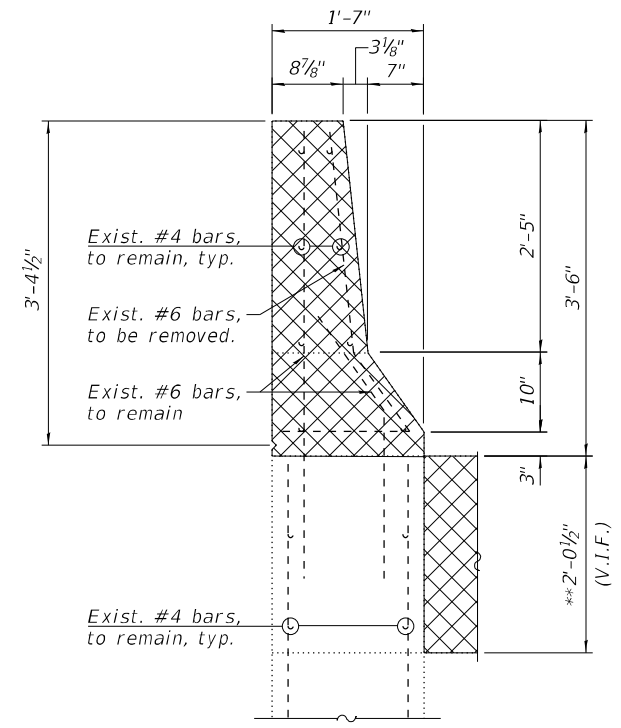
SHEET S33-07 OF S33-18 SHEETS



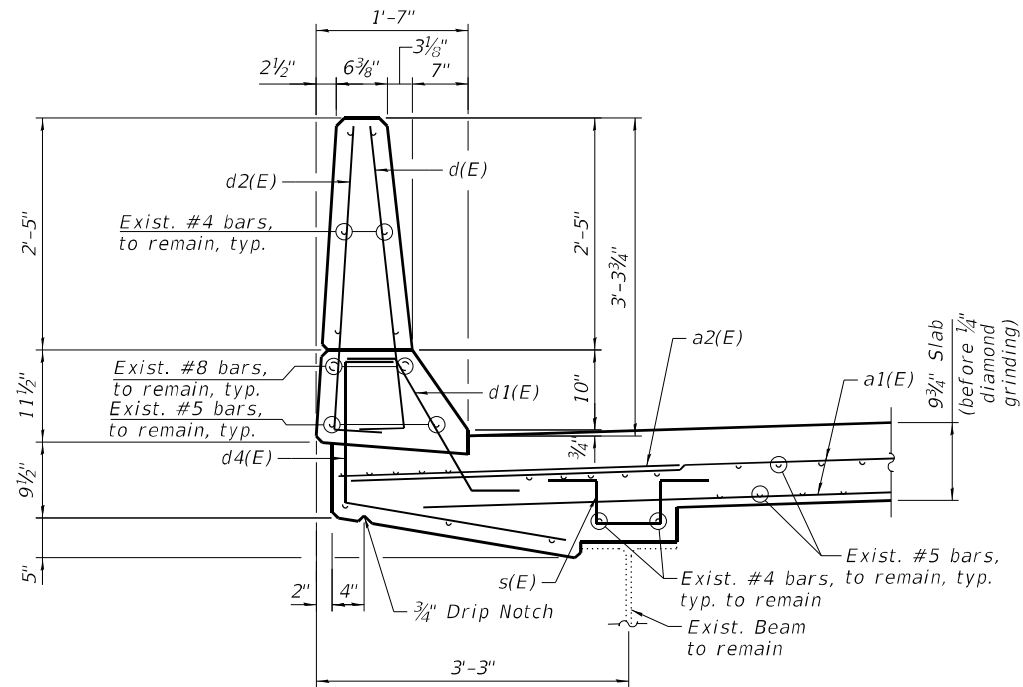
SECTION A-A
(South parapet removal)



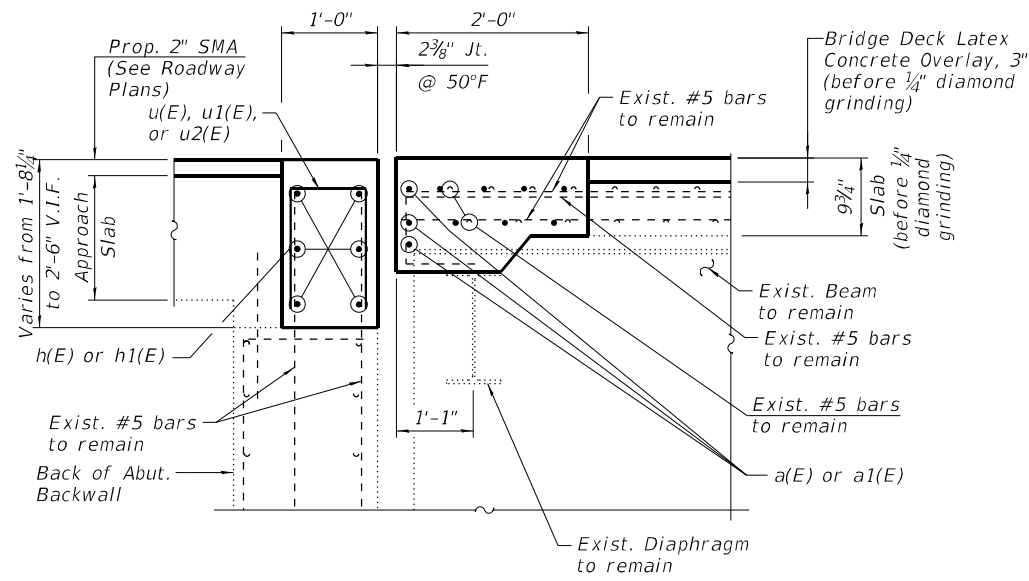
SECTION B-B



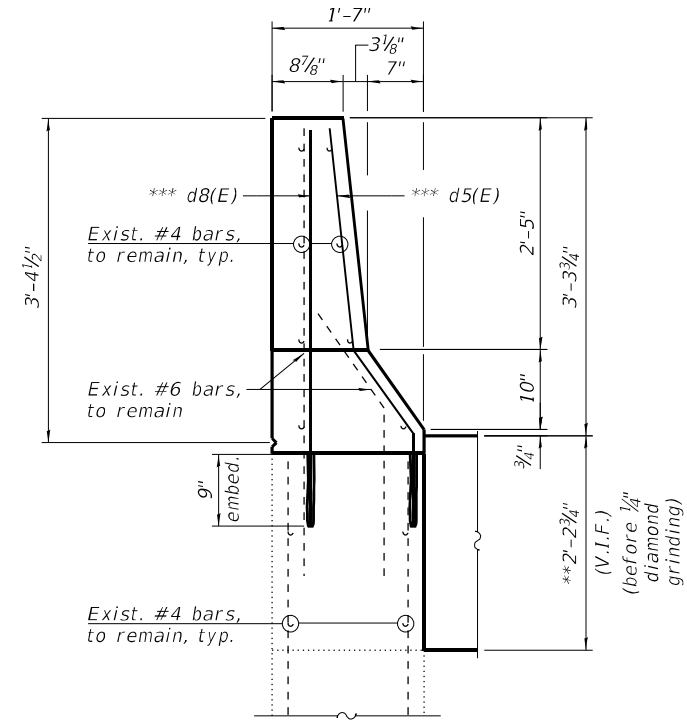
SECTION C-C
(South parapet removal)



SECTION AA-AA
(South parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(South parapet reconstruction)

LEGEND

- ** Dimension is taken at the Back of Abut.
- *** Epoxy grout #4 d8(E) & #6 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.
- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MODEL: SMODELNAME5
 FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-0118_P\Jbsk\SB0160118-62K74-5008-EXPS.dgn
 11/30/2022 4:39:27 PM

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 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

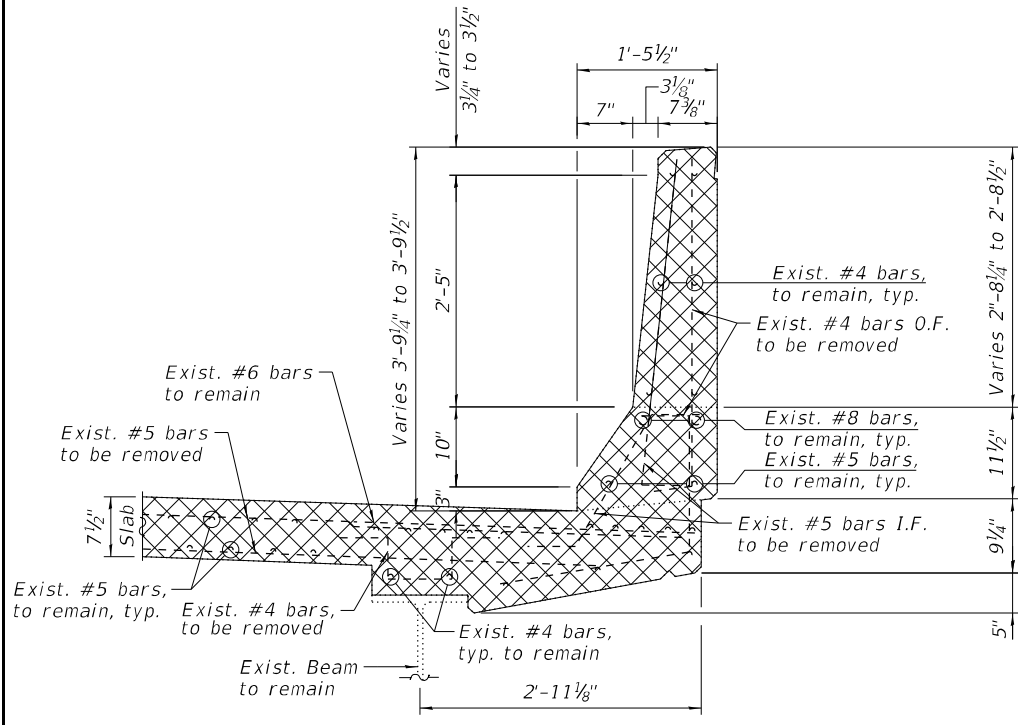
| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - J.T.B. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

