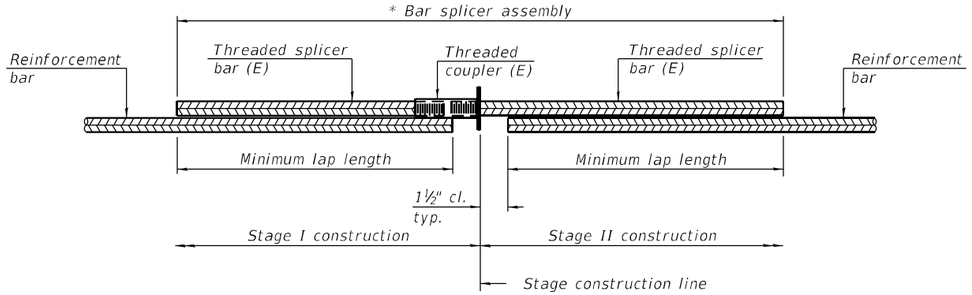


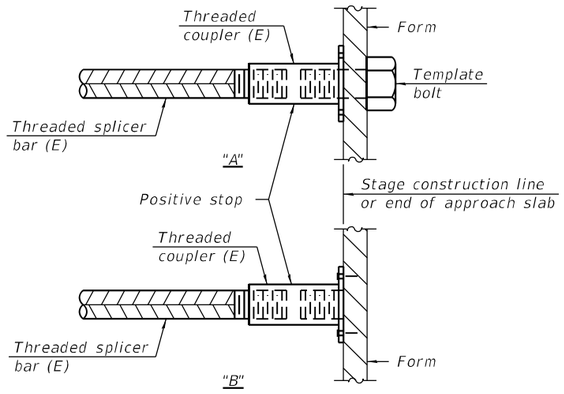
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

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

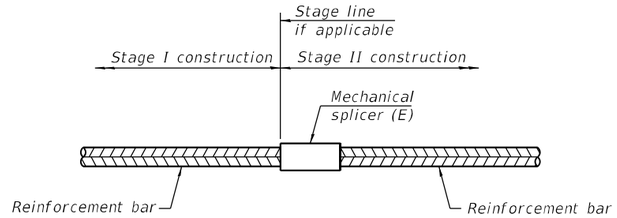
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
N. Abut.	#5	10	3'-6"
N. Abut.	#6	6	4'-0"
S. Abut.	#5	10	3'-6"
S. Abut.	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

BSD-1 1-1-2020

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NUMBER 016-0125 (NB)
SHEET S11-19 OF S11-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	701
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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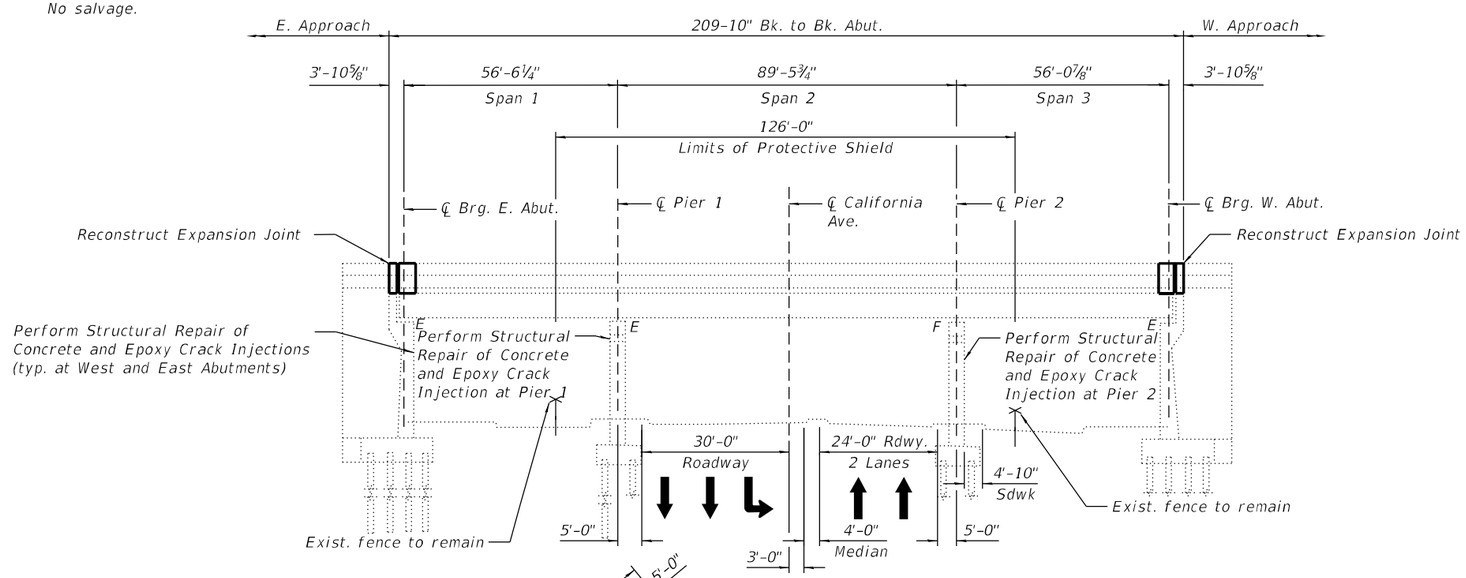
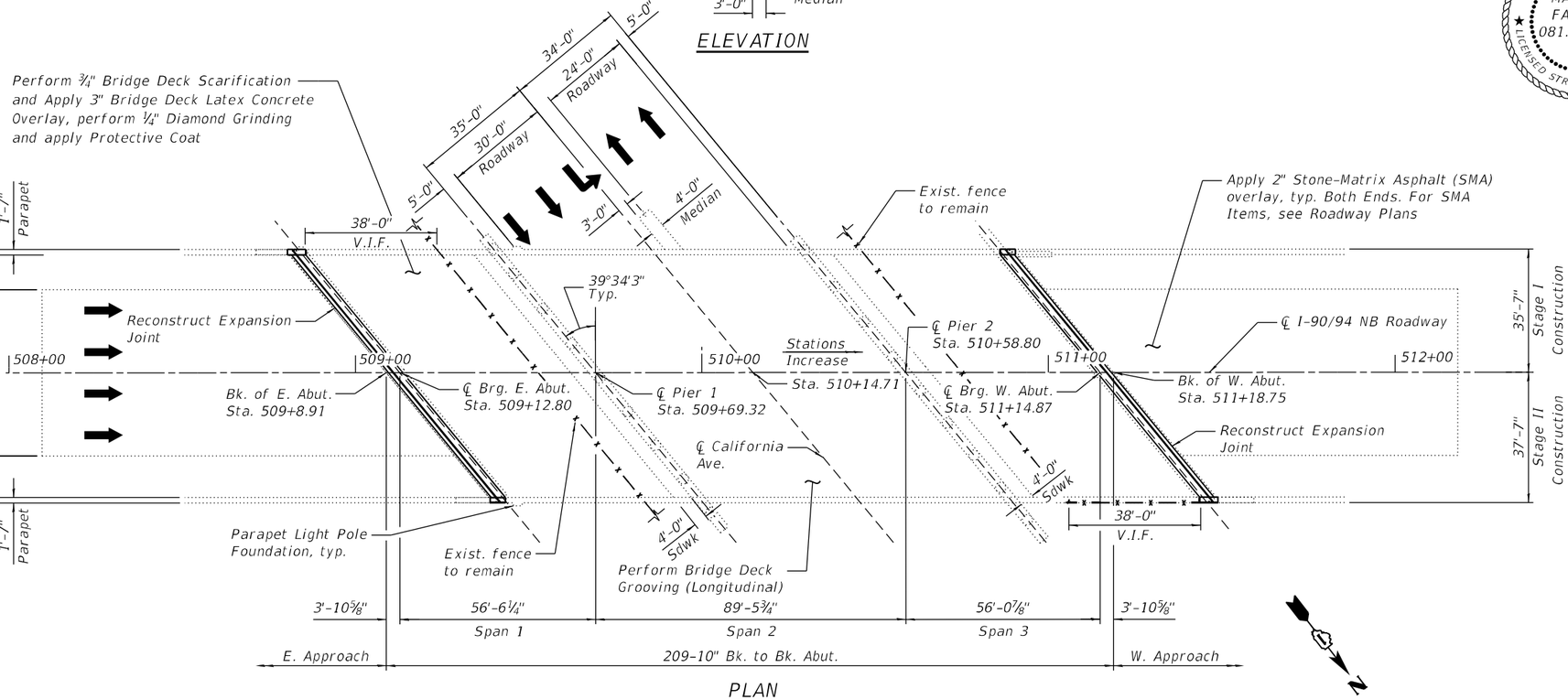
Existing Structure: The existing Structure No. 016-1077, I-90/94 over California Ave., was built in 1958 under Project I-02-2(33), Section 0707-405-HB. In 1990, under Contract 80159, the substructure was repaired and widened. In 1993, the deck was removed and replaced with a composite reinforced concrete deck under Contract 82136. In 2013, portions of the joints were removed and replaced with a silicone joint sealer. The structure is a 3-span, continuous steel stringer/multi-beam bridge with a 7" concrete deck, 73'-2" out-to-out of structure, and 209'-10" back-to-back of abutments. The substructure consists of reinforced concrete abutments and piers supported over concrete drilled shafts.

Traffic will be maintained utilizing staged construction.

No salvage.



ELEVATION



PLAN

NOTE:

1. All stations are to ℄ I-90/94 NB Roadway and taken from existing plans.

LOADING

No Future Wearing Surface Allowed.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

RECONSTRUCTION 2013

2002 AASHTO Standard Specifications for Highway Bridges

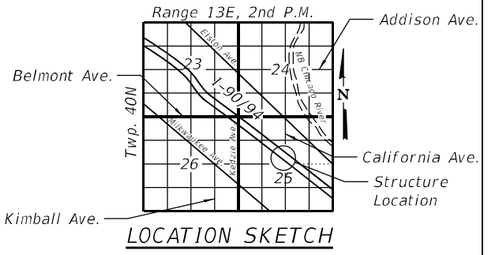
RECONSTRUCTION 1993

1989 AASHTO Standard Specifications for Highway Bridges with 1990 & 1991 Interim Specifications

STATE OF ILLINOIS
MAEN A. FARHAT
081.008545
LICENSED STRUCTURAL ENGINEER

Signed: Maen Farhat
Date Signed: 04/29/2024

MAEN A. FARHAT, SE
IL Lic. No.: 081-008545
Expires: 11/30/2024



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
NB I-90/94 OVER CALIFORNIA AVENUE
F.A.I. ROUTE 90/94
SECTION 2020-005-BR
COOK COUNTY
STATION: 510+14.71
S.N. 016-1077 (NB)

Accurate GROUP, INC.	USER NAME =	DESIGNED - PV	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURE NUMBER 016-1077 (NB)
		CHECKED - MAF	REVISED -		SHEET S12-01 OF S12-18 SHEETS
	PLOT SCALE =	DRAWN - PV	REVISED -		
	PLOT DATE =	CHECKED - MAF	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	702
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

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GENERAL NOTES

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

2. Plan dimensions and details relative to 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 indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.

4. All exposed concrete edges shall have a ¾"x45° chamfer, except where shown otherwise.

5. Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction cost is included with concrete removal. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system at the Contractor's expense.

6. For SMA overlay on Approach slab, see Roadway plans.

7. Protective Coat shall be applied to the top and inside face of parapets, reconstructed transverse Expansion Joints and to the surface of the new Latex Concrete overlay.

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

9. Prior to pouring the new concrete deck for Expansion Joints 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 can not be removed by grinding ¼ in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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

11. Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.

12. 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.

13. 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".

14. 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.

15. The Contractor is responsible to protect the existing conduits embedded in the parapet and junction boxes during concrete removal and construction. Any damage to the existing conduits or junction boxes shall be repaired by the Contractor at no additional cost to the Department.

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 adjustment 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.

18. The contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by temporary chain-link-fence.

19. The intent of Temporary Construction Fence is to deny access of any unauthorized personnel under the bridge during construction. Actual fence installations may vary from what is shown on the plans. All fence Installations must be approved by the engineer.

20. Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft of the abutment backwall.

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

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

INDEX OF SHEETS

SCOPE OF WORK

1. Provide Protective Shield within limits indicated on the plans.

2. Scarify ¾" from the bridge deck slab.

3. Perform Deck Slab Repairs.

4. Remove and Reconstruct Expansion joints at East and West abutments and install new Preformed Joint Strip Seals.

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

6. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.

7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Pavement (See roadway plans).

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

9. Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse Expansion Joints and to the surface of Latex Concrete Overlay.

10. Perform structural concrete repairs to abutments and piers, as noted on plans.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	29.3	-	29.3
Protective Shield	Sq Yd	941	-	941
Concrete Superstructure	Cu Yd	32.9	-	32.9
Protective Coat	Sq Yd	1,804	-	1,804
Reinforcement Bars, Epoxy Coated	Pound	5,030	-	5,030
Bar Splicers	Each	32	-	32
Preformed Joint Strip Seal	Foot	186	-	186
Concrete Sealer	Sq Ft	-	932	932
Epoxy Crack Injection	Foot	-	233	233
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,069	-	1,069
Protect and Maintain Existing Underpass Luminaire	L SUM	-	0.04	0.04
Approach Slab Repair (Full Depth)	Sq Yd	32	-	32
Approach Slab Repair (Partial Depth)	Sq Yd	32	-	32
Bridge Deck Latex Concrete Overlay, 3"	Sq Yd	1,559	-	1,559
Bridge Deck Scarification ¾"	Sq Yd	1,559	-	1,559
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq Ft	-	181	181
Deck Slab Repair (Full Depth, Type I)	Sq Yd	6.8	-	6.8
Deck Slab Repair (Full Depth, Type II)	Sq Yd	2.6	-	2.6
Diamond Grinding (Bridge Section)	Sq Yd	1,527	-	1,527
Temporary Shoring and Cribbing	Each	-	1	1
Locks for Gates	Each	-	4	4

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DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS & TBOM
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-02 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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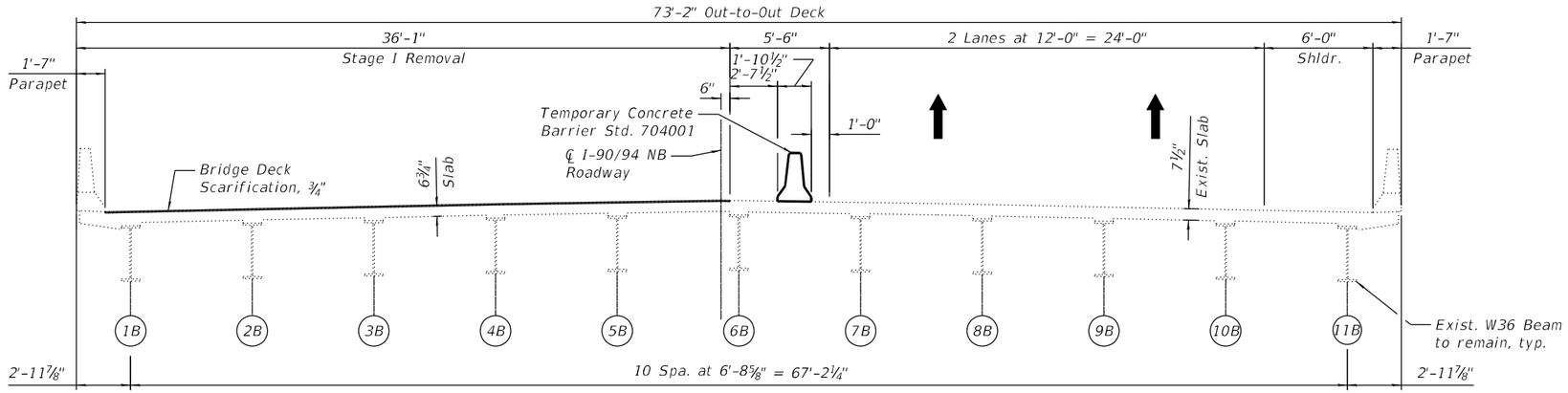
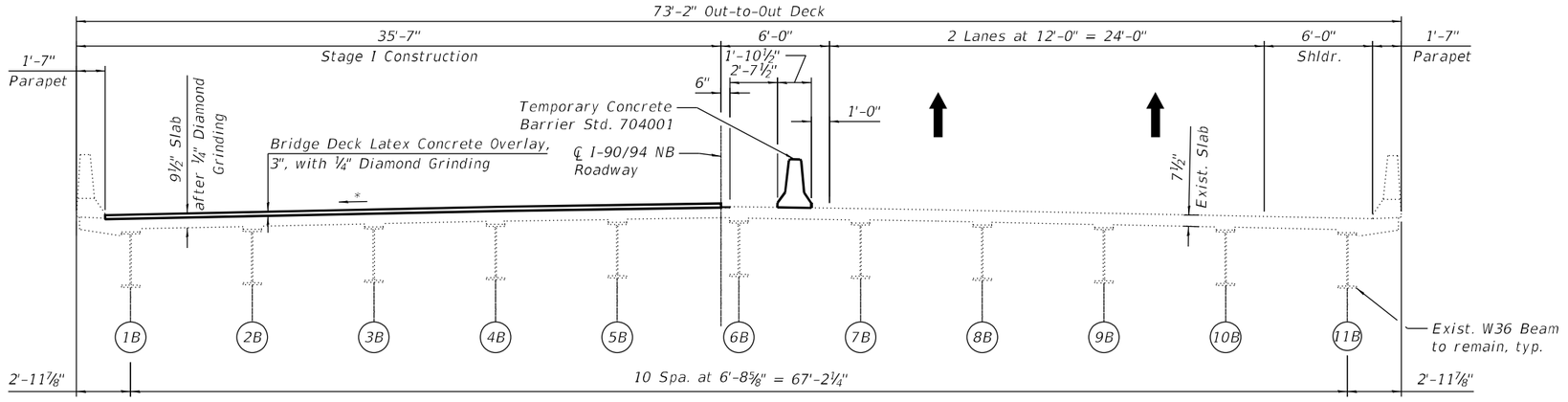
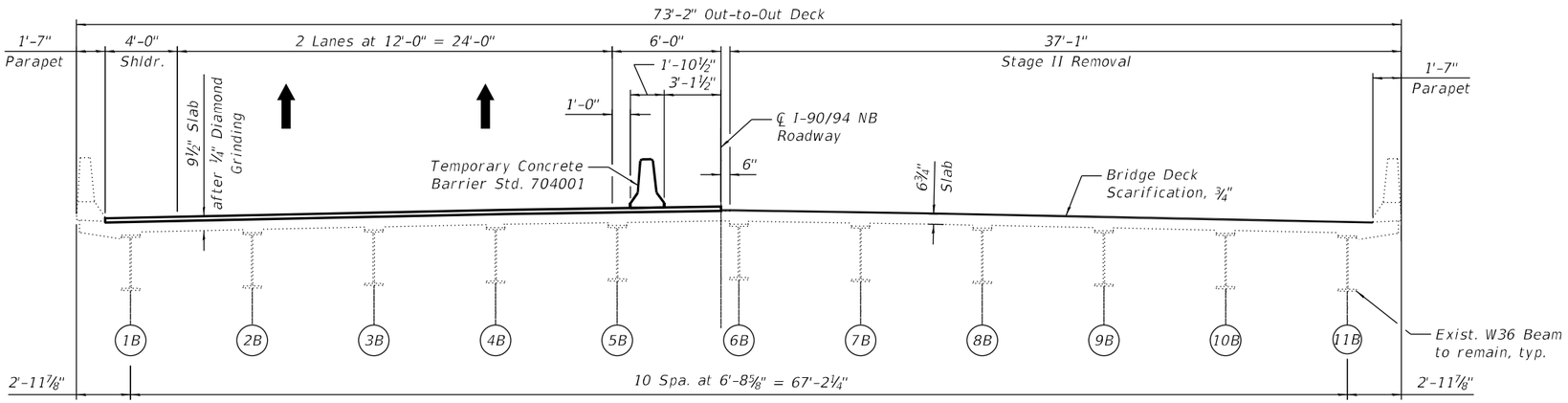
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



STAGE I REMOVAL
(Looking West)



STAGE I CONSTRUCTION
(Looking West)



STAGE II REMOVAL
(Looking West)

STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the east side of the existing structure.
2. Perform ¾" 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 East and West Abutments.
5. Perform temporary shoring and cribbing at location shown on the plans within the limits of stage I removal.

STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new Preformed Joint Strip Seals within the limits of Stage I Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of west parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.

STAGE II REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. Perform ¾" 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 East and West Abutments.

*Match Existing Cross-slopes

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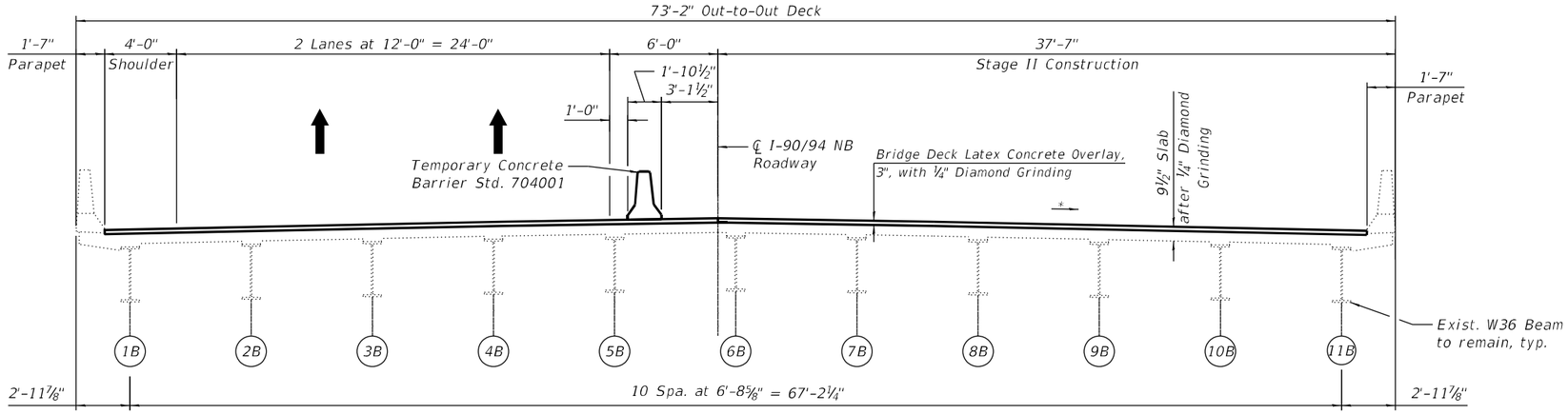
STAGE CONSTRUCTION (SHEET 1 OF 2)
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-03 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	704
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

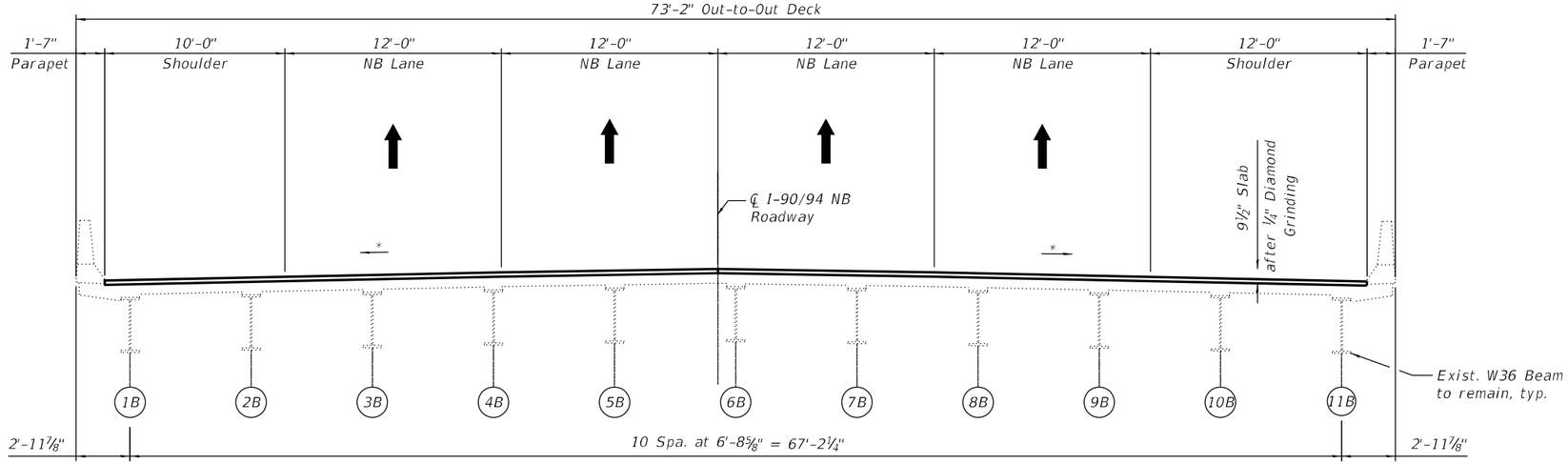


STAGE II CONSTRUCTION

(Looking West)

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. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of east parapet, reconstructed abutment expansion joints areas, and to the surfaces of the new overlay.



FINAL CROSS SECTION

(Looking West)

*Match Existing Cross-slopes

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STAGE CONSTRUCTION (SHEET 2 OF 2)
STRUCTURE NUMBER 016-1077 (NB)

SHEET S12-04 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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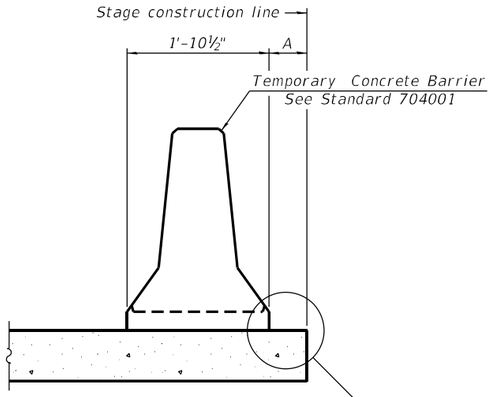
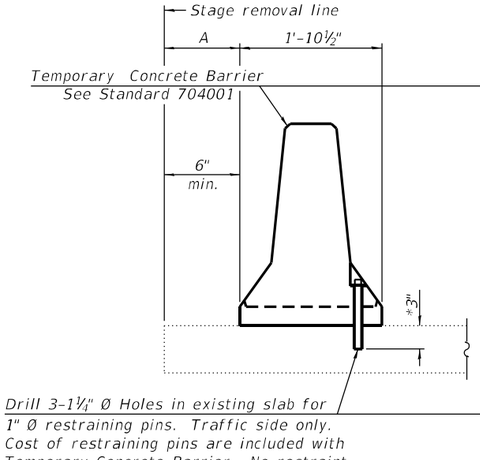
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



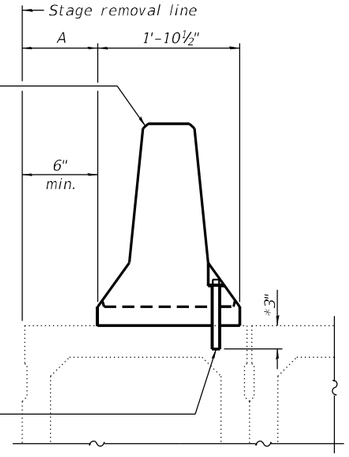
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



Drill 3-1¼" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

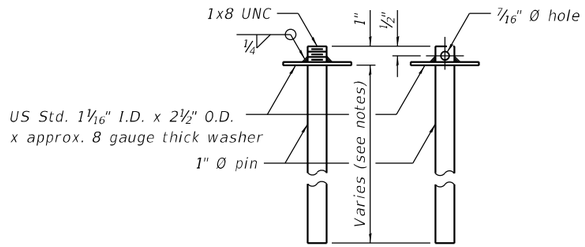
EXISTING SLAB



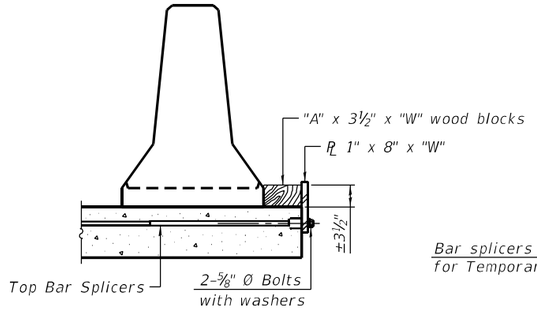
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

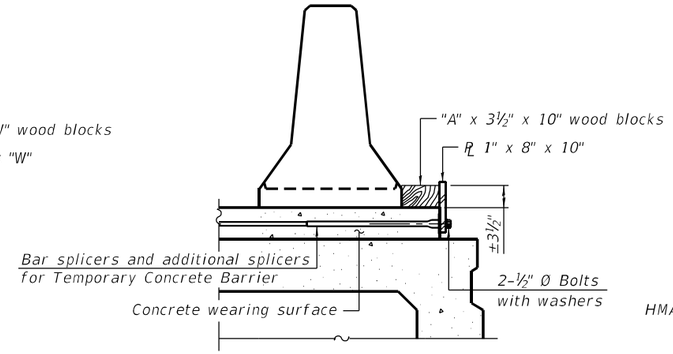
SECTIONS THRU SLAB OR DECK BEAM



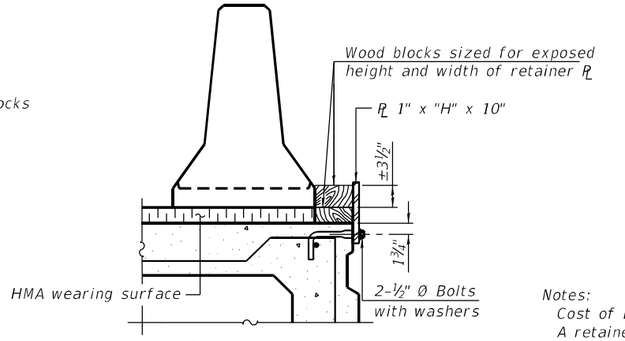
RESTRAINING PIN



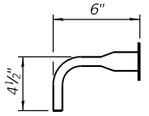
DETAIL I



DETAIL II



DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate ℄ of each temporary concrete barrier.

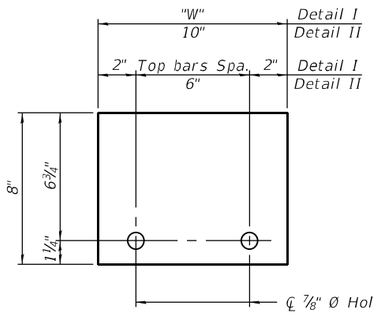
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.

When the 'A' dimension is less than 1½", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

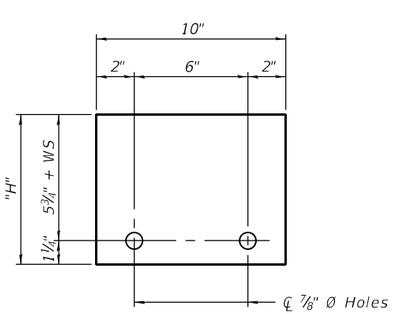
Detail I - Installation for a new bridge deck or bridge slab.

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

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



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



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

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

10-12-2021

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
STRUCTURE NUMBER 016-1077 (NB)

SHEET S12-05 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	706
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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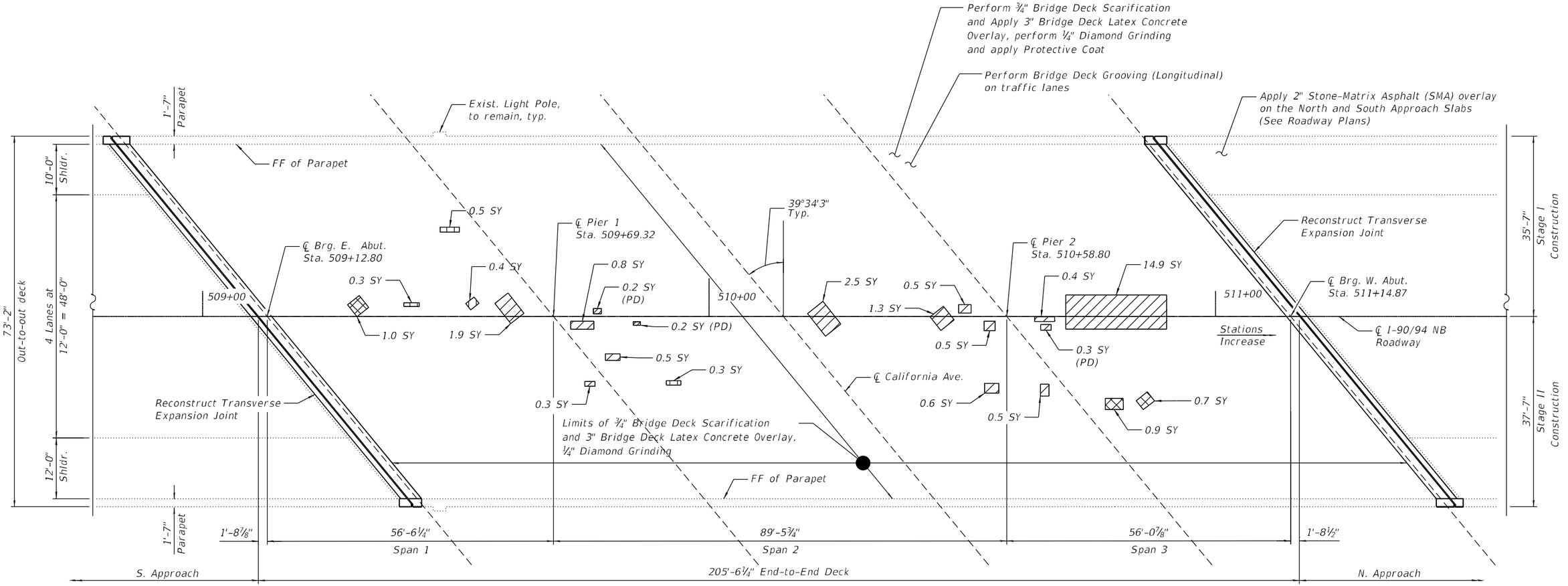


DECK PLAN

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	1,736
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,069
Approach Slab Repair (Full Depth)	Sq Yd	32
Approach Slab Repair (Partial Depth)	Sq Yd	32
Bridge Deck Latex Concrete Overlay, 3" Inches	Sq Yd	1,559
Bridge Deck Scarification ¾"	Sq Yd	1,559
Deck Slab Repair (Full Depth, Type I)	Sq Yd	6.8
Deck Slab Repair (Full Depth, Type II)	Sq Yd	2.6
Diamond Grinding (Bridge Section)	Sq Yd	1527

LEGEND

*Deck Slab Repair (Partial Depth)

Deck Slab Repair (Full Depth, Type I)

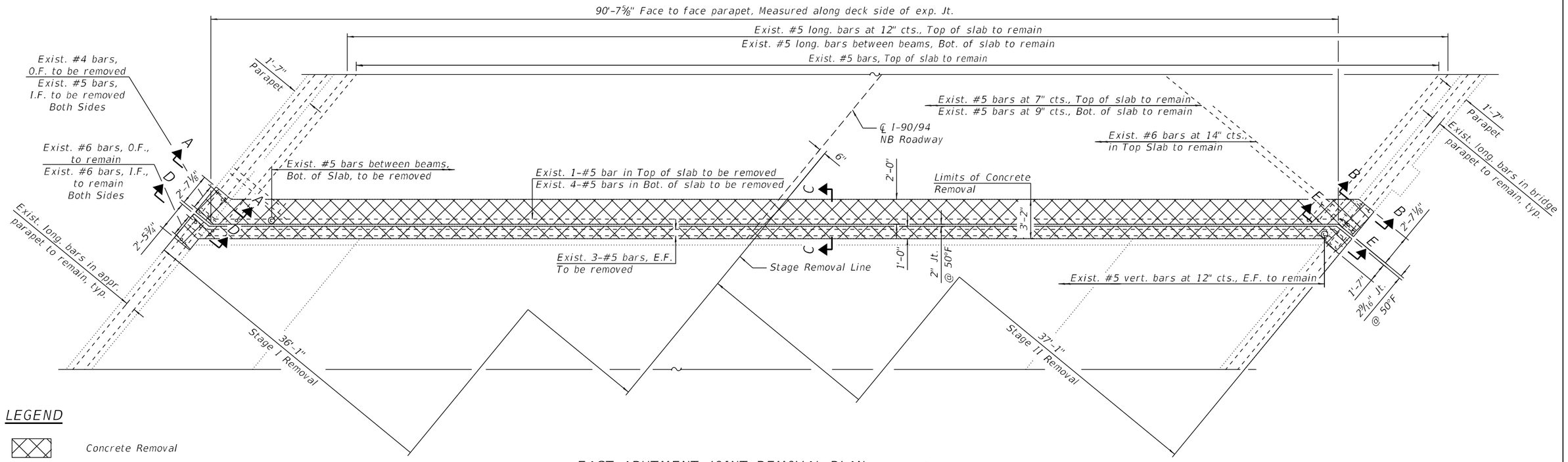
Deck Slab Repair (Full Depth, Type II)

SY Square Yard

PD Partial Depth

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 S12-04.
3. For South and North transverse joint removal and reconstruction, see Sheets S12-07 through S12-12 .
4. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
5. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.
6. Protective Coat shall be applied to top and inside face of parapets, median, the reconstructed transverse expansion joint areas and top of Latex Concrete Overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
9. Approach Slab Repair (Full Depth) and Approach Slab Repair (Partial Depth) quantities have been estimated (based on a nominal 3% of bridge approach area) 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.



*Field Drill and epoxy grout in place according to Section 584 of the Standard Specifications.

NOTES:

1. Horizontal bars in approach parapets shall be cleaned, straightened, and reused in new construction.
2. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S12-08.
3. For Sections D-D, E-E, DD-DD and EE-EE, additional Notes, Bar diagrams and Bill of Material, see Sheet S12-09.

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		CHECKED - MAF	REVISED -
	PLOT SCALE =	DRAWN - IH	REVISED -
	PLOT DATE =	CHECKED - MAF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 1 OF 3)
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-07 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	708
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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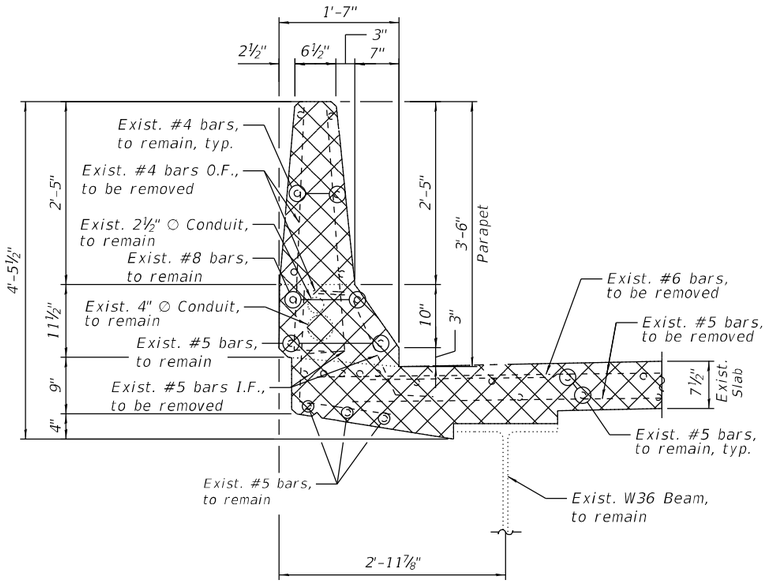
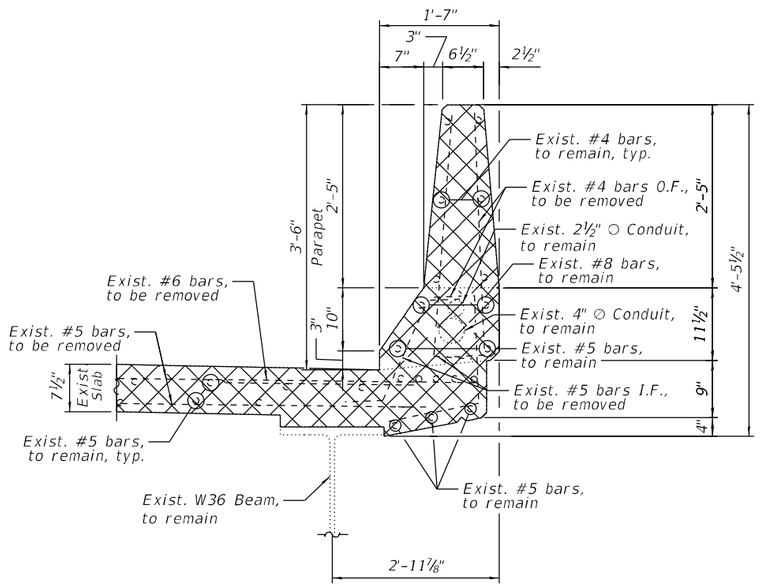
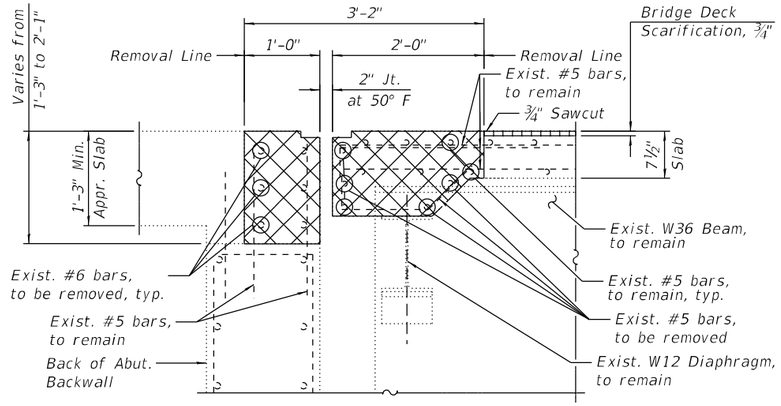


SECTION A-A



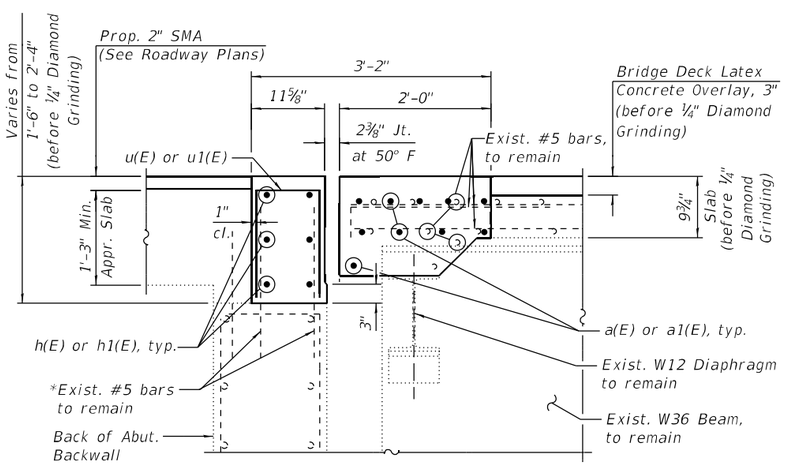
SECTION B-B



SECTION C-C

SECTION AA-AA

SECTION BB-BB



SECTION CC-CC

*Bend F.F. bars in the field as needed to fit.

NOTES:

1. For Legend, see Sheet S12-07.
2. For Bar diagrams, additional Notes and Bill of Material, see Sheet S12-09.

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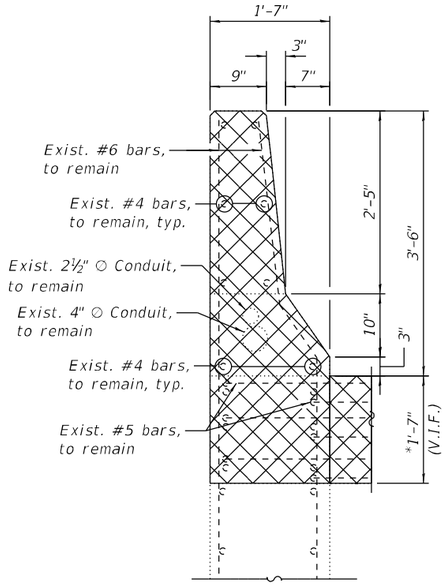
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

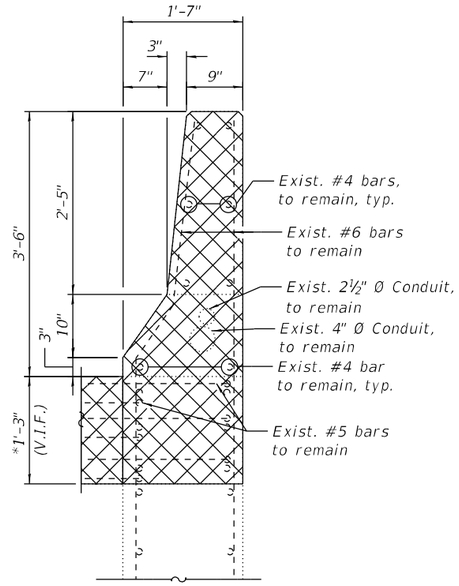
E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 2 OF 3)
STRUCTURE NUMBER 016-1077 (NB)

SHEET S12-08 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	709
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



SECTION D-D



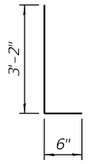
SECTION E-E

MIN BAR LAPS

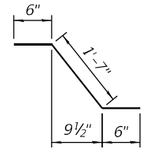
#5	3'-6"
#6	4'-0"

BILL OF MATERIAL

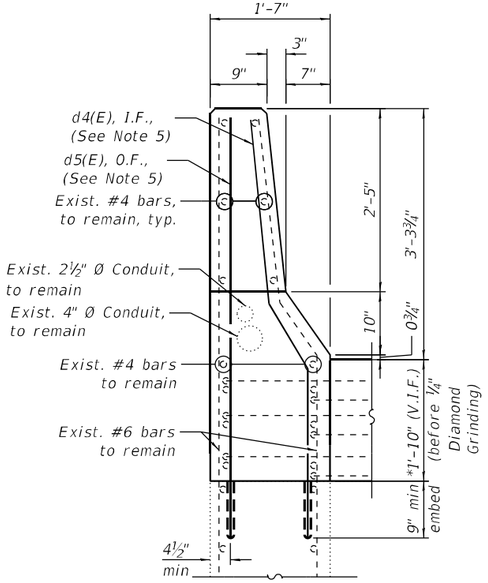
Bar	No.	Size	Length	Shape
a(E)	20	#5	24'-6"	
a1(E)	20	#5	25'-9	
a2(E)	6	#6	6'-6"	
d(E)	6	#5	3'-8"	L
d1(E)	6	#4	3'-8"	L
d2(E)	6	#5	2'-7"	
d3(E)	6	#4	3'-11"	
d4(E)	5	#6	5'-7"	
d5(E)	5	#6	5'-6"	
h(E)	12	#6	24'-0"	
h1(E)	12	#6	25'-4"	
u(E)	40	#5	4'-4"	⊓
u1(E)	52	#5	3'-2"	⊓
Concrete Removal			Cu Yd	14.3
Concrete Superstructure			Cu Yd	16.0
Protective Coat			Sq Yd	34
Reinforcement Bars, Epoxy Coated			Pound	2,510



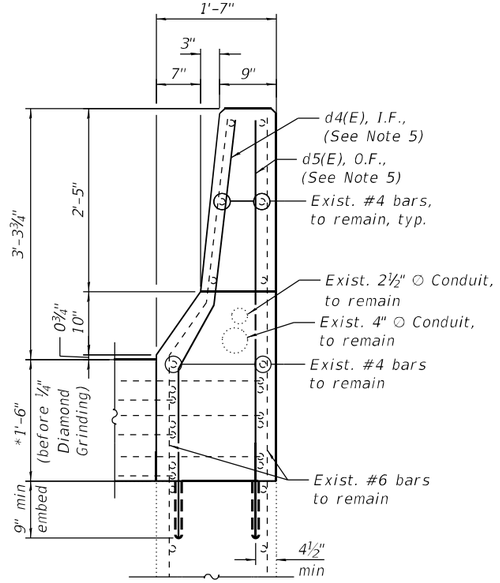
BARS d(E) & d1(E)



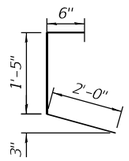
BAR d2(E)



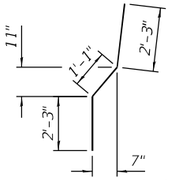
SECTION DD-DD



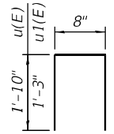
SECTION EE-EE



BAR d3(E)



BAR d4(E)



BAR u(E) & u1(E)

* At face of parapet. Varies away from parapet.

NOTES:

1. For Legend, see Sheet S12-07.
2. For Preformed Joint Strip Seal Details, see Sheet S12-13.
3. For Bar Splicer Assembly Details, see Sheet S12-18.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d4(E) and d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

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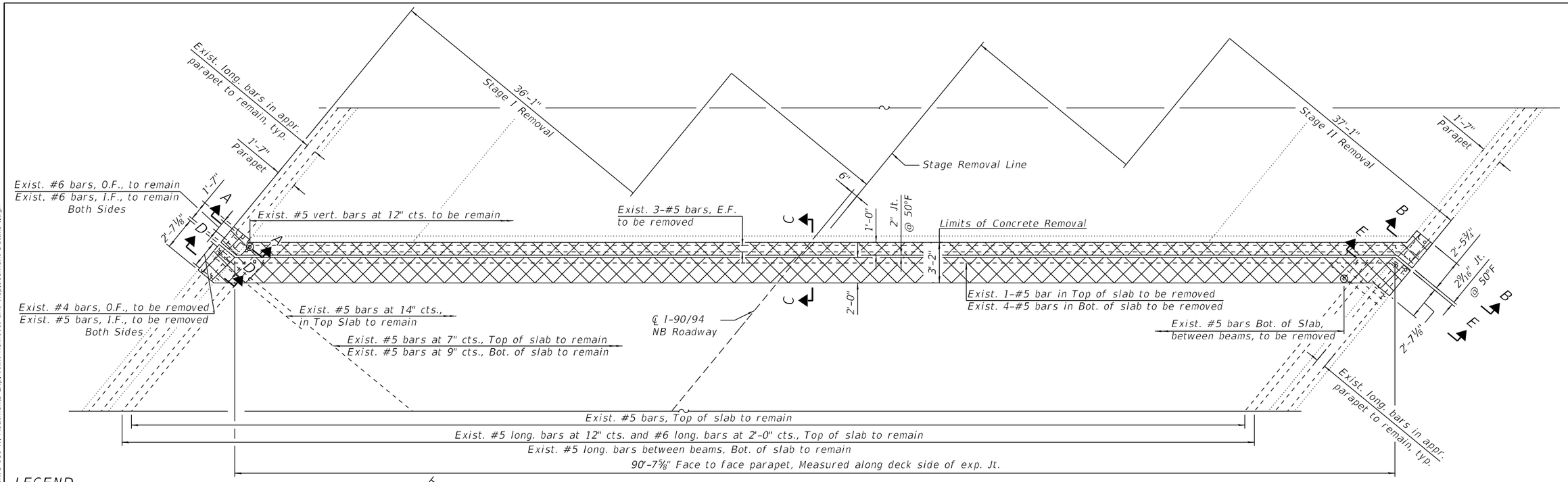
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 3 OF 3)
STRUCTURE NUMBER 016-1077 (NB)

SHEET S12-09 OF S12-18 SHEETS

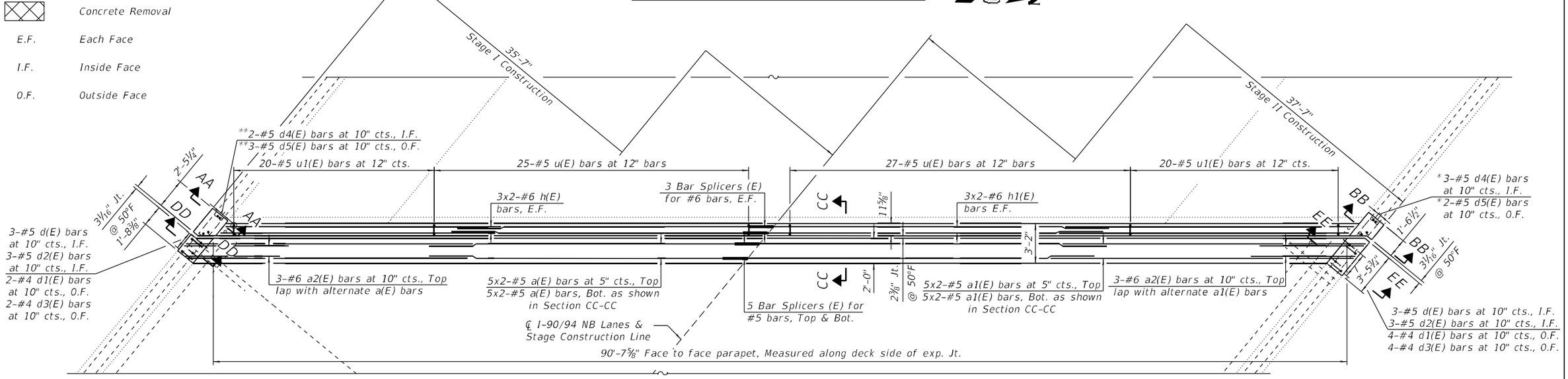
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	710
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



WEST ABUTMENT JOINT REMOVAL PLAN

LEGEND

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



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

*Field Drill and epoxy grout in place according to Section 584 of the Standard Specifications.

