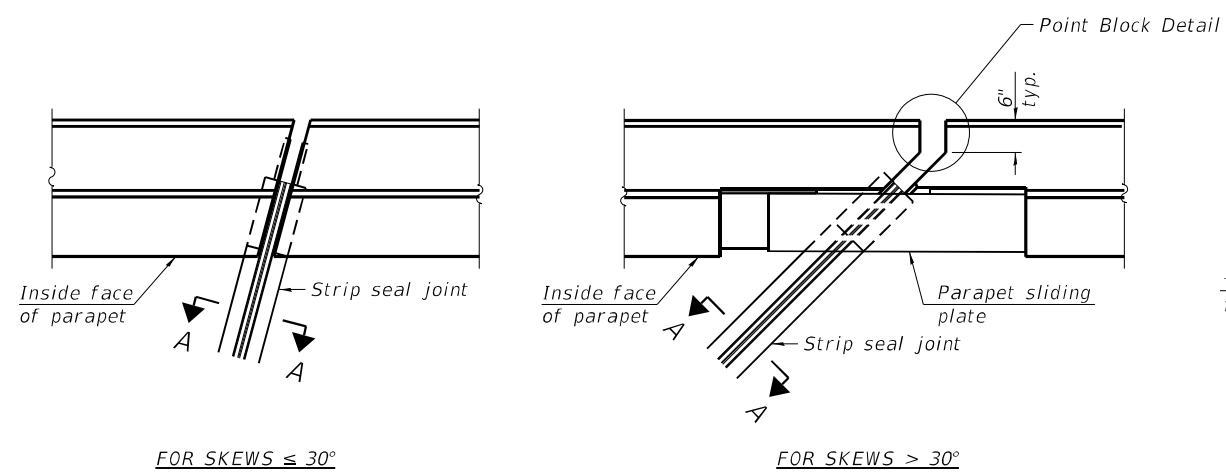
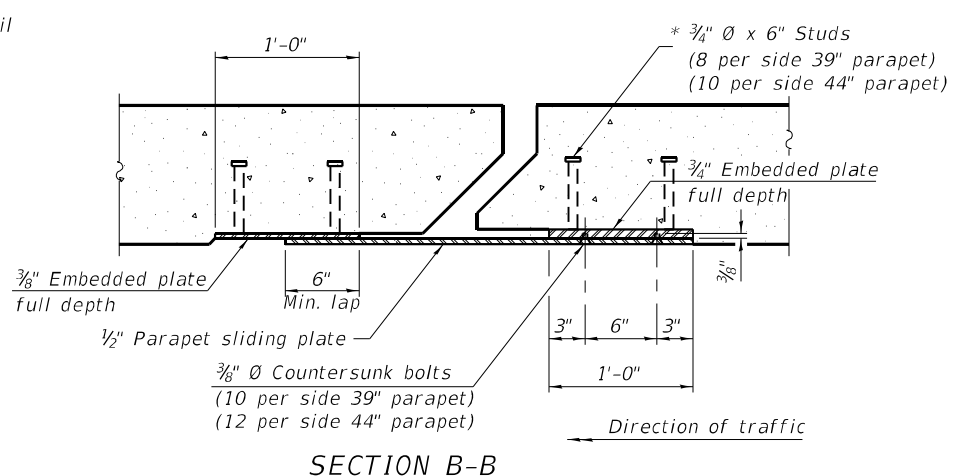


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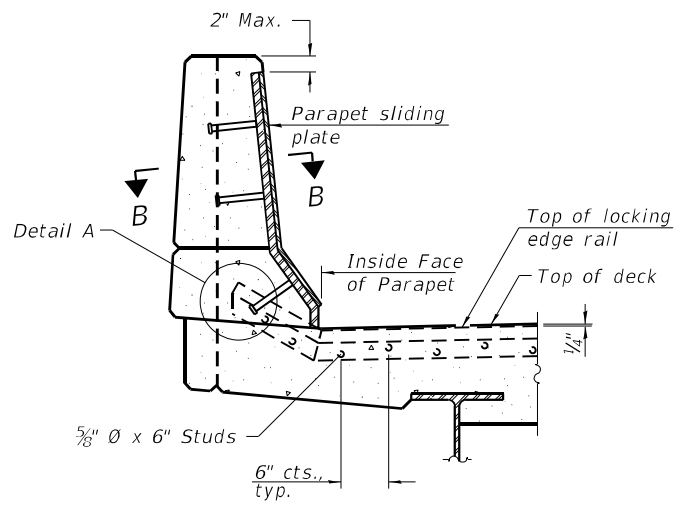


FOR SKEWS $\leq 30^\circ$
PLAN AT PARAPET

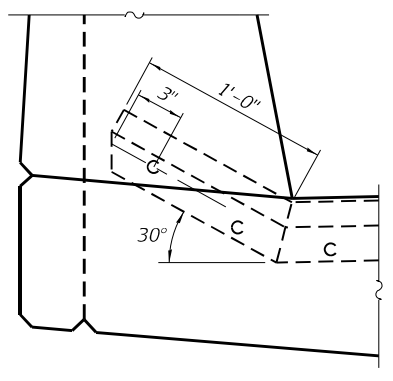


SECTION B-B

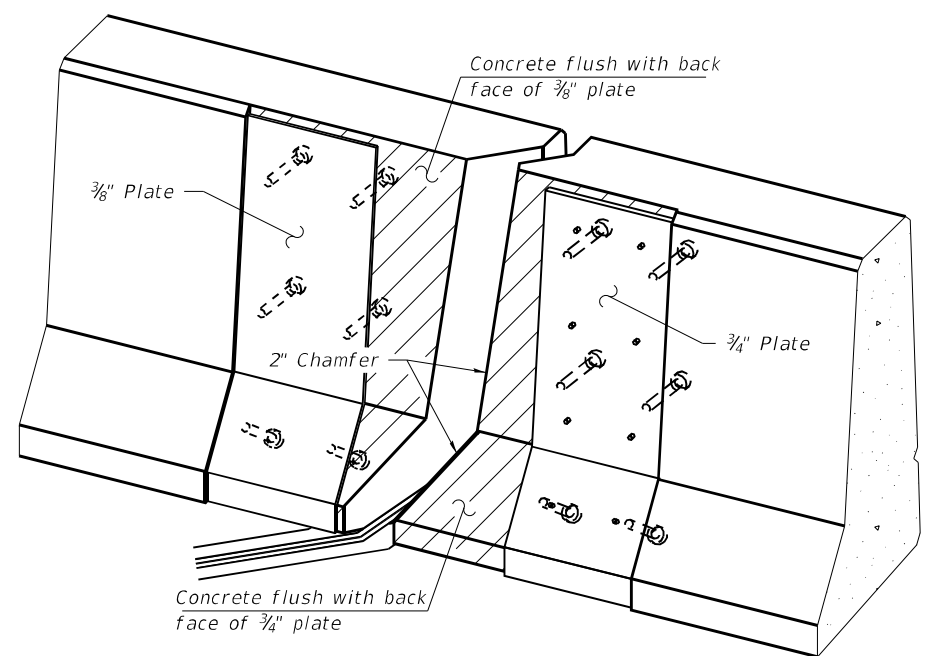
Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement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



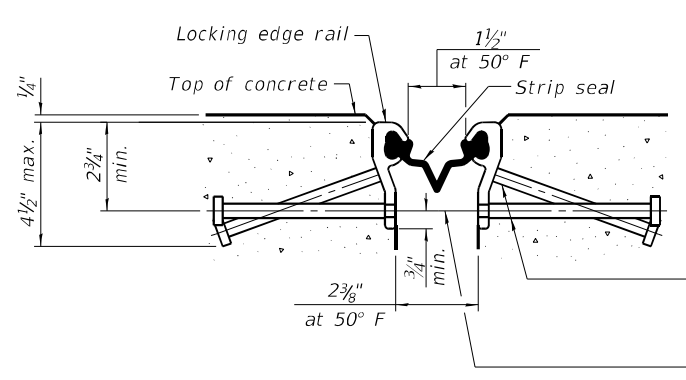
SECTION AT PARAPET
 (Skews > 30° shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
 (Showing embedded plates only)

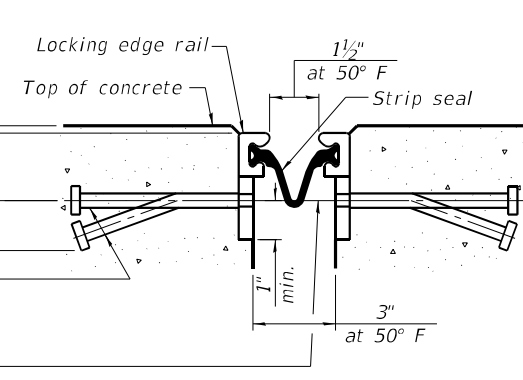


SHOWING ROLLED RAIL JOINT

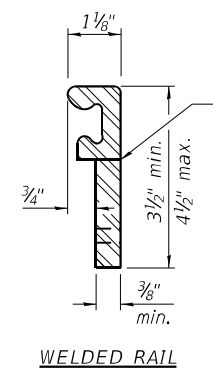
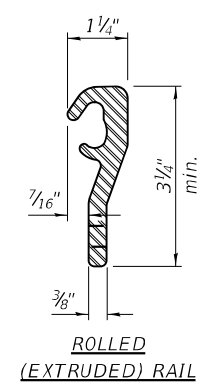
* 3/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 3/8" ϕ threaded rods in 1/16" ϕ holes at ± 4 -0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates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

SECTION A-A

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

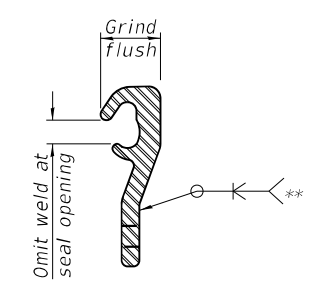


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	157



USER NAME =	DESIGNED - JMI	REVISED -
PLOT SCALE =	CHECKED - LAB	REVISED -
PLOT DATE =	DRAWN - JMI	REVISED -
	DATE - 11/5/2021	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

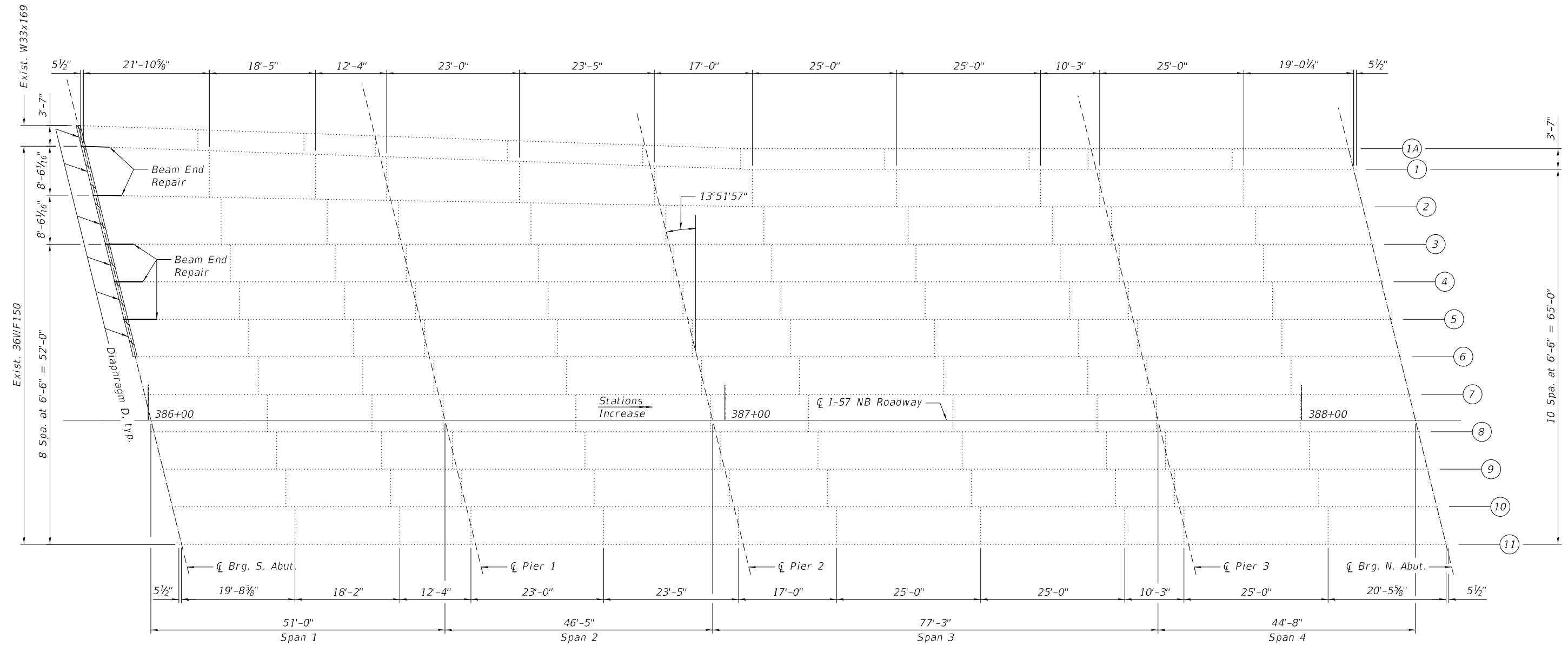
PREFORMED JOINT STRIP SEAL
 STRUCTURE NO. 016-2026

SHEET S1-14 OF S1-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	101
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing And Erecting Structural Steel	POUND	2,150
Structural Steel Removal	POUND	2,020
Structural Steel Repair	POUND	1,910



FRAMING PLAN



NOTES:

- All work is to be performed utilizing staged construction. See Sheets S1-03 and S1-04 for details.
- For Beam End Repairs and Diaphragm Removal and Replacement Details, see Sheets S1-16 and S1-17.

LEGEND:

- Perform Beam End Repairs
- Remove and Replace Exist. Diaphragm

MODEL: Default
FILE NAME: P:\2004-823 PTB\195-006-ACCURATE\WO#7 157 over 180\Sheet_Files\2026 NB\0162026-62M54-S14-Framing_Plan_Steel_Repairs.dgn



USER NAME =	DESIGNED - SK	REVISED -
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PLOT DATE =	DATE - 11/5/2021	REVISED -

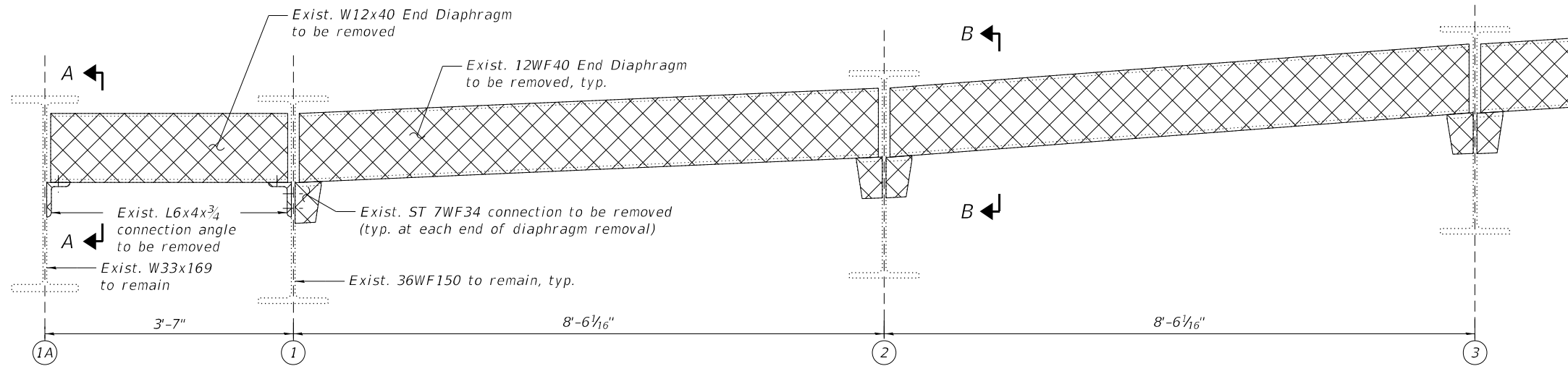
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN STEEL REPAIRS
STRUCTURE NO. 016-2026**

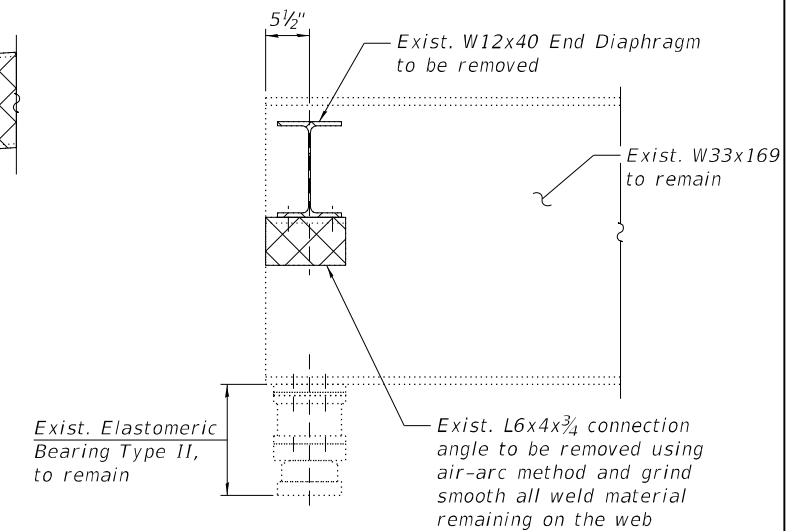
SHEET S1-15 OF S1-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62M54				

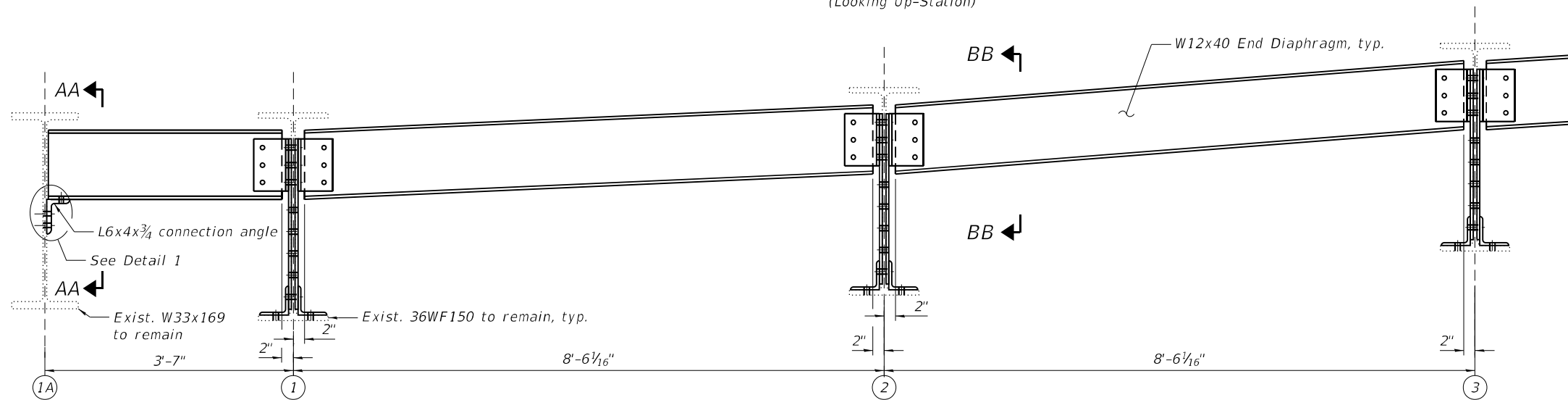
ILLINOIS FED. AID PROJECT



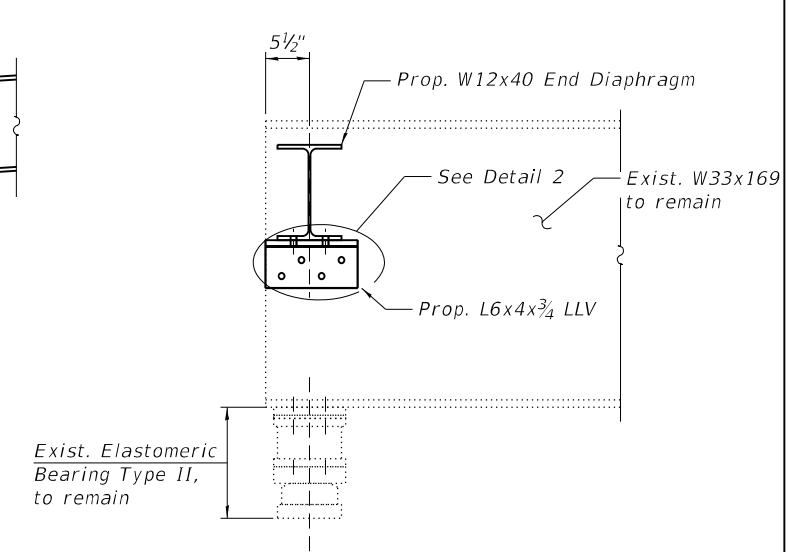
EXISTING END DIAPHRAGM D REMOVAL
(At South Abutment - Between Beams 1A and 3)
(Looking Up-Station)



SECTION A-A



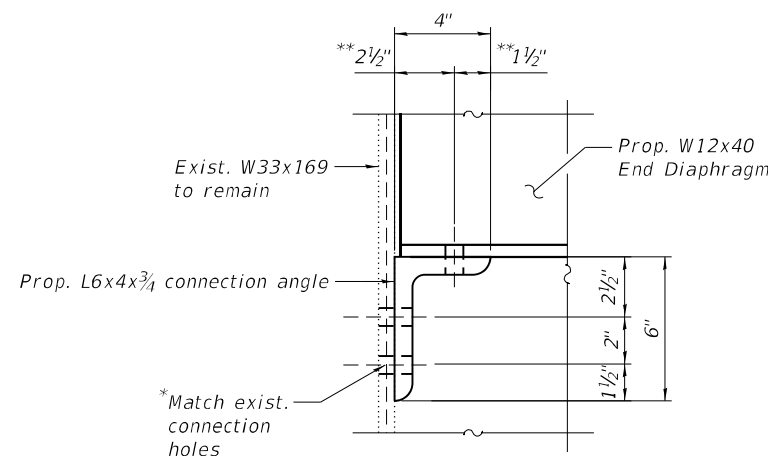
PROPOSED END DIAPHRAGM D
(At South Abutment - Between Beams 1A and 3)
(Looking Up-Station)



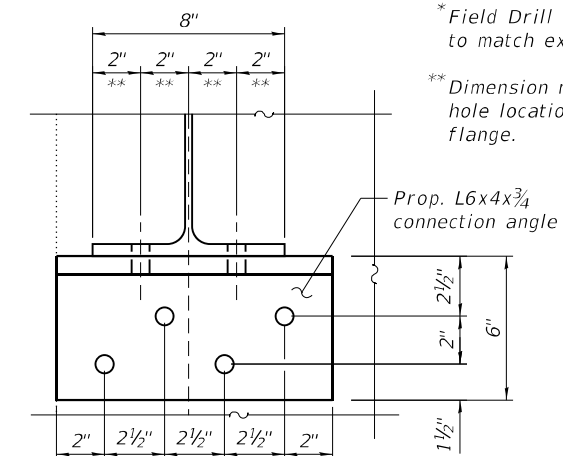
SECTION AA-AA

NOTES:

- For locations of Diaphragm Removal/Replacement and Beam End Repairs, see Sheet S1-15.
- For Sections B-B and BB-BB, see Sheet S1-17.
- All proposed beam end repair plates and bottom flange repair angles shall conform to the requirements of AASHTO M270 Grade 50. All proposed diaphragms and their connection angles shall conform to the requirements of AASHTO M270 Grade 36.
- Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Diaphragm connection holes shall be 15/16" for 3/4" bolts. Two hardened washers shall be required at all diaphragm connections.
- Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
- All proposed beam end repair plates, bottom flange repair angles and associated bolts/fasteners shall be paid for as Structural Steel Repair. All proposed diaphragms, connection angles and associated bolts/fasteners shall be paid for as Furnishing and Erecting Structural Steel.
- Use holes in new steel as template to field drill holes in existing steel unless noted otherwise.
- 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 provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included in Structural Steel Repair.



DETAIL 1



DETAIL 2

* Field Drill Holes in Repair Plate and/or Clip Angle to match existing holes in Beam or Diaphragm
 ** Dimension may vary in the field based on existing hole locations in beam web or diaphragm bottom flange.

LEGEND

- Structural Steel Removal
- LLV Long Leg Vertical

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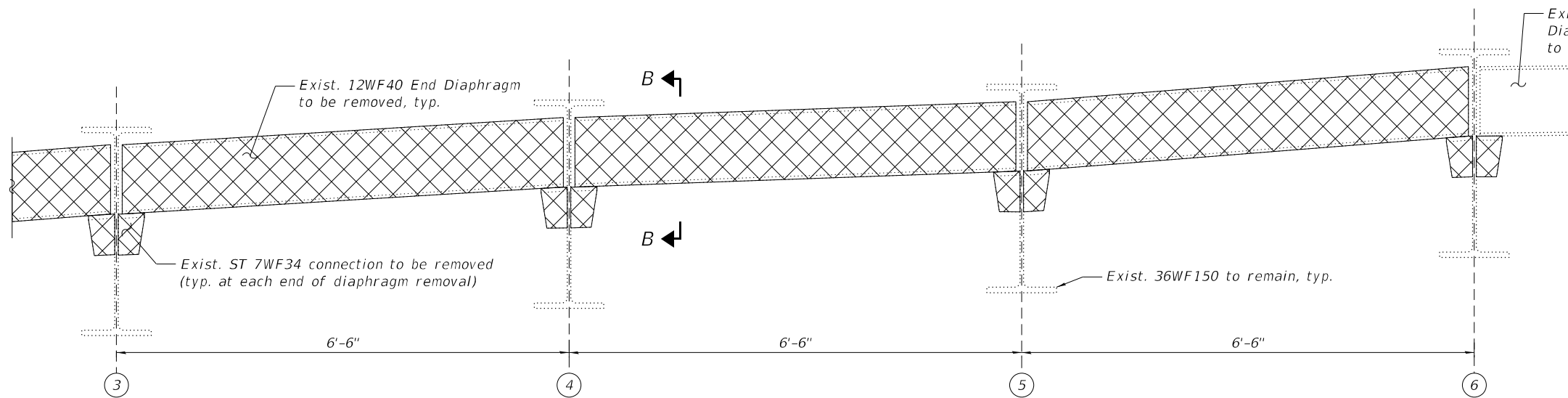
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	DATE - 11/5/2021	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

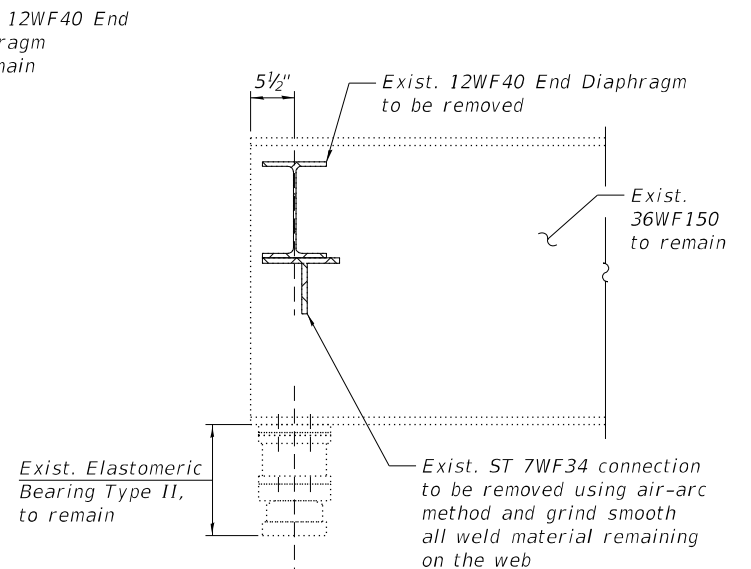
**STRUCTURAL STEEL REPAIR DETAILS (SHEET 1 OF 2)
STRUCTURE NO. 016-2026**

SHEET S1-16 OF S1-24 SHEETS

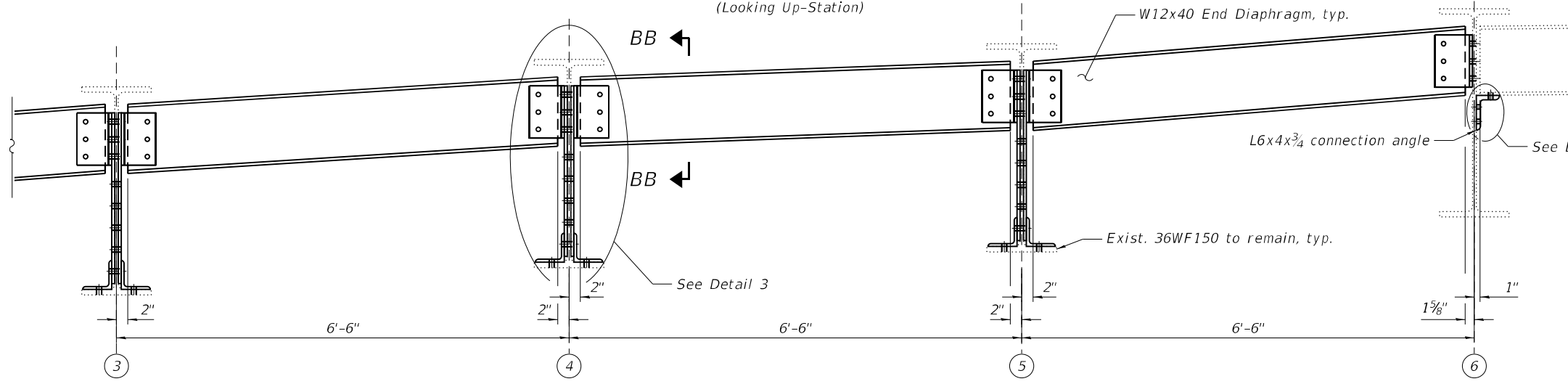
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	103
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				



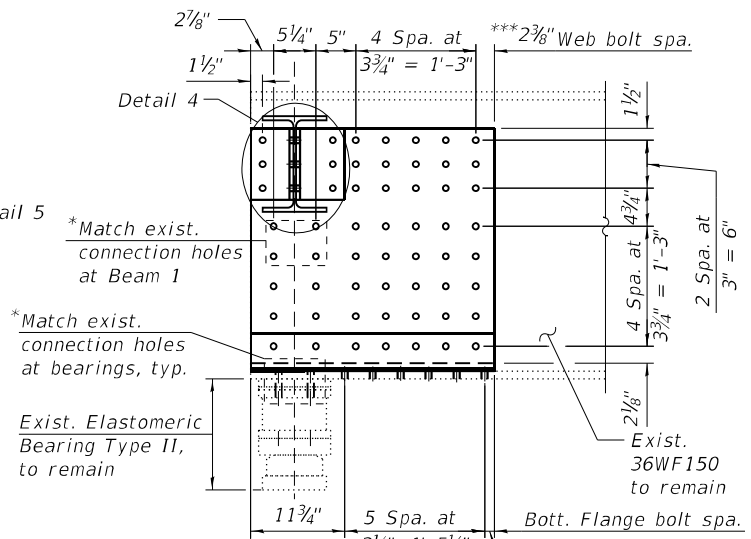
EXISTING END DIAPHRAGM D REMOVAL
(At South Abutment - Between Beams 3 and 6)
(Looking Up-Station)



SECTION B-B



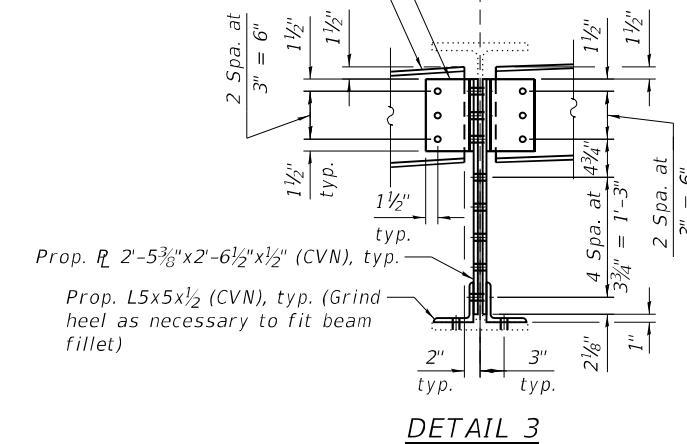
PROPOSED END DIAPHRAGM D
(At South Abutment - Between Beams 3 and 6)
(Looking Up-Station)



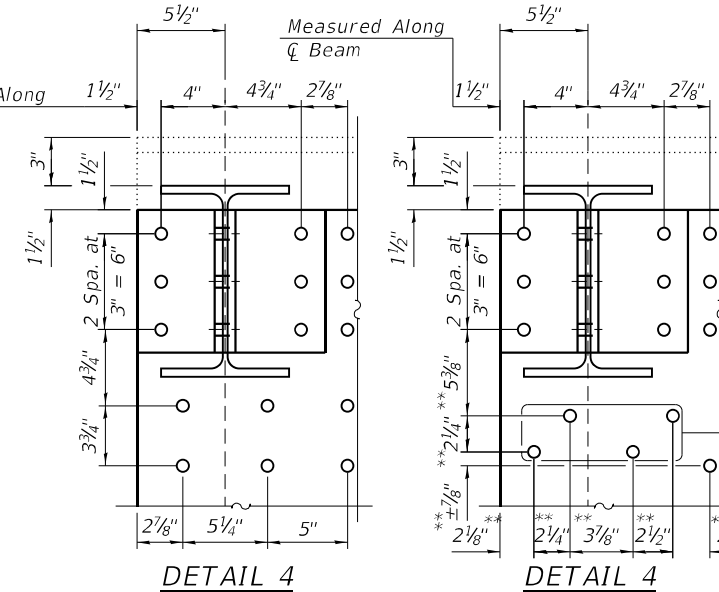
SECTION BB-BB

- NOTES:**
- Field Drill Holes in Repair Plate and/or Clip Angle to match existing holes in Beam or Diaphragm
 - Dimension may vary in the field based on existing hole locations in beam web.
 - Except at bolt hole locations for diaphragm connection plates

Prop. 1/2" Bent R (Each Face), typ.
Prop. W12x40 diaphragm, typ.

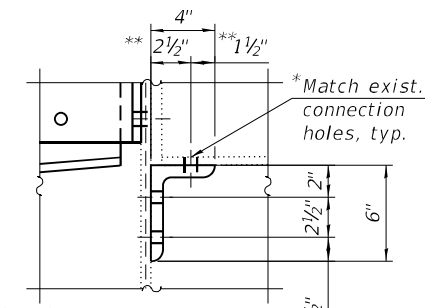


DETAIL 3



DETAIL 4
(At Beams 2 thru 5)

DETAIL 4
(At Beam 1)



DETAIL 5

LEGEND



NOTES:

- For notes, see Sheet S1-16.
- Cost of field drilling shall be included in the cost of Structural Steel Repair.
- Existing end diaphragms adjacent to diaphragms being replaced shall be temporarily supported during diaphragm replacement work. Cost included with Structural Steel Removal.

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PLOT SCALE =	CHECKED - JJS, MI	REVISED -
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	DATE - 11/5/2021	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

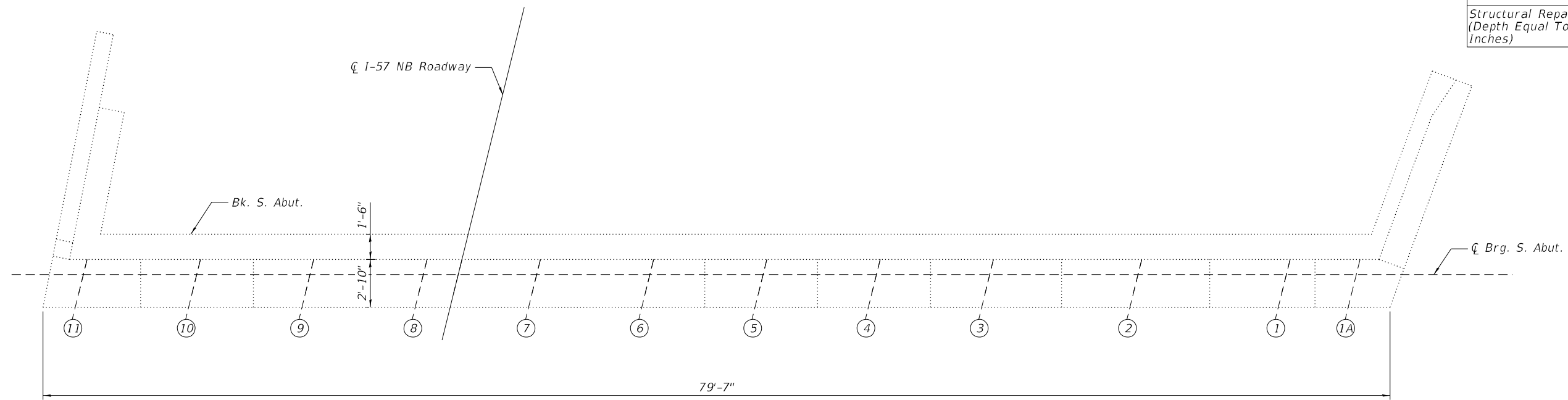
**STRUCTURAL STEEL REPAIR DETAILS (SHEET 2 OF 2)
STRUCTURE NO. 016-2026**

F.A.I. RTE. = 57	SECTION = 2020-171-BR	COUNTY = COOK	TOTAL SHEETS = 190	SHEET NO. = 104
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

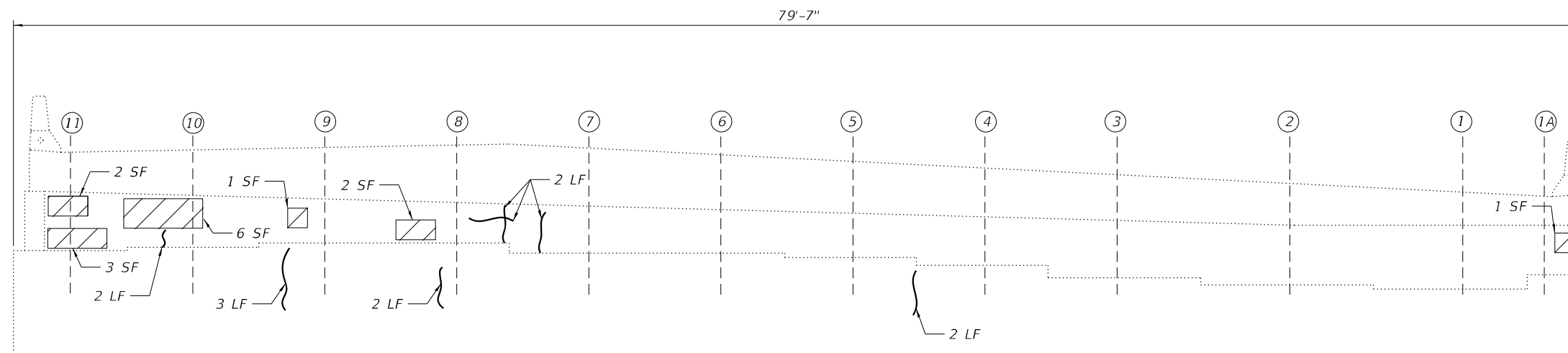
SHEET S1-17 OF S1-24 SHEETS

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	SQ FT	226
Epoxy Crack Injection	FOOT	15
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	SQ FT	15

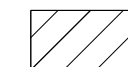


PLAN - SOUTH ABUTMENT



ELEVATION - SOUTH ABUTMENT
(Looking South)

LEGEND



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



Epoxy Crack Injection (Width > 0.06")

SF

Square Foot

LF

Linear Foot

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 shall be applied to the abutment seats.

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

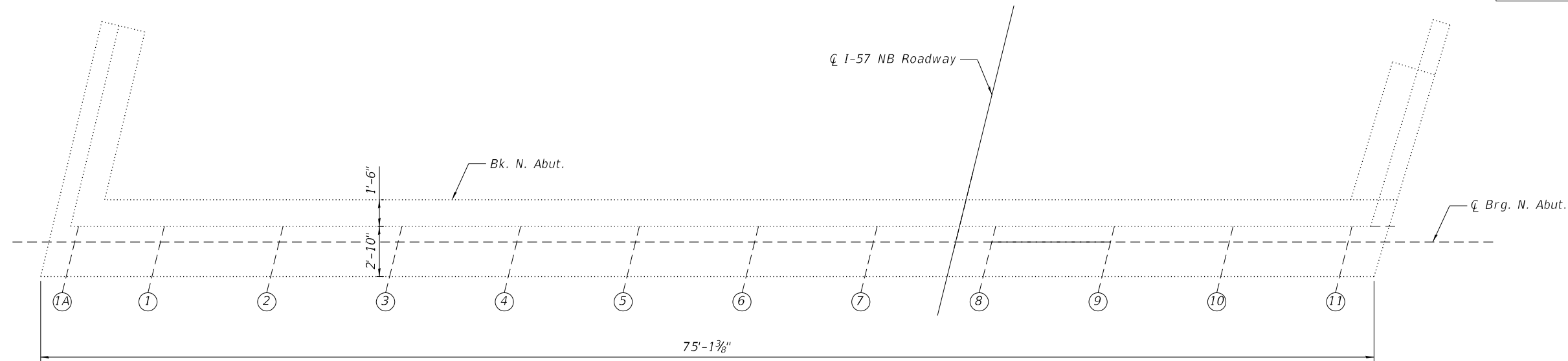
**SOUTH ABUTMENT REPAIRS
STRUCTURE NO. 016-2026**

SHEET S1-18 OF S1-24 SHEETS

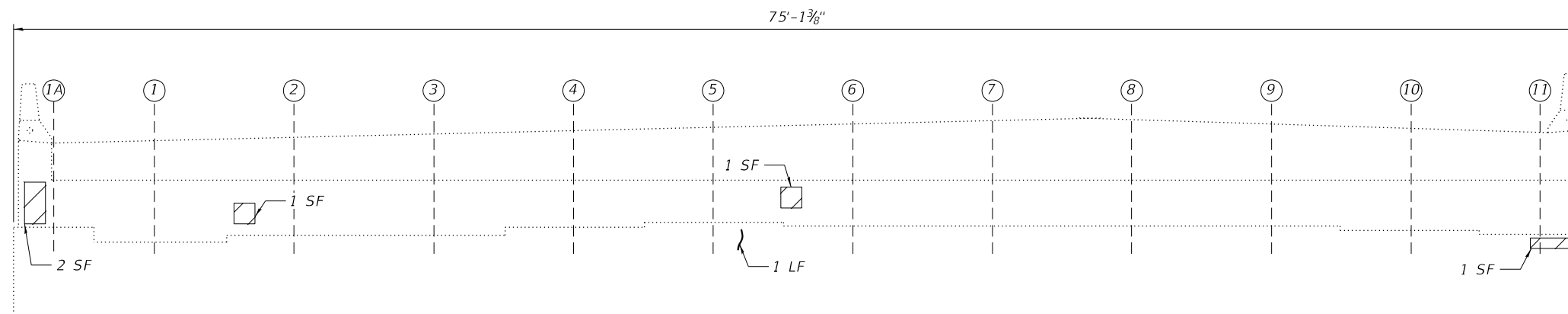
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57	2020-171-BR	COOK	190	105
CONTRACT NO. 62M54				
ILLINOIS		FED. AID PROJECT		

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	SQ FT	214
Epoxy Crack Injection	FOOT	1
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	SQ FT	5



PLAN - NORTH ABUTMENT

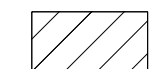



ELEVATION - NORTH ABUTMENT
(Looking North)

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 shall be applied to the abutment seats.

LEGEND

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

MODEL: Default
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PLOT DATE =	DATE - 11/5/2021	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT REPAIRS
STRUCTURE NO. 016-2026**

SHEET S1-19 OF S1-24 SHEETS

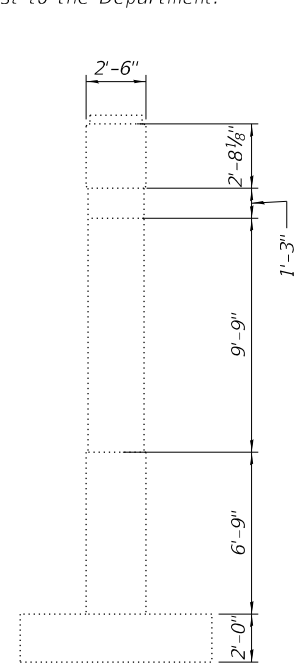
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	106
CONTRACT NO. 62M54				
		ILLINOIS FED. AID PROJECT		

NOTES:

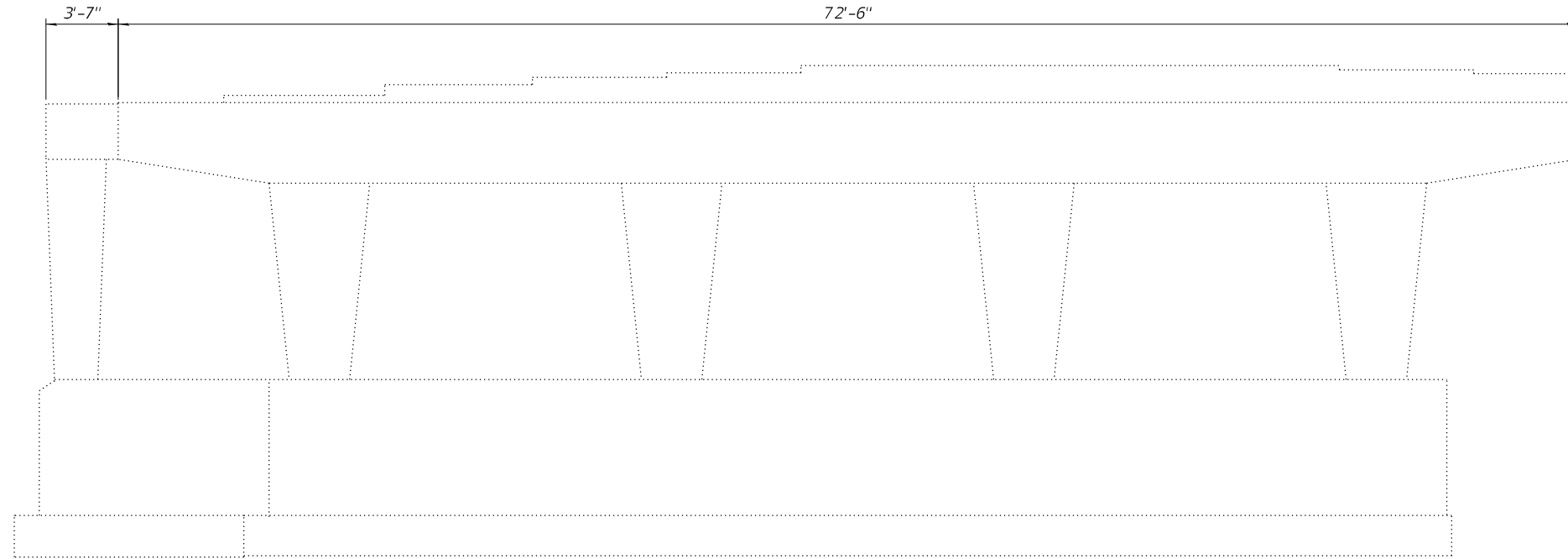
1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
2. The Contractor shall exercise extreme caution during removal and construction operations to avoid damaging the existing utilities. Any damage to the existing utilities caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, at no cost to the Department.

BILL OF MATERIAL

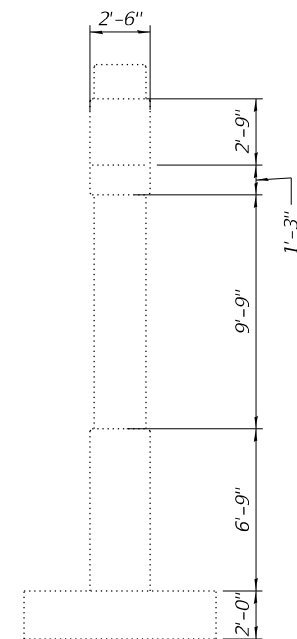
ITEM	UNIT	QUANTITY
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	SQ FT	2



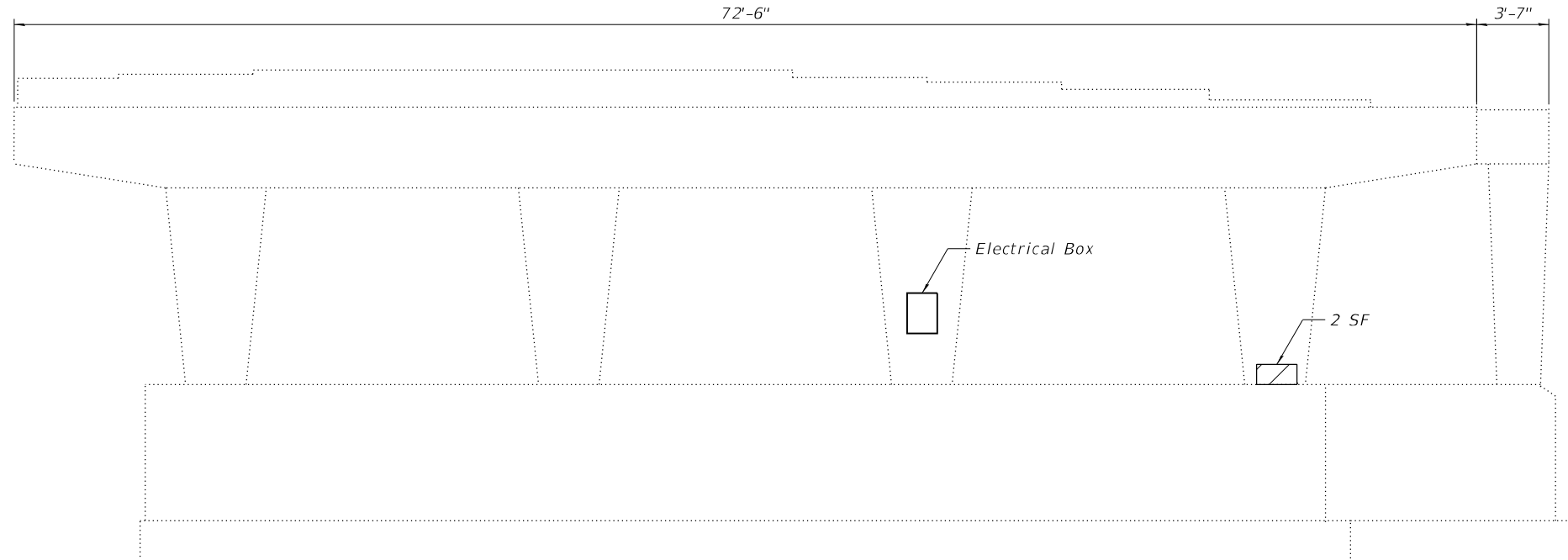
END ELEVATION
(Looking East)



PIER 1 ELEVATION
(Looking North)



END ELEVATION
(Looking West)



PIER 1 ELEVATION
(Looking South)

LEGEND

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

SF - Square Foot

MODEL: Default
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USER NAME =	DESIGNED - JMI	REVISED -
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	DATE - 10/15/2021	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 1 REPAIRS
STRUCTURE NO. 016-2026**

SHEET S1-20 OF S1-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 62M54	
		ILLINOIS	FED. AID PROJECT	

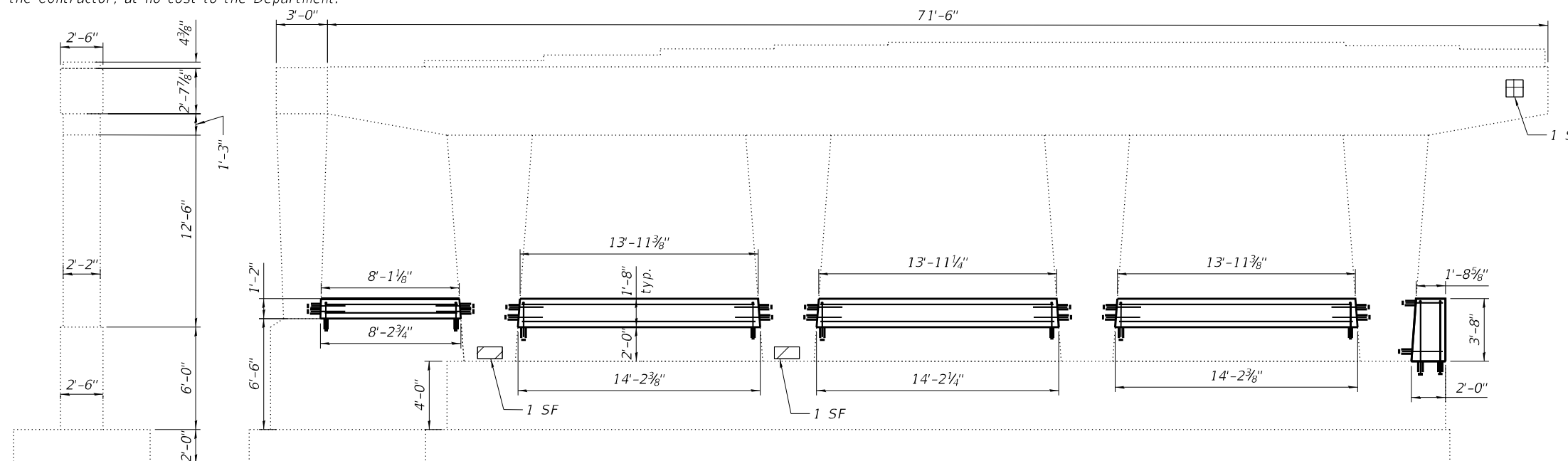
NOTES:

- Concrete Sealer shall be applied to the new concrete of the Crashwall Pier 2 extension.
- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- The Contractor shall exercise extreme caution during removal and construction operations to avoid damaging the existing utilities. Any damage to the existing utilities caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, at no cost to the Department.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
d120(E)	84	#5	4'-1"	┌
d121(E)	44	#5	3'-9"	—
d122(E)	4	#5	6'-1"	┌
d123(E)	9	#5	2'-7"	—
d124(E)	18	#5	3'-11"	┌
h120(E)	21	#5	13'-10"	—
h121(E)	5	#5	7'-10"	—

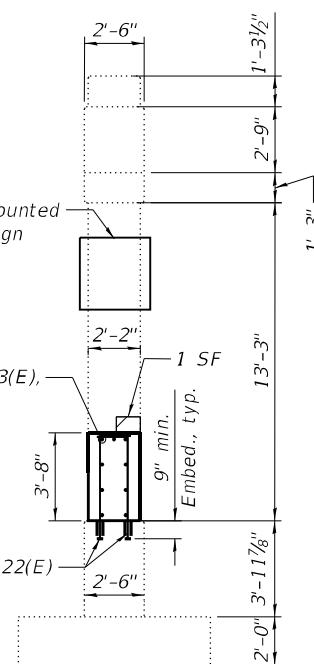
Concrete Structures	CU YD	7.0
Reinforcement Bars, Epoxy Coated	POUND	1000
Concrete Sealer	SQ FT	294
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	SQ FT	10
Structural Repair Of Concrete (Depth Greater Than 5 Inches)	SQ FT	1



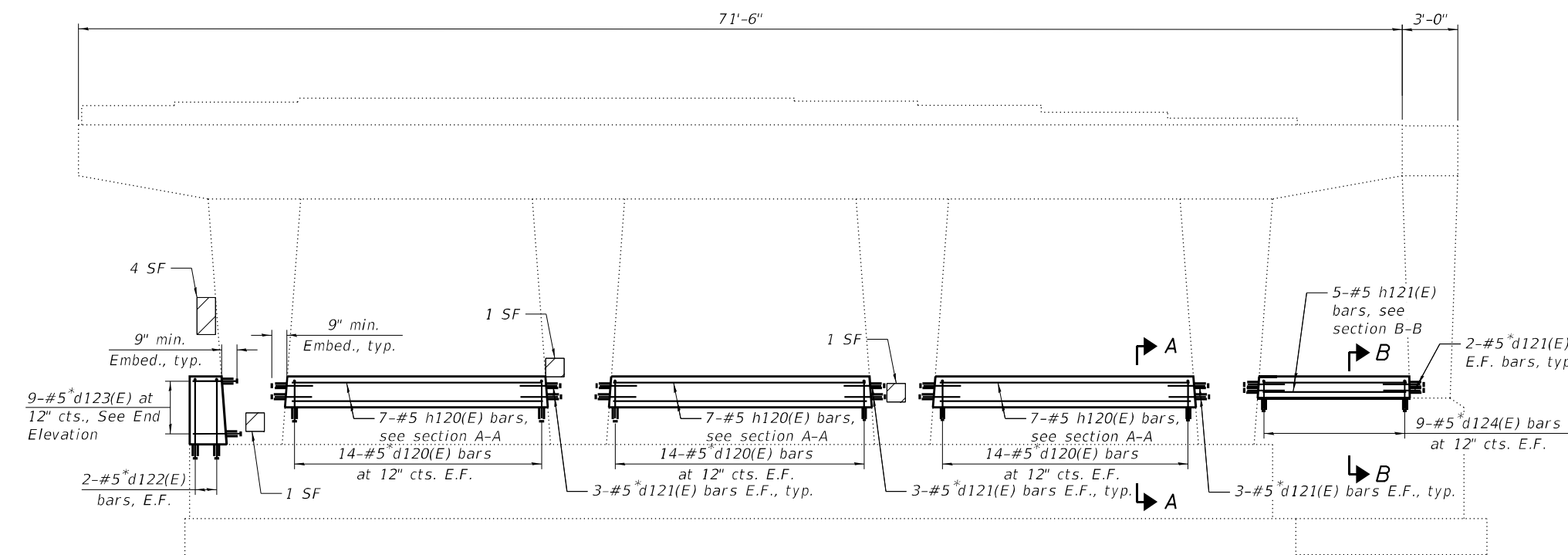
END ELEVATION
(Looking East)

*Epoxy grout d120(E), d121(E), d122(E), d123(E) and d124(E) bars in 9" min. holes according to Article 584 of the Standard Specifications

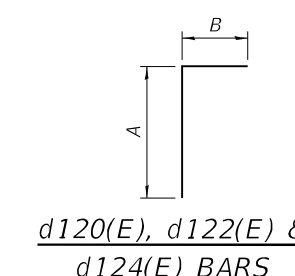
PIER 2 ELEVATION
(Looking North)



END ELEVATION
(Looking West)

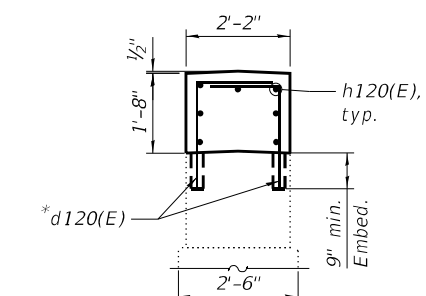


PIER 2 ELEVATION
(Looking South)

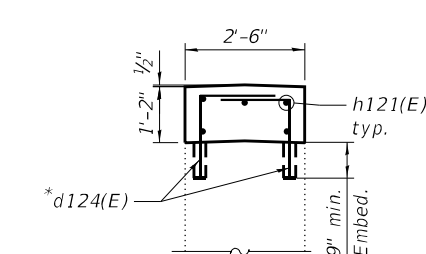


BAR	A	B
d120(E)	2'-3"	1'-10"
d122(E)	4'-3"	1'-10"
d124(E)	1'-9"	2'-2"

d120(E), d122(E) & d124(E) BARS



SECTION A-A



SECTION B-B

- LEGEND**
- Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
 - Structural Repair of Concrete (Depth Greater than 5 inches)

SF - Square Foot

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DEPARTMENT OF TRANSPORTATION

PIER 2 REPAIRS
STRUCTURE NO. 016-2026

SHEET S1-21 OF S1-24 SHEETS

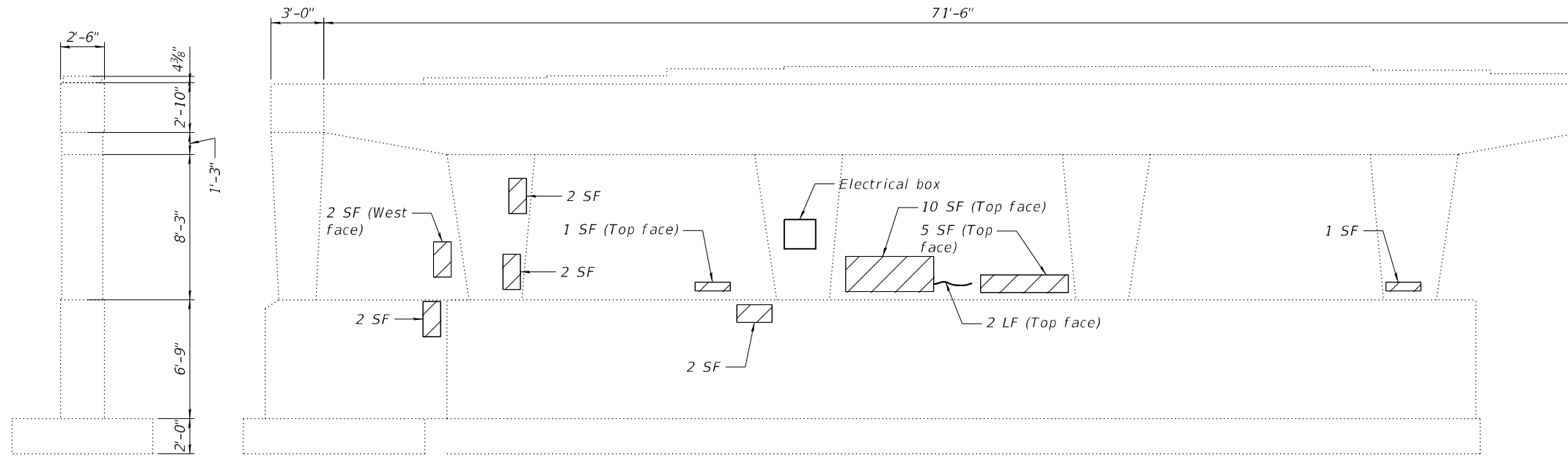
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57	2020-171-BR	COOK	190	108
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- The Contractor shall exercise extreme caution during removal and construction operations to avoid damaging the existing utilities. Any damage to the existing utilities caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, at no cost to the Department.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	FOOT	5
Structural Repair Of Concrete (Depth Equal To Or Less Than 5	SQ FT	31

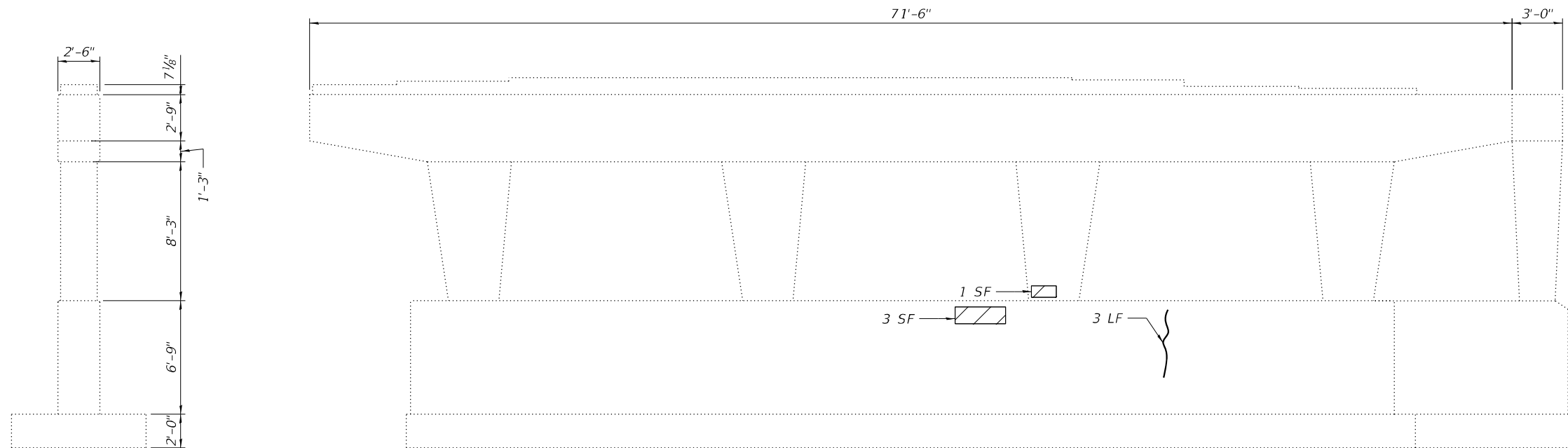


PIER 3 ELEVATION

(Looking North)

END ELEVATION

(Looking East)



PIER 3 ELEVATION

(Looking South)

END ELEVATION

(Looking West)

LEGEND

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

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 3 REPAIRS
STRUCTURE NO. 016-2026**

SHEET S1-22 OF S1-24 SHEETS

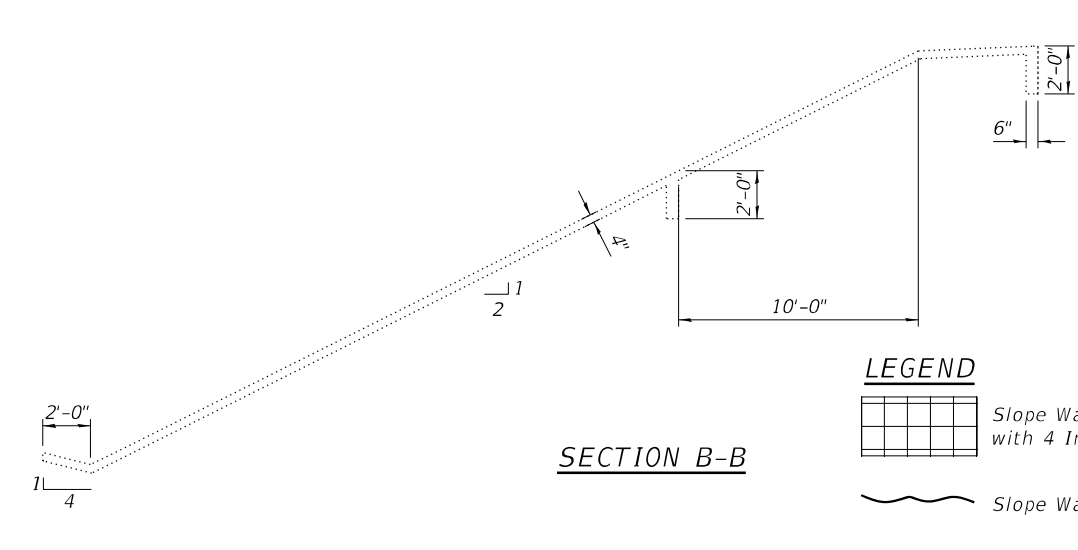
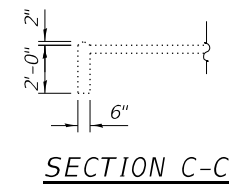
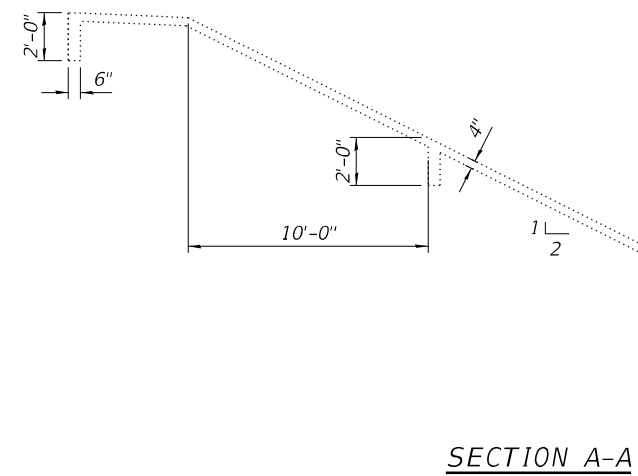
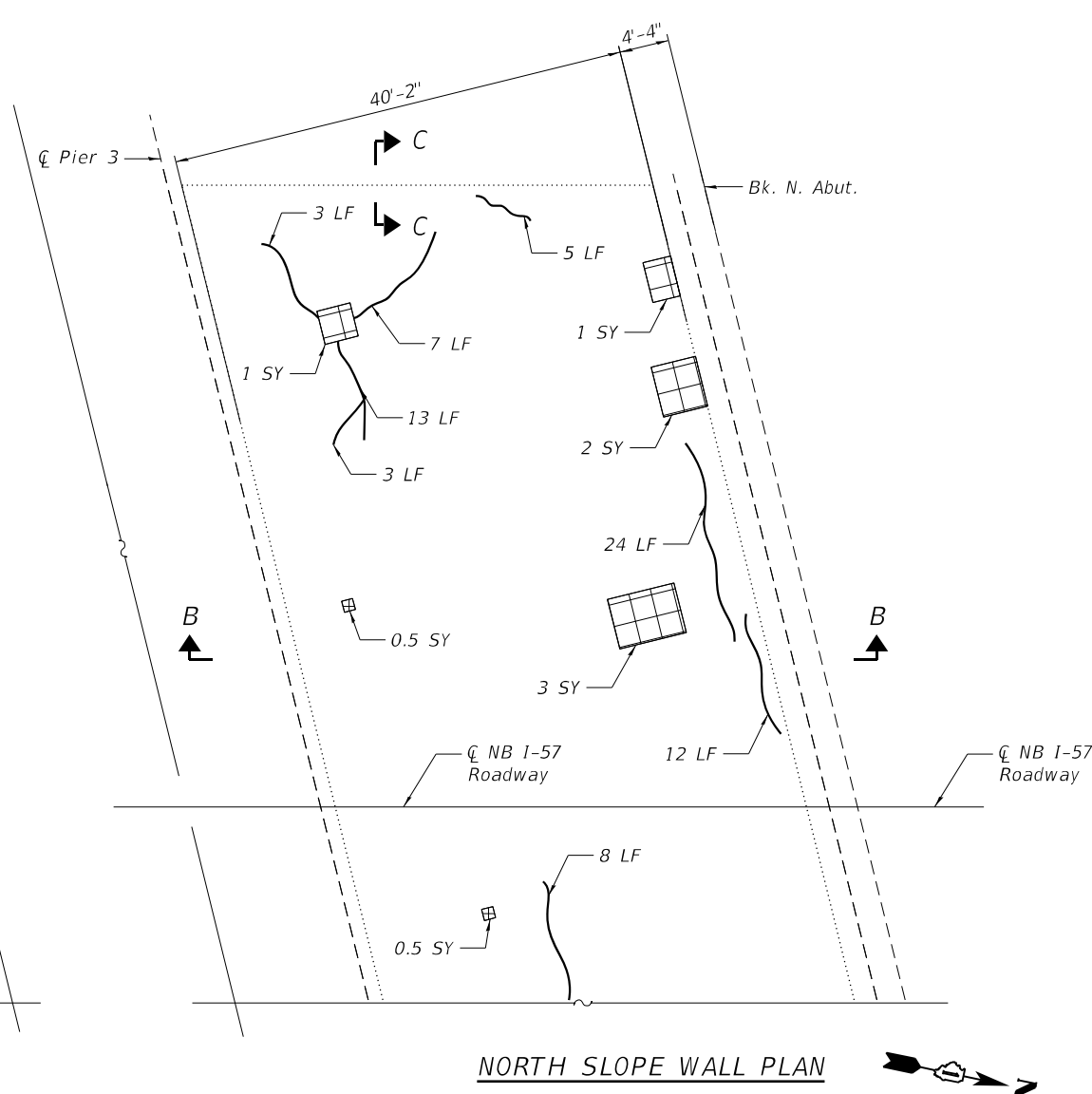
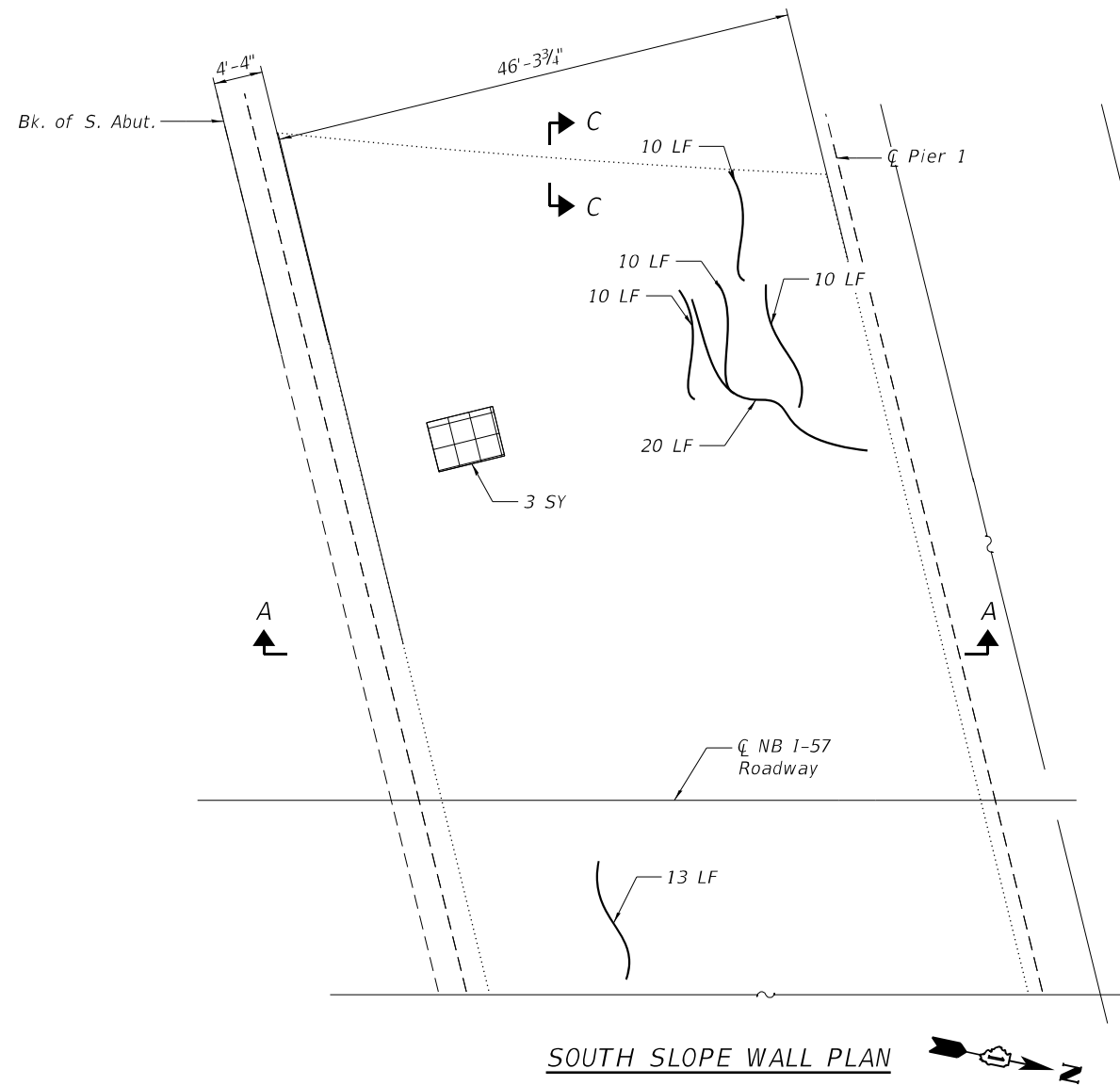
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57	2020-171-BR	COOK	190	109
CONTRACT NO. 62M54				
		ILLINOIS	FED. AID PROJECT	

BILL OF MATERIAL



ITEM	UNIT	QUANTITY
Porous Granular Embankment	CU YD	5
Slope Wall Removal	SQ YD	11
Slope Wall 4 Inch	SQ YD	11
Slope Wall Crack Sealing	FOOT	148

NOTE:

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



LEGEND

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

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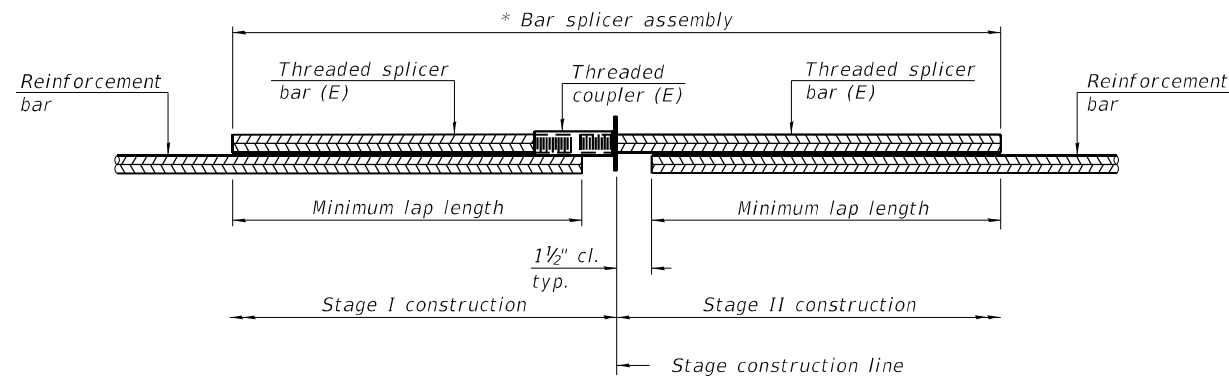
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SLOPE WALL REPAIRS
STRUCTURE NO. 016-2026**

SHEET S1-23 OF S1-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

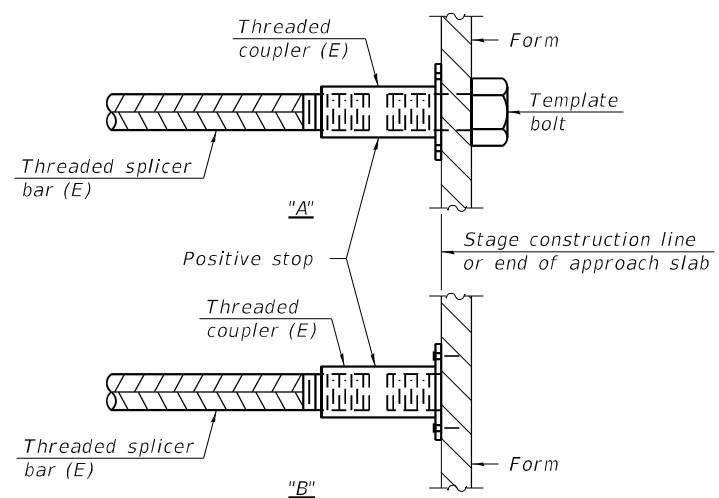


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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

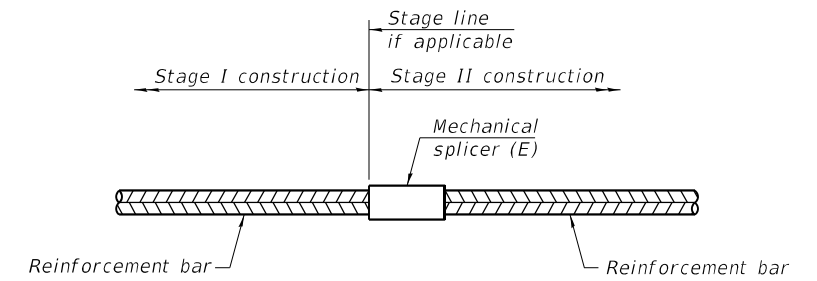
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
South Abut. Exp. Jt.	#5	22	3'-6"
	#6	12	3'-7"
North Abut. Exp. Jt.	#5	22	3'-6"
	#6	12	3'-7"



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

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STATE OF ILLINOIS
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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 016-2026

SHEET S1-24 OF S1-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	111
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Bars noted thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bars per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on South Approach Slab, Bridge Latex Concrete Overlay on North Approach Slab, see Civil Sheets.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas and top and inside faces of existing parapets and top of Latex Overlay.
- Concrete Sealer shall be applied to the designated areas of the abutments and piers.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.
- Prior to pouring the new concrete deck for expansion joint reconstruction and deck slab repairs, all heavy or loose rust, 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 pay item covering removal of the existing concrete. 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.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 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 Provision "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 Galvanizing for Structural Steel".
- All proposed beam end repair plates and bottom flange repair angles shall conform to the requirements of AASHTO M270 Grade 50. All proposed diaphragms and their connection angles shall conform to the requirements of AASHTO M270 Grade 36.
- Fasteners shall be ASTM A325 Type I, mechanically galvanized bolts. Bolts 3/4", open holes 13/16", unless otherwise noted.
- 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 is responsible to protect the existing conduit and junction box embedded in the parapet during removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at his or her expense at no charge to IDOT.
- 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.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to ride above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- Any adjustment done to the Protective Shield System must not change the load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- Cost of cleaning existing drains shall not be paid separately, but shall be included with Bridge Deck Scarification.