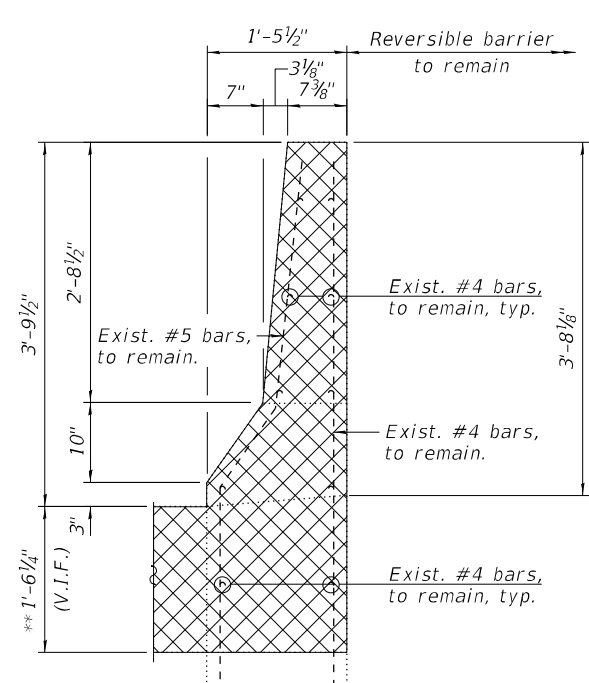
EAST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0118 (SB)

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1290 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

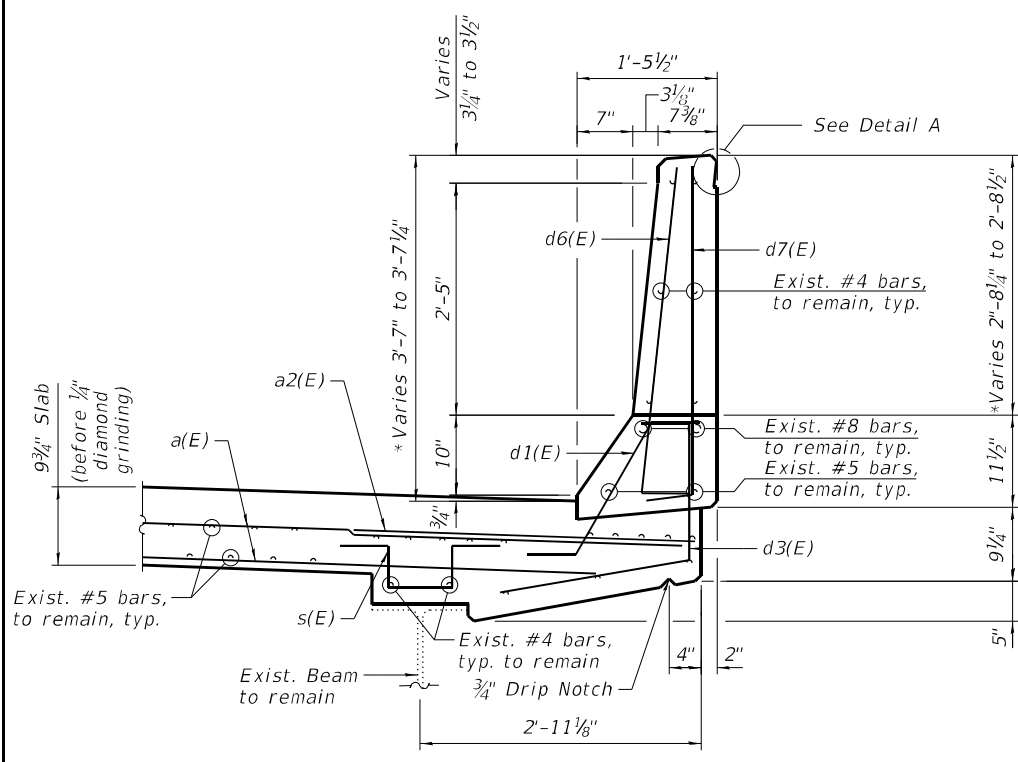
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SECTION D-D
(North parapet removal)

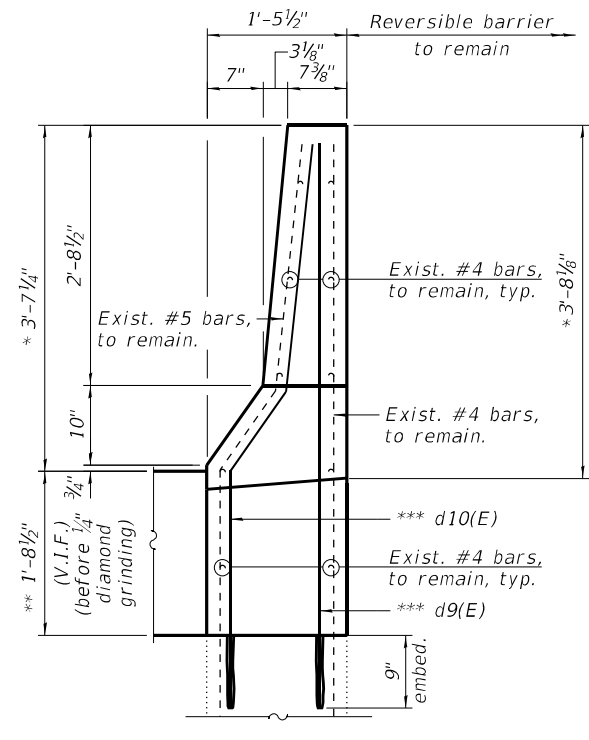


SECTION E-E
(North parapet removal)



SECTION DD-DD
(North parapet reconstruction)

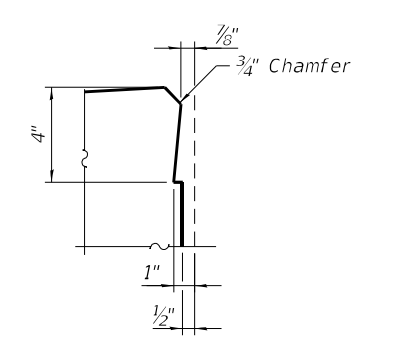
* Adjust in field as required to match reversible parapet



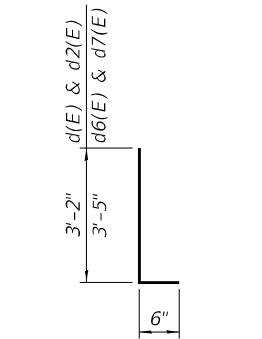
SECTION EE-EE
(North parapet reconstruction)

** Dimension is taken at the Back of Abut.

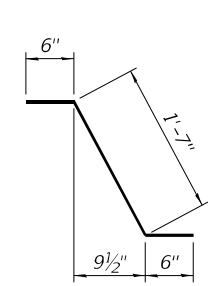
*** Epoxy grout #4 d9(E) & #5 d10(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.



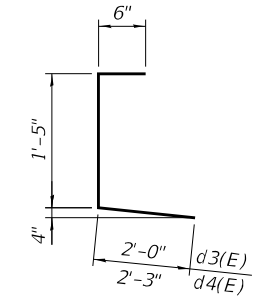
DETAIL A
(Reinforcement not shown for clarity)



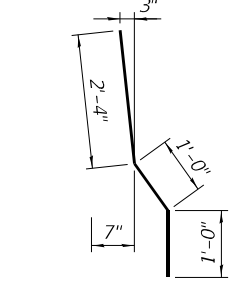
BARS d(E), d2(E), d6(E) & d7(E)



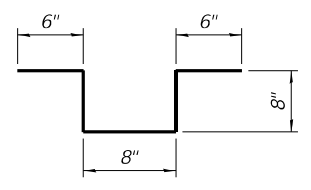
BAR d1(E)



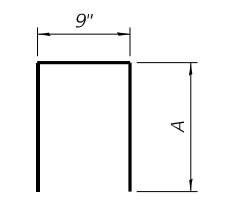
BARS d3(E) & d4(E)



BARS d5(E)



BAR s(E)



BARS u(E), u1(E) & u2(E)

| Bar | A |
|-------|-------|
| u(E) | 1'-3" |
| u1(E) | 1'-6" |
| u2(E) | 1'-0" |

NOTES:

- For Preformed Joint Strip Seal details, see sheet S33-13.
- For Bar Splicer Assembly details, see sheet S33-18.
- 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. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