NOTES:

1. Horizontal bars in approach parapets shall be cleaned, straightened, and reused in new construction.
2. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S12-11.
3. For Sections D-D, E-E, DD-DD and EE-EE, additional Notes, Bar diagramsand Bill of Material, see Sheet S12-12.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 1 OF 3)
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-10 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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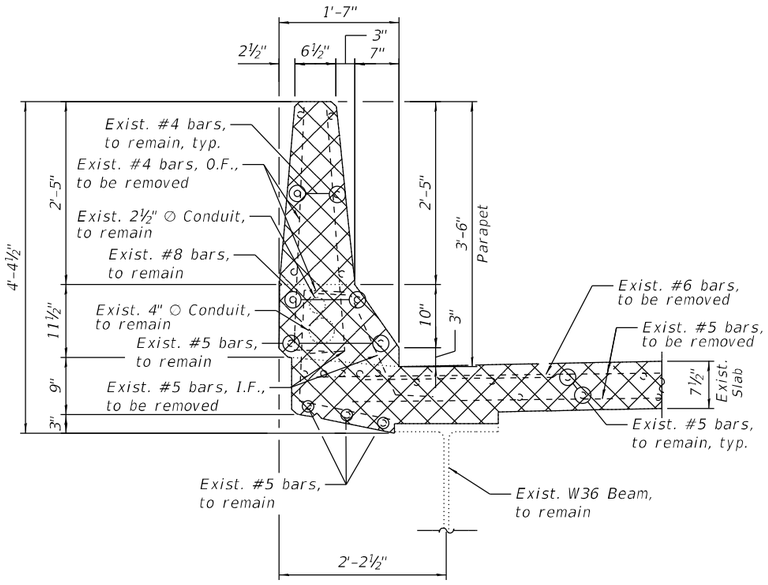
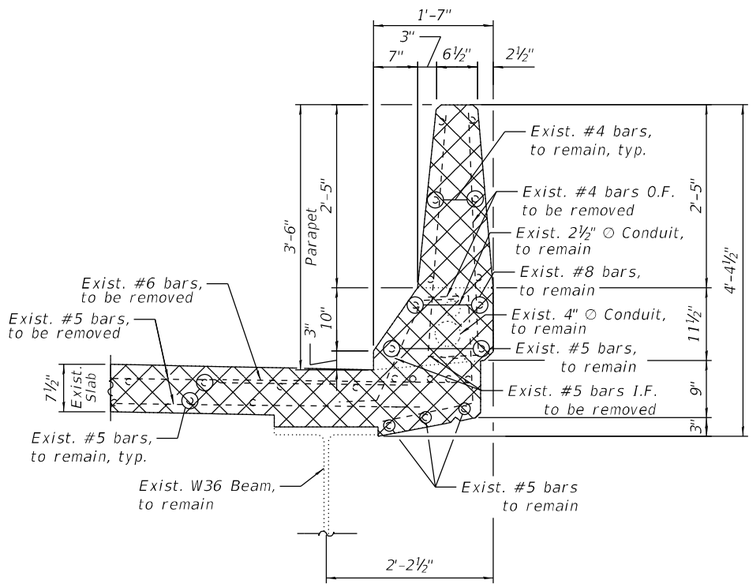
		CONTRACT NO.		62K73
	ILLINOIS FED. AID PROJECT			



SECTION A-A



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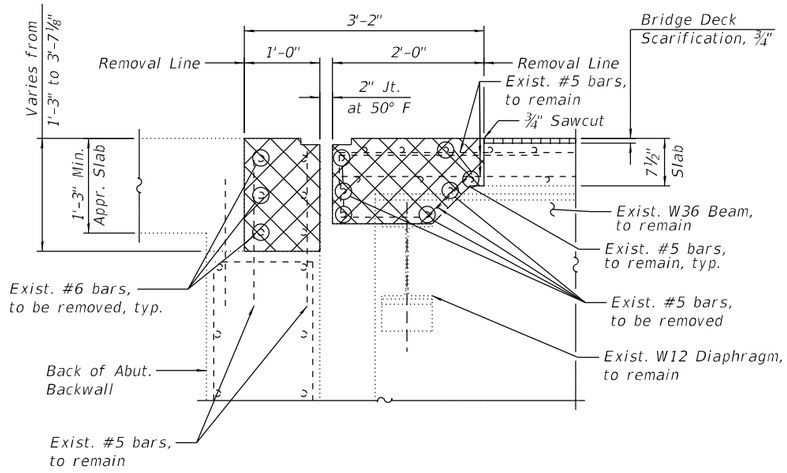
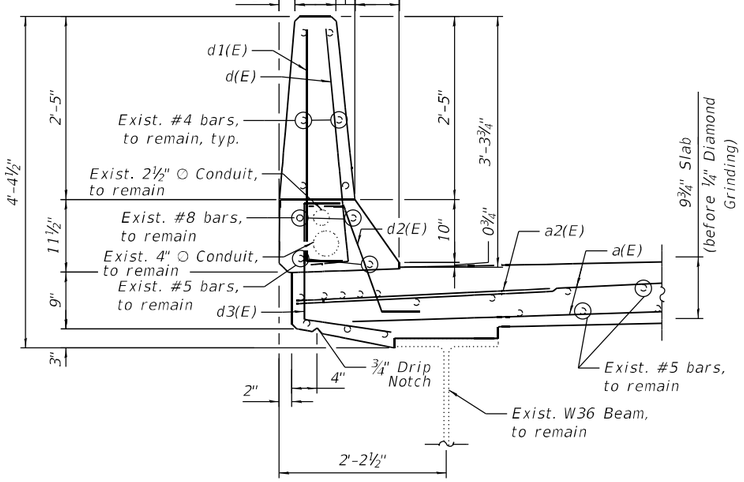
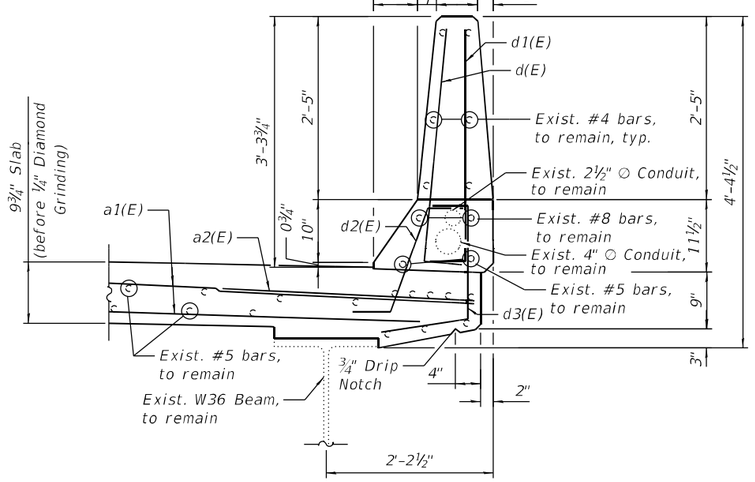


SECTION C-C



SECTION AA-AA



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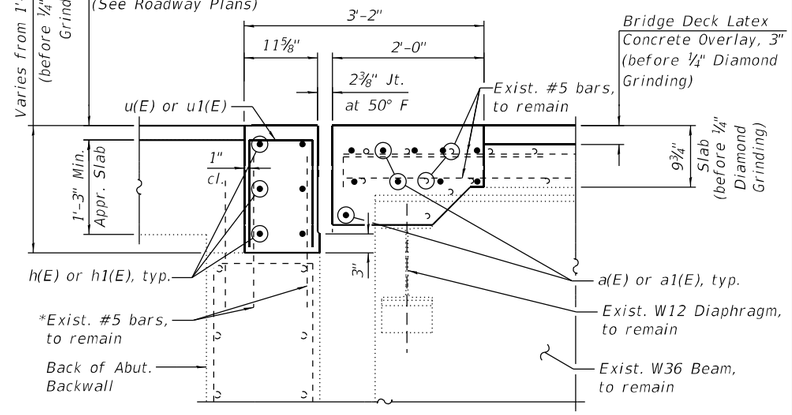

SECTION CC-CC

*Bend F.F. bars in the field as needed to fit.

NOTES:

1. For Legend, see Sheet S12-07.
2. For Bar diagrams, additional Notes and Bill of Material, see Sheet S12-09.

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PLOT DATE =	CHECKED - MAF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 2 OF 3)
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-11 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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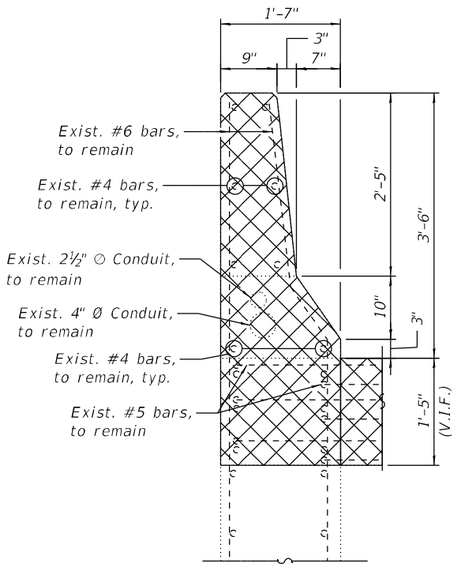
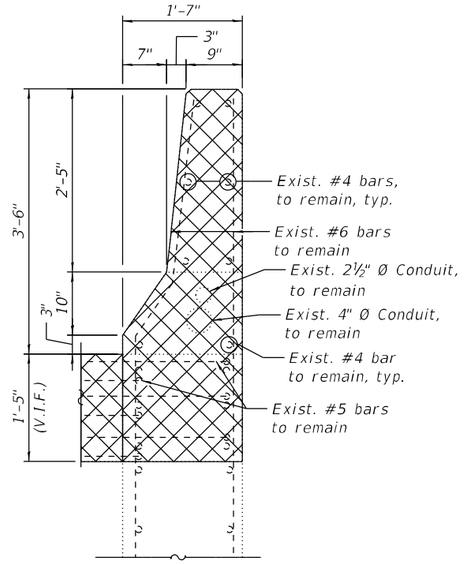
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	



SECTION D-D



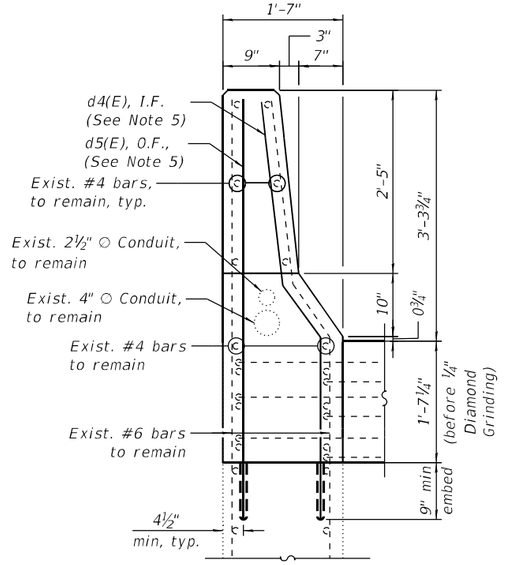
SECTION E-E

MIN BAR LAPS

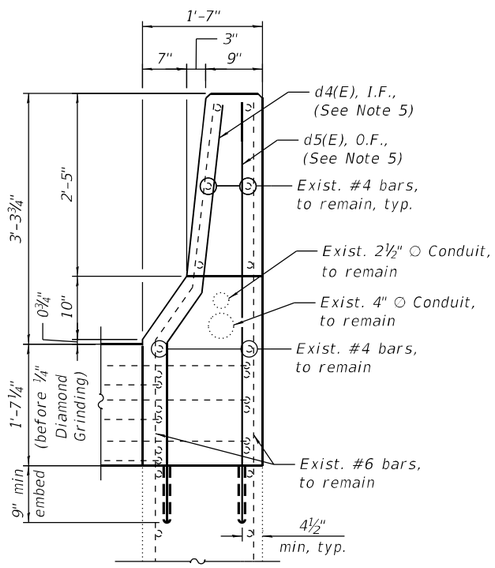
#5	3'-6"
#6	4'-0"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	20	#5	24'-6"	
a1(E)	20	#5	25'-9	
a2(E)	6	#6	6'-6"	
d(E)	6	#5	3'-8"	L
d1(E)	6	#4	3'-8"	L
d2(E)	6	#5	2'-7"	
d3(E)	6	#4	3'-11"	
d4(E)	5	#6	5'-7"	
d5(E)	5	#6	5'-6"	
h(E)	12	#6	24'-0"	
h1(E)	12	#6	25'-4"	
u(E)	52	#5	4'-4"	⊓
u1(E)	40	#5	3'-2"	⊓
Concrete Removal			Cu Yd	15.1
Concrete Superstructure			Cu Yd	16.8
Protective Coat			Sq Yd	34
Reinforcement Bars, Epoxy Coated			Pound	2,520



SECTION DD-DD



SECTION EE-EE

NOTES:

1. For Legend, see Sheet S12-10.
2. For Preformed Joint Strip Seal Details, see Sheet S12-13.
3. For Bar Splicer Assembly Details, see Sheet S12-18.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d4(E) and d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

Accurate GROUP, INC.

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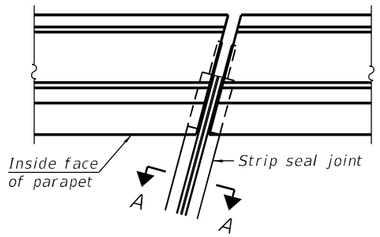
	CHECKED - MAF	REVISED -	
PLOT SCALE =	DRAWN - IH	REVISED -	
PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 3 OF 3)
STRUCTURE NUMBER 016-1077 (NB)

SHEET S12-12 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	713
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



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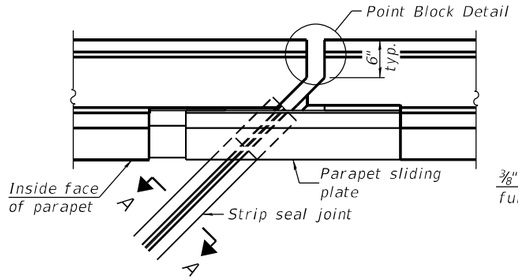

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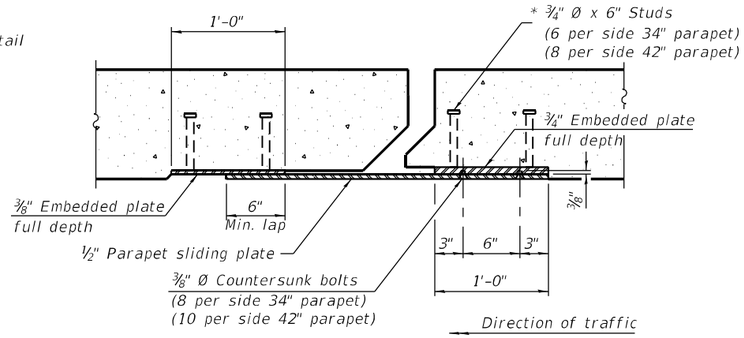
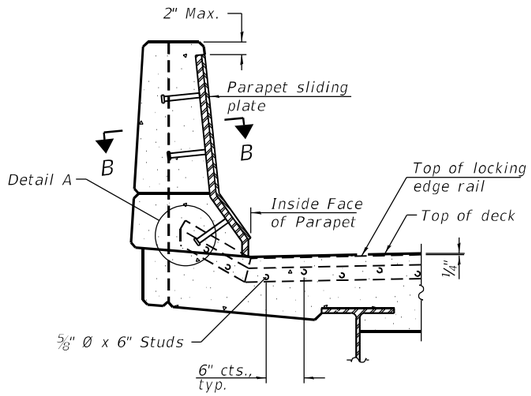
PLAN AT PARAPET

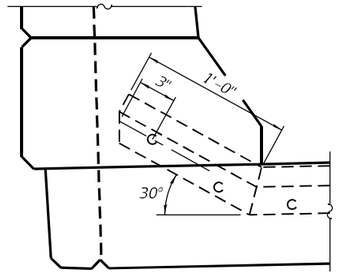


SECTION B-B

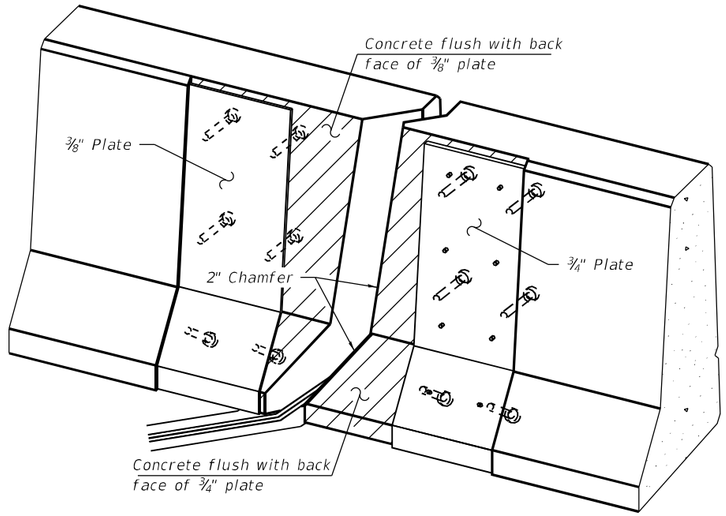


ELEVATION AT PARAPET

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

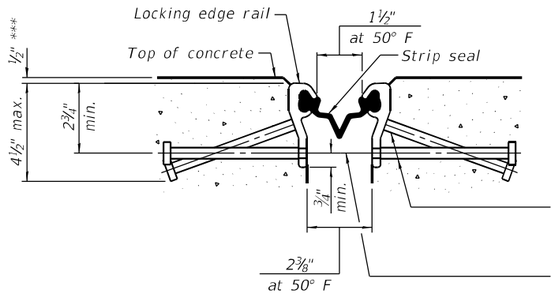


DETAIL A

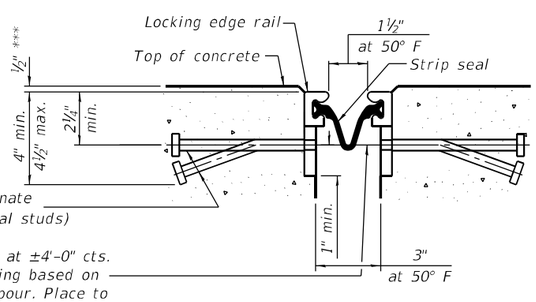


TRIMETRIC VIEW

(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT



SHOWING WELDED RAIL JOINT

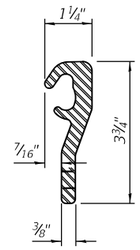
* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

⅜" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

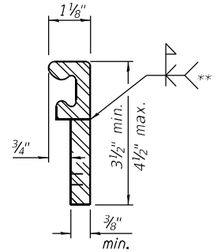
SECTION A-A

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

*** Before Diamond Grinding



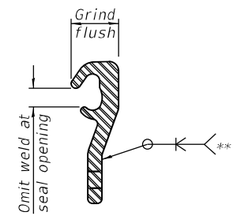
ROLLED
(EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

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

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

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

34" F-shape barrier shown, 42" F-shape similar as noted.

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	186

MODEL: Default
FILE NAME: Q:\Engineering\LiveProjects\20003_IDOT DUR HBMWO 8 - 62K73 - Str\CADD\CADD Sheets\Structural\016\1077-62K73_I90 over California\016\1077-62K73-013-Preformed Joint Strip Seal f.dgn
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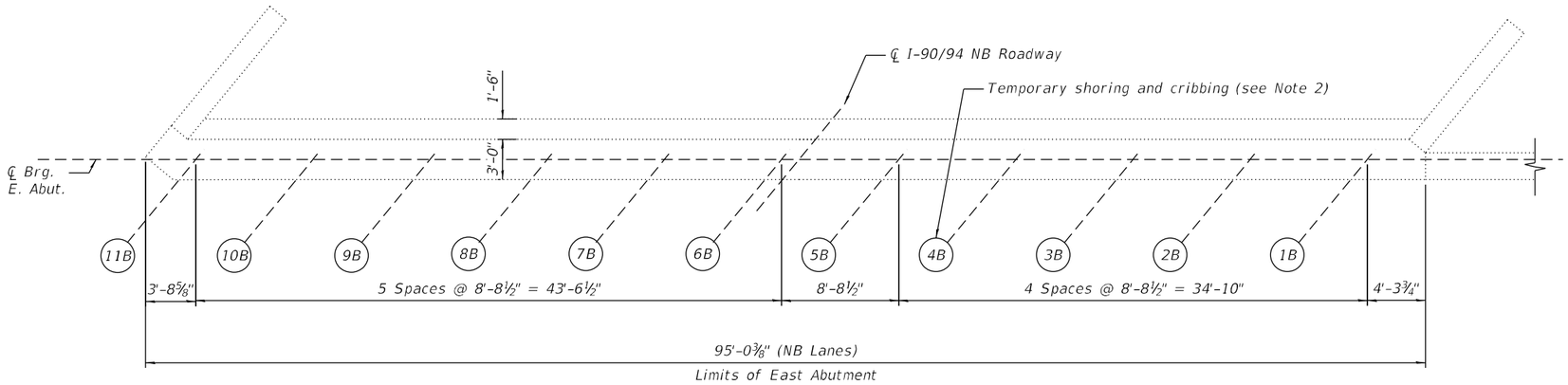
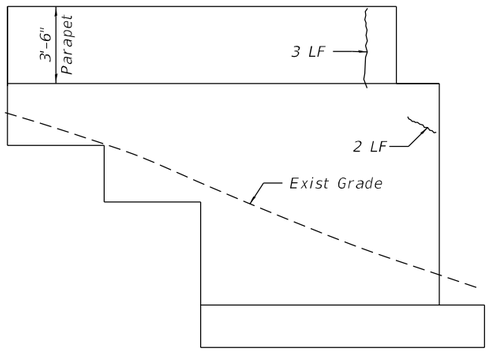
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

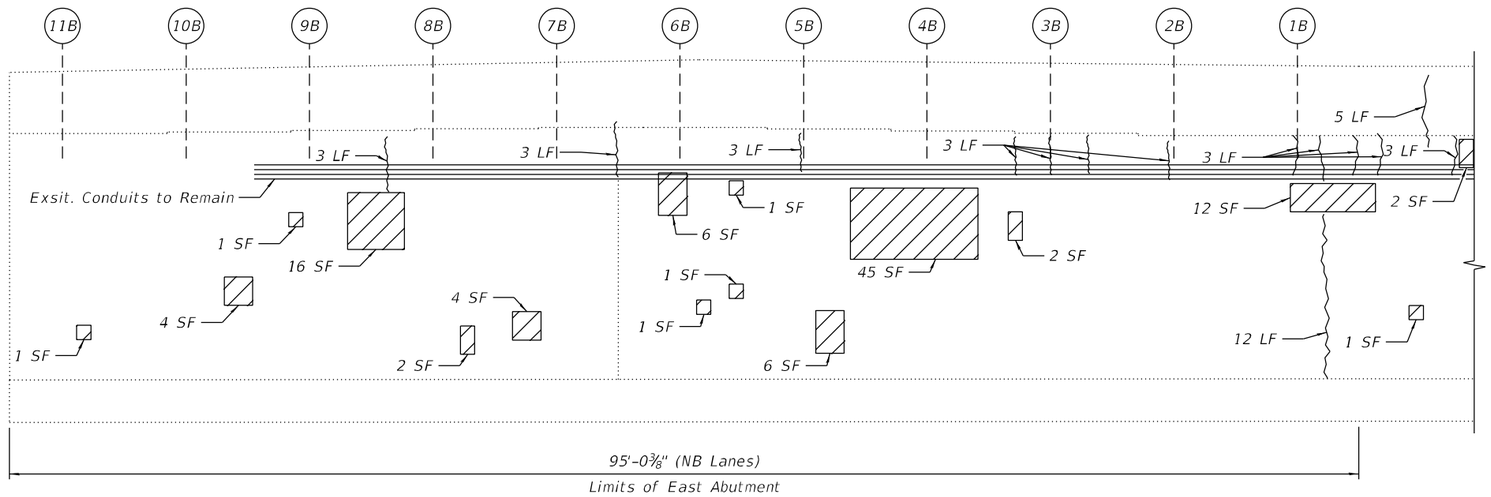
PREFORMED JOINT STRIP SEAL
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-13 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	714
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



EAST ABUTMENT PLAN





NORTH EAST WINGWALL

EAST ABUTMENT ELEVATION

(Looking East)

NOTES:

1. 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.
2. Temporary shoring and cribbing shall be installed prior to the start of the Structural Repair of Concrete and shall be removed after completing Structural Repair of Concrete.
3. Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.

BILL OF MATERIAL

ITEM	UNIT	Quantity
Concrete Sealer	Sq Ft	470
Epoxy Crack Injection	Foot	58
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	105
Temporary Shoring and Cribbing	Each	1

SUMMARY OF REACTIONS EAST ABUTMENT - Beam 4B		
R DL	(k)	23.1
R LL	(k)	35.7
R IM	(k)	10.4
R Total	(k)	69.2

LEGEND

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

MODEL: Default
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT REPAIRS
STRUCTURE NUMBER 016-1077 (NB)

SHEET S12-14 OF S12-18 SHEETS

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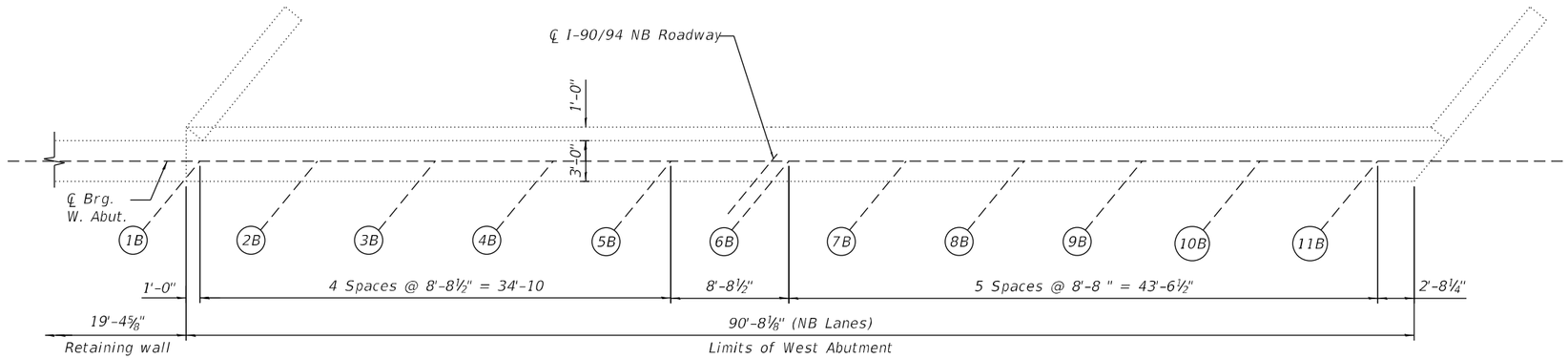
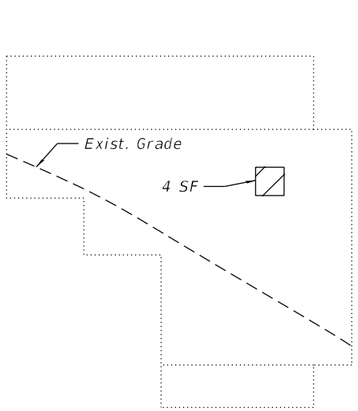
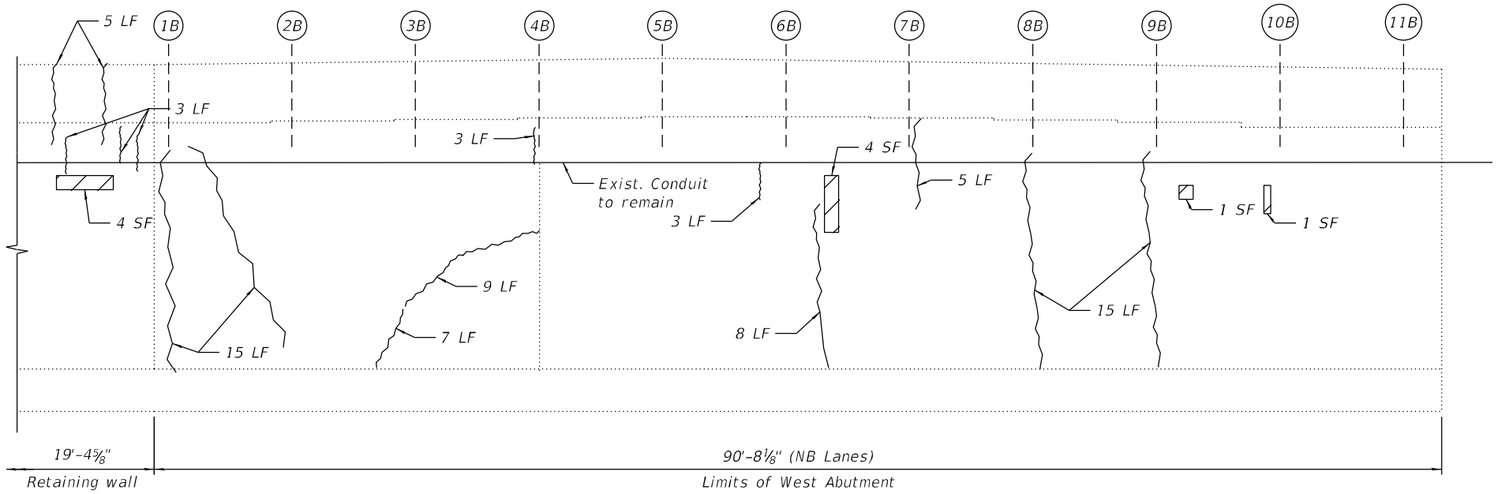
		ILLINOIS	FED. AID PROJECT	



WEST ABUTMENT PLAN

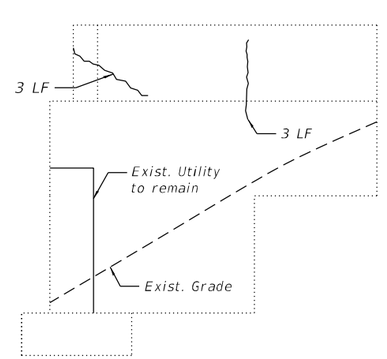


SOUTH WEST WINGWALL



WEST ABUTMENT ELEVATION

(Looking West)



NORTH WEST WINGWALL

NOTES:

1. 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.

2. Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.

BILL OF MATERIAL

ITEM	UNIT	Quantity
Concrete Sealer	Sq Ft	462
Epoxy Crack Injection	Foot	120
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	14

LEGEND

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT REPAIRS
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-15 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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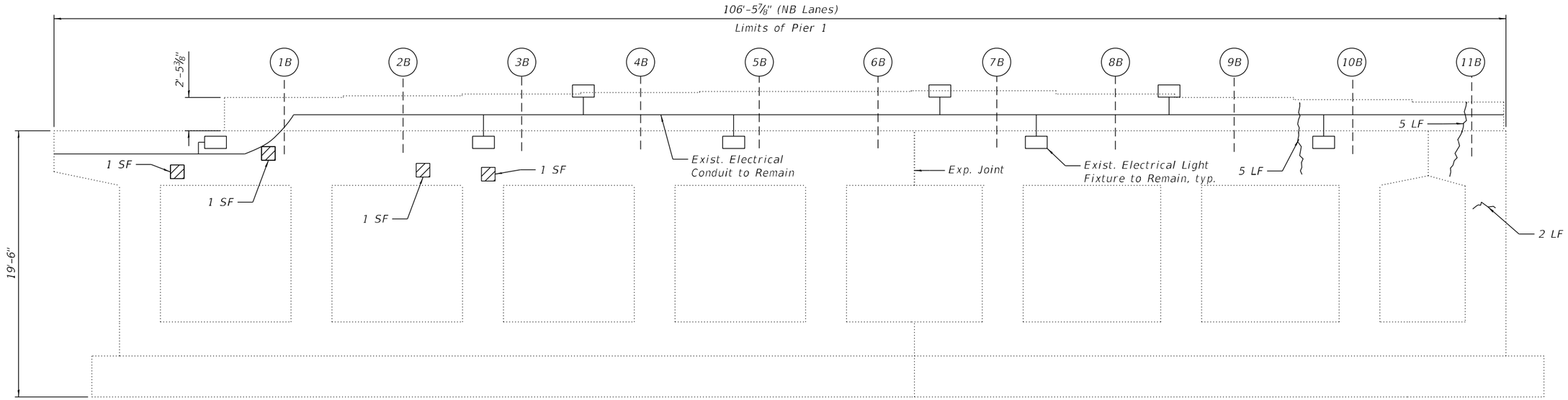
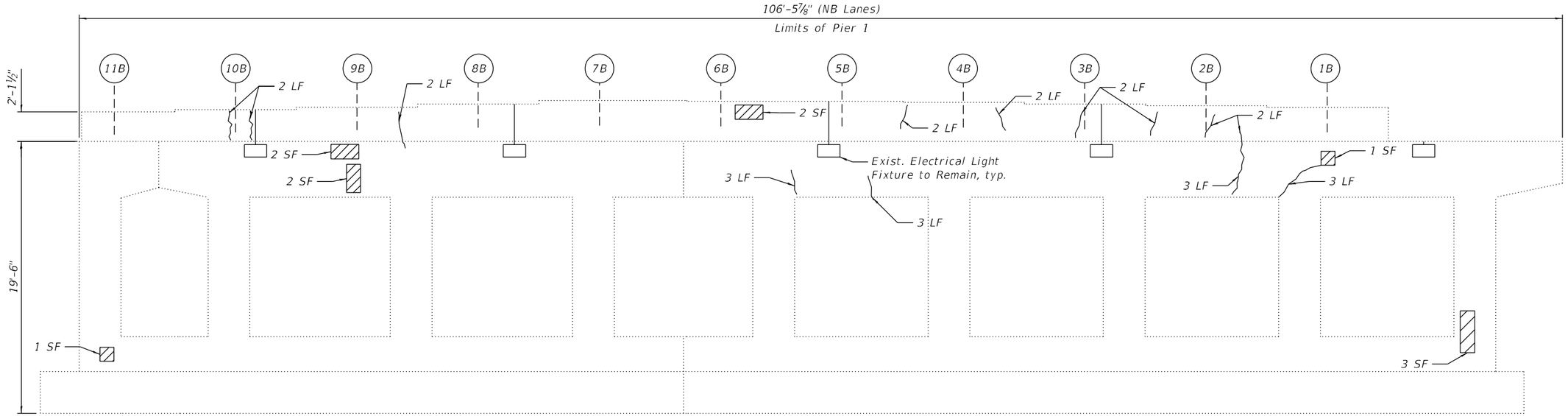
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



PIER 1 ELEVATION

(Looking West)



EXISTING LIGHTING: PIER 1

(Looking East)

LEGEND

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

NOTE:

1. 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.

PIER 1 ELEVATION

(Looking East)

EXISTING LIGHTING: PIER 1

(Looking West)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	42
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	15

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DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS
STRUCTURE NUMBER 016-1077 (NB)

SHEET S12-16 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	717
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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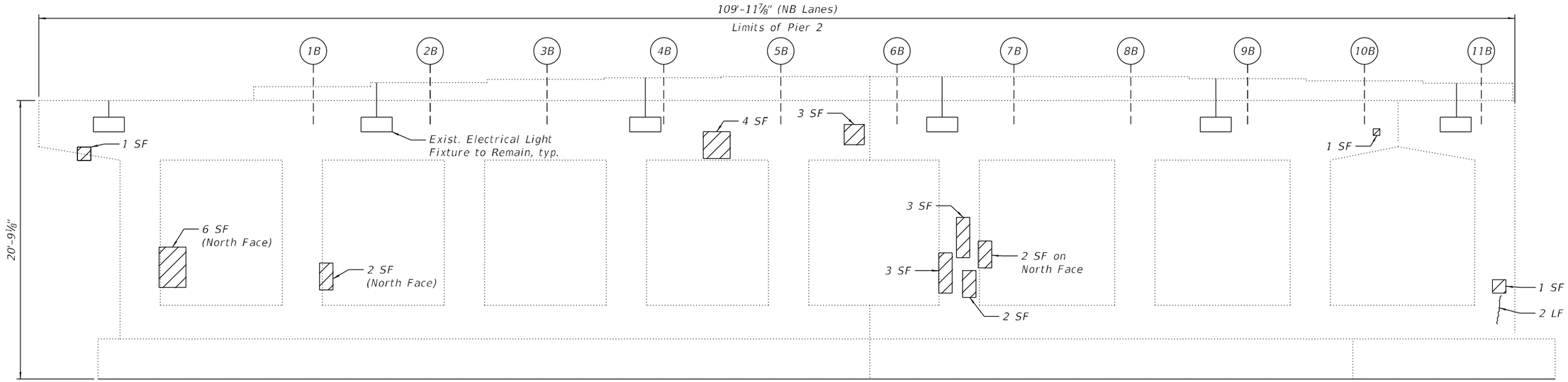
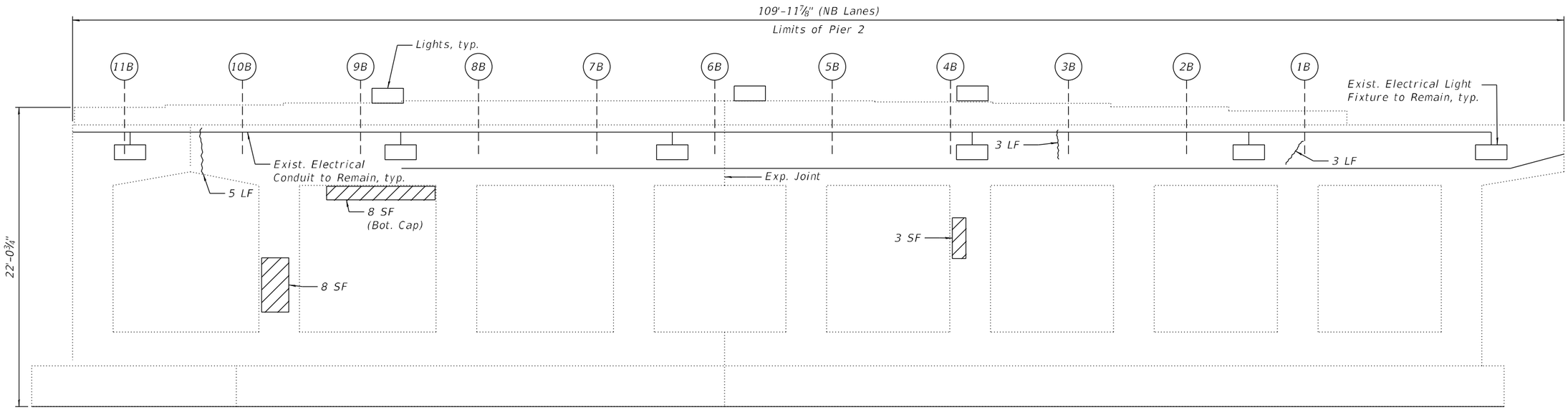


PIER 2

(East Face, Looking West)



EXISTING LIGHTING: PIER 2

(Looking East)

LEGEND

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

NOTE:

1. 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.

PIER 2

(West Face, Looking East)

EXISTING LIGHTING: PIER 2

(Looking West)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	13
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	47

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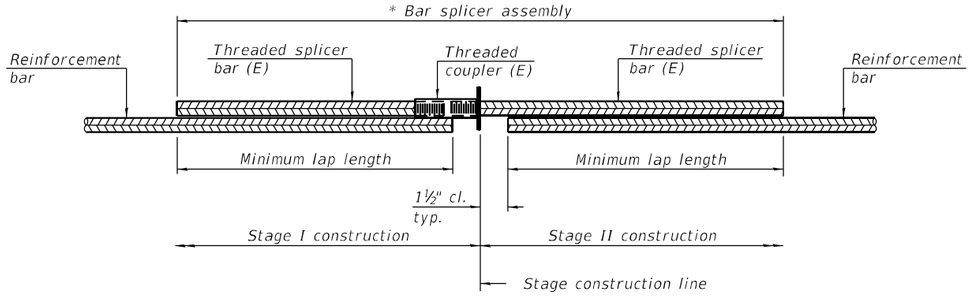
DEPARTMENT OF TRANSPORTATION

PIER 2 REPAIRS
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-17 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	718
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	



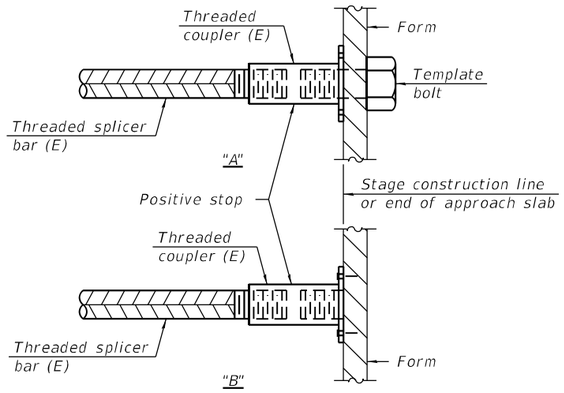
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

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

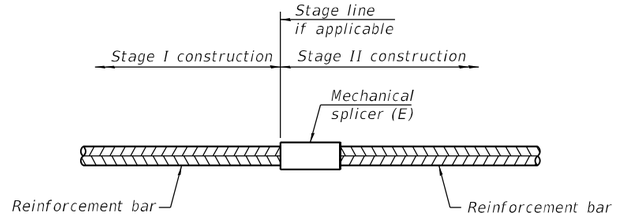
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
E. Abut.	#5	10	3'-6"
E. Abut.	#6	6	4'-0"
W. Abut.	#5	10	3'-6"
W. Abut.	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

BSD-1 1-1-2020

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DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NUMBER 016-1077 (NB)
SHEET S12-18 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	719
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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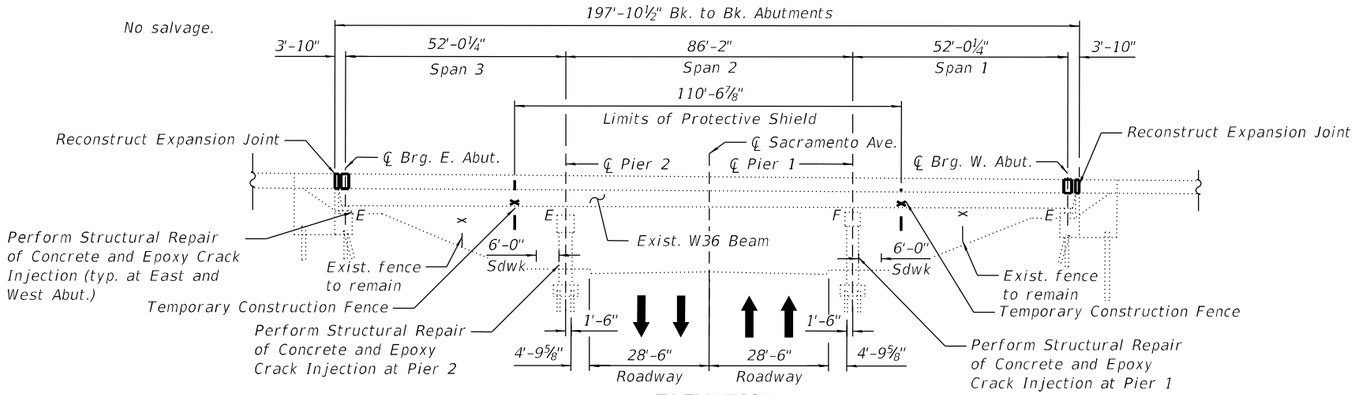
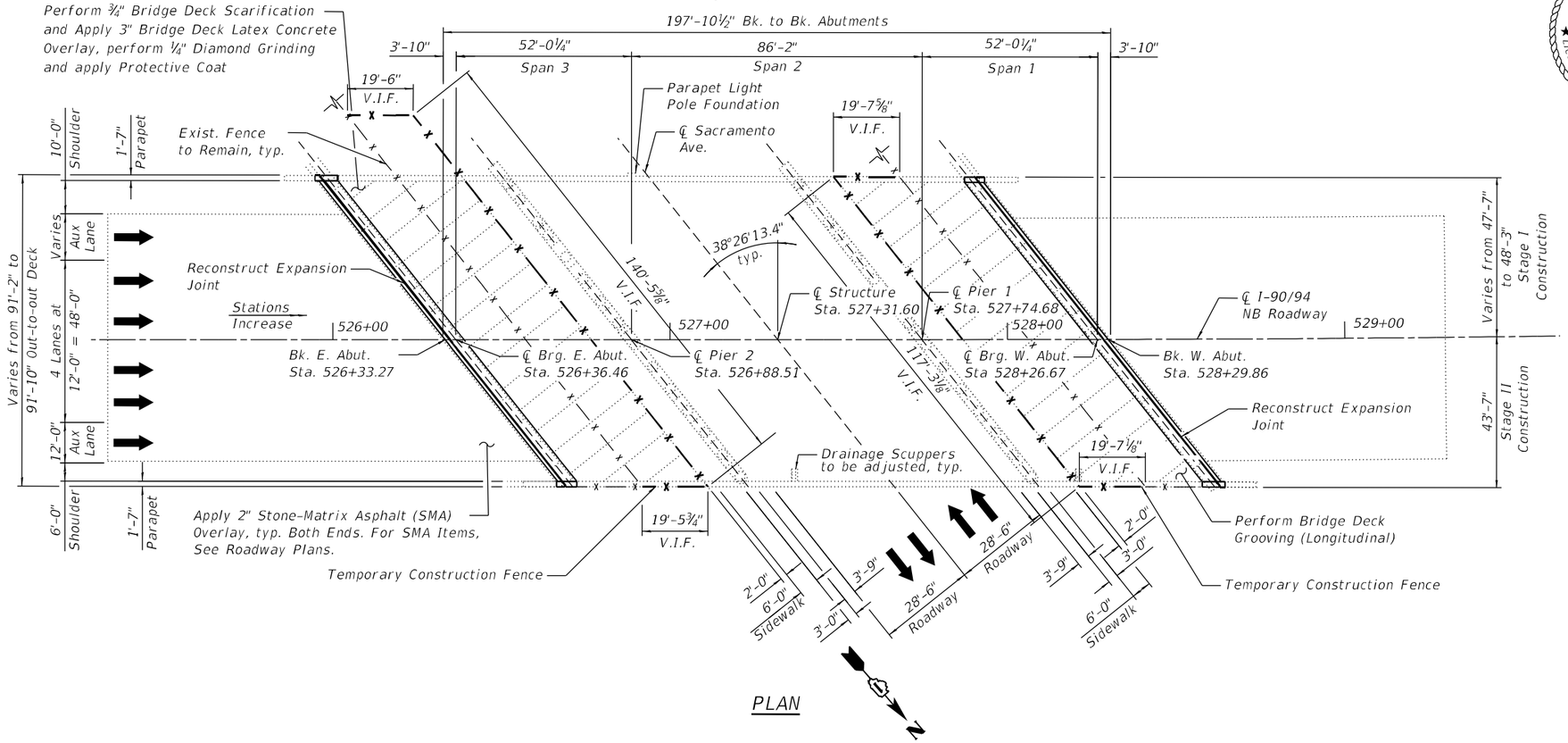
Existing Structure: *The existing Structures 016-0123 (I-90 SEB & REV over Sacramento) and 016-1071 (I-90 NWB over Sacramento) were originally built in 1957 under Project I-02-2(32), Section 0707-408-HB. Structure No. 016-0123 carriers all southeast bound and reversible traffic, while Structure No. 016-1071 carries all northwest bound traffic. In 1990, the piers and abutments were modified and widened to accommodate reconstruction and widening under Contract 80159. In 1993 Structure No. 016-1071 had the deck removed and replaced with a composite concrete deck under Contract 82136. The superstructure was repainted under an unknown contract. In 2013, portions of the expansion joints were removed and replaced. In addition, both abutments received structural concrete repair and the slope walls were partially replaced with some embankment work under Contract 60V58. The Structures are 3-Span, Continuous Steel Stringer/Multi-beam, varies 91'-2" to 91'-10" Out-to-Out of structure, and 197'-10½" Back-to-Back Abutments.*

Traffic will be maintained utilizing staged construction.

No salvage.



ELEVATION
(Looking South)



PLAN

NOTE:

1. *All stations are to ℄ I-90/94 NB Roadway and taken from existing plans.*

LOADING

No Future Wearing Surface Allowed.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

RECONSTRUCTION 2013

2002 AASHTO Standard Specifications for Highway Bridges

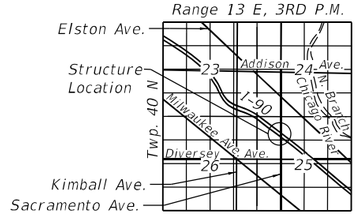
RECONSTRUCTION 1993

1989 AASHTO Standard Specifications for Highway Bridges with 1990 & 1991 Interim Specifications

STATE OF ILLINOIS
MAEN A. FARHAT
081.008545
LICENSED STRUCTURAL ENGINEER

Signed: Maen Farhat
Date Signed: 04/29/2024

MAEN A. FARHAT, SE
IL Lic. No.: 081-008545
Expires: 11/30/2024



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
NB I-90/94 OVER SACRAMENTO AVENUE
F.A.I. ROUTE 90/94
SECTION 2020-005-BR
COOK COUNTY
STATION: 527+31.60
S.N. 016-1071 (NB)

MODEL: Default
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-01 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	720
		CONTRACT NO.		62K73
	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 indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.

4. All exposed concrete edges shall have a ¾"x45° chamfer, except where shown otherwise.

5. Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction cost is included with concrete removal. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system at the Contractor's expense.

6. For SMA overlay on Approach slab, see Roadway plans.

7. Protective Coat shall be applied to the top and inside face of parapets, reconstructed transverse Expansion Joints and to the surface of the new Latex Concrete overlay.

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

9. Prior to pouring the new concrete deck for Expansion Joints 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 can not be removed by grinding ¼ in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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

11. Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.

12. 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.

13. 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".

14. 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.

15. The Contractor is responsible to protect the existing conduits embedded in the parapet and junction boxes during concrete removal and construction. Any damage to the existing conduits or junction boxes shall be repaired by the Contractor at no additional cost to the Department.

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 adjustment 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.

18. The contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by temporary chain-link-fence.

19. The intent of Temporary Construction Fence is to deny access of any unauthorized personnel under the bridge during construction. Actual fence installations may vary from what is shown on the plans. All fence Installations must be approved by the engineer.

20. Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft of the abutment backwall.

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

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

INDEX OF SHEETS

SCOPE OF WORK

1. Provide Protective Shield within limits indicated on the plans.

2. Scarify ¾" from the bridge deck slab.

3. Perform Deck Slab Repairs.

4. Reconstruct Expansion joints at East and West abutments and install new Preformed Joint Strip Seals.

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

6. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.

7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the approach slabs, see Roadway Plans.

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

9. Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse joint areas, and top of Latex Concrete Overlay.

10. Perform structural concrete repairs to abutments and piers, as noted on plans.

11. Perform Slope Wall repairs.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd	-	4	4
Concrete Removal	Cu Yd	57.0	-	57.0
Slope Wall Removal	Sq Yd	-	10	10
Protective Shield	Sq Yd	1,064	-	1,064
Concrete Superstructure	Cu Yd	61.6	-	61.6
Protective Coat	Sq Yd	2,125	-	2,125
Reinforcement Bars, Epoxy Coated	Pound	8,780	-	8,780
Bar Splicers	Each	44	-	44
Slope Wall 4 Inch	Sq Yd	-	10	10
Preformed Joint Strip Seal	Foot	232	-	232
Concrete Sealer	Sq Ft	-	1,153	1,153
Epoxy Crack Injection	Foot	-	154	154
Slope Wall Crack Sealing	Foot	-	104	104
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,493	-	1,493
Protect and Maintain Existing Underpass Luminaire	L Sum	-	0.04	0.04
Approach Slab Repair (Full Depth)	Sq Yd	50	-	50
Approach Slab Repair (Partial Depth)	Sq Yd	50	-	50
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,831	-	1,831
Cleaning Drainage System	L Sum	-	0.063	0.063
Bridge Deck Scarification ¾"	Sq Yd	1,831	-	1,831
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq Ft	-	144	144
Structural Repair of Concrete (Depth Greater than 5")	Sq Ft	-	4	4
Deck Slab Repair (Full Depth, Type II)	Sq Yd	36.5	-	36.5
Drainage Scuppers to be Adjusted	Each	2	-	2
Diamond Grinding (Bridge Section)	Sq Yd	1,850	-	1,850
Temporary Construction Fence	Foot	-	366	366
Temporary Cribbing and Shoring	Each	-	1	1
Locks for Gates	Each	-	4	4

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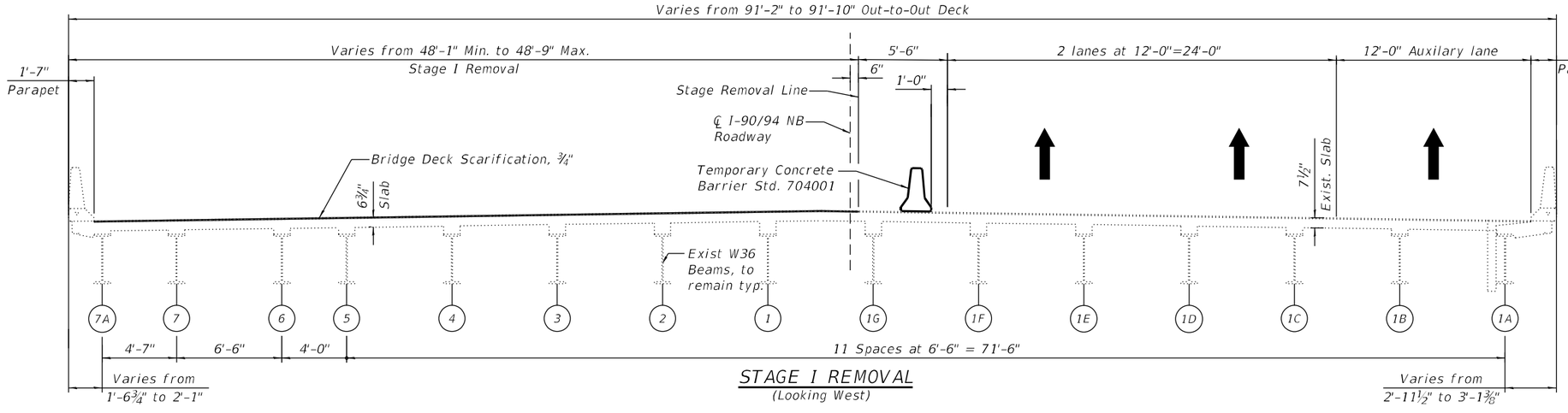
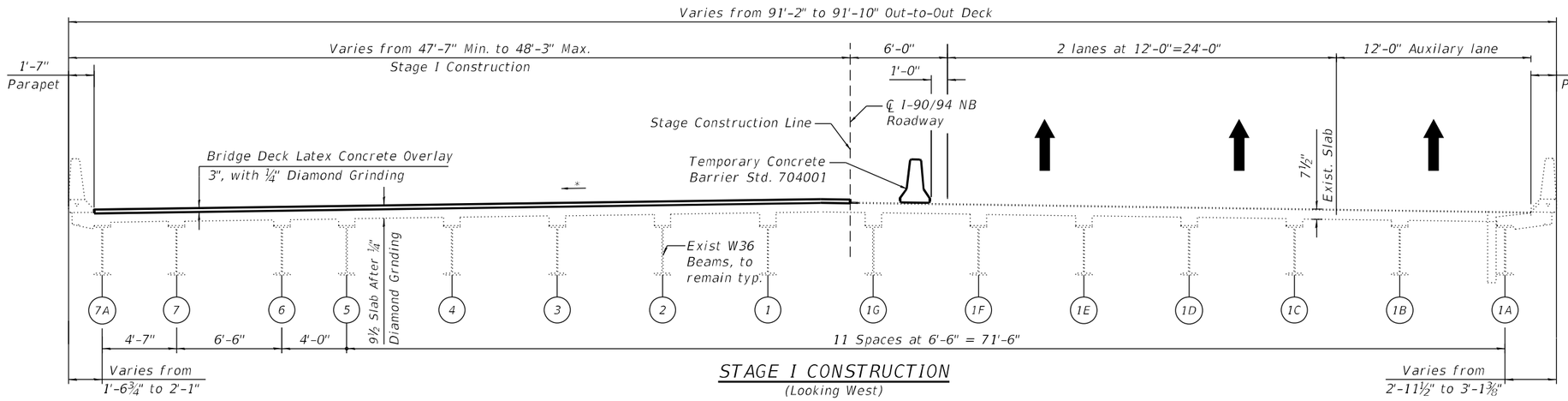
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS & TBOM
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-02 OF S13-20 SHEETS

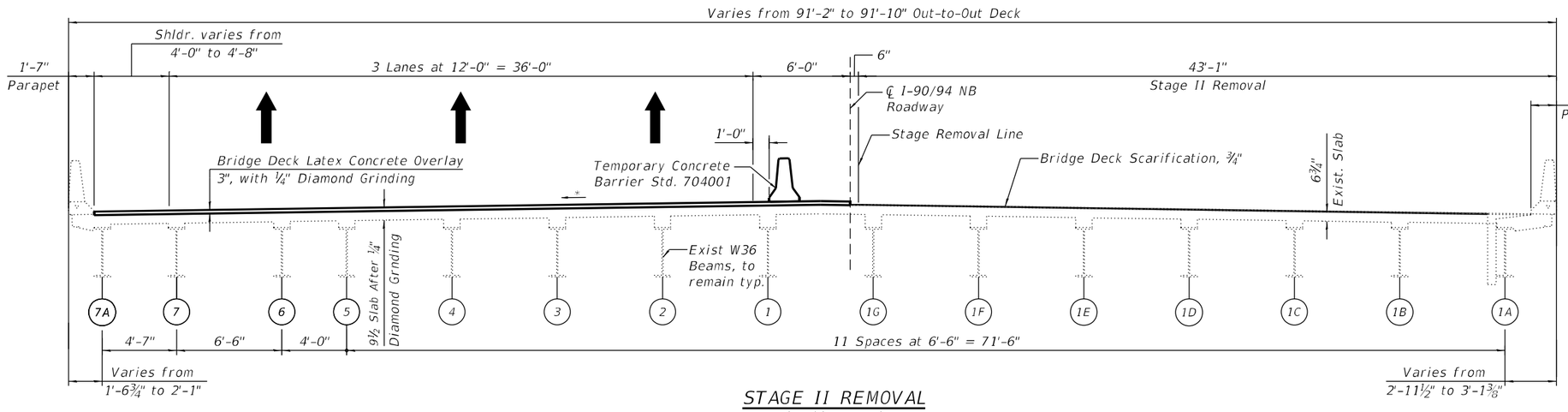
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	721
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



STAGE I REMOVAL
(Looking West)



STAGE I CONSTRUCTION
(Looking West)



STAGE II REMOVAL
(Looking West)

STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the east side of the existing structure.
2. Perform ¾" 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 East and West Abutments.

STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new Preformed Joint Strip Seals within the limits of Stage I Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay, reconstructed abutment expansion joint areas and adjust drainage scuppers.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of west parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.
9. 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 ¾" 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 East and West Abutments.
5. Preform temporary shoring and cribbing at location shown in the plans within the limits of stage II removal.

* Match existing cross slopes.

