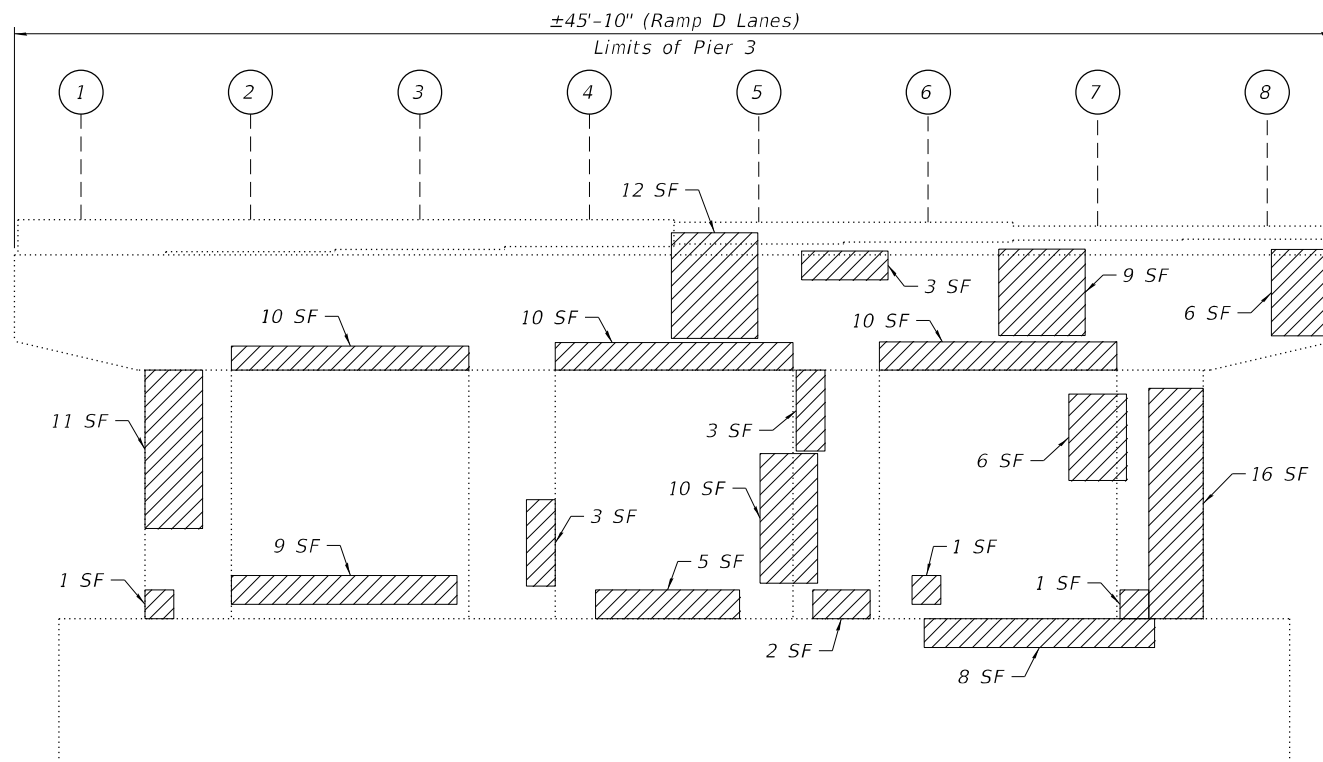


ELEVATION - PIER 3
(Looking West)



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.
- 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

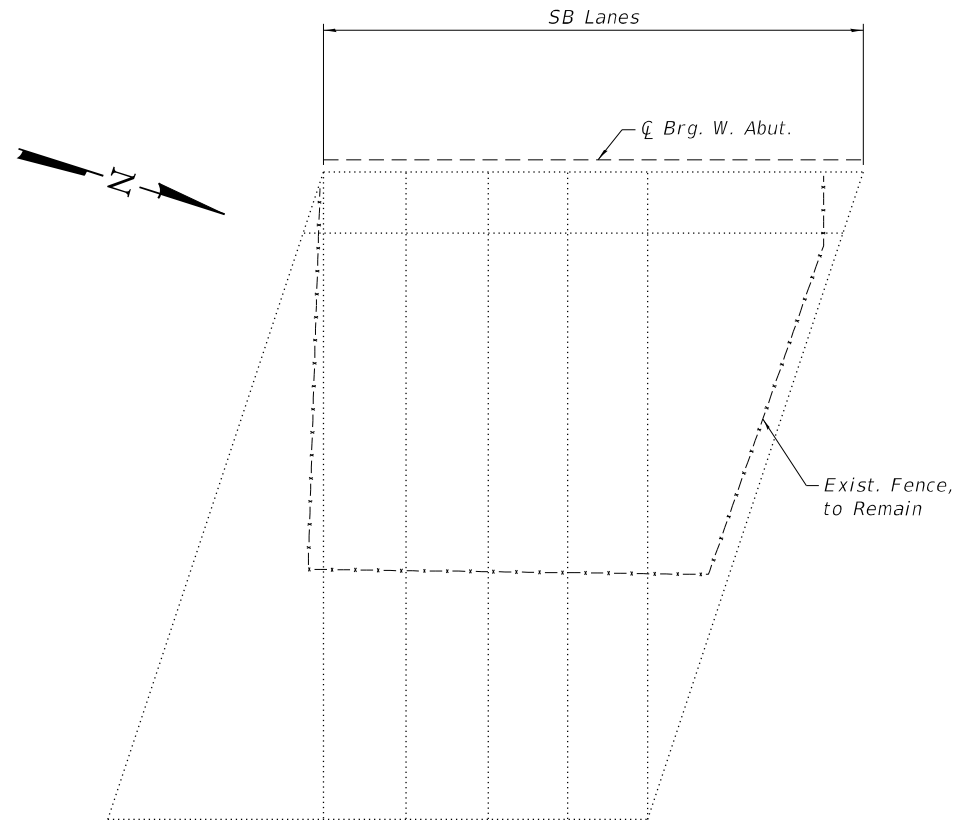
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	164
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	239

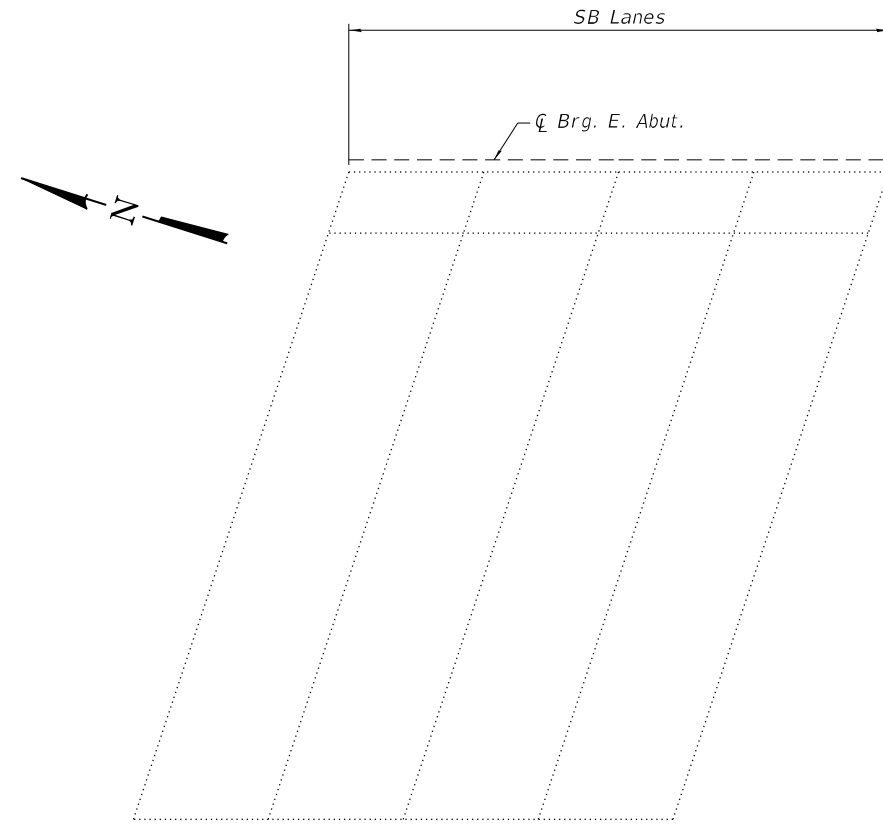
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	501
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



WEST SLOPE WALL - PLAN
(Looking West)



EAST SLOPE WALL - PLAN
(Looking East)

NOTES:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
2. 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

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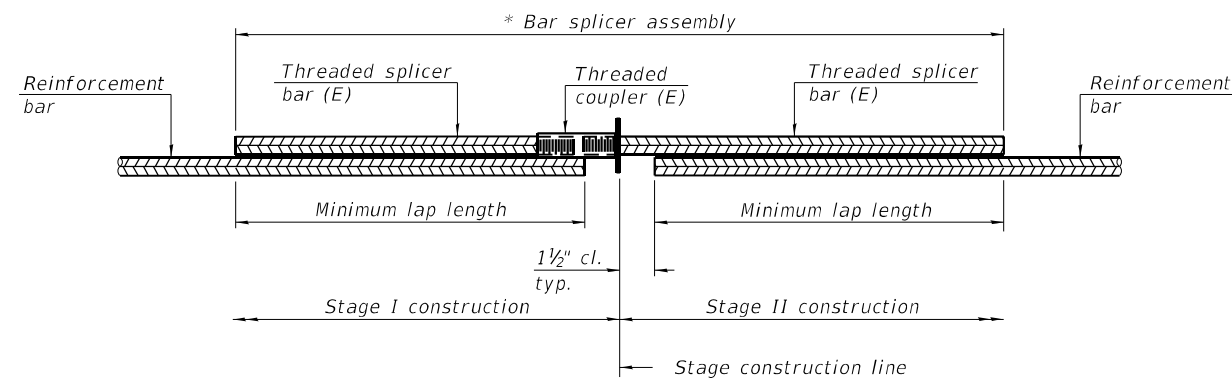
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DEPARTMENT OF TRANSPORTATION

SLOPE WALL REPAIRS
SN 016-0204

SHEET S01-27 OF S01-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	502
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



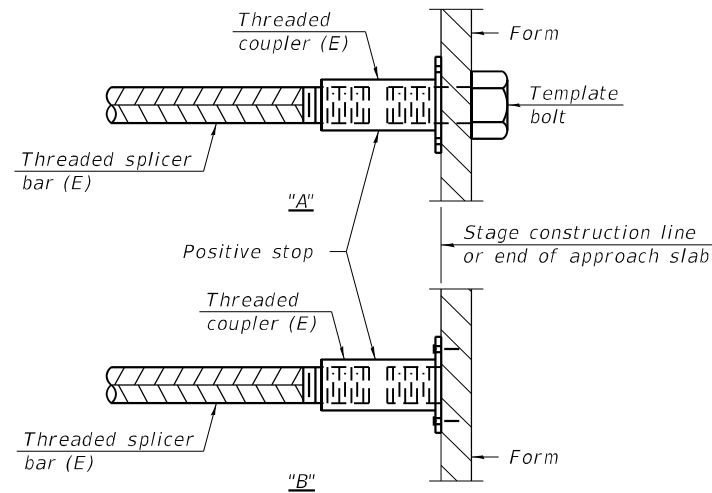
STANDARD BAR SPLICER ASSEMBLY PLAN

(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
West Abutment Exp. Jt.	#5	10	3'-6"
	#6	6	4'-0"
Pier 1 Exp. Jt.	#5	20	3'-6"
	#5	20	3'-6"
East Abutment Exp. Jt.	#5	10	3'-6"
	#6	6	4'-0"

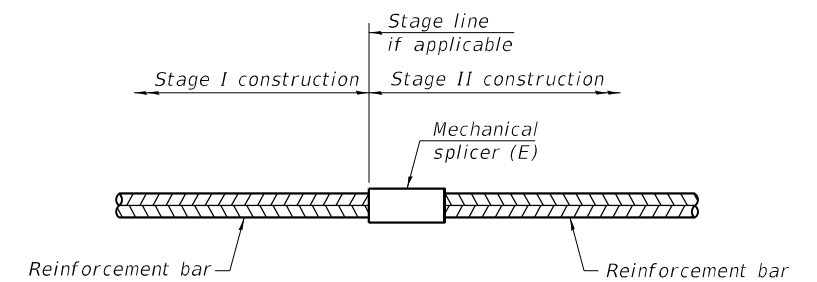


INSTALLATION AND SETTING METHODS

"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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BSD-1

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN 016-0204**

SHEET S01-28 OF S01-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	503
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

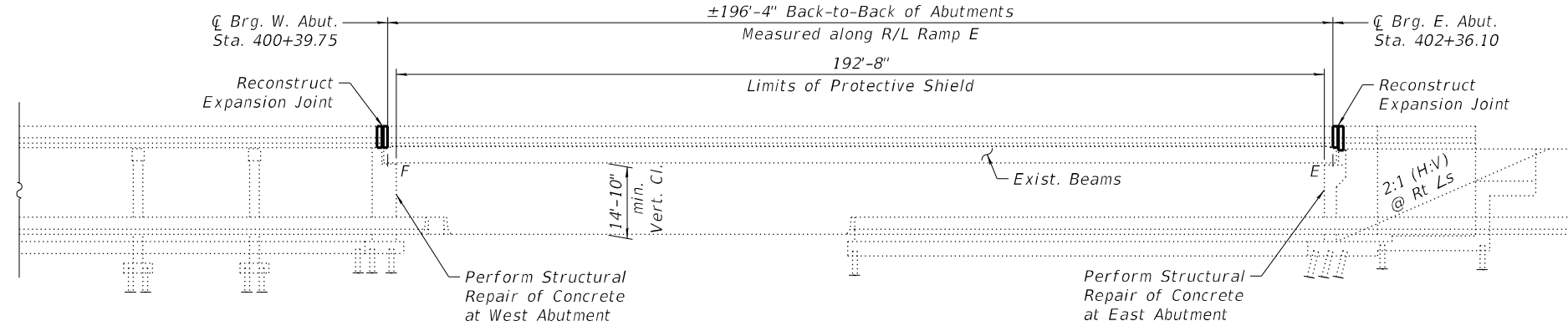
Existing Structure: S.N. 016-2551 (I-90 REV to Ohio over I-90 NWB JFK) was originally built in 1992 from BCR. The bridge is a vaulted concrete slab structure on the north end, and a single span steel superstructure on the south end. Both structure types are supported by reinforced concrete footing and abutments founded on piles. In 2003, steel pipe handrail was added to the deck beyond the parapet as a safety measure for workers.

Ramp E will be closed to traffic during construction.

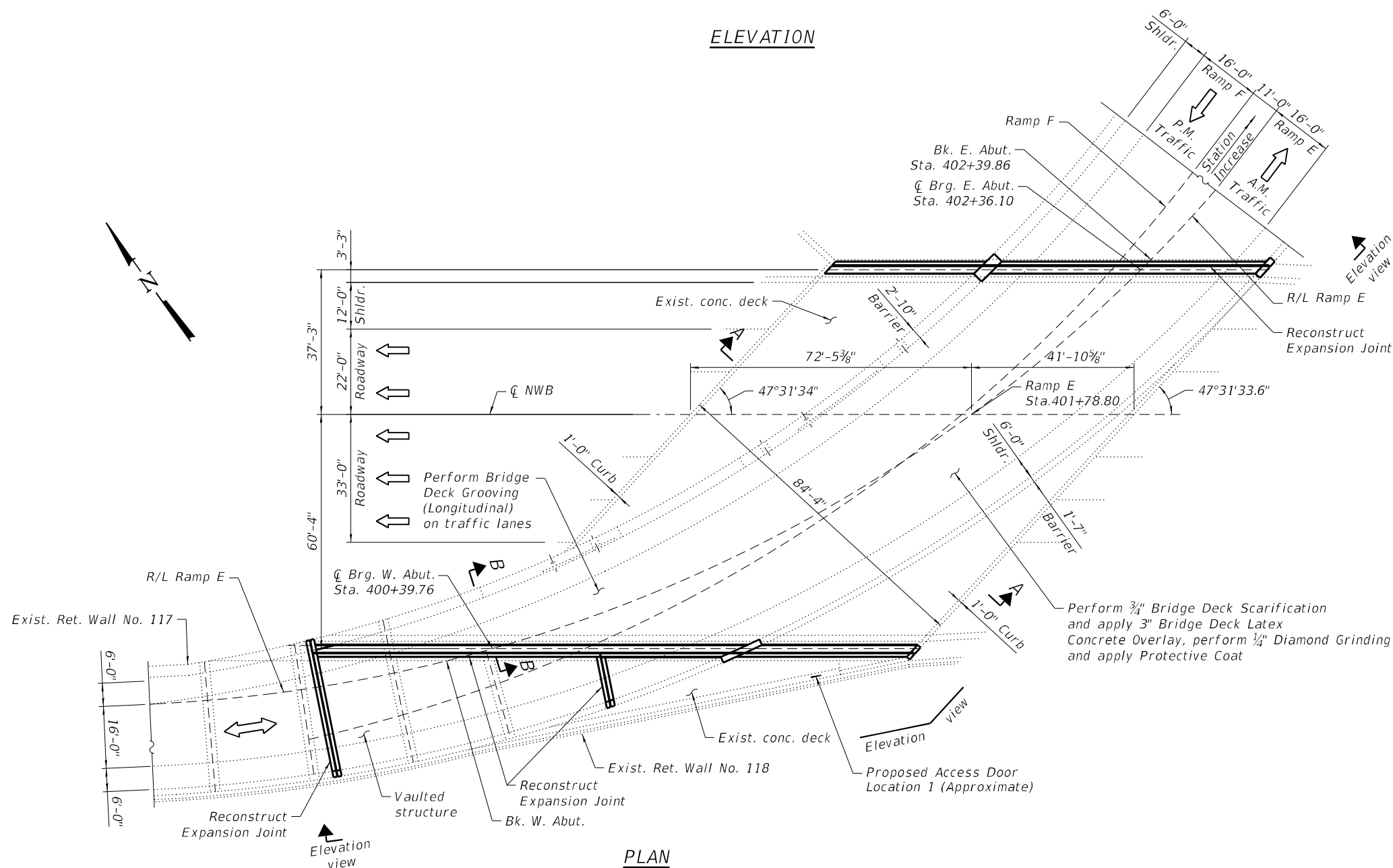
No salvage.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition



ELEVATION



PLAN

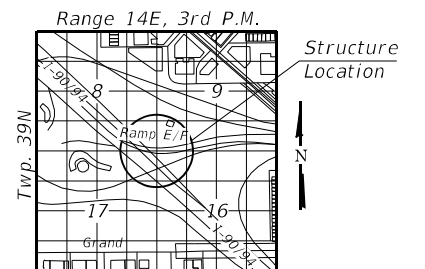
NOTE:

- All stations are to the C R/L Ramp E Roadway and taken from existing plans.
- For Section A-A and Section B-B, See sheet S02-03.
- 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
 RAMP E/F REVERSIBLE OVER I-90/94
 F.A.I. SEC 2020-004-BR
 COOK COUNTY
 STATION: 401+78.80
 STRUCTURE NO. 016-2551**

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SHEET S02-01 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	504
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 Sheets.
- 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.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	46.7		46.7
Protective Shield	Sq Yd	2,448		2,448
Concrete Superstructure	Cu Yd	54.2		54.2
Protective Coat	Sq Yd	5,037		5,037
Reinforcement Bars, Epoxy Coated	Pound	7,260		7,260
Preformed Joint Strip Seal	Foot	469		469
Concrete Sealer	Sq Ft		2,019	2,019
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Access Door	Each		2	2
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,654		1,654
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	3,314		3,314
Cleaning Drainage System	L Sum	0.05		0.05
Bridge Deck Scarification 3/4"	Sq Yd	3,314		3,314
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		8	8
Debris Removal	L Sum		0.5	0.5
Deck Slab Repair (Full Depth, Type I)	Sq Yd	3.9		3.9
Deck Slab Repair (Full Depth, Type II)	Sq Yd	54.7		54.7
Drainage Scuppers to be Adjusted	Each	5		5
Diamond Grinding (Bridge Section)	Sq Yd	3,377		3,377
Maintenance of Lighting System	Cal Mo		6	6

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck.
- Perform deck repairs.
- Remove and reconstruct expansion joints at piers and abutments and install new Preformed Joint Strip Seals.
- Adjust drainage scupper.
- 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, abutment hatched blocks and pier hatched blocks.
- 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.
- Install Access Door as specified on the plans.
- Remove Debris as specified in plans.

INDEX OF SHEETS

S02-01	General Plan & Elevation
S02-02	General Data
S02-03	Deck Slab Construction Details
S02-04-S02-06	Bridge Deck Repair Plan and Details I & II
S02-07	Drainage Scupper Type B Adjustment Details
S02-08-S02-15	Vaulted Abutment Expansion Joint Details I, II, III, IV, V, VI, VII & VIII
S02-16-S02-20	West Abutment Expansion Joint Details I, II, III, IV & V
S02-21-S02-25	East Abutment Expansion Joint Details I, II, III, IV & V
S02-26	Preformed Joint Strip Seal
S02-27	West Abutment Repairs
S02-28	East Abutment Repairs
S02-29-S02-33	Vaulted Abutment Repairs I thru V
S02-34	Access Door Installation Details
S02-35-S02-36	Debris Removal Plan and Details I & II

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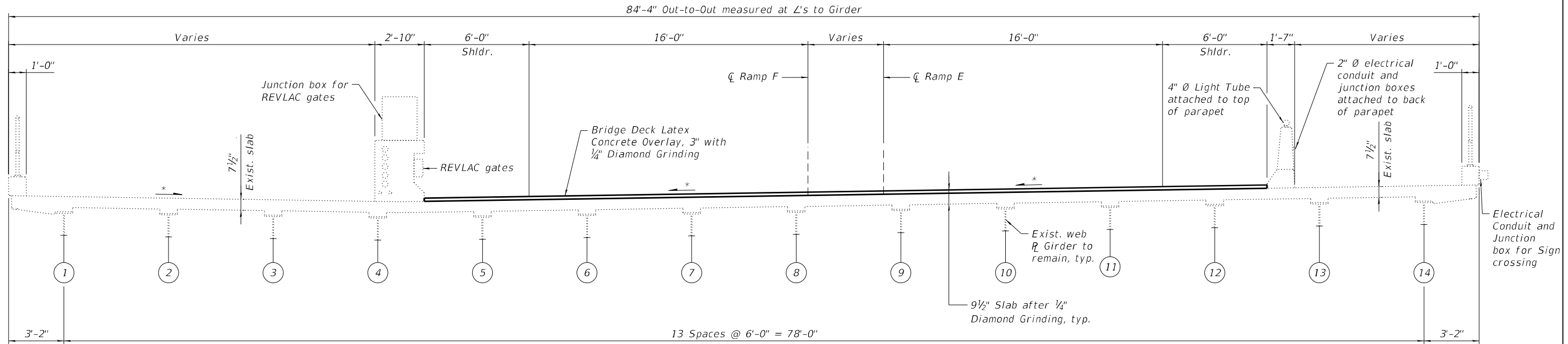
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DEPARTMENT OF TRANSPORTATION**

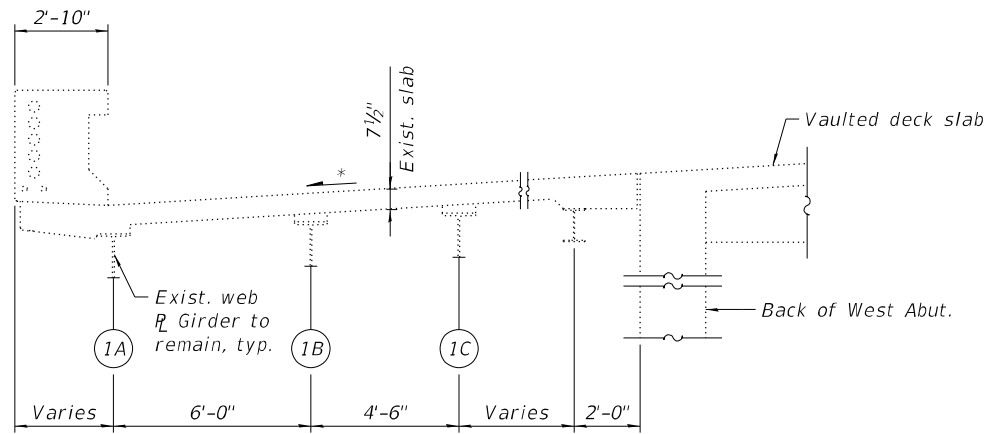
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SHEET S02-02 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	505
			CONTRACT NO. 62K74	
ILLINOIS		FED. AID PROJECT		



SECTION A-A
(Looking Southeast)



SECTION B-B
(Looking Southeast)

* Match existing deck surface profile

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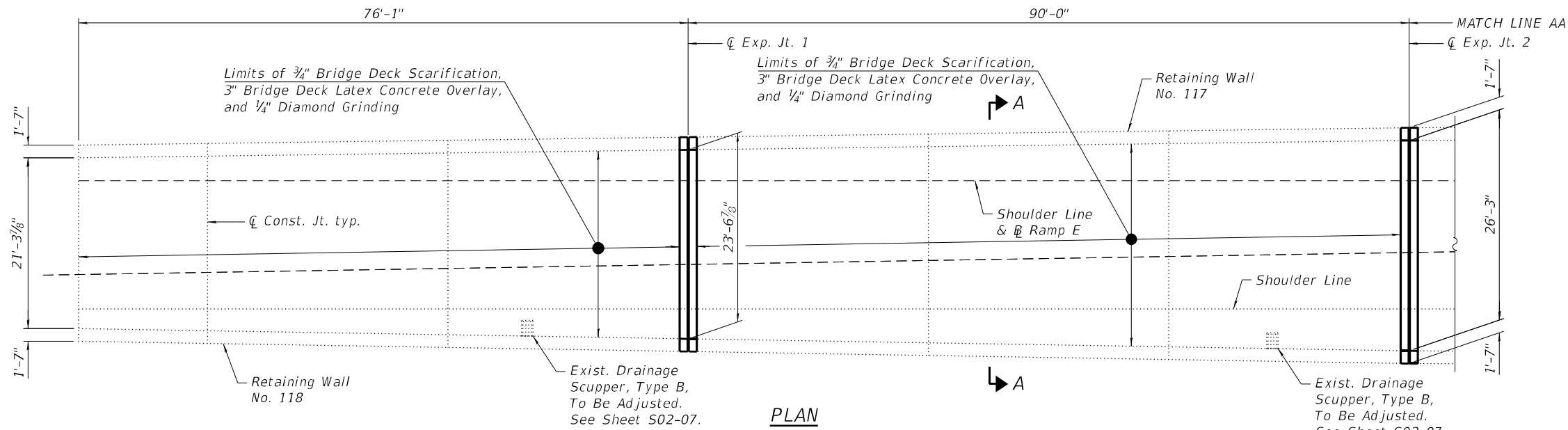
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DEPARTMENT OF TRANSPORTATION

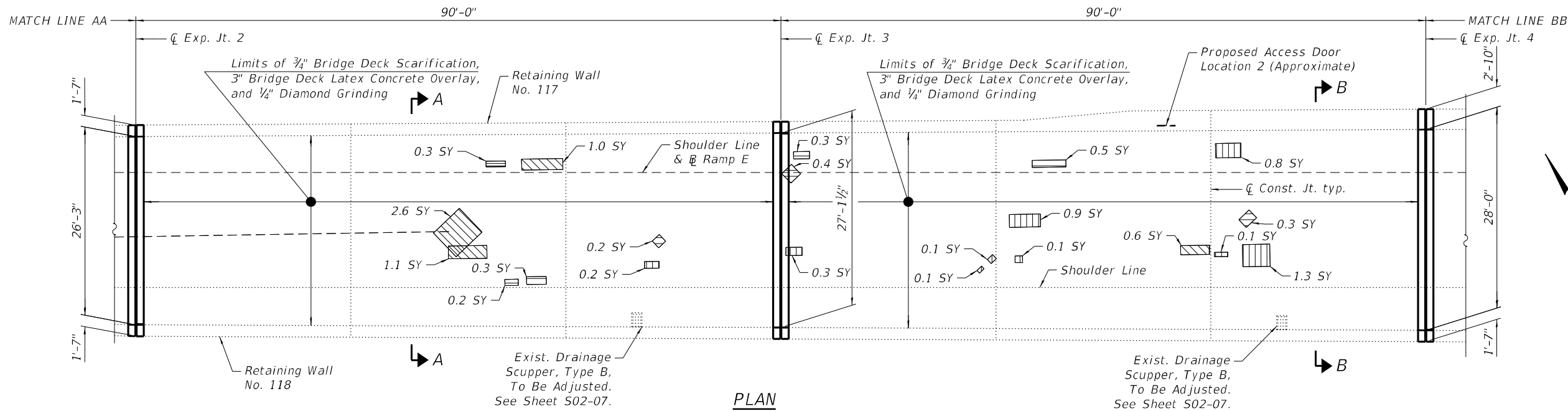
DECK SLAB CONSTRUCTION DETAILS
SN 016-2551

SHEET S02-03 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	506
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



PLAN



PLAN

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	1,134
Bridge Deck Grooving (Longitudinal)	Sq Yd	611
Bridge Deck Latex Concrete Overlay, 3"	Sq Yd	922
Bridge Deck Scarification 3/4"	Sq Yd	922
Deck Slab Repair (Full Depth, Type I)	Sq Yd	2.5
Deck Slab Repair (Full Depth, Type II)	Sq Yd	5.2
Diamond Grinding (Bridge Section)	Sq Yd	943

NOTES:

1. For Notes, see Sheet S02-06.

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

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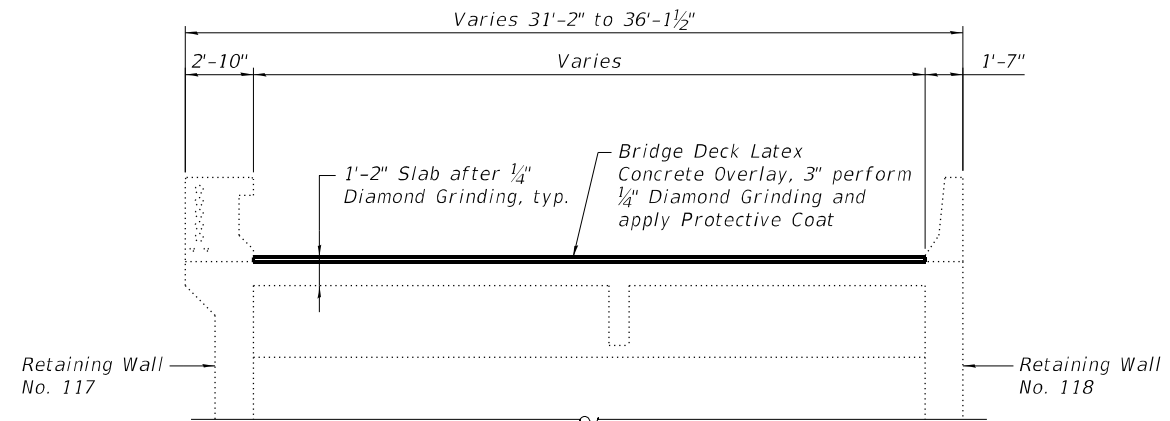
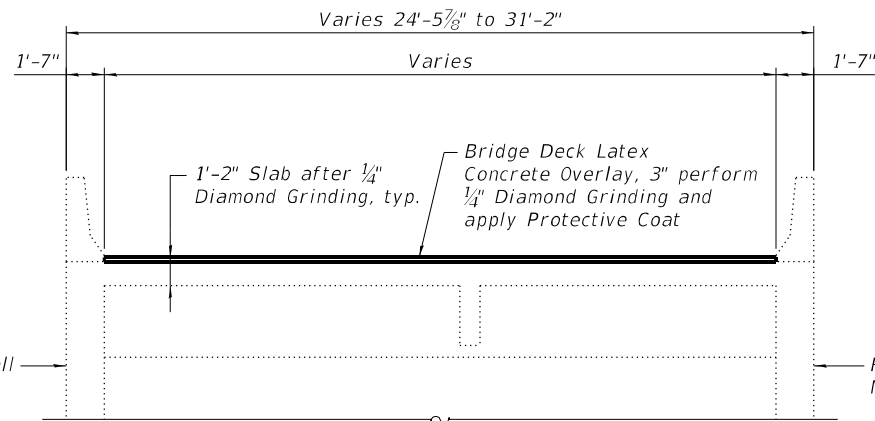
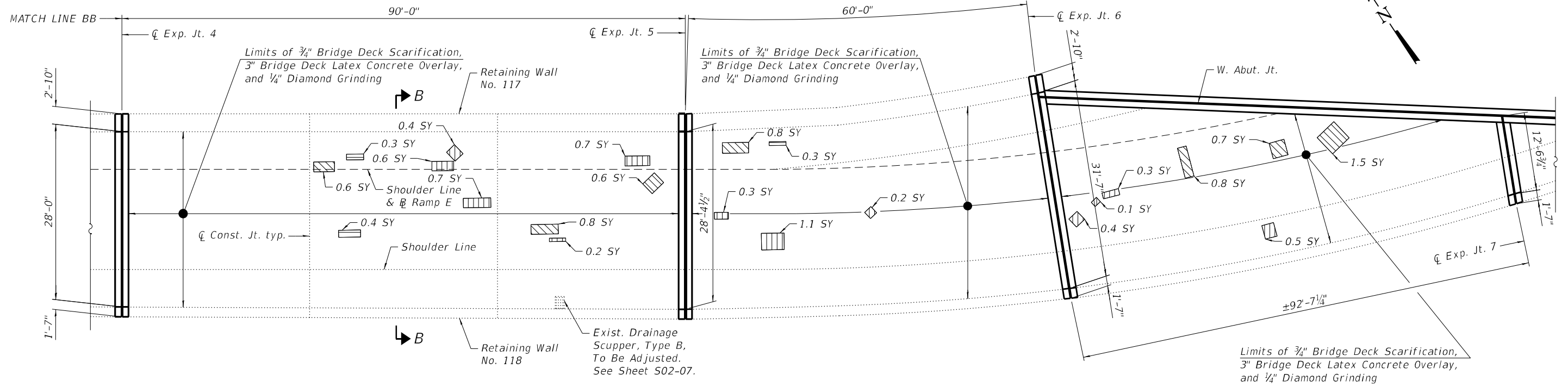
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**VAULTED DECK SLAB REPAIR PLAN AND DETAILS I
SN 016-2551**

SHEET S02-04 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	507
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	1,112
Bridge Deck Grooving (Longitudinal)	Sq Yd	347
Bridge Deck Latex Concrete Overlay, 3"	Sq Yd	636
Bridge Deck Scarification 3/4"	Sq Yd	636
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1.0
Deck Slab Repair (Full Depth, Type II)	Sq Yd	5.8
Diamond Grinding (Bridge Section)	Sq Yd	645

NOTES:

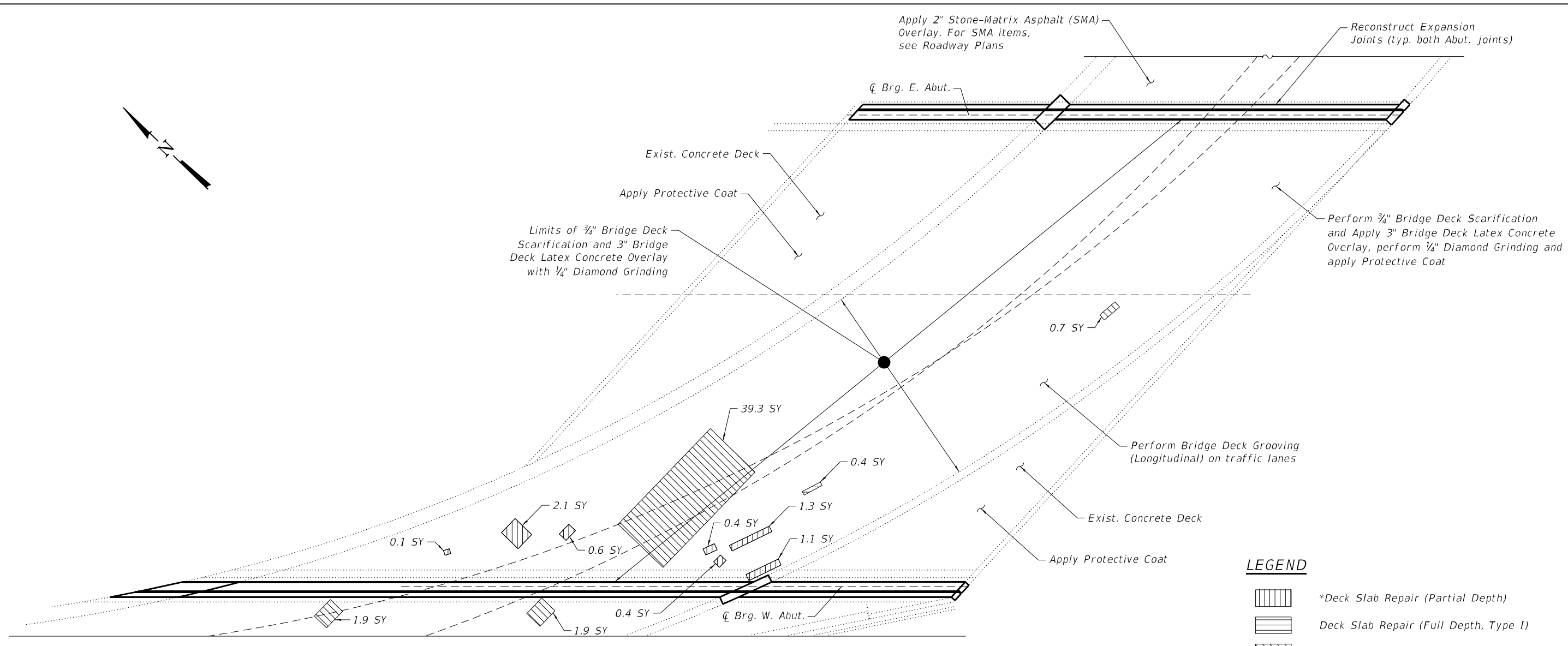
1. For Notes, see Sheet S02-06.

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

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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 S02-03.
3. For Ramp, East and West Transverse Joint Removal and Reconstruction, see Sheets S02-08 thru S02-25.
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, the bridge overlay, front and top faces of the new and existing parapets, and to the existing concrete deck outside of the parapets.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. The cost of repair or replacement shall be included in the cost of 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	2,448
Protective Coat	Sq Yd	2,791
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	696
Bridge Deck Latex Concrete Overlay, 3"	Sq Yd	1,756
Bridge Deck Scarification 3/4"	Sq Yd	1,756
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.4
Deck Slab Repair (Full Depth, Type II)	Sq Yd	43.8
Diamond Grinding (Bridge Section)	Sq Yd	1,789
Maintenance of Lighting System	Cal Mo	6

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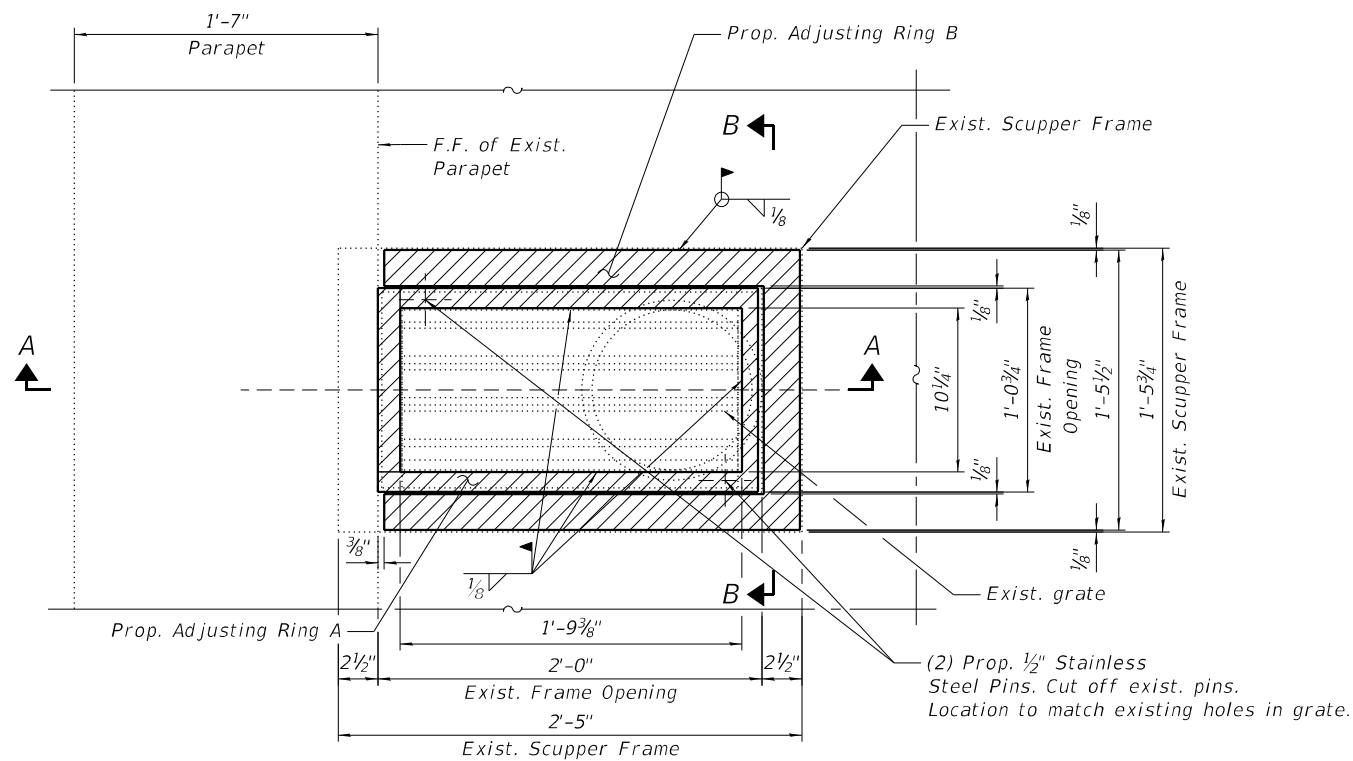
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK REPAIR PLAN AND DETAILS
 SN 016-2551**

SHEET S02-06 OF S02-36 SHEETS

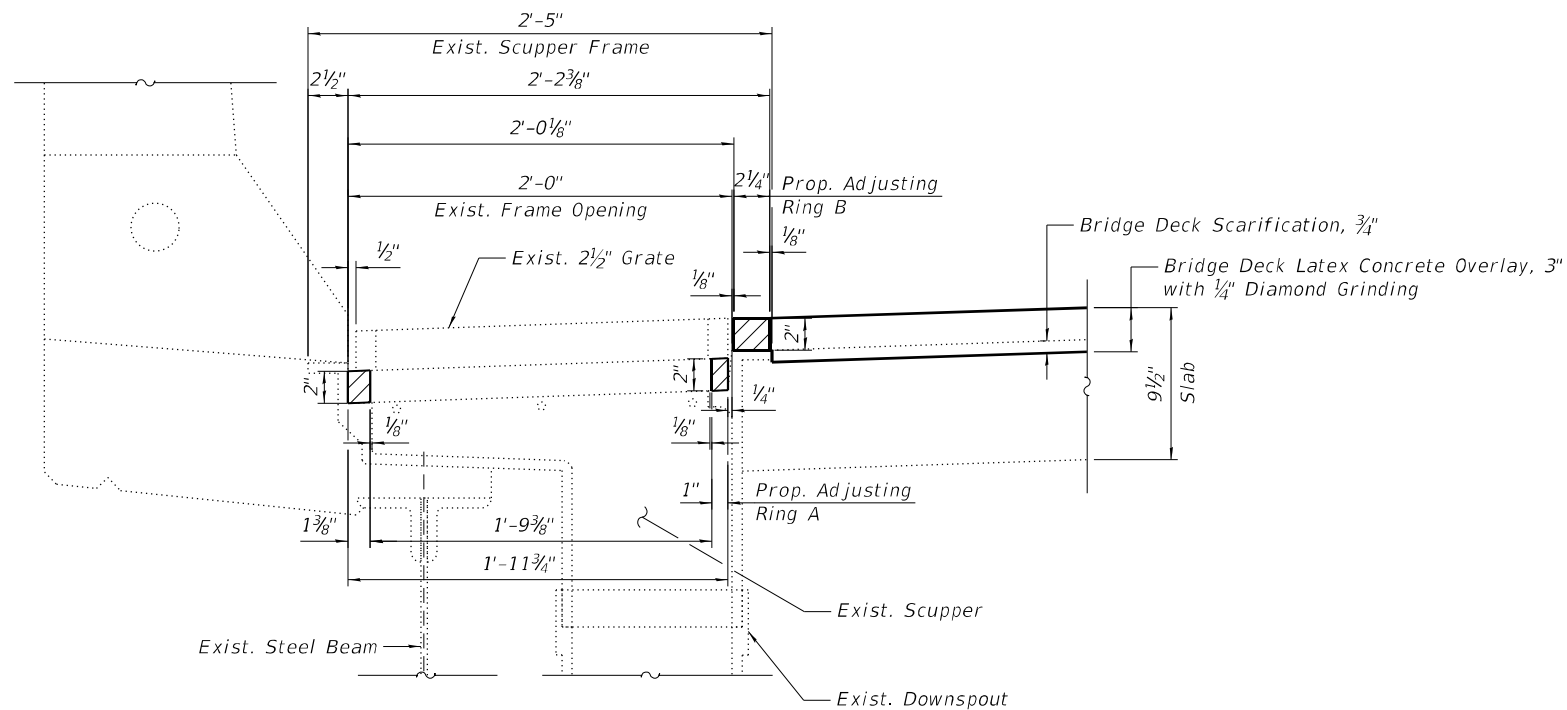
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			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



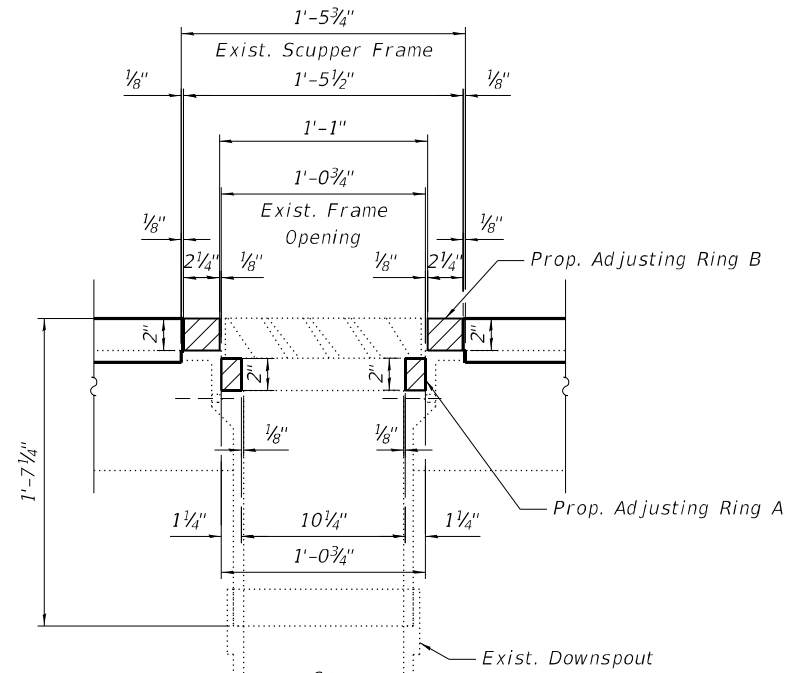
TYPICAL SCUPPER TYPE B PLAN
(x Locations)

NOTES

1. The Contractor shall field verify Existing Dimensions and Details of the Existing Scuppers and make necessary adjustments prior to construction of New Adjusting Rings or ordering of material for Adjusting Drainage Scuppers.
2. All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 35B.
3. Cast Iron Parts shall be unfinished.
4. The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
5. Adjusting Rings shall be from Neenah or approved equal. Structural steel weldments or equal section and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
6. Provide a 1/8" Fillet Weld around perimeter of new Adjusting Rings to secure to existing Scupper.
7. Cost of all labor and materials necessary to clean all existing floor drains and scuppers, install adjusting scupper rings, remove and reinstall grates is included in the cost for Drainage Scupper to be Adjusted.



SECTION A-A



SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Cleaning Drainage System	L Sum	0.05
Drainage Scuppers To Be Adjusted	Each	5

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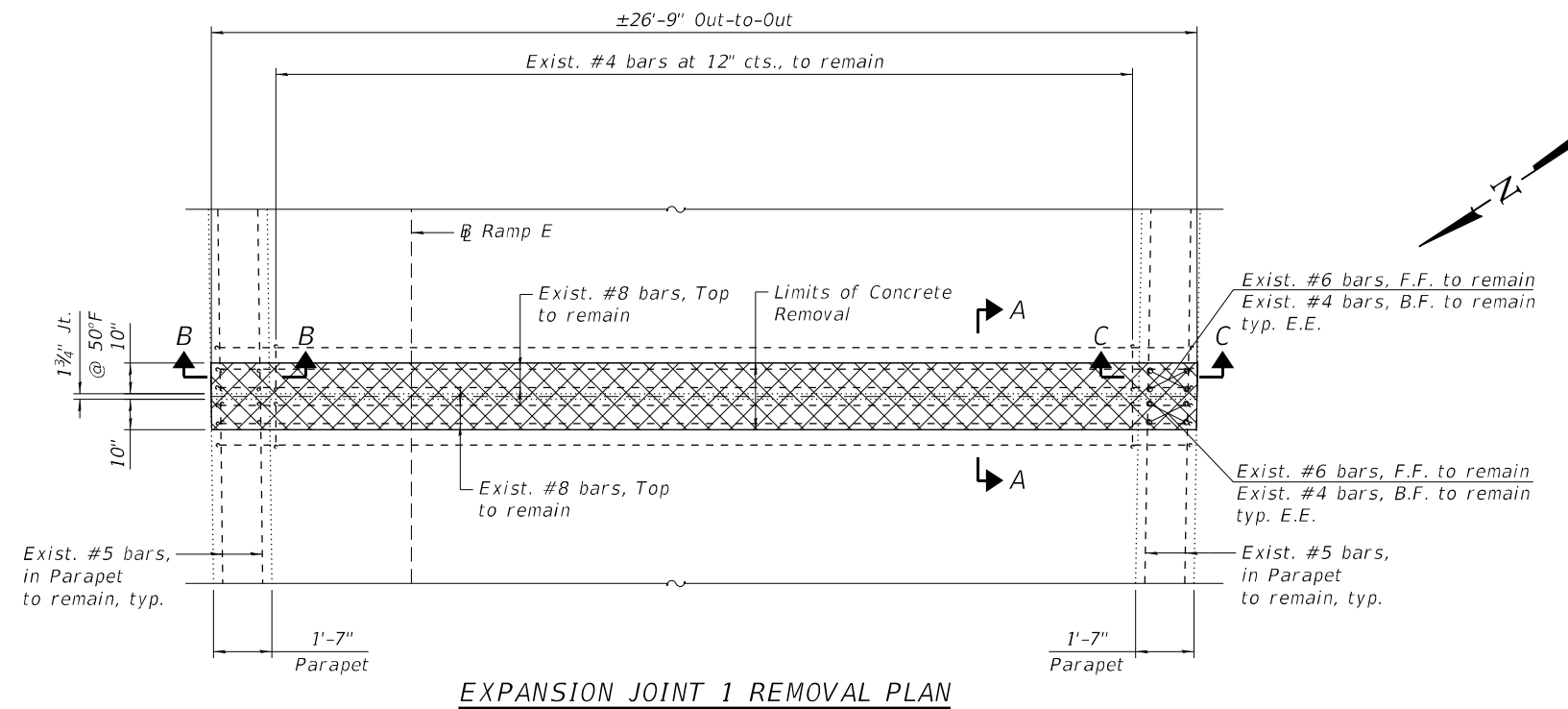
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 DEPARTMENT OF TRANSPORTATION**

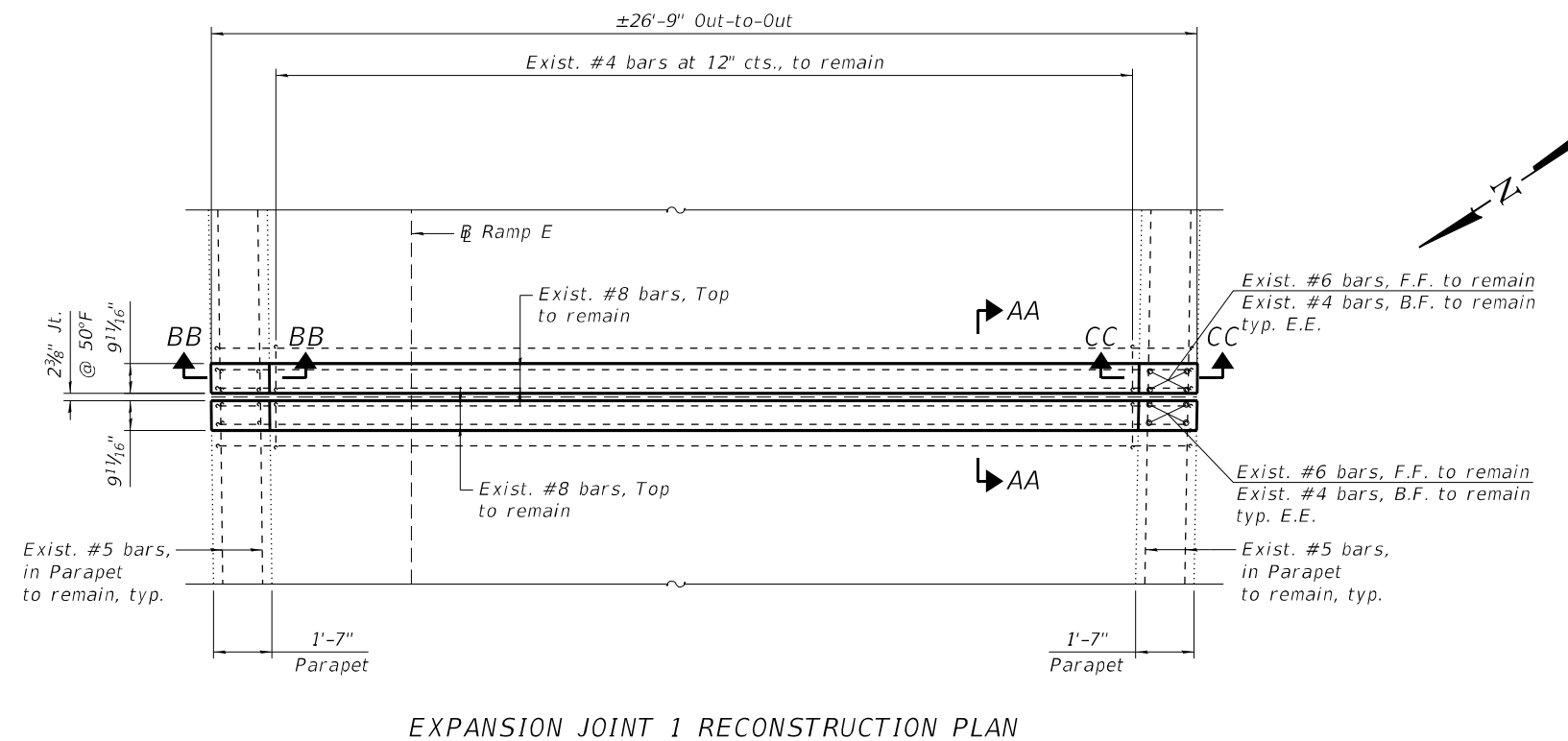
**DRAINAGE SCUPPER TYPE B ADJUSTMENT DETAILS
 SN 016-2551**

SHEET S02-07 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	510
CONTRACT NO. 62K74				
		ILLINOIS FED. AID PROJECT		



EXPANSION JOINT 1 REMOVAL PLAN




EXPANSION JOINT 1 RECONSTRUCTION PLAN

NOTE:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-11.

LEGEND

-  Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.E. Each End

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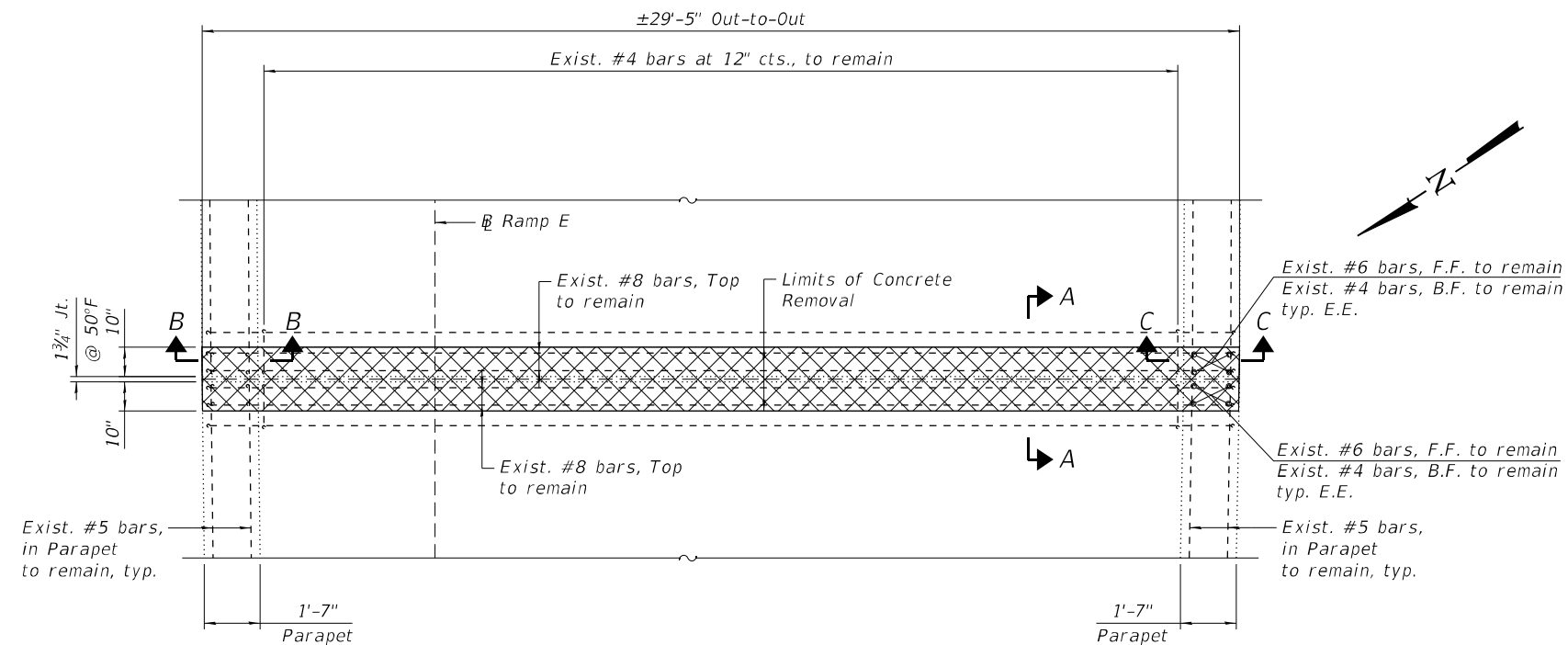
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**STATE OF ILLINOIS
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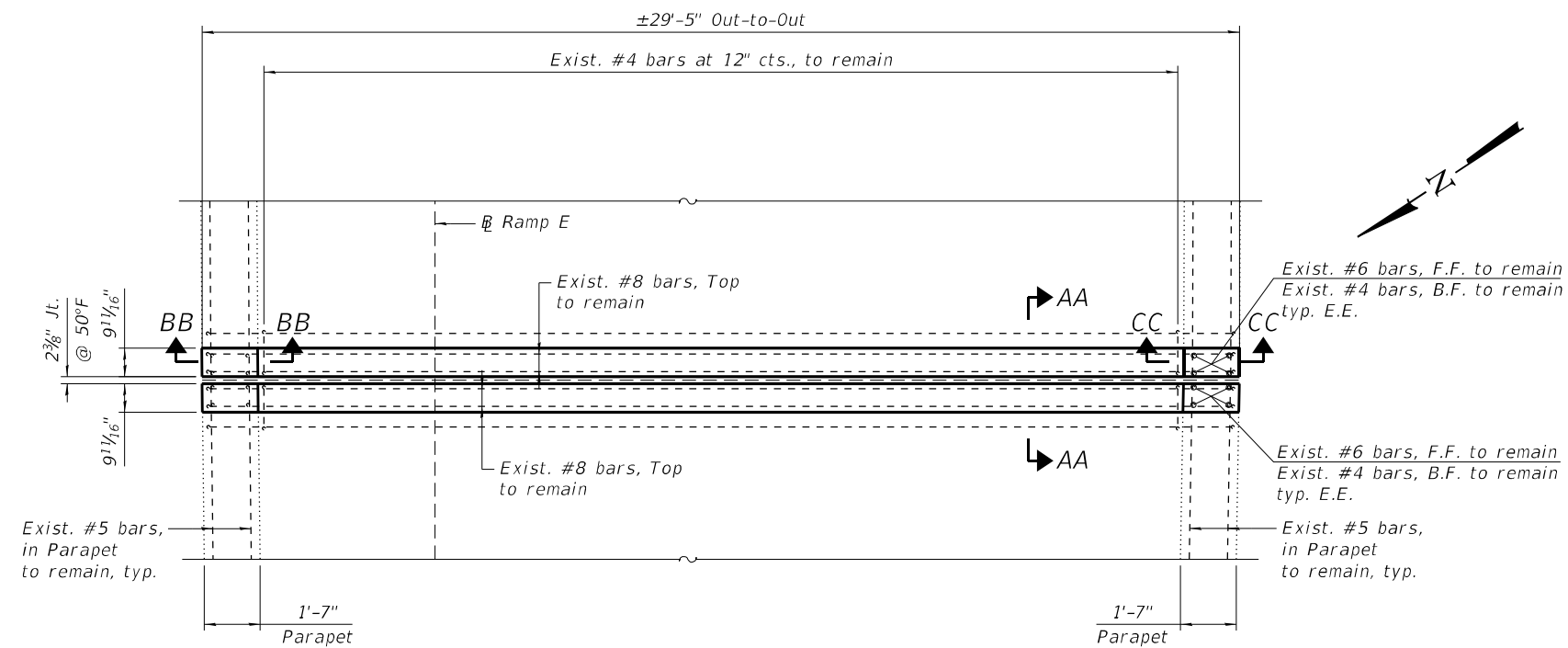
**VAULTED SLAB EXPANSION JOINT 1 DETAILS I
SN 016-2551**

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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S02-08 OF S02-36 SHEETS



EXPANSION JOINT 2 REMOVAL PLAN



EXPANSION JOINT 2 RECONSTRUCTION PLAN

NOTE:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-11.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.E. Each End

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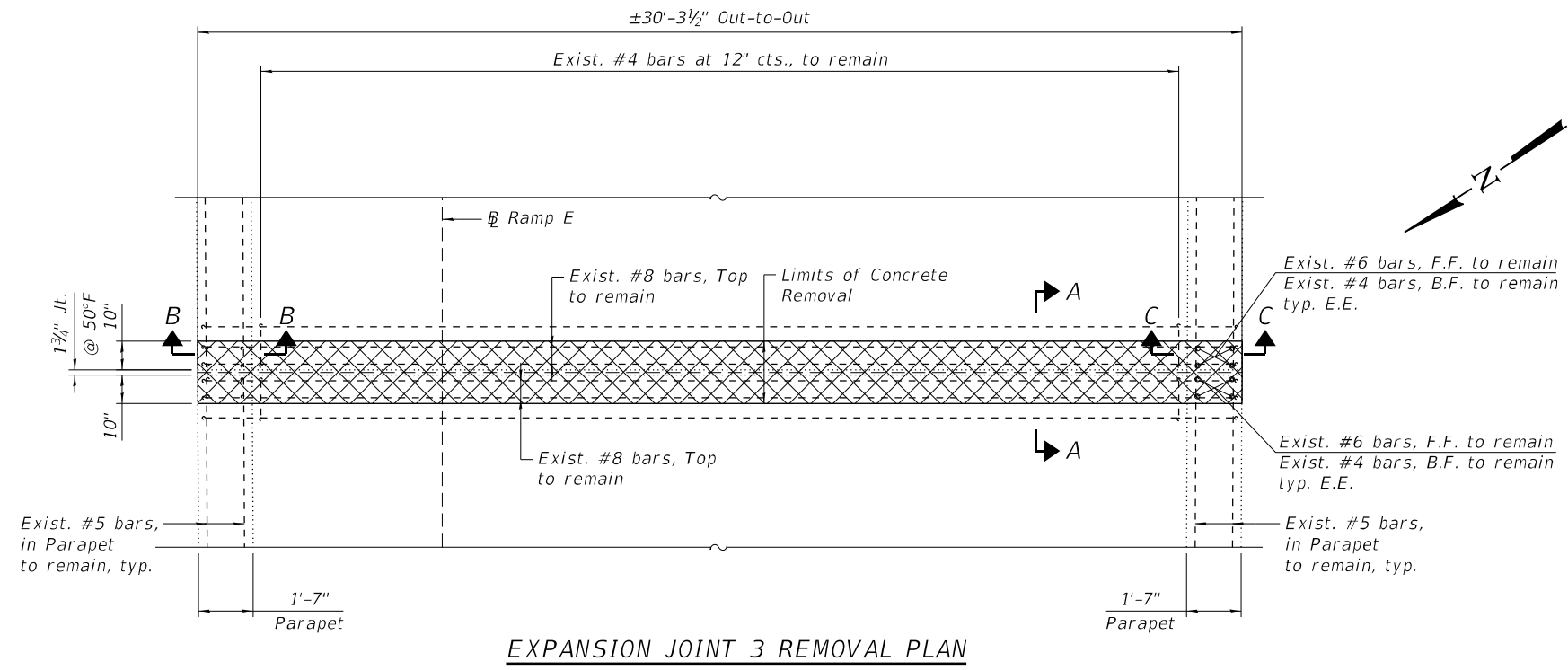
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

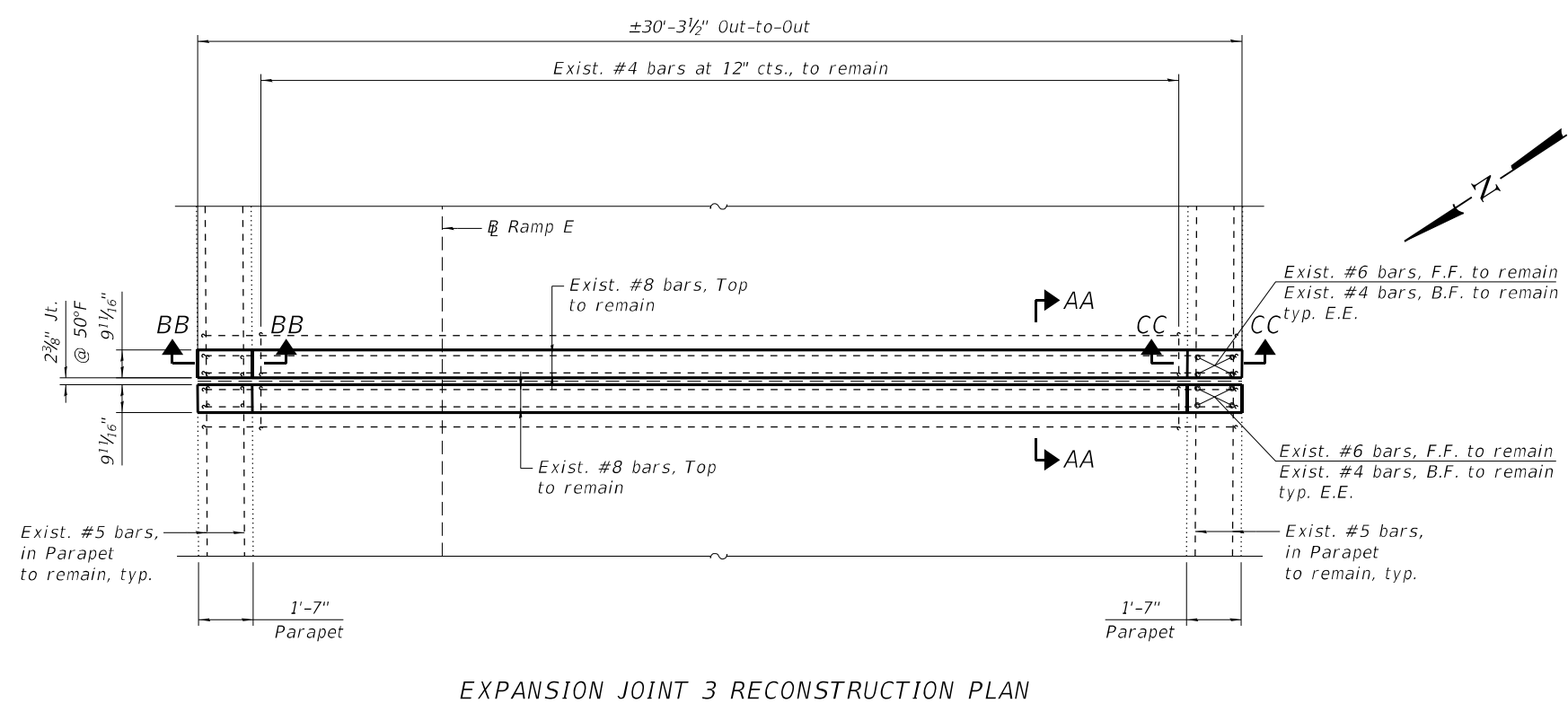
**VAULTED SLAB EXPANSION JOINT 2 DETAILS II
SN 016-2551**

SHEET S02-09 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	512
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	




EXPANSION JOINT 3 REMOVAL PLAN



EXPANSION JOINT 3 RECONSTRUCTION PLAN

LEGEND

-  Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.E. Each End

NOTE:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-11.

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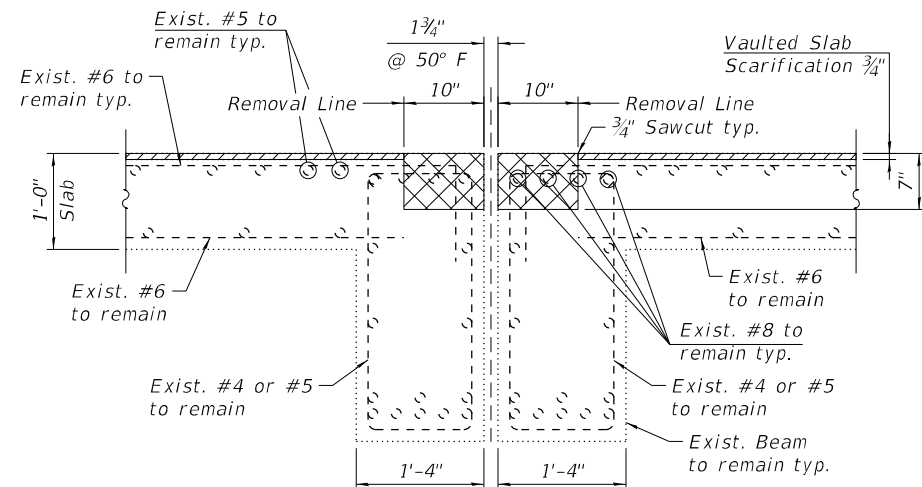
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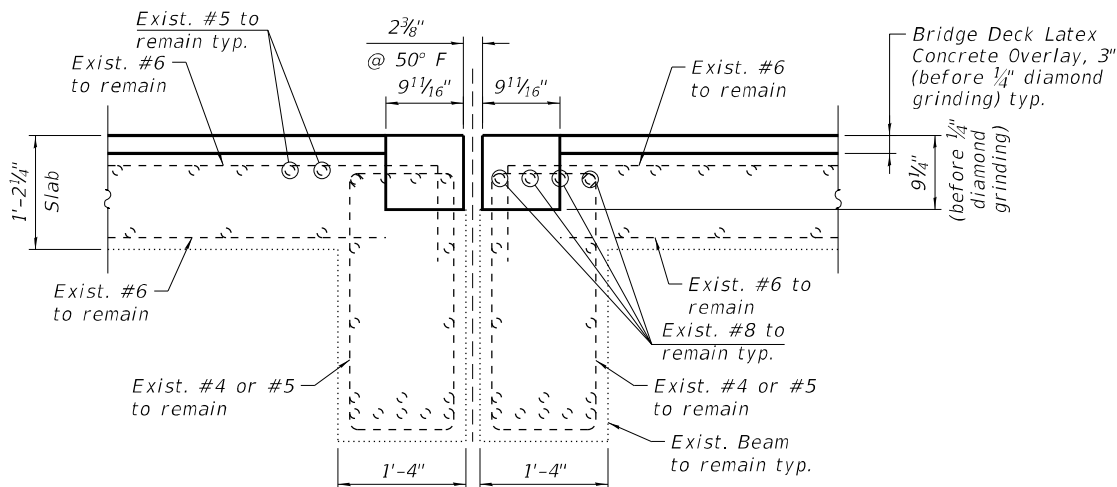
**VAULTED SLAB EXPANSION JOINT 3 DETAILS III
SN 016-2551**

SHEET S02-10 OF S02-36 SHEETS

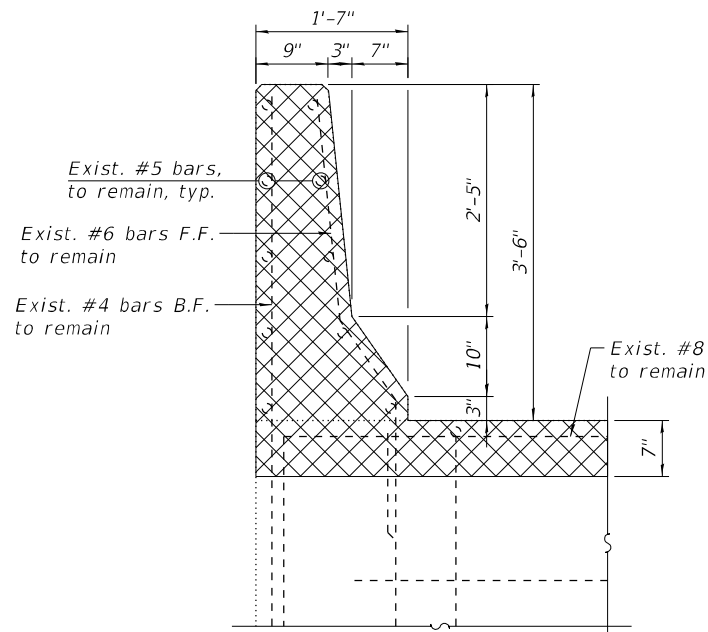
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



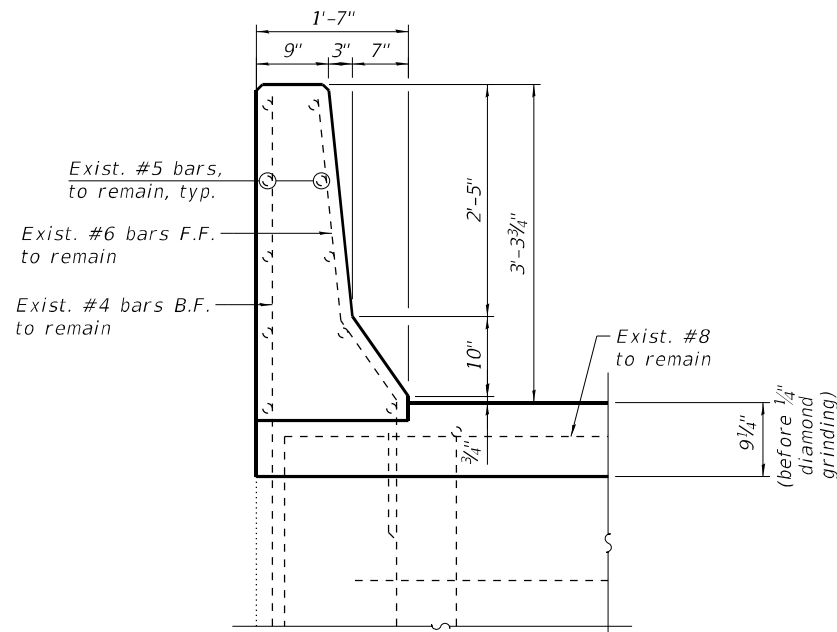
SECTION A-A



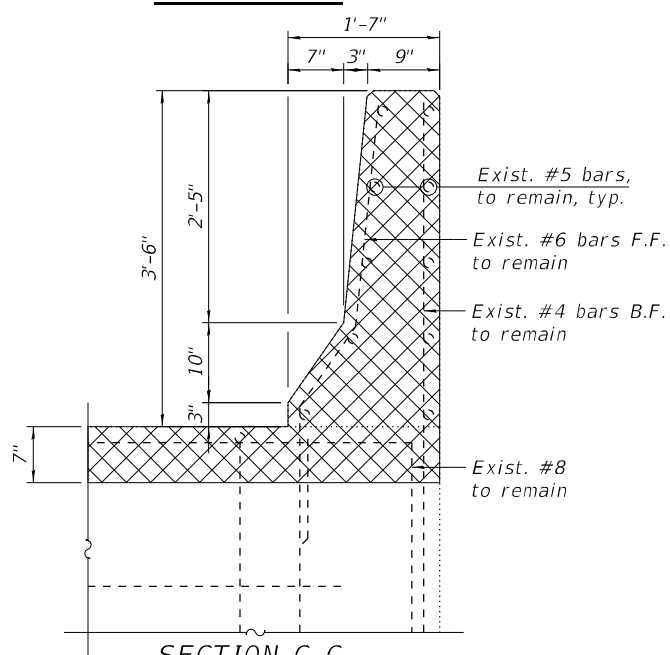
SECTION AA-AA



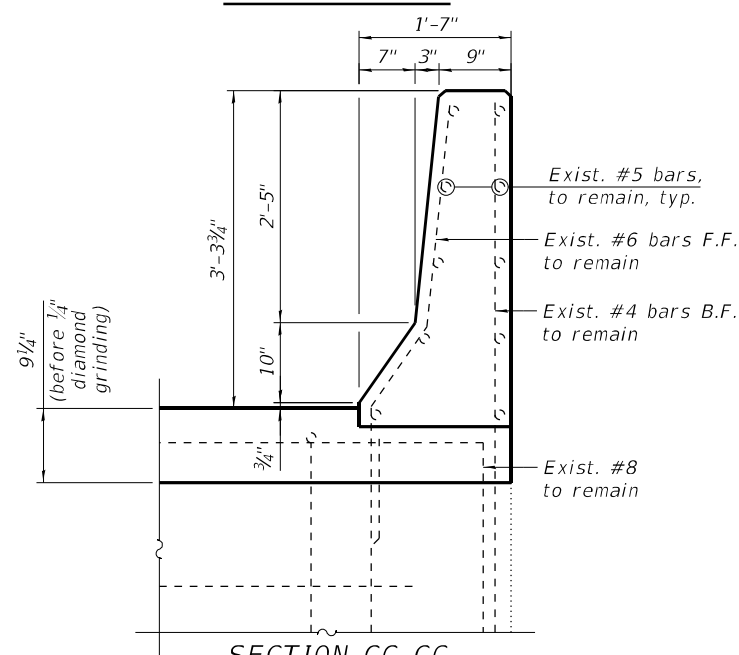
SECTION B-B



SECTION BB-BB



SECTION C-C



SECTION CC-CC

BILL OF MATERIAL

Concrete Removal	Cu Yd	4.4
Concrete Superstructure	Cu Yd	5.3

NOTES:

- For preformed joint strip seal details, see Sheet S02-26.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face

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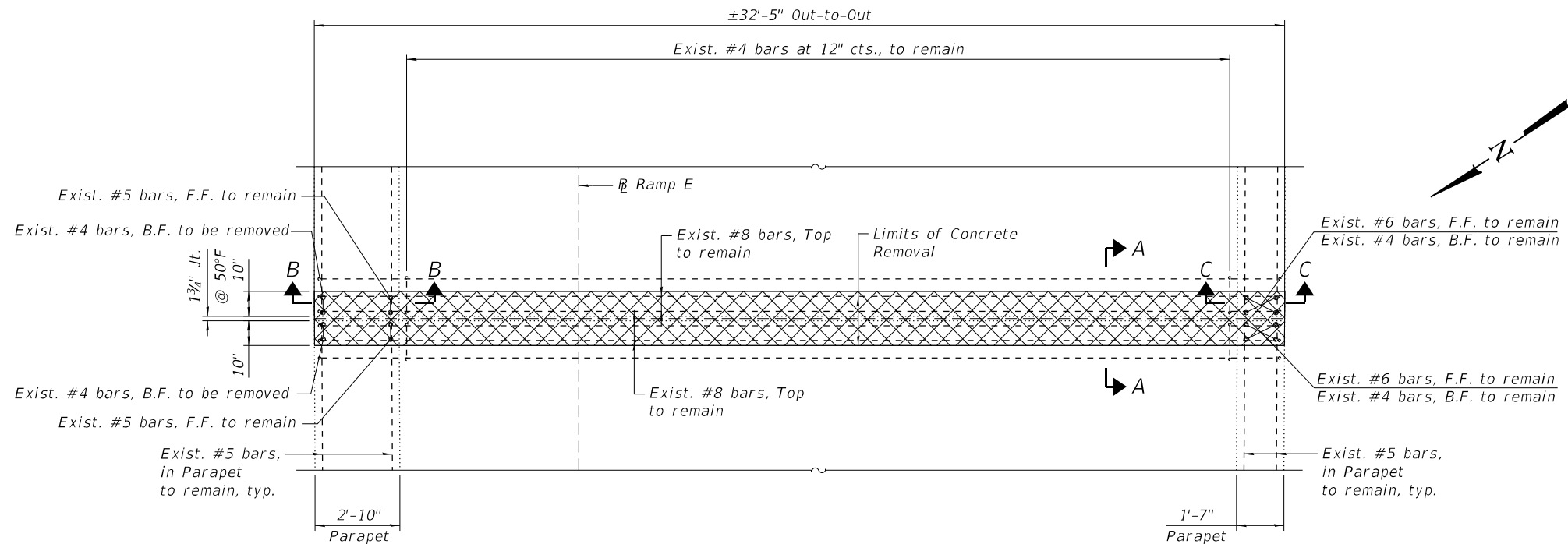
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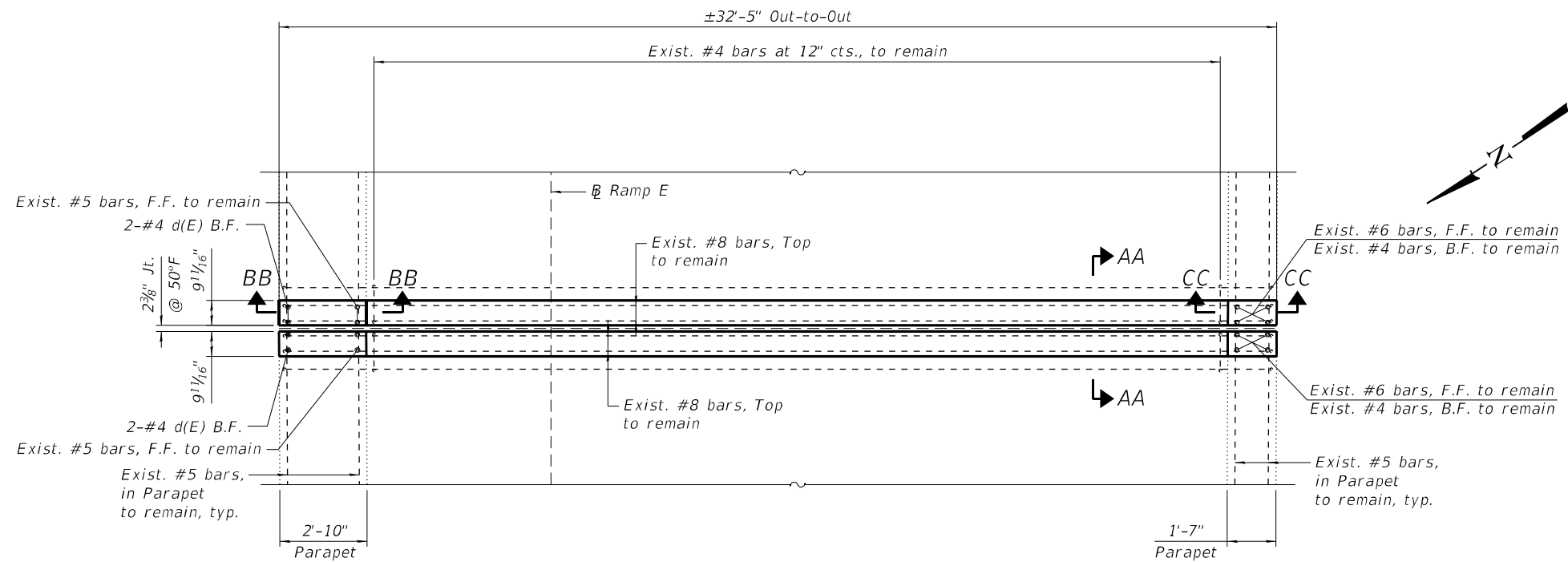
Vaulted Slab Expansion Joint Details IV
SN 016-2551

SHEET S02-11 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	514
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



EXPANSION JOINT 4 REMOVAL PLAN




EXPANSION JOINT 4 RECONSTRUCTION PLAN

NOTE:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-15.