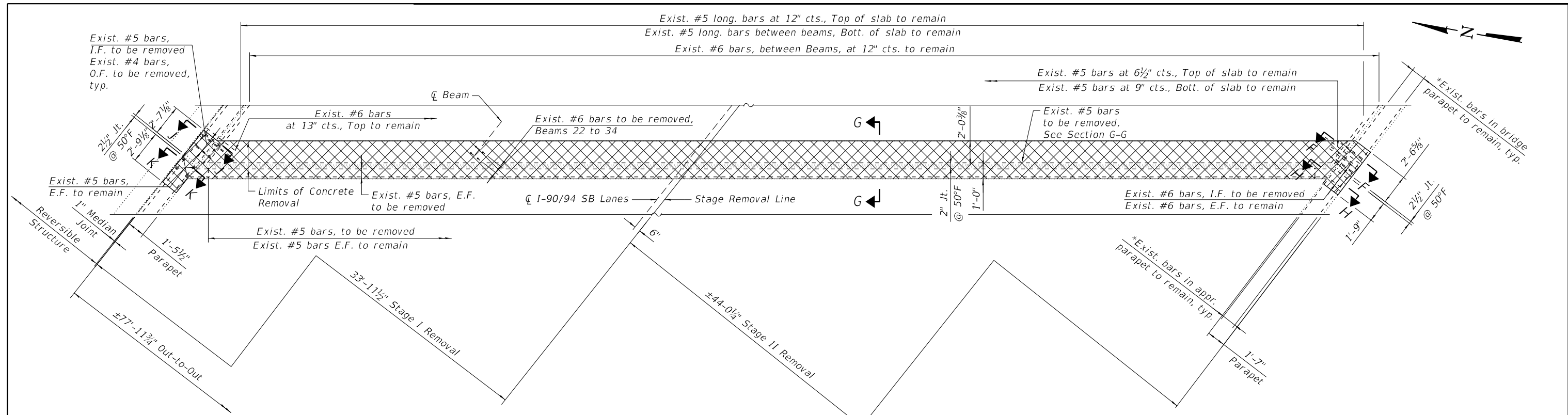
MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

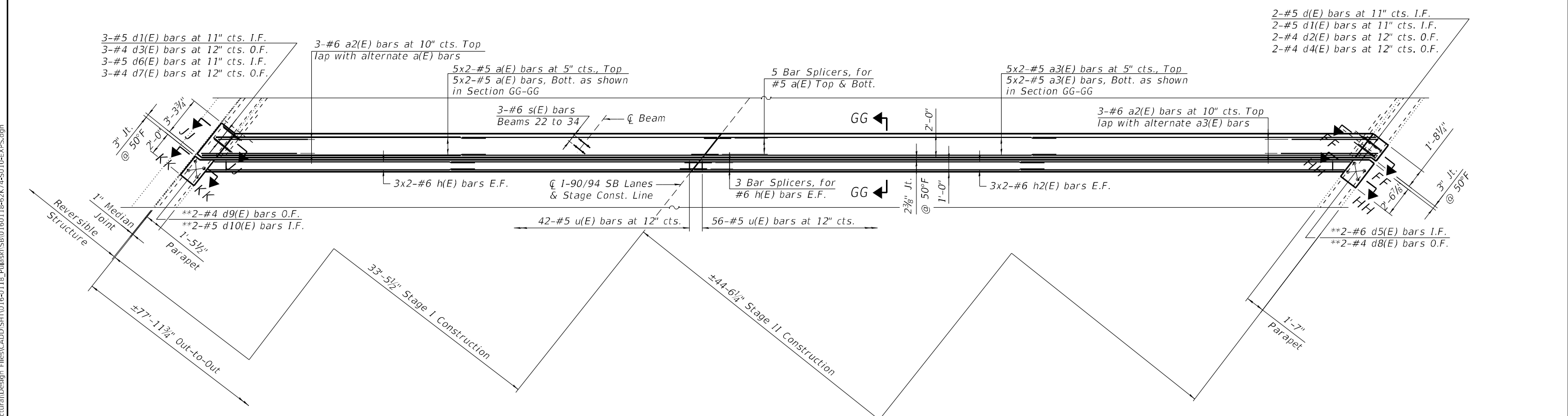
BILL OF MATERIAL
EAST ABUTMENT

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|-------|--------|-------|
| a(E) | 20 | #5 | 22'-9" | — |
| a1(E) | 20 | #5 | 27'-5" | — |
| a2(E) | 6 | #6 | 6'-6" | — |
| d(E) | 3 | #5 | 3'-8" | ┘ |
| d1(E) | 5 | #5 | 2'-7" | ┘ |
| d2(E) | 3 | #4 | 3'-8" | ┘ |
| d3(E) | 2 | #4 | 3'-11" | ┘ |
| d4(E) | 3 | #4 | 4'-2" | ┘ |
| d5(E) | 2 | #6 | 4'-4" | ┘ |
| d6(E) | 2 | #5 | 3'-11" | ┘ |
| d7(E) | 2 | #4 | 3'-11" | ┘ |
| d8(E) | 2 | #4 | 4'-2" | ┘ |
| d9(E) | 2 | #4 | 6'-0" | ┘ |
| d10(E) | 2 | #5 | 6'-3" | ┘ |
| h(E) | 12 | #6 | 23'-0" | — |
| h1(E) | 12 | #6 | 27'-8" | — |
| s(E) | 39 | #6 | 3'-0" | ┘ |
| u(E) | 20 | #5 | 3'-3" | ┘ |
| u1(E) | 57 | #5 | 3'-9" | ┘ |
| u2(E) | 15 | #5 | 2'-9" | ┘ |
| Concrete Removal | | Cu Yd | 15.1 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 2,630 | |
| Concrete Superstructure | | Cu Yd | 16.7 | |

MODEL: SMODELNAMES
 FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-0118_P\lshk\SB\0160118-62K74-50-10-EXPS.dgn



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S33-11.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S33-12.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #4 d8(E) and d9(E) bars, #5 d10(E) and #6 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

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

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 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - J.T.B. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

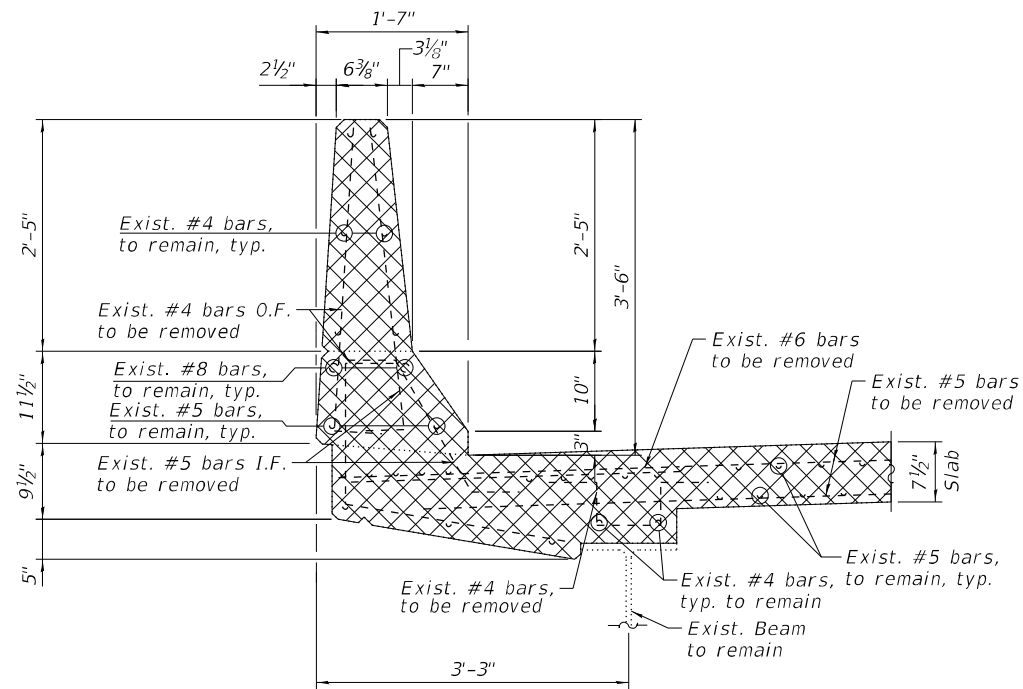
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS I
 SN 016-0118 (SB)**

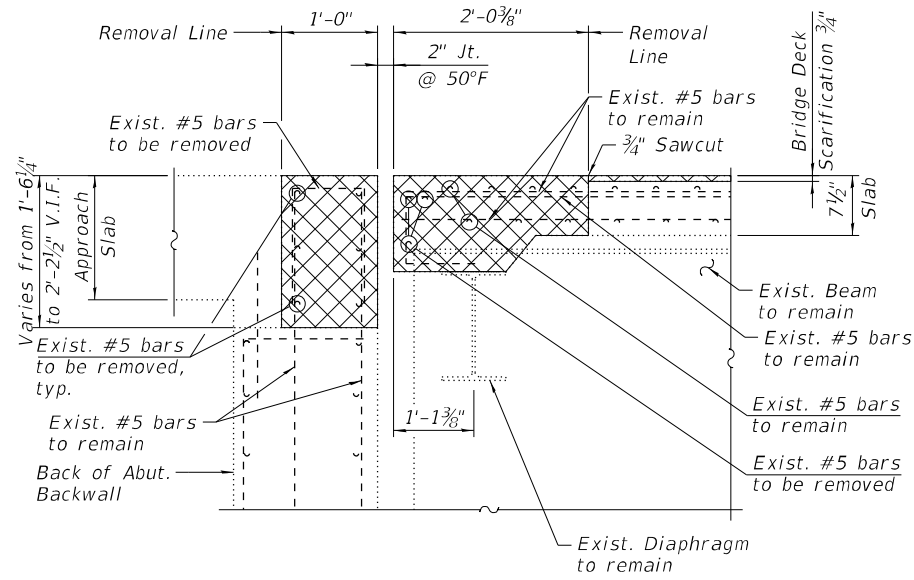
SHEET S33-10 OF S33-18 SHEETS

| | | | | |
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1292 |
| CONTRACT NO. 62K74 | | | | |