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STAGE CONSTRUCTION (SHEET 1 OF 2)
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-03 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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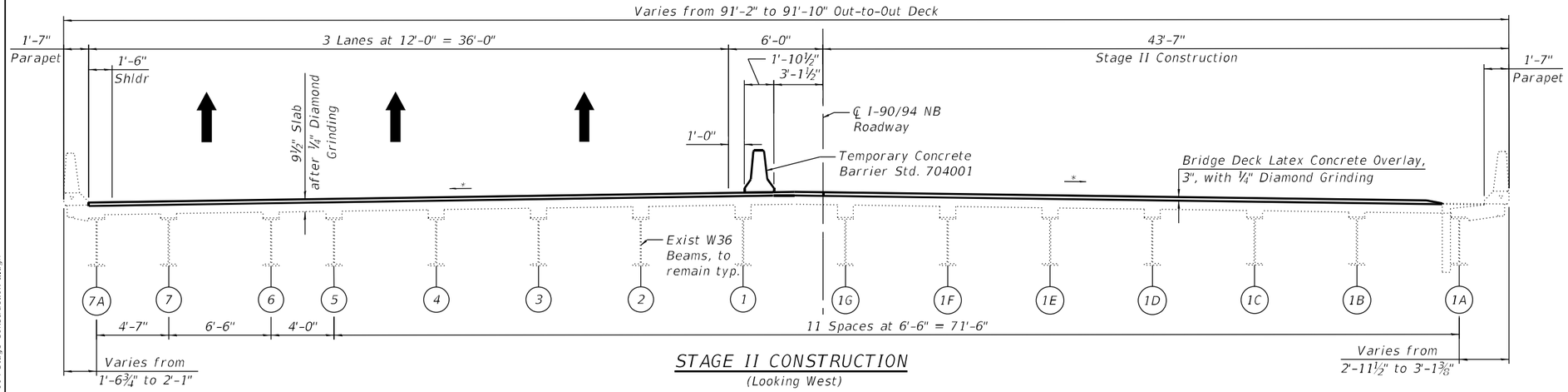
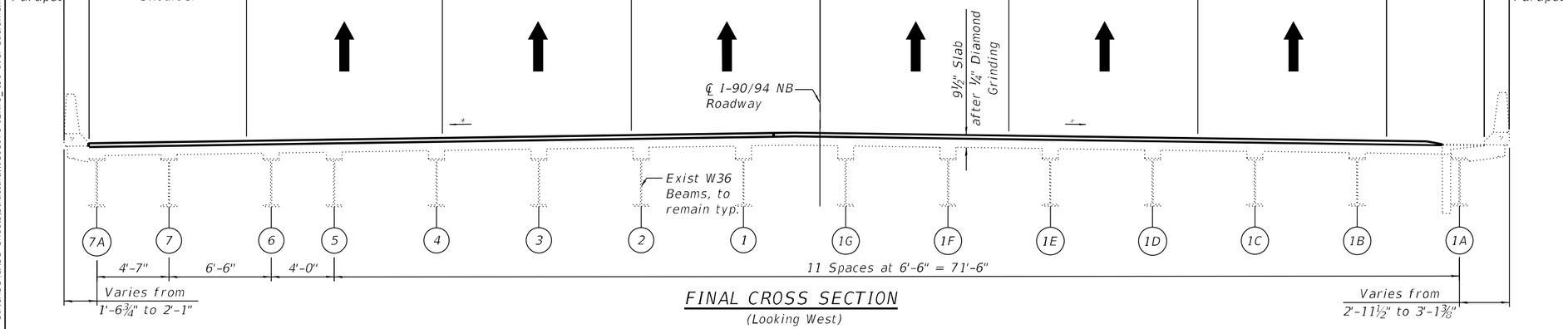
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



STAGE II CONSTRUCTION

(Looking West)



FINAL CROSS SECTION

(Looking West)

STAGE II CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new Preformed Joint Strip Seals within the limits of Stage II Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay, reconstructed abutment expansion joint areas and adjust drainage scuppers.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of east parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.
9. Perform slope wall repairs as shown on the plans.

* Match existing cross slopes.

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STAGE CONSTRUCTION (SHEET 2 OF 2)
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-04 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

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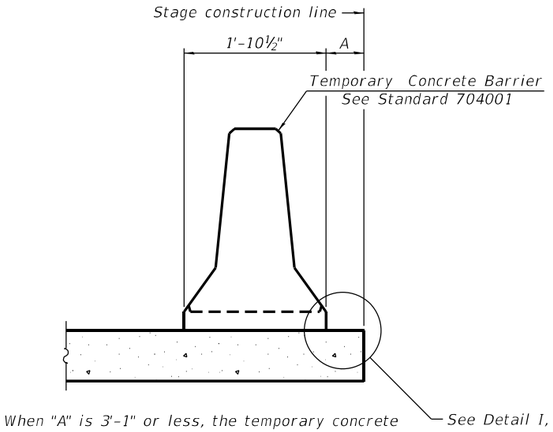
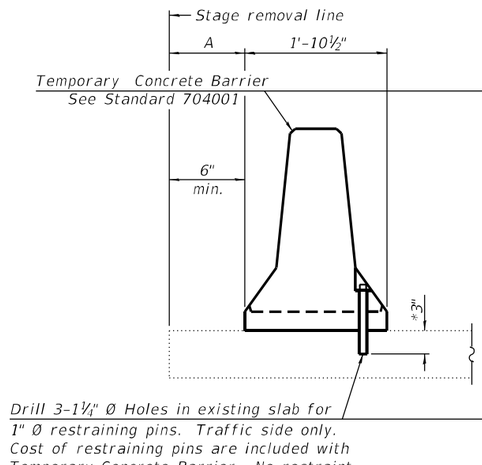


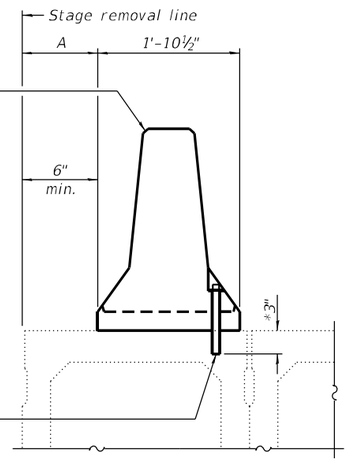
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



Drill 3-1¼" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

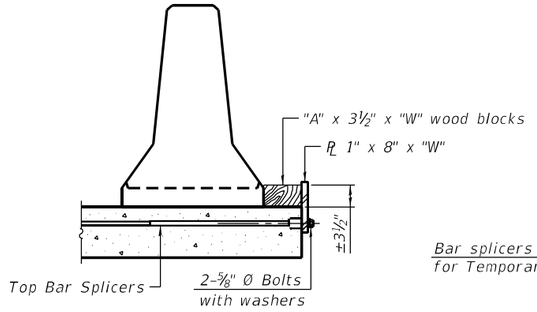
EXISTING SLAB



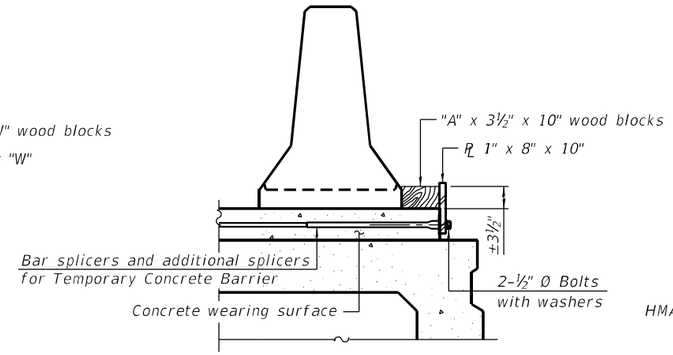
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

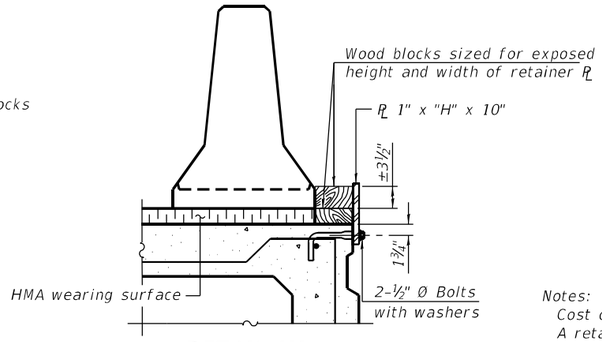
SECTIONS THRU SLAB OR DECK BEAM



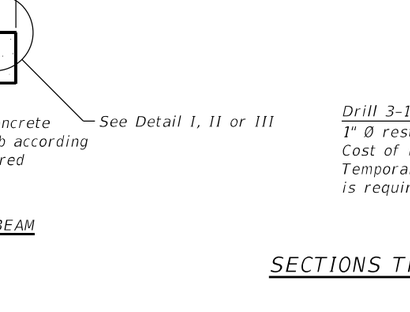
DETAIL I



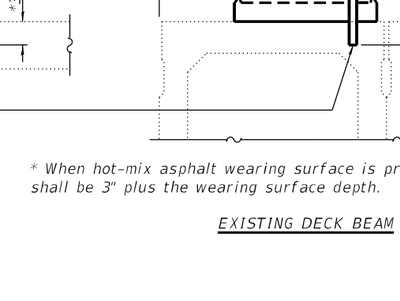
DETAIL II



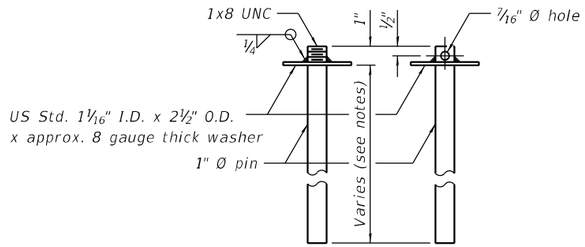
DETAIL III



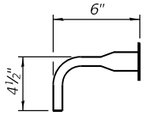
STEEL RETAINER ℄ 1" x 8" x "W"
(Detail I and II)



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



RESTRAINING PIN



BAR SPLICER FOR #4 BAR - DETAIL III

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate ℄ 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 1½", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

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

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

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

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

10-12-2021

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
STRUCTURE NUMBER 016-1071 (NB)

SHEET S13-05 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	724
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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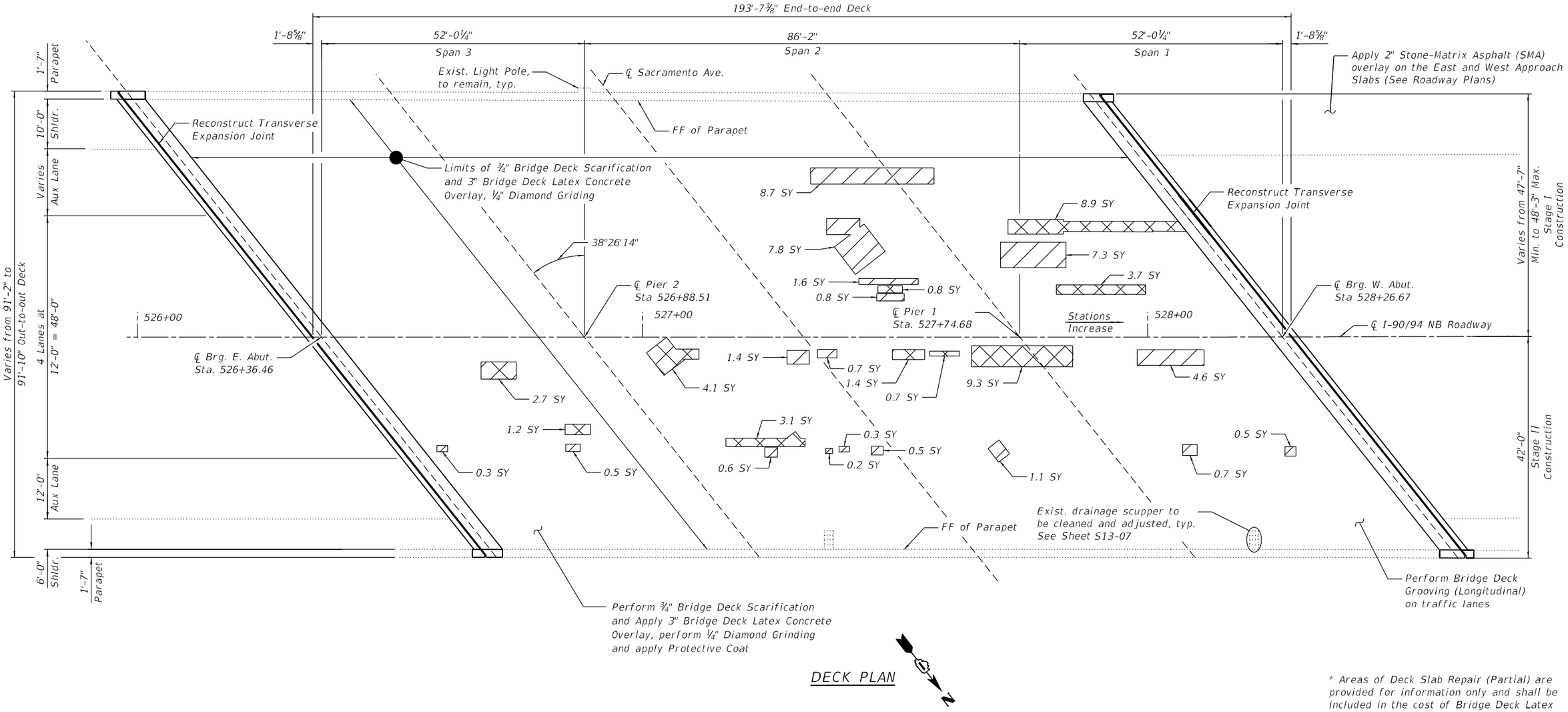

DECK PLAN

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

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 S13-04.
3. For East and West transverse joint removal and reconstruction, see Sheets S13-08 through S13-13.
4. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
5. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched area.
6. Protective Coat shall be applied to top and inside face of parapets, median, the reconstructed transverse expansion joint areas and top of Latex Concrete Overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
9. Approach Slab Repair (Full Depth) and Approach Slab Repair (Partial Depth) quantities have been estimated (based on a nominal 3% of bridge approach area) 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

*Deck Slab Repair (Partial Depth)

Deck Slab Repair (Full Depth, Type II)

SY Square Yard

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	2,007
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,493
Approach Slab Repair (Full Depth)	Sq Yd	50
Approach Slab Repair (Partial Depth)	Sq Yd	50
Bridge Deck Latex Concrete Overlay, 3" Inches	Sq Yd	1,831
Bridge Deck Scarification ¾"	Sq Yd	1,831
Deck Slab Repair (Full Depth, Type II)	Sq Yd	36.5
Diamond Grinding (Bridge Section)	Sq Yd	1,850

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PLOT DATE =	CHECKED - MAF	REVISED -

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DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-06 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	725
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	

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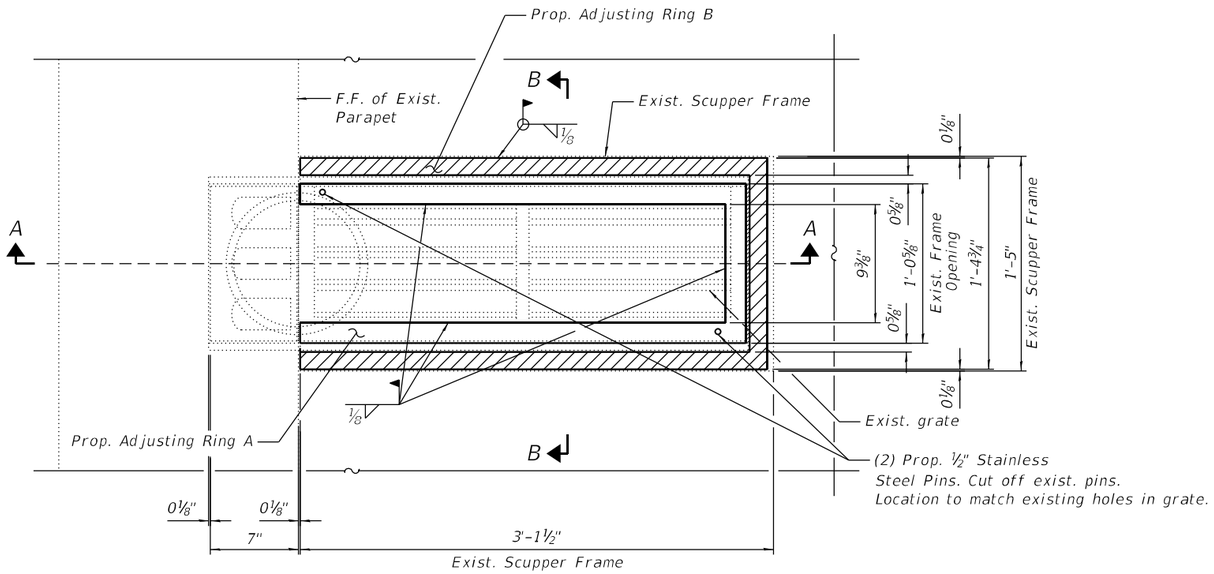
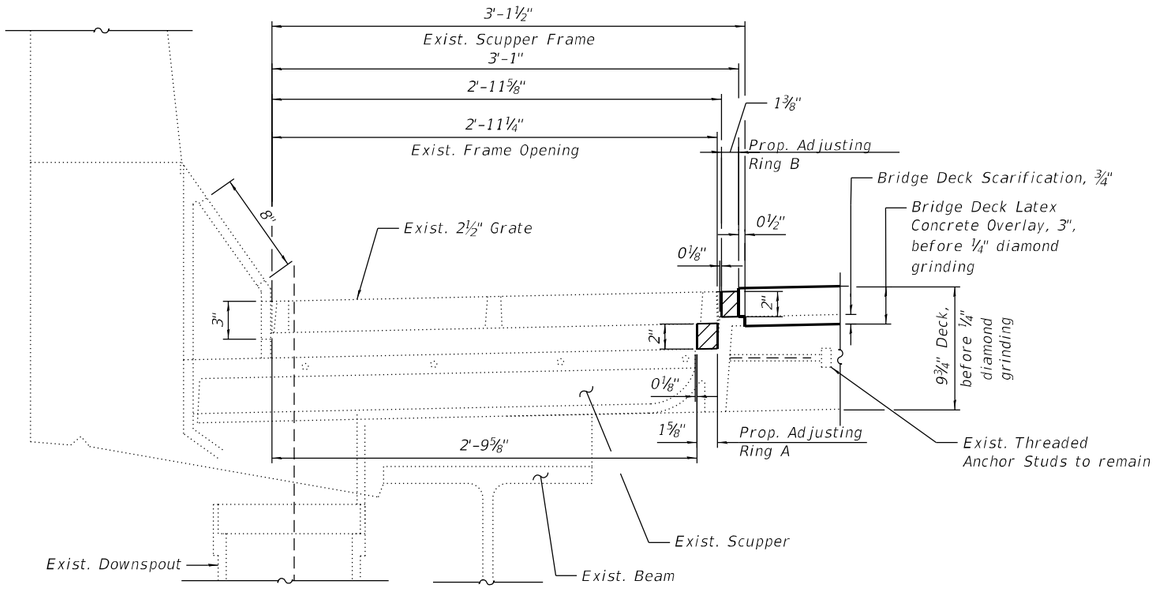
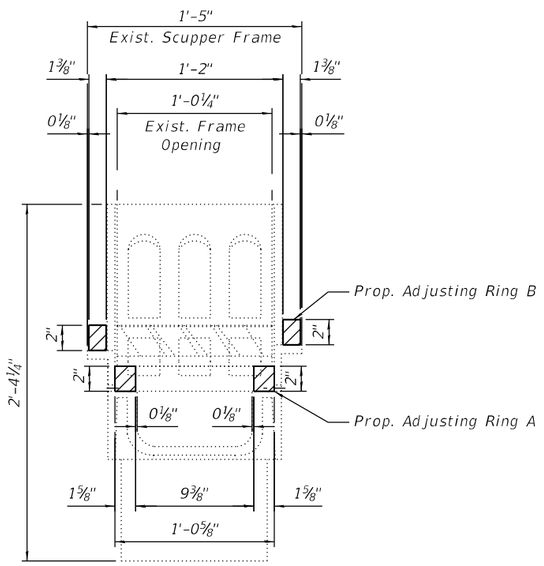


TYPICAL SCUPPER TYPE A PLAN

(2 Locations at Exterior Parapets)



SECTION A-A



SECTION B-B

NOTES

1. The Contractor shall field verify Existing Dimensions and Details of the Existing Scuppers and make necessary adjustments prior to construction of New Adjusting Rings or ordering of material for Adjusting Drainage Scuppers.
2. All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 35B.
3. Cast Iron Parts shall be unfinished.
4. The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
5. Adjusting Rings shall be from Neenah or approved equal. Structural steel weldments or equal section and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
6. Provide a ⅛" Fillet Weld around perimeter of new Adjusting Rings to secure to existing Scupper.
7. Cost of all labor and materials necessary to clean all existing floor drains and scuppers, install adjusting scupper rings, remove and reinstall grates is included in the cost for Drainage Scupper to be Adjusted.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scuppers To Be Adjusted	Each	2

MODEL: Default
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	CHECKED - MAF	REVISED -
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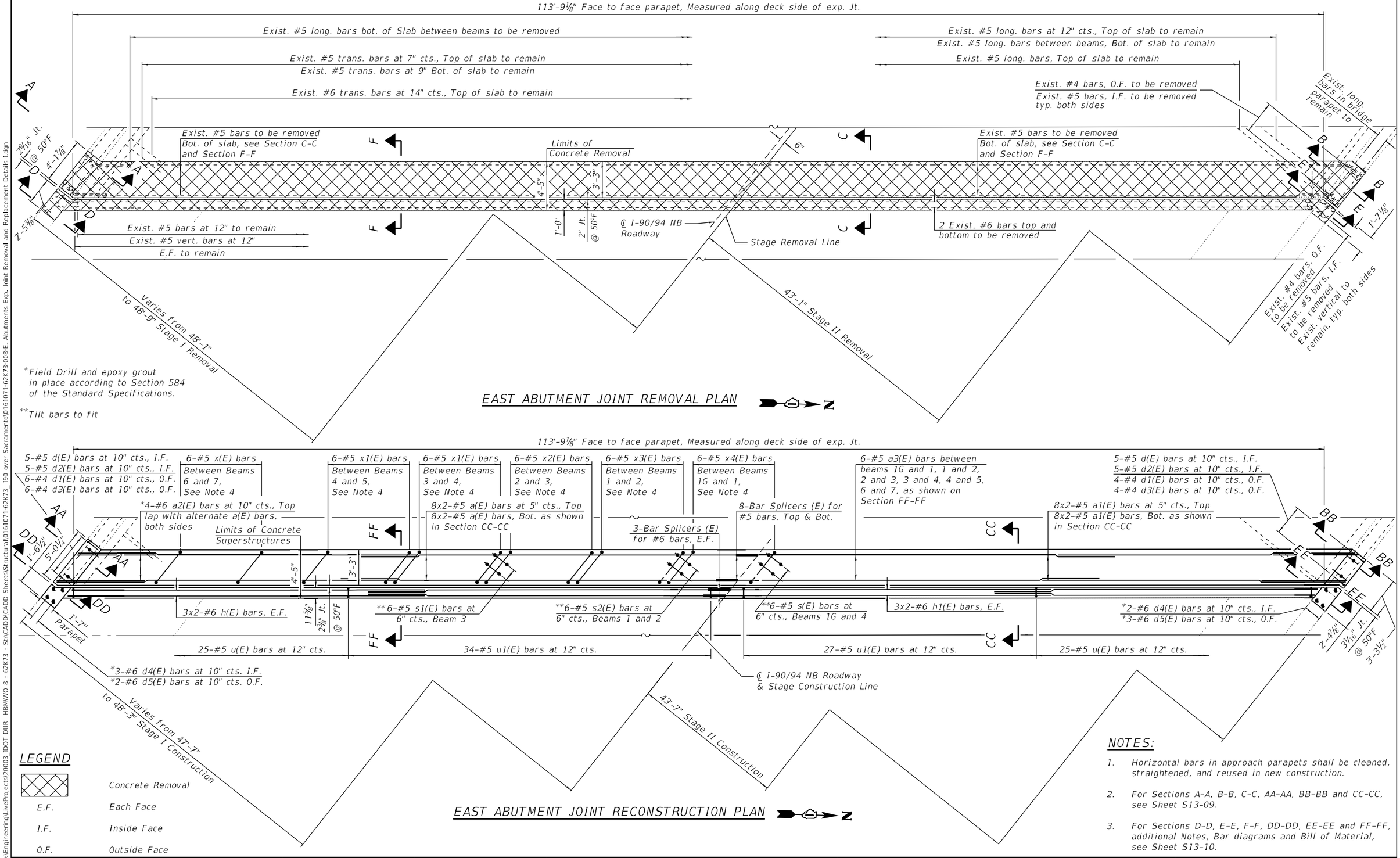
PLOT DATE =	CHECKED - MAF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER TYPE C ADJUSTMENT DETAILS
STRUCTURE NUMBER 016-1071 (NB)

SHEET S13-07 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	726
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



LEGEND

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

NOTES:

1. Horizontal bars in approach parapets shall be cleaned, straightened, and reused in new construction.
2. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S13-09.
3. For Sections D-D, E-E, F-F, DD-DD, EE-EE and FF-FF, additional Notes, Bar diagrams and Bill of Material, see Sheet S13-10.

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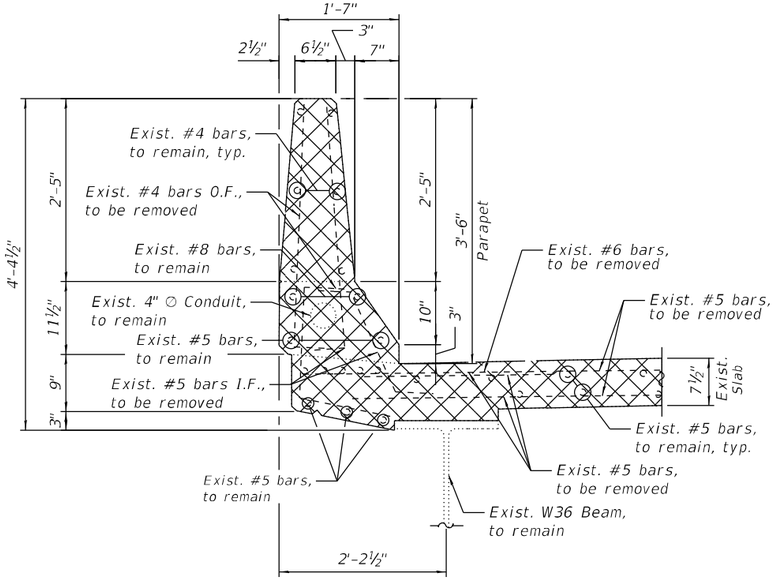
PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

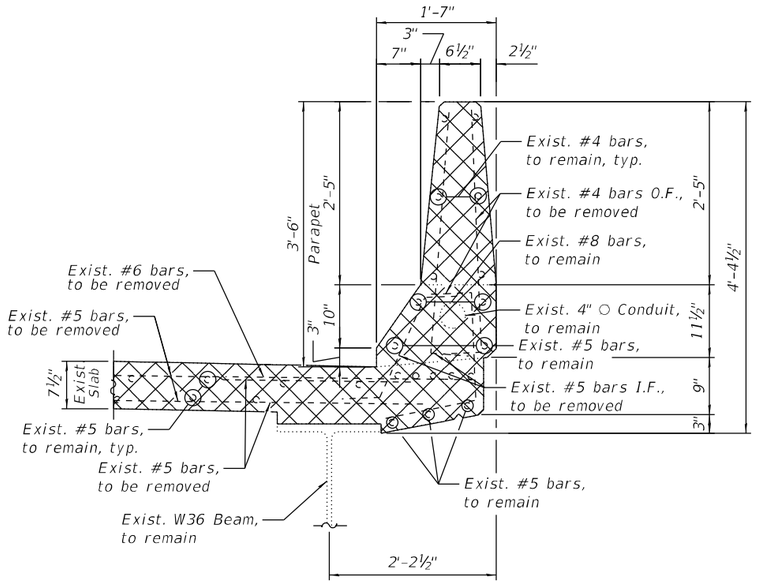
E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 1 OF 3)
STRUCTURE NUMBER 016-1071 (NB)

SHEET S13-08 OF S13-20 SHEETS

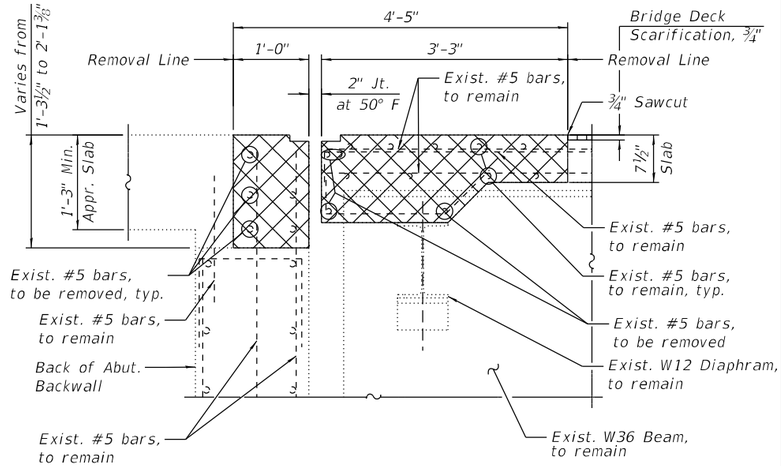
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	727
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



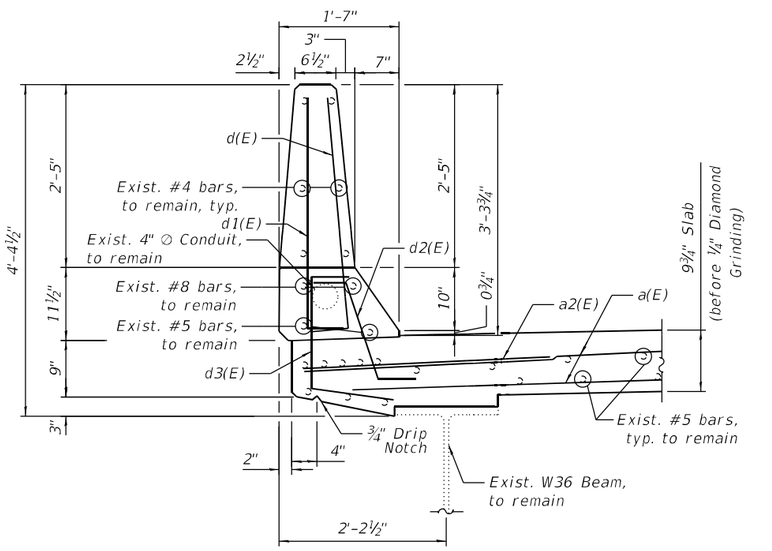
SECTION A-A



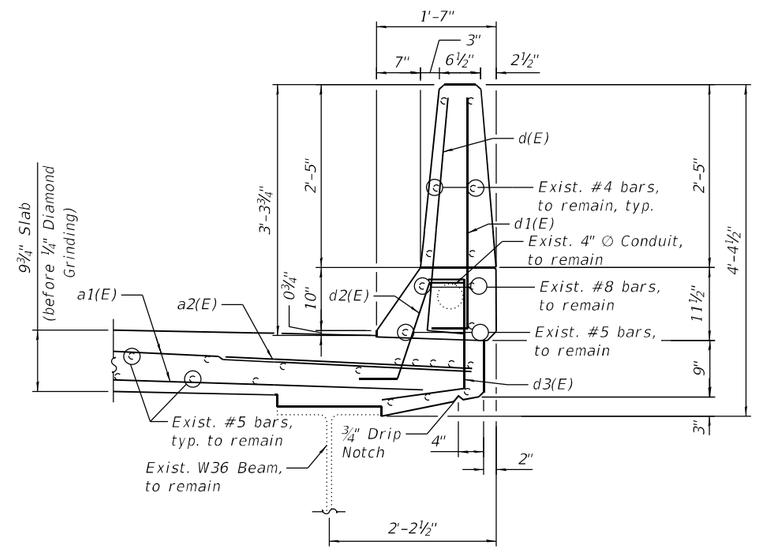
SECTION B-B



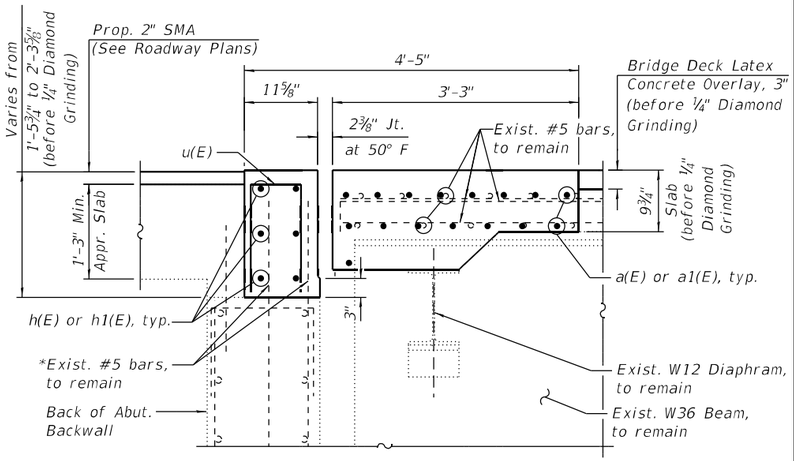
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

*Bend F.F. bars in the field as needed to fit.

NOTES:

1. For Legend, see Sheet S13-08.
2. For Bar diagrams, additional Notes and Bill of Material, see Sheet S13-10.

MODEL: Default
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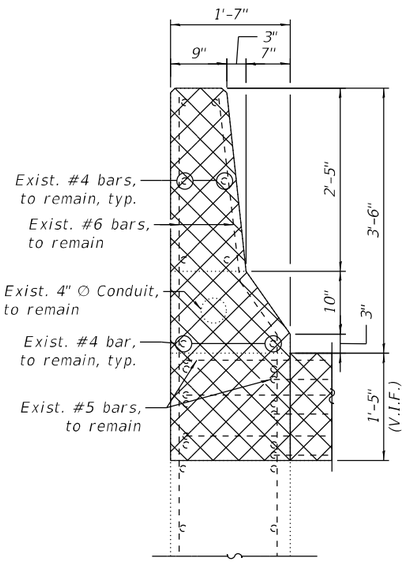
PLOT DATE =	CHECKED - MAF	REVISED -	

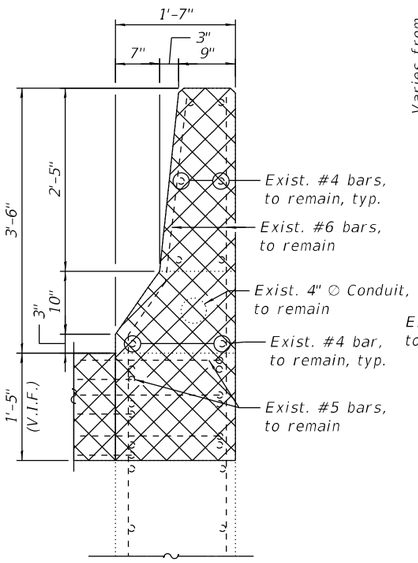
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 2 OF 3)
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-09 OF S13-20 SHEETS

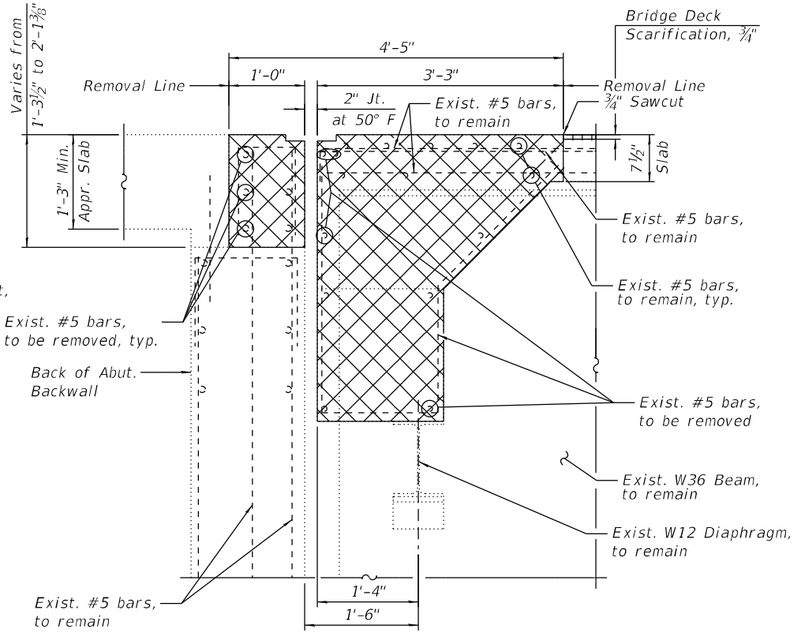
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	728
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



SECTION D-D



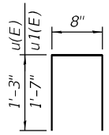
SECTION E-E



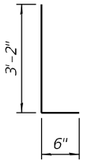
SECTION F-F

MIN BAR LAPS

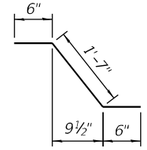
#5	3'-6"
#6	4'-0"



BARS u(E) & u1(E)



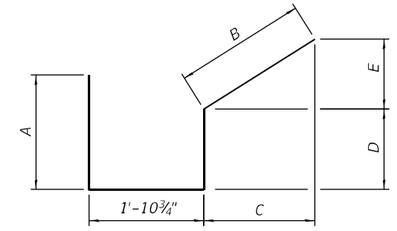
BARS d(E) & d1(E)



BAR d2(E)

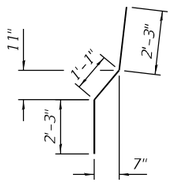
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	32	#5	32'-5"	
a1(E)	32	#5	29'-3"	
a2(E)	8	#6	6'-6"	
a3(E)	36	#5	7'-11"	
d(E)	10	#5	3'-8"	L
d1(E)	10	#4	3'-8"	L
d2(E)	10	#5	2'-7"	
d3(E)	10	#4	3'-9"	
d4(E)	5	#6	5'-7"	
d5(E)	5	#6	5'-6"	
h(E)	12	#6	32'-1"	
h1(E)	12	#6	28'-11"	
s(E)	12	#5	4'-1"	
s1(E)	6	#5	4'-7"	
s2(E)	12	#5	5'-1"	
x(E)	6	#5	4'-5¾"	
x1(E)	12	#5	5'-2¾"	
x2(E)	6	#5	5'-5¾"	
x3(E)	6	#5	6'-11¾"	
x4(E)	6	#5	5'-6¾"	
u(E)	50	#5	3'-2"	
u1(E)	61	#5	3'-10"	
Concrete Removal			Cu Yd	27.7
Concrete Superstructure			Cu Yd	30.8
Protective Coat			Sq Yd	59
Reinforcement Bars, Epoxy Coated			Pound	4,490

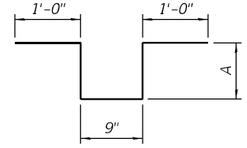


BARS x(E) THRU x5(E)

	A	B	C	D	E
x(E)	9"	1'-4"	1'-0½"	6"	10"
x1(E)	1'-0"	1'-9"	1'-4½"	7"	1'-1"
x2(E)	1'-0"	2'-0"	1'-7"	7"	1'-3"
x3(E)	1'-9"	2'-2"	1'-8¼"	1'-2"	1'-4"
x4(E)	1'-0"	2'-2"	1'-8¼"	6"	1'-4"

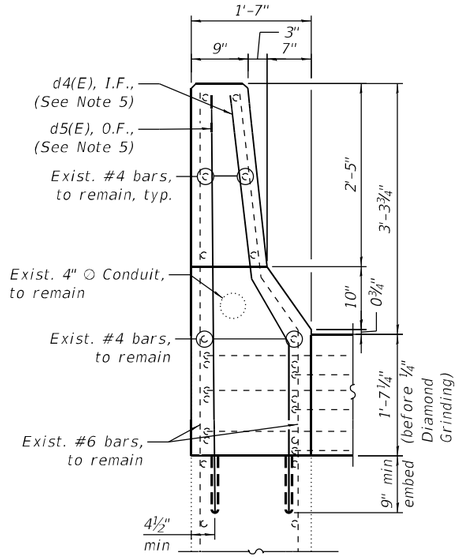


BAR d4(E)

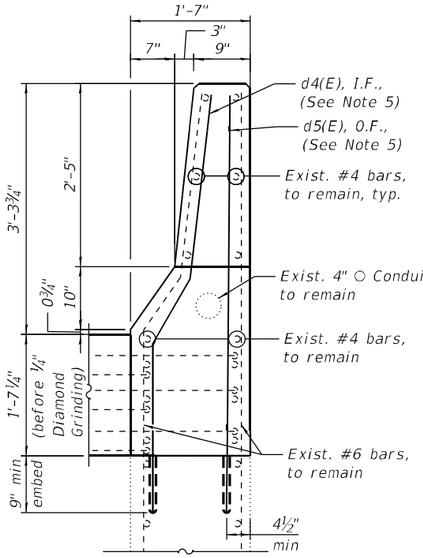


BARS s(E) THRU s2(E)

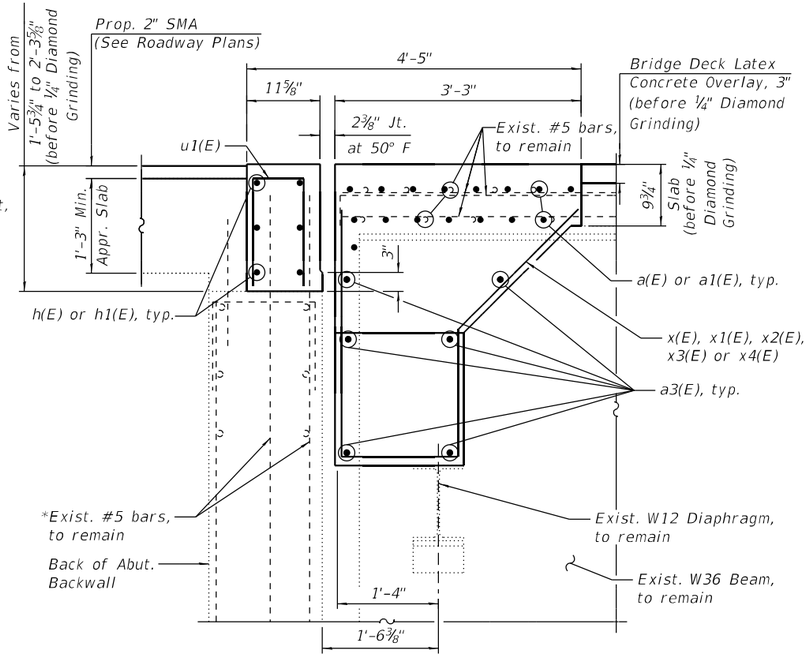
	A
s(E)	8"
s1(E)	11"
s2(E)	1'-2"



SECTION DD-DD



SECTION EE-EE



SECTION FF-FF

*Bend F.F. bars in the field as needed to fit.

NOTES:

1. For Legend, see Sheet S13-08.
2. For Preformed Joint Strip Seal Details,see Sheet S13-14.
3. For Bar Splicer Assembly Details, see Sheet S13-20.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d4(E) and d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

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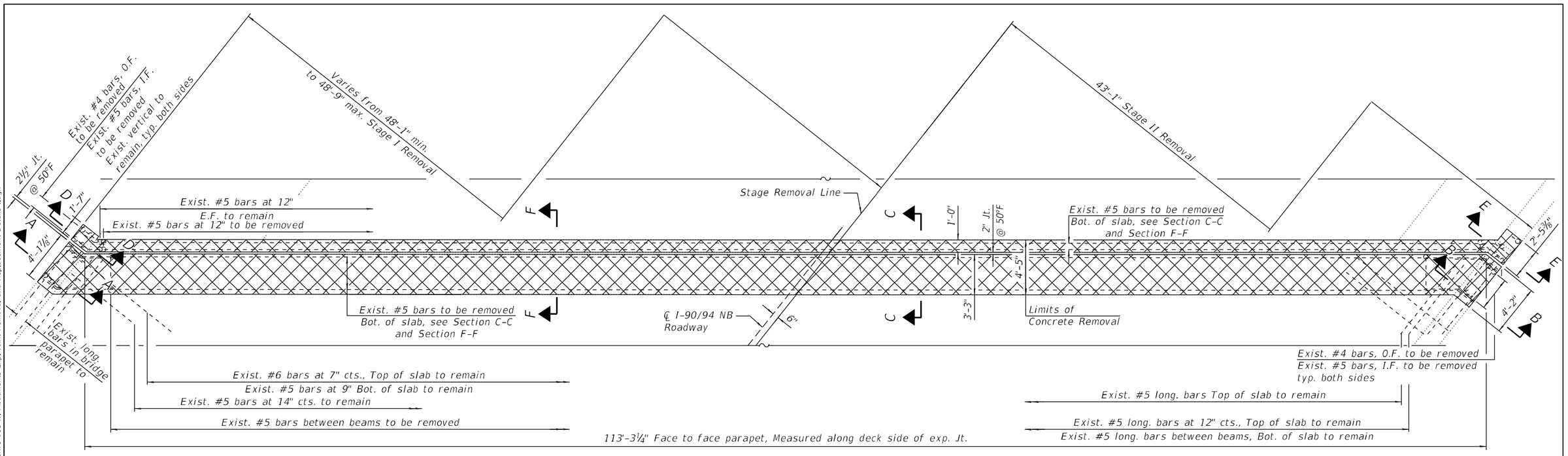
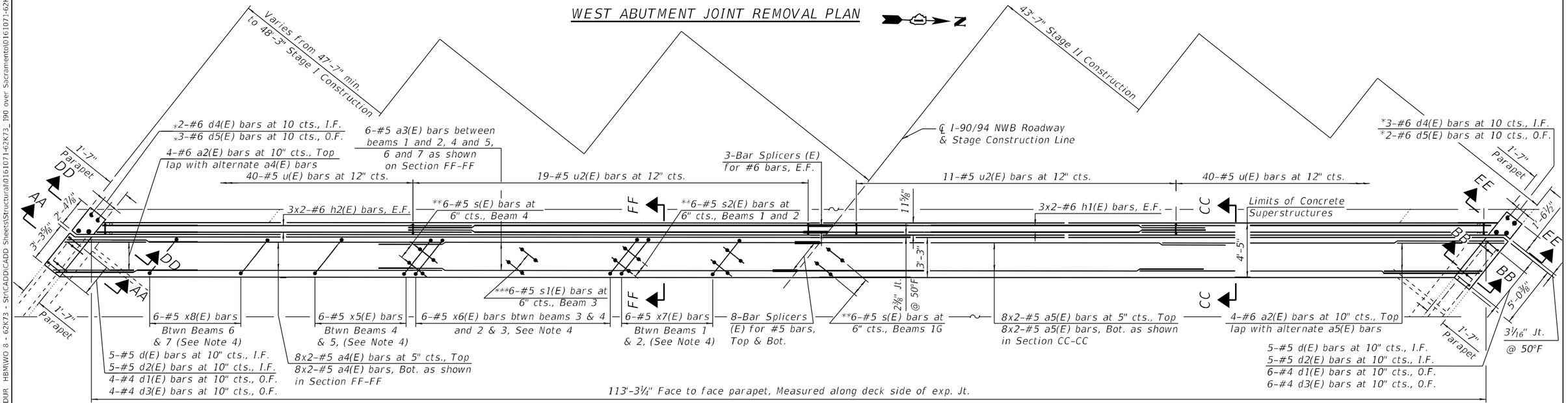
DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 3 OF 3)
STRUCTURE NUMBER 016-1071 (NB)
SHEETS13-10 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	729
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

LEGEND

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

* Field Drill and epoxy grout in place according to Section 584 of the Standard Specifications.

** Tilt bars to fit

NOTES:

1. Horizontal bars in approach parapets shall be cleaned, straightened, and reused in new construction.
2. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S13-12.
3. For Sections D-D, E-E, F-F, DD-DD, EE-EE and FF-FF additional Notes, Bar diagrams and Bill of Material, see Sheet S13-13.

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W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 1 OF 3)
STRUCTURE NUMBER 016-1071 (NB)

SHEET S13-11 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	730
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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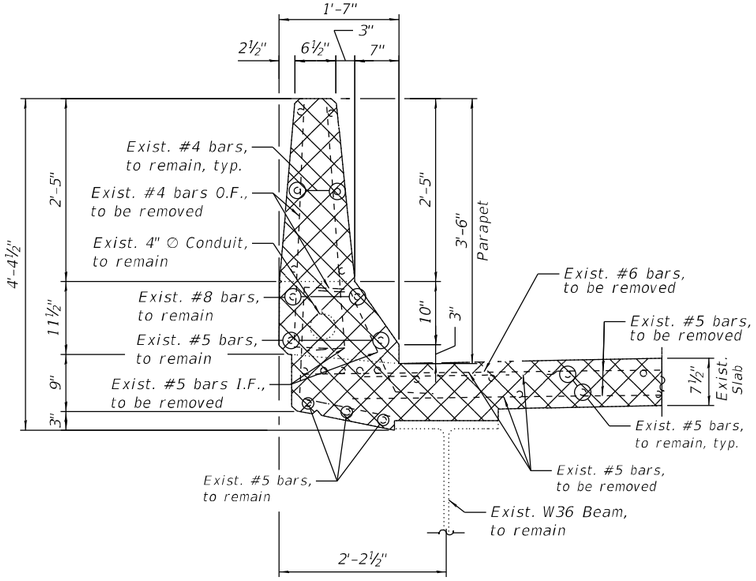
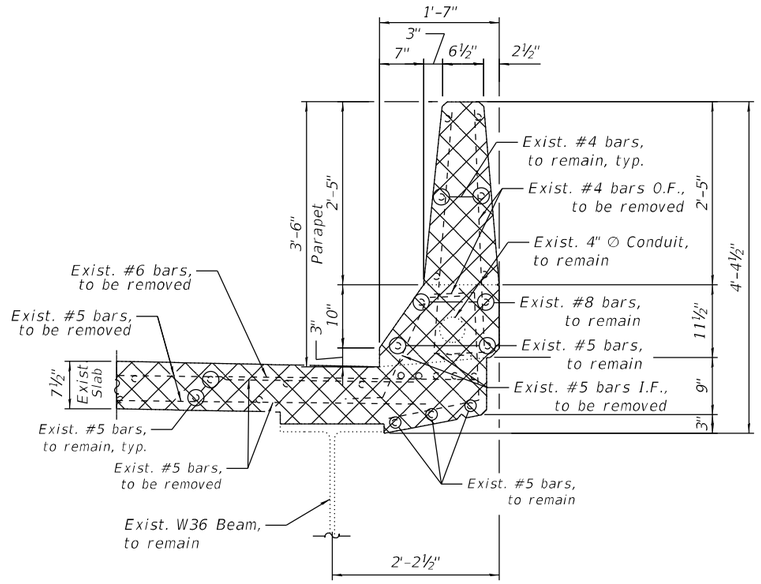
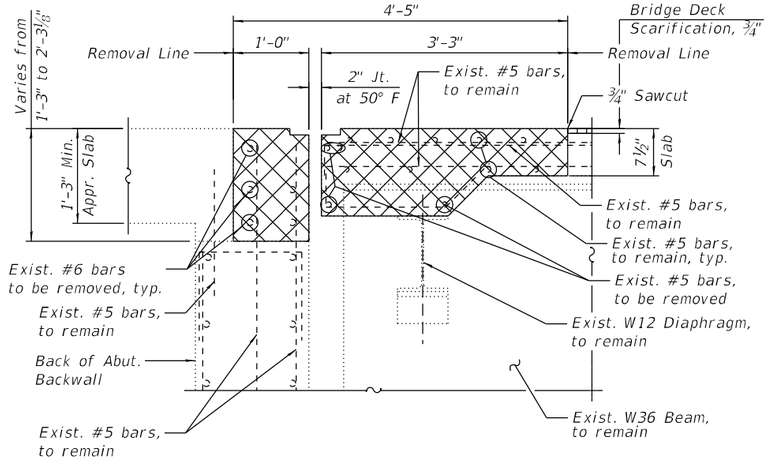


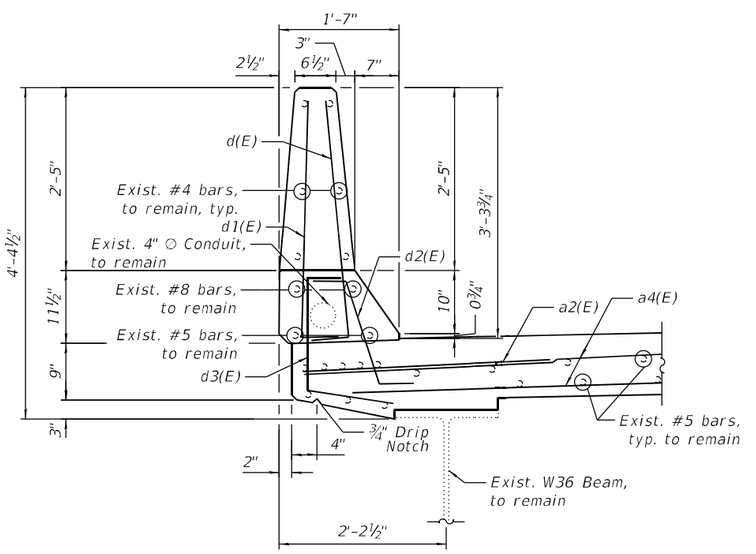
SECTION A-A



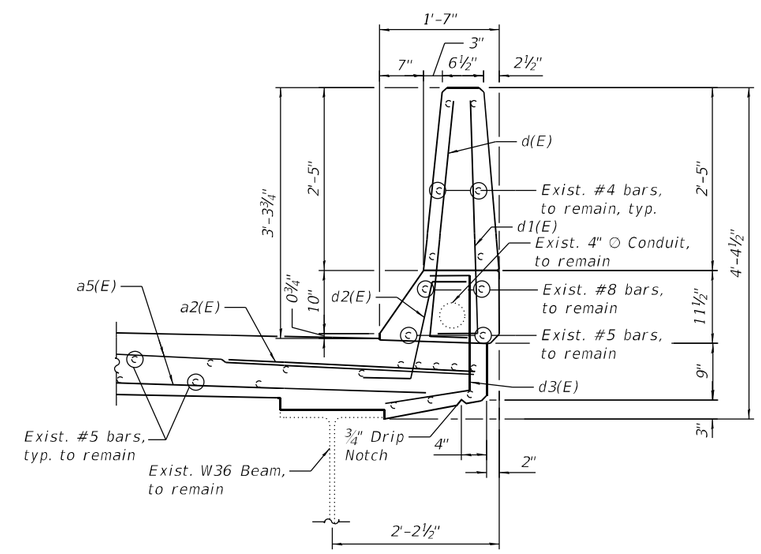
SECTION B-B



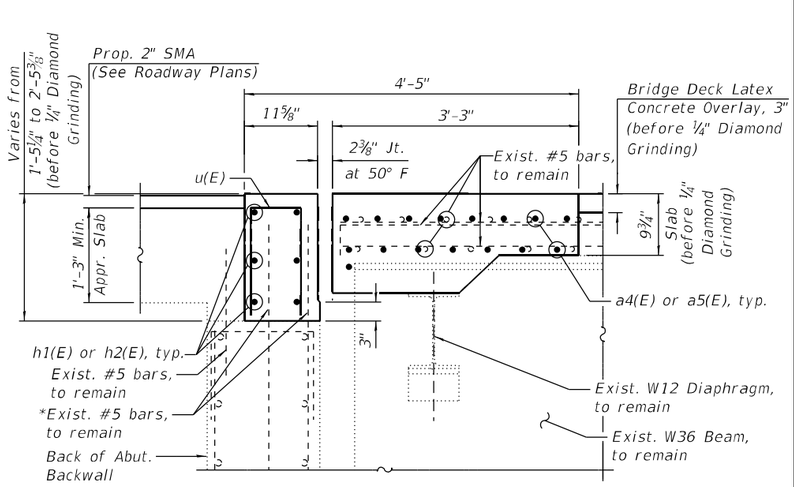
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

*Bend F.F. bars in the field as needed to fit.