INDEX OF SHEETS

- S2-01 General Plan And Elevation
- S2-02 General Notes, Index of Sheets & Total Bill of Material
- S2-03 Stage Construction (Sheet 1 of 2)
- S2-04 Stage Construction (Sheet 2 of 2)
- S2-05 Temporary Concrete Barrier For Stage Construction
- S2-06 Deck Repair Plan
- S2-07 Approach Slab Repair Plan
- S2-08 Inlet Adjustment
- S2-09 Parapet Repairs
- S2-10 S. Abut. Joint Removal And Replacement (Sheet 1 of 2)
- S2-11 S. Abut. Joint Removal And Replacement (Sheet 2 of 2)
- S2-12 N. Abut. Joint Removal And Replacement (Sheet 1 of 2)
- S2-13 N. Abut. Joint Removal And Replacement (Sheet 2 of 2)
- S2-14 Prefomed Joint Strip Seal
- S2-15 Framing Plan Steel Repairs
- S2-16 Structural Steel Repair Details (Sheet 1 of 2)
- S2-17 Structural Steel Repair Details (Sheet 2 of 2)
- S2-18 South Abutment Repairs
- S2-19 North Abutment Repairs
- S2-20 Pier 1 Repairs
- S2-21 Pier 2 Repairs
- S2-22 Slope Wall Repairs
- S2-23 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 and Approach Slab Repairs and adjust existing scuppers and inlets as required.
- Reconstruct Expansion Joints at the South and North abutments and install new prefomed joint strip seals.
- Apply a 2 3/4" Bridge Deck Latex Concrete Overlay on Bridge Deck, Bridge Latex Concrete Overlay on the North Approach Slab and 2" Stone-Matrix Asphalt (SMA) Overlay on the South Approach Slab. See Roadway Plans for approach overlays.
- Perform Bridge Deck Grooving.
- Apply protective coat to the top of reconstructed transverse joint areas and top and inside faces of parapets and top of Latex Overlay.
- Perform Structural steel beam end repairs, and replace diaphragms as shown in the plans.
- Perform structural concrete repairs for the abutments and piers as noted on the plans.
- Extend Piers 1 and 2 crashwalls as shown on the plans.
- Apply Concrete Sealer at North and South Abutments as shown on the plans and to the new concrete of the Piers 1 and 2 extensions.
- Perform Slope wall repairs.
- Clean all deck drains.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	CU YD	-	4	4
Concrete Removal	CU YD	15.2	-	15.2
Slope Wall Removal	SQ YD	-	12	12
Protective Shield	SQ YD	363	-	363
Concrete Structures	CU YD	-	8.6	8.6
Concrete Superstructure	CU YD	16.8	-	16.8
Bridge Deck Grooving	SQ YD	833	-	833
Protective Coat	SQ YD	1,031	-	1,031
Furnishing And Erecting Structural Steel	POUND	1,840	-	1,840
Reinforcement Bars, Epoxy Coated	POUND	3,040	1,060	4,100
Bar Splicers	EACH	34	-	34
Slope Wall 4 Inch	SQ YD	-	12	12
Prefomed Joint Strip Seal	FOOT	108	-	108
Concrete Sealer	SQ FT	-	652	652
Epoxy Crack Injection	FOOT	-	7	7
Approach Slab Repair (Partial Depth)	SQ YD	1	-	1
Structural Steel Removal	POUND	1,630	-	1,630
Structural Steel Repair	POUND	770	-	770
Bridge Deck Latex Concrete Overlay, 2 3/4 Inches	SQ YD	844	-	844
Bridge Deck Scarification 3/4"	SQ YD	844	-	844
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	SQ FT	18	58	76
Structural Repair Of Concrete (Depth Greater Than 5 Inches)	SQ FT	-	9	9
Deck Slab Repair (Full Depth, Type I)	SQ YD	1	-	1
Deck Slab Repair (Full Depth, Type II)	SQ YD	1	-	1
Maintenance Of Lighting System	CAL MO	6	-	6
Slope Wall Crack Sealing	FOOT	-	53	53
Protect And Maintain Existing Underpass Luminaire	L SUM	0.25	-	0.25
Inlet Boxes To Be Adjusted (Special)	EACH	2	-	2

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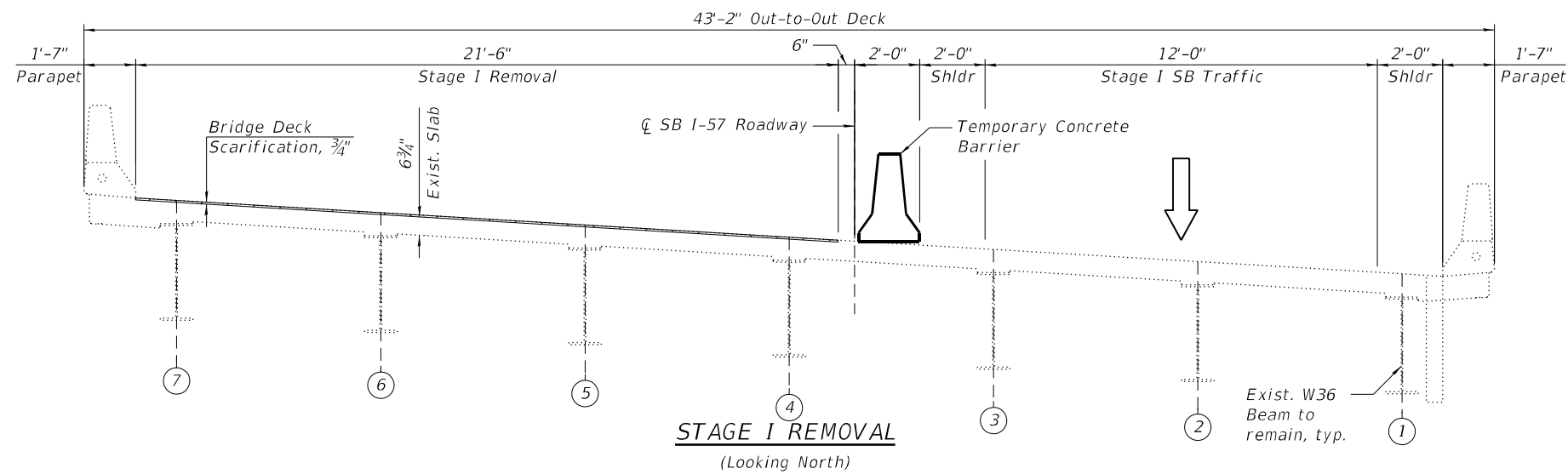


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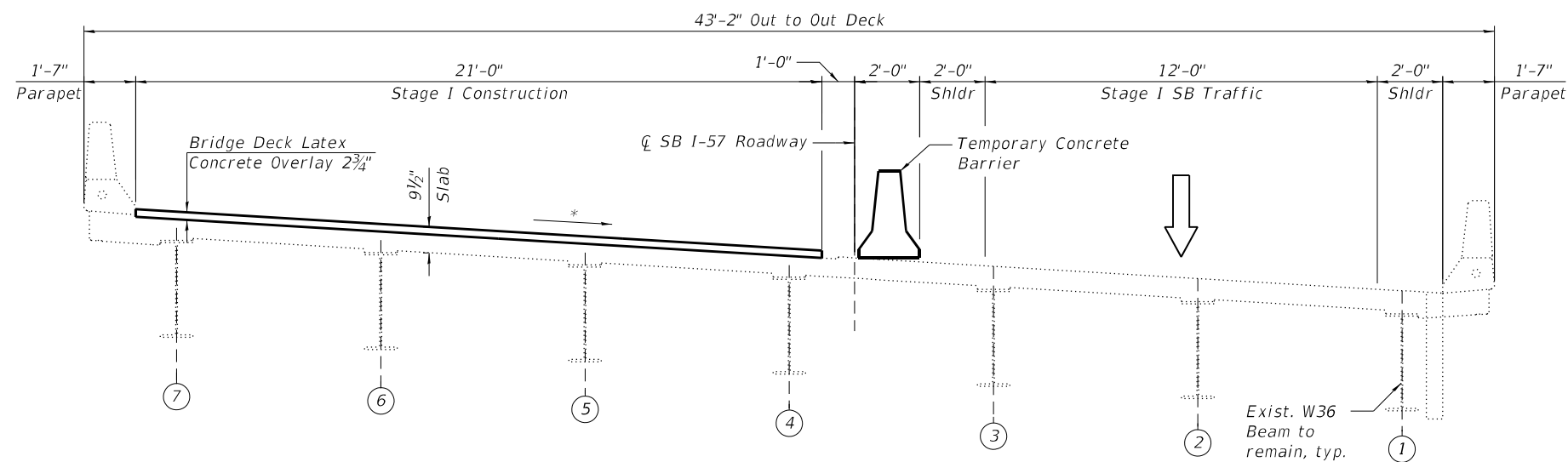
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DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL
STRUCTURE NO. 016-2027**

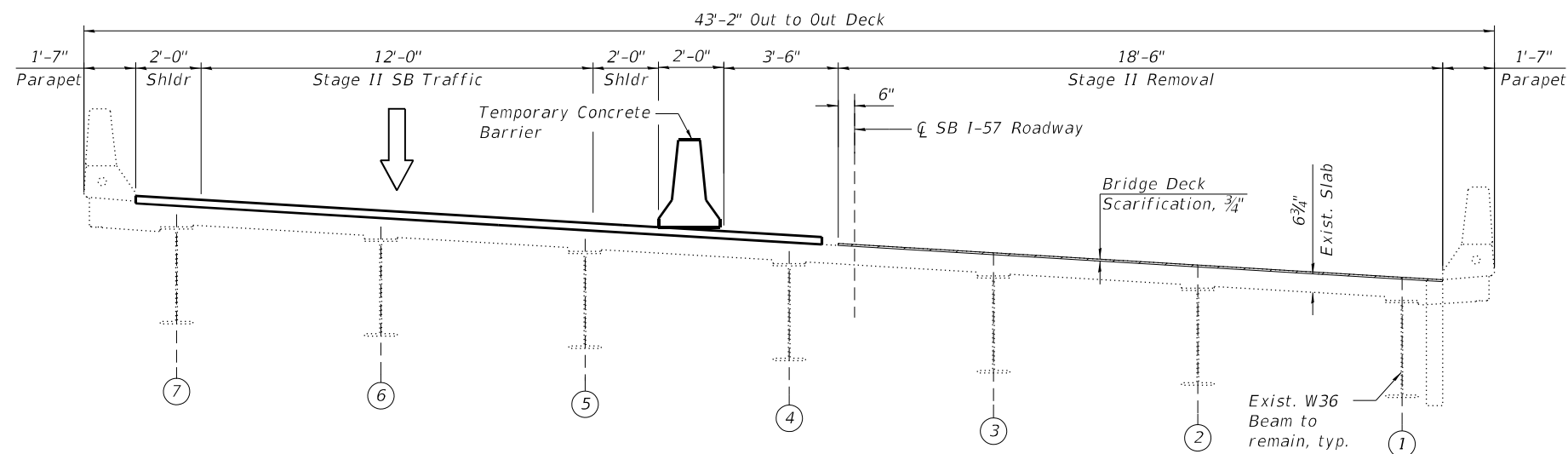
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CONTRACT NO. 62M54				
		ILLINOIS	FED. AID PROJECT	



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 east side of the existing structure.
2. Perform 3/4" bridge deck scarification.
3. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
4. Remove portions of bridge concrete deck/approach slab adjacent to expansion joints at the North and South Abutments.

STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
3. Apply 2 3/4" bridge deck latex concrete overlay.
4. Perform bridge deck grooving for the 2 3/4" bridge deck latex concrete overlay and reconstructed abutment expansion joint areas.
5. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the south approach pavement, apply Bridge Latex Concrete Overlay to the north approach pavement and taper into existing roadway. See Roadway Plans.
6. Perform parapet repairs.
7. Apply protective coat to top and inside faces of west parapet, reconstructed abutment expansion joint areas, and to the surfaces of the new overlay.
8. Perform Slope wall repairs as shown on the Plans.

STAGE II REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. Perform 3/4" bridge deck scarification.
3. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
4. Remove portions of bridge concrete deck/approach slab adjacent to expansion joints at the North and South Abutments.

* Match Existing Cross-slopes

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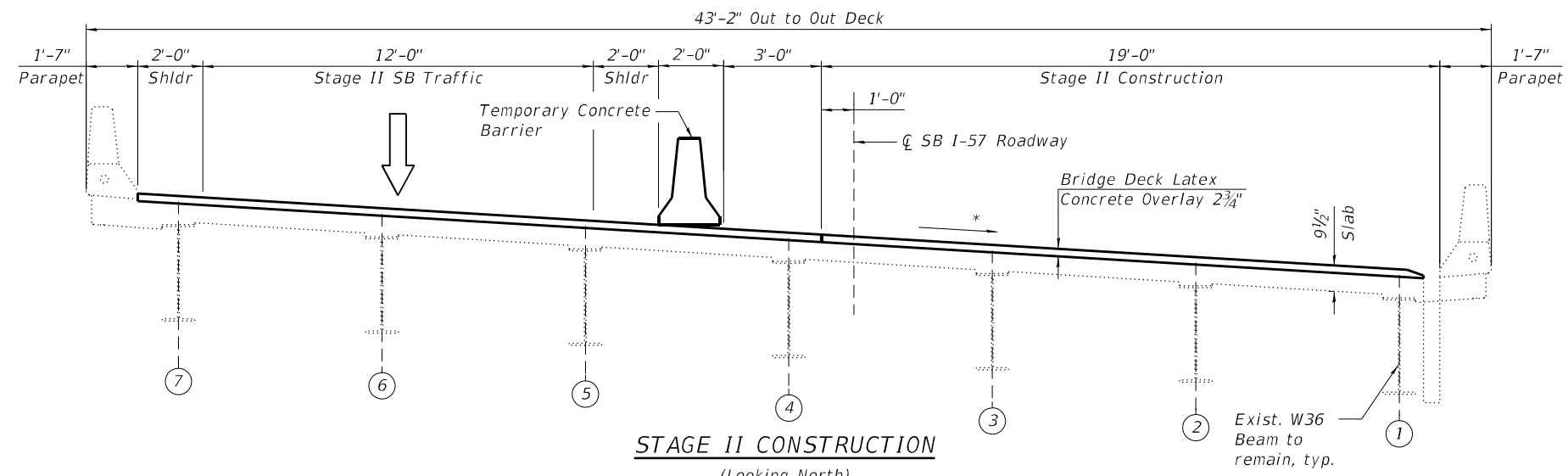
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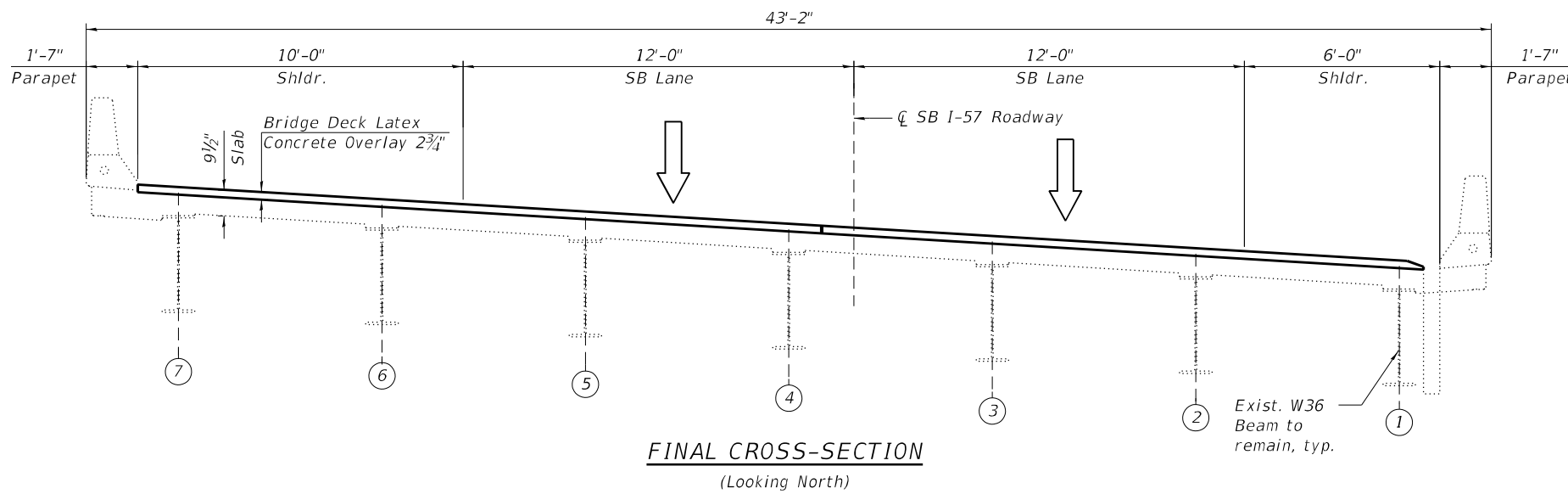
STAGE CONSTRUCTION (SHEET 1 OF 2)
STRUCTURE NO. 016-2027

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57	2020-171-BR	COOK	190	114
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

SHEET S2-03 OF S2-23 SHEETS



STAGE II CONSTRUCTION
(Looking North)



FINAL CROSS-SECTION
(Looking North)

STAGE II CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct expansion joints and install new preformed joint strip seals within the limits of Stage II Construction.
3. Apply 2 3/4" bridge deck latex concrete overlay.
4. Perform bridge deck grooving for the 2 3/4" bridge deck latex concrete overlay and reconstructed abutment expansion joint areas.
5. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the south approach pavement, apply Bridge Latex Concrete Overlay to the north approach pavement and taper into existing roadway. See Roadway Plans.
6. Apply protective coat to top and inside faces of east parapet, reconstructed abutment expansion joints areas, and to the surfaces of the new overlay.
7. Perform Slope wall repairs as shown on the Plans.

*Match Existing Cross-slopes

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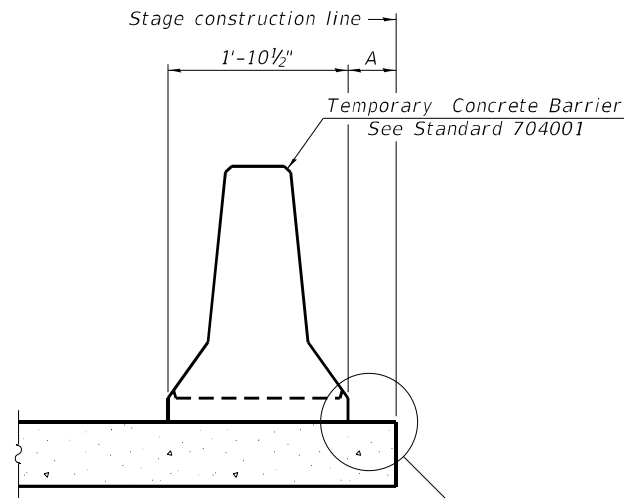
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STAGE CONSTRUCTION (SHEET 2 OF 2)
STRUCTURE NO. 016-2027

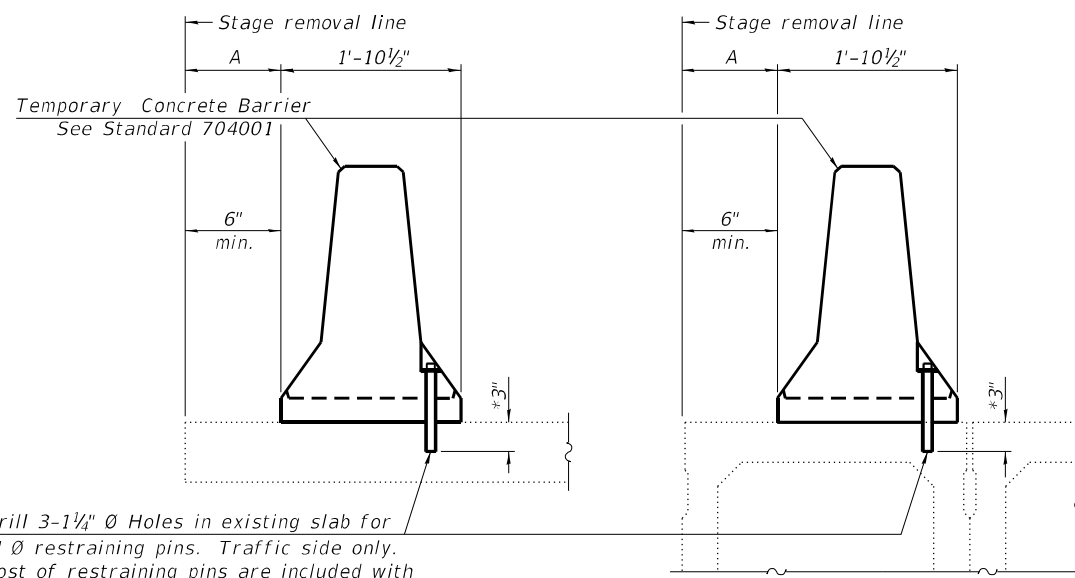
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57	2020-171-BR	COOK	190	115
CONTRACT NO. 62M54				
		ILLINOIS FED. AID PROJECT		



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

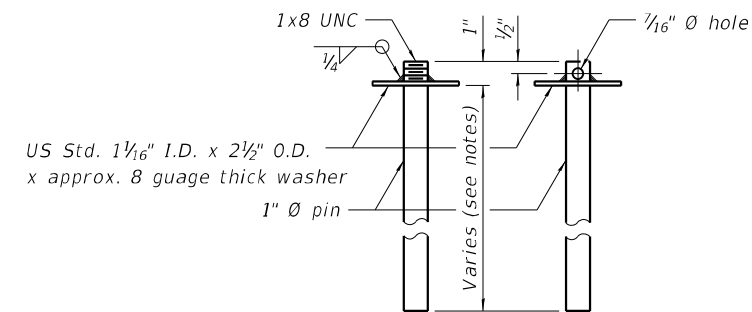
NEW SLAB OR NEW DECK BEAM



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

EXISTING SLAB

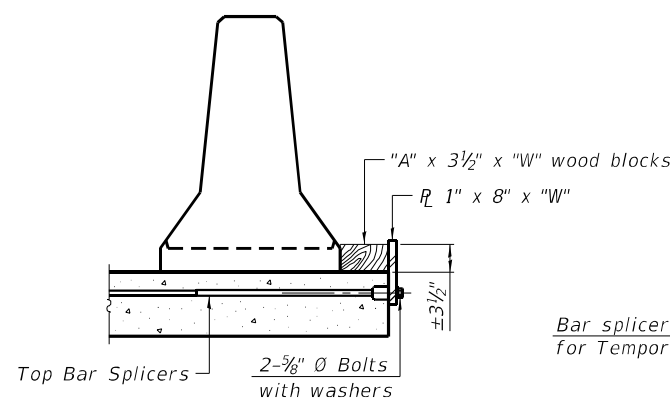
EXISTING DECK BEAM



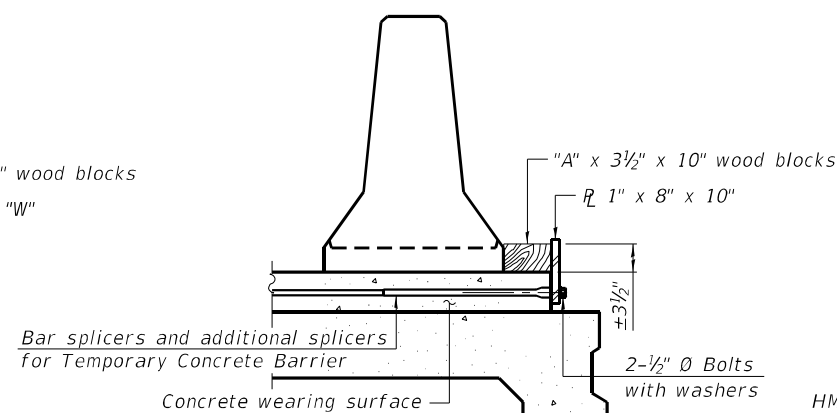
RESTRAINING PIN

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

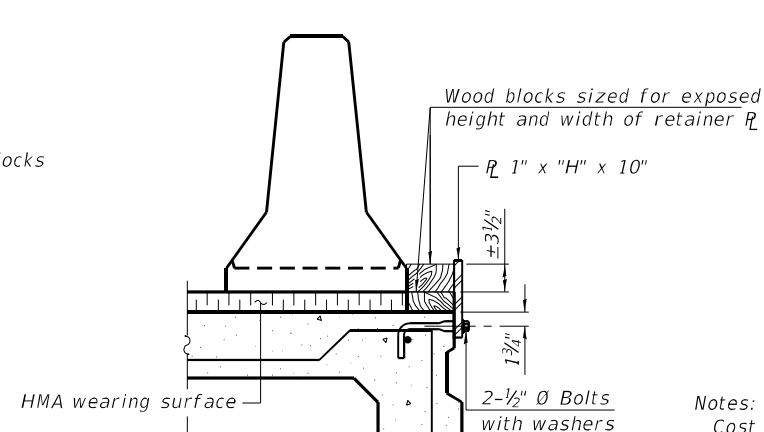
SECTIONS THRU SLAB OR DECK BEAM



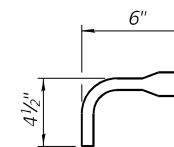
DETAIL I



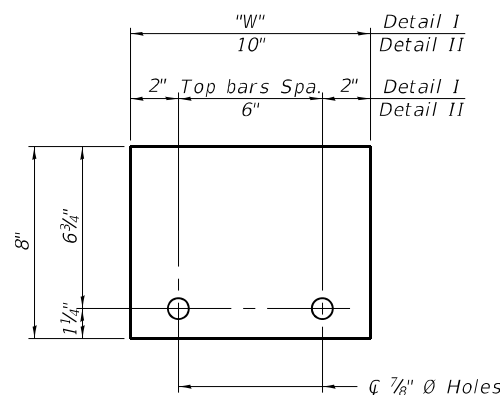
DETAIL II



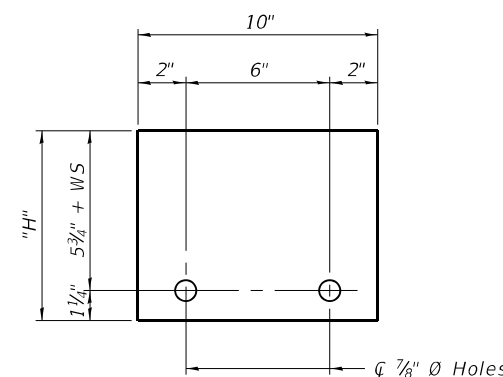
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



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

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

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R-27 2-17-2017



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

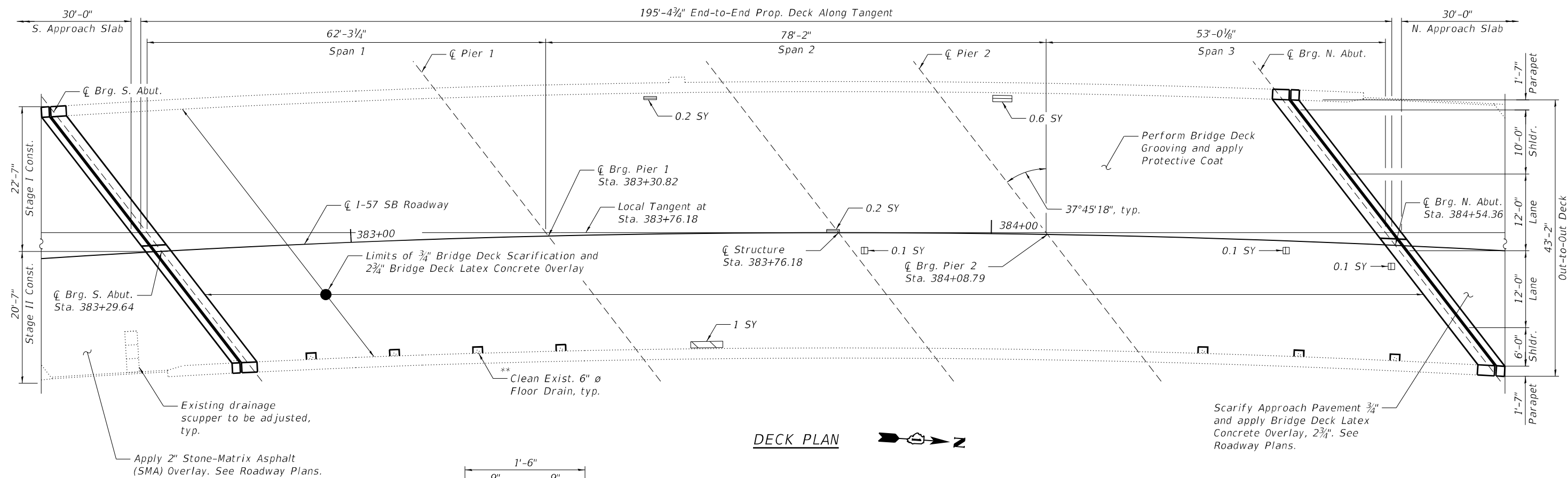
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
 STRUCTURE NO. 016-2027

SHEET S2-05 OF S2-23 SHEETS

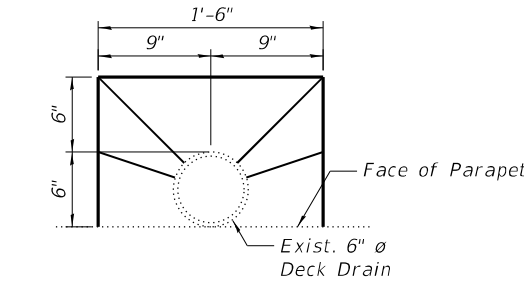
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57	2020-171-BR	COOK	190	116
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

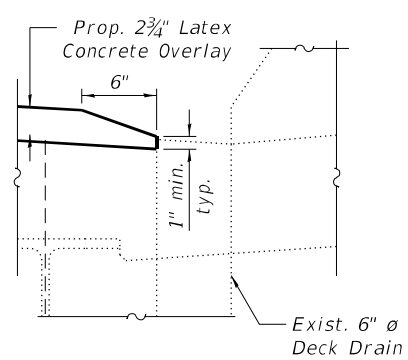
ITEM	UNIT	QUANTITY
Bridge Deck Grooving	SQ YD	833
Protective Coat	SQ YD	990
Bridge Deck Latex Concrete Overlay, 2 3/4 Inches	SQ YD	844
Bridge Deck Scarification 3/4"	SQ YD	844
Deck Slab Repair (Full Depth, Type I)	SQ YD	1
Deck Slab Repair (Full Depth, Type II)	SQ YD	1



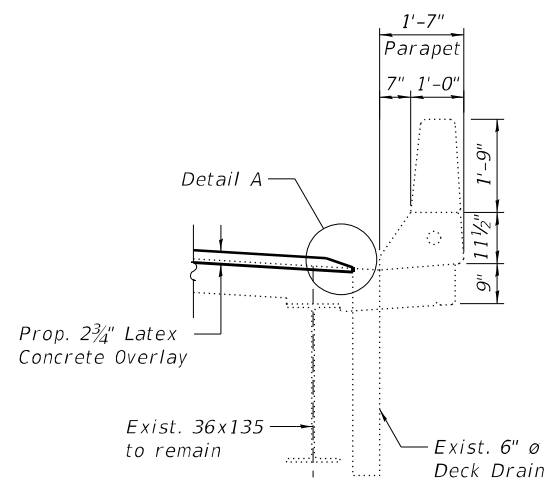
DECK PLAN



TOP PLAN AT FLOOR DRAIN



DETAIL A



SECTION AT DECK DRAIN

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 S2-04.
3. For North and South transverse joint removal and reconstruction, see Sheets S2-10 thru S2-13.
4. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
5. 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.
6. 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.

* Area of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 2 3/4".

** Cleaning existing deck drains is included in the cost of Bridge Deck Scarification, 3/4".

LEGEND:

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

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

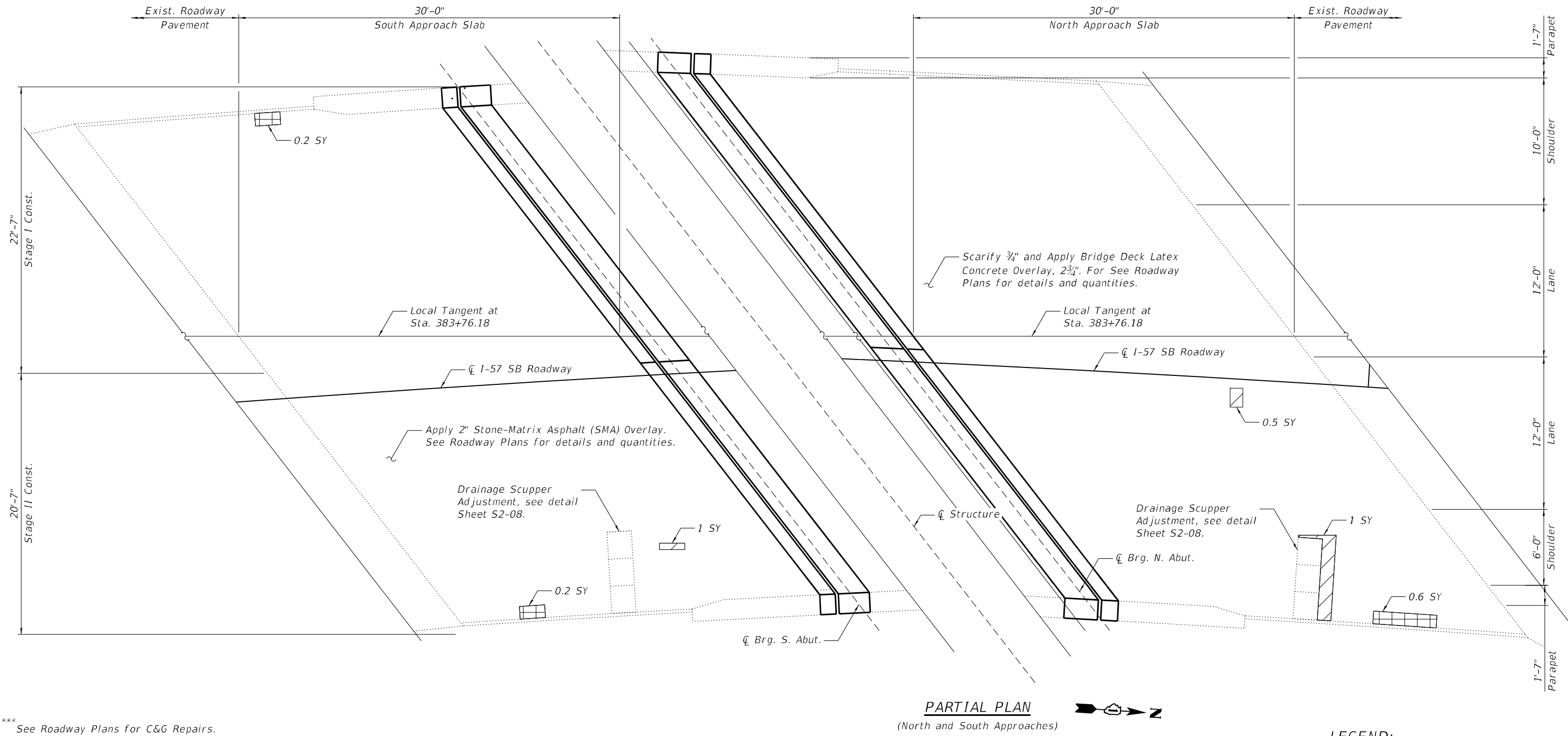
**DECK REPAIR PLAN
STRUCTURE NO. 016-2027**

SHEET S2-06 OF S2-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	117
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Approach Slab Repair (Partial Depth)	SQ YD	1



NOTE:
1. Areas of Approach Slab Repair (Partial Depth) Shown are estimated. The quantity for North Approach Pavement is provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 2 3/4". The Engineer shall show actual location of repairs at the time of construction.

LEGEND:

	Approach Slab Repair (Partial Depth)
	*** C&G Repair
SY	Square Yard

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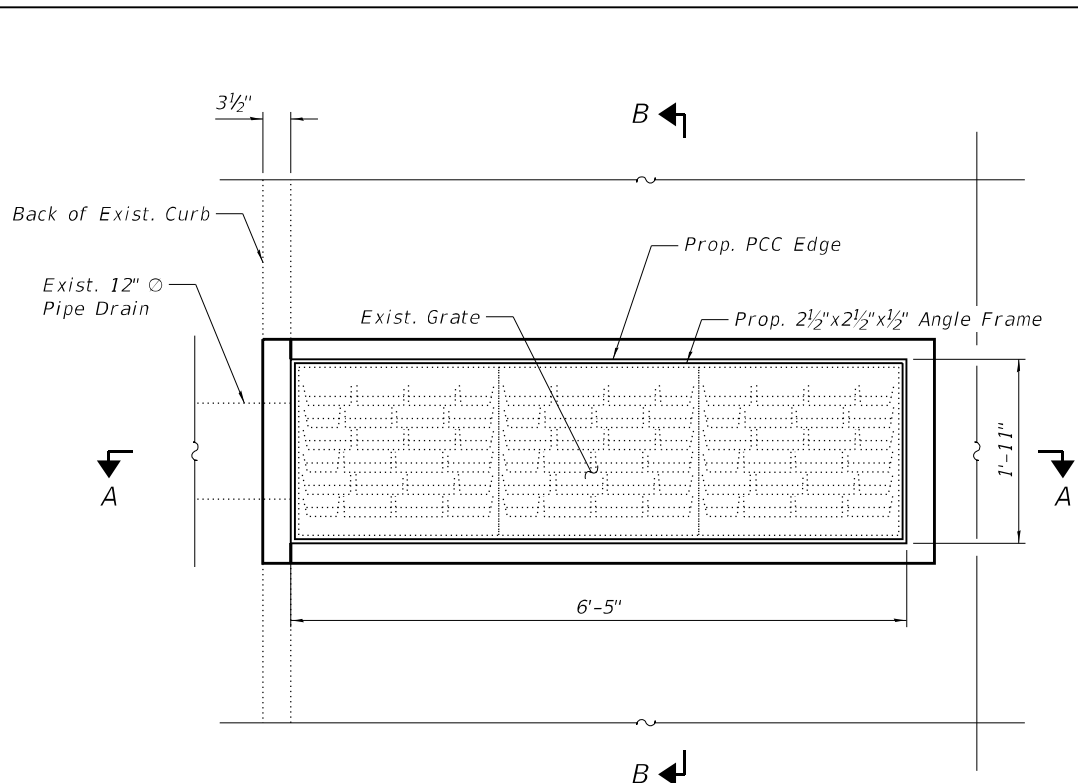
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB REPAIR PLAN
STRUCTURE NO. 016-2027**

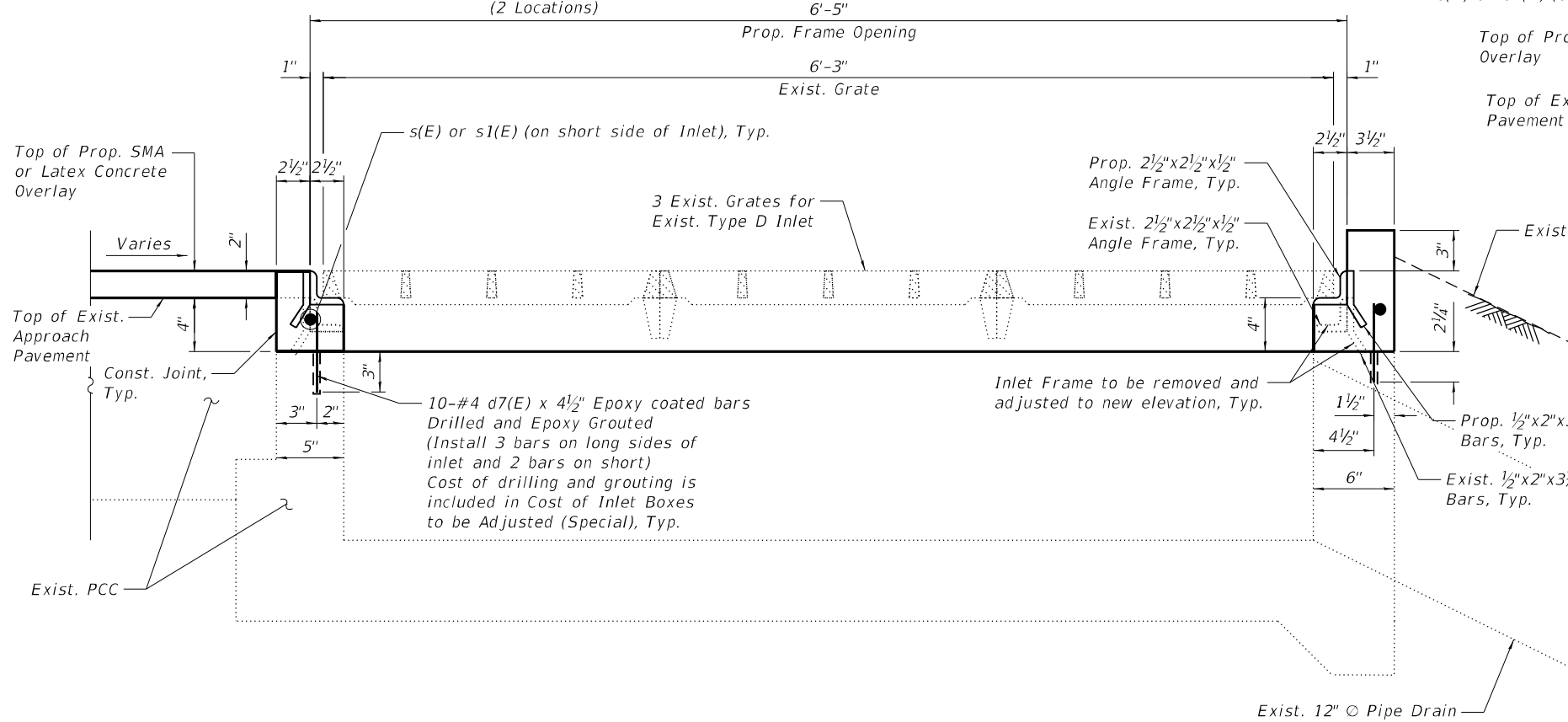
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

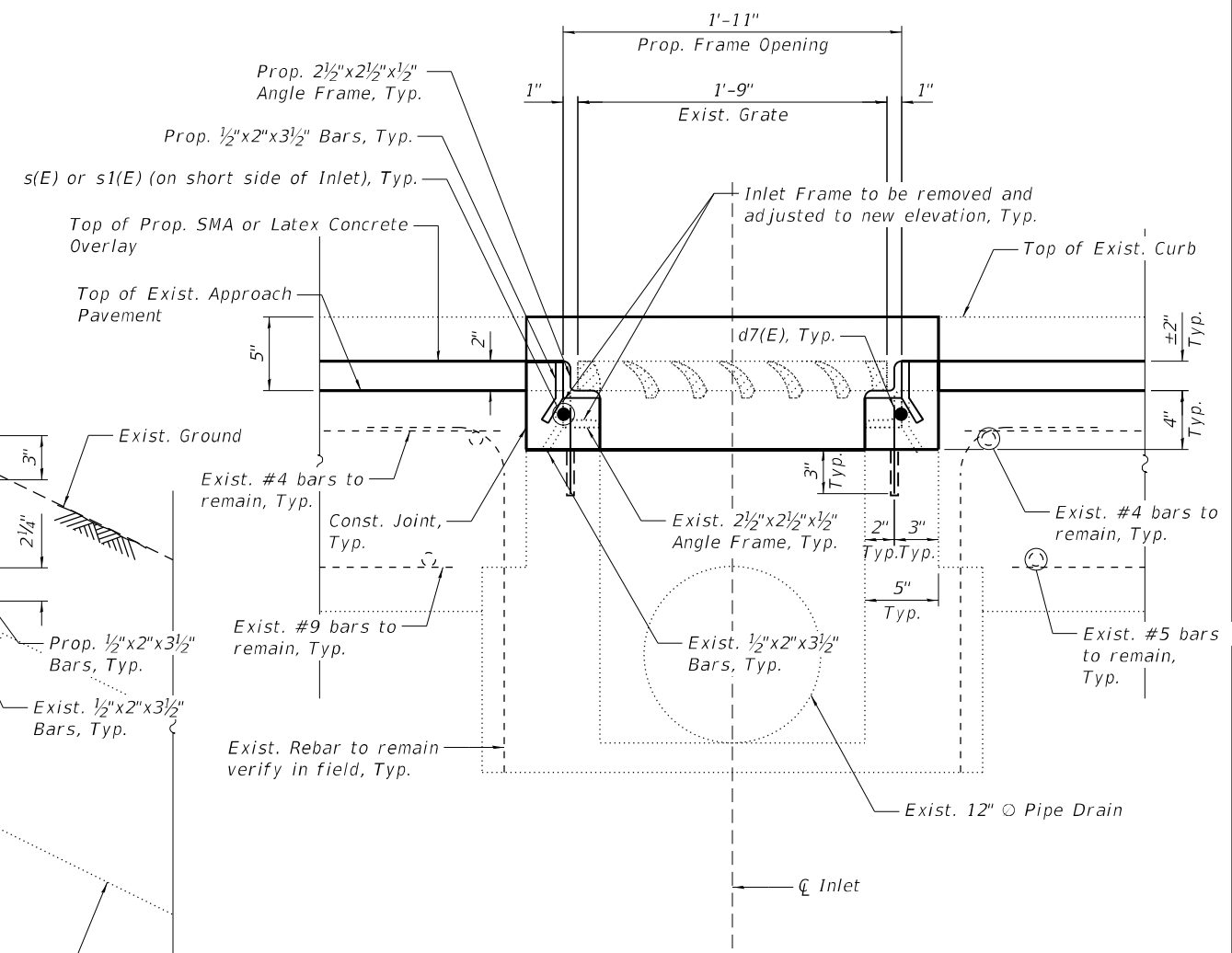
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TYPICAL INLET BOX PLAN
(2 Locations)



SECTION A-A



SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Inlet Boxes To Be Adjusted (Special)	EACH	2

NOTES

- The Contractor shall field verify Existing Dimensions and Details of the Existing inlets, frames and grates and make necessary adjustments prior to reconstruction of top of inlet, relocation of frame and grate, or ordering of material for Inlet Boxes to be Adjusted (Special).
- The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the frames and grates.
- Cost of all labor and materials necessary to clean all existing inlets, concrete removal, concrete structures, reinforcement bars (epoxy coated), and remove and reinstall frames and grates is included in the cost for Inlet Boxes to be Adjusted (Special).
- Adjust top of Inlet Box elevation to match the top of proposed SMA or latex Concrete overlay. See Sections A-A and B-B on this sheet.
- Bridge approach shoulder to remain.



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DEPARTMENT OF TRANSPORTATION**

**INLET ADJUSTMENT
STRUCTURE NO. 016-2027**

SHEET S2-08 OF S2-23 SHEETS

F.A.I. RTE. 57	SECTION 2020-171-BR	COUNTY COOK	TOTAL SHEETS 190	SHEET NO. 119
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

NOTE:

1. For General Notes and Total Bill of Material, see Sheet S2-02.
2. For Parapet Removal and Reconstruction, see Sheets S2-10 thru S2-13.
3. Quantities and limits shown are estimated for bidding purpose only. The actual areas to be repaired and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

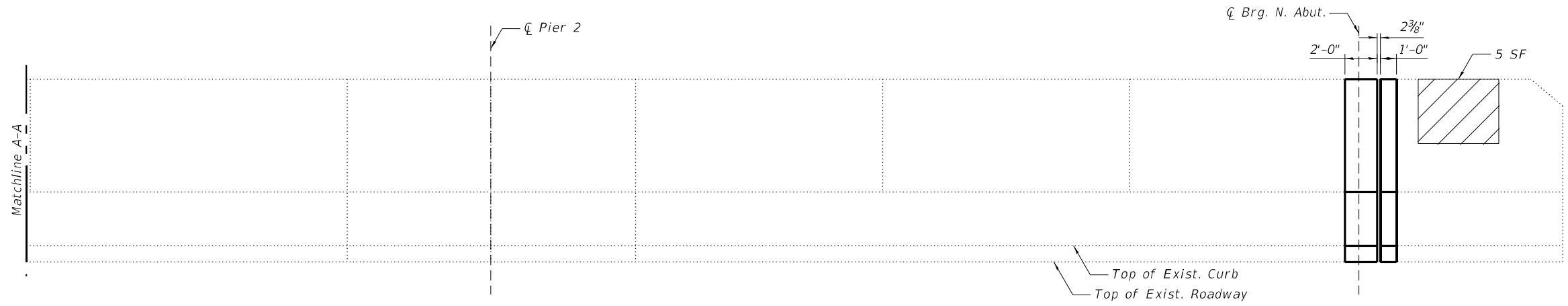
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	SQ FT	18



INSIDE ELEVATION - WEST PARAPET

(Looking West)



INSIDE ELEVATION - WEST PARAPET

(Looking West)

LEGEND:

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

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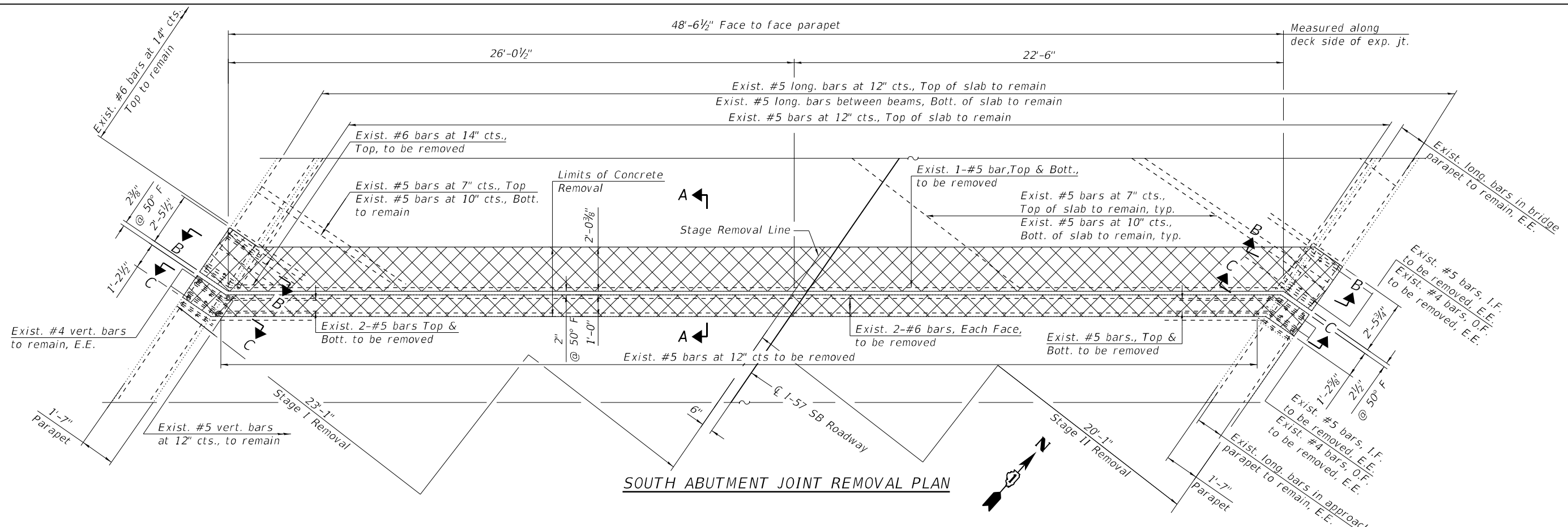
**STATE OF ILLINOIS
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**PARAPET REPAIRS
STRUCTURE NO. 016-2027**

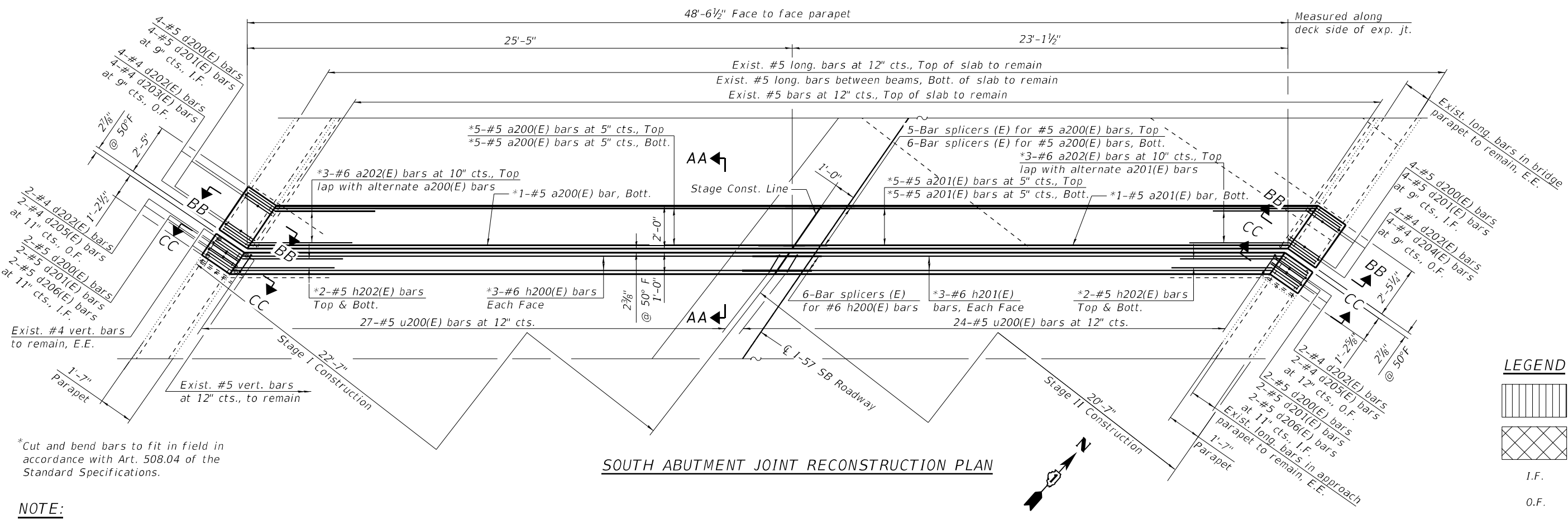
SHEET S2-09 OF S2-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	120
CONTRACT NO. 62M54				

ILLINOIS FED. AID PROJECT



SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

LEGEND

	Bridge Deck Scarification, 3/4"
	Concrete Removal
I.F.	Inside Face
O.F.	Outside Face
E.E.	Each End

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

NOTE:
1. For Notes, Sections, bar diagrams and Bill of Material, see Sheet S2-11.

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

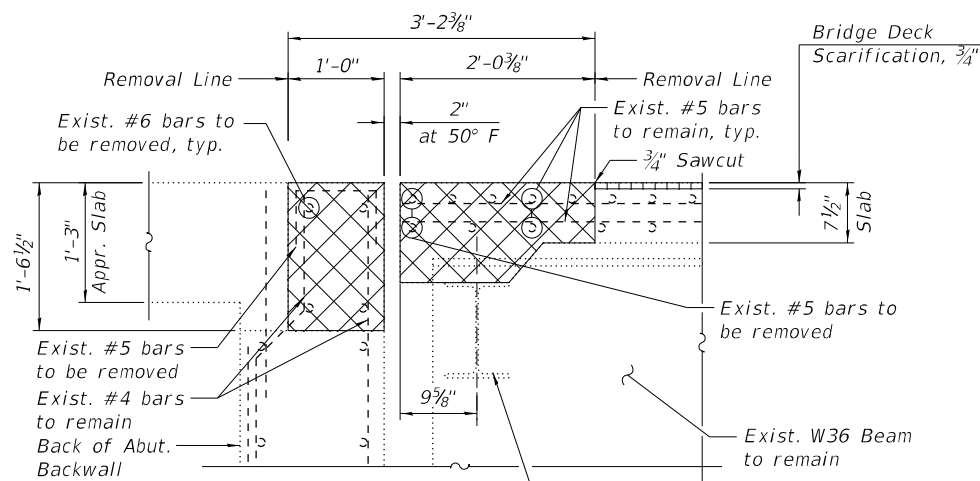
**S. ABUT. JOINT REMOVAL AND REPLACEMENT (SHEET 1 OF 2)
STRUCTURE NO. 016-2027**

SHEET S2-10 OF S2-23 SHEETS

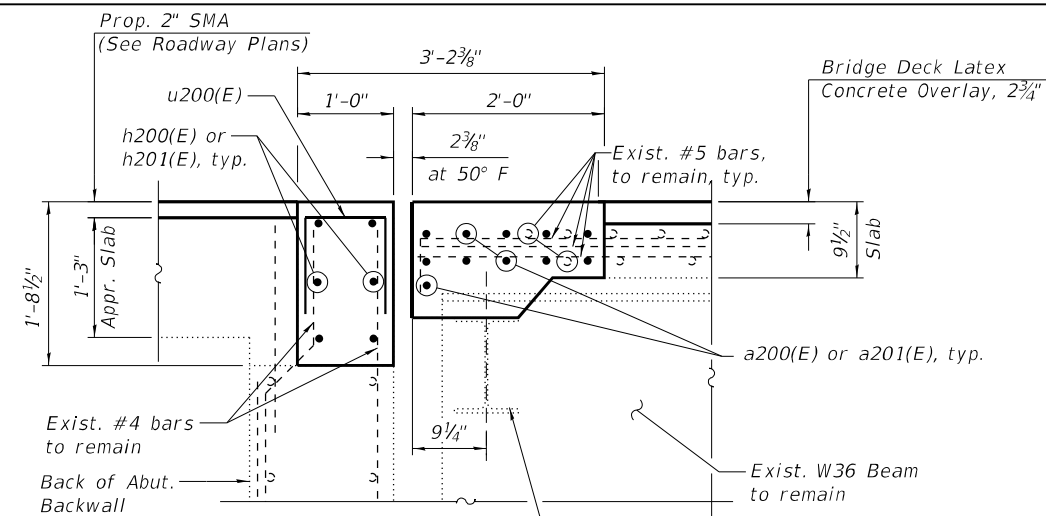
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CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

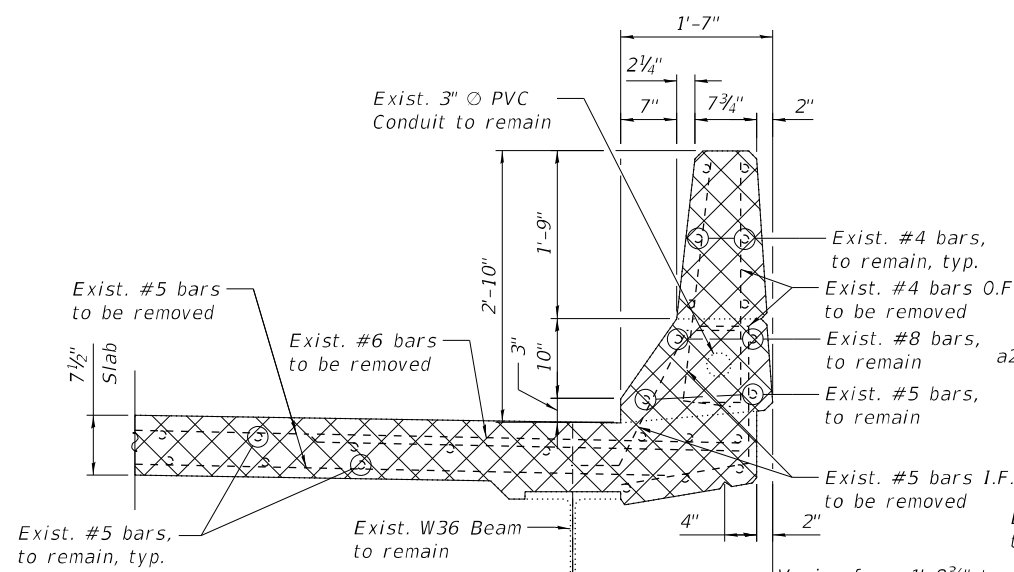
Bar	No.	Size	Length	Shape
a200(E)	11	#5	26'-9"	—
a201(E)	11	#5	24'-5"	—
a202(E)	6	#6	6'-6"	—
d200(E)	12	#5	3'-0"	└
d201(E)	12	#5	2'-7"	└
d202(E)	12	#4	3'-0"	└
d203(E)	4	#4	2'-10"	└
d204(E)	4	#4	4'-3"	└
d205(E)	4	#4	4'-3"	└
d206(E)	4	#5	2'-5"	└
h200(E)	6	#6	26'-9"	—
h201(E)	6	#6	24'-5"	—
h202(E)	8	#6	6'-0"	—
u200(E)	51	#5	3'-4"	□
Concrete Removal		CU YD	7.3	
Concrete Superstructure		CU YD	8.1	
Protective Coat		SQ YD	20	
Reinforcement Bars, Epoxy Coated		POUND	1,500	



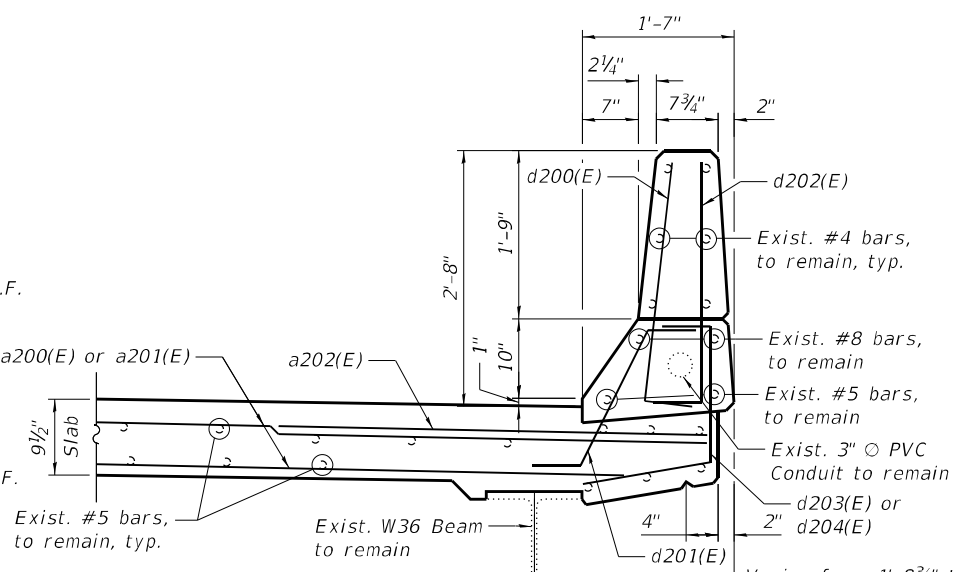
SECTION A-A



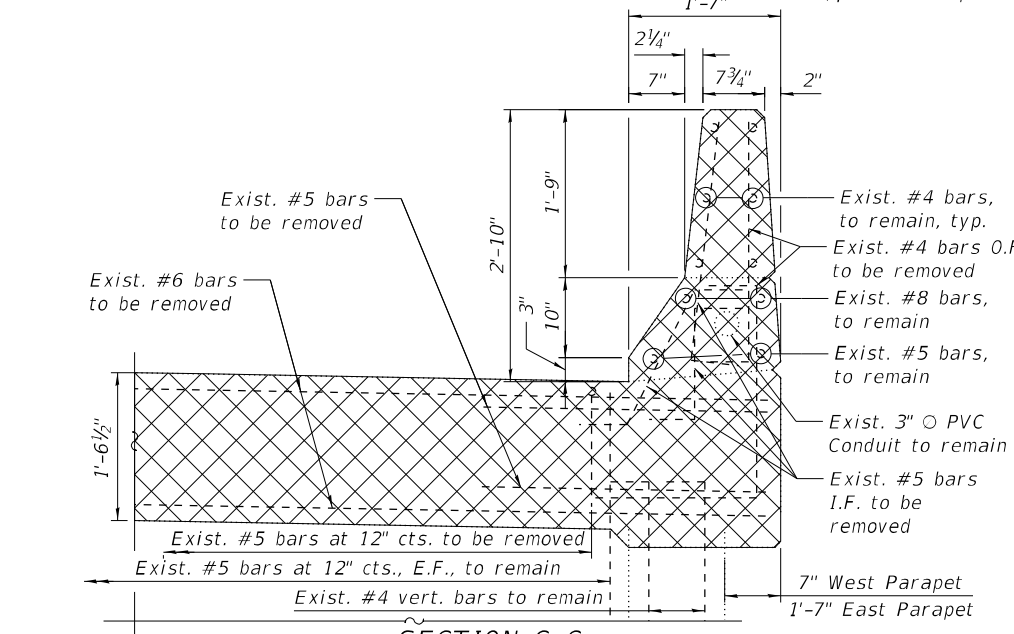
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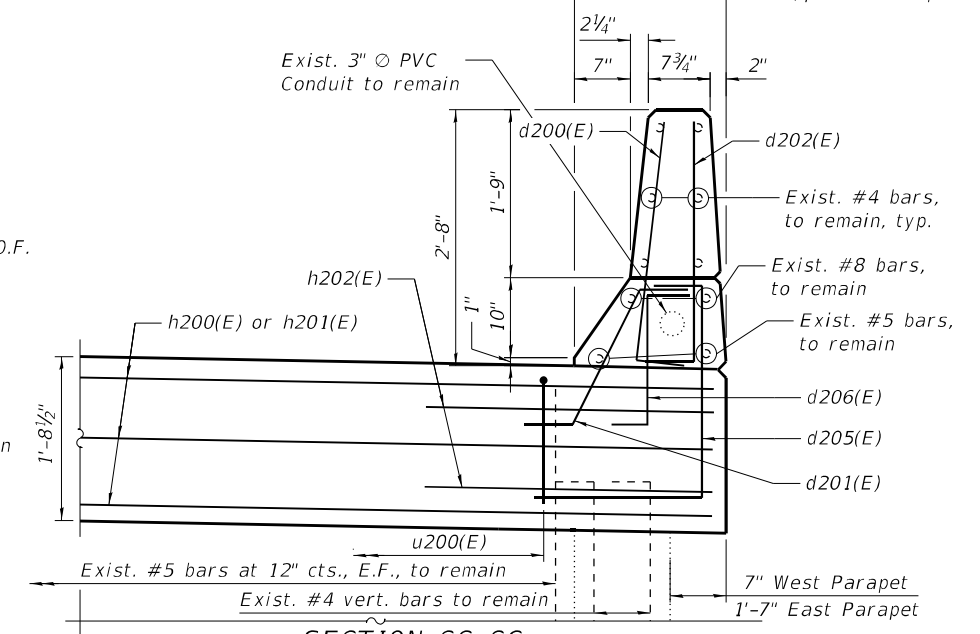
SECTION B-B



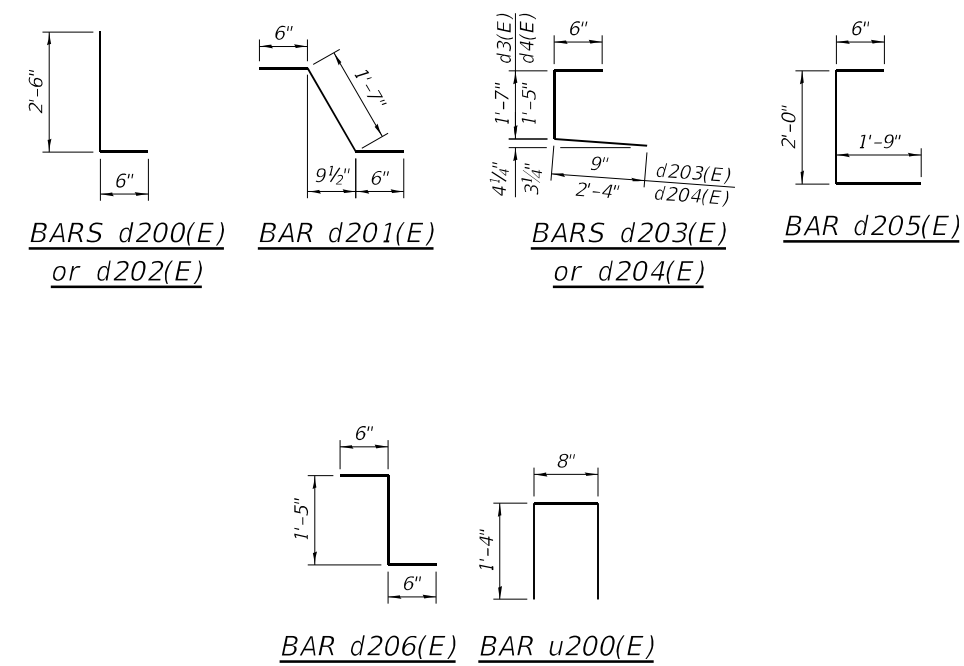
SECTION BB-BB



SECTION C-C



SECTION CC-CC



NOTES:

1. For Legend and additional Notes, see Sheet S2-10.
2. For preformed joint strip seal details, see Sheet S2-14.
3. For bar splicer assembly details, see Sheet S2-23.
4. 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 included with Concrete Removal.
5. Removal and disposal of the existing expansion joints is included with Concrete Removal.

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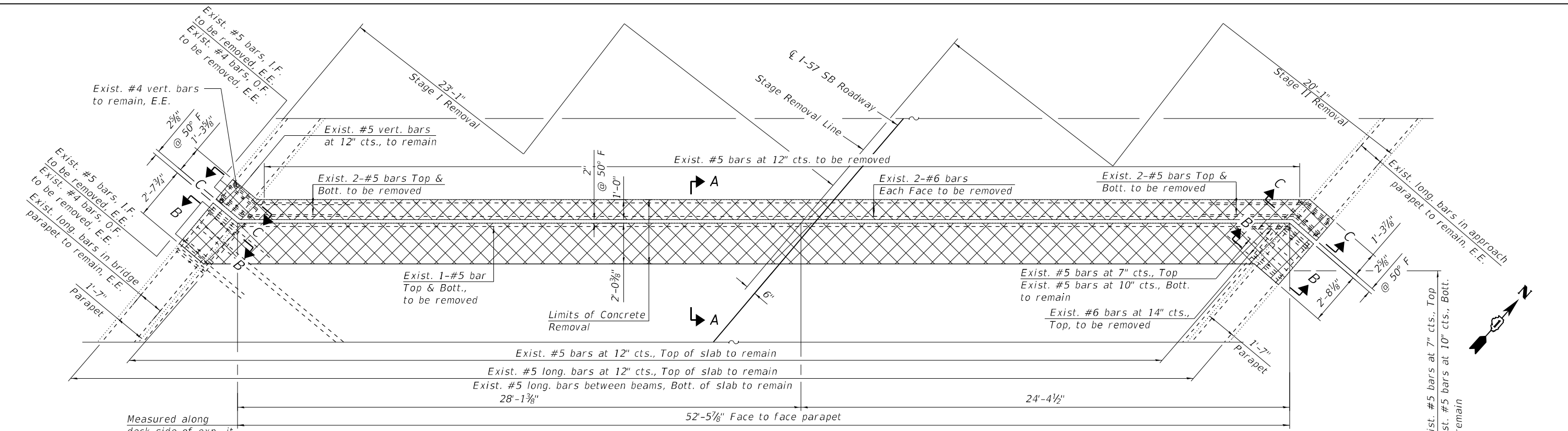
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**S. ABUT. JOINT REMOVAL AND REPLACEMENT (SHEET 2 OF 2)
STRUCTURE NO. 016-2027**

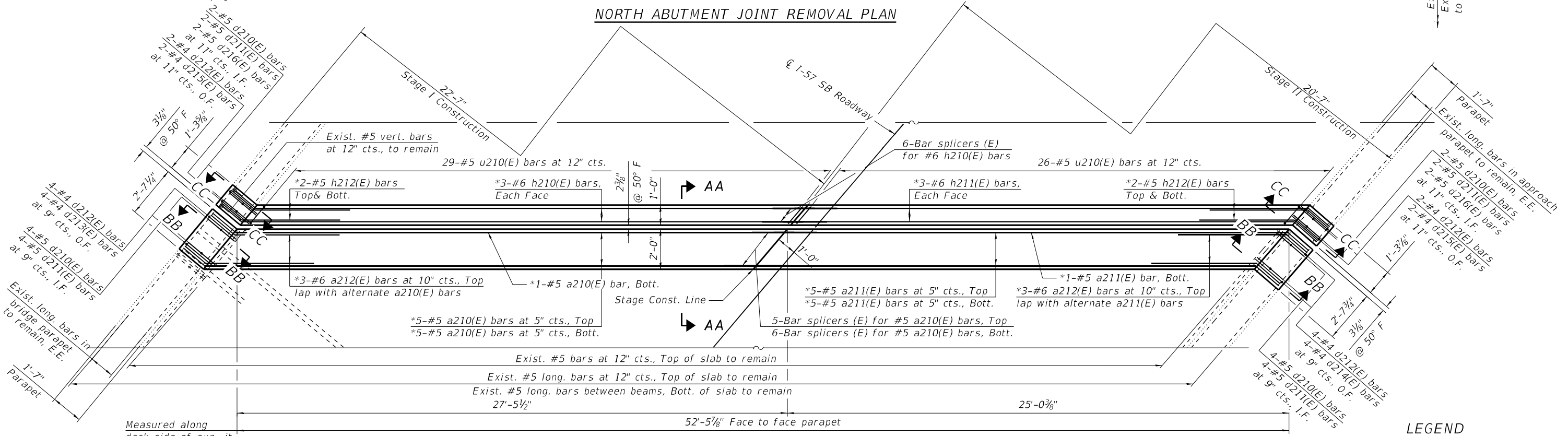
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CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

SHEET S2-11 OF S2-23 SHEETS

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NORTH ABUTMENT JOINT REMOVAL PLAN



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN

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

NOTE:
 1. For Notes, Sections, bar diagrams and Bill of Material, see Sheet S2-13.

LEGEND

	Bridge Deck Scarification, 3/4"
	Concrete Removal
I.F.	Inside Face
O.F.	Outside Face



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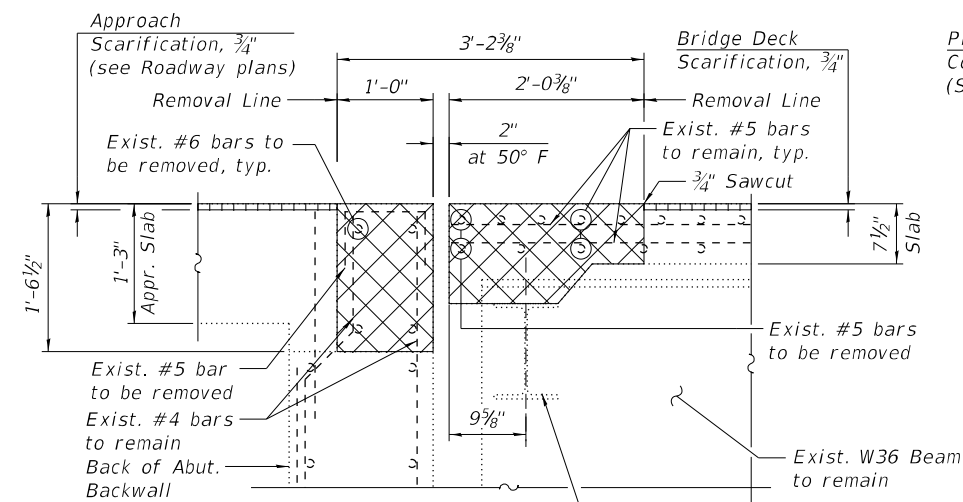
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 STRUCTURE NO. 016-2027**

SHEET S2-12 OF S2-23 SHEETS

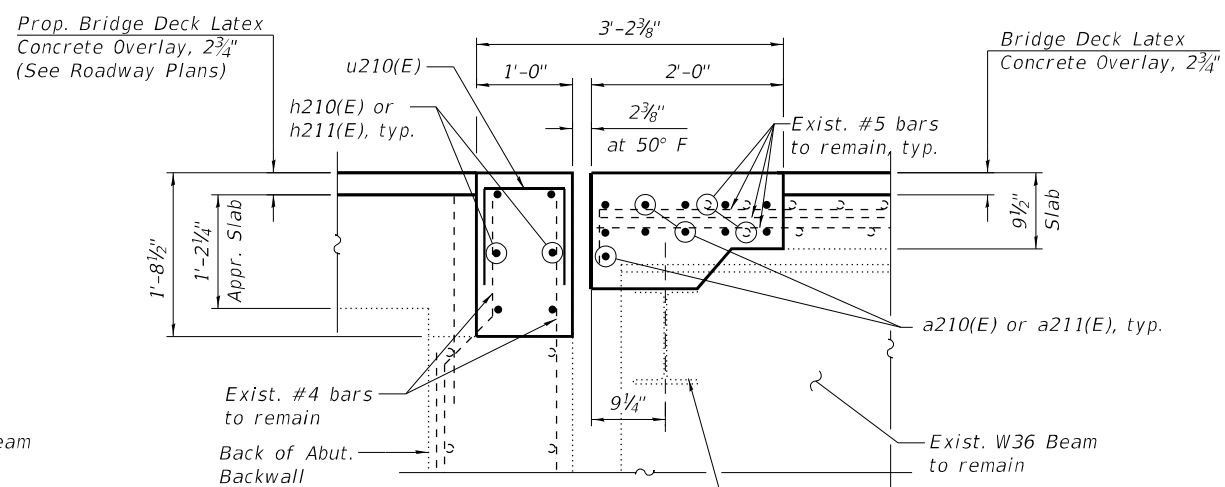
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CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

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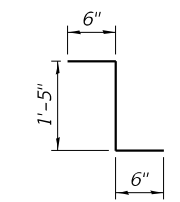
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a211(E)	11	#5	26'-4"	—
a212(E)	6	#6	6'-6"	—
d210(E)	12	#5	3'-0"	└
d211(E)	12	#5	2'-7"	└
d212(E)	12	#4	3'-0"	└
d213(E)	4	#4	3'-8"	└
d214(E)	4	#4	4'-3"	└
d215(E)	4	#4	4'-3"	└
d216(E)	4	#5	2'-5"	└
h210(E)	6	#6	28'-9"	—
h211(E)	6	#6	26'-4"	—
h212(E)	8	#5	6'-0"	—
u210(E)	55	#5	3'-4"	□
Concrete Removal		CU YD	7.9	
Concrete Superstructure		CU YD	8.7	
Protective Coat		SQ YD	21	
Reinforcement Bars, Epoxy Coated		POUND	1,570	



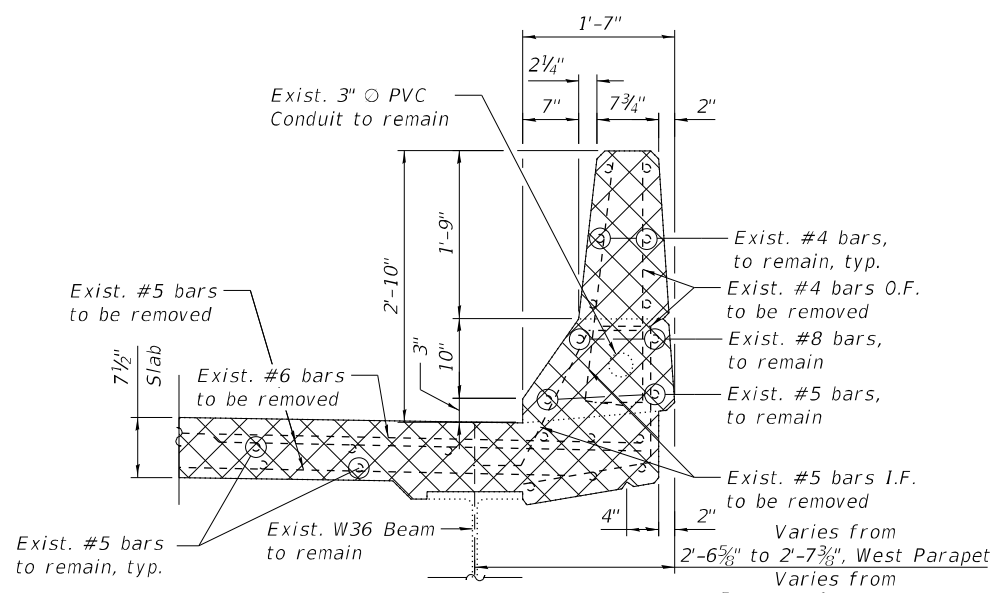
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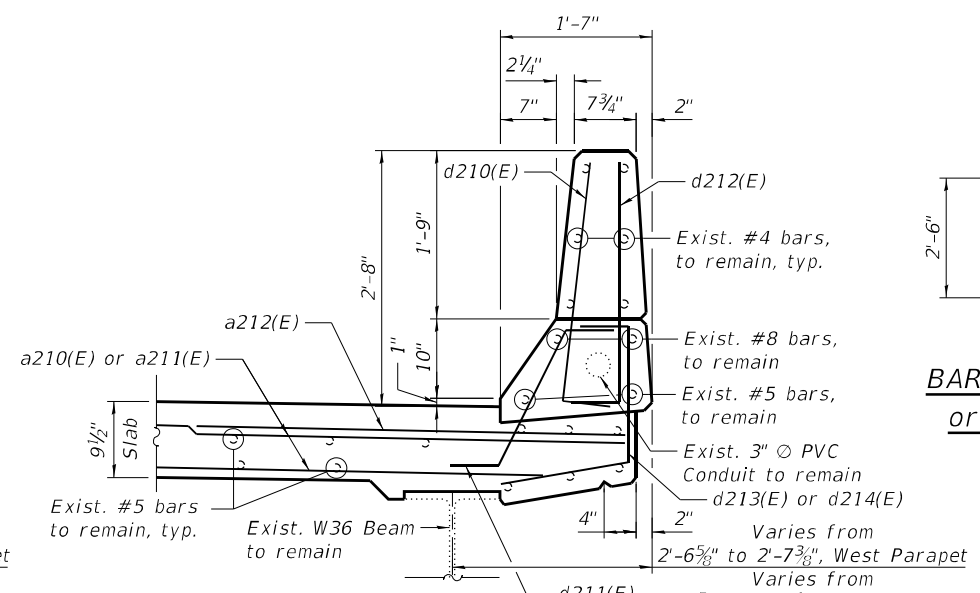
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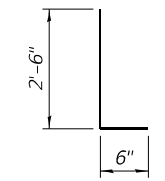
BAR d216(E)



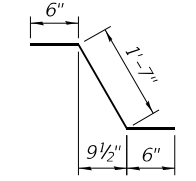
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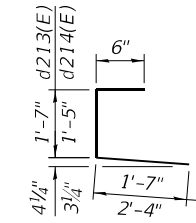
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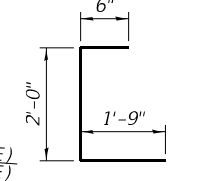
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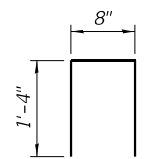
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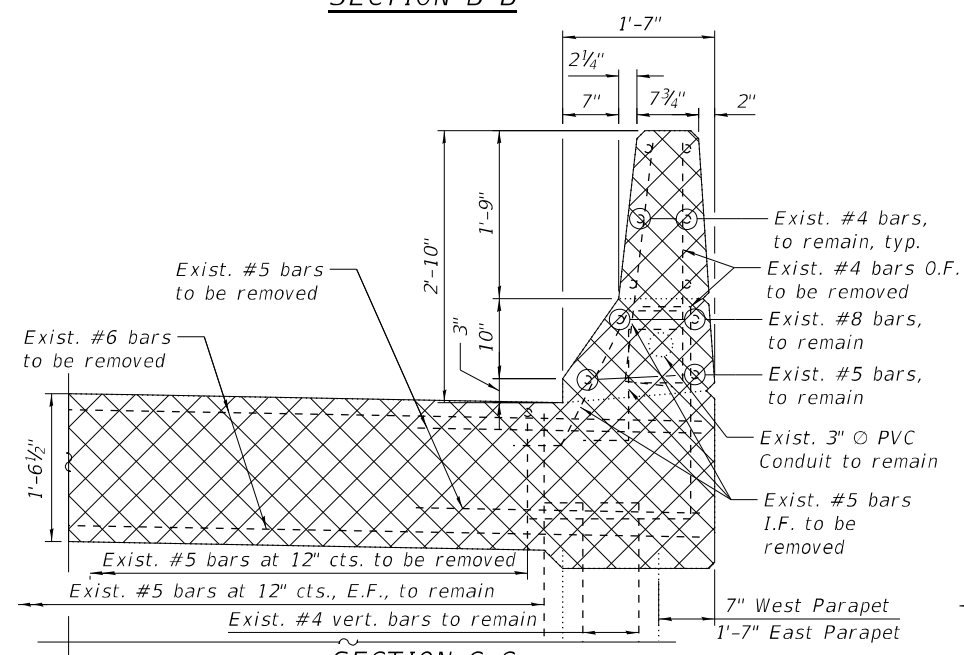
BARS d213(E) or d214(E)



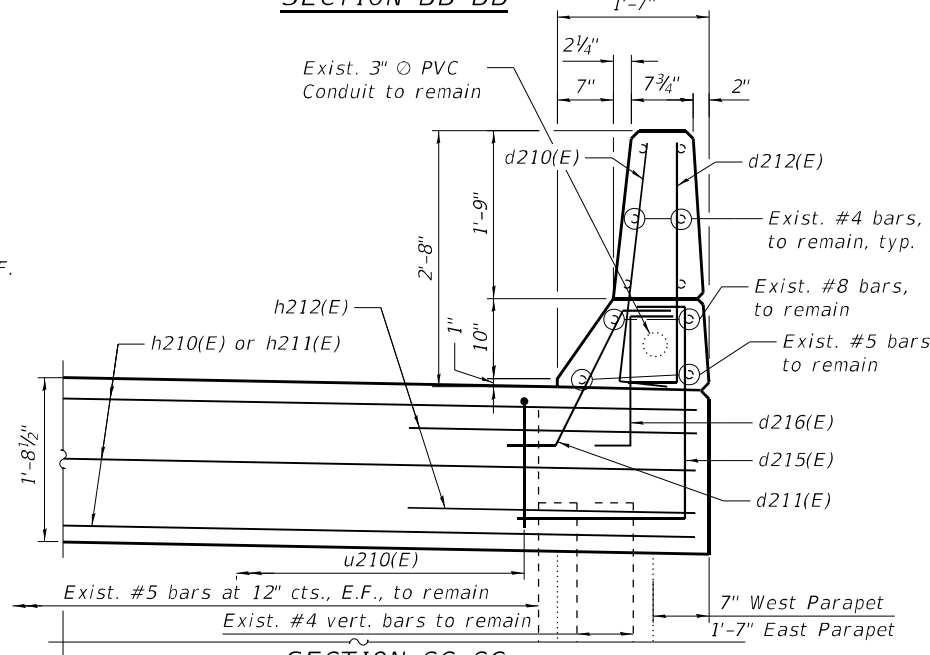
BAR d215(E)



BAR u210(E)



SECTION C-C



SECTION CC-CC

NOTES:

1. For Legend and additional Notes, see Sheet S2-12.
2. For preformed joint strip seal details, see Sheet S2-14.
3. For bar splicer assembly details, see Sheet S2-23.
4. 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 included with Concrete Removal.
5. Removal and disposal of the existing expansion joints is included with Concrete Removal.