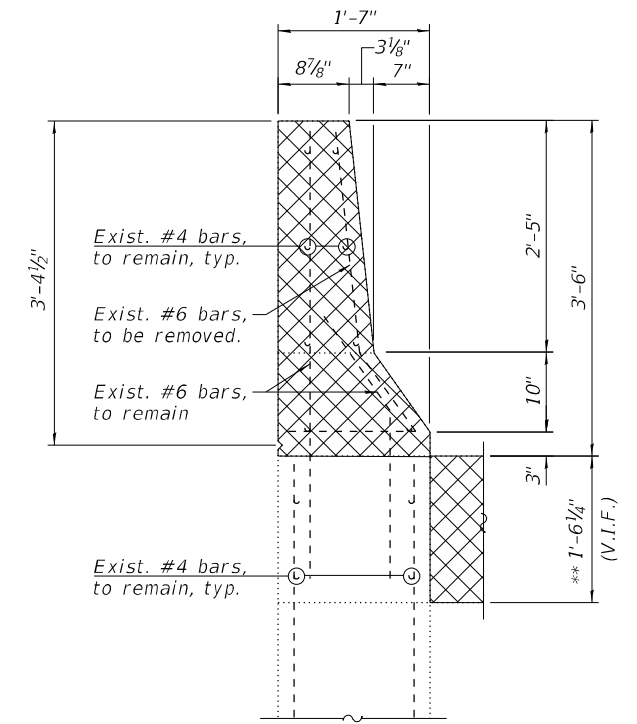
ILLINOIS FED. AID PROJECT



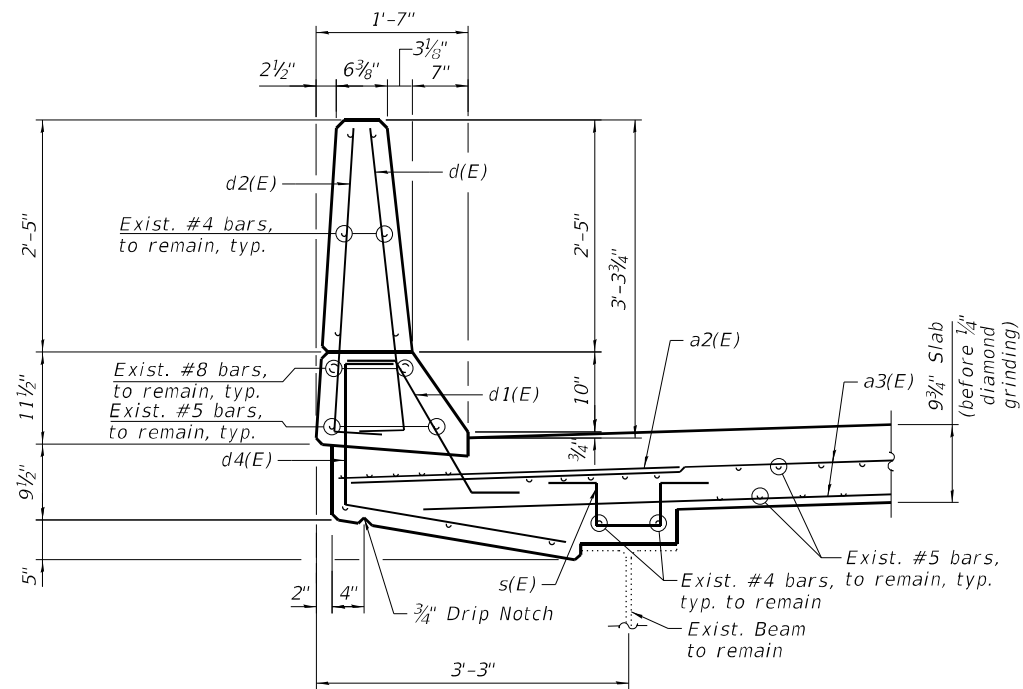
SECTION F-F
(South parapet removal)



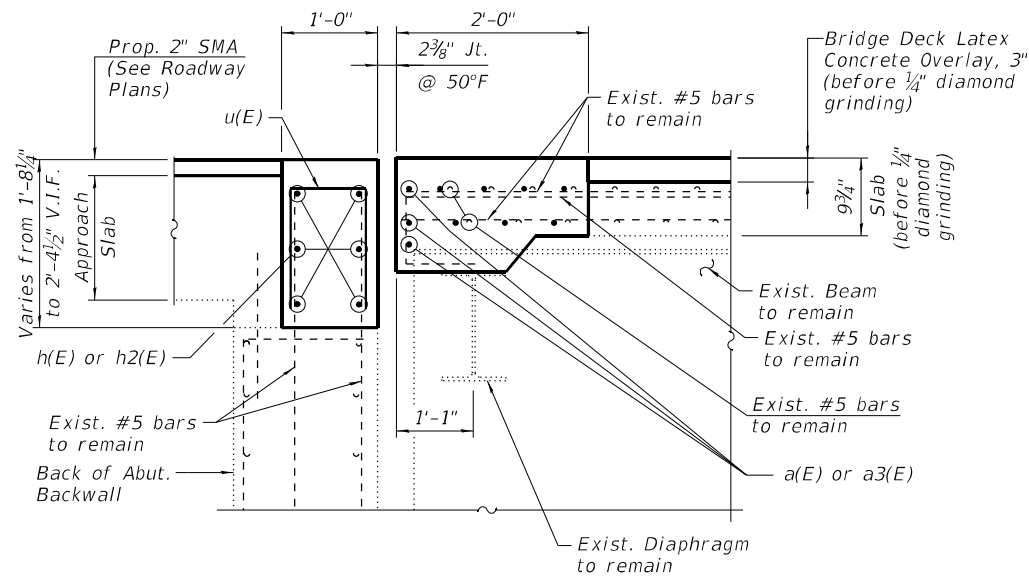
SECTION G-G



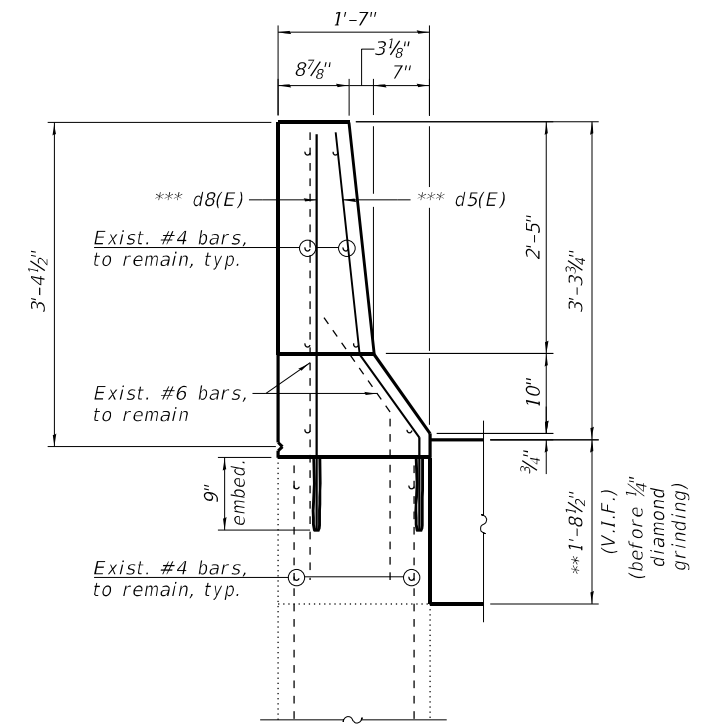
SECTION H-H
(South parapet removal)



SECTION FF-FF
(South parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
(South parapet reconstruction)

LEGEND

- ** Dimension is taken at the Back of Abut.
- *** Epoxy grout #4 d8(E) & #6 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

- Concrete Removal of Abut.
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MODEL: SMODELNAME5
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| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - J.T.B. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

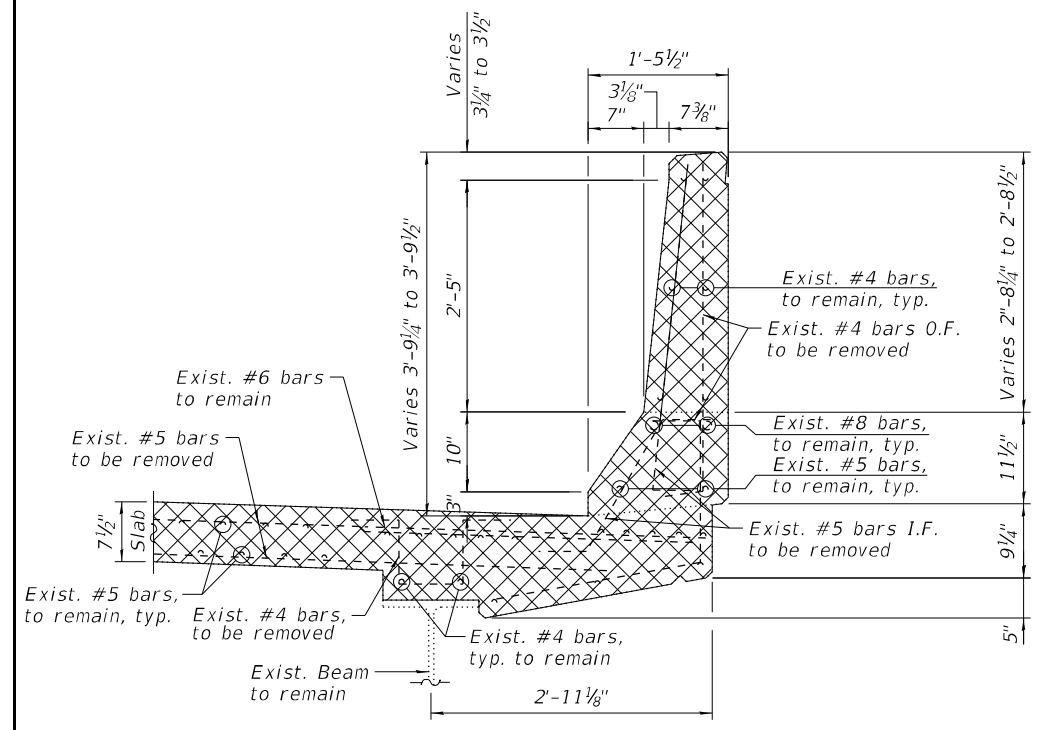
**WEST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0118 (SB)**