NOTES:

1. For Legend, see Sheet S13-11.
2. For Bar diagrams, additional Notes and Bill of Material, see Sheet S13-13.

MODEL: Default
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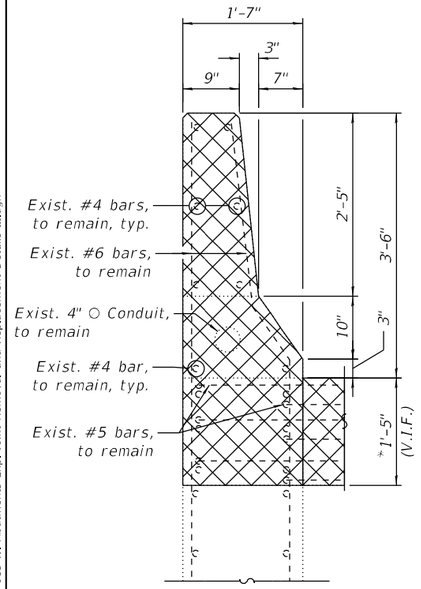
PLOT DATE =	CHECKED - MAF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

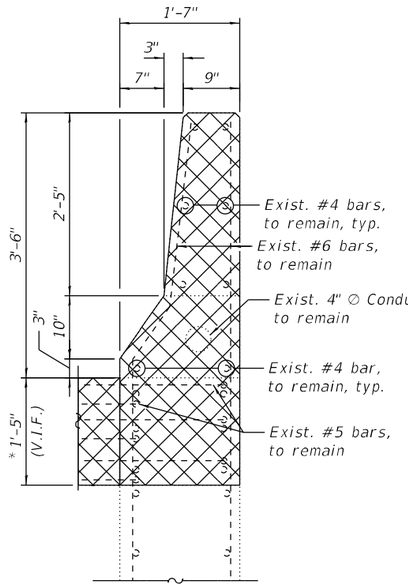
W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 2 OF 3)
STRUCTURE NUMBER 016-1071 (NB)

SHEET S13-12 OF S13-20SHEETS

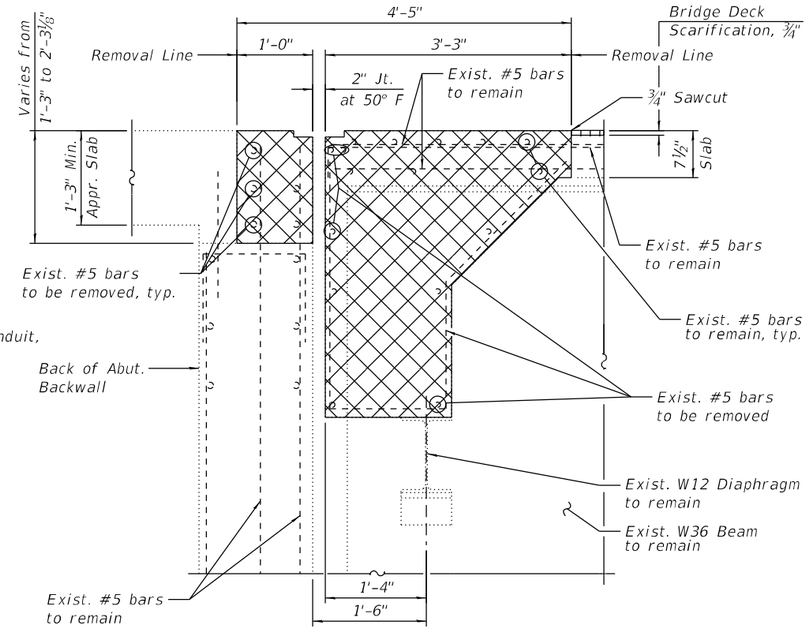
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	731
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



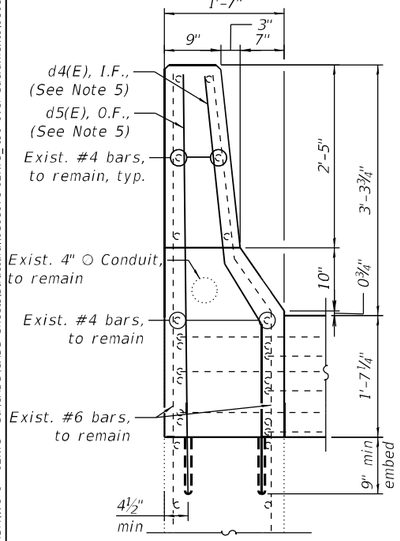
SECTION D-D



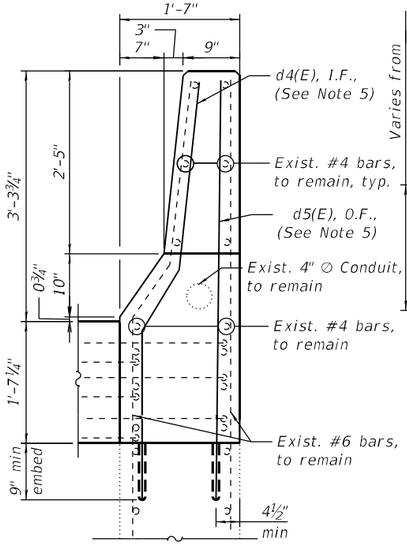
SECTION E-E



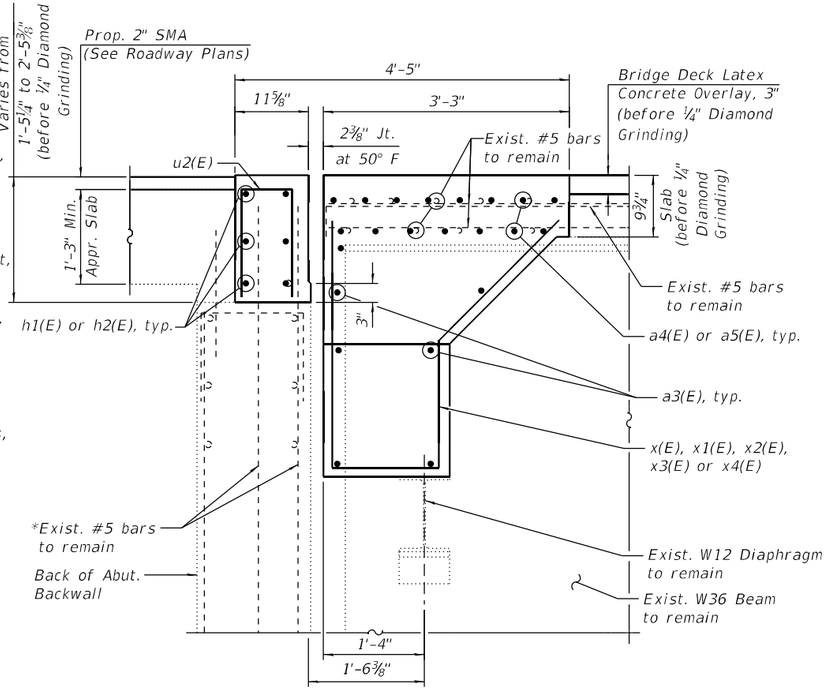
SECTION F-F



SECTION DD-DD



SECTION EE-EE



SECTION FF-FF

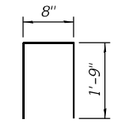
*Bend F.F. bars in the field as needed to fit.

MIN BAR LAPS

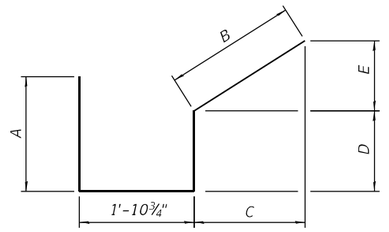
#5	3'-6"
#6	4'-0"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	8	#6	6'-6"	
a3(E)	18	#5	7'-11"	
a4(E)	32	#5	32'-2"	
a5(E)	32	#5	29'-4"	
d(E)	10	#5	3'-8"	L
d1(E)	10	#4	3'-8"	L
d2(E)	10	#5	2'-7"	
d3(E)	10	#4	4'-0"	
d4(E)	5	#6	5'-7"	
d5(E)	5	#6	5'-6"	
h1(E)	12	#6	28'-11"	
h2(E)	12	#6	31'-11"	
s(E)	12	#5	4'-1"	
s1(E)	6	#5	4'-7"	
s2(E)	12	#5	5'-1"	
x5(E)	6	#5	6'-1¼"	
x6(E)	12	#5	5'-6¾"	
x7(E)	6	#5	6'-7¾"	
x8(E)	6	#5	4'-3¾"	
u(E)	80	#5	3'-2"	
u2(E)	30	#5	4'-2"	
Concrete Removal			Cu Yd	29.3
Concrete Superstructure			Cu Yd	30.8
Protective Coat			Sq Yd	59
Reinforcement Bars, Epoxy Coated			Pound	4,290



BAR u2(E)



BARS x5(E) THRU x8(E)

	A	B	C	D	E
x5(E)	9"	2'-11½"	2'-4"	6"	1'-10"
x6(E)	1'-0"	2'-8"	2'-1½"	0"	1'-8"
x7(E)	1'-6"	2'-8"	2'-1½"	7"	1'-8"
x8(E)	9"	1'-2"	11¼"	6"	9"

NOTES:

1. For Legend, see Sheet S13-11.
2. For Preformed Joint Strip Seal Details,see Sheet S13-14.
3. For Bar Splicer Assembly Details, see Sheet S13-20.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d4(E) and d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

MODEL: Default
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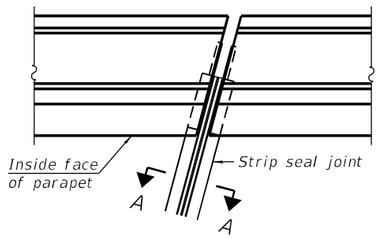
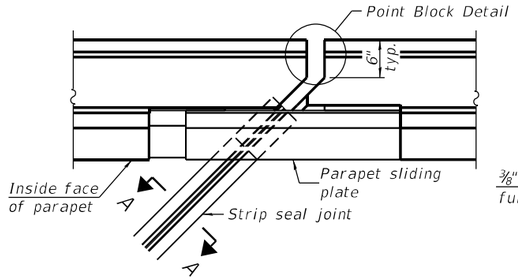
W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 3 OF 3)
STRUCTURE NUMBER 016-1071 (NB)

SHEETS13-13 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	732
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

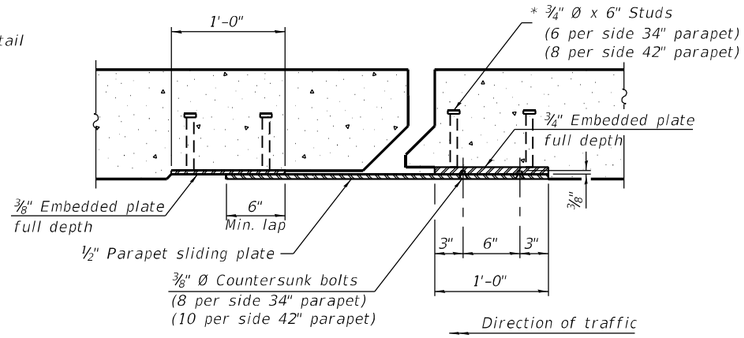


FOR SKEWS ≤ 30°

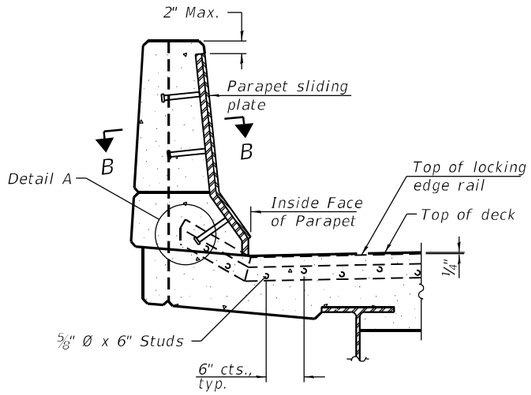


FOR SKEWS > 30°

PLAN AT PARAPET

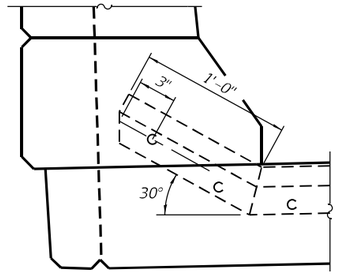


SECTION B-B

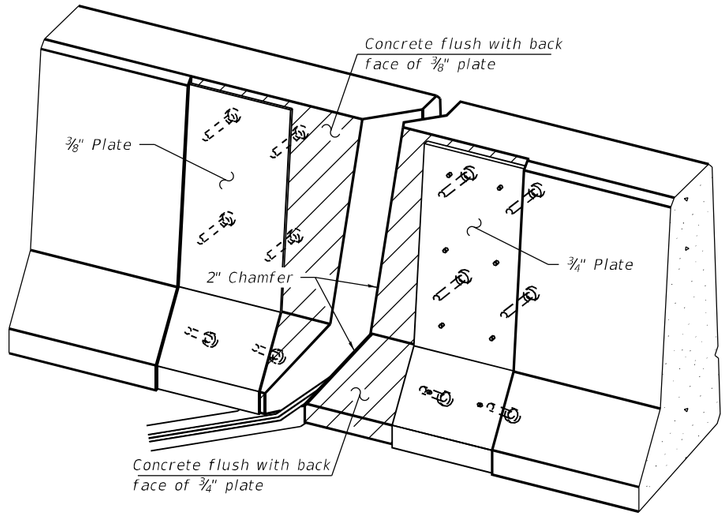


ELEVATION AT PARAPET

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

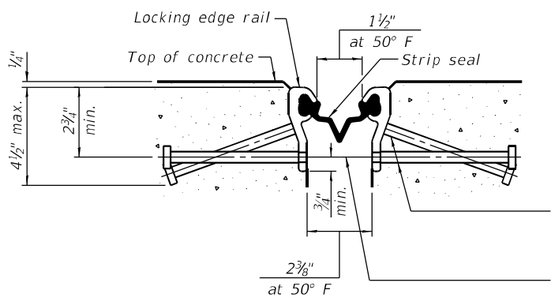


DETAIL A



TRIMETRIC VIEW

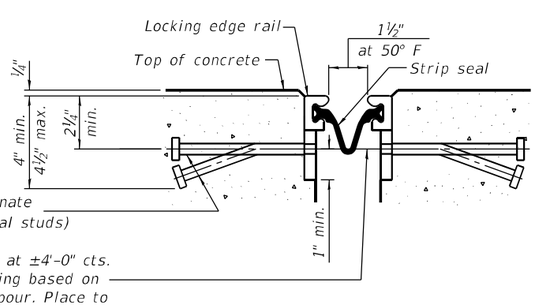
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

* ⅜" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

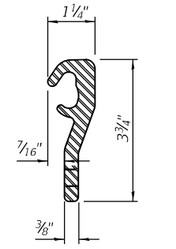
⅜" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.



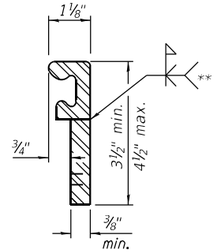
SHOWING WELDED RAIL JOINT

SECTION A-A

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



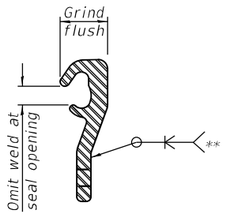
ROLLED
(EXTRUDED) RAIL



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.

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

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

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

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

34" F-shape barrier shown, 42" F-shape similar as noted.

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	232

EJ-SS

8-11-17

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PREFORMED JOINT STRIP SEAL
STRUCTURE NUMBER 016-1071 (NB)

SHEET S13-14 OF S13-20SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	733
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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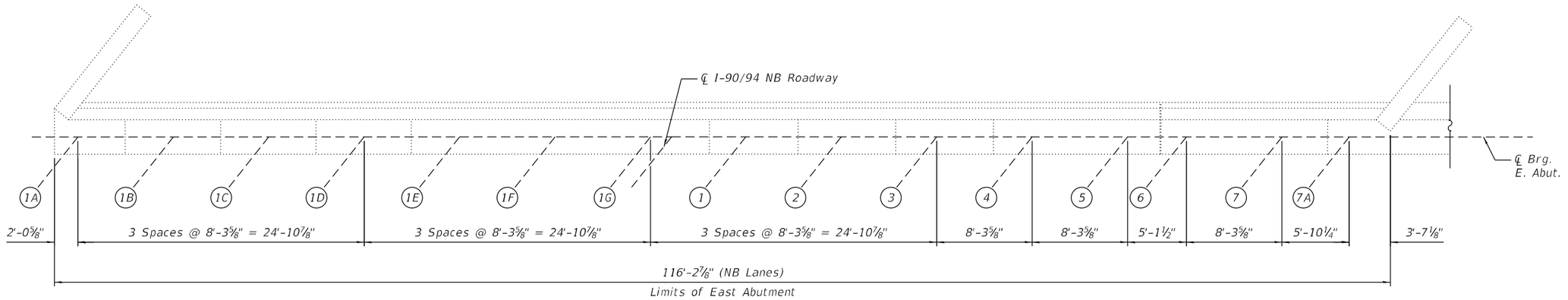
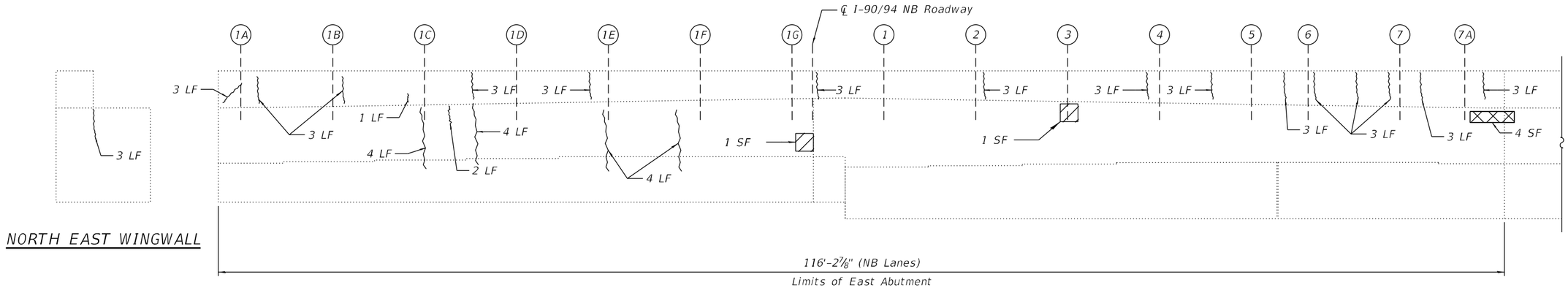


EAST ABUTMENT PLAN



NORTH EAST WINGWALL

EAST ABUTMENT ELEVATION

(Looking East)

BILL OF MATERIAL

ITEM	UNIT	Quantity
Concrete Sealer	Sq Ft	576
Epoxy Crack Injection	Foot	67
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	2
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	4

LEGEND

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

NOTES:

1. 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.
2. For slope wall repairs, see Sheet S13-19.
3. Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.

MODEL: Default
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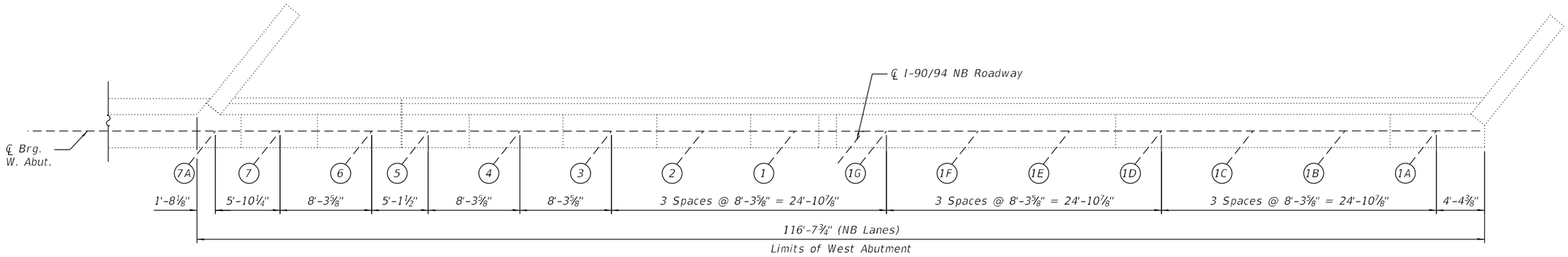
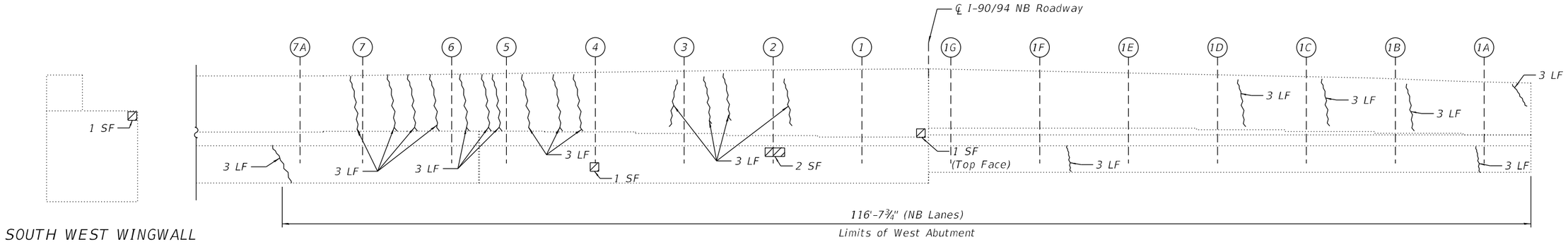
EAST ABUTMENT REPAIRS
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-15 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	734
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



WEST ABUTMENT PLAN



SOUTH WEST WINGWALL

WEST ABUTMENT ELEVATION

(Looking West)

BILL OF MATERIAL

ITEM	UNIT	Quantity
Concrete Sealer	Sq Ft	577
Epoxy Crack Injection	Foot	63
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	5

NOTES:

1. 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.
2. For slope wall repairs, see Sheet S13-19.
3. Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.

LEGEND

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

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WEST ABUTMENT REPAIRS
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-16 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	735
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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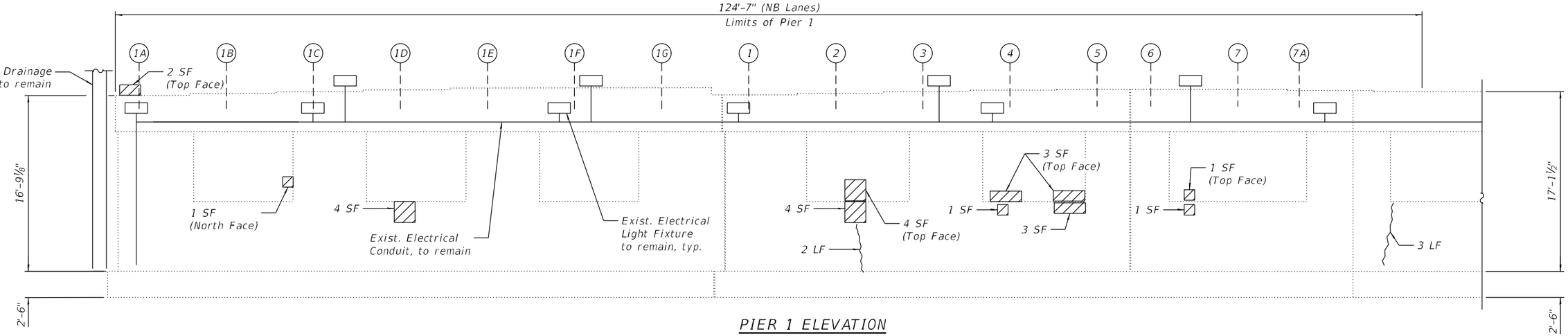
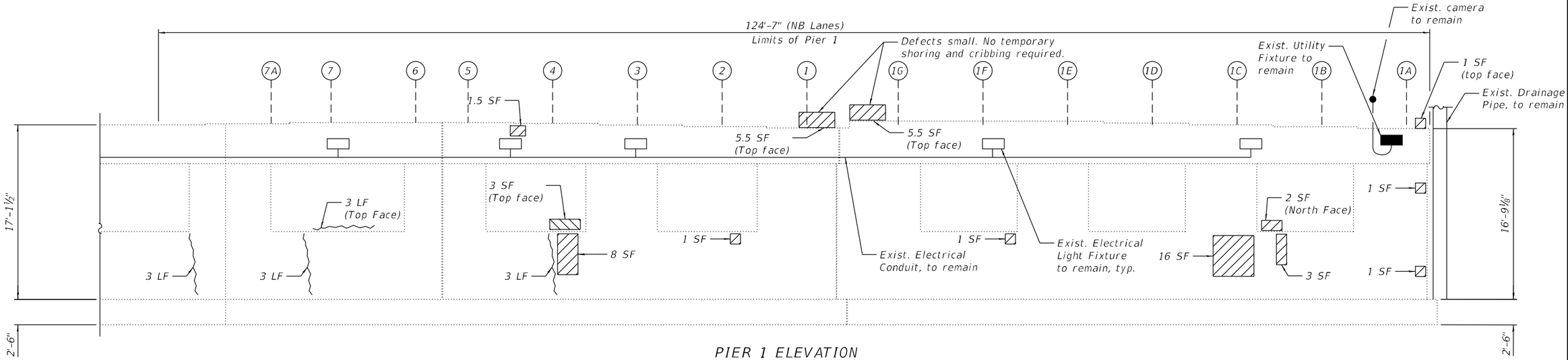


PIER 1 ELEVATION
(Looking East)



PIER 1 ELEVATION
(Looking West)

EXISTING LIGHTING: PIER 1
(Looking West)

LEGEND

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

NOTE:

1. 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.

EXISTING LIGHTING: PIER 1
(Looking East)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	17
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	76.5

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PIER 1 REPAIRS
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-17 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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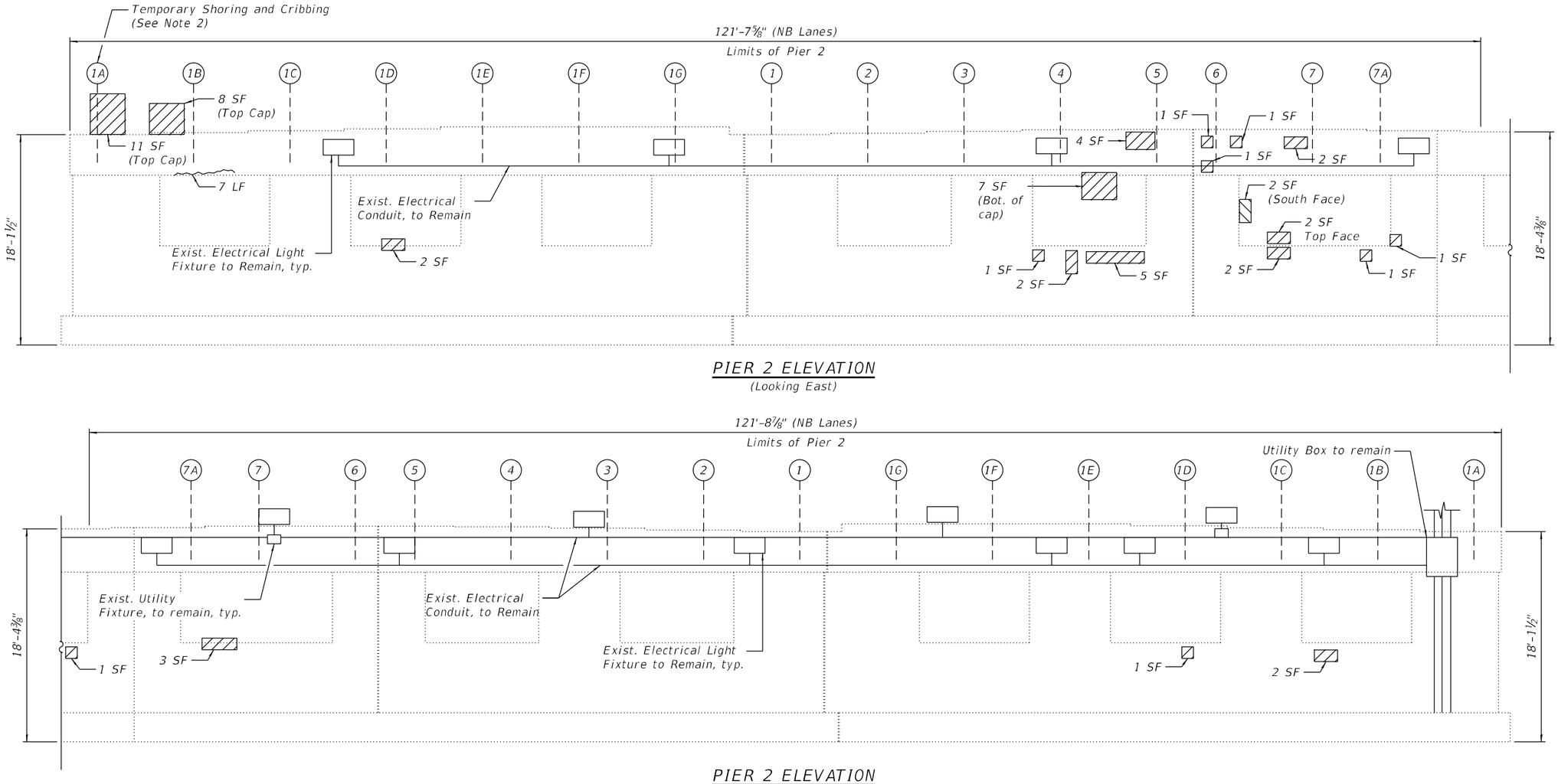
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



PIER 2 ELEVATION

(Looking East)

PIER 2 ELEVATION

(Looking West)

EXISTING LIGHTING: PIER 2

(Looking West)

LEGEND

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

NOTES:

1. 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.
2. Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the Structural Repair of Concrete.

EXISTING LIGHTING: PIER 2

(Looking East)

SUMMARY OF REACTIONS PIER 2, BEAM 1A		
R DL	(k)	88.80
R LL	(k)	47.36
R IM	(k)	14.21
R Total	(k)	150.37

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	7
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	60
Temporary Shoring and Cribbing	Each	1

MODEL: Default
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PIER 2 REPAIRS
STRUCTURE NUMBER 016-1071 (NB)

SHEET S13-18 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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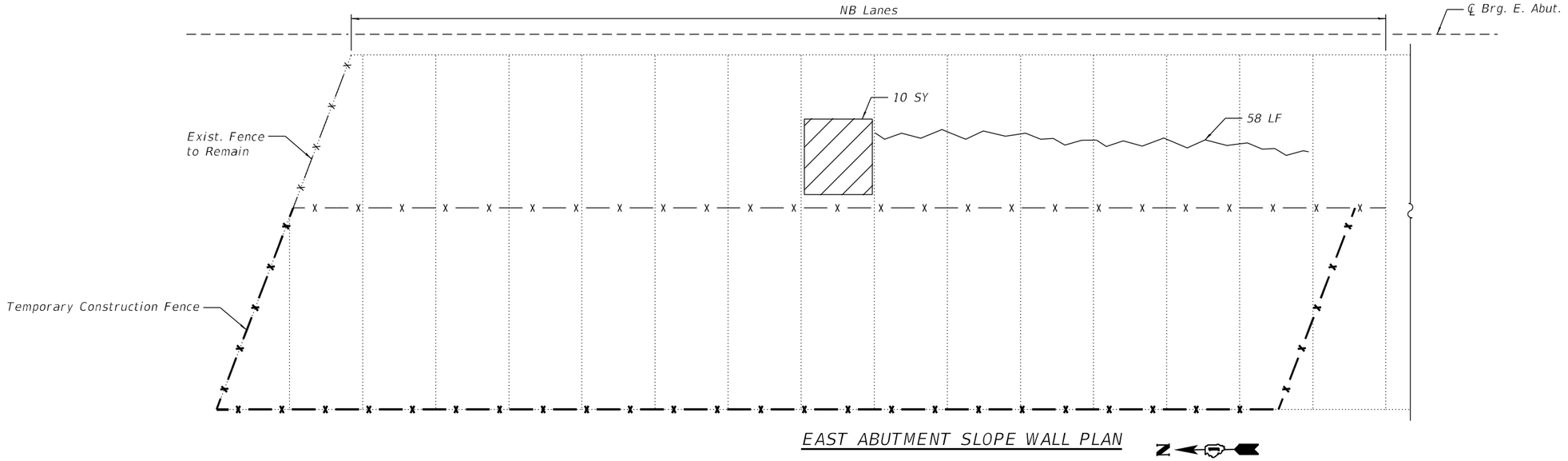
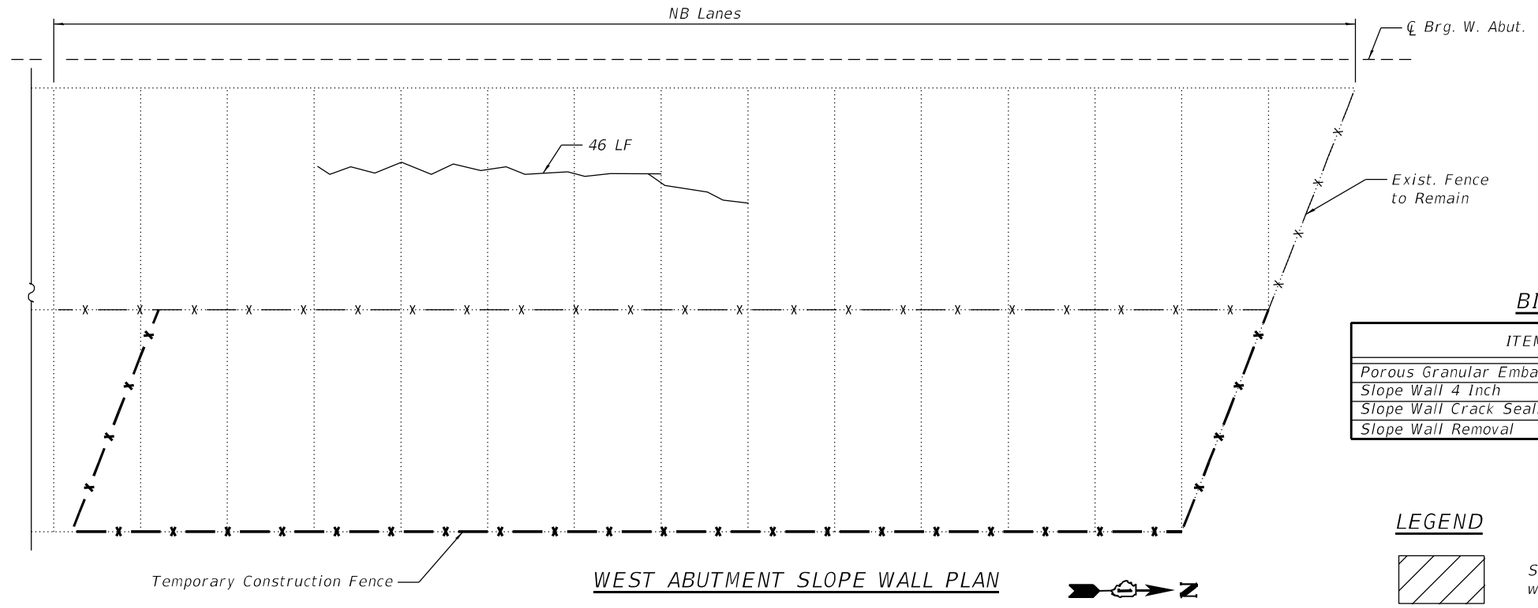
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



EAST ABUTMENT SLOPE WALL PLAN



WEST ABUTMENT SLOPE WALL PLAN

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu Yd	4
Slope Wall 4 Inch	Sq Yd	10
Slope Wall Crack Sealing	Foot	104
Slope Wall Removal	Sq Yd	10

LEGEND

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

NOTES:

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

2. Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

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SLOPE WALL REPAIRS
STRUCTURE NUMBER 016-1071 (NB)

SHEET S13-19 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	738
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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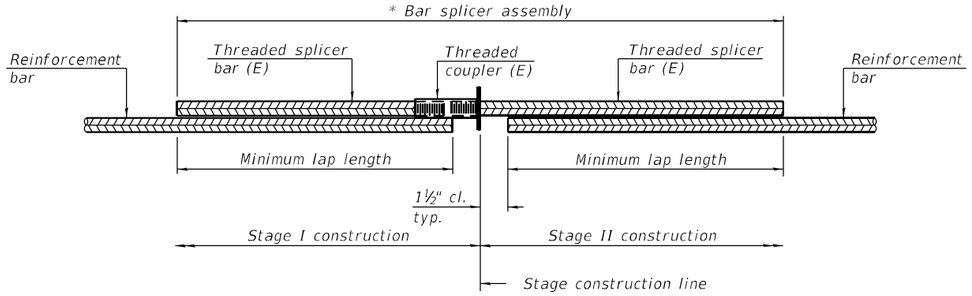


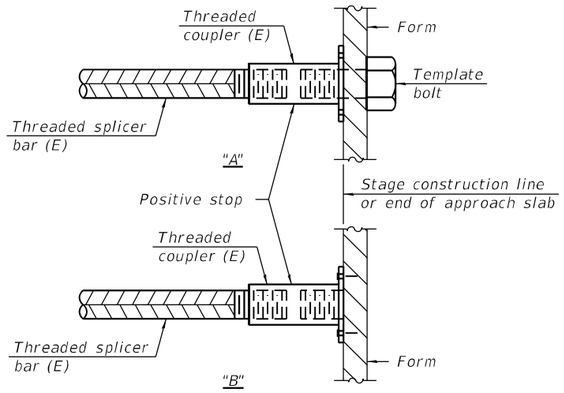
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

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

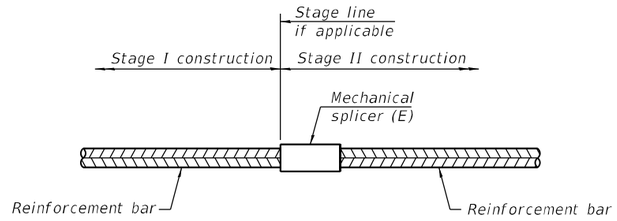
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
E. Abut.	#5	16	3'-6"
E. Abut.	#6	6	4'-0"
W. Abut.	#5	16	3'-6"
W. Abut.	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

BSD-1 1-1-2020

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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NUMBER 016-1071 (NB)
SHEET S13-20 OF S13-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	739
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

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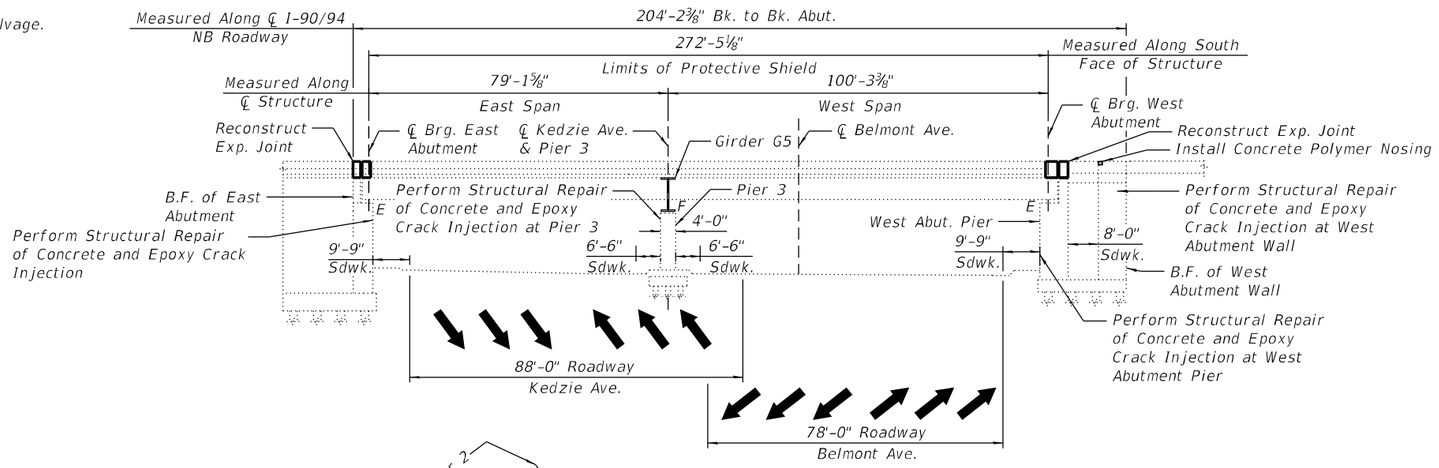
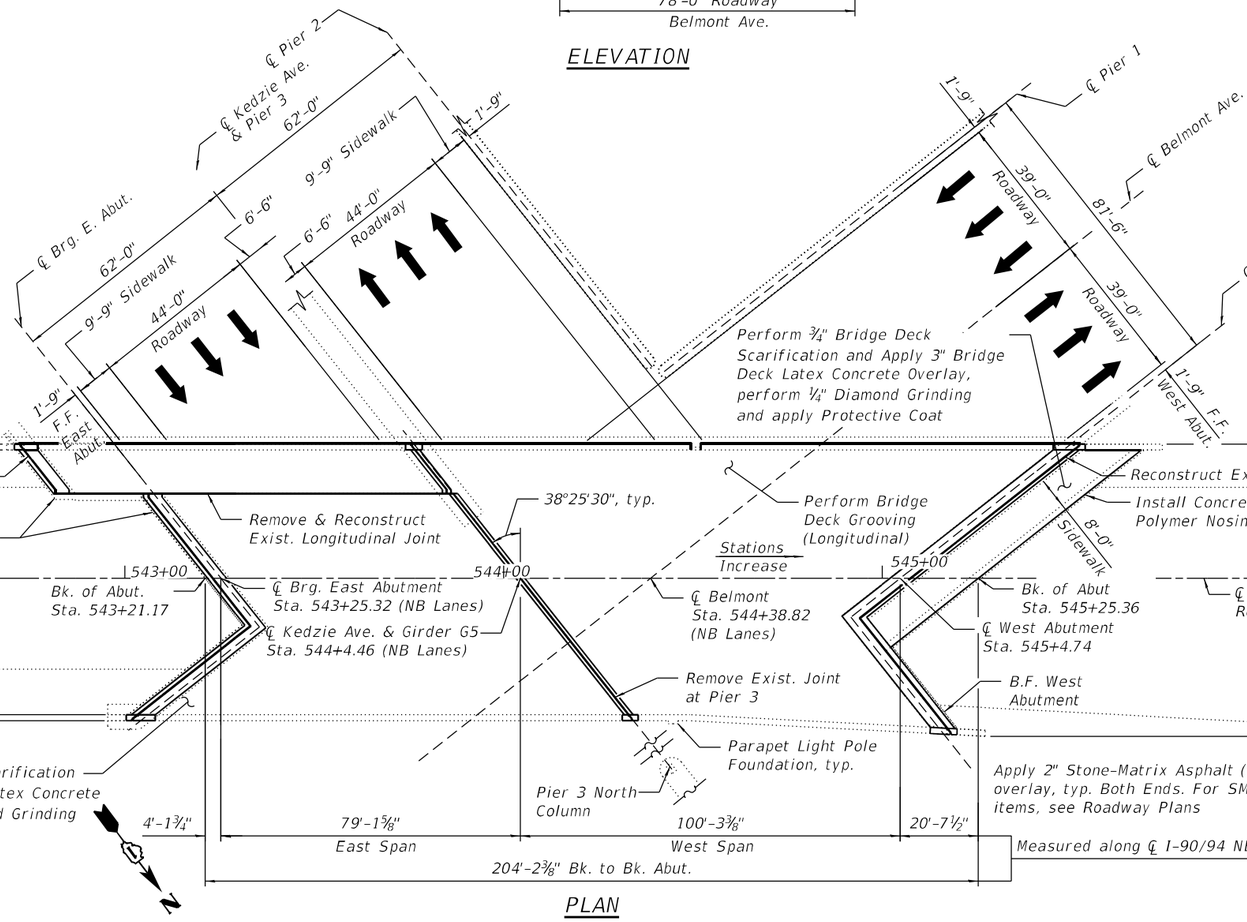
Existing Structure: The existing Structure No. 016-0122 NB 90/94 over Kedzie Ave. and Belmont Ave. was built in 1957 under Project I-02-20(36), Section 0807-409-HB. In 1993, repairs were done on the deck slab and joint under Contract 23742. In 1990, under Contract 80159, the existing substructure was repaired and modified to accommodate future deck and superstructure widening. In 1993, the superstructure was widened and the deck was replaced under Contract 82136. In 2013, under Contract 60V58, portions of the joints in the deck were removed and replaced with silicone joint sealer. The structure consists of a continuous multi-span steel girder and floorbeam superstructure supported by reinforced concrete piers and abutments founded on metal shell concrete piles with a 7½" concrete deck, out to out of deck varies from 73'-1" to 76'-7½", and 204'-2⅜" back to back of abutments.

Traffic will be maintained utilizing staged construction.

No salvage.



ELEVATION



PLAN

NOTE:

1. All stations are to ℄ I-90/94 NB Roadway and taken from existing plans.

LOADING

No Future Wearing Surface Allowed.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

RECONSTRUCTION 2013

2002 AASHTO Standard Specifications for Highway Bridges

RECONSTRUCTION 1993

1989 AASHTO Standard Specifications for Highway Bridges with 1990 & 1991 Interim Specifications

STATE OF ILLINOIS
MAEN A. FARHAT
081.008545
LICENSED STRUCTURAL ENGINEER

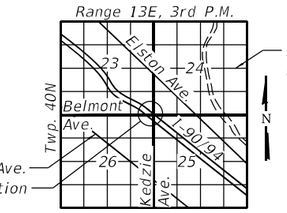
Signed:
Date Signed: 04/29/2024

MAEN A. FARHAT, SE
IL Lic. No.: 081-008545
Expires: 11/30/2024

LEGEND

B.F. Back Face

F.F. Front Face



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
NB I-90/94 OVER KEDZIE AVE. & BELMONT AVE.
F.A.I. ROUTE 90/94
SECTION 2020-005-BR
COOK COUNTY
STATION: 544+38.82 (BELMONT AVE.)
STATION: 544+4.46 (KEDZIE AVE.)
S.N. 016-0122 (NB)

USER NAME =	DESIGNED - PV	REVISED -	
	CHECKED - MAF	REVISED -	
PLOT SCALE =	DRAWN - PV	REVISED -	
PLOT DATE =	CHECKED - MAF	REVISED -	

Accurate GROUP, INC.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-01 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	740
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

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GENERAL NOTES

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

2. Plan dimensions and details relative to 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 indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.

4. All exposed concrete edges shall have a ¾"x45° chamfer, except where shown otherwise.

5. Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction cost is included with concrete removal. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system at the Contractor's expense.

6. For SMA overlay on Approach slab, see Roadway plans.

7. Protective Coat shall be applied to the top and inside face of parapets, reconstructed transverse Expansion Joints and to the surface of the new Latex Concrete overlay.

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

9. Prior to pouring the new concrete deck for Expansion Joints 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 can not be removed by grinding 1#4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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

11. Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.

12. 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.

13. 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".

14. 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.

15. The Contractor is responsible to protect the existing conduits embedded in the parapet and junction boxes during concrete removal and construction. Any damage to the existing conduits or junction boxes shall be repaired by the Contractor at no additional cost to the Department.

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 adjustment 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.

18. The contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by temporary chain-link-fence.

19. The intent of Temporary Construction Fence is to deny access of any unauthorized personnel under the bridge during construction. Actual fence installations may vary from what is shown on the plans. All fence Installations must be approved by the engineer.

20. Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft of the abutment backwall.

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

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

INDEX OF SHEETS

SCOPE OF WORK

1. Provide Protective Shield within limits indicated on the plans.

2. Scarify ¾" from the bridge deck slab.

3. Perform Deck Slab Repairs.

4. Remove and Reconstruct Expansion joints at East and West abutments and install new Preformed Joint Strip Seals.

5. Remove and Reconstruct Expansion joints at Pier 3 and Longitudinal Joint and install new Preformed Joint Strip Seals.

6. Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck and 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Pavement (See roadway plans).

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

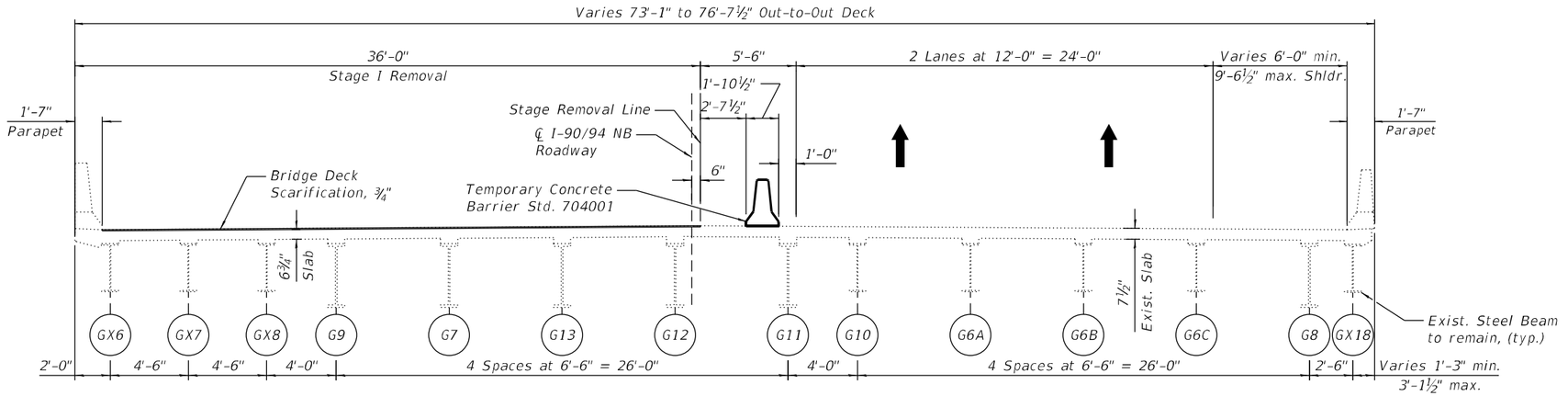
8. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.

9. Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse Expansion Joints and to the surface of Latex Concrete Overlay.

10. Perform structural concrete repairs to abutments and piers, as noted on plans.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	53.9	-	53.9
Protective Shield	Sq Yd	1,566	-	1,566
Concrete Superstructure	Cu Yd	60.3	-	60.3
Protective Coat	Sq Yd	1,944	-	1,944
Reinforcement Bars, Epoxy Coated	Pound	7,930	-	7,930
Bar Splicers	Each	44	-	44
Preformed Joint Seal, 1"	Foot	106	-	106
Preformed Joint Seal, 2½"	Foot	280	-	280
Preformed Joint Strip Seal	Foot	301	-	301
Concrete Sealer	Sq Ft	-	1,213	1,213
Epoxy Crack Injection	Foot	-	26	26
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,054	-	1,054
Protect and Maintain Existing Underpass Luminaire	L SUM	-	0.04	0.04
Approach Slab Repair (Full Depth)	Sq Yd	39	-	39
Approach Slab Repair (Partial Depth)	Sq Yd	39	-	39
Bridge Deck Latex Concrete Overlay, 3"	Sq Yd	1,593	-	1,593
Bridge Deck Scarification ¾"	Sq Yd	1,593	-	1,593
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq Ft	-	351	351
Structural Repair of Concrete (Depth Greater than 5")	Sq Ft	-	12	12
Deck Slab Repair (Full Depth, Type I)	Sq Yd	2.8	-	2.8
Deck Slab Repair (Full Depth, Type II)	Sq Yd	70	-	70
Diamond Grinding (Bridge Section)	Sq Yd	1,697	-	1,697
Polymer Concrete	Cu Ft	4.1	-	4.1
Temporary Shoring and Cribbing	Each	-	4	4
Locks for Gates	Each	-	1	1

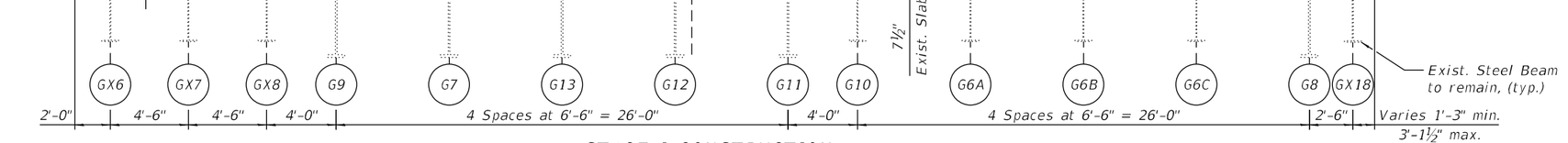


STAGE I REMOVAL

(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 ¾" 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 East and West Abutments and Pier 3/℄ Girder G5.
5. Remove portions of bridge concrete deck slab at adjacent to Longitudinal joint.
6. Perform temporary shoring and cribbing at location shown on the plans within the limits of stage I removal.

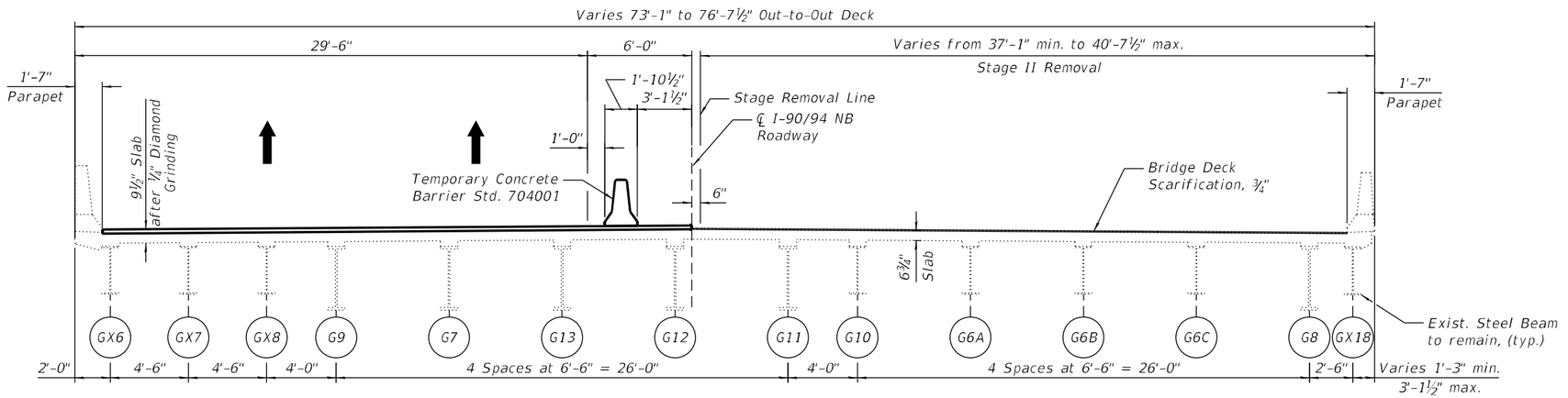


STAGE I CONSTRUCTION

(Looking North)

STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct Transverse and Longitudinal expansion joints and install new Preformed Joint Strip Seals within the limits of Stage I Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of west parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.



STAGE II REMOVAL

(Looking North)

STAGE II REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. Perform ¾" 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 East and West Abutments and Pier 3/℄ Girder G5.
5. Perform temporary shoring and cribbing at locations shown on the plans within the limits of Stage II removal.