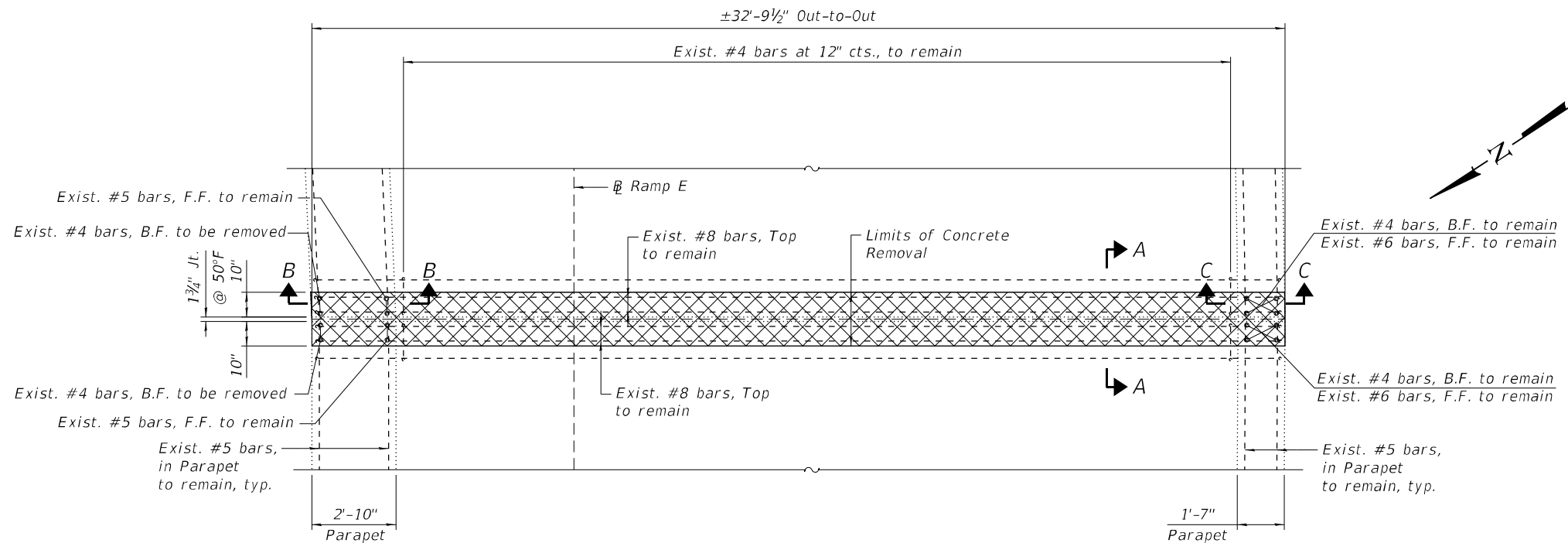
LEGEND

-  Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.E. Each End

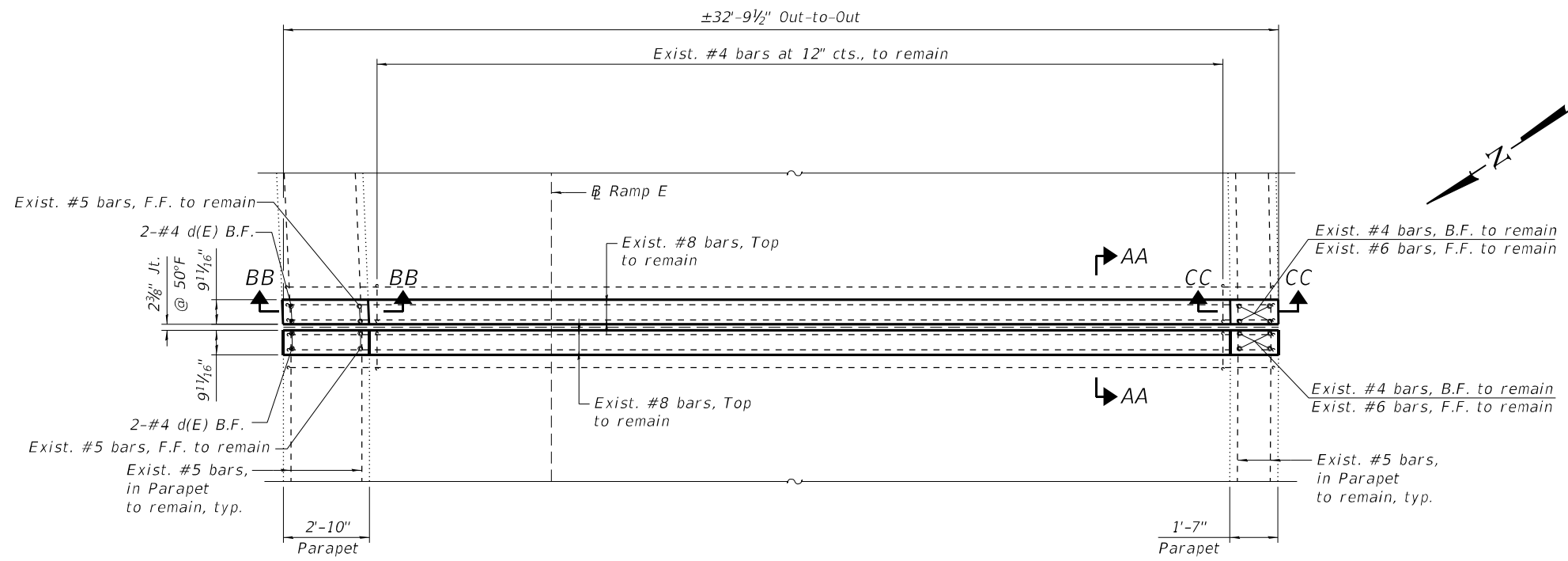
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	515
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				




EXPANSION JOINT 5 REMOVAL PLAN



EXPANSION JOINT 5 RECONSTRUCTION PLAN

LEGEND

-  Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.E. Each End

NOTE:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-15.

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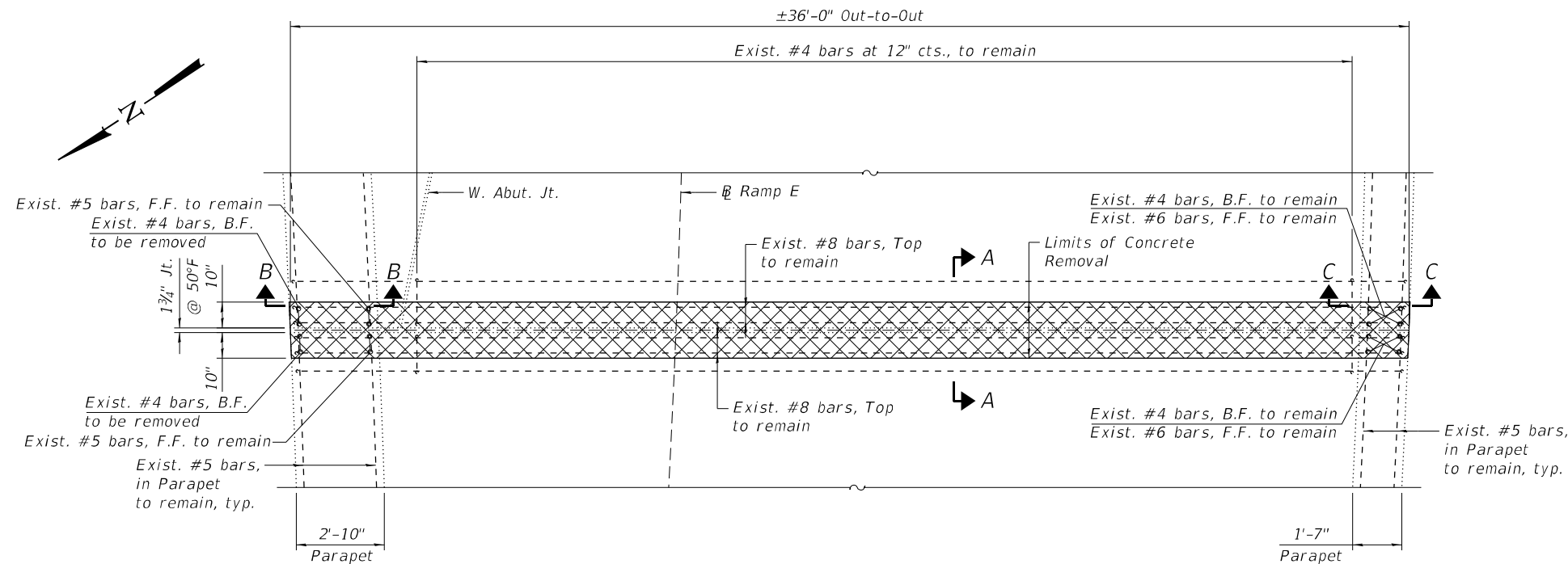
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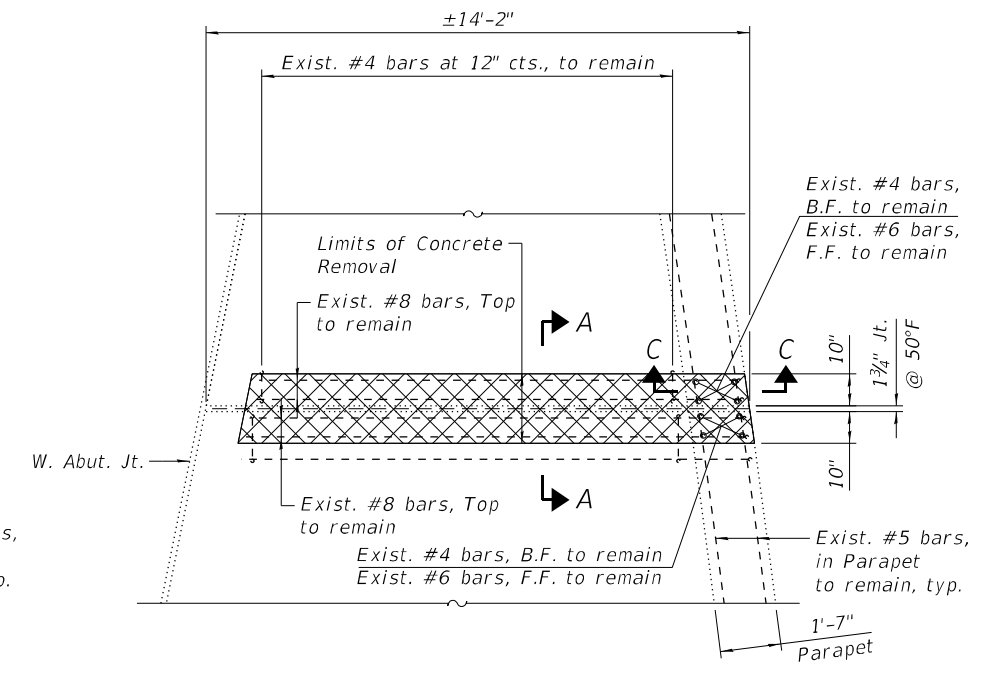
**VAULTED SLAB EXPANSION JOINT 5 DETAILS VI
SN 016-2551**

SHEET S02-13 OF S02-36 SHEETS

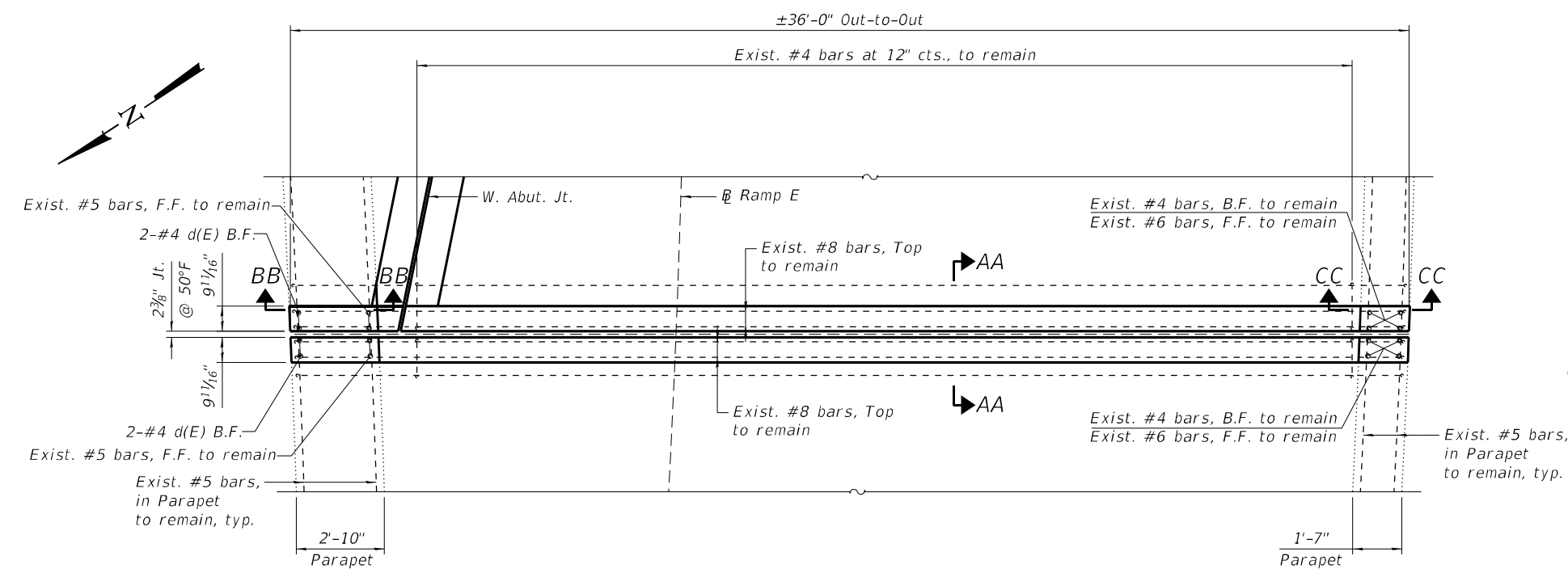
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



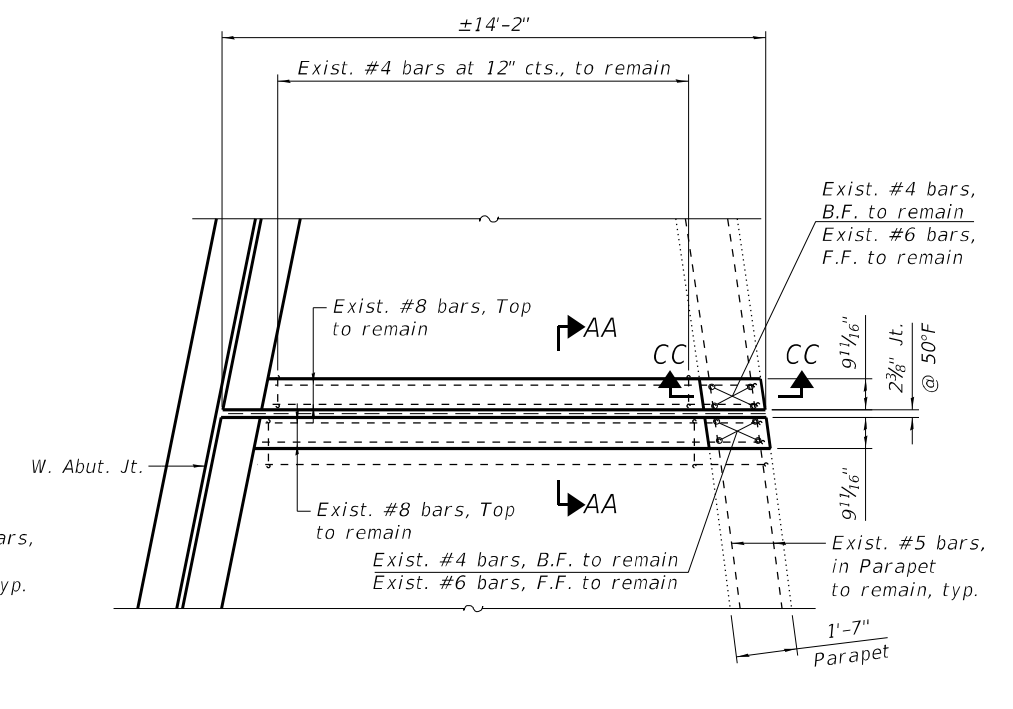
EXPANSION JOINT 6 REMOVAL PLAN



EXPANSION JOINT 7 REMOVAL PLAN



EXPANSION JOINT 6 RECONSTRUCTION PLAN



EXPANSION JOINT 7 RECONSTRUCTION PLAN

NOTE:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-15.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.E. Each End

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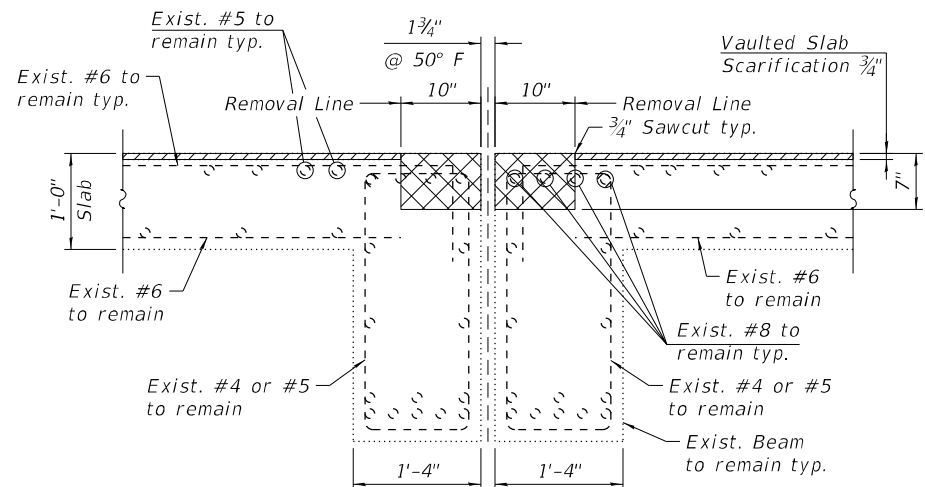
**VAULTED SLAB EXPANSION JOINT 6 AND 7 DETAILS VII
SN 016-2551**

SHEET S02-14 OF S02-36 SHEETS

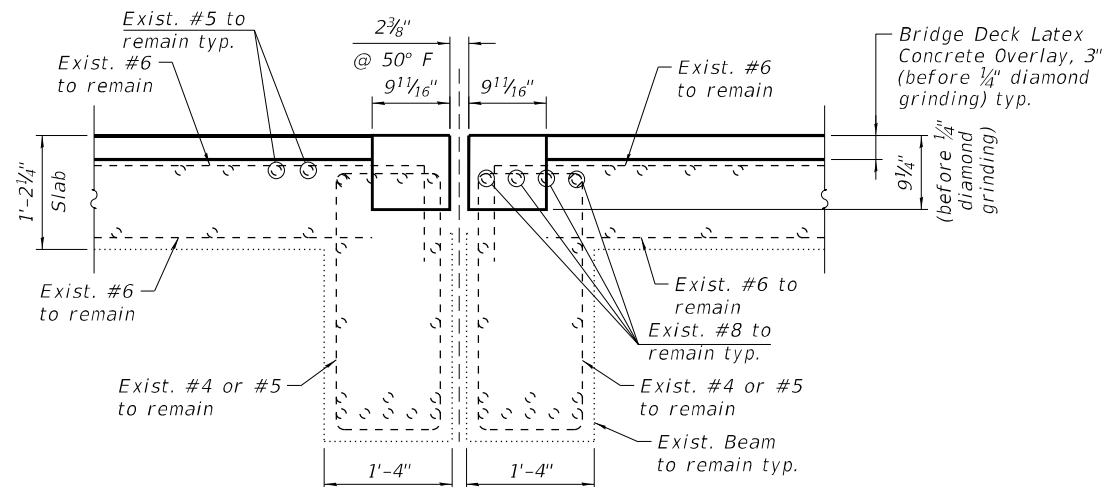
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CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT

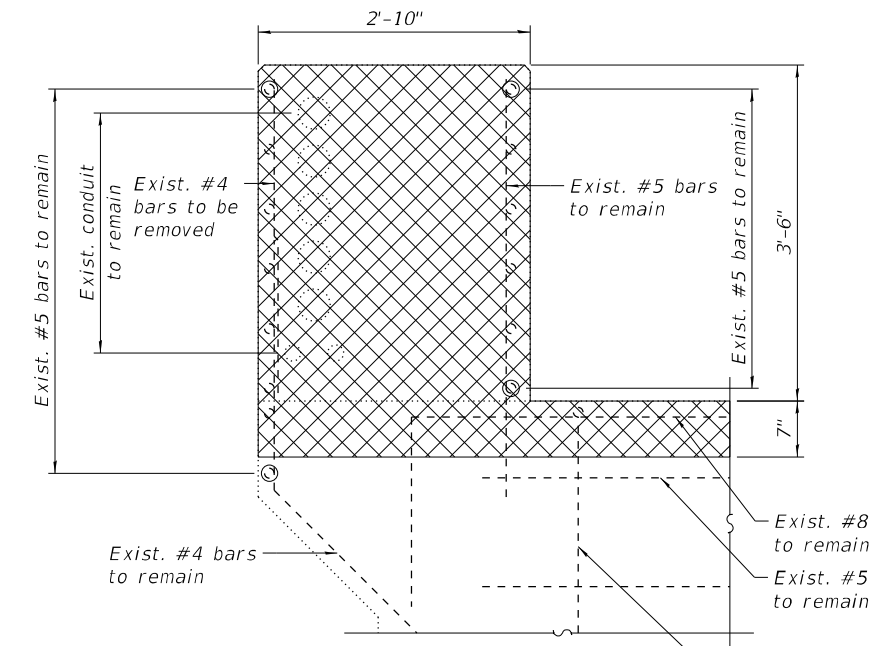
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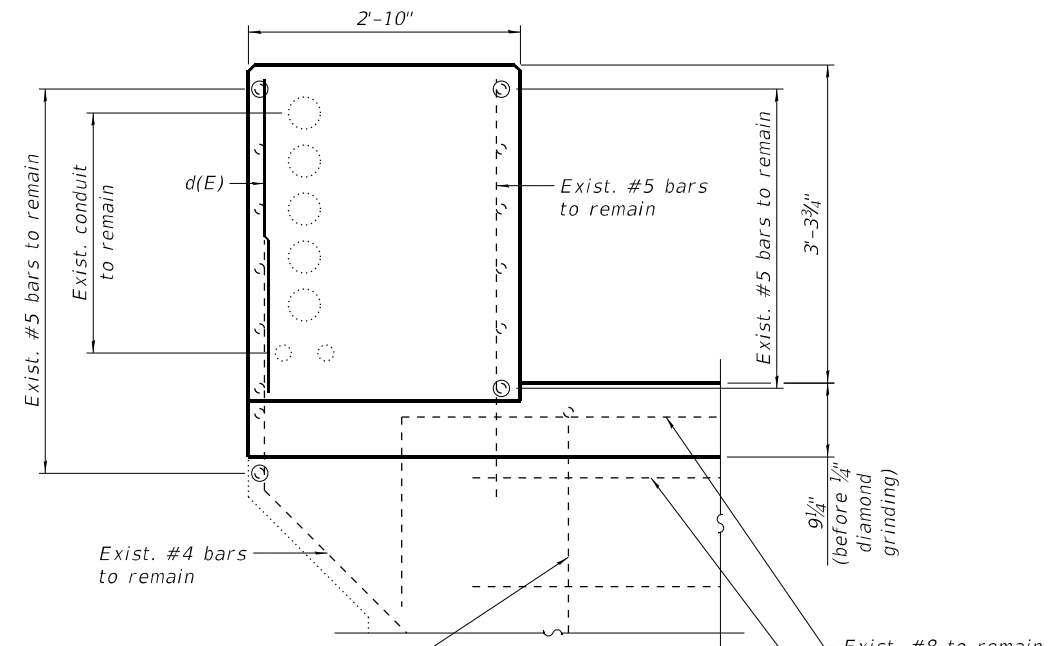
SECTION A-A



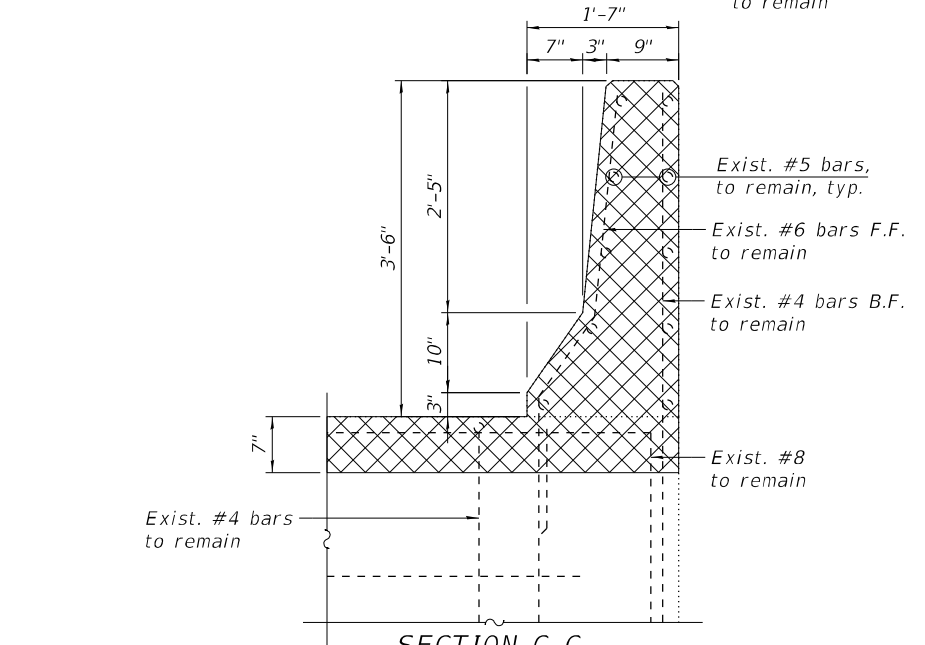
SECTION AA-AA



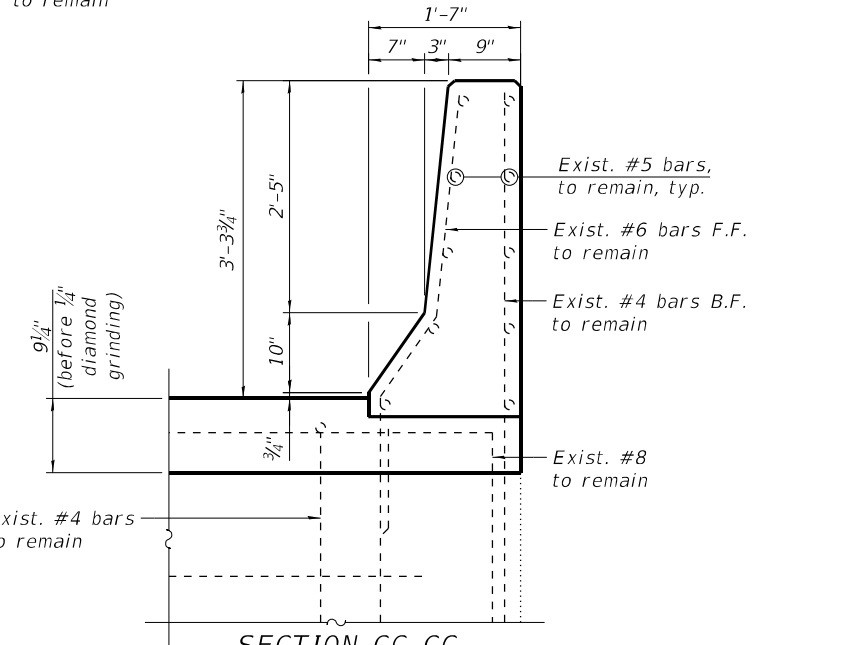
SECTION B-B



SECTION BB-BB



SECTION C-C



SECTION CC-CC


BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	12	#4	3'-4"	
Concrete Removal			Cu Yd	6.8
Reinforcement Bars, Epoxy Coated			Pound	30
Concrete Superstructure			Cu Yd	7.9

NOTES:

1. For preformed joint strip seal details, see Sheet S02-26.
2. Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

-  Concrete Removal
- F.F. Front Face
- B.F. Back Face



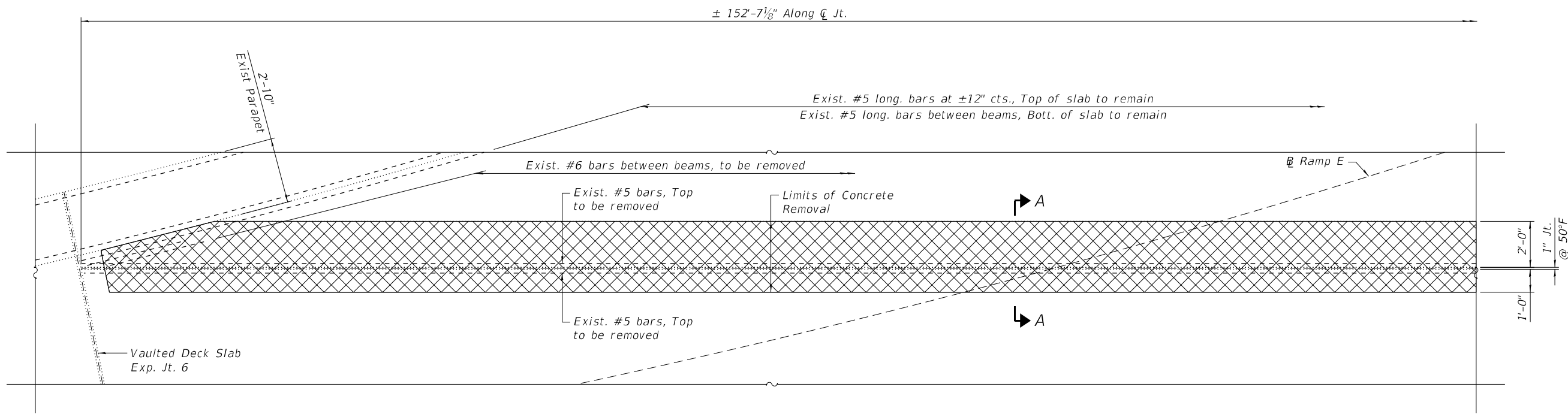
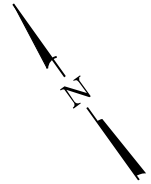
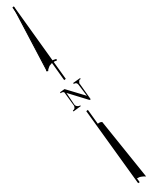
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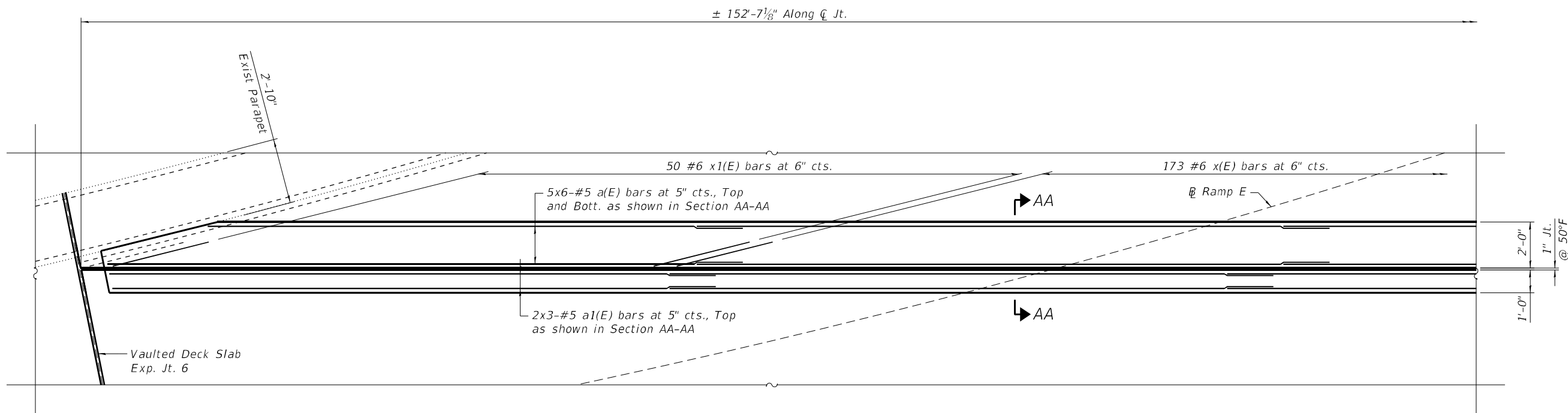
Vaulted Slab Expansion Joint Details VIII
 SN 016-2551

SHEET S02-15 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	518
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTE:

1. For sections A-A and AA-AA see Sheet S02-19.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.E. Each End

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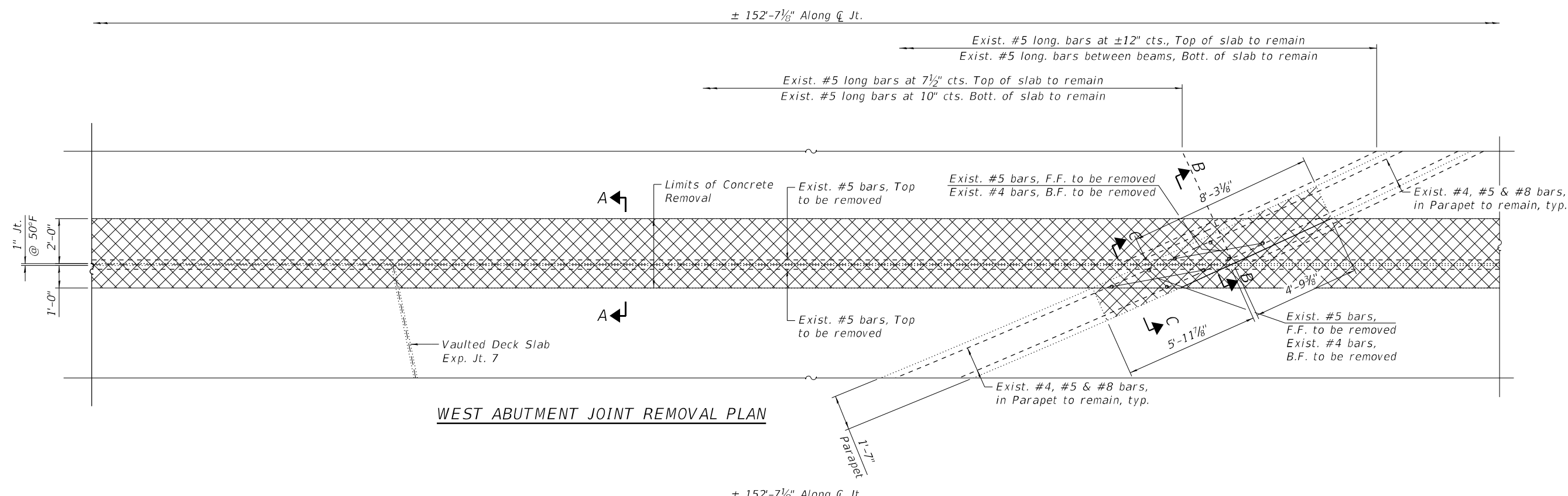
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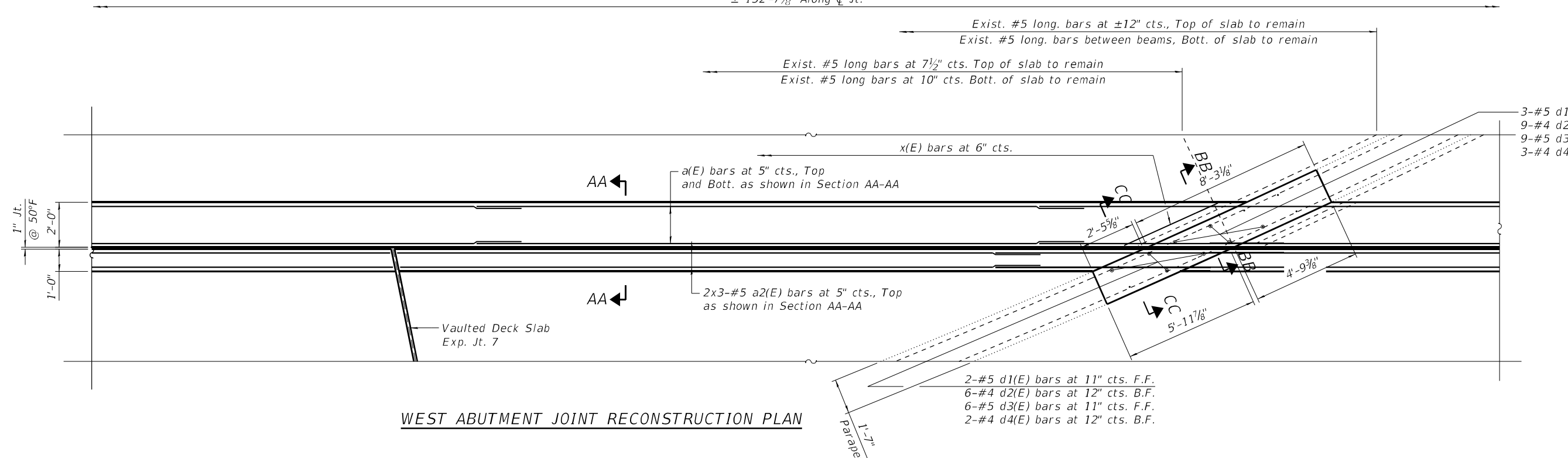
**WEST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-2551**

SHEET S02-16 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	519
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTE:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-19.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face

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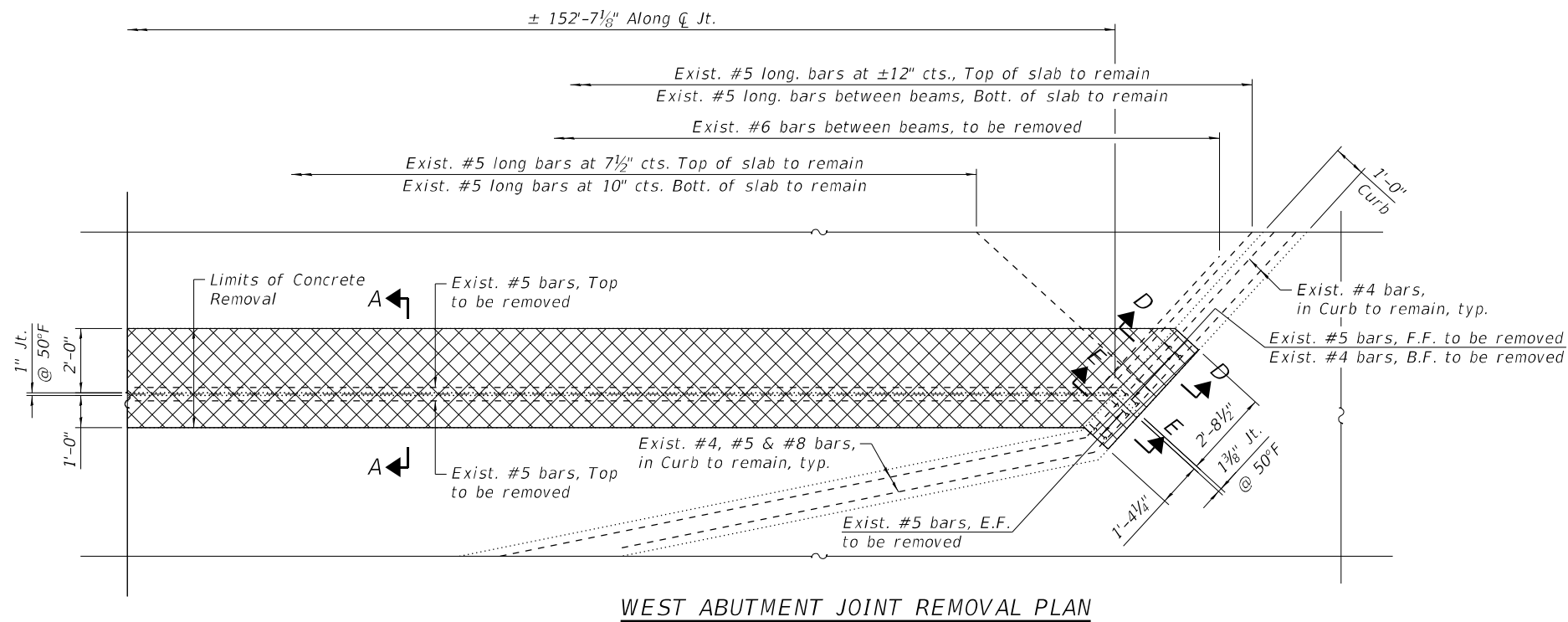
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 DEPARTMENT OF TRANSPORTATION**

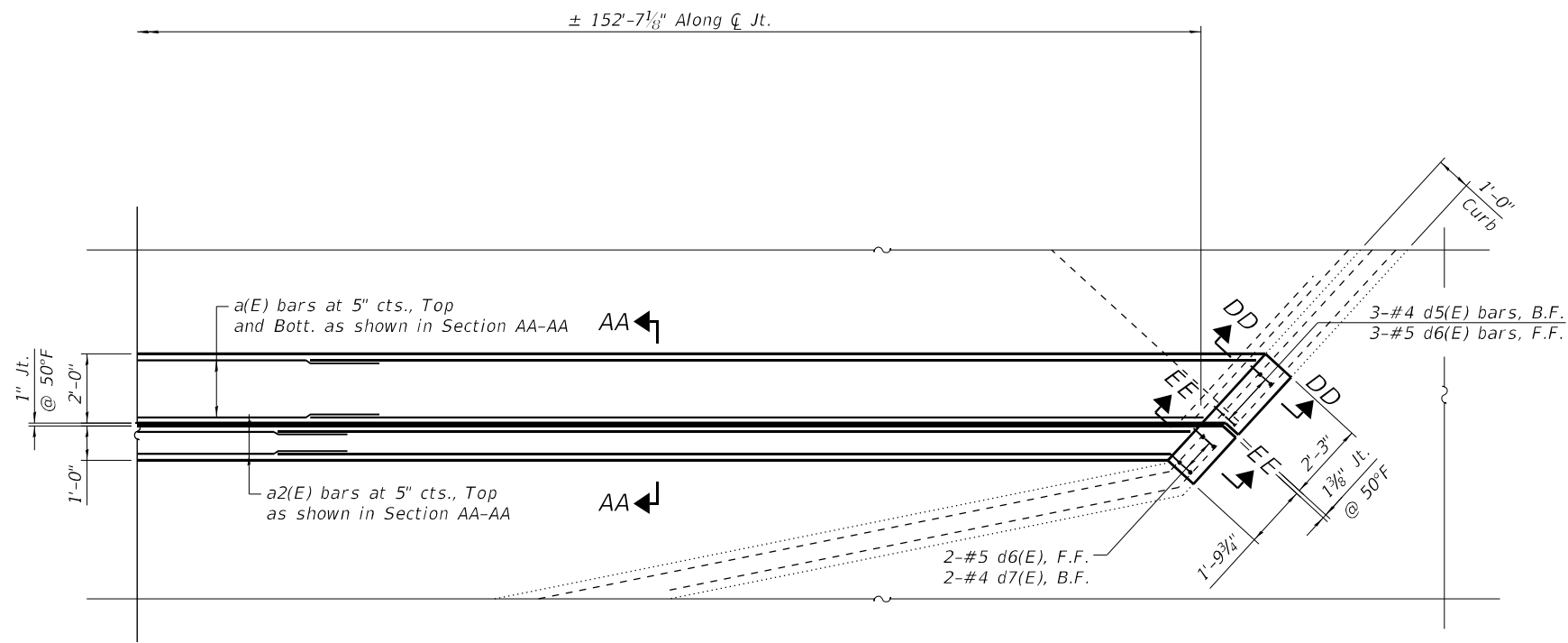
**WEST ABUTMENT EXPANSION JOINT DETAILS II
 SN 016-2551**

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

SHEET S02-17 OF S02-36 SHEETS



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTE:

1. For sections A-A and AA-AA see Sheet S02-19.
2. For sections D-D, E-E, DD-DD, and EE-EE, see Sheet S02-20.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.F. Each Face

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-2551_01to_Ramp\01622551-62K74-50-18-EXPS.dgn

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

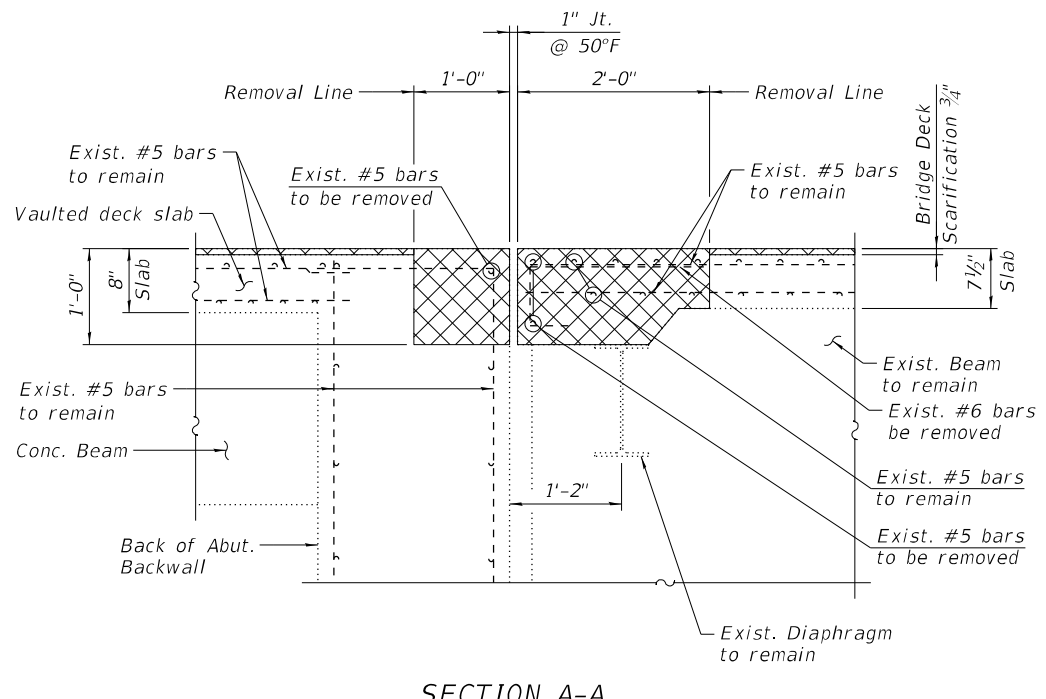
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS III
SN 016-2551**

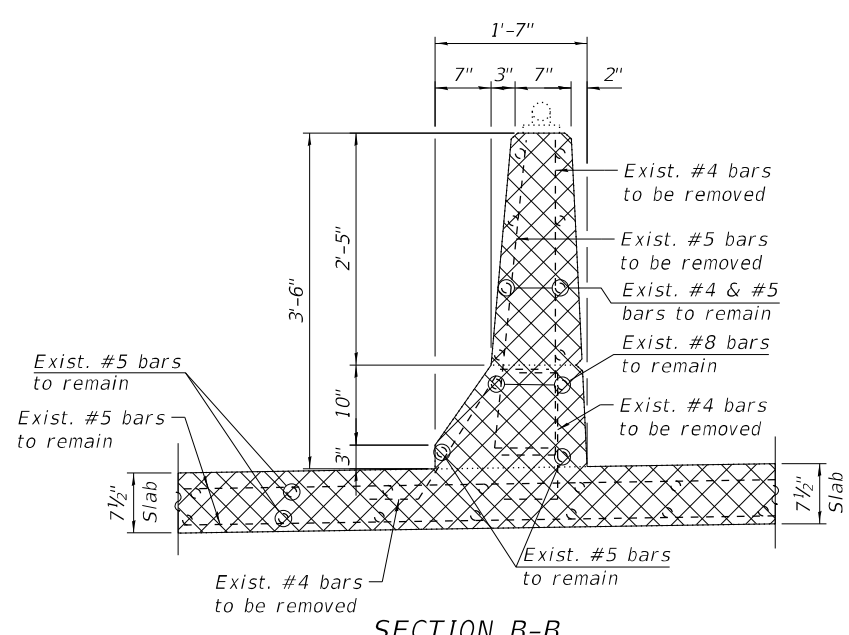
SHEET S02-18 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	521
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

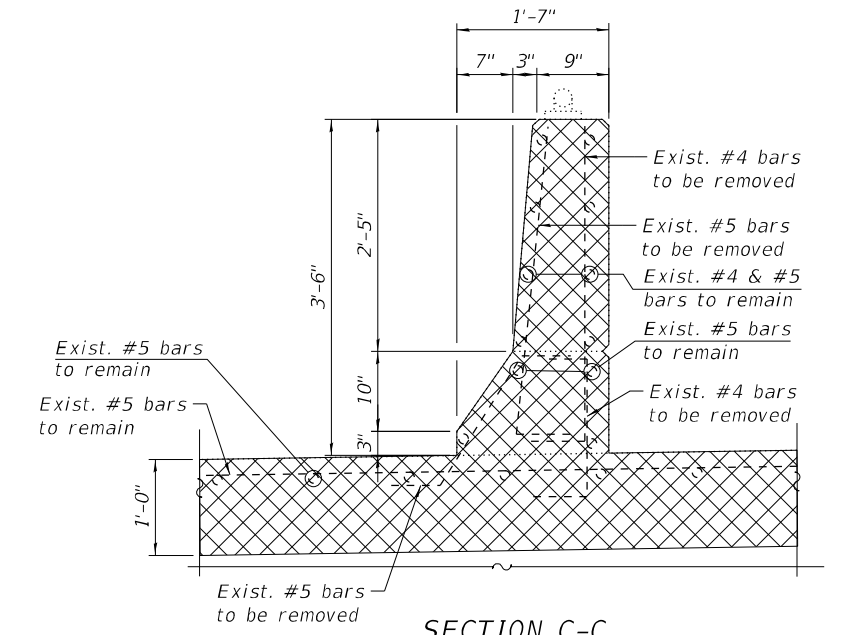
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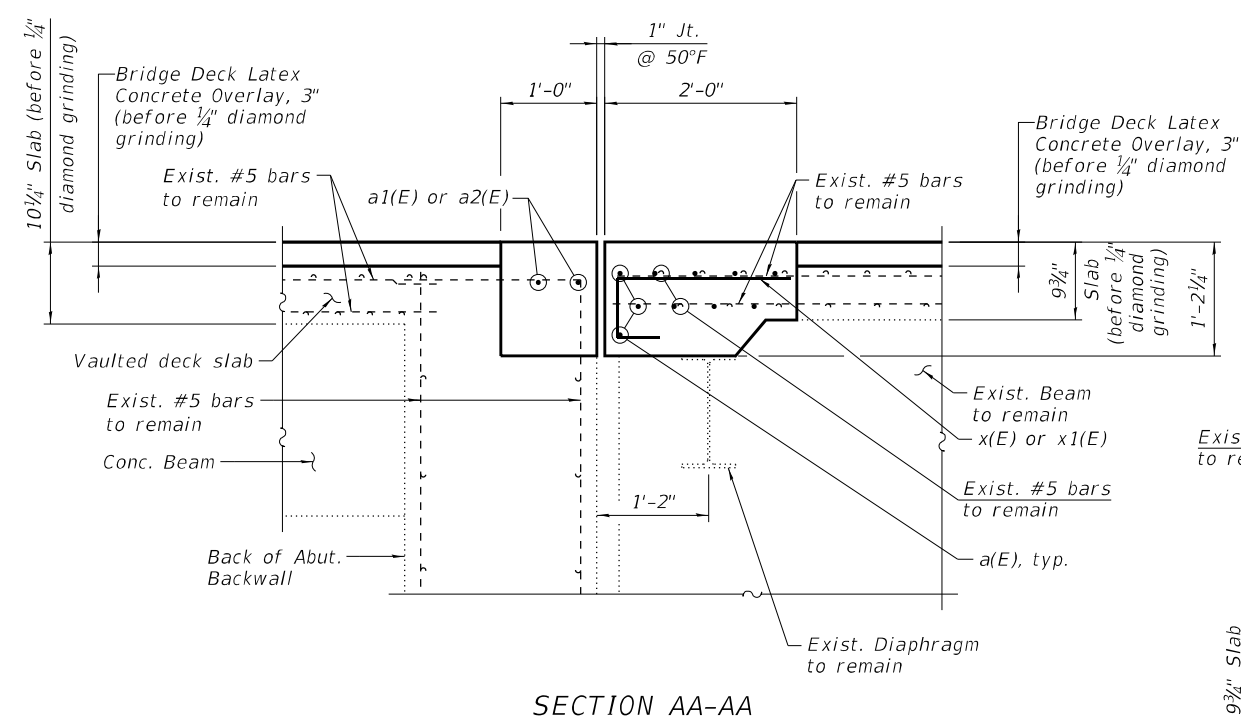
SECTION A-A



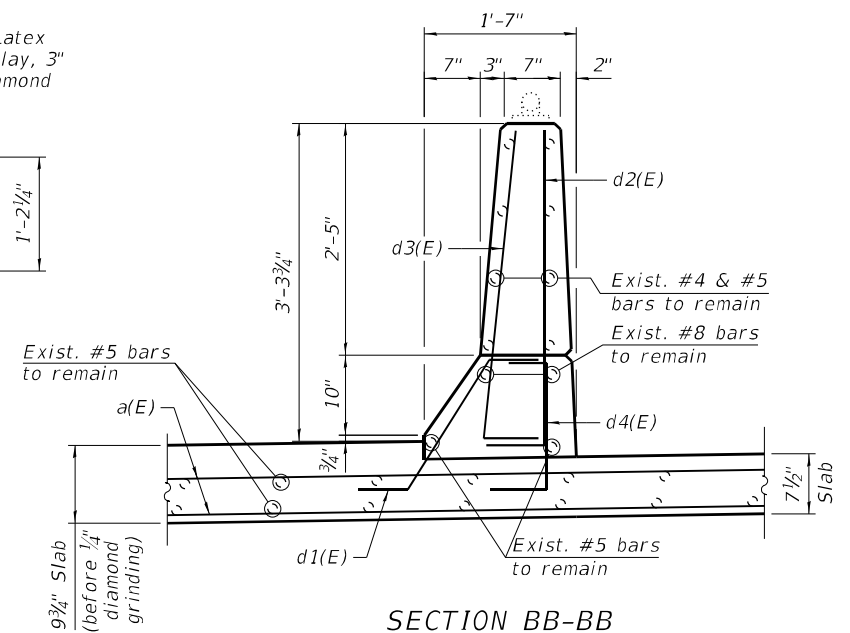
SECTION B-B



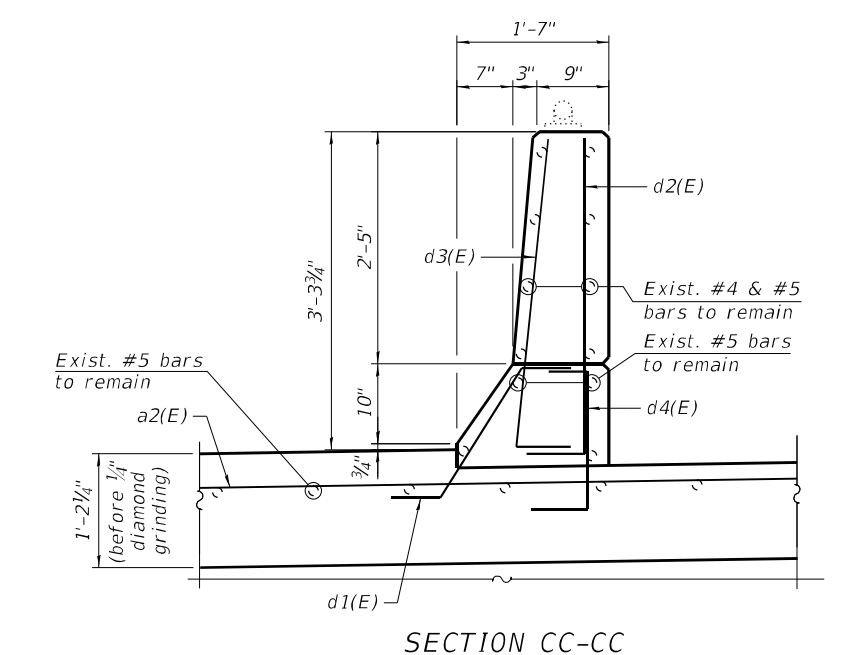
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

1. For Notes, see Sheet S02-20.

LEGEND

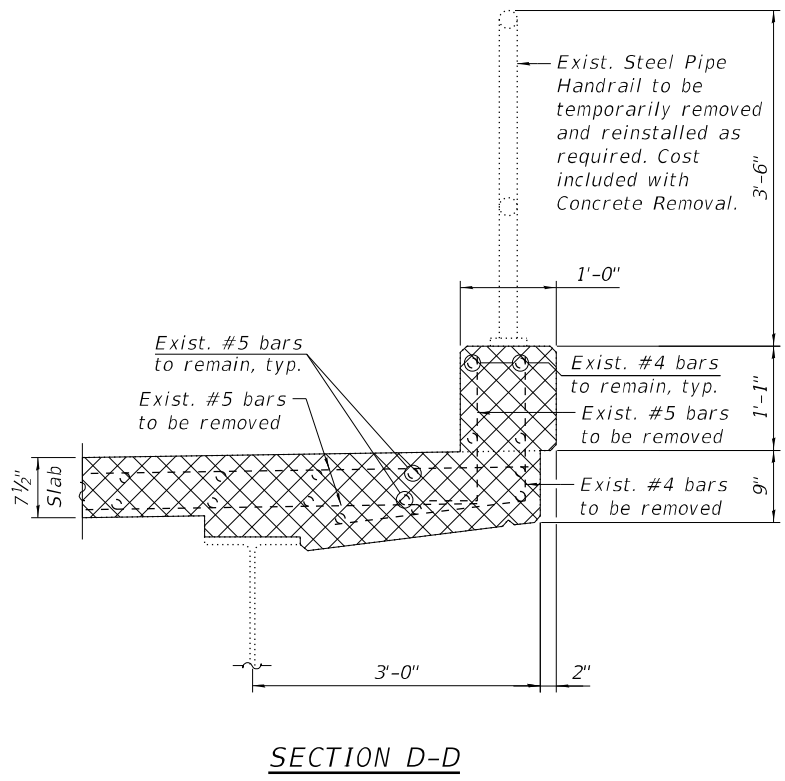
- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face

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 -

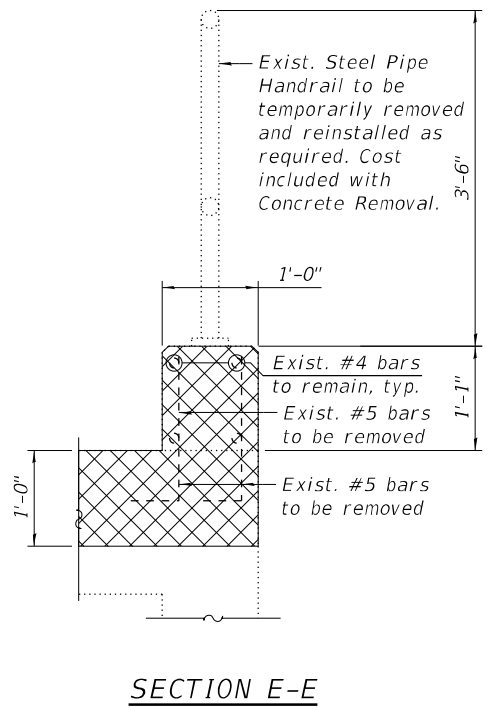
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	522
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

**BILL OF MATERIAL
WEST ABUTMENT**

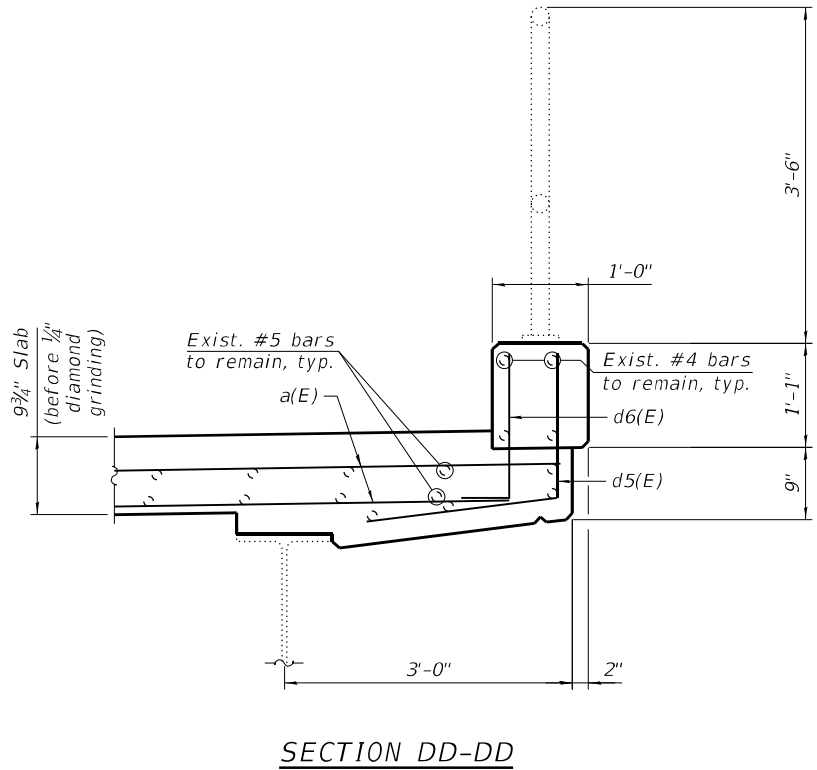
Bar	No.	Size	Length	Shape
a(E)	60	#5	28'-9"	—
a1(E)	6	#5	26'-10"	—
a2(E)	6	#5	28'-11"	—
d1(E)	5	#5	2'-9"	L
d2(E)	15	#4	3'-8"	L
d3(E)	15	#5	3'-8"	L
d4(E)	5	#4	2'-5"	L
d5(E)	3	#4	3'-6"	L
d6(E)	5	#5	2'-0"	L
d7(E)	2	#4	2'-0"	L
x(E)	173	#6	7'-0"	J
x1(E)	50	#6	5'-0"	J
Concrete Removal			Cu Yd	19.6
Reinforcement Bars, Epoxy Coated			Pound	4,550
Concrete Superstructure			Cu Yd	22.9



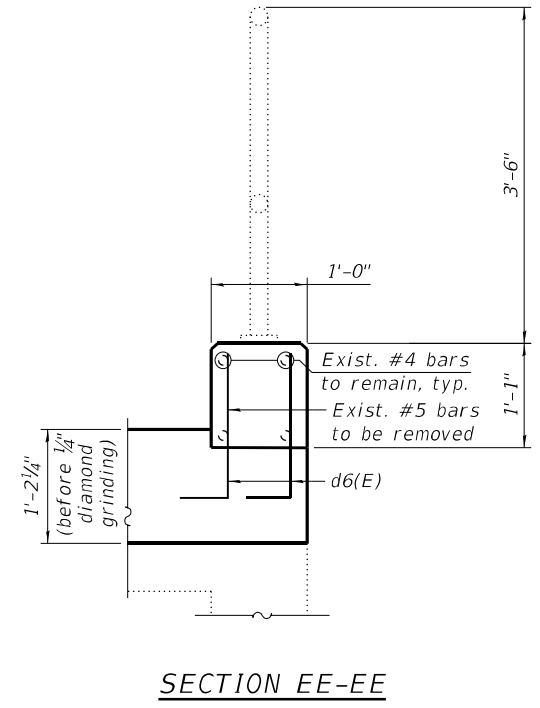
SECTION D-D



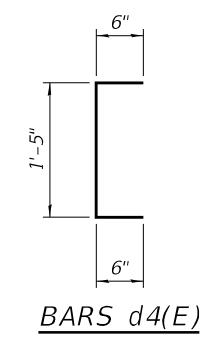
SECTION E-E



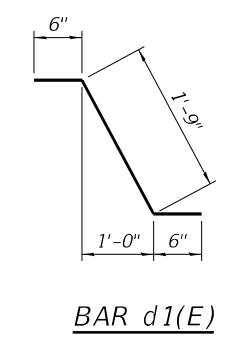
SECTION DD-DD



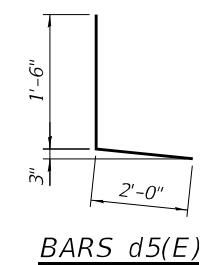
SECTION EE-EE



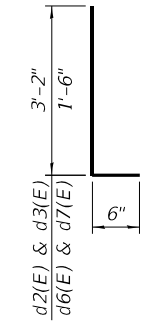
BARS d4(E)



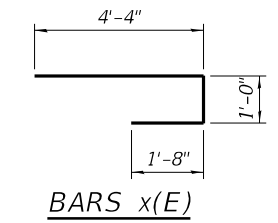
BAR d1(E)



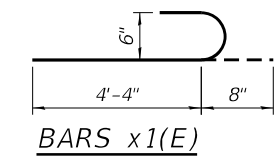
BARS d5(E)



BARS d2(E), d3(E), d6(E) & d7(E)



BARS x(E)



BARS x1(E)

NOTES:

- For preformed joint strip seal details, see Sheet S02-26.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face

MIN BAR LAPS

#5 3'-6"

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-2551_Ohio_Ramp\01622551-62K74-5020-EXPS.dgn

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

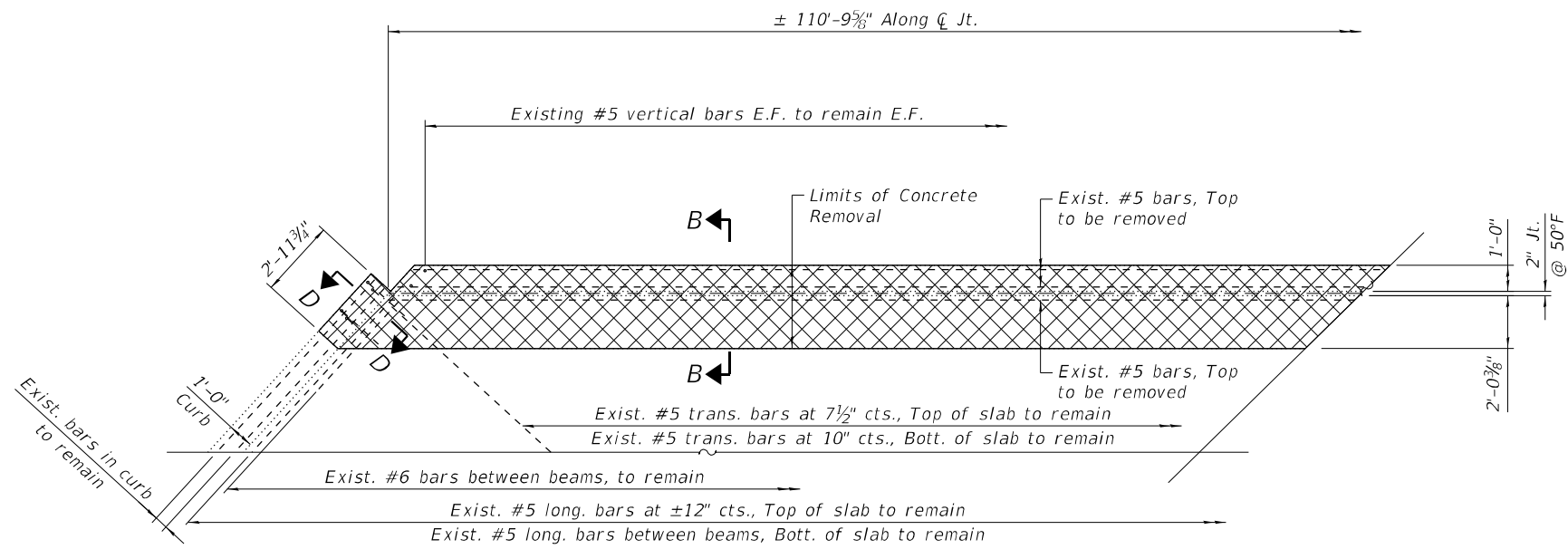
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS V
SN 016-2551**

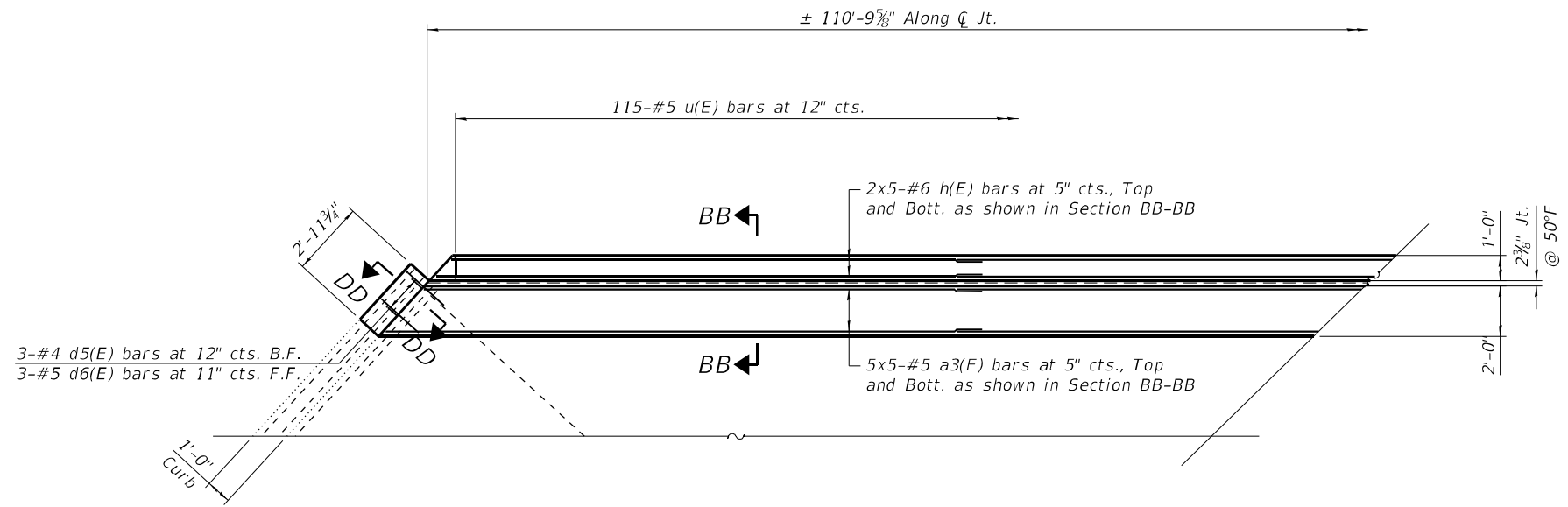
SHEET S02-20 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	523
CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT



EAST ABUTMENT JOINT PARTIAL REMOVAL PLAN



EAST ABUTMENT JOINT PARTIAL RECONSTRUCTION PLAN

NOTE:

- For sections B-B and BB-BB, see Sheet S02-23 and for sections D-D and DD-DD, see Sheet S02-24.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-2551_Ohio_Ramp\0162551-62K74-5021-EXP.S.dgn

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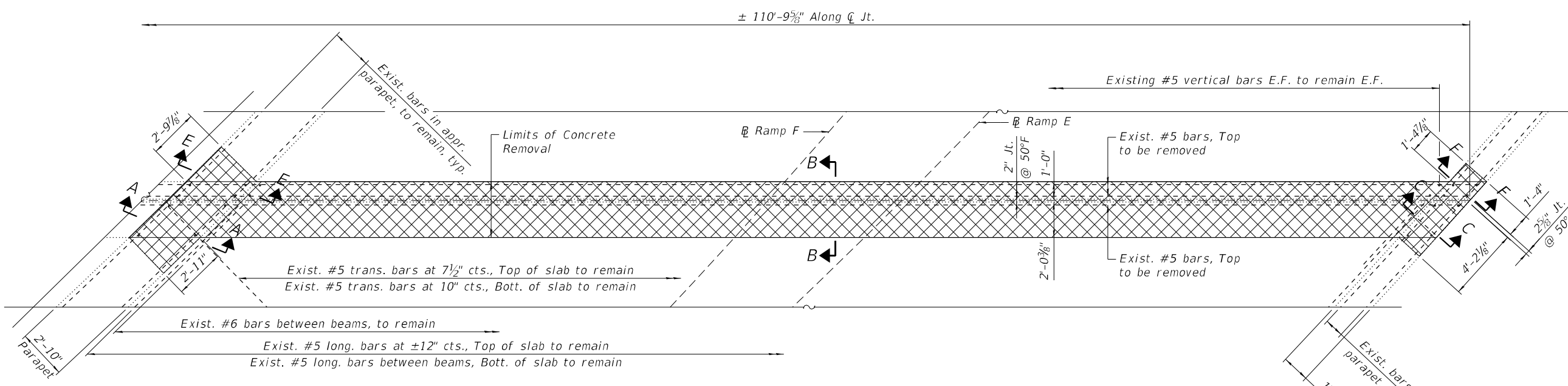
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	CHECKED -	H.A.	REVISED -
PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

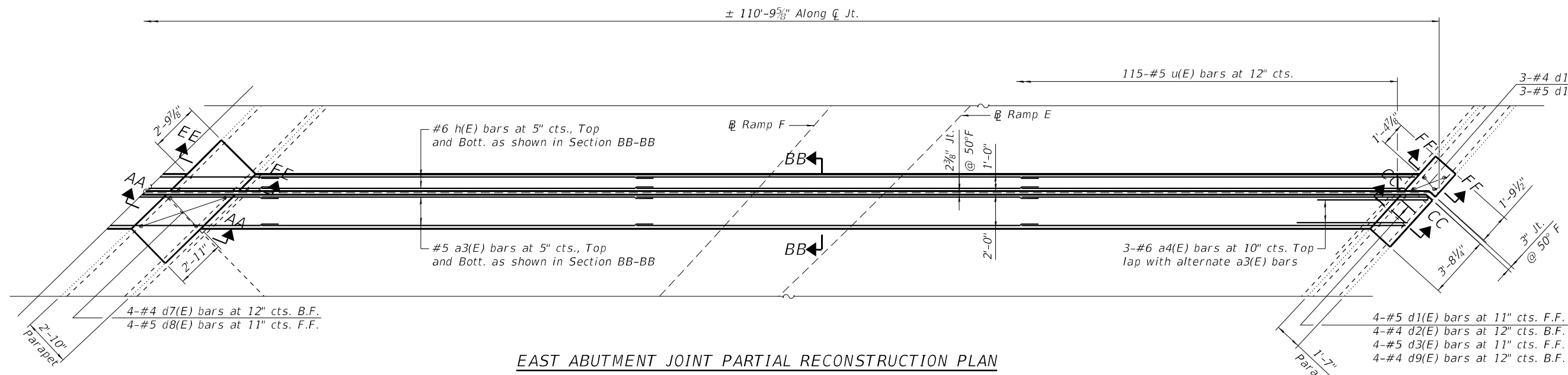
**EAST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-2551**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	524
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S02-21 OF S02-36 SHEETS



EAST ABUTMENT JOINT PARTIAL REMOVAL PLAN



EAST ABUTMENT JOINT PARTIAL RECONSTRUCTION PLAN

NOTE:

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S02-23.
2. For sections E-E, F-F, EE-EE and FF-FF, see Sheet S02-24.