SHEET S33-11 OF S33-18 SHEETS

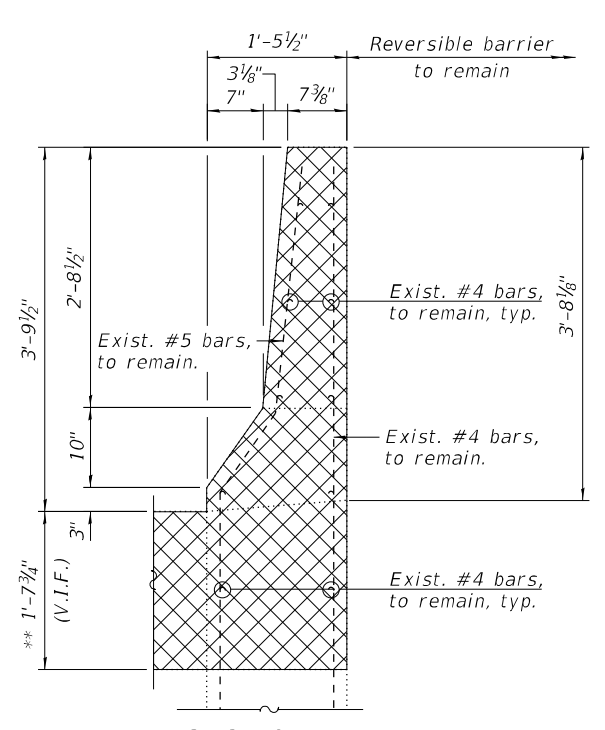
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1293 |
| CONTRACT NO. 62K74 | | | | |

ILLINOIS FED. AID PROJECT

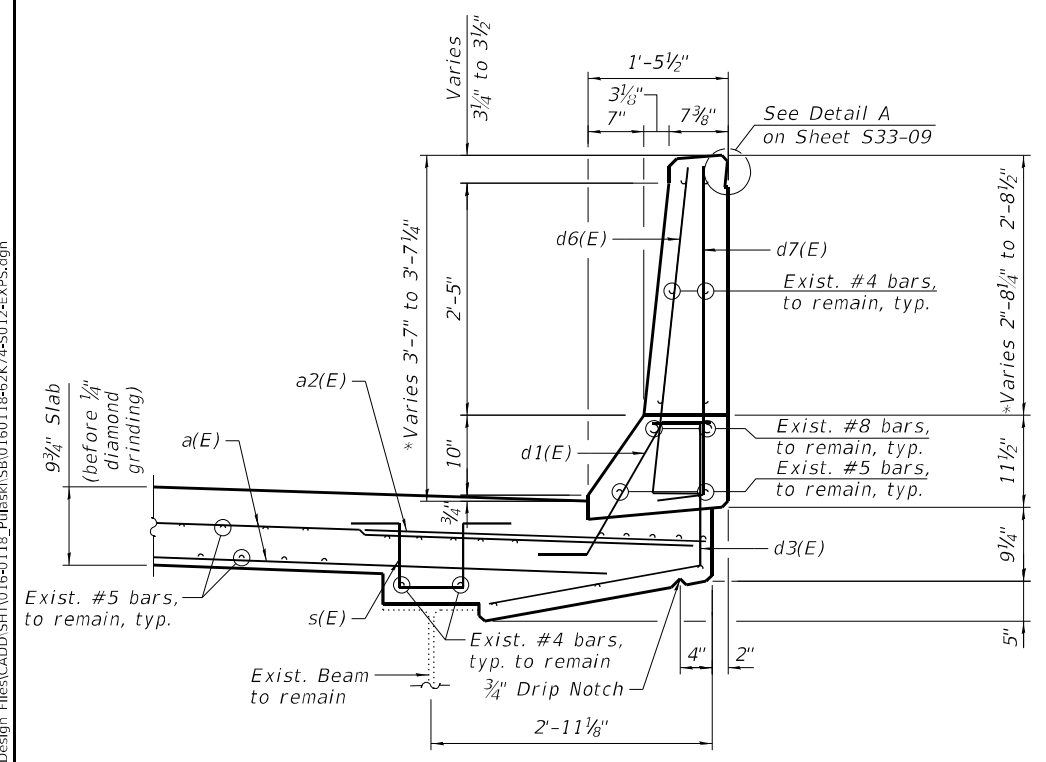
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SECTION J-J
(North parapet)

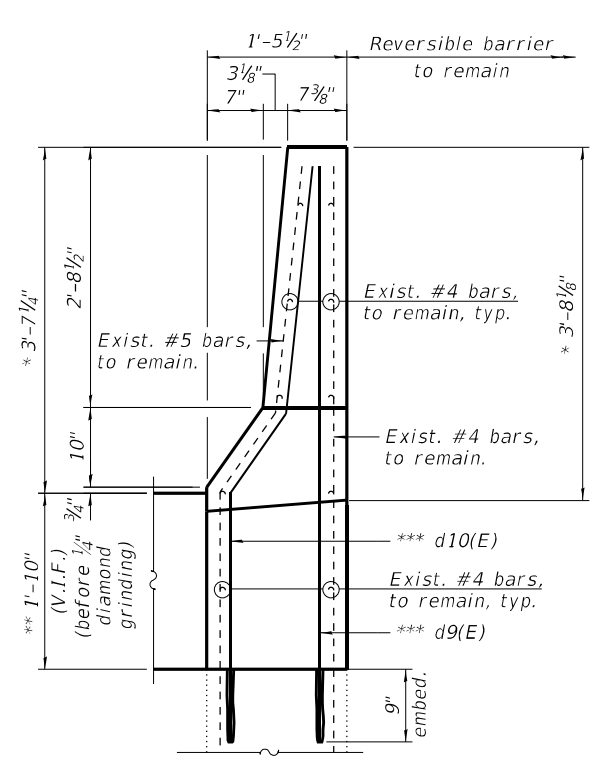


SECTION K-K
(North parapet removal)



SECTION JJ-JJ
(North parapet reconstruction)

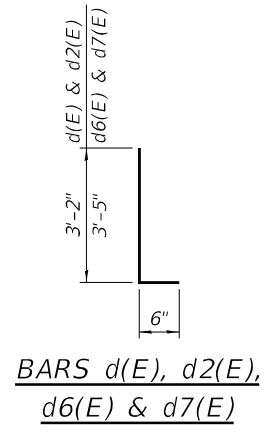
* Adjust in field as required to match reversible parapet



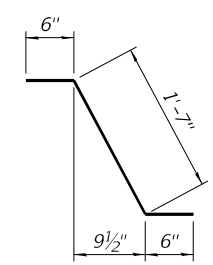
SECTION KK-KK
(North parapet reconstruction)

** Dimension is taken at the Back of Abut.

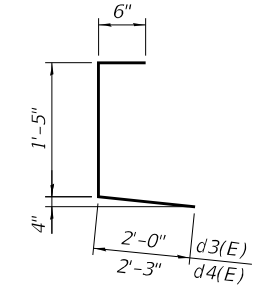
*** Epoxy grout #4 d9(E) & #5 d10(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.



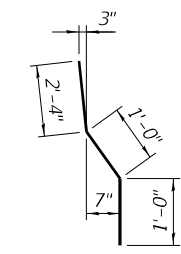
BARS d(E), d2(E), d6(E) & d7(E)



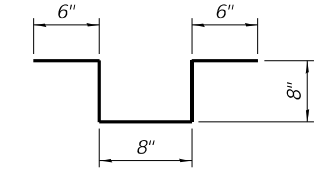
BAR d1(E)



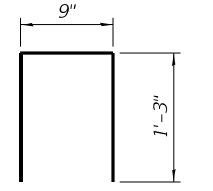
BARS d3(E) & d4(E)



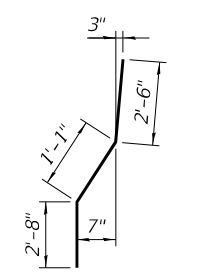
BARS d5(E)



BAR s(E)



BAR u(E)



BAR d10(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S33-13.
- For Bar Splicer Assembly details, see sheet S33-18.
- 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. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

**BILL OF MATERIAL
WEST ABUTMENT**

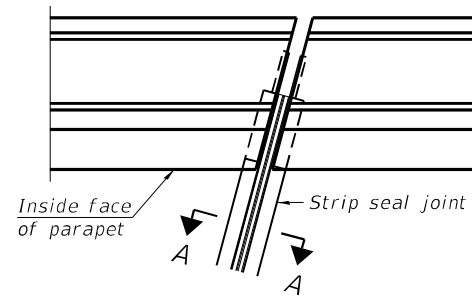
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|-------|---------|-------|
| a(E) | 20 | #5 | 22'-9" | — |
| a2(E) | 6 | #6 | 6'-6" | — |
| a3(E) | 20 | #5 | 27'-10" | — |
| d(E) | 2 | #5 | 3'-8" | ┌ |
| d1(E) | 5 | #5 | 2'-7" | ┌ |
| d2(E) | 2 | #4 | 3'-8" | ┌ |
| d3(E) | 3 | #4 | 3'-11" | ┌ |
| d4(E) | 2 | #4 | 4'-2" | ┌ |
| d5(E) | 2 | #6 | 4'-4" | ┌ |
| d6(E) | 3 | #5 | 3'-11" | ┌ |
| d7(E) | 3 | #4 | 3'-11" | ┌ |
| d8(E) | 2 | #4 | 4'-2" | ┌ |
| d9(E) | 2 | #4 | 6'-0" | ┌ |
| d10(E) | 2 | #5 | 6'-3" | ┌ |
| h(E) | 12 | #6 | 23'-0" | — |
| h2(E) | 12 | #6 | 30'-1" | — |
| s(E) | 39 | #6 | 3'-0" | ┌ |
| u(E) | 98 | #5 | 3'-3" | ┌ |
| Concrete Removal | | Cu Yd | 15.5 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 2,680 | |
| Concrete Superstructure | | Cu Yd | 17.3 | |