*Match Existing Cross-Slopes

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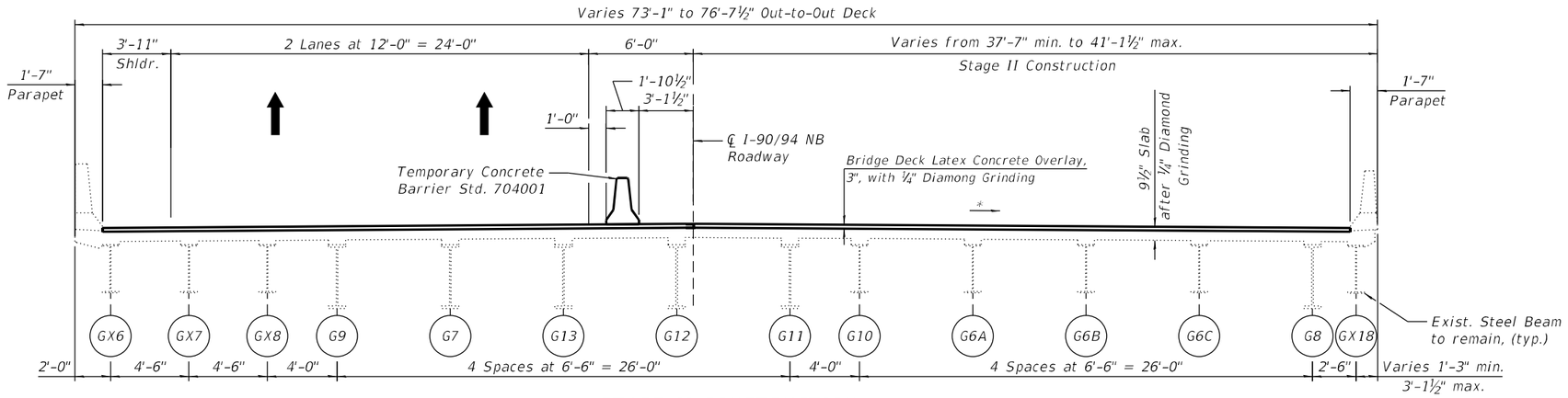
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION (SHEET 1 OF 2)
STRUCTURE NUMBER 016-0122 (NB)
SHEET S14-03 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	742
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



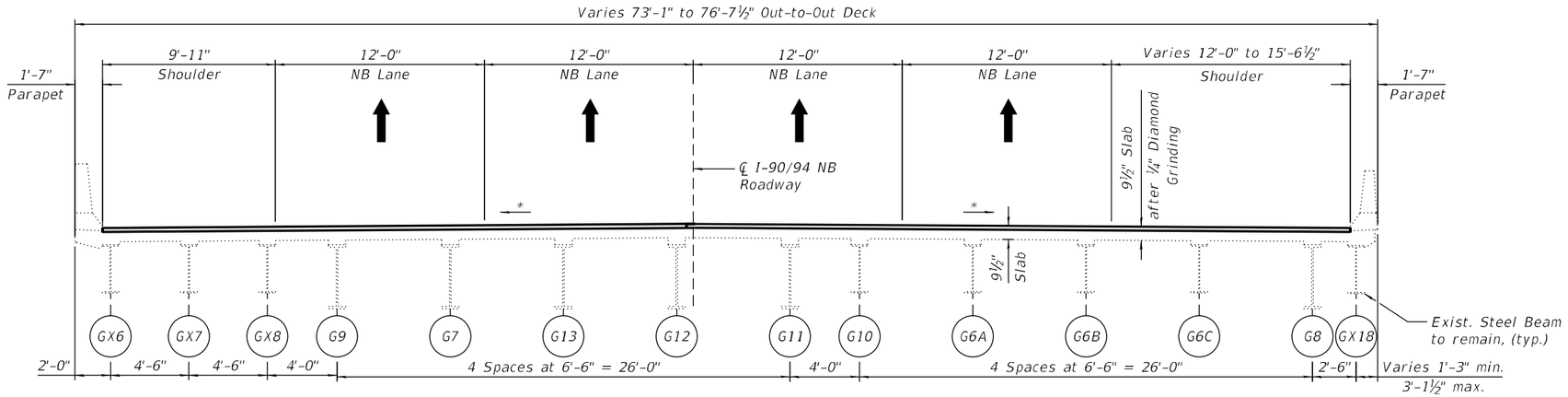
STAGE II CONSTRUCTION

(Looking West)

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. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of east parapet, reconstructed abutment expansion joints areas, and to the surfaces of the new overlay.

*Match Existing Cross-Slopes



FINAL CROSS SECTION

(Looking West)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION (SHEET 2 OF 2)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-04 OF S14-22 SHEETS

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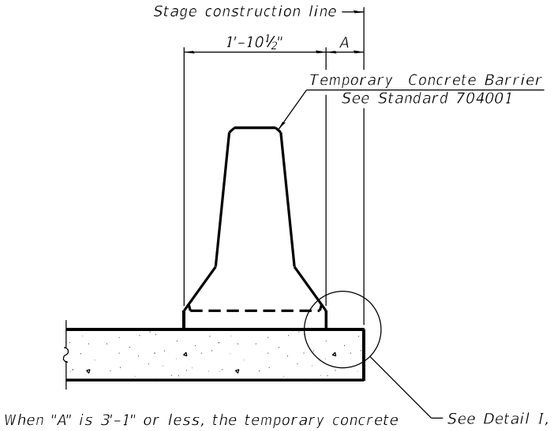
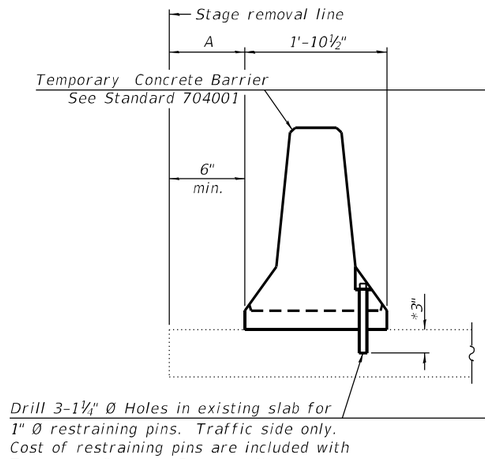
		ILLINOIS	FED. AID PROJECT	



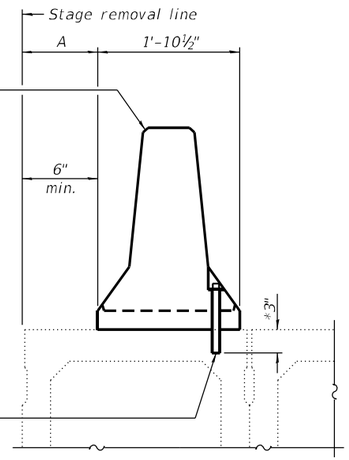
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



Drill 3-1¼" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

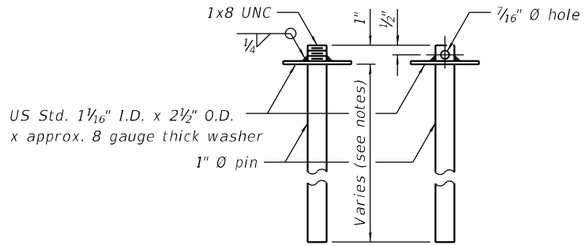
EXISTING SLAB



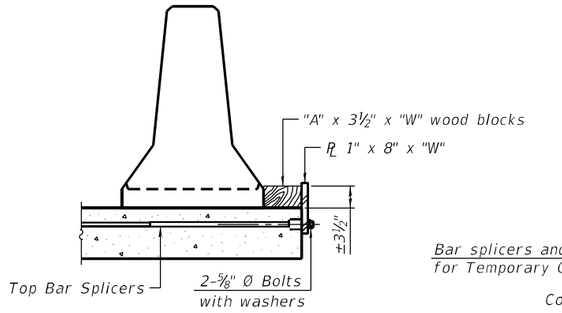
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

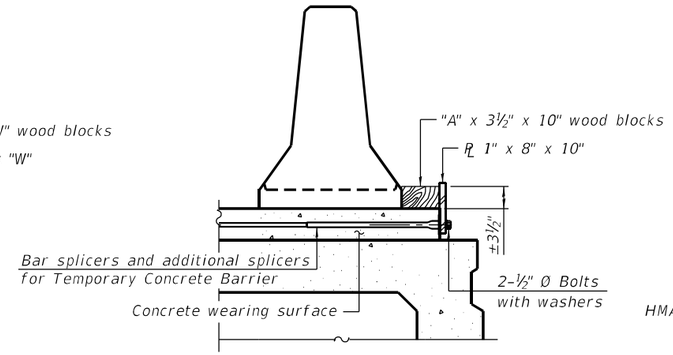
SECTIONS THRU SLAB OR DECK BEAM



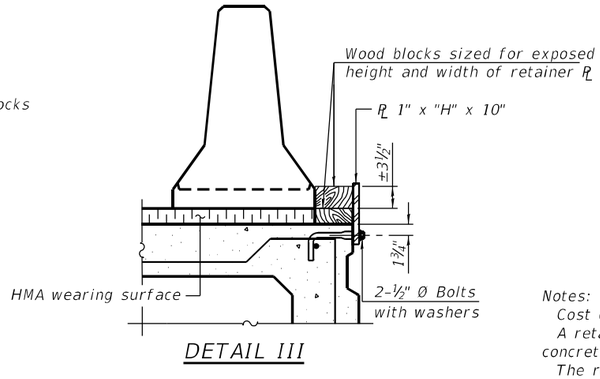
RESTRAINING PIN



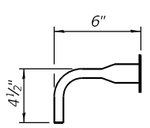
DETAIL I



DETAIL II



DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate ℄ of each temporary concrete barrier.

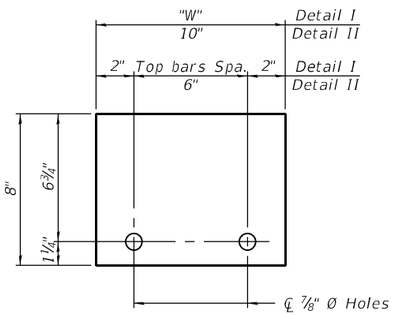
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.

When the 'A' dimension is less than 1½", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

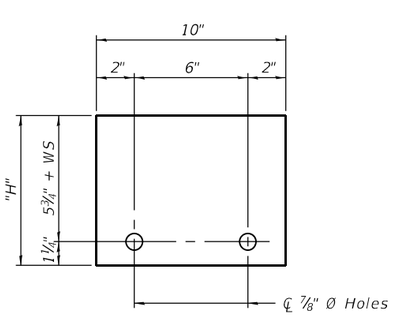
Detail I - Installation for a new bridge deck or bridge slab.

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

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



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



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

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

10-12-2021

Accurate GROUP, INC.	USER NAME =	DESIGNED - IH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER STRUCTURE NUMBER 016-0122 (NB)
		CHECKED - MAF	REVISED -		
	PLOT SCALE =	DRAWN - IH	REVISED -		SHEET S14-05 OF S14-22 SHEETS
	PLOT DATE =	CHECKED - MAF	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	744
		CONTRACT NO.		62K73
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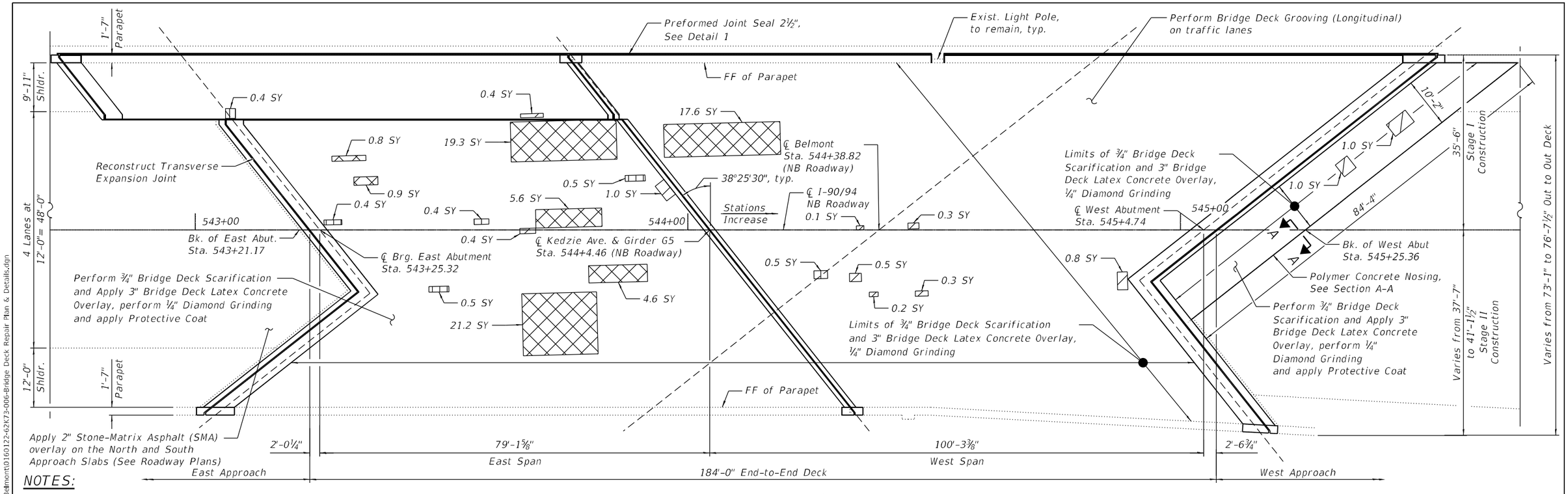
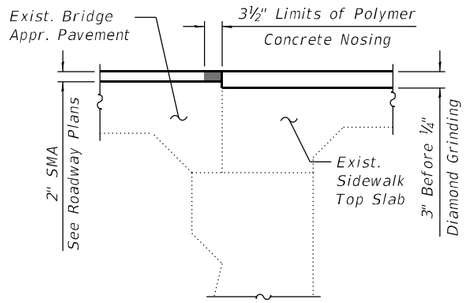


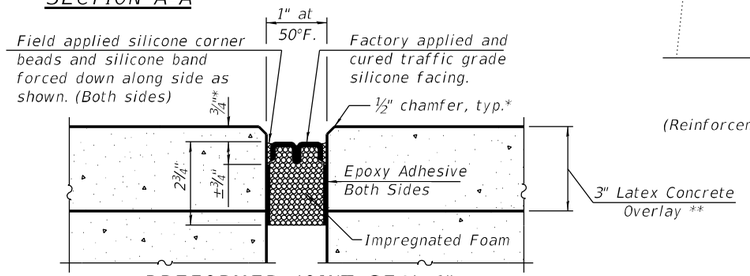
NOTES:

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 S14-04.
3. For East and West transverse joint removal and reconstruction, see Sheets S14-07 thru S14-14. For Pier 3 transverse joint and longitudinal joint removal and reconstruction, see Sheets S14-15 thru S14-16.
4. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
5. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.
6. Protective Coat shall be applied to top and inside face of parapets, median, the reconstructed transverse expansion joint areas and top of Latex Concrete Overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
9. Cost of removal of existing silicone joint sealer at East Span longitudinal joint included with Preformed Joint Seal 1".
10. Approach Slab Repair (Full Depth) and Approach Slab Repair (Partial Depth) quantities have been estimated (based on a nominal 3% of bridge approach area) 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.

PLAN

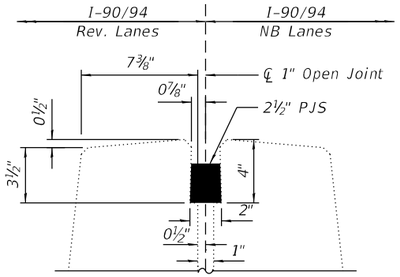


SECTION A-A



PREFORMED JOINT SEAL 1"

**Before ¼" diamond grinding



DETAIL 1

(Reinforcement not shown for clarity)

LEGEND

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

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	1,817
Preformed Joint Seal 2½"	Foot	280
Preformed Joint Seal, 1"	Foot	106
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,054
Approach Slab Repair (Full Depth)	Sq Yd	39
Approach Slab Repair (Partial Depth)	Sq Yd	39
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,593
Bridge Deck Scarification ¾"	Sq Yd	1,593
Deck Slab Repair (Full Depth, Type I)	Sq Yd	2.8
Deck Slab Repair (Full Depth, Type II)	Sq Yd	70
Diamond Grinding (Bridge Section)	Sq Yd	1,697
Polymer Concrete	Cu Ft	4.1

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	CHECKED - MAF	REVISED -	
PLOT SCALE =	DRAWN - PV	REVISED -	
PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-06 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	745
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: Q:\Engineering\LiveProjects\20003_IDOT DUR HBMWO 8 - 62K73 - Str\CADD\CADD Sheets\Structural\016012-62K73_I90 over Kedzie and Belmont\016012-62K73-006-Bridge Deck Repair Plan & Details.dgn

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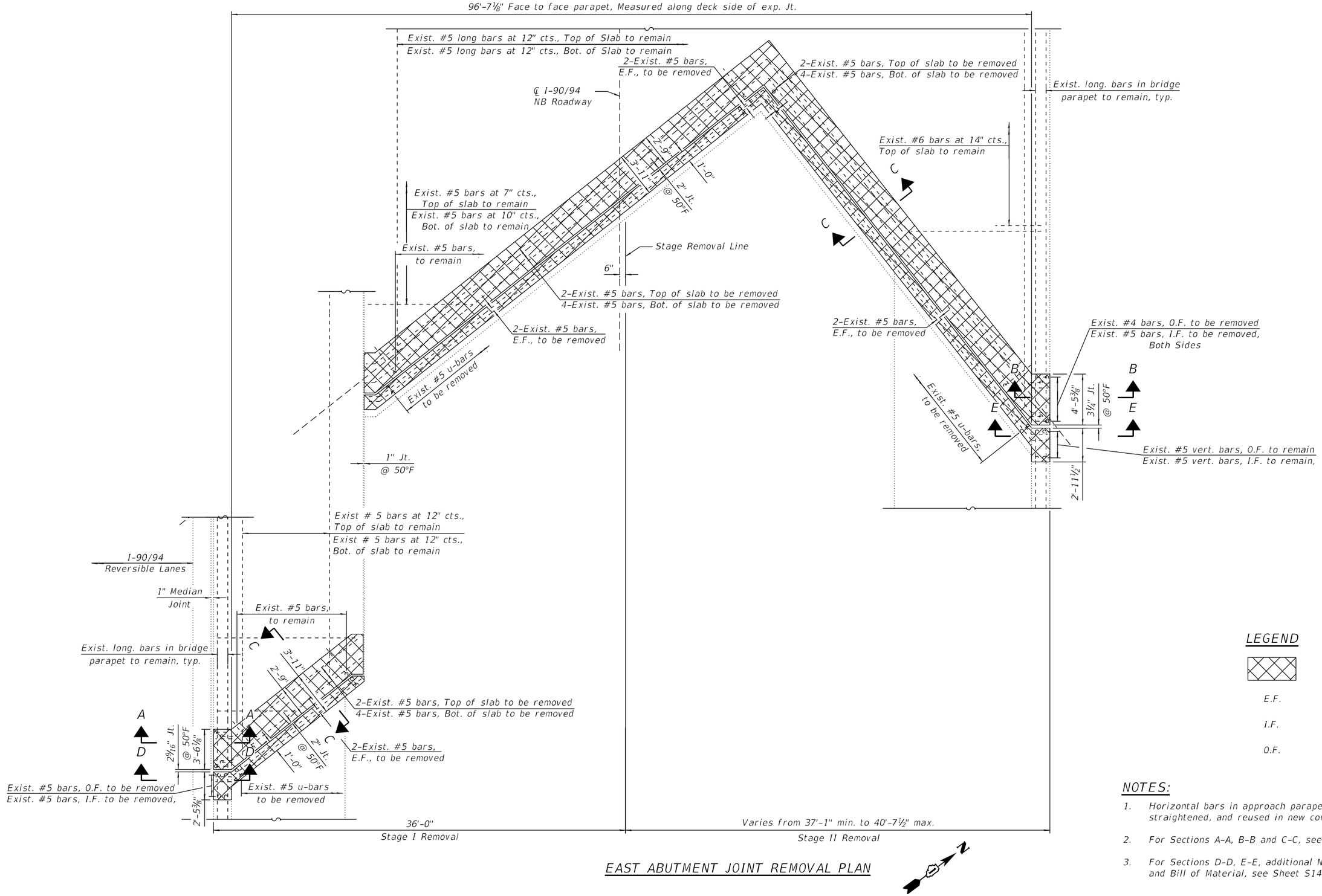

EAST ABUTMENT JOINT REMOVAL PLAN

LEGEND

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

NOTES:

1. Horizontal bars in approach parapets shall be cleaned, straightened, and reused in new construction.
2. For Sections A-A, B-B and C-C, see Sheet S14-09.
3. For Sections D-D, E-E, additional Notes, Bar diagrams and Bill of Material, see Sheet S14-10.

MODEL: Default
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PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 1 OF 4)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-07 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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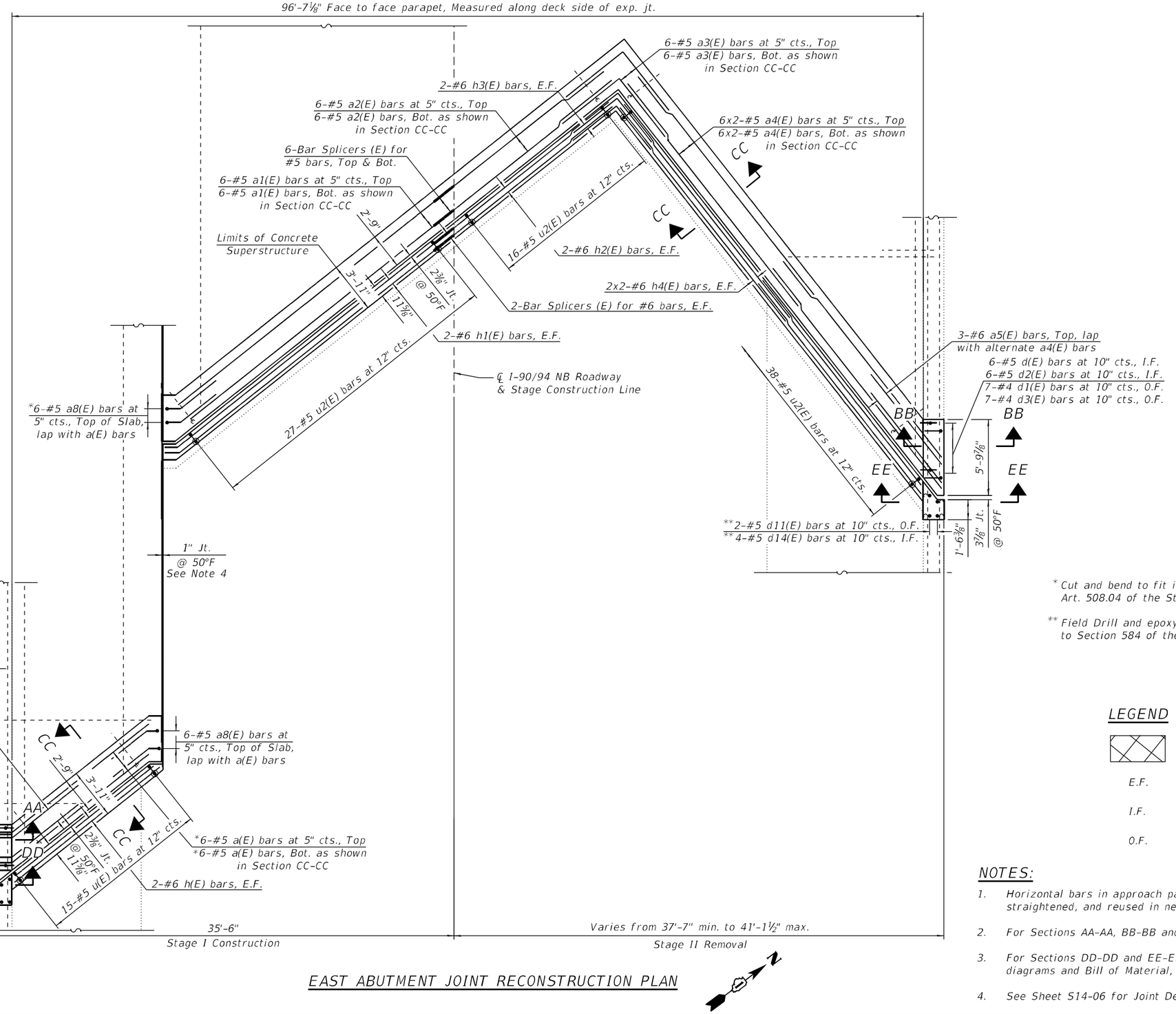
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



EAST ABUTMENT JOINT RECONSTRUCTION PLAN

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

** Field Drill and epoxy grout in place according to Section 584 of the Standard Specifications.

LEGEND

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

NOTES:

1. Horizontal bars in approach parapets shall be cleaned, straightened, and reused in new construction.
2. For Sections AA-AA, BB-BB and CC-CC, see Sheet S14-09.
3. For Sections DD-DD and EE-EE, additional Notes, Bar diagrams and Bill of Material, see Sheet S14-10.
4. See Sheet S14-06 for Joint Details

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PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 2 OF 4)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-08 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	747
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	

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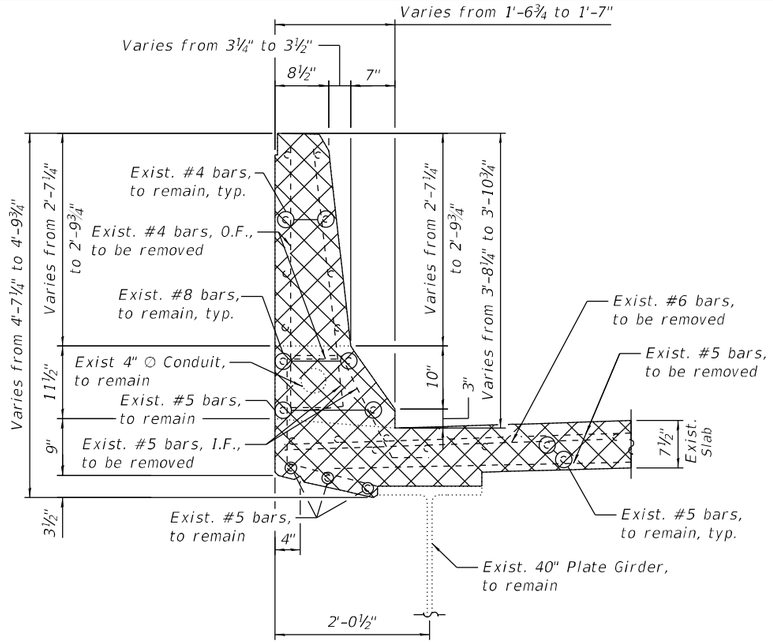
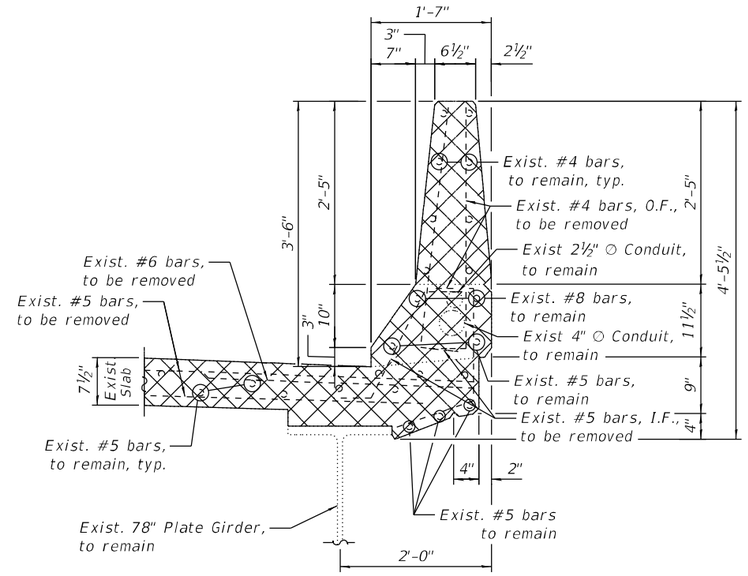
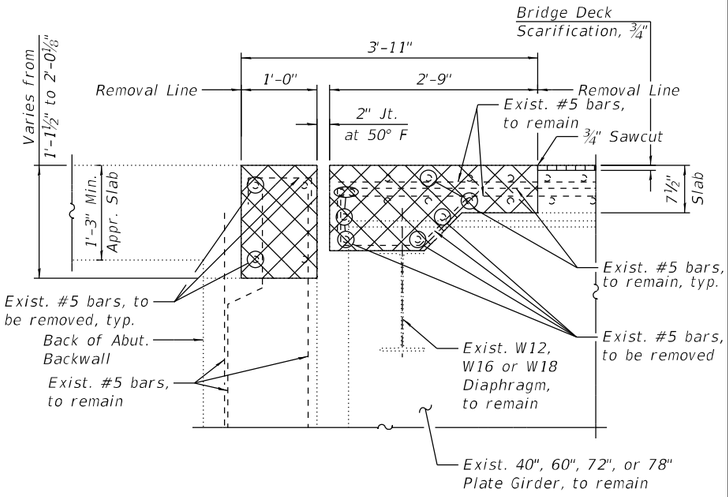


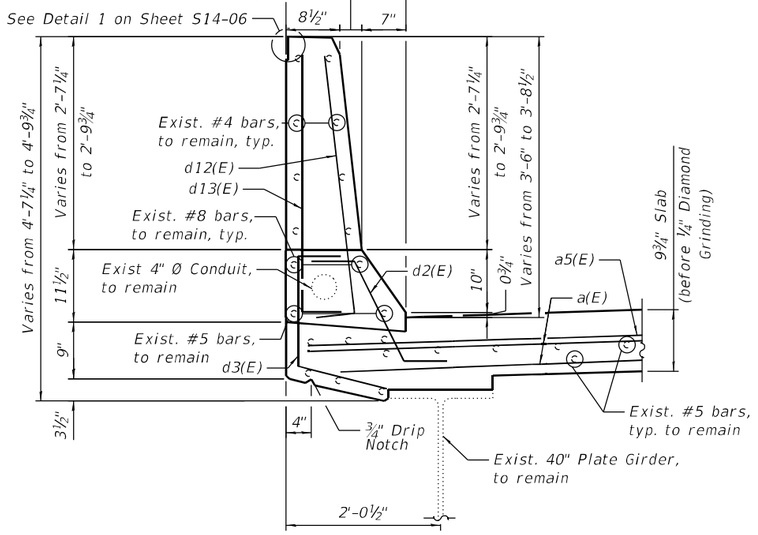
SECTION A-A



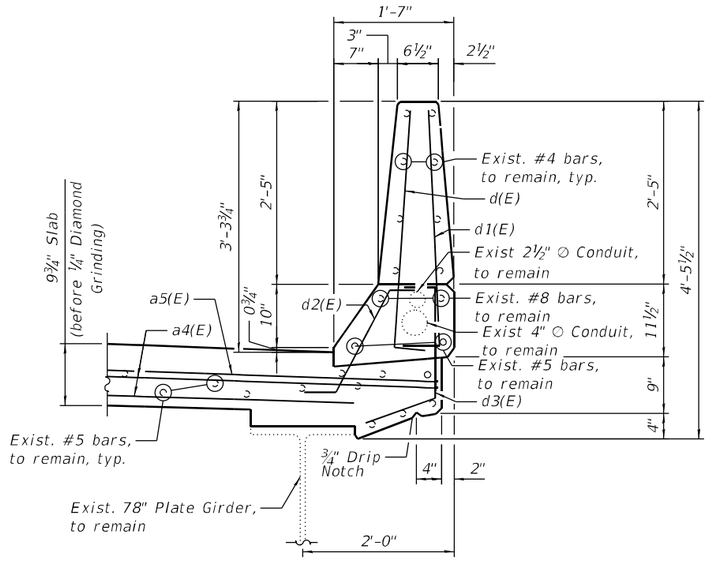
SECTION B-B



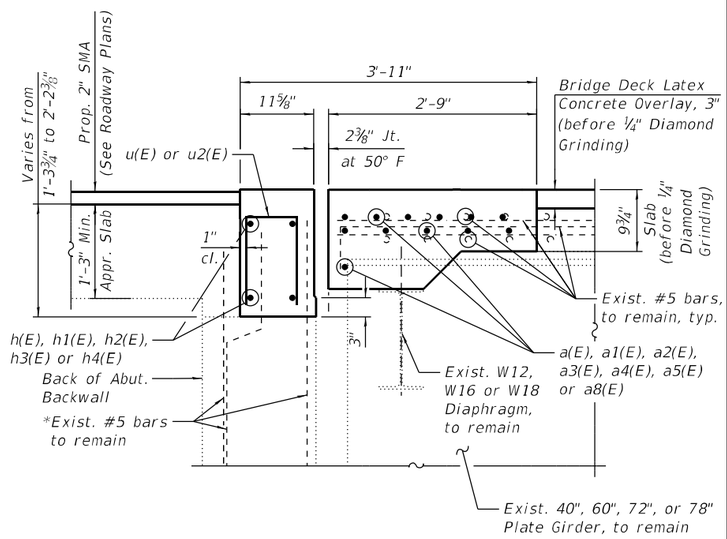
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

*Bend F.F. bars in the field as needed to fit.

NOTES:

1. For Legend, see Sheet S14-08.
2. For Bar Diagrams, additional Notes, and Bill of Material, see Sheet S14-10.

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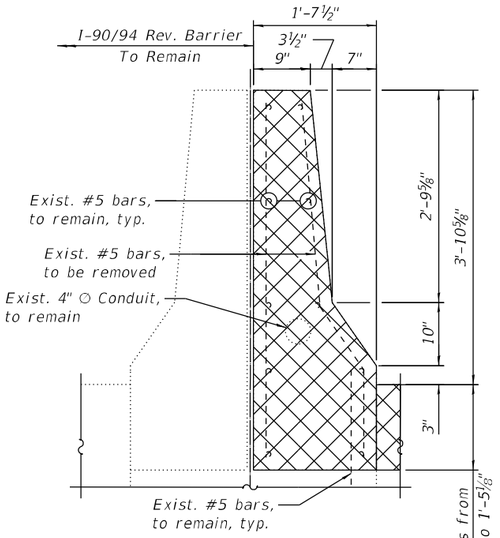
PLOT DATE =	CHECKED - MAF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

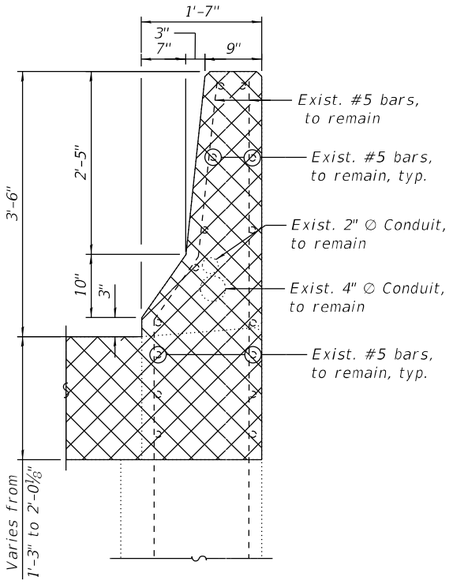
E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 3 OF 4)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-09 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	748
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



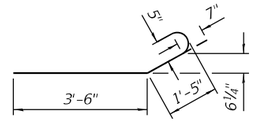
SECTION D-D



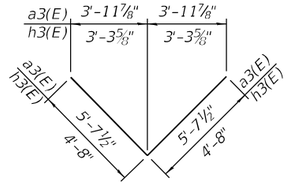
SECTION E-E

MIN BAR LAP

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



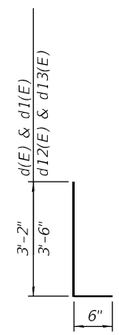
BAR a8(E)



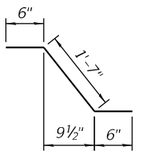
BARS a3(E) & h3(E)

BILL OF MATERIAL

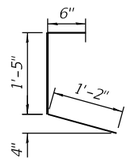
Bar	No.	Size	Length	Shape
a(E)	12	#5	15'-10"	
a1(E)	12	#5	28'-10"	
a2(E)	12	#5	16'-1"	
a3(E)	12	#5	11'-3"	
a4(E)	24	#5	21'-4"	
a5(E)	6	#6	6'-6"	
a8(E)	12	#5	4'-11"	
d(E)	6	#5	3'-8"	
d1(E)	7	#4	3'-8"	
d2(E)	10	#5	2'-7"	
d3(E)	12	#4	3'-1"	
d6(E)	2	#5	2'-6"	
d9(E)	3	#5	5'-0"	
d10(E)	2	#5	4'-10"	
d11(E)	2	#5	5'-11"	
d12(E)	4	#5	4'-0"	
d13(E)	5	#4	4'-0"	
d14(E)	4	#5	6'-0"	
h(E)	4	#6	15'-9"	
h1(E)	4	#6	28'-4"	
h2(E)	4	#6	16'-8"	
h3(E)	4	#6	9'-9"	
h4(E)	8	#6	21'-7"	
u(E)	15	#5	2'-10"	
u2(E)	81	#5	3'-2"	
Concrete Removal			Cu Yd	20.7
Concrete Superstructure			Cu Yd	23.0
Protective Coat			Sq Yd	47
Reinforcement Bars, Epoxy Coated			Pound	2,750



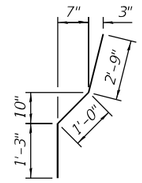
BAR d(E) ,d1(E), d12(E) & d13(E)



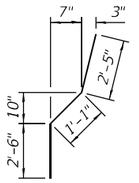
BAR d2(E)



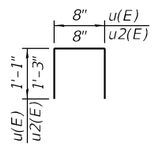
BAR d3(E)



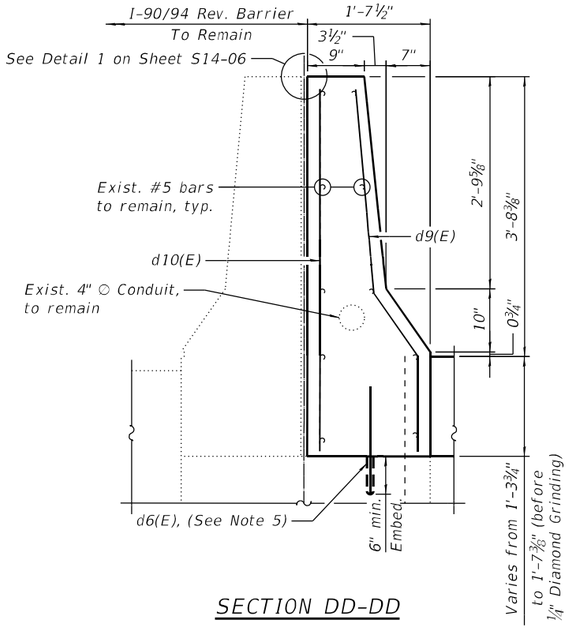
BAR d9(E)



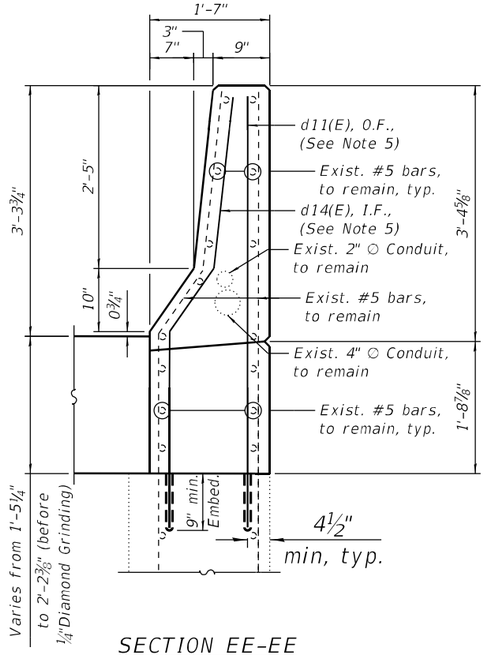
BAR d14(E)



BARS u(E) & u2(E)



SECTION DD-DD



SECTION EE-EE

NOTES:

1. For Legend, see Sheet S14-08.
2. For Preformed Joint Strip Seal Details, see Sheet S14-17.
3. For Bar Splicer Assembly details, see Sheet S14-22.
4. Removal and disposal of the Exist. Expansion Joints will not be paid for separately, but will be included in the cost of Concrete Removal.
5. Epoxy grout d6(E), d11(E) and d14(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

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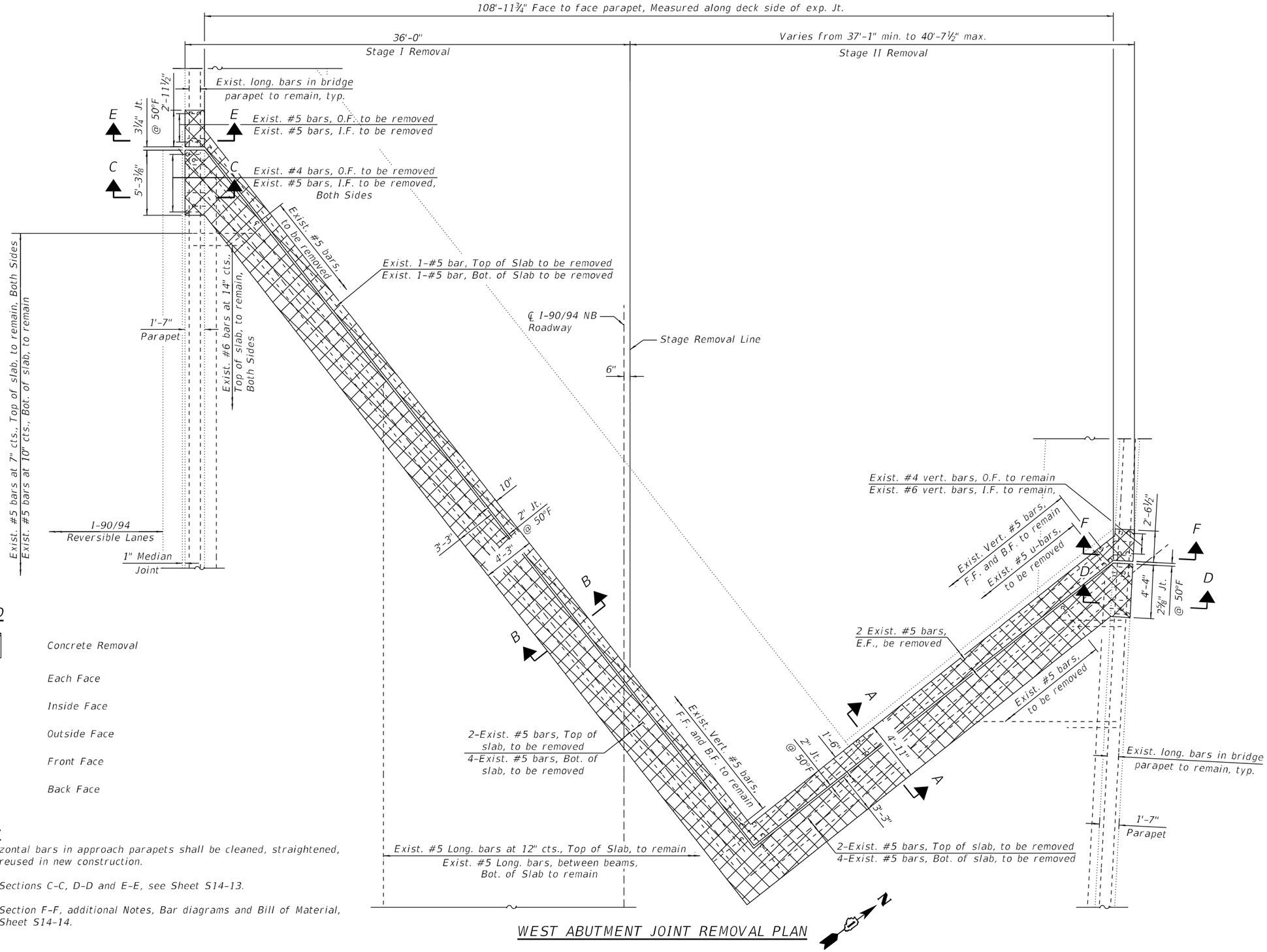
PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 4 OF 4)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-10 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	749
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



LEGEND

	Concrete Removal
E.F.	Each Face
I.F.	Inside Face
O.F.	Outside Face
F.F.	Front Face
B.F.	Back Face

NOTES:

1. Horizontal bars in approach parapets shall be cleaned, straightened, and reused in new construction.
2. For Sections C-C, D-D and E-E, see Sheet S14-13.
3. For Section F-F, additional Notes, Bar diagrams and Bill of Material, see Sheet S14-14.

WEST ABUTMENT JOINT REMOVAL PLAN

Accurate GROUP, INC.

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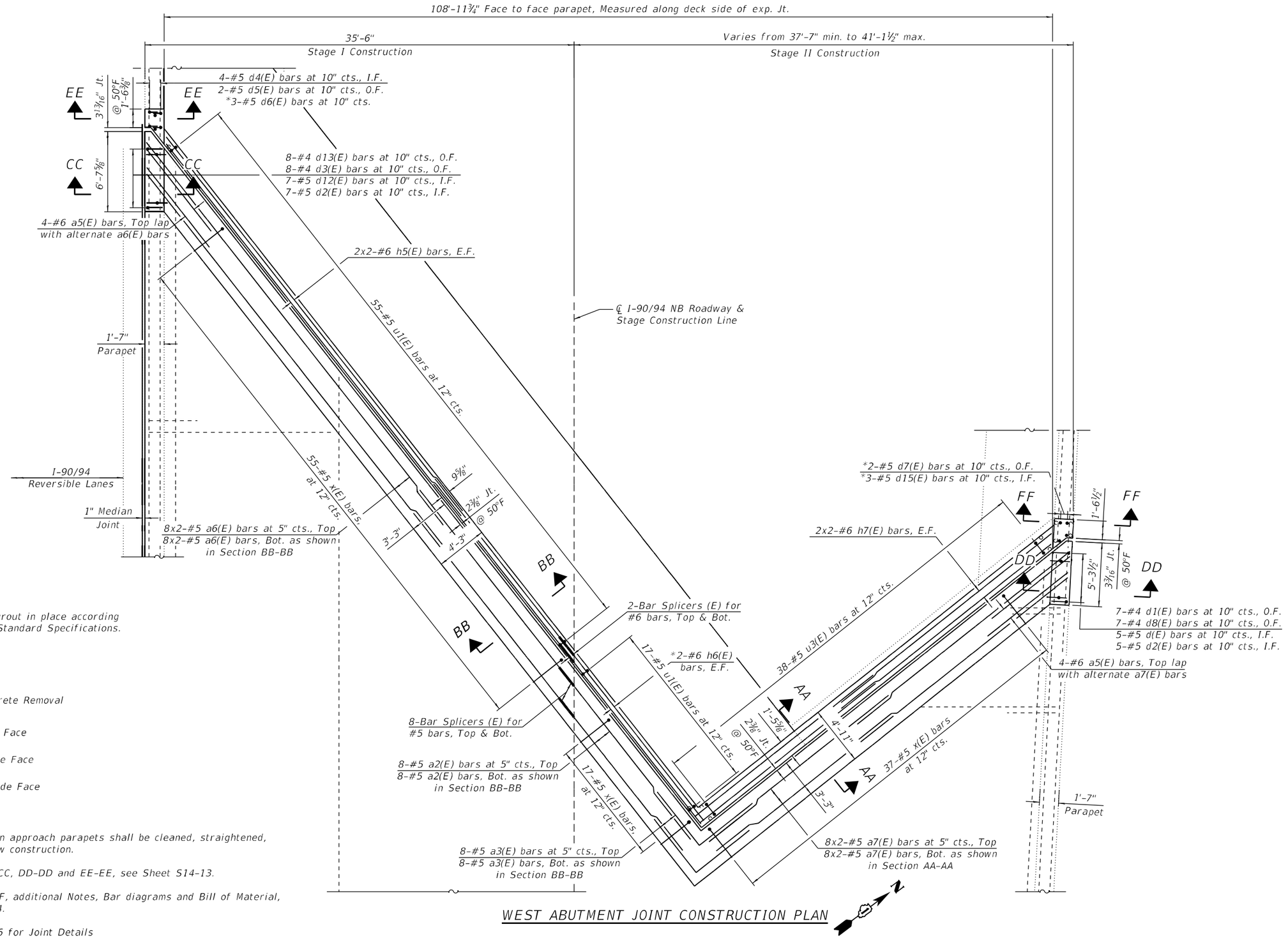
PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 1 OF 4)
STRUCTURE NUMBER 016-0122 (NB)
SHEET S14-11 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	750
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



*Field Drill and epoxy grout in place according to Section 584 of the Standard Specifications.

LEGEND

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

NOTES:

1. Horizontal bars in approach parapets shall be cleaned, straightened, and reused in new construction.
2. For Sections CC-CC, DD-DD and EE-EE, see Sheet S14-13.
3. For Section FF-FF, additional Notes, Bar diagrams and Bill of Material, see Sheet S14-14.
4. See Sheet S14-06 for Joint Details

WEST ABUTMENT JOINT CONSTRUCTION PLAN

Accurate GROUP, INC.

USER NAME =	DESIGNED - IH	REVISED -
	CHECKED - MAF	REVISED -
PLOT SCALE =	DRAWN - IH	REVISED -
PLOT DATE =	CHECKED - MAF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 2 OF 4)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-12 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	751
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

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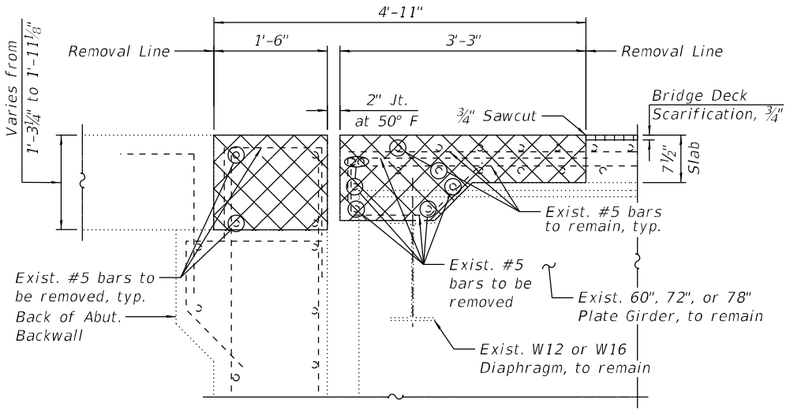
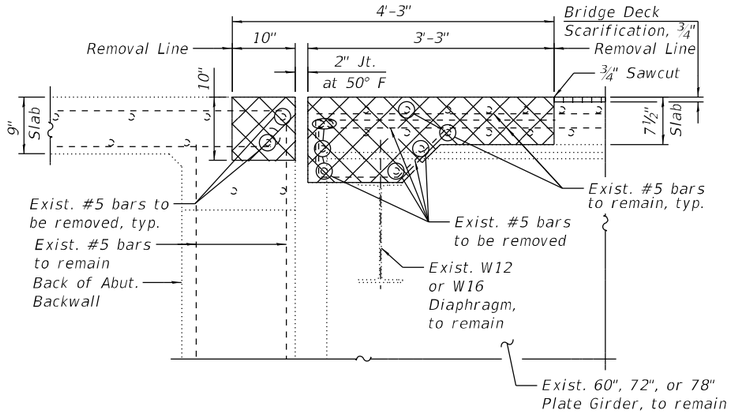
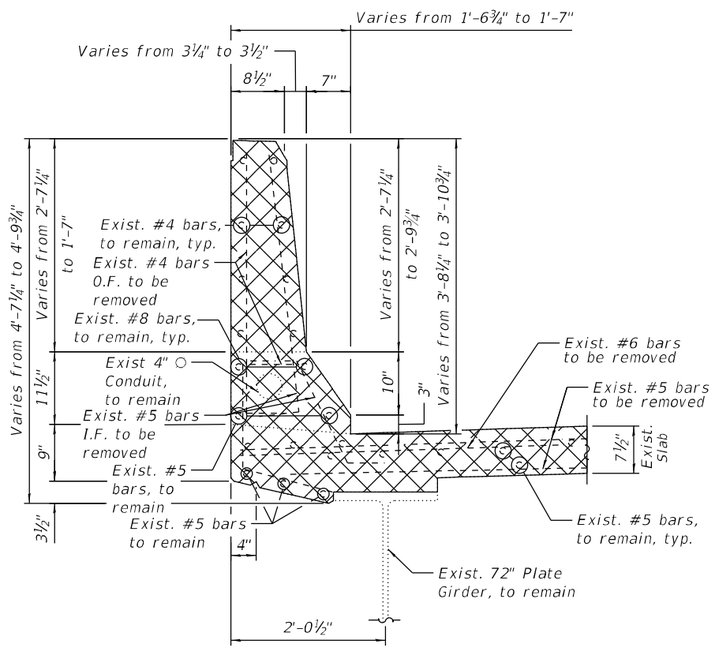


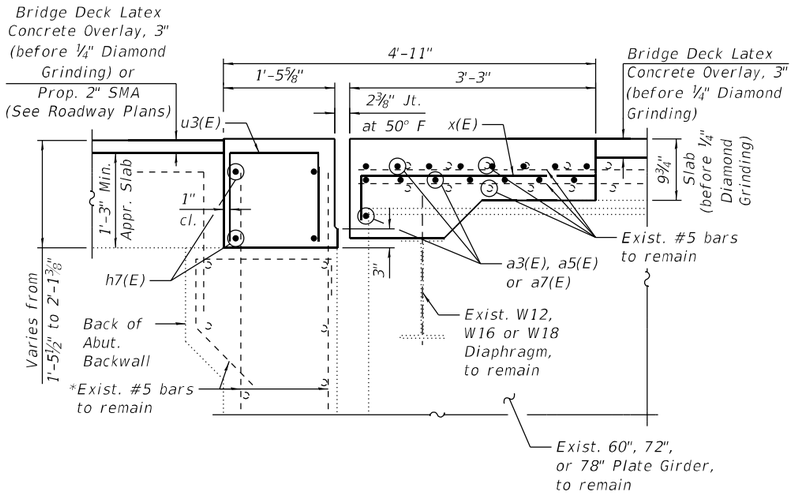
SECTION A-A



SECTION B-B

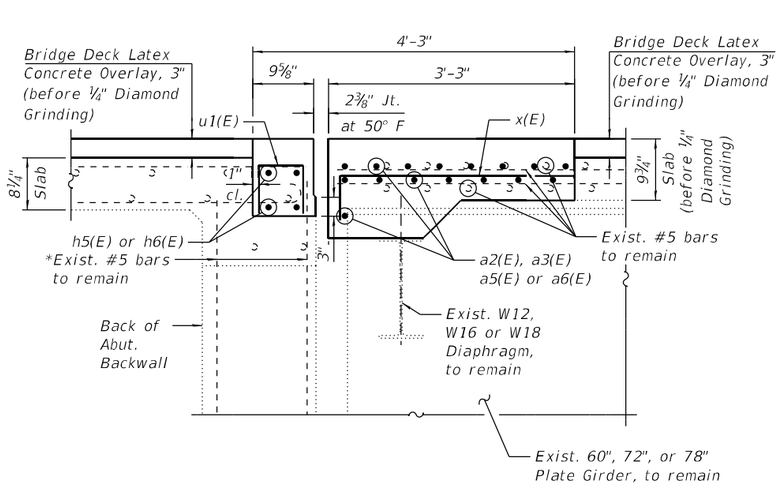


SECTION C-C



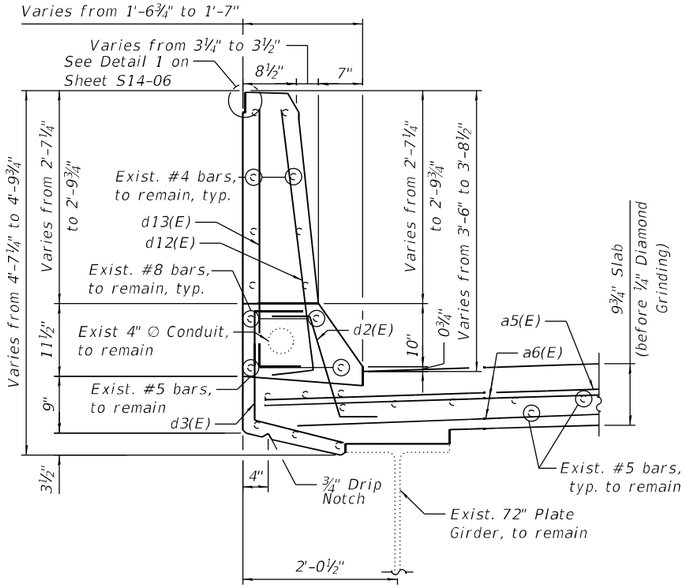
SECTION AA-AA

*Bend F.F. bars in the field as needed to fit.



SECTION BB-BB

*Bend F.F. bars in the field as needed to fit.