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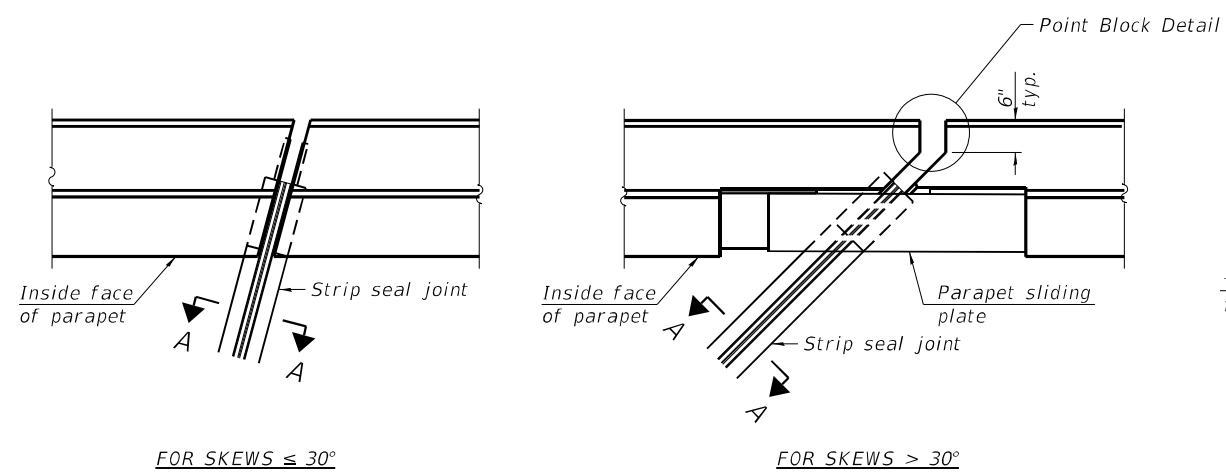
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**N. ABUT. JOINT REMOVAL AND REPLACEMENT (SHEET 2 OF 2)
STRUCTURE NO. 016-2027**

SHEET S2-13 OF S2-23 SHEETS

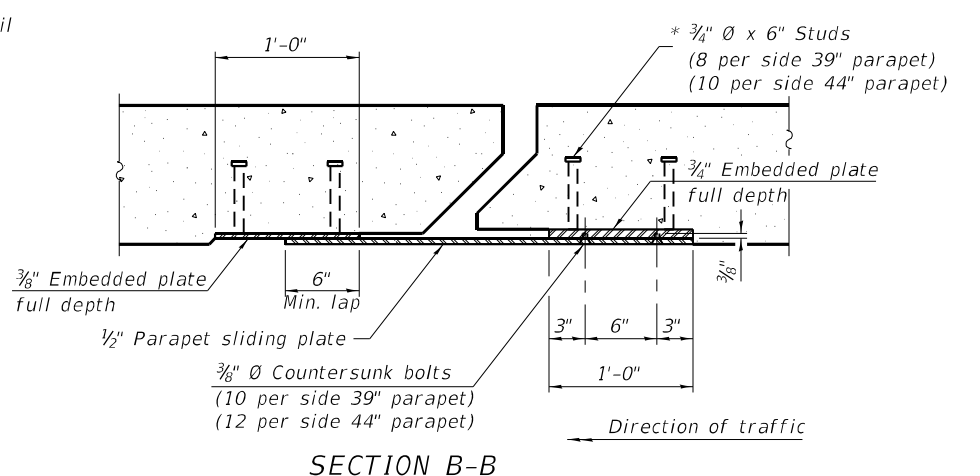
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ILLINOIS FED. AID PROJECT				

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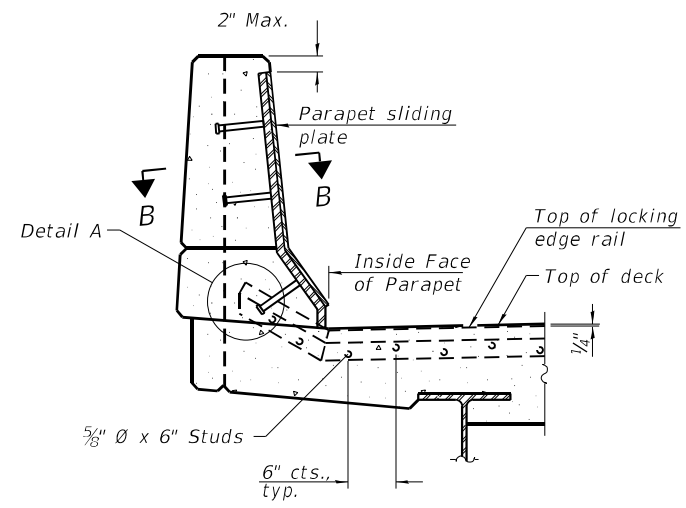


FOR SKEWS $\leq 30^\circ$

PLAN AT PARAPET

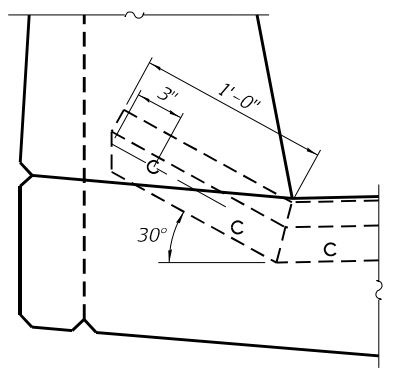


SECTION B-B

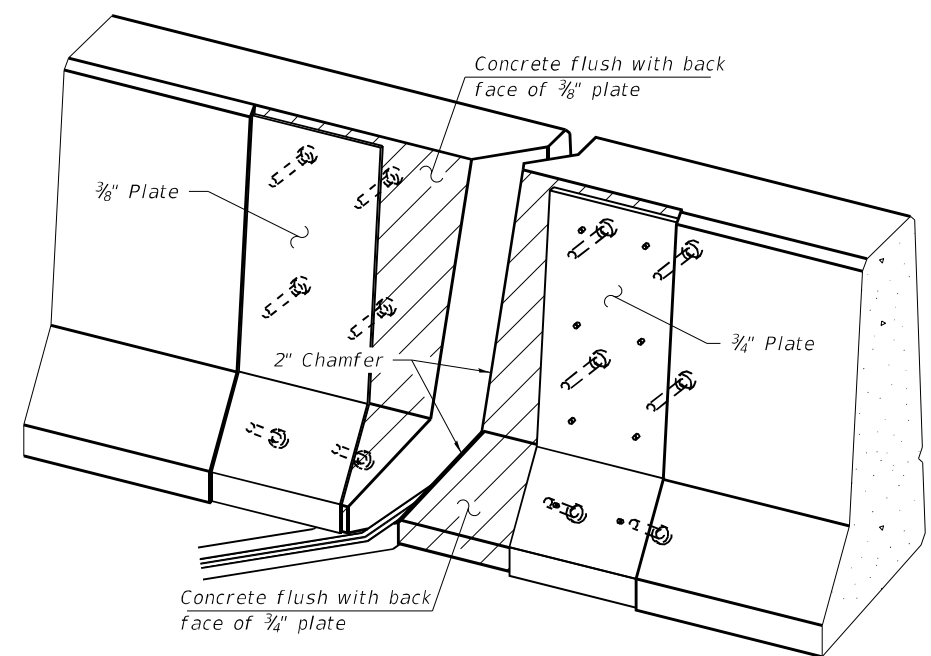


SECTION AT PARAPET

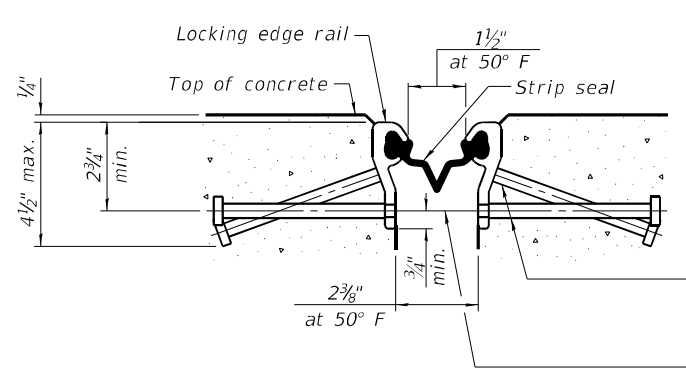
(Skews > 30 degrees shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW



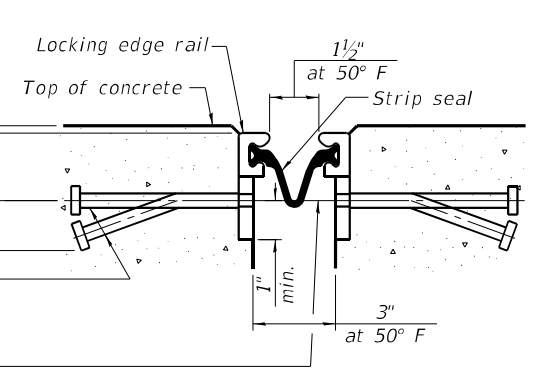
SHOWING ROLLED RAIL JOINT

* 3/8 inch diameter x 6 inch studs @ 6 inch center-to-center. (alternate angled/bent studs with horizontal studs)

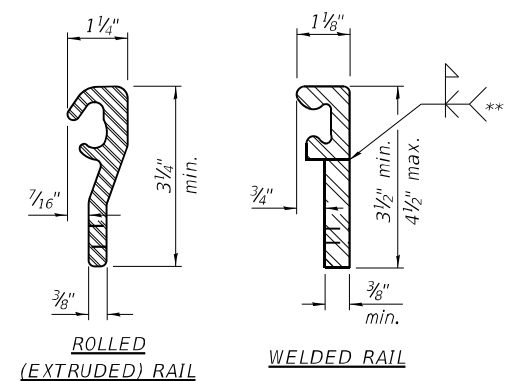
3/8 inch diameter threaded rods in 1/16 inch diameter holes at ± 4 -0 inch center-to-center for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

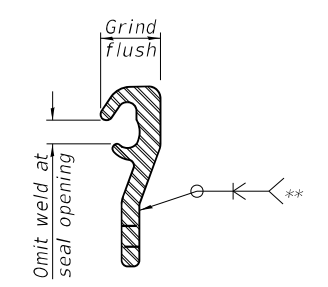


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	108



USER NAME =	DESIGNED - JMI	REVISED -
PLOT SCALE =	CHECKED - MI, LAB	REVISED -
PLOT DATE =	DRAWN - JMI	REVISED -
	DATE - 11/5/2021	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

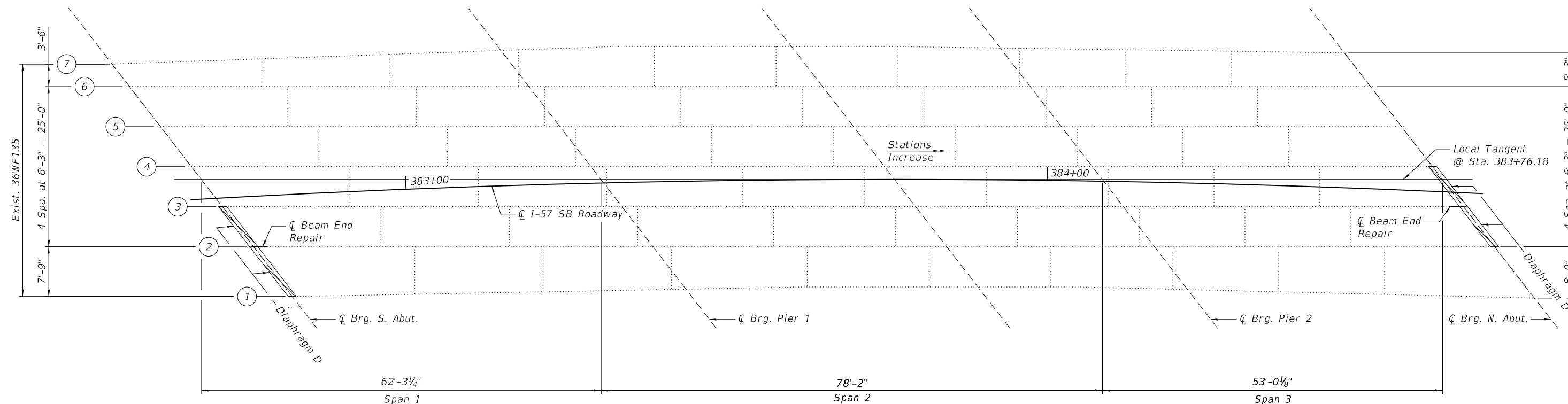
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-2027

SHEET S2-14 OF S2-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	125
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing And Erecting Structural Steel	POUND	1,840
Structural Steel Removal	POUND	1,630
Structural Steel Repair	POUND	770



FRAMING PLAN



NOTES:

- All work is to be performed utilizing staged construction. See Sheets S2-03 and S2-04 for details.
- For Beam End Repairs and Diaphragm Removal and Replacement Details, see Sheets S2-16 thru S2-17.

LEGEND

- Perform Beam End Repairs
- Remove and Replace Exist. Diaphragm

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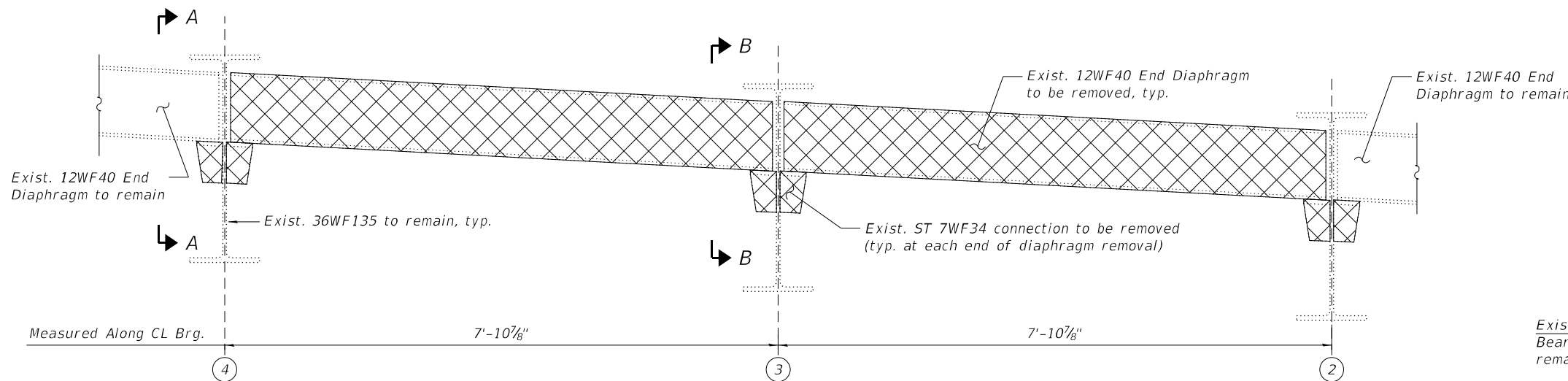
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

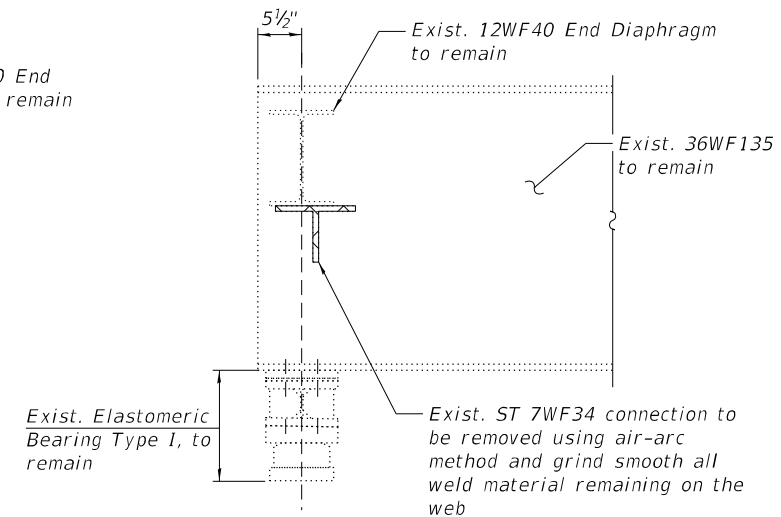
**FRAMING PLAN STEEL REPAIRS
STRUCTURE NO. 016-2027**

SHEET S2-15 OF S2-23 SHEETS

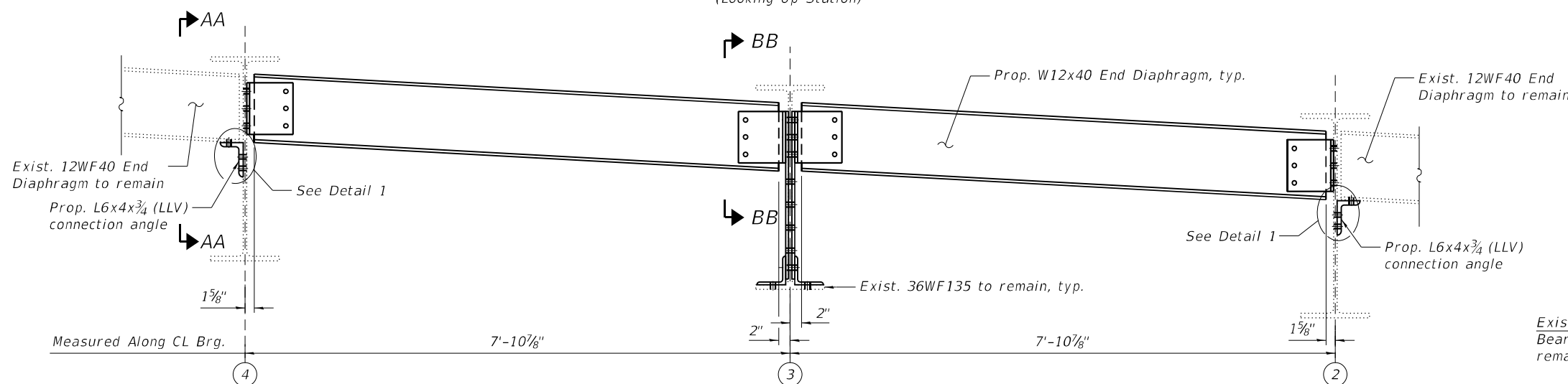
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				



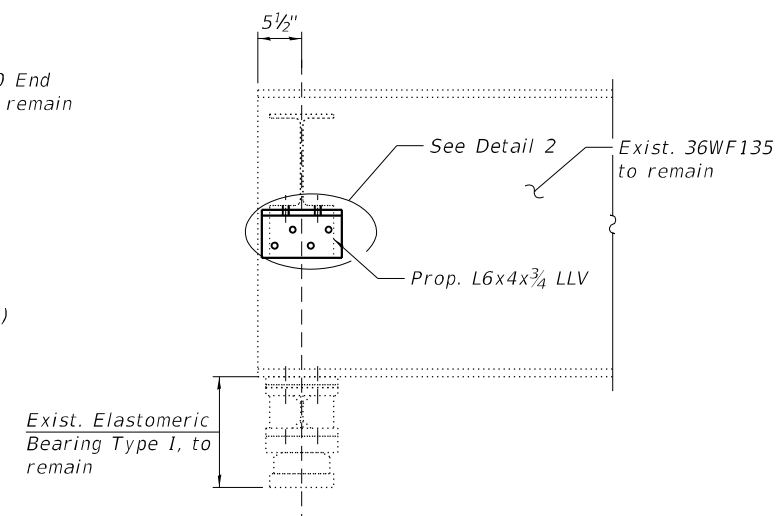
EXISTING END DIAPHRAGM D REMOVAL
(At North Abutment - Between Beams 2 and 4)
(Looking Up-Station)



SECTION A-A



PROPOSED END DIAPHRAGM D
(At North Abutment - Between Beams 2 and 4)
(Looking Up-Station)

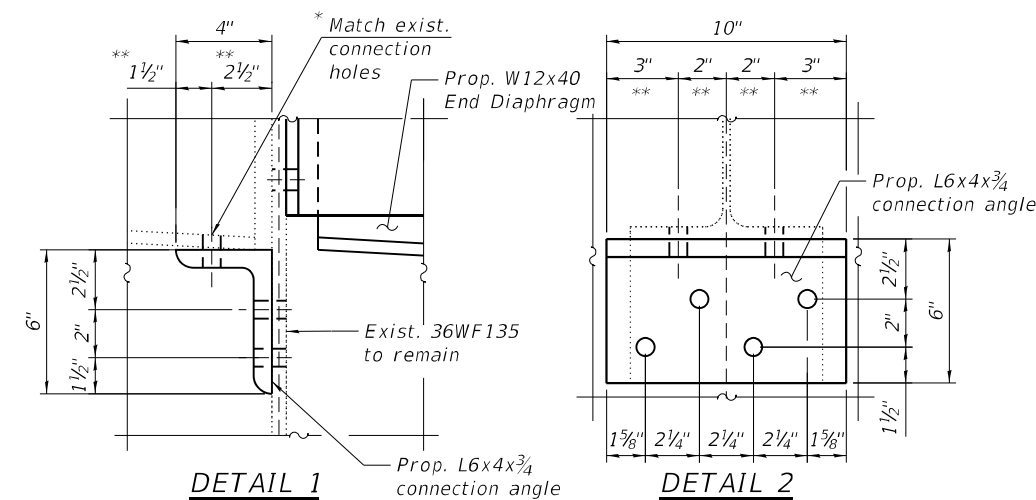


SECTION AA-AA

NOTES:

1. For locations of Diaphragm Removal/Replacement and Beam End Repairs, see Sheet S2-15.
2. For Sections B-B and BB-BB, see Sheet S2-17.
3. All proposed beam end repair plates and bottom flange repair angles shall conform to the requirements of AASHTO M270 Grade 50. All proposed diaphragms and their connection plates shall conform to the requirements of AASHTO M270 Grade 36.
4. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Diaphragm connection holes shall be 15/16" for 3/4" bolts. Two hardened washers shall be required at all diaphragm connections.
5. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
6. All proposed beam end repair plates, bottom flange repair angles and associated bolts/fasteners shall be paid for as Structural Steel Repair. All proposed diaphragms, connection plates and associated bolts/fasteners shall be paid for as Furnishing and Erecting Structural Steel.
7. Use holes in new steel as template to field drill holes in existing steel unless noted otherwise.

9. Cost of field drilling shall be included in the cost of Structural Steel Repair.
10. Existing end diaphragms adjacent to diaphragms being replaced shall be temporarily supported during diaphragm replacement work. Cost included with Structural Steel Removal.
11. 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 provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included in Structural Steel Repair.



DETAIL 1

DETAIL 2

LEGEND

- Structural Steel Removal
- LLV Long Leg Vertical

* Field Drill Holes in Repair Plate and/or Clip Angle to match existing holes in Beam or Diaphragm
** Dimension may vary in the field based on existing hole locations in beam web or diaphragm bottom flange.

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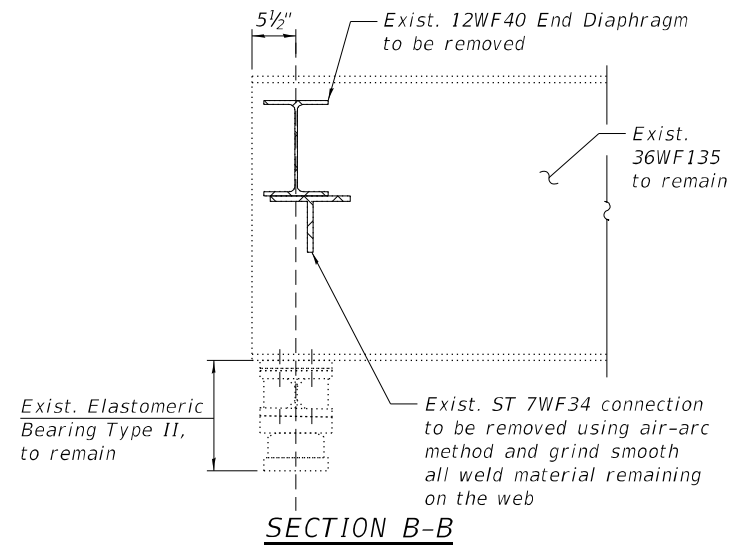
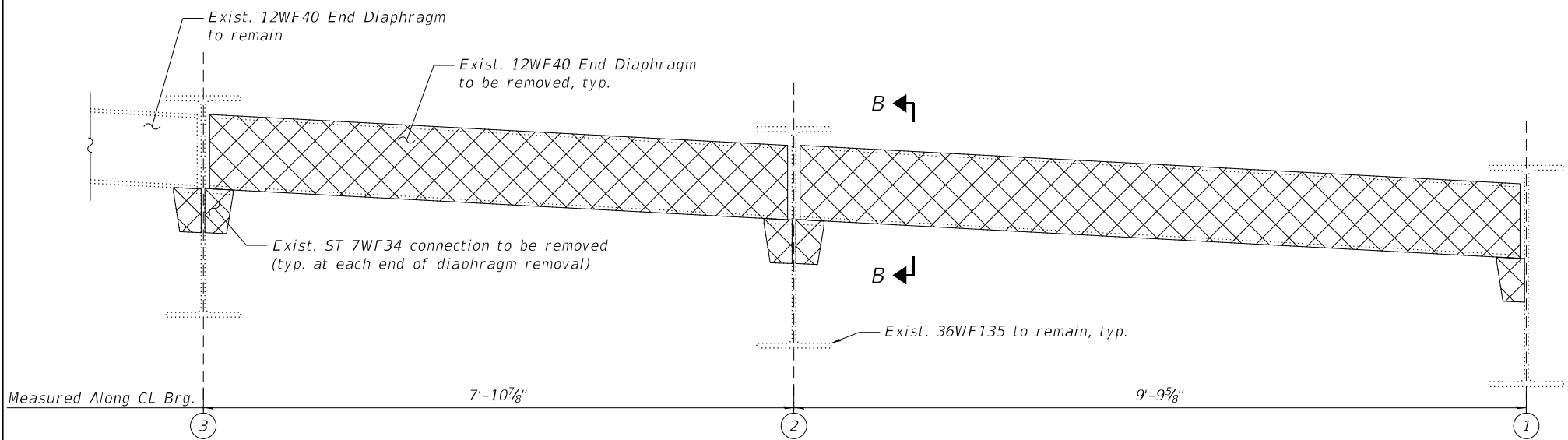
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PLOT DATE =	DRAWN - SK	REVISED -
	DATE - 11/5/2021	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS (SHEET 1 OF 2)
STRUCTURE NO. 016-2027**

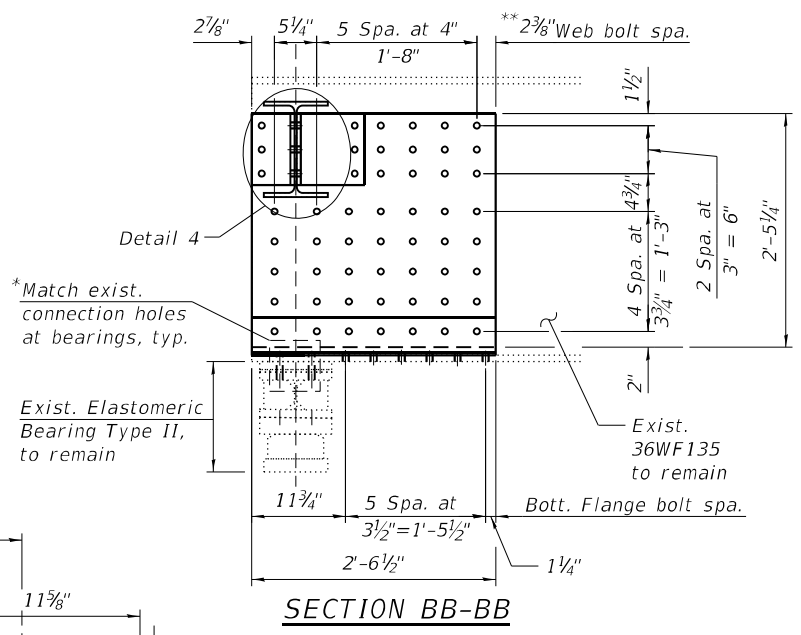
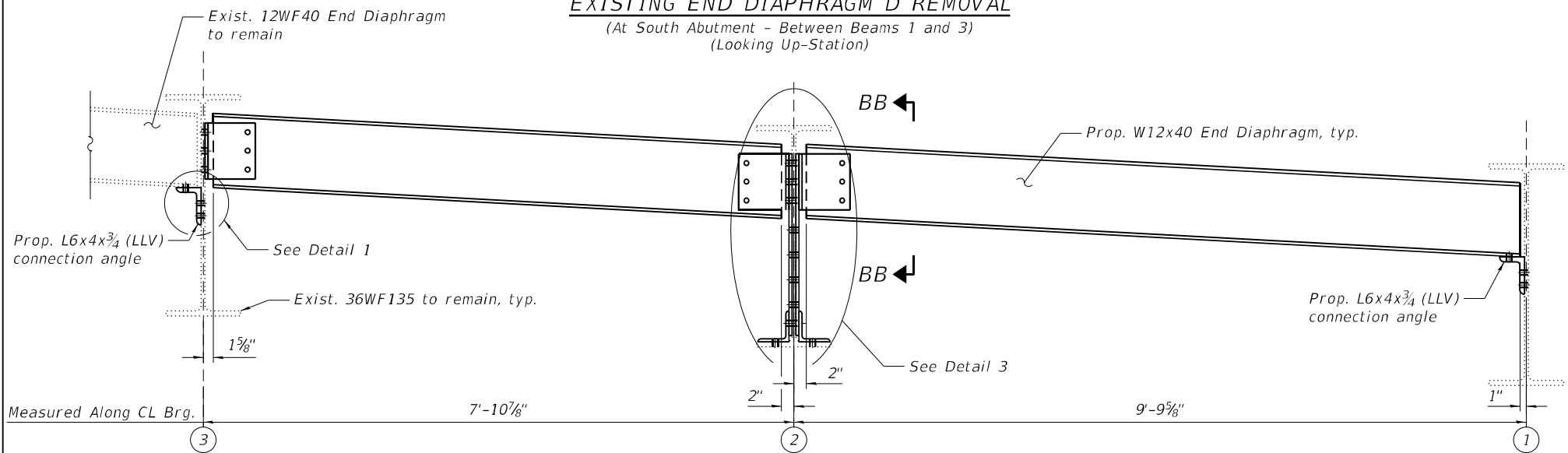
SHEET S2-16 OF S2-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	127
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				



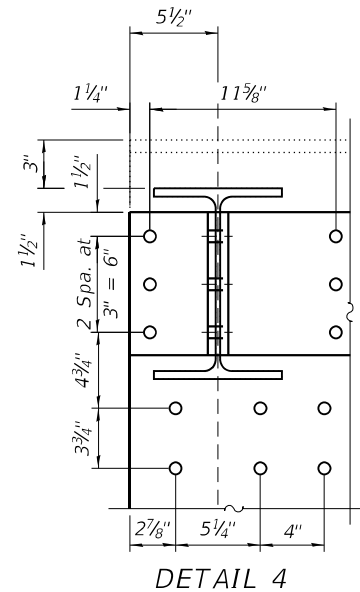
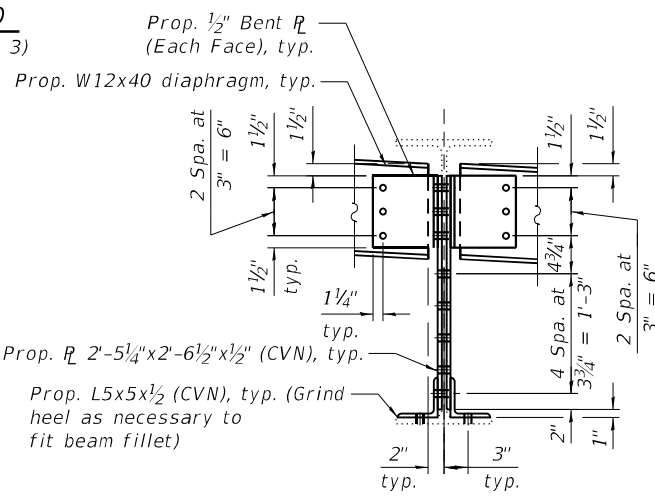
EXISTING END DIAPHRAGM D REMOVAL

(At South Abutment - Between Beams 1 and 3)
(Looking Up-Station)



PROPOSED END DIAPHRAGM D

(At South Abutment - Between Beams 1 and 3)
(Looking Up-Station)



SECTION BB-BB

*Field Drill Holes in Repair Angle to match existing holes in Beam
**Except for bolt hole locations at diaphragm connection plates

LEGEND



NOTES:

1. For notes and Detail 1, see Sheet S2-16.
2. Cost of field drilling shall be included in the cost of Structural Steel Repair.

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

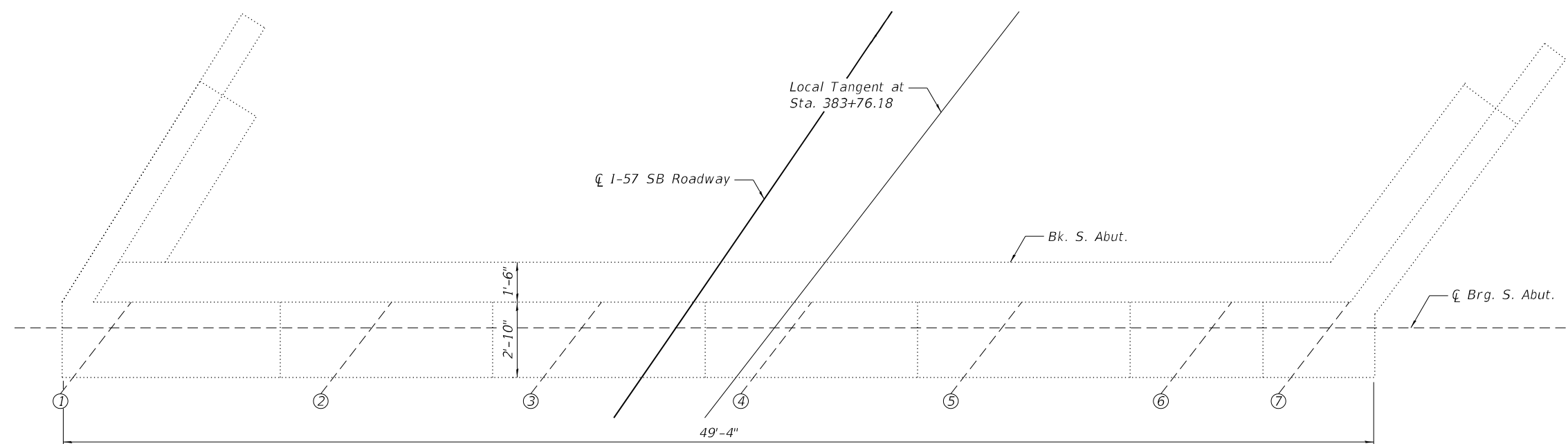
**STRUCTURAL STEEL REPAIR DETAILS (SHEET 2 OF 2)
STRUCTURE NO. 016-2027**

SHEET S2-17 OF S2-23 SHEETS

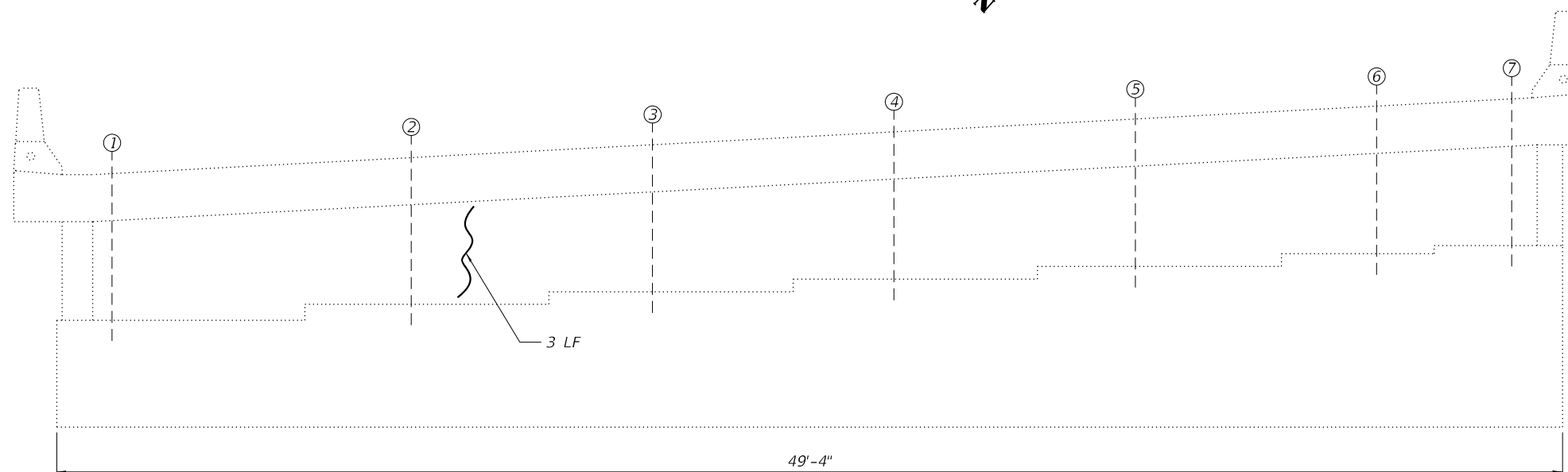
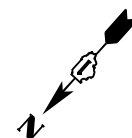
F.A.I. RTE. 57	SECTION 2020-171-BR	COUNTY COOK	TOTAL SHEETS 190	SHEET NO. 128
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	SQ FT	140
Epoxy Crack Injection	FOOT	3



PLAN - SOUTH ABUTMENT



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 shall be applied to the abutment seats.

MODEL: Default
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PLOT DATE =	DATE - 11/5/2021	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT REPAIRS
STRUCTURE NO. 016-2027**

SHEET S2-18 OF S2-23 SHEETS

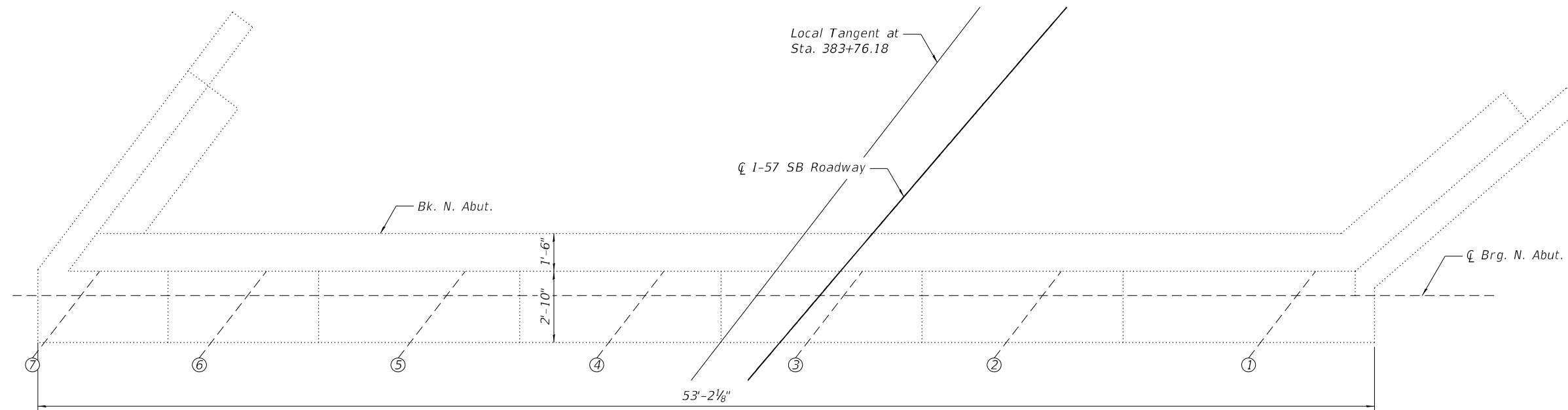
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	129
			CONTRACT NO. 62M54	
		ILLINOIS	FED. AID PROJECT	

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 shall be applied to the abutment seats.

BILL OF MATERIAL

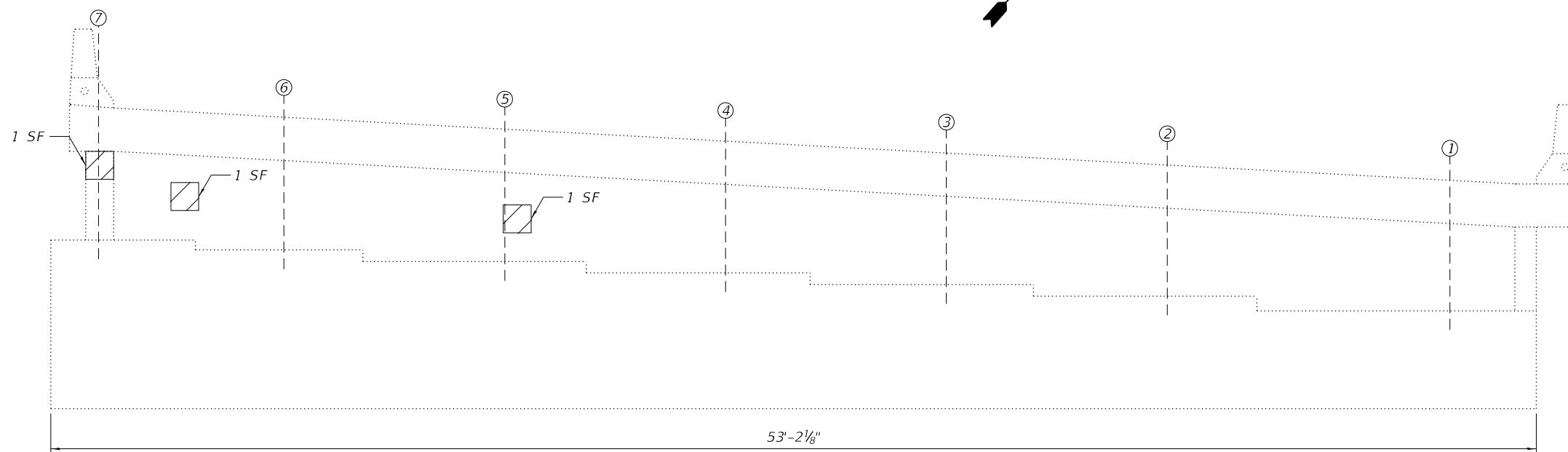
ITEM	UNIT	QUANTITY
Concrete Sealer	SQ FT	151
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	SQ FT	5



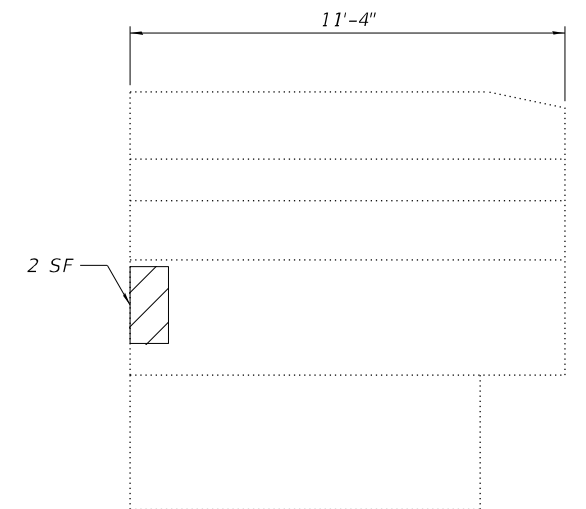
PLAN - NORTH ABUTMENT

LEGEND:

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



ELEVATION - NORTH ABUTMENT
(Looking North)



ELEVATION - NORTHEAST WINGWALL
(Looking West)

MODEL: Default
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PLOT DATE =	DATE - 11/5/2021	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT REPAIRS
STRUCTURE NO. 016-2027**

SHEET S2-19 OF S2-23 SHEETS

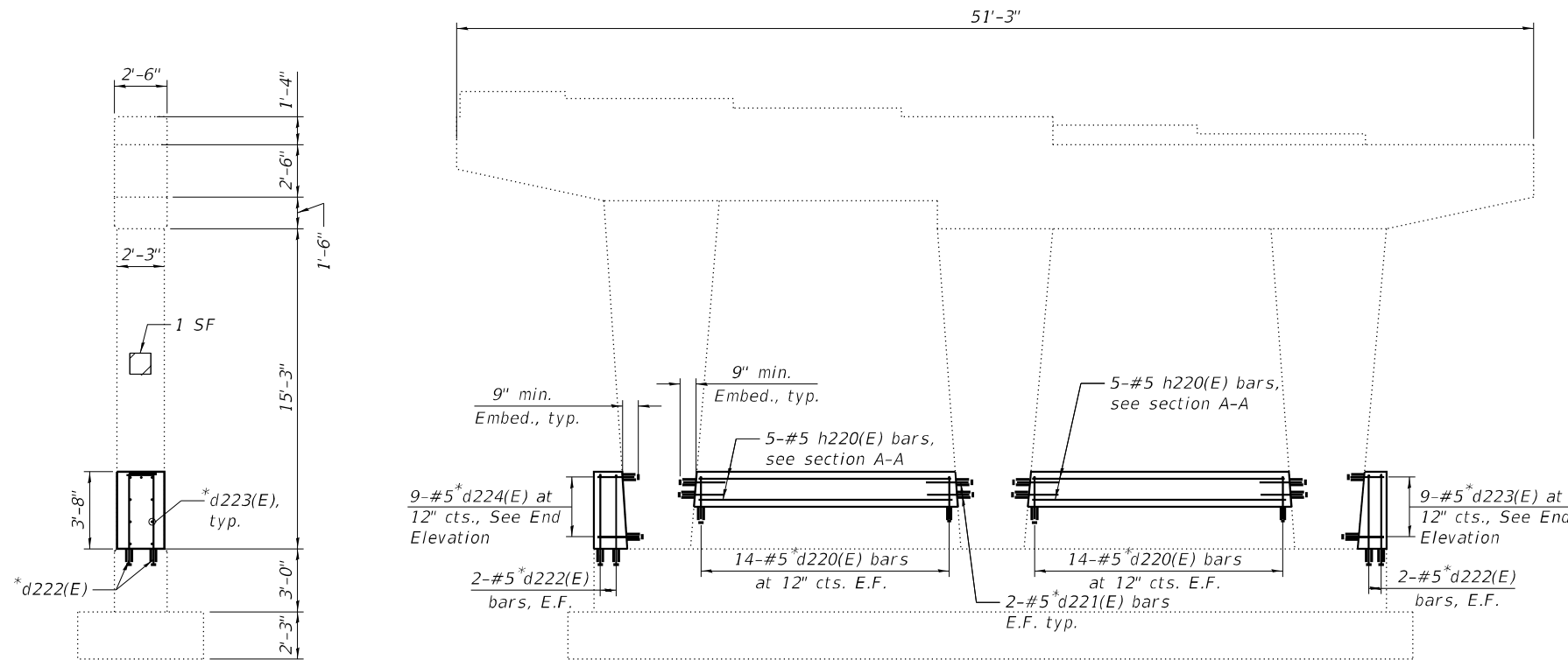
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57	2020-171-BR	COOK	190	130
CONTRACT NO. 62M54				
ILLINOIS		FED. AID PROJECT		

NOTES:

- Concrete Sealer shall be applied to the new concrete of the Crashwall Pier 1 extension.
- 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.

BILL OF MATERIAL

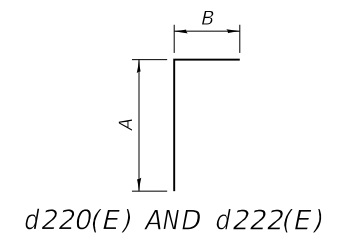
BAR	NO.	SIZE	LENGTH	SHAPE
d220(E)	56	#5	4'-2"	┐
d221(E)	16	#5	3'-9"	—
d222(E)	8	#5	6'-2"	┐
d223(E)	9	#5	2'-2"	—
d224(E)	9	#5	2'-0"	—
h220(E)	10	#5	12'-3"	—
Concrete Structures			CU YD	4.3
Reinforcement Bars, Epoxy Coated			POUND	530
Concrete Sealer			SQ FT	180
Epoxy Crack Injection			FOOT	4
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)			SQ FT	43
Structural Repair Of Concrete (Depth Greater Than 5 Inches)			SQ FT	1



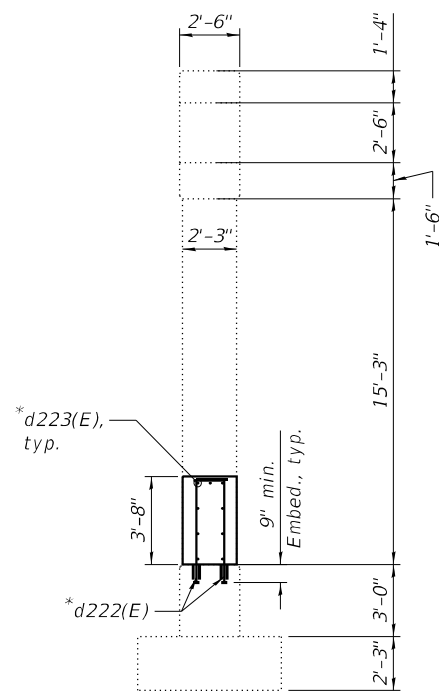
END ELEVATION
(Looking East)

PIER 1 ELEVATION
(Looking North)

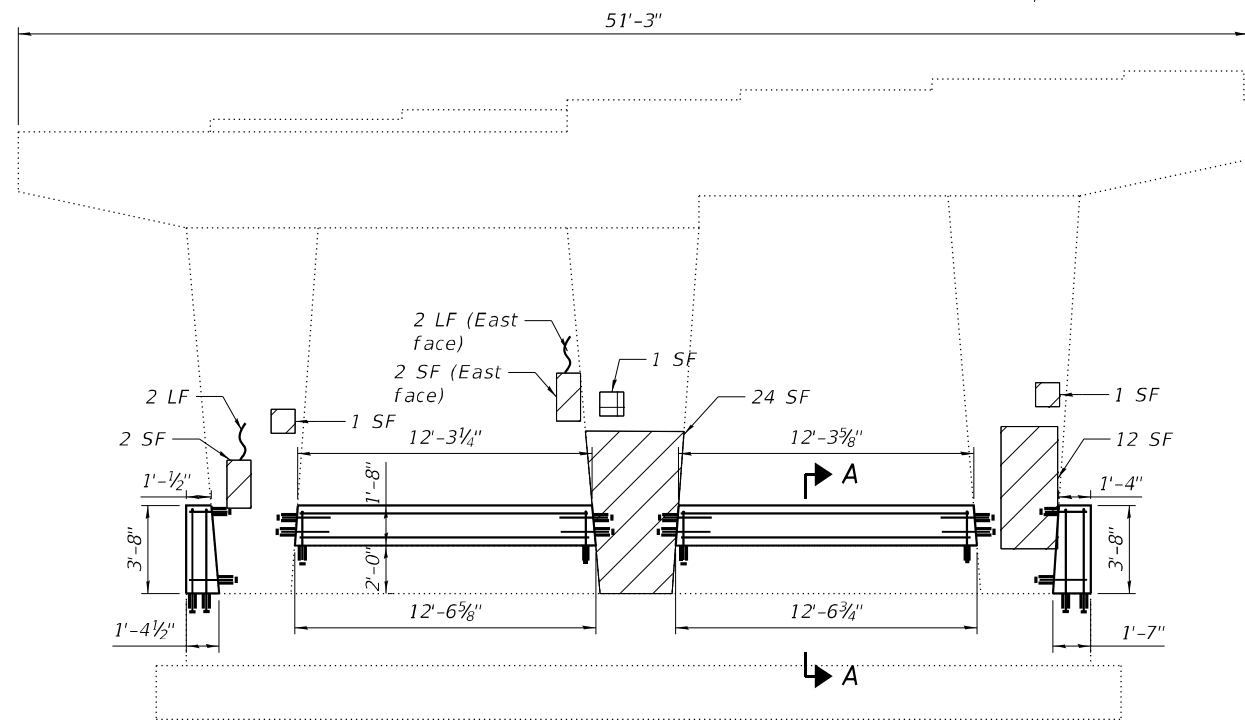
*Epoxy grout d220(E), d221(E), d222(E), d223(E) and d224(E) bars in 9" min. holes according to Article 584 of the Standard Specifications



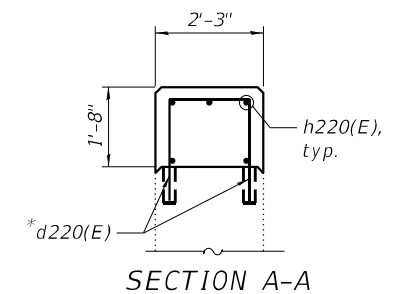
BAR	A	B
d220(E)	2'-3"	1'-11"
d222(E)	4'-3"	1'-11"



END ELEVATION
(Looking West)



PIER 1 ELEVATION
(Looking South)



SECTION A-A

LEGEND

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

MODEL: Default
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PLOT DATE =	DATE - 11/5/2021	REVISIONS -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 1 REPAIRS
STRUCTURE NO. 016-2027**

SHEET S2-20 OF S2-23 SHEETS

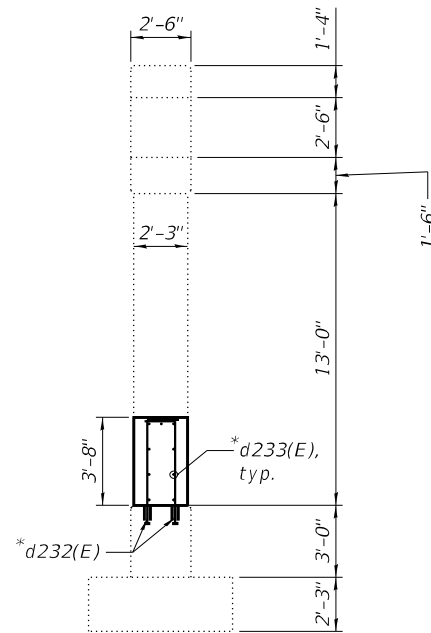
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	131
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

NOTES:

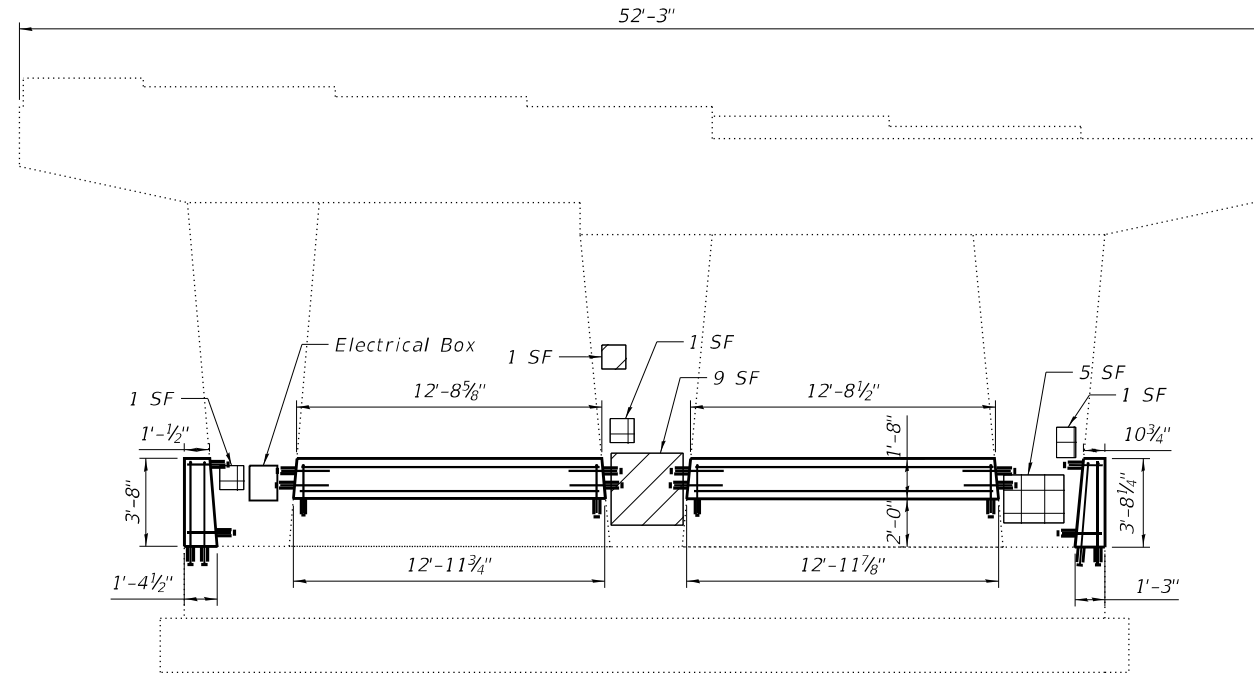
1. Concrete Sealer shall be applied to the new concrete of the Crashwall Pier 2 extension.
2. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
3. The Contractor shall use caution and not damage the electrical box. Any such damage shall be repaired by the Contractor at no additional cost to the Department.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE	
d230(E)	56	#5	4'-2"	Γ	
d231(E)	16	#5	3'-9"	—	
d232(E)	8	#5	6'-2"	Γ	
d233(E)	9	#5	1'-10"	—	
d234(E)	9	#5	1'-11"	—	
h230(E)	10	#5	12'-8"	—	
Concrete Structures				CU YD	4.3
Reinforcement Bars, Epoxy Coated				POUND	530
Concrete Sealer				SQ FT	181
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)				SQ FT	10
Structural Repair Of Concrete (Depth Greater Than 5 Inches)				SQ FT	8

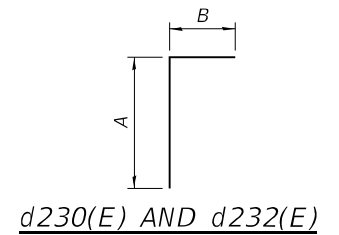


END ELEVATION
(Looking East)

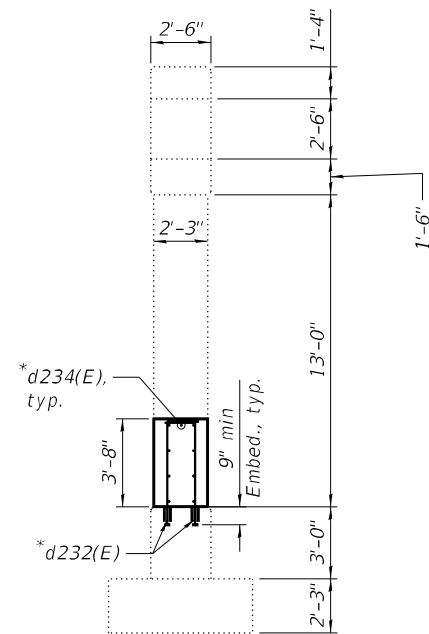


PIER 2 ELEVATION
(Looking North)

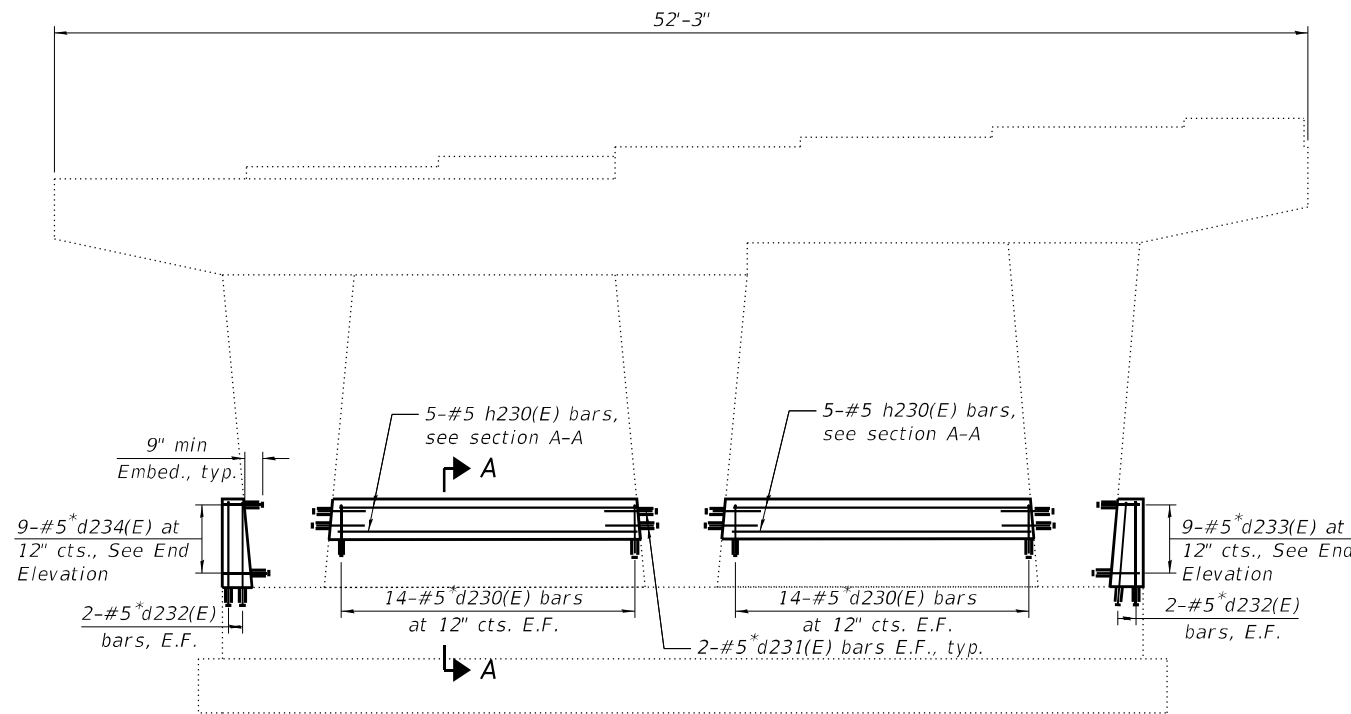
*Epoxy grout d230(E), d232(E), d233(E) and d234(E) bars in 9" min. holes according to Article 584 of the Standard Specifications



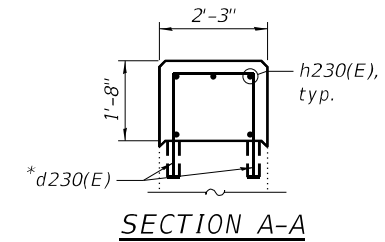
BAR	A	B
d230(E)	2'-3"	1'-11"
d232(E)	4'-3"	1'-11"



END ELEVATION
(Looking West)



PIER 2 ELEVATION
(Looking South)



LEGEND

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

Structural Repair of Concrete (Depth Greater than 5 inches)

SF - Square Foot

MODEL: Default
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	DATE - 11/5/2021	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

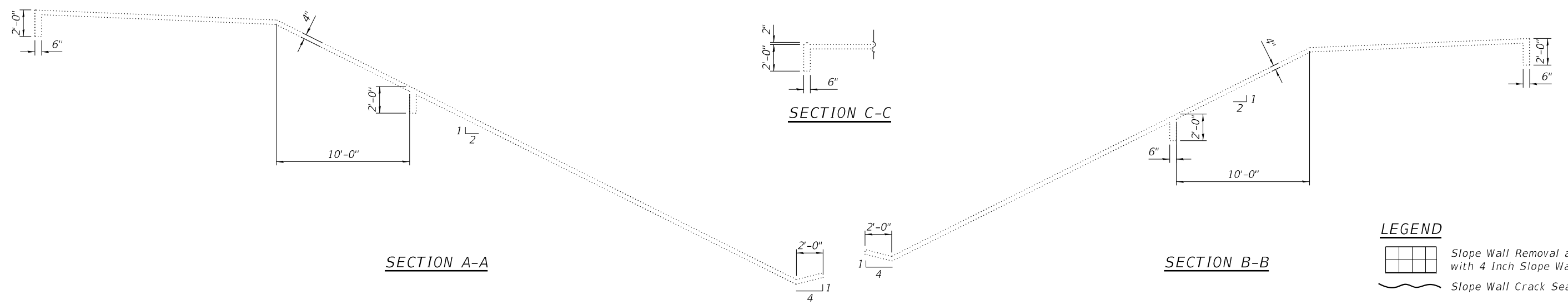
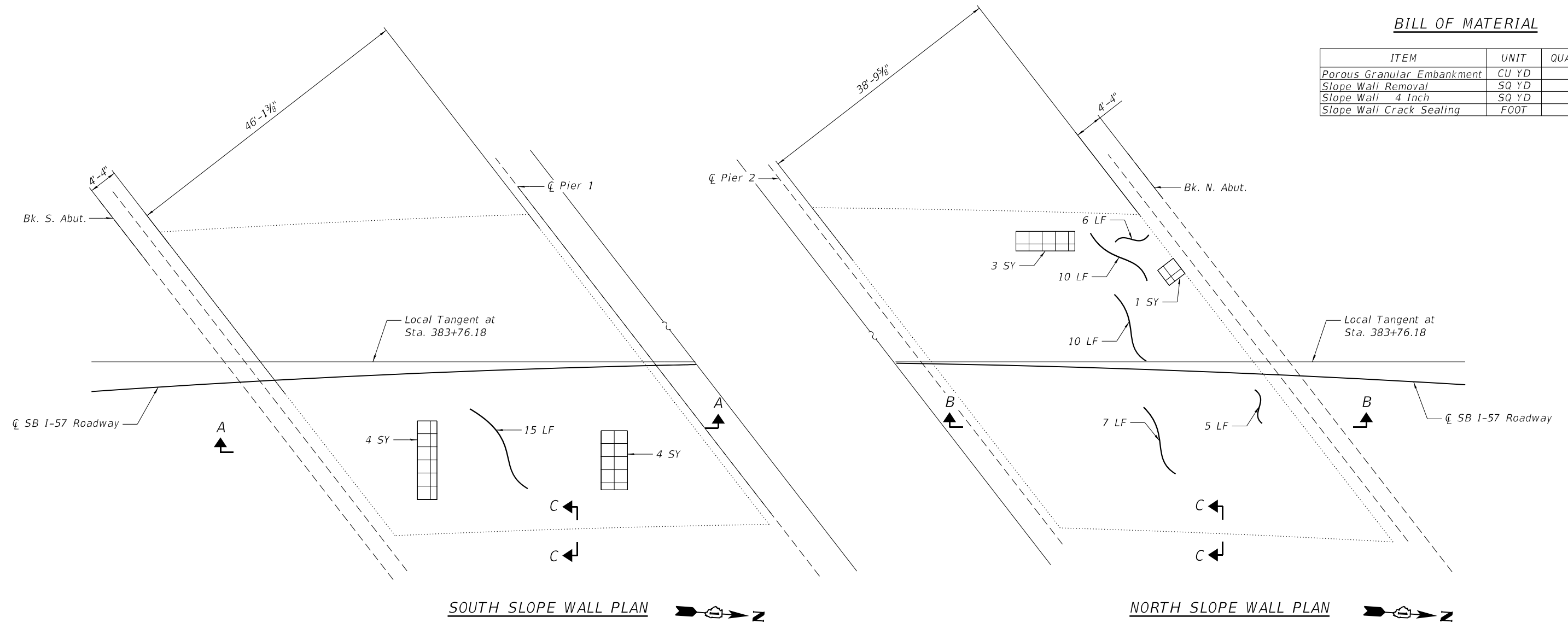
PIER 2 REPAIRS
STRUCTURE NO. 016-2027

SHEET S2-21 OF S2-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	132
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	CU YD	4
Slope Wall Removal	SQ YD	12
Slope Wall 4 Inch	SQ YD	12
Slope Wall Crack Sealing	FOOT	53



LEGEND

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

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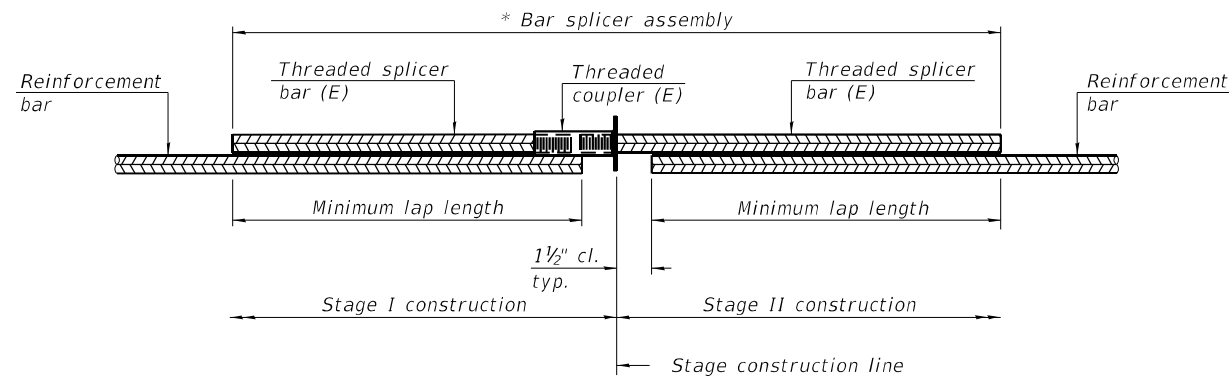
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SLOPE WALL REPAIRS
STRUCTURE NO. 016-2027**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	133
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

SHEET S2-22 OF S2-23 SHEETS

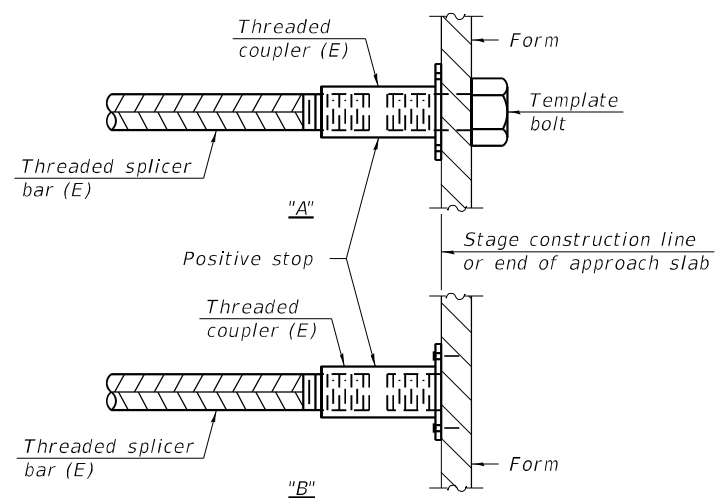


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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

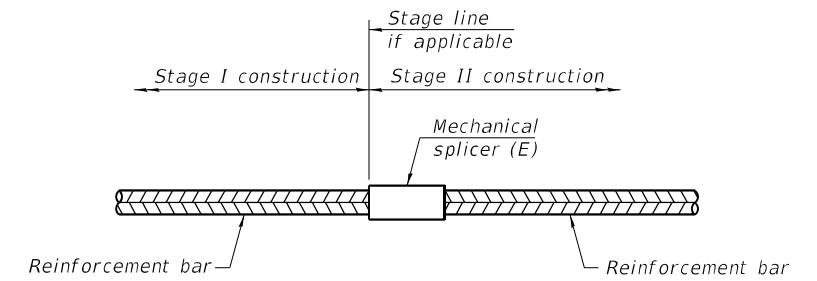
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
South Abut. Exp. Jt.	#5	11	3'-6"
	#6	6	3'-7"
North Abut. Exp. Jt.	#5	11	3'-6"
	#6	6	3'-7"



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

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PLOT DATE =	DATE - 10/15/2021	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 016-2027

SHEET S2-23 OF S2-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	134
CONTRACT NO. 62M54				
ILLINOIS FED. AID PROJECT				

Existing Structure: S.N. 016-0052, originally built in 1964 as a four-span continuous steel superstructure with stub abutments and three multi-column trapezoidal piers. The back to back length is 241'-6 $\frac{3}{4}$ " and the out-to-out width is 64'-2" typically but varies at bridge ends. Structure is to be repaired as detailed in these plans.

The structure will be repaired using staged construction to maintain traffic.

No salvage.

DESIGN STRESSES

FIELD UNITS (EXIST. CONST.)

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi
 $f_y = 50,000$ psi M223 Gr.50 & M222
 $f_y = 36,000$ psi M183

FIELD UNITS (NEW CONST.)

$f'_c = 4,000$ psi (Superstructure)
 $f'_c = 3,500$ psi (Substructure)
 $f_y = 60,000$ psi (Reinforcement)

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS20-44

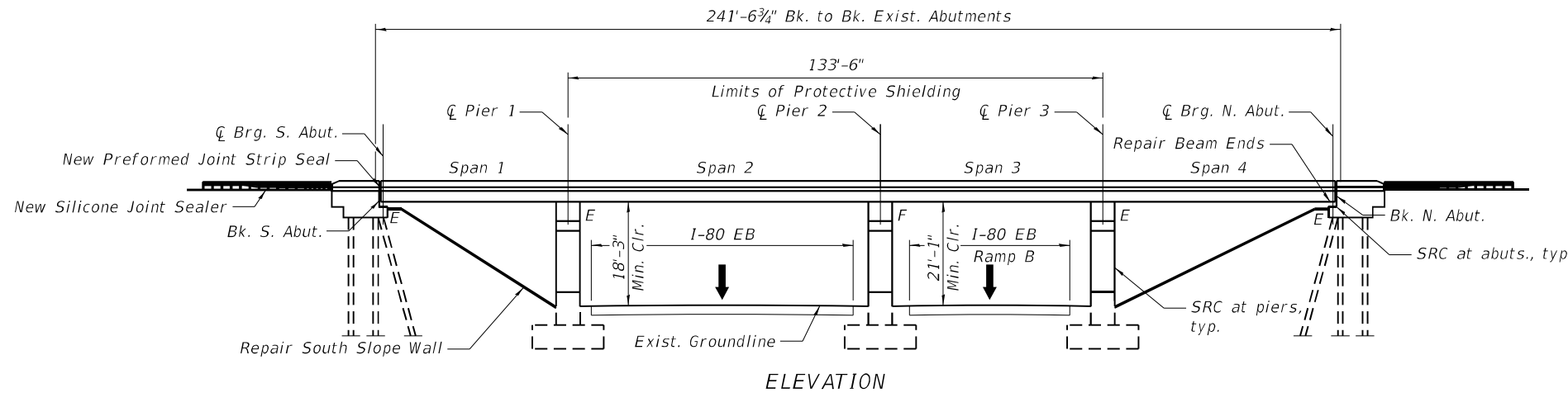
Existing and Proposed

INDEX OF SHEETS

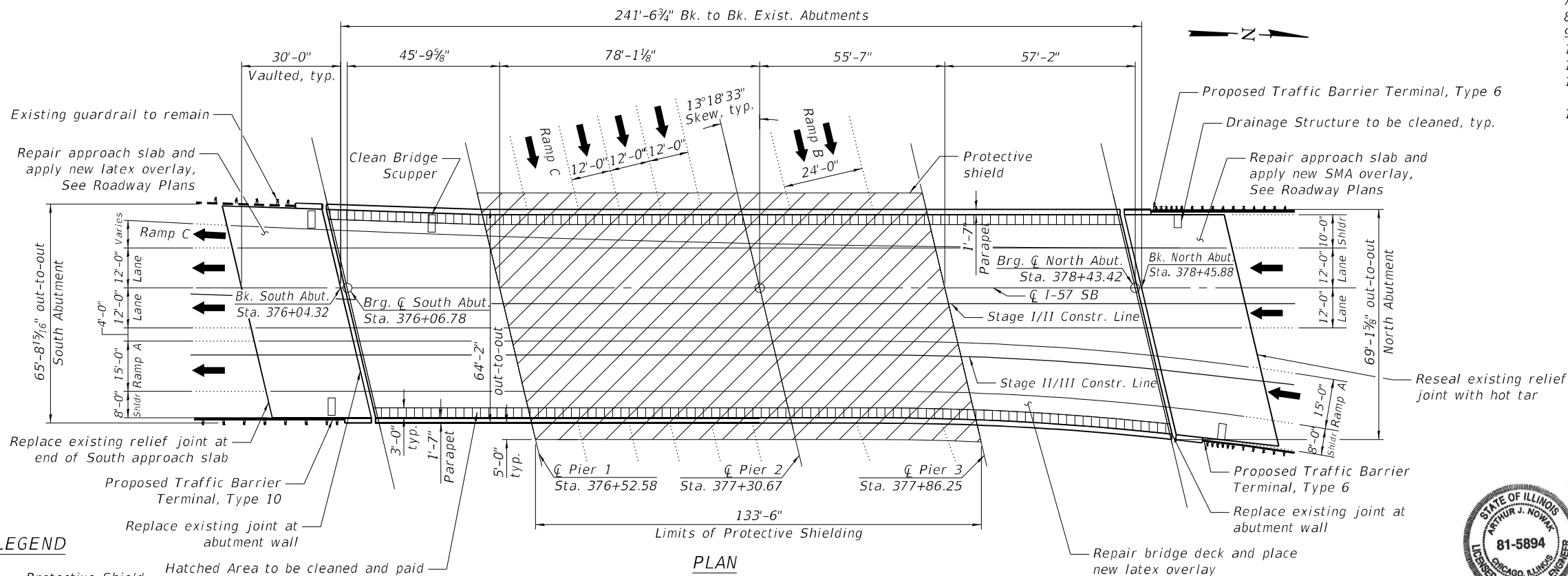
- S3-01. General Plan and Elevation
- S3-02. General Notes and Bill of Material
- S3-03. Maintenance of Traffic Details
- S3-04. Temporary Concrete Barrier for Stage Construction
- S3-05. Deck/Approach Slab Repairs and Overlay Plans
- S3-06. Parapet Repair
- S3-07. Adjusting Drainage Scupper Details
- S3-08. Inlet Adjustment
- S3-09. Joint Repair Limits
- S3-10. Expansion Joint Details
- S3-11. Preformed Joint Strip Seal
- S3-12. Framing Plan
- S3-13. Diaphragm Repairs
- S3-14. Beam End Repairs
- S3-15. South Abutment Repairs
- S3-16. North Abutment Repairs
- S3-17. Pier 1 Repairs
- S3-18. Pier 2 Repairs
- S3-19. Pier 3 Repairs
- S3-20. Pier 1 Crash Wall
- S3-21. Pier 2 Crash Wall
- S3-22. Pier 3 Crash Wall
- S3-23. Bar Splicer Assembly Details

SCOPE OF WORK

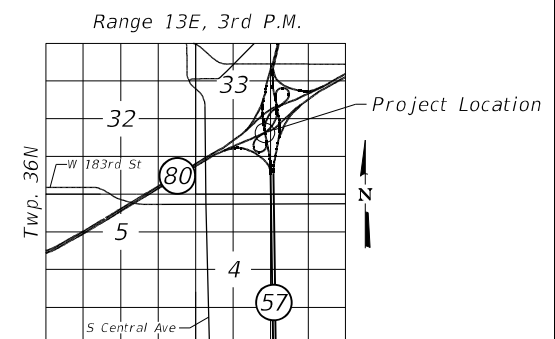
1. Replace expansion joint at both abutments, replace relief joint at end of south approach slab and reseal relief joint at end of north approach slab
2. Deck Scarification and Latex Concrete Overlay
3. Deck slab partial and full depth repair
4. Approach slabs full and partial depth repair
5. Repair steel beam ends in the locations shown
6. Replace steel end diaphragms in the locations shown
7. Formed Concrete repair of pier and abutments
8. Extend existing crash wall at piers
9. Concrete repair of parapet
10. Cleanout bridge scupper and drainage structures
11. Repair slopewall
12. Clean and seal bridge seats at abutments and piers
13. Provide Protective Shield within limits indicated/shown on plans



ELEVATION



PLAN



LOCATION SKETCH



Arthur Nowak

GENERAL PLAN AND ELEVATION

I-57 OVER I-80

SECTION 2020-171-BR

COOK COUNTY

STRUCTURE NO. 016-0052

MODEL: 0160052-D62M54-001
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
 I-57 BRIDGE OVER I-80 - SN 016-0052

SHEET S3-01 OF S3-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	135
CONTRACT NO. 62M54			ILLINOIS FED. AID PROJECT	

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. Bars noted thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bars per line.
4. For SMA overlay quantity on Approach Slab, see Civil Sheets.
5. Protective Coat shall be applied to the top of reconstructed transverse joint areas and top of Latex Overlay.
6. Concrete Sealer shall be applied to the abutments, piers, and top and inside faces of parapets at locations shown in the plans.
7. Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.
8. Prior to pouring the new concrete deck for expansion joint reconstruction and deck slab repairs, all heavy or loose rust, 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 pay item covering removal of the existing concrete. 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.
9. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presense of lead on this project.
10. 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 Provision "Cleaning And Painting Contact Surface Areas Of Existing Steel Structures".
11. All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel."
12. All new fasteners shall be high strength bolts. Holes shall be 1 3/16" dia. for 3/4" dia. bolts, and 1 3/16" dia. for 7/8" dia. bolts, unless otherwise noted.
13. Cost of cleaning existing drains shall not be paid seperately, but shall be included with Bridge Deck Scarification.
14. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at his or her expense at no charge to IDOT.
15. The Contractor is responsible to remove, support, and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires."
16. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to ride above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
17. Any adjustments done to the Protective Shield System must not change the load carrying capacity (or containment specifications) as indicated in the STD specs. Cost of adjusting shielding is included in the cost of Protective Shield.