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

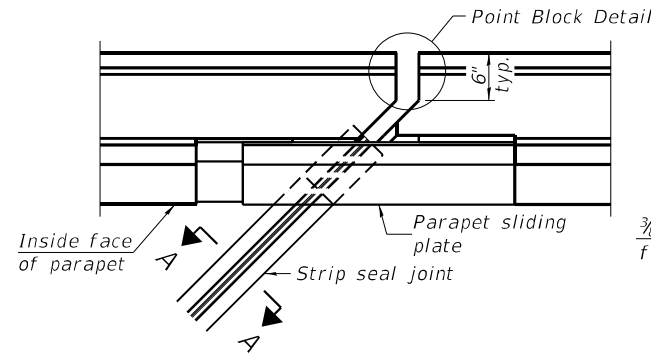
| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - J.T.B. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

| | | | | |
|---------------------------|-------------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1294 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

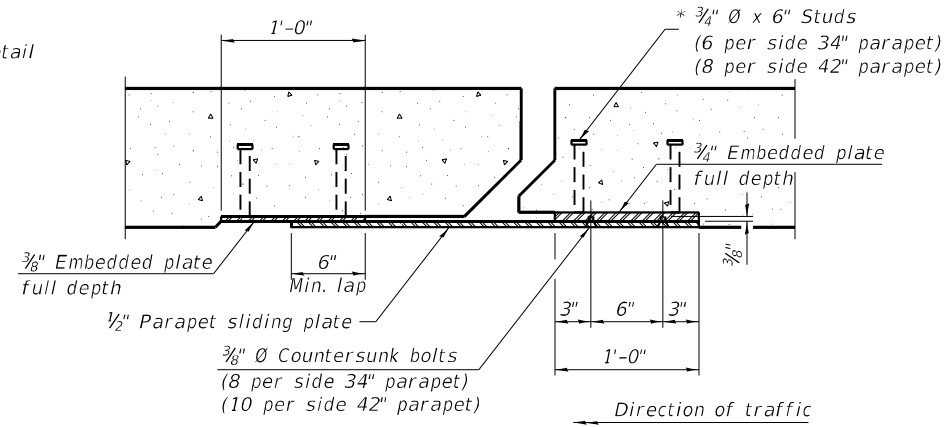


FOR SKEWS $\leq 30^\circ$

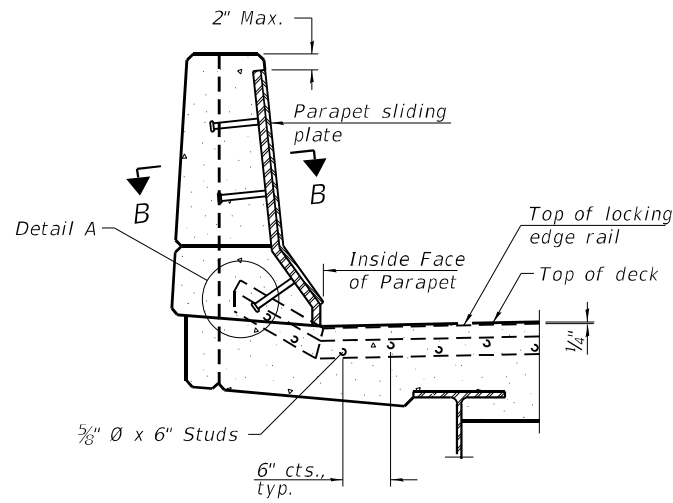
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

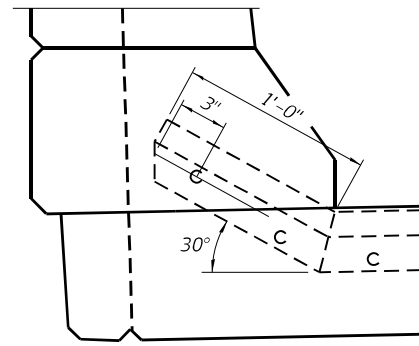


SECTION B-B

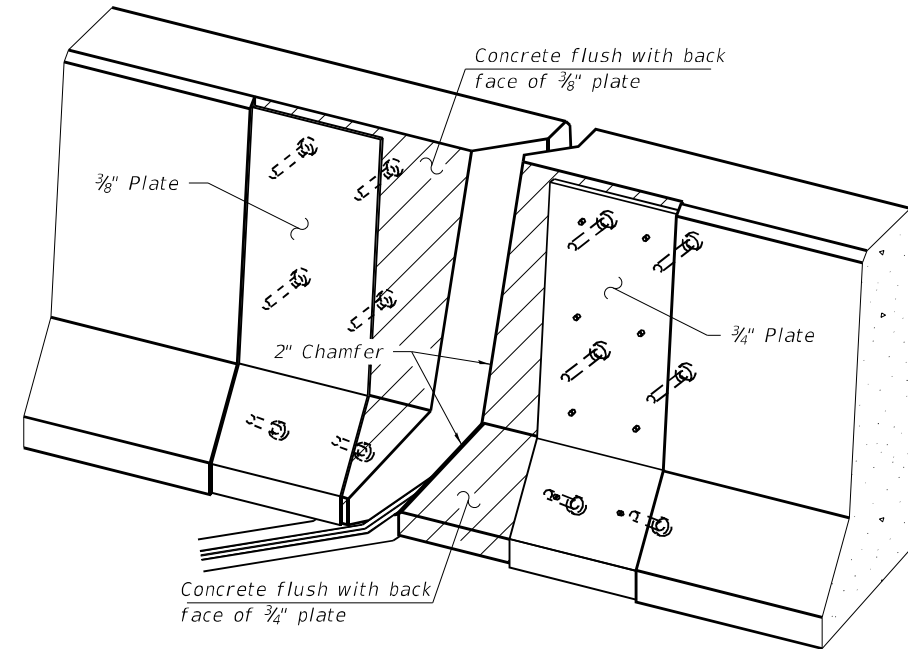


ELEVATION AT PARAPET

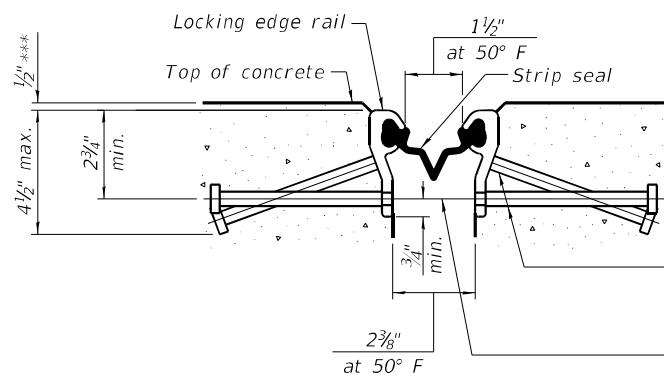
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

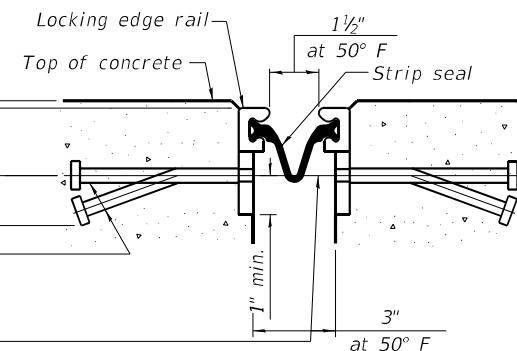
* $3/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$3/8"$ ϕ threaded rods in $1/16"$ ϕ holes at $\pm 4"$ 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.