SECTION CC-CC

NOTES:

1. For Legend, see Sheet S14-11.
2. For Bar Diagrams, additional Notes, and Bill of Material, see Sheet S14-14.

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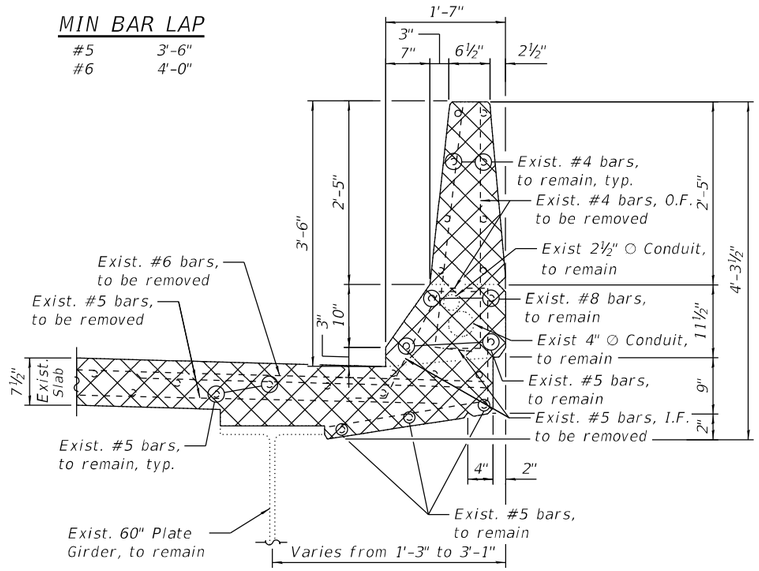
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 3 OF 4)
STRUCTURE NUMBER 016-0122 (NB)
SHEET S14-13 OF S14-22 SHEETS

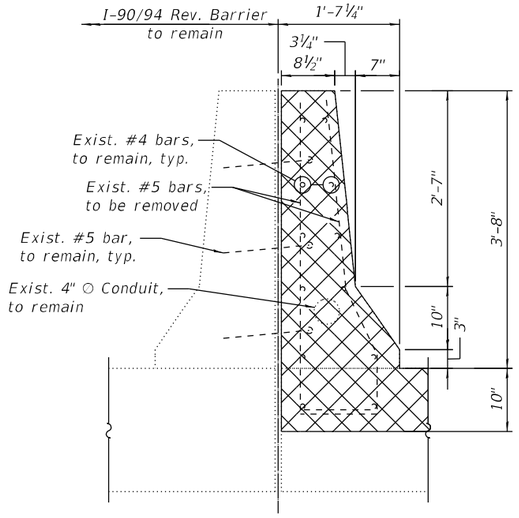
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	752
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

MIN BAR LAP

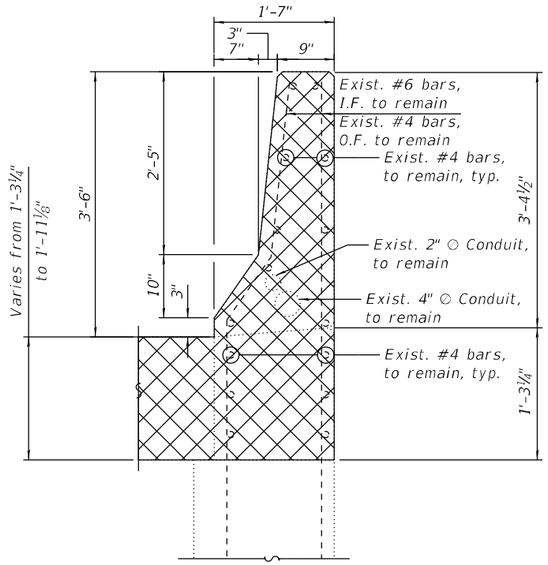
#5	3'-6"
#6	4'-0"



SECTION D-D



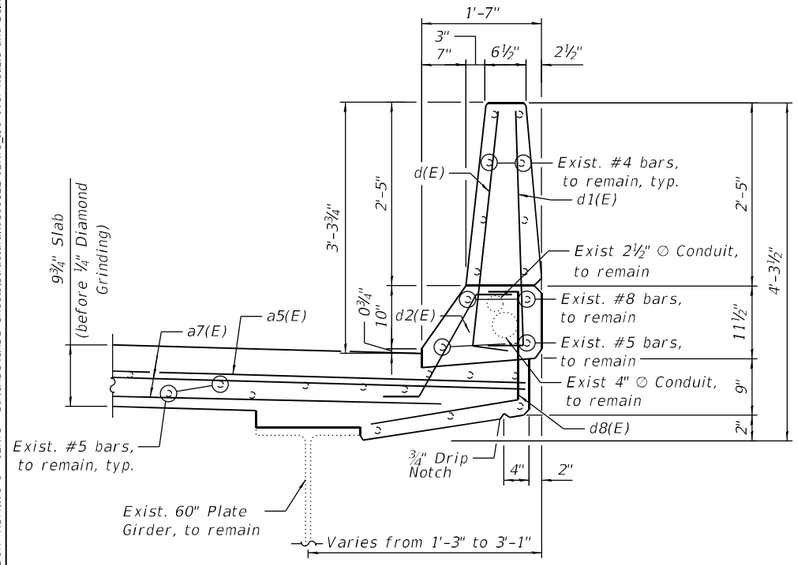
SECTION E-E



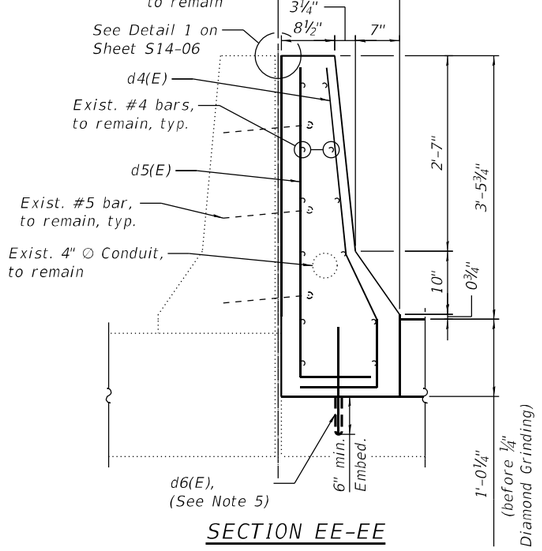
SECTION F-F

BILL OF MATERIAL

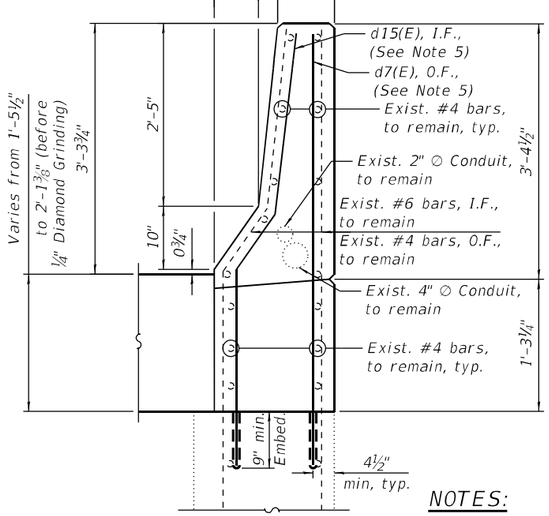
Bar	No.	Size	Length	Shape
a2(E)	16	#5	16'-1"	
a3(E)	16	#5	11'-3"	
a5(E)	8	#6	6'-6"	
a6(E)	32	#5	29'-11"	
a7(E)	32	#5	21'-1"	
d(E)	5	#5	3'-8"	
d1(E)	7	#4	3'-8"	
d2(E)	12	#5	2'-7"	
d3(E)	8	#4	3'-1"	
d4(E)	4	#5	5'-8"	
d5(E)	2	#5	5'-4"	
d6(E)	3	#5	2'-6"	
d7(E)	2	#5	5'-3"	
d8(E)	7	#4	4'-1"	
d12(E)	7	#5	4'-0"	
d13(E)	8	#4	4'-0"	
d15(E)	3	#5	5'-4"	
h5(E)	8	#6	29'-5"	
h6(E)	4	#6	17'-11"	
h7(E)	8	#6	18'-11"	
u1(E)	72	#5	1'-6"	
u3(E)	38	#5	4'-1"	
x(E)	109	#5	3'-7"	
Concrete Removal			Cu Yd	28.4
Concrete Superstructure			Cu Yd	31.5
Protective Coat			Sq Yd	59
Reinforcement Bars, Epoxy Coated			Pound	3,840



SECTION DD-DD



SECTION EE-EE



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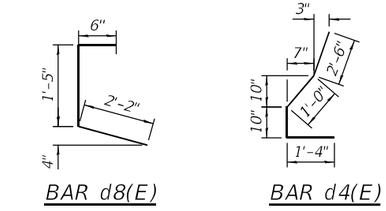
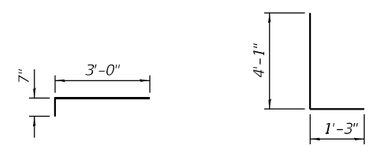


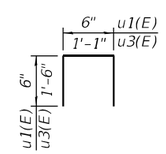
BAR d8(E)

BAR d4(E)

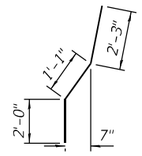


BAR x(E)

BAR d5(E)



BARS u1(E) & u3(E)



BAR d15(E)

NOTES:

1. For Legend, see Sheet S14-11.
2. For Preformed Joint Strip Seal Details, see Sheet S14-17.
3. For Bar Splicer Assembly details, see Sheet S14-22.
4. Removal and disposal of the Exist. Expansion Joints will not be paid for separately but will be included in the cost of Concrete Removal.
5. Epoxy grout d6(E), d7(E) and d15(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

Accurate GROUP, INC.

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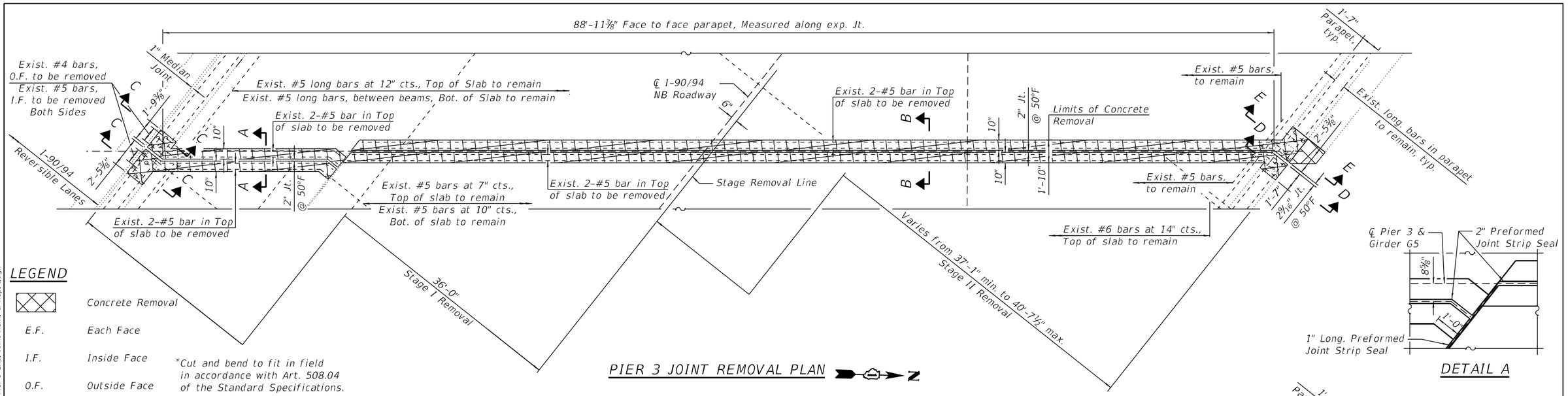
PLOT DATE =		CHECKED - MAF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHEET 4 OF 4)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-14 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	753
		CONTRACT NO.		62K73
	ILLINOIS FED. AID PROJECT			



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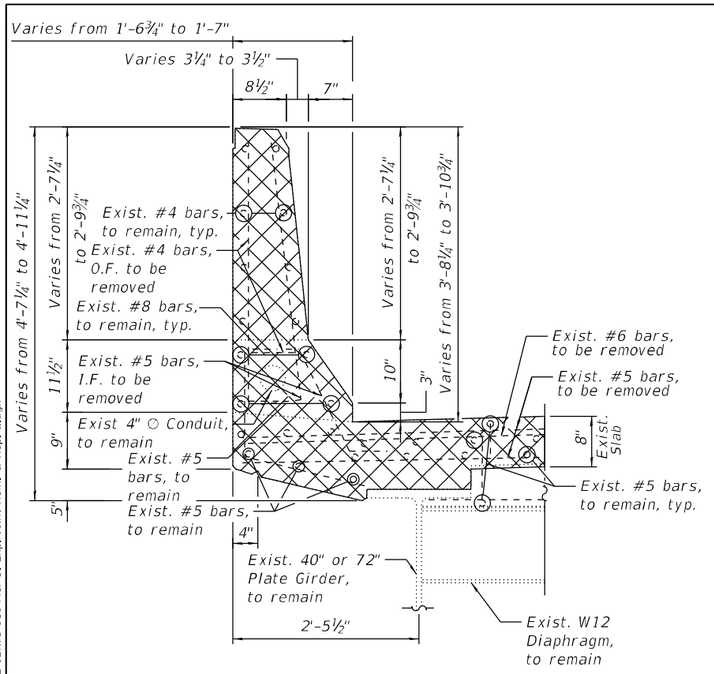
PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

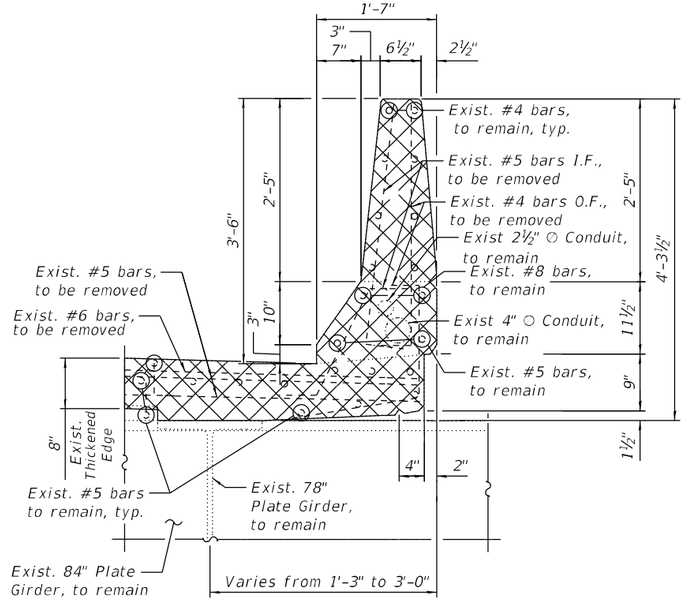
PIER 3 JOINT REMOVAL & REPLACEMENT (SHEET 1 OF 2)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-15 OF S14-22 SHEETS

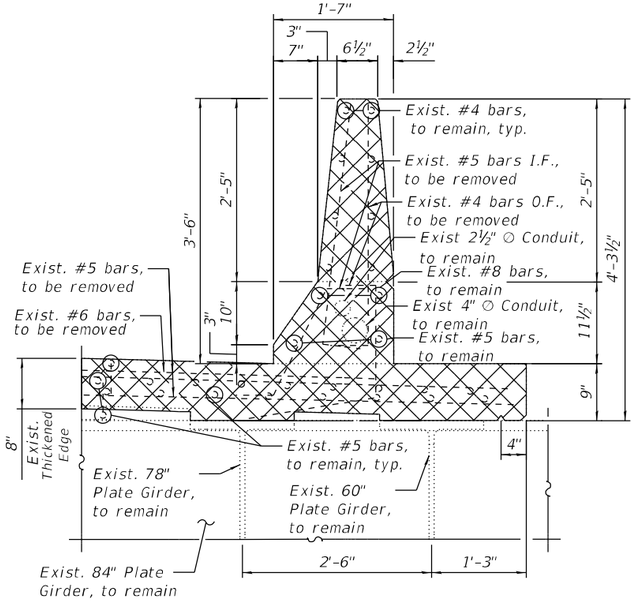
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	754
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		



SECTION C-C



SECTION D-D



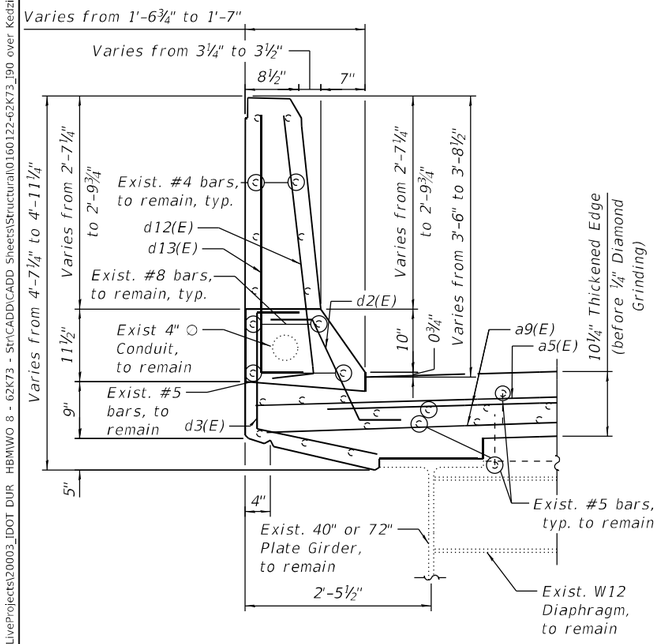
SECTION E-E

BILL OF MATERIAL

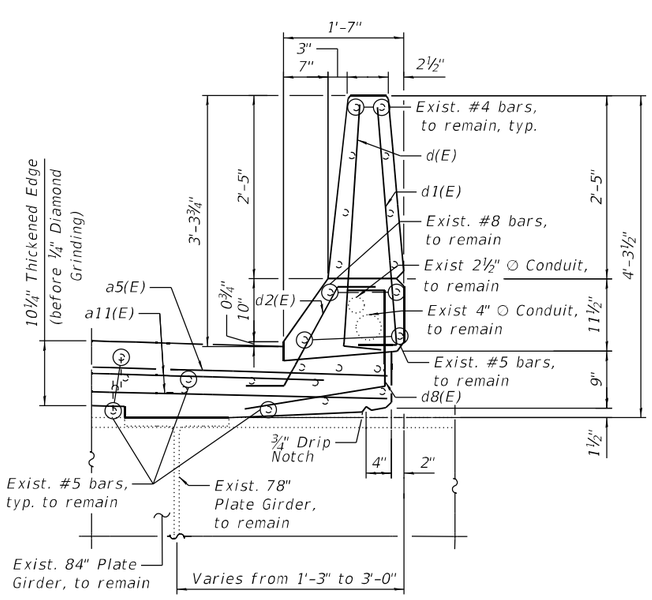
Bar	No.	Size	Length	Shape
a5(E)	8	#6	8'-1"	—
a9(E)	8	#5	15'-7"	—
a10(E)	8	#5	28'-3"	—
a11(E)	16	#5	28'-9"	—
d(E)	5	#5	3'-8"	L
d1(E)	5	#4	3'-8"	L
d2(E)	10	#5	2'-7"	⟍
d3(E)	5	#4	3'-1"	⊂
d8(E)	5	#4	4'-1"	⊂
d12(E)	5	#5	4'-0"	L
d13(E)	5	#4	4'-0"	L
u1(E)	178	#5	1'-6"	⊓
Concrete Removal		Cu Yd	4.8	
Concrete Superstructure		Cu Yd	5.8	
Protective Coat		Sq Yd	21	
Reinforcement Bars, Epoxy Coated		Pound	1,340	

MIN BAR LAP

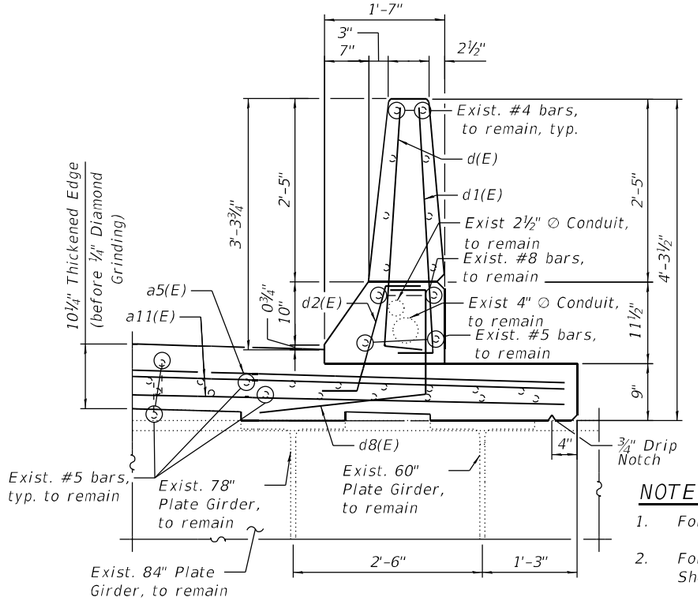
#5	3'-6"
#6	4'-0"



SECTION CC-CC



SECTION DD-DD



SECTION EE-EE

NOTES:

1. For Legend, see Sheet S14-15.
2. For Preformed Joint Strip Seal Details, see Sheet S14-17.
3. For Bar Splicer Assembly details, see Sheet S14-22.
4. Removal and disposal of the Exist. Expansion Joints will not be paid for separately but will be included in the cost of Concrete Removal.

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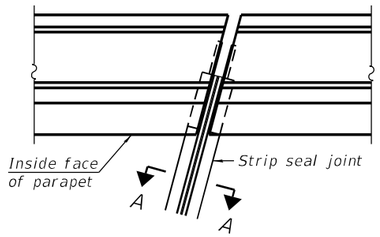
PLOT DATE =	CHECKED - MAF	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

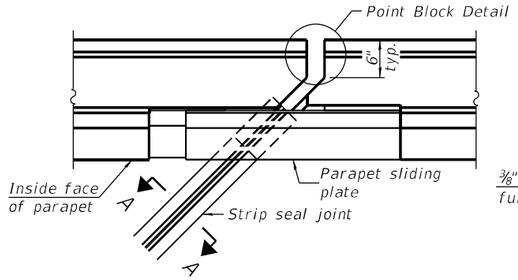
PIER 3 JOINT REMOVAL & REPLACEMENT (SHEET 2 OF 2)
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-16 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	755
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

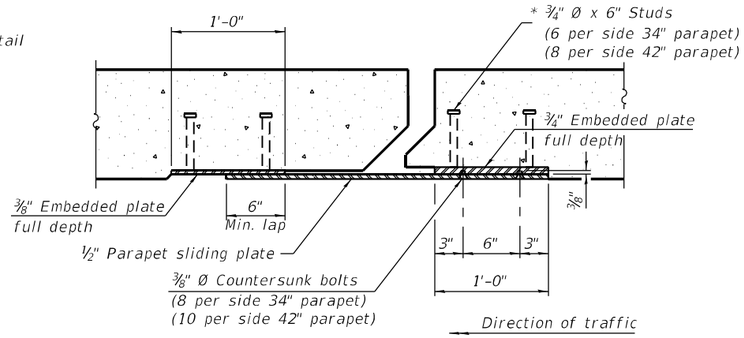


FOR SKEWS ≤ 30°



FOR SKEWS > 30°

PLAN AT PARAPET



SECTION B-B

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

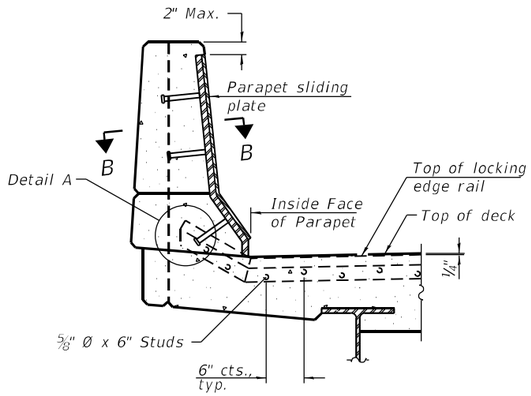
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

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

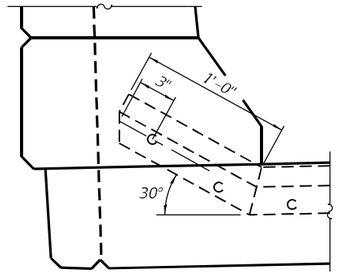
34" F-shape barrier shown, 42" F-shape similar as noted.

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

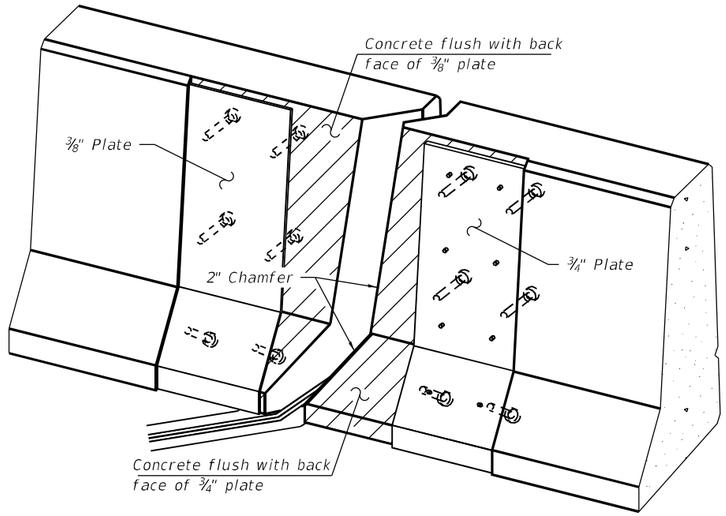


ELEVATION AT PARAPET

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

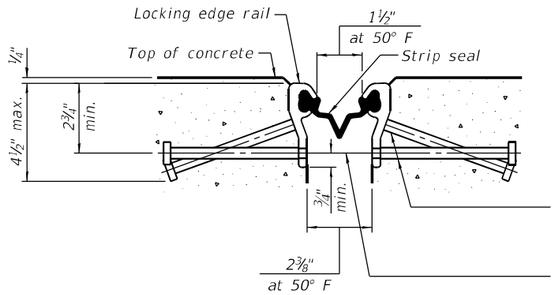


DETAIL A

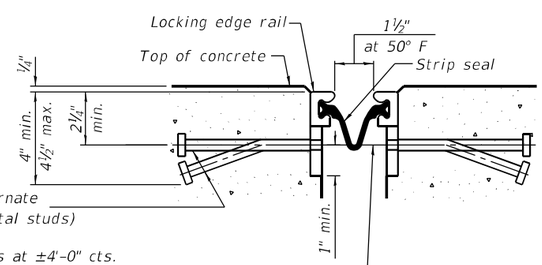


TRIMETRIC VIEW

(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT



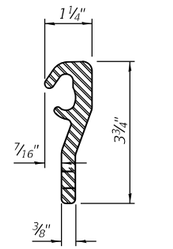
SHOWING WELDED RAIL JOINT

* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

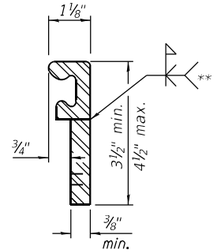
3/8" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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



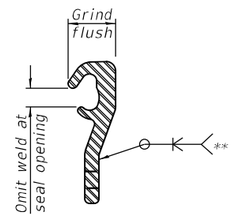
ROLLED (EXTRUDED) RAIL



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	301

EJ-SS

8-11-17

USER NAME =	DESIGNED - IH	REVISED -	
	CHECKED - MAF	REVISED -	
PLOT SCALE =	DRAWN - IH	REVISED -	
PLOT DATE =	CHECKED - MAF	REVISED -	

Accurate GROUP, INC.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-17 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	756
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

MODEL: Default
FILE NAME: Q:\Engineering\LiveProjects\20003_IDOT DUR HBMWO 8 - 62K73 - Str\CADD\CADD Sheets\Structural\0160122-62K73_I90 over Kedzie and Belmont\0160122-62K73-017-Preformed joint Strip Seal.dgn

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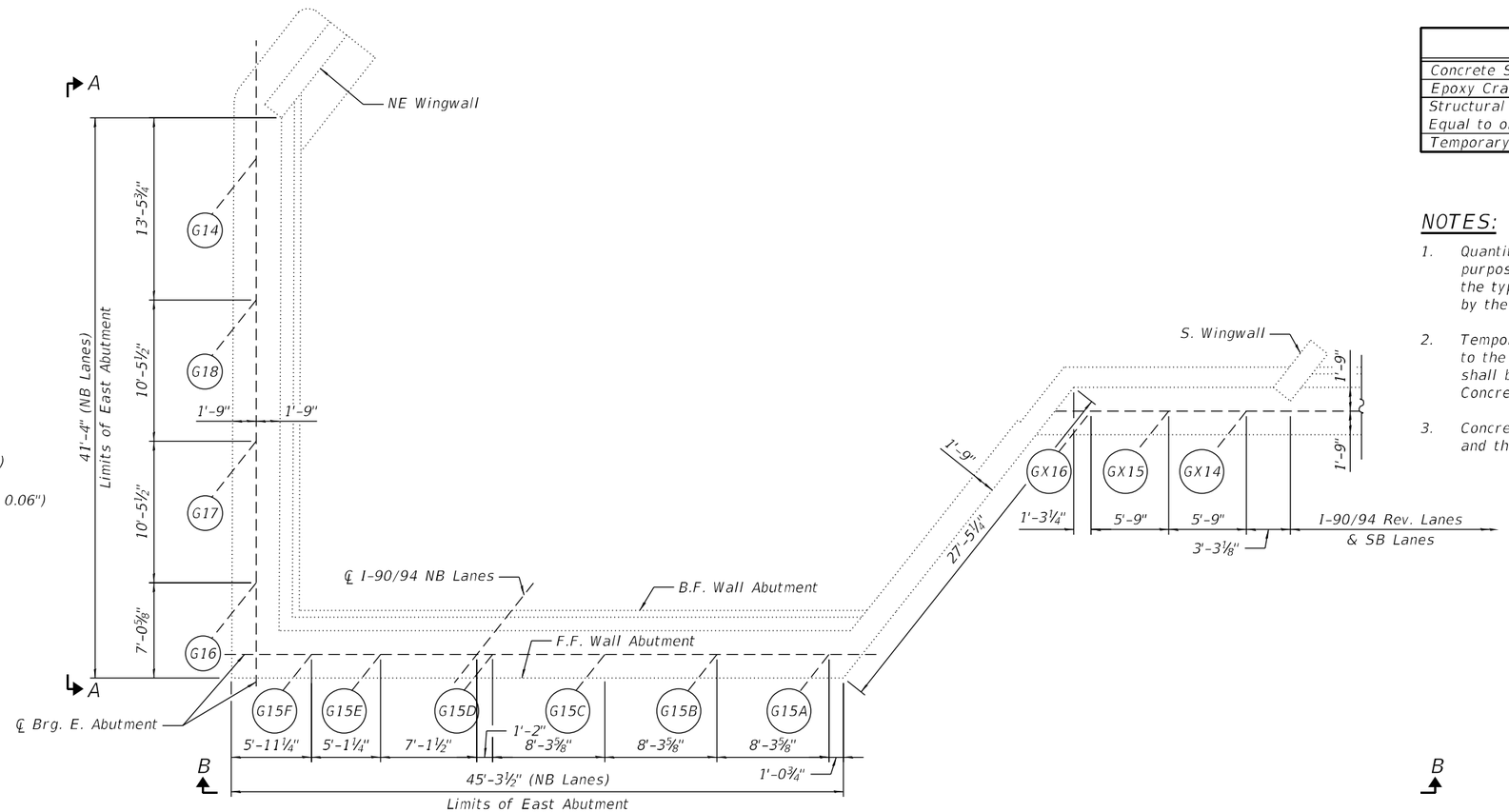
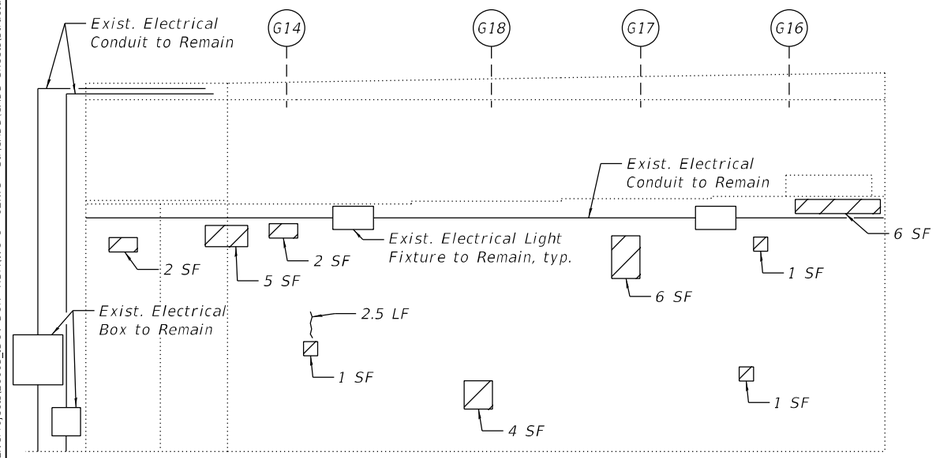
SUMMARY OF REACTIONS EAST ABUTMENT – Beam G15D		
R DL	(k)	38.9
R LL	(k)	42.0
R IM	(k)	10.3
R Total	(k)	91.2

LEGEND

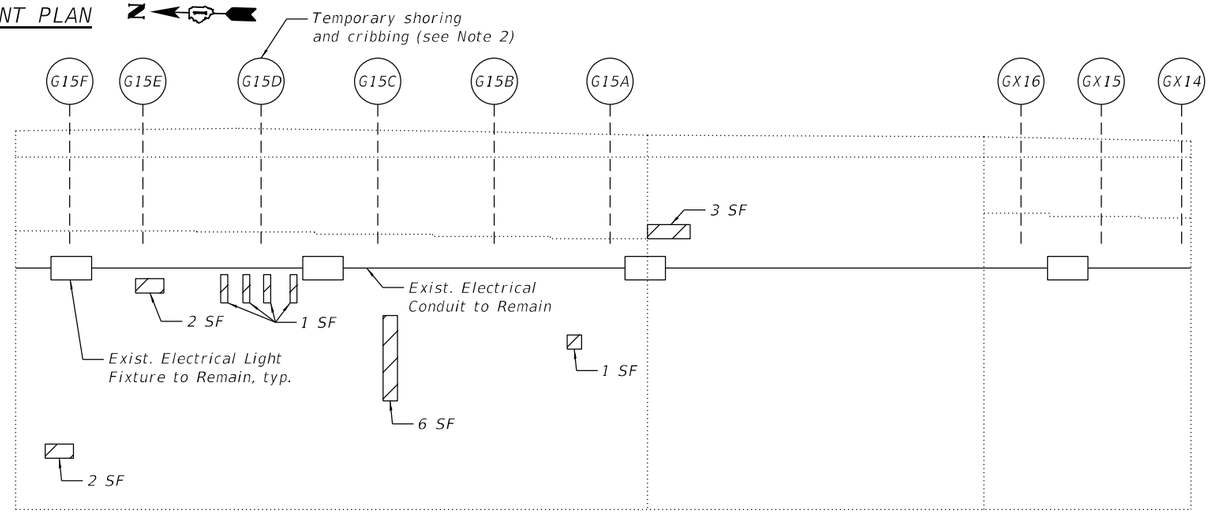
	Structural Repair of Concrete (Depth Equal to or less than 5")
	Epoxy Crack Injection (Width > 0.06")
SF	Square Foot
LF	Linear Foot



EAST ABUTMENT PLAN



EAST ABUTMENT ELEVATION
(Section A-A)



EAST ABUTMENT ELEVATION
(Section B-B)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	550
Epoxy Crack Injection	Foot	3
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	46
Temporary Shoring and Cribbing	Each	1

NOTES:

1. 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.
2. Temporary shoring and cribbing shall be installed prior to the start of the Structural Repair of Concrete and shall be removed after completing Structural Repair of Concrete.
3. Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.

Accurate GROUP, INC.

USER NAME =	DESIGNED - PV	REVISED -	
	CHECKED - MAF	REVISED -	
PLOT SCALE =	DRAWN - PV	REVISED -	
PLOT DATE =	CHECKED - MAF	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT REPAIRS
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-18 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	757
		CONTRACT NO.		62K73
	ILLINOIS	FED. AID PROJECT		

BILL OF MATERIAL

ITEM	UNIT	W. Abut.
Concrete Sealer	SQ FT	543
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	SQ FT	137

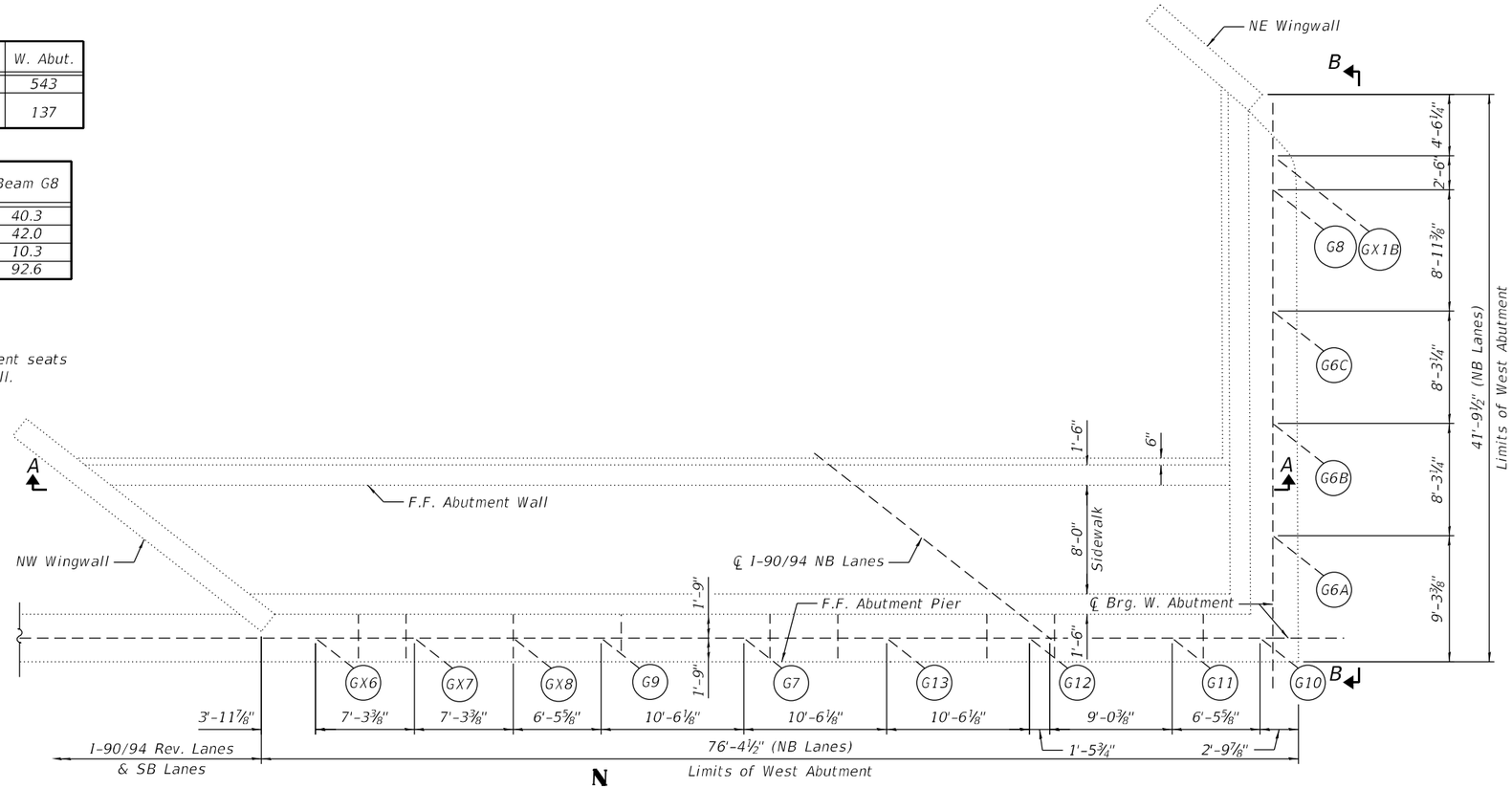
SUMMARY OF REACTIONS WEST ABUTMENT		Beam G6C	Beam G8
R DL	(k)	38.9	40.3
R LL	(k)	42.0	42.0
R IM	(k)	10.3	10.3
R Total	(k)	91.2	92.6

NOTES:

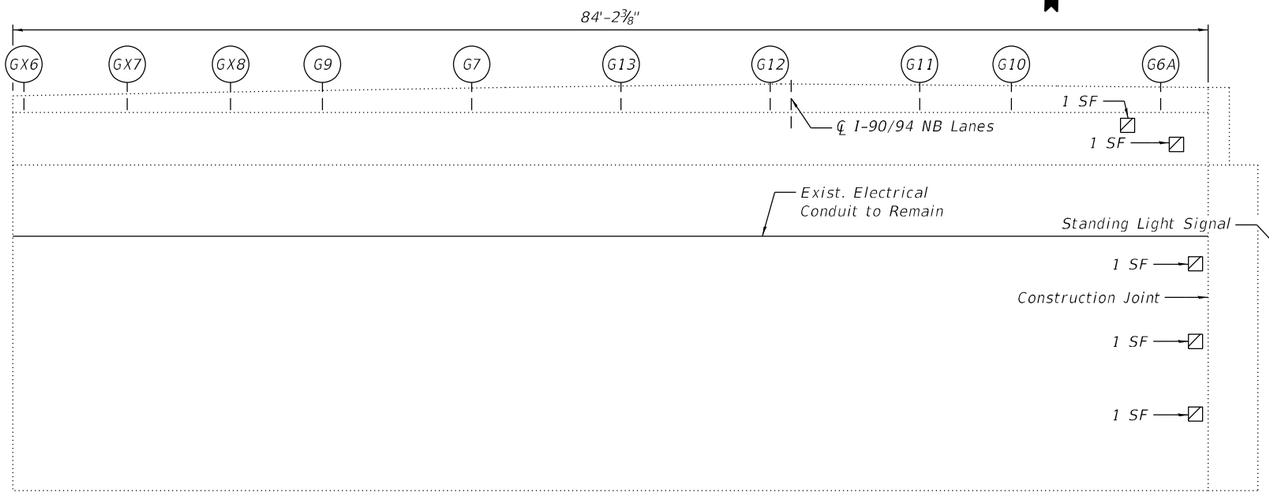
1. Concrete Sealer is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.

LEGEND

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

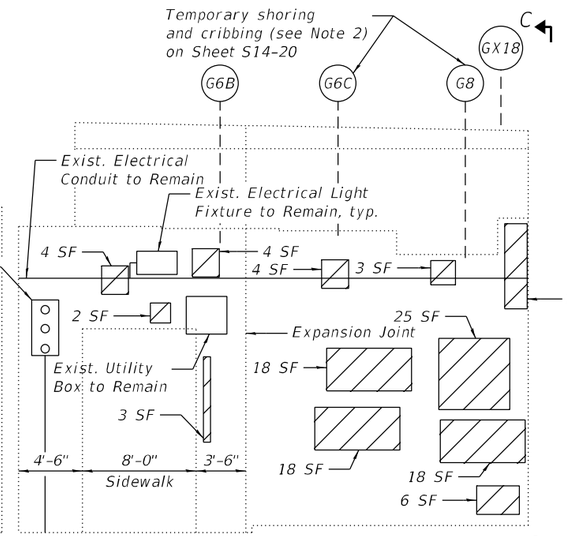


WEST ABUTMENT PLAN



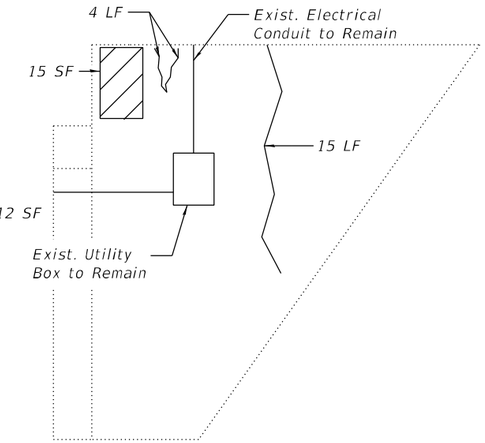
WEST ABUTMENT ELEVATION

(Section A-A)



WEST ABUTMENT ELEVATION

(Section B-B)



NE WINGWALL ELEV

(Section C-C)

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WEST ABUTMENT WALL REPAIRS
STRUCTURE NUMBER 016-0122 (NB)
SHEET S14-19 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	758
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

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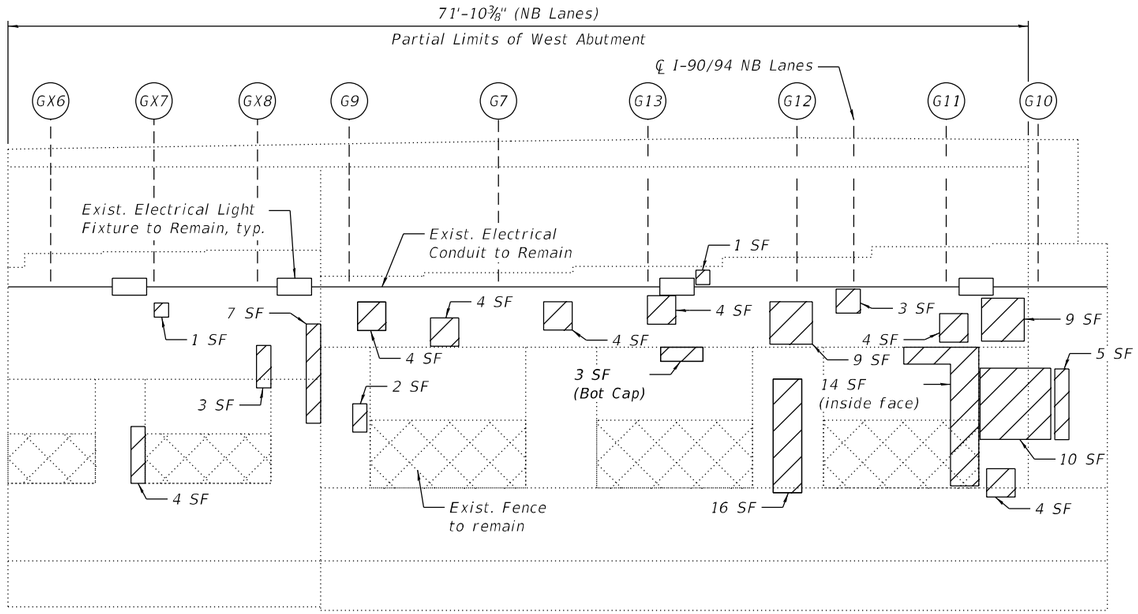
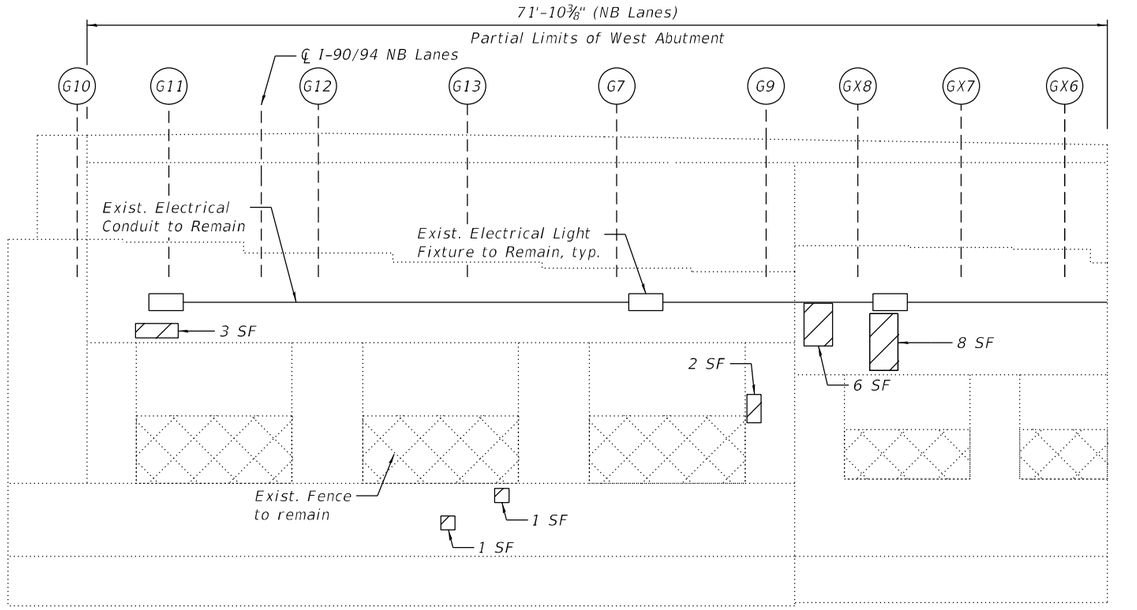


WEST ABUTMENT PIER ELEVATIONS

(Looking North)



WEST ABUTMENT PIER ELEVATIONS

(Looking South)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	23
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	132
Temporary Shoring and Cribbing	Each	2

NOTES:

1. 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.
2. Temporary shoring and cribbing shall be installed prior to the start of the Structural Repair of Concrete and shall be removed after completing Structural Repair of Concrete.

EXISTING LIGHTING: WEST ABUTMENT PIER

(Looking North)

LEGEND

Structural Repair of Conrete (Depth Equal to or less than 5")

SF Square Foot

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WEST ABUTMENT PIER REPAIRS
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-20 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	759
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

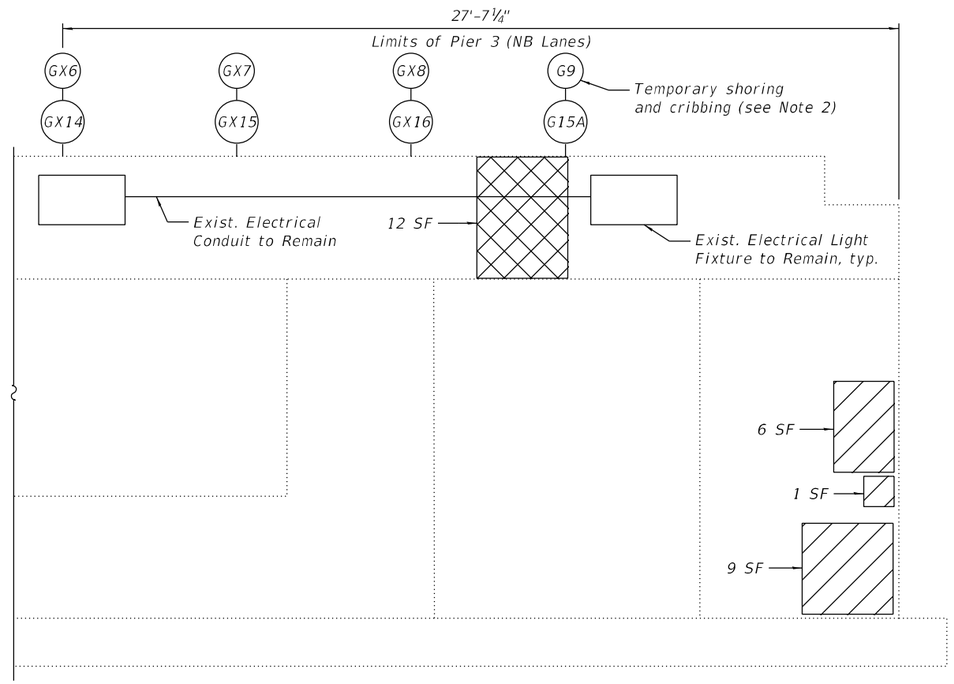
SUMMARY OF REACTIONS EAST ABUTMENT – Beam G15A		
R DL	(k)	39.1
R LL	(k)	42.0
R IM	(k)	10.3
R Total	(k)	91.4

EXISTING LIGHTING: PIER 3

(Looking West)

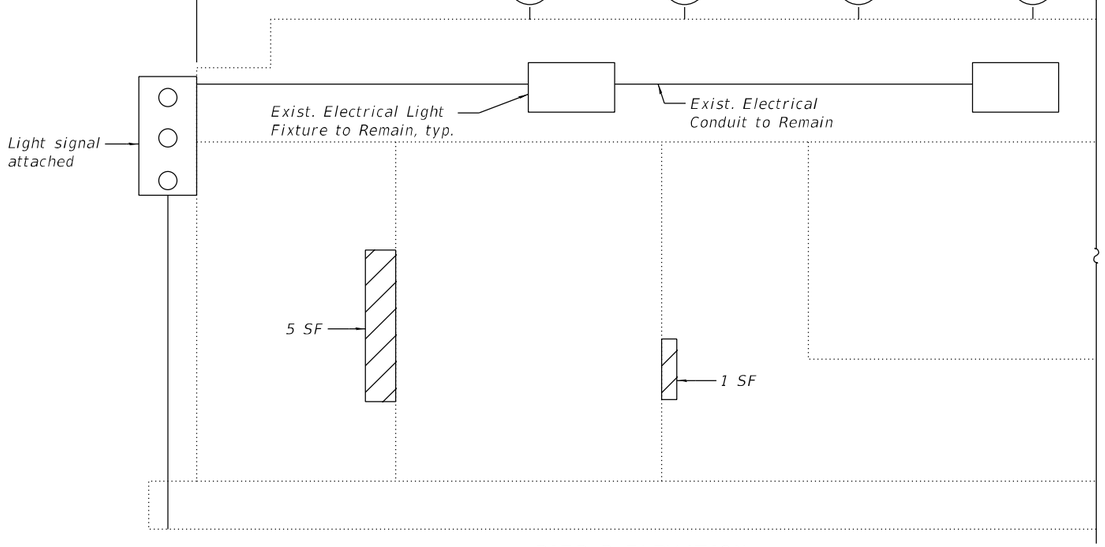
EXISTING LIGHTING: PIER 3

(Looking East)



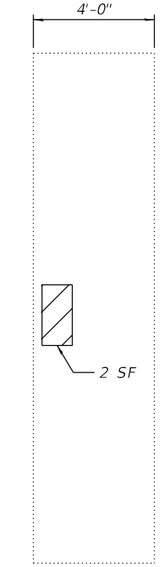
PIER 3 ELEVATION

(Looking West)



PIER 3 ELEVATION

(Looking East)



PIER 3 NORTH COLUMN ELEVATION

(Looking West)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	120
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	36
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq Ft	12
Temporary Shoring and Cribbing	Each	1

NOTE:

1. 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.
2. Temporary shoring and cribbing shall be installed prior to the start of the Structural Repair of Concrete and shall be removed after completing Structural Repair of Concrete.
3. Concrete Sealer is to be applied to top of cap of Pier.