TOTAL BILL OF MATERIAL

Item No.	Description	Unit	Super	Sub	Total
20700220	Porous Granular Embankment	Cu. Yd.	-	1.0	1.0
50102400	Concrete Removal	Cu. Yd.	18.0	-	18.0
50157300	Protective Shield	Sq. Yd.	1,140	-	1,140
52000037	Prefomed Joint Seal 3"	Foot	66.0	-	66.0
50300225	Concrete Structures	Cu. Yd.	-	22.5	22.5
50300255	Concrete Superstructure	Cu. Yd.	18.7	-	18.7
50300260	Bridge Deck Grooving	Sq. Yd.	1,754	-	1,754
50300300	Protective Coat	Sq. Yd.	1,826	-	1,826
50500405	Furnishing and Erecting Structural Steel	Pound	1,960	-	1,960
50800205	Reinforcement Bars, Epoxy Coated	Pound	2,330	2,700	5,110
50800515	Bar Splicers	Each	44	-	44
52000110	Prefomed Joint Strip Seal	Foot	136	-	136
58700300	Concrete Sealer	Sq. Ft.	1,830	14,418	16,248
59000200	Epoxy Crack Injection	Foot	30	5	35
59200102	Bridge Washing No. 2	Each	1	-	1
X0322215	Cleaning Bridge Scuppers and Downspouts	Each	1	-	1
X0323491	Slope Wall Crack Sealing	Foot	-	46.0	46.0
X0326766	Clean & Reseal Relief Joint	Foot	72.0	-	72.0
X0327577	Protect and Maintain Existing Underpass Luminaire	L Sum	-	0.25	0.25
X0931400	Inlet Boxes to be Adjusted (Special)	Each	4	-	4
Z0001700	Approach Slab Repair (Full Depth)	Sq. Yd.	0.5	-	0.5
Z0001903	Structural Steel Removal	Pound	1,960	-	1,960
Z0001905	Structural Steel Repair	Pound	200	-	200
Z0006016	Bridge Deck Latex Concrete Overlay, 2 3/4 Inches	Sq. Yd.	1,798	-	1,798
Z0012130	Bridge Deck Scarification 3/4"	Sq. Yd.	1,798	-	1,798
Z0012754	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	-	34.0	34.0
Z0012755	Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	5.0	44.0	49.0
Z0016001	Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0.3	-	0.3
Z0018051	Drainage Scuppers to be Adjusted	Each	1	-	1
Z0018500	Drainage Structures to be Cleaned	Each	4	-	4
Z0033028	Maintenance of Lighting System	Cal. Mo.	-	6	6
Z0065700	Slope Wall Repair	Sq. Yd.	-	4.0	4.0

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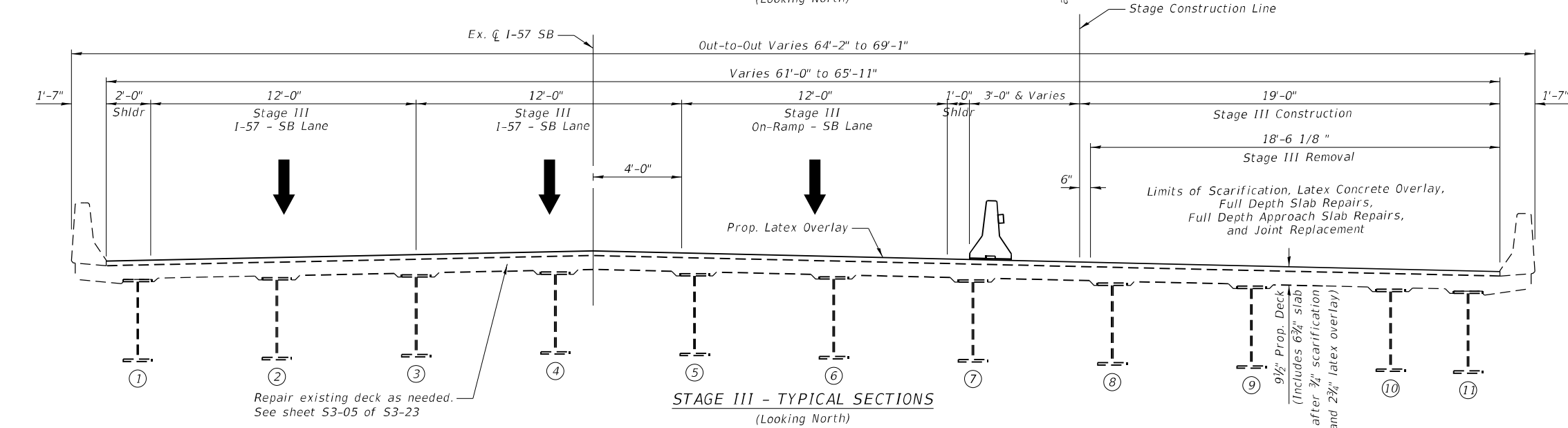
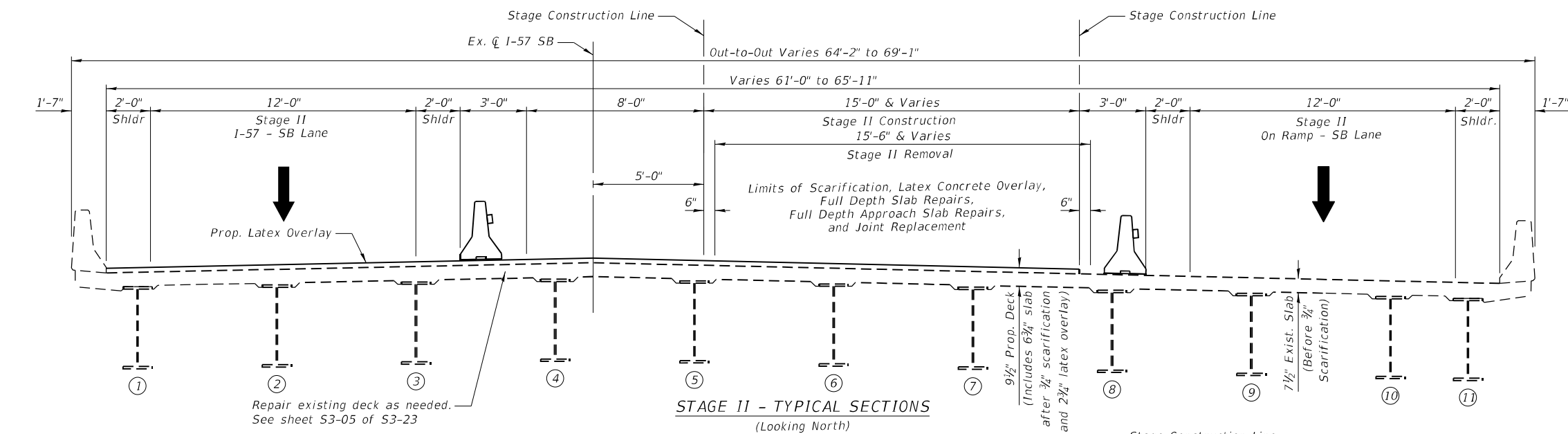
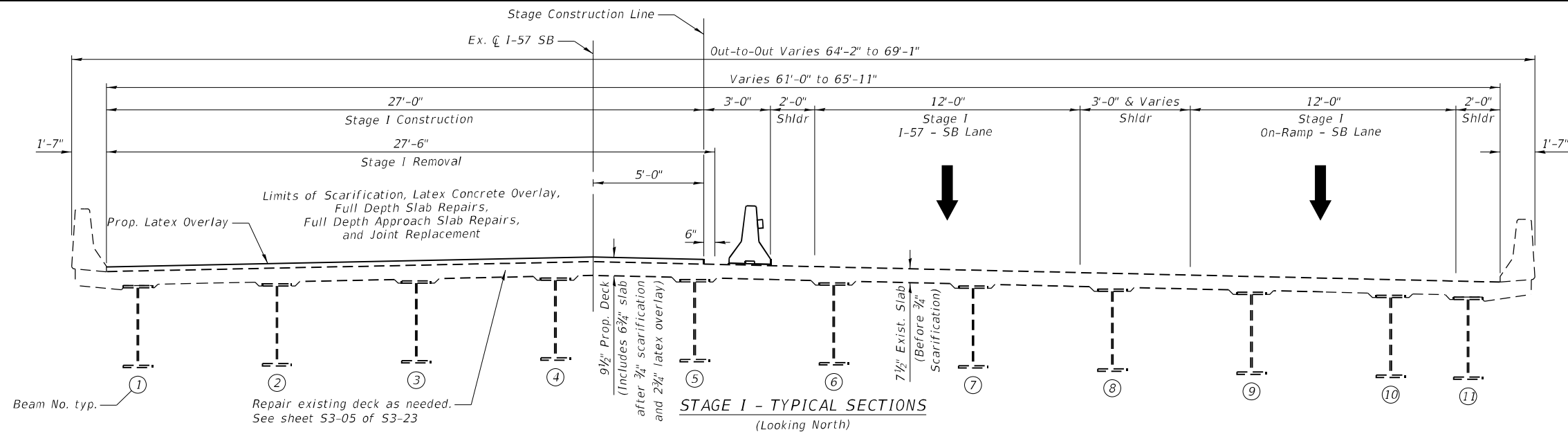
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES AND BILL OF MATERIAL
I-57 BRIDGE OVER I-80 - SN 016-0052**

SHEET 53-02 OF 53-23 SHEETS

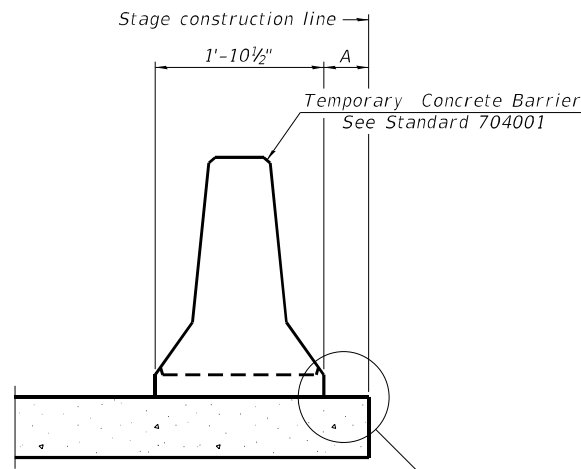
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			CONTRACT NO. 62M54	
		ILLINOIS FED. AID PROJECT		

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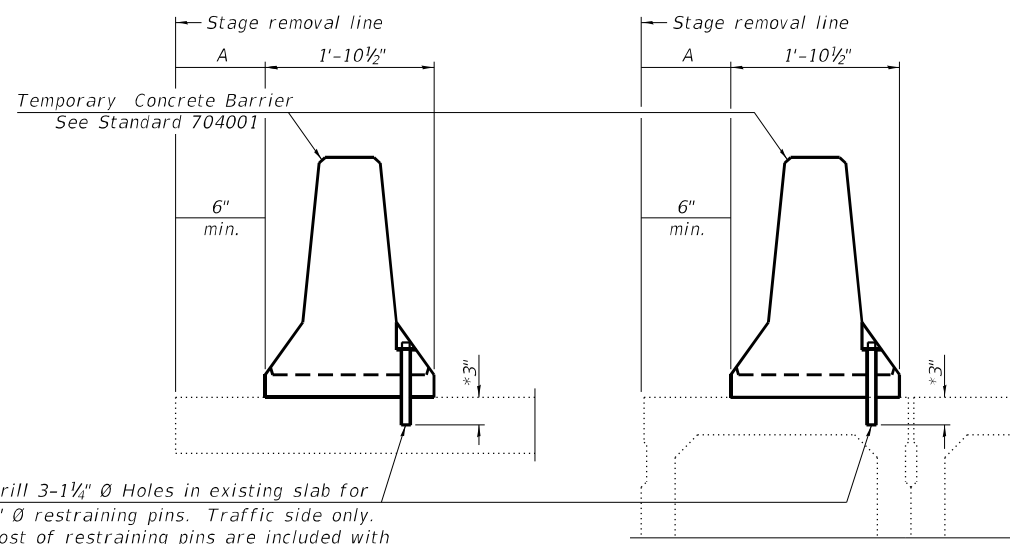
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	137
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



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

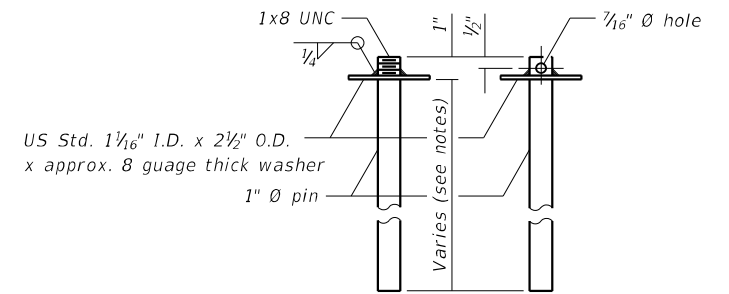


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

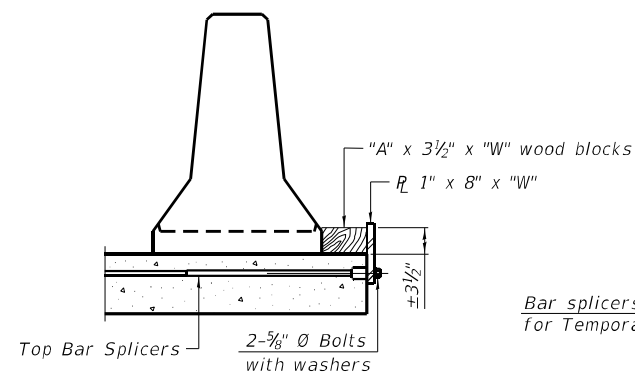
EXISTING SLAB

EXISTING DECK BEAM

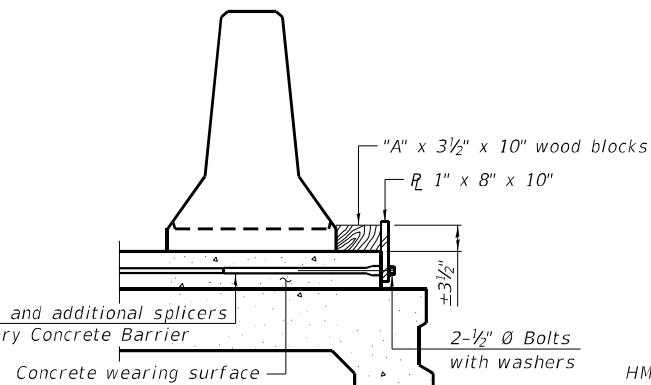
SECTIONS THRU SLAB OR DECK BEAM



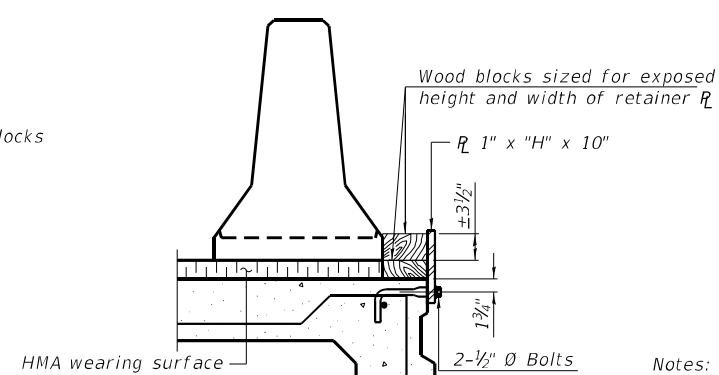
RESTRAINING PIN



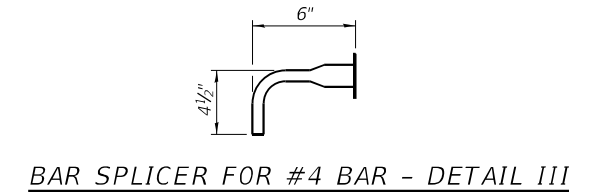
DETAIL I



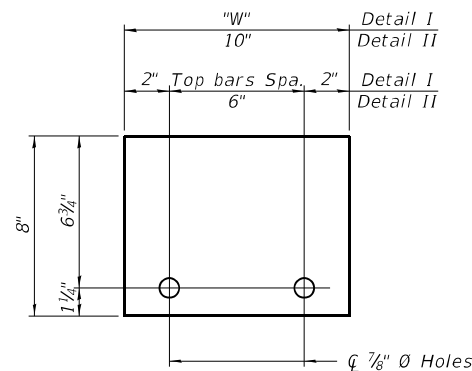
DETAIL II



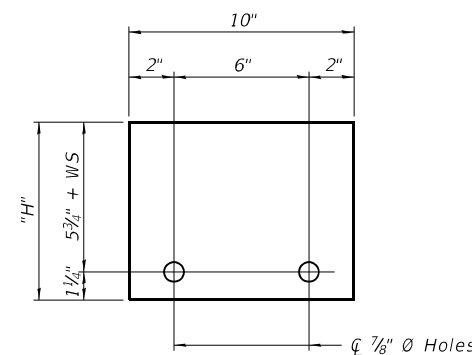
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



STEEL RETAINER R_L 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 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.

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R-27

8-11-2017

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




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 DEPARTMENT OF TRANSPORTATION**

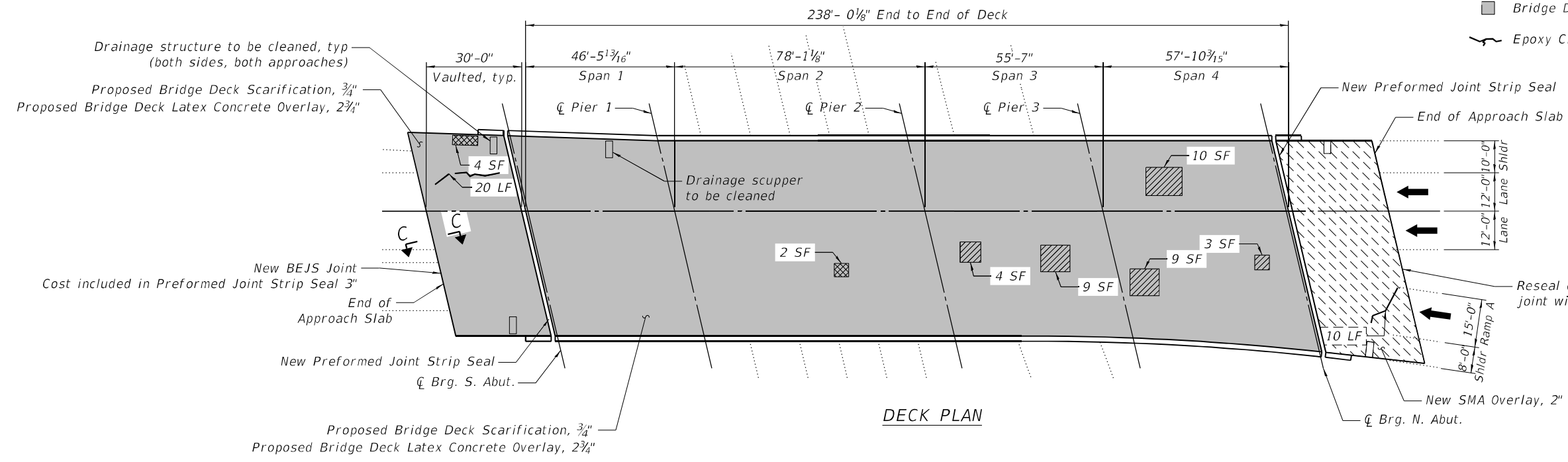
**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
 I-57 BRIDGE OVER I-80 - SN 016-0052**

SHEET 53-04 OF 53-23 SHEETS

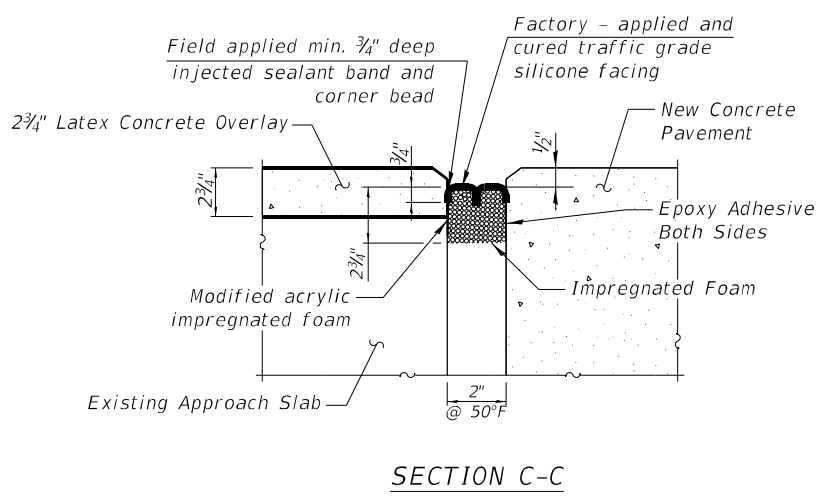
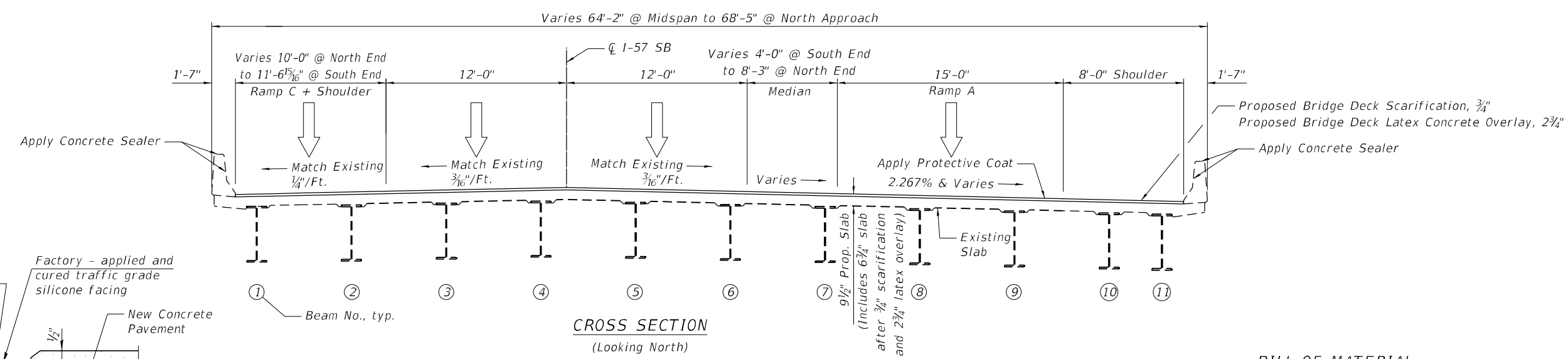
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	138
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LEGEND

-  Deck Slab Repair, Partial Depth
-  Deck or Approach Slab Repair, Full Depth
-  New SMA Overlay, 2"
-  Bridge Deck Scarification and New Latex Overlay
-  Epoxy Crack Injection



*Partial Depth repair areas are provided for information only, and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 2 3/4"



- Notes:**
- All drainage structures and scuppers must be protected during concrete scarification and overlay placement operations.
 - Use of hand tools is required while working around drainage structures and scupper.
 - Hand finish of overlay material is required around drainage structures and scupper. The cost is included in the Latex Concrete Overlay, 2 3/4".

BILL OF MATERIAL

Item	Unit	Total
Bridge Deck Grooving	Sq. Yd.	1,754
Protective Coat	Sq. Yd.	1,826
Approach Slab Repair (Full Depth)	Sq. Yd.	0.5
Bridge Deck Latex Concrete Overlay, 2 3/4 Inches	Sq. Yd.	1,798
Bridge Deck Scarification, 3/4"	Sq. Yd.	1,798
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0.3
Protective Shield	Sq. Yd.	1,140
Epoxy Crack Injection	Foot	30
Preformed Joint Seal 3"	Foot	66
Clean & Reseal Relief Joint	Foot	72

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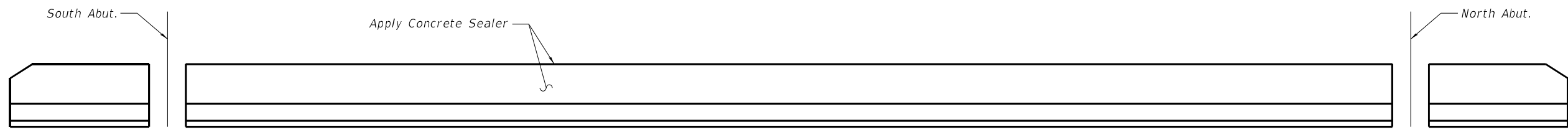
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK/APPROACH SLAB REPAIRS AND OVERLAY PLANS
I-57 BRIDGE OVER I-80 - SN 016-0052**

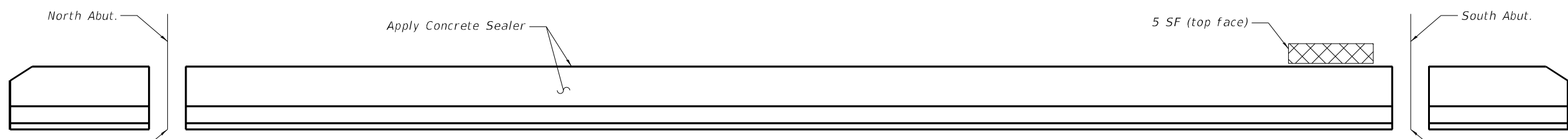
SHEET 53-05 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			62M54	
ILLINOIS FED. AID PROJECT				

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WEST PARAPET
(Looking West)



EAST PARAPET
(Looking East)

BILL OF MATERIAL

Item	Unit	Total
Concrete Sealer	Sq. Ft.	1830
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	5

LEGEND

 - Structural Repair of Concrete > 5"



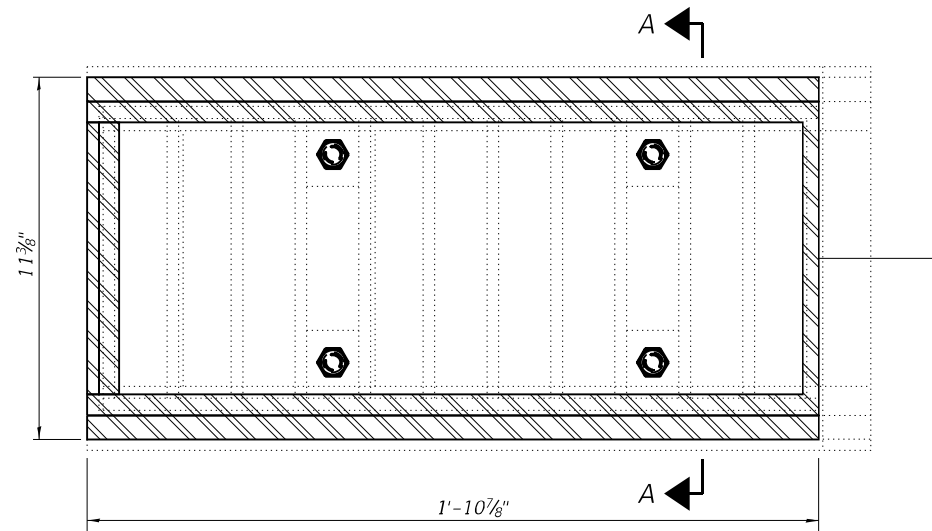
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PLOT DATE =	04/07/2021	CHECKED -	AJN	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET REPAIR
I-57 BRIDGE OVER I-80 - SN 016-0052

SHEET 53-06 OF 53-23 SHEETS

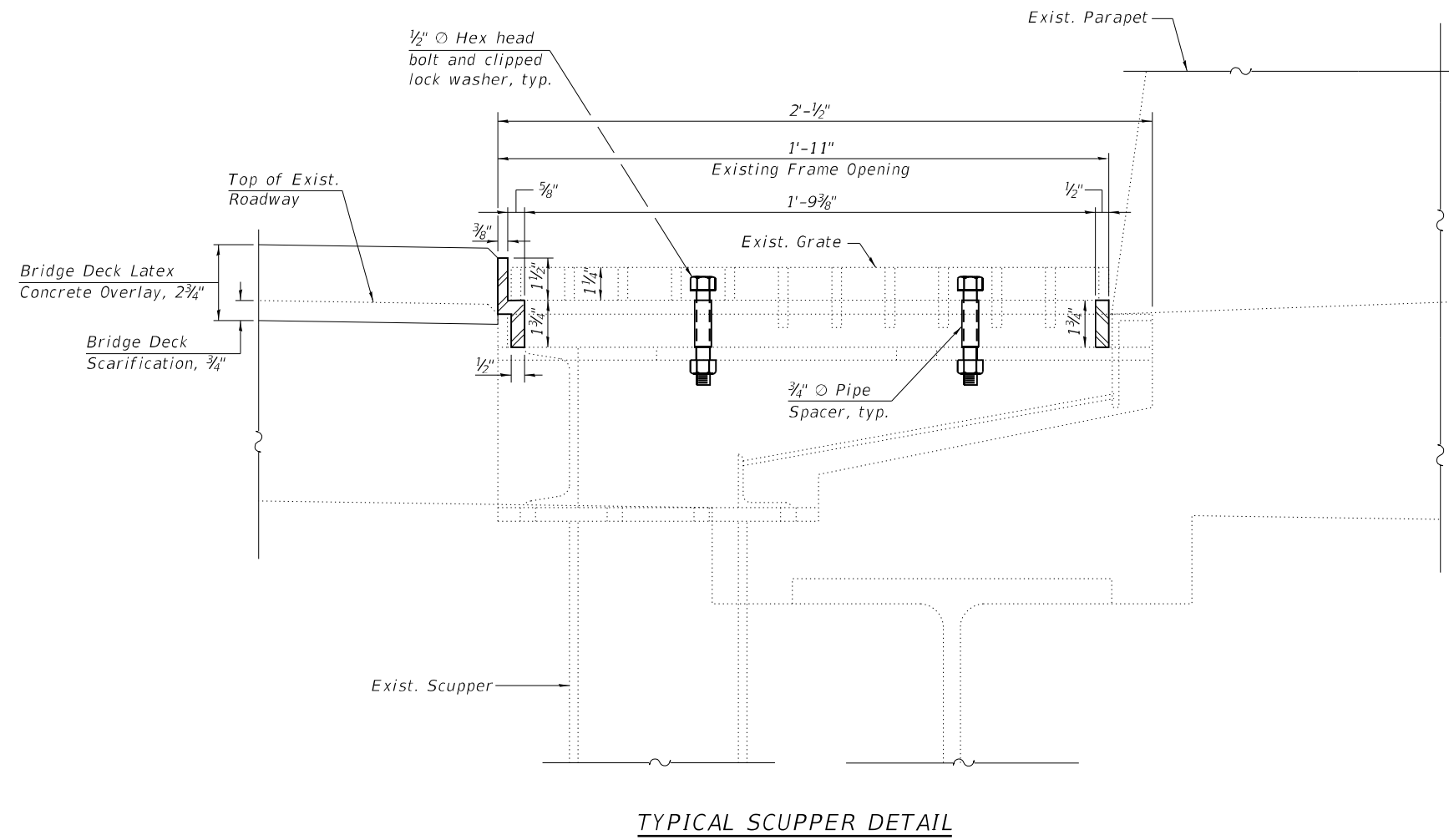
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	140
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



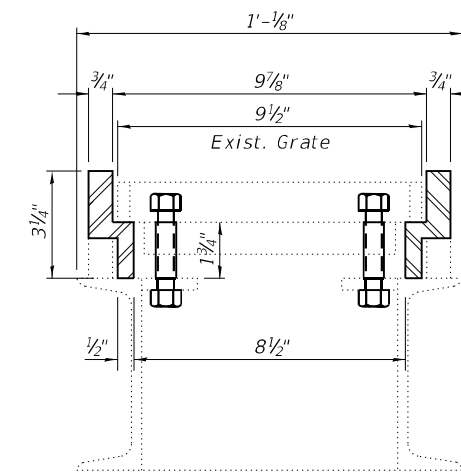
TYPICAL PLAN

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 Ring 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. Bolts, Anchor Studs, Washers, and Nuts shall conform to the requirements of AASHTO M 232.
4. Cast Iron Parts shall be unfinished.
5. Adjusting Ring shall be from Neenah and approved equal. Structural Steel weldments or equal sections and of the same configuration may be submitted for 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 Ring to secure to existing Scupper. Electrode shall be compatible with Cast Iron.
7. Cost of all labor and materials necessary to install adjusting scupper rings, remove and re-install gates is included in the cost for Drainage Scupper to be Adjusted.



TYPICAL SCUPPER DETAIL



SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper to be Adjusted	Each	1

MODEL: 0160052-D62M54-007
 FILE NAME: P:\040058 - IDOT\040058-04-001 (ENG) - PTB_195-006 Phase II Var Van\Engineering\002_62M54_W0#7 157 Bridges\500 Drawings\501 CADD Drawings\0160052-D162M54.dgn



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PLOT DATE = 04/07/2021	DRAWN - AHT	REVISED -
	CHECKED - AJN	REVISED -

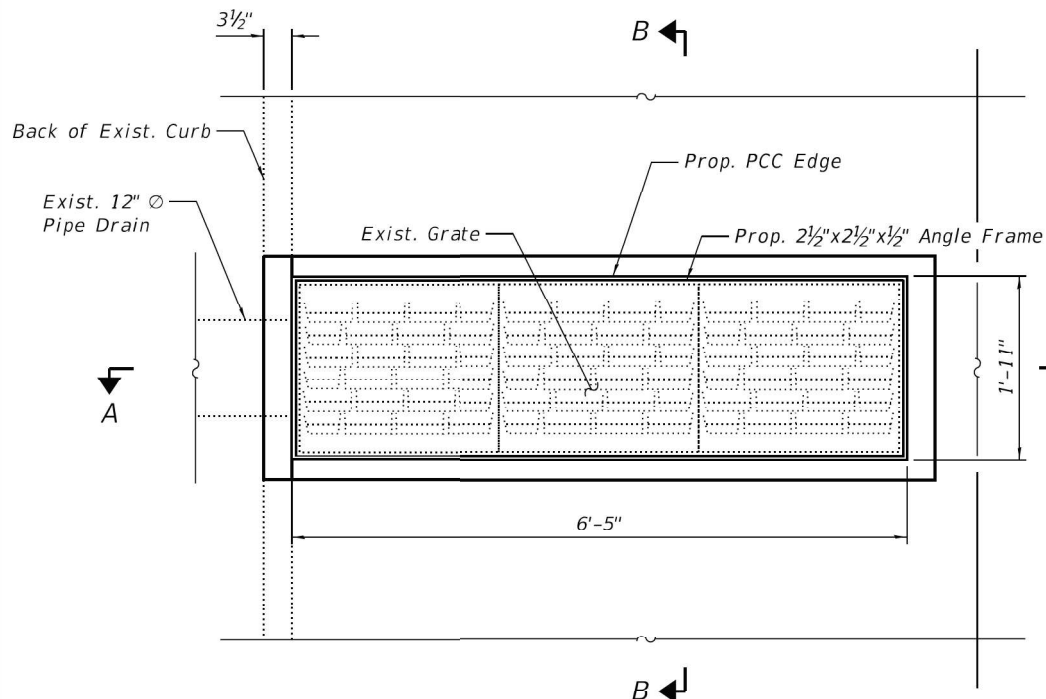
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ADJUSTING DRAINAGE SCUPPER DETAILS
I-57 BRIDGE OVER I-80 - SN 016-0052

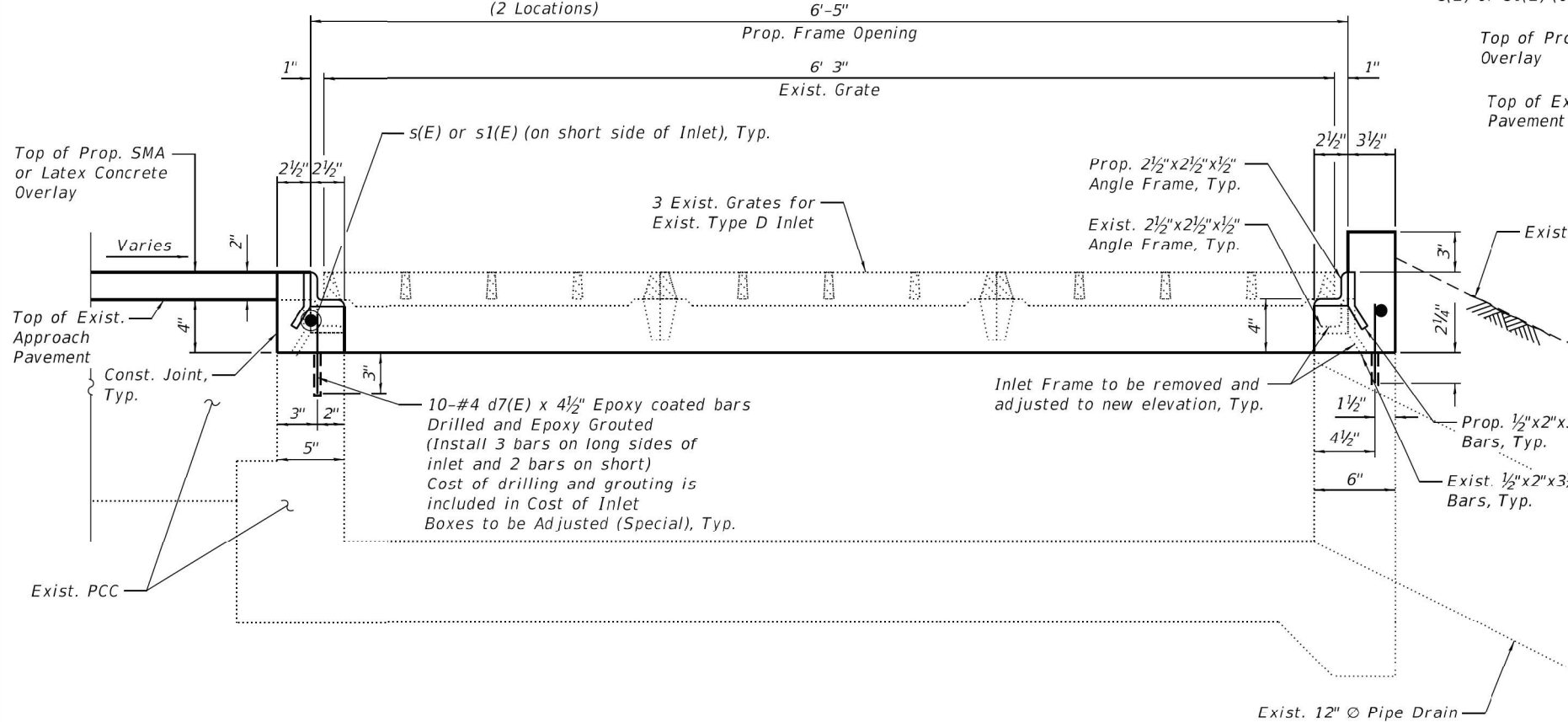
SHEET 53-07 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	141
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

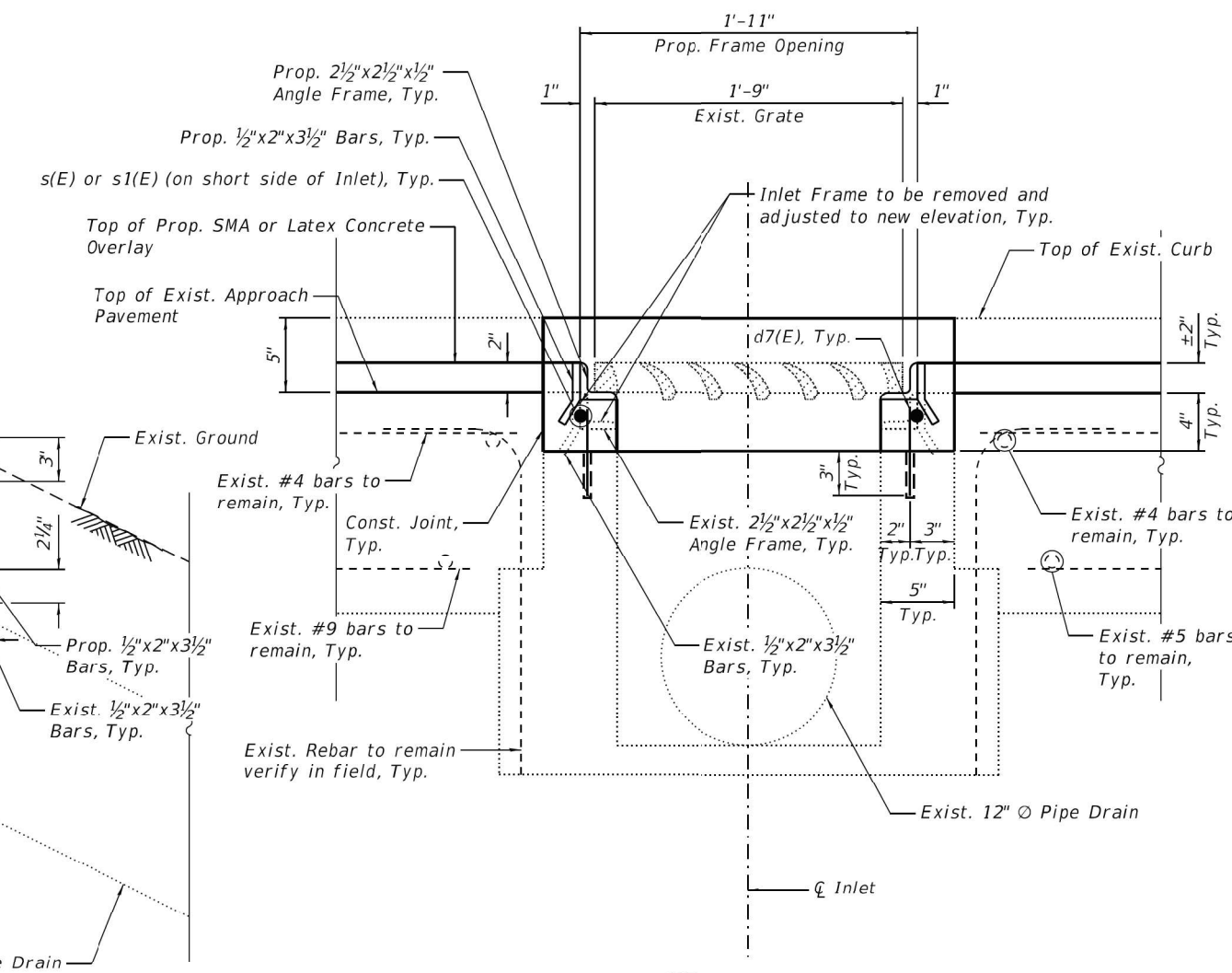
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TYPICAL DRAINAGE STRUCTURE PLAN
(2 Locations)



SECTION A-A



SECTION B-B

NOTES

1. The Contractor shall field verify Existing Dimensions and Details of the Existing Inlets, Frames, and Grates and make necessary adjustments prior to reconstruction of top of inlet, relocation of frame and grate, or ordering of material for Inlet Boxes to be Adjusted (Special).
2. The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the frames and grates.
3. Cost of all labor and materials necessary to clean all existing inlets, concrete removal, concrete structures, reinforcement bars (epoxy coated) and remove and reinstall frames and grates is included in the cost of Inlet Boxes to be Adjusted (Special). (See Section 603 of the Std. Specs.)
4. Adjust top of Inlet Box elevation to match the top of proposed SMA or latex Concrete Overlay. See Sections A-A and B-B on this sheet.
5. Bridge approach shoulder to remain.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Inlet Boxes to be Adjusted (Special)	Each	4



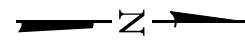
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	CHECKED - AJN	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

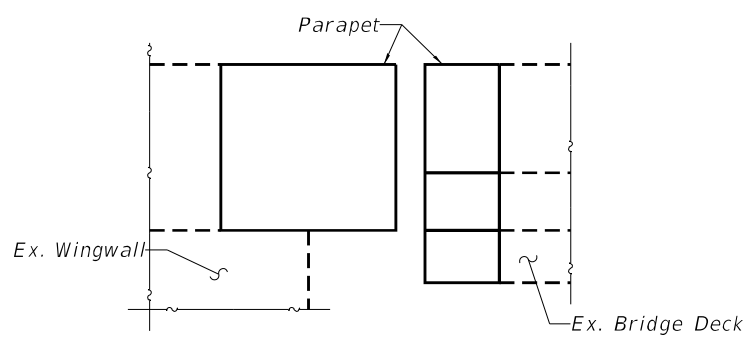
**INLET ADJUSTMENT
I-57 BRIDGE OVER I-80 - SN 016-0052**

SHEET 53-08 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	142
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



*d304(E) bars at South Abut.
d303(E) bars at North Abut.



VIEW I-I

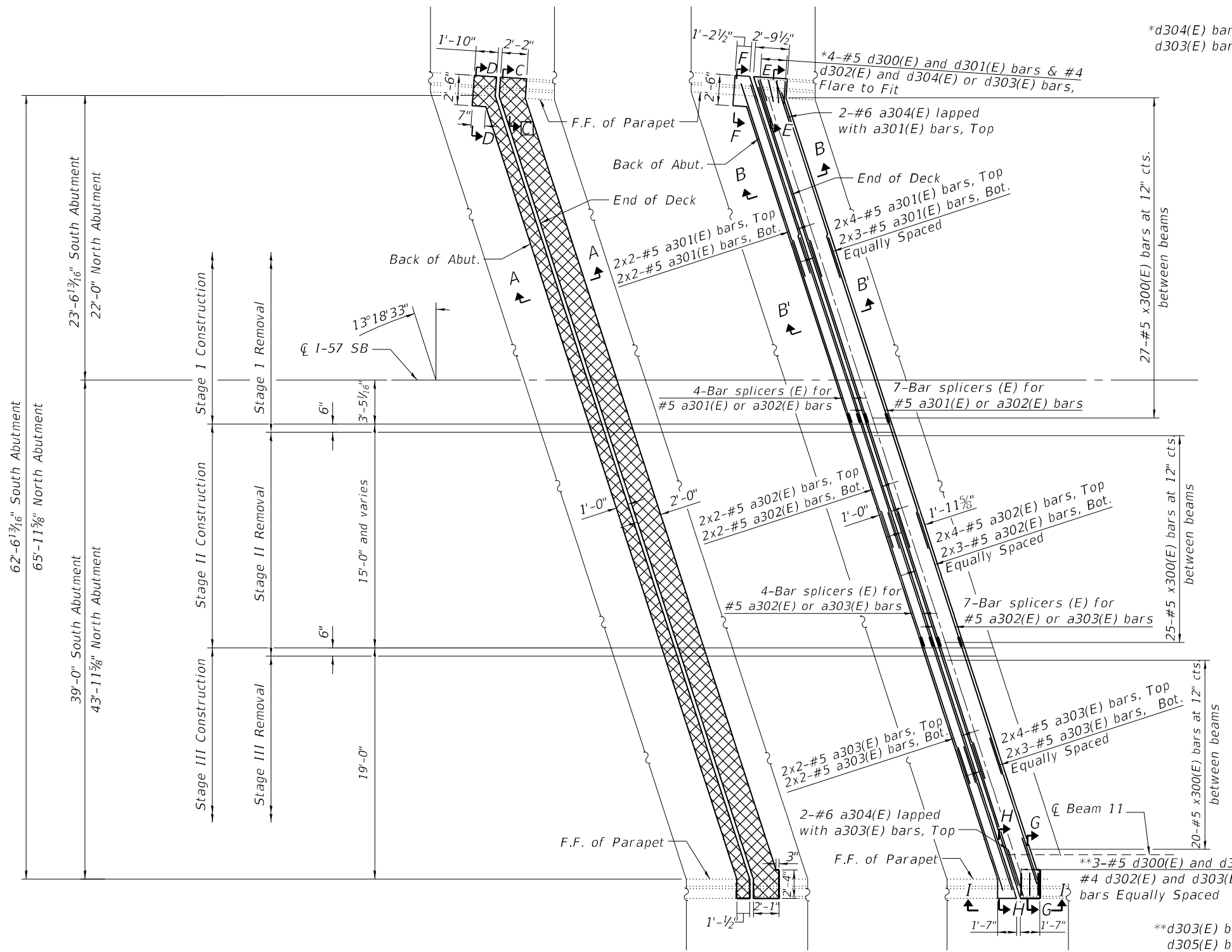
LEGEND

Concrete Removal

Notes:

- Any reinforcement bars that are damaged during concrete removal operation shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- Existing transverse, longitudinal, and vertical reinforcements remaining and extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- See Sheet S3-10 of S3-23 for Bill of Material, bar details and sections.
- For Overlay details see cross section on sheet S3-05 of S3-23.
- See Sheet S3-11 of S3-23 for joint seal details.
- See Sheet S3-23 of S3-23 for Bar Splicer details.

Splice Length #5 bar - 3'-1"
Splice Length #6 bar - 4'-5"



CONCRETE REMOVAL PLAN
(South abutment shown, North abutment similar)

CONCRETE REPLACEMENT PLAN
(South abutment shown, North abutment similar)

MODEL: 0160052-D62M54-009
FILE NAME: P:\040058 - IDOT\040058-04-001 (ENG) - PTB_195-006 Phase II Var.VanEngineering\002_62M54_Wo#7 157 Bridges\500 Drawings\501 CADD Drawings\0160052-D162M54.dgn



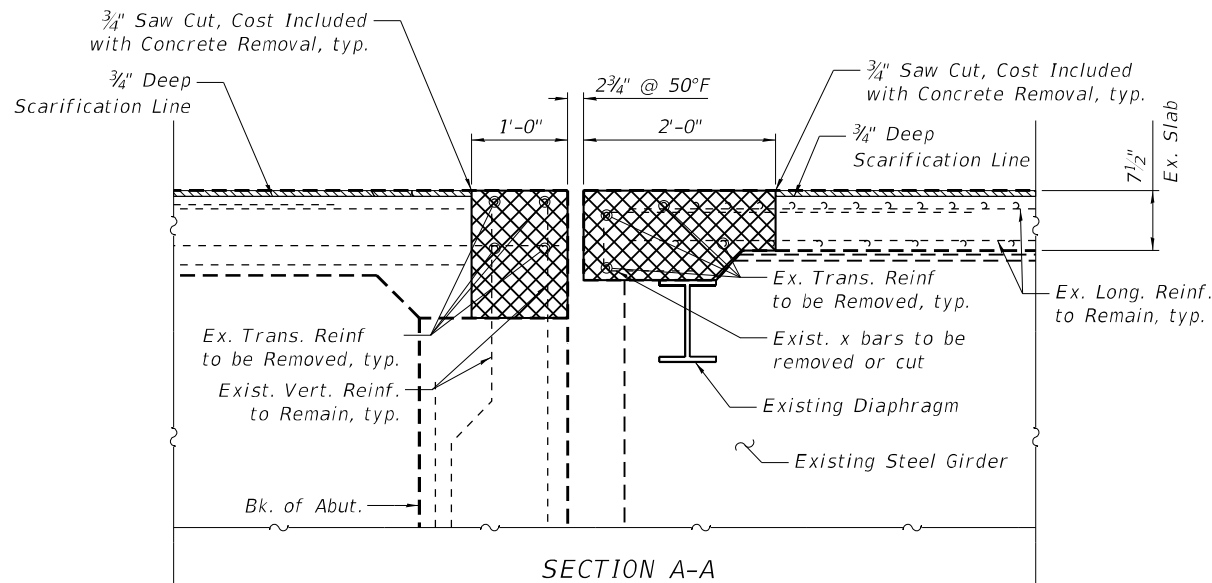
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

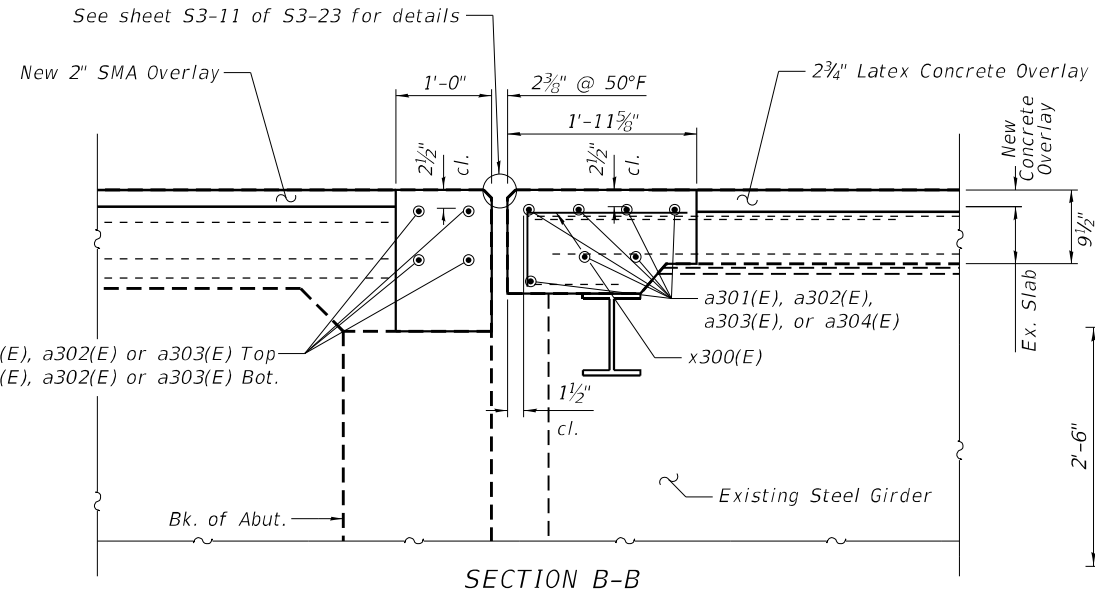
**JOINT REPAIR LIMITS
I-57 BRIDGE OVER I-80 - SN 016-0052**

SHEET S3-09 OF S3-23 SHEETS

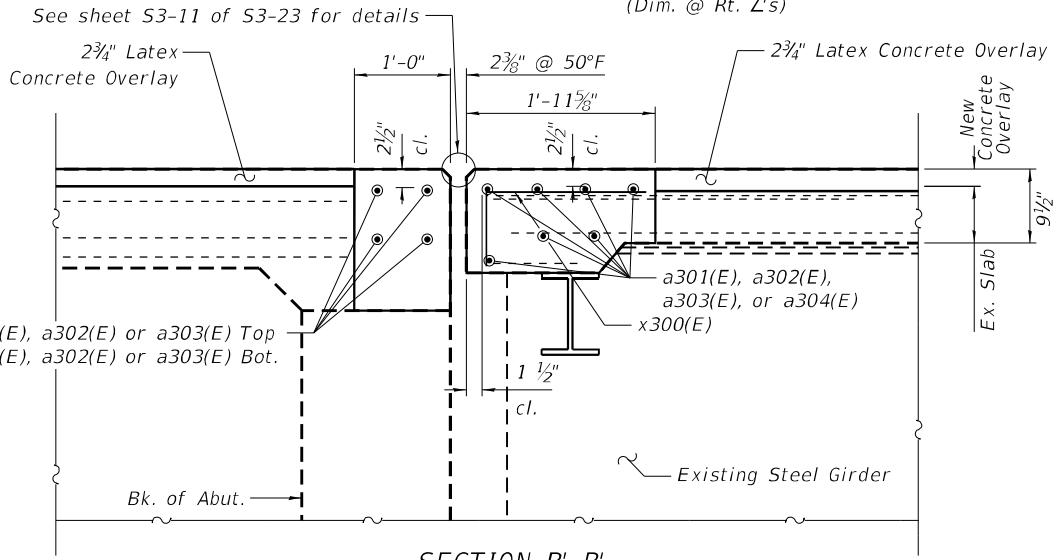
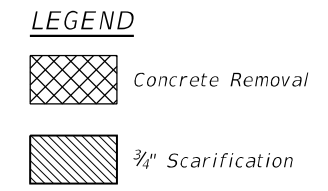
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	143
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



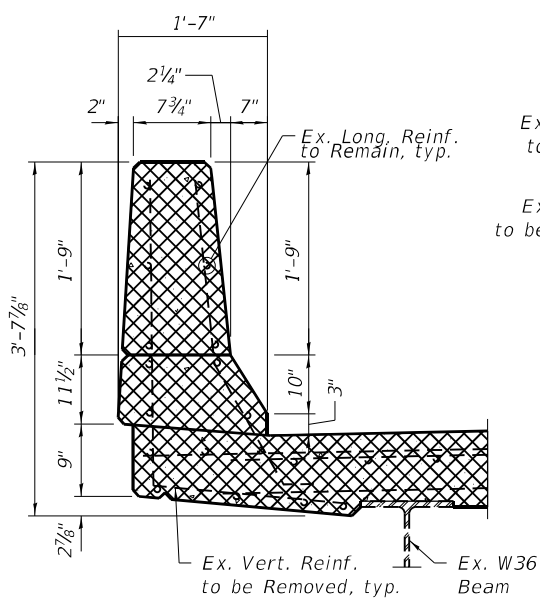
SECTION A-A
(Dim. @ Rt. L's)



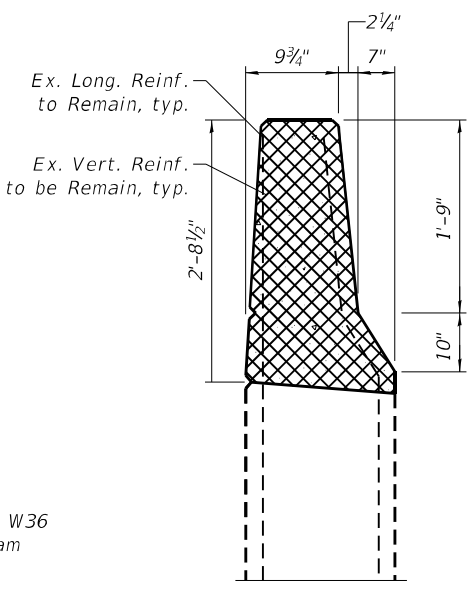
SECTION B-B
(North Abutment, Dim. @ Rt. L's)



SECTION B'-B'
(South Abutment, Dim. @ Rt. L's)

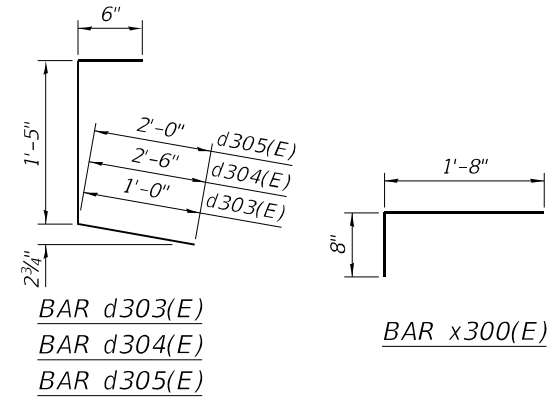


SECTION C-C



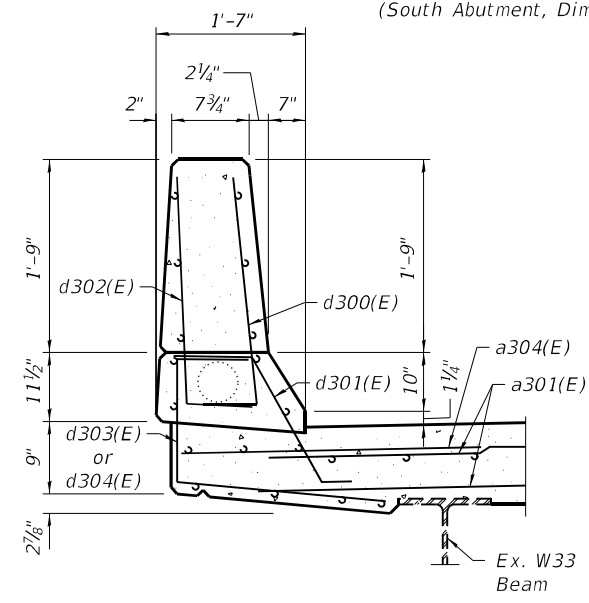
SECTION D-D

BARS d300(E) & d302(E) **BAR d301(E)**

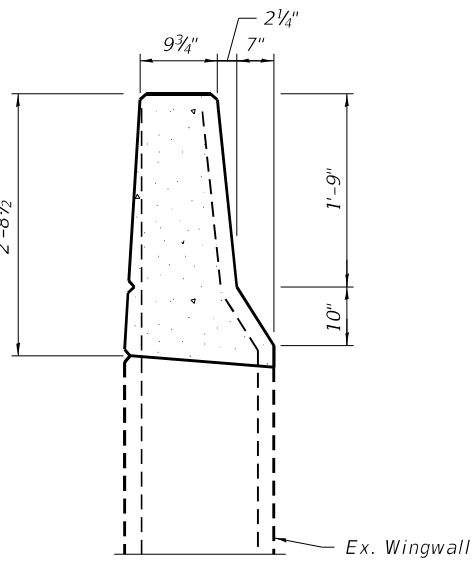


BILL OF MATERIALS

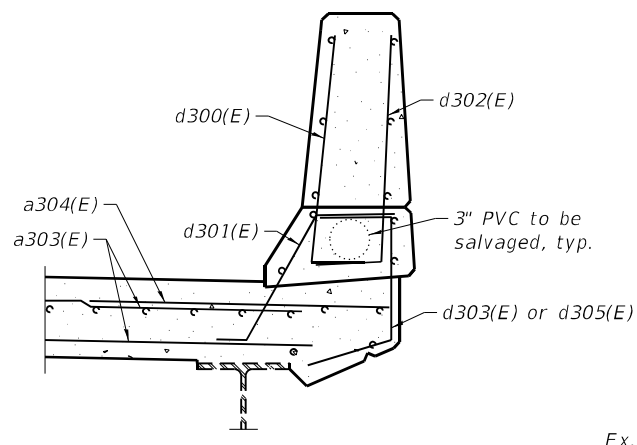
Bar	No.	Size	Length	Shape	
a301(E)	44	#5	15'-9"	—	
a302(E)	44	#5	12'-8"	—	
a303(E)	44	#5	11'-7"	—	
a304(E)	8	#6	4'-0"	—	
x300(E)	132	#5	2'-4"	┌	
d300(E)	14	#5	3'-0"	┌	
d301(E)	14	#5	2'-7"	┌	
d302(E)	14	#4	3'-0"	┌	
d303(E)	7	#4	2'-11"	┌	
d304(E)	4	#4	4'-5"	┌	
d305(E)	3	#4	4'-5"	┌	
Item				Unit	Total
Concrete Removal				Cu. Yd.	18.0
Concrete Superstructure				Cu. Yd.	18.7
Reinforcement Bars, Epoxy Coated				Pound	2,340
Bar Splicers				Each	44



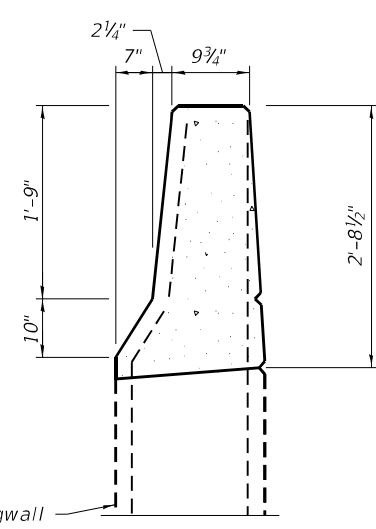
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

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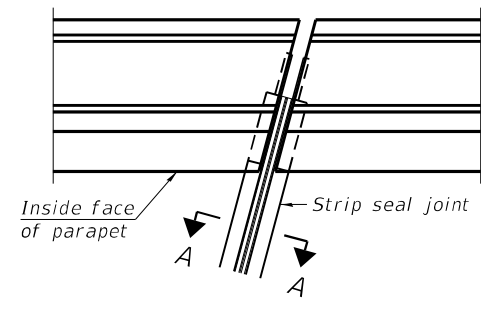
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT DETAILS
I-57 BRIDGE OVER I-80 - SN 016-0052

SHEET 53-10 OF 53-23 SHEETS

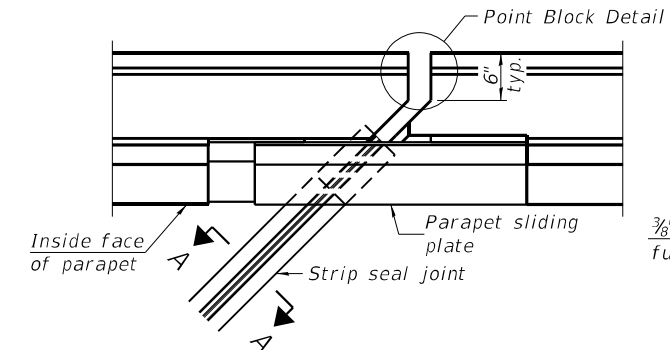
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	144
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

MODEL: 0160052-D62M54-011
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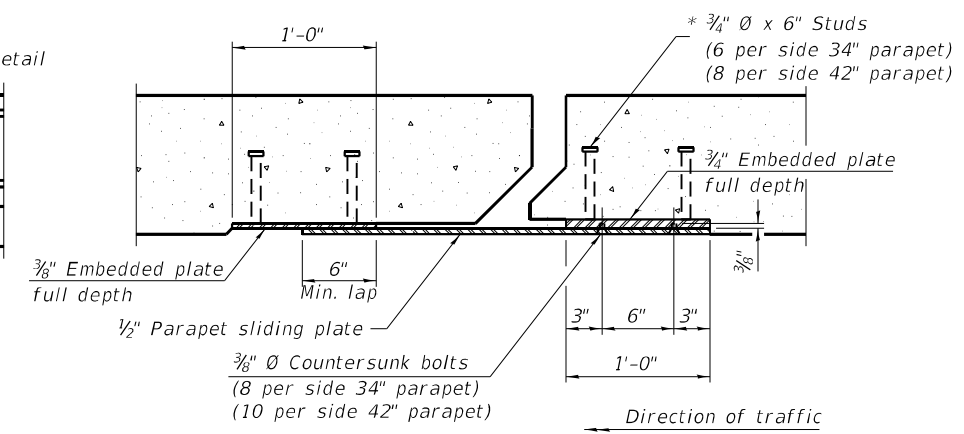


FOR SKEWS $\leq 30^\circ$

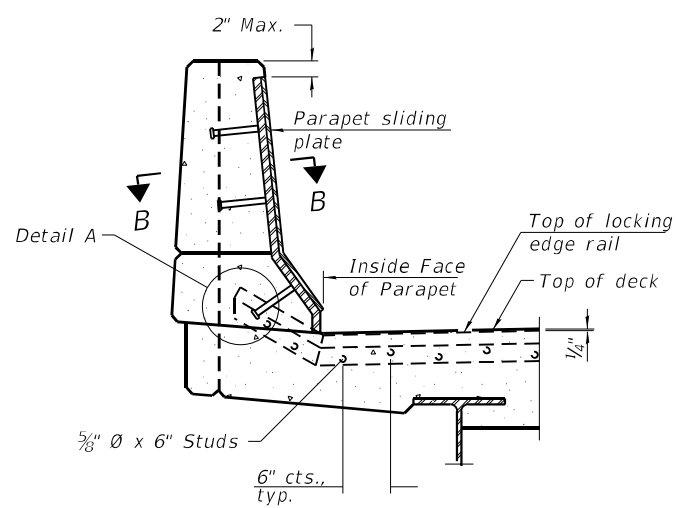
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

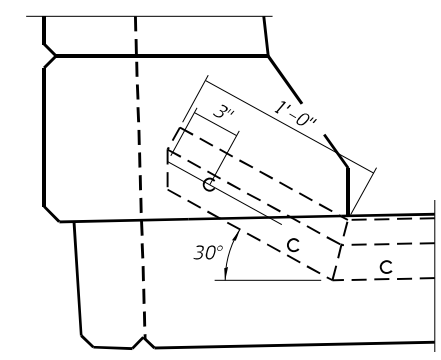


SECTION B-B

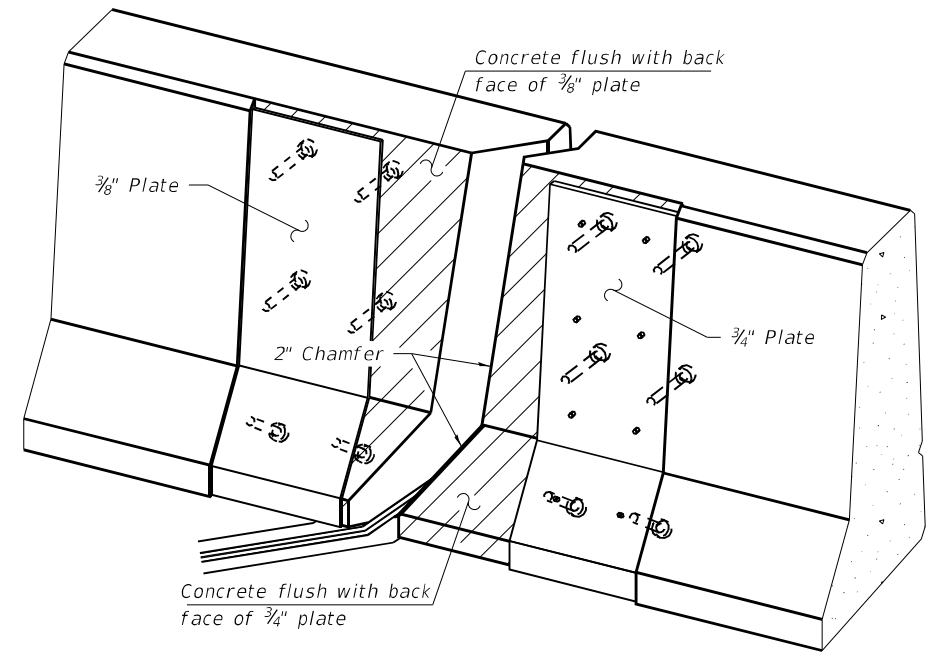


ELEVATION AT PARAPET

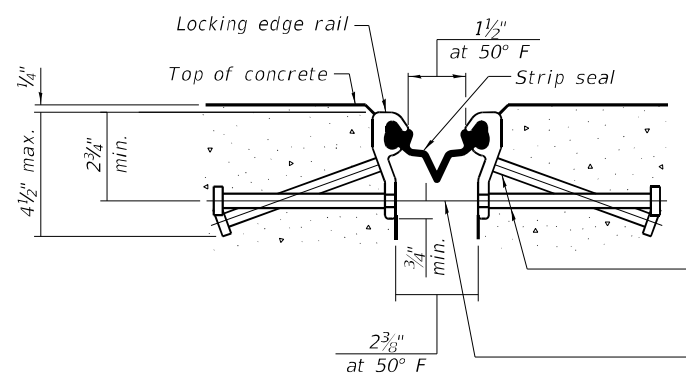
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)

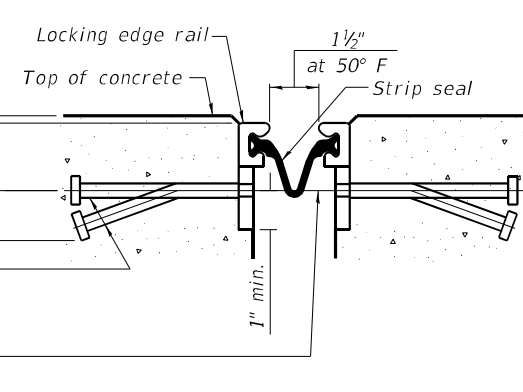


SHOWING ROLLED RAIL JOINT

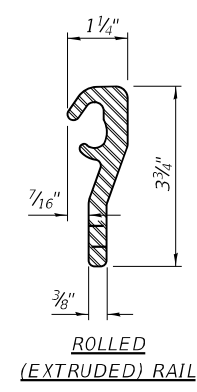
* $5/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 $3/8"$ ϕ threaded rods in $1/16"$ ϕ holes at $\pm 4"-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

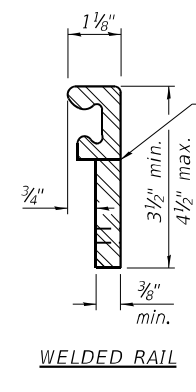
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SHOWING WELDED RAIL JOINT



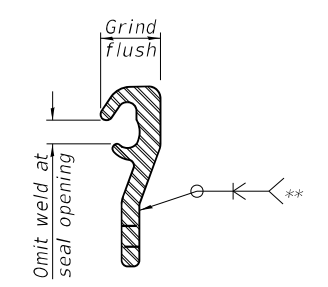
ROLLED (EXTRUDED) RAIL



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	136

EJ-SS

8-11-17



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		CHECKED -	AJN	REVISED -	
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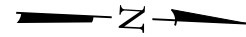
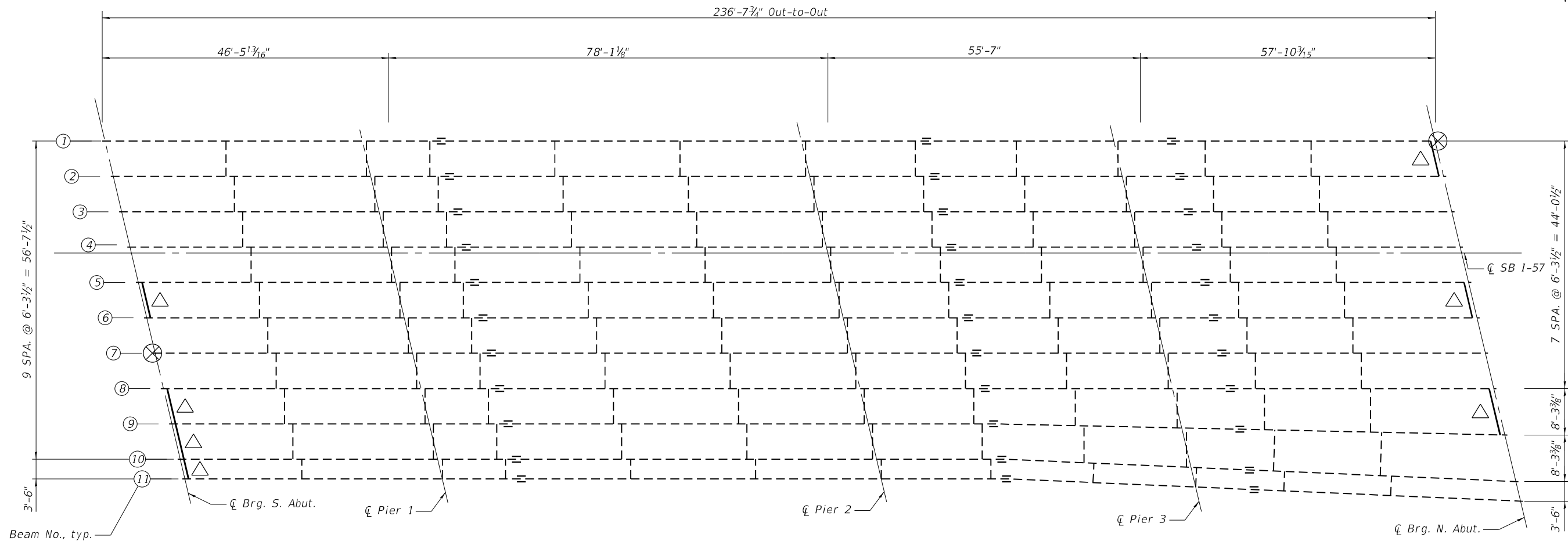
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL
I-57 BRIDGE OVER I-80 - SN 016-0052**

SHEET 53-11 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	145
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

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FRAMING PLAN

LEGEND

- ⊗ - Beam Ends to be Repaired
- △ - Diaphragms to be Replaced

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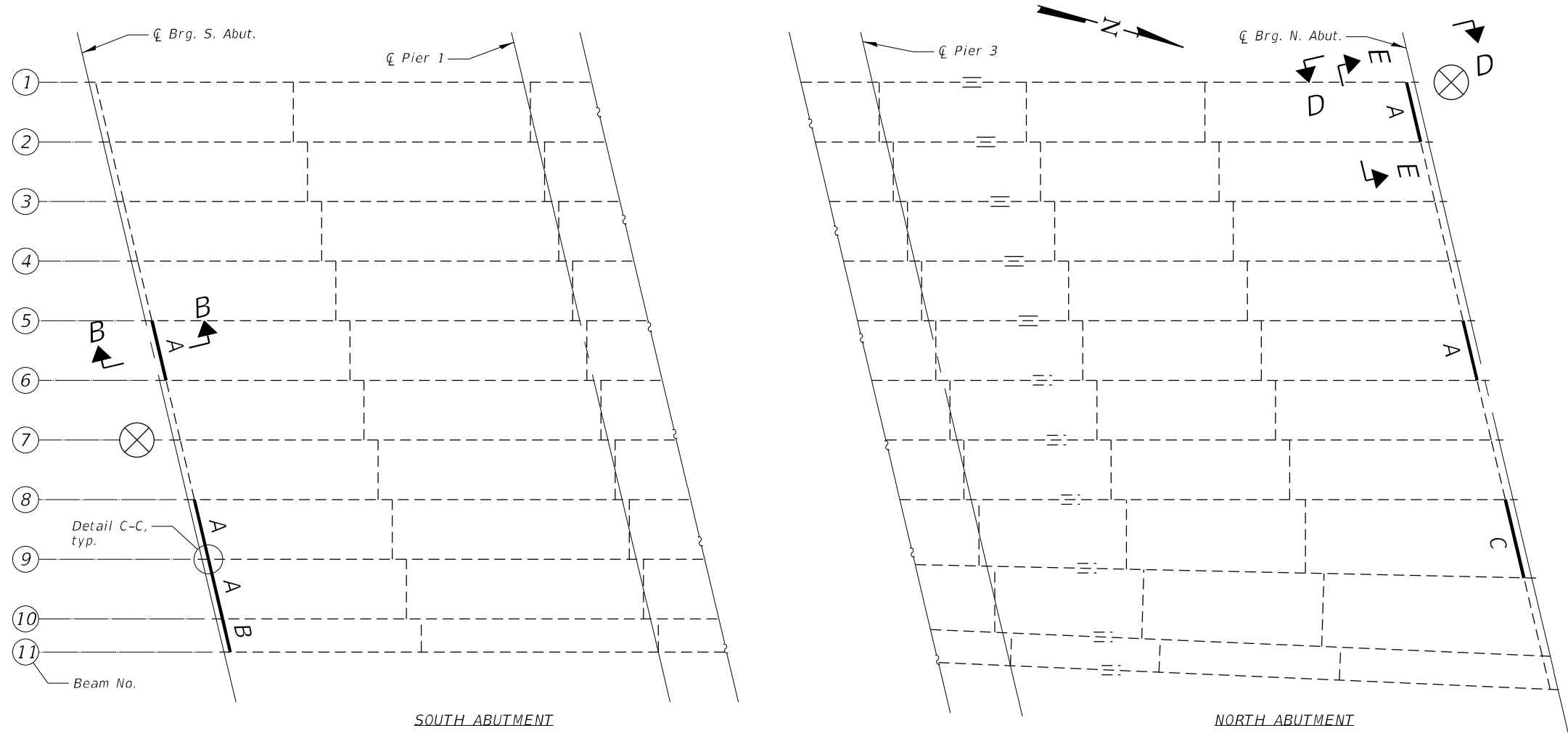
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PLOT DATE = 04/07/2021	DRAWN - AHT	REVISED -
	CHECKED - AJN	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
 I-57 BRIDGE OVER I-80 - SN 016-0052

SHEET 53-12 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	146
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



PARTIAL FRAMING PLAN
A, B, C = Diaphragm Replacement Location

NOTES:

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

Diaphragms in bays 5, 8, 9, and 10, at the South Abutment and diaphragms in bays 1, 5, and 8 at the North Abutment shall be repaired per details on this sheet.

All structural steel shall be AASHTO M 270 Grade 36, unless otherwise noted.

No field welding is permitted except as specified in the contract documents.

Fasteners shall be high strength bolts. Bolts 3/4" Ø.

Diaphragm connection holes shall be 15/16" Ø for 3/4" Ø bolts. Two hardened washers shall be required at diaphragm connections.

All end diaphragms must line up. Use removed diaphragms and support angles for all necessary measurements to fabricate new material. See as built plans for details.

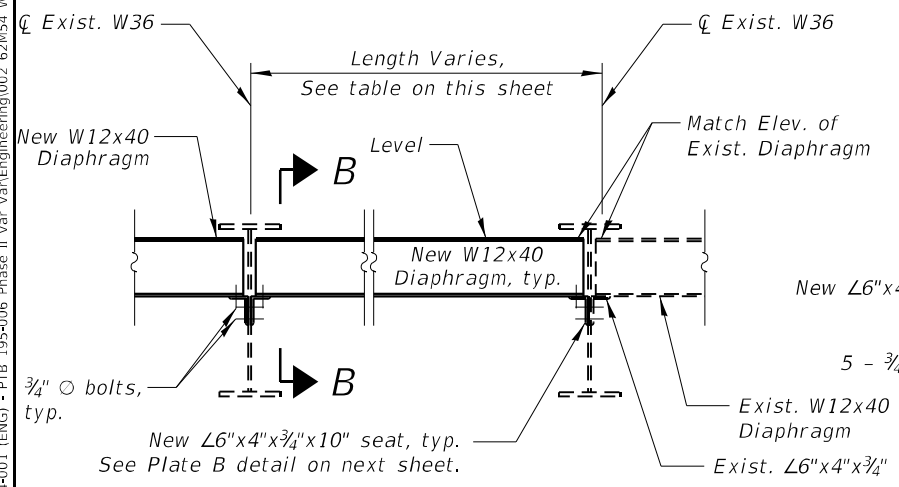
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the special provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included in Furnishing & Erecting Structural Steel.

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

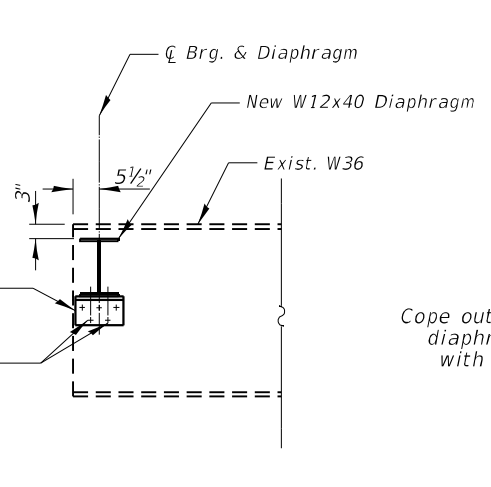
All repairs including structural steel wide flanges, angles, bolts, nuts, and washers shall be galvanized per the special provision "Hot Dip Galvanizing for Structural Steel".

See sheet S3-14 of S3-23 for sections D-D through F-F and additional details.

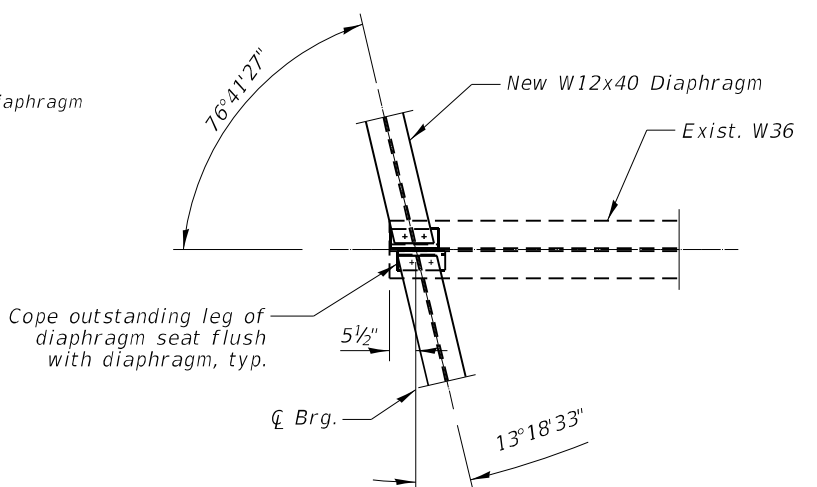
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SECTION A-A
(No. of diaphragms to be replaced = 7 each)



SECTION B-B



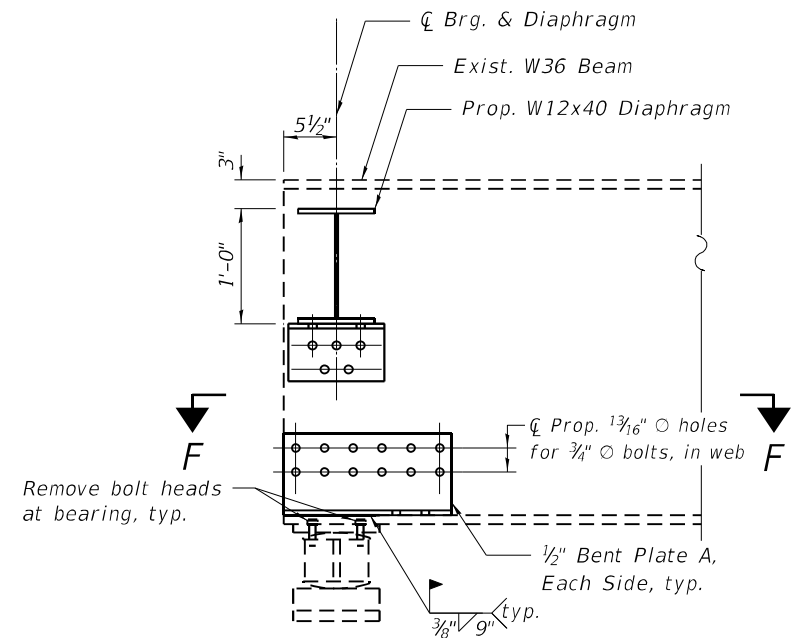
DETAIL C-C

PROPOSED DIAPHRAGM LENGTHS

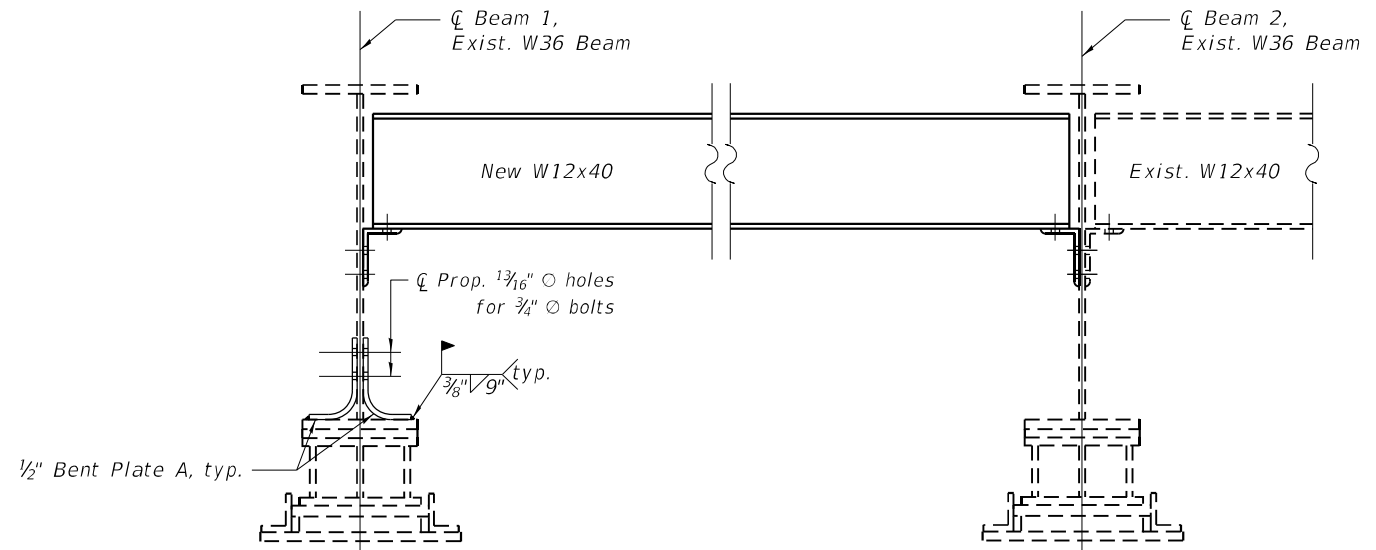
Diaphragm	Length (Perp. to Beams)	Length (Along Skew)
A	6'-3 1/2"	6'-5 3/8"
B	3'-6"	3'-7 1/2"
C	8'-3 3/8"	8'-6"

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	Pound	1,960
Furnishing & Erecting Structural Steel	Pound	1,960



SECTION D-D
(Beam 7, S. Abut.
Beam 1, N. Abut.)