LEGEND

- Concrete Removal
- F.F. Front Face
- B.F. Back Face
- E.E. Each End
- E.F. Each Face

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH016-2551_01to_Ramp\0162551-62K74-5022-EXPS.dgn

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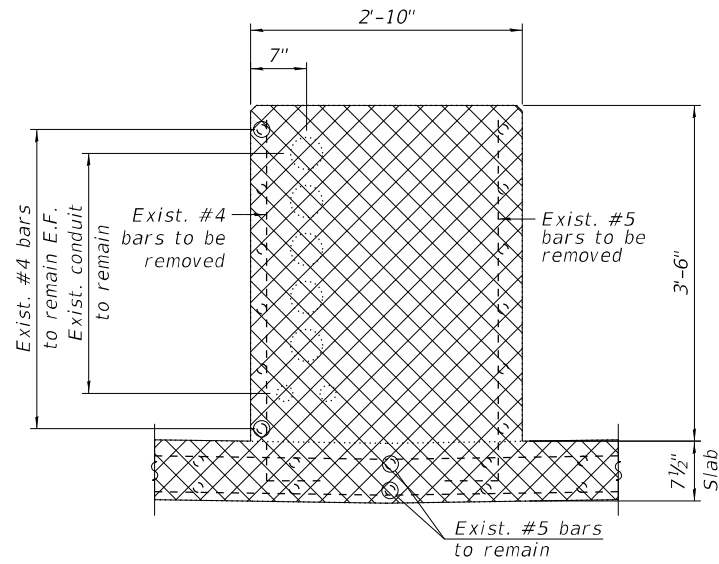
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PLOT SCALE =	CHECKED - H.A.	REVISED -
PLOT DATE =	DRAWN - D.C.P.	REVISED -
	CHECKED - K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

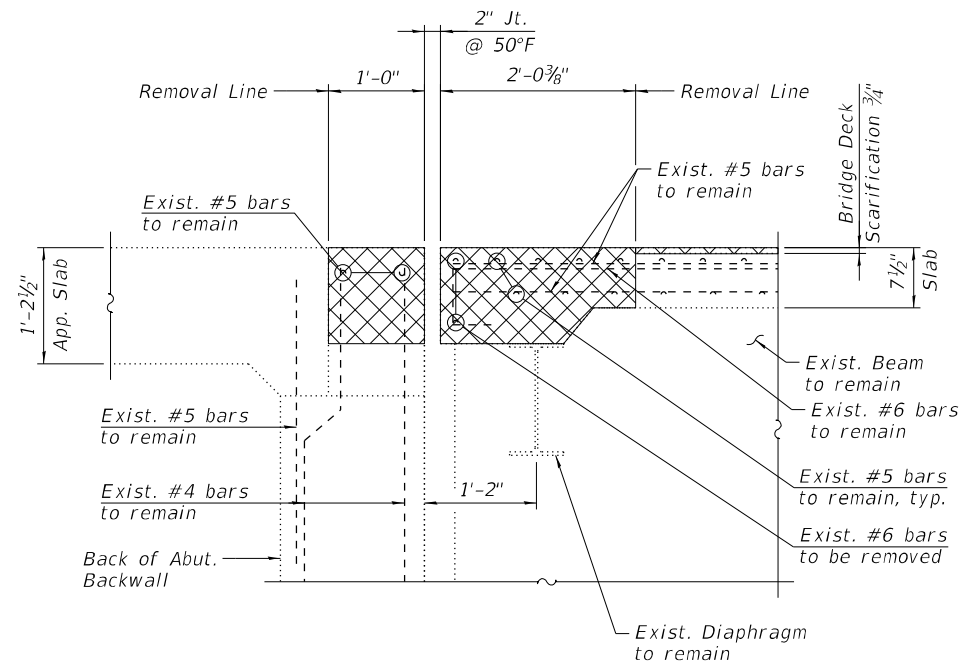
**EAST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-2551**

SHEET S02-22 OF S02-36 SHEETS

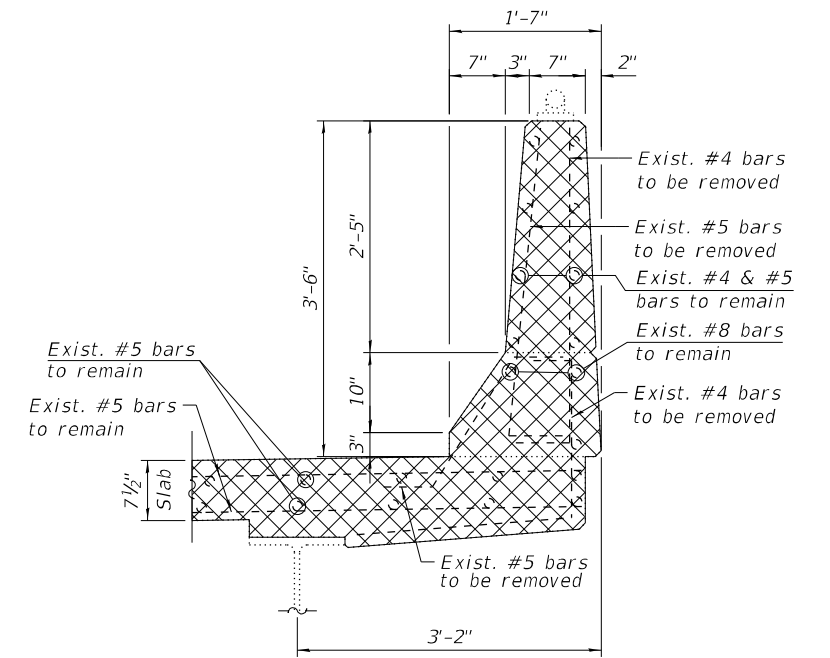
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	525
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



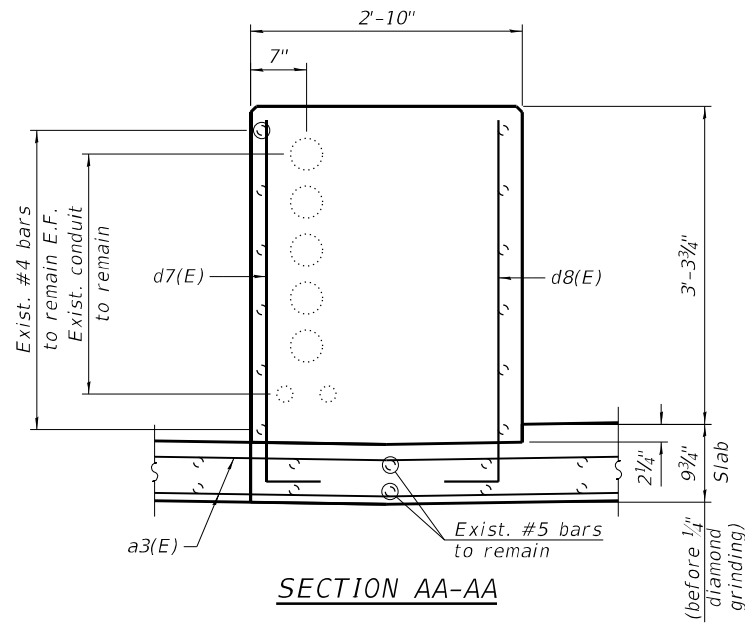
SECTION A-A



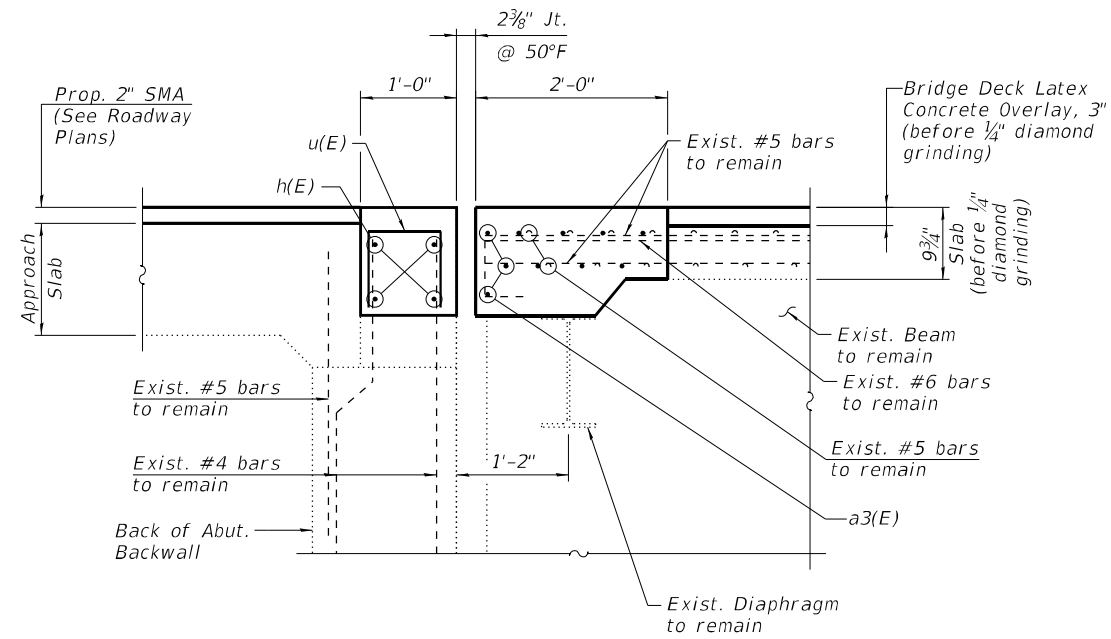
SECTION B-B



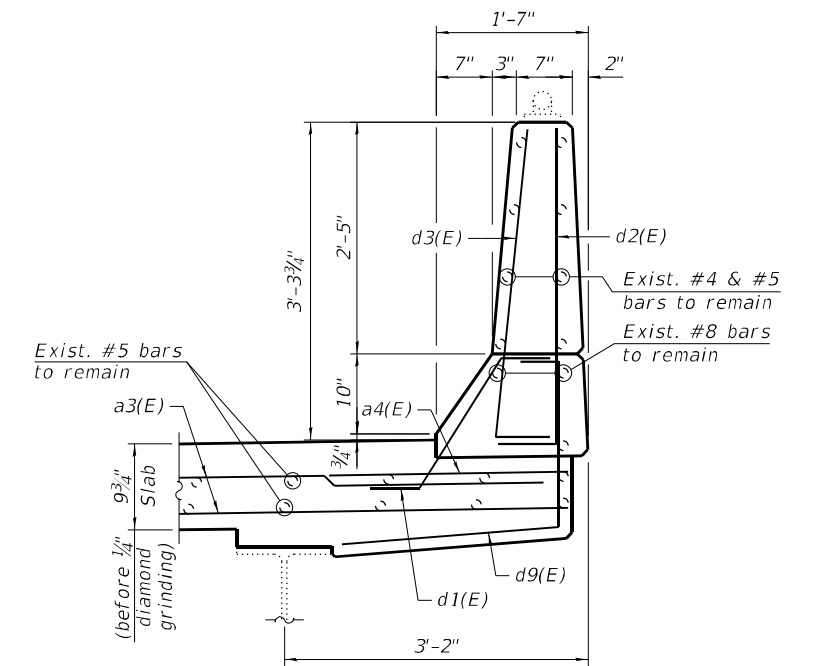
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

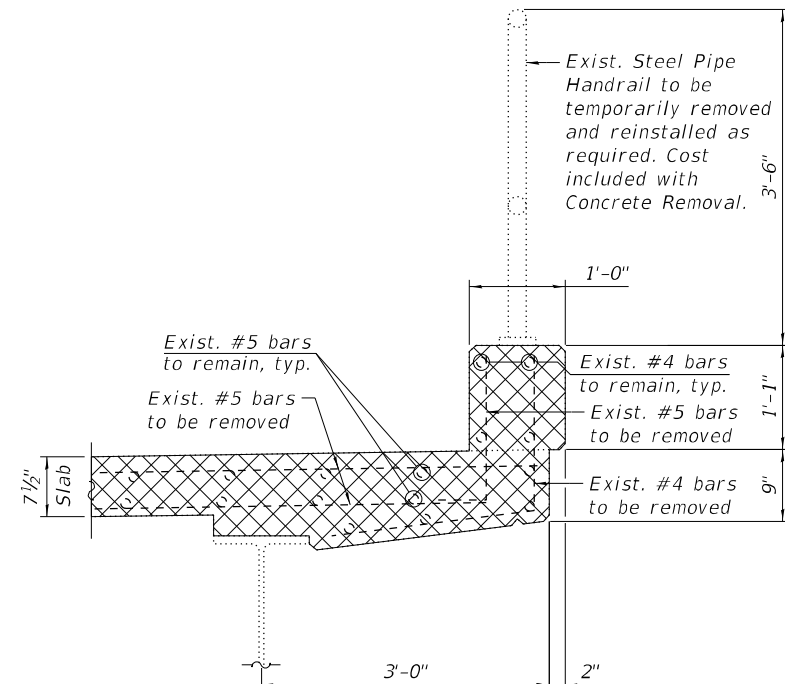
LEGEND

- Concrete Removal
- E.F. Each Face

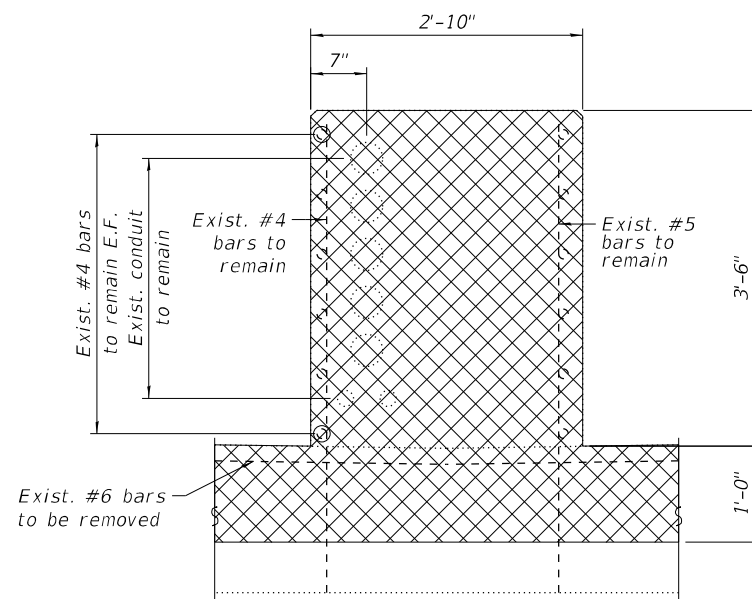
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PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.G.W.	REVISED -

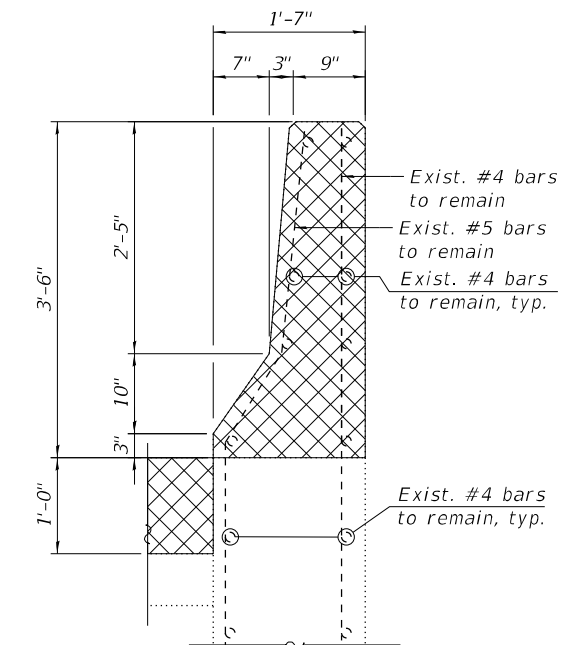
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	526
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



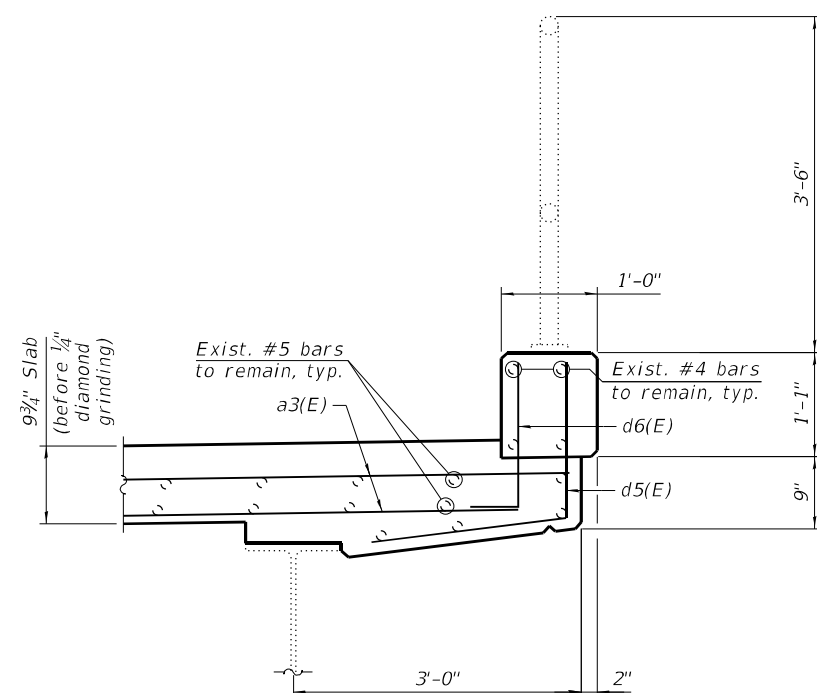
SECTION D-D



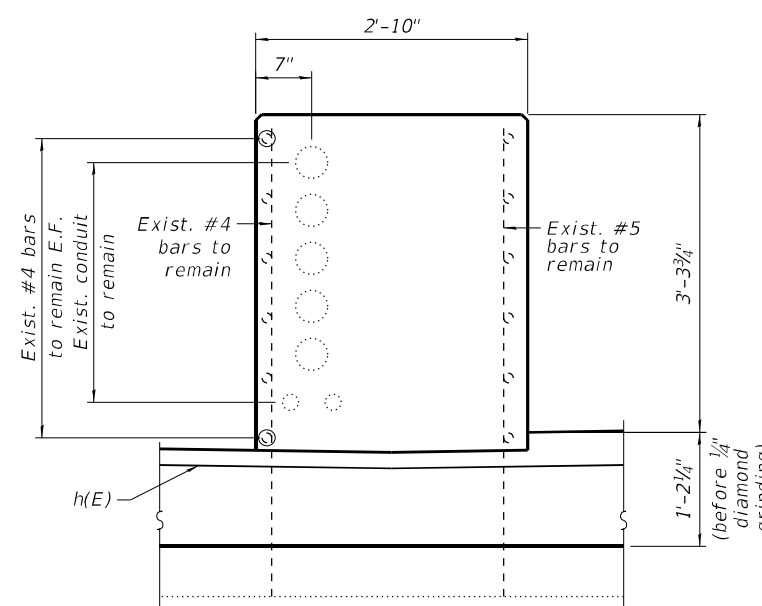
SECTION E-E



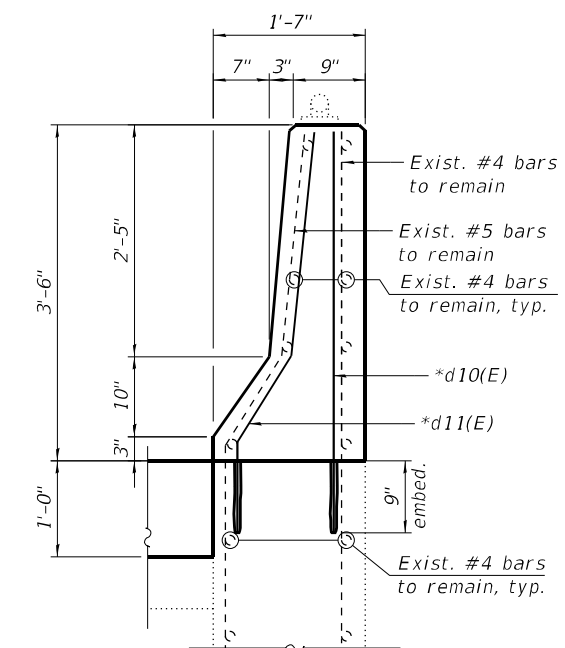
SECTION F-F



SECTION DD-DD



SECTION EE-EE



SECTION FF-FF

* Epoxy grout #4 d10(E) & #5 d11(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- E.F. Each Face

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-2551_Ohio_Ramp\0162551-62K74-5024-EXPS.dgn

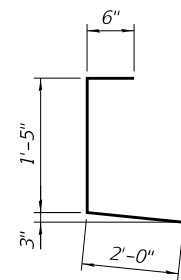
GRÄEF
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PLOT DATE =	DRAWN - D.C.P.	REVISED -
	CHECKED - K.G.W.	REVISED -

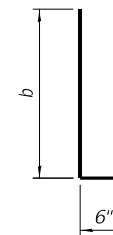
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT EXPANSION JOINT DETAILS III
SN 016-2551**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	527
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

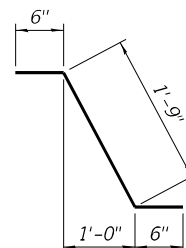


BARS d9(E)

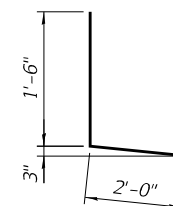


**BARS d2(E), d3(E), d6(E)
d7(E) & d8(E)**

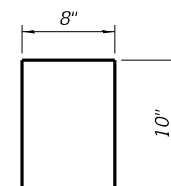
Bar	a
d2(E)	3'-2"
d3(E)	3'-2"
d6(E)	1'-6"
d7(E)	3'-9"
d8(E)	3'-9"



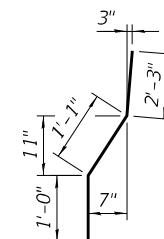
BAR d1(E)



BARS d5(E)



BAR u(E)



BAR d11(E)

**BILL OF MATERIAL
EAST ABUTMENT**

Bar	No.	Size	Length	Shape
a3(E)	50	#5	25'-10"	—
a4(E)	3	#6	6'-6"	—
d1(E)	4	#5	2'-9"	└
d2(E)	4	#4	3'-8"	└
d3(E)	4	#5	3'-8"	└
d5(E)	3	#4	3'-6"	└
d6(E)	3	#5	2'-0"	└
d7(E)	4	#4	4'-3"	└
d8(E)	4	#5	4'-3"	└
d9(E)	4	#4	3'-11"	└
d10(E)	3	#4	4'-2"	—
d11(E)	3	#5	4'-4"	└
h(E)	20	#6	26'-4"	—
u(E)	115	#5	2'-4"	□
Concrete Removal			Cu Yd	15.8
Reinforcement Bars, Epoxy Coated			Pound	2,680
Concrete Superstructure			Cu Yd	18.1

NOTES:

1. For preformed joint strip seal details, see Sheet S02-26.
2. 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"
#6	4'-0"

MODEL: sMODELNAME5
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-2551_Ohib_Ramp\162K74-5025-ExpS.dgn



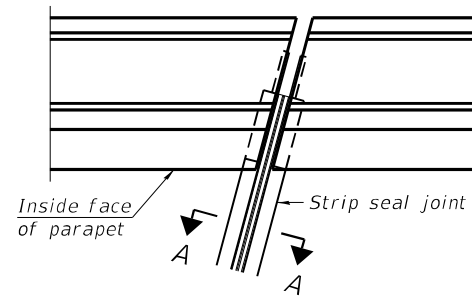
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	CHECKED -	H.A.	REVISED -
PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT EXPANSION JOINT DETAILS V
SN 016-2551**

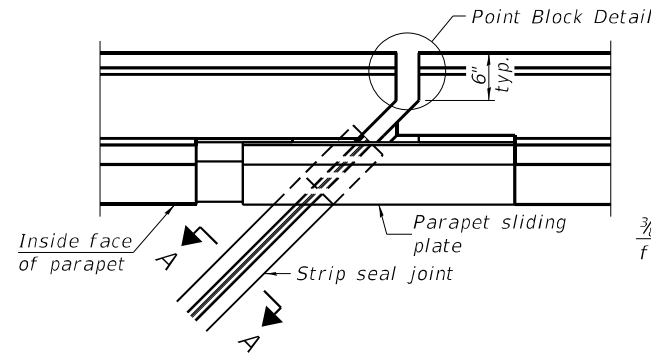
SHEET S02-25 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	528
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

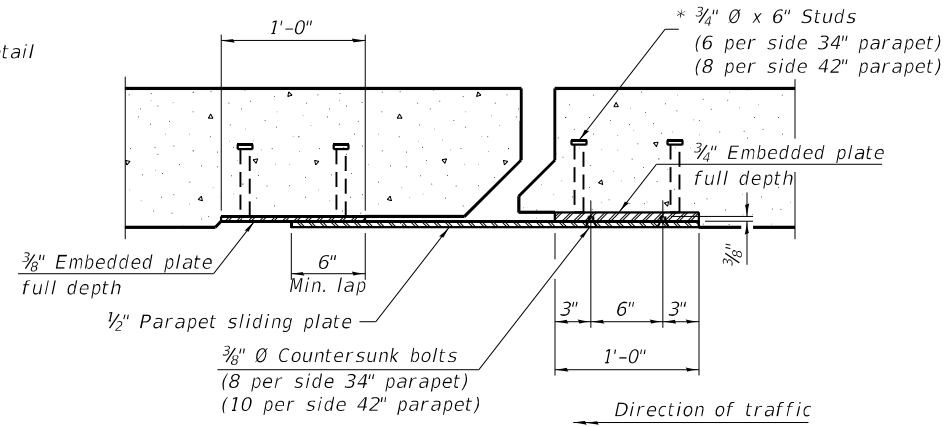


FOR SKEWS $\leq 30^\circ$

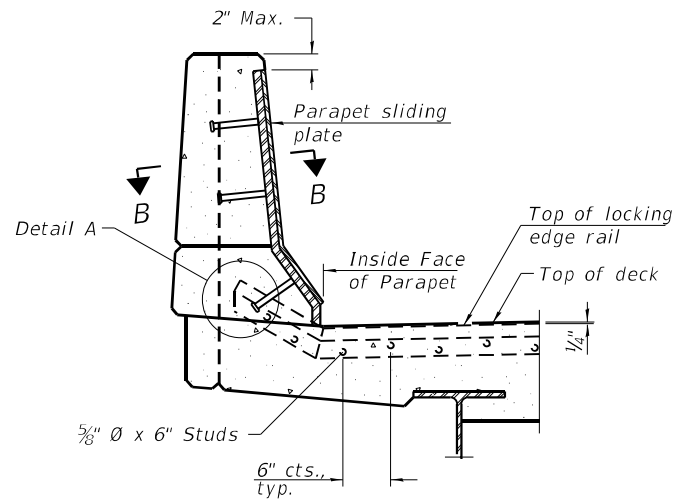
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

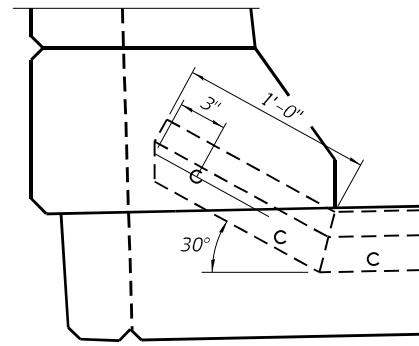


SECTION B-B

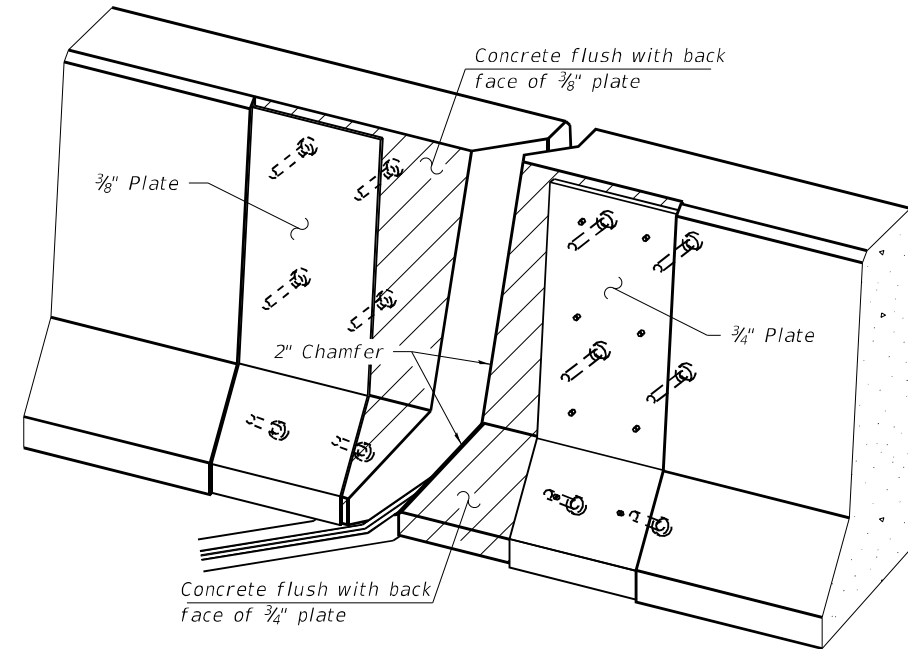


ELEVATION AT PARAPET

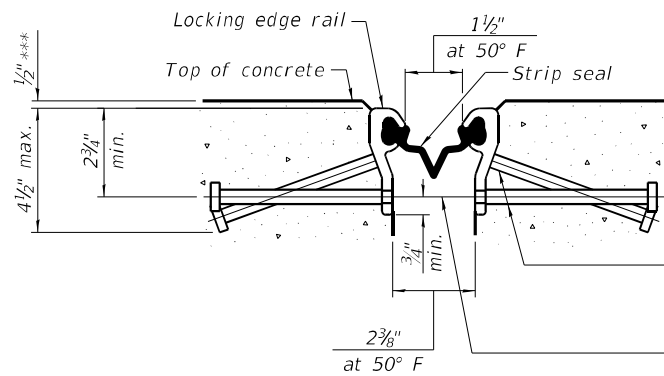
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

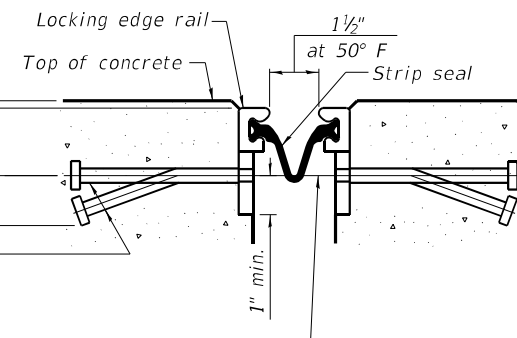
* $3/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

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

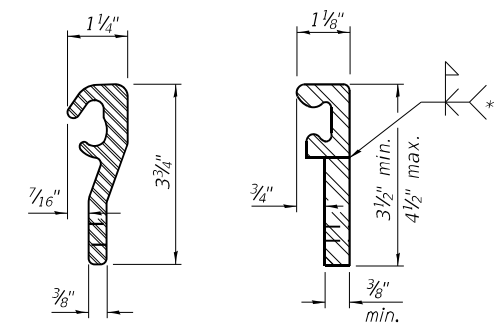
SECTION A-A

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

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

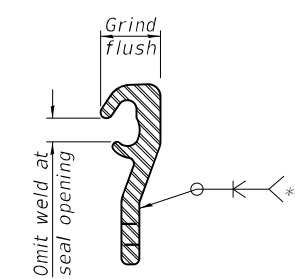


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

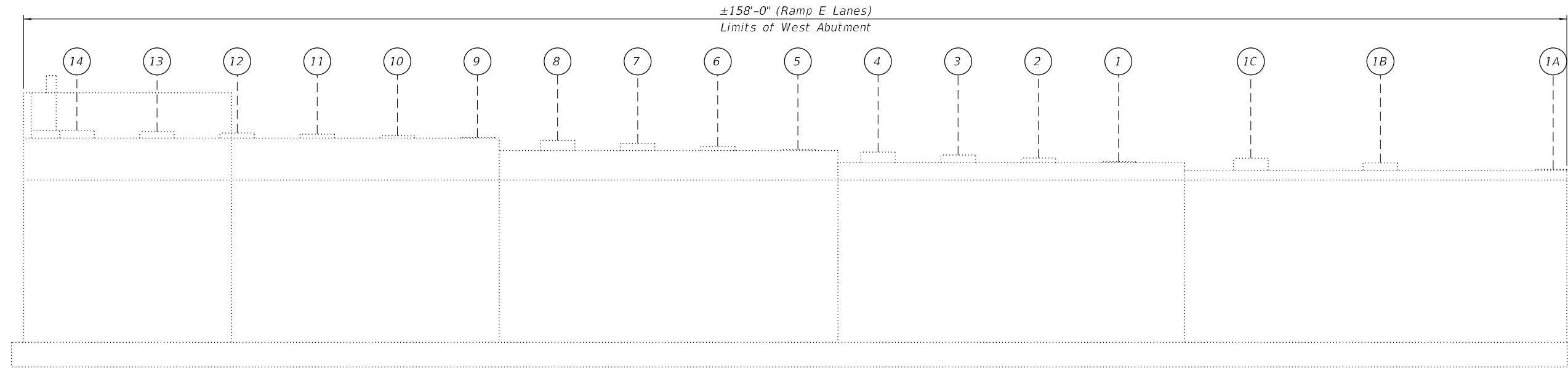
The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	469

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	529
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



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.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	1,304

MODEL: sMODELNAME5
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GRāEF
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

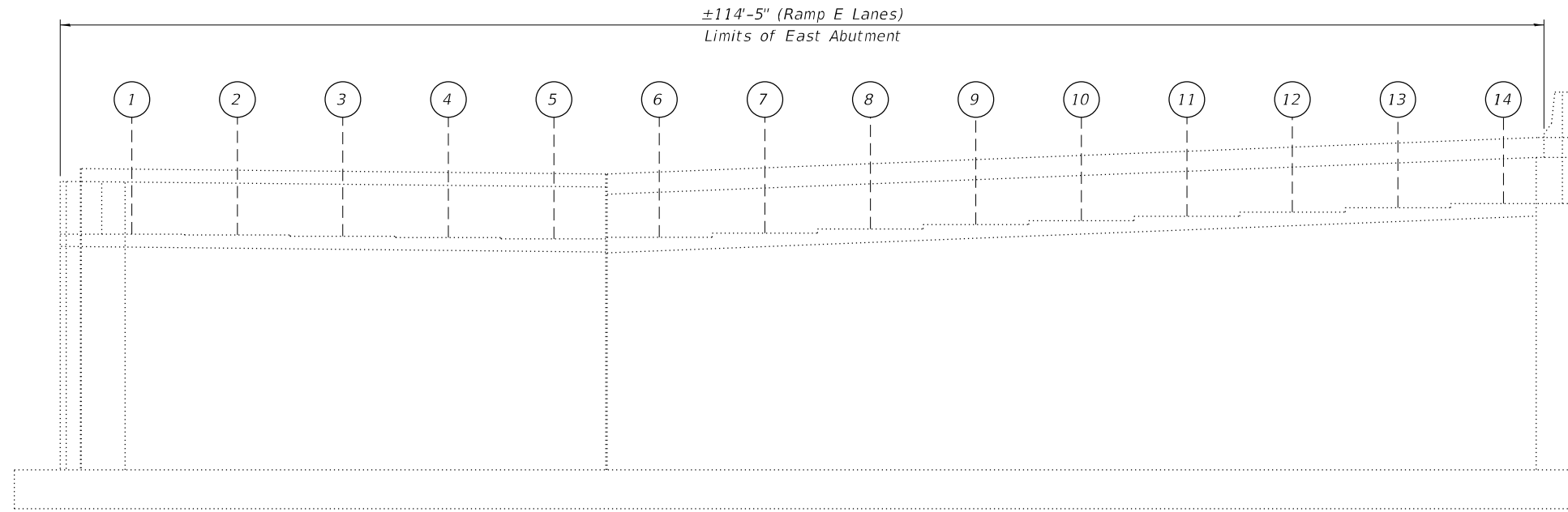
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PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT REPAIRS
SN 016-2551**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	530
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S02-27 OF S02-36 SHEETS



ELEVATION - EAST ABUTMENT
(Looking East)

NOTES:

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	715

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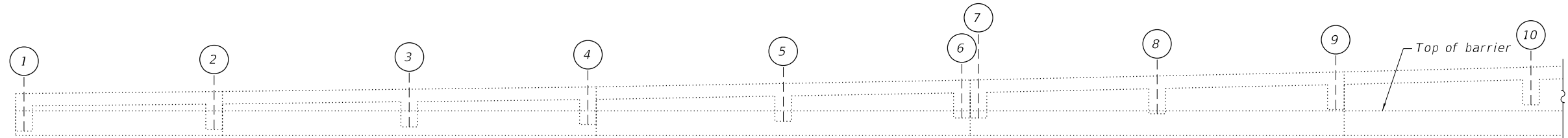
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PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

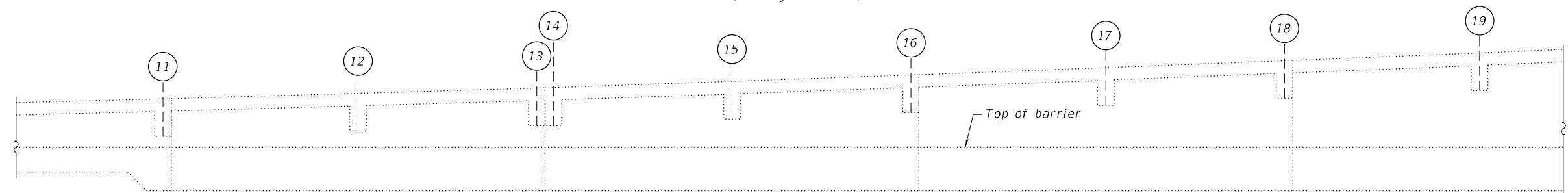
**EAST ABUTMENT REPAIRS
SN 016-2551**

SHEET S02-28 OF S02-36 SHEETS

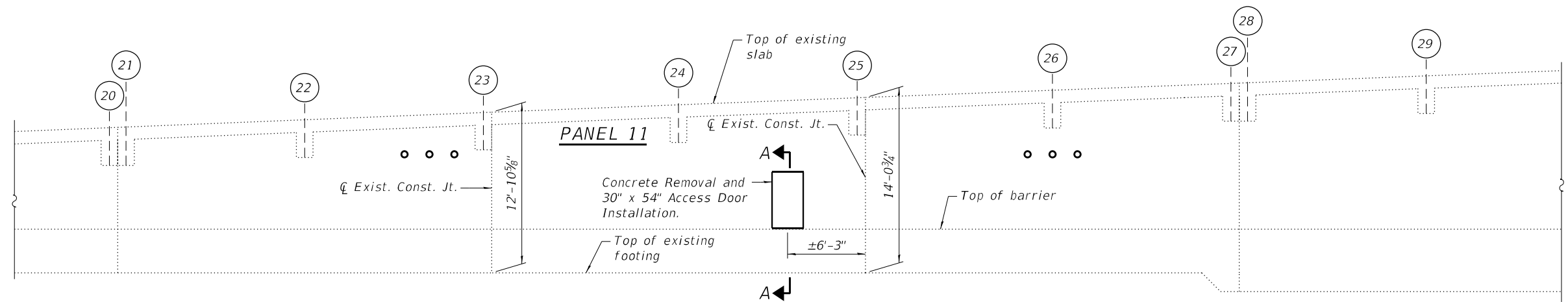
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	531
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



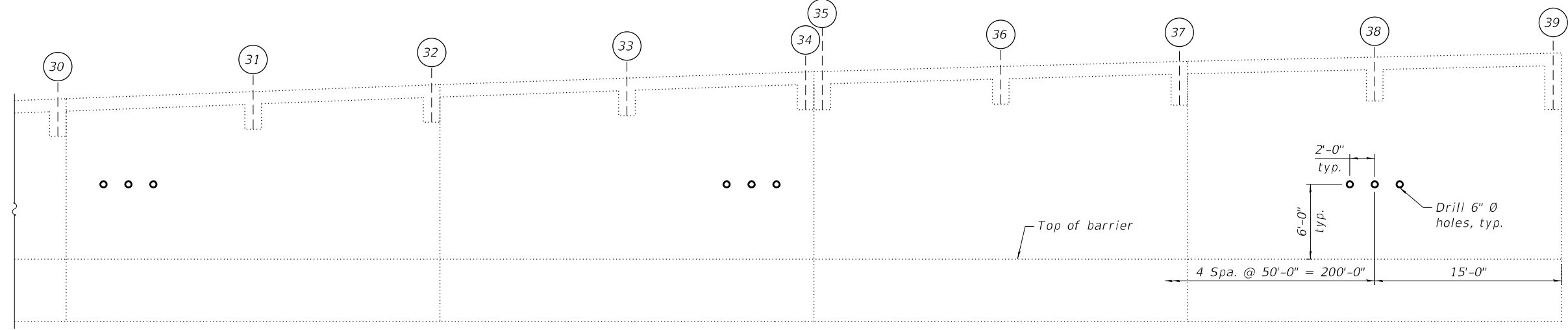
ELEVATION - VAULTED ABUTMENT WALL 117
(Looking Northwest)



ELEVATION - VAULTED ABUTMENT WALL 117
(Looking Northwest)



ELEVATION - VAULTED ABUTMENT WALL 117
(Looking Northwest)



ELEVATION - VAULTED ABUTMENT WALL 117
(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.
 - For Section A-A, see sheet S02-34.

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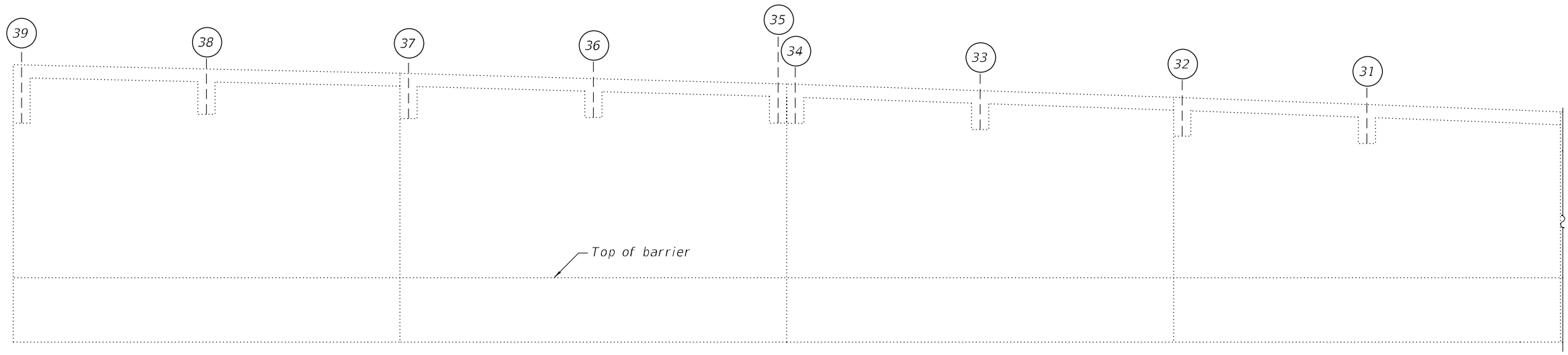
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PLOT SCALE =	DRAWN - D.C.P.	REVISED -
PLOT DATE =	CHECKED - K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

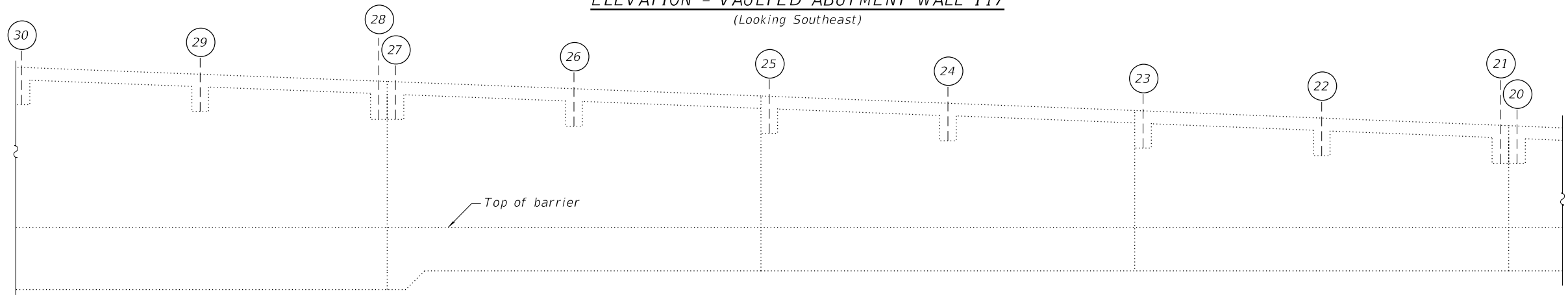
**VAULTED ABUTMENT REPAIRS I
SN 016-2551**

SHEET S02-29 OF S02-36 SHEETS

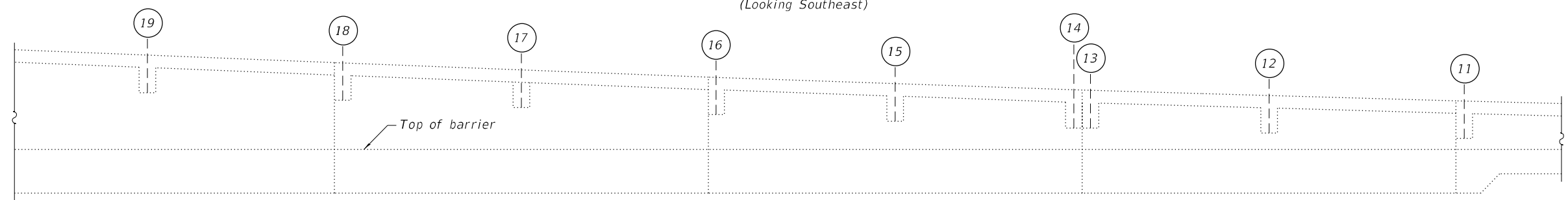
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90	2020-004-BR	COOK	1492	532
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



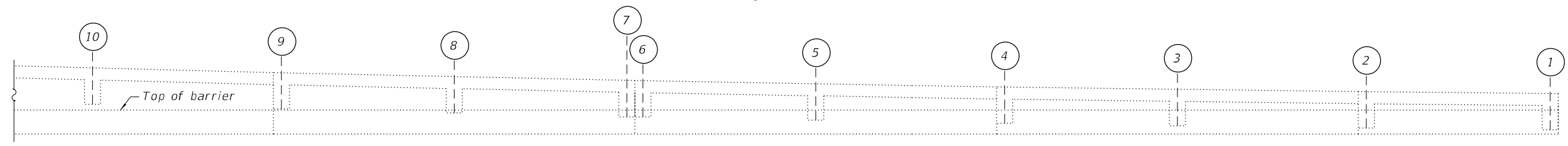
ELEVATION - VAULTED ABUTMENT WALL 117
(Looking Southeast)



ELEVATION - VAULTED ABUTMENT WALL 117
(Looking Southeast)



ELEVATION - VAULTED ABUTMENT WALL 117
(Looking Southeast)



ELEVATION - VAULTED ABUTMENT WALL 117
(Looking Southeast)

NOTES:
1. For notes, see Sheet S02-29.

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 Chicago, Illinois 60631; (773) 399-0112

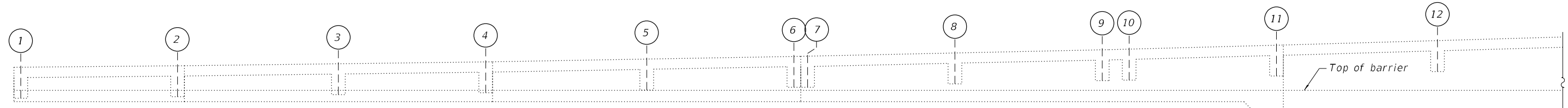
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

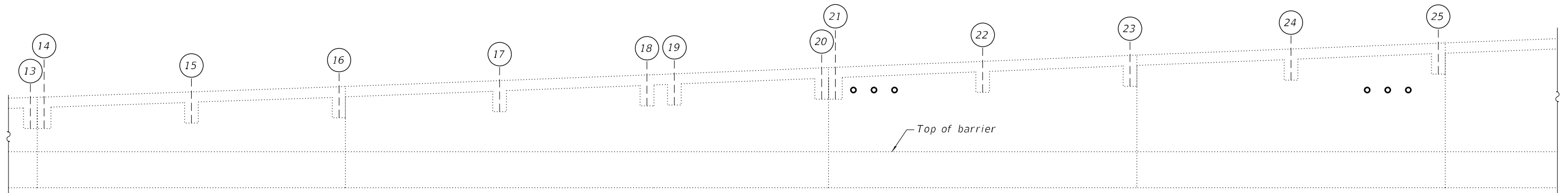
VAULTED ABUTMENT REPAIRS II
SN 016-2551

SHEET S02-30 OF S02-36 SHEETS

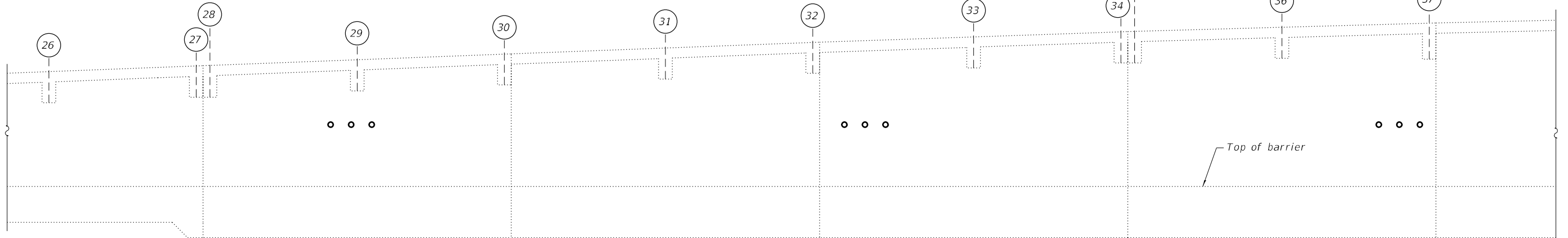
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	533
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



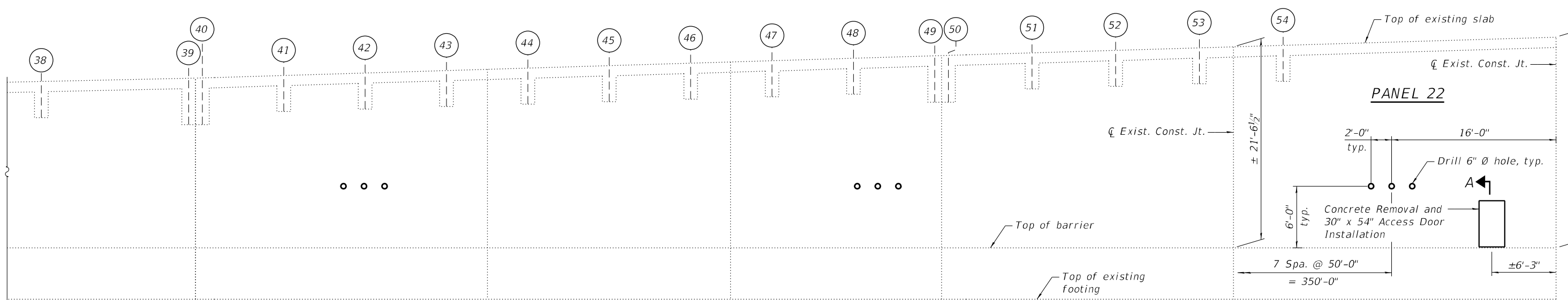
ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Northwest)



ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Northwest)



ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Northwest)



ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Northwest)

NOTES:
 1. For notes, see Sheet S02-29.
 2. For Section A-A, see sheet S02-34.

MODEL: sMODELNAME5
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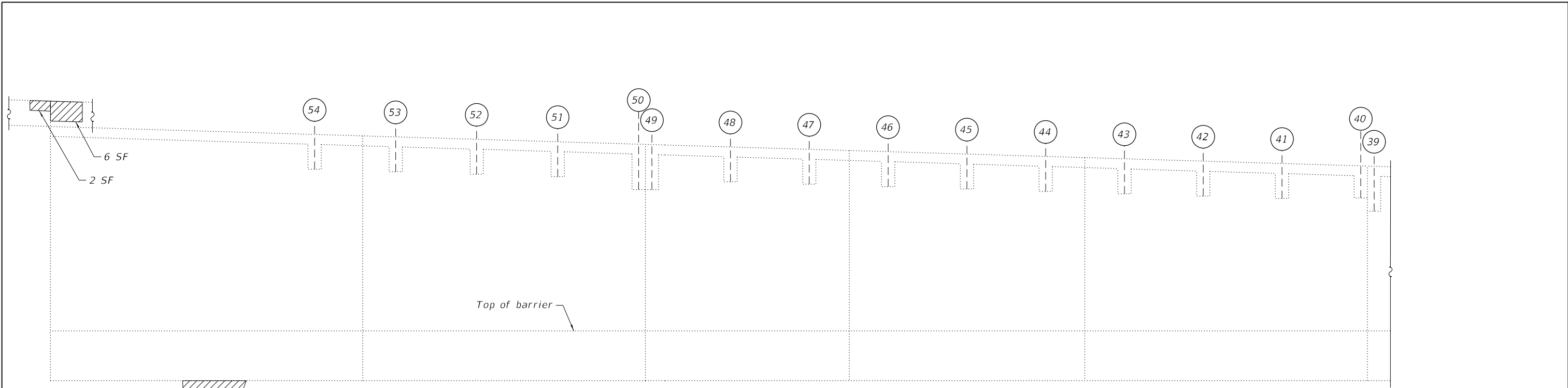
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VAULTED ABUTMENT REPAIRS III
SN 016-2551

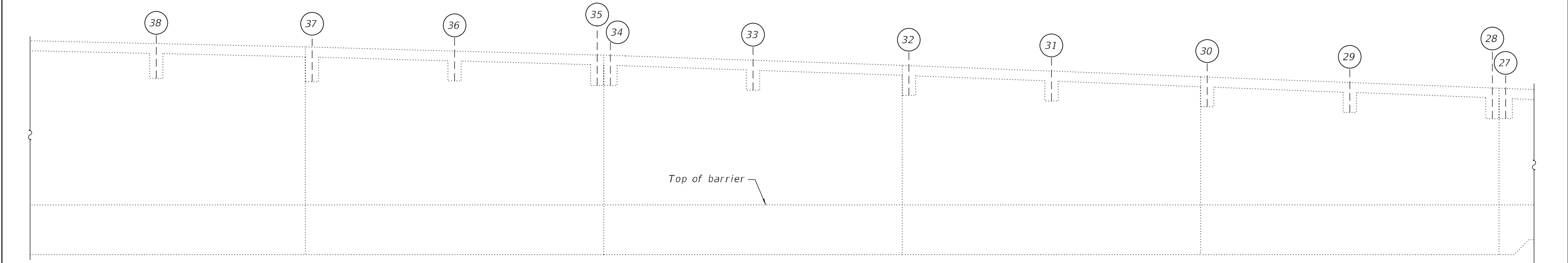
SHEET S02-31 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	534
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Southeast)

Area behind wall to be backfilled to the level of existing ladder. Cost to be included with Debris Removal. See Sheet S02-34.

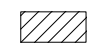


ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Southeast)

NOTES:

- For notes, see Sheet S02-29.

LEGEND

 Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	8

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GRāEF
 8501 W. Higgins Road, Suite 280
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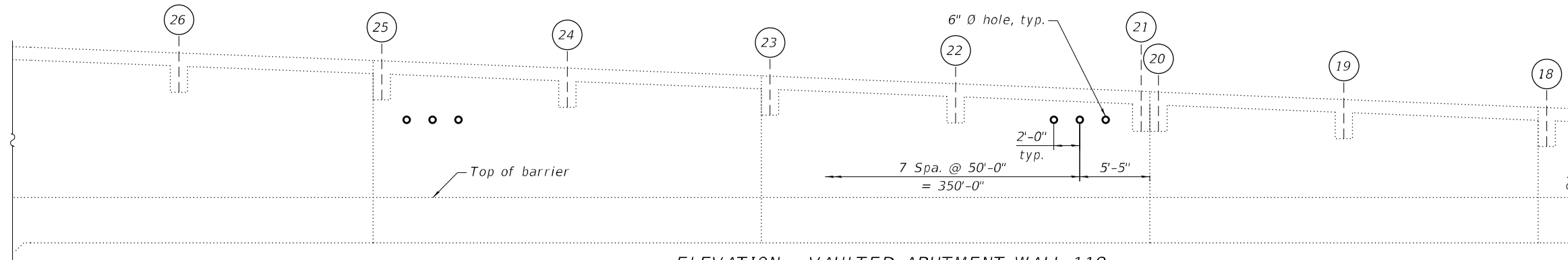
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	CHECKED -	H.A.	REVISED -
PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
PLOT DATE =	CHECKED -	K.G.W.	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

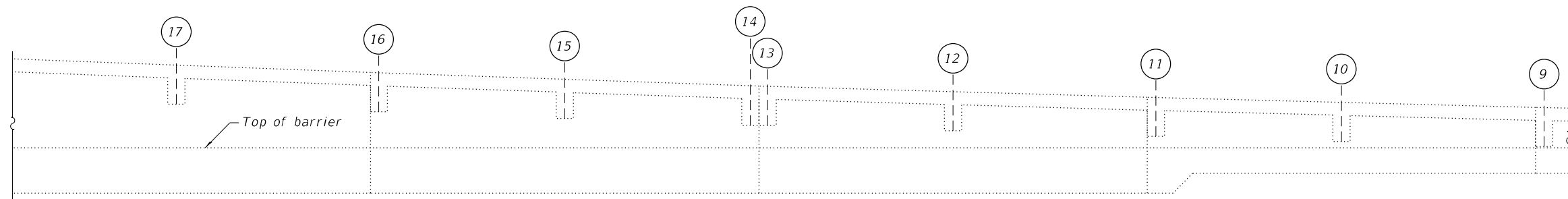
VAULTED ABUTMENT REPAIRS IV
SN 016-2551

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	535
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

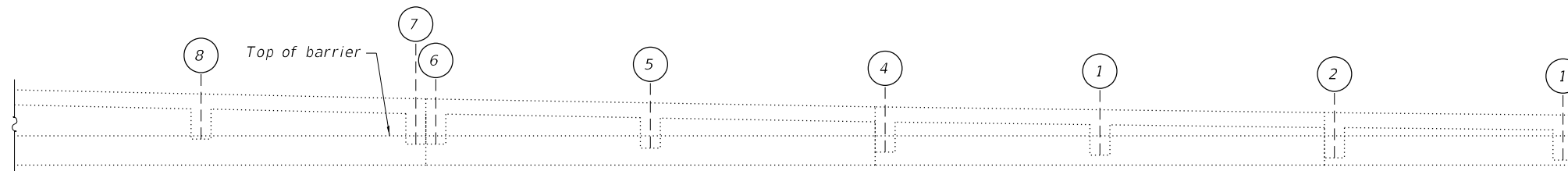
SHEET S02-32 OF S02-36 SHEETS



ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Southeast)



ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Southeast)



ELEVATION - VAULTED ABUTMENT WALL 118
(Looking Southeast)

NOTES:

1. For notes, see Sheet S02-29.

MODEL: sMODELNAME5
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GRÄEF
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

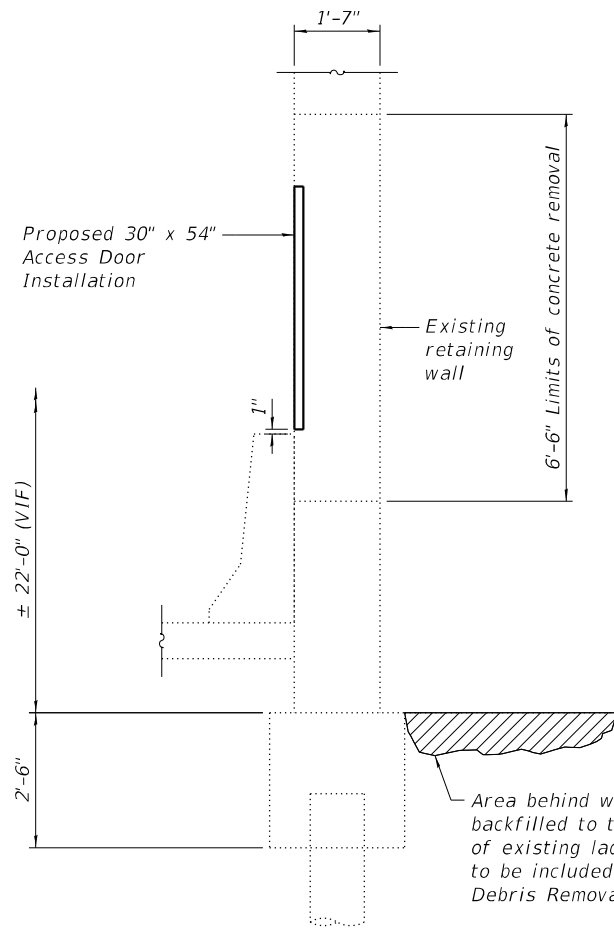
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VAULTED ABUTMENT REPAIRS V
SN 016-2551

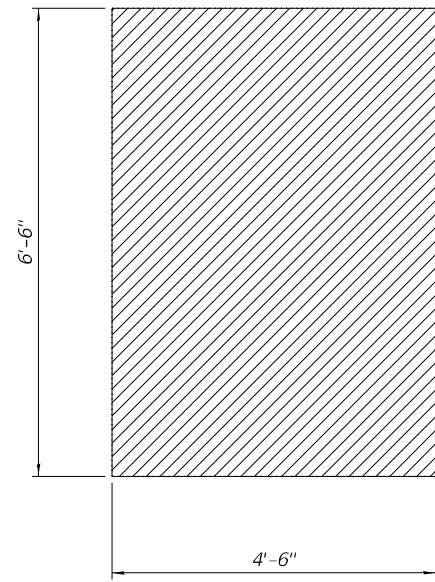
SHEET S02-33 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	536
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

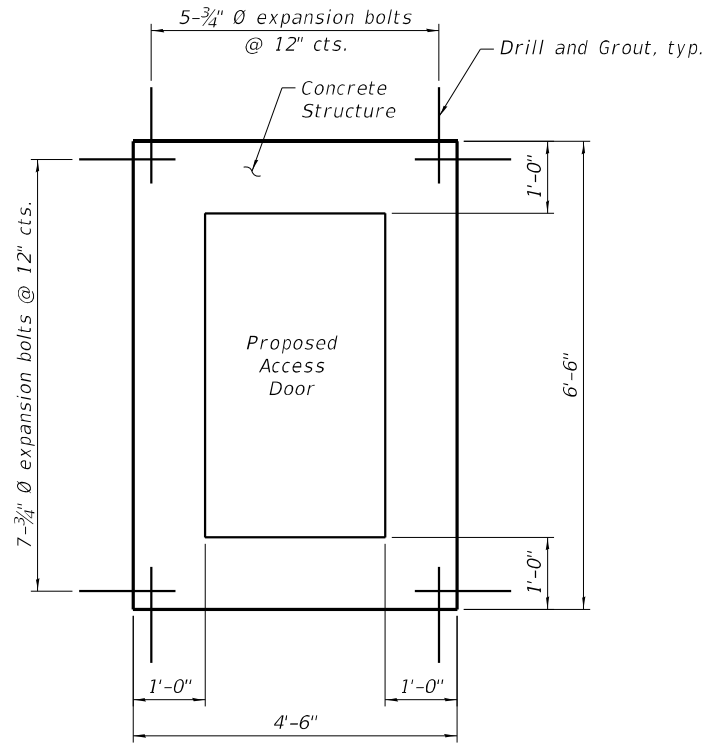


SECTION A-A

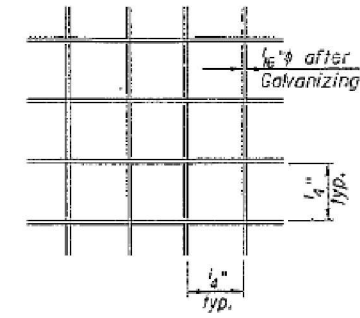
(Existing retaining wall 118 shown retaining wall 117 similar)



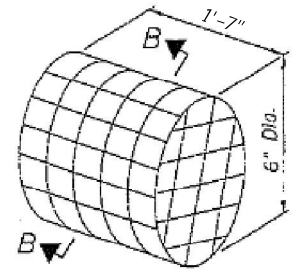
CONCRETE REMOVAL DETAIL



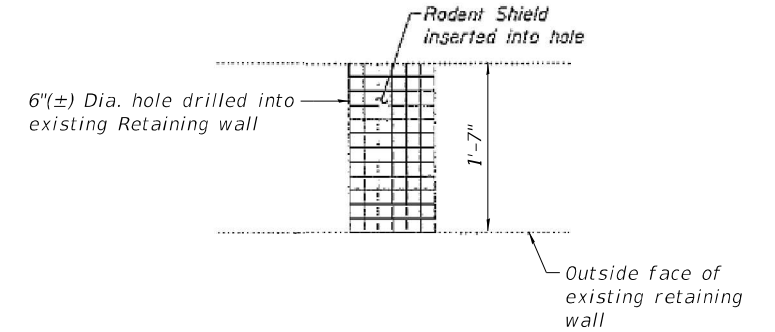
CONCRETE FILL AT ACCESS HOLE



SECTION B-B



DETAIL OF RODENT SHIELD
(39 required)

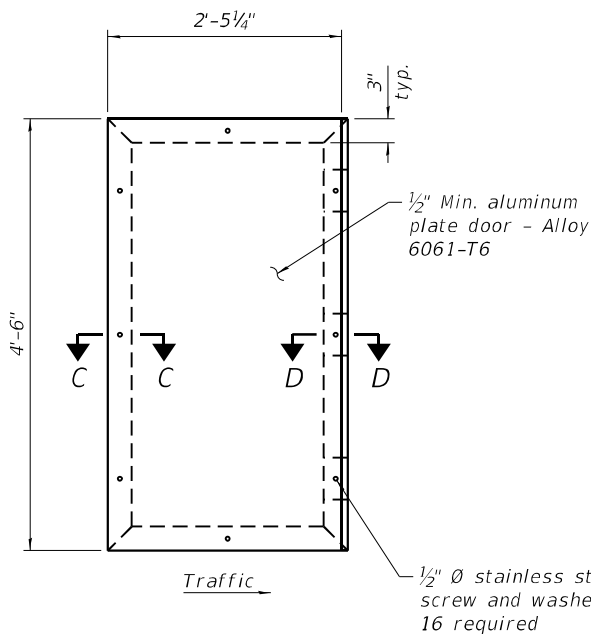


RODENT SHIELD PLACEMENT

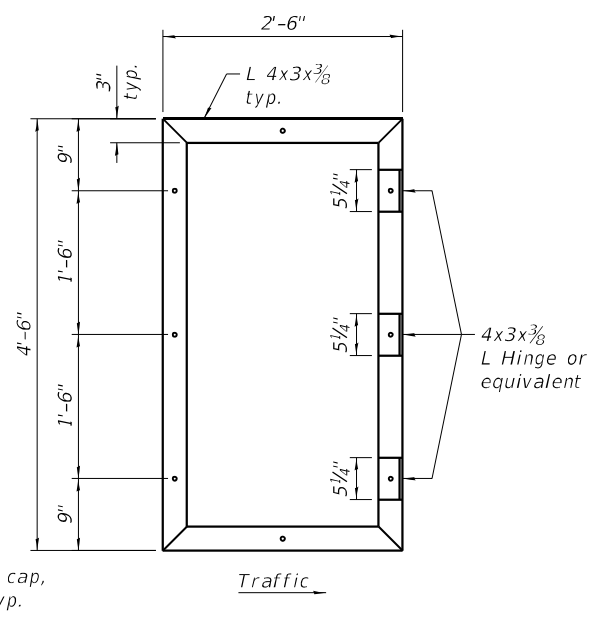
Note:
Existing reinforcement extended into removal area shall be cleaned, straightened and incorporated into the new construction.



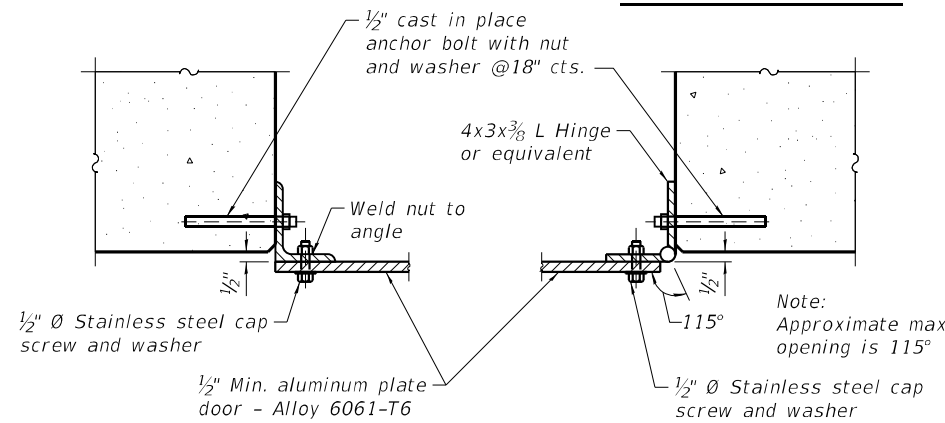
Backfill soil up to the level of existing ladder. Cost to be included with Debris Removal.



ACCESS DOOR



ACCESS DOOR FRAME



SECTION C-C

SECTION D-D

NOTES:

1. Cost of new door and all components including removal of concrete is included in cost of Furnish and Install Access Door.
2. Cost of drilling holes and rodent shield included with Furnish and Install Access Door.
3. Expansion bolts shall be 3/4\"/>

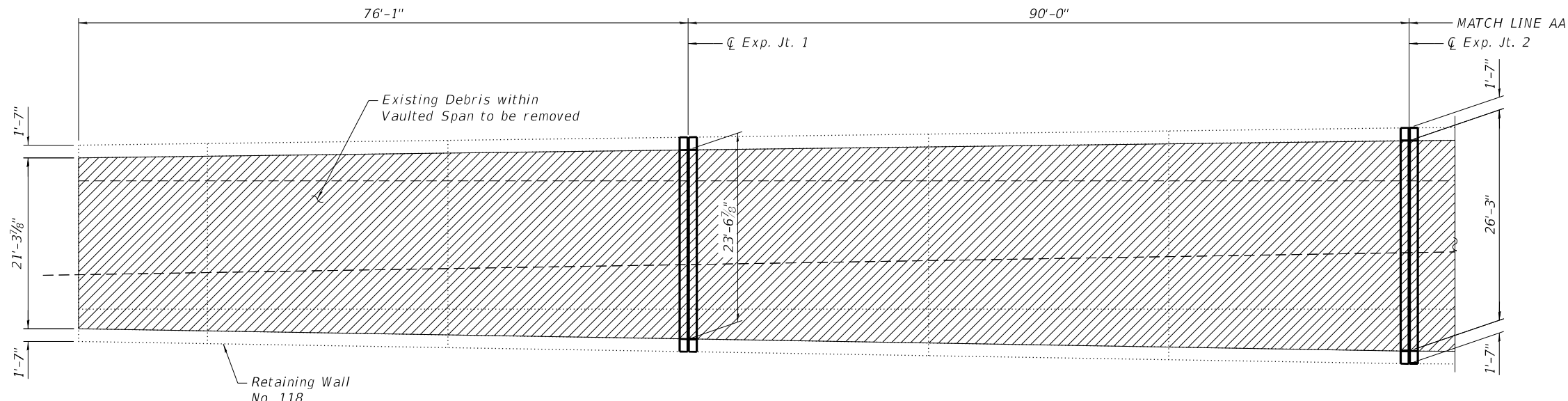
BILL OF MATERIAL

Item	Unit	Total
Access Door	Each	2

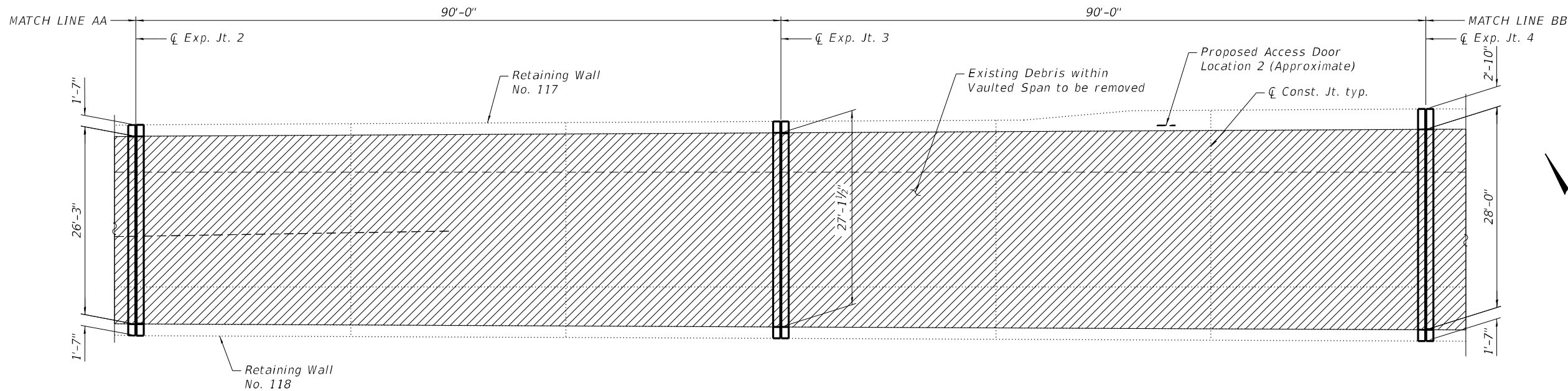
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PLOT SCALE =	CHECKED -	H.A.	REVISED -
PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.G.W.	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	537
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



PLAN



PLAN

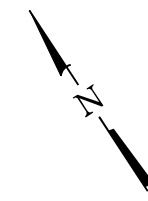
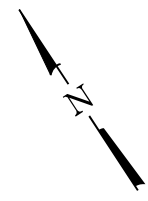


PHOTO 1



PHOTO 2

NOTES:

- Existing Debris and Formwork shall be cut as required and removed through Access Door Locations.
- See Photo 1 & 2 for reference.
- For Photo 3 & 4 see Sheet S02-36.