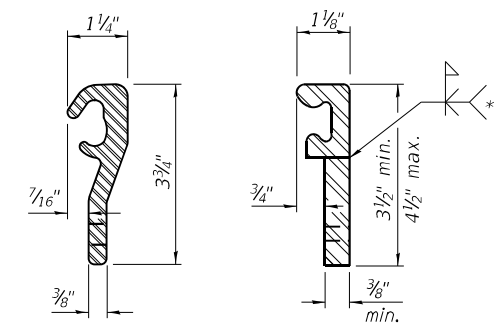
SECTION A-A

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

*** Before $1/4"$ Diamond Grinding.

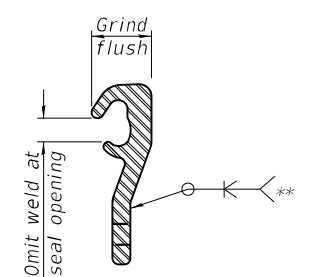


SHOWING WELDED RAIL JOINT



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 | 199 |

MODEL: SMODELNAMES
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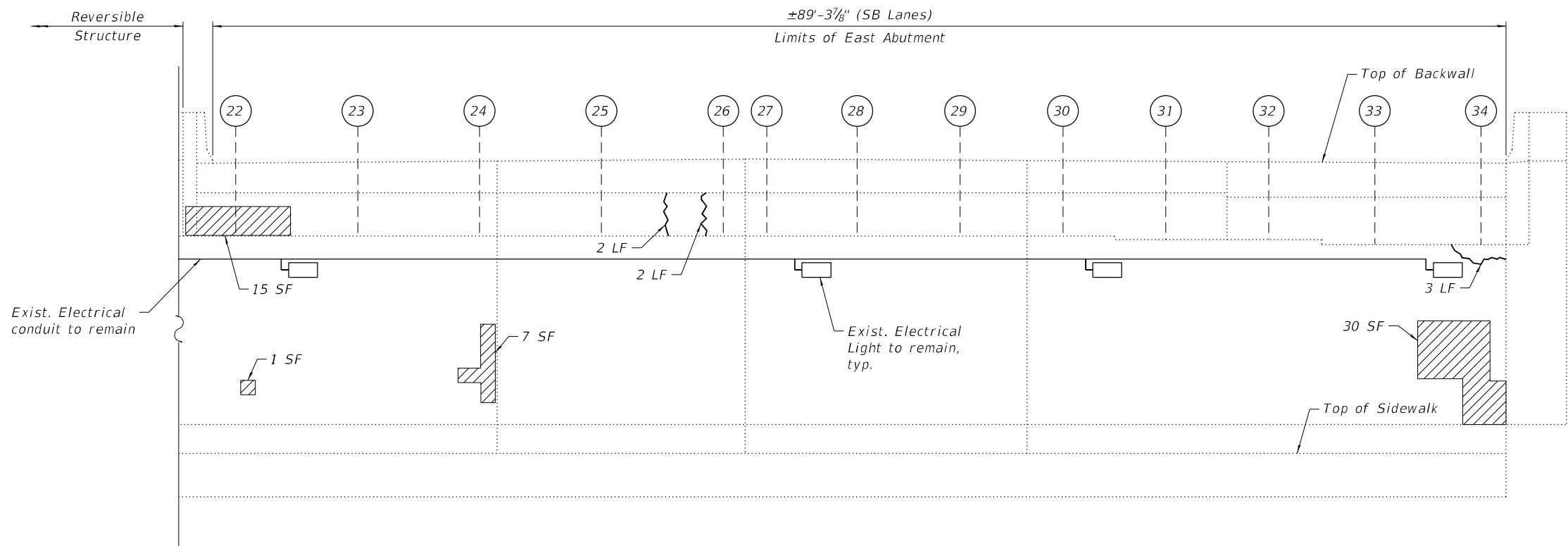
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| USER NAME = | DESIGNED - J.T.B. | REVISED - |
| PLOT SCALE = | CHECKED - H.A. | REVISED - |
| PLOT DATE = | DRAWN - D.C.P. | REVISED - |
| | CHECKED - K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
SN 016-0118 (SB)

SHEET S33-13 OF S33-18 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| 90 | 2020-004-BR | COOK | 1492 | 1295 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



ELEVATION - EAST ABUTMENT
(Looking East)



EXISTING LIGHTING: EAST ABUTMENT
(Looking Southeast)

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 lower 2 feet of the backwalls and to the seats of the abutments.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- 6' LF Epoxy Crack Injection (Width > 0.06")
- SF Square Foot
- LF Linear Foot

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 403 |
| Epoxy Crack Injection | Foot | 7 |
| Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) | Sq Ft | 53 |

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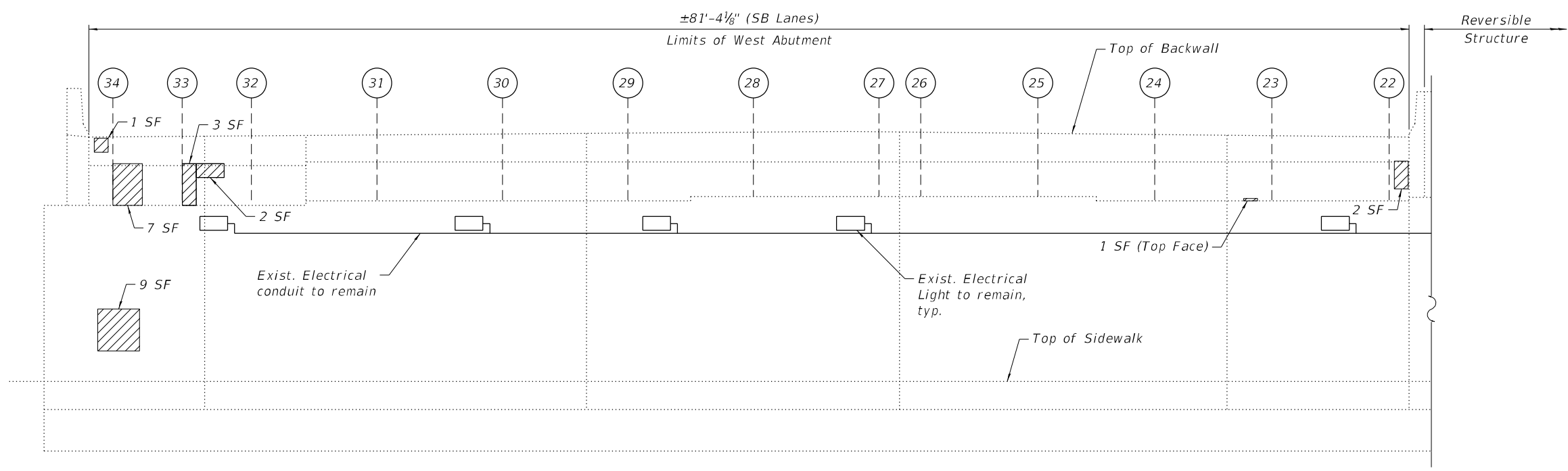
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| USER NAME = | DESIGNED - | J.T.B. | REVISED - |
| | CHECKED - | H.A. | REVISED - |
| PLOT SCALE = | DRAWN - | D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS
SN 016-0118 (SB)**

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1296 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



ELEVATION - WEST ABUTMENT
(Looking West)



EXISTING LIGHTING: WEST ABUTMENT
(Looking Northwest)

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 lower 2 feet of the backwalls and to the seats of the abutments.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Yard

BILL OF MATERIAL

| ITEM | UNIT | QUANTITY |
|--|-------|----------|
| Concrete Sealer | Sq Ft | 429 |
| Structural Repair of Concrete (Depth equal to or less than 5 Inches) | Sq Ft | 25 |

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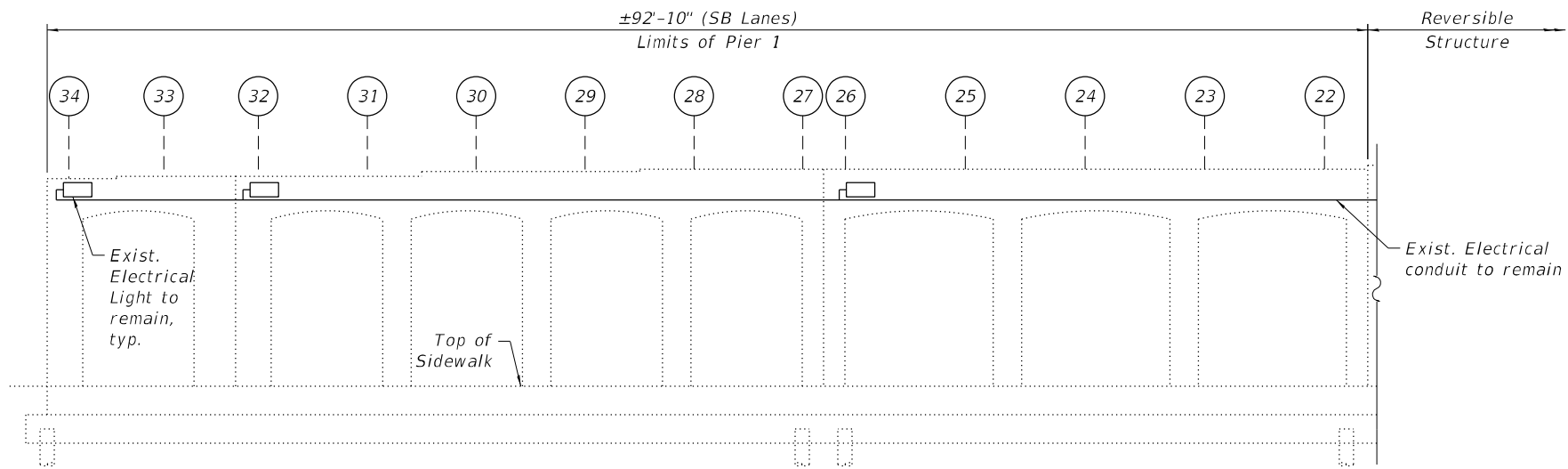
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| PLOT SCALE = | DRAWN - | D.C.P. | REVISED - |
| PLOT DATE = | CHECKED - | K.G.W. | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

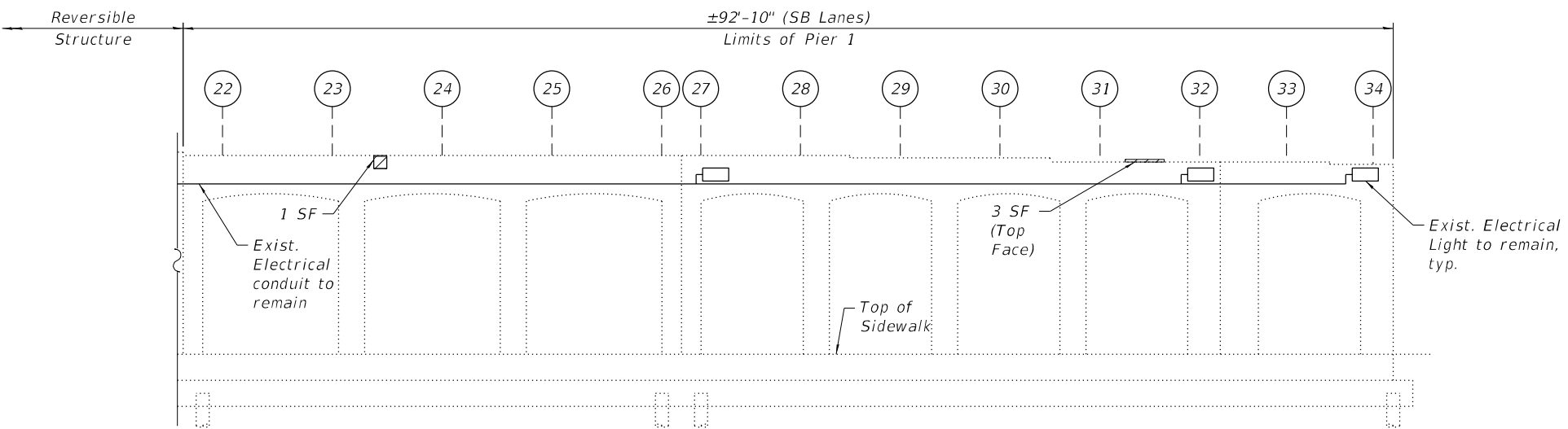
WEST ABUTMENT REPAIRS
SN 016-0118 (SB)

SHEET S33-15 OF S33-18 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1297 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |



ELEVATION - PIER 1
(Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1
(Looking Southwest)



EXISTING LIGHTING: PIER 1
(Looking Southeast)

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.