LEGEND

Structural Repair of Conrete (Depth Equal to or less than 5")

Structural Repair of Conrete (Depth Greater than 5")

SF Square Foot

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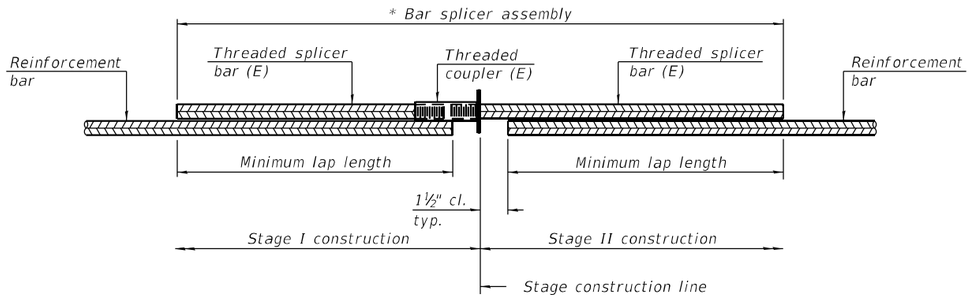
PIER 3 REPAIRS
STRUCTURE NUMBER 016-0122 (NB)

SHEET S14-21 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	760
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	



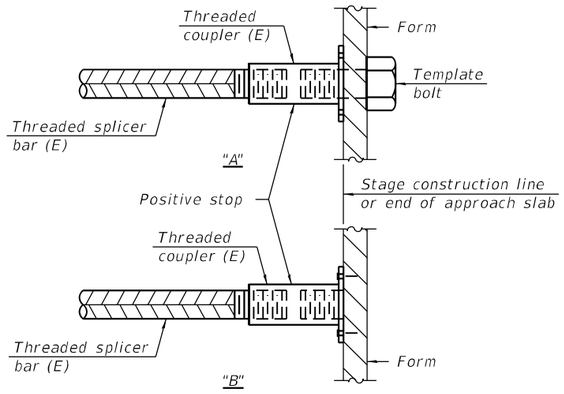
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

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

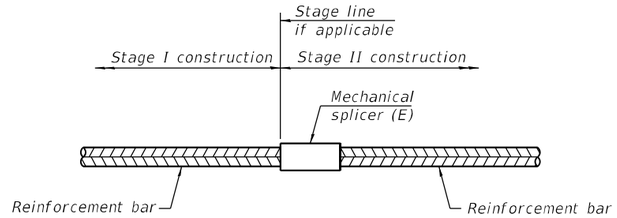
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
E. Abut.	#5	12	3'-6"
E. Abut.	#6	4	4'-0"
W. Abut.	#5	16	3'-6"
W. Abut.	#6	4	4'-0"
Pier 3 Joint (E.)	#5	4	3'-6"
Pier 3 Joint (W.)	#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

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

BSD-1

1-1-2020

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DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NUMBER 016-0122 (NB)

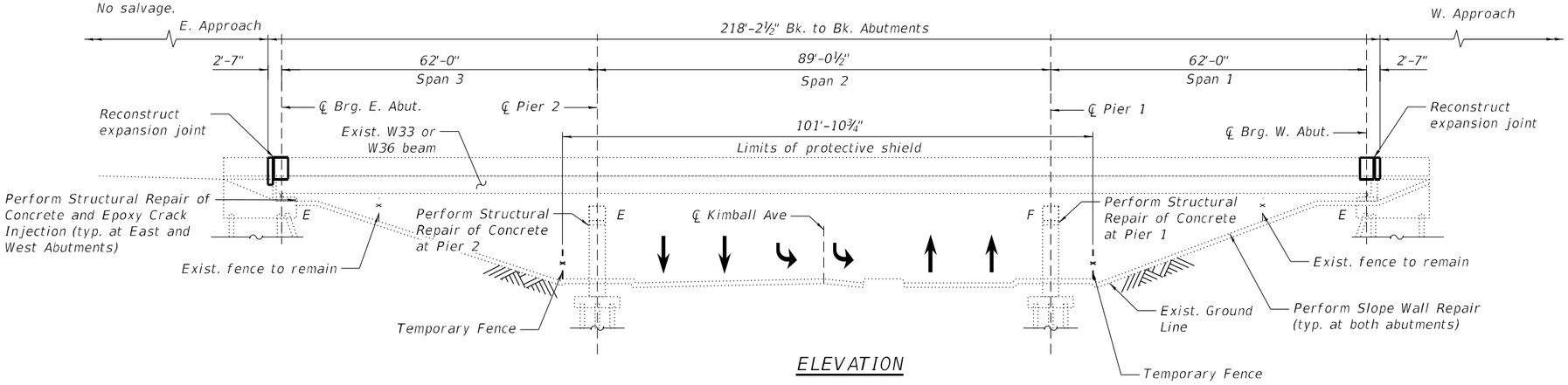
SHEET S14-22 OF S14-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	761
		CONTRACT NO.		62K73
		ILLINOIS	FED. AID PROJECT	

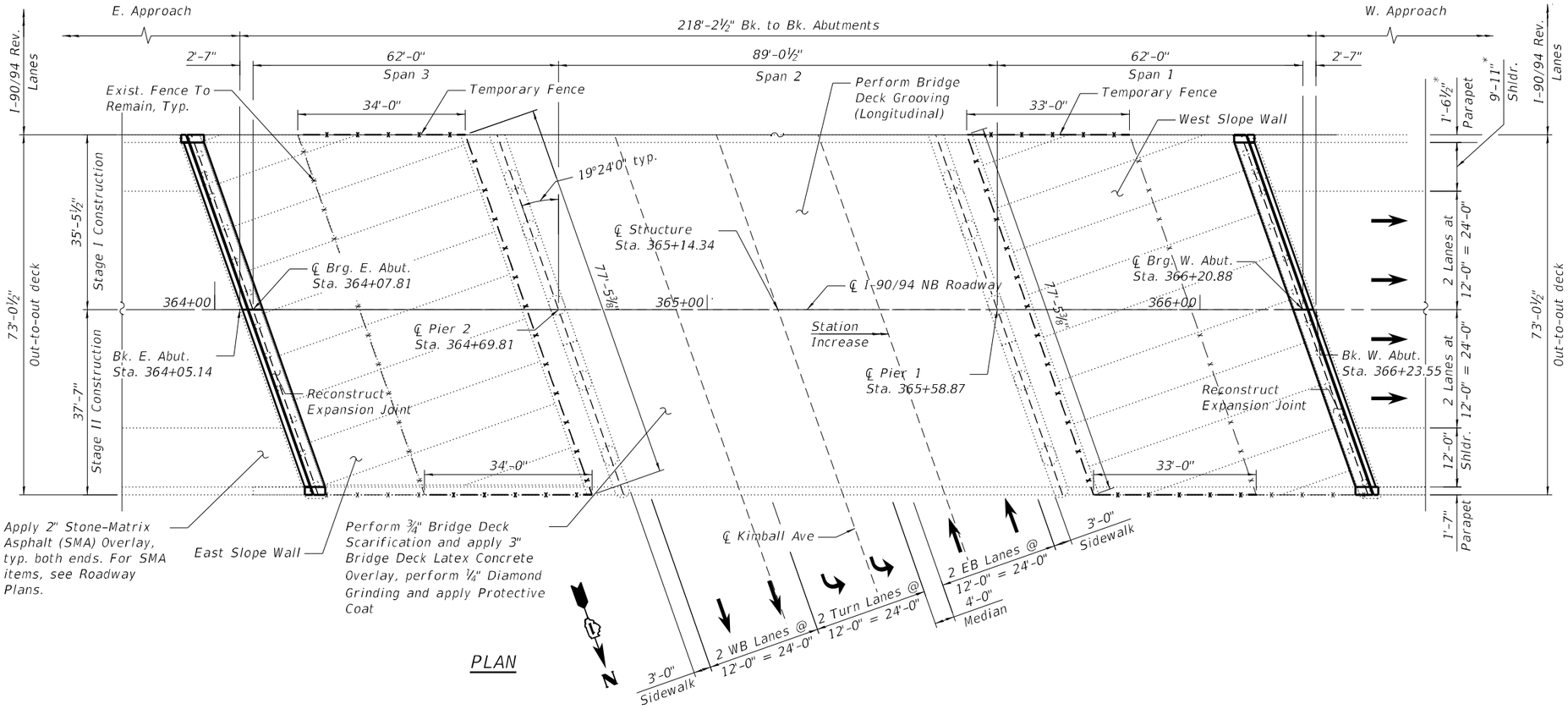
Existing Structure: S.N. 016-1109 was originally built in 1960. The bridge was widened in 1997, and the deck was replaced in 1997. The structure has a back-to-back abutment length of 218'-2½" and an out-to-out deck width of 73'-0½". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 62'-0", 89'-0½", and 62'-0". The substructure consists of reinforced concrete abutments supported on concrete piles, and piers supported on timber piles.

Traffic is to be maintained utilizing stage construction.

No salvage.



ELEVATION



PLAN

* Varies

LOADING:

HS-20

DESIGN SPECIFICATIONS:

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

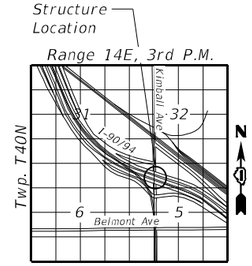
RECONSTRUCTION 1997

1989 AASHTO Standard Specifications for Highway Bridges with 1990 & 1991 Interim Specifications

NOTE:

1. All stations are to the ℄ I-90/94 NB Roadway and taken from existing plans.

PARSONS
HIBA AHMED ABDALLA, PhD, PE, SE
*081-007634
DATE: 04/29/2024
STATE OF ILLINOIS — HIBA AHMED ABDALLA — 081-007634 — CHICAGO, IL — LICENSED STRUCTURAL ENGINEER
EXPIRATION DATE: 11-30-2024
SIGNATURE AND SEAL APPLY TO DRAWINGS: S15-01 TO S15-21



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
NB I-90/94 OVER KIMBALL AVE.
F.A.I. ROUTE 90/94
SECTION 2020-005-BR
COOK COUNTY
STATION 365+14.34
S.N. 016-1109 (NB)

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-930-0100
Fax: 312-930-0018

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PLOT SCALE =	DRAWN - JAB	REVISED -	
PLOT DATE =	DATE - 04/29/2024	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 016-1109 (NB)
SHEET S15-01 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	762
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

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GENERAL NOTES

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

2. Plan dimensions and details relative to 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. All exposed concrete edges shall have a $\frac{3}{4}$"x45° chamfer except where shown otherwise.

5. Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system at the Contractor's expense.

6. For SMA overlay on Approach Slab, see Roadway Sheets.

7. Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside faces of parapets, and top of Latex Concrete Overlay.

8. 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.

9. 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 $\frac{1}{4}$" 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.

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

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".

12. All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanized for Structural Steel".

13. Fasteners shall be ASTM A325 Type 1, galvanized according to ASTM F 2329. Bolts $\frac{3}{4}$ in., holes $\frac{13}{16}$ in., unless otherwise noted. Diaphragm connection holes be $\frac{15}{16}$" for $\frac{3}{4}$" bolts. Two hardened washers shall be required at diaphragm connections.

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

15. Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.

16. 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.

17. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at his or her expense at no charge to IDOT.

18. 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".

19. The Contractor shall exercise extreme caution during concrete removal to avoid damage to the existing steel beams and diaphragms to remain. Any damage to the existing steel beam and 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.

20. 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.

INDEX OF SHEETS

SCOPE OF WORK

1. Provide Protective shield within limits indicated on the plans.
2. Scarify $\frac{3}{4}$" from the bridge deck slab.
3. Perform Deck Slab Repairs.
4. Reconstruct Expansion Joints at the East and West abutments and install new preformed joint strip seals.
5. Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
6. Perform $\frac{1}{4}$" Diamond Grinding to top of bridge deck and abutment hatched block.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the approach Slabs, see Roadway Plans.
8. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
9. Apply protective coat to the top of reconstructed transverse joint areas, top and inside faces of parapets, and top of Latex Concrete Overlay.
10. Perform structural concrete repairs for the abutments and piers as noted on the plans.
11. Perform Slope Wall repairs.

GENERAL NOTES (CONT.)

21. Any adjustment 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 including in the cost of Protective Shield.

22. The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.

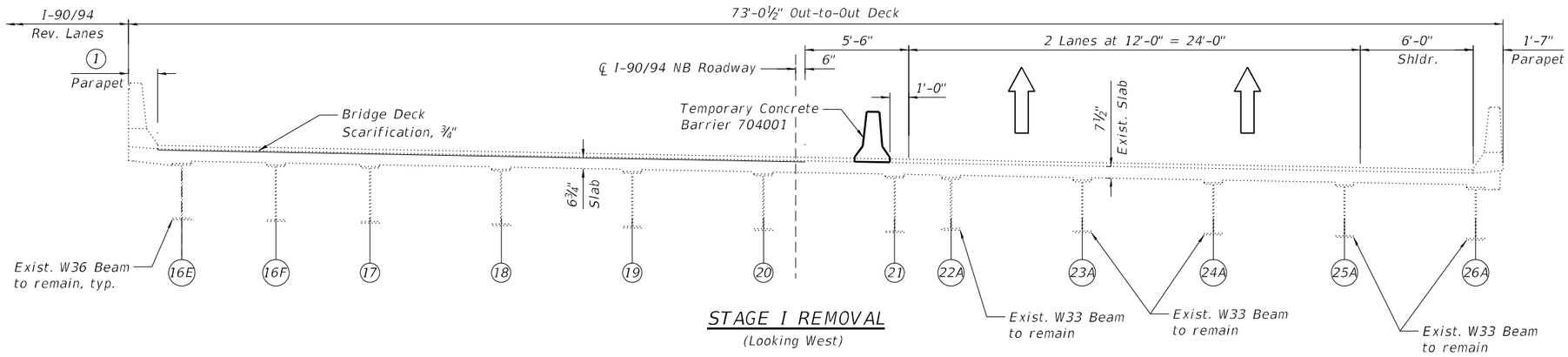
23. The intent of the temporary fence is to deny access of any unauthorized personnel under the bridge during construction. Actual fence installations may vary from what is shown on the plans. All fence installations must be approved by the Engineer.

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

25. Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft of the abutment backwall.

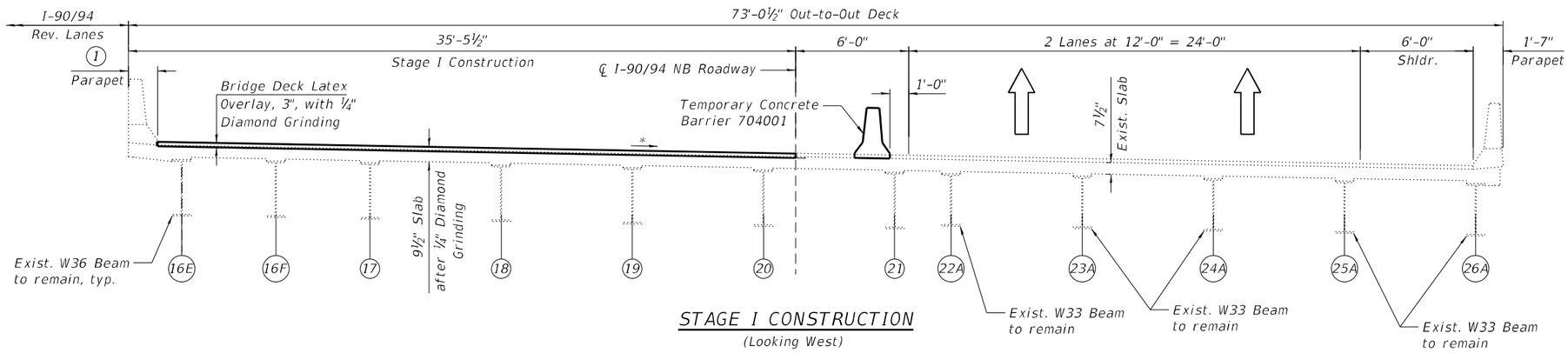
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd	3	-	3
Concrete Removal	Cu Yd	29.9	-	29.9
Slope Wall Removal	Sq Yd	-	6	6
Protective Shield	Sq Yd	91	-	91
Concrete Superstructure	Cu Yd	33.6	-	33.6
Protective Coat	Sq Yd	1887	-	1887
Furnishing and Erecting Structural Steel	Pound	340	-	340
Reinforcement Bars, Epoxy Coated	Pound	4460	-	4460
Bar Splicers	Each	36	-	36
Slope Wall 4 Inch	Sq Yd	-	6	6
Preformed Joint Seal 2 1/2"	Foot	215	-	215
Preformed Joint Strip Seal	Foot	155	-	155
Concrete Sealer	Sq Ft	-	905	905
Epoxy Crack Injection	Foot	-	63	63
Slope Wall Crack Sealing	Foot	-	458	458
Protect and Maintain Existing Underpass Luminaire	L Sum	-	0.04	0.04
Bridge Deck Grooving (Longitudinal)	Sq Yd	1115	-	1115
Approach Slab Repair (Full Depth)	Sq Yd	32	-	32
Approach Slab Repair (Partial Depth)	Sq Yd	32	-	32
Structural Steel Removal	Pound	300	-	300
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1625	-	1625
Bridge Deck Scarification 3/4"	Sq Yd	1625	-	1625
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	-	149	149
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	-	13	13
Deck Slab Repair (Full Depth, Type II)	Sq Yd	37.0	-	37.0
Diamond Grinding (Bridge Section)	Sq Yd	1686	-	1686
Temporary Construction Fence	Foot	-	293	293
Temporary Shoring and Cribbing	Each	-	3	3



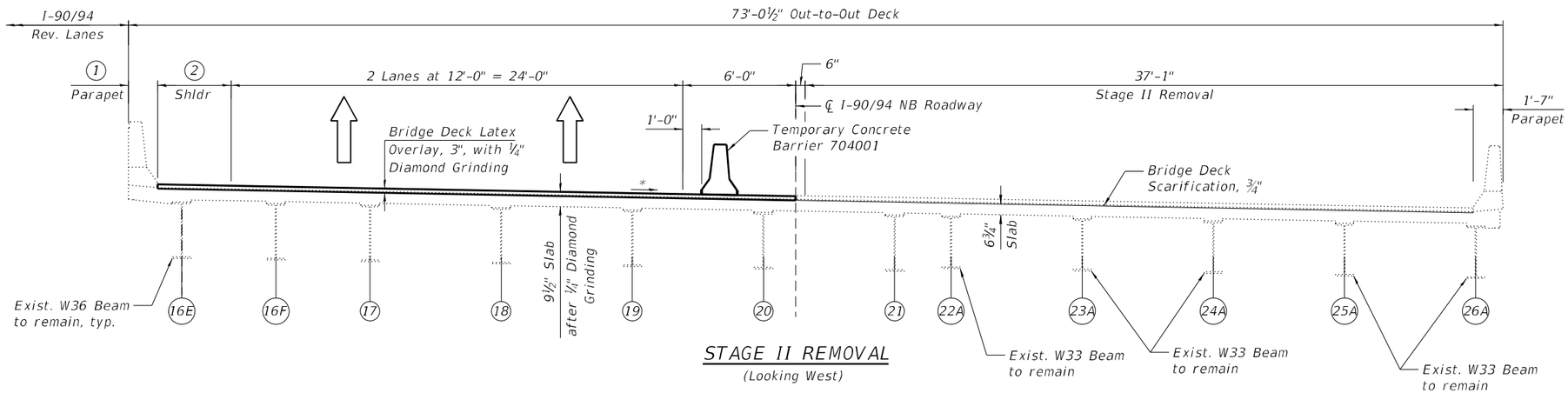
STAGE I REMOVAL

(Looking West)



STAGE I CONSTRUCTION

(Looking West)



STAGE II REMOVAL

(Looking West)

STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the north side of the existing structure.
2. Perform ¾" 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 East and West Abutments.
5. Perform temporary shoring and cribbling at location shown on the plans with the limits of stage I removal.

STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install Proposed Longitudinal preformed joint strip seals in the parapet within the limits of Stage I Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Decl Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of west parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.
9. Perform slope wall repairs as shown on the plans.

STAGE II REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the south side of the existing structure.
2. Perform ¾" 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 East and West Abutments.
5. Perform temporary shoring and cribbling at location shown on the plans with the limits of stage II removal.

*Match existing cross slopes

(1) Varies from 1'-7¼" max. to 1'-6½" min.

(2) Varies from 3'-11" max. to 3'-10¼" min.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-930-6100
Fax: 312-930-0018

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STAGE CONSTRUCTION (SHEET 1 OF 2)
STRUCTURE NO. 016-1109 (NB)
SHEET S15-03 OF S15-21 SHEETS

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	764
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

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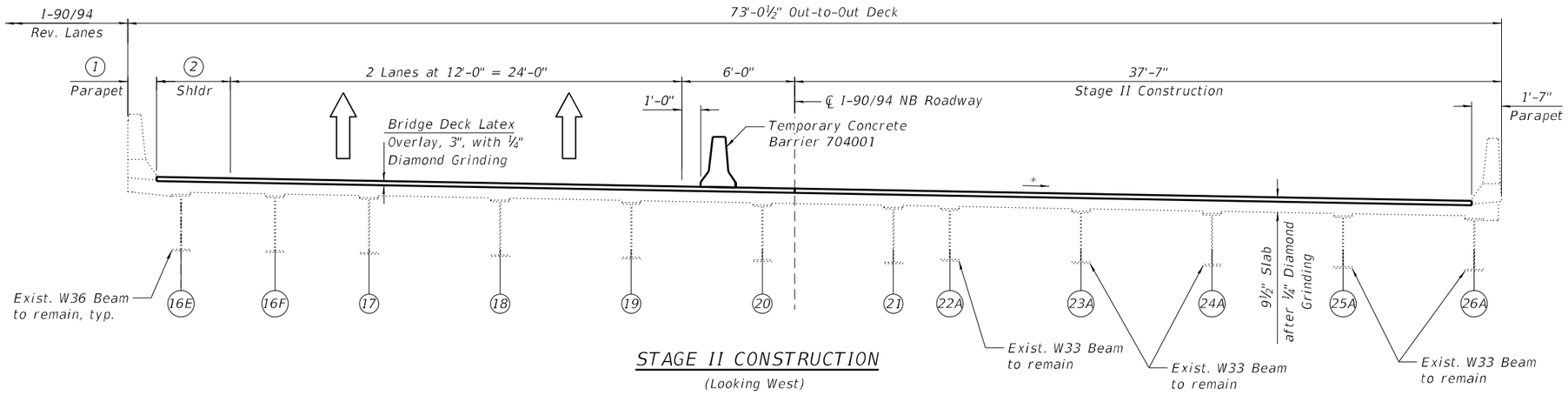
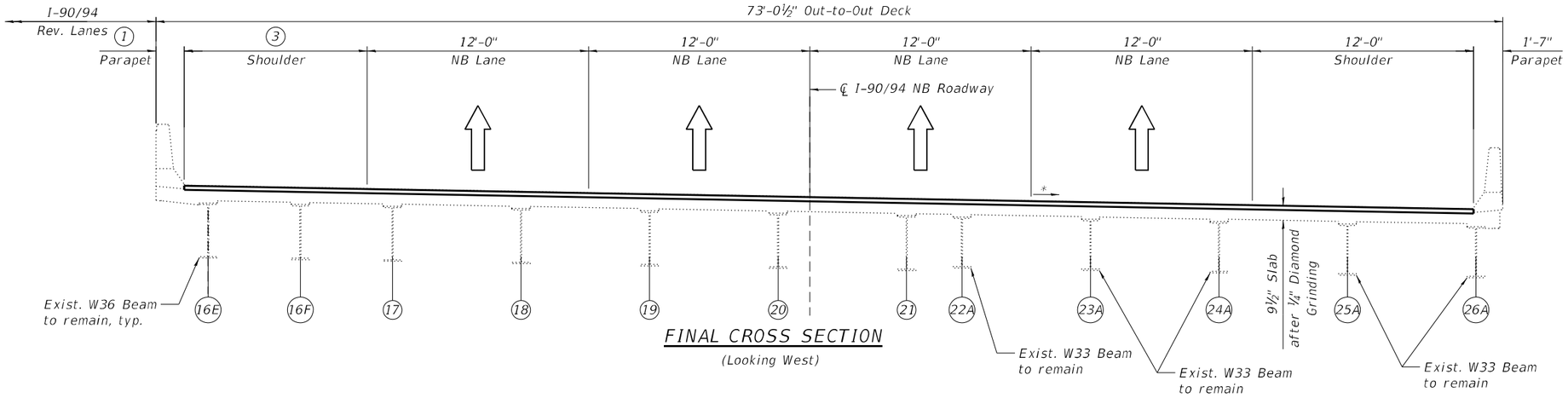


STAGE II CONSTRUCTION

(Looking West)



FINAL CROSS SECTION

(Looking West)

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. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of east parapet, reconstructed abutment expansion joints areas, and to the surfaces of the new overlay.
9. Replace diaphragm as shown in the plans.
10. Perform slope wall repairs as shown on the plans.

*Match Existing Cross-slopes

(1) Varies from 1'-7¼" max. to 1'-6½" min.

(2) Varies from 3'-11" max. to 3'-10¼" min.

(3) Varies from 9'-11" max. to 9'-10¼" min.

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-930-0100
Fax: 312-930-0018

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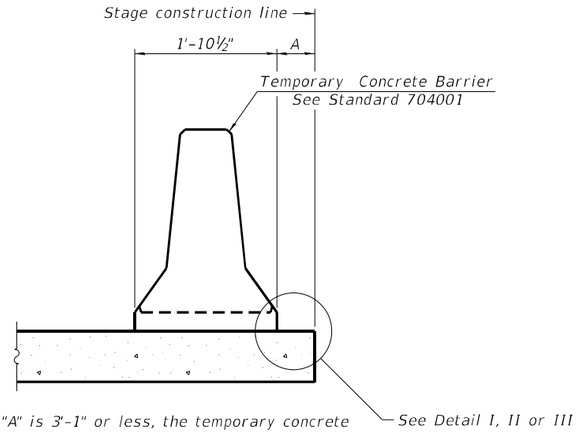
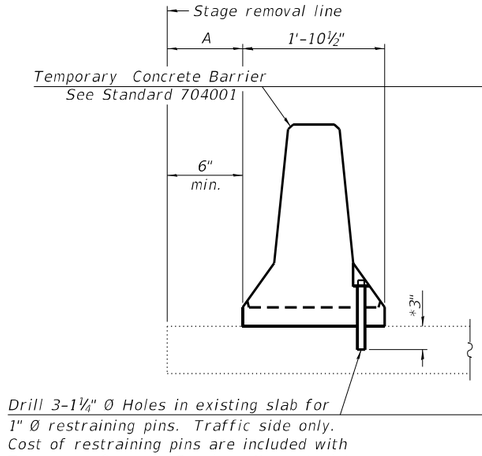
STAGE CONSTRUCTION (SHEET 2 OF 2)
STRUCTURE NO. 016-1109 (NB)
SHEET S15-04 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	765
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



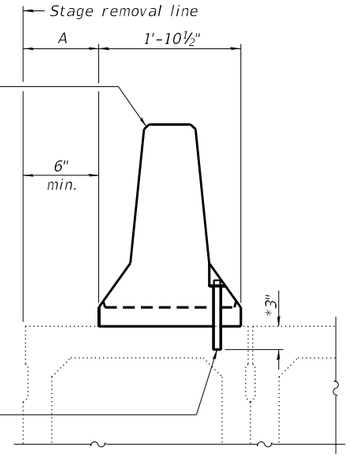
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM



Drill 3-1¼" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

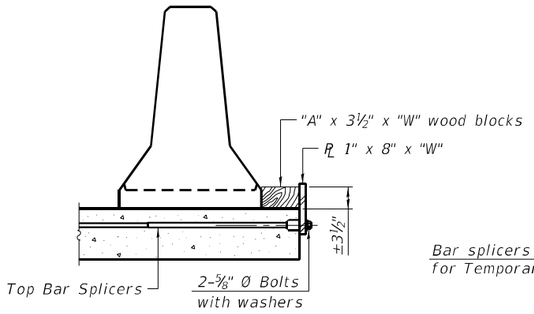
EXISTING SLAB



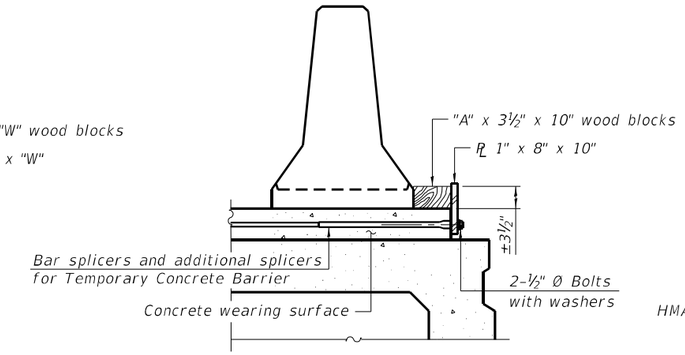
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

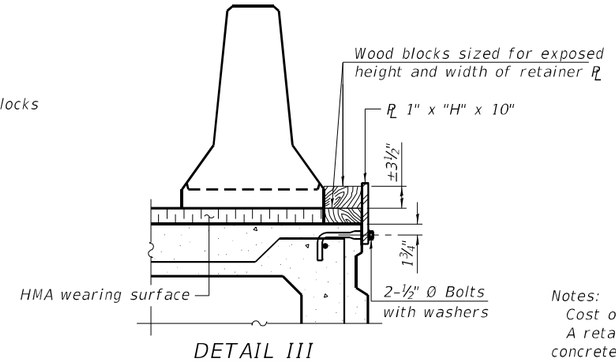
SECTIONS THRU SLAB OR DECK BEAM



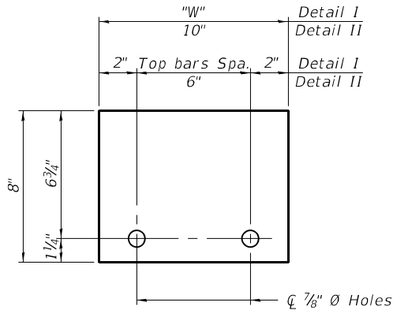
DETAIL I



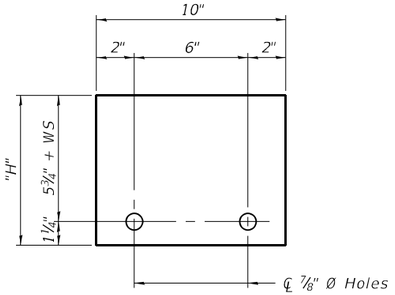
DETAIL II



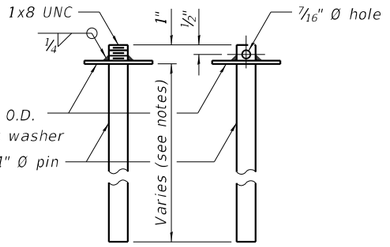
DETAIL III



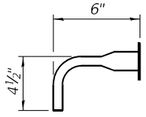
STEEL RETAINER PL 1" x 8" x "W"
(Detail I and II)



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



RESTRAINING PIN



BAR SPLICER FOR #4 BAR - DETAIL III

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

10-12-2021

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate ℄ 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 1½", 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.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
200 E RANDOLPH STREET SUITE 2450
CHICAGO IL 60601
Telephone 1-312-938-0300
Fax 312-938-0318

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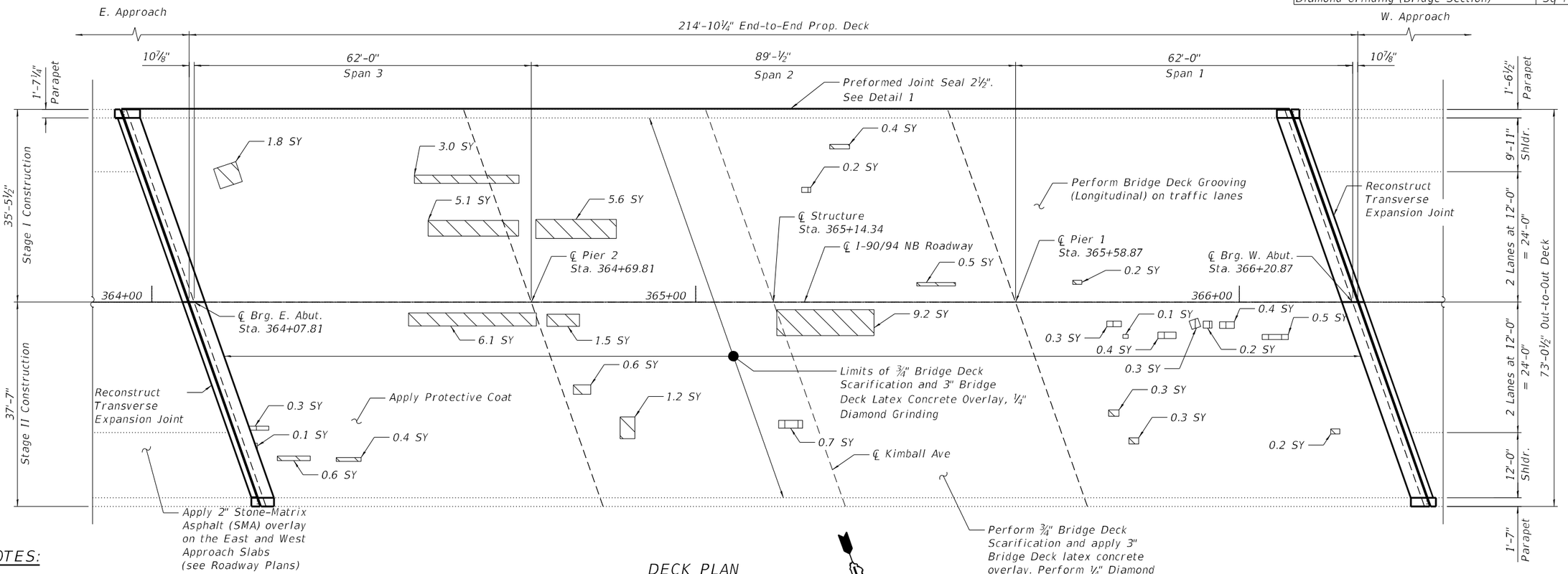
TEMPORARY CONCRETE BARRIER
STRUCTURE NO. 016-1109 (NB)

SHEET S15-05 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	766
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

BILL OF MATERIAL

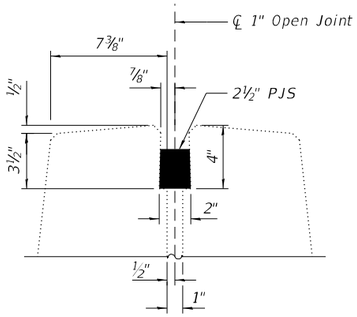
ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	1,817
Preformed Joint Seal 2 1/2"	Foot	215
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,115
Approach Slab Repair (Full Depth)	Sq Yd	32
Approach Slab Repair (Partial Depth)	Sq Yd	32
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,625
Bridge Deck Scarification 3/4"	Sq Yd	1,625
Deck Slab Repair (Full Depth Type II)	Sq Yd	37.0
Diamond Grinding (Bridge Section)	Sq Yd	1,686



DECK PLAN

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 S15-04.
3. For East and West transverse joint removal and reconstruction, see Sheets S15-07 thru S15-12.
4. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
5. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched areas.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
9. Approach Slab Repair (Full Depth) and Approach Slab Repair (Partial Depth) quantities have been estimated (based on a nominal 3% of bridge approach area) 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.



DETAIL 1

(Reinforcement not shown for clarity)

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

LEGEND:

*Deck Slab Repair (Partial Depth)

Deck Slab Repair (Full Depth, Type II)

SY Square Yard

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS • PLANNERS
ONE PARKVIEW PLAZA, SUITE 2450
OAKBROOK, ILLINOIS 60606
Telephone: 312-994-0100
Fax: 312-994-0018

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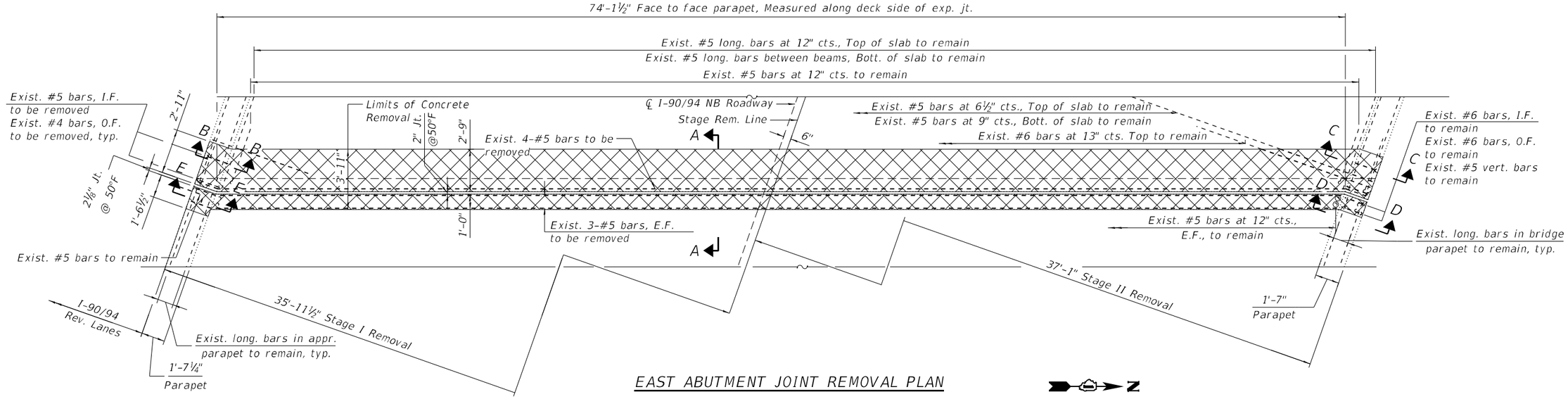
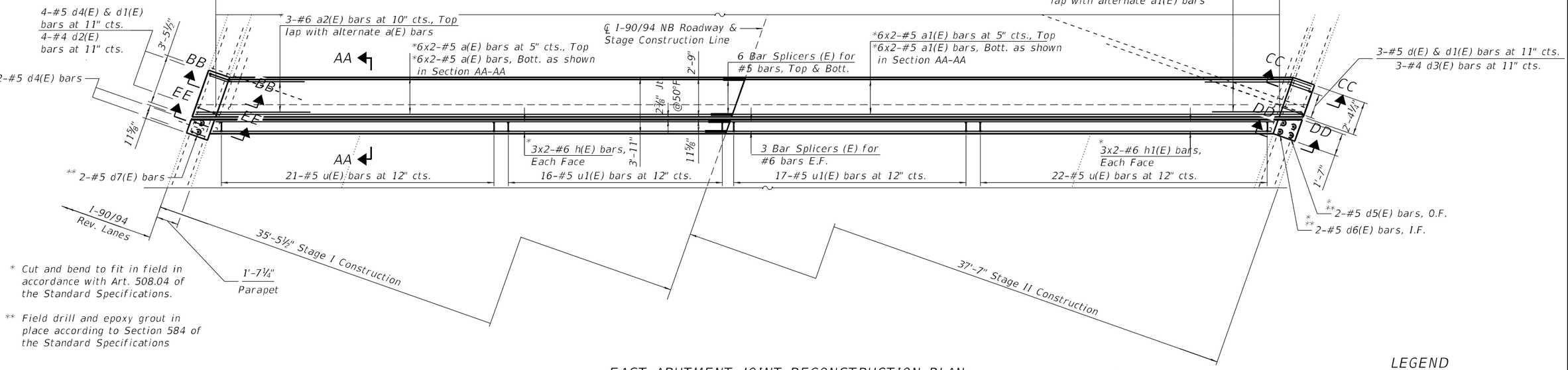
DECK REPAIR PLAN
STRUCTURE NO. 016-1109 (NB)
SHEET S15-06 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	767
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



EAST ABUTMENT JOINT REMOVAL PLAN



EAST ABUTMENT JOINT RECONSTRUCTION PLAN

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

** Field drill and epoxy grout in place according to Section 584 of the Standard Specifications

NOTES:

1. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S15-08.
2. For Sections D-D, E-E, DD-DD and EE-EE, Notes, Bar diagram and Bill of Material, see Sheet S15-09.

LEGEND

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

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-994-0190
Fax: 312-994-0058

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DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)
STRUCTURE NO. 016-1109 (NB)
SHEET S15-07 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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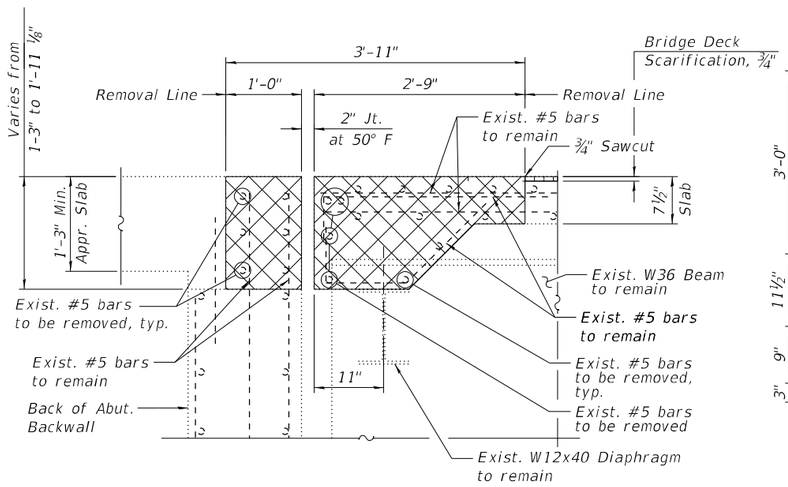
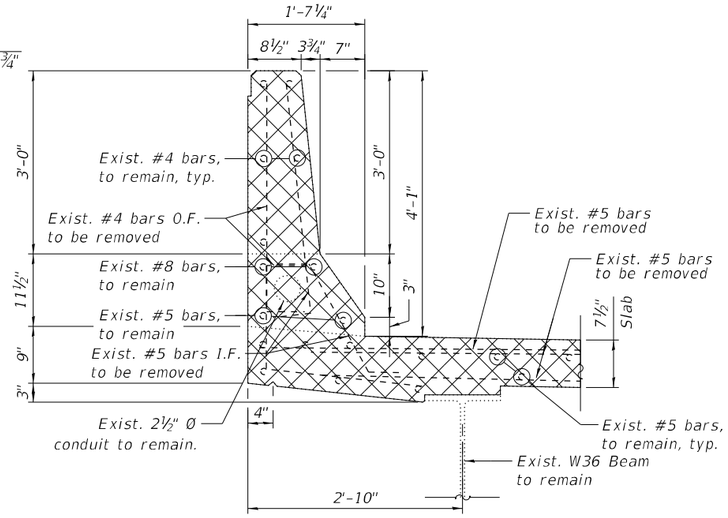
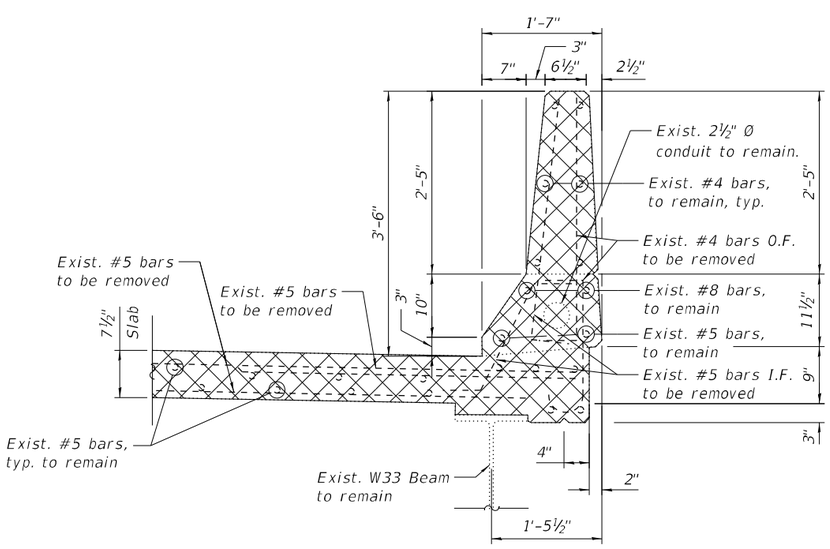
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	



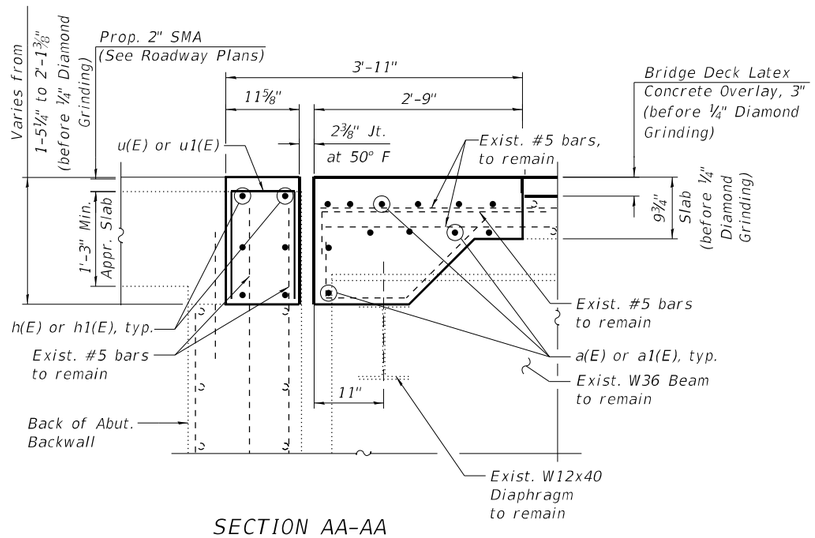
SECTION A-A



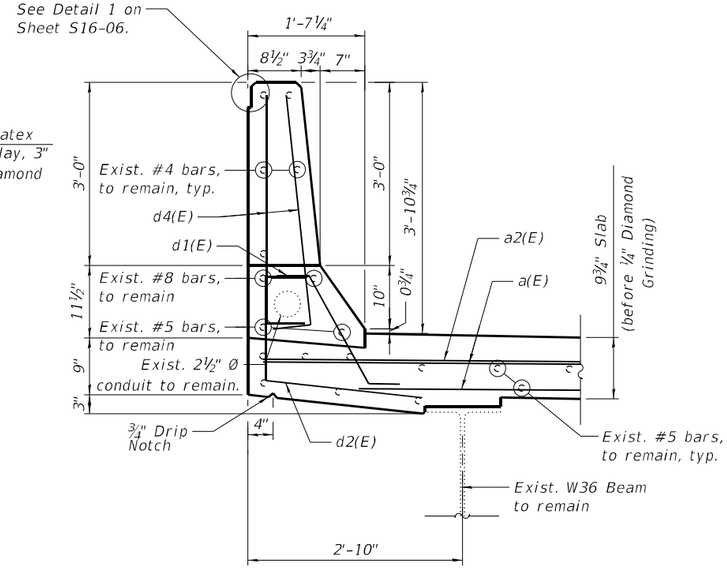
SECTION B-B



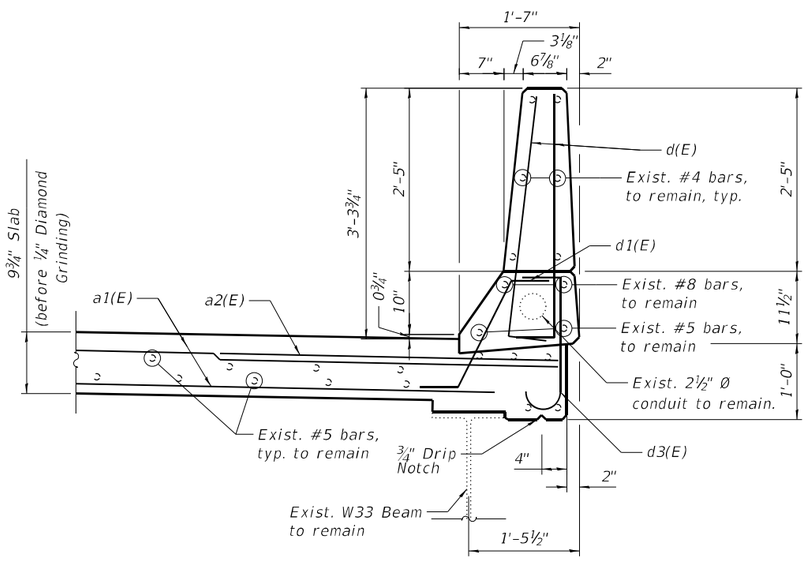
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

1. For legend, see Sheet S15-07.
2. For bar diagrams, additional notes and Bill of Material, see Sheet S15-09.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Phone 312-993-3100
Fax 312-993-0413

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E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)
STRUCTURE NO. 016-1109 (NB)

SHEET S15-08 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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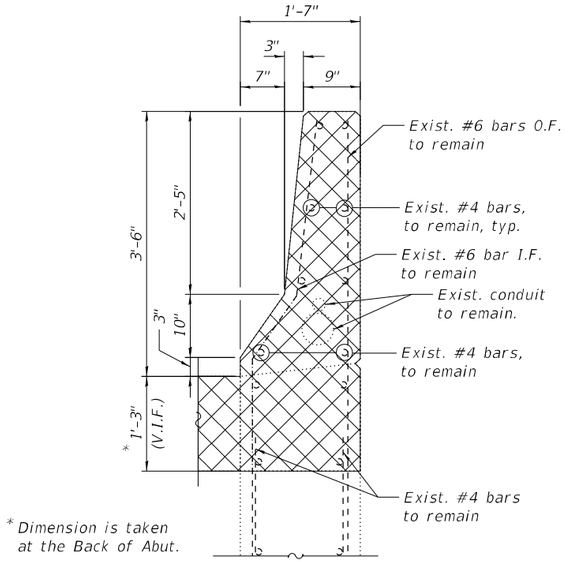
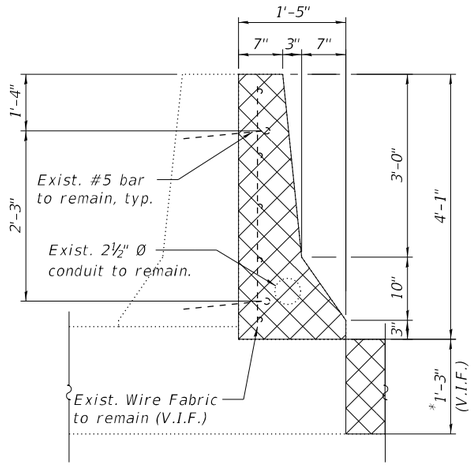
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			

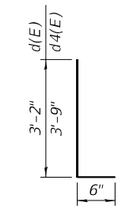


* Dimension is taken at the Back of Abut.

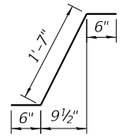
SECTION D-D



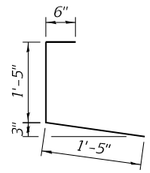
SECTION E-E



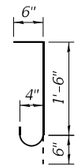
BAR d(E), d4(E)



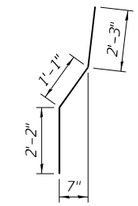
BAR d1(E)



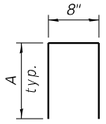
BAR d2(E)



BAR d3(E)



BAR d6(E)



BARS u(E) & u1(E)

	A
u(E)	1'-1"
u1(E)	1'-7"

BAR d8(E)

BILL OF MATERIAL

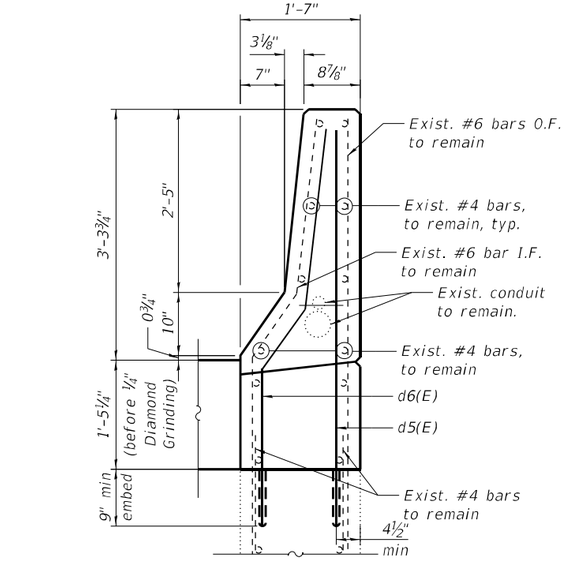
Bar	No.	Size	Length	Shape
a(E)	24	#5	20'-6"	
a1(E)	24	#5	21'-6"	
a2(E)	6	#6	6'-6"	
d(E)	6	#5	3'-8"	L
d1(E)	7	#5	2'-7"	
d2(E)	4	#4	3'-4"	
d3(E)	3	#4	2'-6"	
d4(E)	8	#5	4'-3"	L
d5(E)	2	#5	5'-4"	
d6(E)	2	#5	5'-6"	
d7(E)	2	#5	1'-6"	
d8(E)	2	#5	4'-9"	L
h(E)	12	#6	19'-9"	
h1(E)	12	#6	20'-10"	
u(E)	43	#5	2'-10"	
u1(E)	33	#5	3'-10"	
Concrete Removal			Cu Yd	15.1
Concrete Superstructure			Cu Yd	16.9
Protective Coat			Sq Yd	35
Reinforcement Bars, Epoxy Coated			Pound	2,240

MIN. BAR LAPS

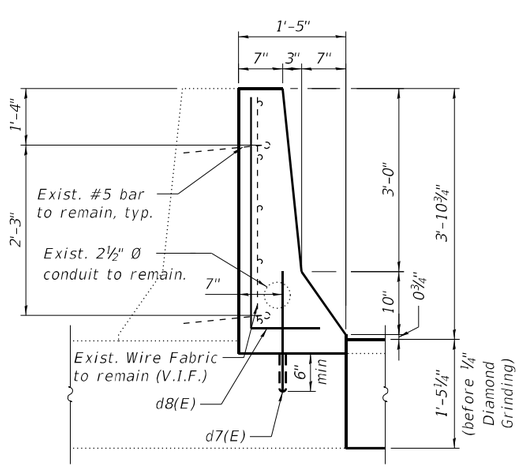
#5	3'-6"
#6	4'-0"

NOTES:

1. For legend, see Sheet S15-07.
2. For preformed joint strip seal details, see Sheet S15-13.
3. For bar splicer assembly details, see Sheet S15-21.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d5(E), d6(E), and d7(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
6. For conduit repairs refer to Electrical Plans and Specifications for details.



SECTION DD-DD



SECTION EE-EE

NOTES:

1. For legend, see Sheet S15-07.
2. For preformed joint strip seal details, see Sheet S15-13.
3. For bar splicer assembly details, see Sheet S15-21.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d5(E), d6(E), and d7(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
6. For conduit repairs refer to Electrical Plans and Specifications for details.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Phone: (312) 930-0100
Fax: (312) 930-0101

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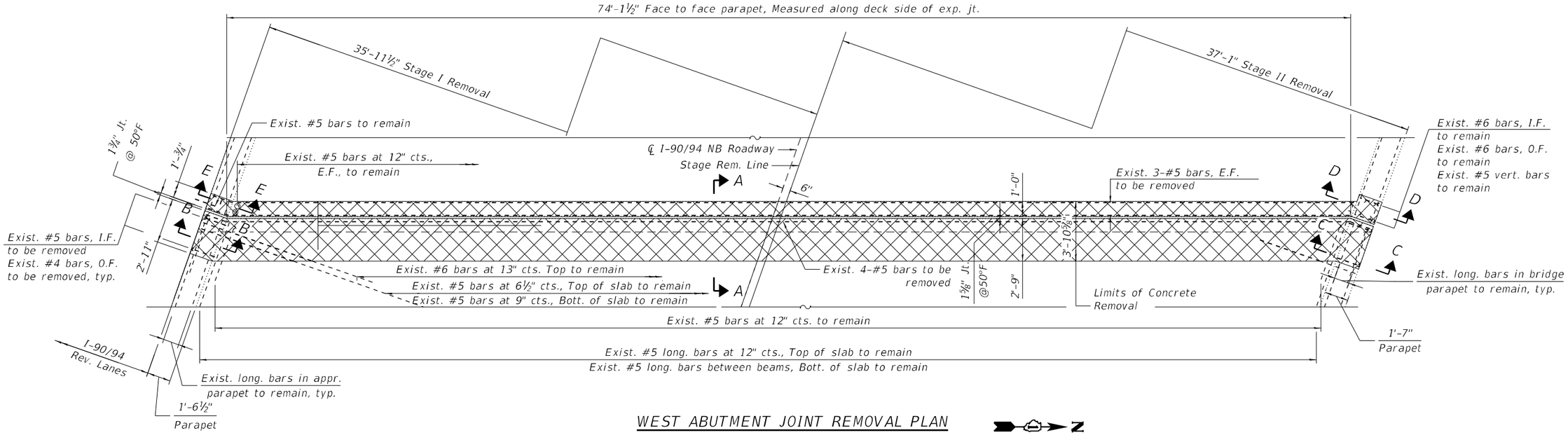
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

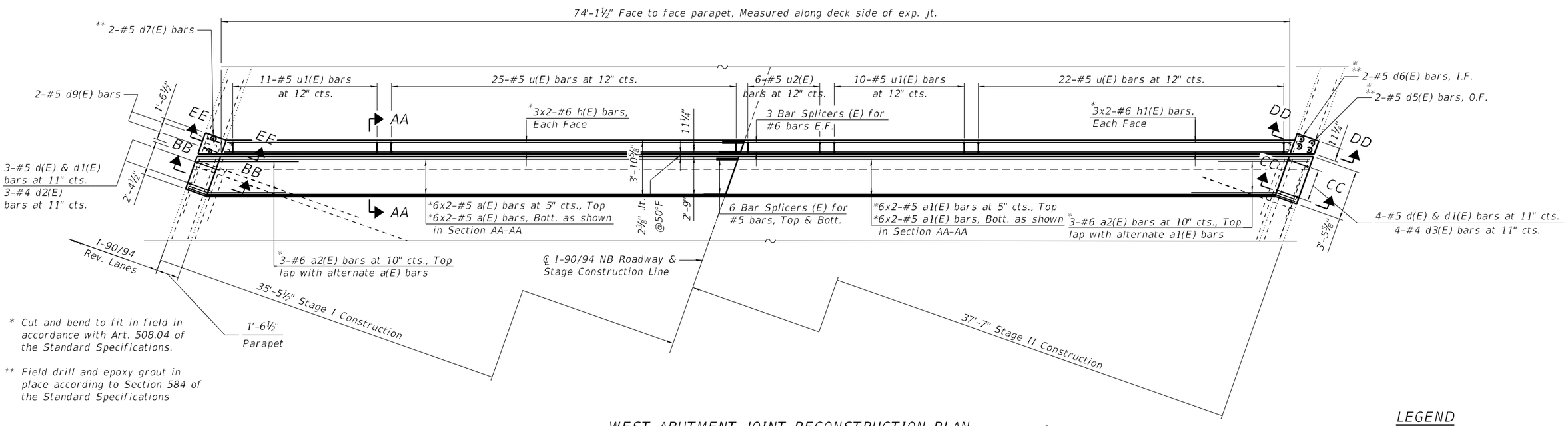
E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)
STRUCTURE NO. 016-1109 (NB)

SHEET S15-09 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	770
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

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

** Field drill and epoxy grout in place according to Section 584 of the Standard Specifications

NOTES:

1. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S15-11.
2. For Sections D-D, E-E, DD-DD and EE-EE, Additional Notes, Bar diagram and Bill of Material, see Sheet S15-12.