LEGEND

Debris Removal Area

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Debris Removal	L Sum	0.5

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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**

**DEBRIS REMOVAL PLAN AND DETAILS I
 SN 016-2551**

SHEET S02-35 OF S02-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	538
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	

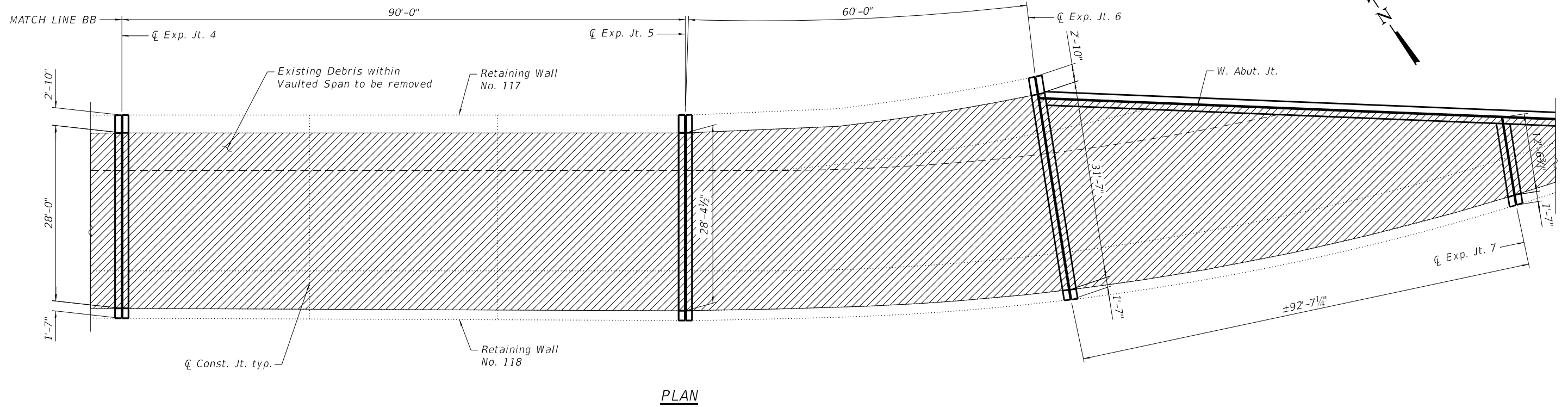


PHOTO 3



PHOTO 4

NOTES:

1. Existing Debris and formwork shall be cut as required and removed through Access Door Locations.
2. See Photo 3 & 4 for reference.
3. For Bill of Material and Photo 1 & 2 see Sheet S02-35.

LEGEND

Debris Removal Area

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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

DEBRIS REMOVAL PLAN AND DETAILS II
SN 016-2551
 SHEET S02-36 OF S02-36 SHEETS

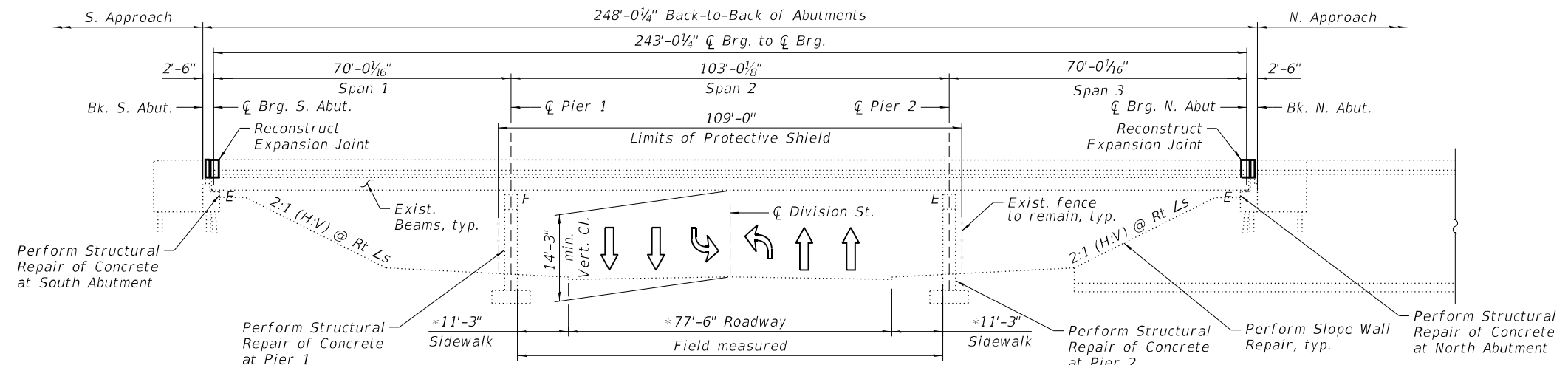
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	539
				CONTRACT NO. 62K74
		ILLINOIS	FED. AID PROJECT	

Existing Structure: S.N. 016-0135 was originally built in 1959 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 248'-0¹/₄" and an out-to-out deck width of 71'-0¹/₂". The superstructure consists of a 7¹/₂" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 70'-0¹/₁₆", 103'-0¹/₈", and 70'-0¹/₁₆". The substructure consists of reinforced concrete abutments and piers supported on metal shell cast-in-place concrete piles.

Traffic will be maintained utilizing stage construction.

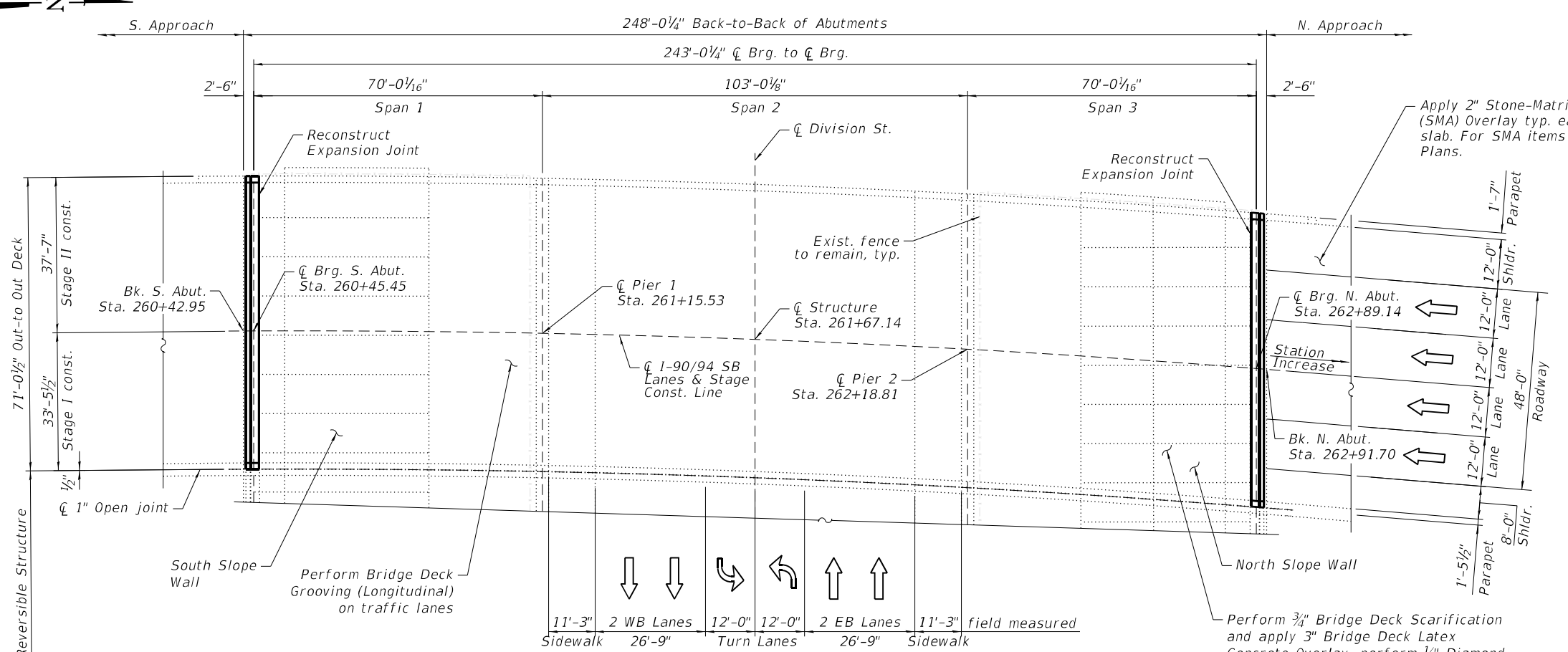
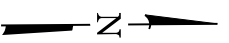
No salvage.

LOADING
 HS20-44 and alternate military loading
DESIGN SPECIFICATIONS
 2002 AASHTO Standard Specification
 for Highway Bridges, 17th Edition

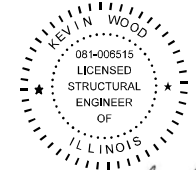


ELEVATION
 * Dimension at right angle

NOTE:
 1. All stations are to the ϕ I-90/94 SB Roadway and taken from existing plans.

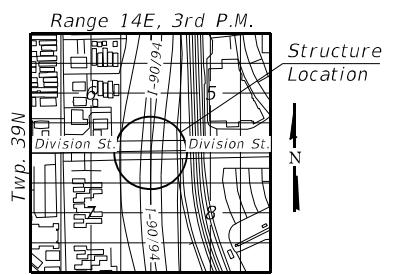


PLAN



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
SB I-90 OVER DIVISION ST.
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 261+67.14
STRUCTURE NO. 016-0135 (SB)

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET S03-01 OF S03-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	540
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

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

- S03-01 General Plan & Elevation
- S03-02 General Data
- S03-03-S03-04 Stage Construction Details I & II
- S03-05 Temporary Concrete Barrier
- S03-06 Bridge Deck Repair Plan and Details
- S03-07-S03-09 South Abutment Expansion Joint Details I, II & III
- S03-10-S03-12 North Abutment Expansion Joint Details I, II & III
- S03-13 Preformed Joint Strip Seal
- S03-14 Framing Plan
- S03-15 Structural Steel Repair Details
- S03-16 South Abutment Repairs
- S03-17 North Abutment Repairs
- S03-18 Pier 1 Repairs
- S03-19 Pier 2 Repairs
- S03-20 Slope Wall Repairs
- S03-21 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 slab 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.
- Perform slope wall repairs.
- Repair steel diaphragm as shown on the plans.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	28.2		28.2
Protective Shield	Sq Yd	860		860
Concrete Superstructure	Cu Yd	30.9		30.9
Protective Coat	Sq Yd	2,142		2,142
Furnishing and Erecting Structural Steel	Pound	230		230
Reinforcement Bars, Epoxy Coated	Pound	5,540		5,540
Bar Splicers	Each	36		36
Preformed Joint Strip Seal	Foot	141		141
Concrete Sealer	Sq Ft		713	713
Slope Wall Crack Sealing	Foot		20	20
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,309		1,309
Structural Steel Removal	Pound	230		230
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,813		1,813
Bridge Deck Scarification 3/4"	Sq Yd	1,813		1,813
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		101	101
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3.9		3.9
Diamond Grinding (Bridge Section)	Sq Yd	1,846		1,846
Maintenance of Lighting System	Cal Mo		6	6

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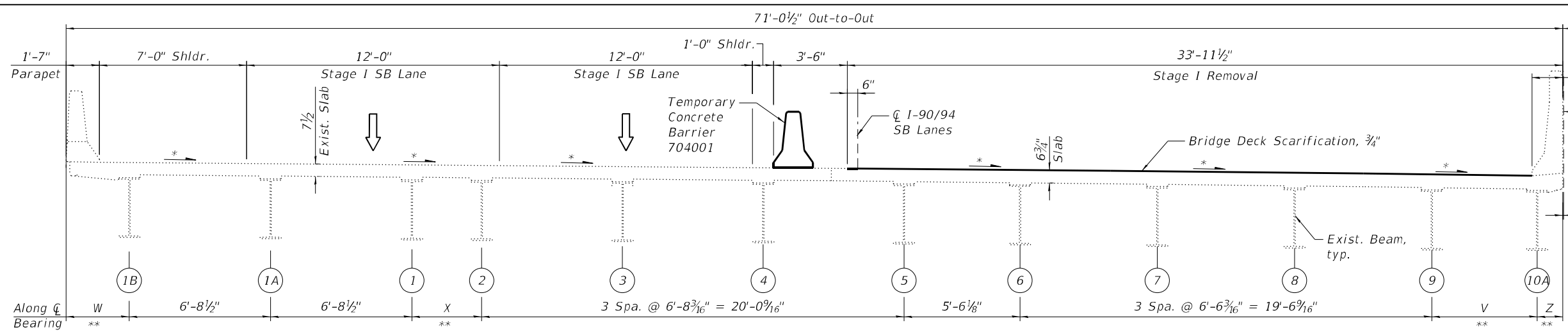
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

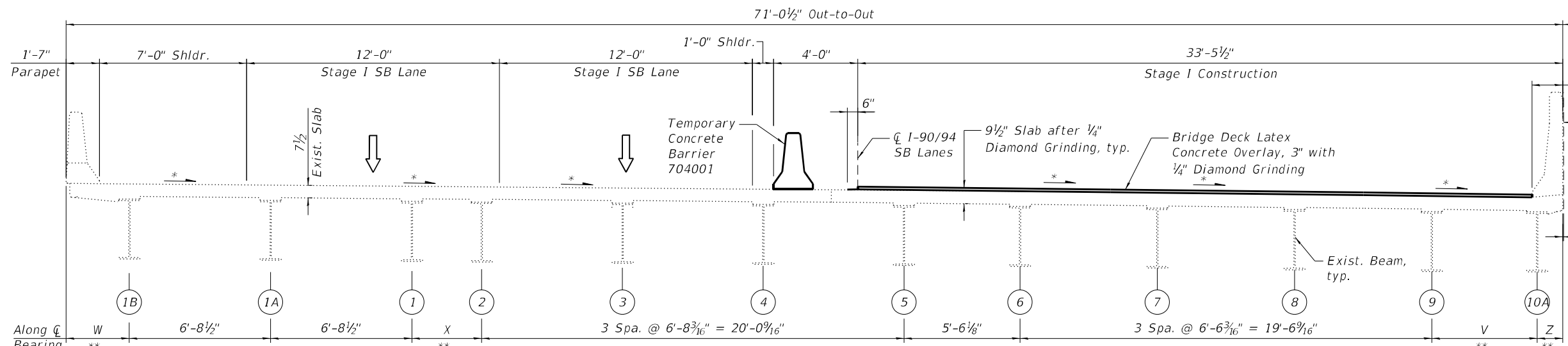
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SN 016-0135 (SB)**

SHEET S03-02 OF S03-21 SHEETS

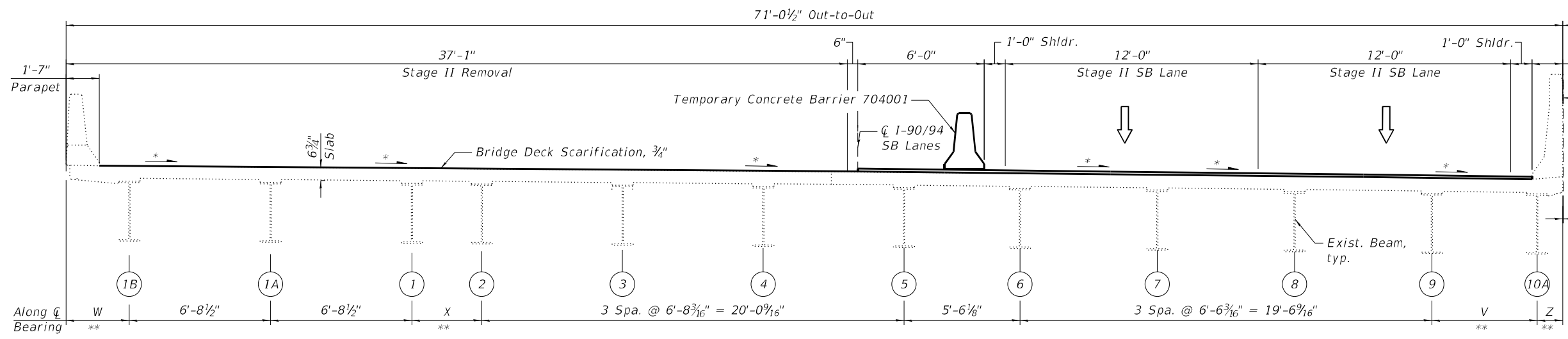
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90	2020-004-BR	COOK	1492	541
			CONTRACT NO. 62K74	
ILLINOIS		FED. AID PROJECT		



STAGE I REMOVAL
(Looking North)



STAGE I CONSTRUCTION
(Looking North)



STAGE II REMOVAL
(Looking North)

STAGE I REMOVAL

1. Install Temporary Concrete Barrier as shown to locate traffic on the west 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 north and south 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 East 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.

* Match existing deck surface profile
** For Variable Dimensions along \bar{C} of bearing, see Sheet S03-04

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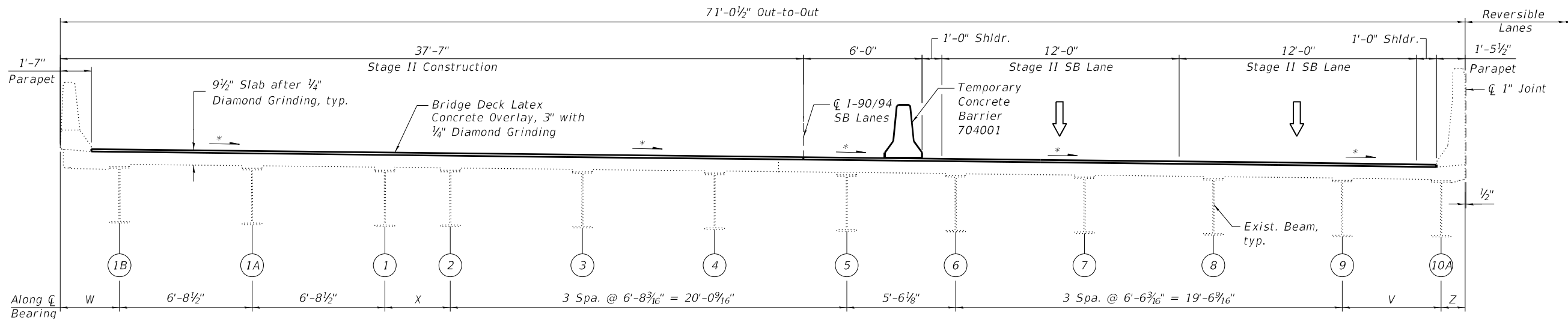
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STAGE CONSTRUCTION DETAILS I
SN 016-0135 (SB)

SHEET S03-03 OF S03-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	542
CONTRACT NO. 62K74			ILLINOIS FED. AID PROJECT	



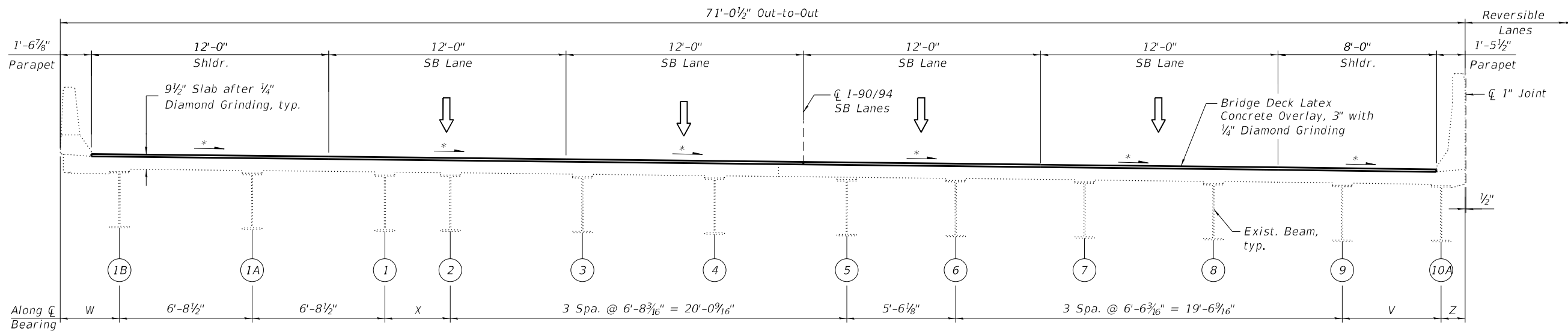
STAGE II CONSTRUCTION
(Looking North)

**VARIABLE DIMENSIONS
ALONG \bar{C} BEARING**

Dimensions Along	V	W	X	Z
\bar{C} Brg. S. Abut.	2'-10 $\frac{1}{8}$ "	3'-0 $\frac{15}{16}$ "	3'-6 $\frac{1}{8}$ "	3'-1 $\frac{1}{16}$ "
\bar{C} Pier 1	2'-10 $\frac{1}{8}$ "	2'-10 $\frac{1}{16}$ "	5'-5 $\frac{1}{4}$ "	1'-3 $\frac{3}{16}$ "
\bar{C} Pier 2	2'-10 $\frac{1}{8}$ "	2'-9 $\frac{15}{16}$ "	5'-5 $\frac{1}{4}$ "	1'-3 $\frac{15}{16}$ "
\bar{C} Brg. N. Abut.	4'-1 $\frac{3}{8}$ "	2'-5 $\frac{5}{8}$ "	3'-6 $\frac{1}{8}$ "	2'-9 $\frac{7}{16}$ "

STAGE II CONSTRUCTION

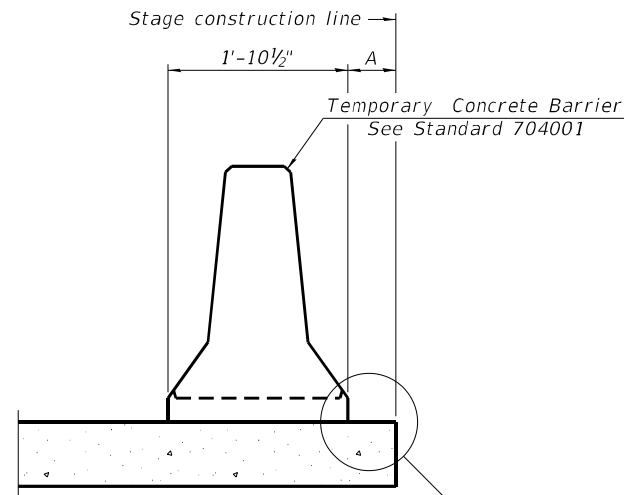
1. Perform Deck Slab Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at north and south abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete at abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
5. Perform $\frac{1}{4}$ " 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.



FINAL CROSS SECTION
(Looking North)

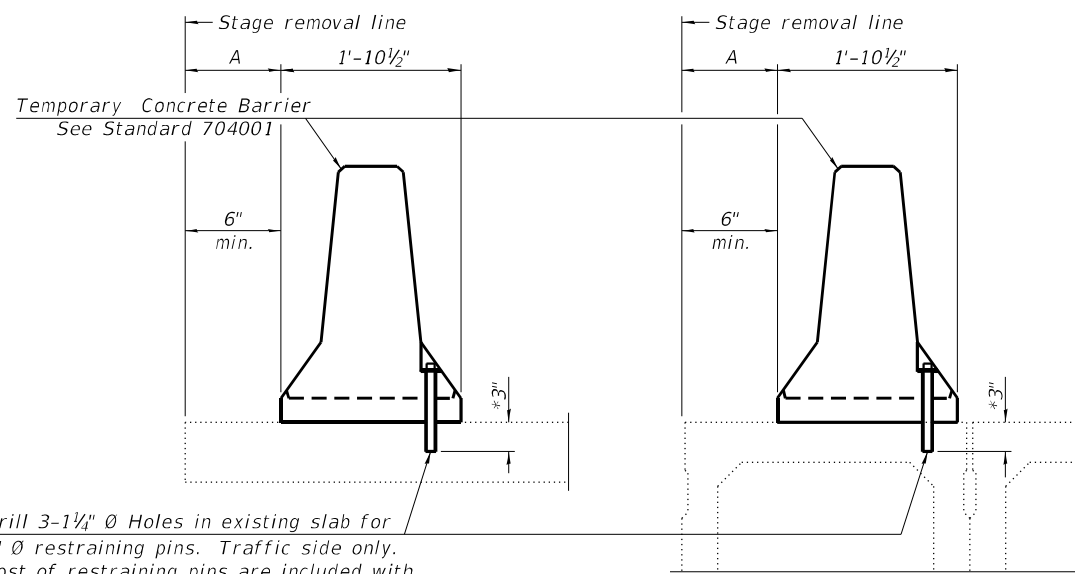
* Match existing deck surface profile

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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

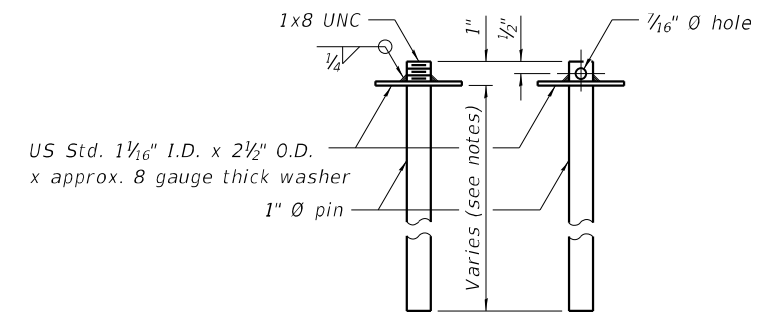


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

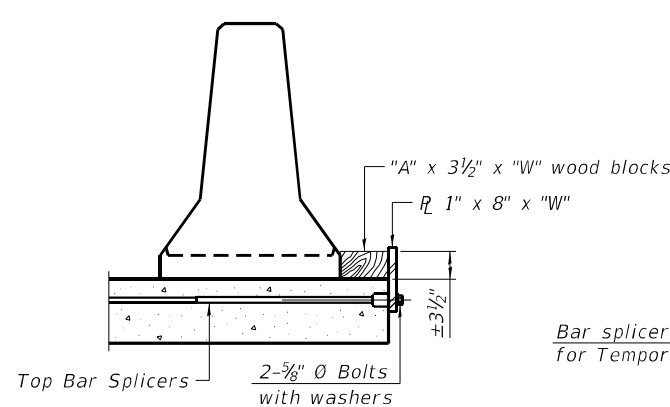
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

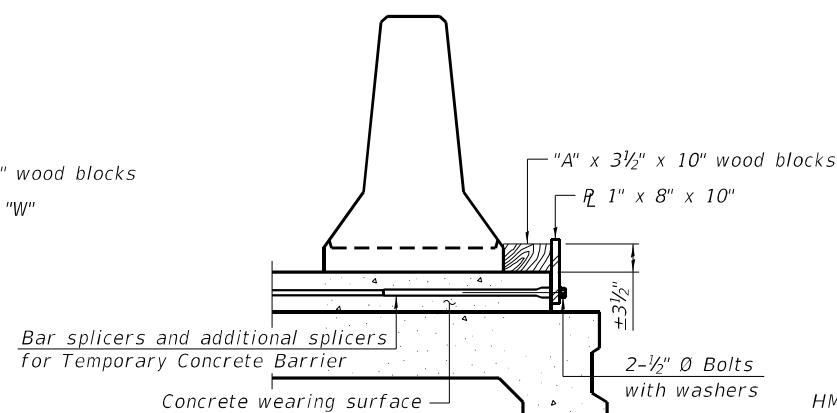


RESTRAINING PIN

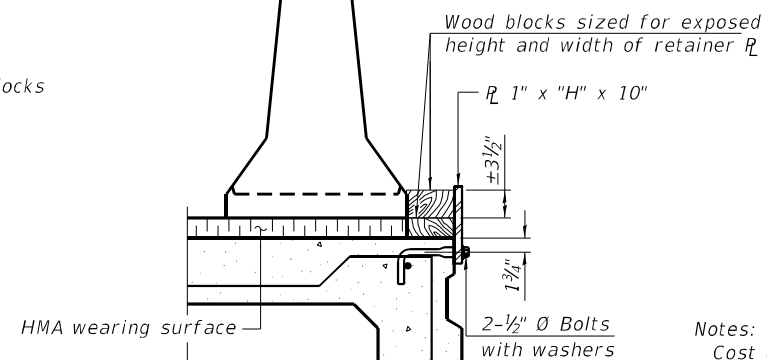
SECTIONS THRU SLAB OR DECK BEAM



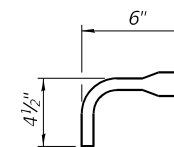
DETAIL I



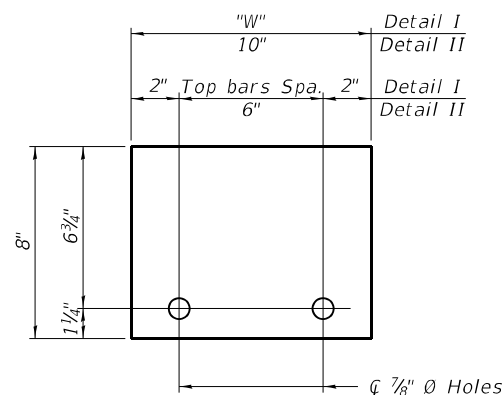
DETAIL II



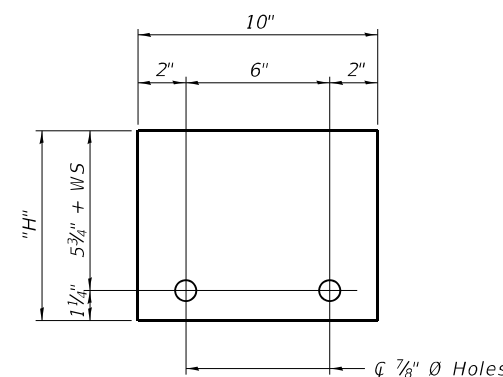
DETAIL III



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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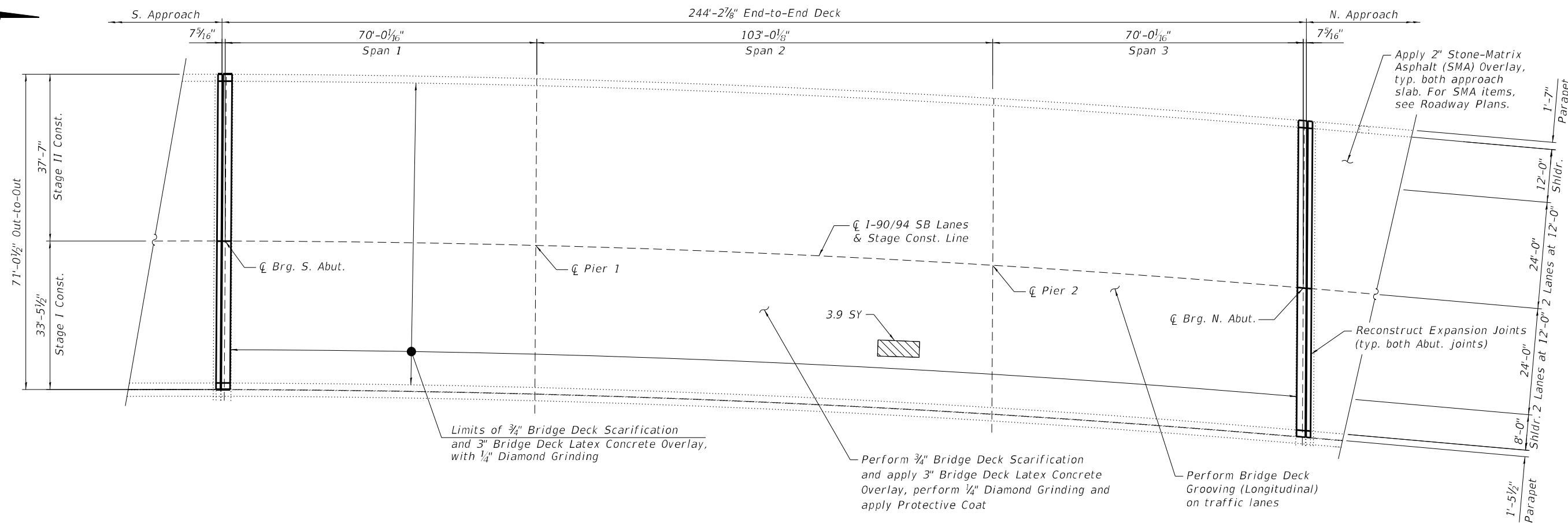
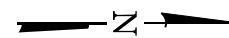
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
 SN 016-0135 (SB)

SHEET S03-05 OF S03-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	544
CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT



DECK PLAN

LEGEND

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

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 S03-04.
3. For North and South transverse joint removal and reconstruction, see Sheet S03-07 thru 03-12.
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.

* 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	860
Protective Coat	Sq Yd	2,142
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,309
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,813
Bridge Deck Scarification 3/4"	Sq Yd	1,813
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3.9
Diamond Grinding (Bridge Section)	Sq Yd	1,846
Maintenance of Lighting System	Cal Mo	6

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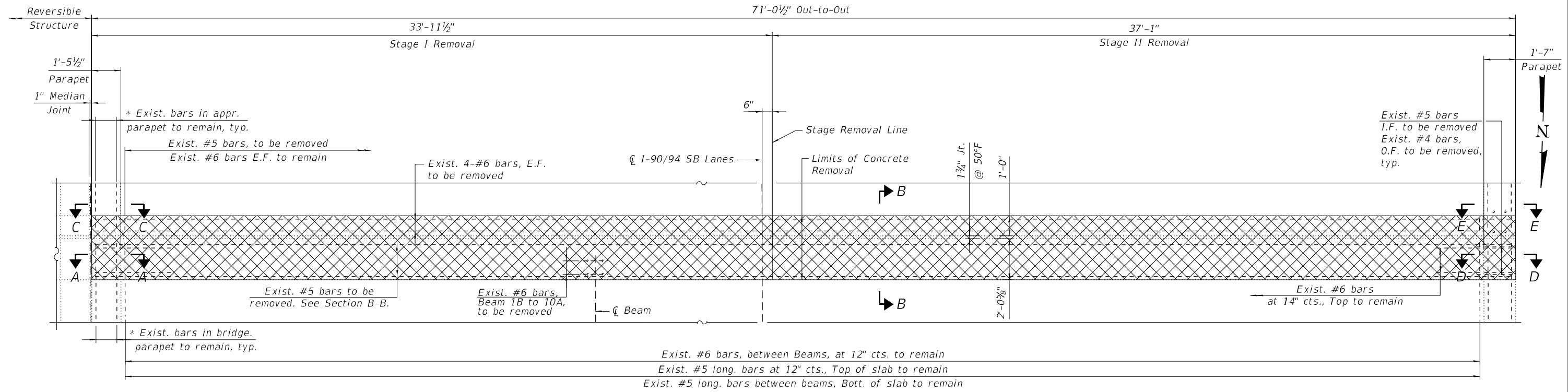
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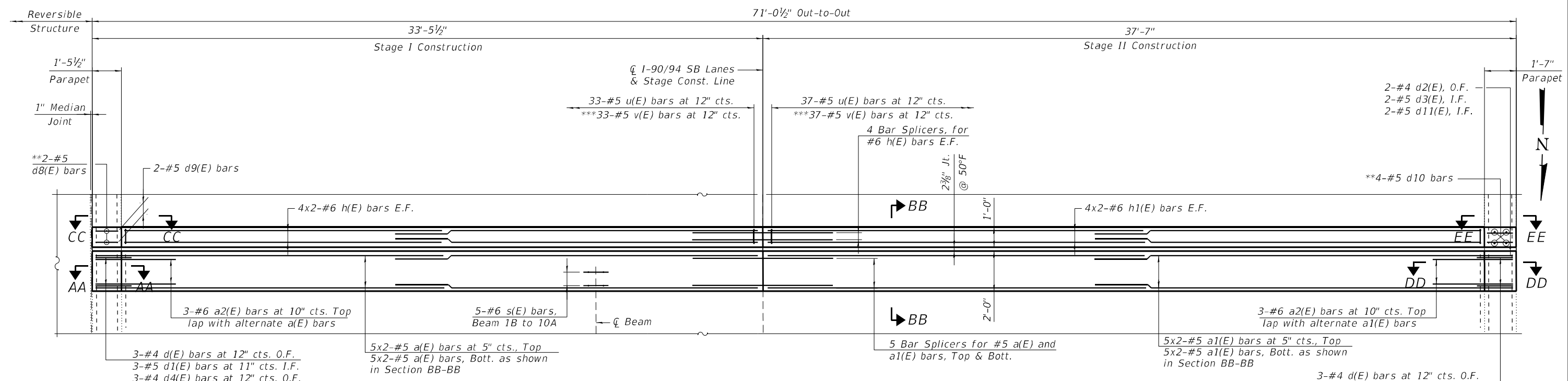
**BRIDGE DECK REPAIR PLAN AND DETAILS
SN 016-0135 (SB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	545
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S03-06 OF S03-21 SHEETS



SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

- NOTES:**
- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S03-08.
 - For sections D-D, E-E, DD-DD and EE-EE, see sheet S03-09.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #5 d8(E) & #5 d10(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.
- *** Cut in Field and use remainder at far face of backwall, See Sheet S03-09.
- LEGEND**
- Concrete Removal
 - I.F. Inside Face
 - O.F. Outside Face
 - E.F. Each Face

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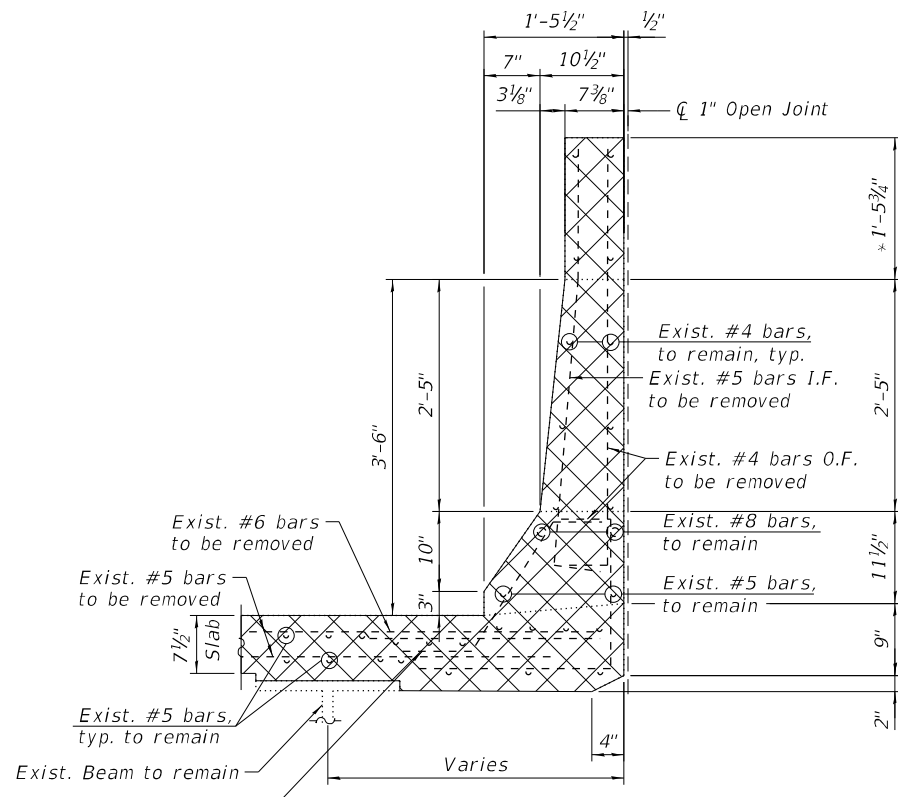
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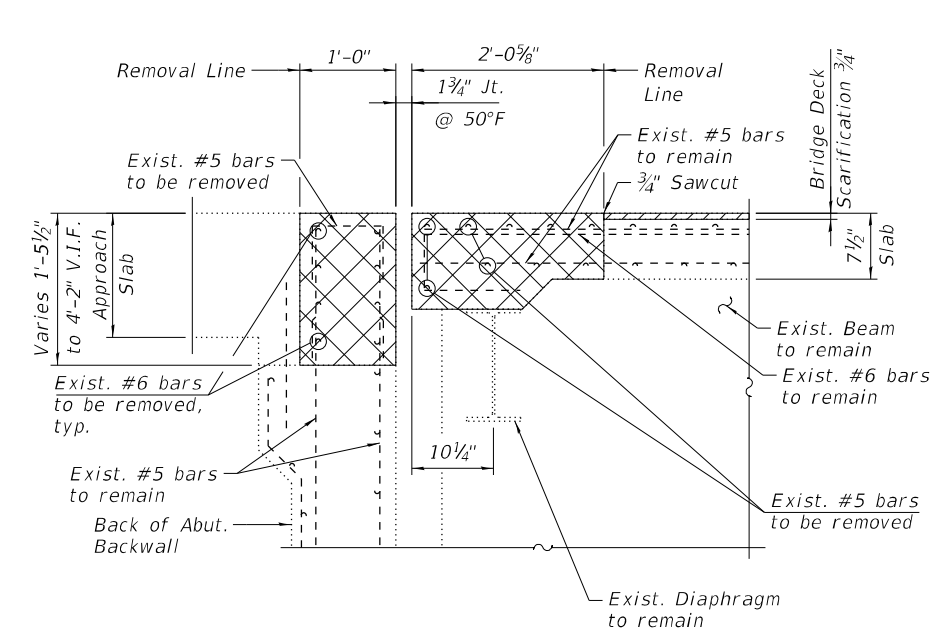
SOUTH ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0135 (SB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	546
CONTRACT NO. 62K74			ILLINOIS FED. AID PROJECT	

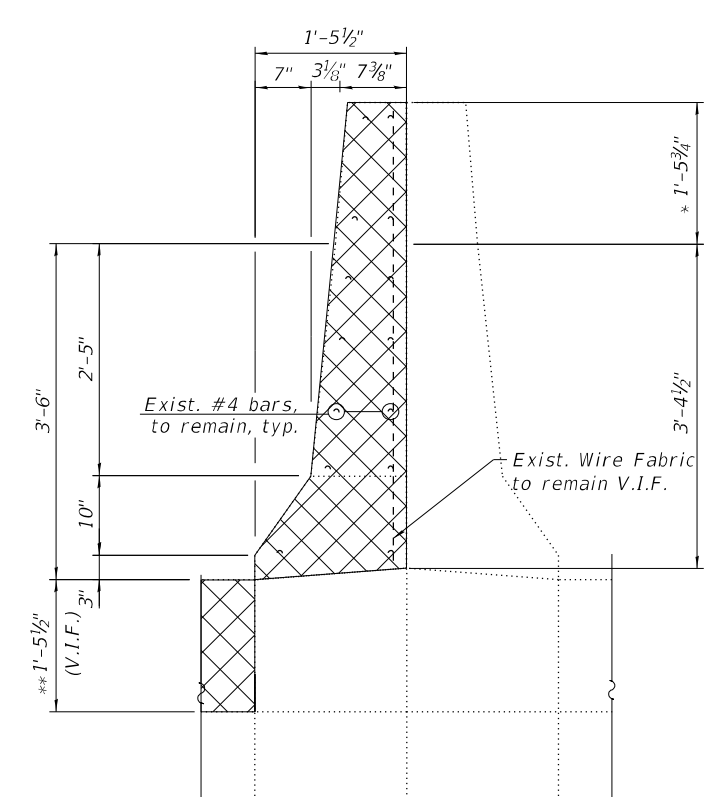
SHEET S03-07 OF S03-21 SHEETS



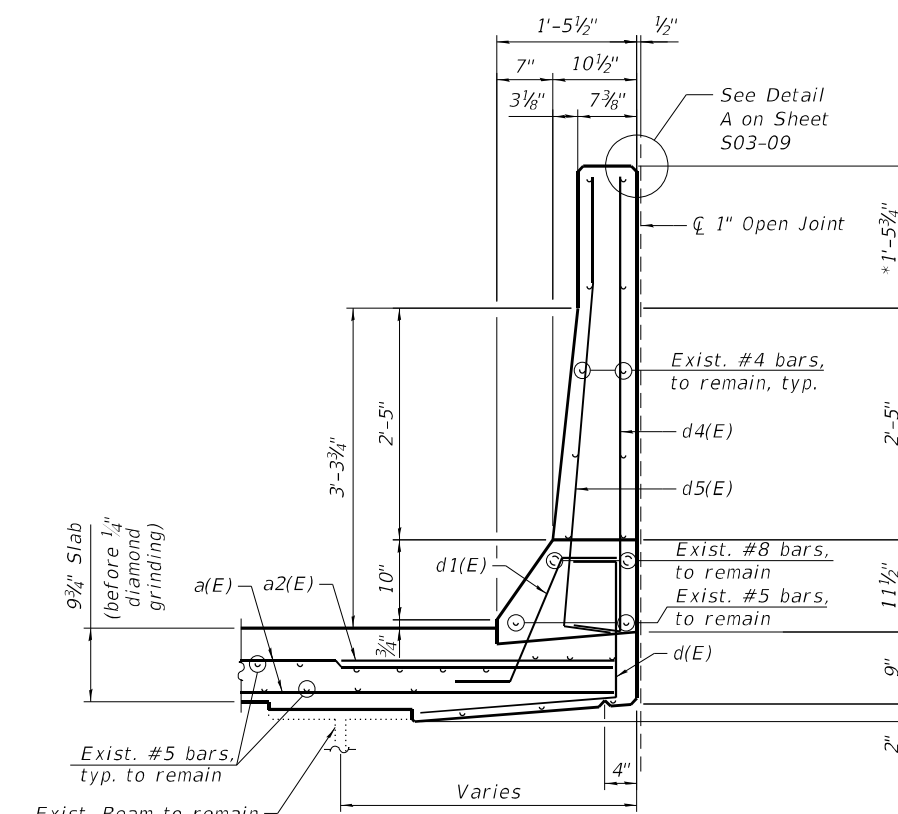
SECTION A-A
(East parapet removal)



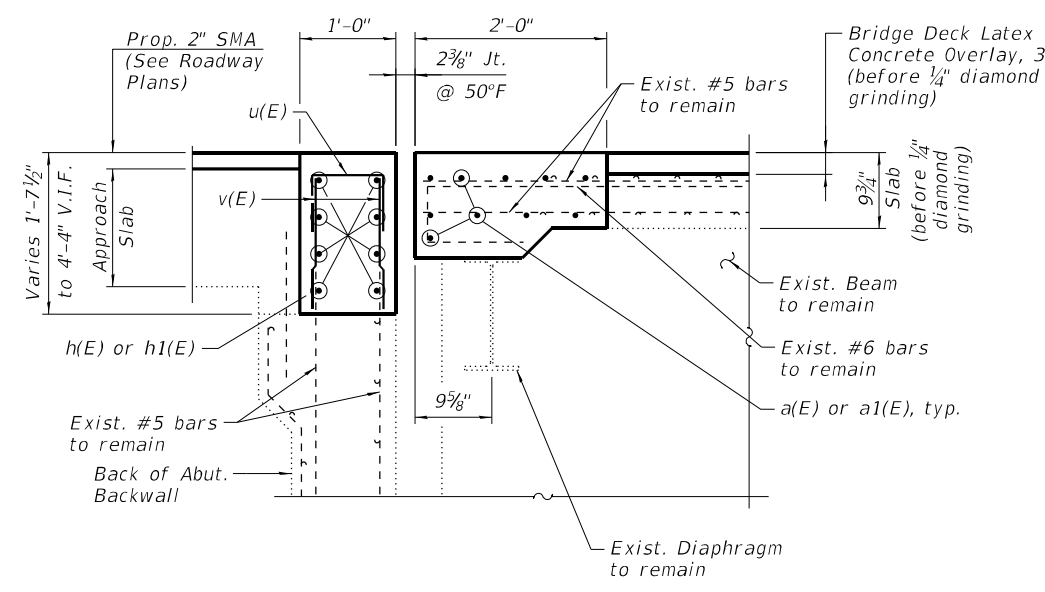
SECTION B-B



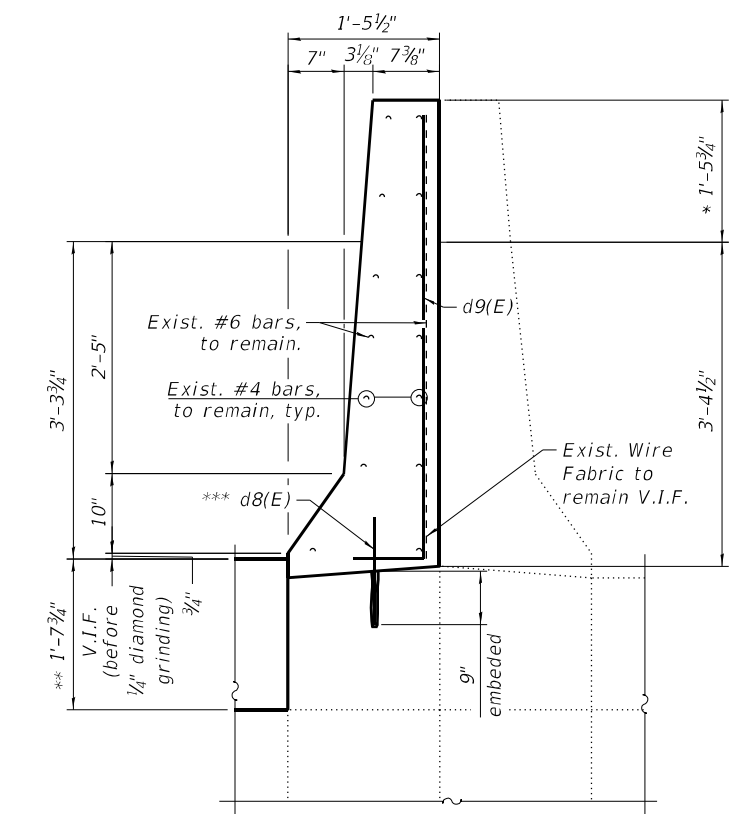
SECTION C-C
(East parapet removal)



SECTION AA-AA
(East parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(East parapet reconstruction)

LEGEND

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

NOTES:

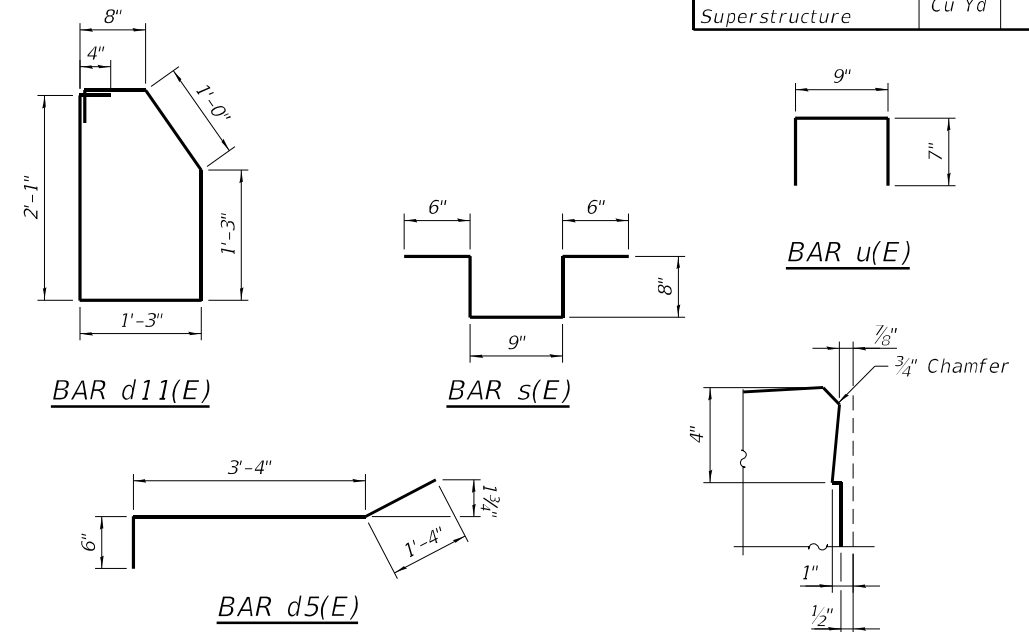
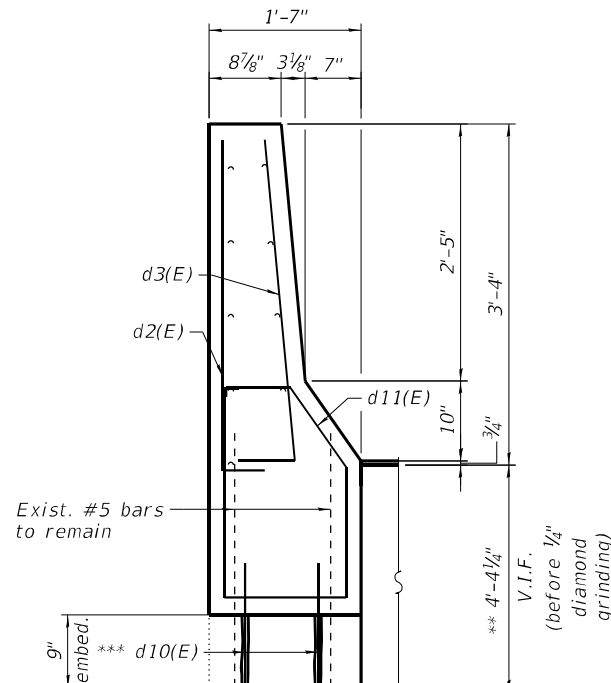
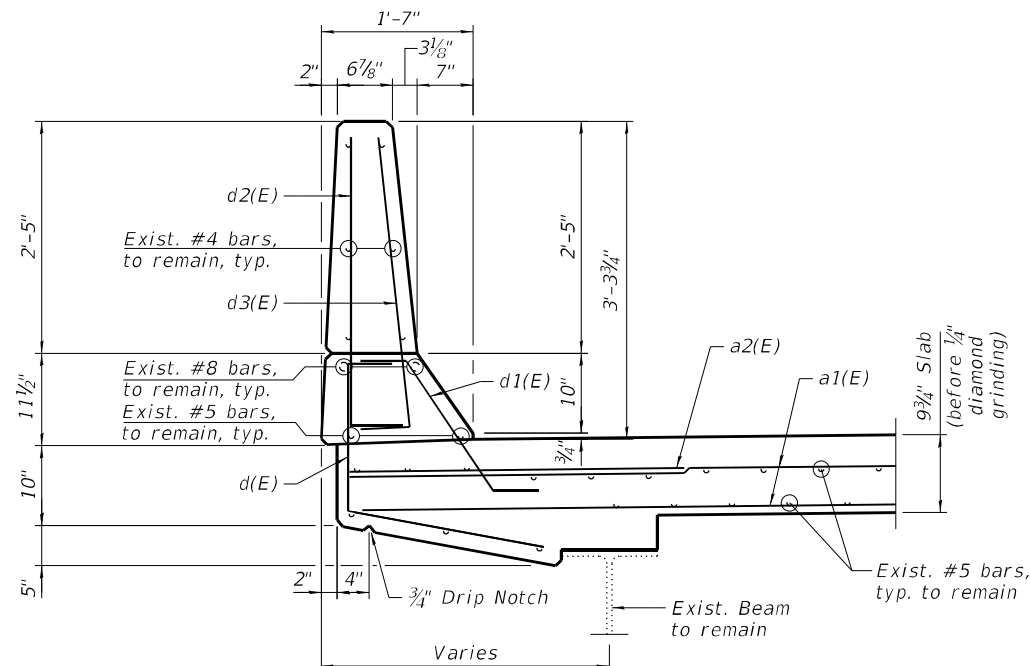
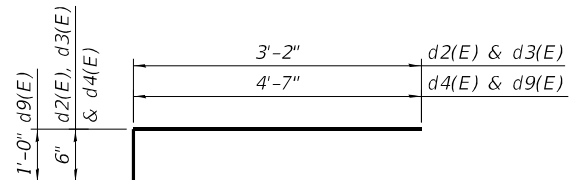
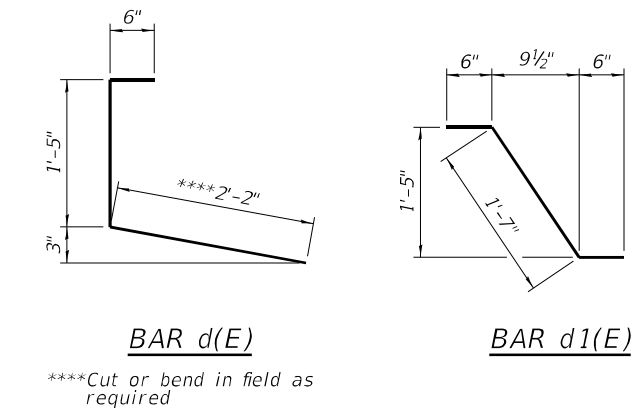
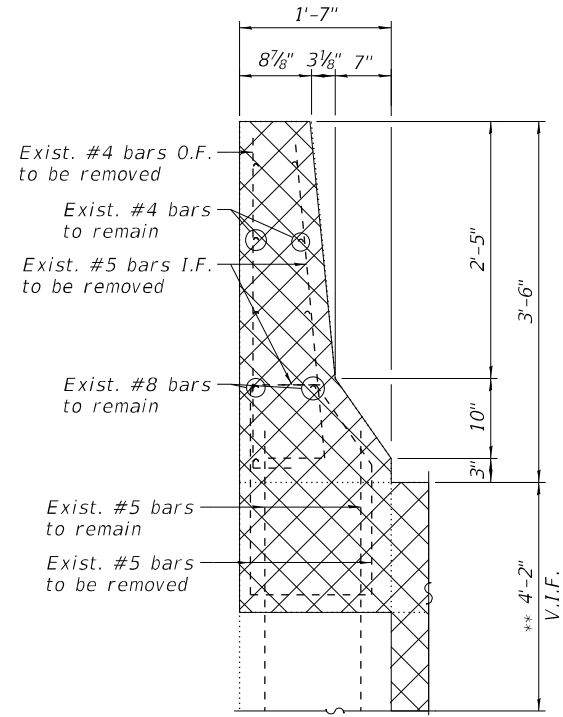
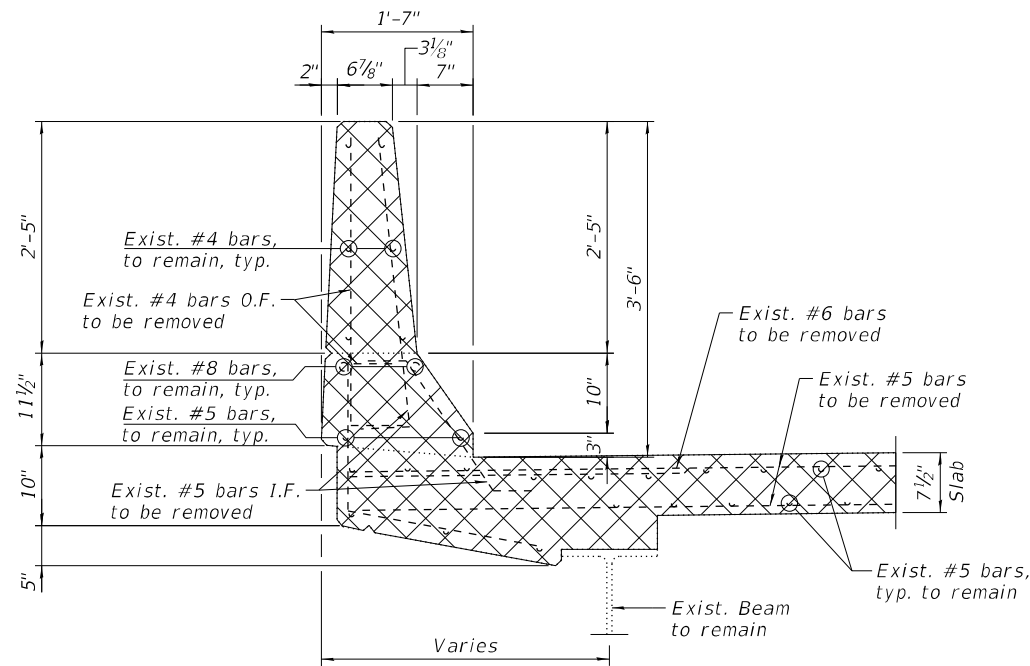
1. For notes, see Sheet S03-09.
- * Adjust in field as required to match reversible parapet
- ** Dimension is taken at the Back of Abut.
- *** Epoxy grout #5 d8(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

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 8501 W. Higgins Road, Suite 280 Chicago, Illinois 60631; (773) 399-0112	USER NAME =	DESIGNED - F.B.	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH ABUTMENT EXPANSION JOINT DETAILS II SN 016-0135 (SB)	F.A.I. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =
	PLOT SCALE =	DRAWN - F.B.	REVISED -			90	2020-004-BR	COOK	1492	547
PLOT DATE =	CHECKED - K.G.W.	REVISED -		SHEET S03-08 OF S03-21 SHEETS			ILLINOIS FED. AID PROJECT			

**BILL OF MATERIAL
SOUTH ABUTMENT**

Bar	No.	Size	Length	Shape
a(E)	20	#5	18'-5"	—
a1(E)	20	#5	20'-6"	—
a2(E)	6	#6	6'-6"	—
d(E)	6	#4	4'-1"	—
d1(E)	6	#5	2'-7"	—
d2(E)	5	#4	3'-8"	—
d3(E)	5	#5	3'-8"	—
d4(E)	3	#4	5'-1"	—
d5(E)	3	#5	5'-2"	—
d8(E)	2	#5	1'-9"	—
d9(E)	2	#5	5'-7"	—
d10(E)	4	#5	2'-2"	—
d11(E)	2	#5	6'-11"	—
h(E)	16	#6	18'-5"	—
h1(E)	16	#6	20'-6"	—
s(E)	60	#6	3'-1"	—
u(E)	70	#5	1'-11"	—
v(E)	70	#5	5'-0"	—
Concrete Removal		Cu Yd	14.0	
Reinforcement Bars, Epoxy Coated		Pound	2,730	
Concrete Superstructure		Cu Yd	15.2	



DETAIL A

MINIMUM BAR LAPS

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

* Adjust in field as required to match reversible parapet

** Dimension is taken at the Back of Abut.

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

Order Bars full length. Cut bars as shown and use remainder at far face of Backwall.

NOTES:

- For Preformed Joint Strip Seal details, see sheet S03-13.
- For Bar Splicer Assembly details, see sheet S03-21.
- 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

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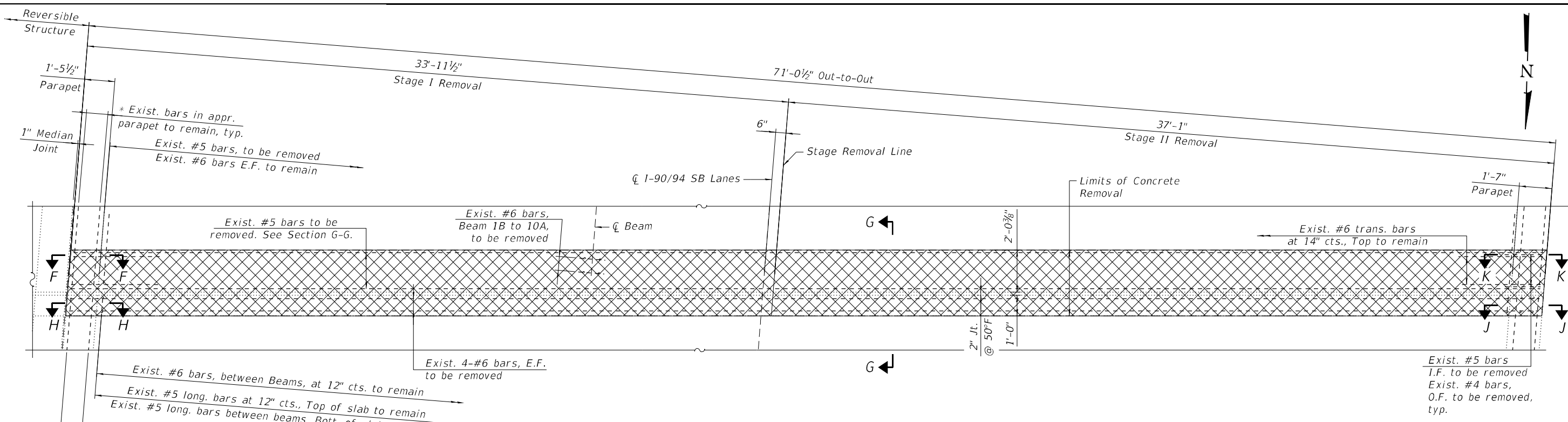
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

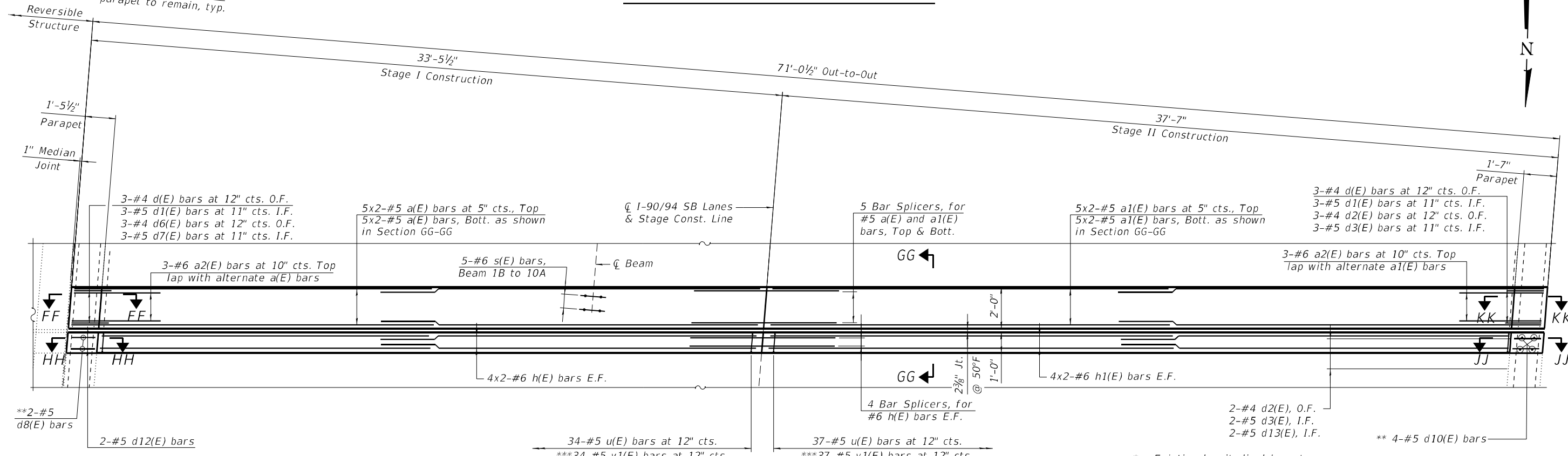
**SOUTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0135 (SB)**

SHEET S03-09 OF S03-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	548
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



NORTH ABUTMENT JOINT REMOVAL PLAN



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S03-11.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S03-12.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #5 d8(E) & #5 d10(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.
- *** Cut in Field and use remainder at far face of backwall, See Sheet S03-09.