SECTION E-E

Notes:

- 1) Girder 7 at the South Abutment and girder 1 at the North Abutment shall be repaired per the details on this sheet.
- 2) All structural steel shall be AASHTO M 270 Grade 36, unless otherwise noted.
- 3) All repair materials including structural steel plates, bolts, nuts, and washers shall be galvanized per the special provision "Hot Dip Galvanizing for Structural Steel". Cost included in "Structural Steel Repair".
- 4) Fasteners shall be high strength bolts. Holes shall be $1\frac{3}{16}$ " ϕ for $\frac{3}{4}$ " ϕ bolts. Two hardened washers shall be required at all connections.
- 5) Existing structural steel that will be in contact with new structural steel Plate A and Plate B shall be cleaned and painted prior to erection as required by the special provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included in Structural Steel Repair.
- 6) The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 7) Use holes in new steel as template to field drill holes in existing steel.
- 8) Existing end diaphragms adjacent to diaphragms being replaced shall be temporarily supported during diaphragm replacement work. Cost included with Structural Steel Removal.
- 9) Contractor may field drill bolt holes in bottom flange of new diaphragms and top leg of support angles.

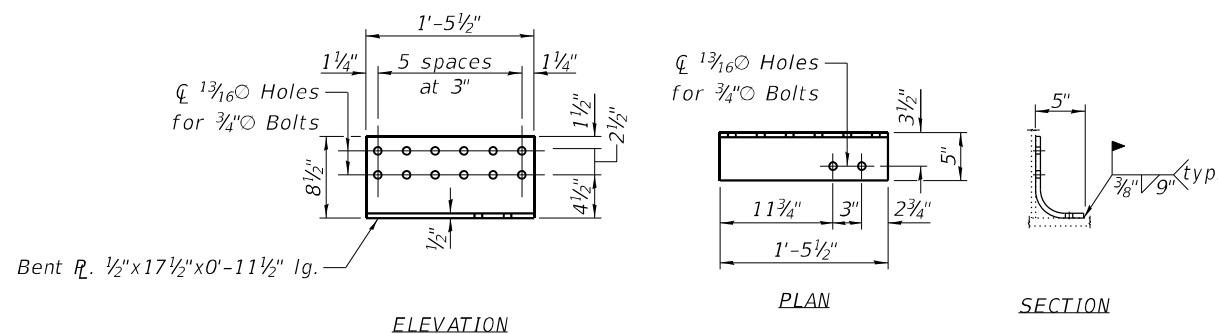
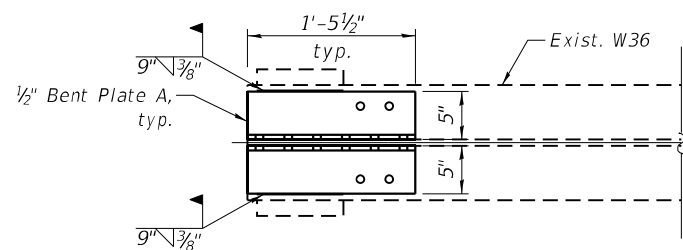


PLATE A

PLATE B*

* Field verify length and bolt spacing of end diaphragm support angle



SECTION F-F

**Quantity is for Repairs associated with Plate A and Plate B

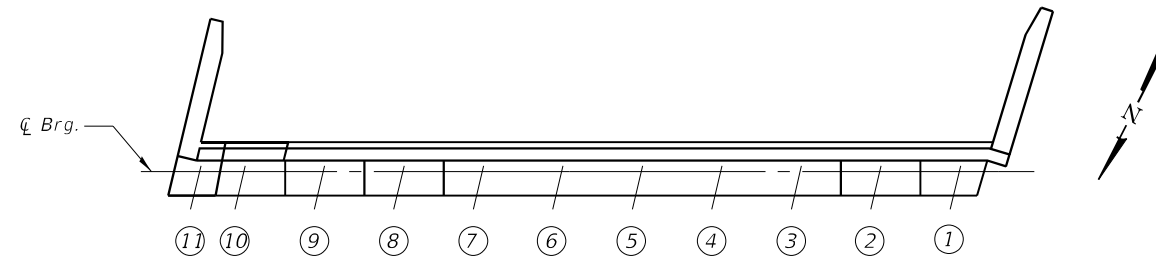
BILL OF MATERIAL

Item	Unit	Total
** Structural Steel Repair	Pound	200

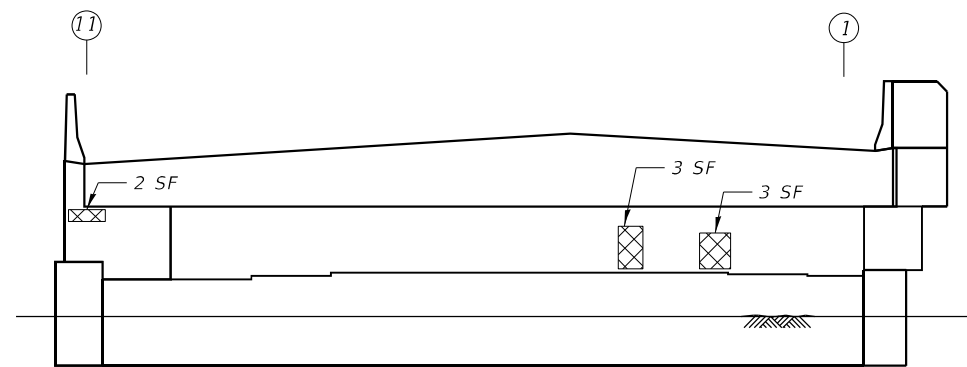
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BILL OF MATERIAL

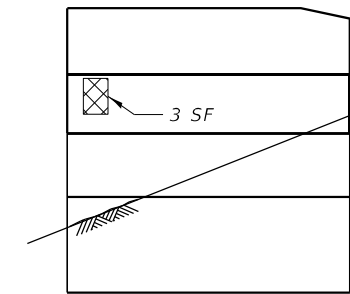
Item	Unit	Total
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	11
Slope Wall Crack Sealing	Foot	34
Concrete Sealer	Sq. Ft.	3,935
Slope Wall Repair	Sq. Yd.	4.0
Porous Granular Embankment	Cu. Yd.	1.0



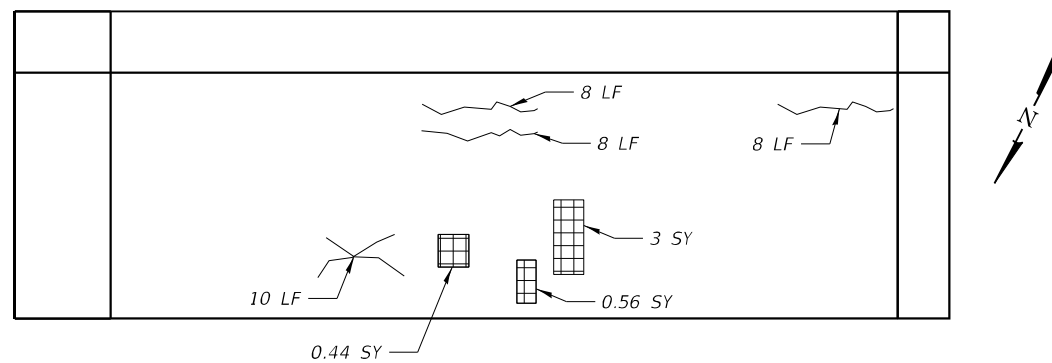
SOUTH ABUTMENT PLAN



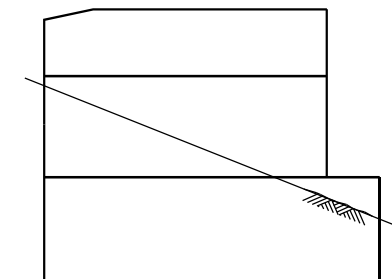
SOUTH ABUTMENT ELEVATION
(Looking South)



SOUTHWEST WINGWALL ELEV.
(Looking East)



SOUTH ABUTMENT SLOPEWALL PLAN



SOUTHEAST WINGWALL ELEV.
(Looking West)

LEGEND

- SRC depth less than or equal to 5"
- SRC depth greater than 5"
- Slope Wall Repair
- Slope Wall Crack Sealing

Notes:
 1. Quantities and limits of repairs 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. Porous Granular Embankment (PGE) shall be used for filling any voids beneath the slope wall being repaired as required.

MODEL: 0160052-D62M54-015
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 311 S. Wacker Drive, Suite 1950
 Chicago, Illinois 60606
 312-454-0580
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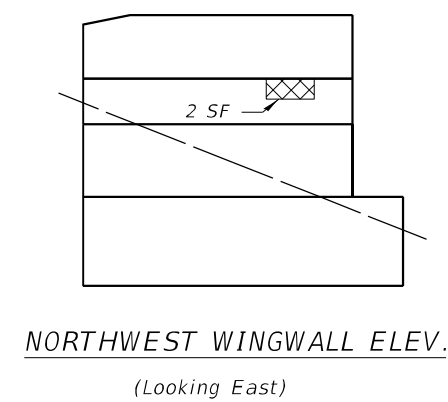
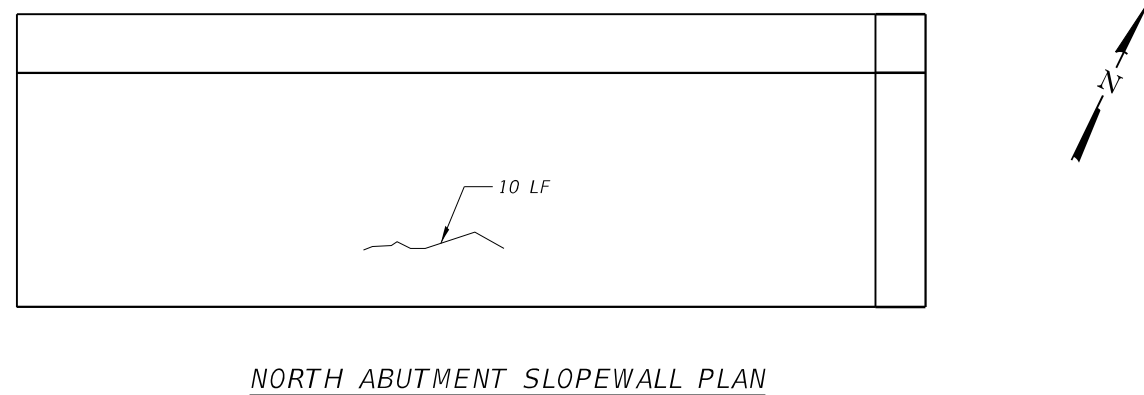
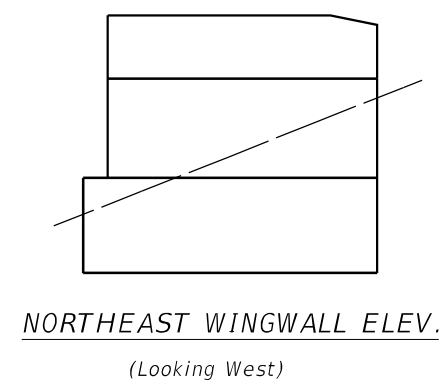
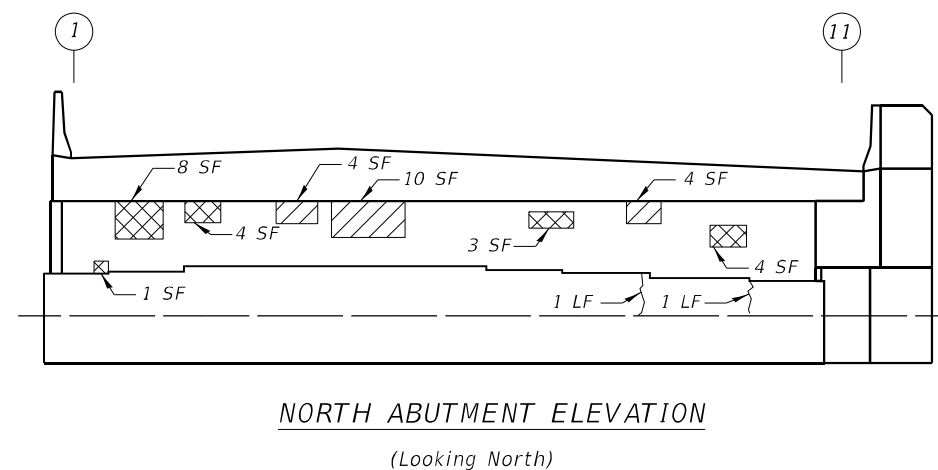
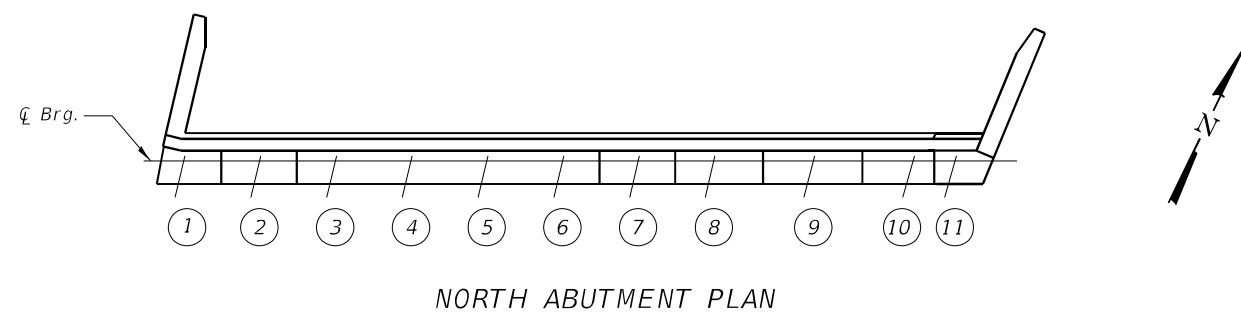
**SOUTH ABUTMENT REPAIRS
I-57 BRIDGE OVER I-80 - SN 016-0052**

SHEET 53-15 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	149
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete, Depth Equal to or Less than 5 In.	Sq. Ft.	18
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	22
Slope Wall Crack Injection	Foot	12
Concrete Sealer	Sq. Ft.	5,144



LEGEND

- SRC depth less than or equal to 5"
- SRC depth greater than 5"
- Slope Wall Crack Injection

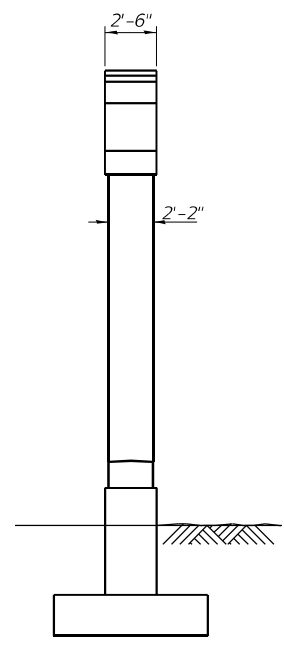
Notes:
1. Quantities and limits of repairs shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

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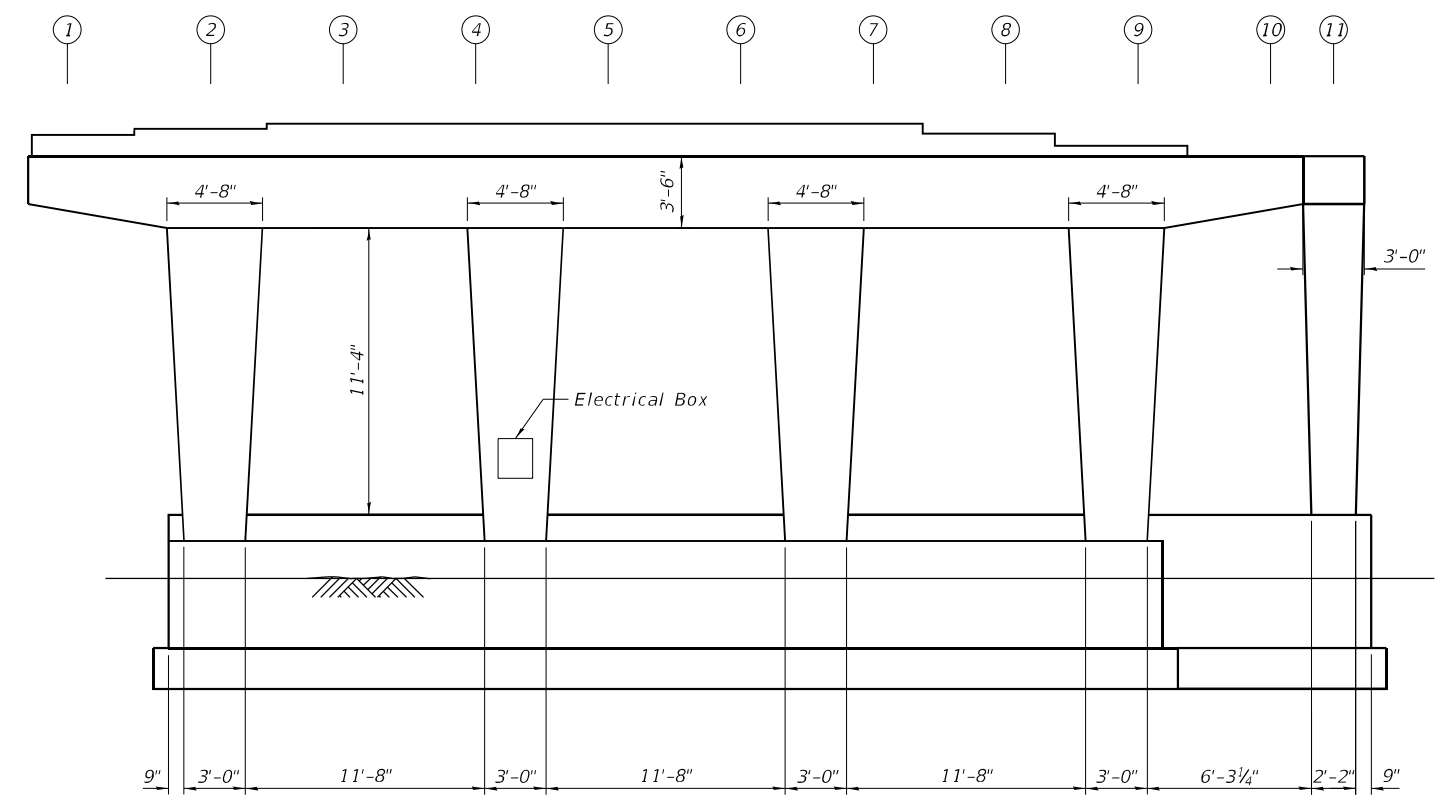
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			62M54	
ILLINOIS FED. AID PROJECT				

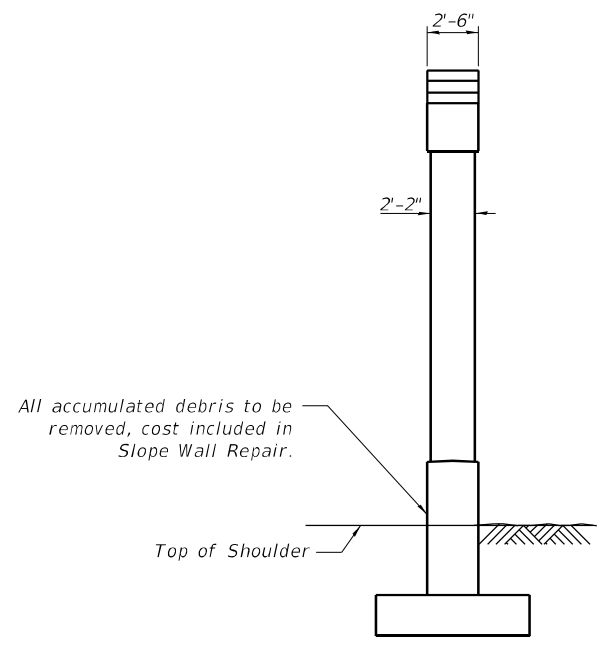
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WEST ELEVATION
(Looking East)



SOUTH ELEVATION
(Looking North)



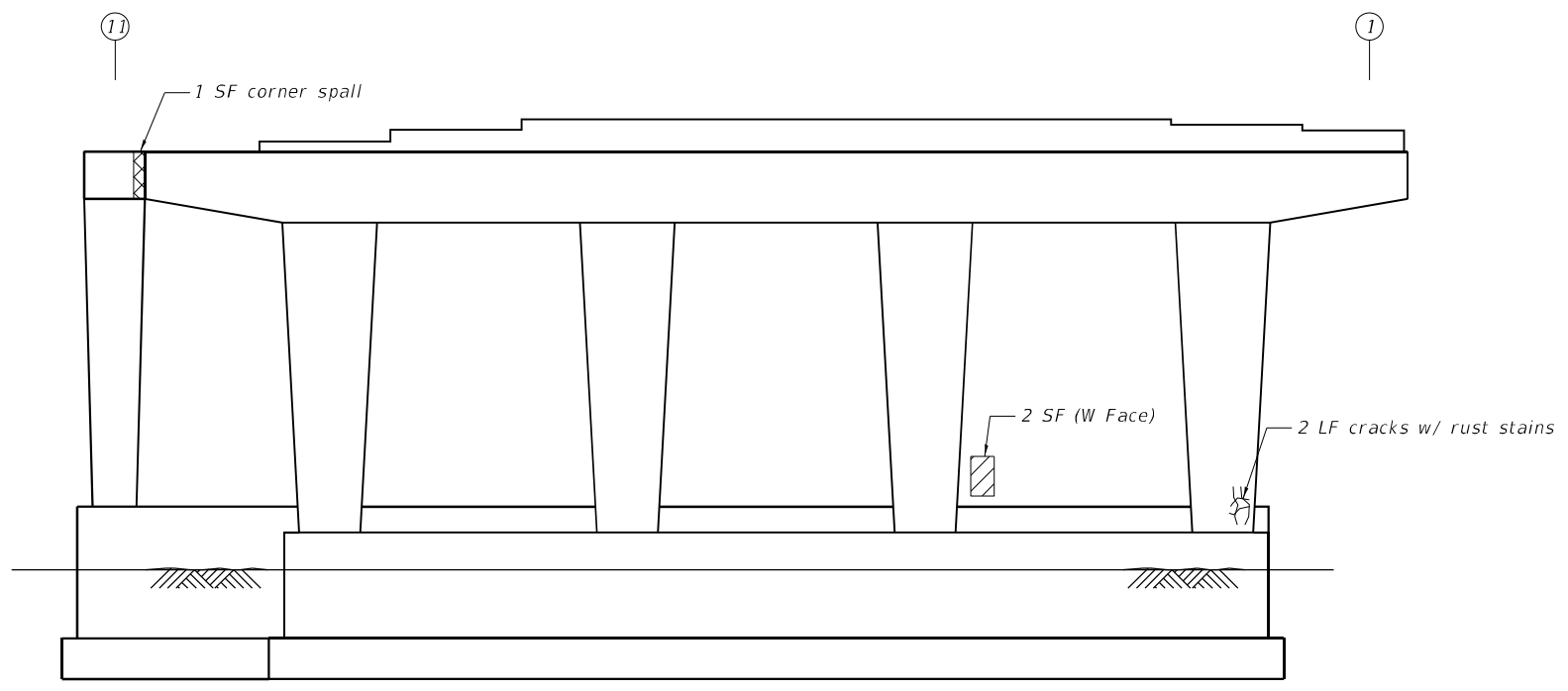
All accumulated debris to be removed, cost included in Slope Wall Repair.

Top of Shoulder

EAST ELEVATION
(Looking West)

- LEGEND**
- SRC Depth Equal to or Less Than 5"
 - SRC Depth Greater Than 5"
 - Epoxy Crack Injection

Notes:
 1. Quantities and limits of repairs 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.



NORTH ELEVATION
(Looking South)

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete, Depth Equal to or Less than 5 In.	Sq. Ft.	2
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	1
Epoxy Crack Injection	Foot	2



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PLOT DATE = 04/07/2021	DRAWN - AHT	REVISED -
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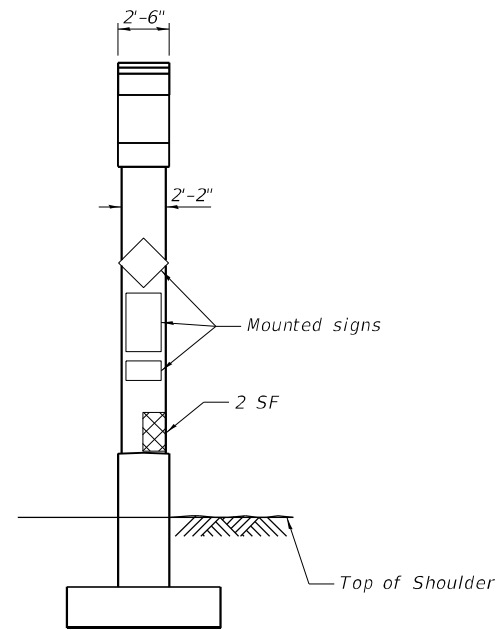
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS
I-57 BRIDGE OVER I-80 - SN 016-0052

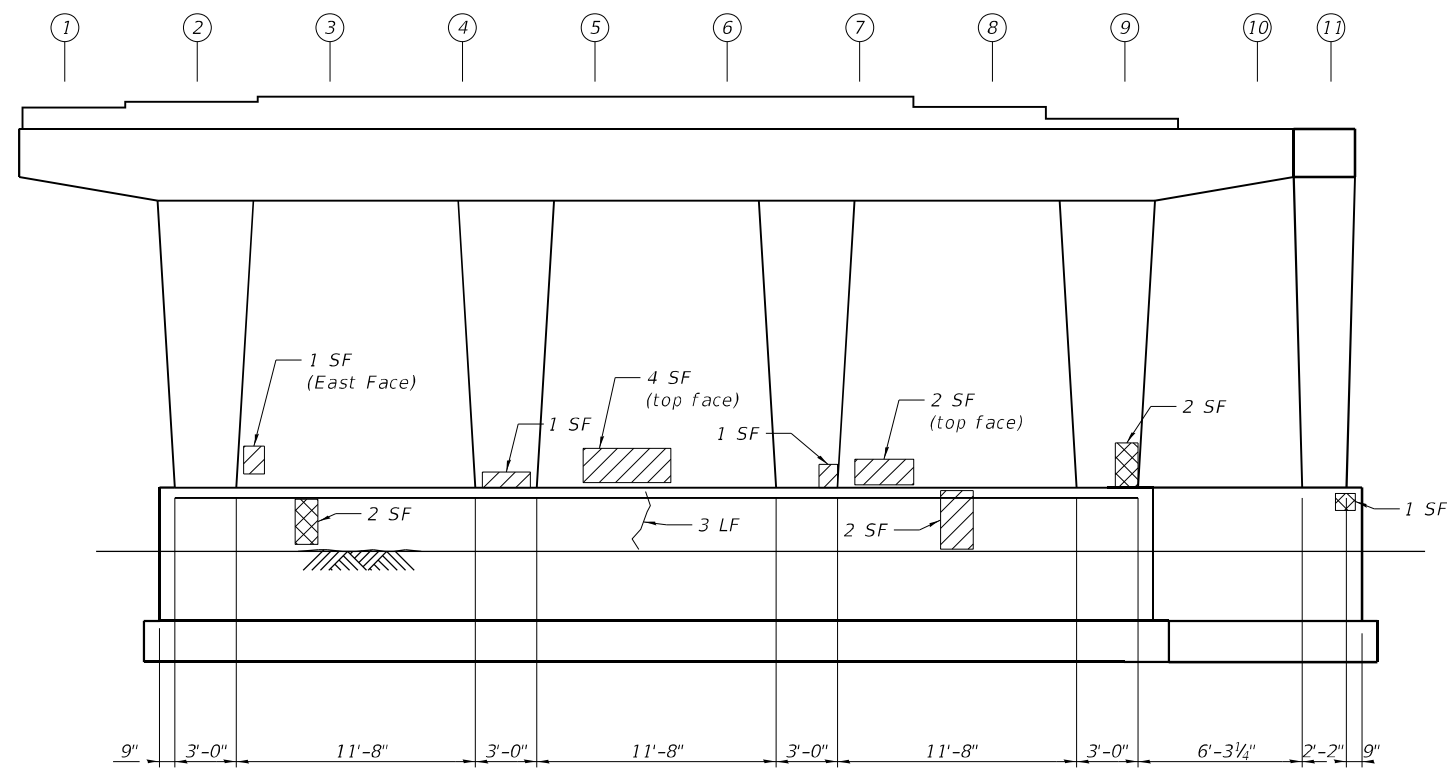
SHEET 53-17 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

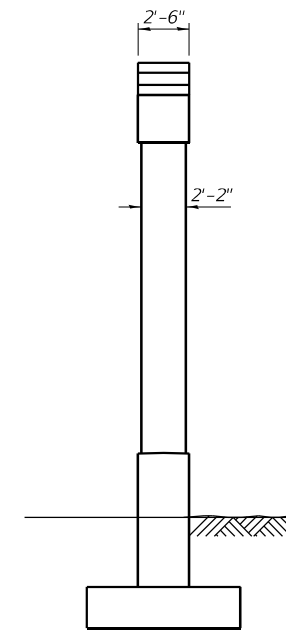
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WEST ELEVATION
(Looking East)



SOUTH ELEVATION
(Looking North)

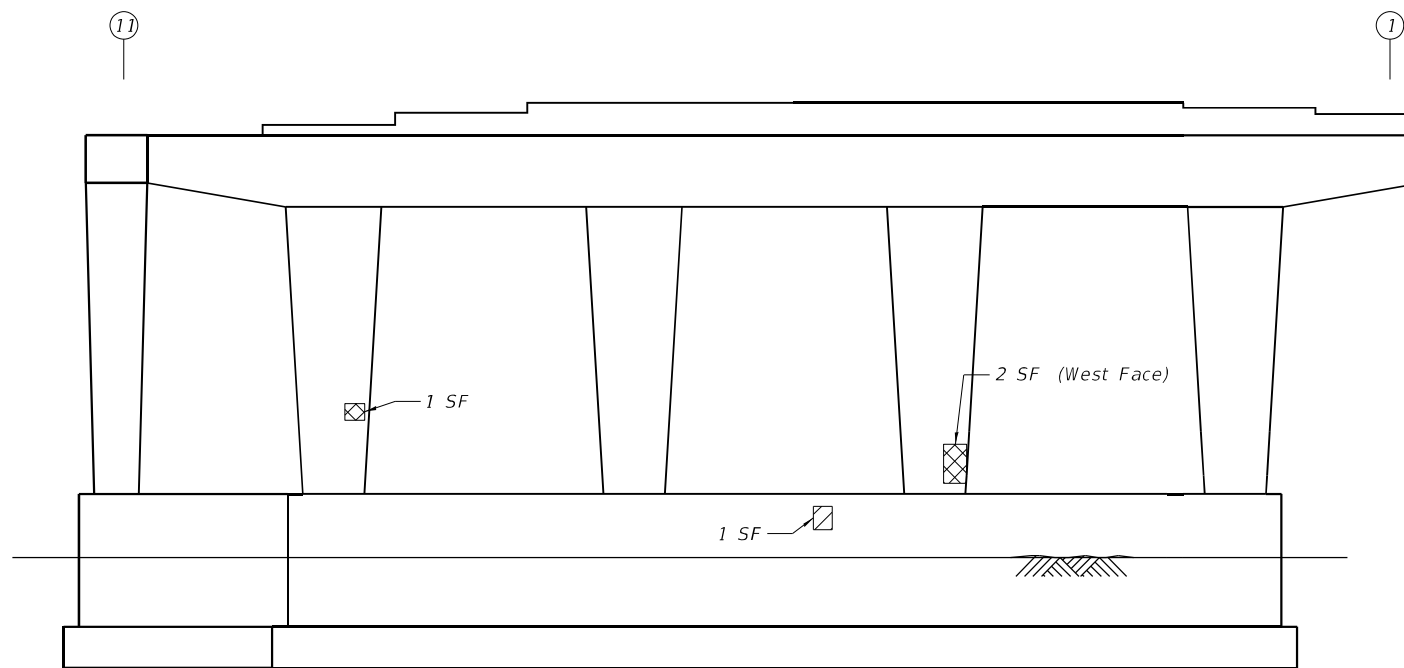


EAST ELEVATION
(Looking West)

LEGEND

- SRC Depth Equal to or Less Than 5"
- SRC Depth Greater Than 5"
- Epoxy Crack Injection

Notes:
 1. Quantities and limits of repairs 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.

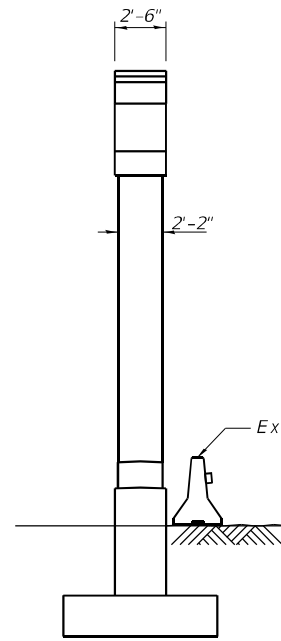


NORTH ELEVATION
(Looking South)

BILL OF MATERIAL

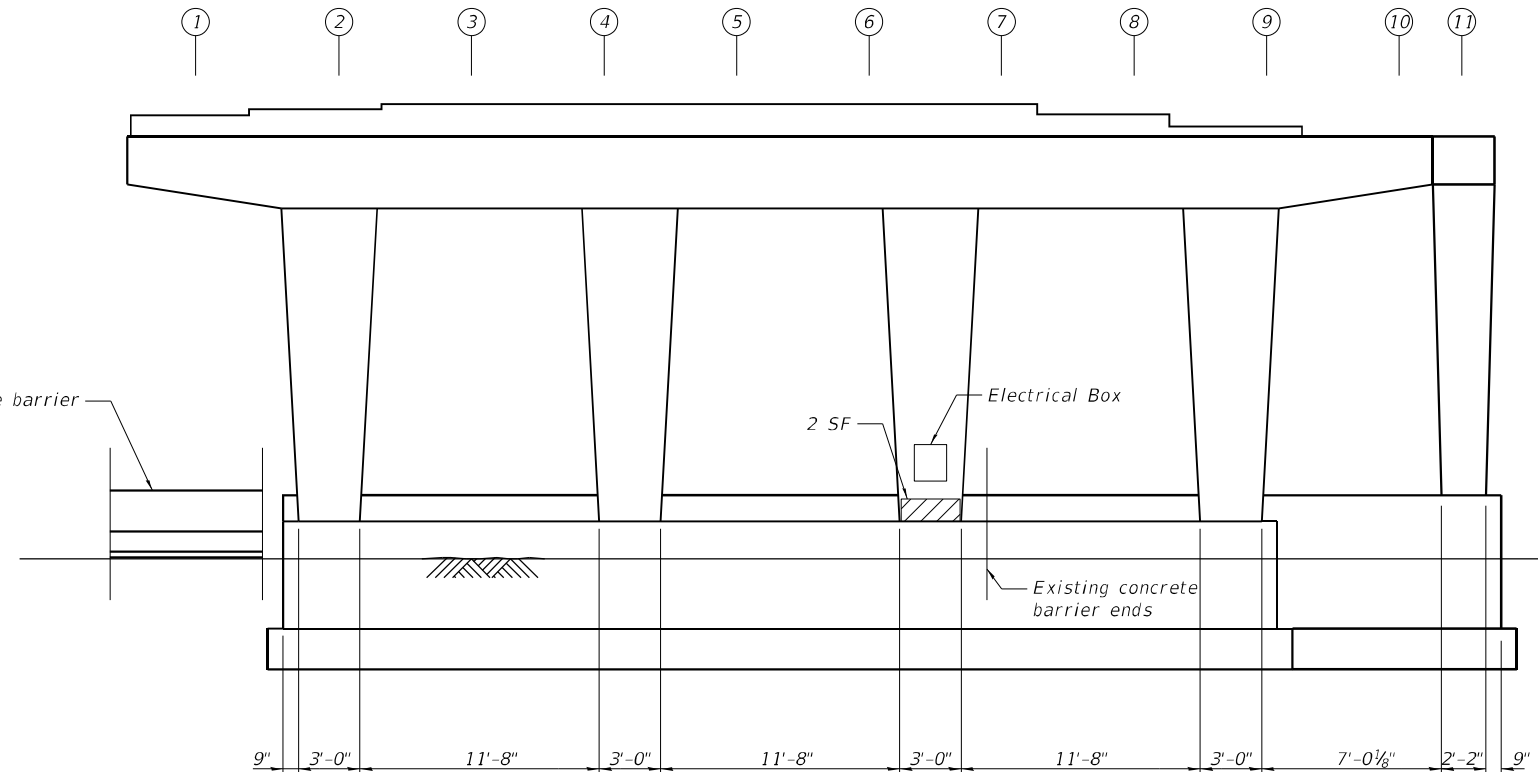
Item	Unit	Total
Structural Repair of Concrete, Depth Equal to or Less than 5 In.	Sq. Ft.	12
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	10
Epoxy Crack Injection	Foot	3

MODEL: 0160052-D62M54-019
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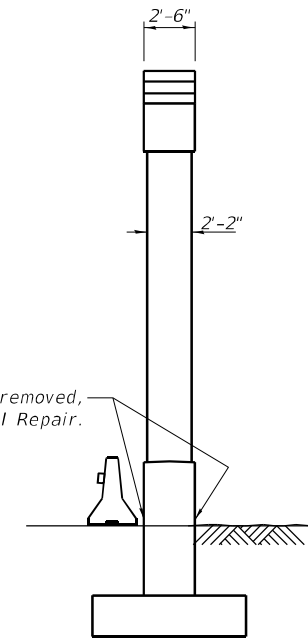


WEST ELEVATION
(Looking East)

Existing concrete barrier

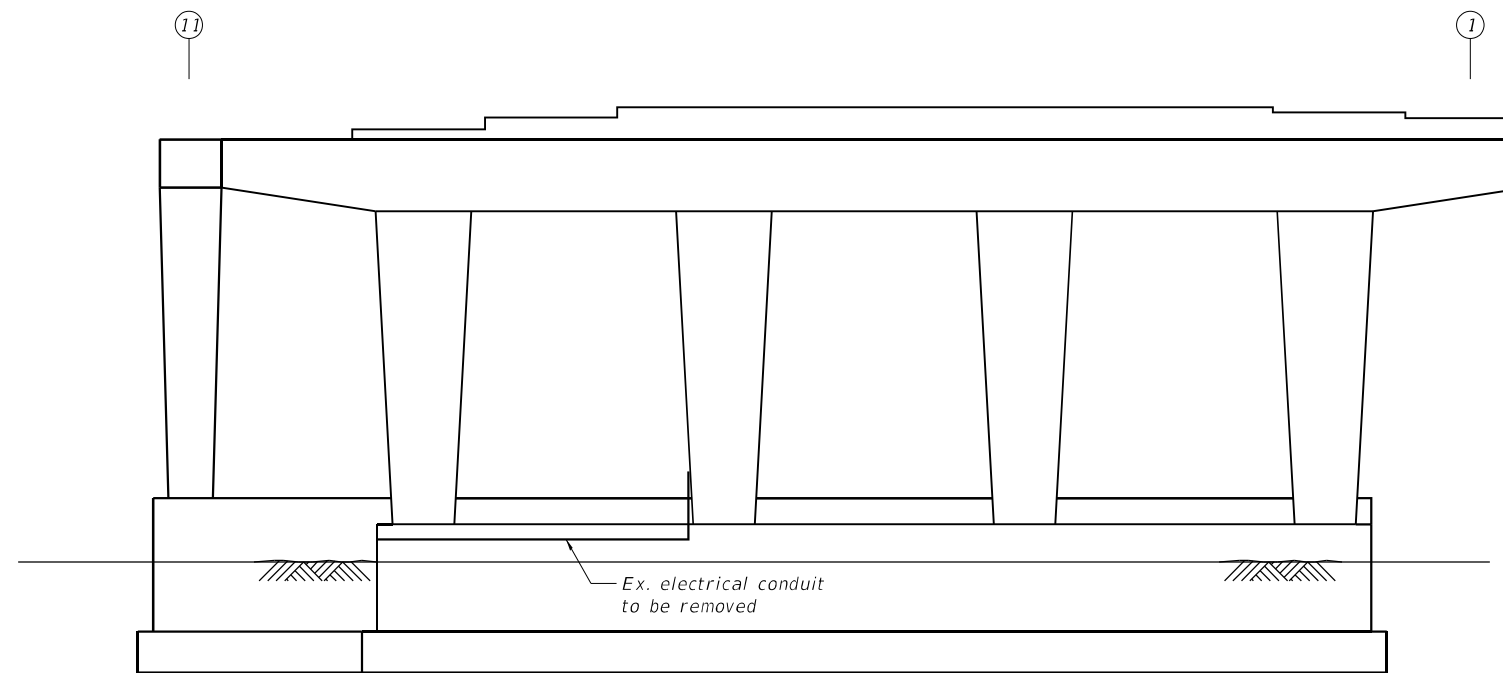


SOUTH ELEVATION
(Looking North)



EAST ELEVATION
(Looking West)

All accumulated debris to be removed, cost included in Slope Wall Repair.



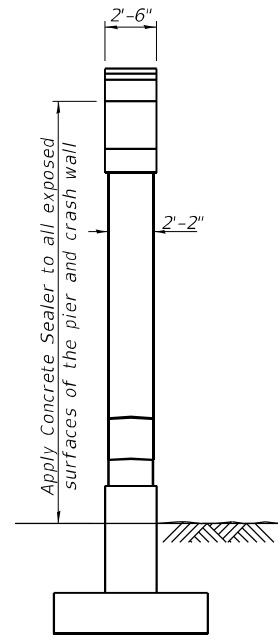
NORTH ELEVATION
(Looking South)

LEGEND
 - SRC Depth Equal to or Less Than 5"

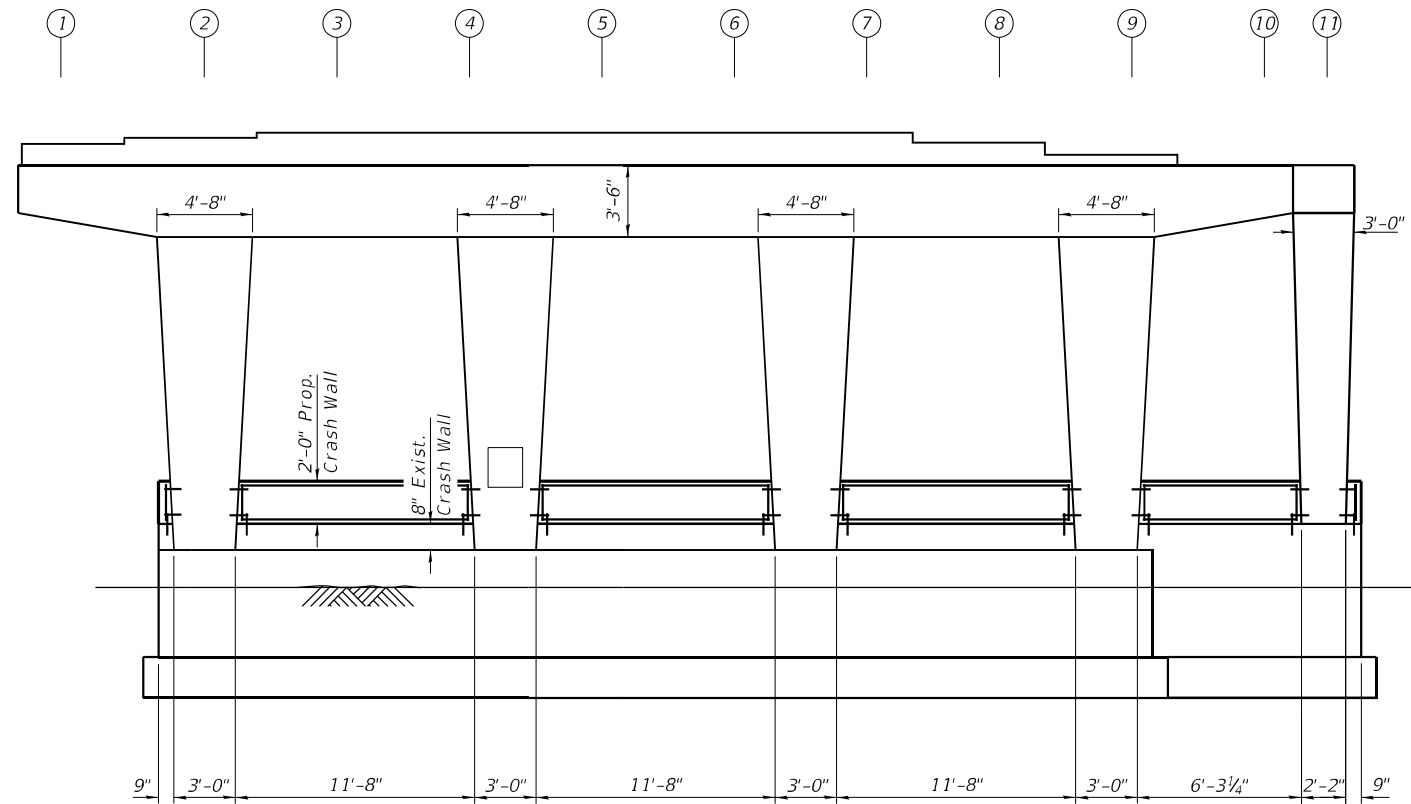
Notes:
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BILL OF MATERIAL

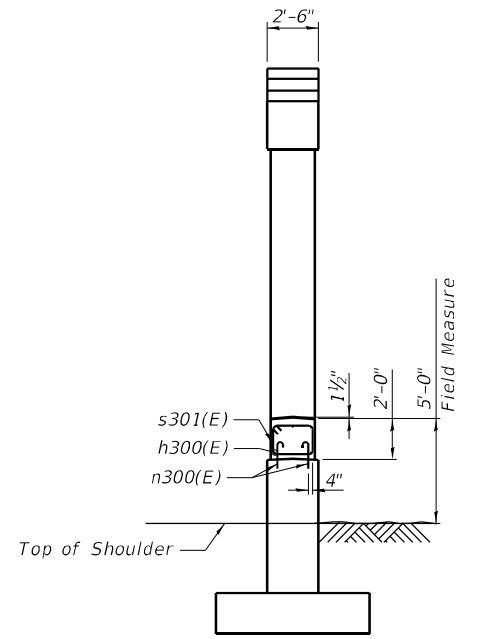
Item	Unit	Total
Structural Repair of Concrete, Depth Equal to or Less than 5 In.	Sq. Ft.	2



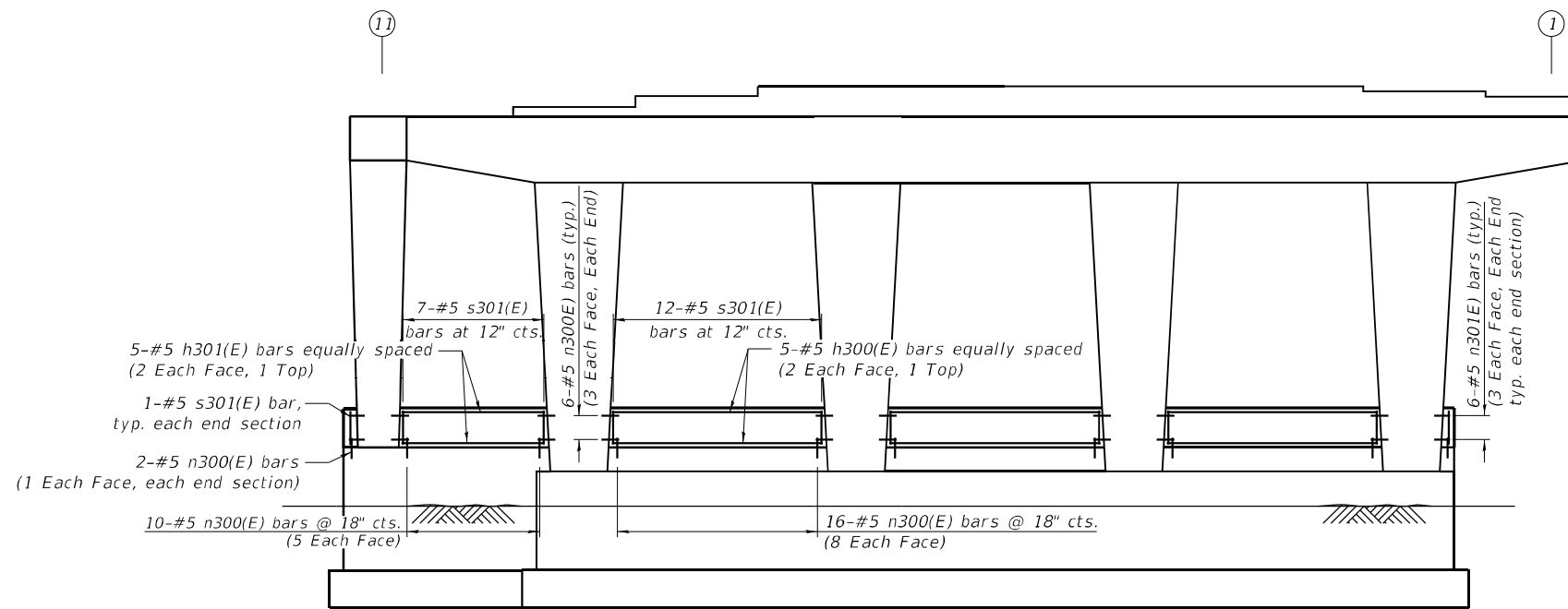
WEST ELEVATION
(Looking East)



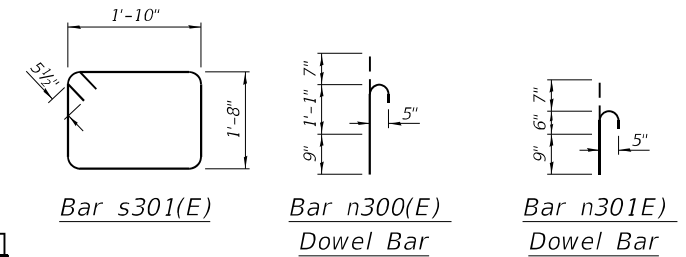
SOUTH ELEVATION
(Looking North)



EAST ELEVATION
(Looking West)



NORTH ELEVATION
(Looking South)



Bar s301(E)
Bar n300(E) Dowel Bar
Bar n301E Dowel Bar

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	15	#5	11'-3"	—
h301(E)	5	#5	5'-10"	—
n300(E)	110	#5	2'-5"	U
n301E)	12	#5	1'-10"	U
s301(E)	45	#5	7'-11"	□
Item			Unit	Total
Concrete Structures			Cu. Yd.	6.9
Reinforcement Bars, Epoxy Coated			Pound	880
Concrete Sealer			Sq. Ft.	1,780

Note:
Epoxy grout n300(E) bars 9" min. holes according to Article 584 of the Standard Specifications. The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars, Epoxy Coated

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PLOT DATE = 10/28/2021
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REVISED -

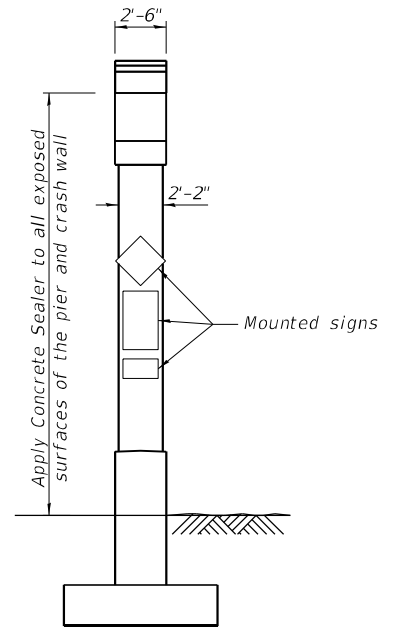
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 1 CRASH WALL
I-57 BRIDGE OVER I-80 - SN 016-0052**

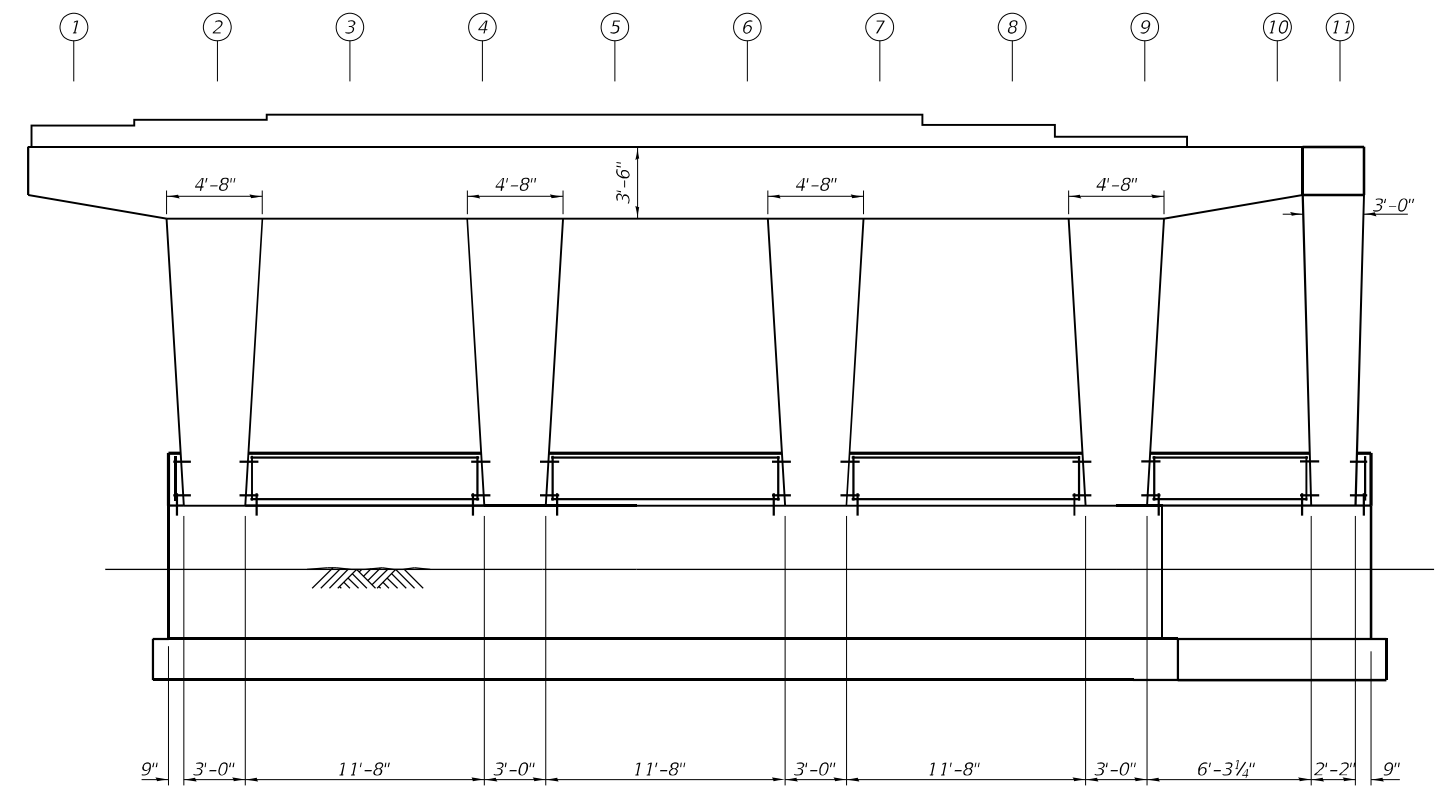
SHEET 53-20 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

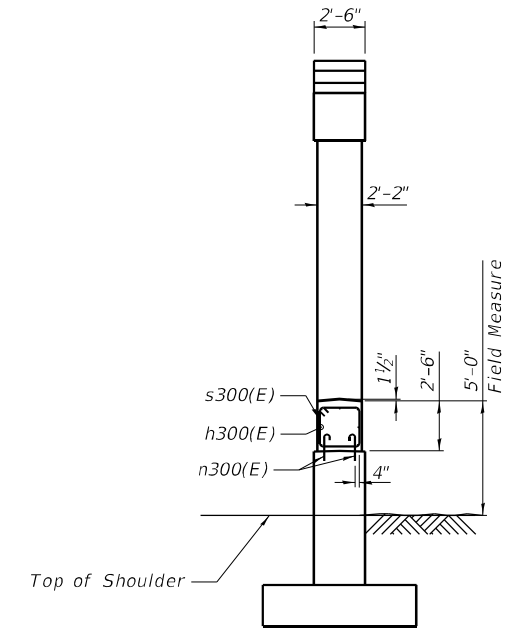
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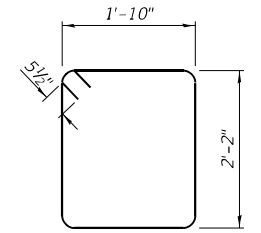
WEST ELEVATION
(Looking East)



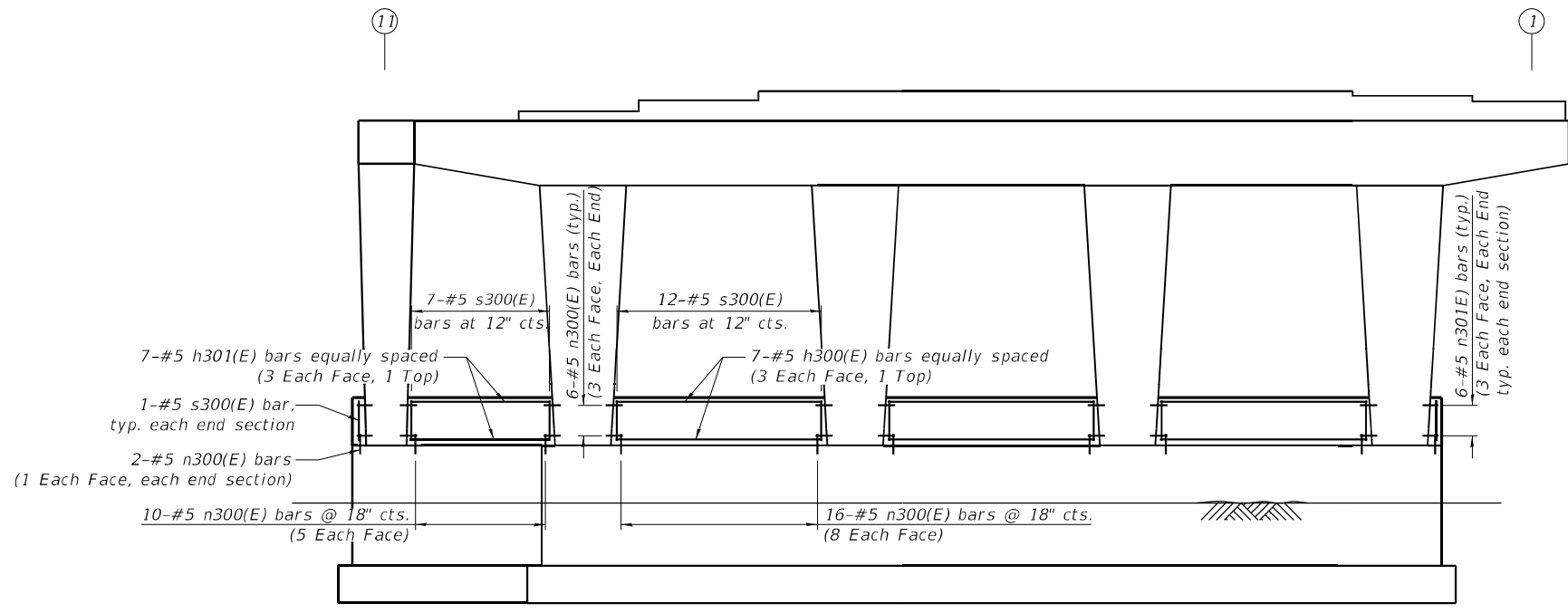
SOUTH ELEVATION
(Looking North)



EAST ELEVATION
(Looking West)



Bar s300(E)



NORTH ELEVATION
(Looking South)

Notes:

Epoxy grout n300(E) bars 9" min. holes according to Article 584 of the Standard Specifications. The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars, Epoxy Coated
 See sheet S3-20 of S3-23 for n300(E) and n301(E) bar details

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	21	#5	11'-3"	—
h301(E)	7	#5	5'-10"	—
n300(E)	110	#5	2'-5"	U
n301(E)	12	#5	1'-10"	U
s300(E)	45	#5	8'-11"	□
Item			Unit	Total
Concrete Structures			Cu. Yd.	8.6
Reinforcement Bars, Epoxy Coated			Pound	1000
Concrete Sealer			Sq. Ft.	1,780



USER NAME =	atiemann	DESIGNED -	AHT	REVISED -	
		CHECKED -	AJN	REVISED -	
PLOT SCALE =	11:3 ft:in / in.	DRAWN -	AHT	REVISED -	
PLOT DATE =	10/28/2021	CHECKED -	AJN	REVISED -	

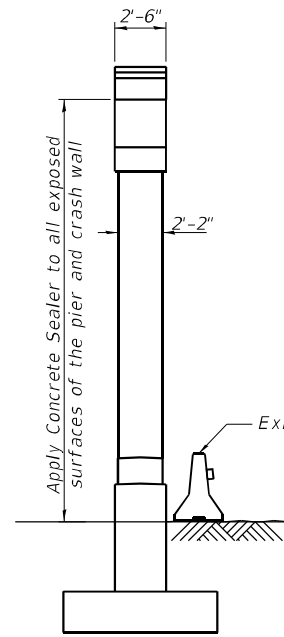
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 CRASH WALL
I-57 BRIDGE OVER I-80 - SN 016-0052

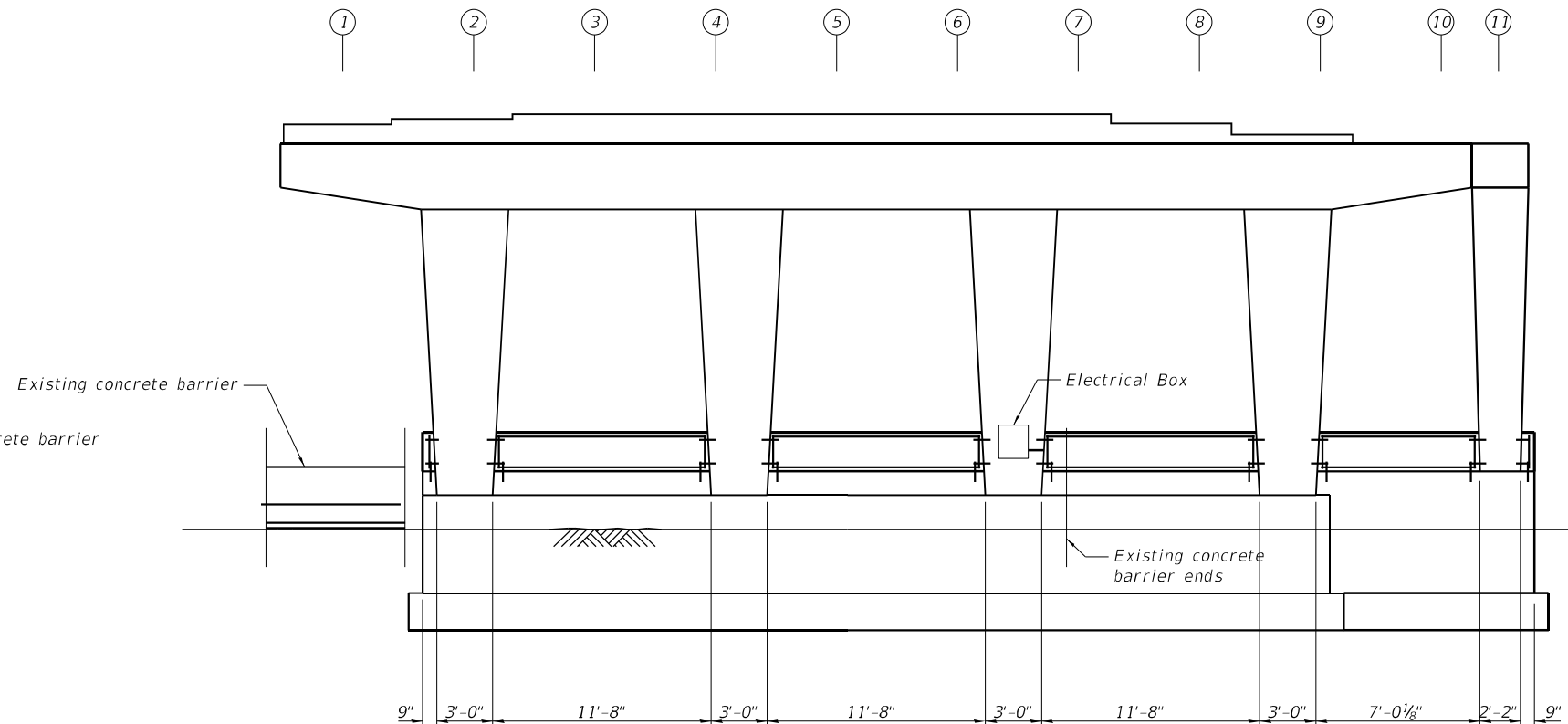
SHEET S3-21 OF S3-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			62M54	
ILLINOIS FED. AID PROJECT				

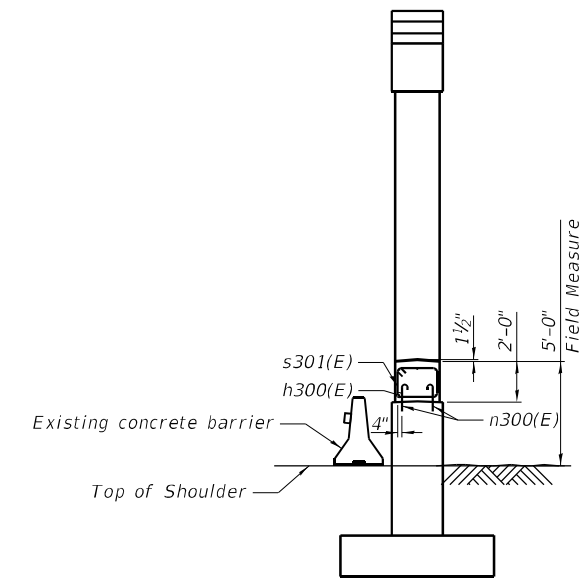
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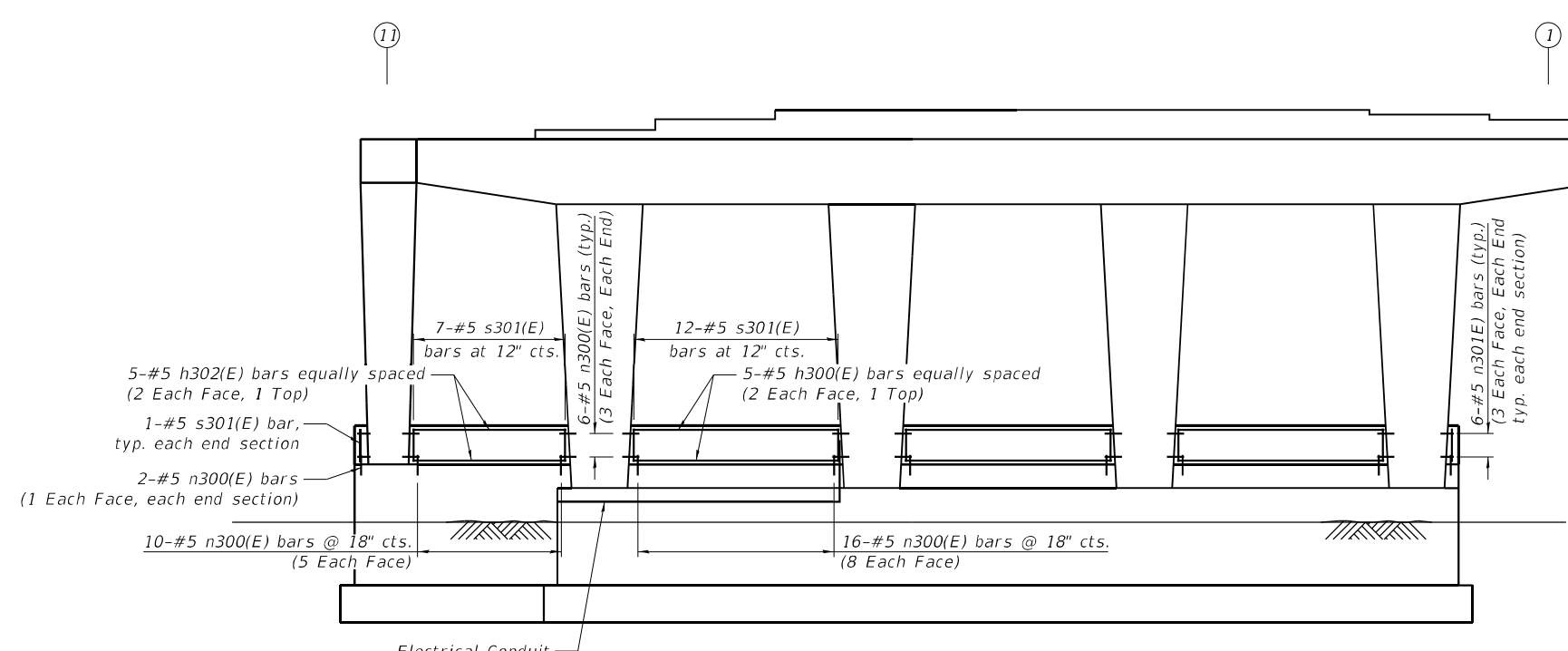
WEST ELEVATION
(Looking East)



SOUTH ELEVATION
(Looking North)



EAST ELEVATION
(Looking West)



NORTH ELEVATION
(Looking South)

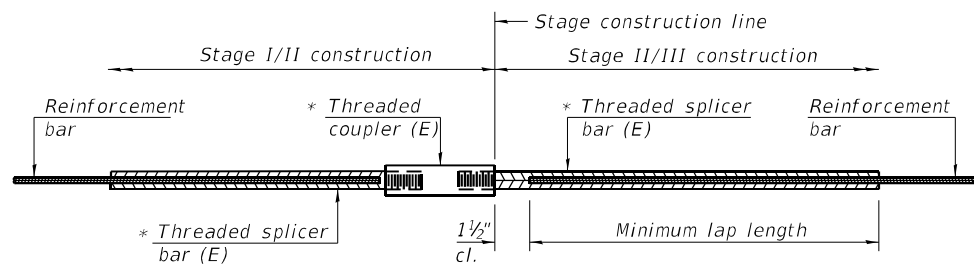
Notes:

Epoxy grout n300(E) bars 9" min. holes according to Article 584 of the Standard Specifications. The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars, Epoxy Coated

See sheet S3-20 of S3-23 for n300(E), n301(E) and s301(E) bar details

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	15	#5	11'-3"	—
h302(E)	5	#5	6'-8"	—
n300(E)	110	#5	2'-5"	U
n301(E)	12	#5	1'-10"	U
s301(E)	45	#5	7'-11"	□
Item			Unit	Total
Concrete Structures			Cu. Yd.	7.0
Reinforcement Bars, Epoxy Coated			Pound	890
Concrete Sealer			Sq. Ft.	1,780

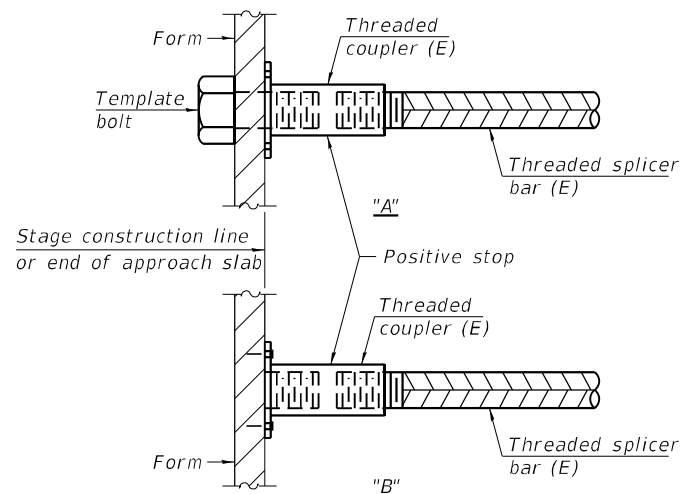


STANDARD BAR SPLICER ASSEMBLY

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

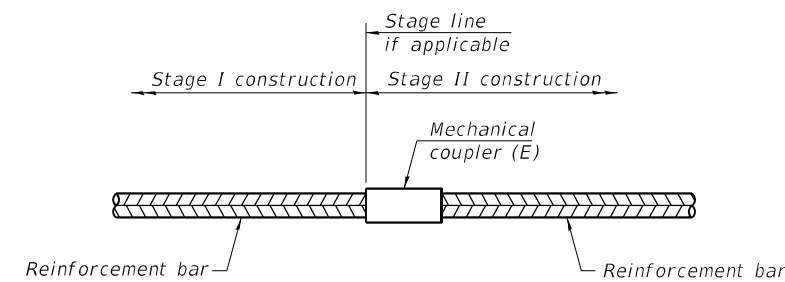
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
S. End of Deck	#5	14	3'-6"
S. Abut. Hatched Block	#5	8	3'-6"
N. End of Deck	#5	14	3'-6"
N. Abut. Hatched Block	#5	8	3'-6"



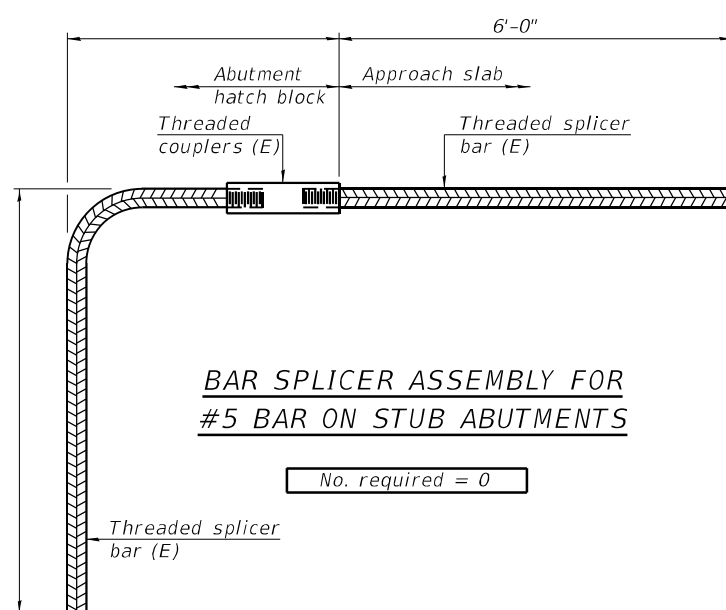
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 0

NOTES

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

MODEL: 0160052-D62M54-023
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY DETAILS
I-57 BRIDGE OVER I-80 - SN 016-0052**

SHEET 53-23 OF 53-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	157
CONTRACT NO.			62M54	
ILLINOIS FED. AID PROJECT				

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Existing Structure: S.N. 016-0053, originally built in 1964 as a three-span continuous steel superstructure with stub abutments and two multi-column trapezoidal piers. The back to back length is 204'-4 $\frac{3}{4}$ " and the out-to-out width is 43'-2" typically but varies at bridge ends. Structure is to be repaired as detailed in these plans.

The structure will be repaired using staged construction to maintain traffic.

No Salvage.

DESIGN STRESSES

FIELD UNITS (EXIST. CONST.)

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi
 $f_y = 50,000$ psi M223 Gr.50 & M222
 $f_y = 36,000$ psi M183

FIELD UNITS (NEW CONST.)

$f'_c = 4,000$ psi (Superstructure)
 $f'_c = 3,500$ psi (Substructure)
 $f_y = 60,000$ psi (Reinforcement)

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS20-44

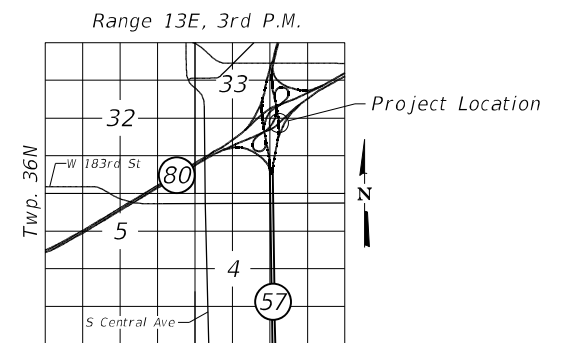
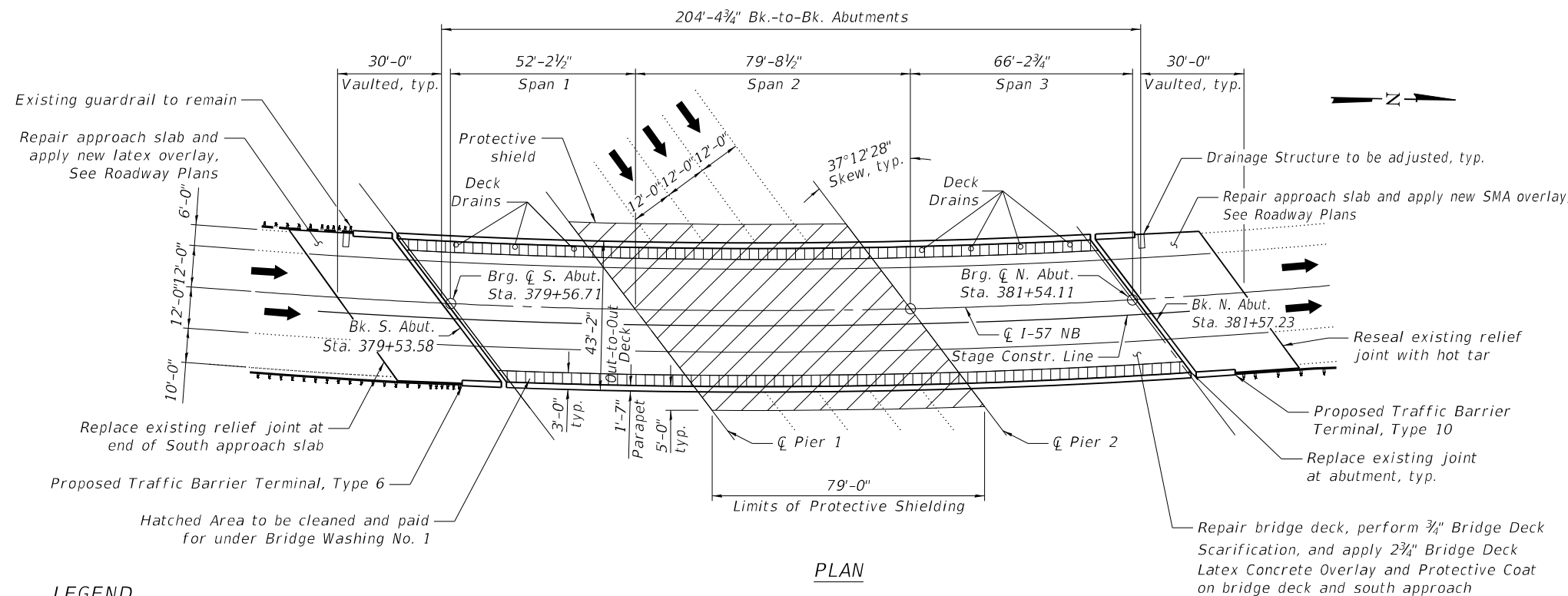
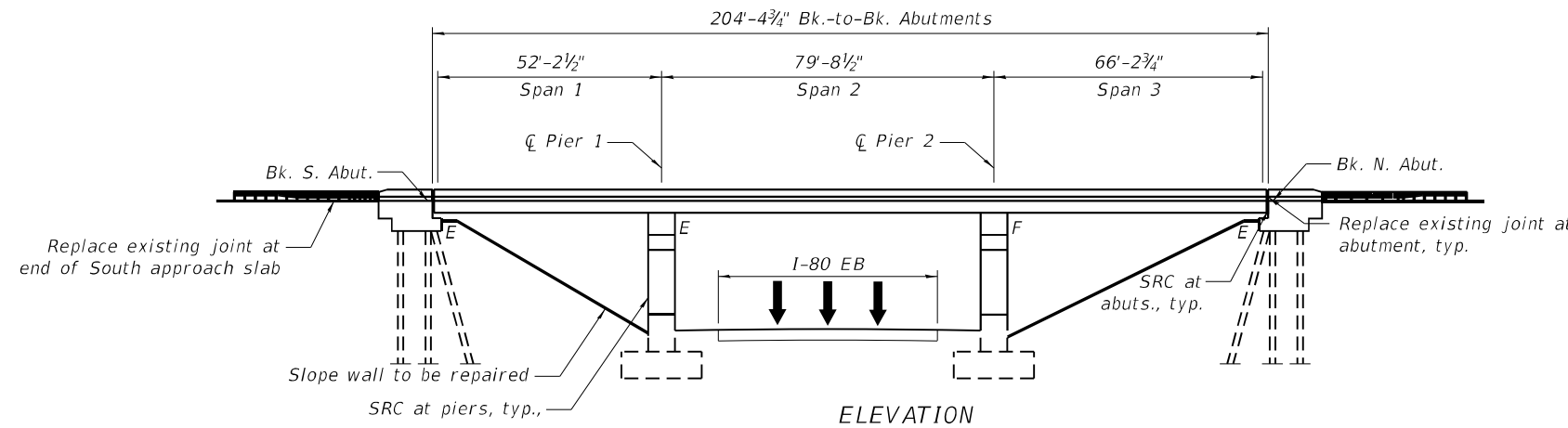
Existing and Proposed

INDEX OF SHEETS

- S4-01. General Plan and Elevation
- S4-02. General Notes and Bill of Material
- S4-03. Maintenance of Traffic Details
- S4-04. Temporary Concrete Barrier for Stage Construction
- S4-05. Deck and Approach Slabs Repairs and Overlay Plans
- S4-06. Parapet Repair
- S4-07. Inlet Adjustment
- S4-08. Existing Drainage Details
- S4-09. Joint Repair Limits
- S4-10. Expansion Joint Details
- S4-11. Preformed Joint Strip Seal
- S4-12. Framing Plan
- S4-13. Diaphragm Repairs
- S4-14. South Abutment Repairs
- S4-15. North Abutment Repairs
- S4-16. Pier 1 Repairs
- S4-17. Pier 2 Repairs
- S4-18. Pier 1 Crash Wall
- S4-19. Pier 2 Crash Wall
- S4-20. Bar Splicer Assembly Details

SCOPE OF WORK

1. Replace expansion joint at both abutment, replace relief joint at end of south approach slab and reseal relief joint at end of north approach slab
2. Deck Scarification, $\frac{3}{4}$ " and Latex Concrete Overlay, 2 $\frac{3}{4}$ "
3. Deck slab partial and full depth repair
4. Approach slabs partial depth repair
5. Replace steel end diaphragms at locations shown on plans
6. Formed Concrete repair of piers and abutments
7. Extend existing crash walls at piers
8. Repair damaged deck floor drain
9. Repair slopewall
10. Clean and seal bridge seats at abutments and piers
11. Provide Protective Shield within limits indicated/shown on plans



Arthur Nowak

GENERAL PLAN AND ELEVATION
I-57 OVER I-80
SECTION 2020-171-BR
COOK COUNTY
STRUCTURE NO. 016-0053

MODEL: 0160053-D62M54-001
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
I-57 BRIDGE OVER I-80 - SN 016-0053

SHEET S4-01 OF S4-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	158
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. Bars noted thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bars per line.
4. For SMA overlay quantity on Approach Slab, see Civil Sheets.
5. Protective Coat shall be applied to the top of reconstructed transverse joint areas and top of Latex Overlay.
6. Concrete Sealer shall be applied to the abutments, piers, and top and inside faces of parapets at locations shown in the plans.
7. Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.
8. Prior to pouring the new concrete deck for expansion joint reconstruction and deck slab repairs, all heavy or loose rust, 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 pay item covering removal of the existing concrete. 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.
9. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presense of lead on this project.
10. 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 Provision "Cleaning And Painting Contact Surface Areas Of Existing Steel Structures".
11. All new structural steel shall be hot-dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel."
12. All new fasteners shall be high strength bolts. Holes shall be 1 3/16" dia. for 3/4" dia. bolts, and 1 3/16" dia. for 7/8" dia. bolts, unless otherwise noted.
13. Cost of cleaning existing drains shall not be paid seperately, but shall be included with Bridge Deck Scarification.
14. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at his or her expense at no charge to IDOT.
15. The Contractor is responsible to remove, support, and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires."
16. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to ride above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
17. Any adjustments done to the Protective Shield System must not change the load carrying capacity (or containment specifications) as indicated in the STD specs. Cost of adjusting shielding is included in the cost of Protective Shield.