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 | 4 |

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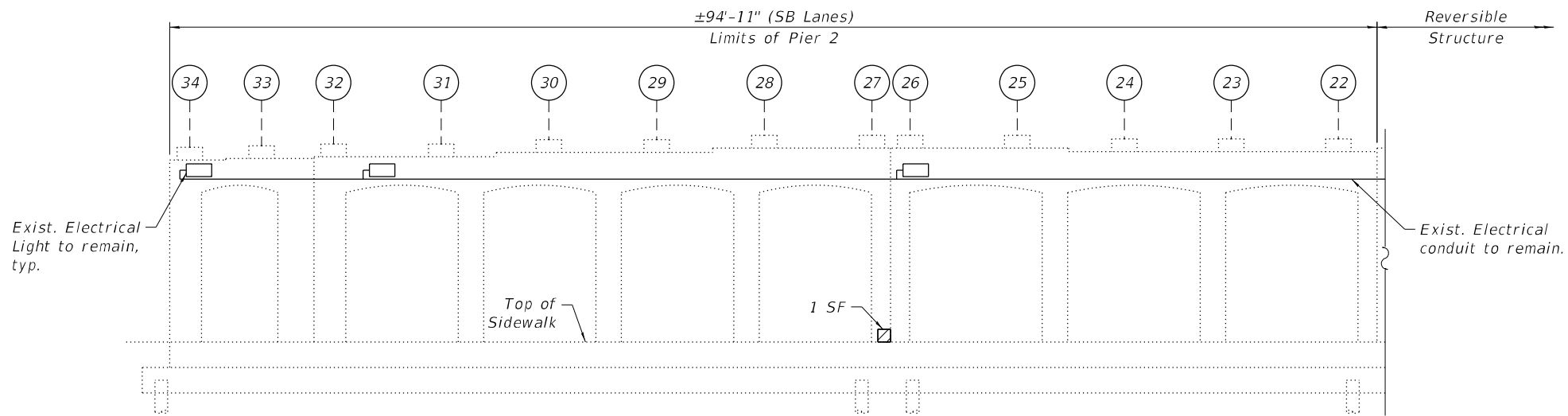
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| PLOT SCALE = | DRAWN - D.O.P. | REVISED - |
| PLOT DATE = | CHECKED - H.B.W. | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

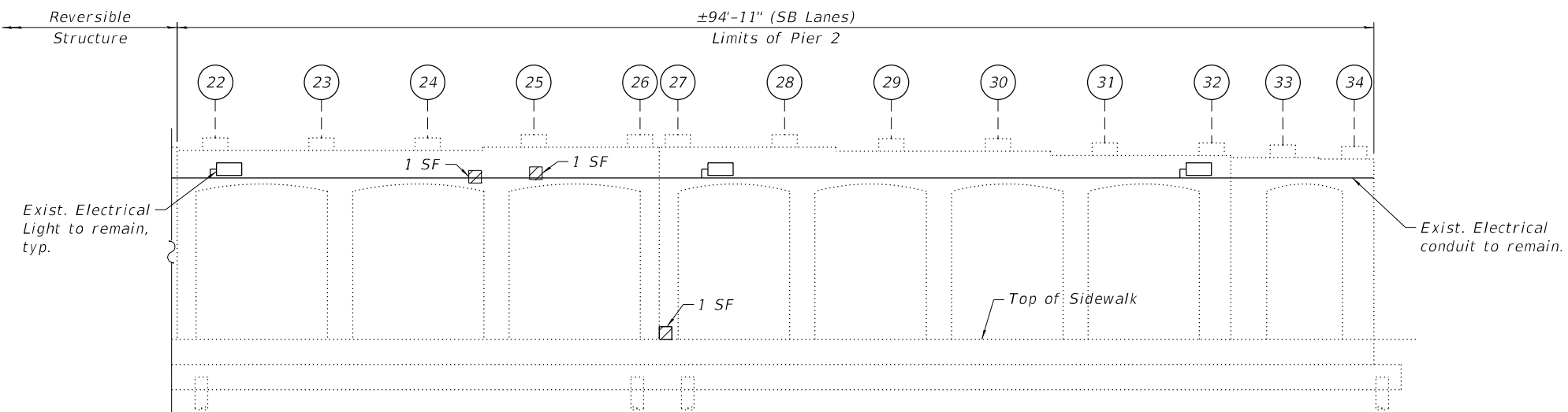
**PIER 1 REPAIRS
SN 016-0118 (SB)**

SHEET S33-16 OF S33-18 SHEETS

| | | | | |
|--------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1298 |
| CONTRACT NO. 62K74 | | | | |
| ILLINOIS | | FED. AID PROJECT | | |



ELEVATION - PIER 2
(Looking West)



ELEVATION - PIER 2
(Looking East)



EXISTING LIGHTING: PIER 2
(Looking Southwest)



EXISTING LIGHTING: PIER 2
(Looking Southeast)

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.

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 | 4 |

MODEL: sMODELNAME5
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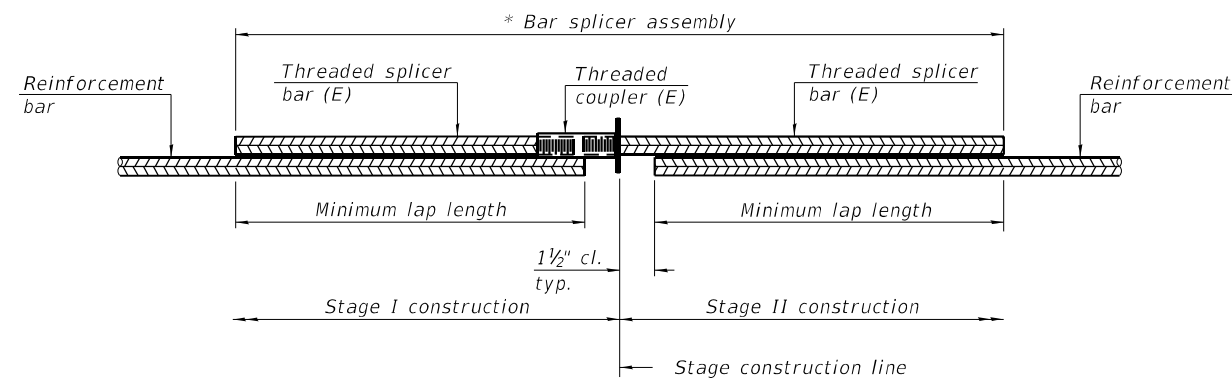
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 2 REPAIRS
SN 016-0118 (SB)**

SHEET S33-17 OF S33-18 SHEETS

| | | | | |
|---------------------------|-------------|--------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90 | 2020-004-BR | COOK | 1492 | 1299 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 62K74 | |

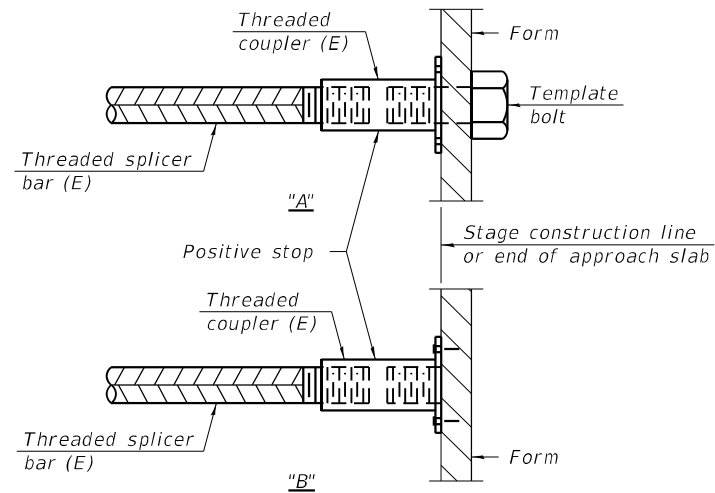


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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 |
|---------------|----------|-------------------------|--------------------|
| East Abutment | #5 | 10 | 3'-6" |
| Exp. Jt. | #6 | 6 | 4'-0" |
| West Abutment | #5 | 10 | 3'-6" |
| Exp. Jt. | #6 | 6 | 4'-0" |

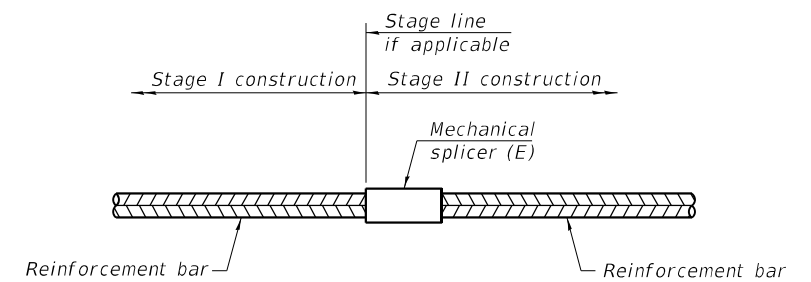


INSTALLATION AND SETTING METHODS

"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.

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