LEGEND

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

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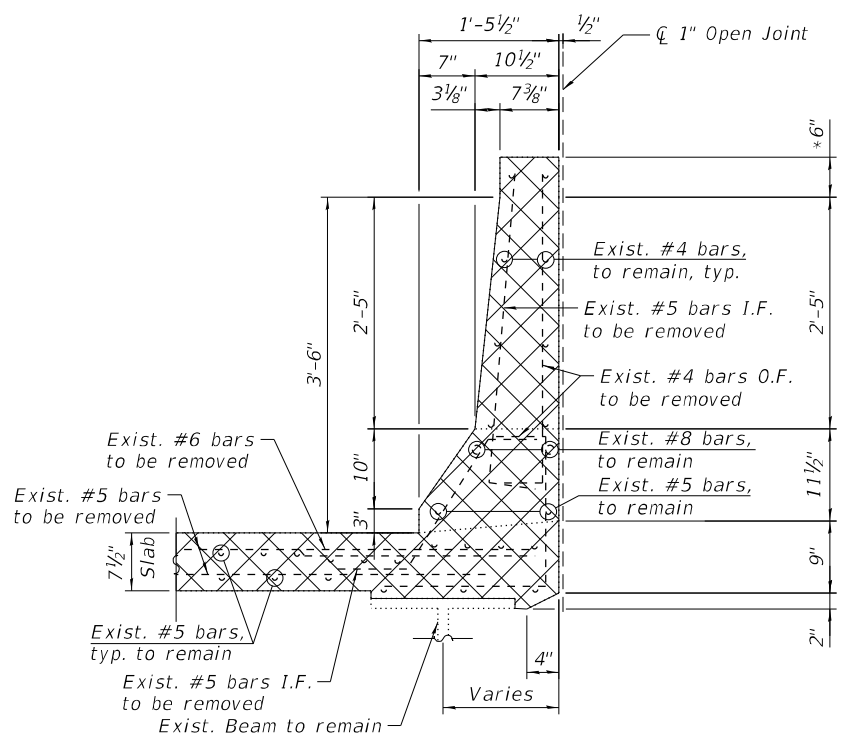
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

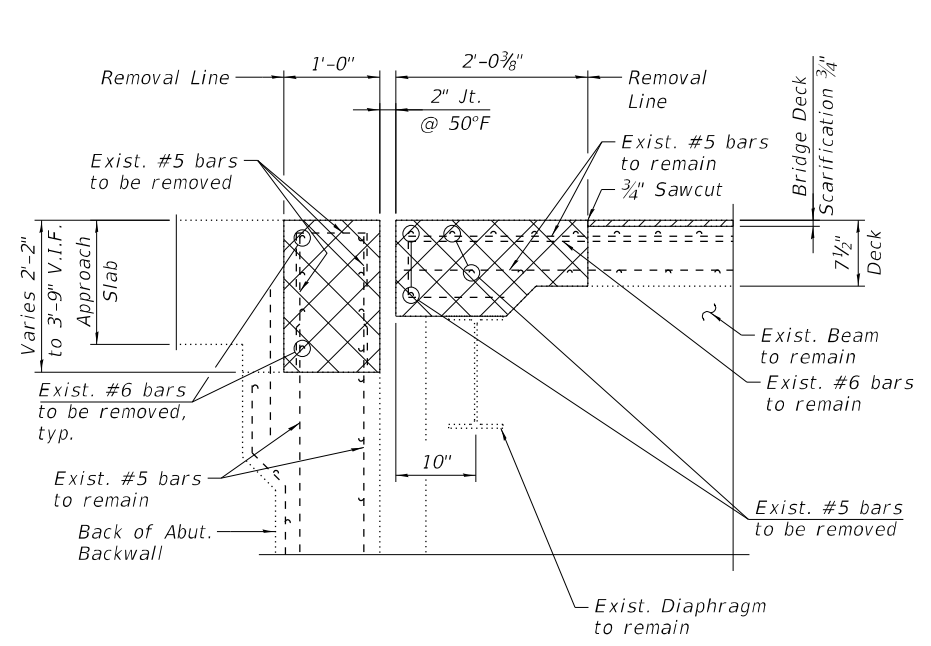
**NORTH ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0135 (SB)**

SHEET S03-10 OF S03-21 SHEETS

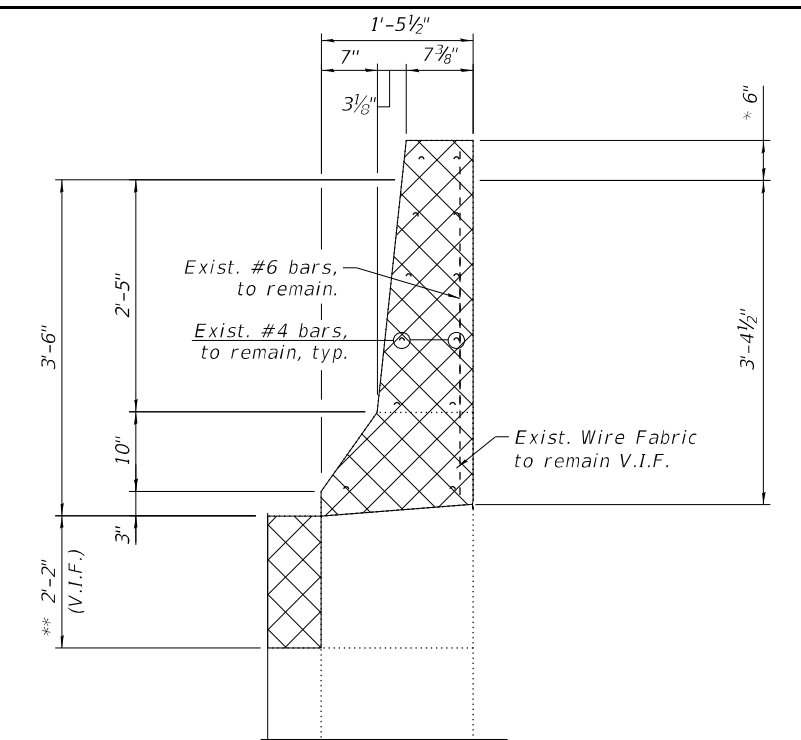
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



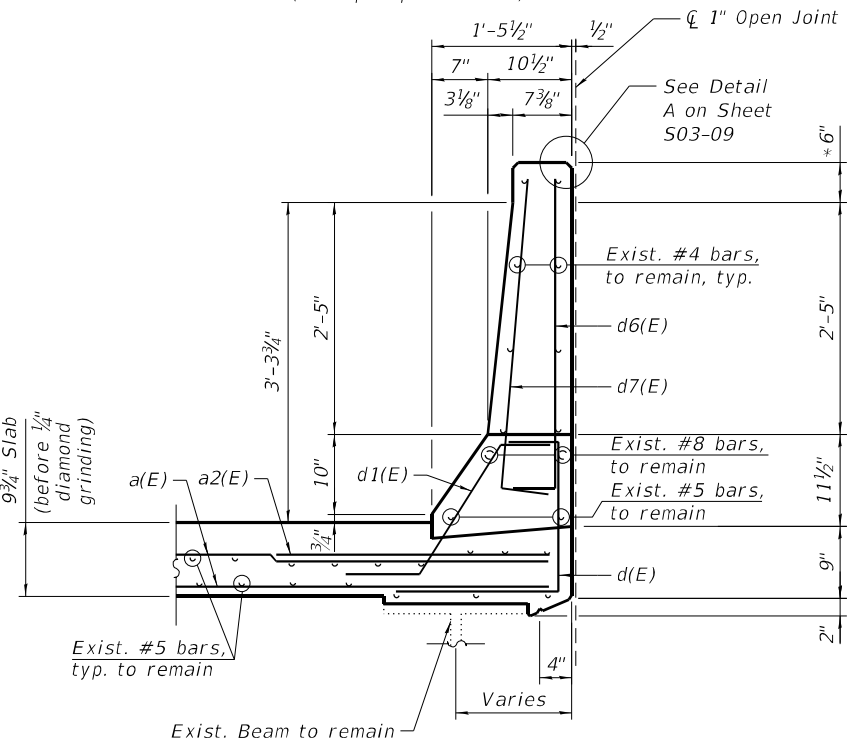
SECTION F-F
(East parapet removal)



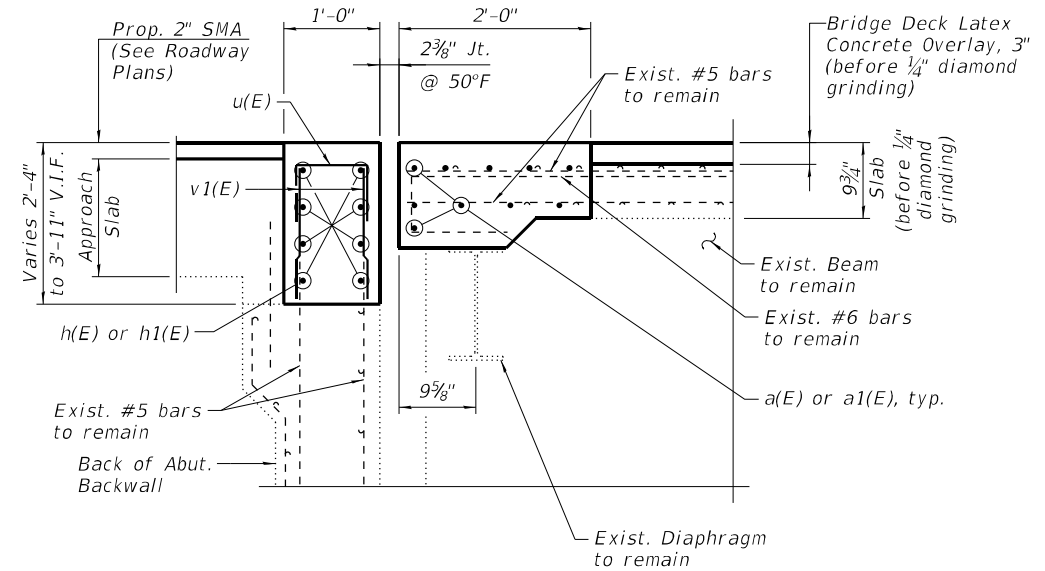
SECTION G-G



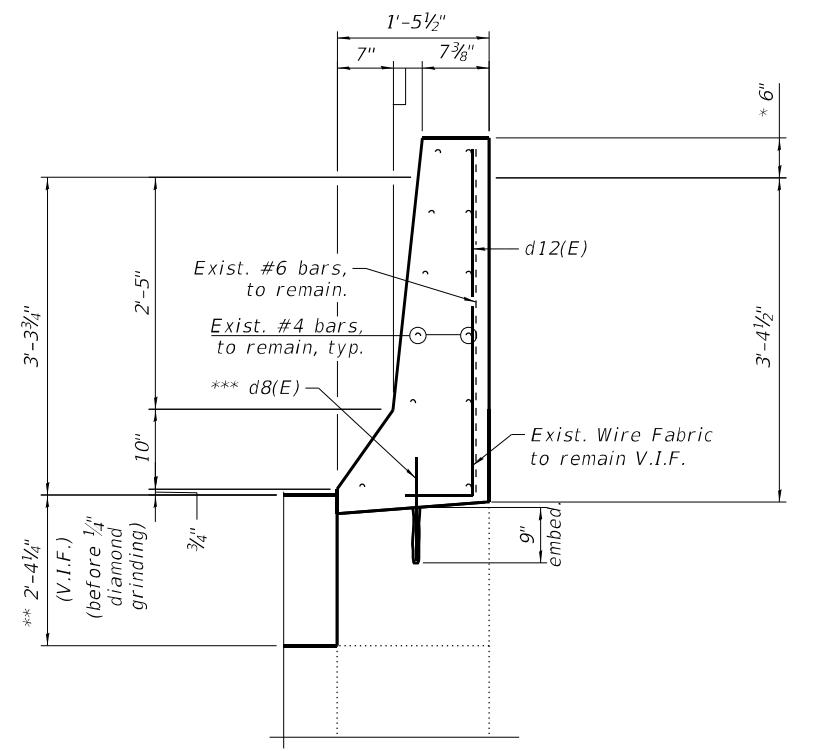
SECTION H-H
(East parapet removal)



SECTION FF-FF
(East parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
(East parapet reconstruction)

LEGEND

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

NOTES:

1. For notes, see Sheet S03-12.

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

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

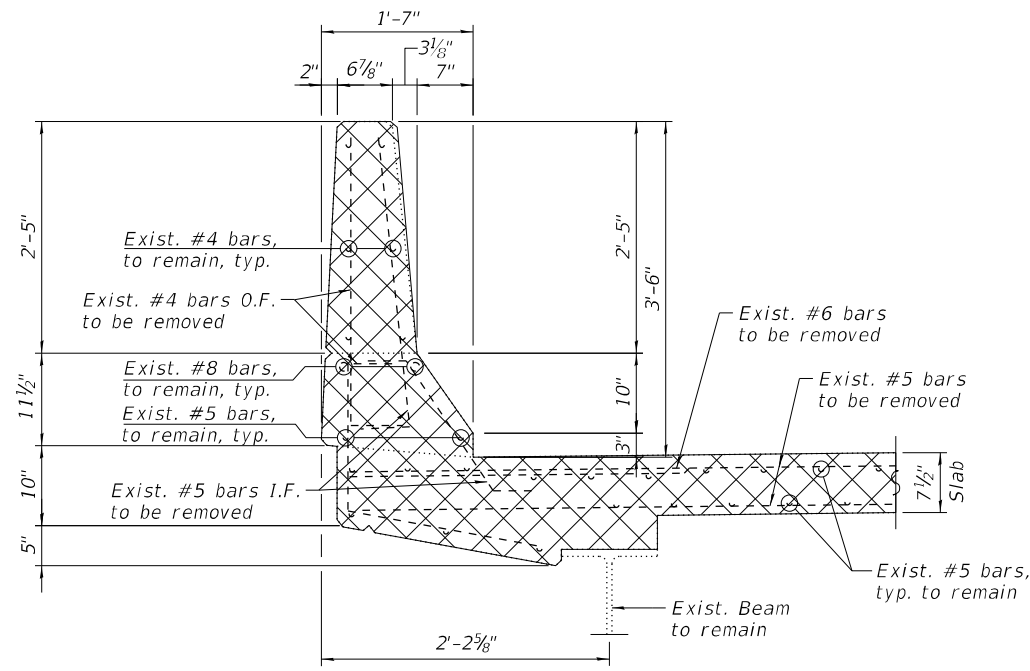
**NORTH ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0135 (SB)**

SHEET S03-11 OF S03-21 SHEETS

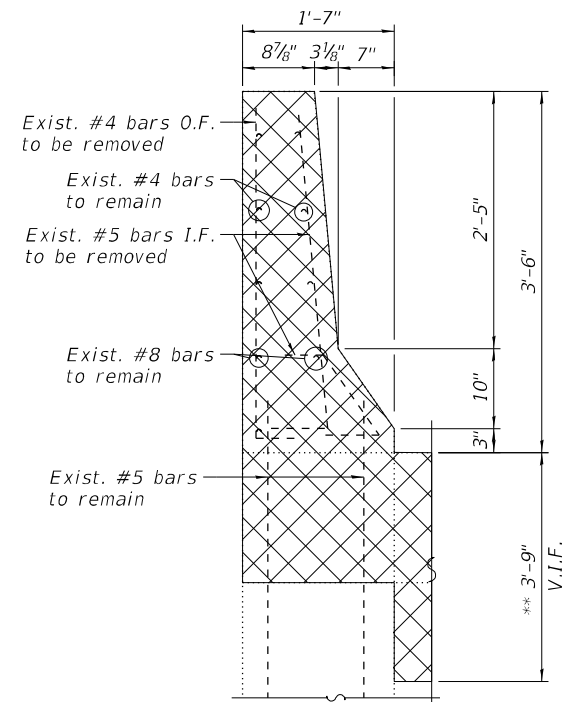
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL
NORTH ABUTMENT**

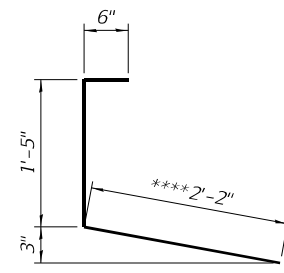
Bar	No.	Size	Length	Shape
a(E)	20	#5	18'-5"	—
a1(E)	20	#5	20'-6"	—
a2(E)	6	#6	6'-6"	—
d(E)	6	#4	4'-1"	—
d1(E)	6	#5	2'-7"	—
d2(E)	5	#4	3'-8"	—
d3(E)	5	#5	3'-8"	—
d6(E)	3	#4	4'-2"	—
d7(E)	3	#5	4'-2"	—
d8(E)	2	#5	1'-9"	—
d10(E)	4	#5	2'-2"	—
d12(E)	2	#5	4'-8"	—
d13(E)	2	#5	5'-11"	—
h(E)	16	#6	18'-5"	—
h1(E)	16	#6	20'-6"	—
s(E)	60	#6	3'-1"	—
u(E)	71	#5	1'-11"	—
v1(E)	71	#5	6'-2"	—
Concrete Removal		Cu Yd	14.2	
Reinforcement Bars, Epoxy Coated		Pound	2,810	
Concrete Superstructure		Cu Yd	15.7	



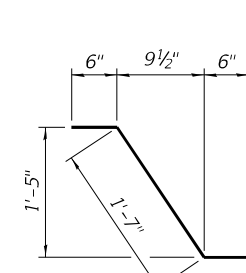
SECTION K-K
(West parapet removal)



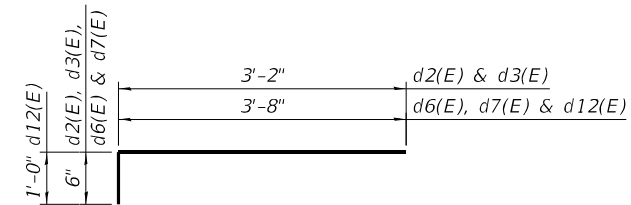
SECTION J-J
(West parapet removal)



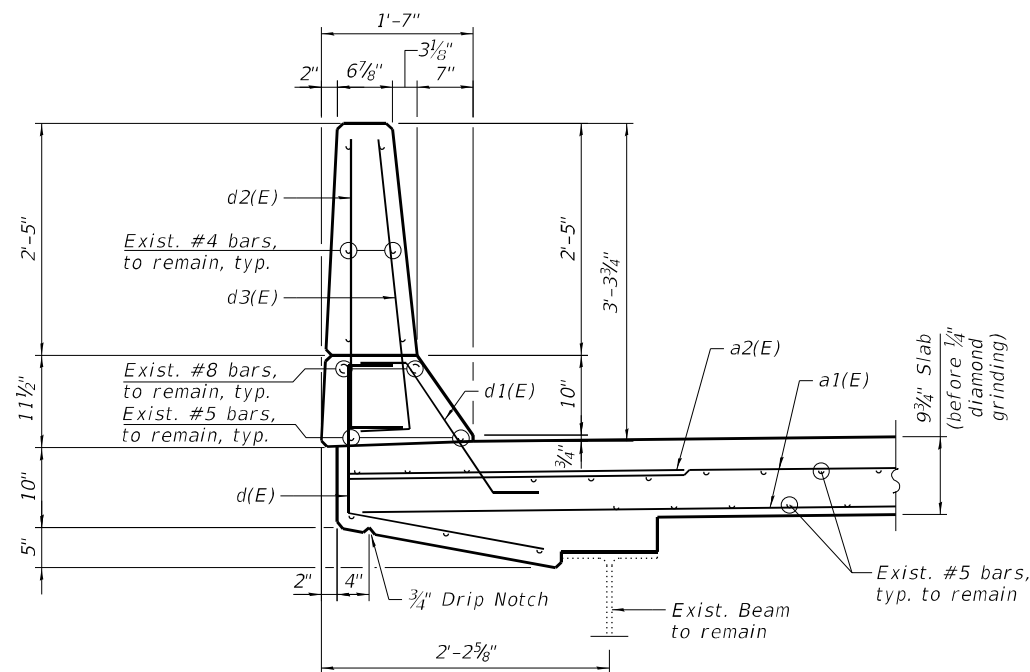
BAR d(E)



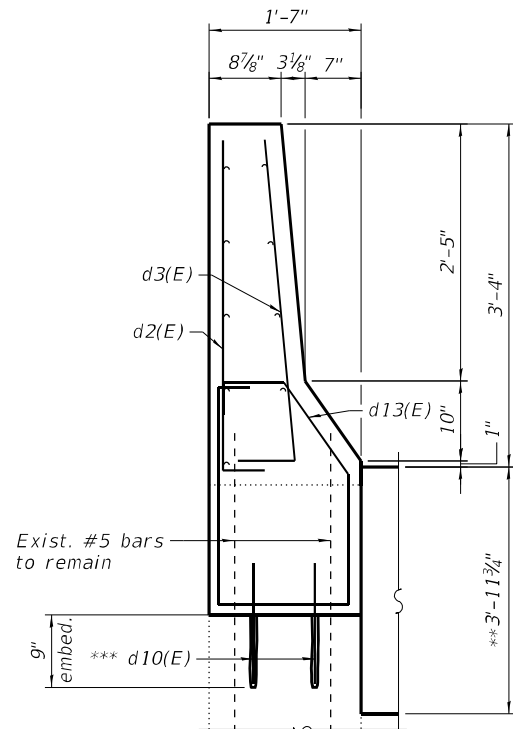
BAR d1(E)



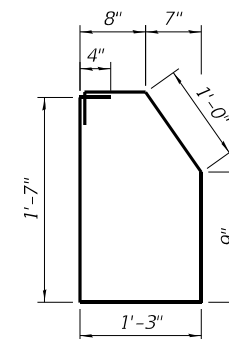
BAR d2(E), d3(E), d6(E), d7(E) & d12(E)



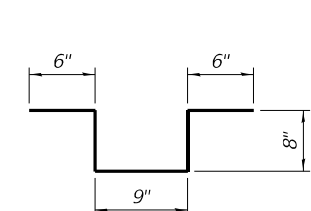
SECTION KK-KK
(West parapet reconstruction)



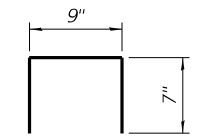
SECTION JJ-JJ
(West parapet reconstruction)



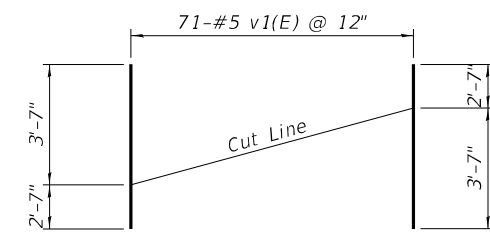
BAR d13(E)



BAR s(E)



BAR u(E)



BAR v1(E)

Order Bars full length. Cut bars as shown and use remainder at far face of Backwall.

MINIMUM BAR LAPS

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

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

NOTES:

1. For Preformed Joint Strip Seal details, see sheet S03-13.
2. For Bar Splicer Assembly details, see sheet S03-21.
3. 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.
4. 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

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USER NAME =	DESIGNED - F.B.	REVISED -
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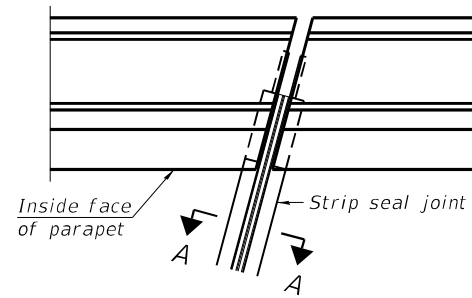
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0135 (SB)**

SHEET S03-12 OF S03-21 SHEETS

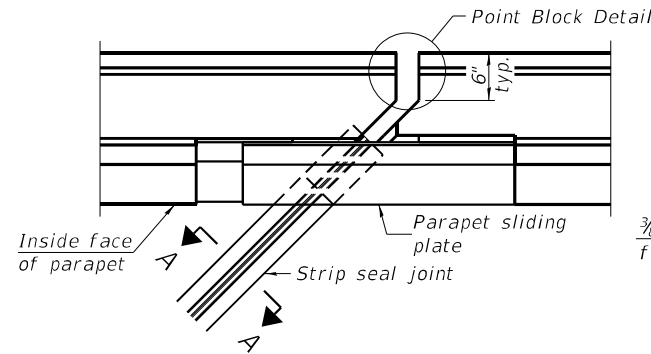
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CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT

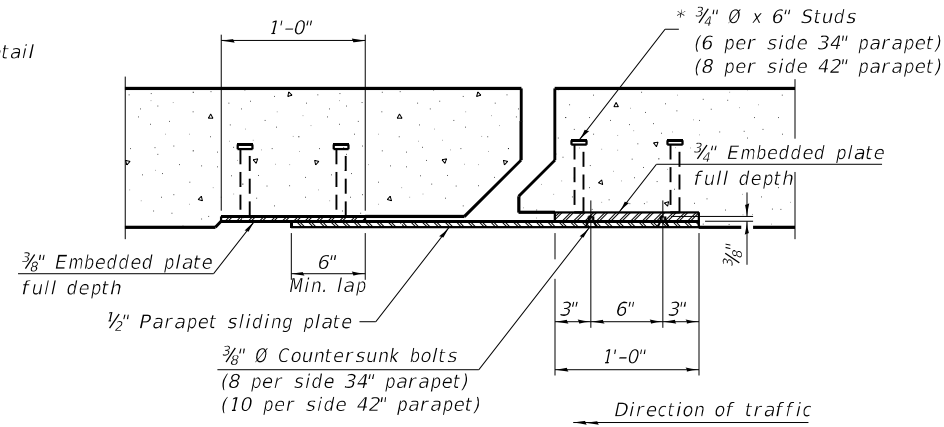


FOR SKEWS $\leq 30^\circ$

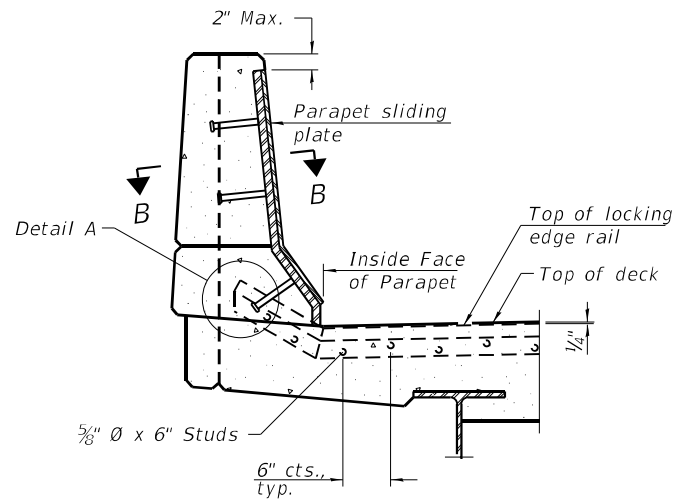
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

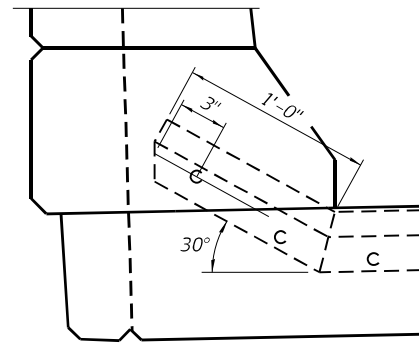


SECTION B-B

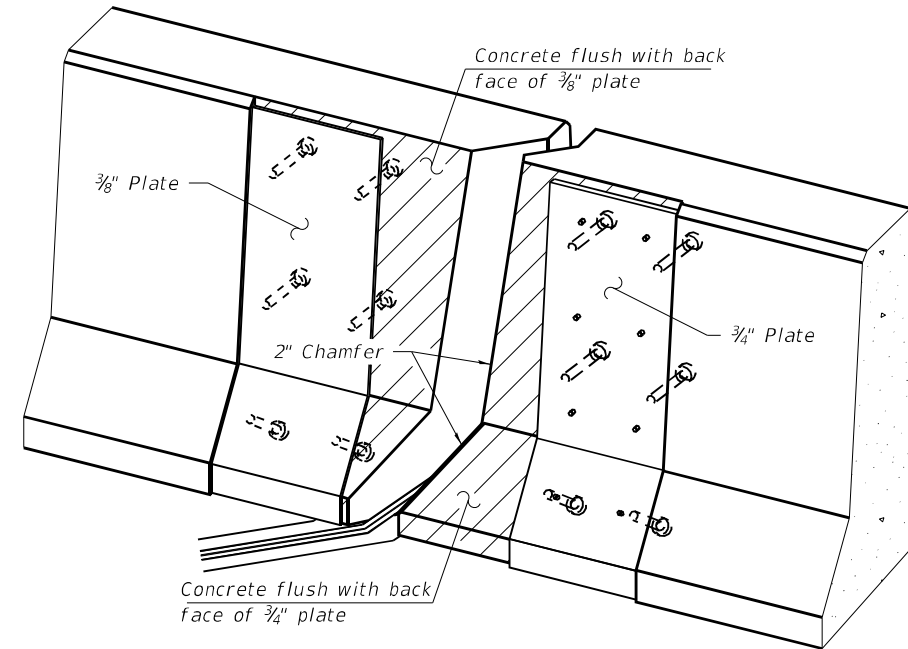


ELEVATION AT PARAPET

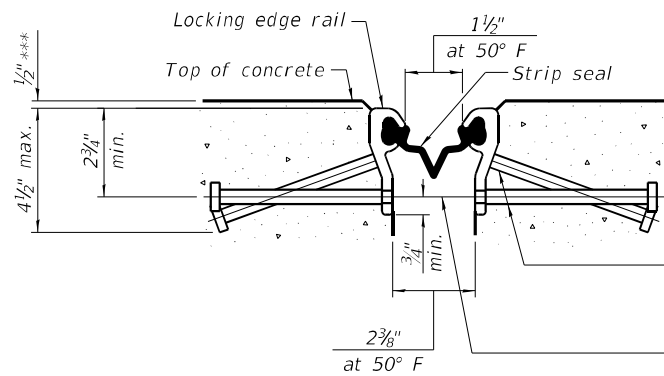
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

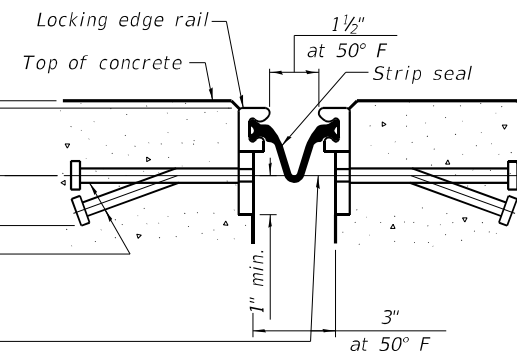
* $5/8$ " ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

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

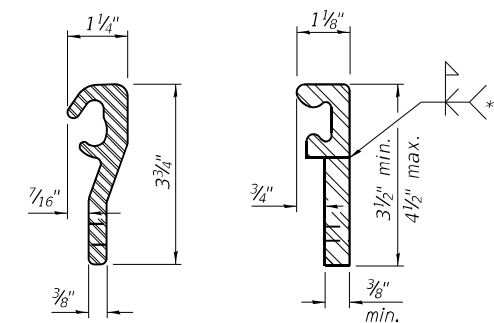
SECTION A-A

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

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



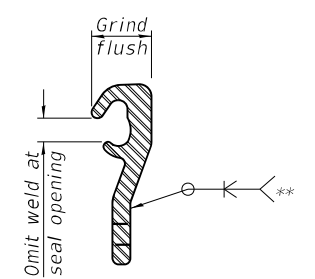
SHOWING WELDED RAIL JOINT



ROLLED (EXTRUDED) RAIL WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	141

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.

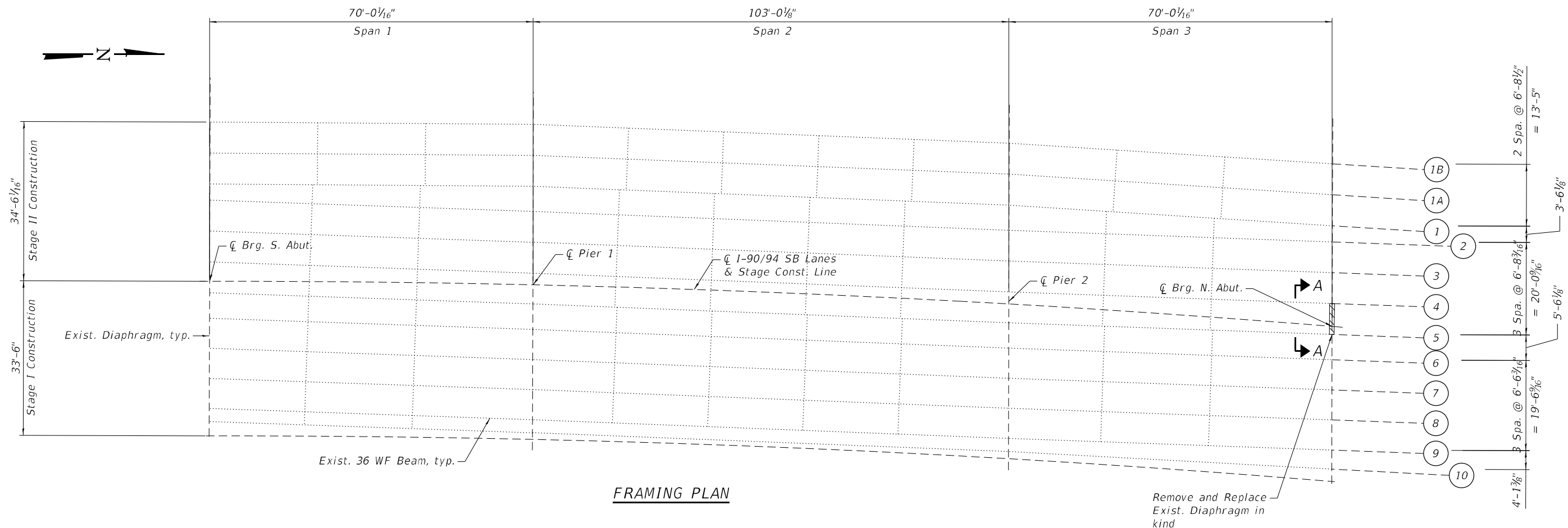
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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.

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FRAMING PLAN

NOTES:

1. All work is to be performed utilizing staged construction. See Sheets S03-03 and S03-04 for details.
2. For Section A-A, see Sheet S03-15.

LEGEND

Remove and Replace Exist. Diaphragm

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing And Erecting Structural Steel	Pound	230
Structural Steel Removal	Pound	230

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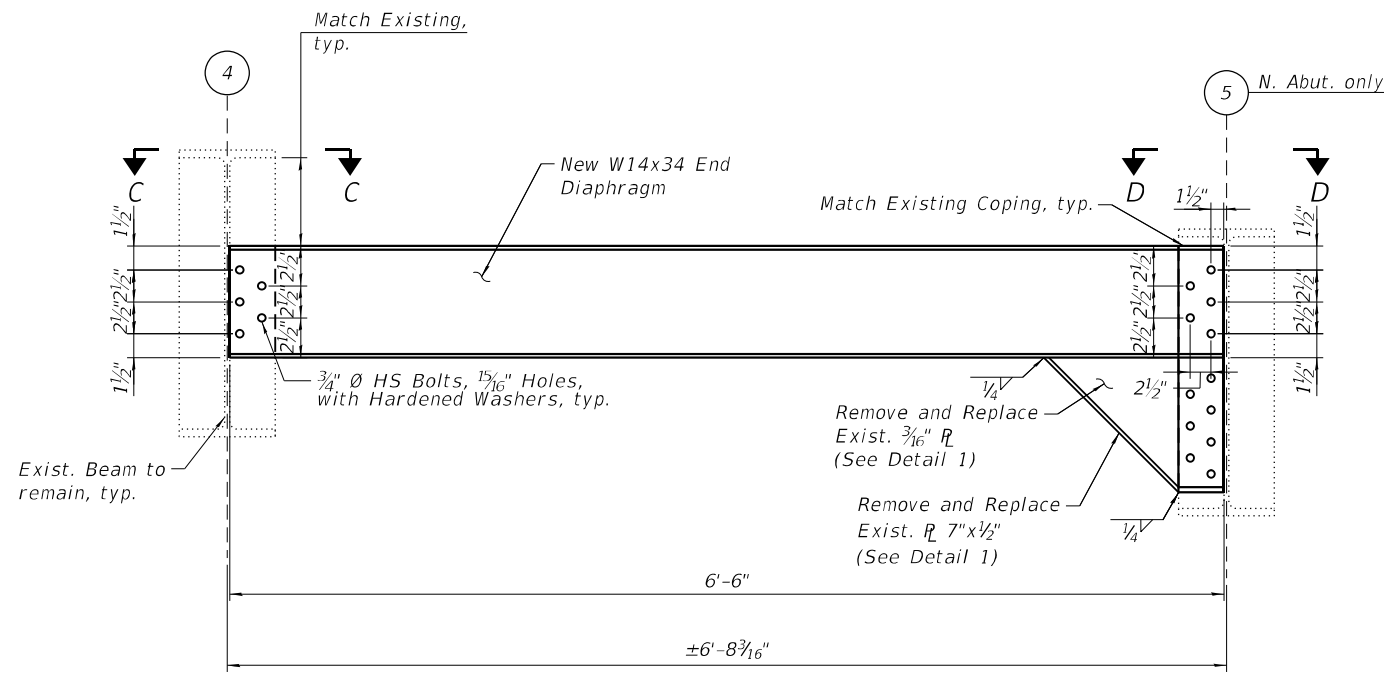
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

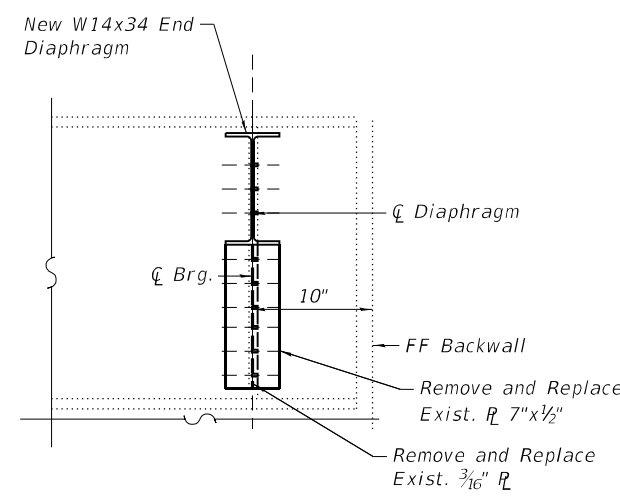
**FRAMING PLAN
SN 016-0135 (SB)**

SHEET S03-14 OF S03-21 SHEETS

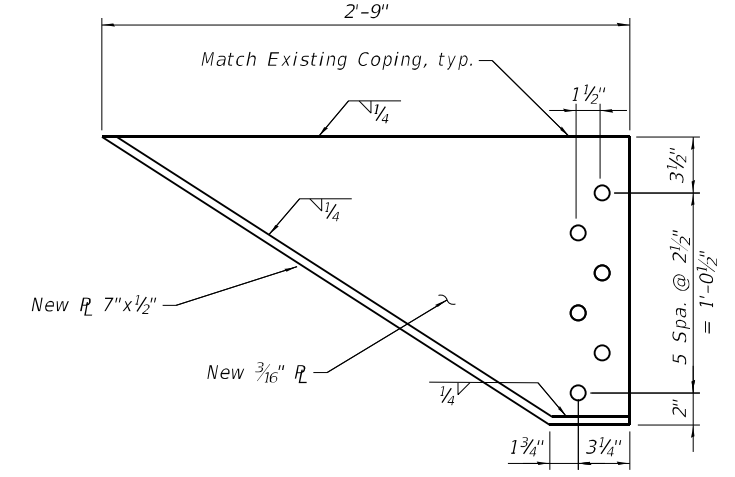
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	553
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



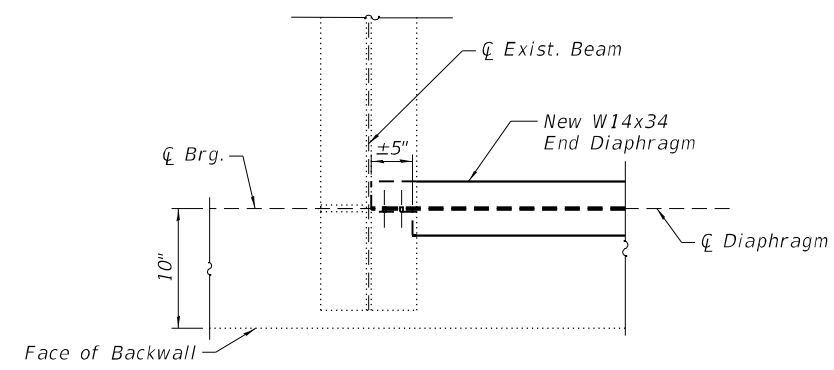
SECTION A-A
North Abutment shown
(1 Required)



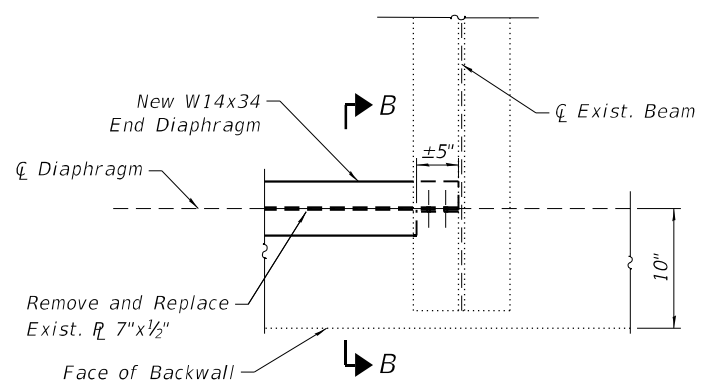
SECTION B-B



DETAIL 1



SECTION C-C



SECTION D-D

NOTES

1. For location of Diaphragm Repair and Bill of Material, see Sheet S03-14.
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

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

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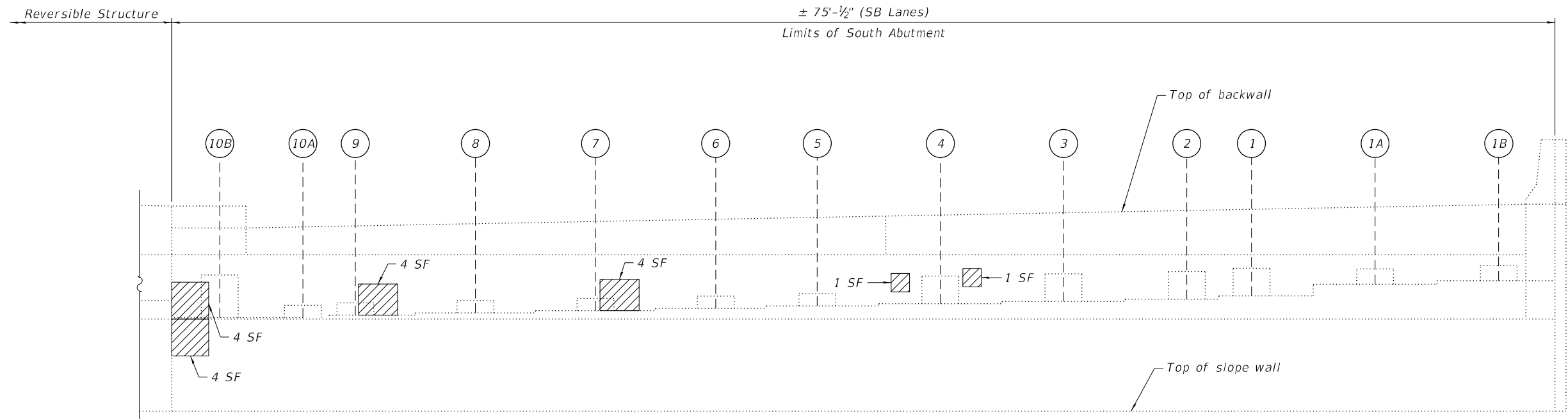
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STRUCTURAL STEEL REPAIR DETAILS
SN 016-0135 (SB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	554
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

SHEET S03-15 OF S03-21 SHEETS



ELEVATION - SOUTH ABUTMENT
(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of backwalls and to the seats of the abutments.
- For Slope Wall repairs, see Sheet S03-20.

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	355
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	18

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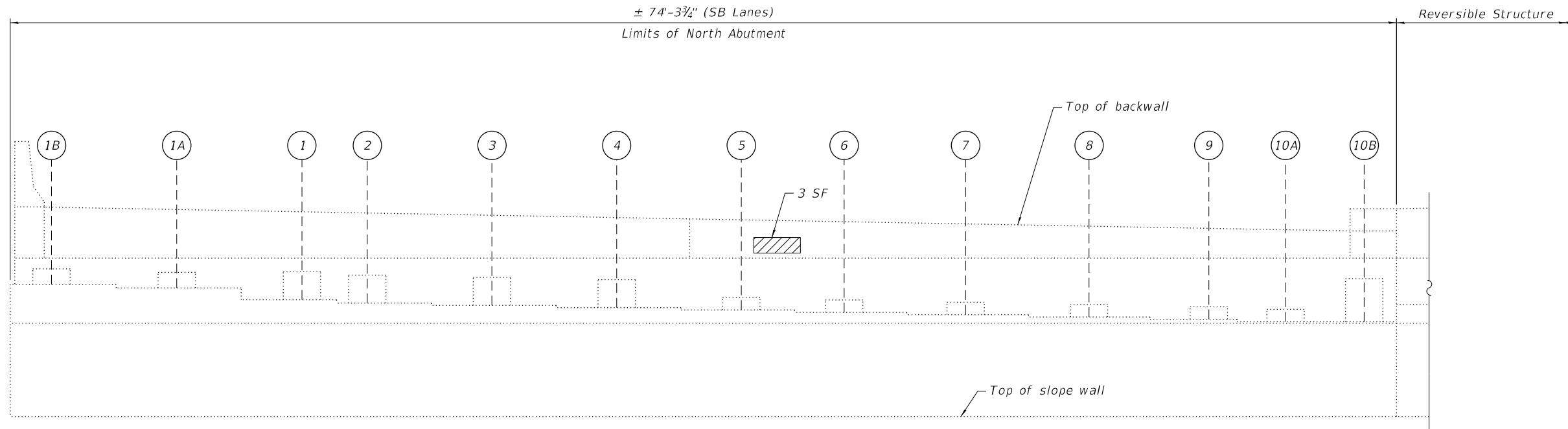
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

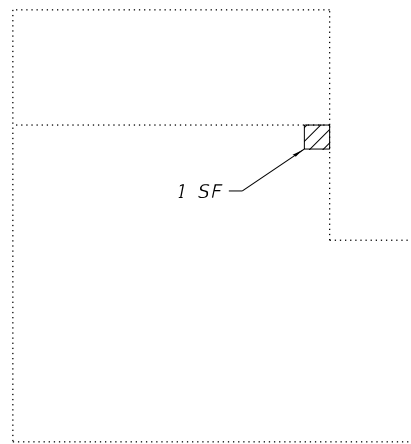
**SOUTH ABUTMENT REPAIRS
SN 016-0135 (SB)**

SHEET S03-16 OF S03-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	555
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		



ELEVATION - NORTH ABUTMENT
(Looking North)



ELEVATION - NORTHWEST WINGWALL

NOTES:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
2. Concrete Sealer is to be applied to the lower 2 feet of backwalls and to the seats of the abutments.
3. For Slope Wall repairs, see Sheet S03-20.

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	358
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	4

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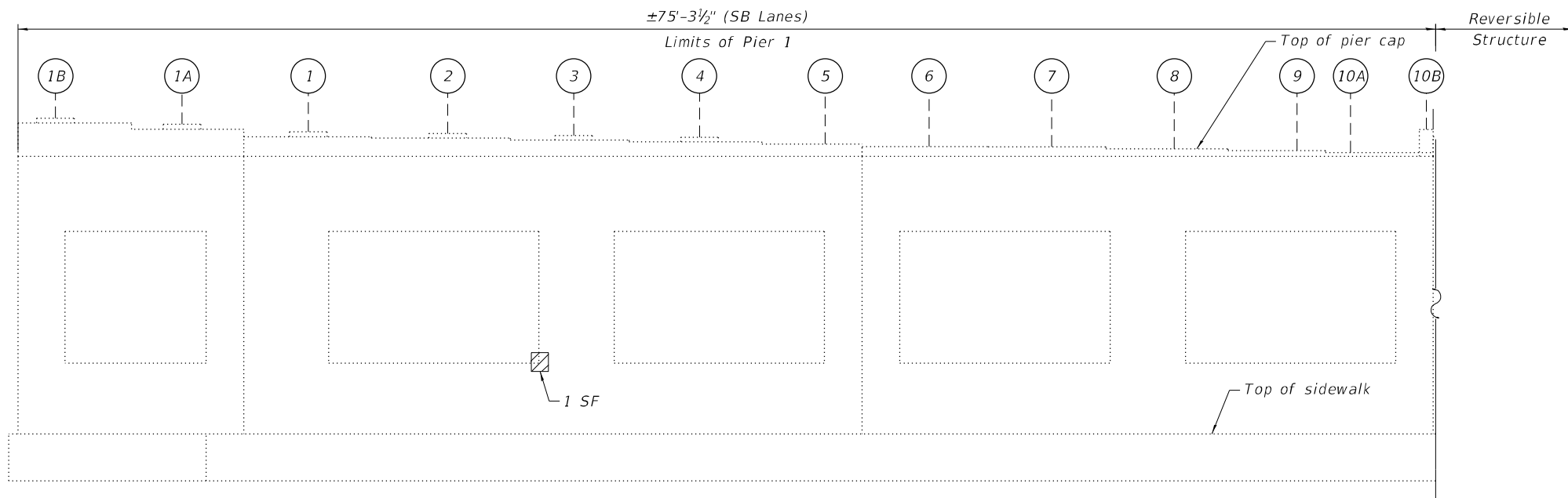
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DEPARTMENT OF TRANSPORTATION**

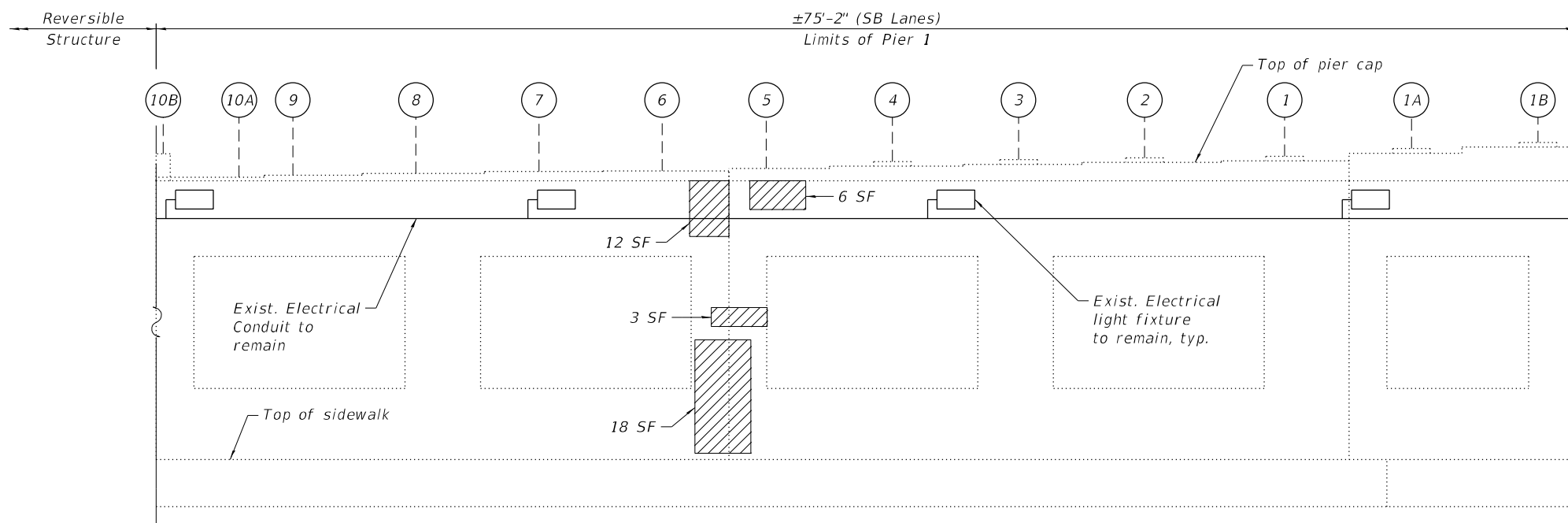
**NORTH ABUTMENT REPAIRS
SN 016-0135 (SB)**

SHEET S03-17 OF S03-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	556
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 1
(Looking North)



ELEVATION - PIER 1
(Looking South)



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.

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	40

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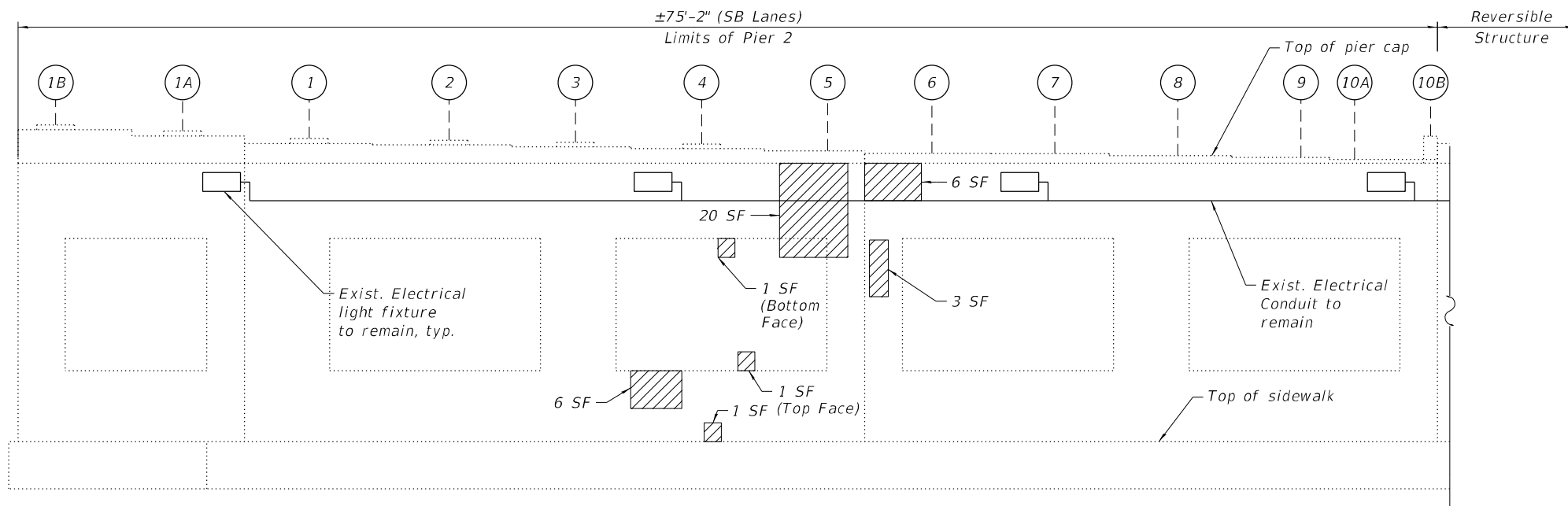
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DEPARTMENT OF TRANSPORTATION

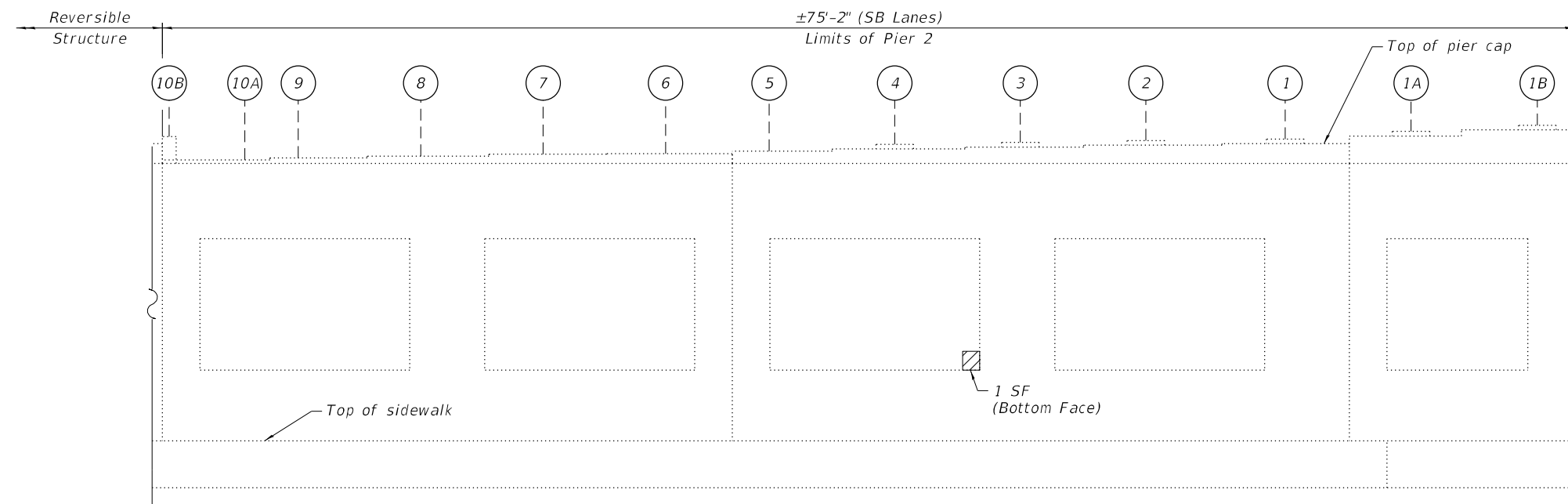
PIER 1 REPAIRS
SN 016-0135 (SB)

SHEET S03-18 OF S03-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	557
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 2
(Looking North)



ELEVATION - PIER 2
(Looking South)



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	39

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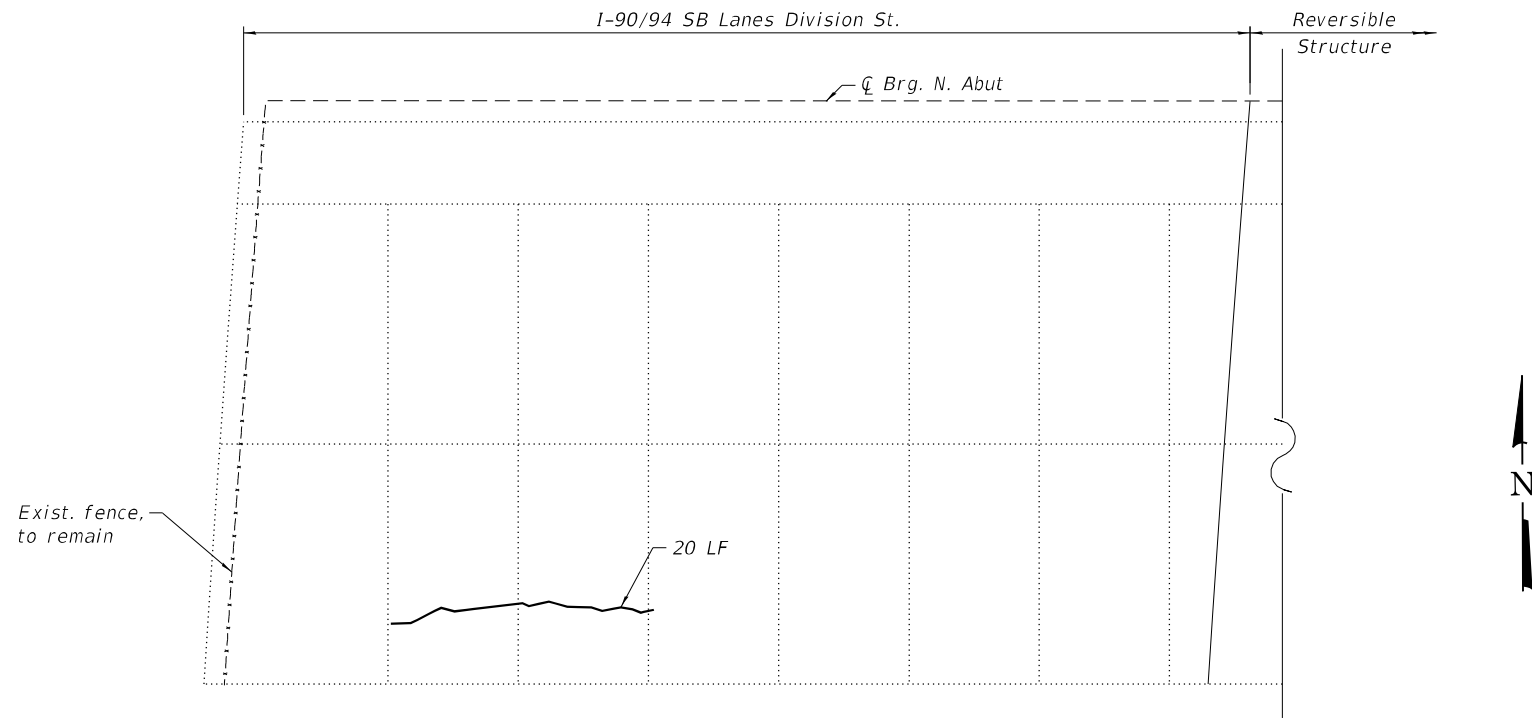
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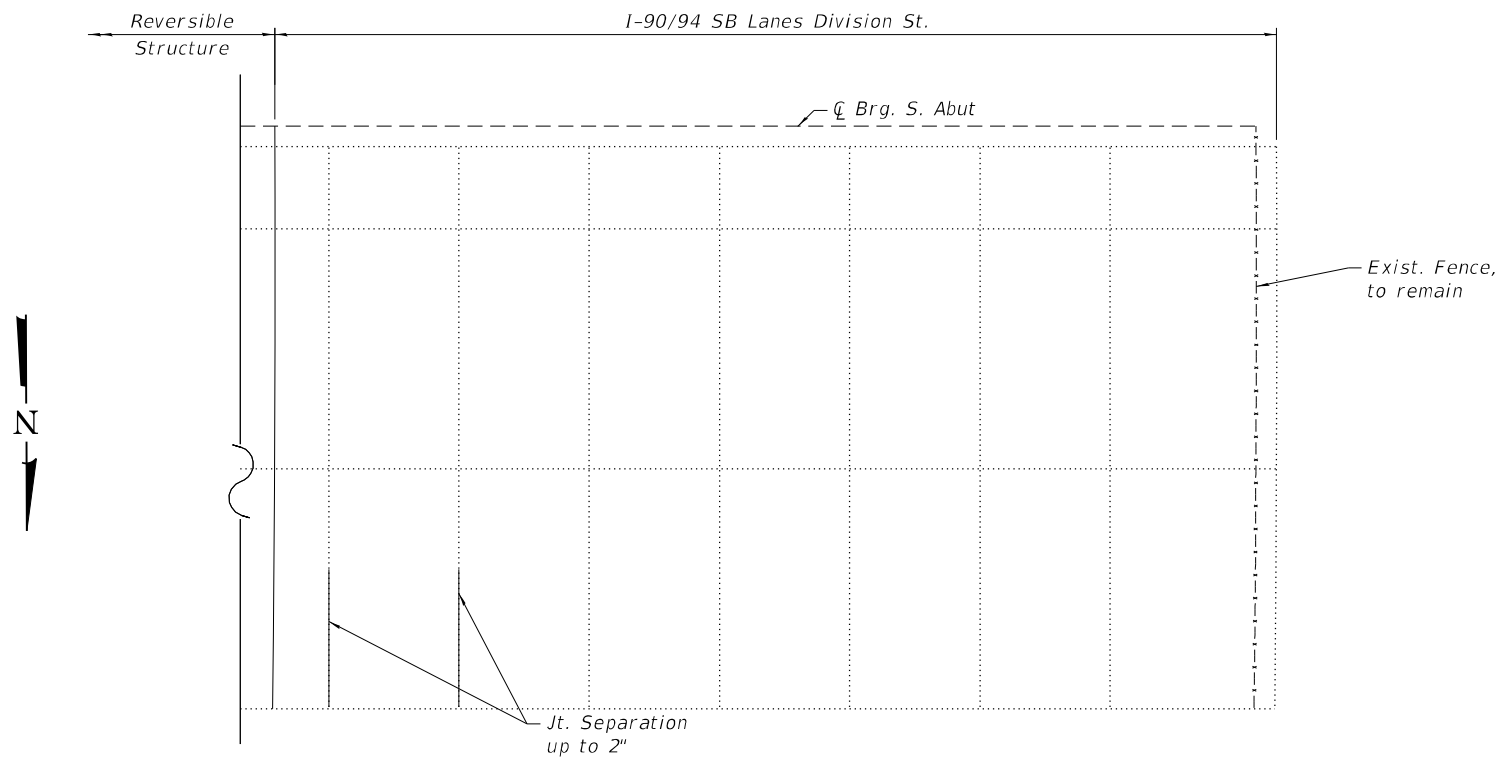
PIER 2 REPAIRS
SN 016-0135 (SB)

SHEET S03-19 OF S03-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	558
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



NORTH SLOPE WALL - PLAN
(Looking North)



SOUTH SLOPE WALL - PLAN
(Looking South)

NOTES:

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

- LF Linear Foot
- Slope Wall Crack Sealing

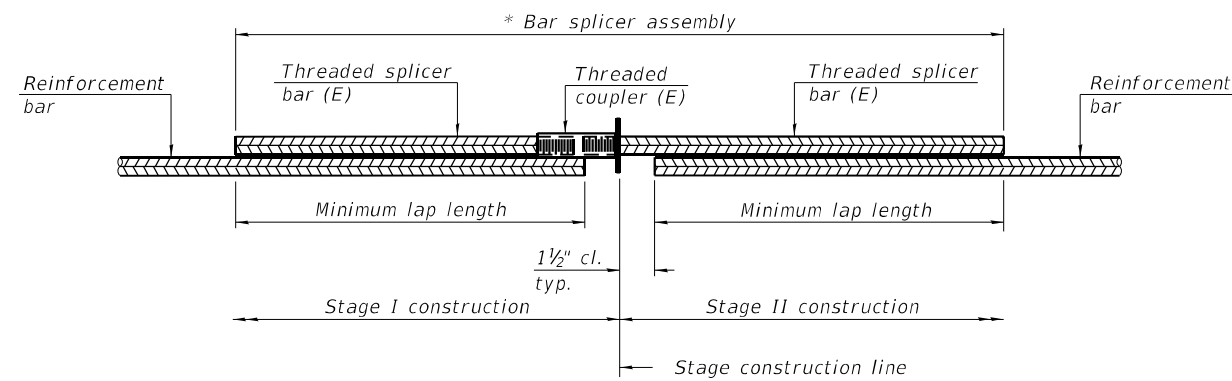
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Slope Wall Crack Sealing	Ft	20

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	559
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



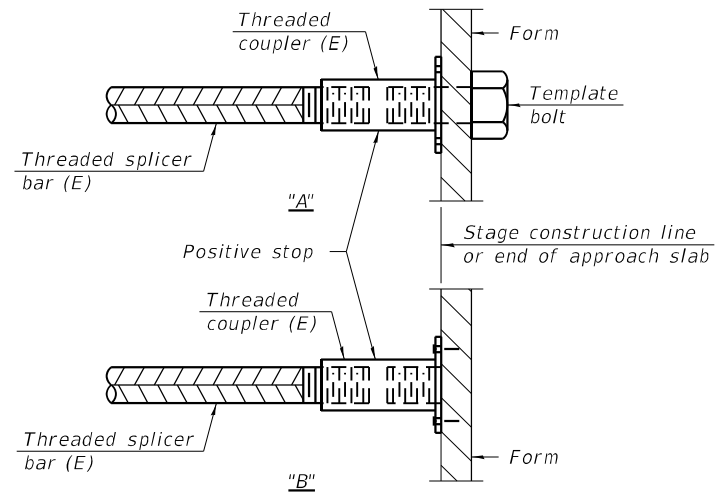
STANDARD BAR SPLICER ASSEMBLY PLAN

(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
South Abutment Exp. Jt.	#5	10	3'-6"
North Abutment Exp. Jt.	#6	8	4'-0"
South Abutment Exp. Jt.	#5	8	3'-6"
North Abutment Exp. Jt.	#6	10	4'-0"

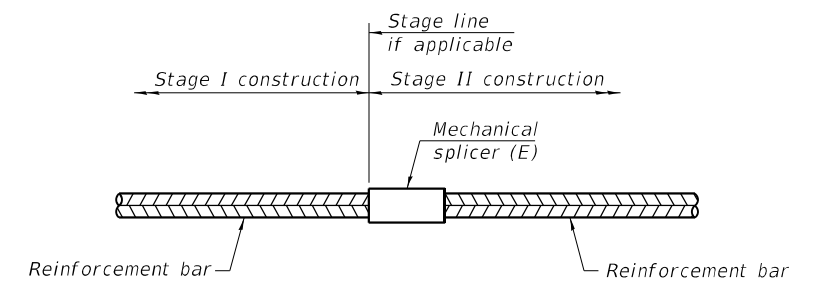


INSTALLATION AND SETTING METHODS

"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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BSD-1

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN 016-0135 (SB)**

SHEET S03-21 OF S03-21 SHEETS

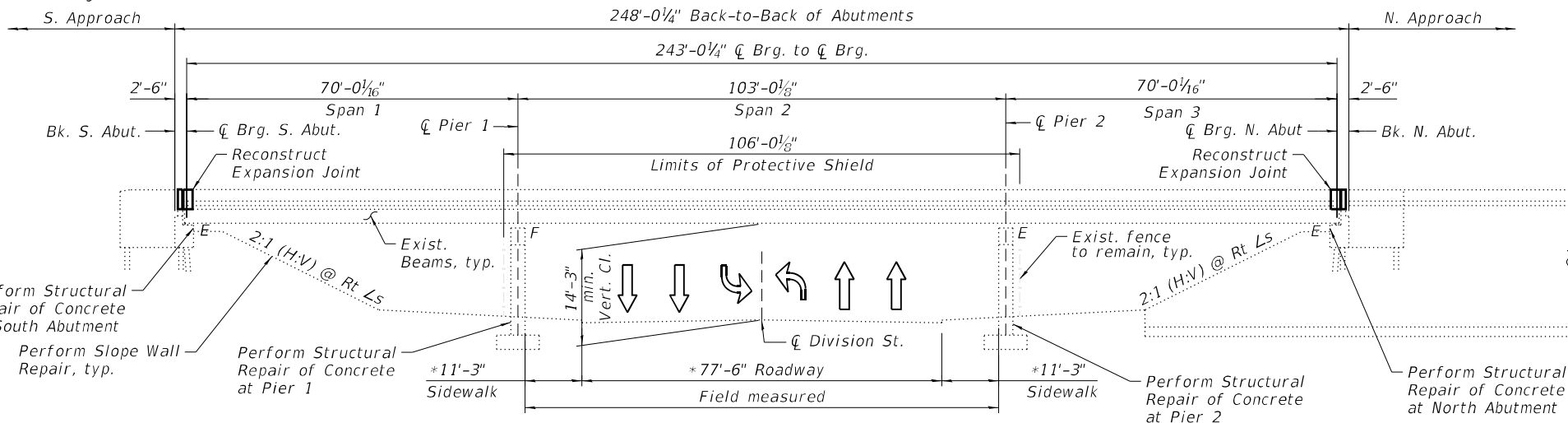
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	560
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 62K74

Existing Structure: S.N. 016-0135 was originally built in 1959 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 248'-0 1/4" and a varying out-to-out deck width between 34'-7 1/8" and 36'-0". The superstructure consists of a 7 1/2" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 70'-0 1/16", 103'-0 1/8", and 70'-0 1/16". The substructure consists of reinforced concrete abutments and piers supported on metal shell cast-in-place concrete piles.

The reversible lanes will be closed to traffic during construction.

No salvage.



ELEVATION

* Dimension at right angle

LOADING

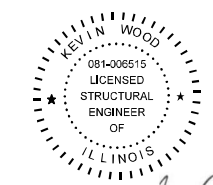
HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

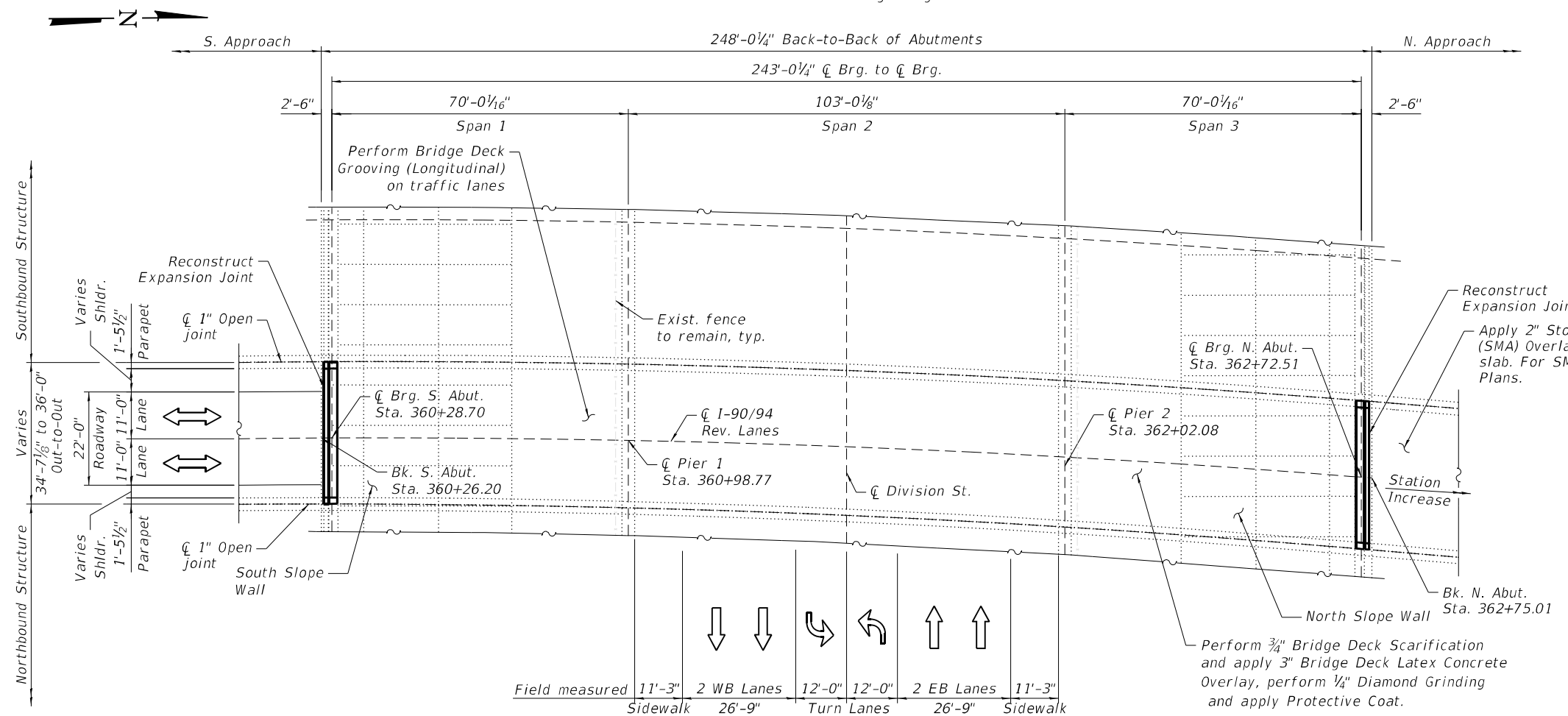
NOTE:

1. All stations are to the ϕ 1-90/94 Reversible Roadway and taken from existing plans.

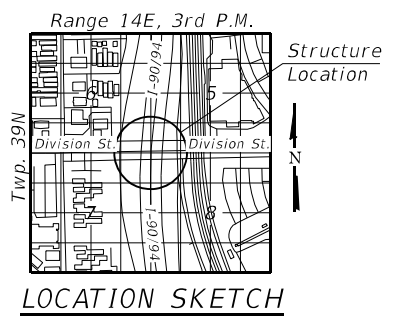


Kevin Wood

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
 REVERSIBLE I-90 OVER DIVISION ST.
 F.A.I. SEC 2020-004-BR
 COOK COUNTY
 STATION: 351+50.40
 STRUCTURE NO. 016-0135 (REV)**

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

SHEET S04-01 OF S04-17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	561
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 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

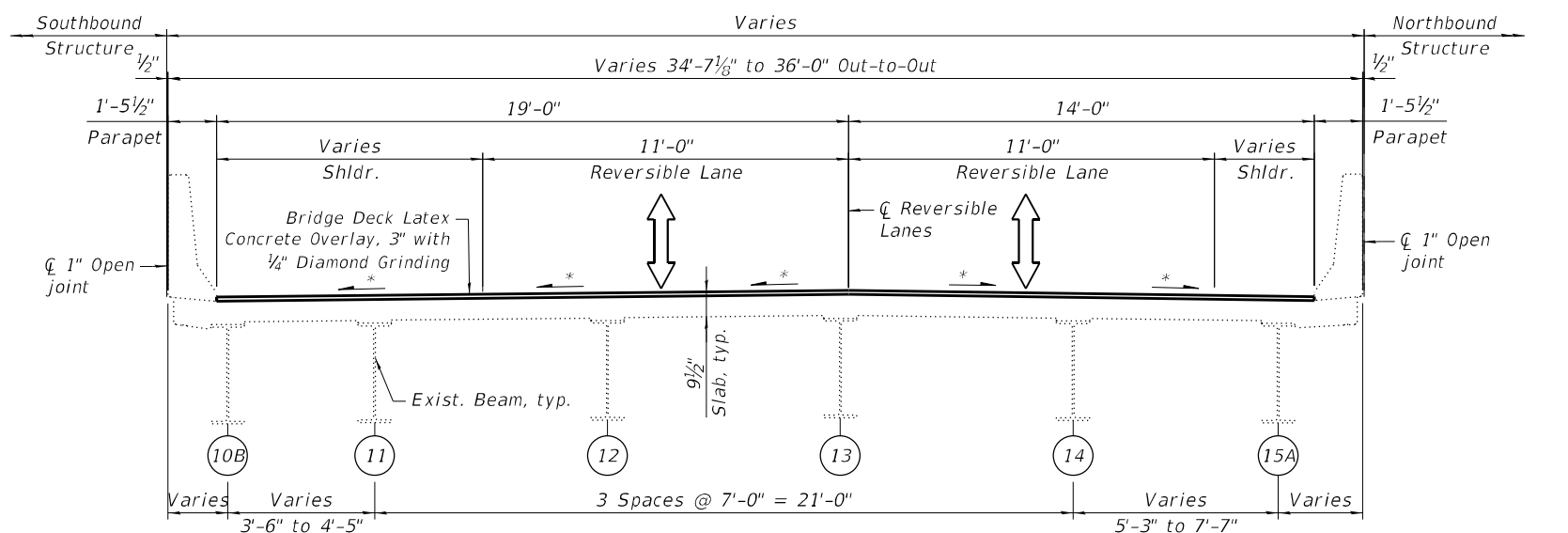
S04-01	General Plan & Elevation
S04-02	General Data
S04-03	Bridge Deck Repair Plan and Details
S04-04-S04-06	South Abutment Expansion Joint Details I, II & III
S04-07-S04-09	North Abutment Expansion Joint Details I, II & III
S04-10	Preformed Joint Strip Seal
S04-11	Framing Plan
S04-12	Structural Steel Details
S04-13	South Abutment Repairs
S04-14	North Abutment Repairs
S04-15	Pier 1 Repairs
S04-16	Pier 2 Repairs
S04-17	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 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.
- 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.
- Perform slope wall repairs.
- Adjust Drainage Scuppers.
- Repair steel diaphragm as shown on the plans.
- Install Longitudinal Preformed Joint Strip Seal along top of parapet between Reversible and SB lanes

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	11.4		11.4
Protective Shield	Sq Yd	424		424
Concrete Superstructure	Cu Yd	12.9		12.9
Protective Coat	Sq Yd	1,165		1,165
Furnishing and Erecting Structural Steel	Pound	760		760
Reinforcement Bars, Epoxy Coated	Pound	1,360		1,360
Preformed Joint Seal 2 1/2"	Foot	249		249
Preformed Joint Strip Seal	Foot	68		68
Concrete Sealer	Sq Ft		322	322
Slope Wall Crack Sealing	Foot		20	20
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	600		600
Structural Steel Removal	Pound	760		760
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	889		889
Bridge Deck Scarification 3/4"	Sq Yd	889		889
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		51	51
Deck Slab Repair (Full Depth, Type II)	Sq Yd	19.8		19.8
Diamond Grinding (Bridge Section)	Sq Yd	899		899
Maintenance of Lighting System	Cal Mo		6	6



FINAL CROSS SECTION

(Looking North)

* Match existing deck surface profile

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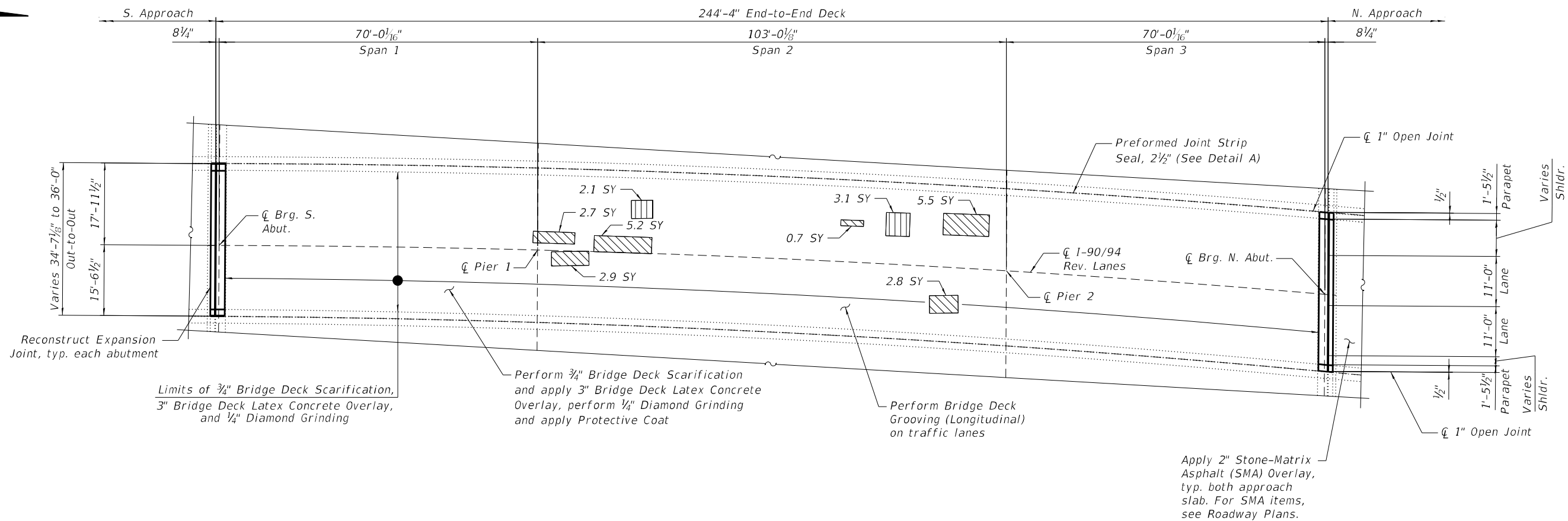
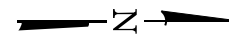
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	CHECKED - K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
SN 016-0135 (REV)**

SHEET S04-02 OF S04-17 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 562
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



DECK PLAN

LEGEND

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

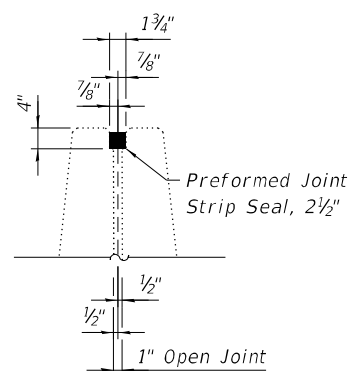
* Areas of Deck Slab Repair (Partial Depth) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3 Inches

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 S04-02.
3. For North and South transverse joint removal and reconstruction, see Sheet S04-04 thru S04-09.
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	424
Protective Coat	Sq Yd	1,165
Preformed Joint Seal 2 1/2"	Foot	249
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	600
Bridge Deck Latex Concrete Overlay, 3"	Sq Yd	889
Bridge Deck Scarification 3/4"	Sq Yd	889
Deck Slab Repair (Full Depth, Type II)	Sq Yd	19.8
Diamond Grinding (Bridge Section)	Sq Yd	899
Maintenance of Lighting System	Cal Mo	6



DETAIL A

(Reinforcement not shown for clarity)