TOTAL BILL OF MATERIAL

Item No.	Description	Unit	Super	Sub	Total
20700220	Porous Granular Embankment	Cu. Yd.	-	1.5	1.5
50102400	Concrete Removal	Cu. Yd.	13.9	-	13.9
50157300	Protective Shield	Sq. Yd.	587	-	587
52000037	Preformed Joint Seal 3'	Sq. Yd.	53.0	-	53.0
50300225	Concrete Structures	Cu. Yd.	-	8.6	8.6
50300255	Concrete Superstructure	Cu. Yd.	14.4	-	14.4
50300260	Bridge Deck Grooving	Sq. Yd.	995	-	995
50300300	Protective Coat	Sq. Yd.	1,042	-	1,042
50500405	Furnishing and Erecting Structural Steel	Pound	1,290	-	1,290
50800205	Reinforcement Bars, Epoxy Coated	Pound	1,780	980	2,760
50800515	Bar Splicers	Each	22	-	22
52000110	Preformed Joint Strip Seal	Foot	105	-	105
58700300	Concrete Sealer	Sq. Ft.	1,531	3,417	4,948
59000200	Epoxy Crack Injection	Foot	90.0	19.0	109.0
59200101	Bridge Washing No. 1	Each	1	-	1
X0323491	Slope Wall Crack Sealing	Foot	-	58.0	58.0
X0326766	Clean & Reseal Relief Joint	Foot	46.0	-	46.0
X0327577	Protect and Maintain Existing Underpass Luminaire	L Sum	-	0.25	0.25
X0931400	Inlet Boxes to be Adjusted (Special)	Each	2	-	2
X5030530	Floor Drain Extension	Each	1	-	1
Z0001903	Structural Steel Removal	Pound	1,300	-	1,300
Z0006016	Bridge Deck Latex Concrete Overlay, 2 3/4 Inches	Sq. Yd.	1,020	-	1,020
Z0012130	Bridge Deck Scarification 3/4"	Sq. Yd.	1,020	-	1,020
Z0012754	Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	-	53	53
Z0012755	Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	1	41	42
Z0016001	Deck Slab Repair (Full Depth, Type 1)	Sq. Yd.	0.3	-	0.3
Z0018500	Drainage Structures to be Cleaned	Each	9	-	9
Z0033028	Maintenance of Lighting System	Cal. Mo.	-	6	6
Z0065700	Slope Wall Repair	Sq. Yd.	-	6.5	6.5

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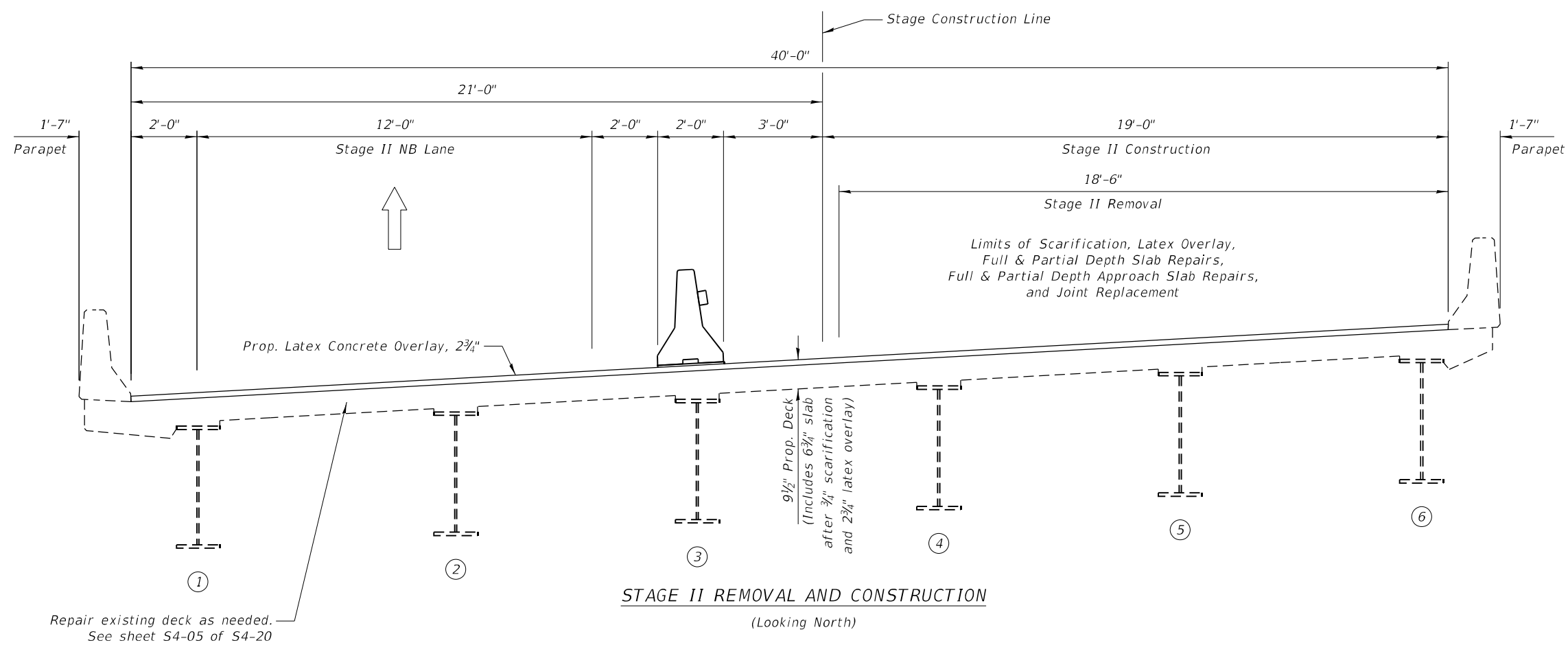
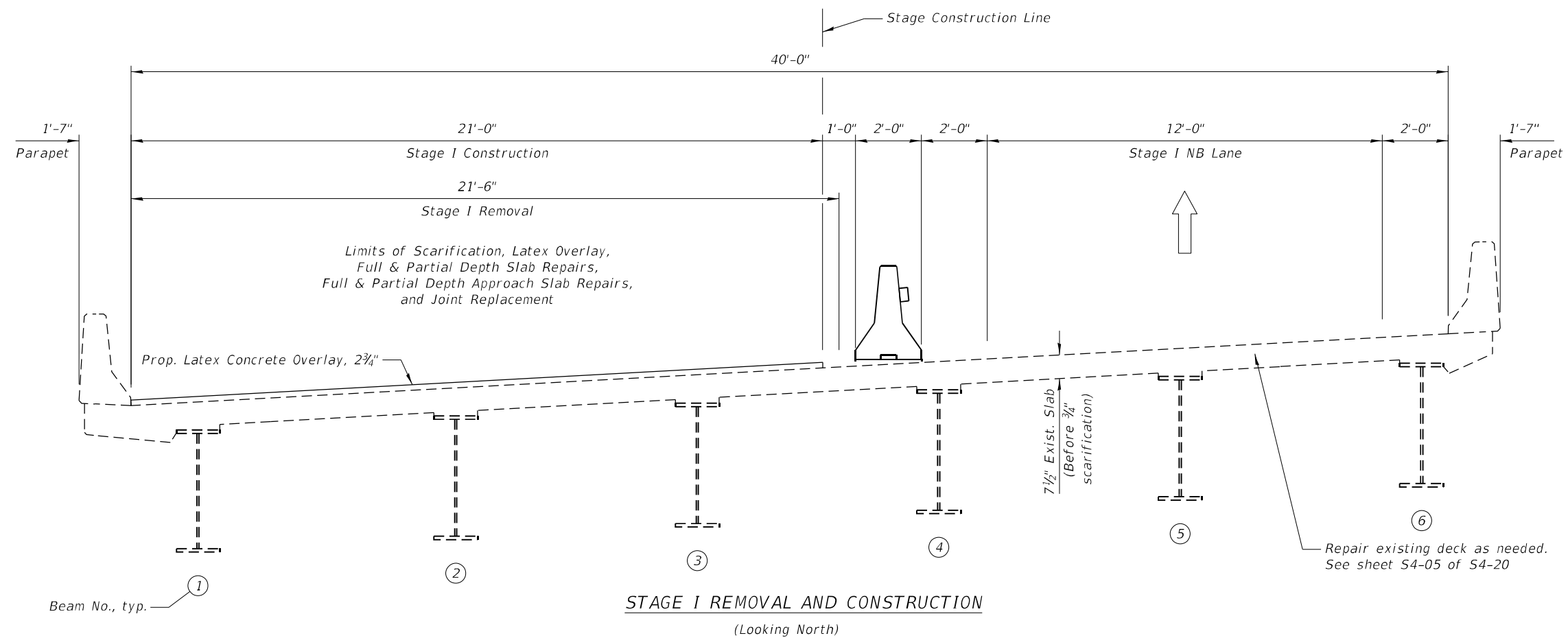
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**GENERAL NOTES AND BILL OF MATERIAL
 I-57 BRIDGE OVER I-80 - SN 016-0053**

SHEET 54-02 OF 54-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	159
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



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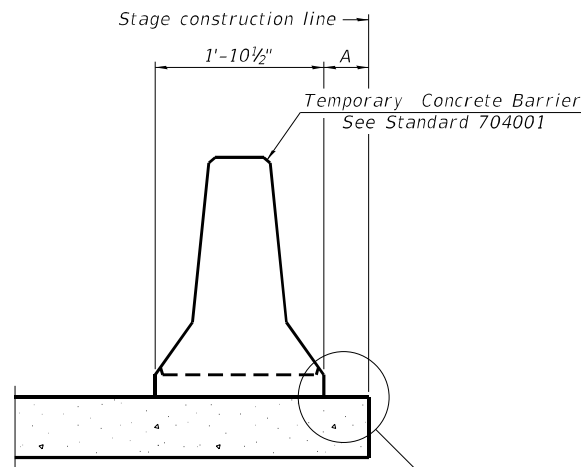
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC DETAILS
I-57 BRIDGE OVER I-80 - SN 016-0053

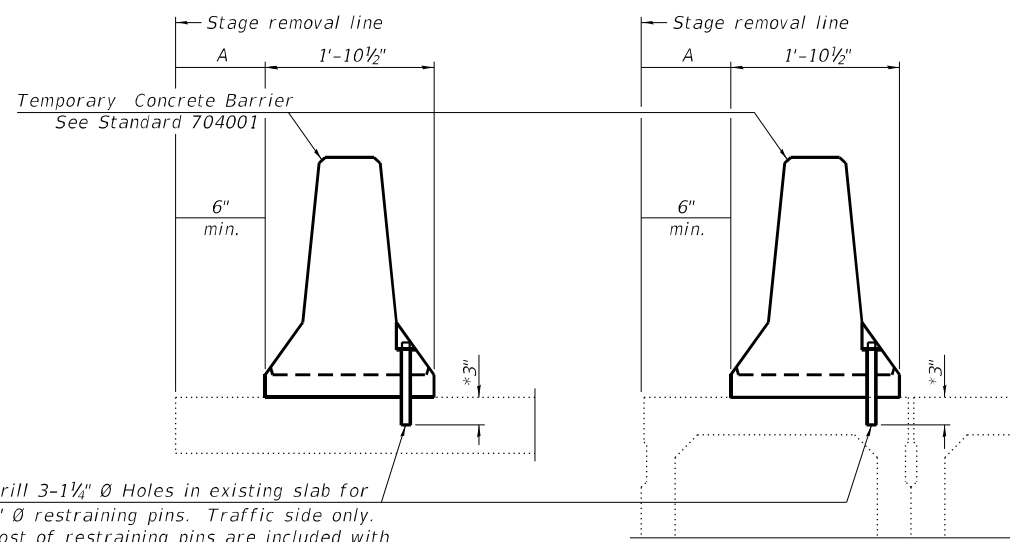
SHEET S4-03 OF S4-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	160
CONTRACT NO.			62M54	
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

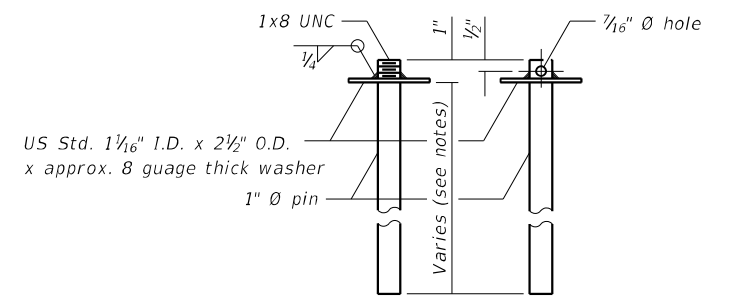


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

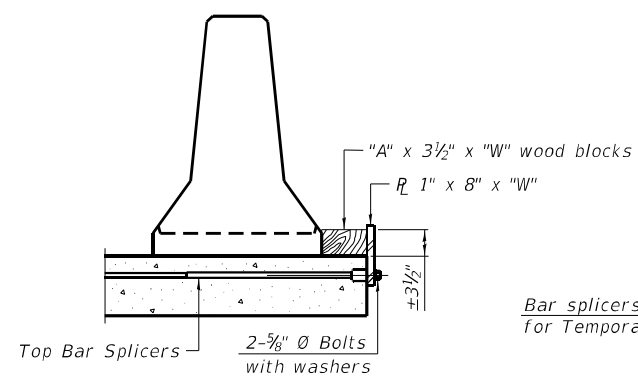
EXISTING SLAB

EXISTING DECK BEAM

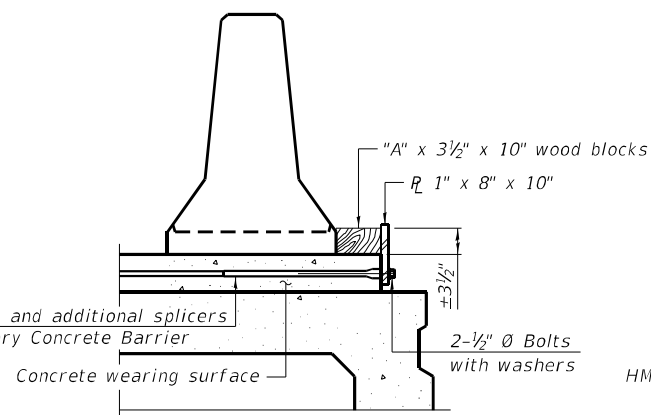
SECTIONS THRU SLAB OR DECK BEAM



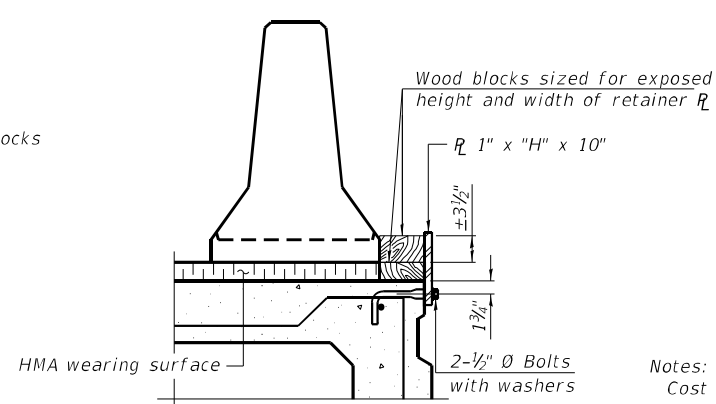
RESTRAINING PIN



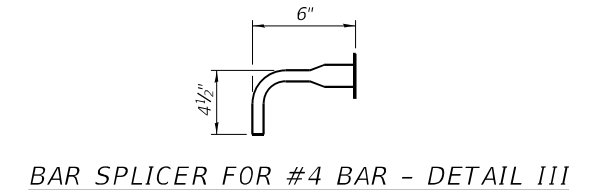
DETAIL I



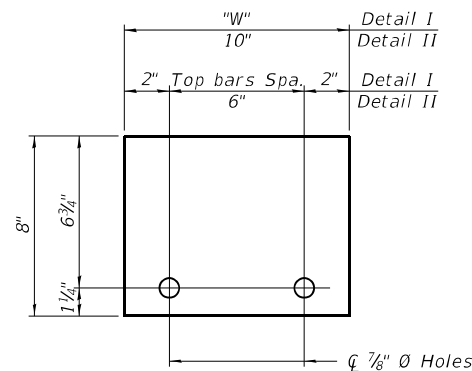
DETAIL II



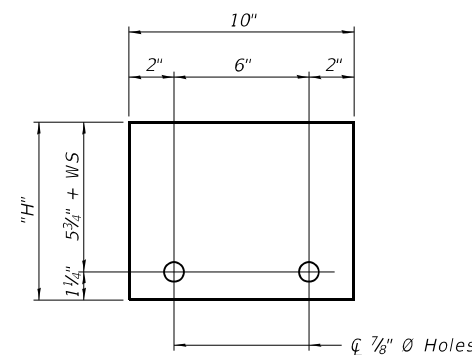
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



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

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

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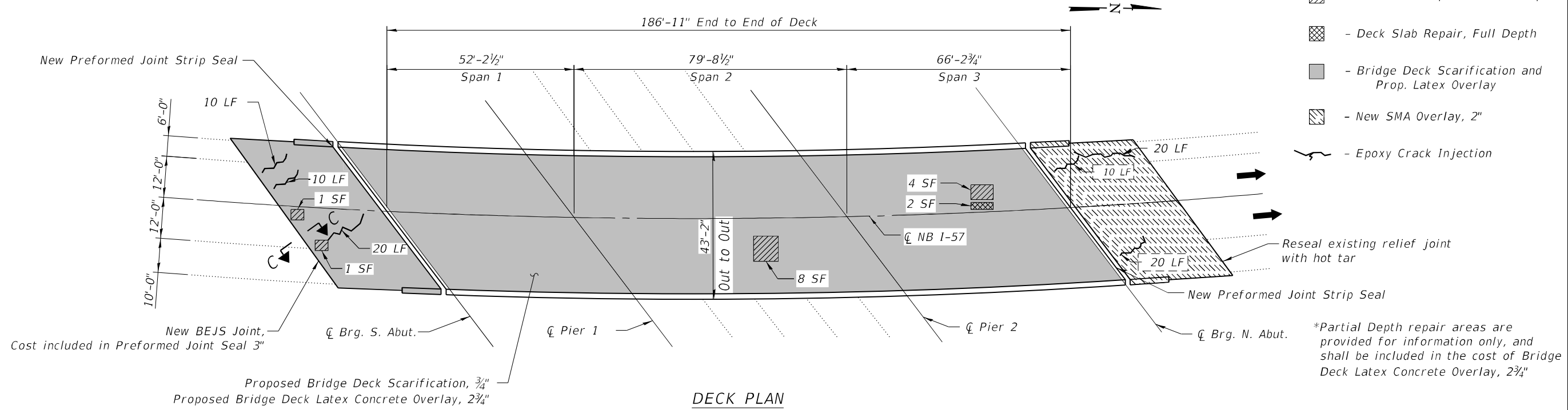
**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
 I-57 BRIDGE OVER I-80 - SN 016-0053**

SHEET 54-04 OF 54-20 SHEETS

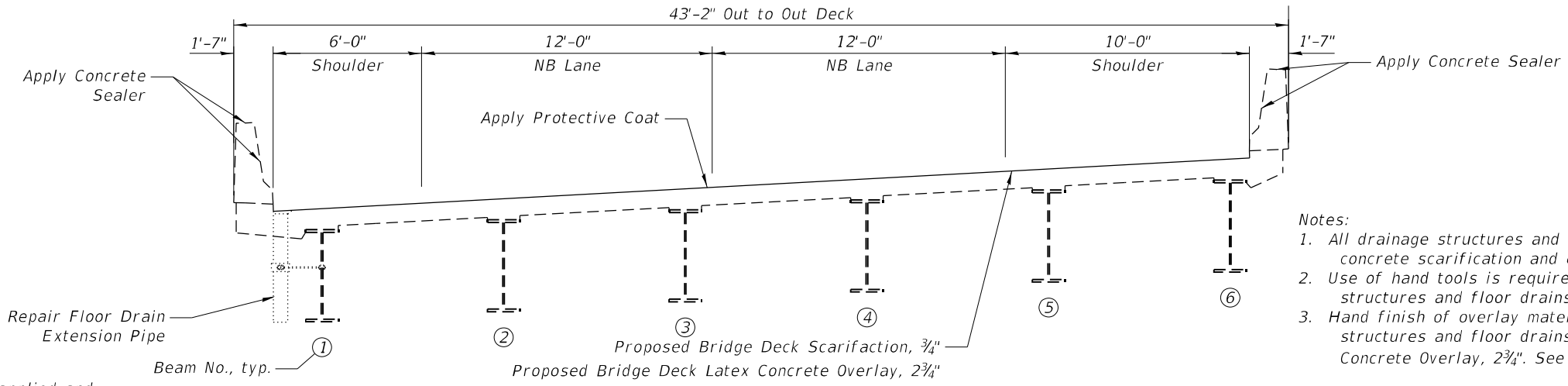
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

LEGEND

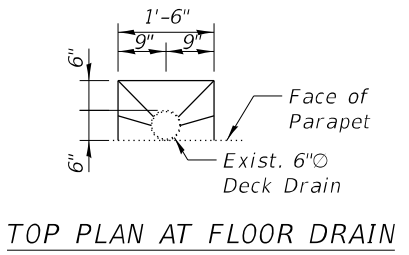
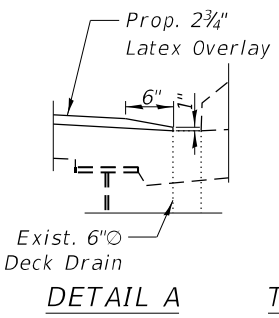
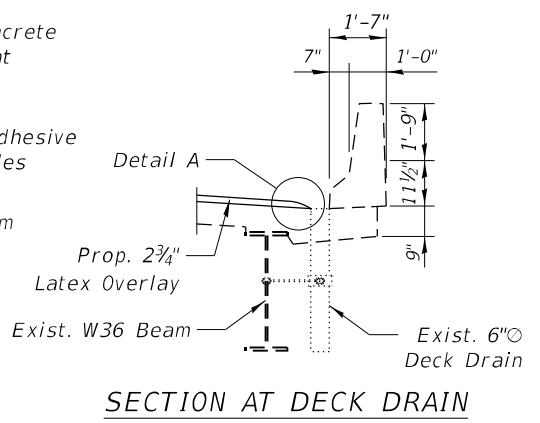
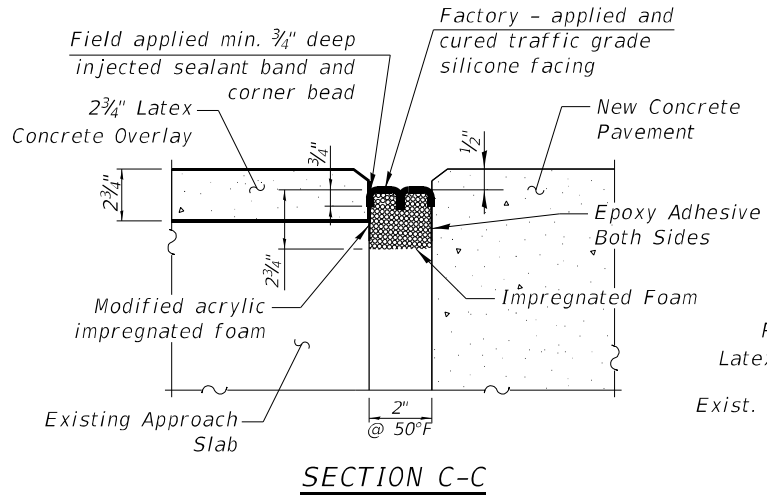
- Deck Slab Repair, Partial Depth
- Deck Slab Repair, Full Depth
- Bridge Deck Scarification and Prop. Latex Overlay
- New SMA Overlay, 2"
- Epoxy Crack Injection



**BROKEN FLOOR DRAIN
EXTENSION PIPE**



- Notes:**
- All drainage structures and floor drains must be protected during concrete scarification and overlay placement operations.
 - Use of hand tools is required while working around drainage structures and floor drains.
 - Hand finish of overlay material is required around drainage structures and floor drains. The cost is included in the Latex Concrete Overlay, 2 3/4". See relevant details on this sheet.



BILL OF MATERIAL

Item	Unit	Total
Bridge Deck Grooving	Sq. Yd.	995
Protective Coat	Sq. Yd.	1,042
Bridge Deck Latex Concrete Overlay, 2 3/4 Inches	Sq. Yd.	1,020
Bridge Deck Scarification, 3/4"	Sq. Yd.	1,020
Deck Slab Repair (Full Depth, Type 1)	Sq. Yd.	0.3
Protective Shield	Sq. Yd.	587
Epoxy Crack Injection	Foot	90
Preformed Joint Seal 3"	Foot	53
Clean & Reseal Relief Joint	Foot	46

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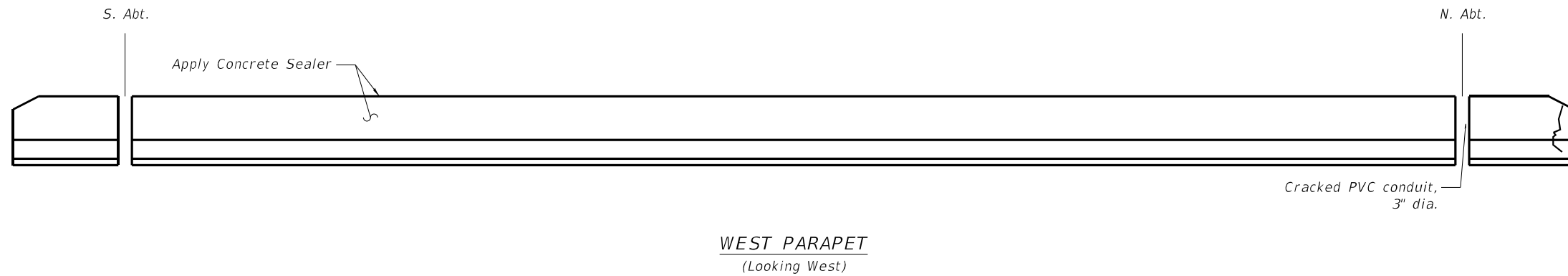
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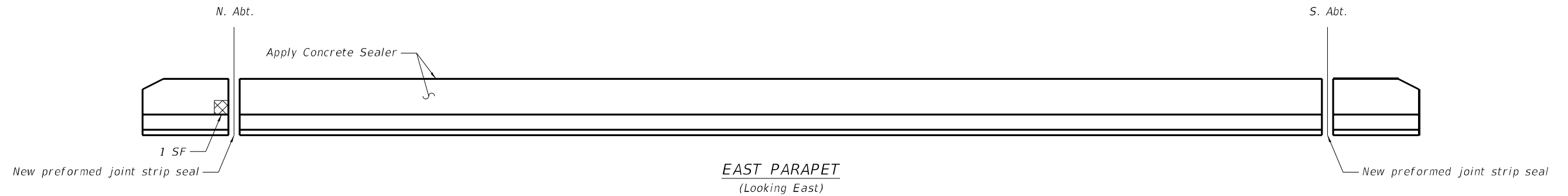
**DECK AND APPROACH SLABS REPAIRS AND OVERLAY PLANS
I-57 BRIDGE OVER I-80 - SN 016-0053**

SHEET 54-05 OF 54-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	162
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



WEST PARAPET
(Looking West)




EAST PARAPET
(Looking East)

BILL OF MATERIAL

Item	Unit	Total
Concrete Sealer	Sq. Ft.	1,531
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	1

LEGEND

 - SRC depth greater than 5"

MODEL: 0160053-D62M54-010
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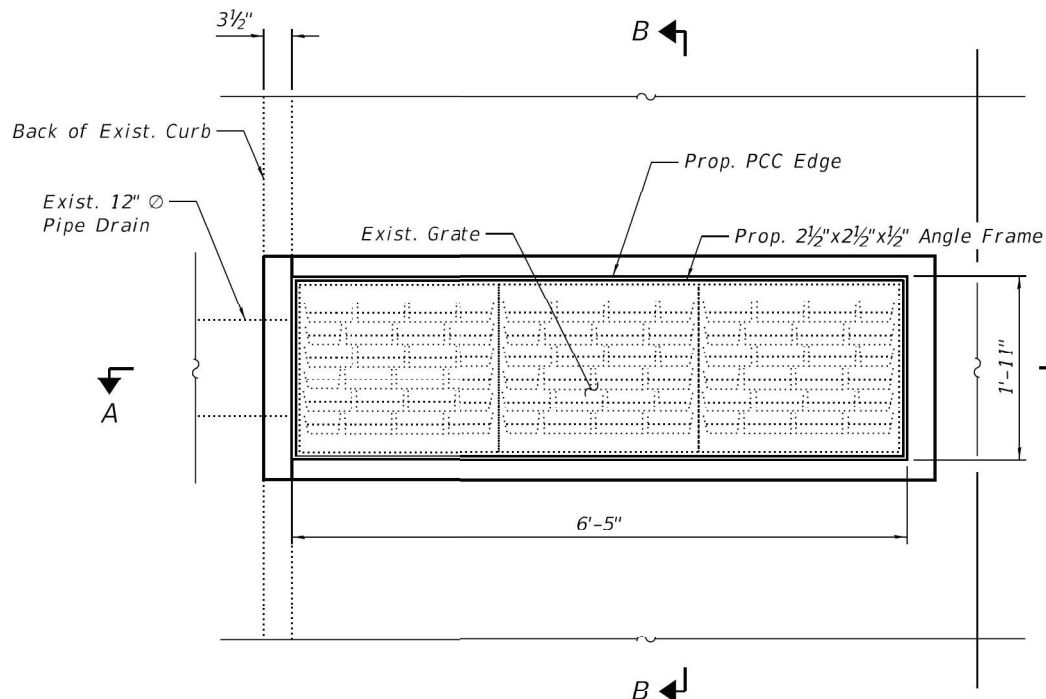
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DEPARTMENT OF TRANSPORTATION**

**PARAPET REPAIR
I-57 BRIDGE OVER I-80 - SN 016-0053**

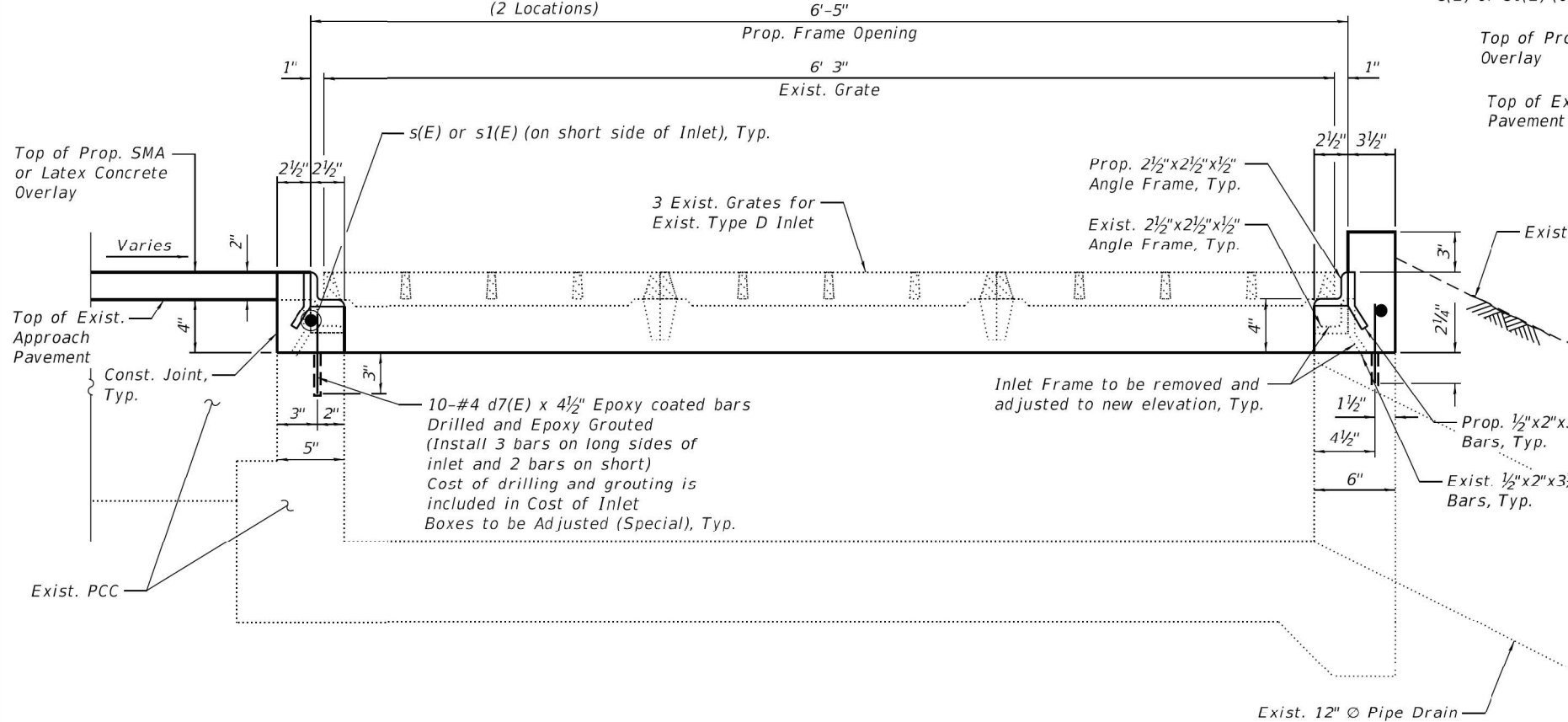
SHEET 54-06 OF 54-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	163
			CONTRACT NO. 62M54	
ILLINOIS FED. AID PROJECT				

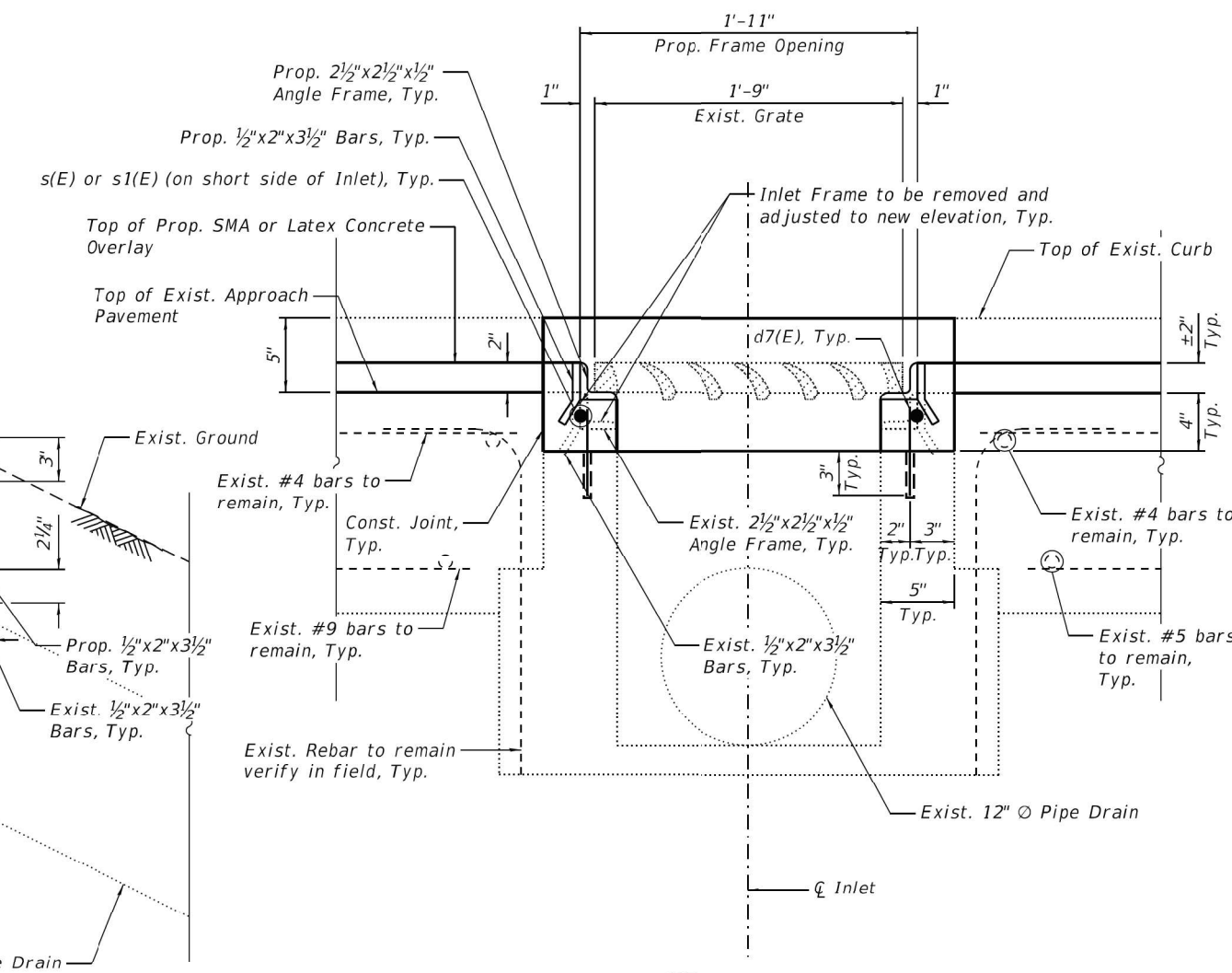
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TYPICAL DRAINAGE STRUCTURE PLAN
(2 Locations)



SECTION A-A



SECTION B-B

NOTES

1. The Contractor shall field verify Existing Dimensions and Details of the Existing Inlets, Frames, and Grates and make necessary adjustments prior to reconstruction of top of inlet, relocation of frame and grate, or ordering of material for Inlet Boxes to be Adjusted (Special).
2. The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the frames and grates.
3. Cost of all labor and materials necessary to clean all existing inlets, concrete removal, concrete structures, reinforcement bars (epoxy coated) and remove and reinstall frames and grates is included in the cost of Inlet Boxes to be Adjusted (Special). (See Section 603 of the Std. Specs.)
4. Adjust top of Inlet Box elevation to match the top of proposed SMA or latex Concrete Overlay. See Sections A-A and B-B on this sheet.
5. Bridge approach shoulder to remain.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Inlet Boxes to be Adjusted (Special)	Each	2

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

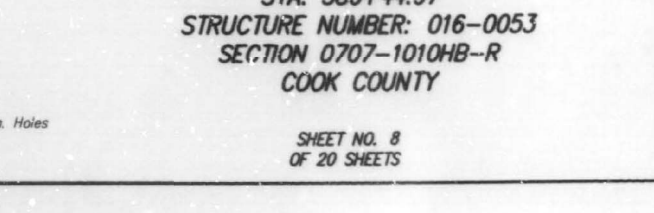
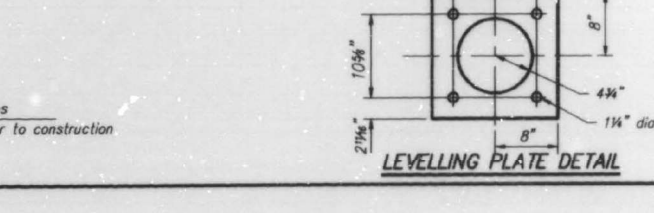
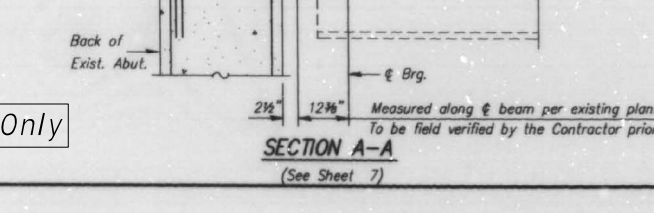
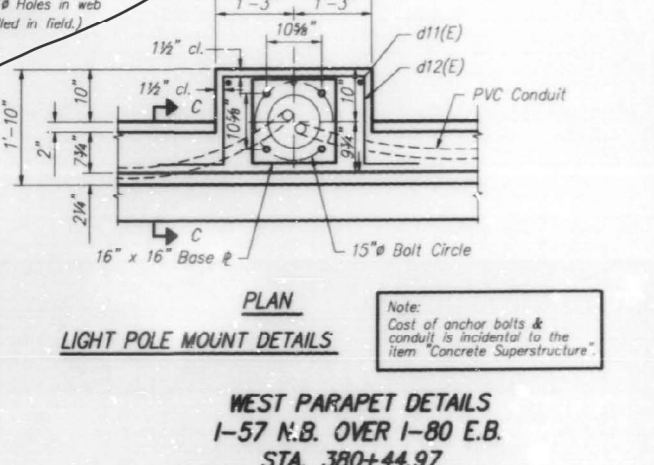
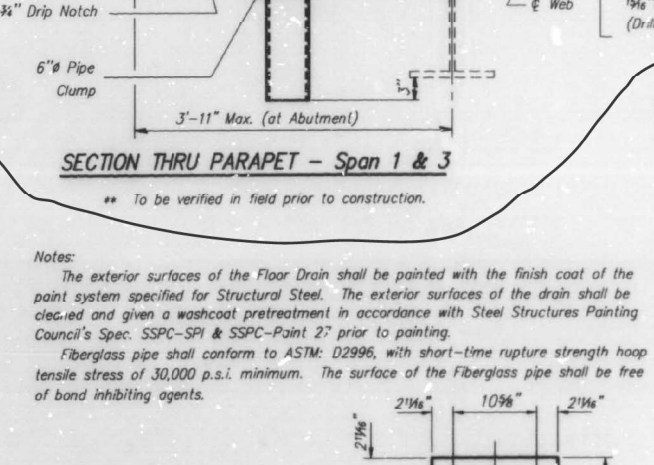
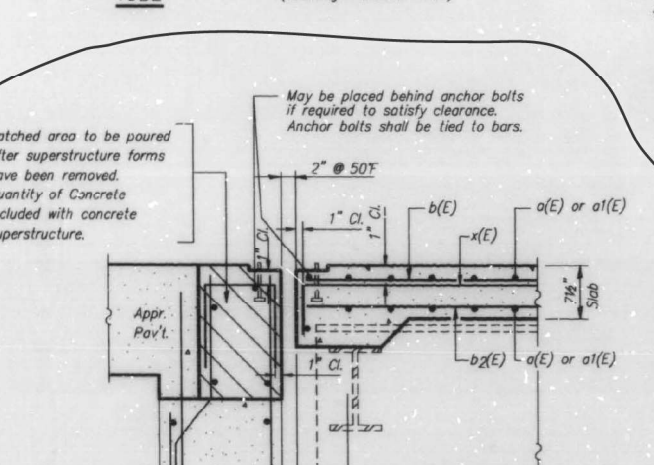
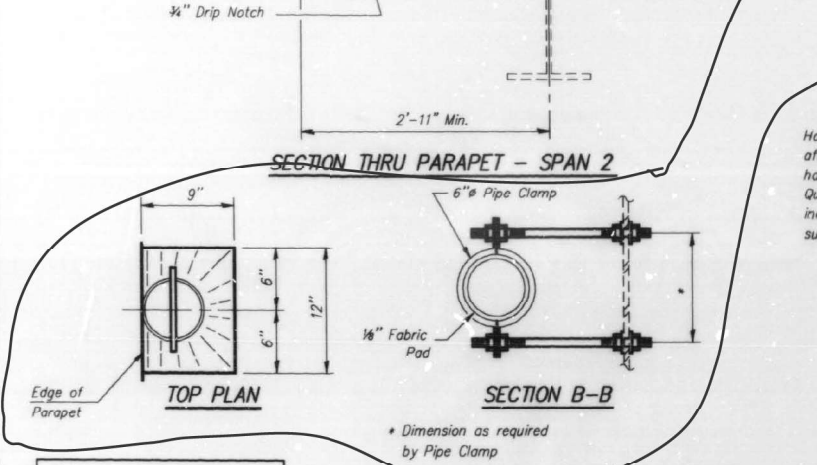
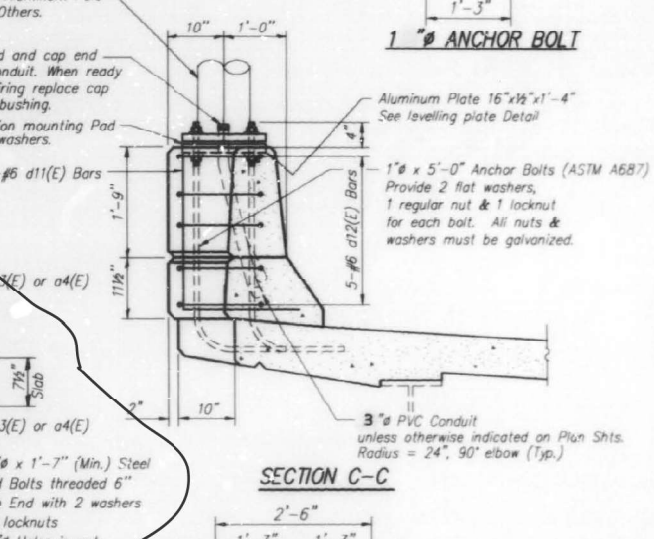
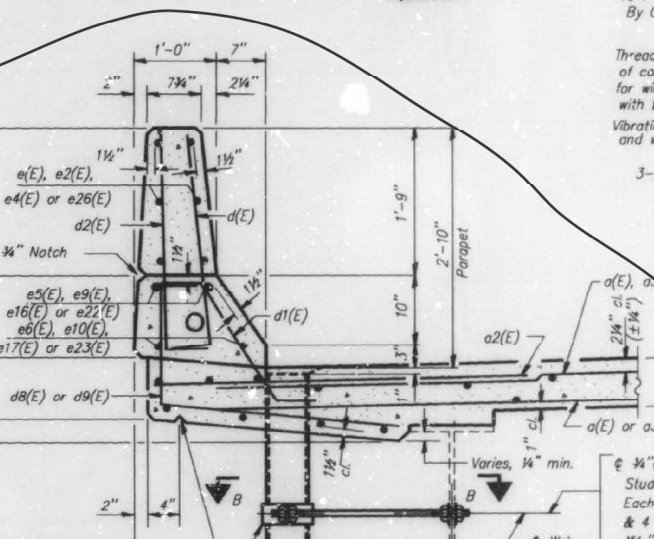
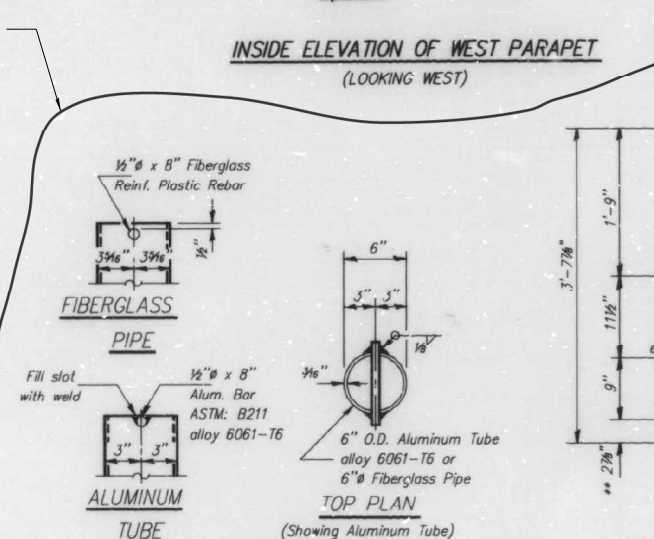
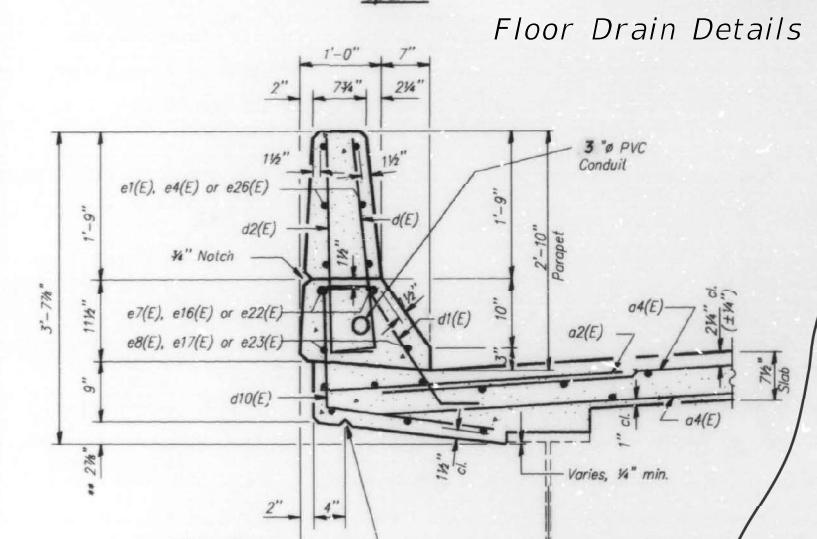
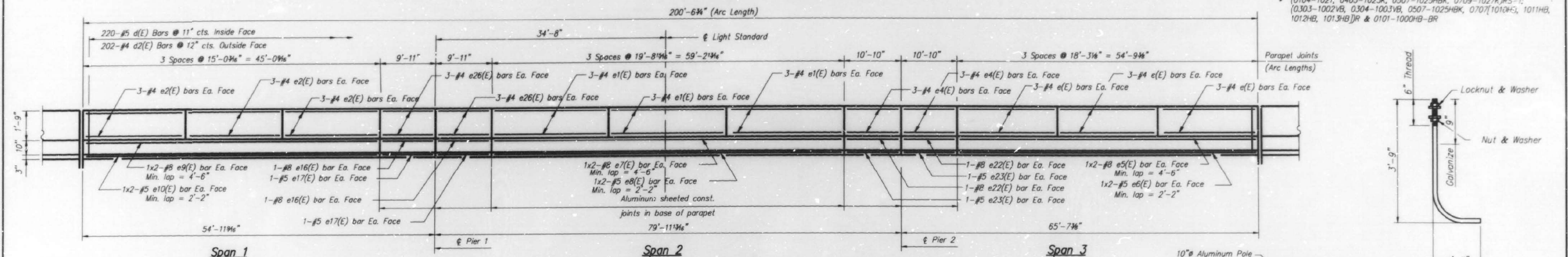
**INLET ADJUSTMENT
I-57 BRIDGE OVER I-80 - SN 016-0053**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	164
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL
FAL 57	*	COOK	380	159

* (0104-1021, 0405-1023K, 0507-1025HBK, 0709-1027K)RS-1;
(0303-1002VB, 0304-1003VB, 0507-1025HBK, 0707-1010HB, 1011HB,
1012HB, 1013HB)R & 0101-1000HB-BR



DESIGNED	RAB
CHECKED	NPP
DRAWN	RSB
CHECKED	NPP

HAZELET + ERDAL, INC.
CONSULTING ENGINEERS
FILE NUMBER 626

For Information Only

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING DRAINAGE DETAILS
I-57 BRIDGE OVER I-80 - SN 016-0053

WEST PARAPET DETAILS
I-57 N.B. OVER I-80 E.B.
STA. 380+44.97
STRUCTURE NUMBER: 016-0053
SECTION 0707-1010HB-R
COOK COUNTY

SHEET NO. 8
OF 20 SHEETS

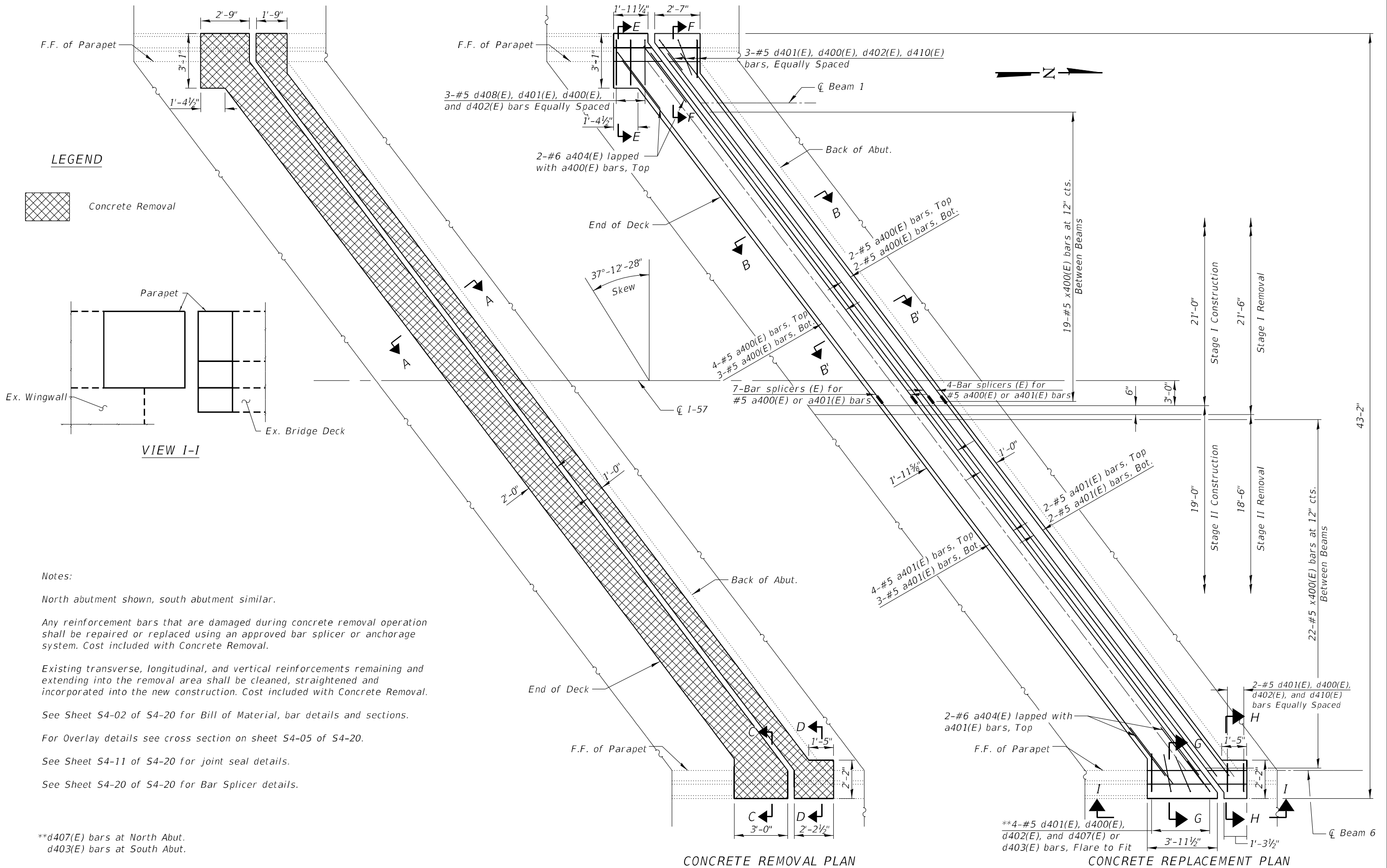
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	165
			CONTRACT NO.	62M54

SHEET 54-08 OF 54-20 SHEETS	
ILLINOIS FED. AID PROJECT	

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LEGEND

Concrete Removal

VIEW I-I

Notes:

- North abutment shown, south abutment similar.
- Any reinforcement bars that are damaged during concrete removal operation shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- Existing transverse, longitudinal, and vertical reinforcements remaining and extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- See Sheet S4-02 of S4-20 for Bill of Material, bar details and sections.
- For Overlay details see cross section on sheet S4-05 of S4-20.
- See Sheet S4-11 of S4-20 for joint seal details.
- See Sheet S4-20 of S4-20 for Bar Splicer details.

**d407(E) bars at North Abut.
 d403(E) bars at South Abut.

CONCRETE REMOVAL PLAN

CONCRETE REPLACEMENT PLAN



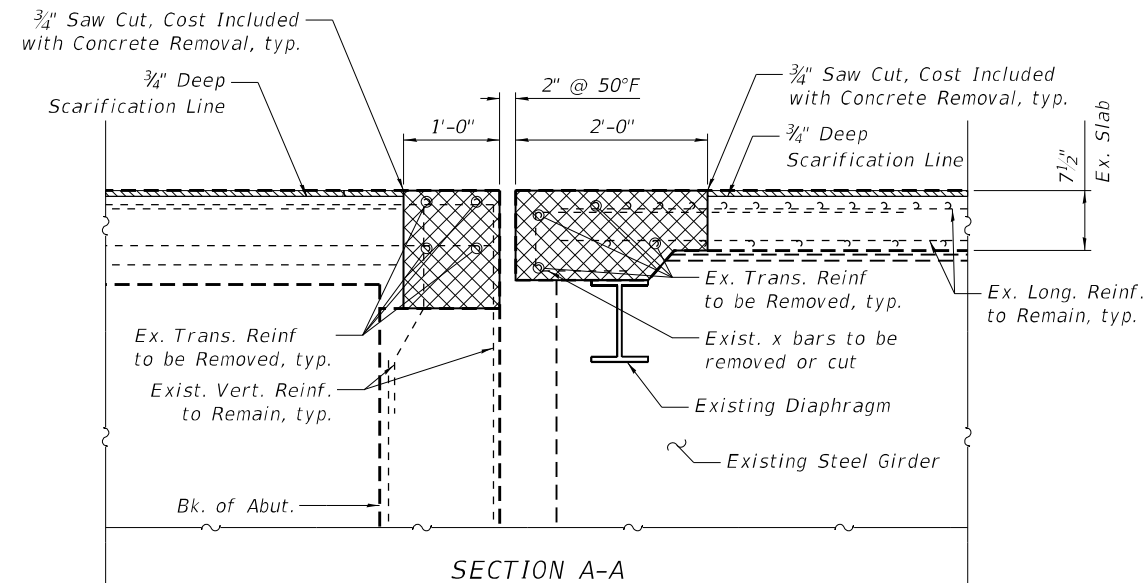
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

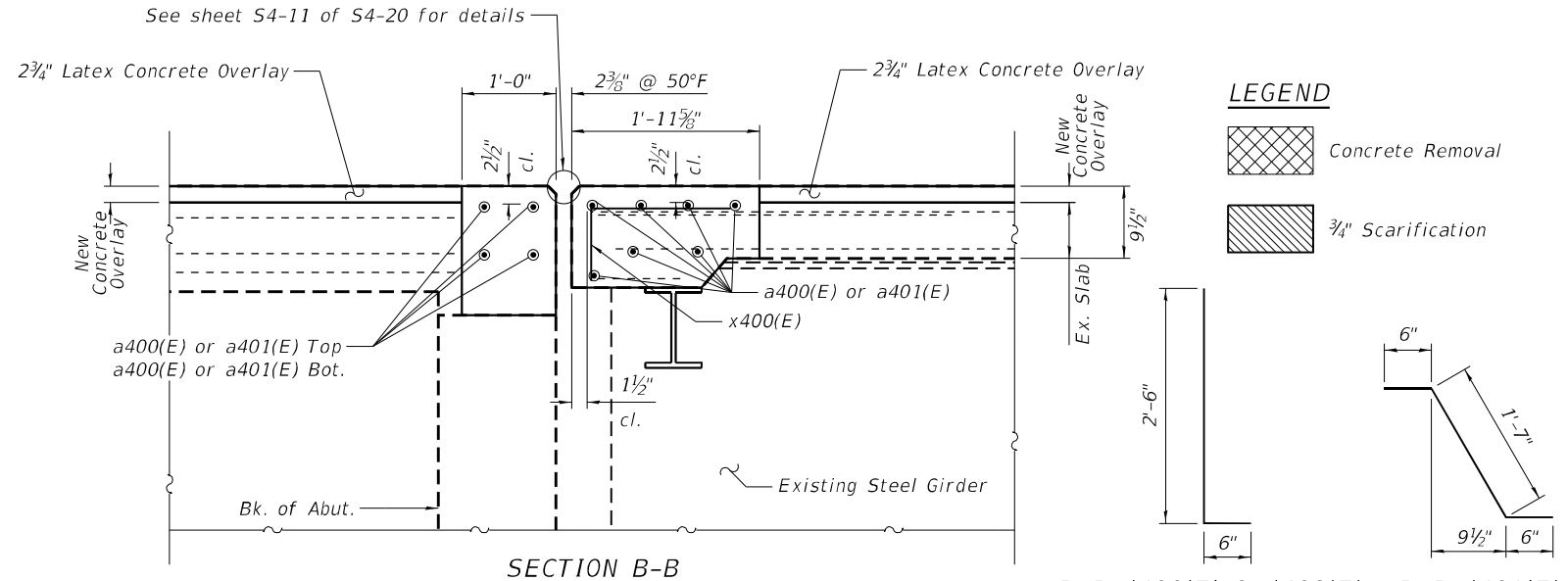
**JOINT REPAIR LIMITS
 I-57 BRIDGE OVER I-80 - SN 016-0053**

SHEET S4-09 OF S4-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	166
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



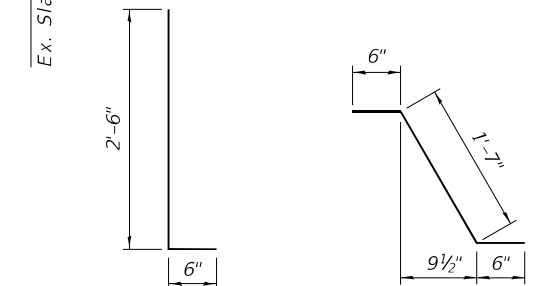
SECTION A-A
(Dim. @ Rt. L's)



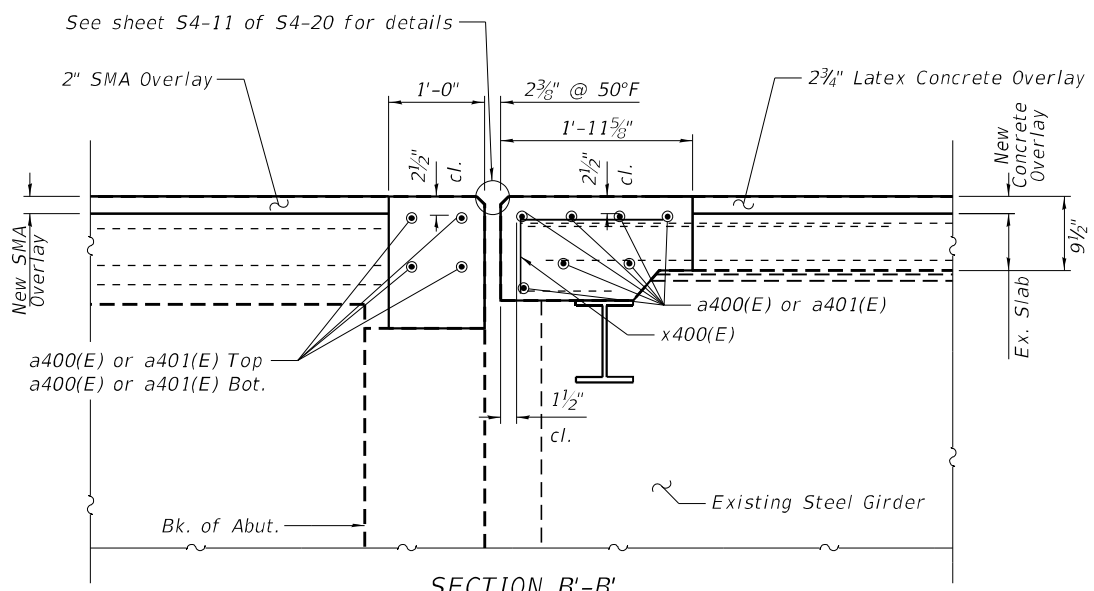
SECTION B-B
(South Abut., Dim. @ Rt. L's)

LEGEND

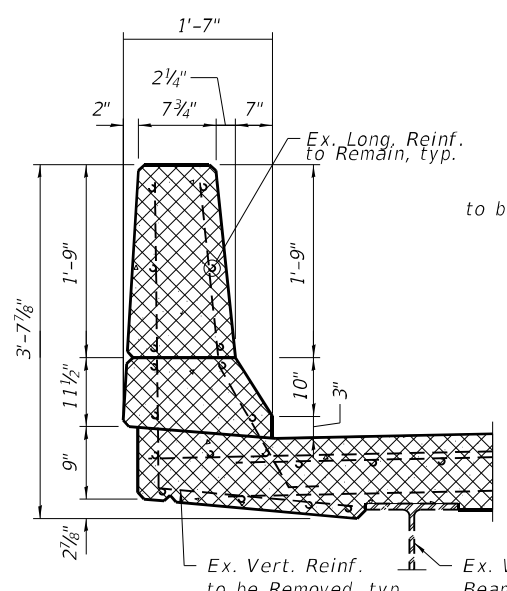
	Concrete Removal
	3/4" Scarfification



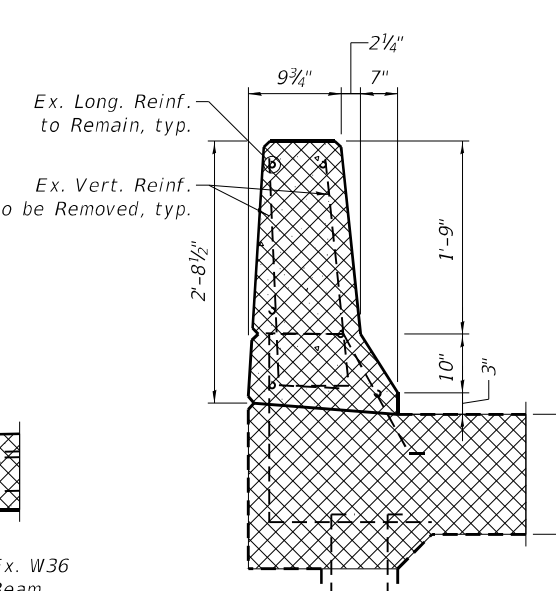
BAR d400(E) & d402(E) **BAR d401(E)**



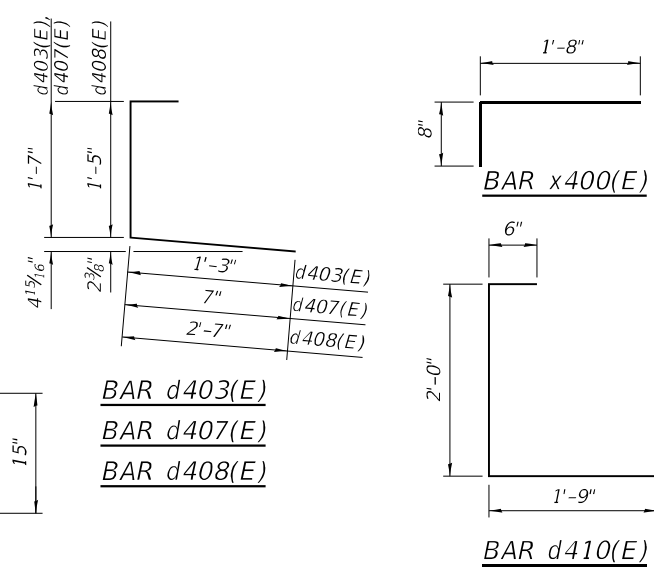
SECTION B'-B'
(North Abut., Dim. @ Rt. L's)



SECTION C-C

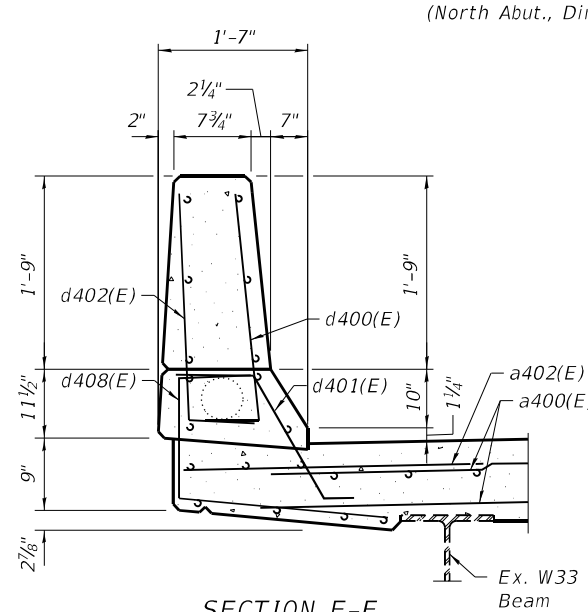


SECTION D-D

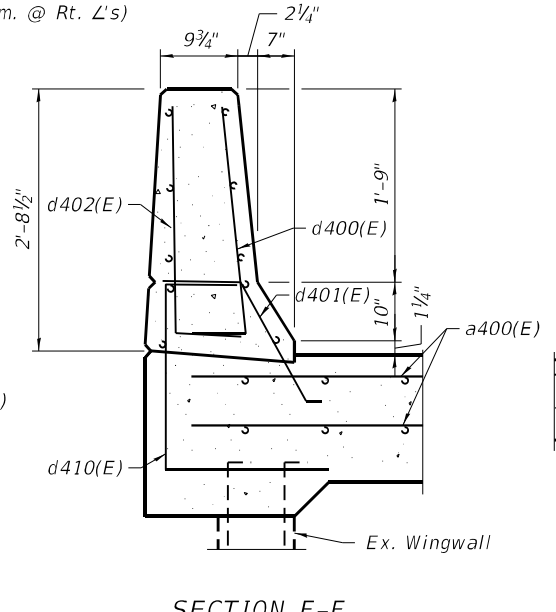


BAR d403(E)
BAR d407(E)
BAR d408(E)

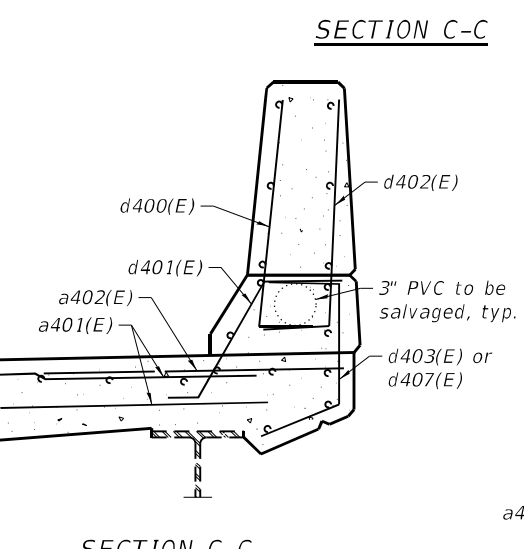
BAR d410(E)



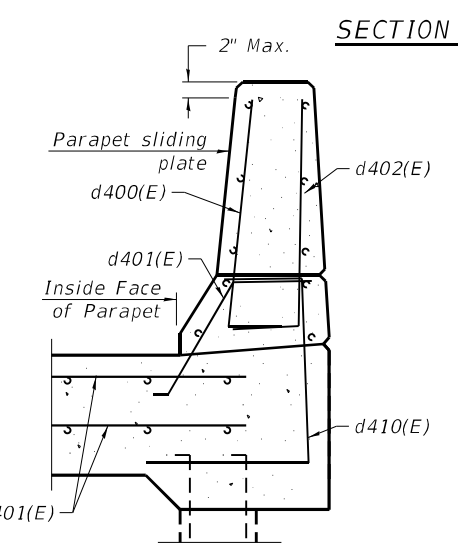
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

BILL OF MATERIALS

Bar	No.	Size	Length	Shape	
a400(E)	22	#5	27'-8"	—	
a401(E)	22	#5	25'-7"	—	
a402(E)	8	#6	4'-0"	—	
x400(E)	82	#5	2'-4"	┌	
d400(E)	24	#5	3'-0"	┌	
d401(E)	24	#5	2'-7"	┌	
d402(E)	24	#5	3'-0"	┌	
d403(E)	4	#5	3'-0"	┌	
d407(E)	4	#5	2'-8"	┌	
d408(E)	6	#5	4'-6"	┌	
d410(E)	10	#5	4'-3"	┌	
Item				Unit	Total
Concrete Removal				Cu. Yd.	13.9
Concrete Superstructure				Cu. Yd.	14.4
Reinforcement Bars, Epoxy Coated				Pound	1,780
Bar Splicers				Each	22

MODEL: 0160053-D62M54-008
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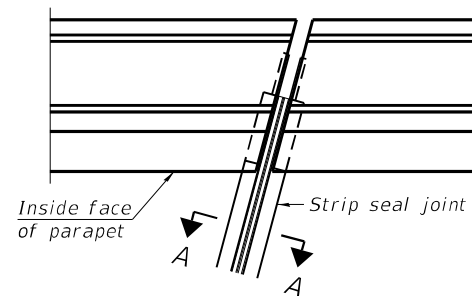
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT DETAILS
I-57 BRIDGE OVER I-80 - SN 016-0053

SHEET 54-10 OF 54-20 SHEETS

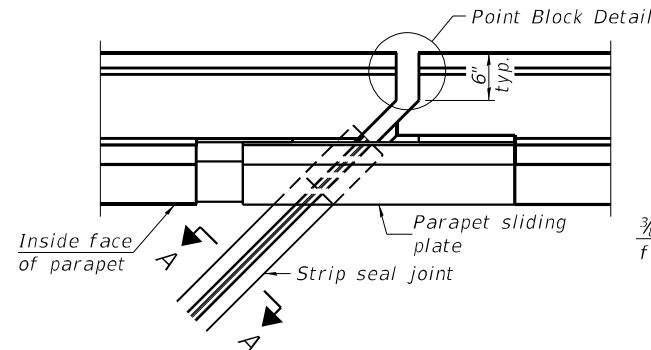
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	167
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

MODEL: 0160053-D62M54-009
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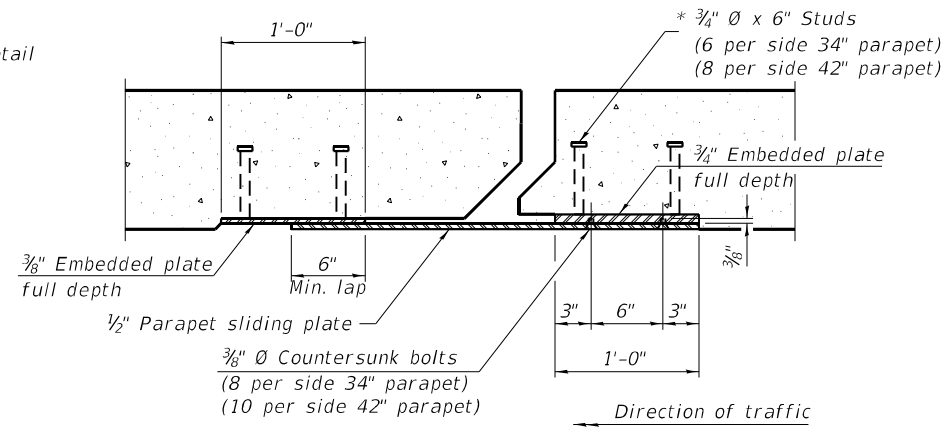


FOR SKEWS $\leq 30^\circ$

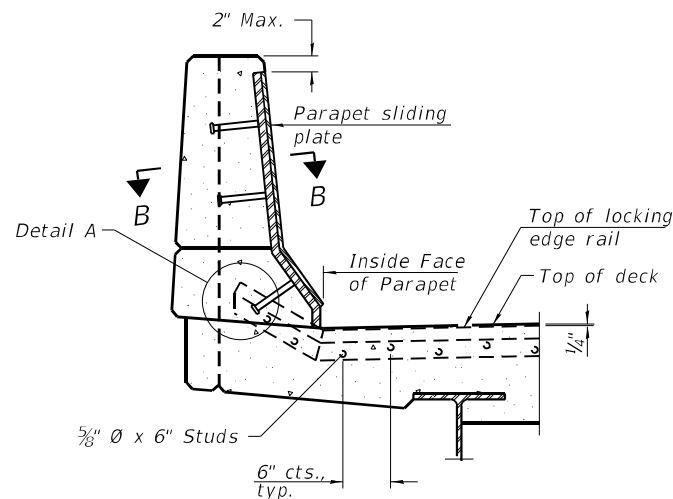
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

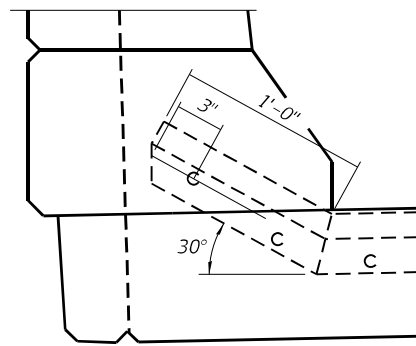


SECTION B-B

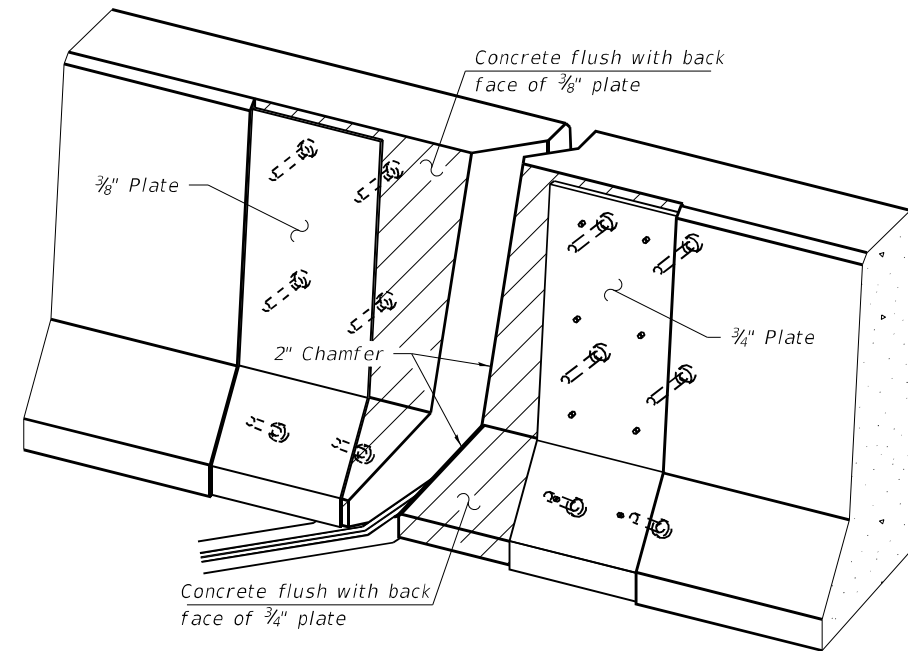


ELEVATION AT PARAPET

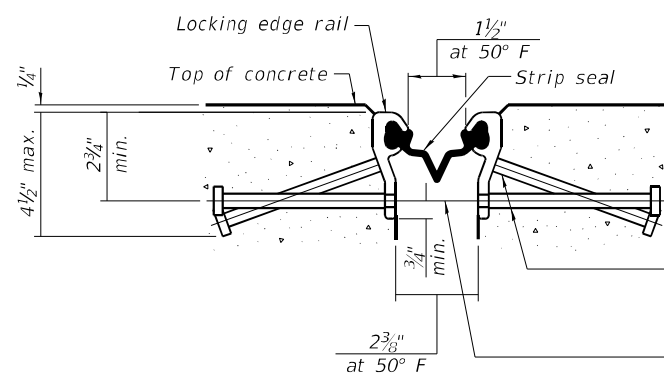
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



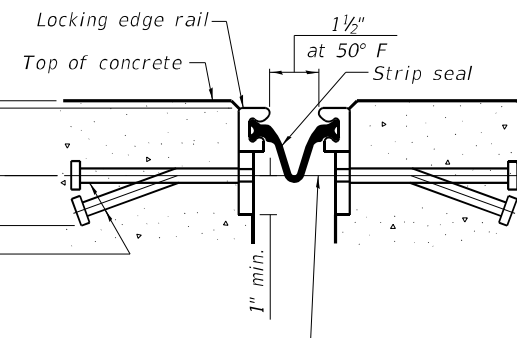
TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

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

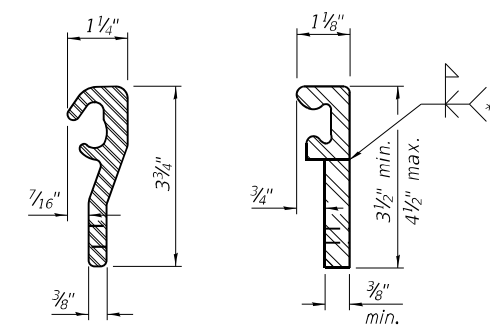
$3/8"$ ϕ threaded rods in $1/16"$ ϕ holes at $\pm 4"-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.



SHOWING WELDED RAIL JOINT

SECTION A-A

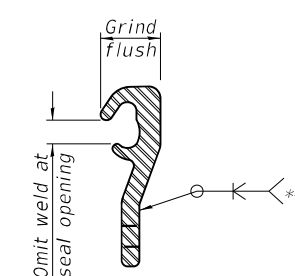
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



LOCKING EDGE RAILS

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	105

EJ-SS

8-11-17



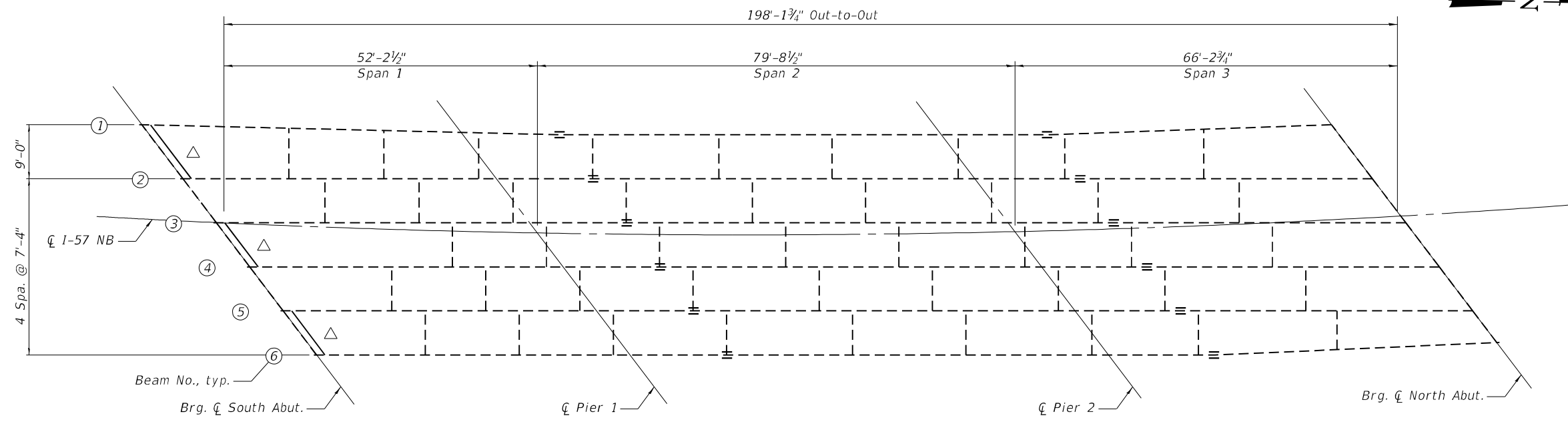
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL
I-57 BRIDGE OVER I-80 - SN 016-0053**

SHEET 54-11 OF 54-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	168
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



FRAMING PLAN

LEGEND

△ - Diaphragms to be replaced

MODEL: 0160053-D62M54-011
 FILE NAME: P:\040058 - IDOT\040058-04-001 (ENG) - PTB_195-006 Phase II Var VanEngineering\002_62M54_W0#7 I57 Bridges\500 Drawings\501 CADD Drawings\0160053-D62M54.dgn



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
 I-57 BRIDGE OVER I-80 - SN 016-0053

SHEET 54-12 OF 54-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	169
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

PROPOSED DIAPHRAGM LENGTHS

Diaphragm	Length (Perp. to Beams)	Length (Along Skew)
D1	9'-0"	11'-2"
D	7'-4"	9'-1"

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	Pound	1,300
Furnishing & Erecting Structural Steel	Pound	1,290

NOTES:

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

Diaphragms in bays 1, 3, and 5 at the South Abutment shall be repaired per details on this sheet.