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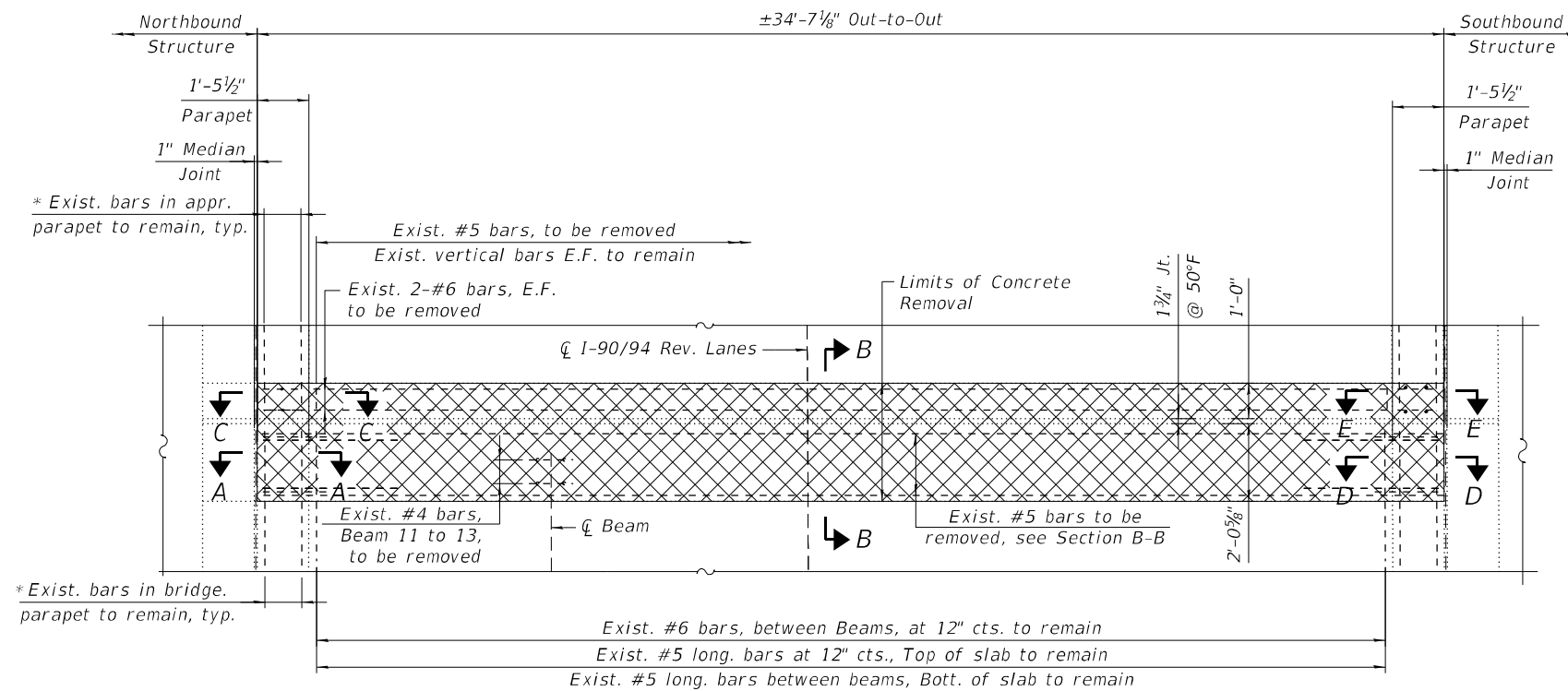
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DEPARTMENT OF TRANSPORTATION**

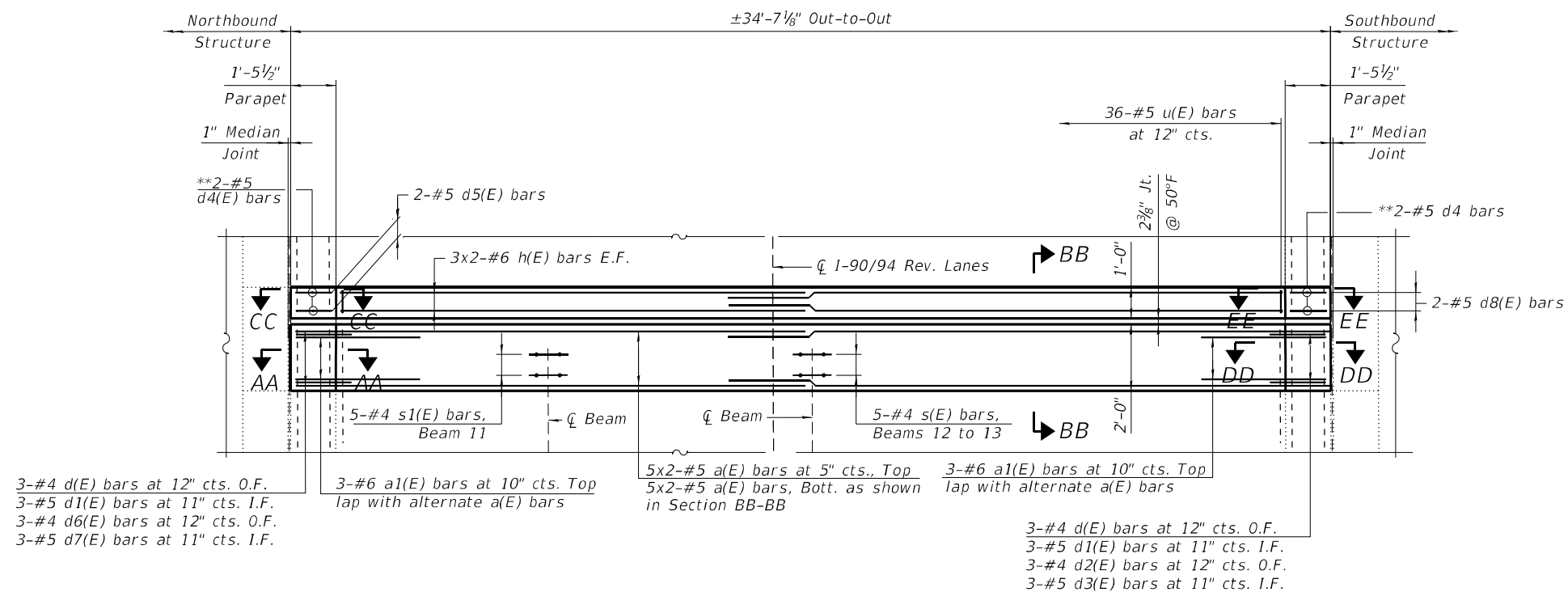
**BRIDGE DECK REPAIR PLAN AND DETAILS
SN 016-0135 (REV)**

SHEET S04-03 OF S04-17 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 563
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S04-05.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S04-06.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

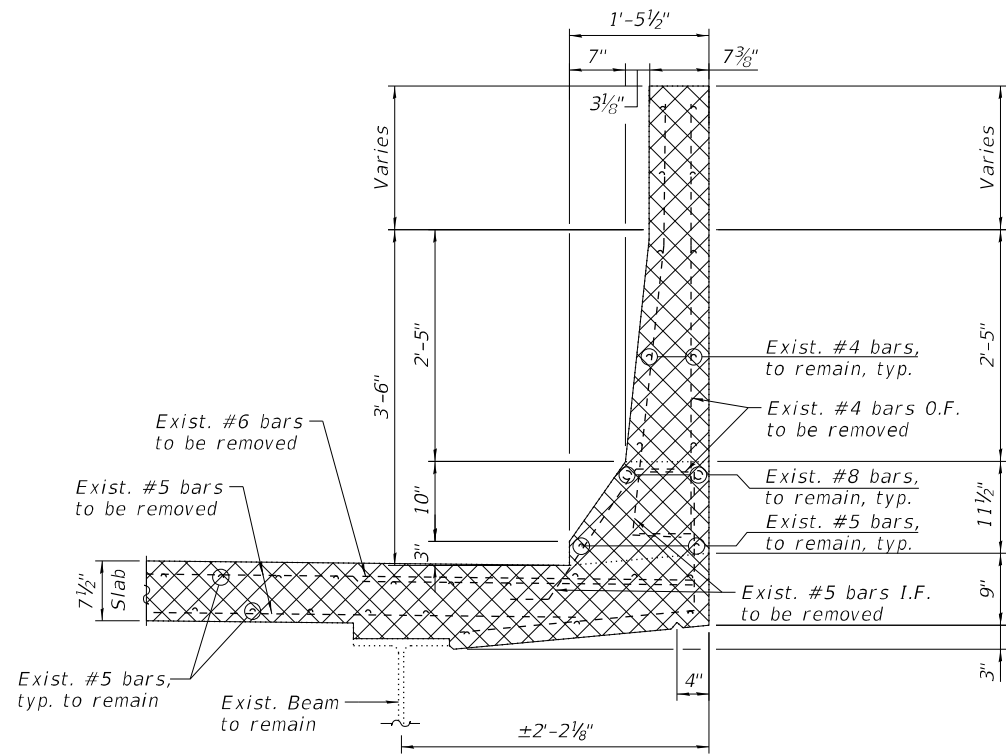
LEGEND

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

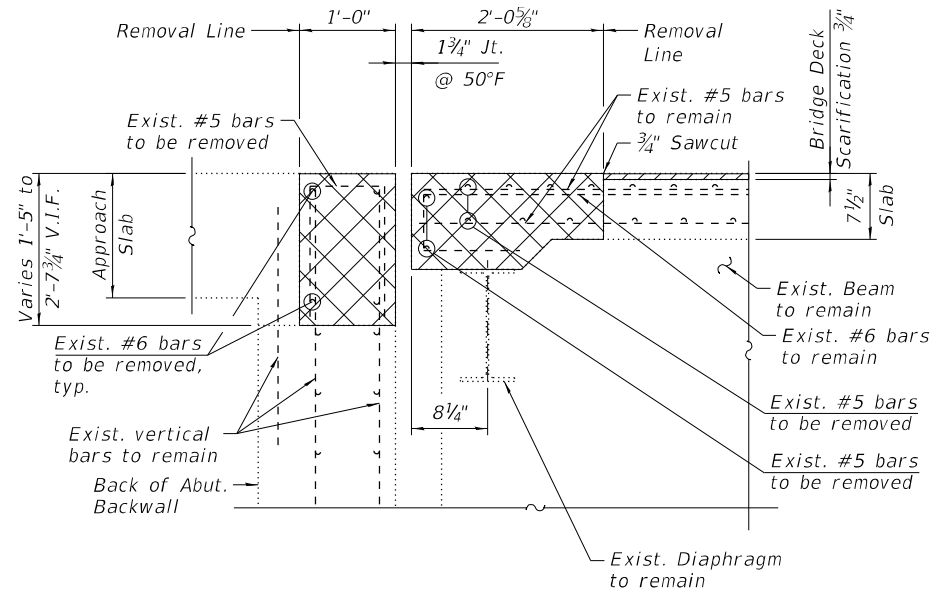
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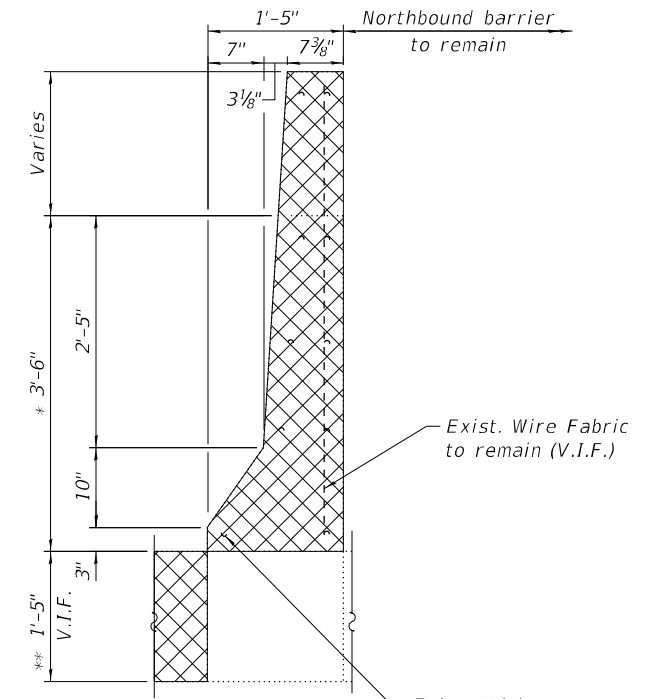
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90	2020-004-BR	COOK	1492	564
CONTRACT NO. 62K74				



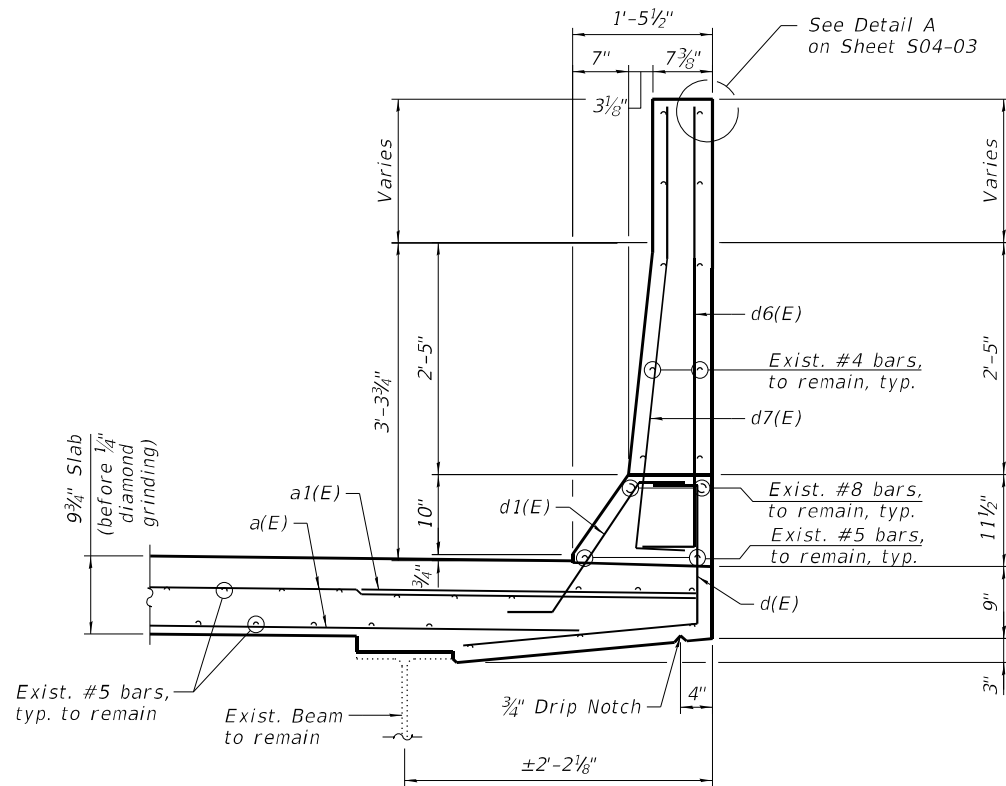
SECTION A-A
(East parapet removal)



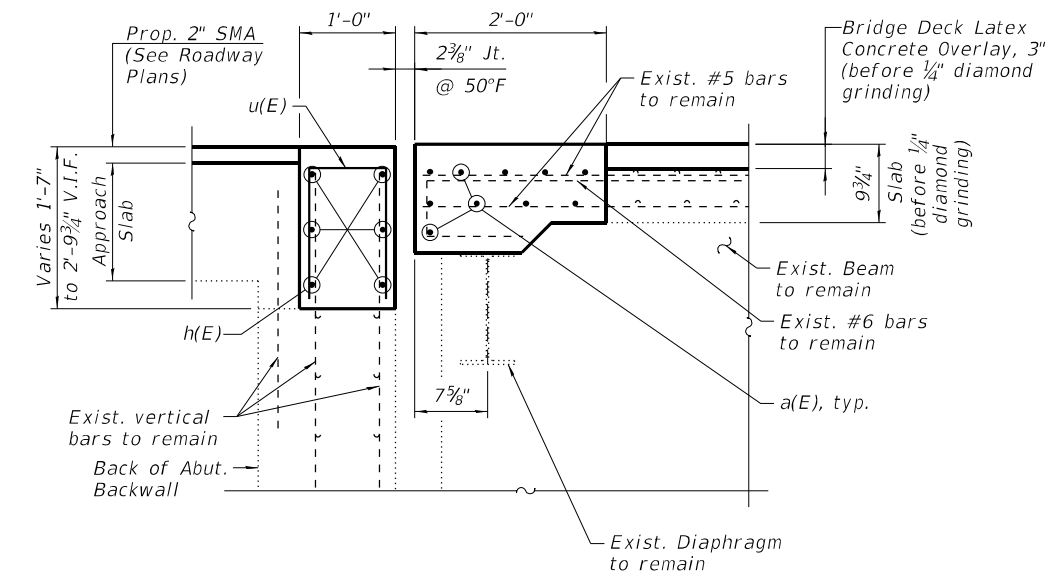
SECTION B-B



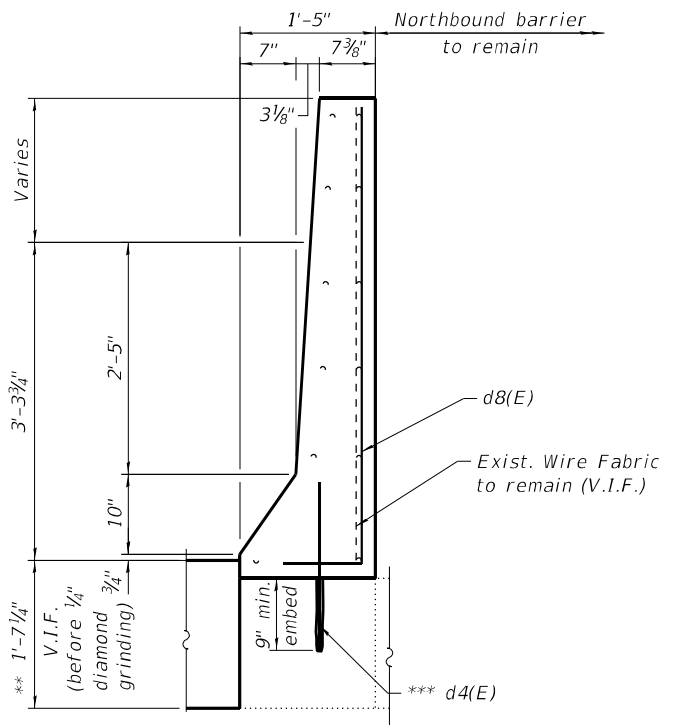
SECTION C-C
(East parapet removal)



SECTION AA-AA
(East parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(East 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 #5 d4(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

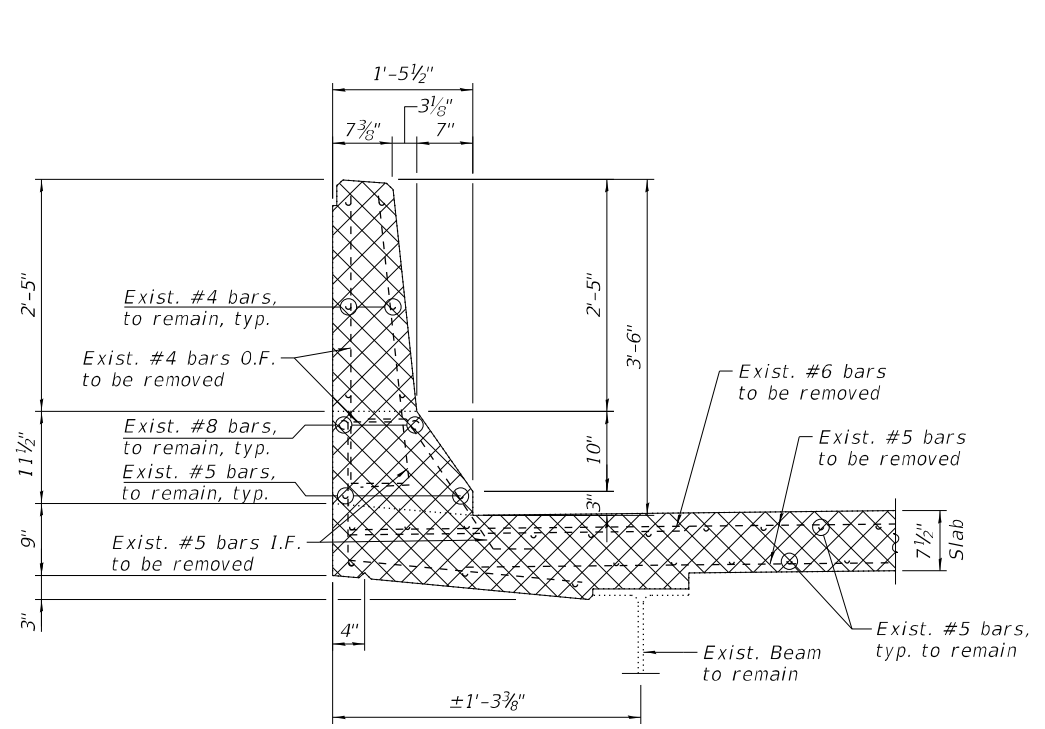
SOUTH ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0135 (REV)

SHEET S04-05 OF S04-17 SHEETS

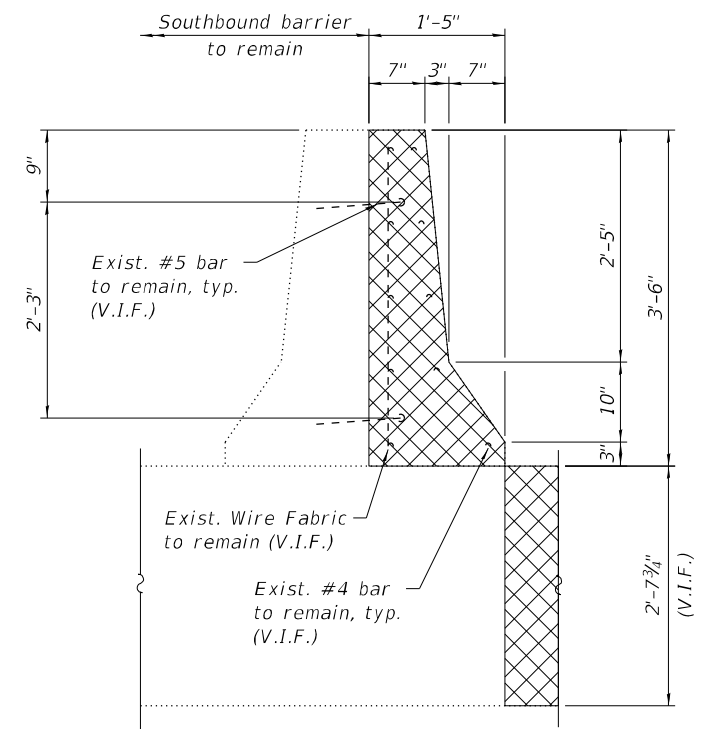
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CONTRACT NO. 62K74				

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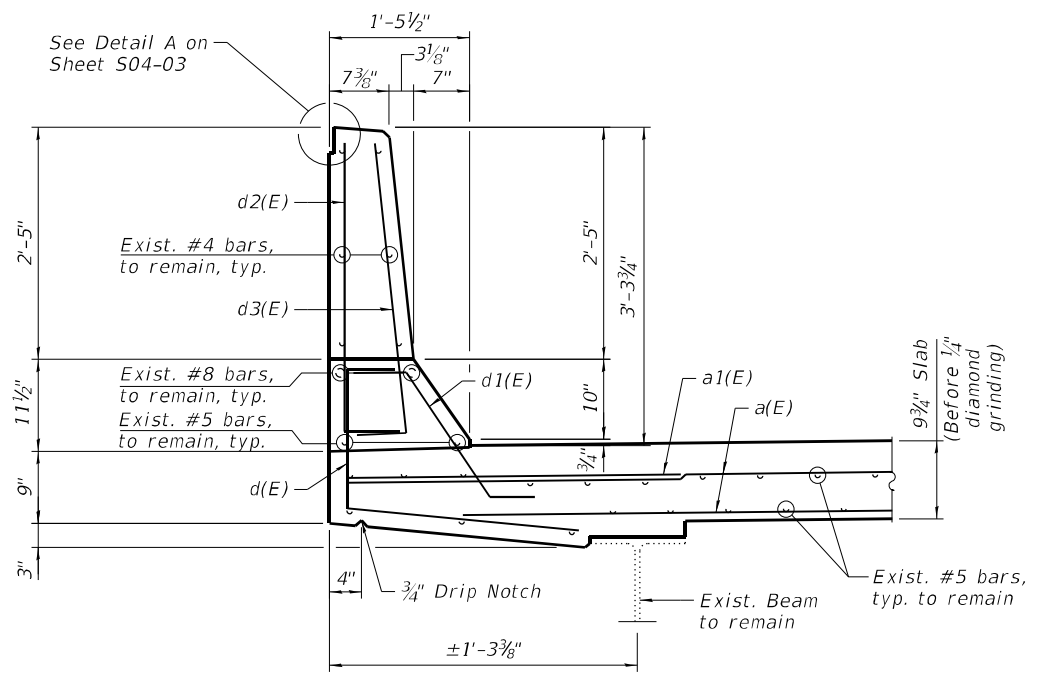
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SECTION D-D
(West parapet removal)



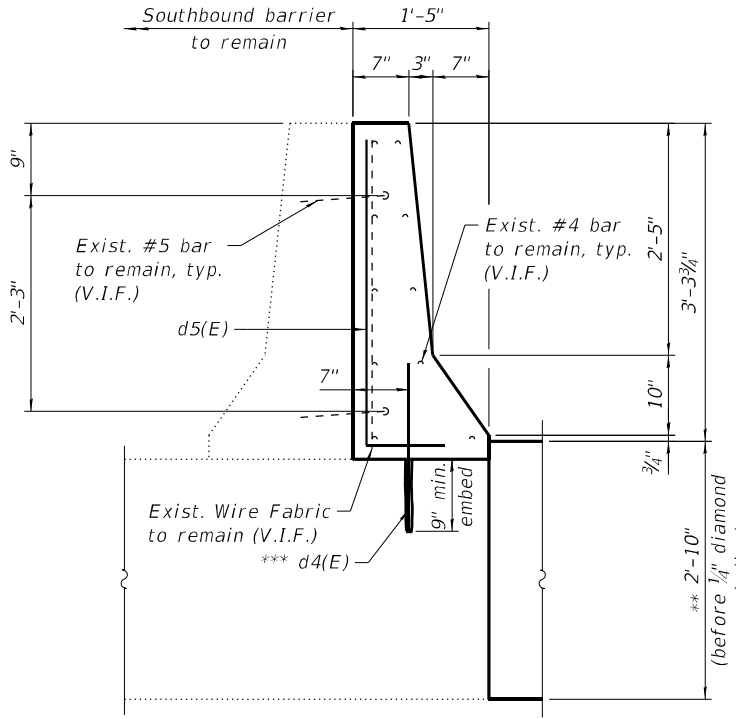
SECTION E-E
(West parapet removal)



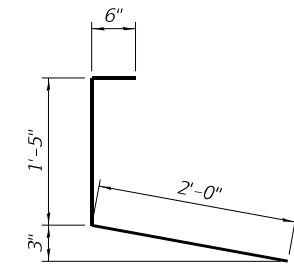
SECTION DD-DD
(West parapet reconstruction)

LEGEND

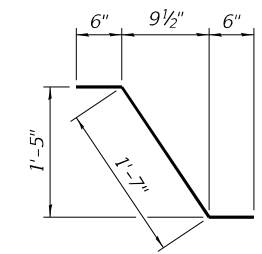
	Concrete Removal
I.F.	Inside Face
O.F.	Outside Face
V.I.F.	Verify in Field



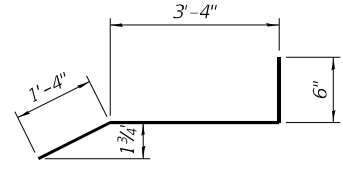
SECTION EE-EE
(West parapet reconstruction)



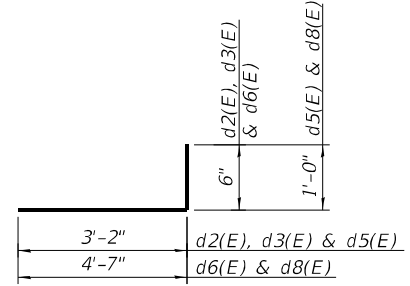
BAR d(E)



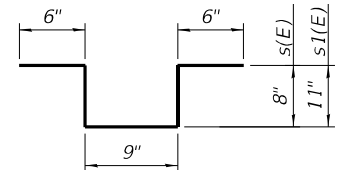
BAR d1(E)



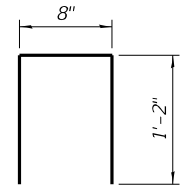
BARS d7(E)



BARS d2(E), d3(E), d5(E) d6(E) & d8(E)



BAR s(E)



BAR u(E)

**BILL OF MATERIAL
SOUTH ABUTMENT**

Bar	No.	Size	Length	Shape
a(E)	20	#5	21'-8"	—
a1(E)	6	#6	6'-6"	—
d(E)	6	#4	3'-11"	—
d1(E)	6	#5	2'-7"	—
d2(E)	3	#4	3'-8"	—
d3(E)	3	#5	3'-8"	—
d4(E)	4	#5	1'-9"	—
d5(E)	2	#5	4'-2"	—
d6(E)	3	#4	5'-1"	—
d7(E)	3	#5	5'-2"	—
d8(E)	2	#5	5'-7"	—
h(E)	12	#6	21'-8"	—
s(E)	10	#4	3'-1"	—
s1(E)	5	#4	3'-7"	—
u(E)	36	#5	3'-0"	—
Concrete Removal			Cu Yd	5.9
Reinforcement Bars, Epoxy Coated			Pound	680
Concrete Superstructure			Cu Yd	6.6

NOTES:

- For Preformed Joint Strip Seal details, see sheet S04-10.
- 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.

MIN BAR LAPS

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

** Dimension is taken at the Back of Abut.

*** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.



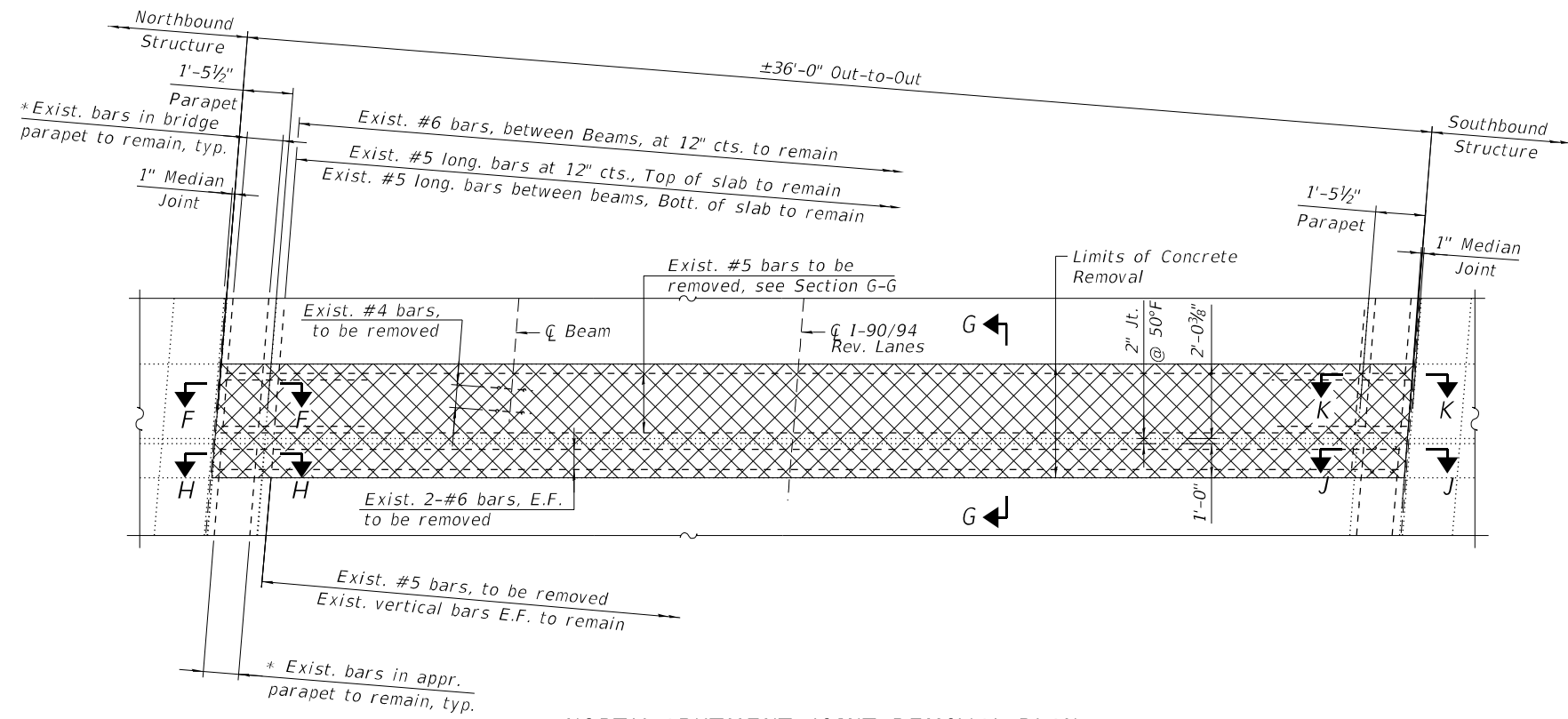
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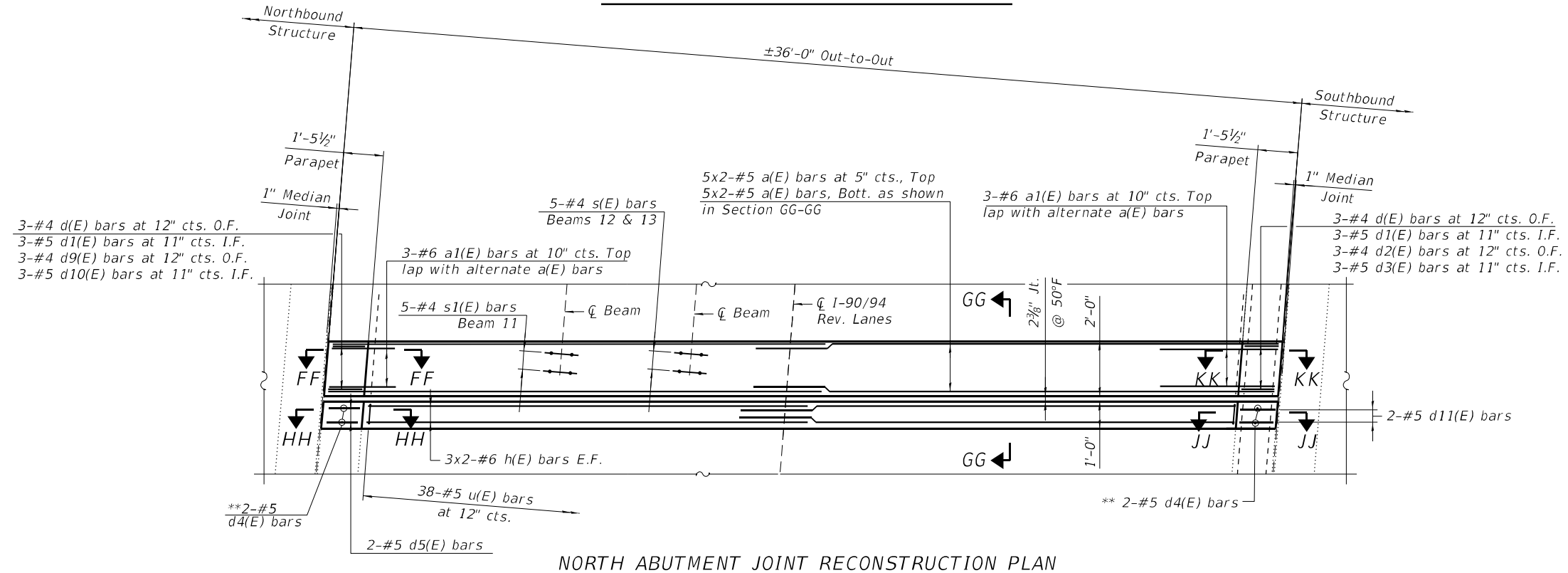
**SOUTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0135 (REV)**

SHEET S04-06 OF S04-17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	566
CONTRACT NO. 62K74			ILLINOIS FED. AID PROJECT	



NORTH ABUTMENT JOINT REMOVAL PLAN



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S04-08.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S04-09.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to 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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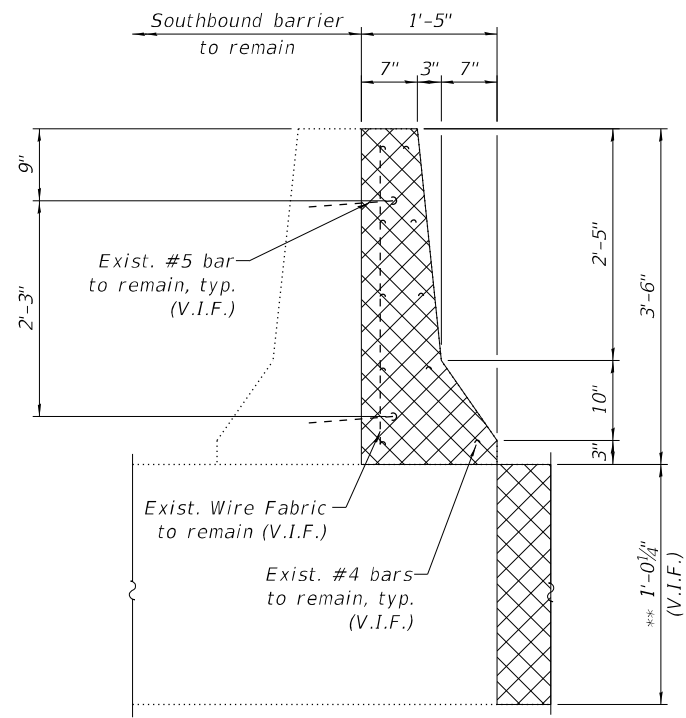
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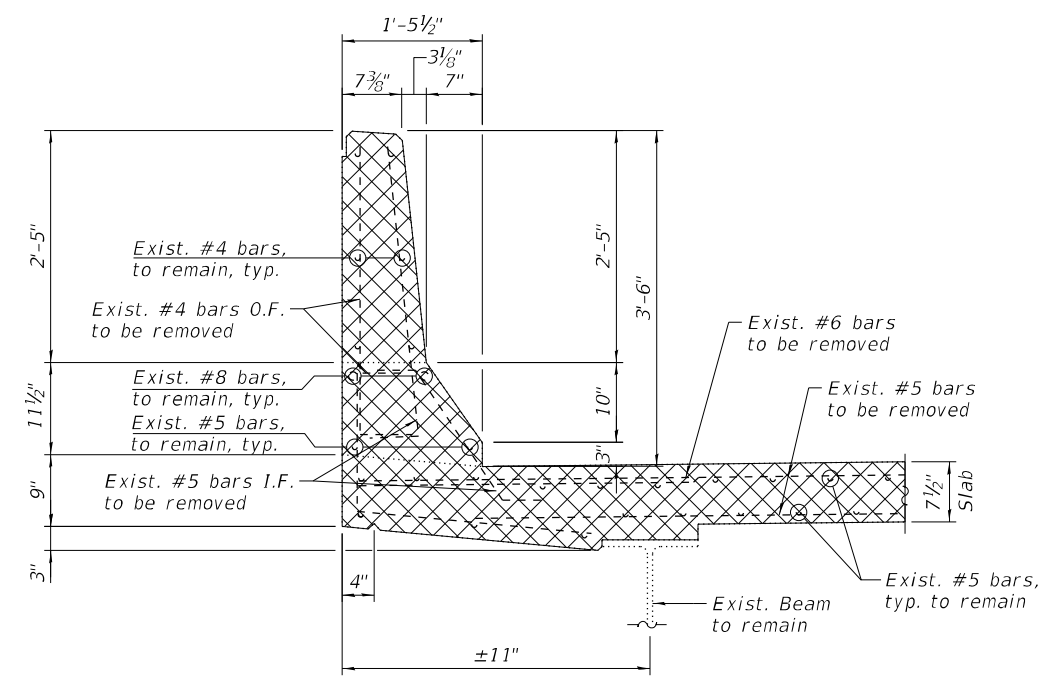
NORTH ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0135 (REV)

SHEET S04-07 OF S04-17 SHEETS

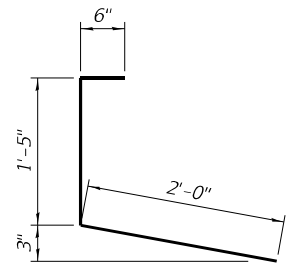
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			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



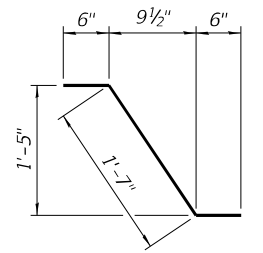
SECTION J-J
(West parapet removal)



SECTION K-K
(West parapet removal)



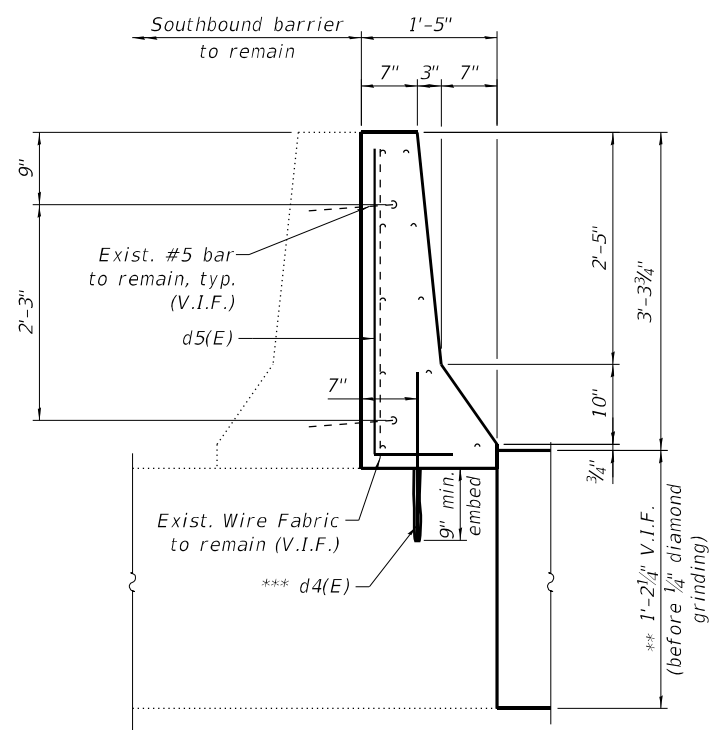
BAR d(E)



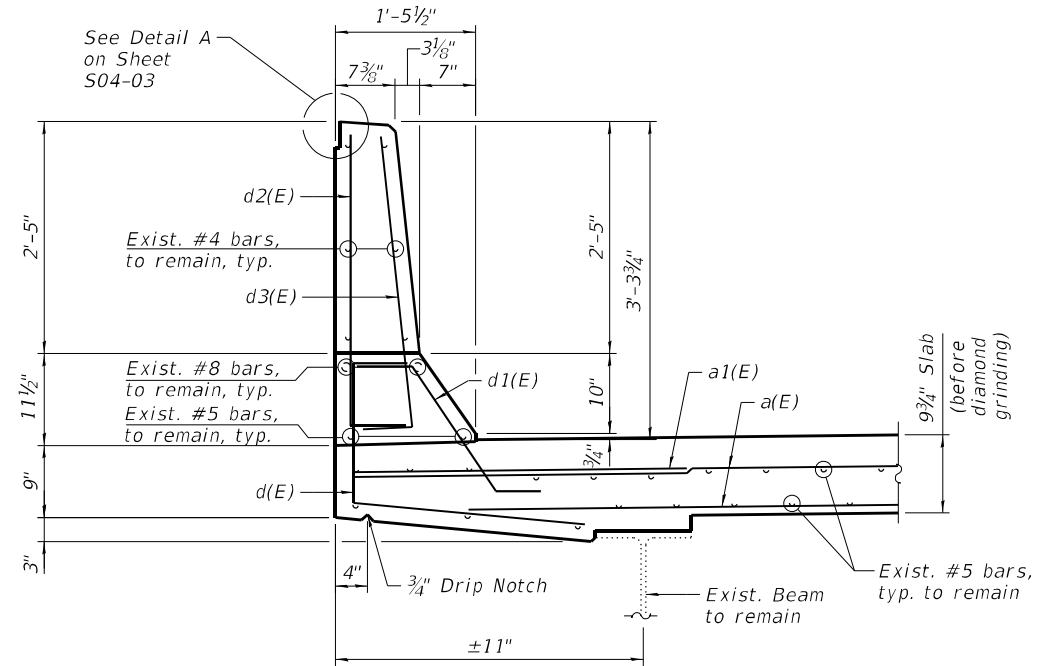
BAR d1(E)

**BILL OF MATERIAL
NORTH ABUTMENT**

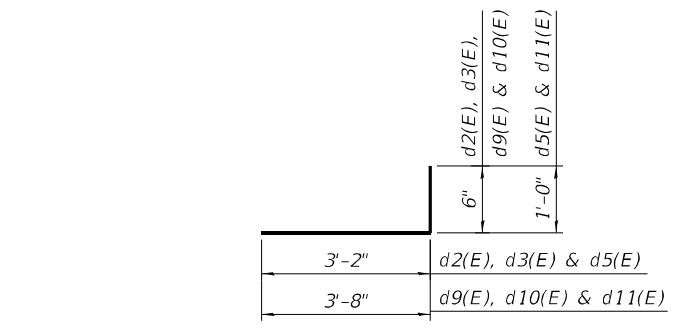
Bar	No.	Size	Length	Shape
a(E)	20	#5	21'-8"	—
a1(E)	6	#6	6'-6"	—
d(E)	6	#4	3'-11"	┌┐
d1(E)	6	#5	2'-7"	┌┐
d2(E)	3	#4	3'-8"	┌┐
d3(E)	3	#5	3'-8"	┌┐
d4(E)	4	#5	1'-9"	┌┐
d5(E)	2	#5	4'-2"	┌┐
d9(E)	3	#4	4'-2"	┌┐
d10(E)	3	#5	4'-2"	┌┐
d11(E)	2	#5	4'-8"	┌┐
h(E)	12	#6	21'-8"	—
s(E)	10	#4	3'-1"	┌┐
s1(E)	5	#4	3'-7"	┌┐
u(E)	38	#5	3'-0"	┌┐
Concrete Removal			Cu Yd	5.5
Reinforcement Bars, Epoxy Coated			Pound	680
Concrete Superstructure			Cu Yd	6.3



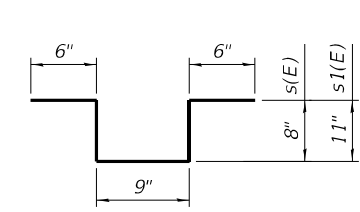
SECTION JJ-JJ
(West parapet reconstruction)



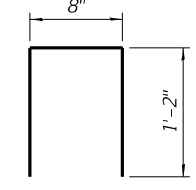
SECTION KK-KK
(West parapet reconstruction)



BARS d2(E), d3(E), d5(E), d9(E), d10(E) & d11(E)



BAR s(E) & s1(E)



BAR u(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S04-10.
- 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.

MIN BAR LAPS

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

** Dimension is taken at the Back of Abut.

*** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to 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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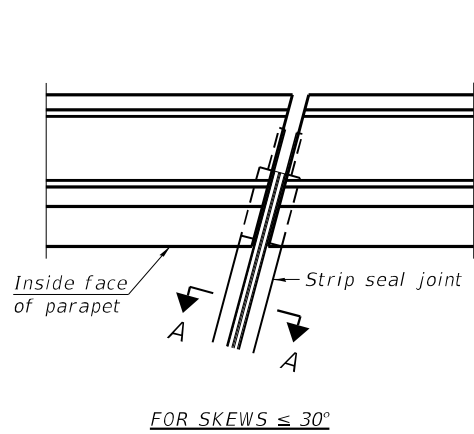
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**NORTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0135 (REV)**

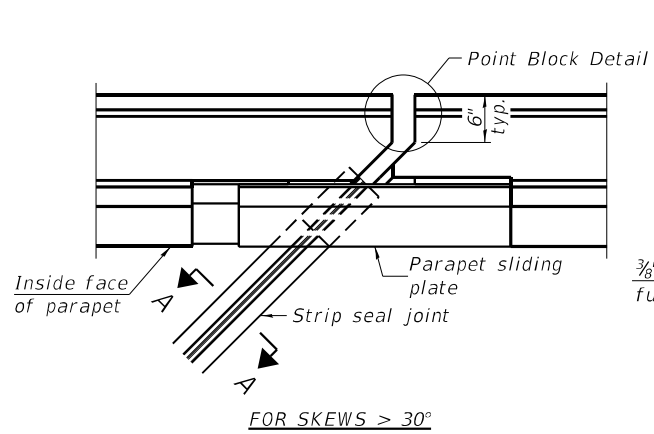
SHEET S04-09 OF S04-17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	569
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

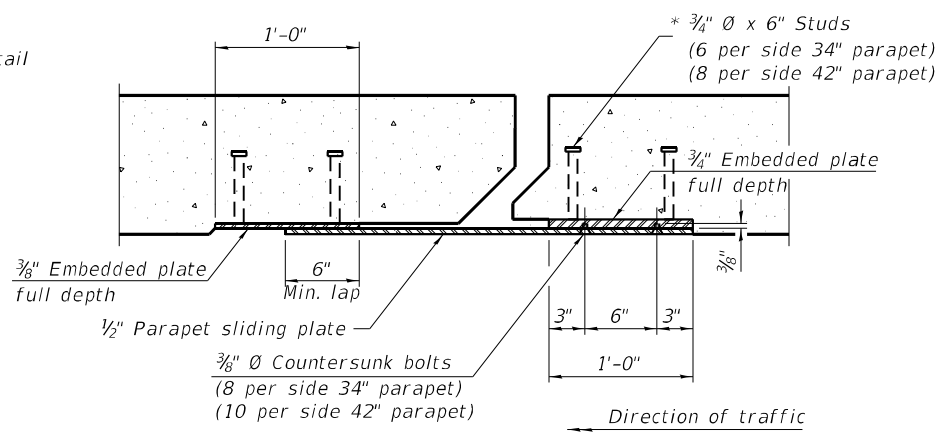
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PLAN AT PARAPET

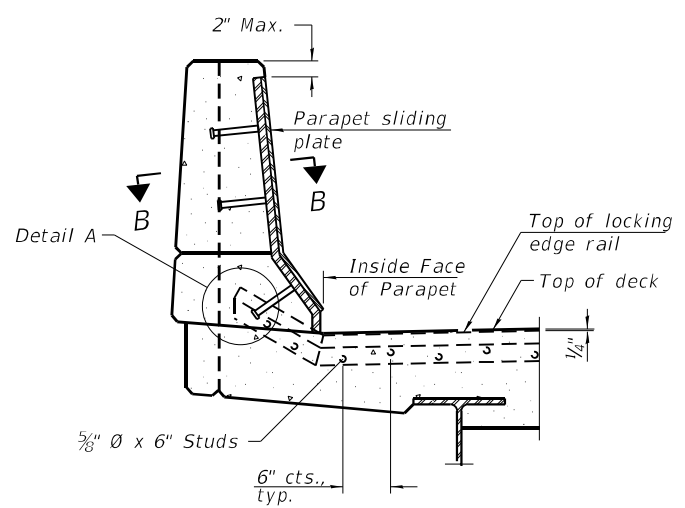


PLAN AT PARAPET



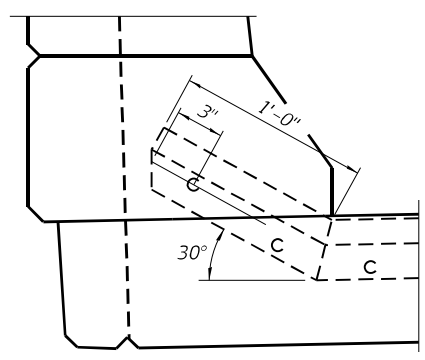
SECTION B-B

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.

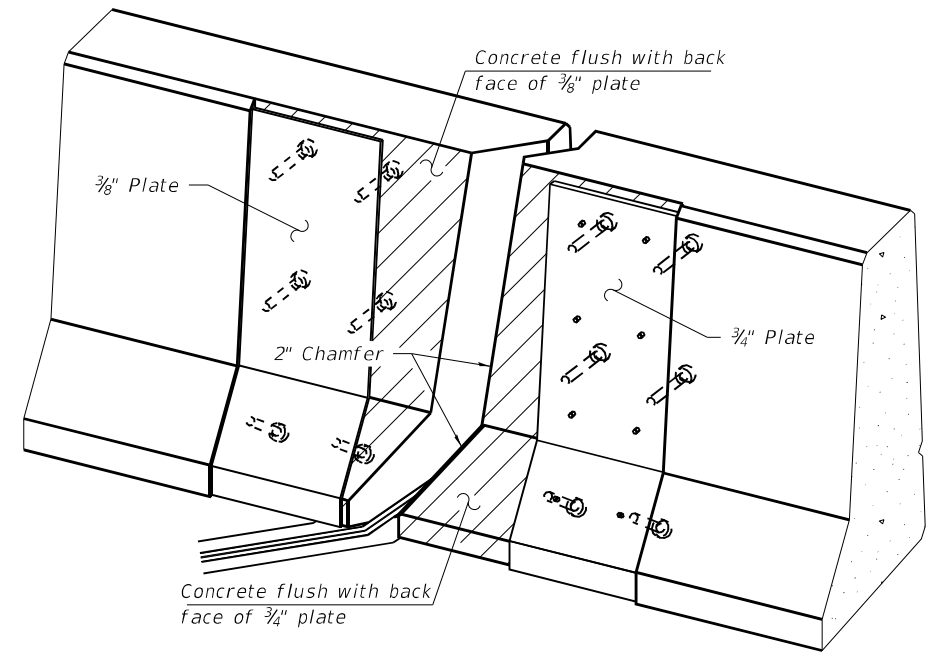


ELEVATION AT PARAPET

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

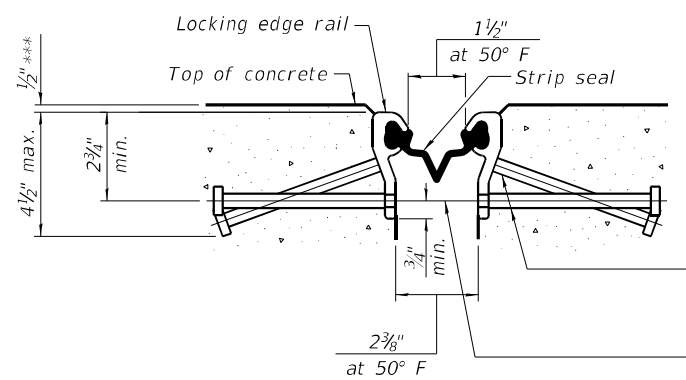


DETAIL A



TRIMETRIC VIEW (Showing embedded plates only)

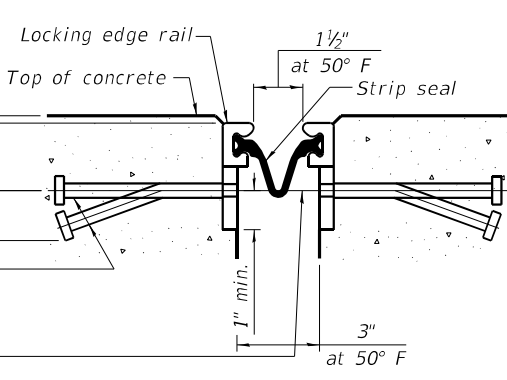
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the 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.



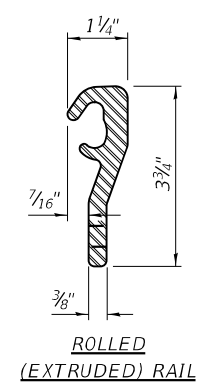
SHOWING ROLLED RAIL JOINT

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

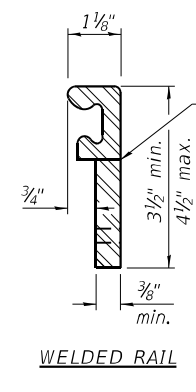
3/8" Ø threaded rods in 1/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.



SHOWING WELDED RAIL JOINT



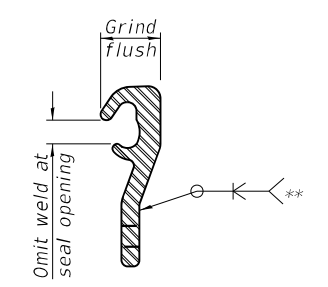
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

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

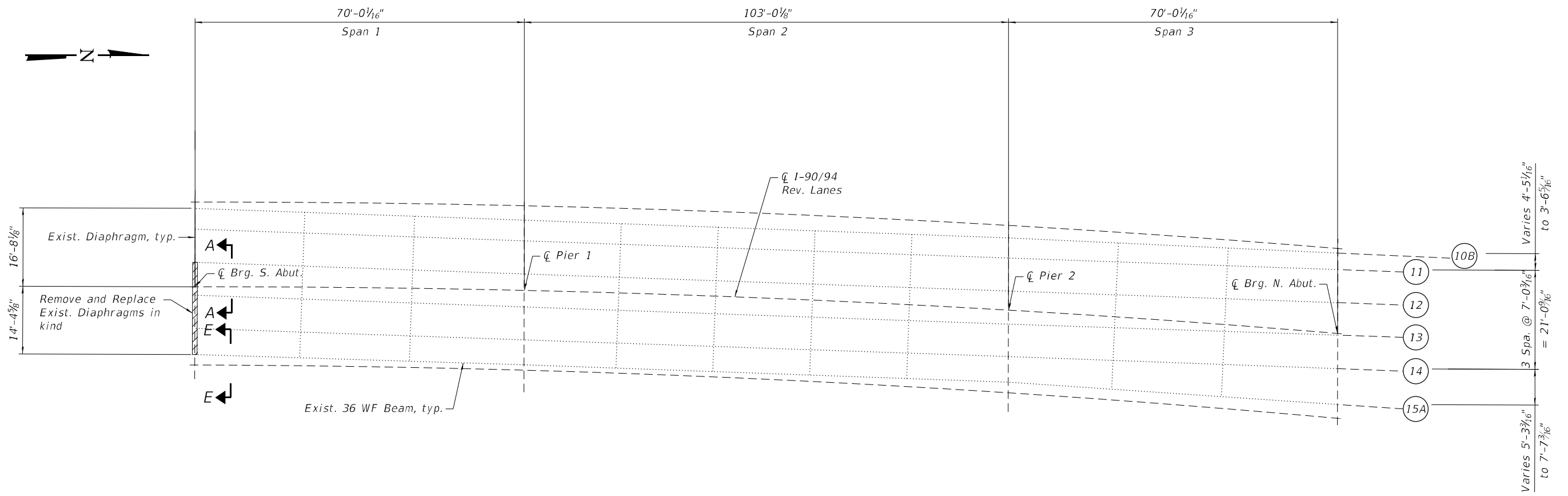


LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	68



FRAMING PLAN

NOTES:

- 1. For typical section, see Sheet S04-02.
- 2. For Sections A-A & E-E, see Sheet S04-12.

LEGEND

Remove and Replace Exist. Diaphragm

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing And Erecting Structural Steel	Pound	760
Structural Steel Removal	Pound	760

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PLOT DATE =	DRAWN - F.B.	REVISED -
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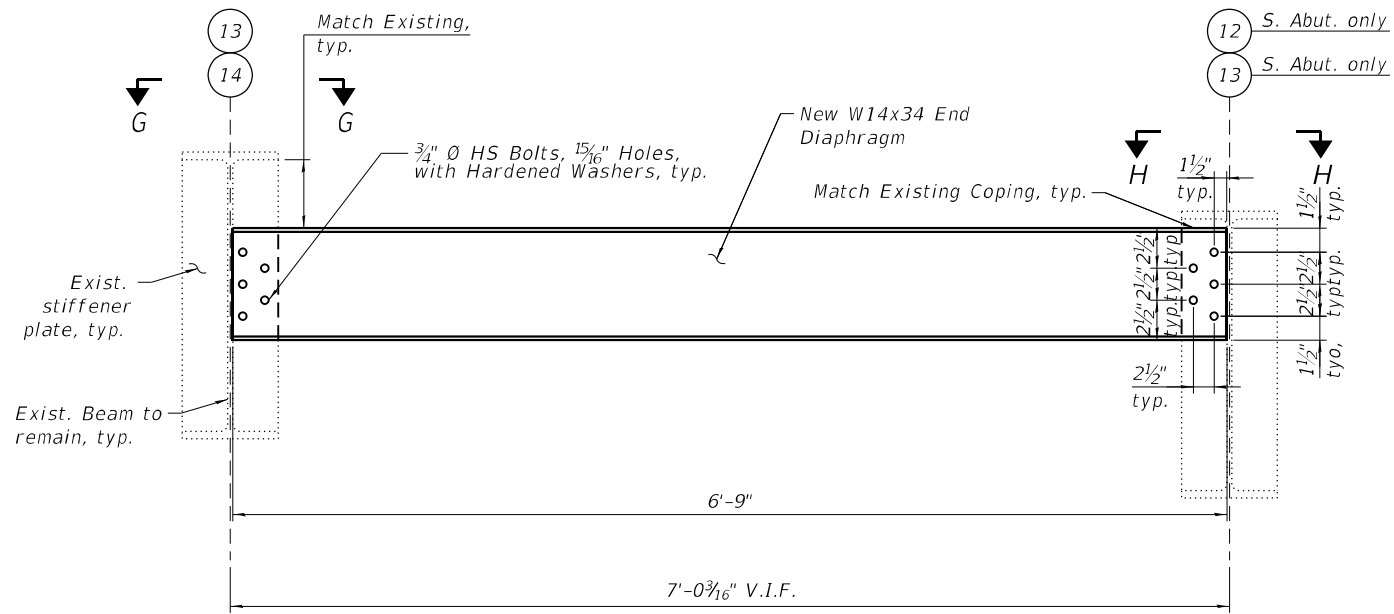
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN
 SN 016-0135 (REV)**

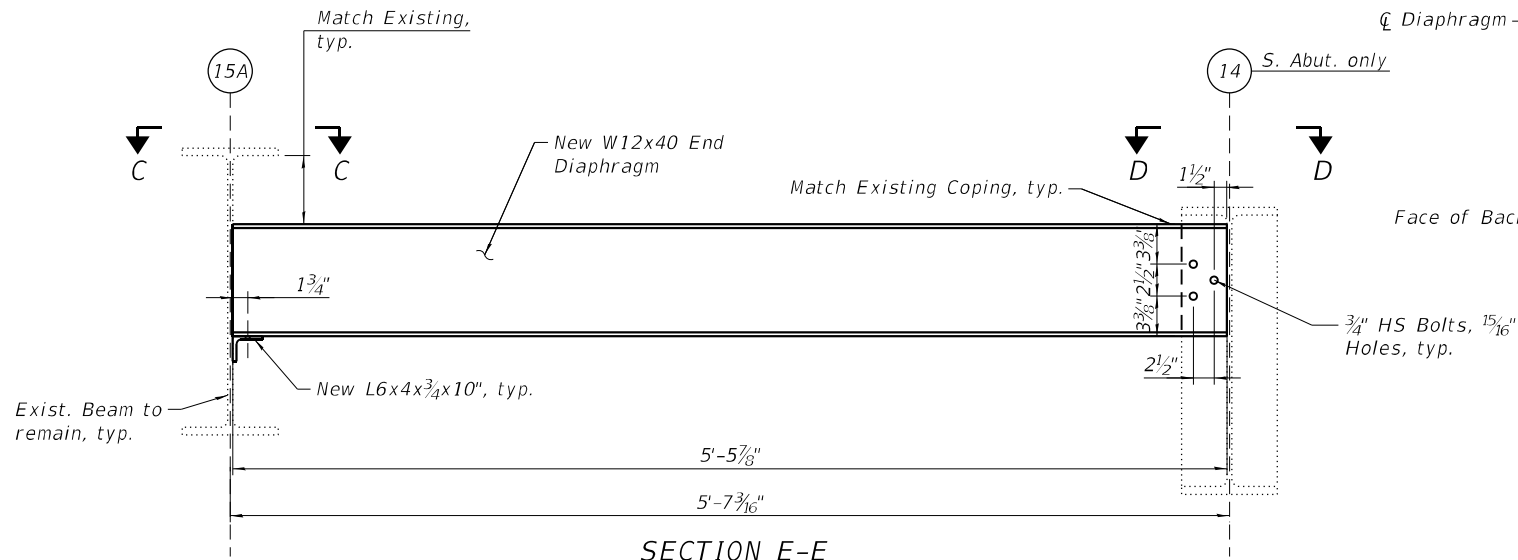
SHEET S04-11 OF S04-17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	571
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

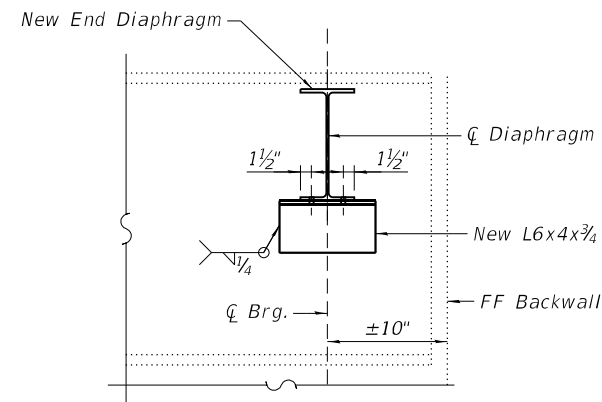
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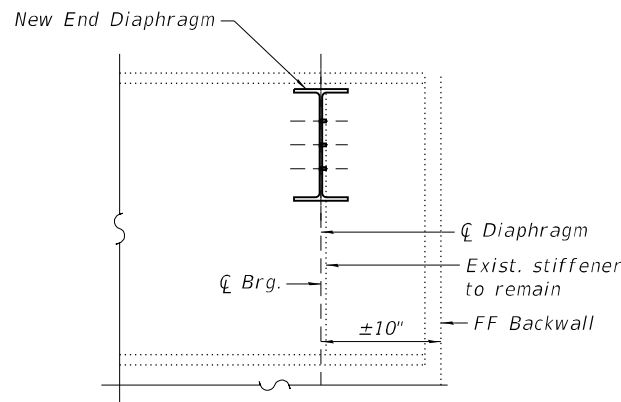
SECTION A-A
 South Abutment shown
 (2 Required)



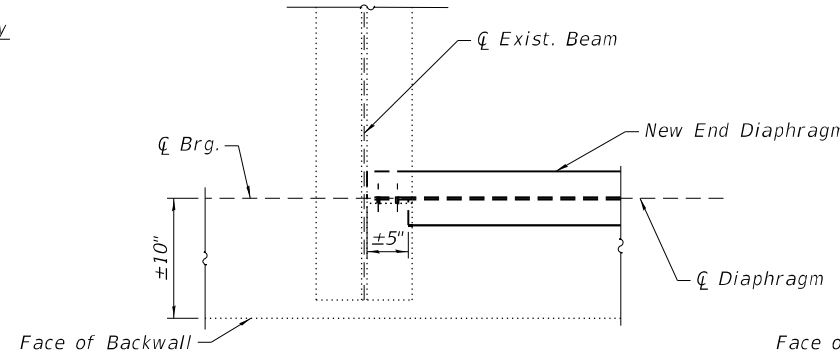
SECTION E-E
 South Abutment shown
 (1 Required)



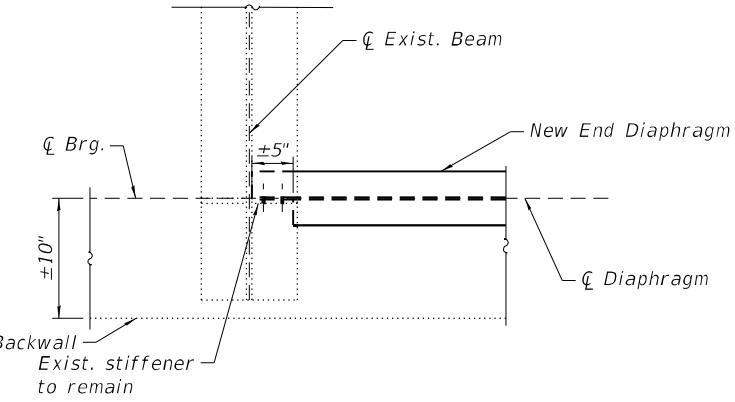
SECTION B-B



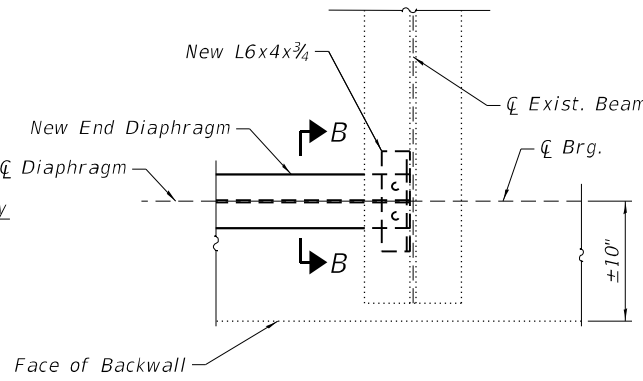
SECTION F-F



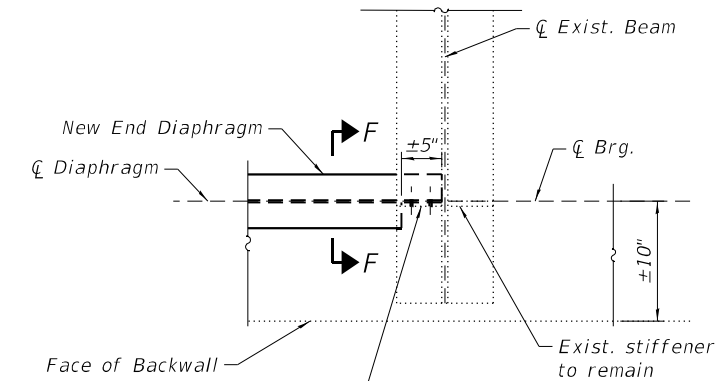
SECTION C-C



SECTION G-G



SECTION D-D



SECTION H-H

NOTES:

1. For location of Diaphragm Repair and Bill of Material, see Sheet S04-11.
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.



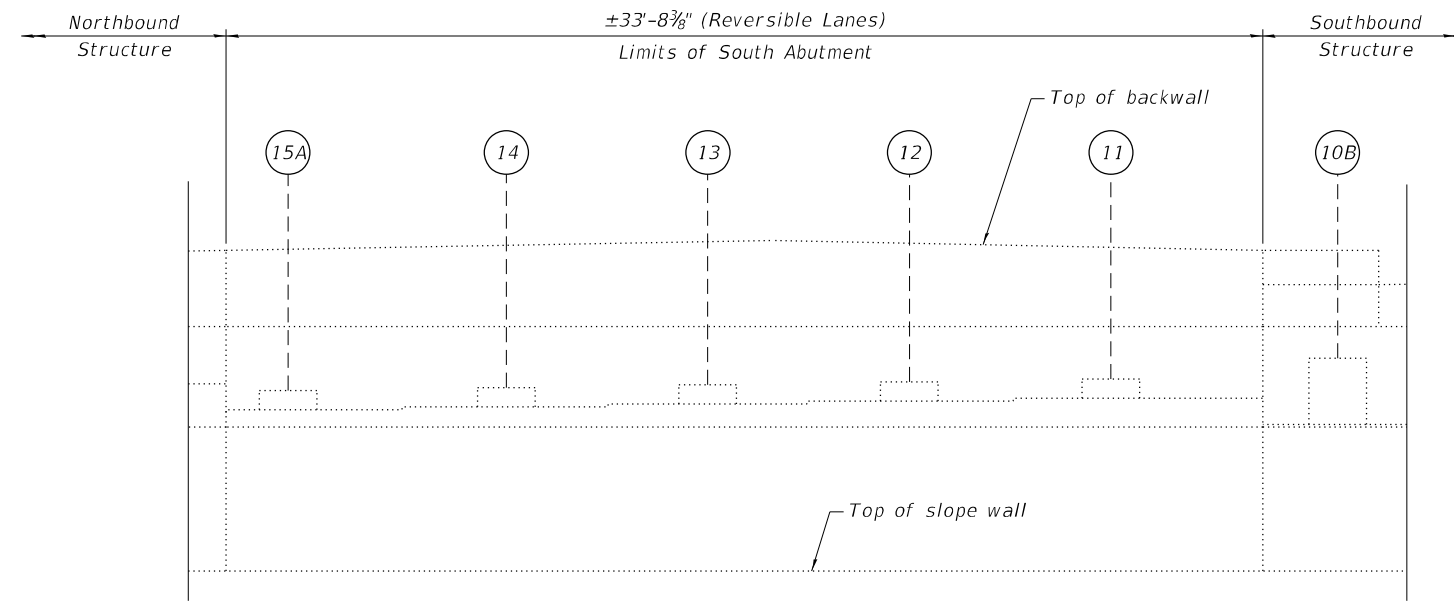
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PLOT DATE =	DRAWN - F.B.	REVISIONS
	CHECKED - K.G.W.	REVISIONS

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS
 SN 016-0135 (REV)**

SHEET S04-12 OF S04-17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	572
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



ELEVATION - SOUTH ABUTMENT
(Looking South)

NOTES:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
2. Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
3. For Slope Wall repairs, see Sheet S04-17.

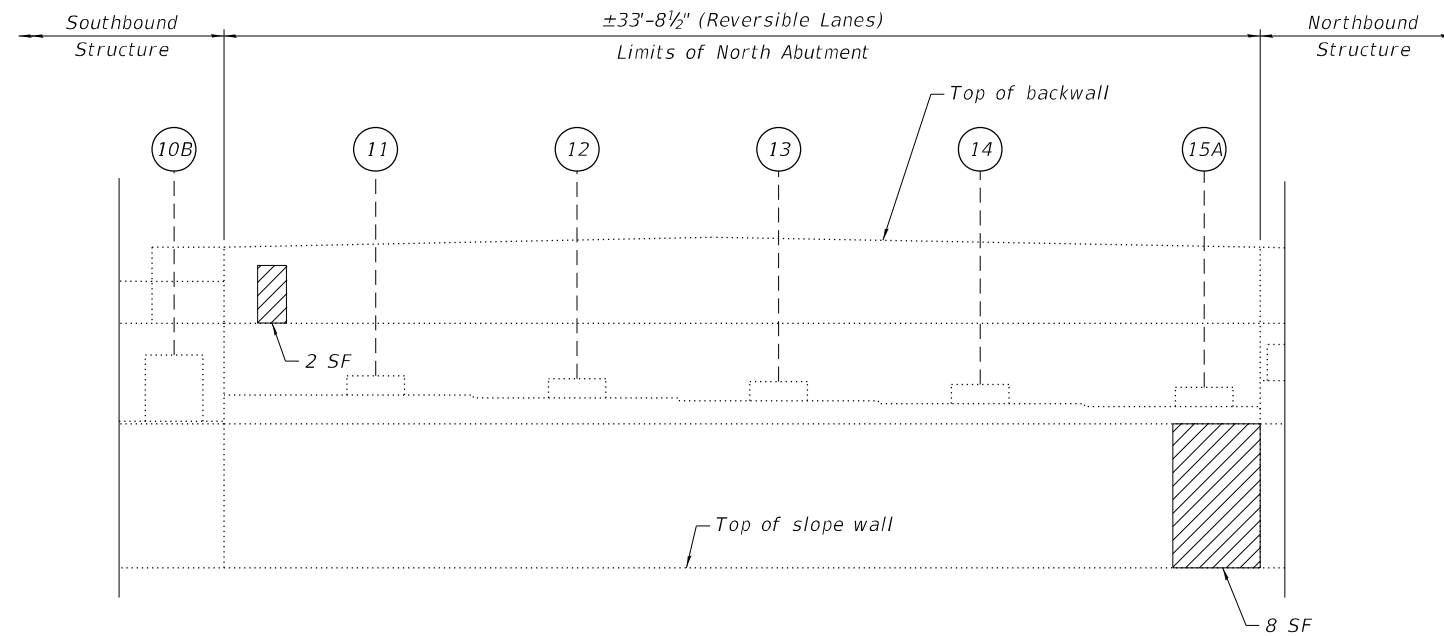
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	161

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	573
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - NORTH 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.
- 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 S04-17.

LEGEND

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

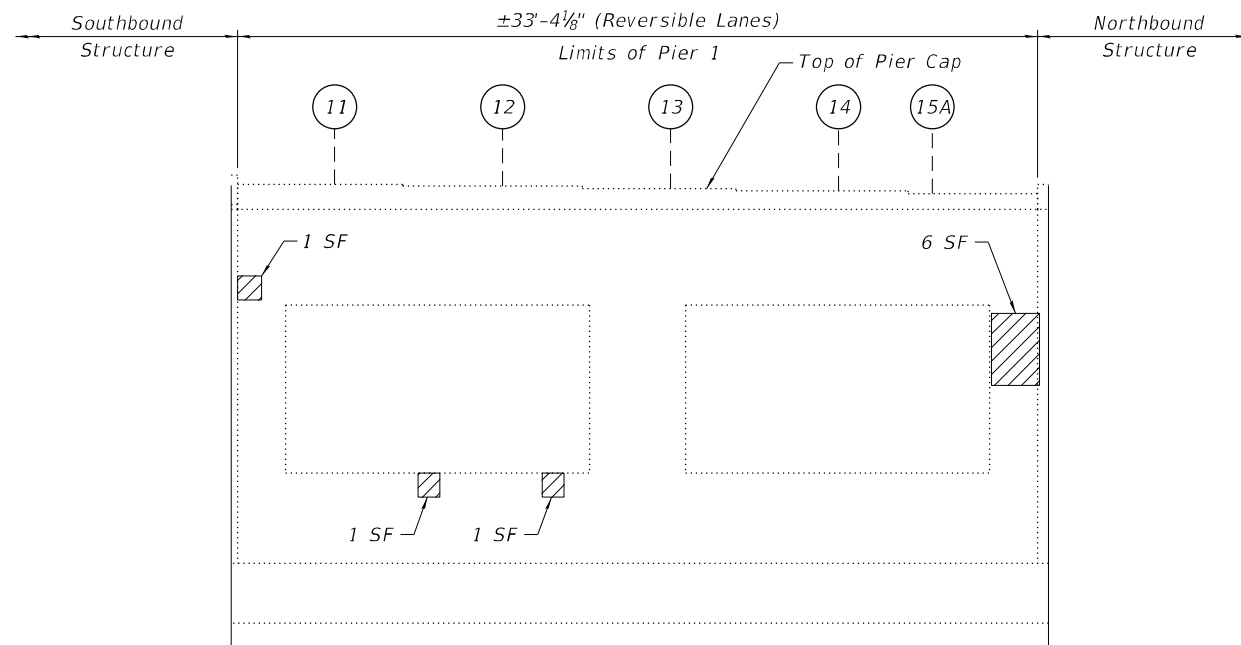
BILL OF MATERIAL

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Concrete Sealer	Sq Ft	161
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	10

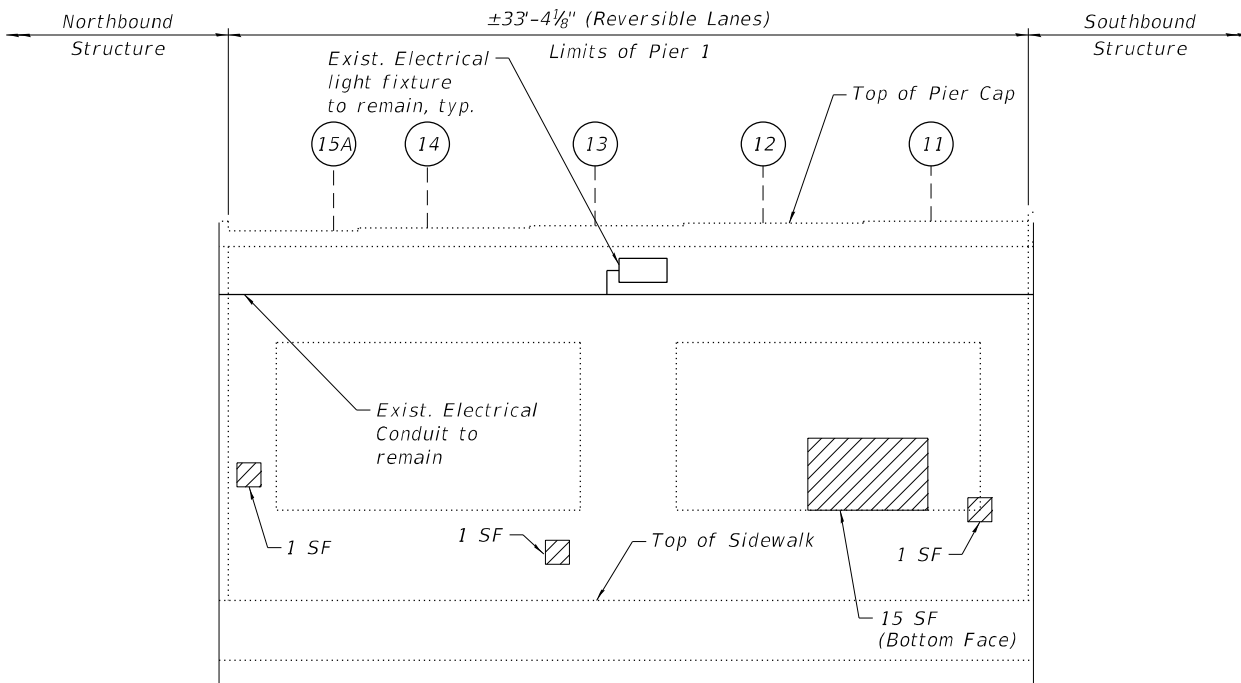
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	574
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 1
(Looking North)



ELEVATION - PIER 1
(Looking South)



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.

LEGEND

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

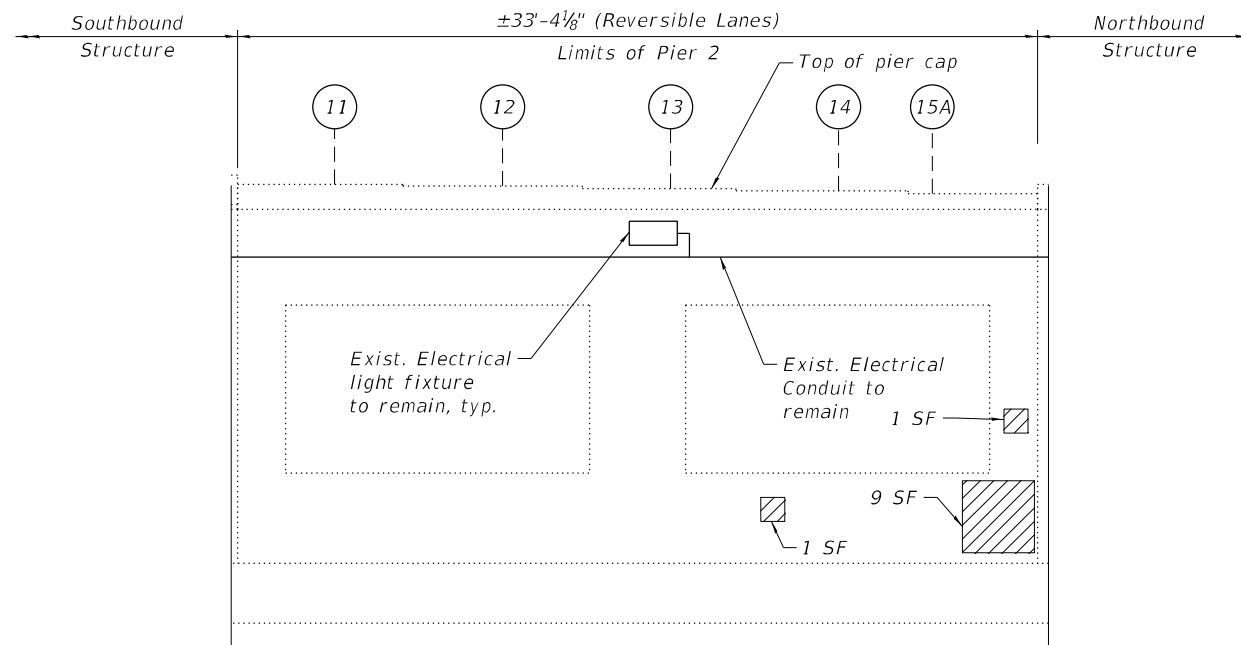
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	27

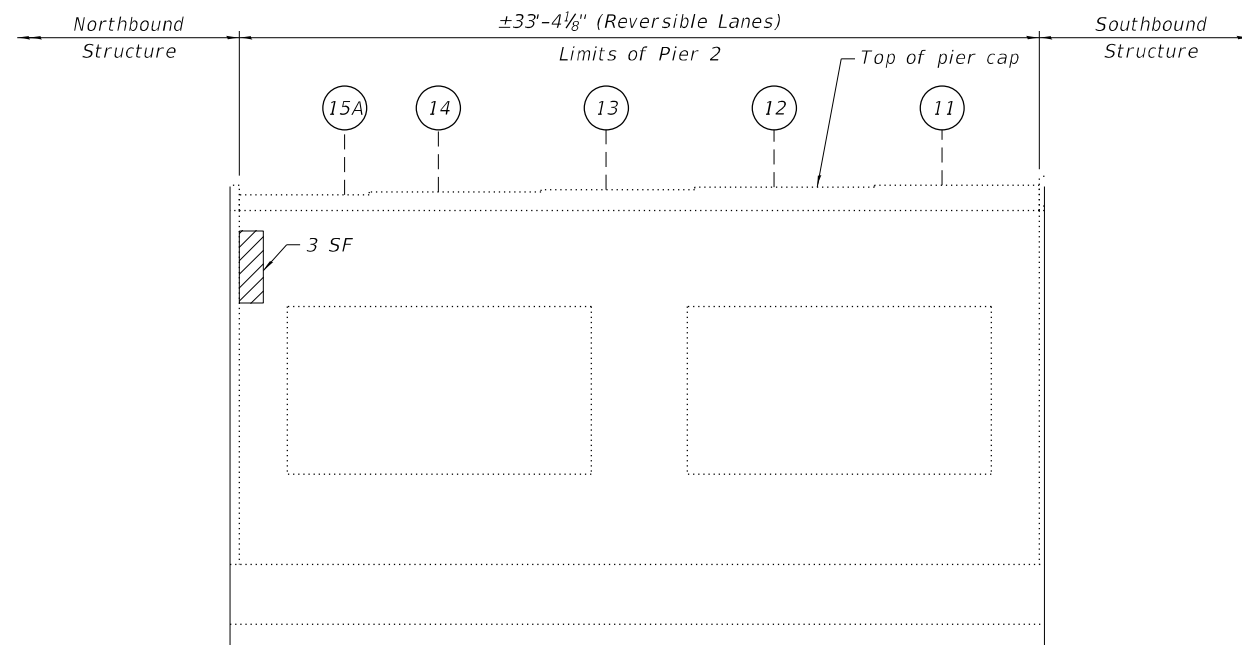
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	575
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



ELEVATION - PIER 2
(Looking North)



ELEVATION - PIER 2
(Looking South)



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.

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	14

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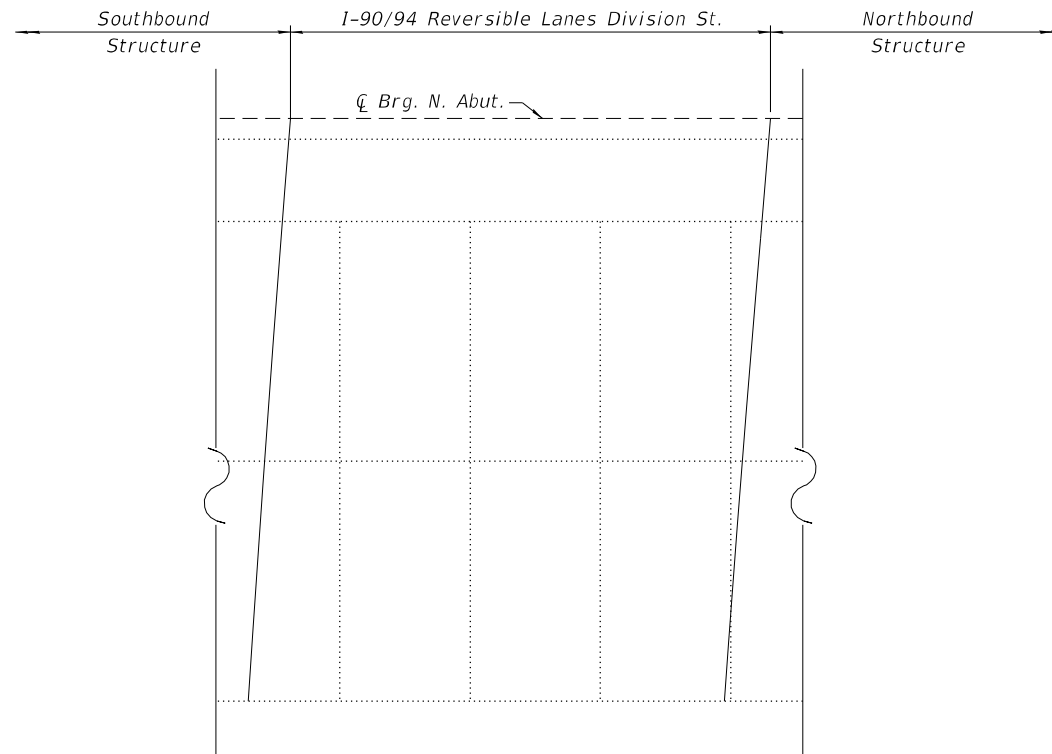
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

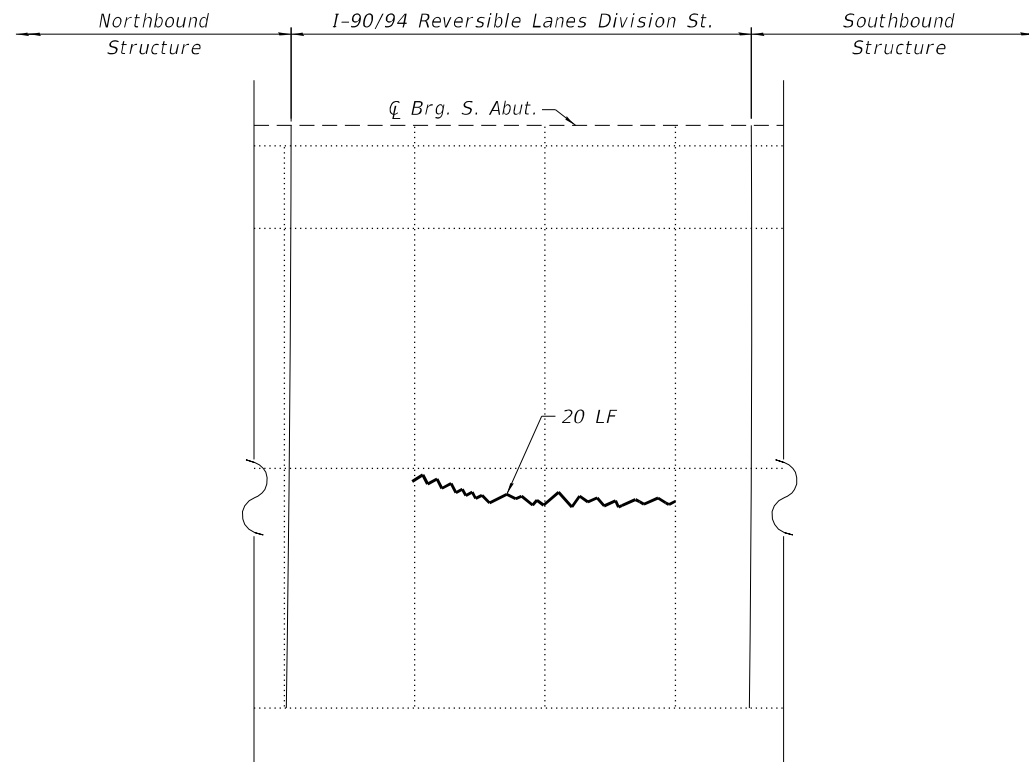
PIER 2 REPAIRS
SN 016-0135 (REV)

SHEET S04-16 OF S04-17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	576
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



NORTH SLOPE WALL - PLAN
(Looking North)



SOUTH SLOPE WALL - PLAN
(Looking South)

NOTES:

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

- LF Linear Foot
- Slope Wall Crack Sealing

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Slope Wall Crack Sealing	Foot	20

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

**SLOPE WALL REPAIRS
SN 016-0135 (REV)**

SHEET S04-17 OF S04-17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	577
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

Existing Structure: S.N. 016-0134 was originally built in 1959 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 207'-2 3/8" and an out-to-out deck width of 71'-0 1/2". The superstructure consists of a 7 1/2" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 57'-11 5/8", 86'-11 3/8", and 57'-11 5/8". The substructure consists of reinforced concrete abutments and piers supported on reinforced concrete drilled shafts.

Traffic will be maintained utilizing stage construction.

No salvage.

LOADING

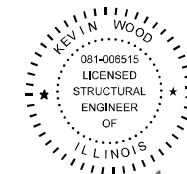
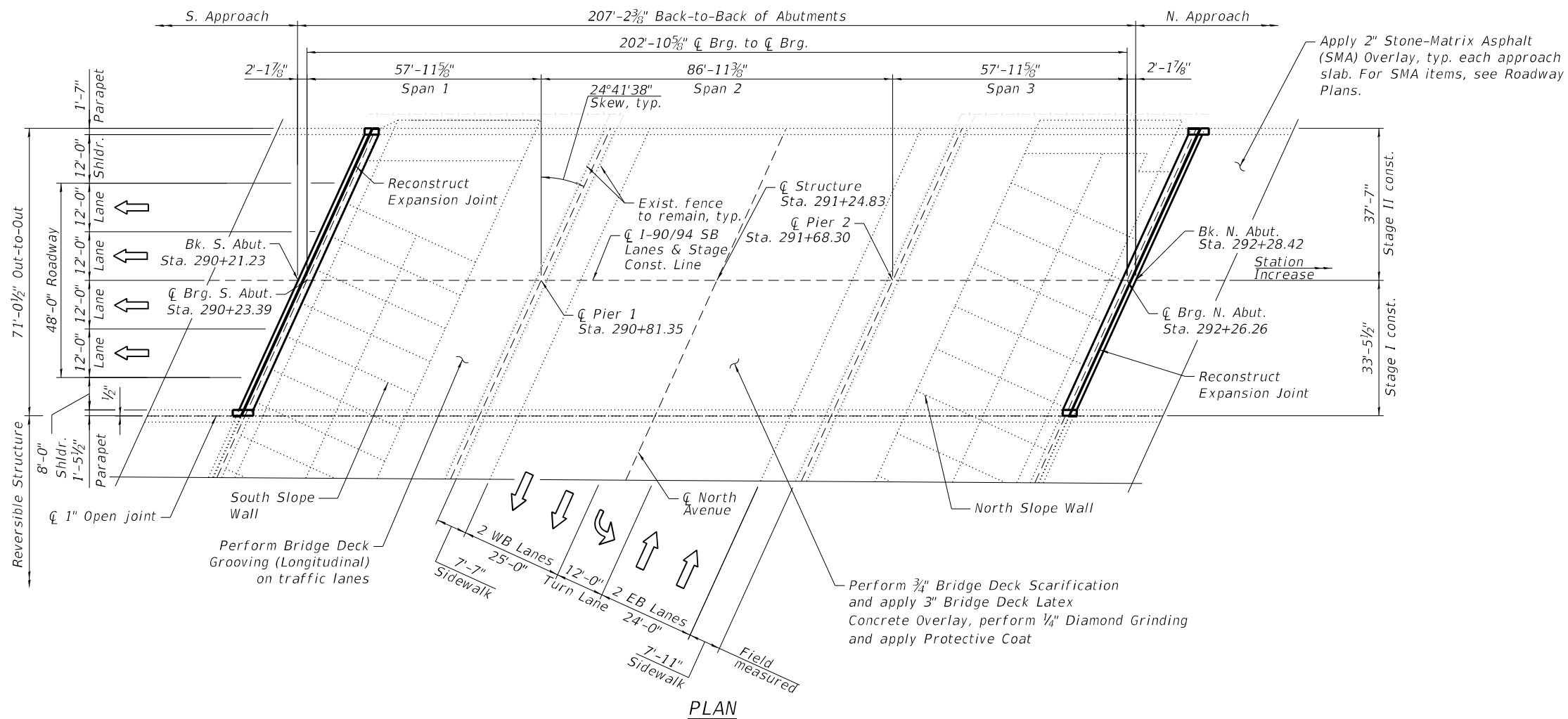
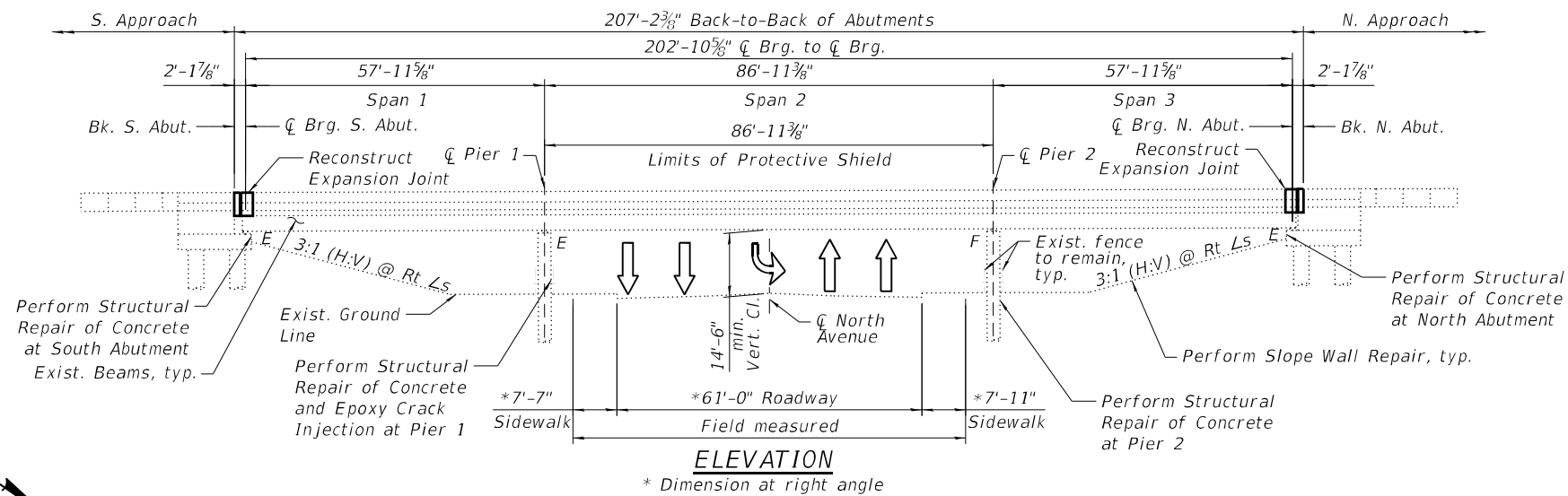
HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

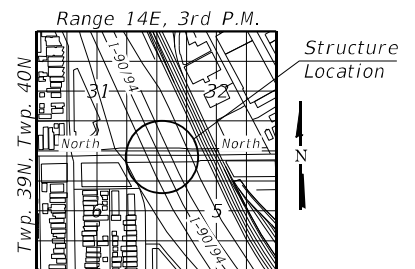
NOTE:

- All stations are to the C 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

GENERAL PLAN AND ELEVATION
SB I-90 OVER NORTH AVE
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 291+24.83
STRUCTURE NO. 016-0134 (SB)

MODEL: sMODELNAME5
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET S05-01 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	578
			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

- S05-01 General Plan & Elevation
- S05-02 General Data
- S05-03-S05-04 Stage Construction Details I & II
- S05-05 Temporary Concrete Barrier
- S05-06 Bridge Deck Repair Plan and Details
- S05-07-S05-09 South Abutment Expansion Joint Details I, II & III
- S05-10-S05-12 North Abutment Expansion Joint Details I, II & III
- S05-13 Preformed Joint Strip Seal
- S05-14 Framing Plan
- S05-15-S05-16 Structural Steel Repair Details I & II
- S05-17 South Abutment Repairs
- S05-18 North Abutment Repairs
- S05-19 Pier 1 Repairs
- S05-20 Pier 2 Repairs
- S05-21 Slope Wall Repairs
- S05-22 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.
- 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		41	41
Concrete Removal	Cu Yd	28.1		28.1
Slope Wall Removal	Sq Yd		41	41
Protective Shield	Sq Yd	663		663
Concrete Superstructure	Cu Yd	30.9		30.9
Protective Coat	Sq Yd	1,790		1,790
Furnishing and Erecting Structural Steel	Pound	2,880		2,880
Reinforcement Bars, Epoxy Coated	Pound	4,720		4,720
Bar Splicers	Each	32		32
Slope Wall 4 Inch	Sq Yd		41	41
Preformed Joint Strip Seal	Foot	154		154
Concrete Sealer	Sq Ft		709	709
Epoxy Crack Injection	Foot		6	6
Slope Wall Crack Sealing	Foot		121	121
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,091		1,091
Structural Steel Removal	Pound	2,880		2,880
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,513		1,513
Bridge Deck Scarification 3/4"	Sq Yd	1,513		1,513
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		70	70
Diamond Grinding (Bridge Section)	Sq Yd	1,541		1,541
Maintenance of Lighting System	Cal Mo		6	6
Temporary Shoring and Cribbing	Each		1	1

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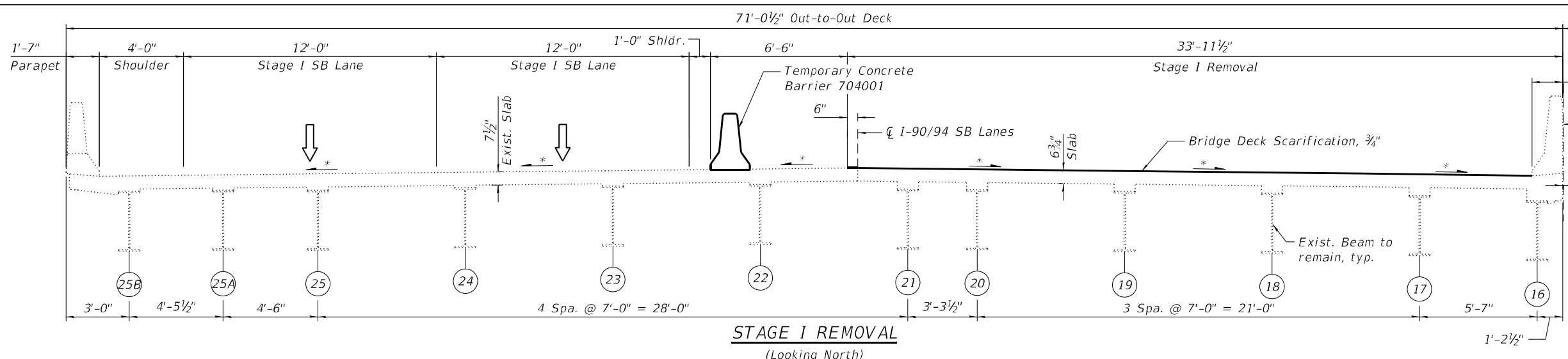
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DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
SN 016-0134 (SB)**

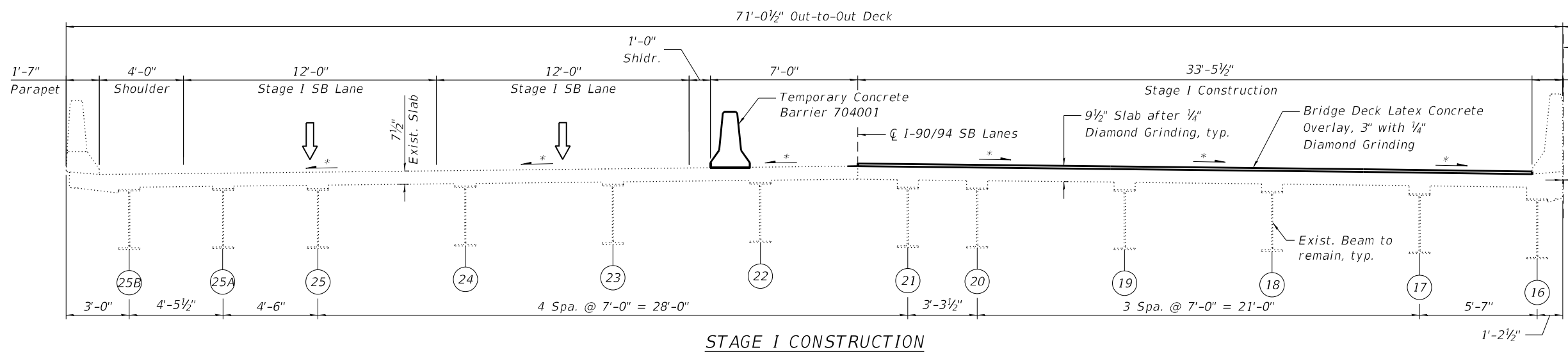
SHEET S05-02 OF S05-22 SHEETS

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

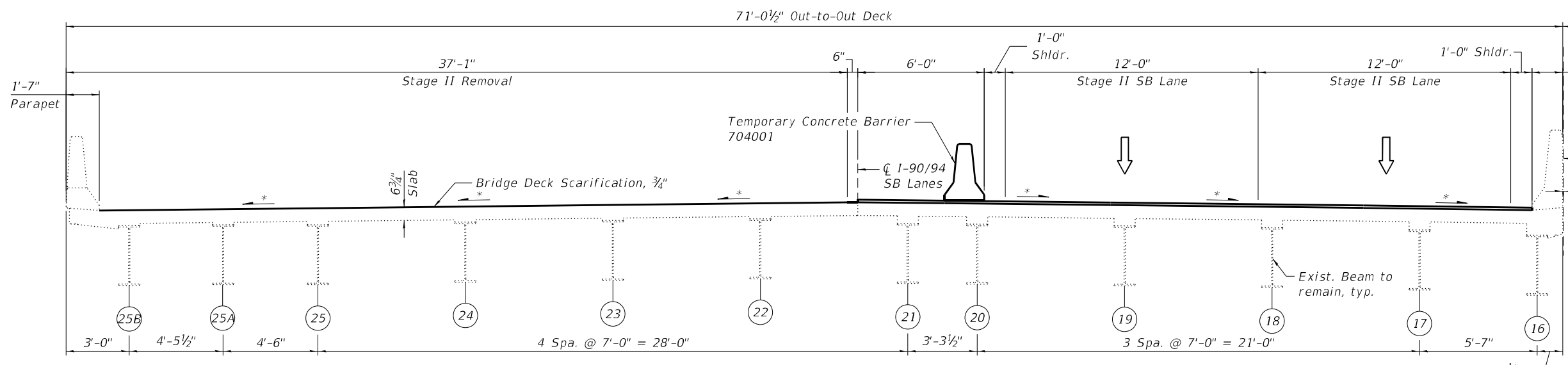
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STAGE I REMOVAL
(Looking North)



STAGE I CONSTRUCTION
(Looking North)



STAGE II REMOVAL
(Looking North)

* Match existing deck surface profile

STAGE I REMOVAL

1. Install Temporary Concrete Barrier as shown to locate traffic on the west 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 north and south 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.
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 East 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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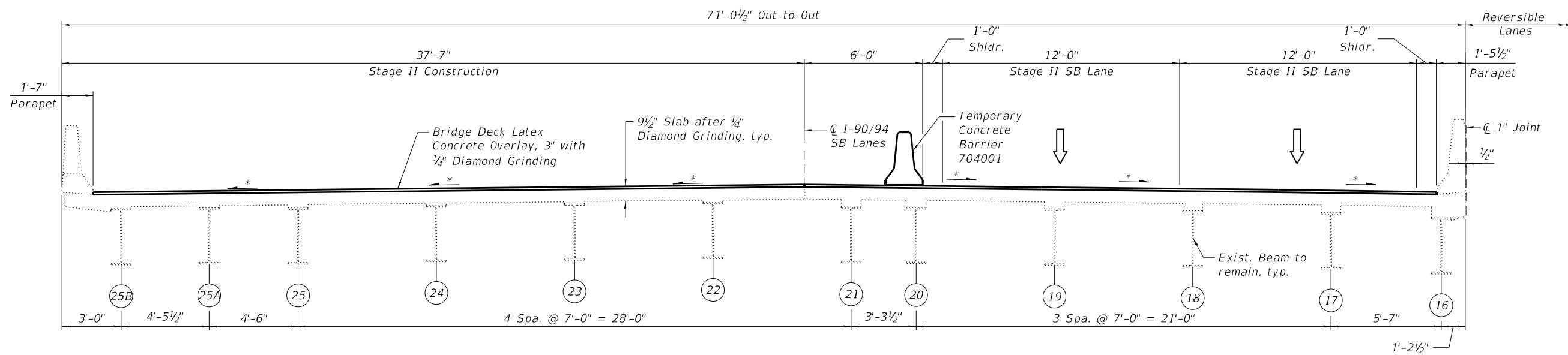
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**STAGE CONSTRUCTION DETAILS I
SN 016-0134 (SB)**

SHEET S05-03 OF S05-22 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 580
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

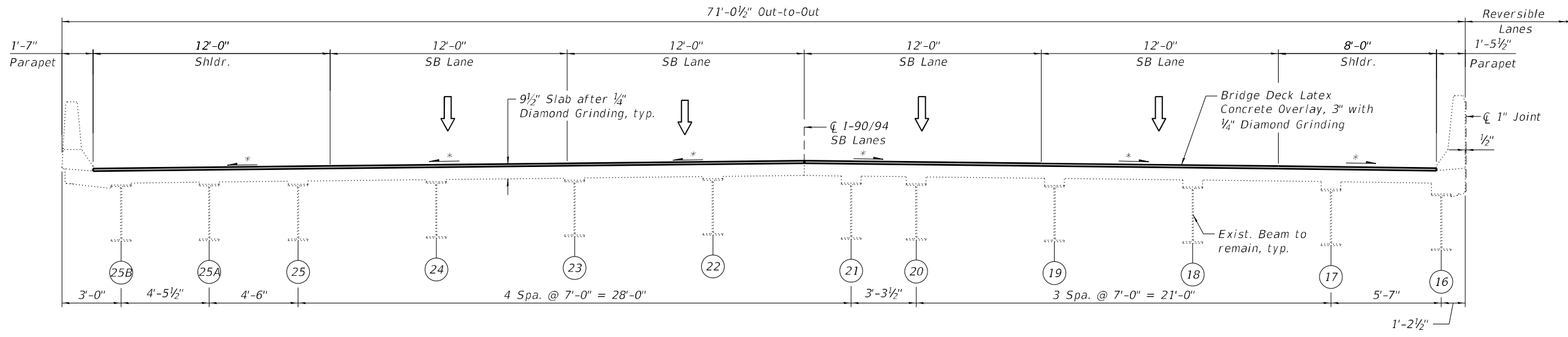
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STAGE II CONSTRUCTION
(Looking North)

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 north and south 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.
9. Perform Slope Wall Repairs as shown in the plans.

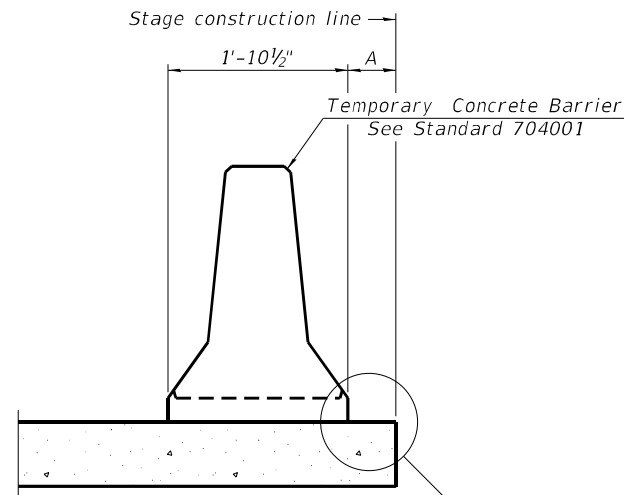


FINAL CROSS SECTION
(Looking North)

* Match existing deck surface profile

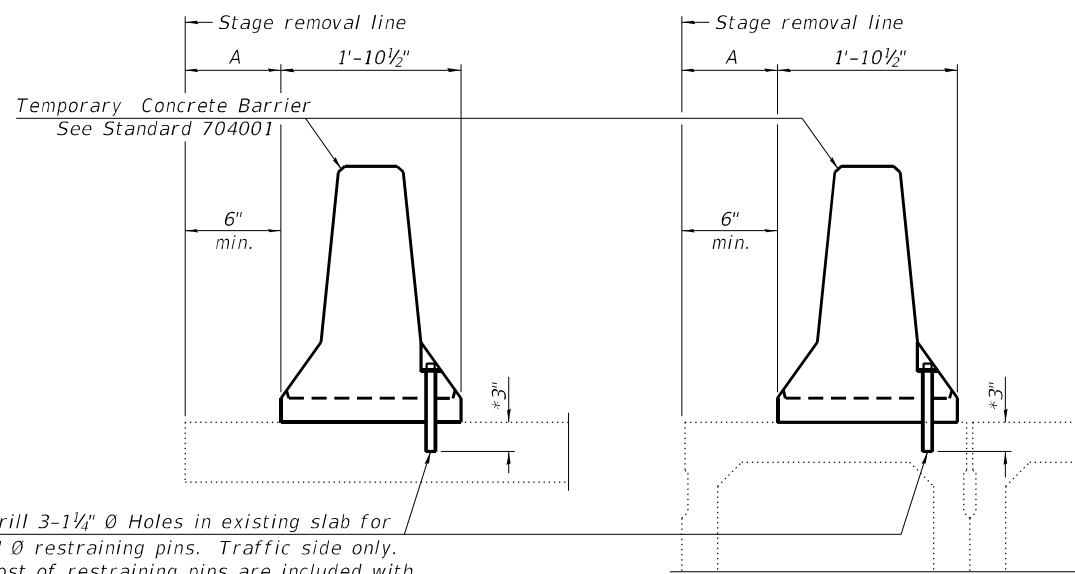
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	581
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



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

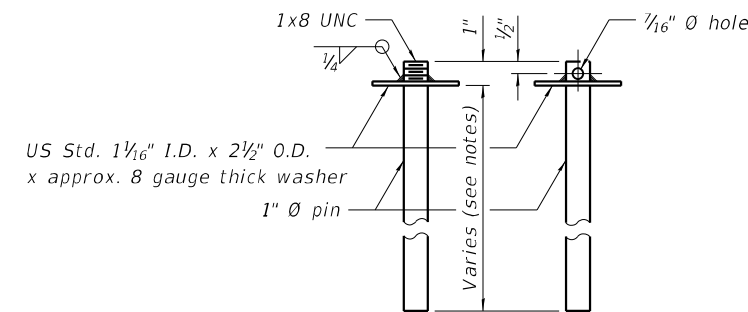


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

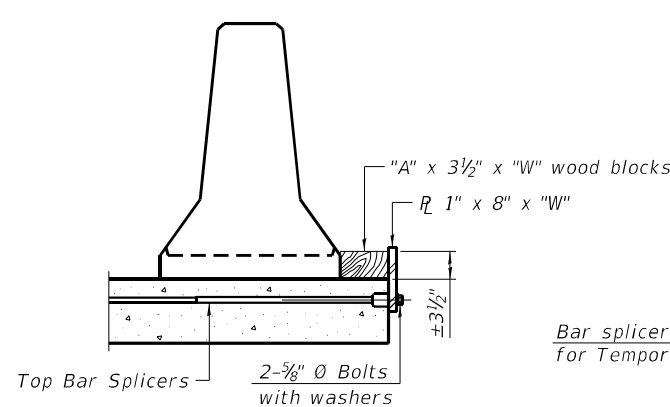
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

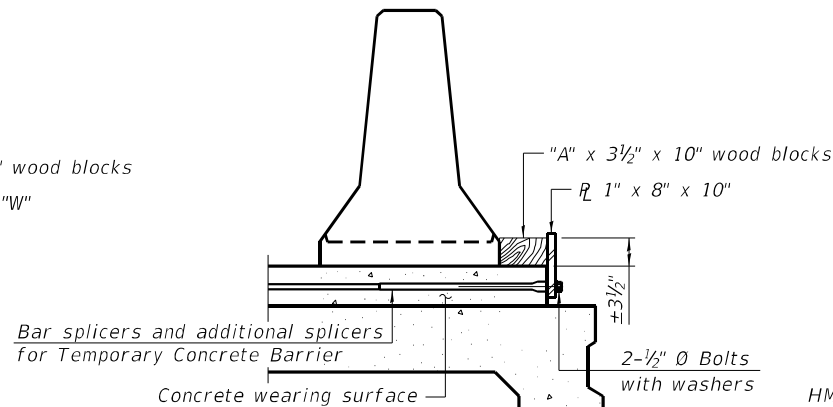


RESTRAINING PIN

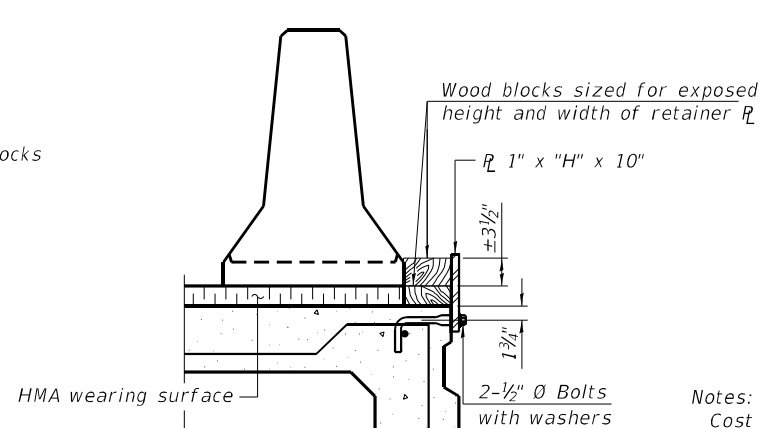
SECTIONS THRU SLAB OR DECK BEAM



DETAIL I



DETAIL II

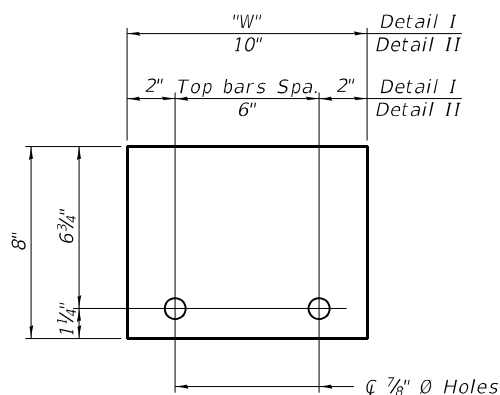


DETAIL III

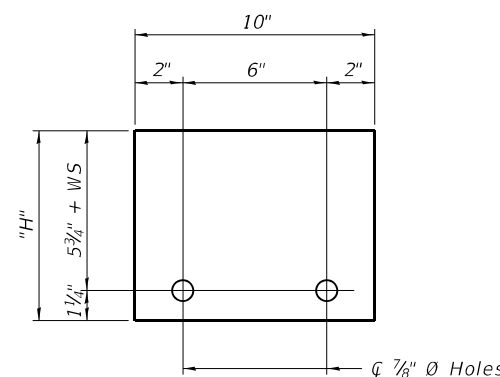
BAR SPLICER FOR #4 BAR - DETAIL III

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

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



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

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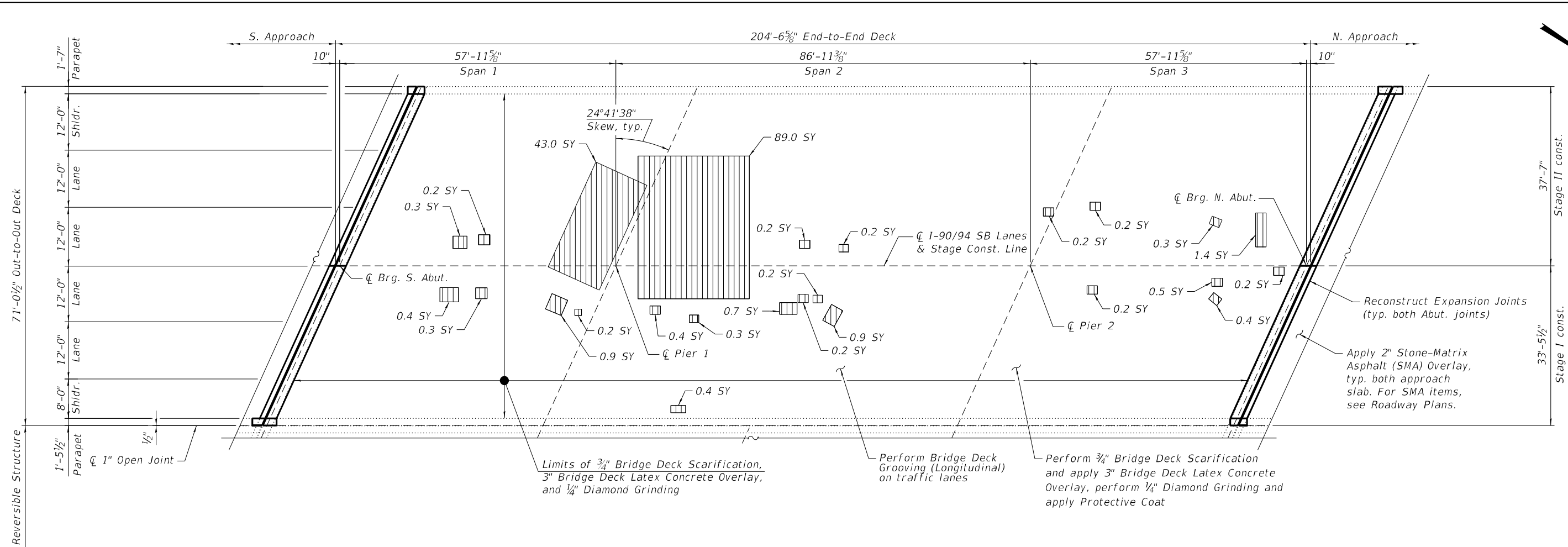
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TEMPORARY CONCRETE BARRIER
 SN 016-0134 (SB)

SHEET S05-05 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	582
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



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

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 S05-04.
3. For North and South transverse joint removal and reconstruction, see Sheet S05-07 thru 05-12.
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.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	663
Protective Coat	Sq Yd	1,790
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,091
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,513
Bridge Deck Scarification 3/4"	Sq Yd	1,513
Diamond Grinding (Bridge Section)	Sq Yd	1,541
Maintenance of Lighting System	Cal Mo	6

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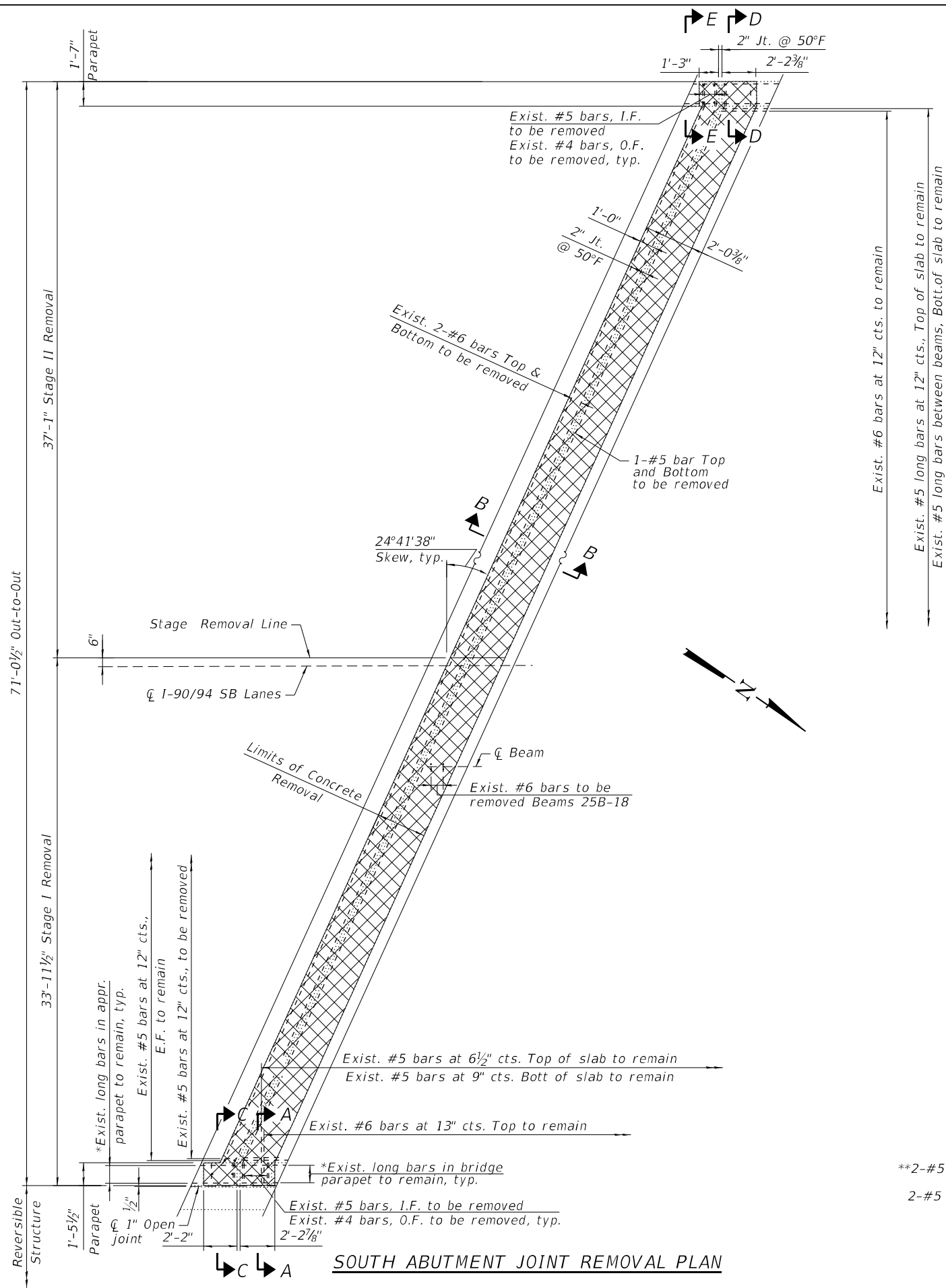
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**BRIDGE DECK REPAIR PLAN AND DETAILS
SN 016-0134 (SB)**

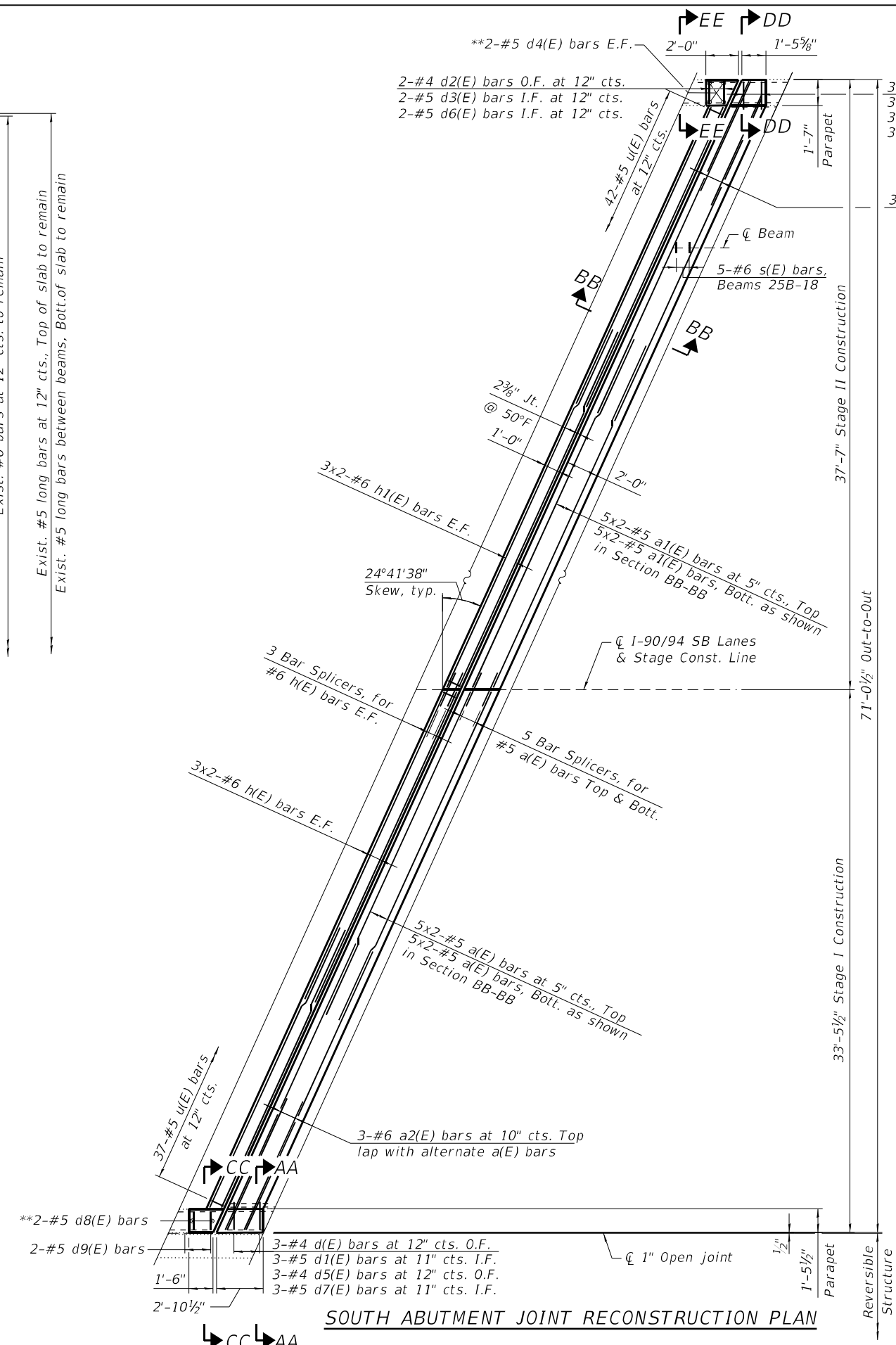
SHEET S05-06 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K74				
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SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

3-#4 d(E) bars at 7" cts. O.F.
 3-#5 d1(E) bars at 7" cts. I.F.
 3-#4 d2(E) bars at 7" cts. O.F.
 3-#5 d3(E) bars at 7" cts. I.F.

3-#6 a2(E) bars at 10" cts. Top
 lap with alternate a1(E) bars

LEGEND

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

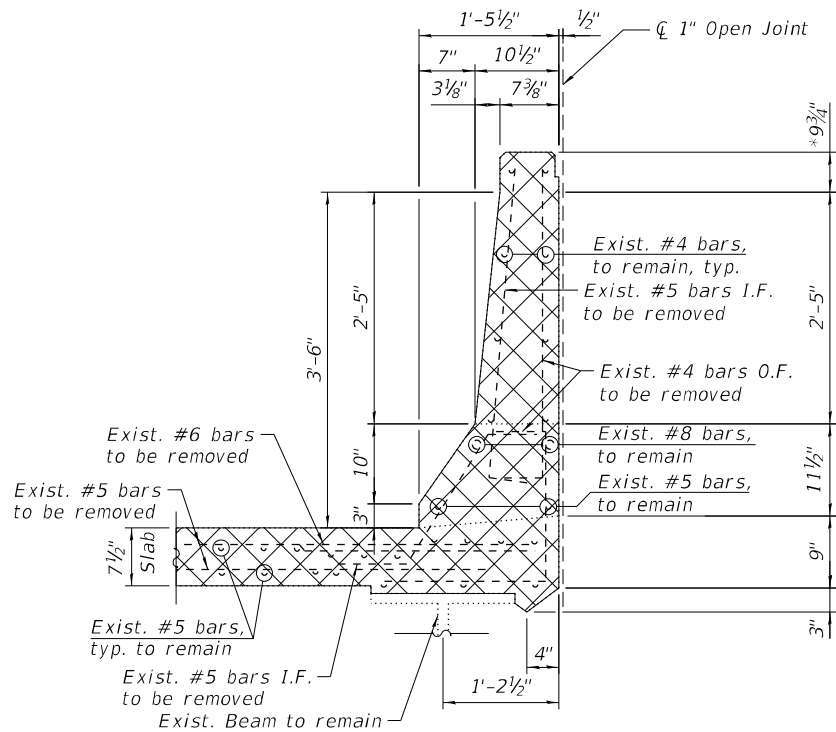
- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #5 d4(E) and d8(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

NOTES:

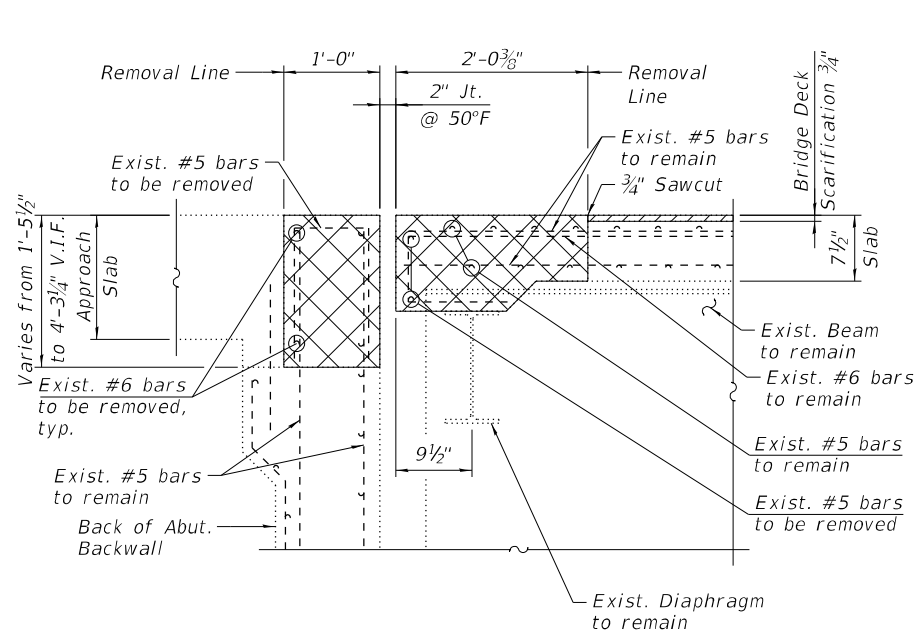
1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S05-08.
2. For sections D-D, E-E, DD-DD and EE-EE, see sheet S05-09.

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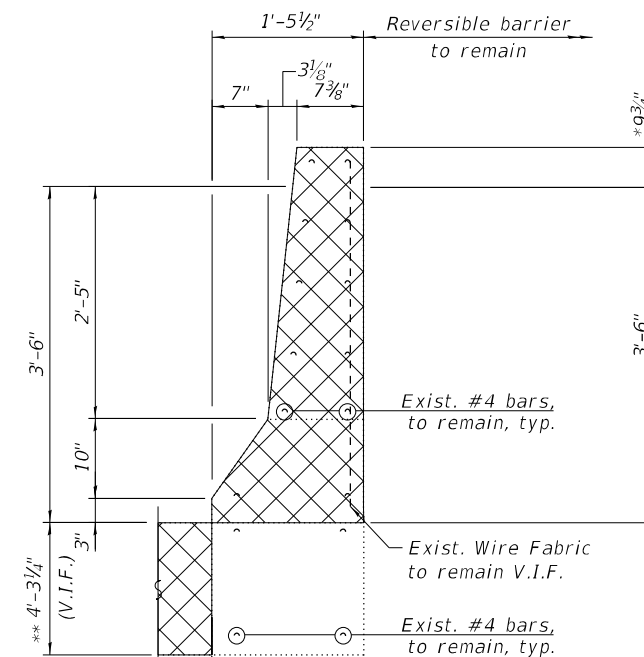
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			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				



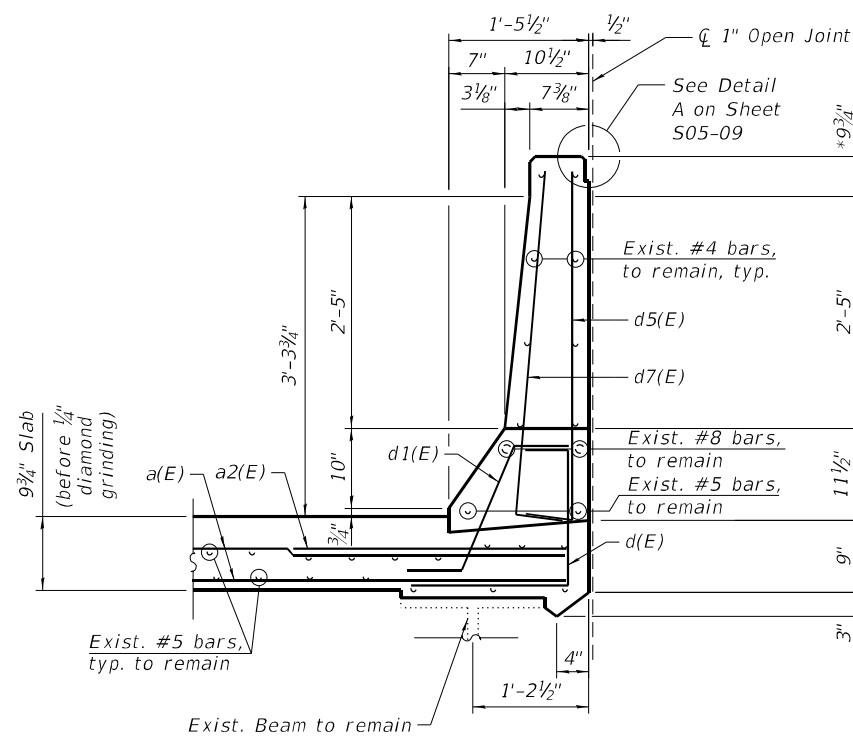
SECTION A-A
(East parapet removal)



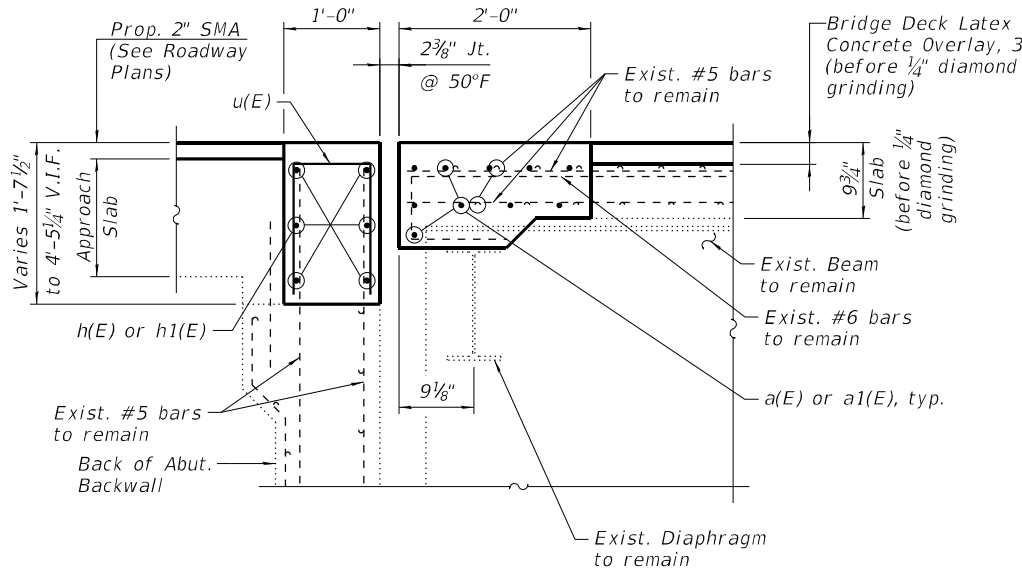
SECTION B-B



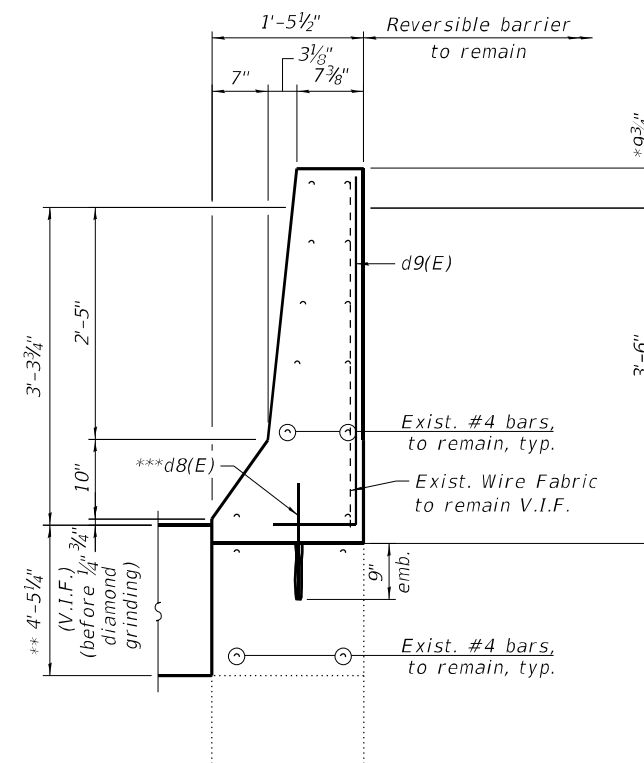
SECTION C-C
(East parapet removal)



SECTION AA-AA
(East parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(East parapet reconstruction)

LEGEND

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

NOTES:

1. For notes, see Sheet S05-09.
- * Adjust in field as required to match reversible parapet
- ** Dimension is taken at the Back of Abutment
- *** Epoxy grout #5 d8(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

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DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0134 (SB)**

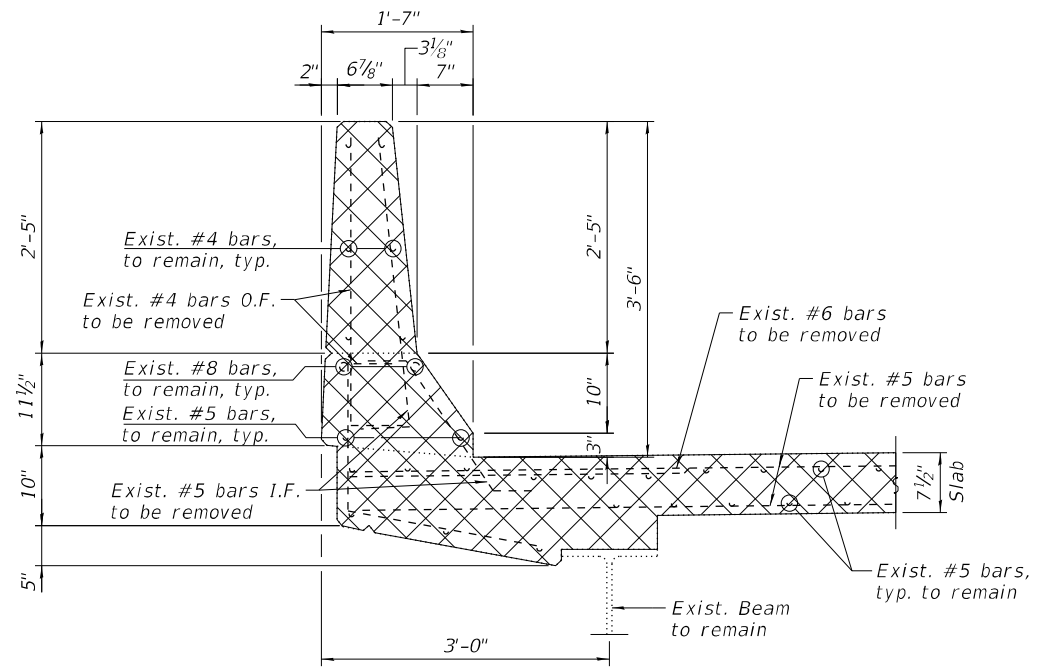
SHEET S05-08 OF S05-22 SHEETS

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CONTRACT NO. 62K74				

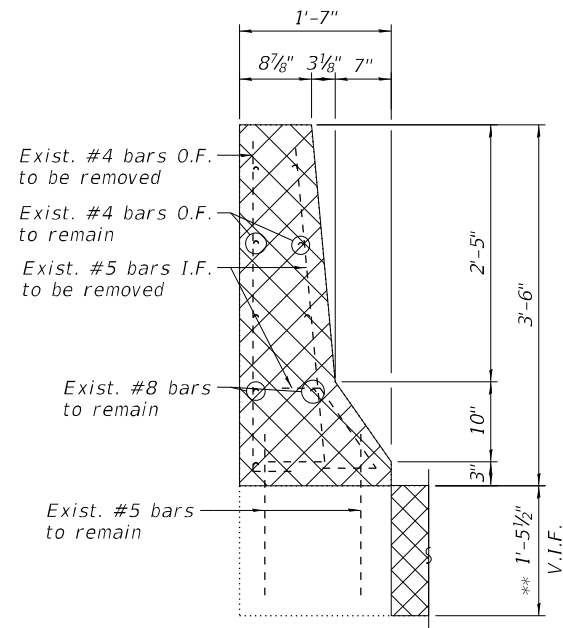
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**BILL OF MATERIAL
SOUTH ABUTMENT**

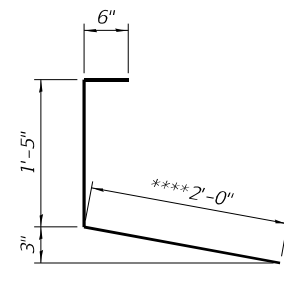
Bar	No.	Size	Length	Shape
a(E)	20	#5	21'-3"	—
a1(E)	20	#5	22'-5"	—
a2(E)	6	#6	6'-6"	—
d(E)	6	#4	3'-11"	┌
d1(E)	6	#5	2'-7"	┌
d2(E)	5	#4	3'-8"	┌
d3(E)	5	#5	3'-8"	┌
d4(E)	4	#5	2'-4"	┌
d5(E)	3	#4	4'-3"	┌
d6(E)	2	#5	2'-0"	┌
d7(E)	3	#5	4'-3"	┌
d8(E)	2	#5	1'-9"	┌
d9(E)	2	#5	4'-9"	┌
h(E)	12	#6	21'-3"	—
h1(E)	12	#6	22'-5"	—
s(E)	50	#6	3'-1"	┌
u(E)	79	#5	3'-1"	┌
Concrete Removal		Cu Yd	15.1	
Reinforcement Bars, Epoxy Coated		Pound	2,360	
Concrete Superstructure		Cu Yd	16.4	



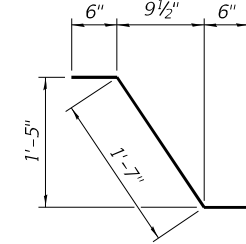
SECTION D-D
(West parapet removal)



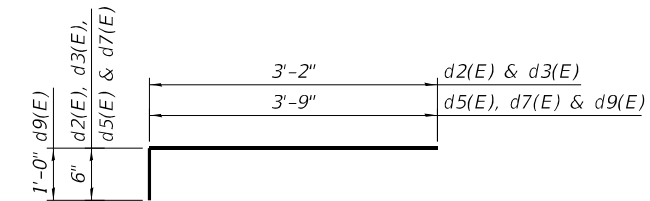
SECTION E-E
(West parapet removal)



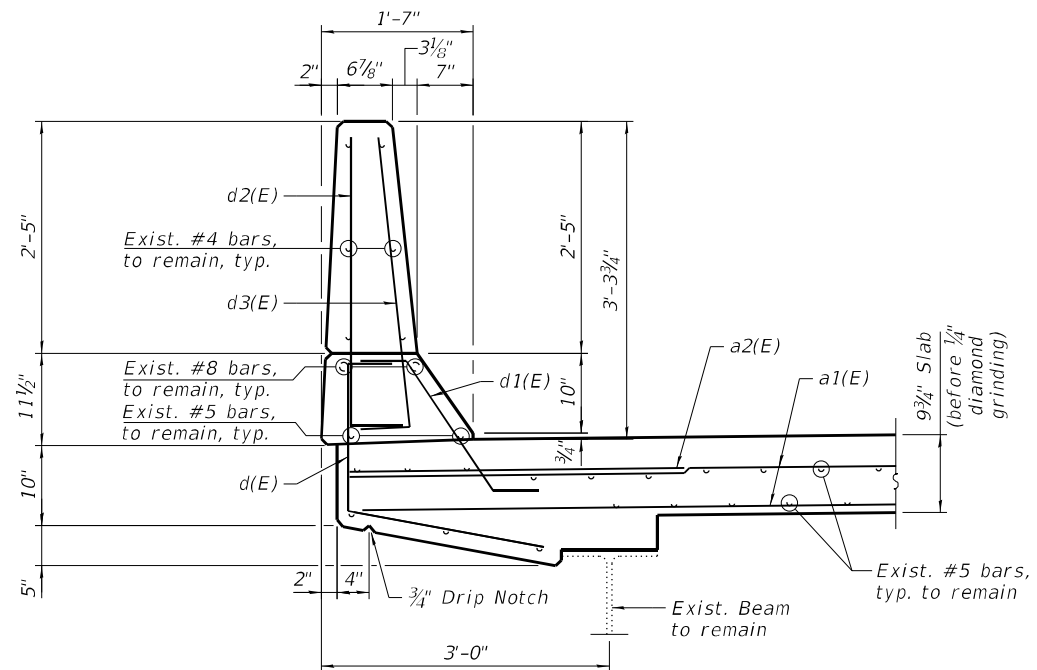
BAR d(E)



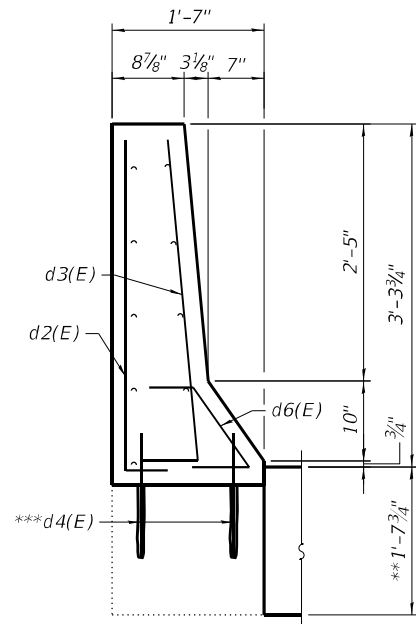
BAR d1(E)



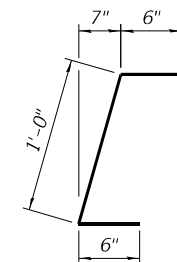
BARS d2(E), d3(E), d5(E), d7(E) & d9(E)



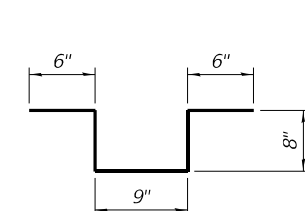
SECTION DD-DD
(West parapet reconstruction)



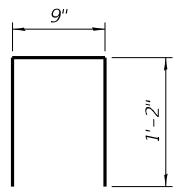
SECTION EE-EE
(West parapet reconstruction)



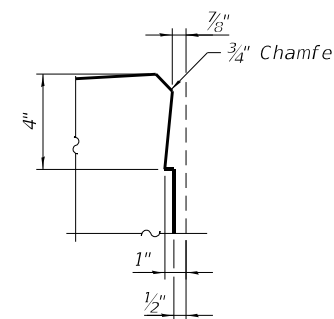
BAR d6(E)



BAR s(E)



BAR u(E)



DETAIL A

(Reinforcement not shown for clarity)

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 Abut.

*** Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

NOTES:

- For Preformed Joint Strip Seal details, see sheet S05-13.
- For Bar Splicer Assembly details, see sheet S05-22.
- 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.