All structural steel shall be AASHTO M 270 Grade 36, unless otherwise noted.

No field welding is permitted except as specified in the contract documents.

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " \varnothing .

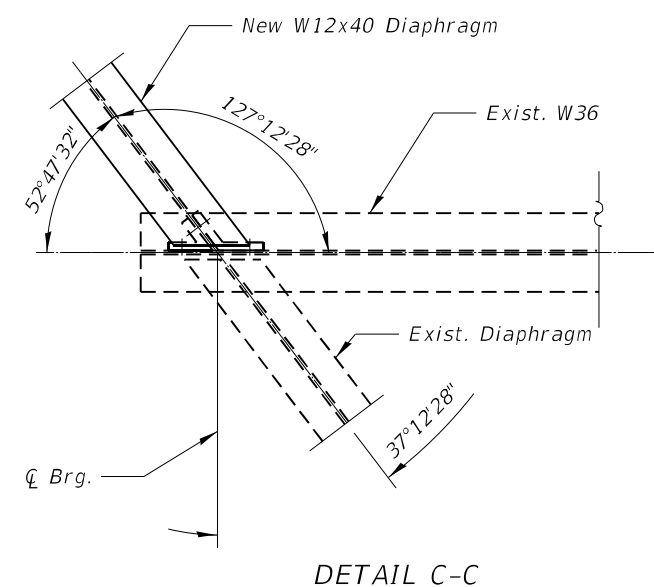
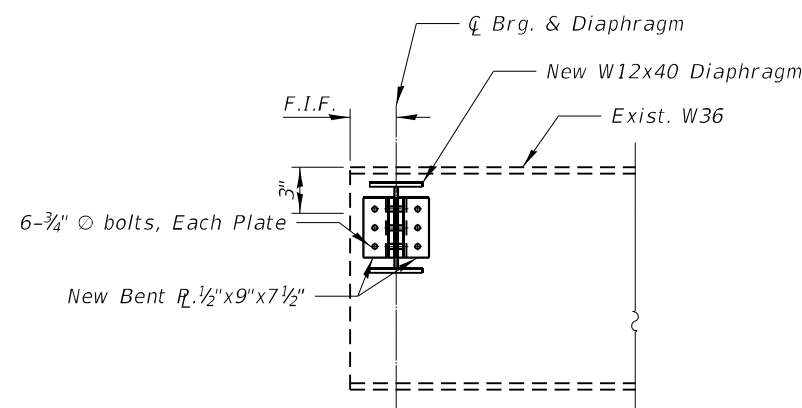
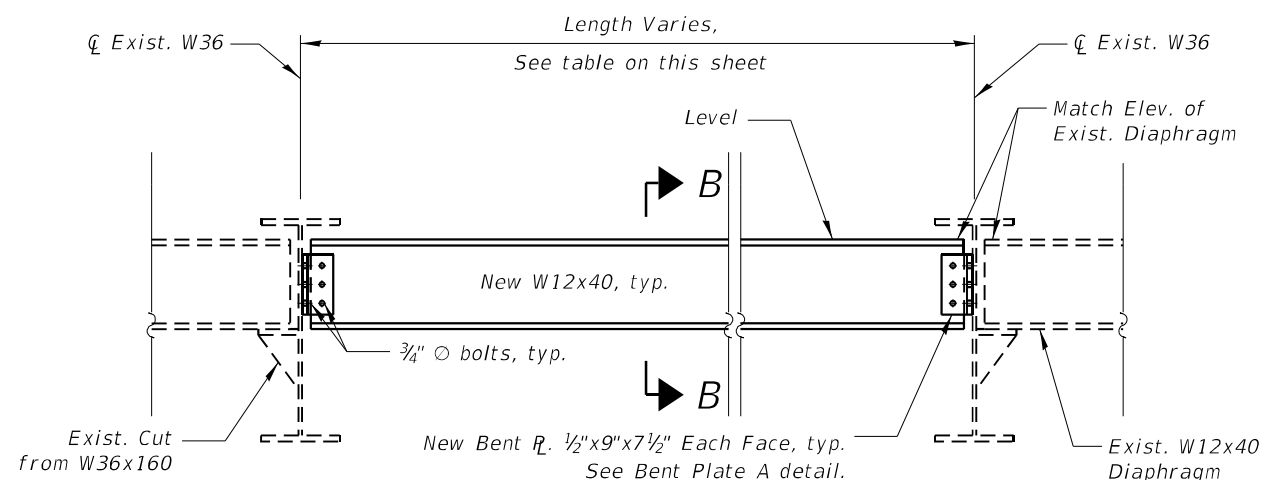
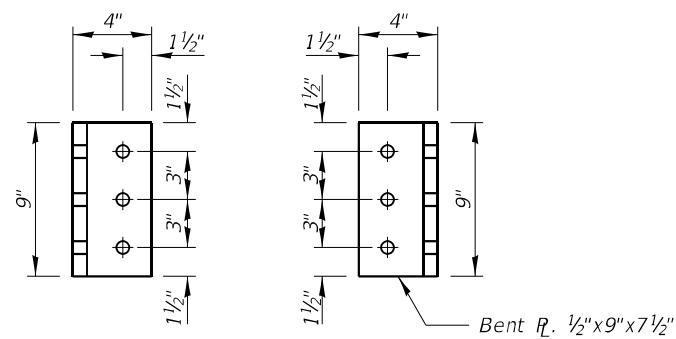
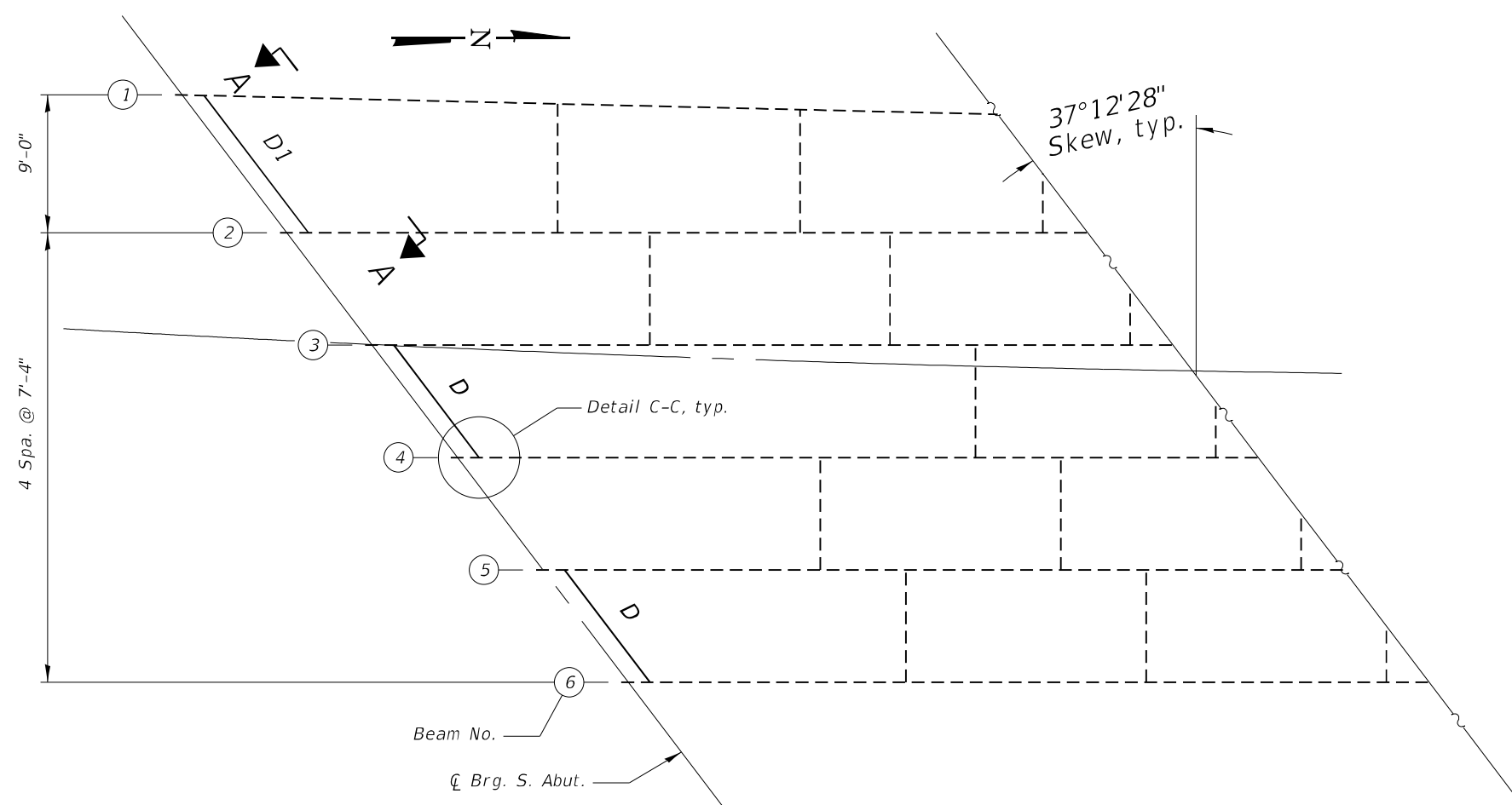
Diaphragm connection holes shall be $1\frac{5}{16}$ " \varnothing for $\frac{3}{4}$ " \varnothing bolts. Two hardened washers shall be required at diaphragm connections.

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 provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included in Furnishing & Erecting Structural Steel.

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

All repairs including structural steel wide flanges, angles, bolts, nuts, and washers shall be galvanized per the special provision "Hot Dip Galvanizing for Structural Steel".

All end diaphragms must line up. Use removed diaphragms and support angles for all necessary measurements to fabricate new material. See as built plans for details.



MODEL: 0160053-D62M54-012
FILE NAME: P:\040058 - IDOT\040058-04-001 (ENG) - PTB_195-006 Phase II Var.VanEngineering\002_62M54_Wo#7 157 Bridges\500 Drawings\501 CADD Drawings\0160053-D162M54.dgn

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

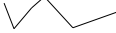

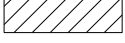

**DIAPHRAGM REPAIRS
I-57 BRIDGE OVER I-80 - SN 016-0053**

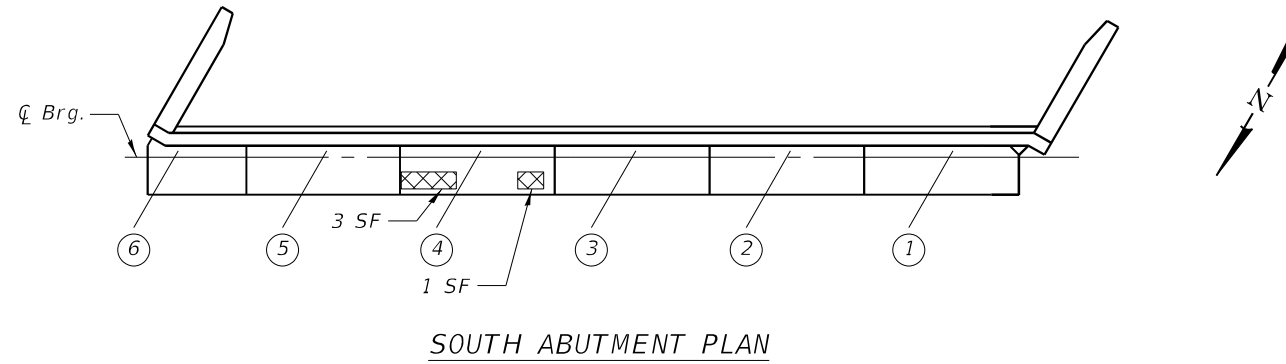
SHEET 54-13 OF 54-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	170
CONTRACT NO. 62M54				

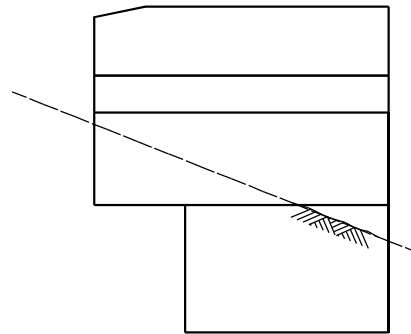
ILLINOIS FED. AID PROJECT

LEGEND

-  - Slope Wall Crack Sealing
-  - SRC depth greater than 5"
-  - SRC depth equal to or less than 5"
-  - Slope Wall Repair

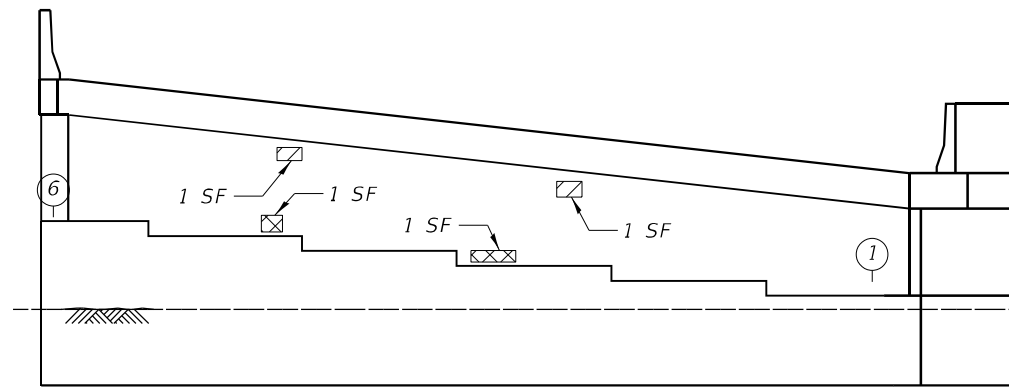


SOUTH ABUTMENT PLAN



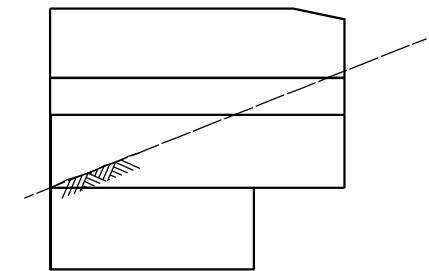
SOUTHEAST WINGWALL ELEV.

(Looking West)



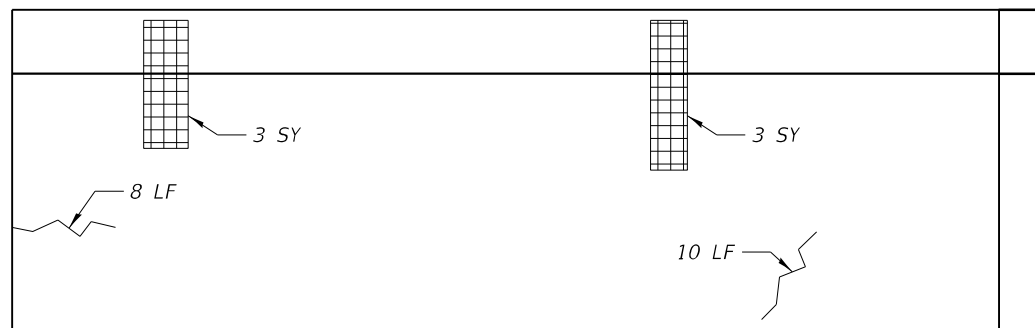
SOUTH ABUTMENT ELEVATION

(Looking South)



SOUTHWEST WINGWALL ELEV.

(Looking East)



SOUTH ABUTMENT SLOPEWALL PLAN

- Notes:**
- Quantities and limits of repairs 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.
 - Porous Granular Embankment (PGE) shall be used for filling any voids beneath the slope wall being repaired as required.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete, Equal to or Less Than 5 In.	Sq. Ft.	2
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	6
Slope Wall Crack Sealing	Foot	18
Slope Wall Repair	Sq. Yd.	6.0
Concrete Sealer	Sq. Ft.	339
Porous Granular Embankment	Cu. Yd.	1.0

MODEL: 0160053-D62M54-013
 FILE NAME: P:\040058 - IDOT\040058-04-001 (ENG) - PTB_195-006 Phase II Var Van\Engineering\002_62M54_W0#7 157 Bridges\500 Drawings\0160053-D162M54.dgn

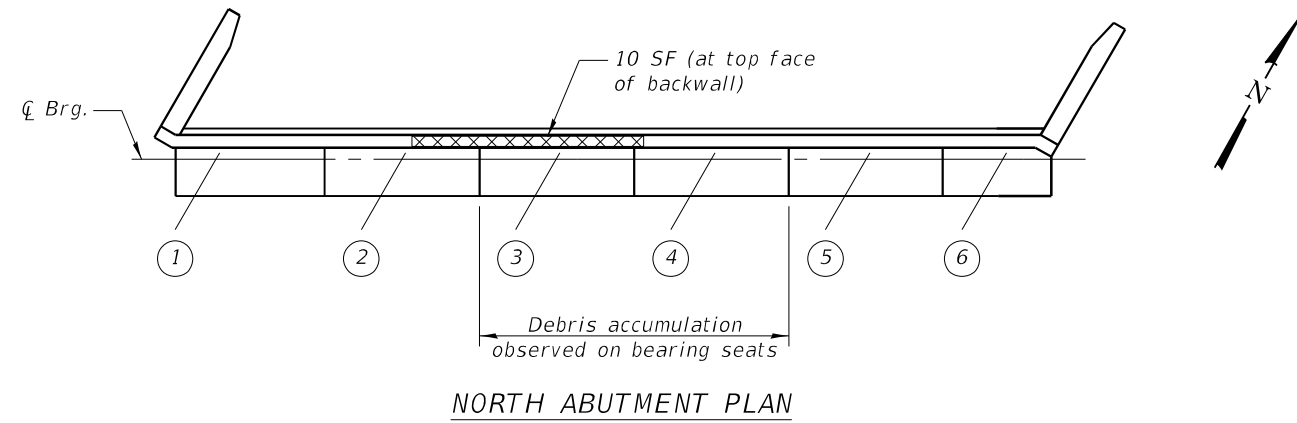
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	171
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

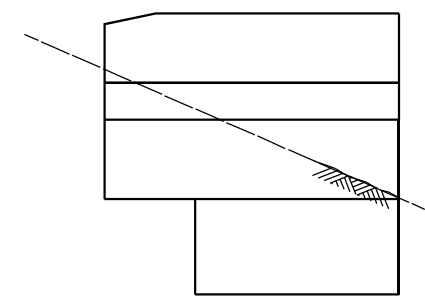
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LEGEND

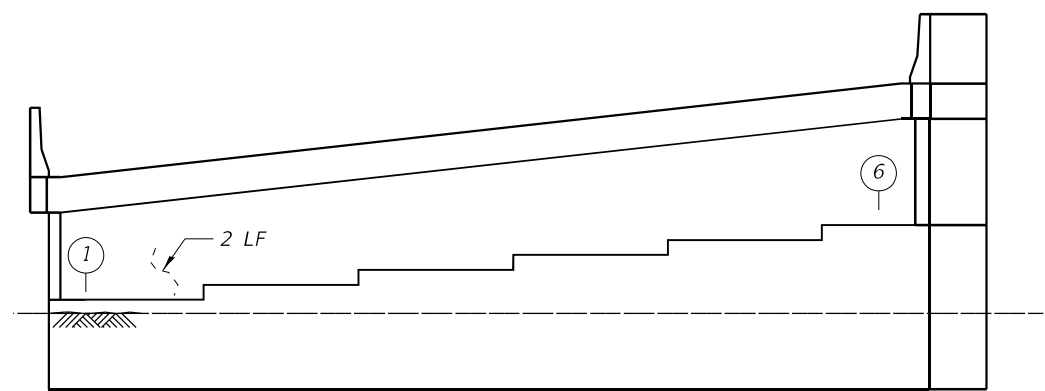
- Epoxy Crack Injection
- Slope Wall Crack Sealing
- SRC depth greater than 5"
- Slope Wall Repair



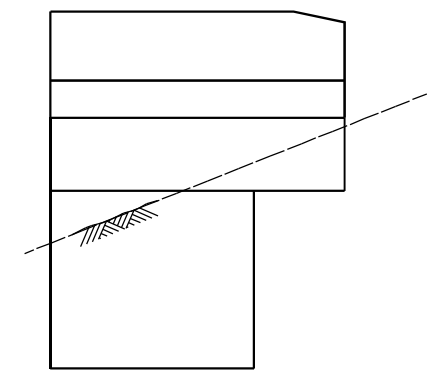
NORTH ABUTMENT PLAN



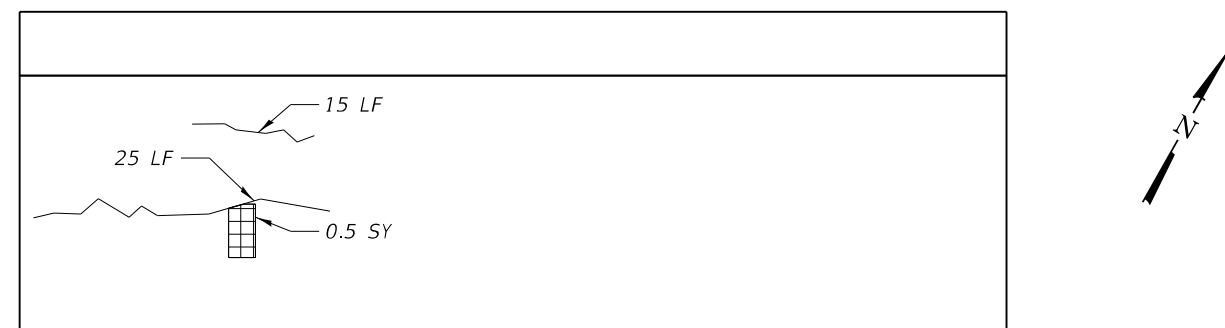
NORTHWEST WINGWALL ELEV.
(Looking East)



NORTH ABUTMENT ELEVATION
(Looking North)



NORTHEAST WINGWALL ELEV.
(Looking West)



NORTH ABUTMENT SLOPEWALL PLAN

- Notes:**
1. Quantities and limits of repairs 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. Porous Granular Embankment (PGE) shall be used for filling any voids beneath the slope wall being repaired as required.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	10
Epoxy Crack Injection	Foot	2
Slope Wall Crack Sealing	Foot	40
Concrete Sealer	Sq. Ft.	314
Porous Granular Embankment	Cu. Yd.	0.5
Slope Wall Repair	Sq. Yd.	0.5



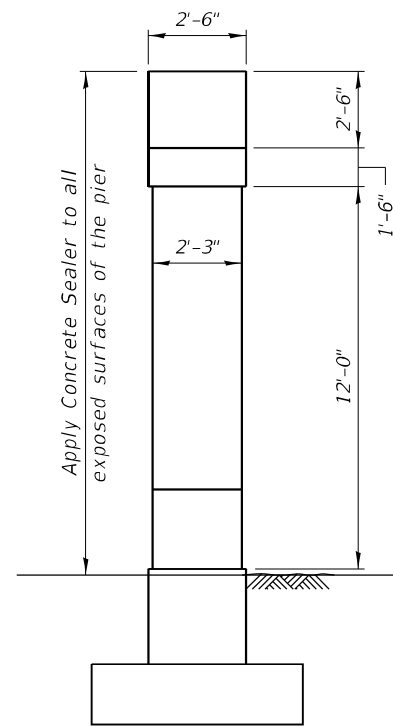
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

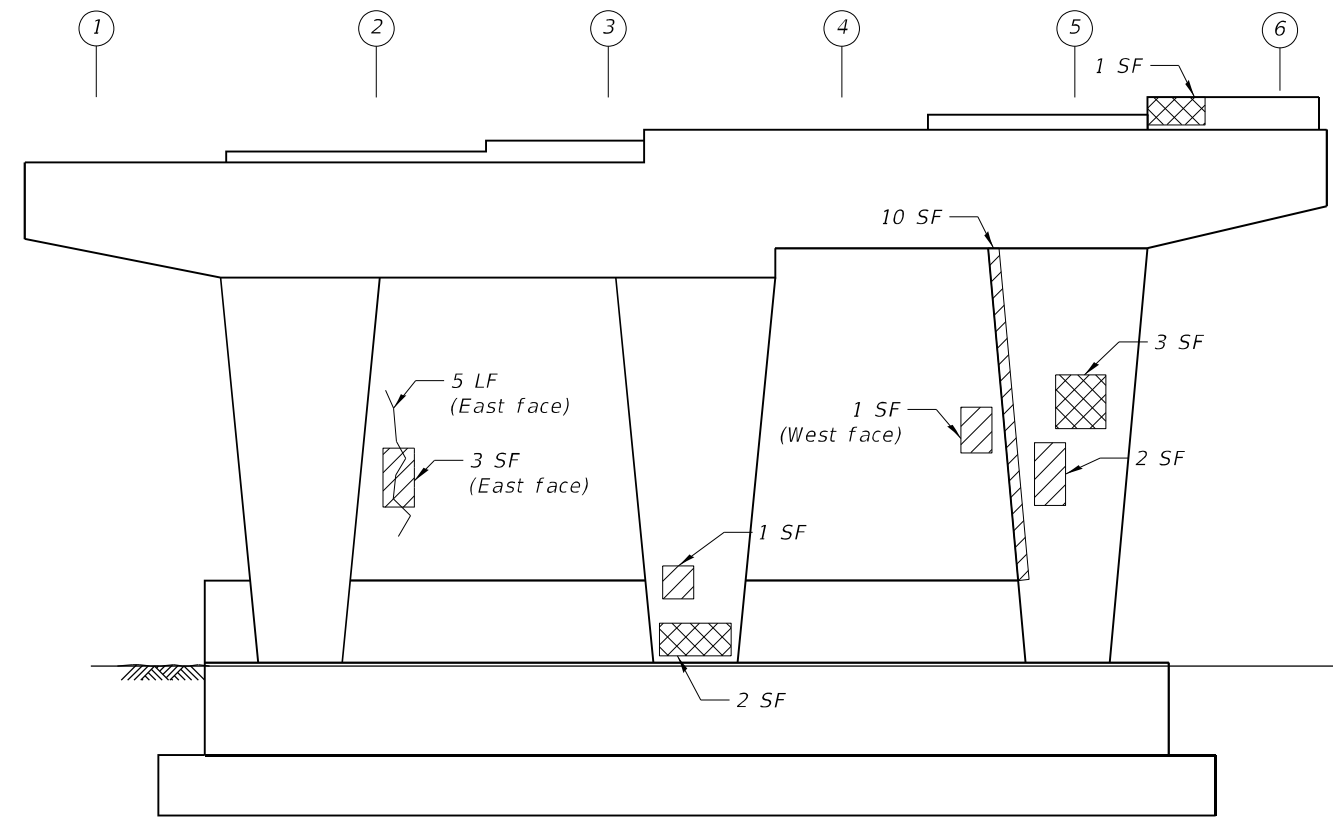
**NORTH ABUTMENT REPAIRS
I-57 BRIDGE OVER I-80 - SN 016-0053**

SHEET 54-15 OF 54-20 SHEETS

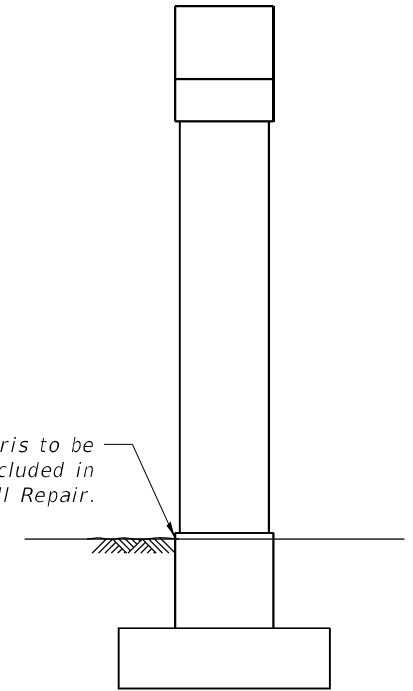
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	172
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



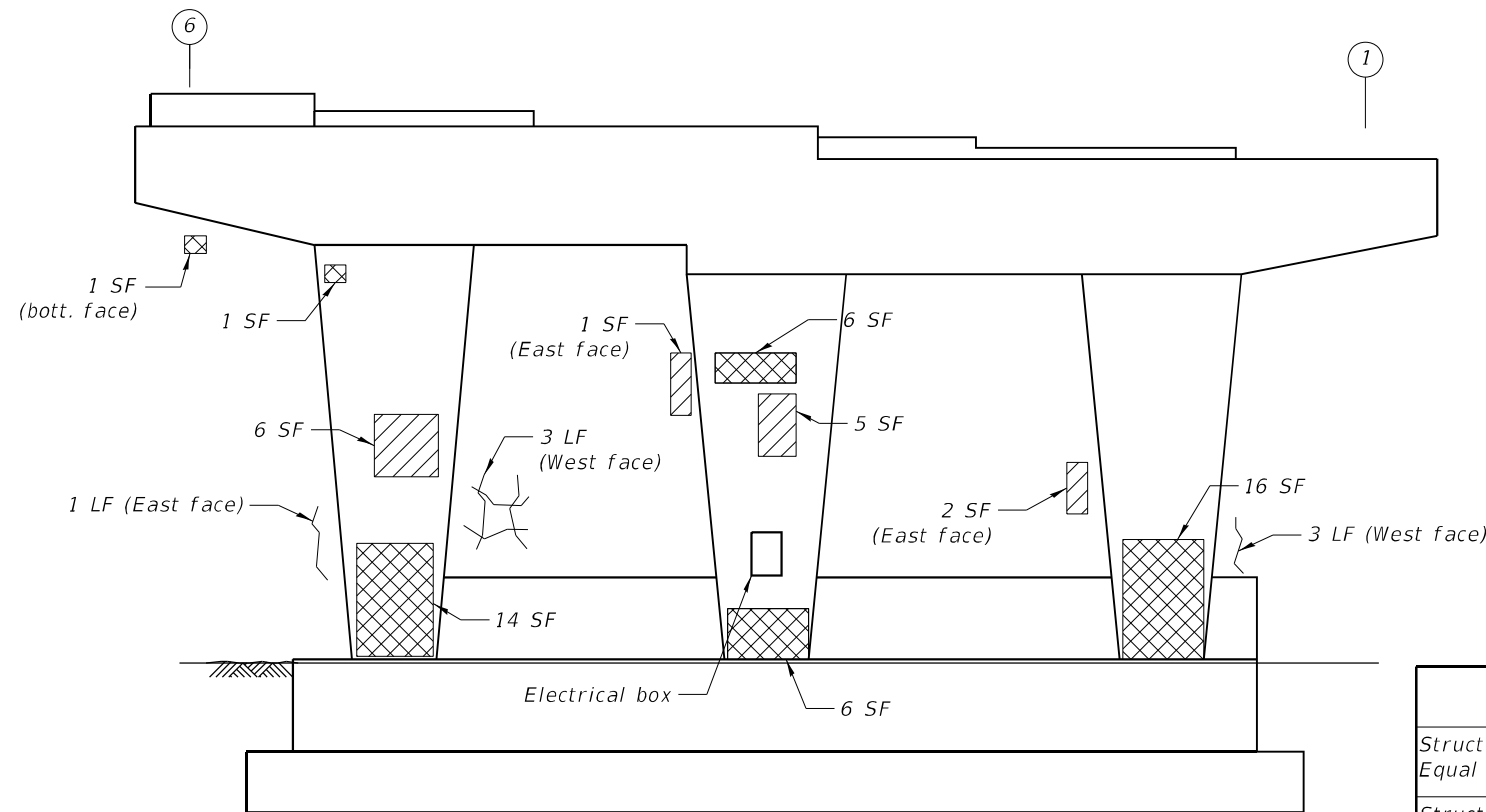
WEST ELEVATION
(Looking East)



SOUTH ELEVATION
(Looking North)



EAST ELEVATION
(Looking West)



NORTH ELEVATION
(Looking South)

LEGEND

- Epoxy Crack Injection
- SRC depth greater than 5"
- SRC depth equal to or less than 5"

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete, Equal to or Less Than 5 In.	Sq. Ft.	31
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	50
Epoxy Crack Injection	Foot	12

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

MODEL: 0160053-D62M54-015
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 311 S. Wacker Drive, Suite 1950
 Chicago, Illinois 60606
 312-414-0580
 www.bowmanconsulting.com

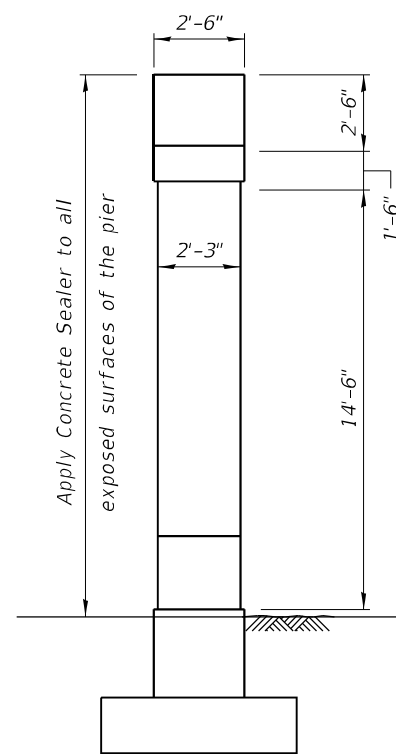
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

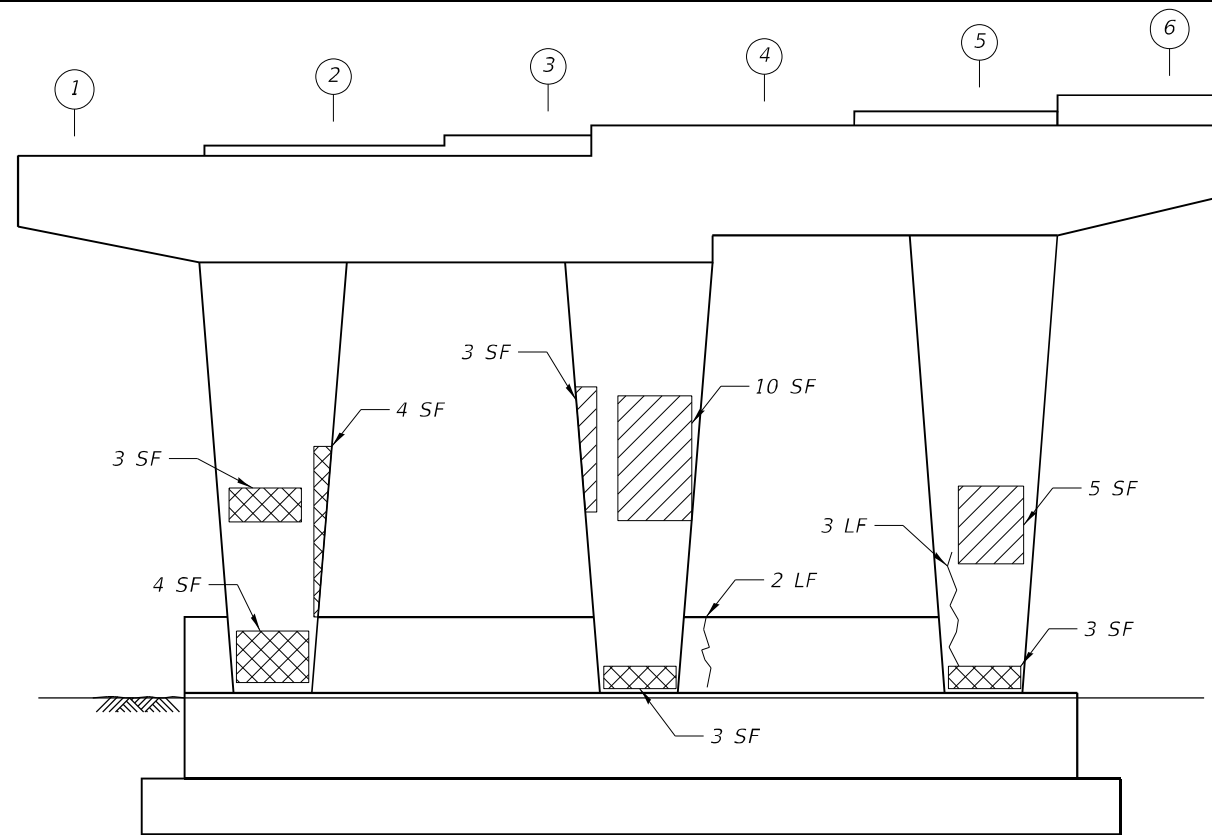
PIER 1 REPAIRS
I-57 BRIDGE OVER I-80 - SN 016-0053

SHEET 54-16 OF 54-20 SHEETS

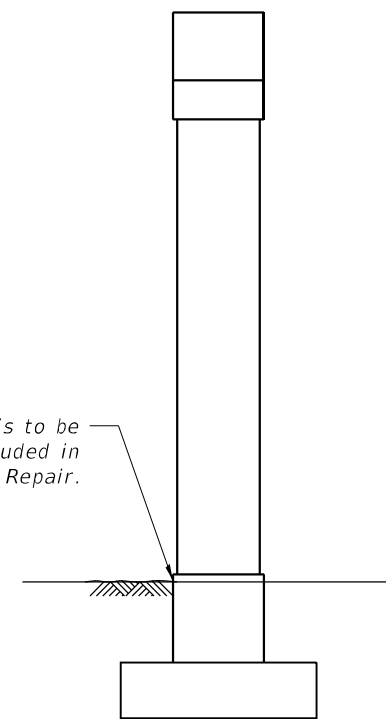
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	173
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



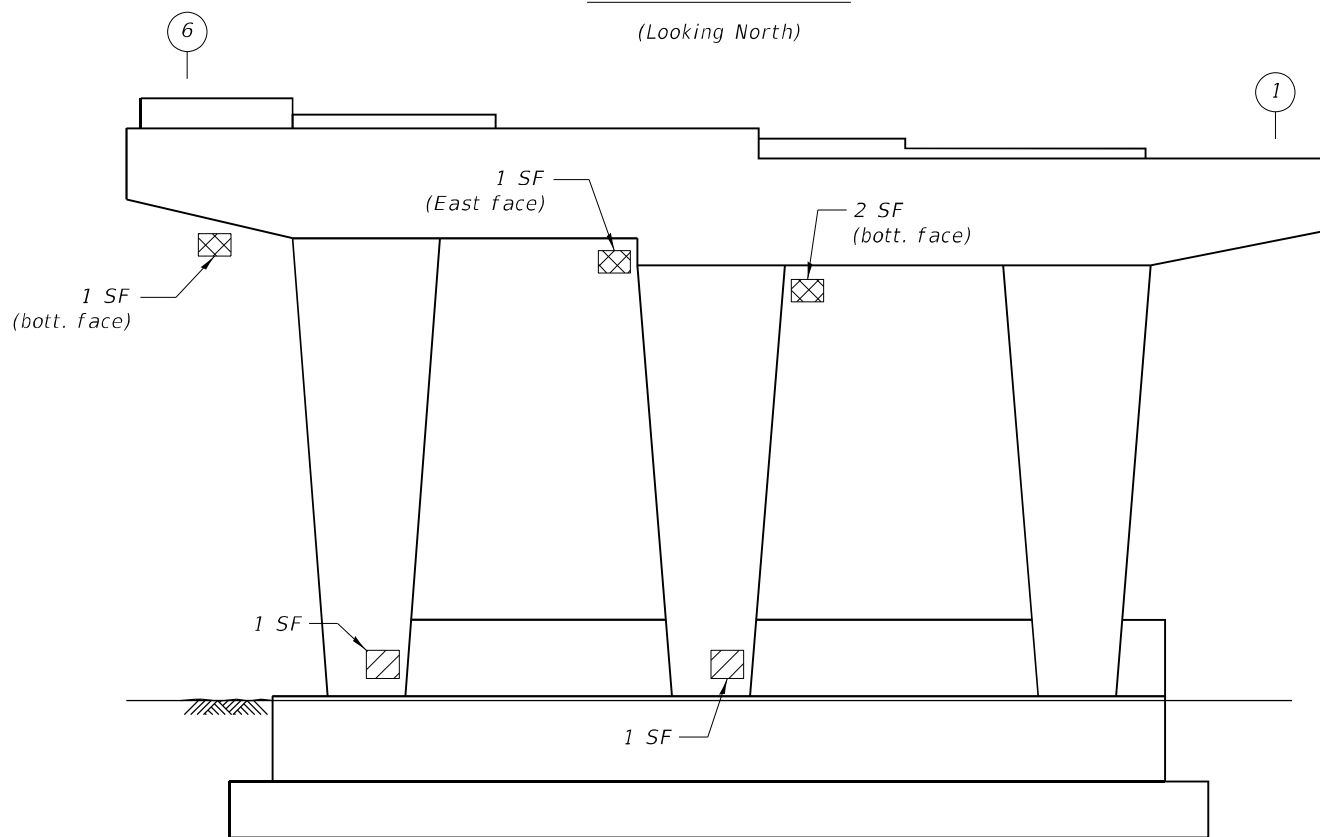
WEST ELEVATION
(Looking East)



SOUTH ELEVATION
(Looking North)



EAST ELEVATION
(Looking West)



NORTH ELEVATION
(Looking South)

LEGEND

- Epoxy Crack Injection
- SRC depth greater than 5"
- SRC depth equal to or less than 5"

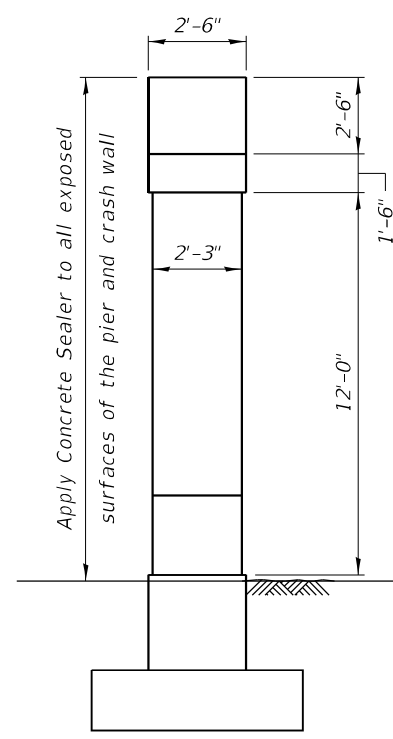
BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete, Equal to or Less Than 5 In.	Sq. Ft.	20
Structural Repair of Concrete, Depth Greater than 5 In.	Sq. Ft.	21
Epoxy Crack Injection	Foot	5

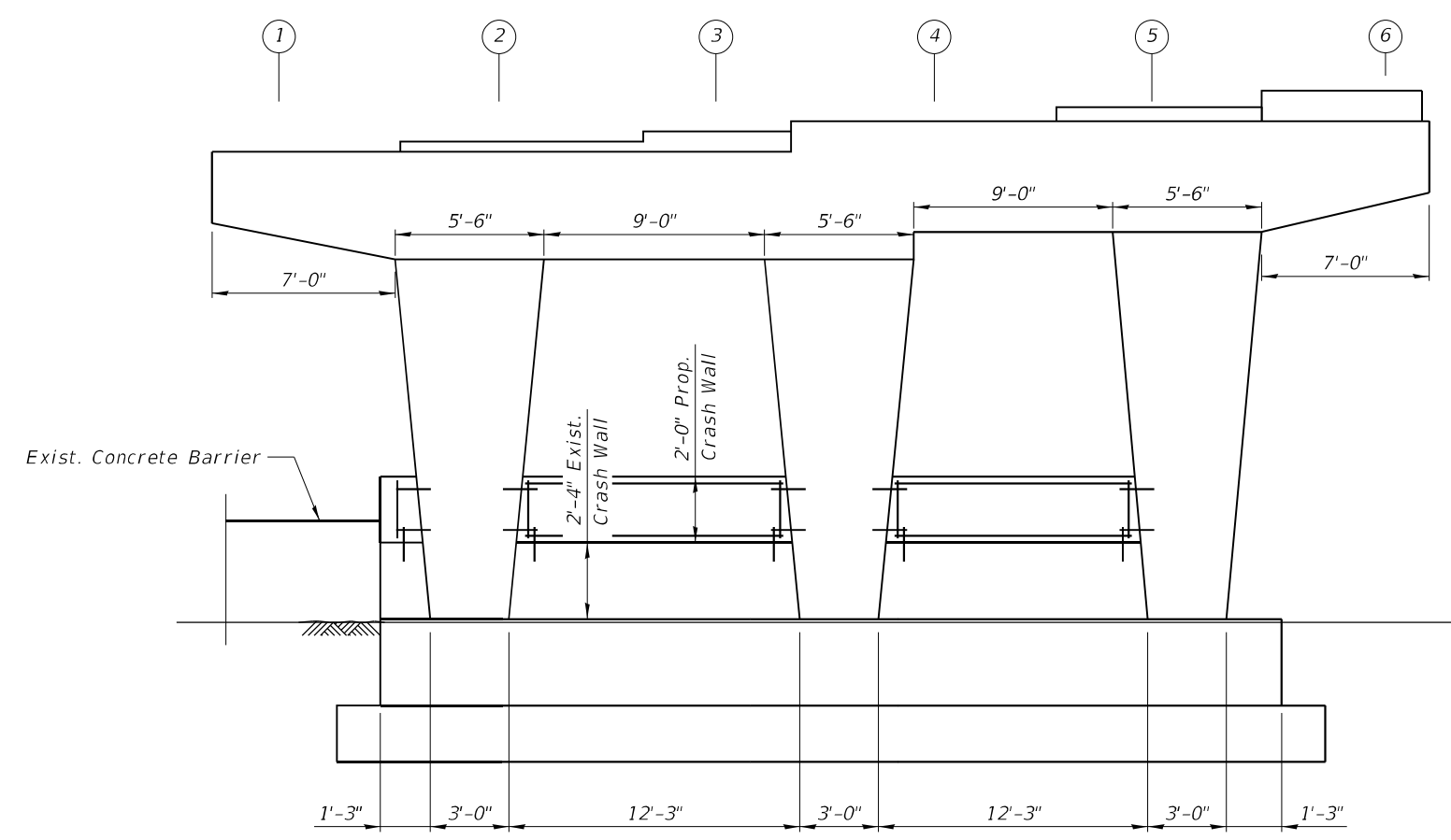
Note:
Quantities and limits of repairs shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

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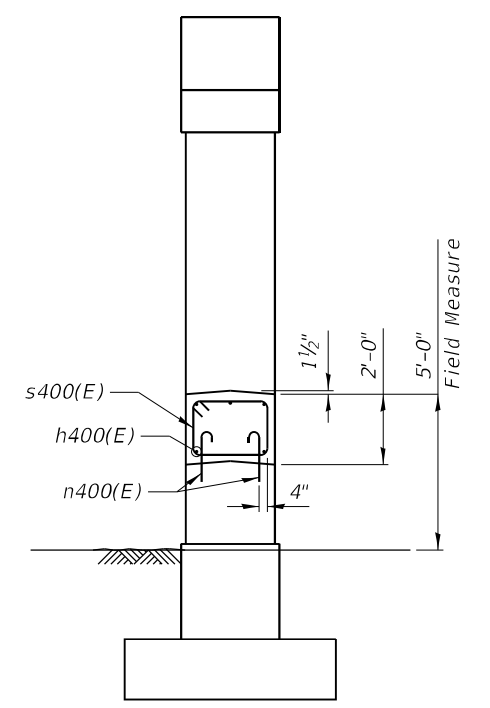
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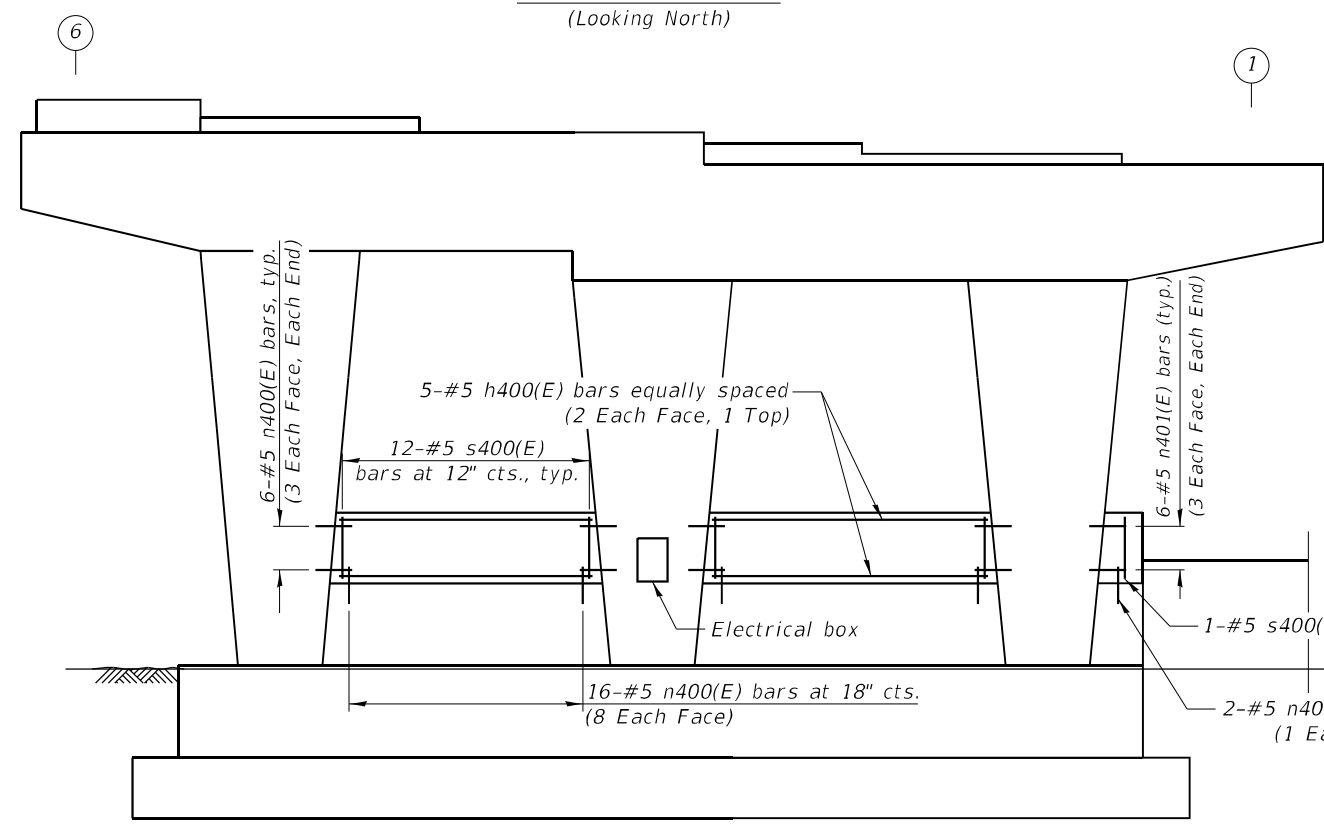
WEST ELEVATION
(Looking East)



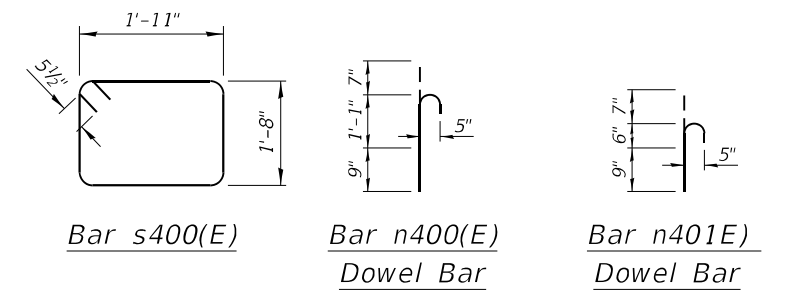
SOUTH ELEVATION
(Looking North)



EAST ELEVATION
(Looking West)



NORTH ELEVATION
(Looking South)



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h400(E)	10	#5	11'-8"	—
n400(E)	58	#5	2'-5"	U
n401(E)	6	#5	1'-10"	U
s400(E)	25	#5	8'-1"	□
Item		Unit	Total	
Concrete Structures		Cu. Yd.	4.3	
Reinforcement Bars, Epoxy Coated		Pound	490	
Concrete Sealer		Sq. Ft.	1,341	

Note:
 Epoxy grout n400(E) and n401(E) bars 9" min. holes according to Article 584 of the Standard Specifications. The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars, Epoxy Coated



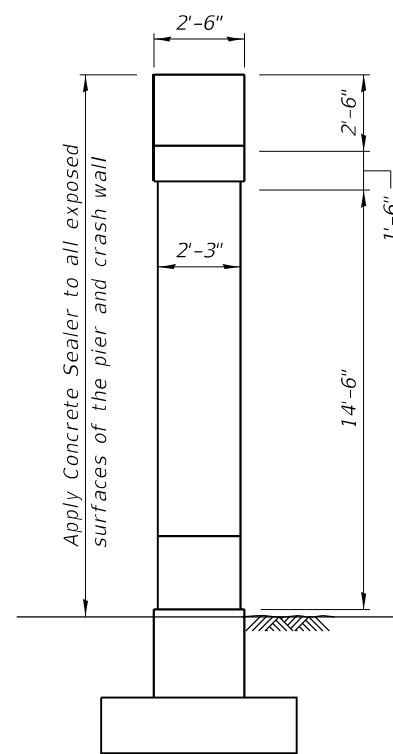
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

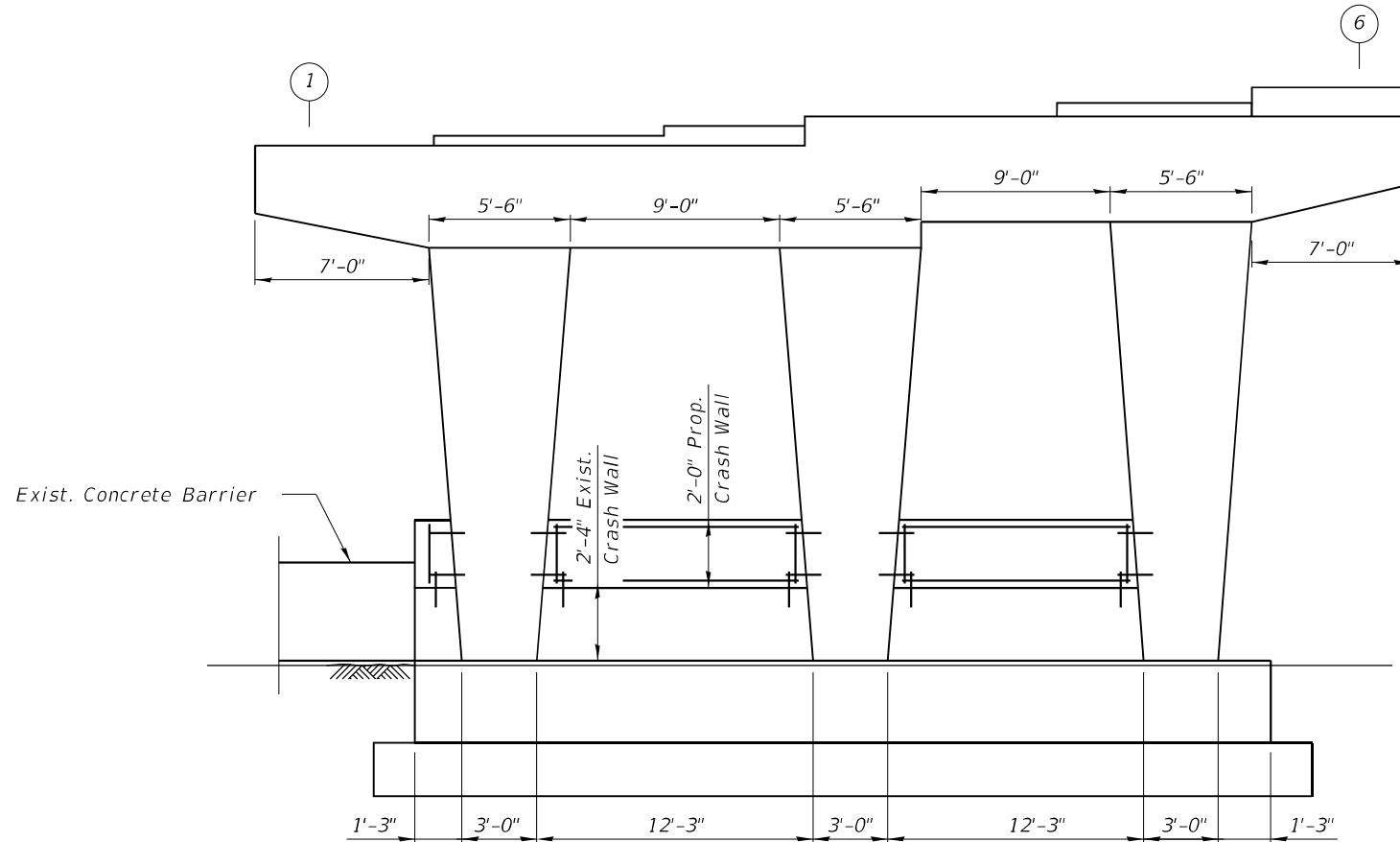
PIER 1 CRASH WALL
I-57 BRIDGE OVER I-80 - SN 016-0053

SHEET 54-18 OF 54-20 SHEETS

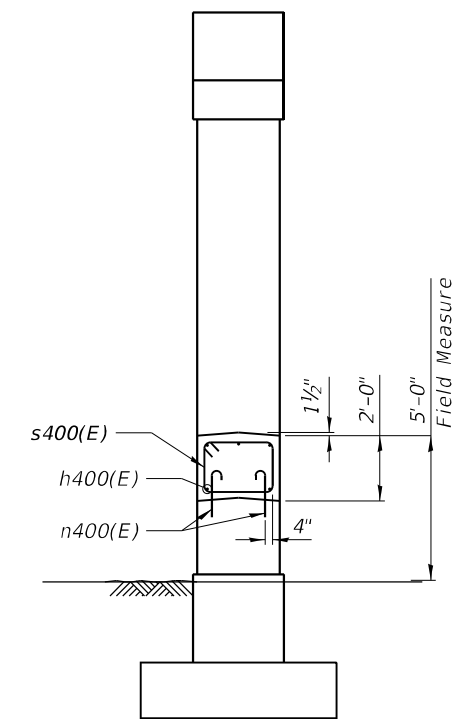
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	175
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	



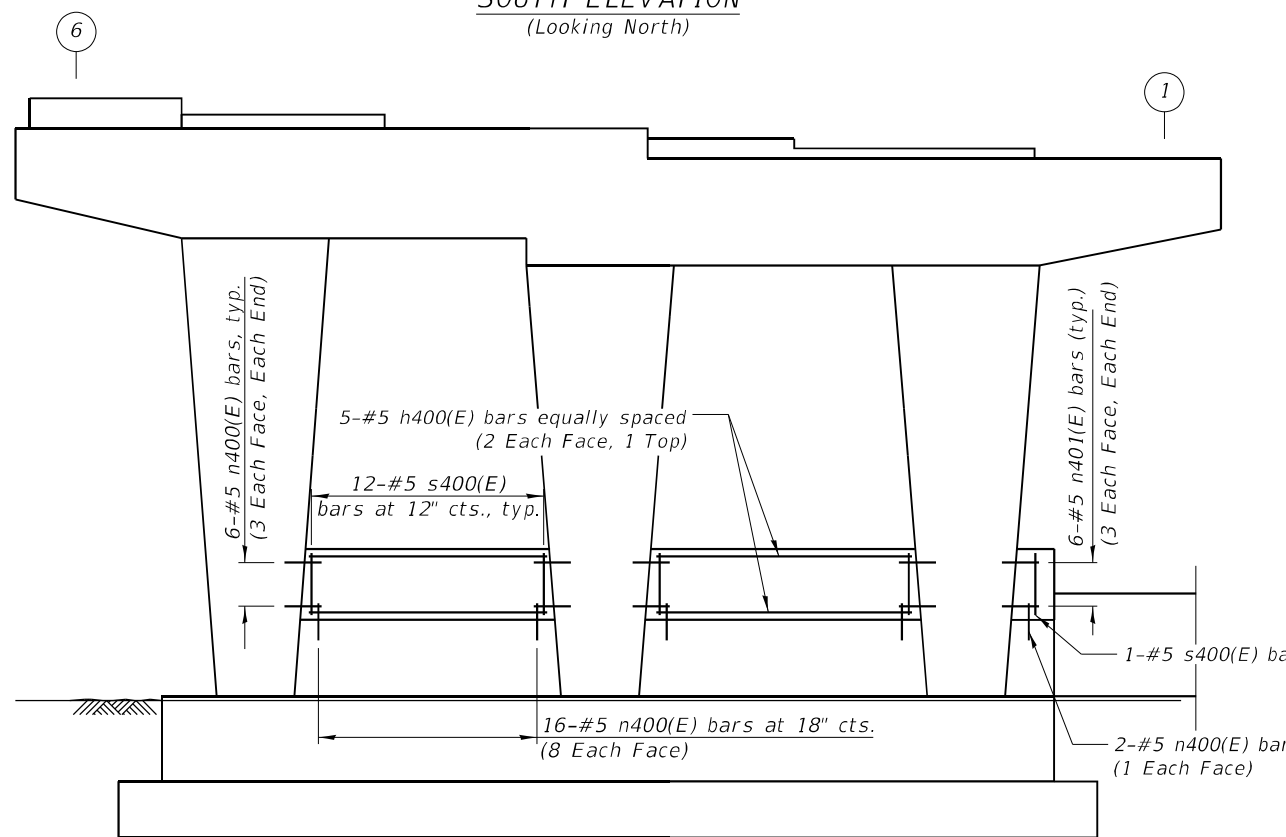
WEST ELEVATION
(Looking East)



SOUTH ELEVATION
(Looking North)



EAST ELEVATION
(Looking West)



NORTH ELEVATION
(Looking South)

Notes:
Epoxy grout n400(E) and n401(E) bars 9" min. holes according to Article 584 of the Standard Specifications. The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars, Epoxy Coated
See sheet S4-18 of S4-20 for s400(E), n400(E) and n401(E) bar details.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h400(E)	10	#5	11'-8"	—
n400(E)	58	#5	2'-5"	U
n401(E)	6	#5	1'-10"	U
s400(E)	25	#5	8'-1"	□
Item		Unit	Total	
Concrete Structures		Cu. Yd.	4.3	
Reinforcement Bars, Epoxy Coated		Pound	490	
Concrete Sealer		Sq. Ft.	1,423	

MODEL: 0160053-D62M54-018
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Bowman CONSULTING
311 S. Wacker Drive, Suite 1950
Chicago, Illinois 60606
312-414-0580
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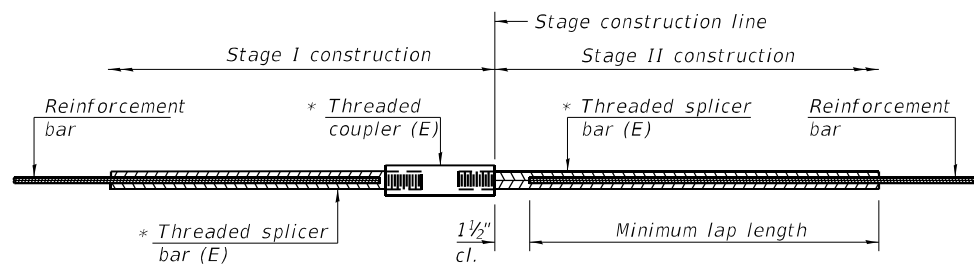
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 CRASH WALL
I-57 BRIDGE OVER I-80 - SN 016-0053

SHEET 54-19 OF 54-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	176
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62M54	

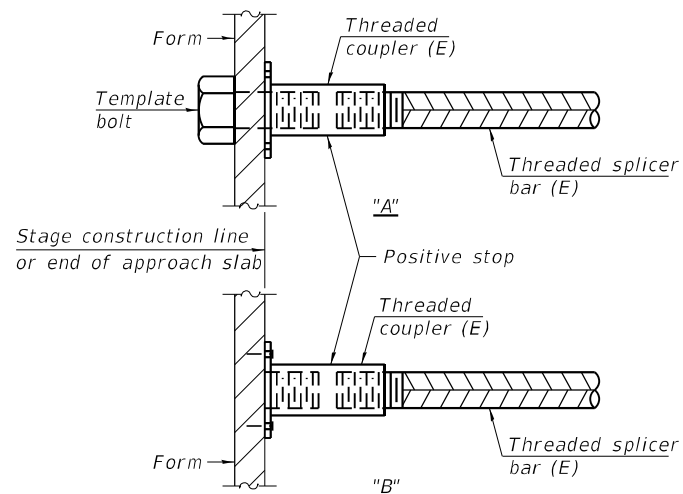


STANDARD BAR SPLICER ASSEMBLY

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

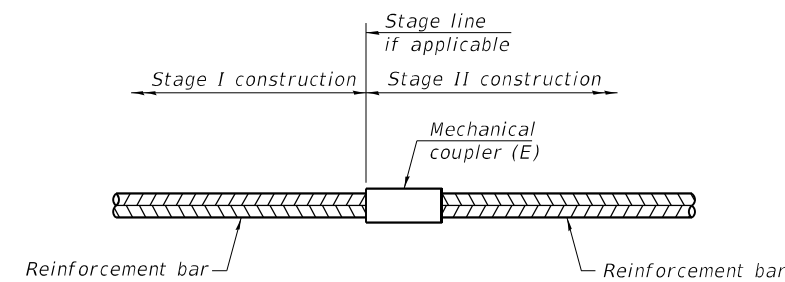
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
N. End of Deck	#5	7	3'-6"
N. Abut. Hatched Block	#5	4	3'-6"
S. End of Deck	#5	7	3'-6"
S. Abut. Hatched Block	#5	4	3'-6"



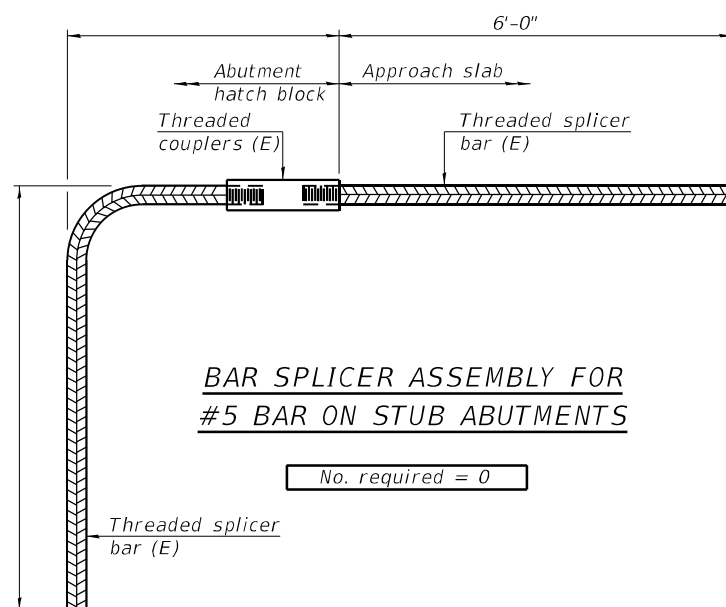
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 0

NOTES

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

MODEL: 0160053-D62M54-019
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BSD-1

2-17-2017



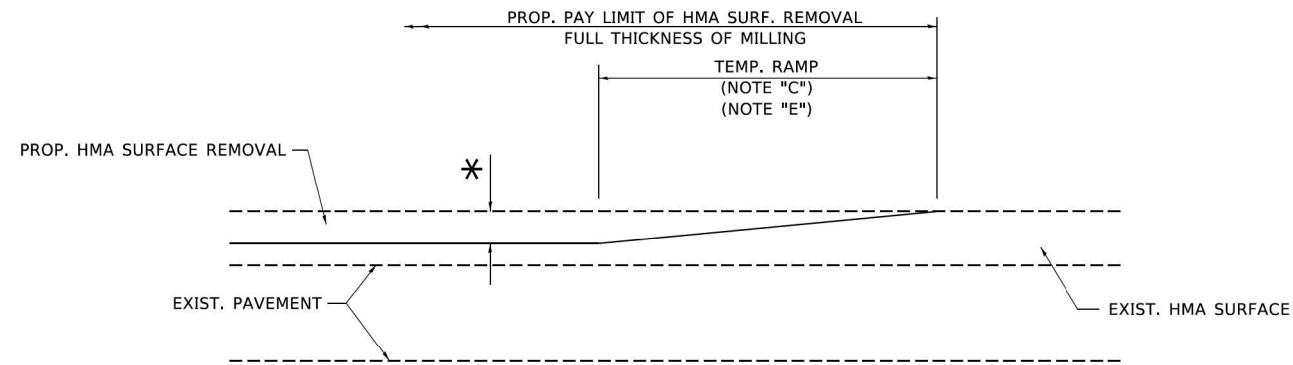
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	CHECKED - AJN	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS
 I-57 BRIDGE OVER I-80 - SN 016-0053

SHEET 54-20 OF 54-20 SHEETS

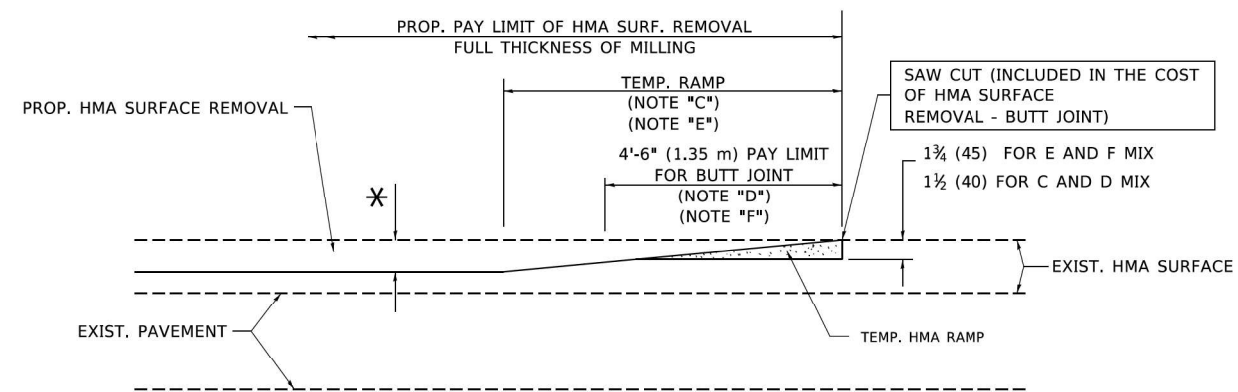
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
057	2020-171-BR	COOK	190	177
CONTRACT NO.			62M54	
ILLINOIS FED. AID PROJECT				



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

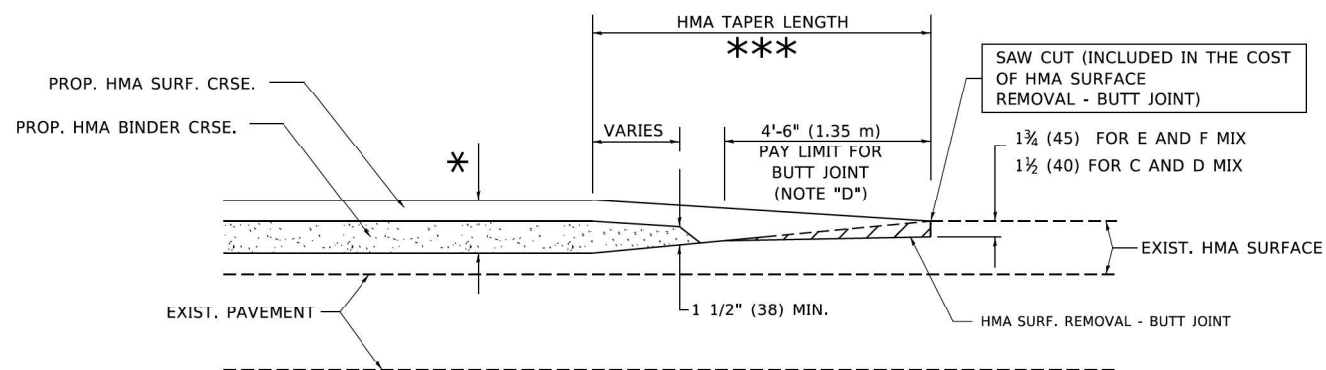


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

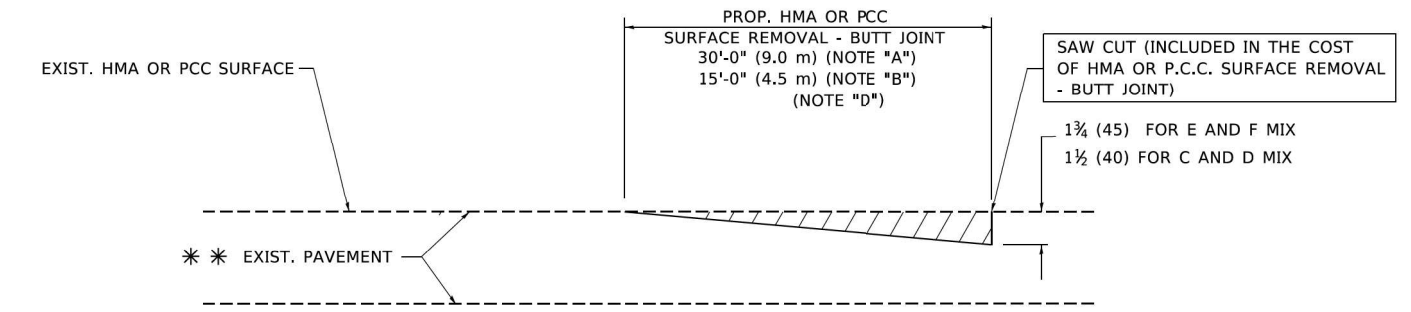
OPTION 2

TYPICAL TEMPORARY RAMP

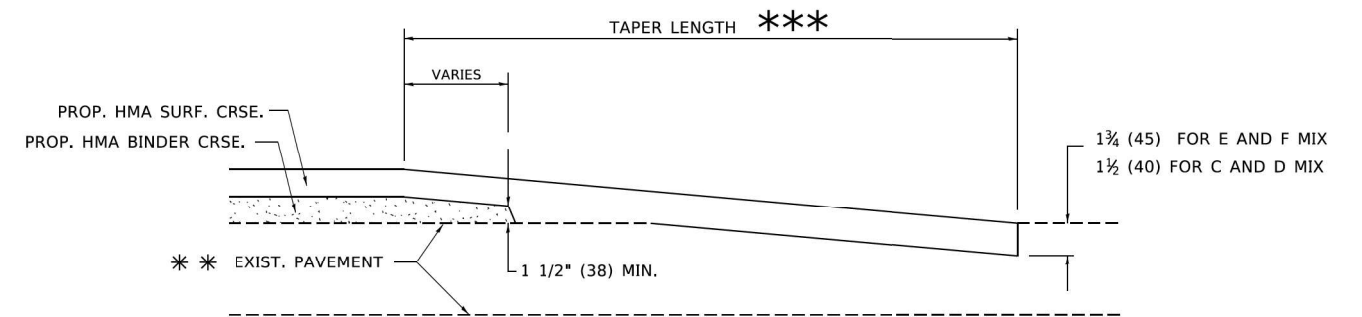


BUTT JOINT AND HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

*** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

- A. MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
- B. MINOR SIDE ROADS.
- C. THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
- D. THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
- E. TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
- F. INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT.
* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- G. SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL BD-32
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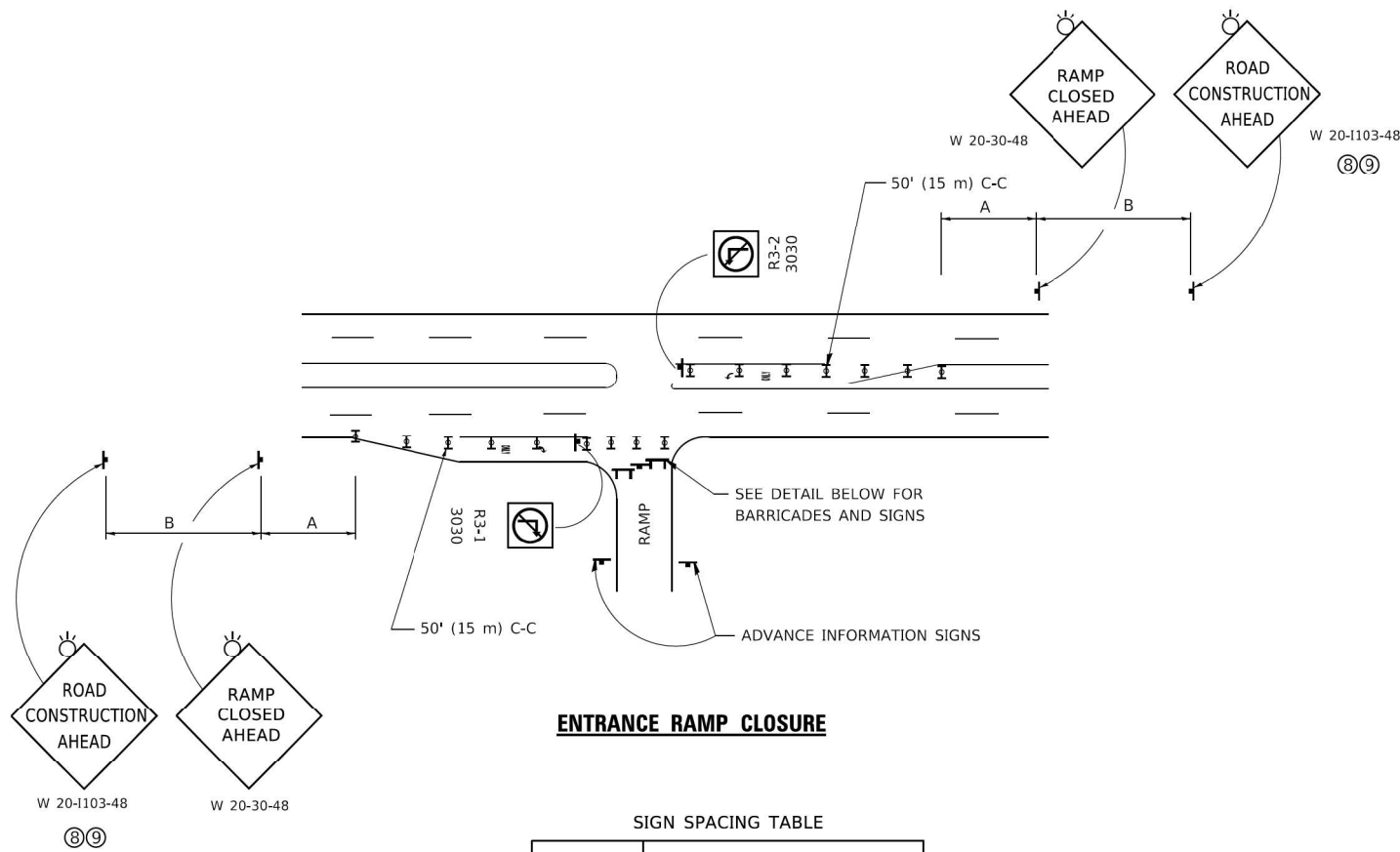
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	DRAWN -	REVISED - A. ABBAS 03-21-97
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PLOT DATE = 3/27/2019	DATE - 06-13-90	REVISED - R.BORO 01-01-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BUTT JOINT AND
HMA TAPER DETAILS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

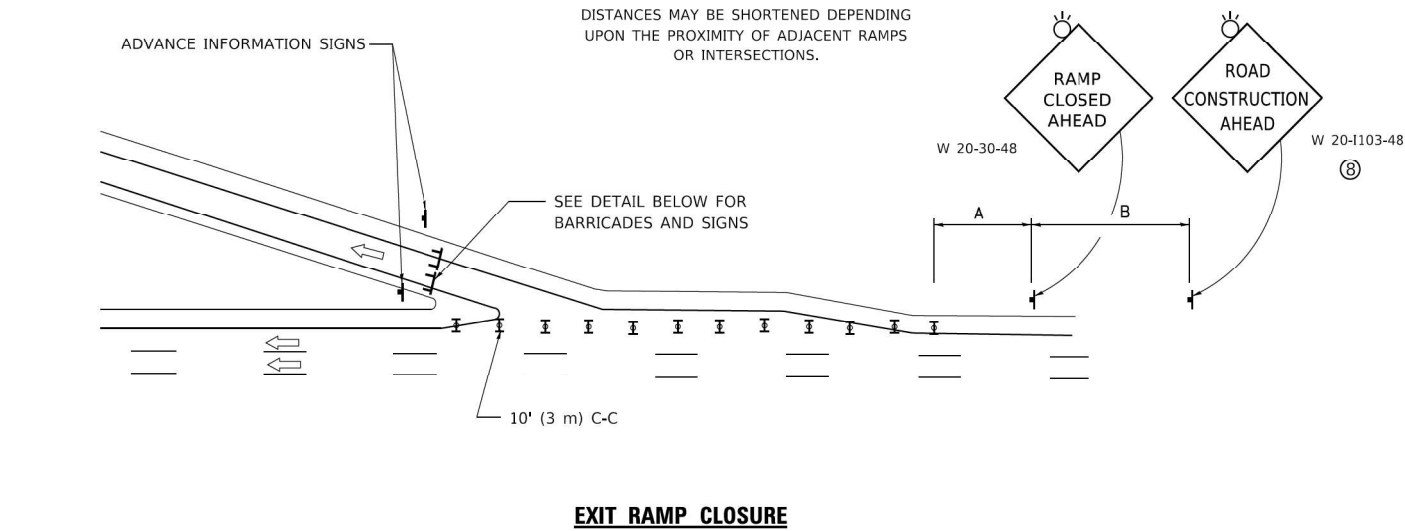
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	178
BD400-05 BD32			CONTRACT NO. 62M54	
ILLINOIS FED. AID PROJECT EU31(520)				



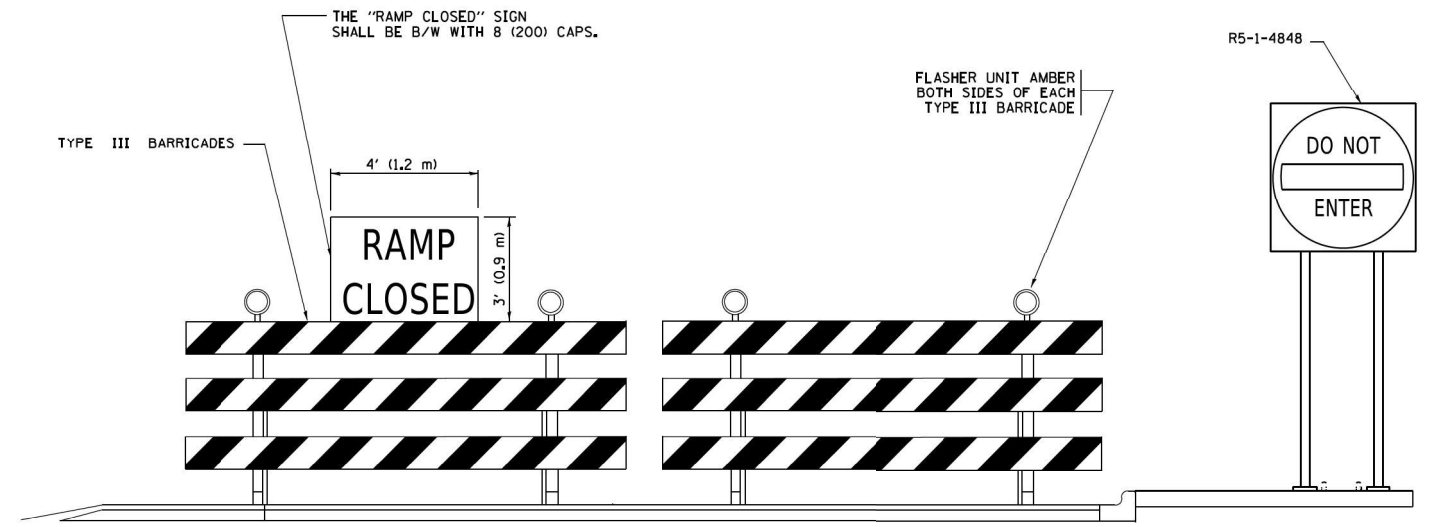
SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

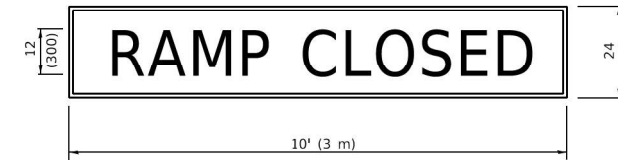
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