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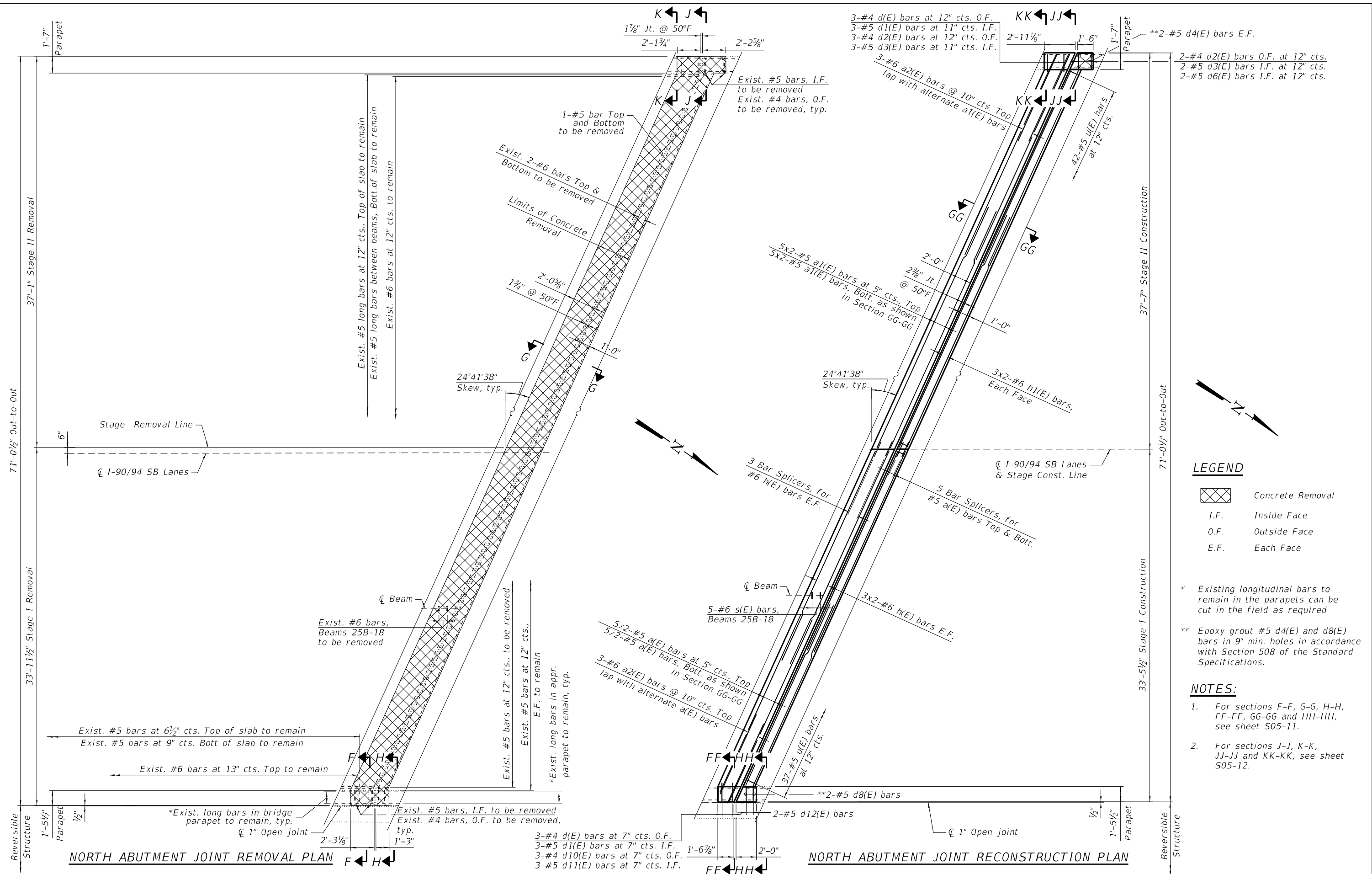
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0134 (SB)**

SHEET S05-09 OF S05-22 SHEETS

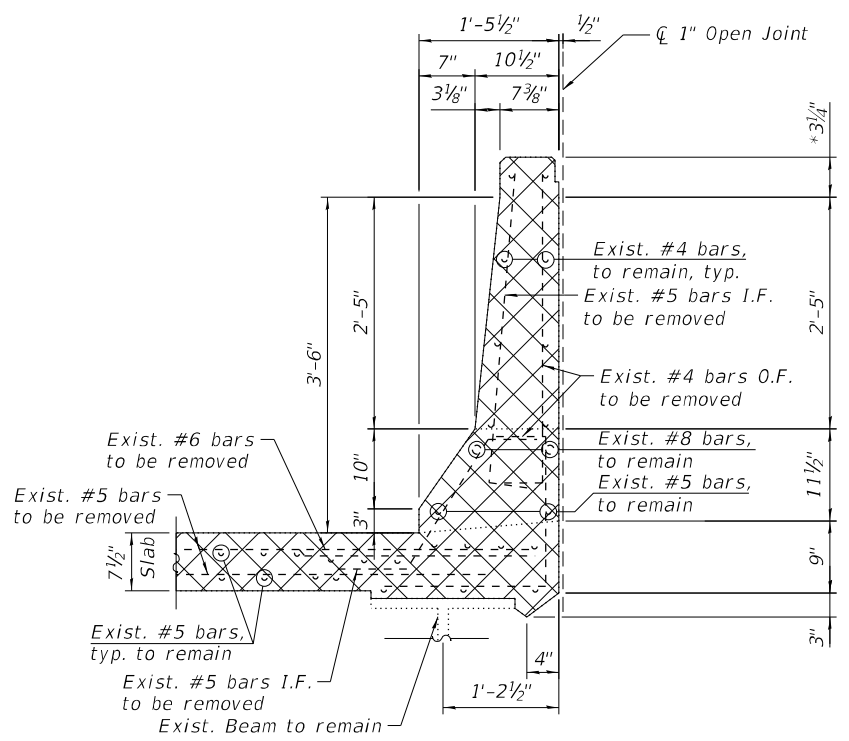
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90	2020-004-BR	COOK	1492	586
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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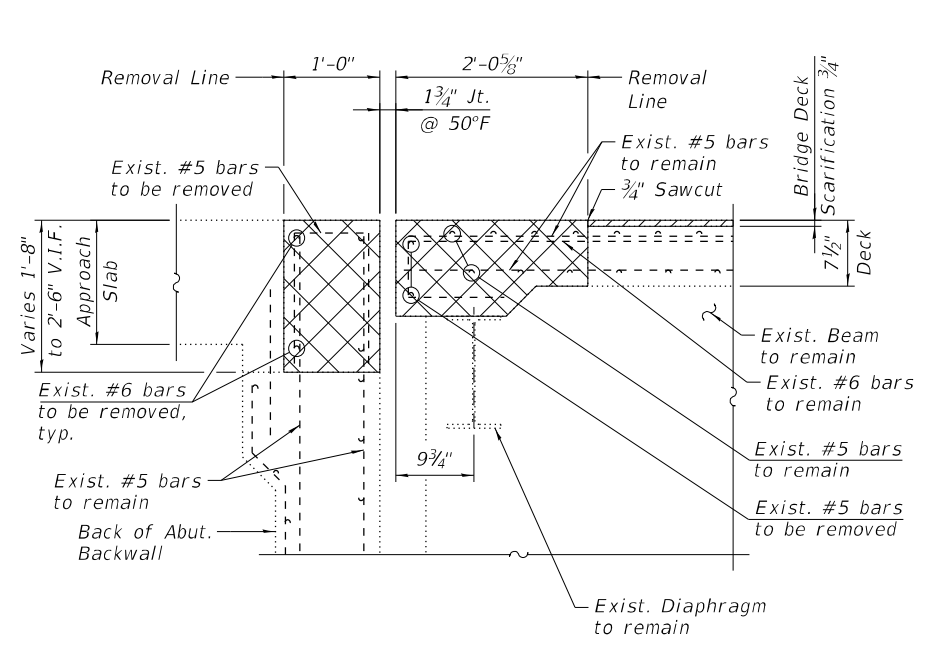


- LEGEND**
- Concrete Removal
 - I.F. Inside Face
 - O.F. Outside Face
 - E.F. Each Face
- NOTES:**
1. For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S05-11.
 2. For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S05-12.
- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #5 d4(E) and d8(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

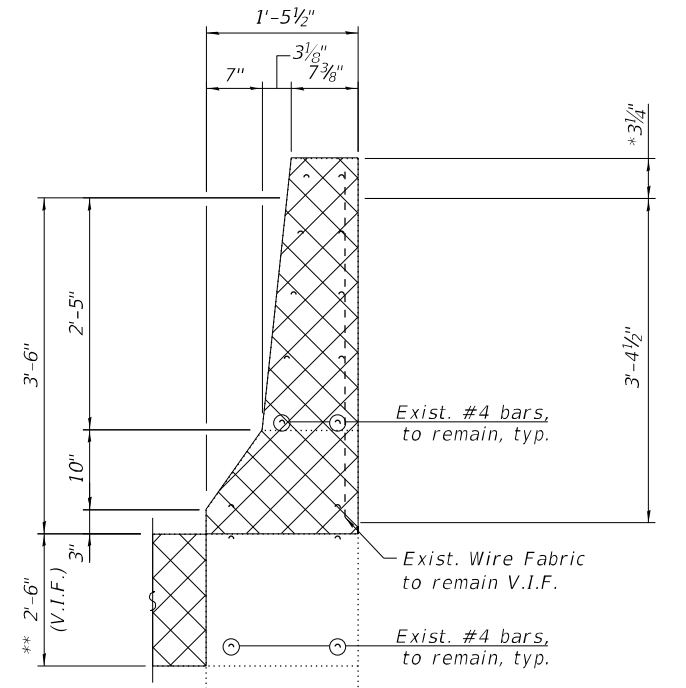
 8501 W. Higgins Road, Suite 280 Chicago, Illinois 60631; (773) 399-0112	USER NAME =	DESIGNED - F.B.	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH ABUTMENT EXPANSION JOINT DETAILS I SN 016-0134 (SB)	F.A.I. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =
	PLOT SCALE =	DRAWN - D.C.P.	REVISED -			90	2020-004-BR	COOK	1492	587
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						ILLINOIS FED. AID PROJECT				



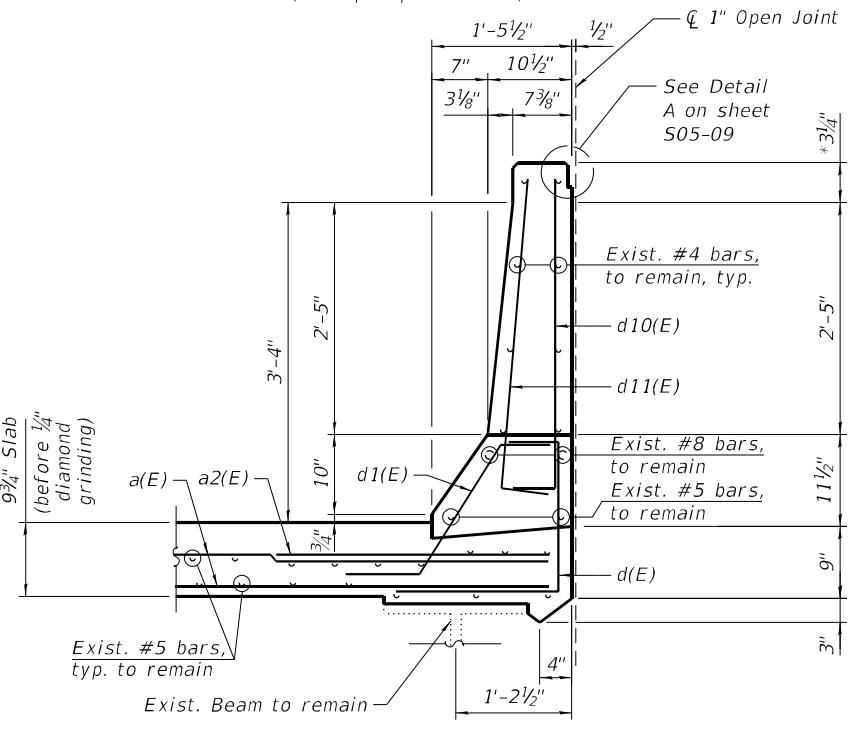
SECTION F-F
(East parapet removal)



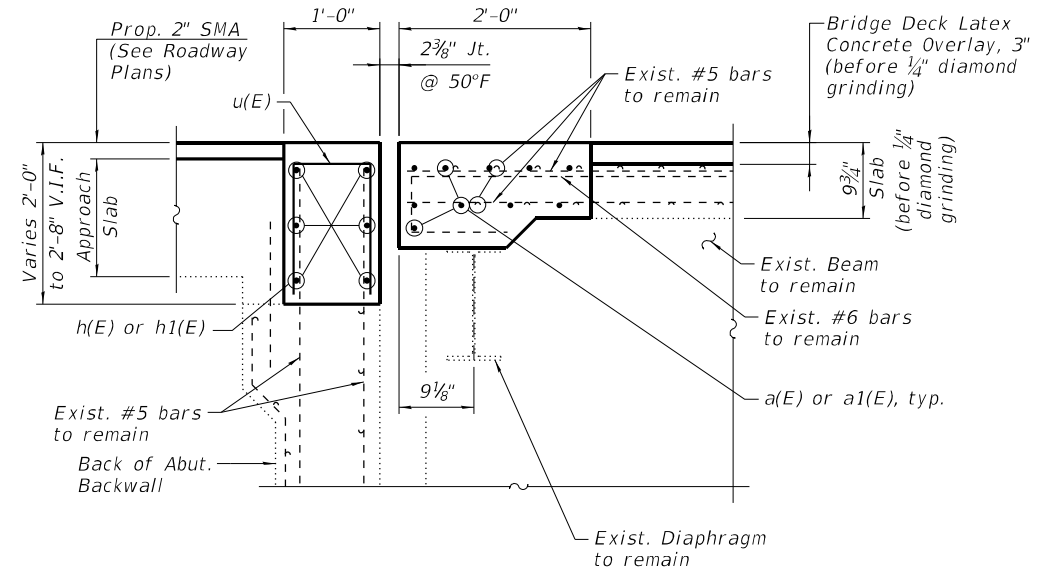
SECTION G-G



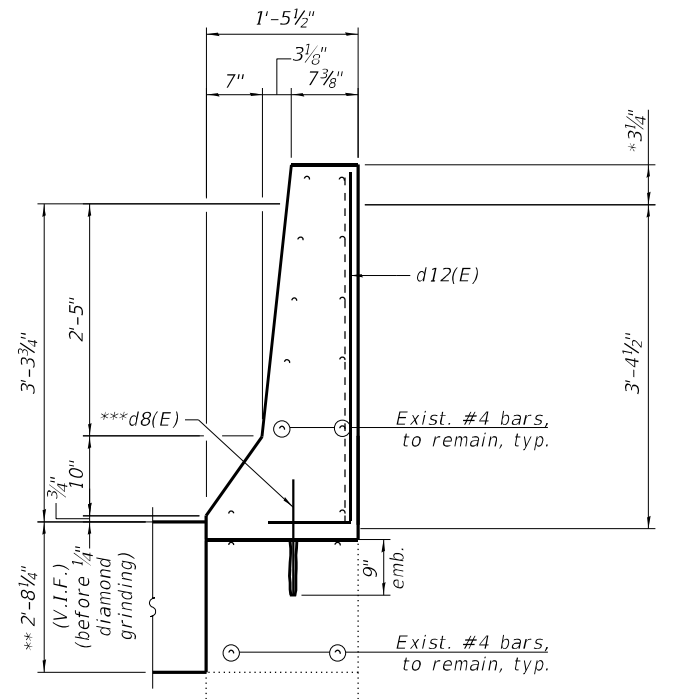
SECTION H-H
(East parapet removal)



SECTION FF-FF
(East parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
(East parapet reconstruction)

LEGEND

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

NOTES:

1. For notes, see Sheet 05-12.
- * Adjust in field as required to match reversible parapet
- ** Dimension is taken at the Back of Abut.
- *** Epoxy grout #5 d8(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

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STATE OF ILLINOIS
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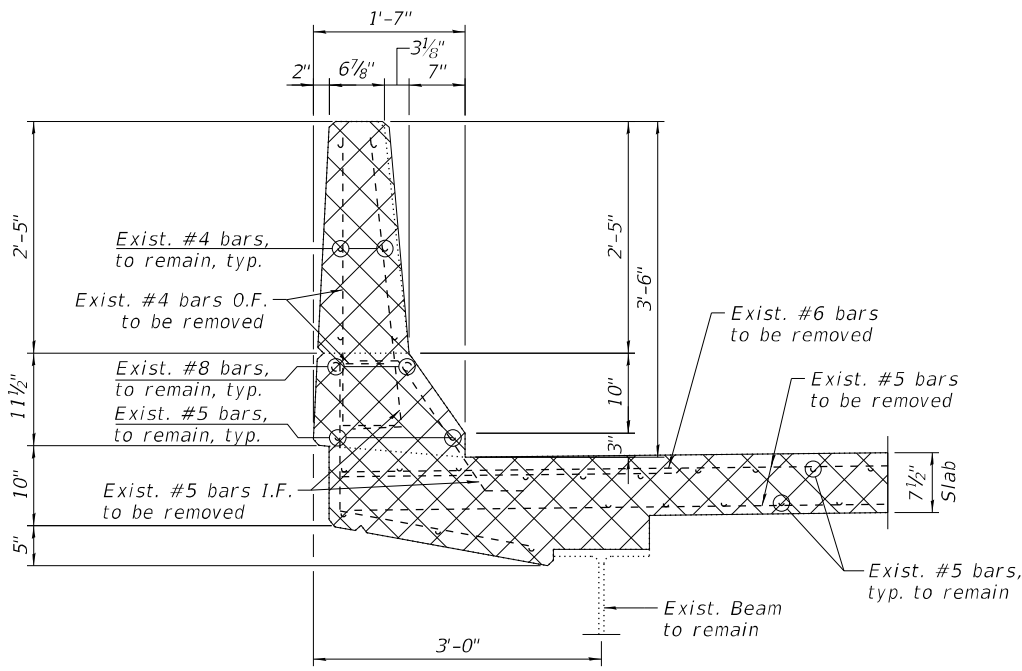
NORTH ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0134 (SB)

SHEET S05-11 OF S05-22 SHEETS

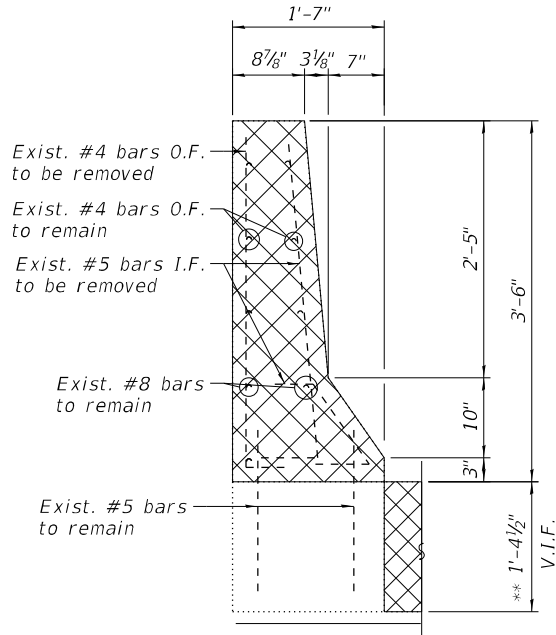
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90	2020-004-BR	COOK	1492	588
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

**BILL OF MATERIAL
NORTH ABUTMENT**

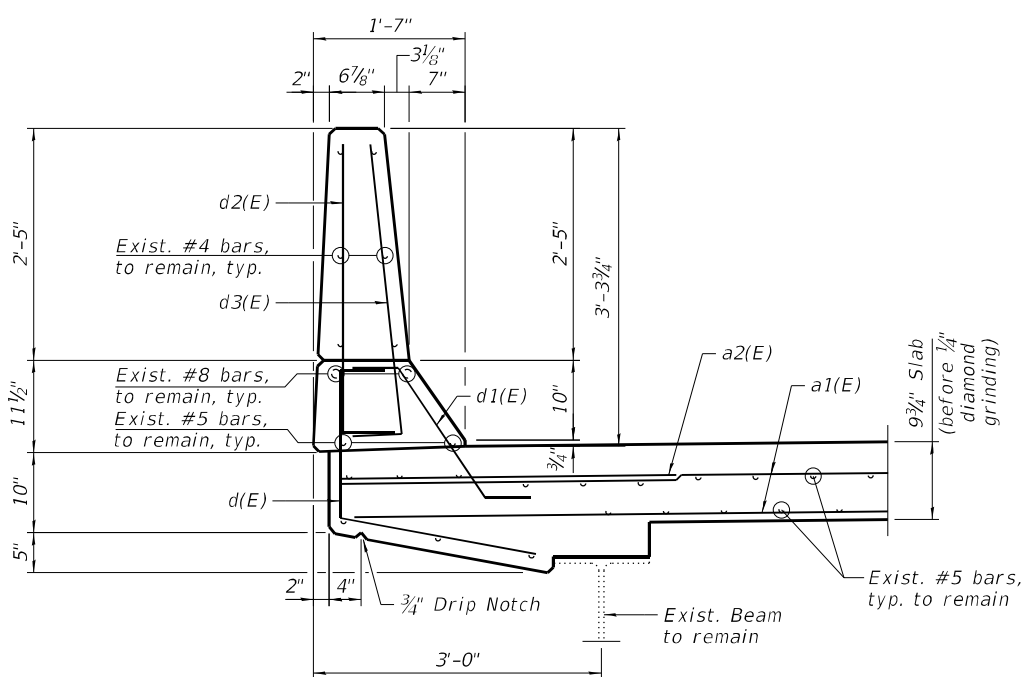
Bar	No.	Size	Length	Shape
a(E)	20	#5	21'-3"	—
a1(E)	20	#5	22'-5"	—
a2(E)	6	#6	6'-6"	—
d(E)	6	#4	3'-11"	┌
d1(E)	6	#5	2'-7"	┌
d2(E)	5	#4	3'-8"	┌
d3(E)	5	#5	3'-8"	┌
d4(E)	4	#5	2'-4"	┌
d6(E)	2	#5	2'-0"	┌
d8(E)	2	#5	1'-9"	┌
d10(E)	3	#4	4'-0"	┌
d11(E)	3	#5	4'-0"	┌
d12(E)	2	#5	4'-6"	┌
h(E)	12	#6	21'-3"	—
h1(E)	12	#6	22'-5"	—
s(E)	50	#6	3'-1"	┌
u(E)	79	#5	3'-1"	┌
Concrete Removal		Cu Yd	13.0	
Reinforcement Bars, Epoxy Coated		Pound	2,360	
Concrete Superstructure		Cu Yd	14.5	



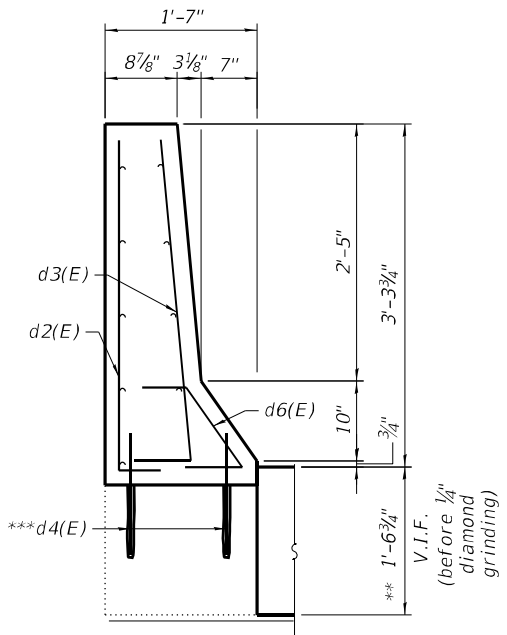
SECTION K-K
(West parapet removal)



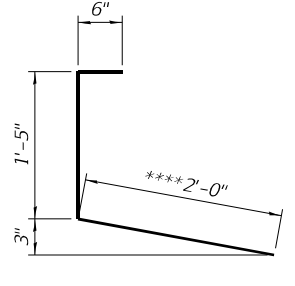
SECTION J-J
(West parapet removal)



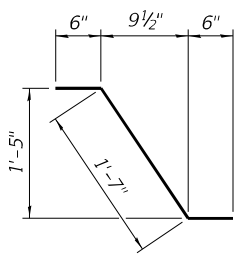
SECTION KK-KK
(West parapet reconstruction)



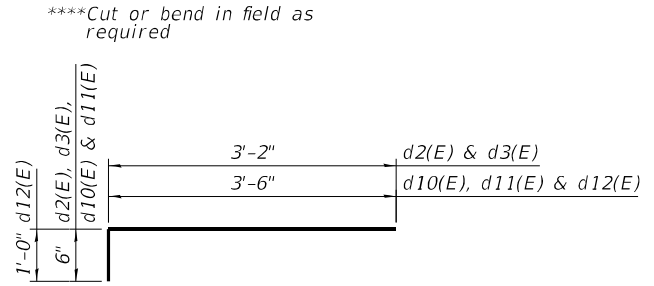
SECTION JJ-JJ
(West parapet reconstruction)



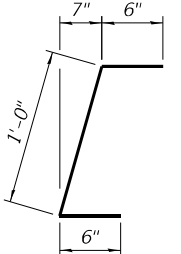
BAR d(E)



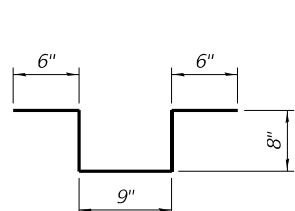
BAR d1(E)



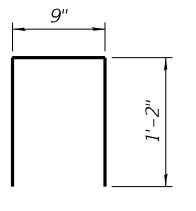
BARS d2(E), d3(E), d10(E), d11(E) & d12(E)



BAR d6(E)



BAR s(E)



BAR u(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S05-13.
- For Bar Splicer Assembly details, see sheet S05-22.
- 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 Abut.
*** Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

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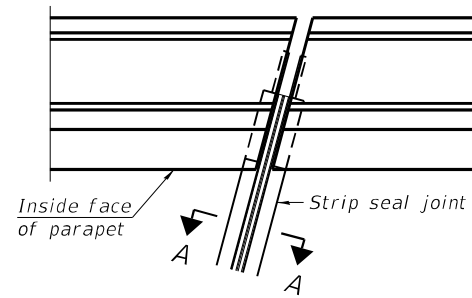
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	CHECKED - K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0134 (SB)**

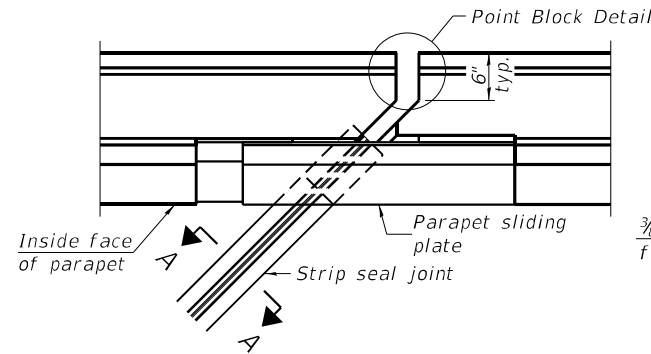
SHEET S05-12 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	589
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

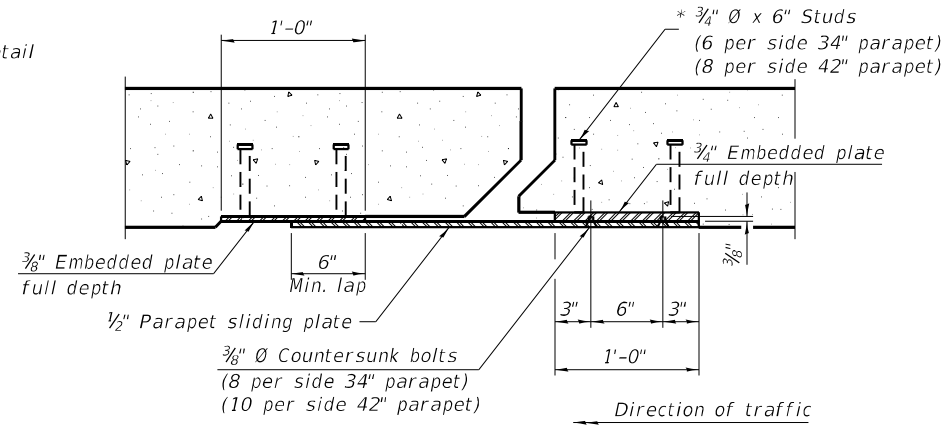


FOR SKEWS $\leq 30^\circ$

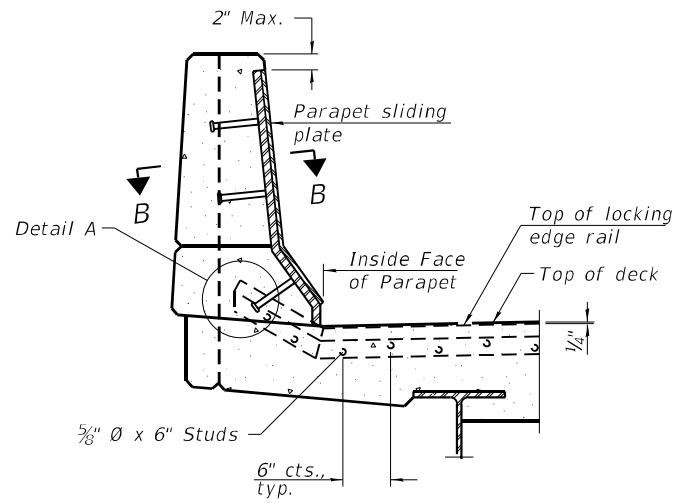
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

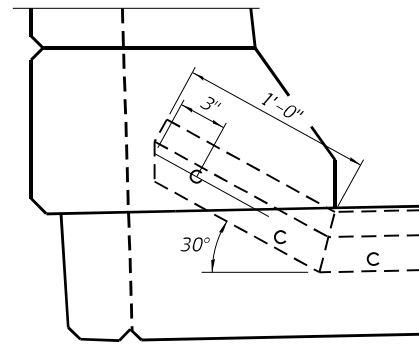


SECTION B-B

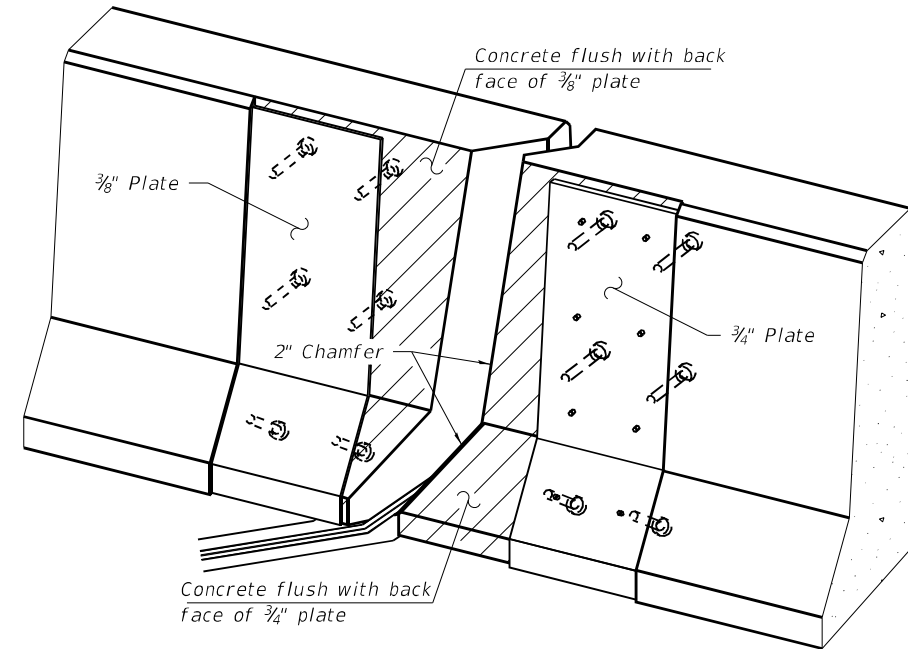


ELEVATION AT PARAPET

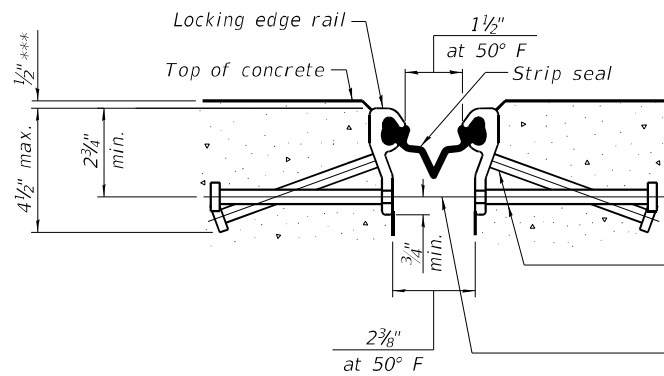
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

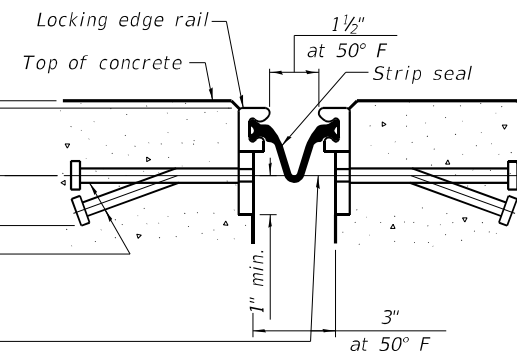
* $3/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$3/8"$ 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.

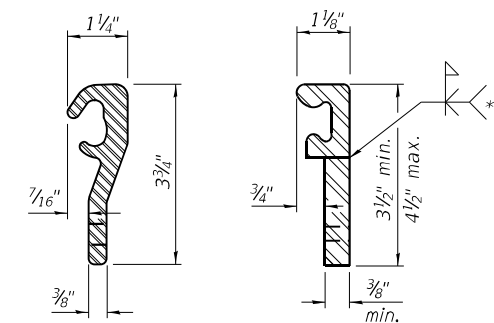
SECTION A-A

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

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

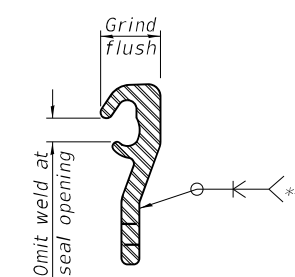


SHOWING WELDED RAIL JOINT



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	154

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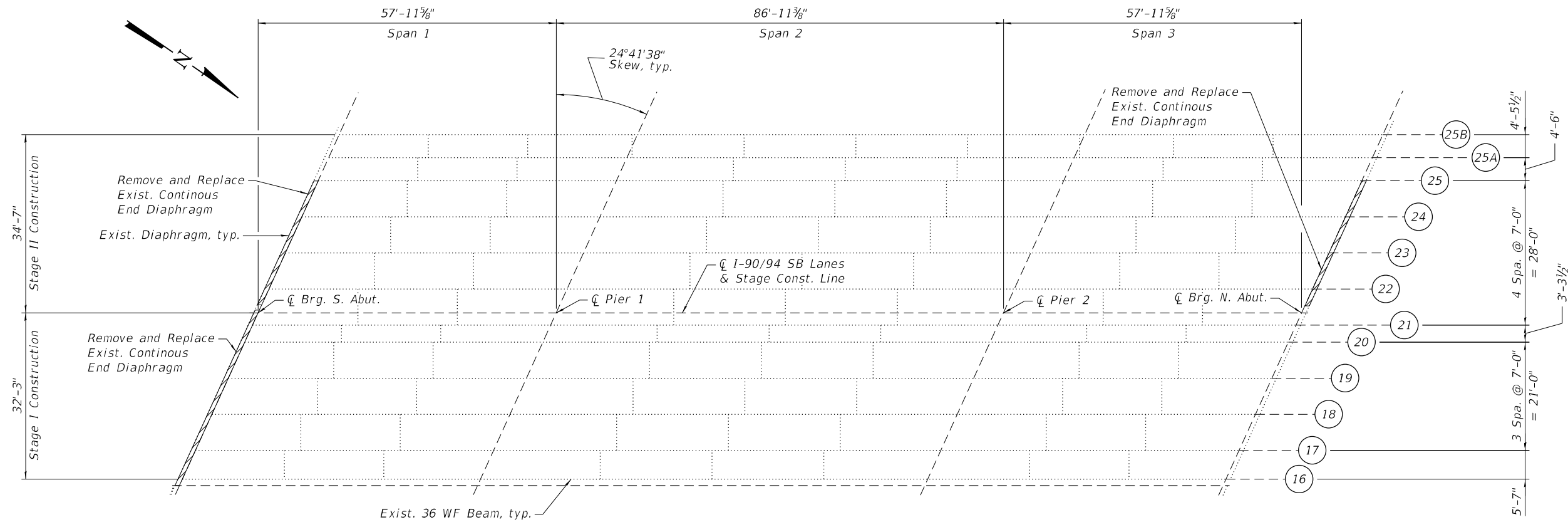
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	CHECKED -	K.G.W.	REVISED -

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PREFORMED JOINT STRIP SEAL
SN 016-0134 (SB)

SHEET S05-13 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	590
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



FRAMING PLAN

NOTES:

- All work is to be performed utilizing staged construction. See Sheets S05-03 and S05-04 for details.
- For existing diaphragm repair details, see Sheet S05-15 & S05-16.

LEGEND

 Remove and Replace Exist. End Diaphragm

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	2,880
Structural Steel Removal	Pound	2,880

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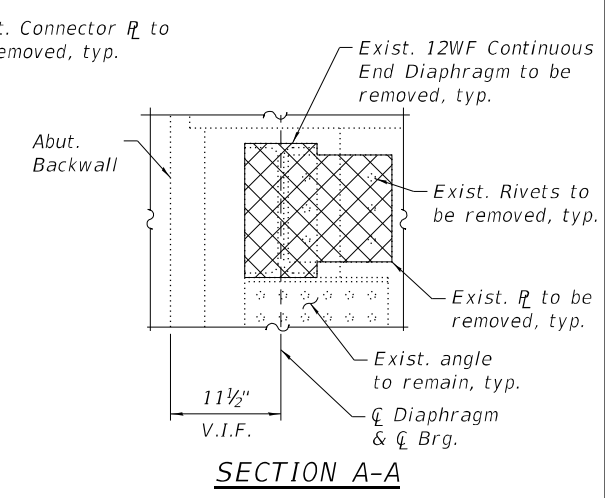
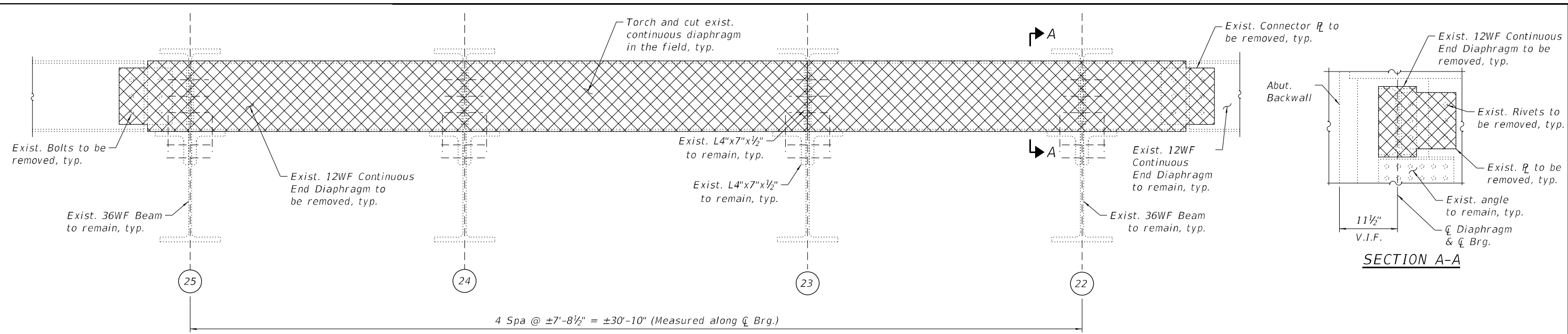
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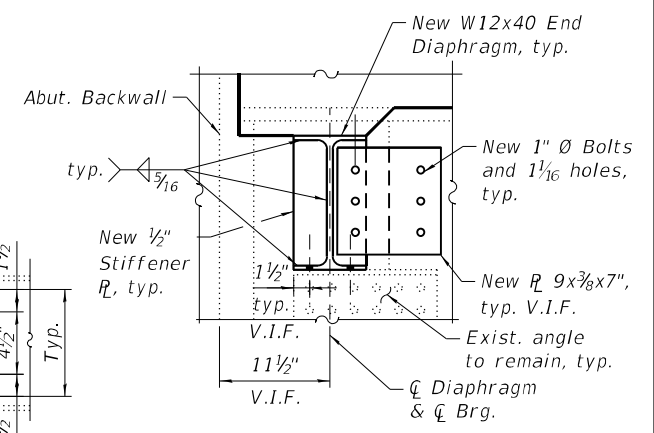
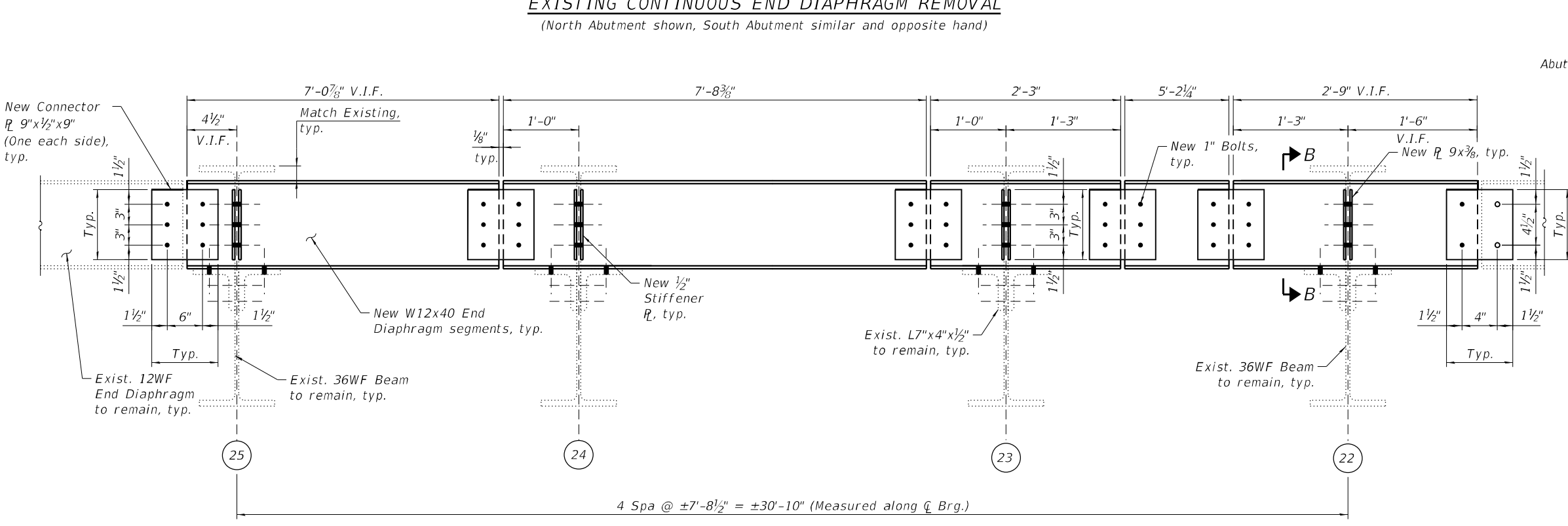
**FRAMING PLAN
 SN 016-0134 (SB)**

SHEET S05-14 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	591
CONTRACT NO. 62K74			ILLINOIS FED. AID PROJECT	



EXISTING CONTINUOUS END DIAPHRAGM REMOVAL
(North Abutment shown, South Abutment similar and opposite hand)



PROPOSED END DIAPHRAGM REPLACEMENT
(North Abutment shown, South Abutment similar and opposite hand)

- NOTES:**
1. For location of Diaphragm Repair and Bill of Material, see Sheet S05-14.
 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 Structural Steel Repair.
 4. The cost of all field drilling shall be included in the cost of Structural Steel Repair.
 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 Structural Steel Repair.
 6. All proposed steel dimensions shall be verified in the field prior to fabrication.

- LEGEND**
- Drill New Bolt hole and Install New Bolt
 - ⊗ Structural Steel Removal
 - Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.

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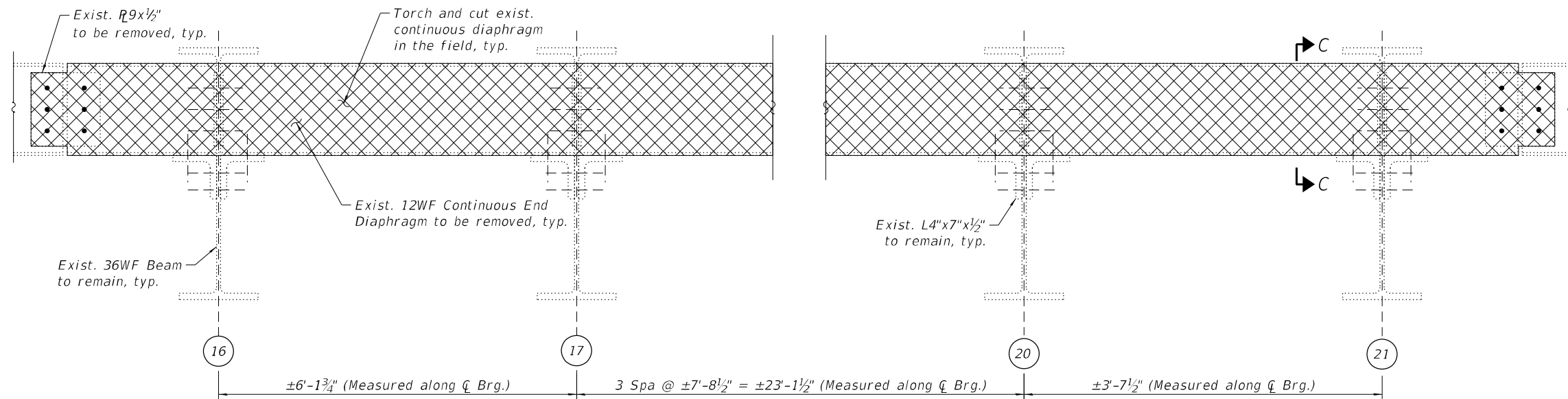
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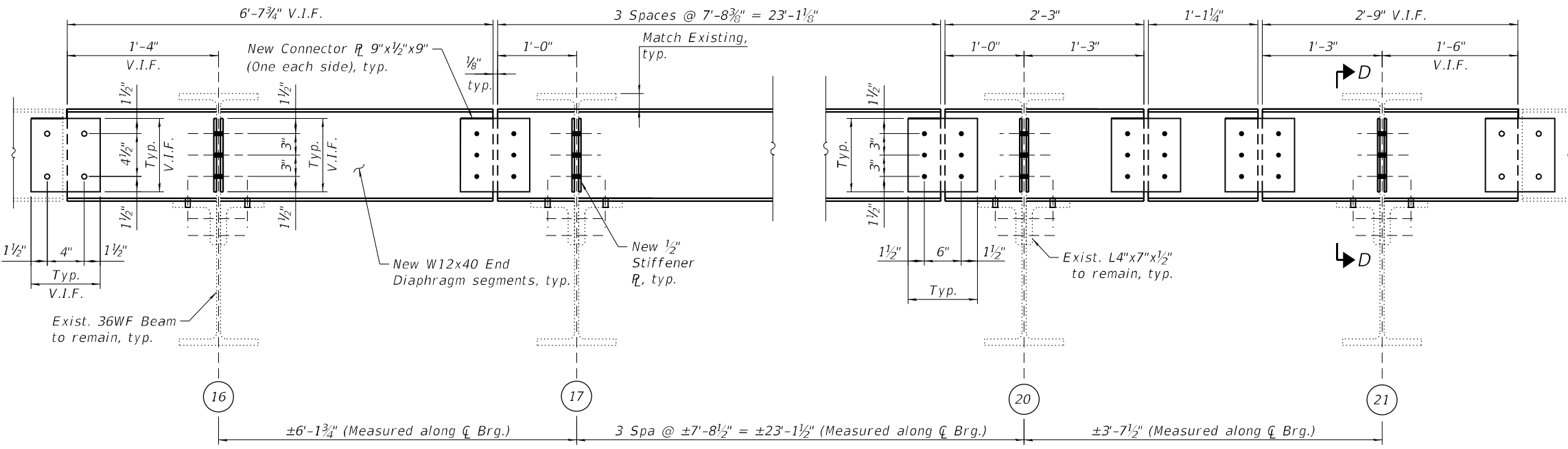
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS
SN 016-0134 (SB)**
SHEET S05-15 OF S05-22 SHEETS

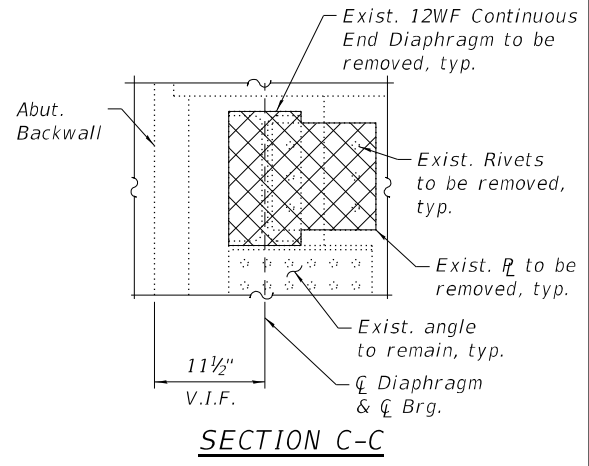
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90	2020-004-BR	COOK	1492	592
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



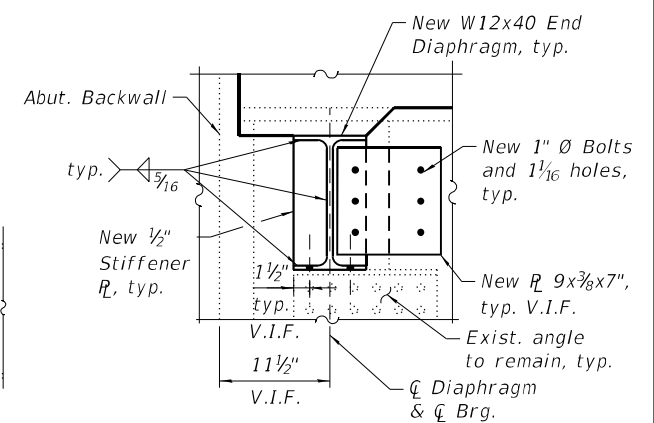
EXISTING CONTINUOUS END DIAPHRAGM REMOVAL
(South Abutment shown)



PROPOSED END DIAPHRAGM REPLACEMENT
(South Abutment shown)



SECTION C-C



SECTION D-D

NOTES:

1. For location of Diaphragm Repair and Bill of Material, see Sheet S05-14.
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 Structural Steel Repair.
4. The cost of all field drilling shall be included in the cost of Structural Steel Repair.
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 Structural Steel Repair.
6. All proposed steel dimensions shall be verified in the field prior to fabrication.

LEGEND

- Drill New Bolt hole and Install New Bolt
- ▣ Structural Steel Removal
- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.

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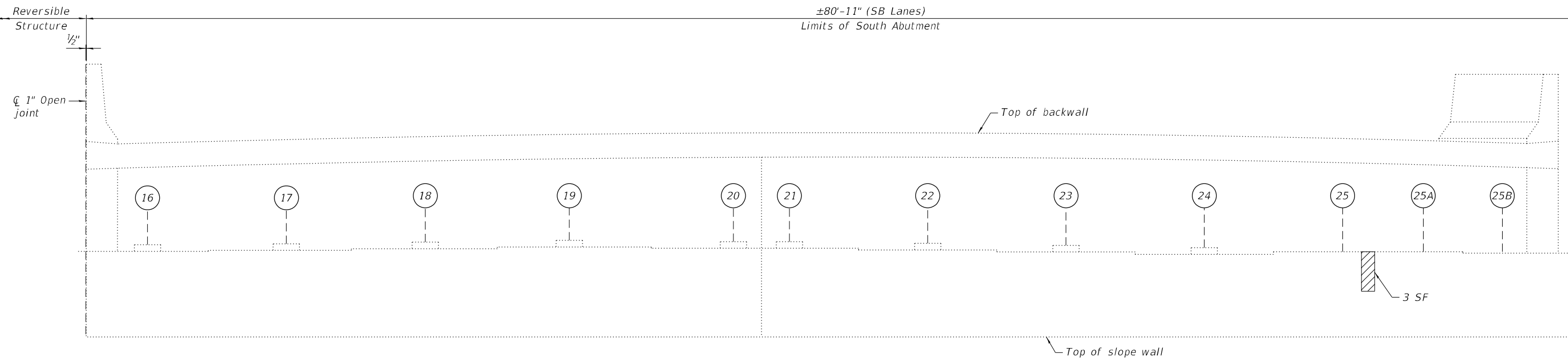
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**STRUCTURAL STEEL REPAIR DETAILS II
SN 016-0134 (SB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	593
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S05-16 OF S05-22 SHEETS



ELEVATION - SOUTH ABUTMENT
(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 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 S05-21.

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	357
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	3

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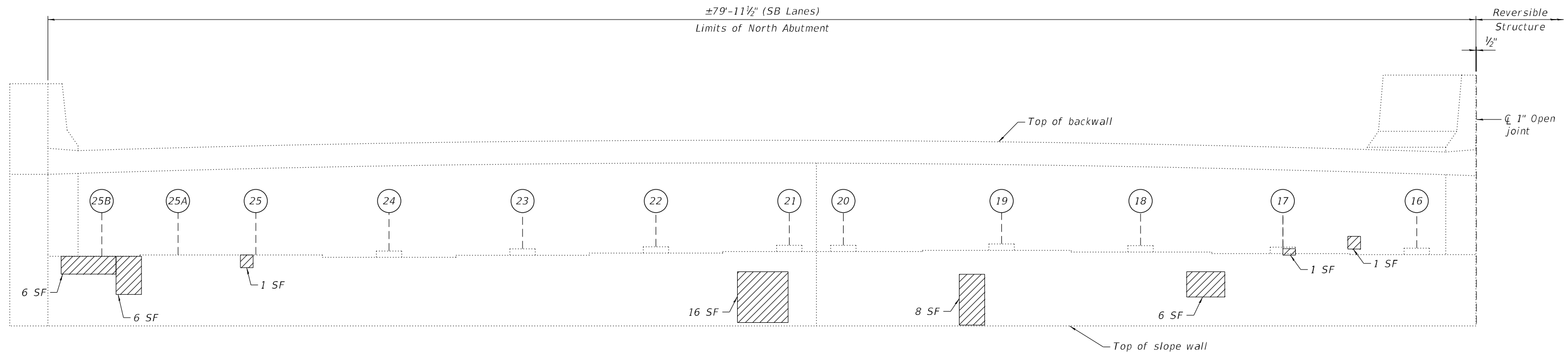
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DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT REPAIRS
SN 016-0134 (SB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	594
CONTRACT NO. 62K74				
		ILLINOIS	FED. AID PROJECT	

SHEET S05-17 OF S05-22 SHEETS



ELEVATION - NORTH 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.
- 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 S05-21.

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	352
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	45

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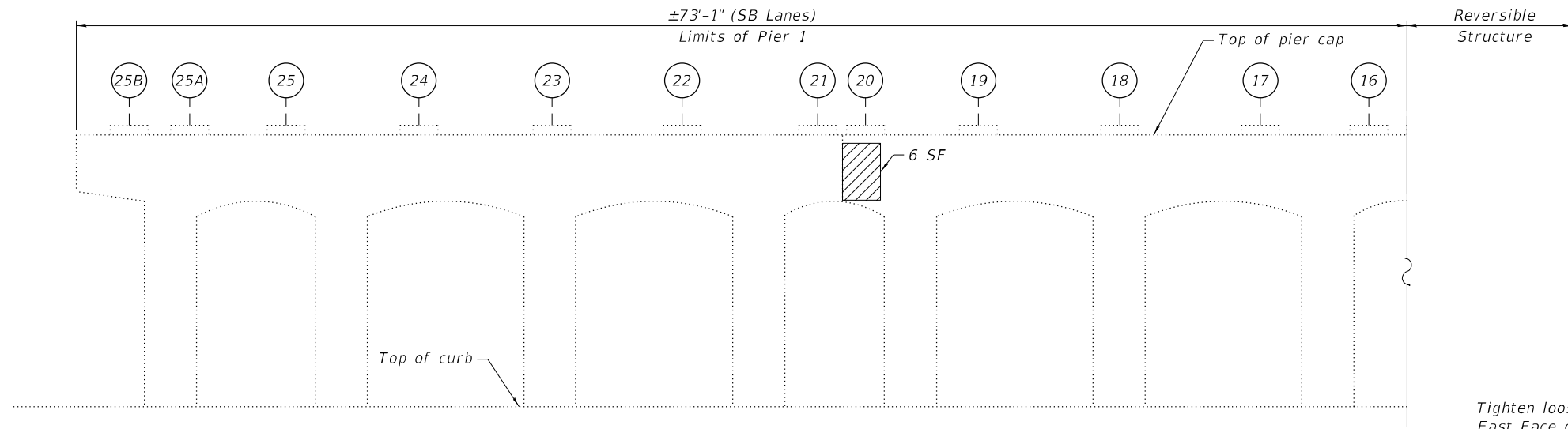
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT REPAIRS
SN 016-0134 (SB)**

SHEET S05-18 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	595
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 1
(Looking North)

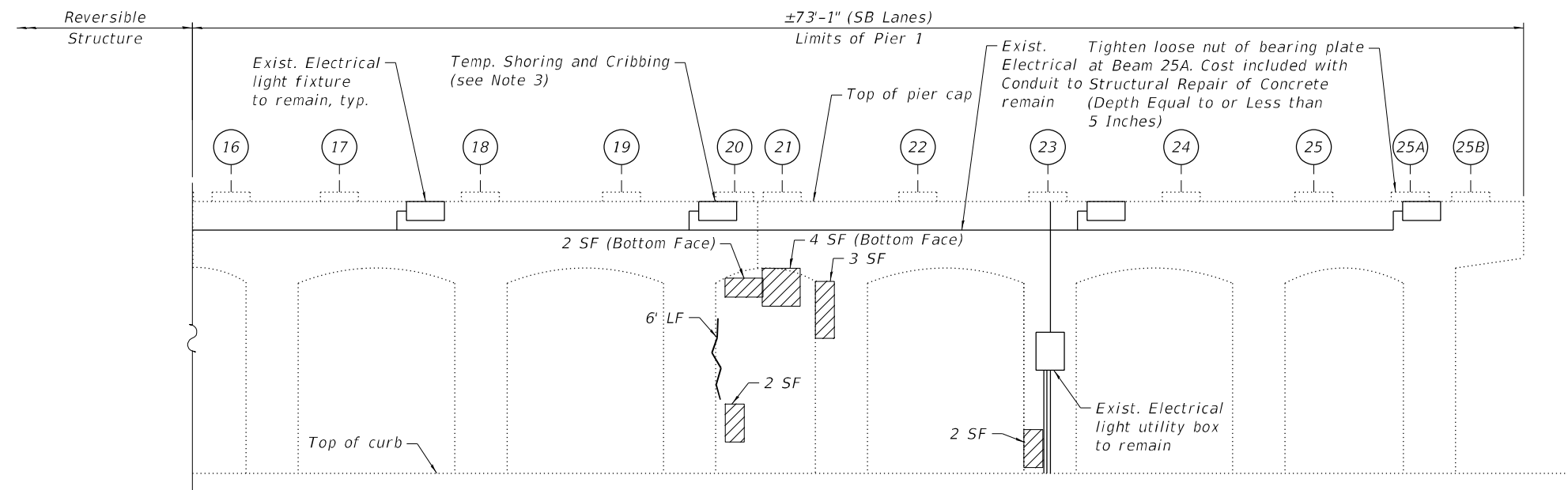


EXISTING LIGHTING: PIER 1
(Looking Southeast)

Tighten loose nut at East Face of bearing plate at Beam 25A



EXISTING BEARING AT BEAM 25A - PIER 1
(Looking South)



ELEVATION - PIER 1
(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- The cost for tightening the nut at the west face of bearing plate at Beam 6 will not be paid separately and shall be included with Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)
- 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)
- 6' LF 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	19
Epoxy Crack Injection	Foot	6
Temporary Shoring and Cribbing	Each	1

SUMMARY OF REACTIONS	
	Beam 20
R DL (k)	100.7
R LL (k)	58.6
R IM (k)	13.9
R Total (k)	173.2

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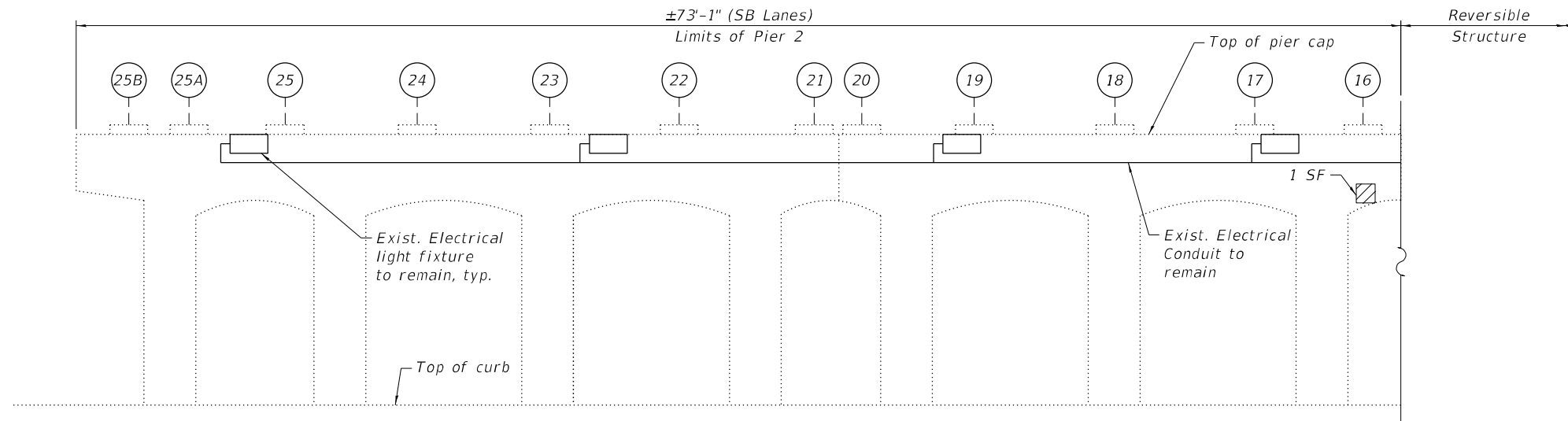
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS
SN 016-0134 (SB)

SHEET S05-19 OF S05-22 SHEETS

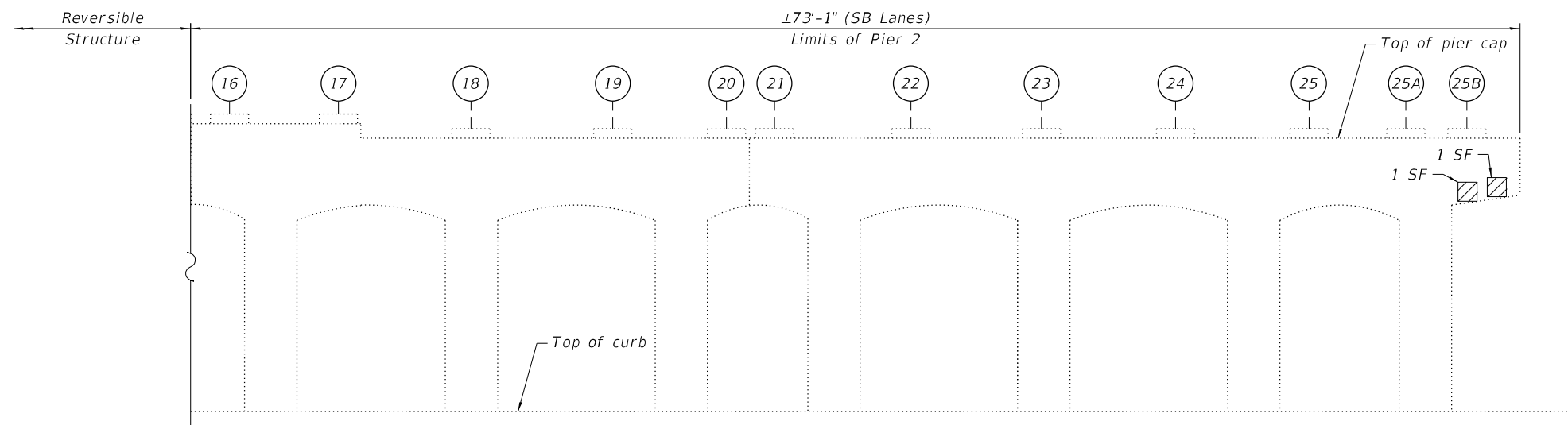
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90	2020-004-BR	COOK	1492	596
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



ELEVATION - PIER 2
(Looking North)



EXISTING LIGHTING: PIER 2
(Looking Northwest)



ELEVATION - PIER 2
(Looking South)

NOTES:

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

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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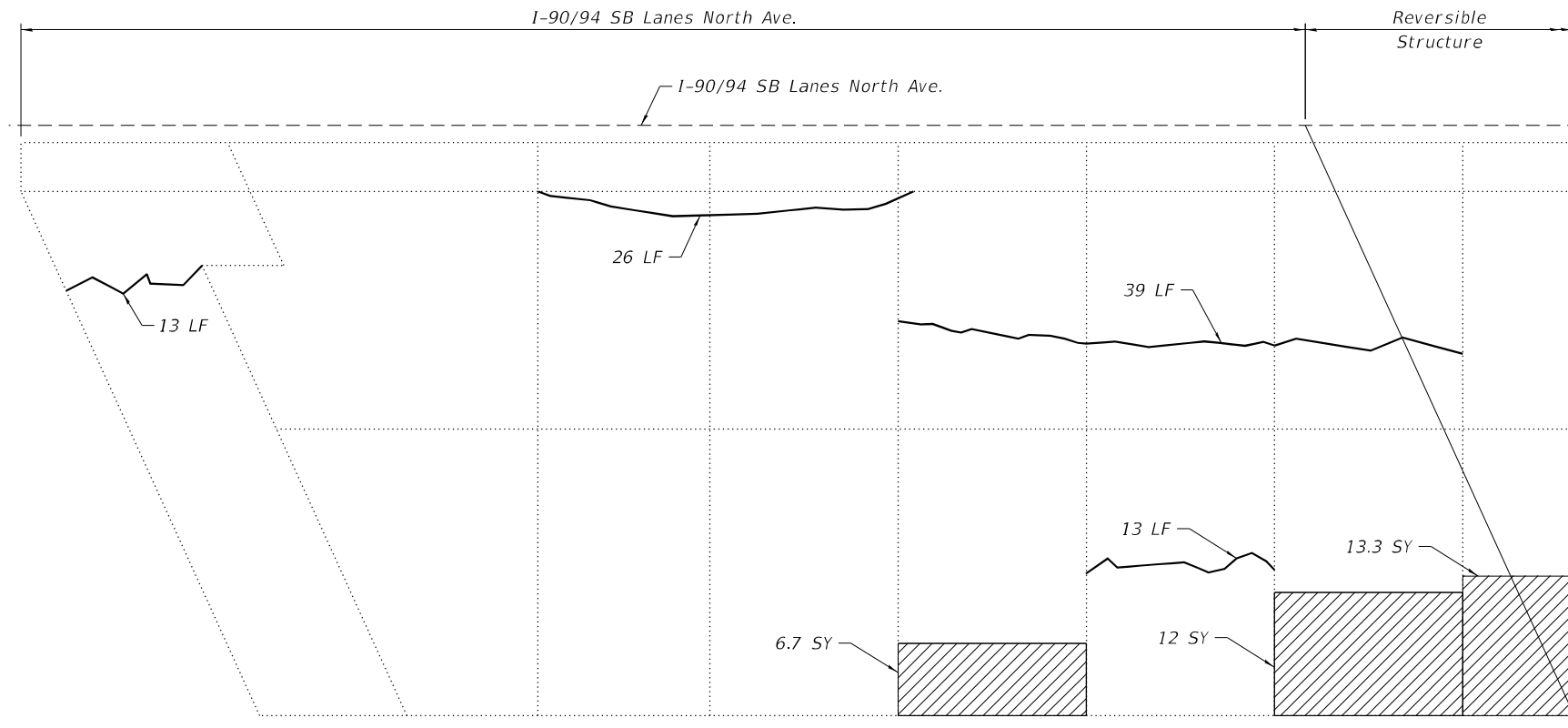
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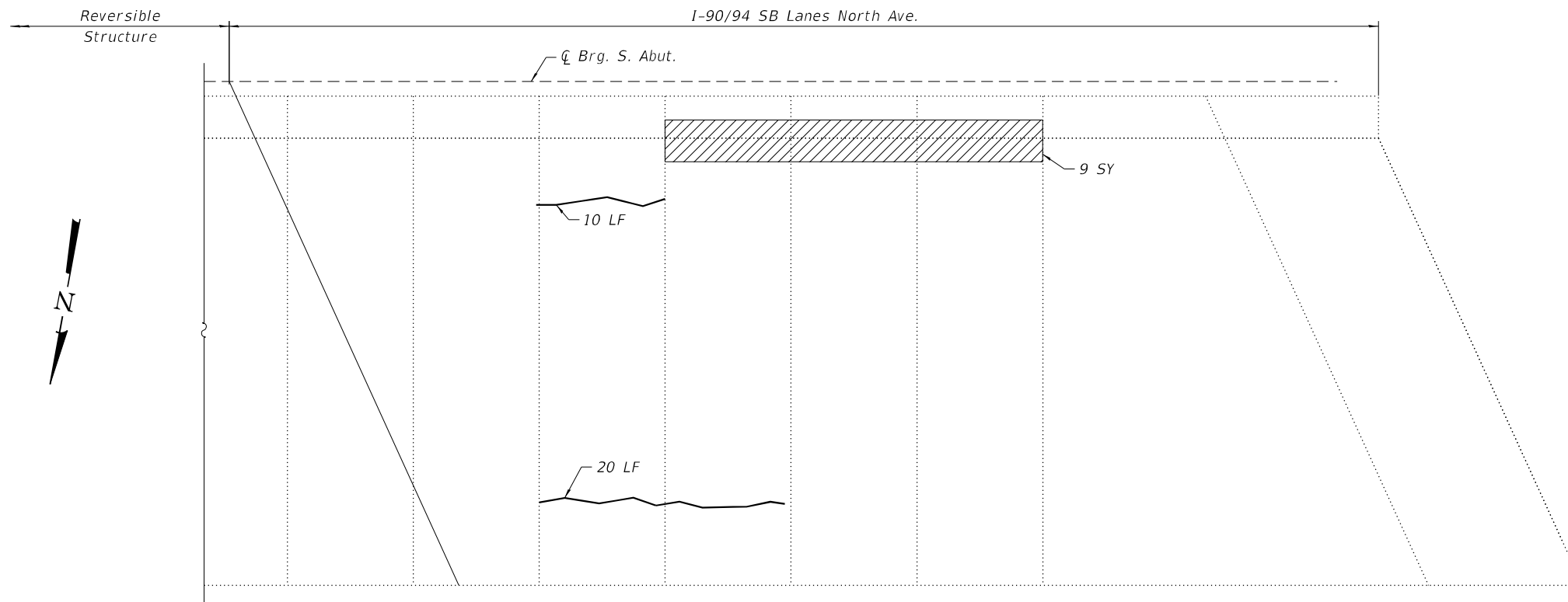
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PIER 2 REPAIRS
SN 016-0134 (SB)
 SHEET S05-20 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	597
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



NORTH SLOPE WALL - PLAN
(Looking North)



SOUTH SLOPE WALL - PLAN
(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 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	41
Slope Wall Removal	Sq Yd	41
Slope Wall 4 Inch	Sq Yd	41
Slope Wall Crack Sealing	Foot	121

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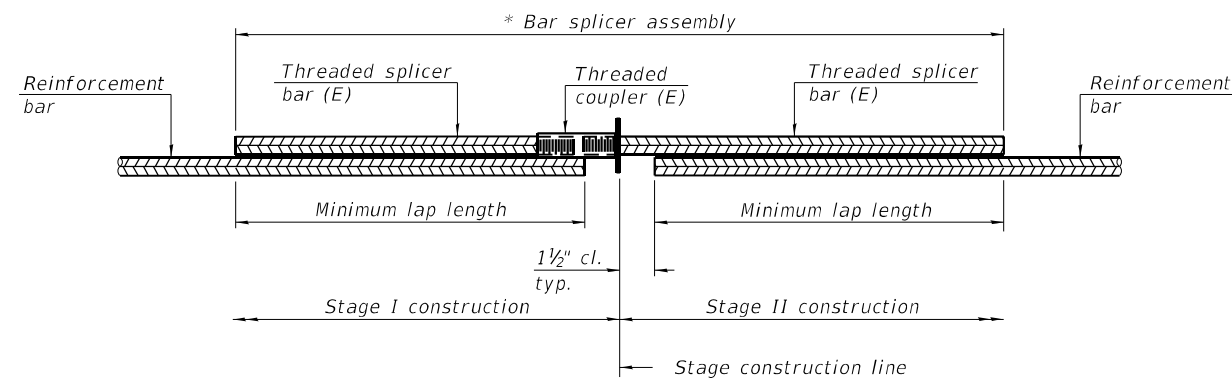
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SLOPE WALL REPAIRS
SN 016-0134 (SB)

SHEET S05-21 OF S05-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	598
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

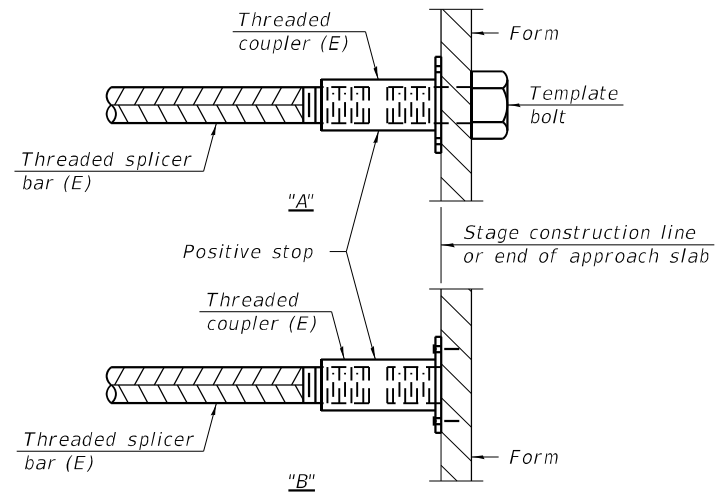


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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

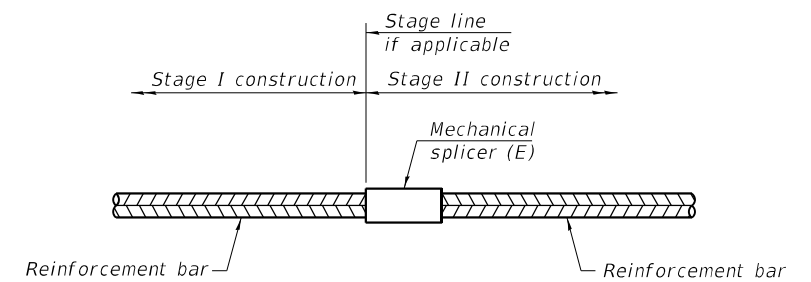
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
South Abutment Exp. Jt.	#5	10	3'-6"
North Abutment Exp. Jt.	#5	10	3'-6"
	#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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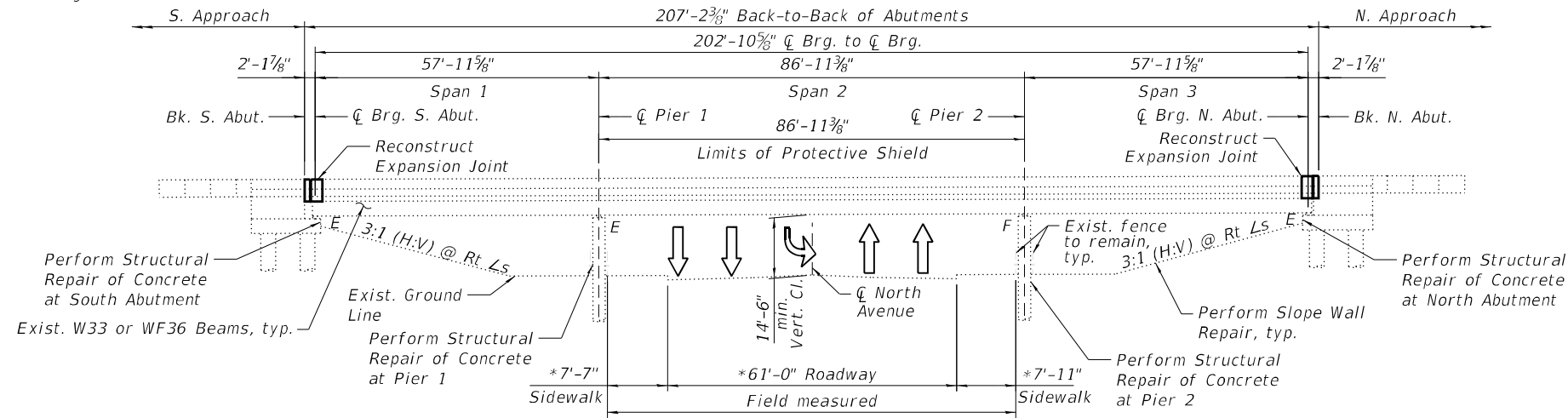
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	599
ILLINOIS			FED. AID PROJECT	

Existing Structure: S.N. 016-0134 was originally built in 1959 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 207'-2³/₈" and an out-to-out deck width of 35'-11". The superstructure consists of a 7¹/₂" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 57'-11⁵/₈", 86'-11³/₈", and 57'-11⁵/₈". The substructure consists of reinforced concrete abutments and piers supported on reinforced concrete drilled shafts.

The reversible lanes will be closed to traffic during construction.

No salvage.



LOADING

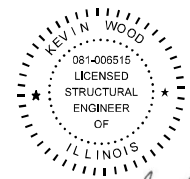
HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

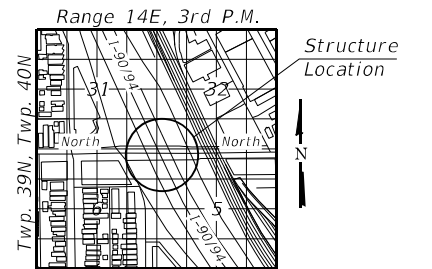
NOTE:

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

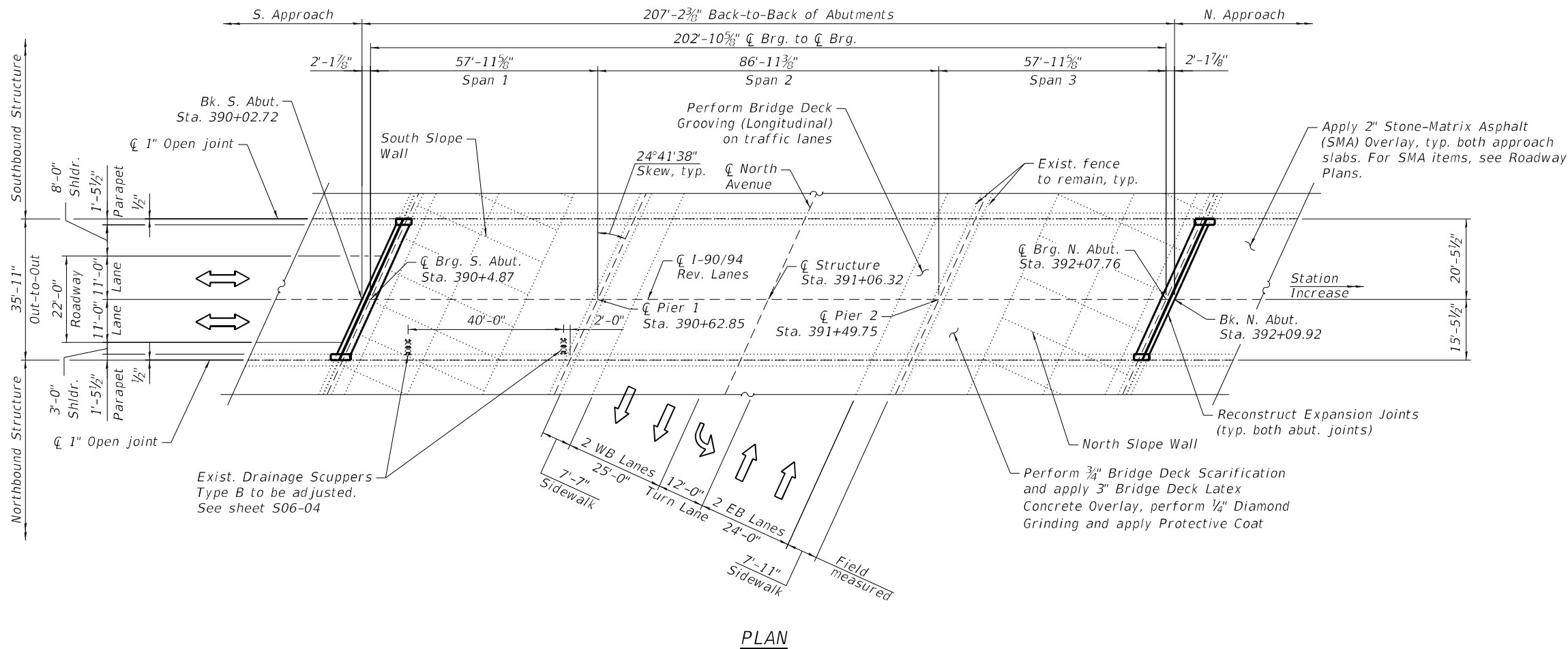


Kevin Wood

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 NORTH AVE
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 391+06.32
STRUCTURE NO. 016-0134 (REV)**

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	600
CONTRACT NO. 62K74				

SHEET S06-01 OF S06-18 SHEETS

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