- SYMBOLS**
- TYPE II BARRICADE OR DRUM
 - TYPE III BARRICADE WITH 2 FLASHING LIGHTS



RAMP CLOSURE ADVANCE WARNING SIGN



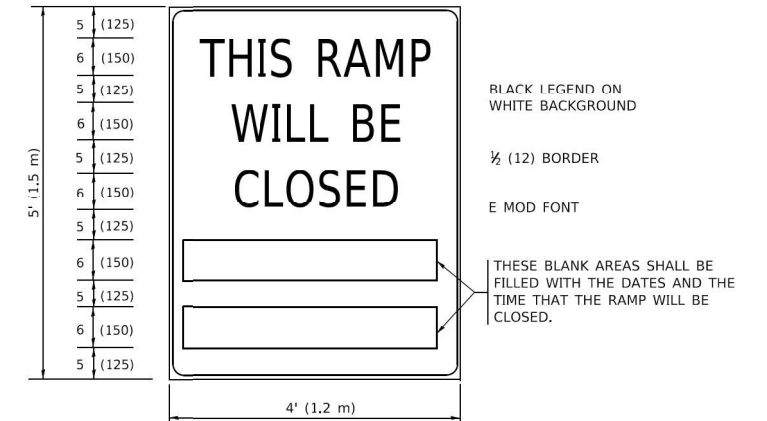
BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY
E MOD FONT
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

RAMP CLOSURE ADVANCE INFORMATION SIGN



THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

GENERAL NOTES:

- CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
- VERTICAL BARRICADES SHALL NOT BE USED FOR RAMP CLOSURES.
- A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEDED BY A W20-7 FLAGGER WARNING SIGN.
- ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
- THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
- AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
- THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH.
- ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
- ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL: TC-08
FILE NAME: G:\Engineering\01\140706\140706-100T-DIR\W07-62151ACADD\CADD-Signs\CH\RD12\12145-Entr-Exit-516x.dwg

USER NAME = footemj	DESIGNED - D.W.S.	REVISED - S.P.B._01-07
	DRAWN -	REVISED - S.P.B._12-09
PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - M.D._06-13
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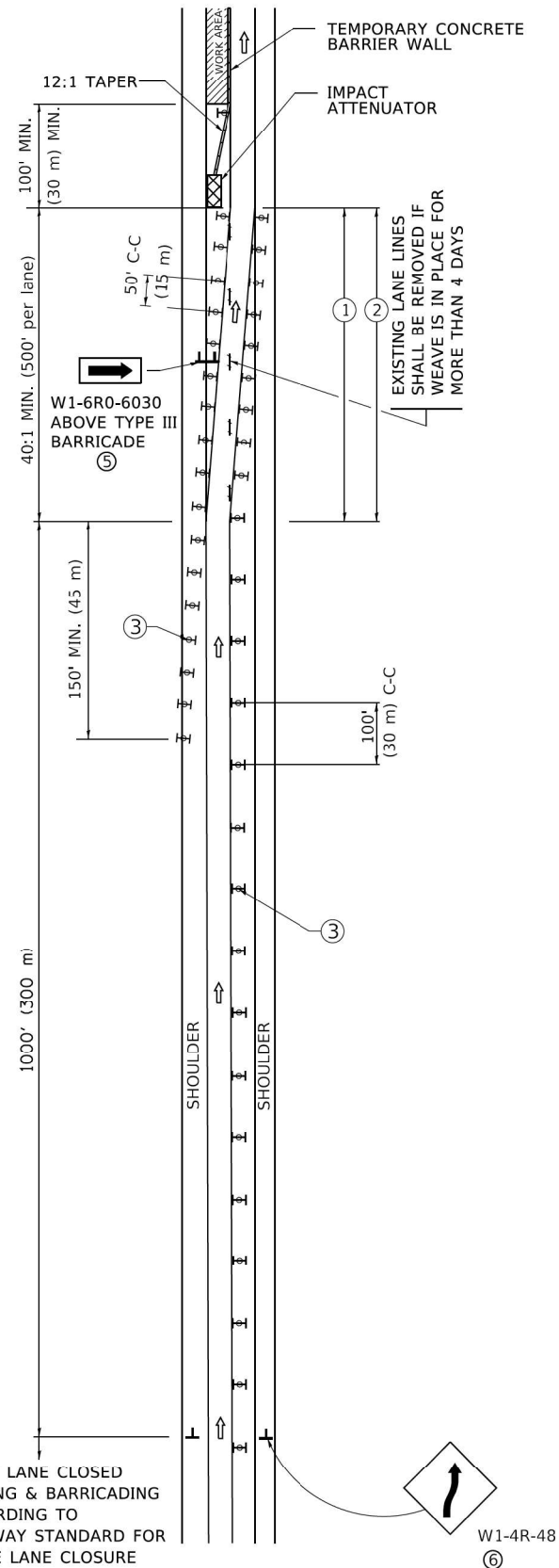
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ENTRANCE AND EXIT RAMP
CLOSURE DETAILS**

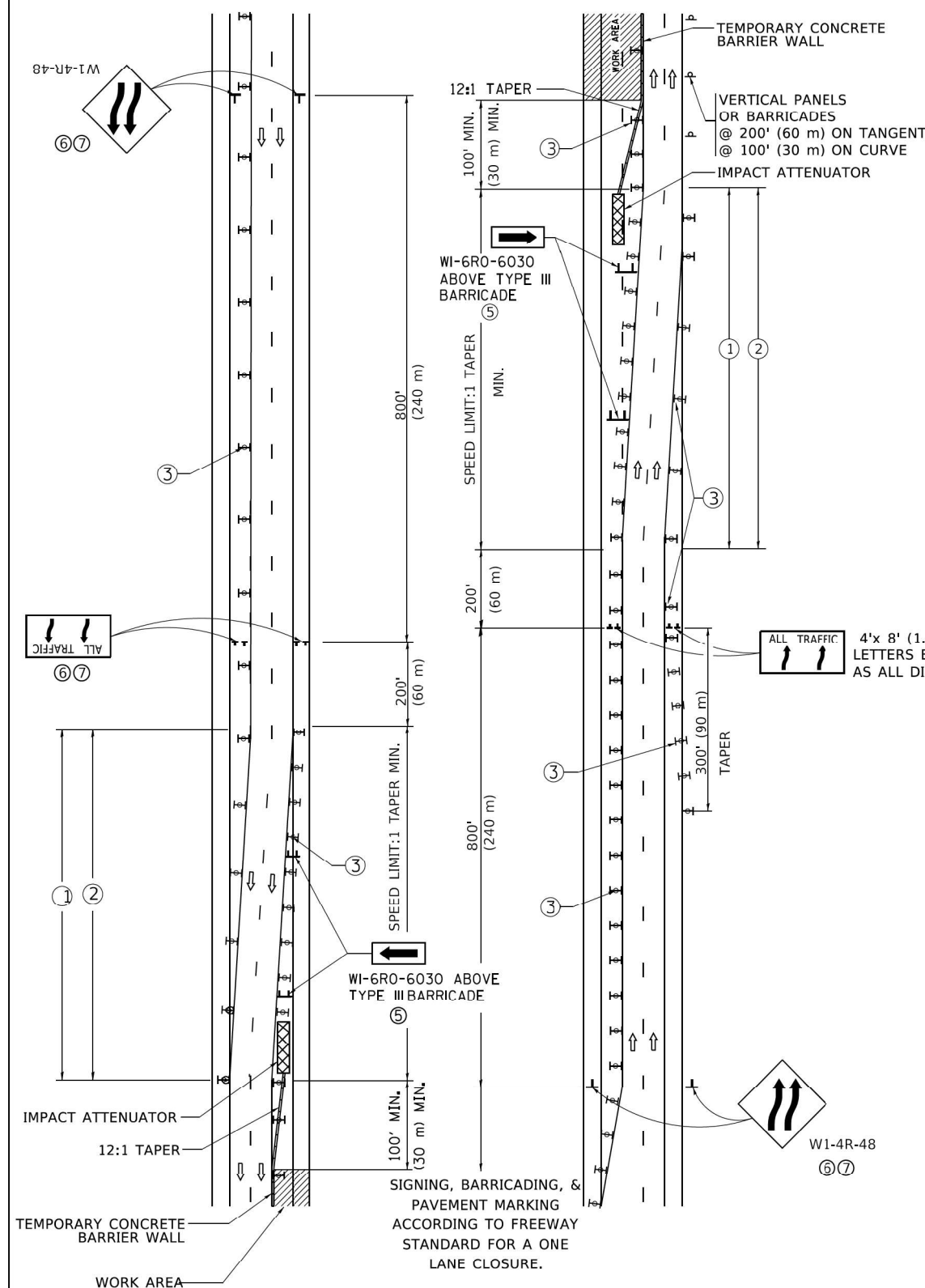
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	179
TC-08			CONTRACT NO. 62M54	
ILLINOIS FED. AID PROJECT E031520				

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES:

- EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.
- CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.
- PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- TYPE III BARRICADES MAY BE OMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.
- WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.
- THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

4'x 8' (1.2 m x 2.4 m); 1 (25) BORDER; 10 (250) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W1-4R-48 (6, 7)
- W24-1-48 (7)

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

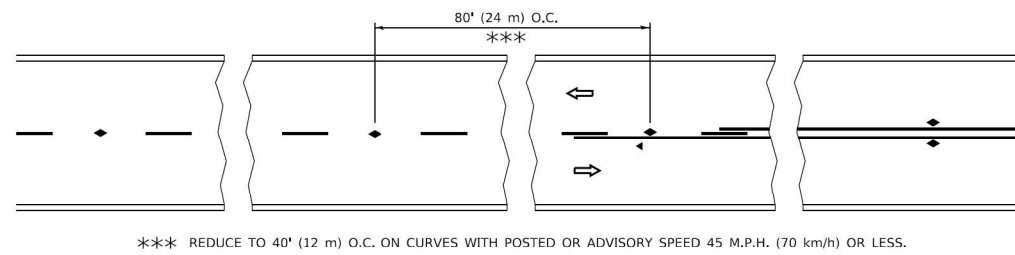
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	DRAWN -	REVISED - S.P.B. 01-07
PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - S.P.B. 12-09
PLOT DATE = 3/4/2019	DATE - 02-87	REVISED - M.D. 06-13

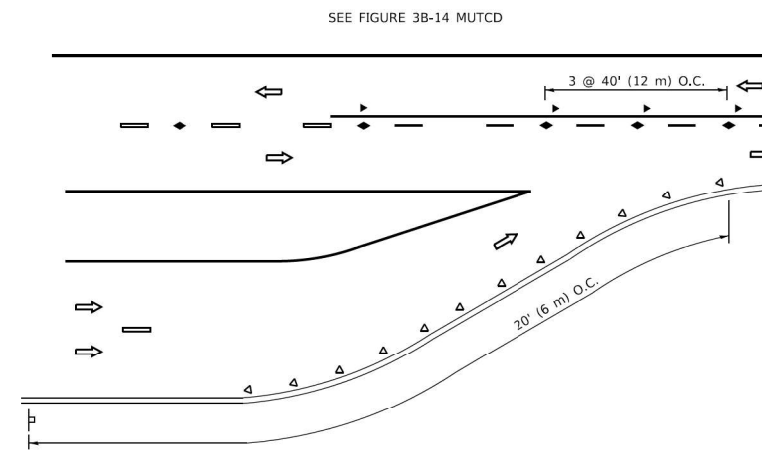
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: NONE		SHEET 1 OF 1 SHEETS		STA. TO STA.	
TRAFFIC CONTROL DETAILS FOR		FREEWAY SINGLE & MULTI-LANE WEAVE			

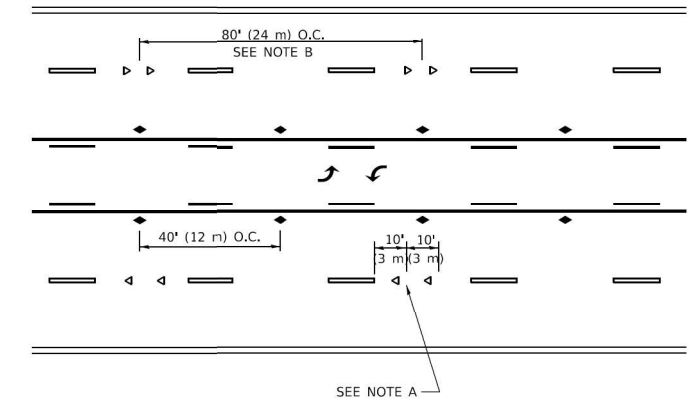
F.A.I. RTE. 57	SECTION 2020-171-BR	COUNTY COOK	TOTAL SHEETS 190	SHEET NO. 180
TC-09		CONTRACT NO. 62M54		
ILLINOIS FED. AID PROJECT EU31520				



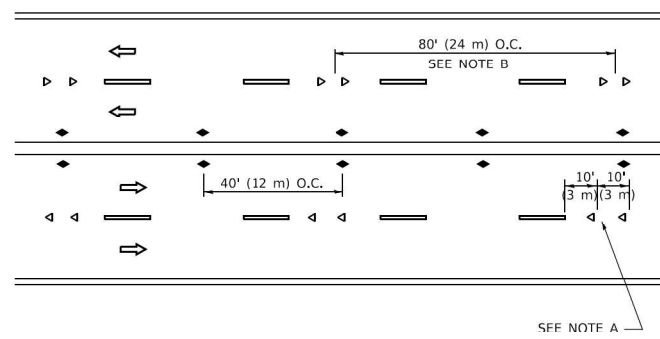
TWO-LANE/TWO-WAY



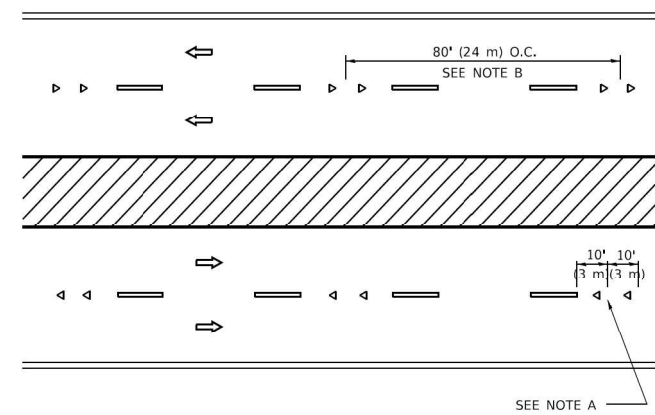
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES

SYMBOLS

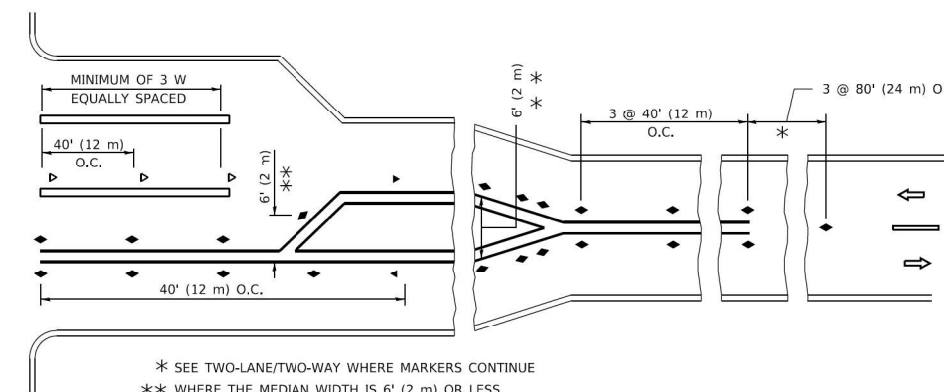
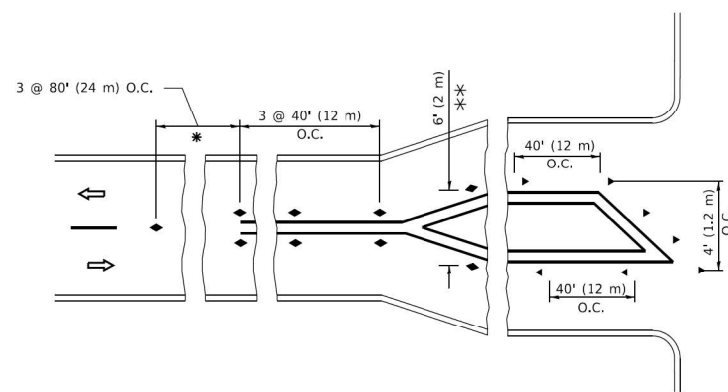
- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



TURN LANES

- * SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
- *** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

All dimensions are in inches (millimeters) unless otherwise shown.

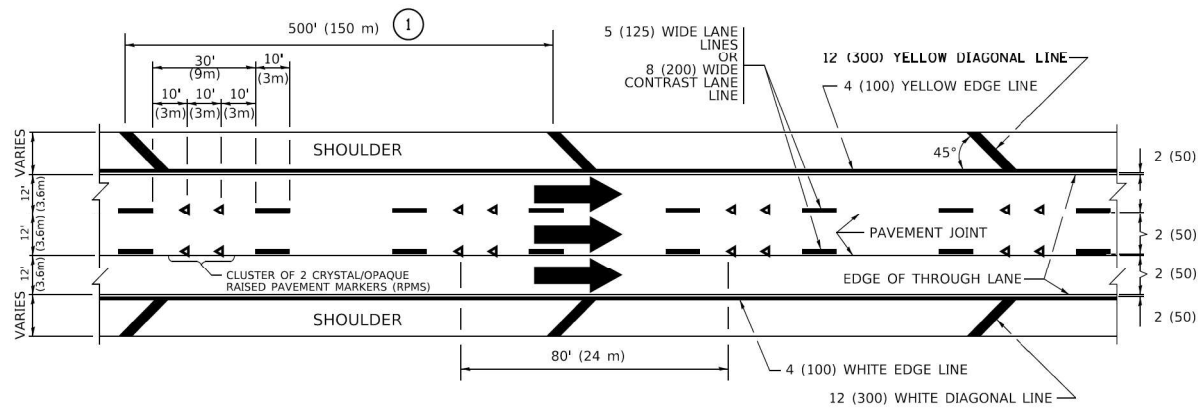
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	DRAWN -	REVISED - T. RAMMACHER 01-06-00
PLOT SCALE = 50,0000' / 1.	CHECKED -	REVISED - C. JUCIUS 09-09-09
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 07-01-13

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

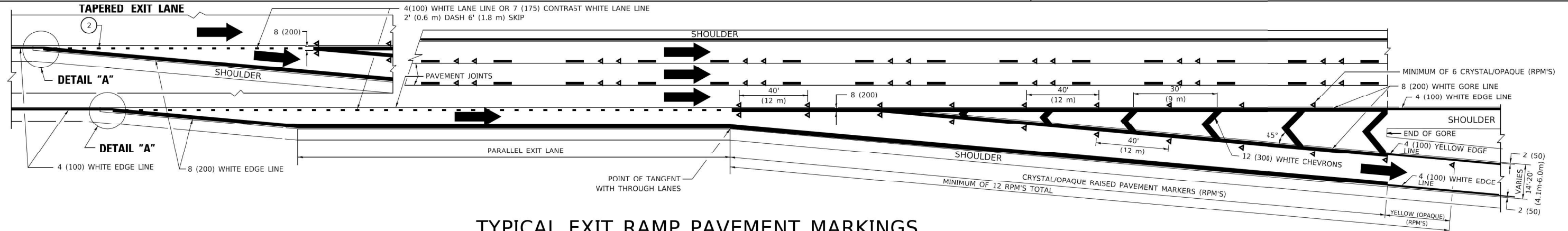
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-11			CONTRACT NO. 62M54	
ILLINOIS FED. AID PROJECT E03(520)				



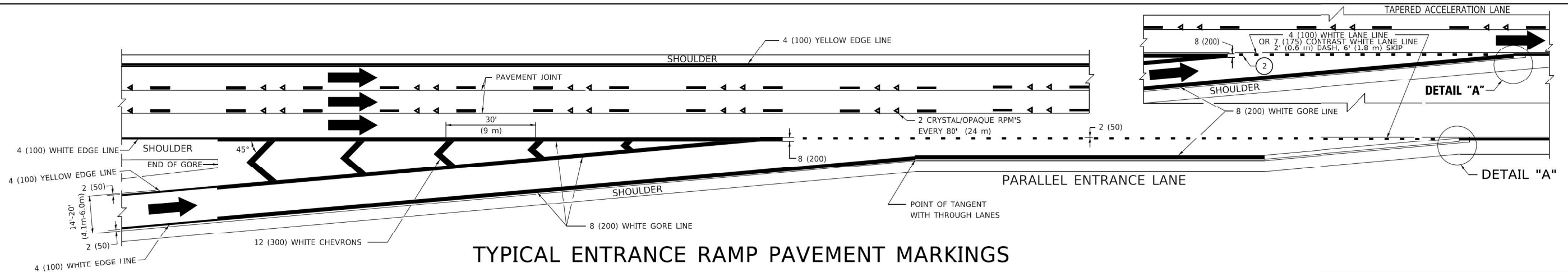
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

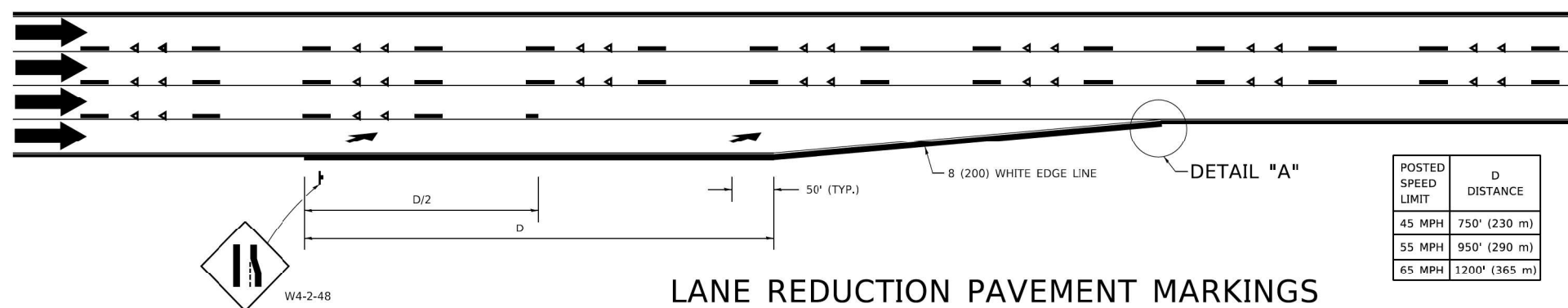
1. THERMOPLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON HMA PAVEMENTS.
2. POLYUREA OR MODIFIED URET-HANE PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON PCC PAVEMENTS.
3. PREFORMED PLASTIC PAVEMENT MARKING LINE TYPE B, INLAID OR GROOVE IN, SHALL BE USED FOR ALL LANE LINES ON HMA PAVEMENTS.
4. CONTRAST PREFORMED PLASTIC PAVEMENT MARKING LINE TYPE B, GROOVE IN, SHALL BE USED FOR ALL LANE LINES ON PCC PAVEMENT.



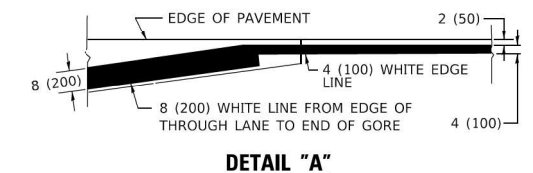
TYPICAL EXIT RAMP PAVEMENT MARKINGS



TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



LANE REDUCTION PAVEMENT MARKINGS



NOTES:

- ① THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.
- ② 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

POSTED SPEED LIMIT	D DISTANCE
45 MPH	750' (230 m)
55 MPH	950' (290 m)
65 MPH	1200' (365 m)

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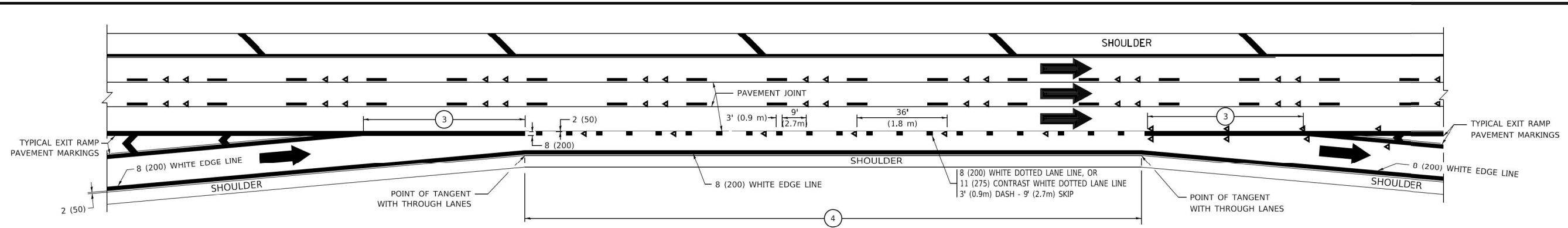
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PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - M.D. 05-13
PLOT DATE = 3/4/2019	DATE - 01-90	REVISED - M.D. 09-17

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

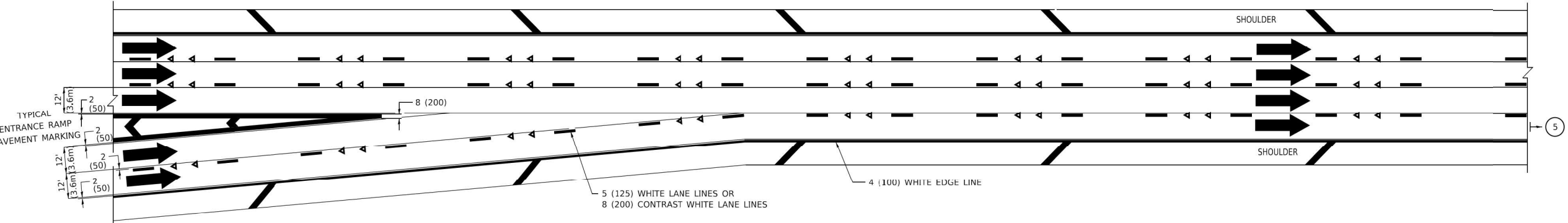
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

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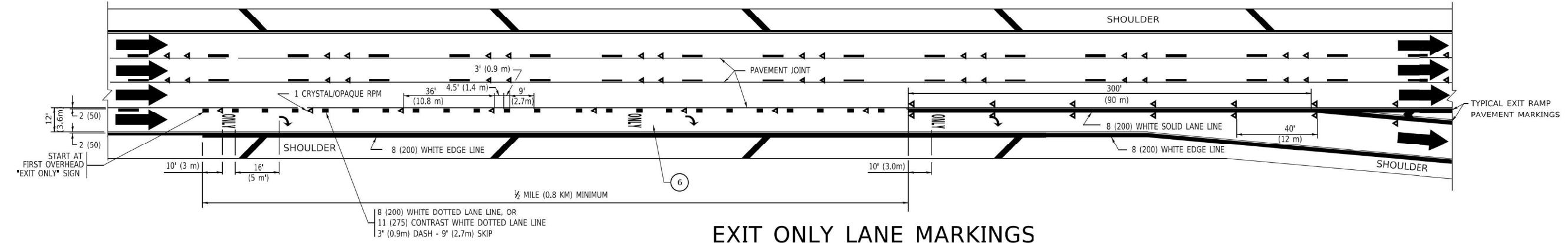
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	182
TC-12		CONTRACT NO. 62M54		
ILLINOIS FED. AID PROJECT EU31520				



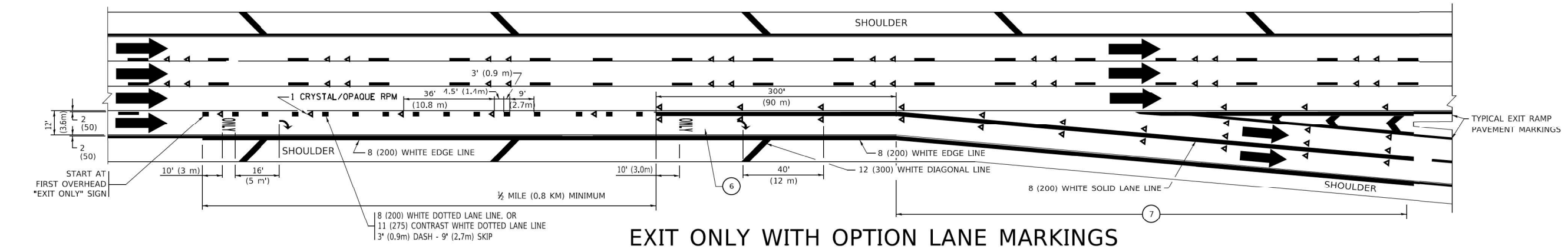
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



EXIT ONLY LANE MARKINGS



EXIT ONLY WITH OPTION LANE MARKINGS

- NOTES:**
- ③ OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).
 - ④ 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.
 - ⑤ FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.
 - ⑥ ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED.
 - ⑦ CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED GORE.

MODEL: TC-12
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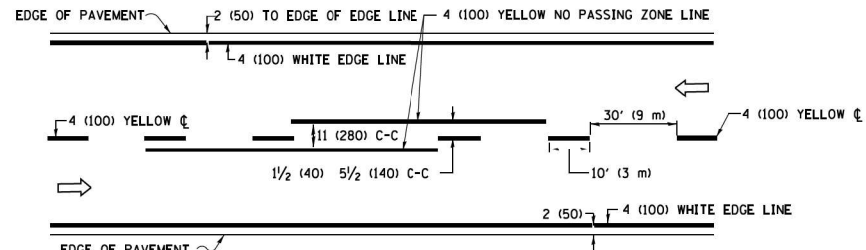
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PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - S.P.B. 01-10
PLOT DATE = 3/4/2019	DATE - 01-90	REVISED - M.D. 09-17

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

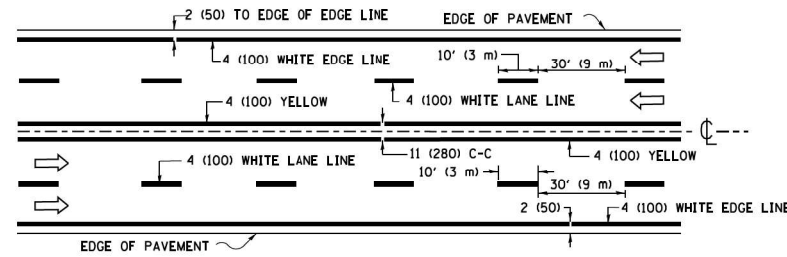
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

SCALE: NONE SHEET 1 OF 2 SHEETS STA. TO STA.

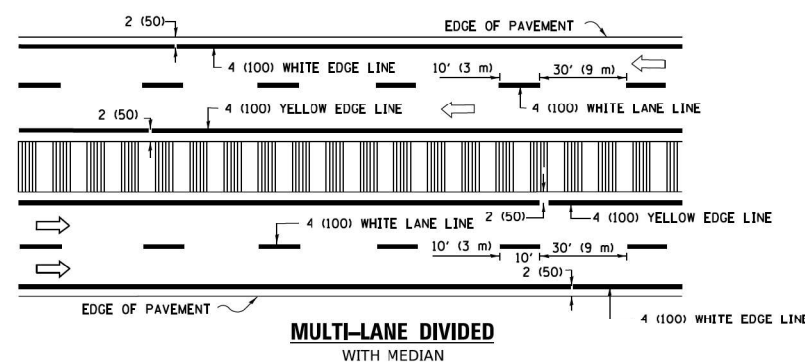
F.A.I. RTE. 57	SECTION 2020-171-BR	COUNTY COOK	TOTAL SHEETS 190	SHEET NO. 183
TC-12		CONTRACT NO. 62M54		
ILLINOIS FED. AID PROJECT EU3(1520)				



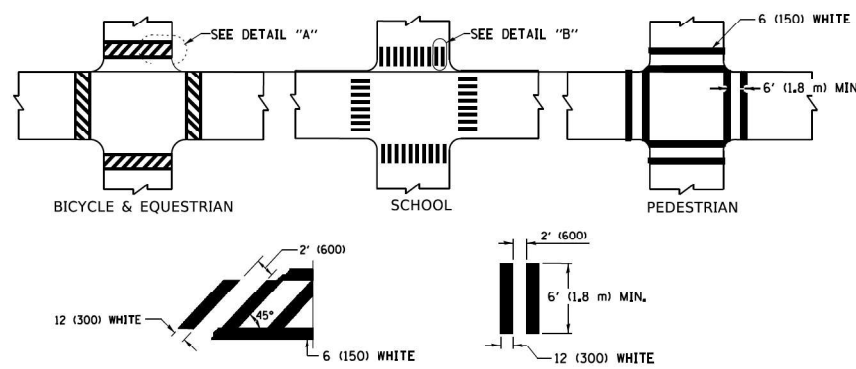
2-LANE ROADWAY



MULTI-LANE UNDIVIDED

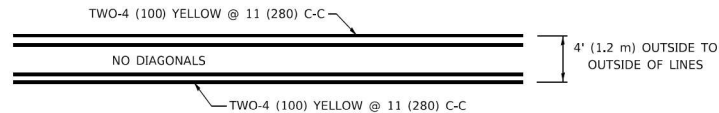


TYPICAL LANE AND EDGE LINE MARKING

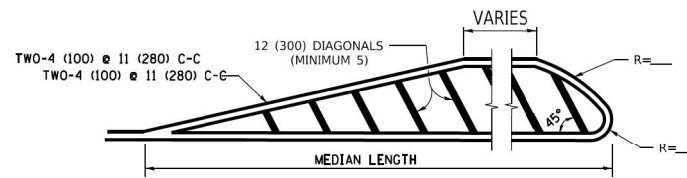


TYPICAL CROSSWALK MARKING

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



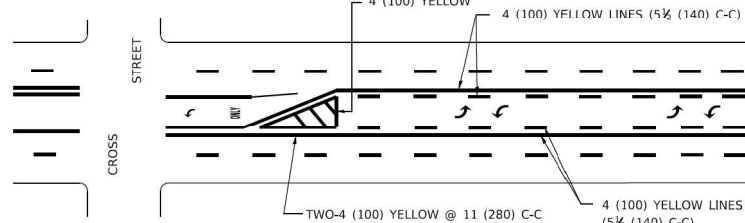
4' (1.2 m) WIDE MEDIANS ONLY



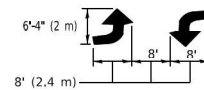
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

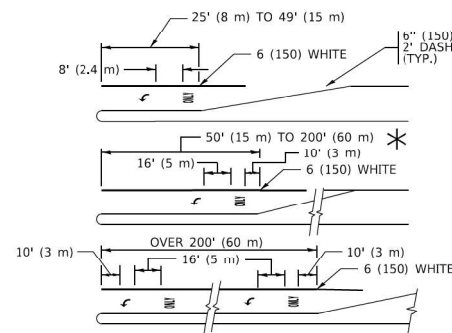


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

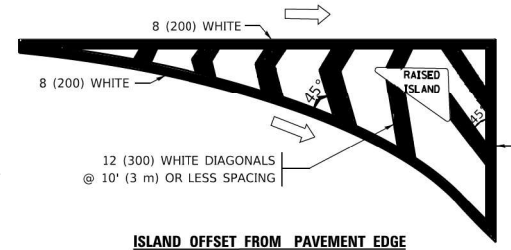


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)

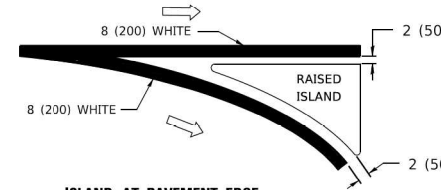
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING

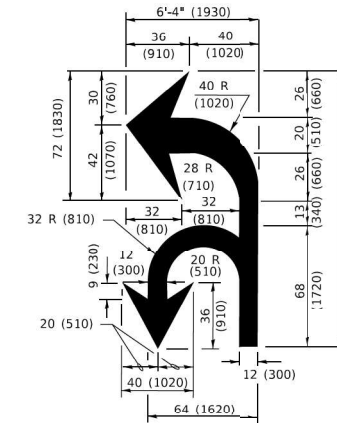


ISLAND OFFSET FROM PAVEMENT EDGE

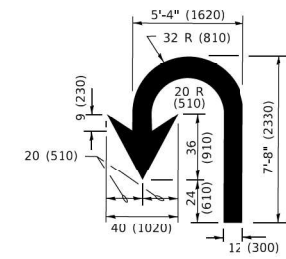


ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING



COMBINATION LEFT AND U-TURN



U-TURN

LANE REDUCTION TRANSITION

* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100); 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100); 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	7 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" 15' 6" (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: *R*=3.6 SQ. FT. (0.33 m ²) EACH *X*=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

MODEL: TC-13 FILE NAME: G:\Engineering\1001\1001\13\30005_IDOT_DIBR\10_7_16\30013ADD\CADD_Sheets\CH10\10212545-shd-04.dwg 5/16/2019

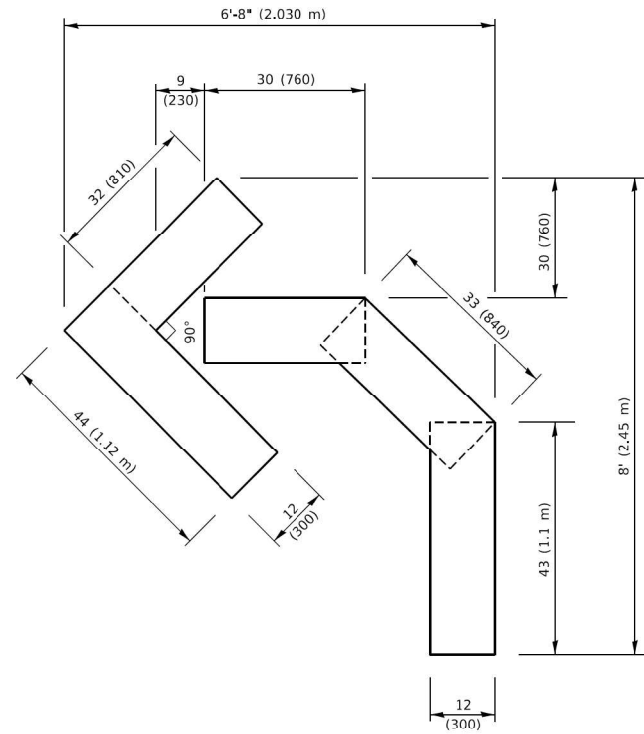
USER NAME = footemj	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09
	DRAWN -	REVISED - C. JUCIUS 07-01-13
PLOT SCALE = 50.0000" / 1"	CHECKED -	REVISED - C. JUCIUS 12-21-15
PLOT DATE = 3/4/2019	DATE - 03-19-90	REVISED - C. JUCIUS 04-12-16

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

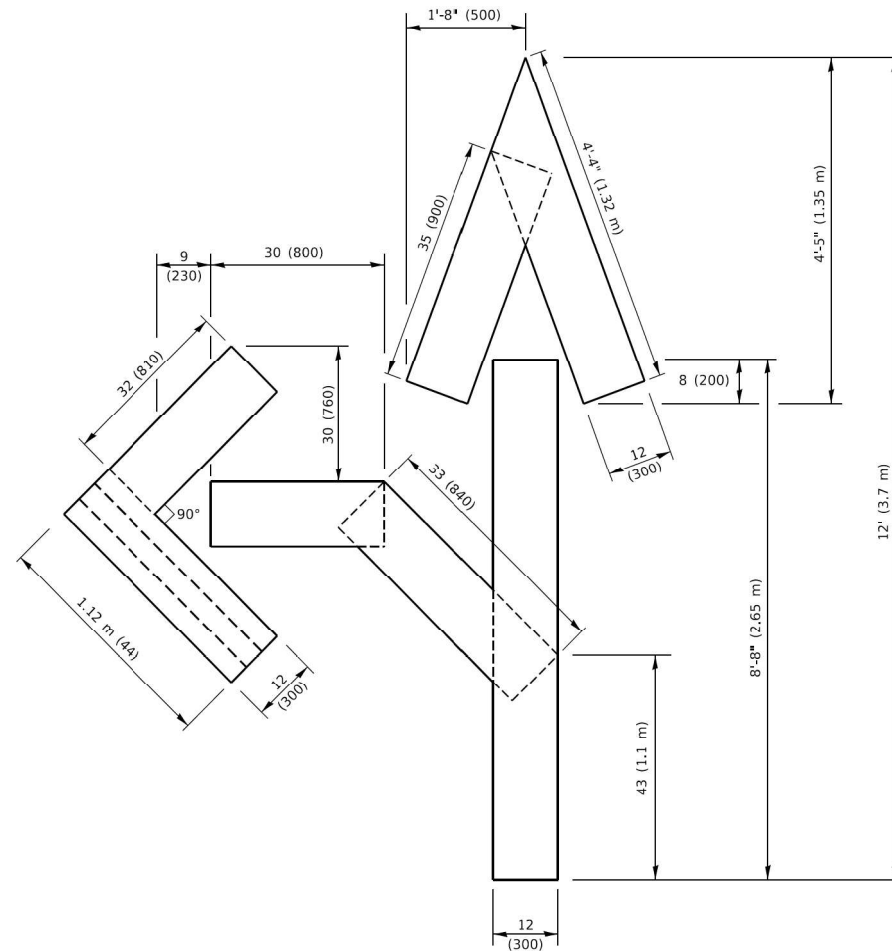
SCALE: NONE SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	184
TC-13				CONTRACT NO. 62M54
ILLINOIS FED. AID PROJECT E931(520)				



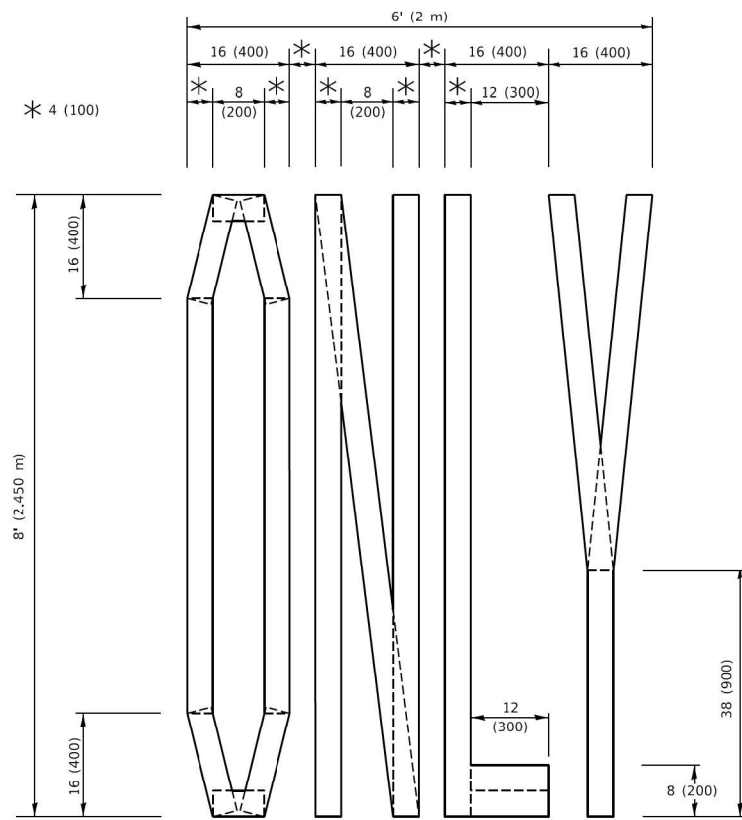
QUANTITY

4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.41 sq. m)



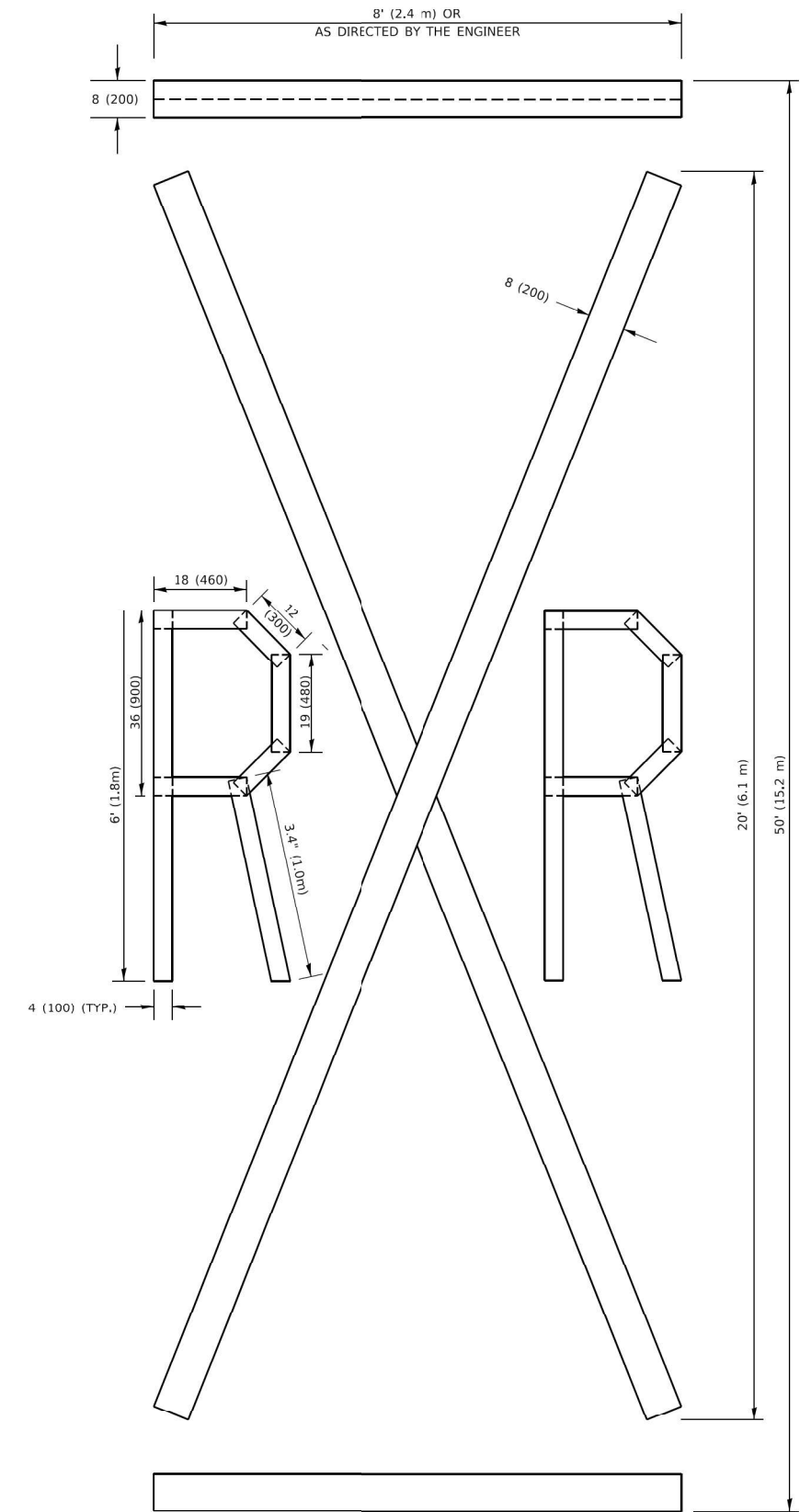
QUANTITY

4 (100) LINE = 82.5 ft. (25.1 m)
27.5 sq. ft. (2.53 sq. m)



QUANTITY

4 (100) LINE = 64.1 ft. (19.5 m)
21.4 sq. ft. (1.99 sq. m)



QUANTITY

4 (100) LINE = 225.9 ft. (68.9 m)
75.3 sq. ft. (6.99 sq. m)

NOTE:

ALL QUANTITIES OF PLACEMENT ARE REPRESENTED IN LINEAR FEET OF 4" LINES TO MATCH THE 4" TEMPORARY TAPE PAY ITEM AND REPRESENTS THE TOTAL QUANTITY OF 4" TAPE REQUIRED.

All dimensions are in inches (millimeters) unless otherwise shown.

MODEL: TC-16
FILE NAME: G:\Engineering\1100\Projects\1100005_IDOT_DUR\W07 - 62M54\ADDICADD_Sheets\CT\RD12\12154-4-16-D14_516.dwg

USER NAME = footemj	DESIGNED -	REVISED - T. RAMMACHER 03-02-98
	DRAWN -	REVISED - E. GOMEZ 08-28-00
PLOT SCALE = 50.0068" / in.	CHECKED -	REVISED - E. GOMEZ 08-28-00
PLOT DATE = 3/4/2019	DATE - 09-18-94	REVISED - A. SCHUETZE 09-15-16

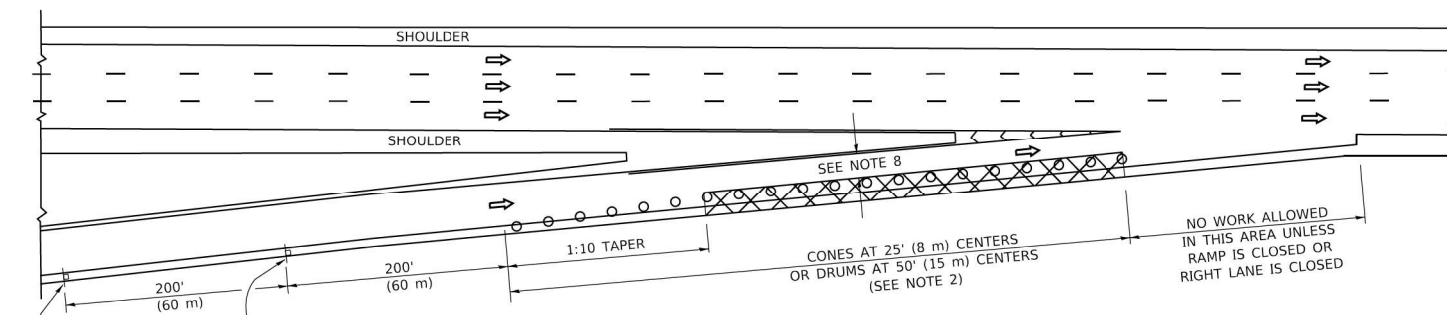
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS

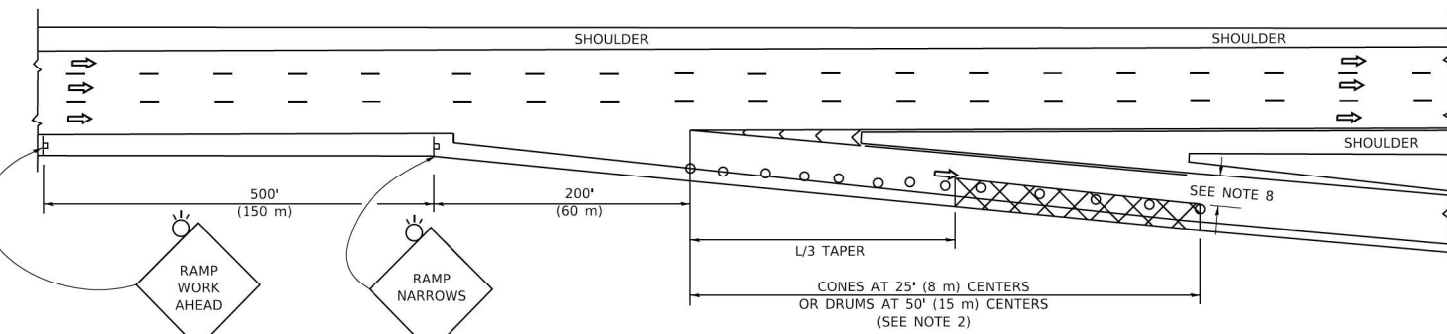
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	185
TC-16		CONTRACT NO. 62M54		
ILLINOIS FED. AID PROJECT EU31(520)				

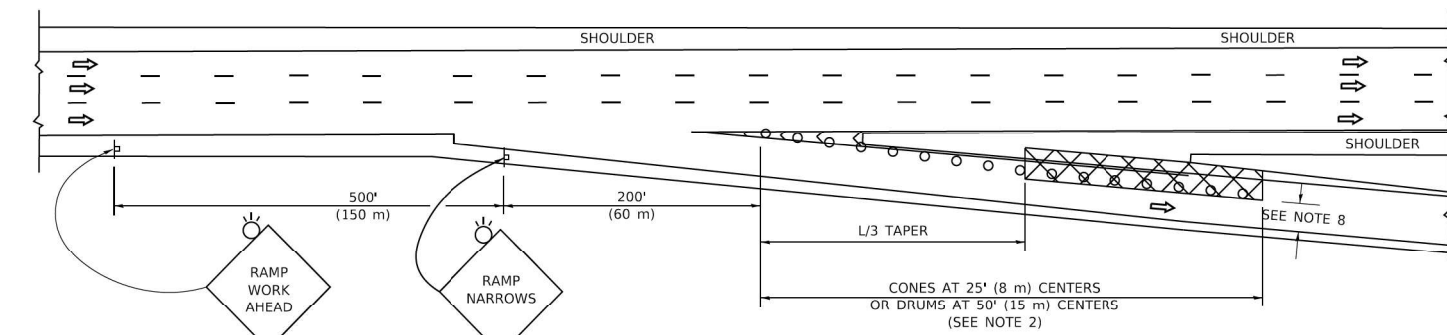
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

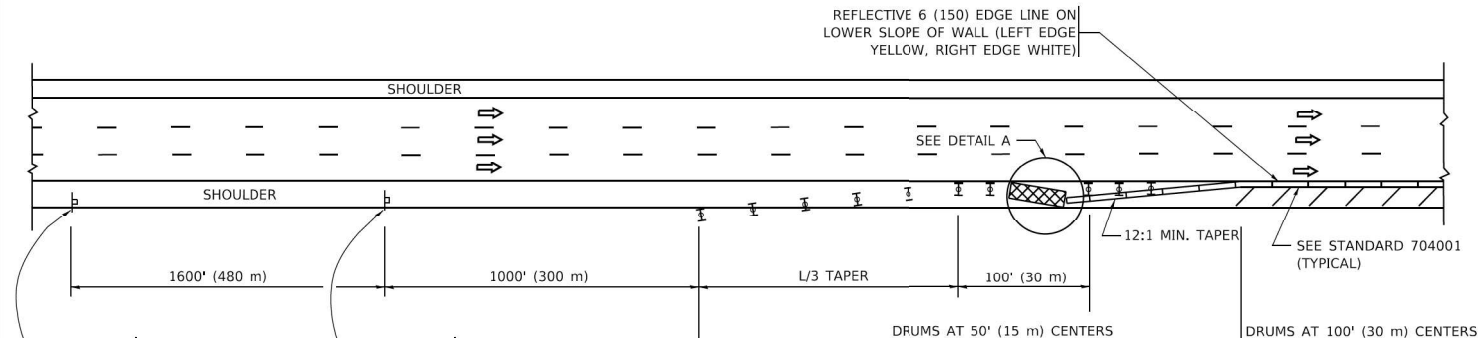
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES:

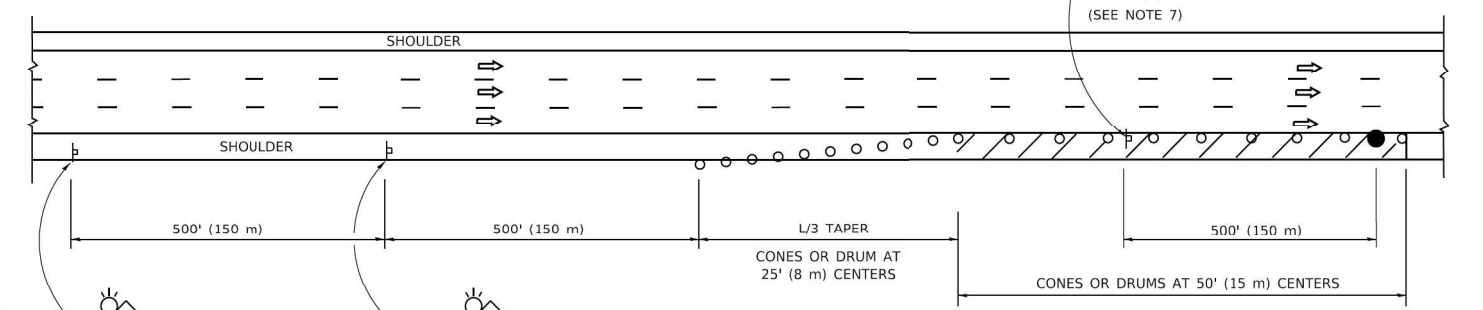
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
45 mph (80 km/h)	METRIC ENGLISH
OR GREATER:	$L=0.65(W/S)$ $L=(W/S)$
	W = WIDTH OF OFFSET IN FEET (METERS)
	S = NORMAL POSTED SPEED MPH (KM/H)
2. TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTACLES, EXCAVATIONS, OR HAZARDS EXCEEDING 100 FT (30m) IN LENGTH AT NIGHT.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

SHOULDER CLOSURE DETAILS



PERMANENT SHOULDER CLOSURE



TEMPORARY SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350/MASH COMPLIANT.

DETAIL "A"
 IMPACT ATTENUATOR, TEMPORARY
 (SEE NOTE 5)

5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
 - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
 - b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

8. 12' MIN. WIDTH TANGENT SECTION
16' MIN. WIDTH CURVE SECTION.
9. TEMPORARY SHOULDER AND NON-SYSTEM INTERCHANGE PARTIAL RAMP CLOSURES ARE ALLOWED WEEKDAYS BETWEEN 9:00 A.M. AND 3:00 P.M. AND BETWEEN 7:00 P.M. AND 5:00 A.M. OR AS APPROVED BY THE EXPRESSWAY TRAFFIC OPERATIONS ENGINEER. PERMANENT SHOULDER AND PARTIAL RAMP CLOSURES WILL ONLY BE PERMITTED IF CALLED FOR IN THE PLANS OR AS APPROVED BY THE EXPRESSWAY OPERATIONS ENGINEER.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL: TC 17
 FILE NAME: G:\Engineering\11000000\DOT-DIR\17-62M54\ADD\ADD-Sheets\11000000-17-62M54-17-62M54-17-62M54-17-62M54.dwg

USER NAME = leysa	DESIGNED -	REVISED - S.P.B. 12-09
	DRAWN - D.W.S.	REVISED - M.D. 06-13
PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - M.D. 01-18
PLOT DATE = 10/14/2020	DATE - 11-96	REVISED - M.D. 10-20

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

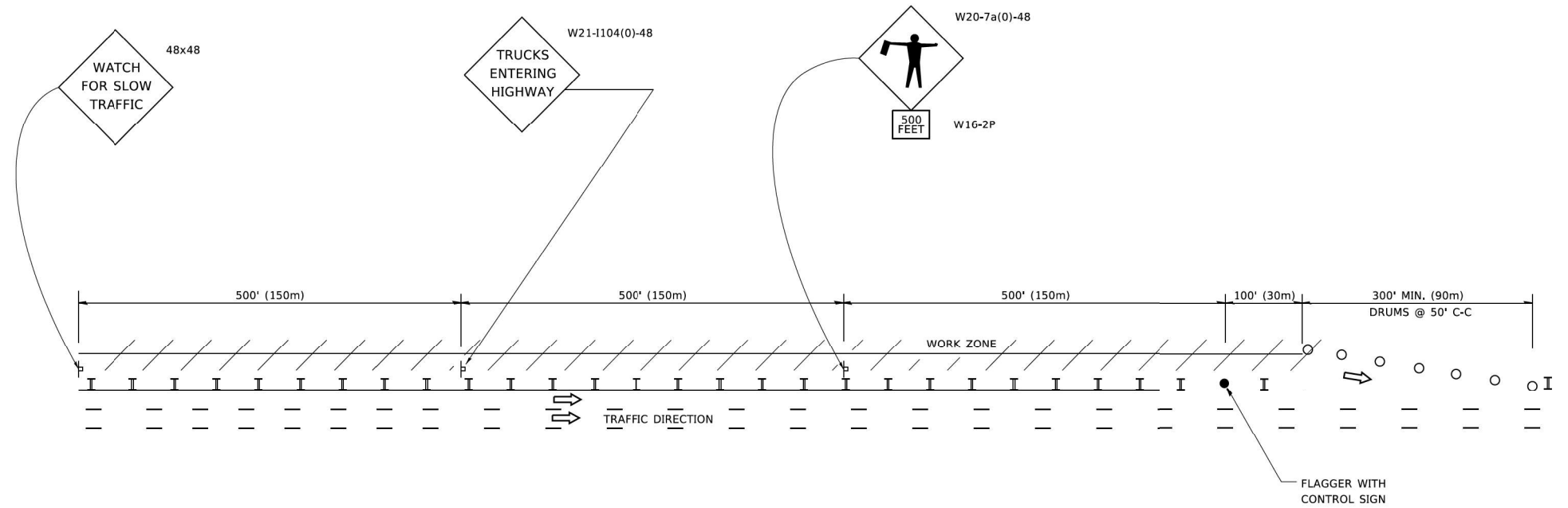
**TRAFFIC CONTROL DETAILS FOR FREEWAY
 SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

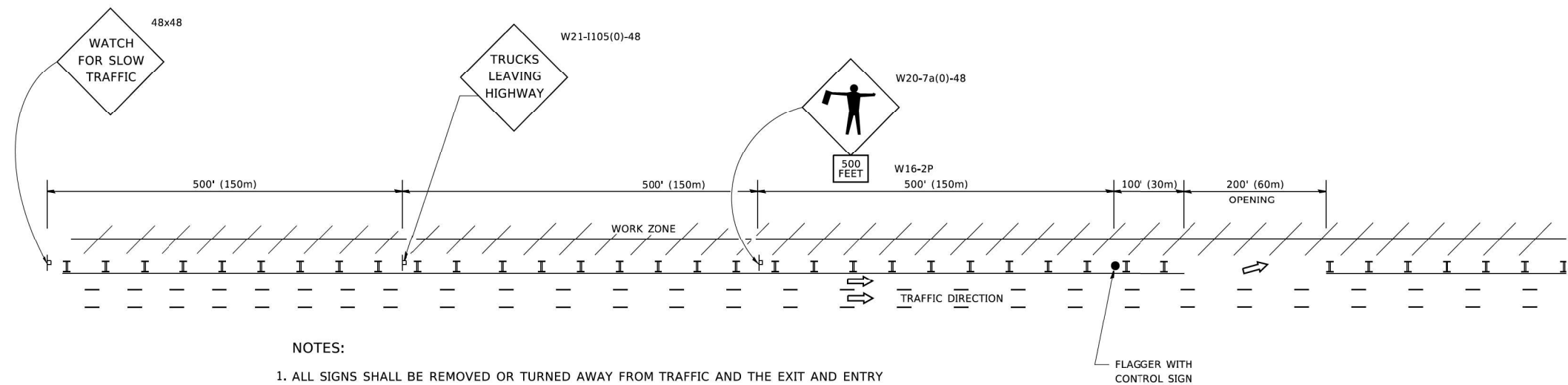
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	186
TC-17			CONTRACT NO. 62M54	
ILLINOIS FED. AID PROJECT EU31520				

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. ALL SIGNS SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMP.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS
5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

MODEL: TC-18
FILE: M:\M&E_GIS\Engineering\1100\Project\1100\1100005_IDOT_DIR\WO_7_62M54\CADD\CADD_Signs\TC18\1100-54-18-54.dwg

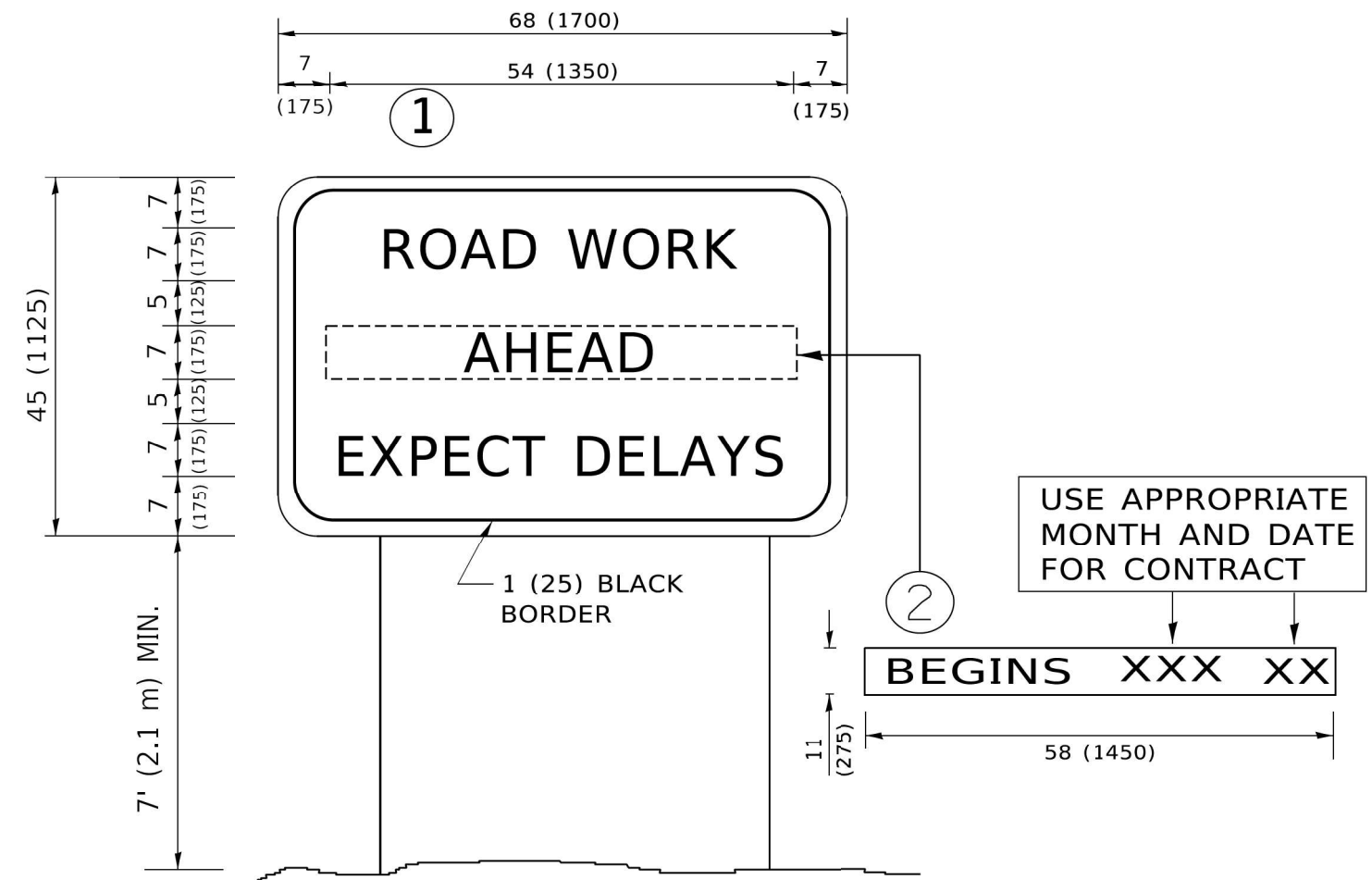
USER NAME = footemj	DESIGNED -	REVISED - J.A.F. 02-06
	DRAWN -	REVISED - S.P.B. 01-07
PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - S.P.B. 12-09
PLOT DATE = 3/4/2019	DATE -	REVISED - M.D.06-13

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FREEWAY /EXPRESSWAY SIGNING FOR FLAGGING OPERATIONS
AT WORK ZONE OPENINGS ON FREEWAYS /EXPRESSWAYS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	187
TC-18			CONTRACT NO. 62M54	
ILLINOIS FED. AID PROJECT EU3(1520)				



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL: TC-22
FILE NAME: G:\Engineering\101\101\Project\101\300005_IDOT_CDIBR\101_7_62M54\ACADD\CADD_Sheets\CDIBR\101\21M54-1-1-101_516.dwg

USER NAME = footemj	DESIGNED -	REVISED - R. MIRS 09-15-97
	DRAWN -	REVISED - R. MIRS 12-11-97
PLOT SCALE = 50,0000 ' / ft.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 01-31-07

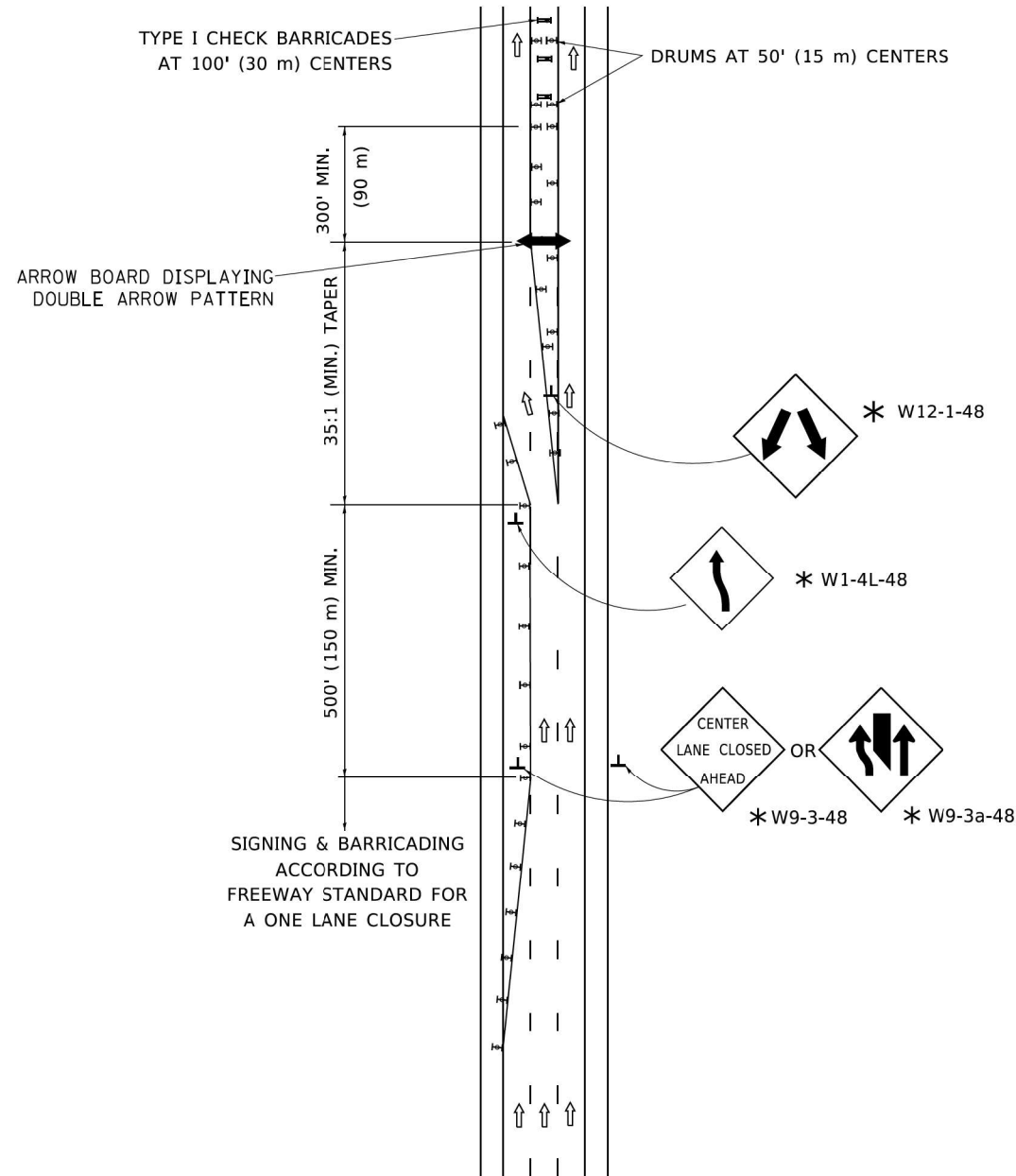
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD
INFORMATION SIGN**

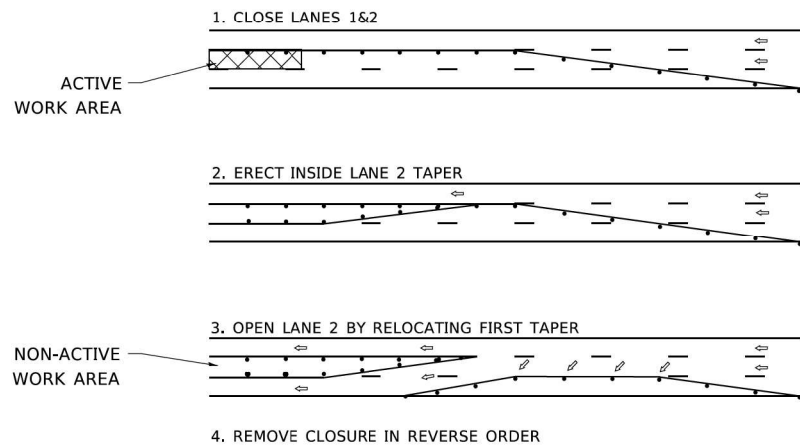
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	188
TC-22			CONTRACT NO. 62M54	
<small>ILLINOIS FED. AID PROJECT EU3(520)</small>				

CENTER LANE CLOSURE



INSTALLATION SEQUENCE



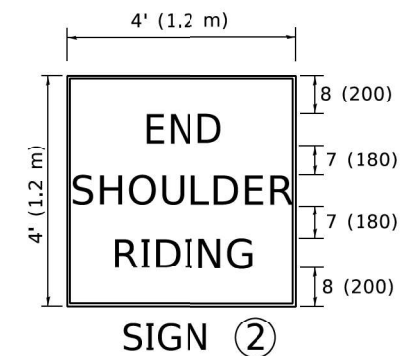
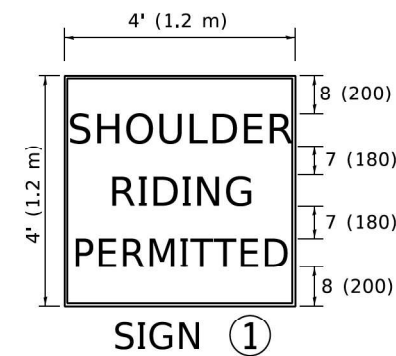
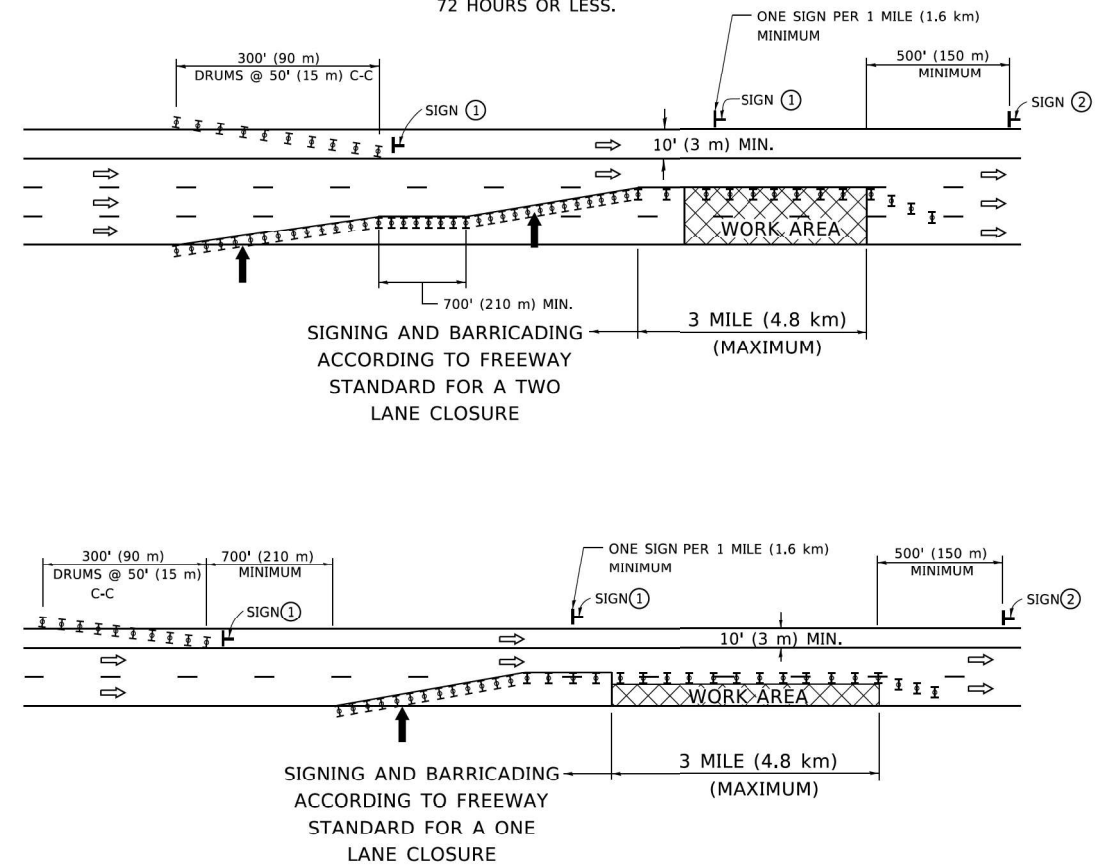
NOTES:

1. DRUMS WITH STEADY BURN LIGHTS SHALL BE USED AT 50' (15 m) CENTERS ON ALL TAPERS AND TANGENTS IN ADVANCE OF WORK AREA.
2. CLOSURE SHALL BE USED ONLY FOR OPERATIONS LASTING 72 HOURS OR LESS.
3. CENTER LANE CLOSURE CONFIGURATION IS NOT TO BE USED WITH WORKERS PRESENT.

SHOULDER LANE

NOTE:

CLOSURE SHALL BE USED ONLY FOR OPERATIONS LASTING 72 HOURS OR LESS.



6 (150) SERIES "C" LEGEND
BLACK LEGEND
WHITE REFLECT, BACKGROUND
1 (25) BORDER

SYMBOLS

- ↑ DIRECTION OF TRAFFIC
- ➔ ARROWBOARD
- ▣ ACTIVE WORK AREA
- ⊥ SIGN ON PORTABLE OR PERMANENT SUPPORT *
- ⊥ TYPE II BARRICADE, OR DRUM WITH MONO-DIRECTIONAL STEADY BURN LIGHT

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

* ALL SIGNS SHALL BE MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).

MODEL: TC-25
FILE NAME: G:\Engineering\11111111\11111111\DOT DIR\W07 - 62151ACADD\CADD_Sheets\CTC\11111111\11111111.dwg 5/16/2019

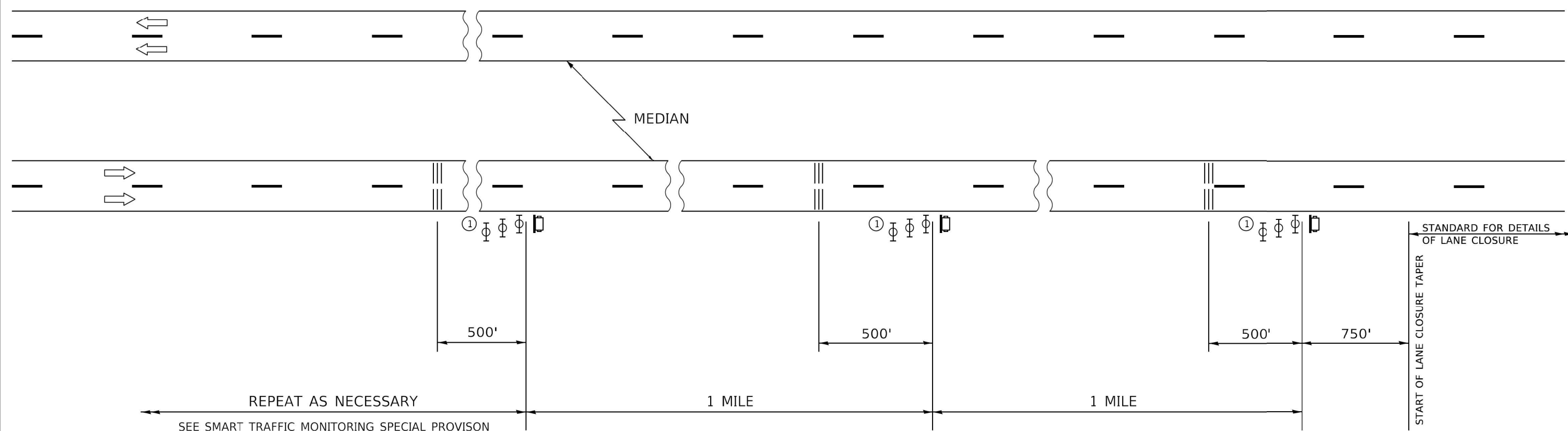
USER NAME = footemj	DESIGNED -	REVISED - J.A.F. 04-03
	DRAWN -	REVISED - S.P.B. 01-07
PLOT SCALE = 50,00000' / 1/1	CHECKED -	REVISED - S.P.B. 12-09
PLOT DATE = 3/4/2019	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**




**TRAFFIC CONTROL DETAILS FOR FREEWAY
CENTER LANE CLOSURE SHOULDER LANE**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE. 57	SECTION 2020-171-BR	COUNTY COOK	TOTAL SHEETS 190	SHEET NO. 189
TC-25			CONTRACT NO. 62M54	
ILLINOIS FED. AID PROJECT EU31520				



SYMBOLS

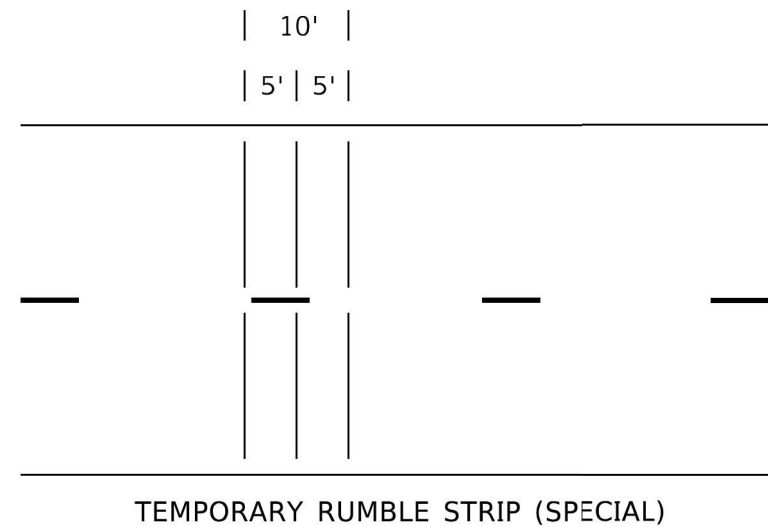
-  PORTABLE CHANGEABLE MESSAGE SIGN
-  TEMPORARY RUMBLE STRIP (SPECIAL)
-  TYPE II BARRICADES, DRUMS, OR VERTICAL BARRICADES WITH MONODIRECTIONAL FLASHING LIGHT.

① THREE TYPE II BARRICADES, DRUMS, OR VERTICAL BARRICADES AT 25' (8 m) CENTERS.

GENERAL NOTE:

THIS DETAIL IS TO BE USED IN CONJUNCTION WITH SMART TRAFFIC MONITORING SYSTEM AND TEMPORARY RUMBLE STRIP (SPECIAL) SPECIAL PROVISIONS.

TRAFFIC CONTROL SHOWN IN THIS DETAIL IS TO BE PROVIDED IN ADDITION TO ANY TEMPORARY TRAFFIC CONTROL SHOWN ON STATE STANDARDS, DISTRICT DETAILS, AND MAINTENANCE OF TRAFFIC PLANS.



SMART TRAFFIC MONITORING SYSTEM TYPICAL LAYOUT

TC-33

MODEL: TC-33
FILE NAME: G:\Engineering\9011\Irrigation\320005_IDOT_CURR\7 - 62M54\ADD\CADD_Sheets\CURR\01212454-04.dwg 5/6/2021

USER NAME = paraynoal	DESIGNED - MATTHEW DAEDA	REVISED -
	DRAWN - ALAN PARAYNO	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 3/19/2021	DATE - 06-89	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SMART TRAFFIC MONITORING SYSTEM TYPICAL LAYOUT

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	2020-171-BR	COOK	190	190
TC-33		CONTRACT NO. 62M54		
ILLINOIS FED. AID PROJECT EU31(520)				