LEGEND

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

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-930-0100
Fax: 312-930-0101

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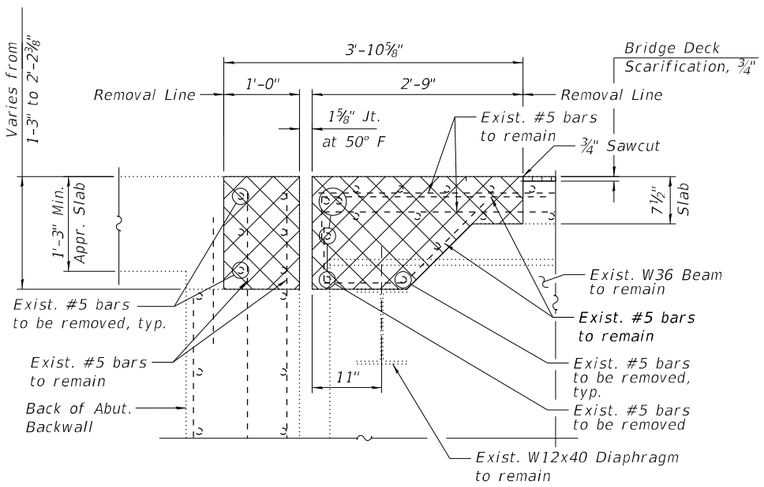
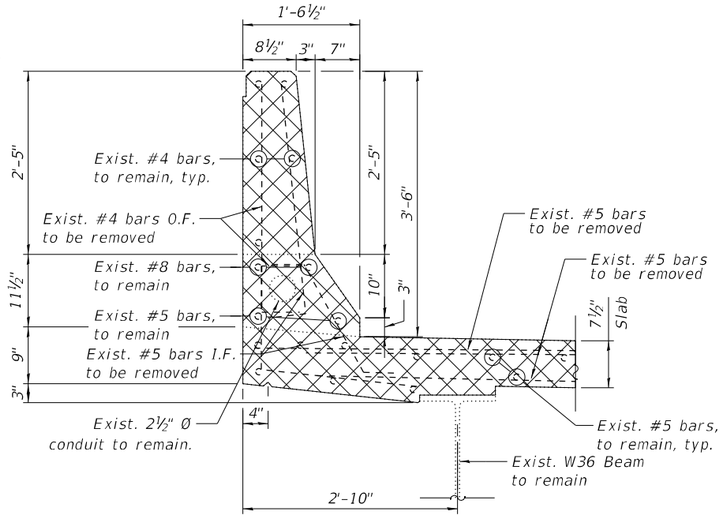
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)
STRUCTURE NO. 016-1109 (NB)
SHEET S15-10 OF S15-21 SHEETS

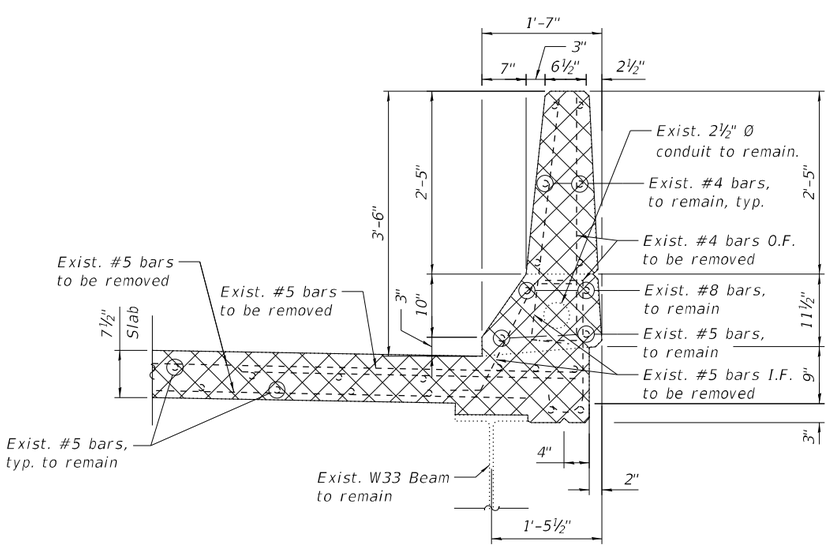
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	771
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	



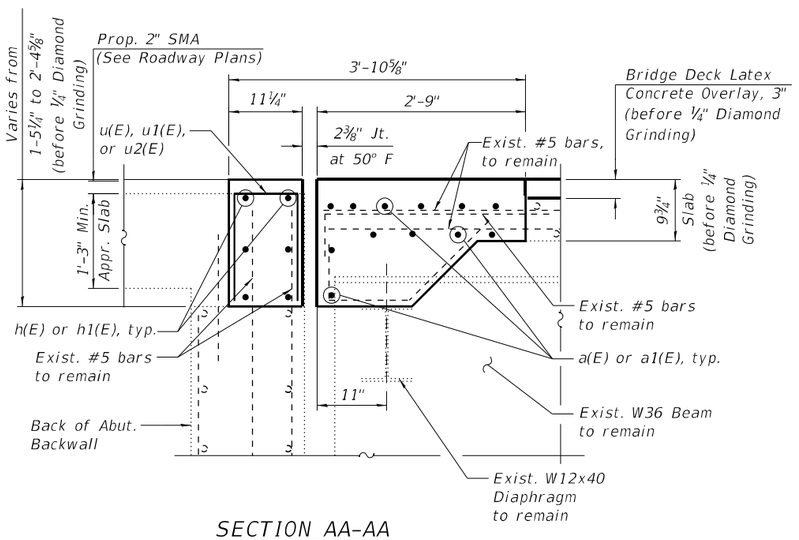
SECTION A-A



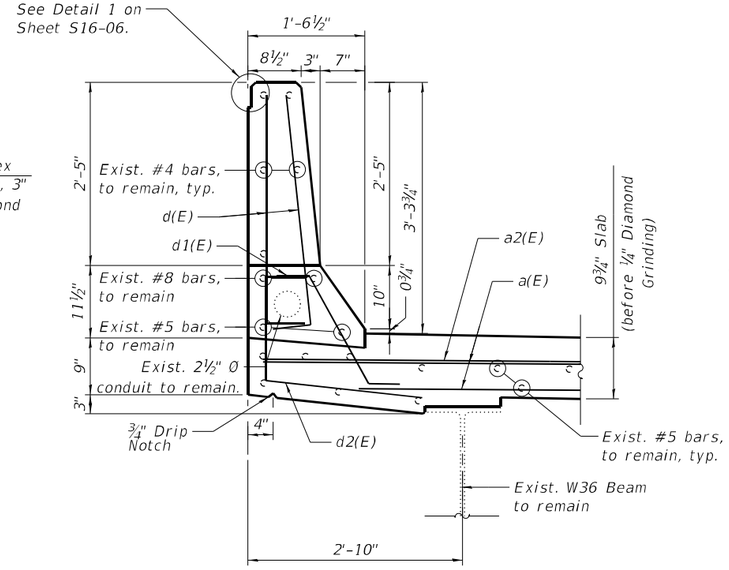
SECTION B-B



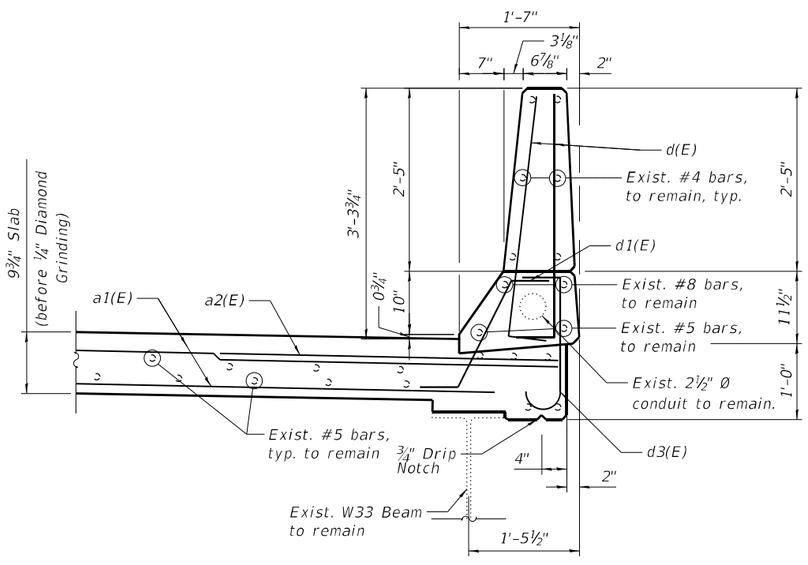
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

1. For legend, see Sheet S15-10.
2. For bar diagrams, additional notes and Bill of Material, see Sheet S15-12.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
PHONE: (312) 993-0100
FAX: (312) 993-0055

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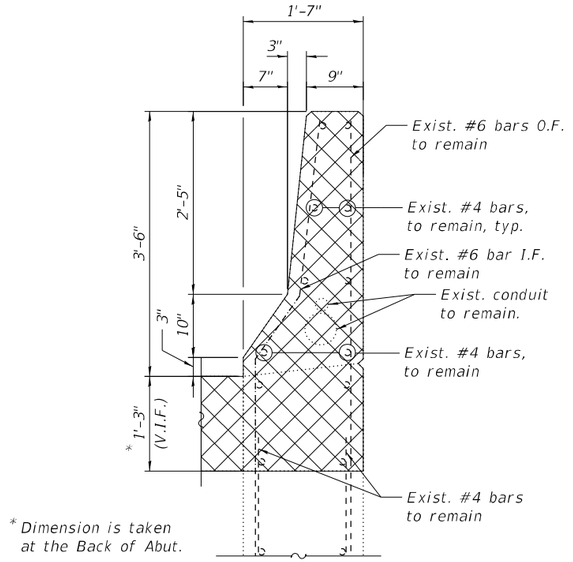
W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)
STRUCTURE NO. 016-1109 (NB)

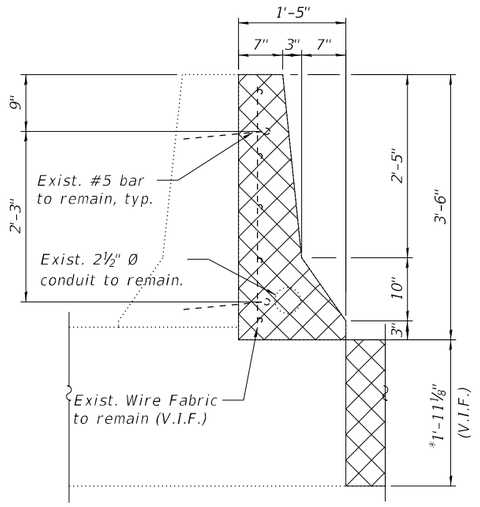
SHEET S15-11 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	772
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			

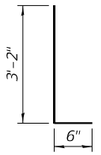


* Dimension is taken at the Back of Abut.

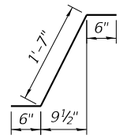
SECTION D-D



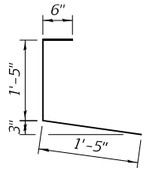
SECTION E-E



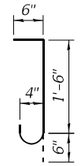
BAR d(E)



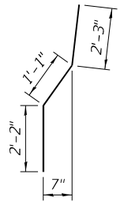
BAR d1(E)



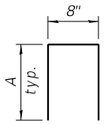
BAR d2(E)



BAR d3(E)



BAR d6(E)



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

	A
u(E)	1'-1"
u1(E)	1'-7"
u2(E)	1'-11"

BAR d9(E)

BILL OF MATERIAL

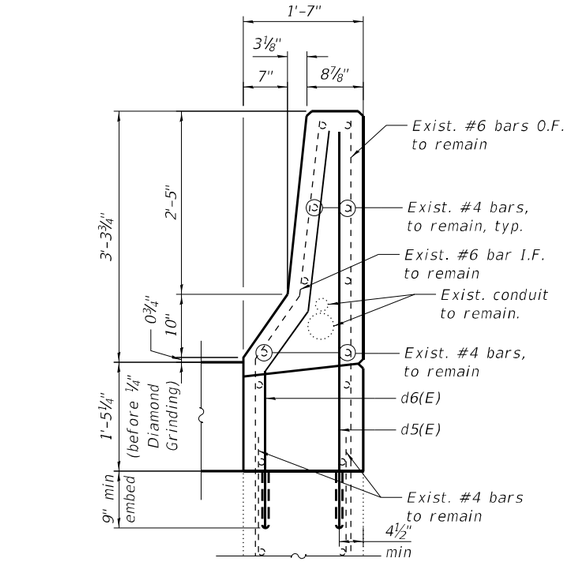
Bar	No.	Size	Length	Shape
a(E)	24	#5	20'-6"	
a1(E)	24	#5	21'-6"	
a2(E)	6	#6	6'-6"	
d(E)	14	#5	3'-8"	
d1(E)	7	#5	2'-7"	
d2(E)	3	#4	3'-4"	
d3(E)	4	#4	2'-6"	
d5(E)	2	#5	5'-4"	
d6(E)	2	#5	5'-6"	
d7(E)	2	#5	1'-6"	
d9(E)	2	#5	4'-2"	
h(E)	12	#6	19'-9"	
h1(E)	12	#6	20'-10"	
u(E)	47	#5	2'-10"	
u1(E)	21	#5	3'-10"	
u2(E)	6	#5	4'-6"	
Concrete Removal			Cu Yd	14.8
Concrete Superstructure			Cu Yd	16.7
Protective Coat			Sq Yd	35
Reinforcement Bars, Epoxy Coated			Pound	2,220

MIN. BAR LAPS

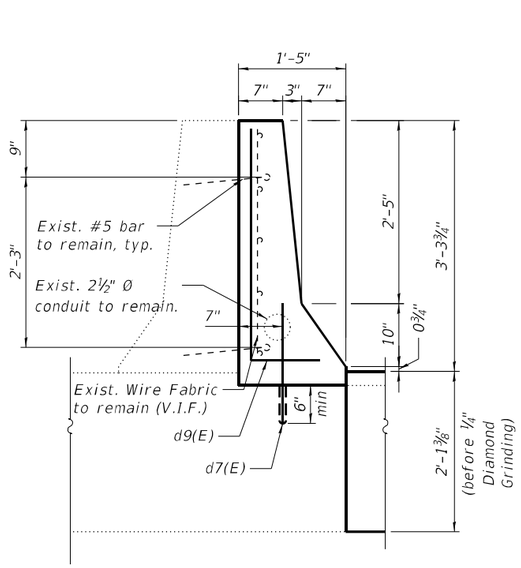
#5	3'-6"
#6	4'-0"

NOTES:

1. For legend, see Sheet S15-10.
2. For preformed joint strip seal details, see Sheet S15-13.
3. For bar splicer assembly details, see Sheet S15-21.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d5(E), d6(E), and d7(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
6. For conduit repairs refer to Electrical Plans and Specifications for details.



SECTION DD-DD



SECTION EE-EE

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Phone: 312-993-3100
Fax: 312-993-0413

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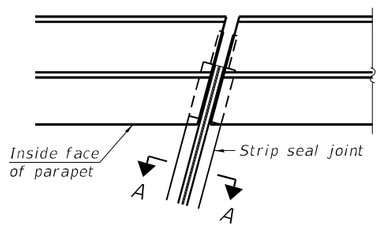
DEPARTMENT OF TRANSPORTATION

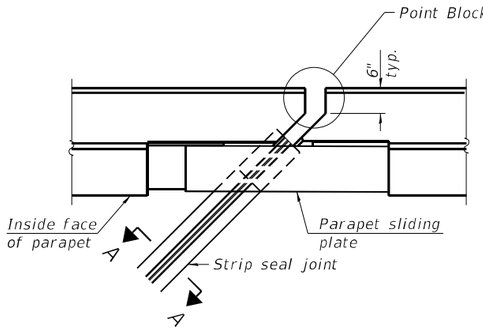
W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)
STRUCTURE NO. 016-1109 (NB)

SHEET S15-12 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	773
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			

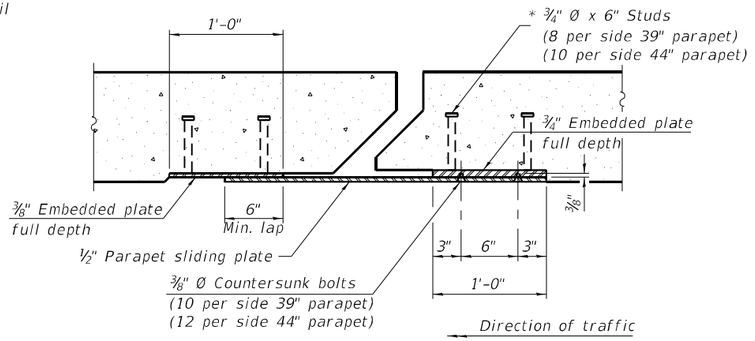


FOR SKEWS ≤ 30°



FOR SKEWS > 30°

PLAN AT PARAPET



SECTION B-B

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

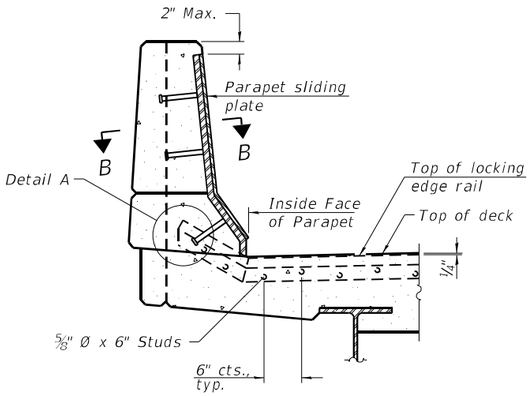
The manufacturer's recommended installation methods shall be followed.

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

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

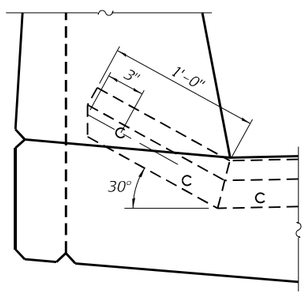
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal. 34" F-shape barrier shown, 42" F-shape similar as noted.

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

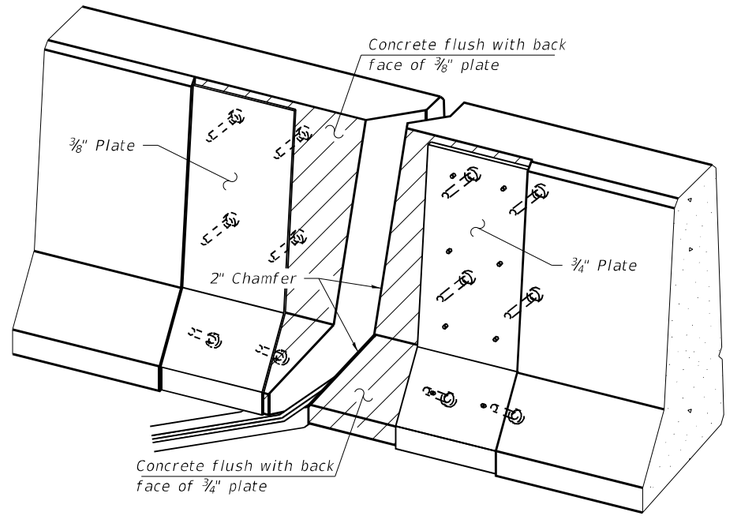


SECTION AT PARAPET

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

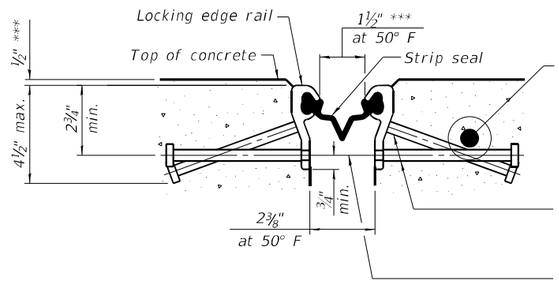


DETAIL A

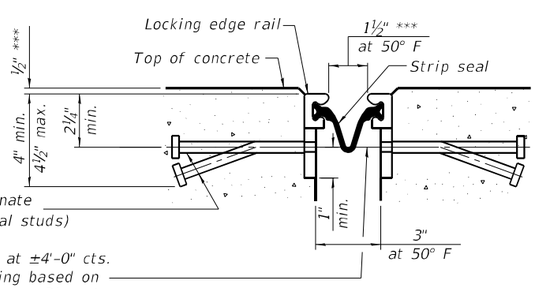


TRIMETRIC VIEW

(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT



SHOWING WELDED RAIL JOINT

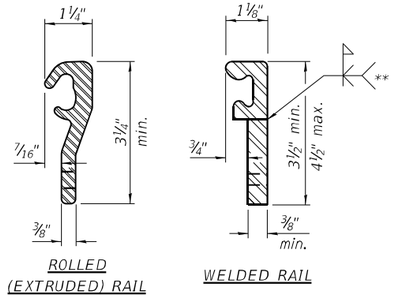
* ⅜" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

⅜" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

****Before ¼" Diamond Grinding*

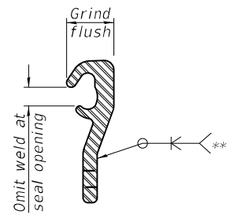


ROLLED (EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	155

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-994-0100
Fax: 312-994-0058

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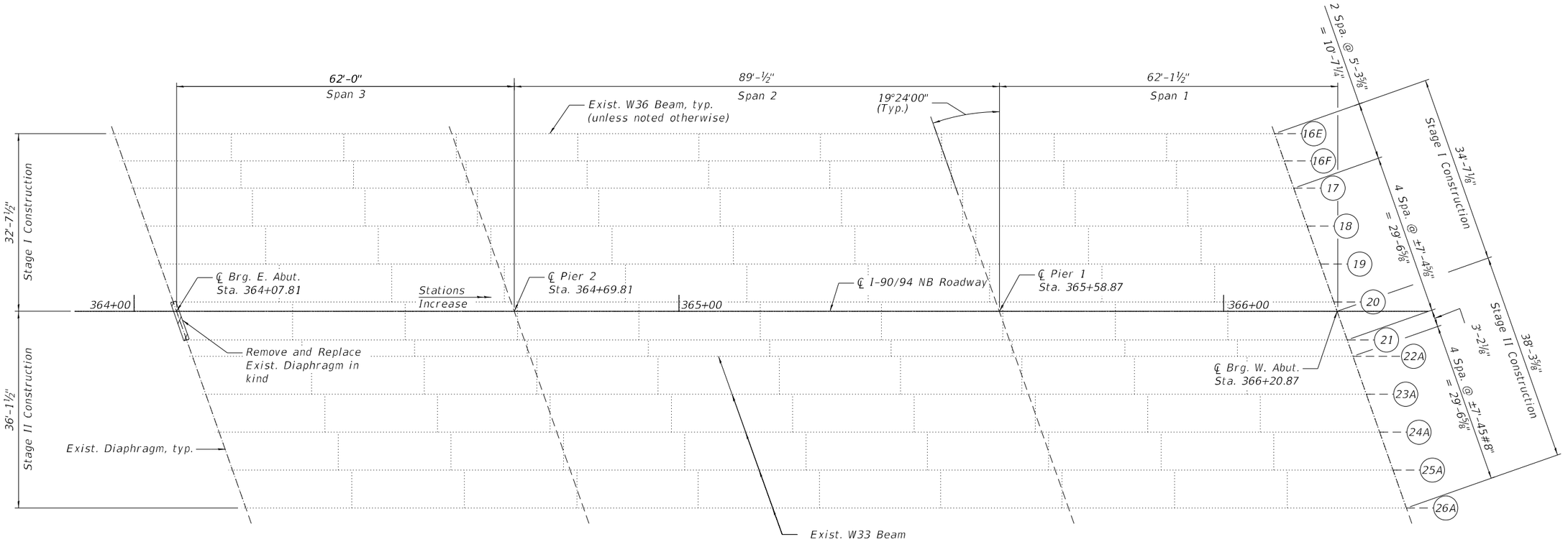
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-1109 (NB)
SHEET S15-13 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	774
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing And Erecting Structural Steel	Pound	340
Structural Steel Removal	Pound	300



FRAMING PLAN

NOTES:

1. All work is to be performed utilizing staged construction. See Sheets S15-03 and S15-04 for details.
2. For Diaphragm Removal and Replacement Details, see Sheet S15-15.

LEGEND:

Remove and Replace Exist. Diaphragm

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-930-4700
Fax: 312-930-0018

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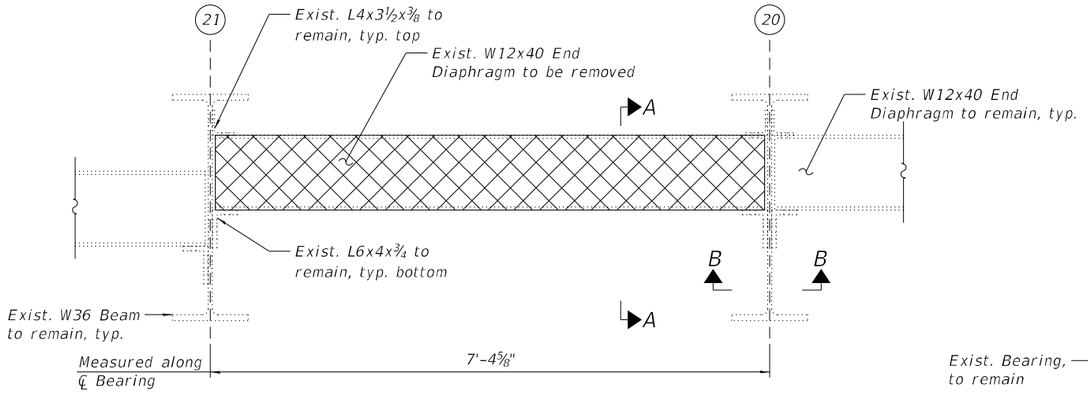
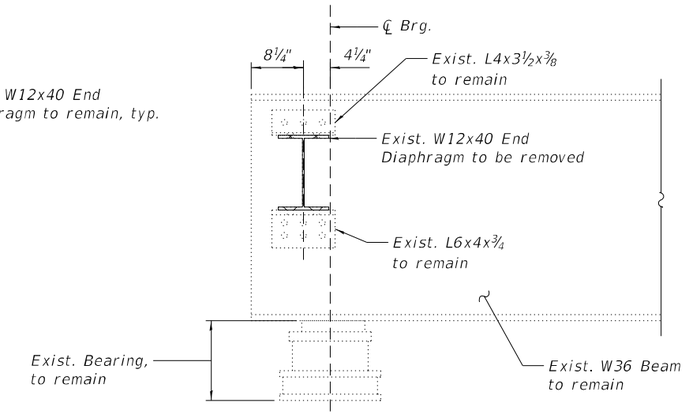
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN STEEL REPAIRS
STRUCTURE NO. 016-1109 (NB)
SHEET S15-14 OF S15-21 SHEETS

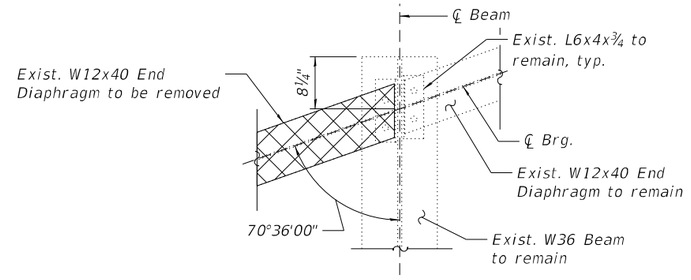
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	775
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



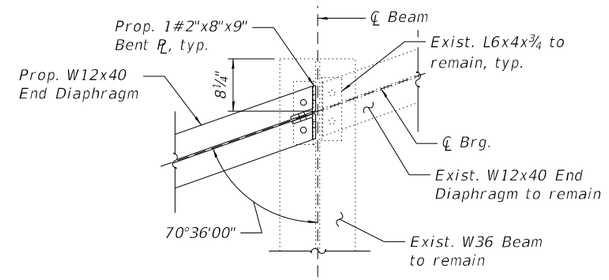
EXISTING END DIAPHRAGM REMOVAL



SECTION A-A



SECTION B-B



SECTION BB-BB

PROPOSED END DIAPHRAGM

SECTION AA-AA

NOTES:

1. For location of Diaphragm Removal/Replacement and Bill of Material, see Sheet S15-14.
2. All structural steel shall conform to the requirements of AASHTO M270 Grade 36.
3. Diaphragm connection holes shall be 15/16" for ¾" bolts. Two hardened washers shall be required at diaphragm connections. Fasteners shall be high strength bolts.
4. The proposed diaphragm and all proposed bent plates, bolts, nuts, washers and associated field-drilling shall be paid for as Furnishing and Erecting Structural Steel.

LEGEND:

Structural Steel Removal

○ Field drill holes in new steel using existing steel as template

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

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-876-4700
Fax: 312-876-0518

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

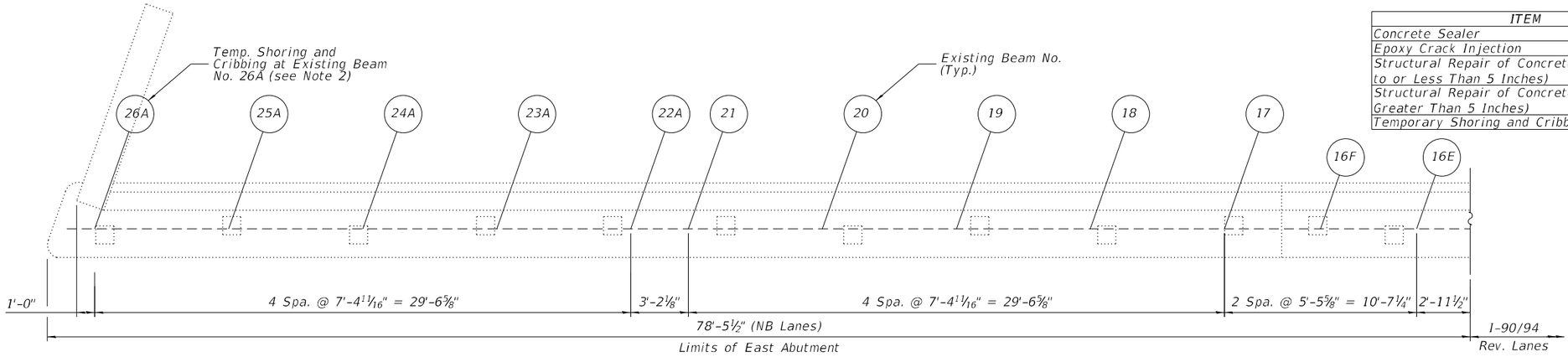
STRUCTURAL STEEL REPAIR DETAILS
STRUCTURE NO. 016-1109 (NB)

SHEET S15-15 OF S15-21 SHEETS

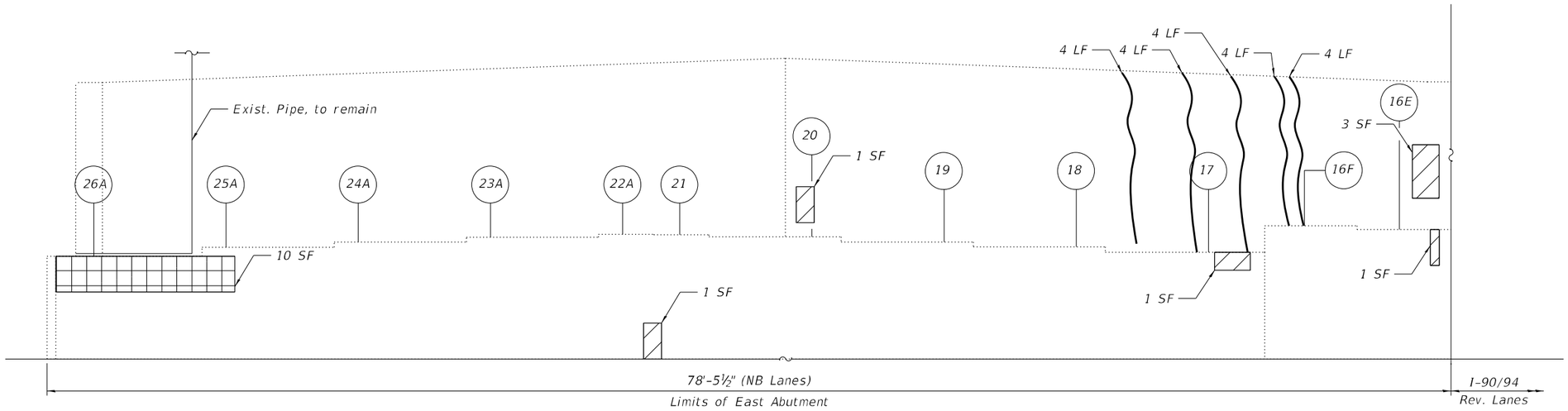
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	776
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	440
Epoxy Crack Injection	Foot	20
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	7
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	10
Temporary Shoring and Cribbing	Each	1



EAST ABUTMENT PLAN



EAST ABUTMENT ELEVATION

(Looking East)

SUMMARY OF REACTIONS EAST ABUTMENT		
R DL	(k)	23.41
R LL	(k)	37.96
R IM	(k)	10.14
R Total	(k)	71.51

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. Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.
3. For Slope Wall repairs, see Sheet S15-20.
4. Concrete Sealer is to be applied to the abutment seat and the bottom 2 ft of the abutment backwall.

LEGEND

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

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 1-312/344-1199
Fax: 312/454-0411

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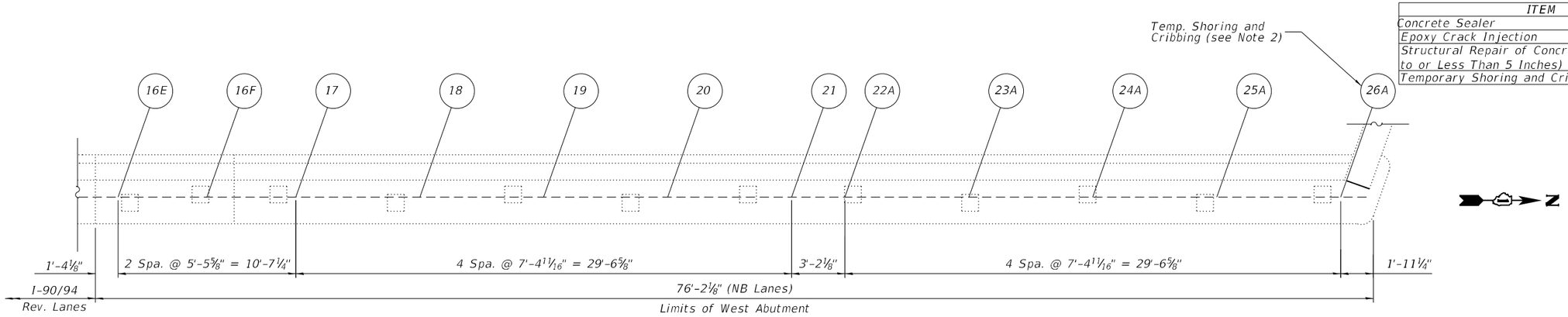
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT REPAIRS
STRUCTURE NO. 016-1109 (NB)
SHEET S15-16 OF S15-21 SHEETS

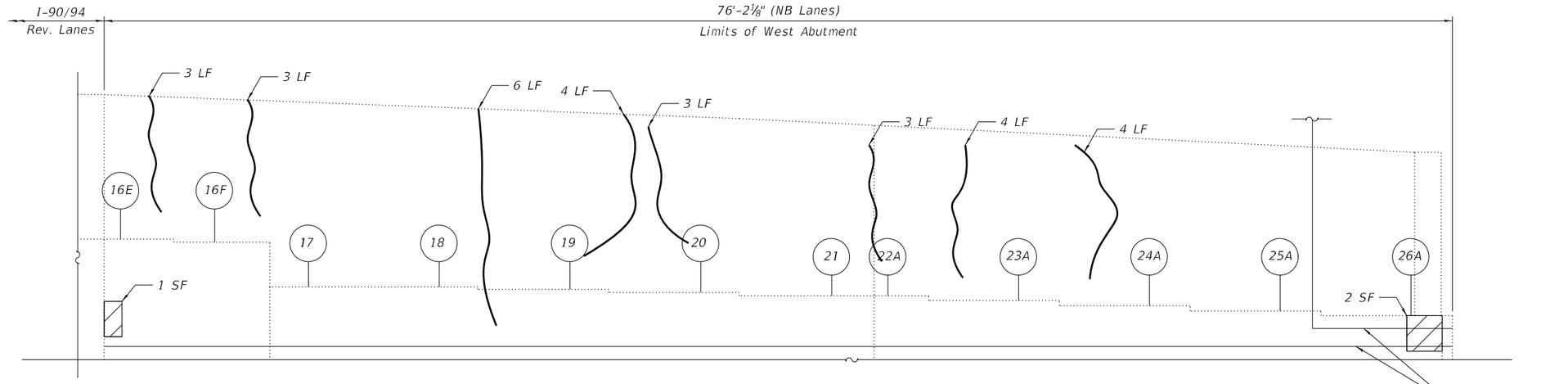
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	777
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

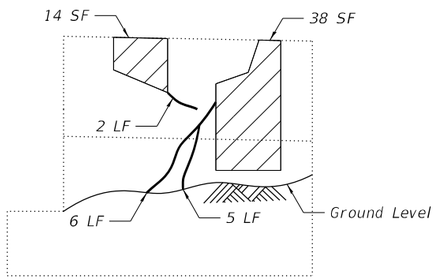
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	465
Epoxy Crack Injection	Foot	43
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	55
Temporary Shoring and Cribbing	Each	1



WEST ABUTMENT PLAN





NORTHWEST WINGWALL ELEVATION

(Looking South)

WEST ABUTMENT ELEVATION

(Looking West)

SUMMARY OF REACTIONS WEST ABUTMENT		
R DL	(k)	23.41
R LL	(k)	37.96
R IM	(k)	10.14
R Total	(k)	71.51

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. Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.
3. For Slope Wall repairs, see Sheet S15-20.
4. Concrete Sealer is to be applied to the abutment seat and the bottom 2 ft of the abutment backwall.

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

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
212 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone 312-606-4100
Fax 312-606-4101

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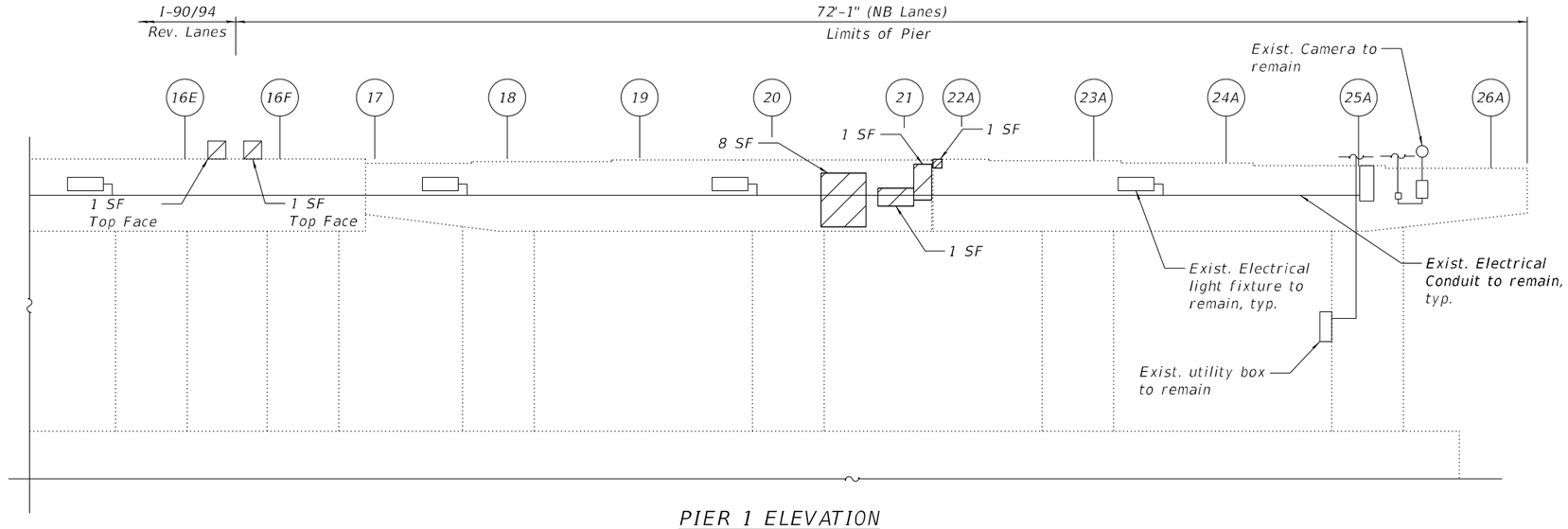
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT REPAIRS
STRUCTURE NO. 016-1109 (NB)

SHEET S15-17 OF S15-21 SHEETS

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	778
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



PIER 1 ELEVATION

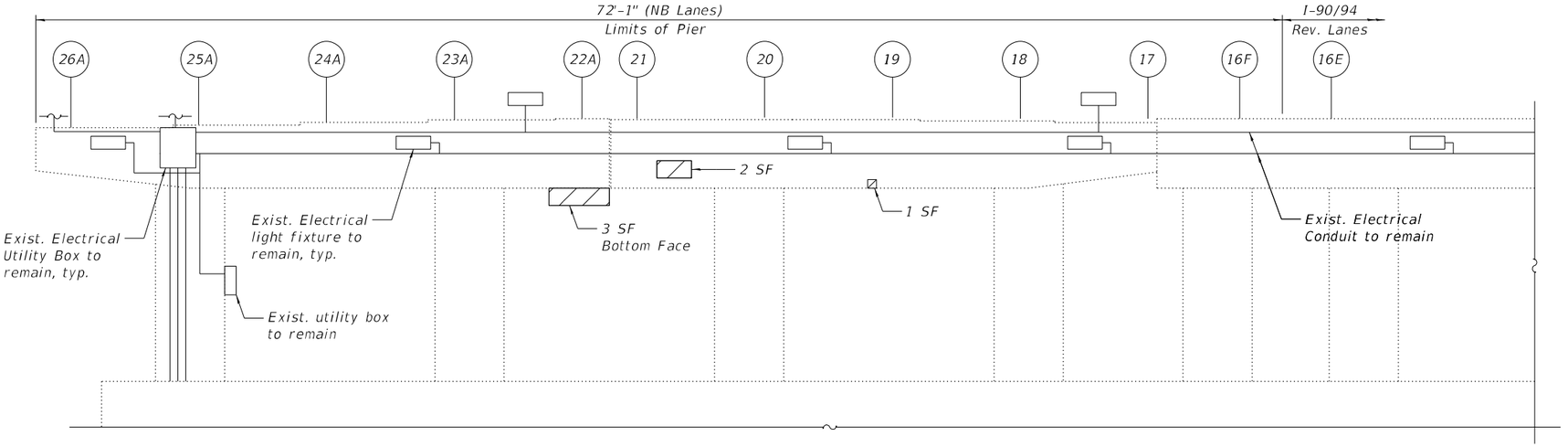
(Looking West)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	19

EXISTING LIGHTING: PIER 1

(Looking South)



PIER 1 ELEVATION

(Looking East)

EXISTING LIGHTING: PIER 1

(Looking Northeast)

NOTE:

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

LEGEND

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

SF - Square Foot

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 1-312/344-1199
Fax: 312/454-0411

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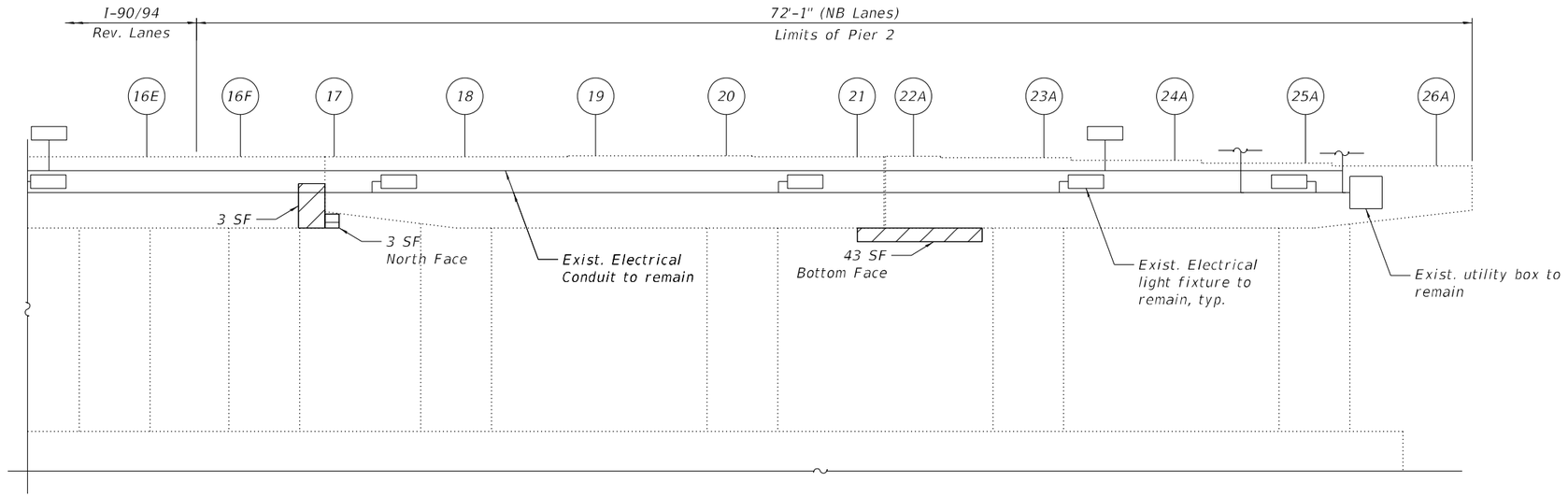
PIER 1 REPAIRS
STRUCTURE NO. 016-1109 (NB)
SHEET S15-18 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	779
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



PIER 2 ELEVATION

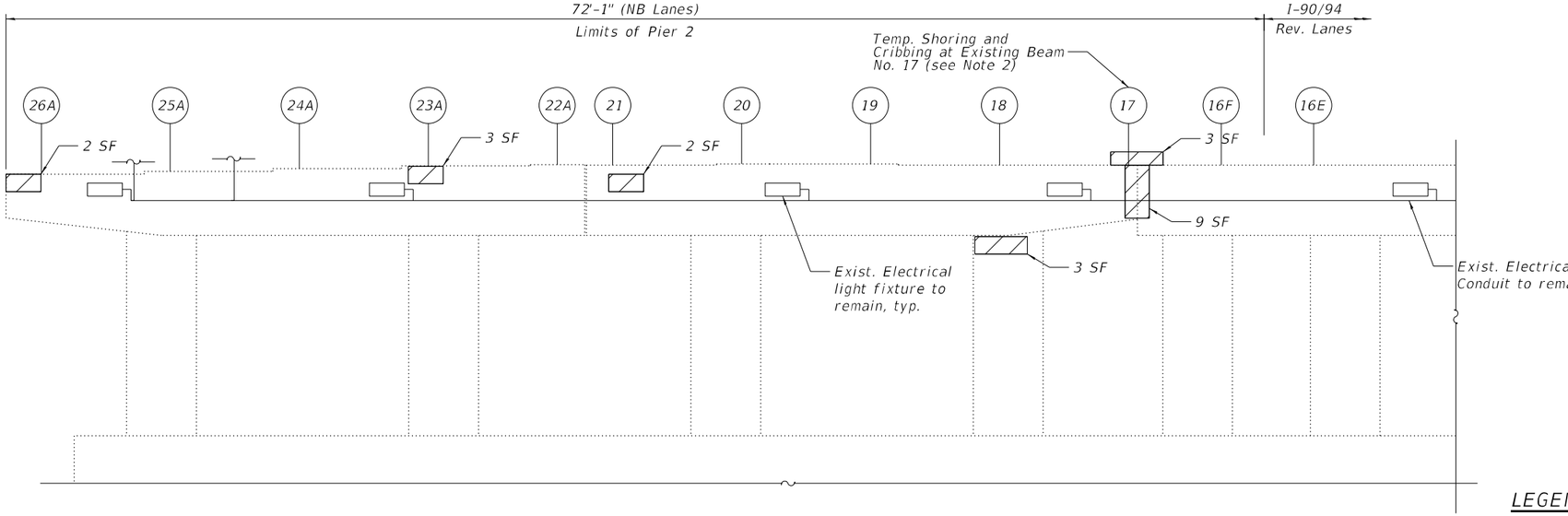
(Looking West)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	68
Structural Repair of Concrete (Depth Equal to or Greater Than 5 Inches)	Sq Ft	3
Temporary Shoring and Cribbing	Each	1

EXISTING LIGHTING: PIER 2

(Looking West)



EXISTING LIGHTING: PIER 2

(Looking East)

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.

2. Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

PIER 2 ELEVATION

(Looking East)

SUMMARY OF REACTIONS PIER 2		
R DL	(k)	96.98
R LL	(k)	45.72
R IM	(k)	13.72
R Total	(k)	156.42

LEGEND

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

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

SF – Square Foot

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Phone: (312) 930-4100
Fax: (312) 930-4101

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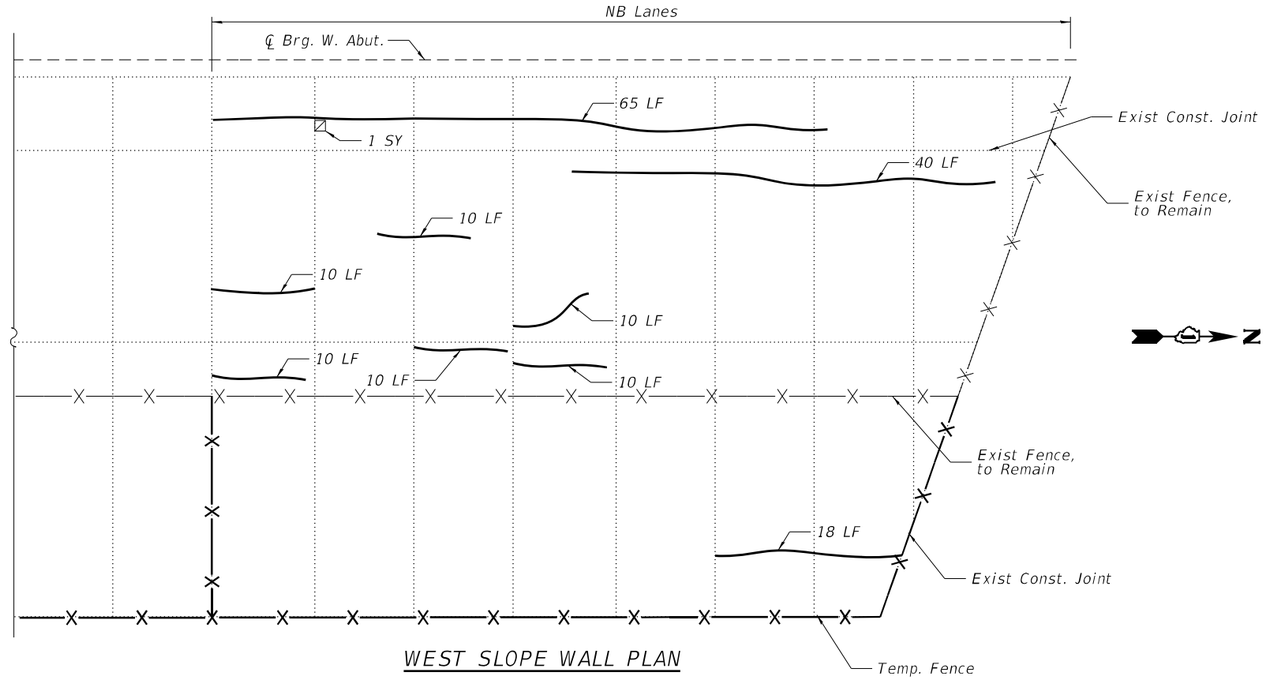
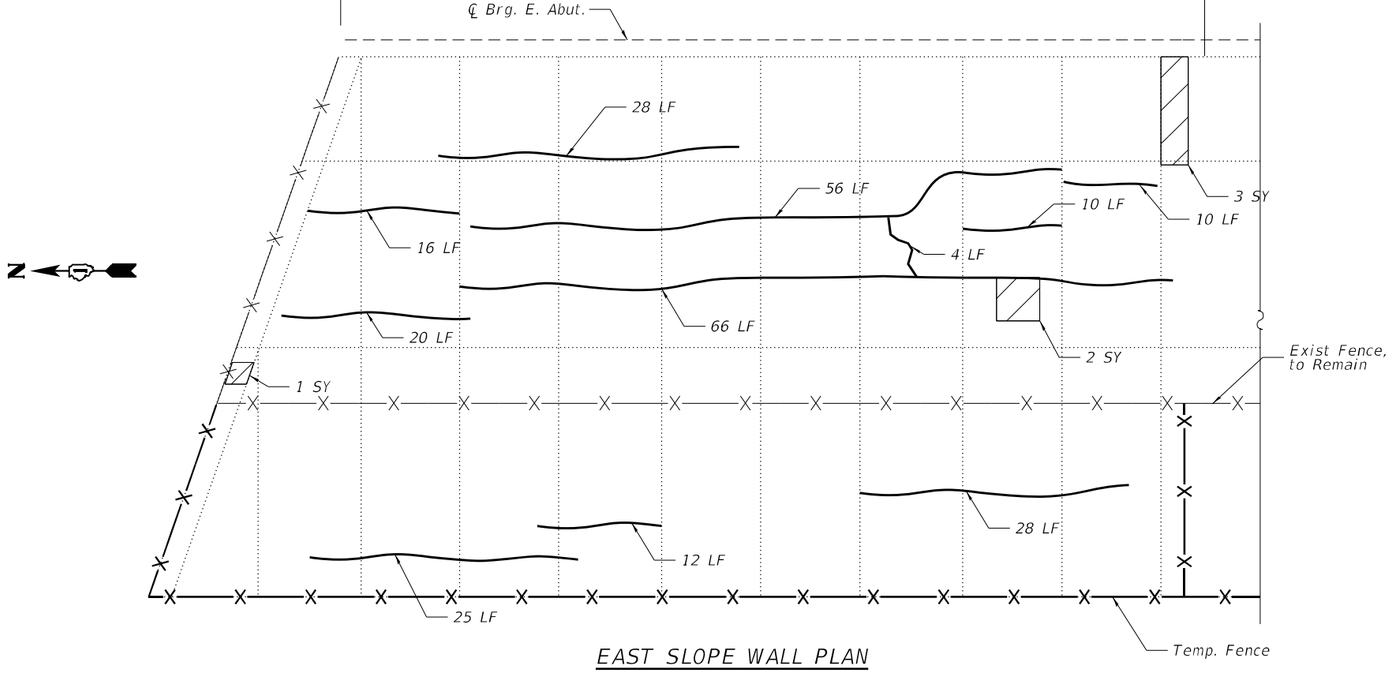
PIER 2 REPAIRS
STRUCTURE NO. 016-1109 (NB)
SHEET S15-19 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	780
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			



WEST SLOPE WALL PLAN



EAST SLOPE WALL PLAN

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu Yd	3
Slope Wall Removal	Sq Yd	6
Slope Wall 4 Inch	Sq Yd	6
Slope Wall Crack Sealing	Foot	458

NOTES:

1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
2. Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. – W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

LEGEND

Slope Wall Removal and Replacement with 4 Inch Slope Wall

Slope Wall Crack Sealing

SY Square Yard

LF Linear Foot

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-994-0100
Fax: 312-994-0018

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SLOPE WALL REPAIRS
STRUCTURE NO. 016-1109 (NB)
SHEET S15-20 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	781
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

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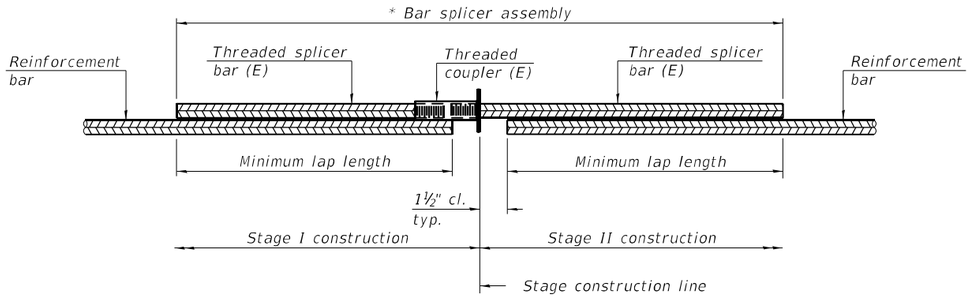


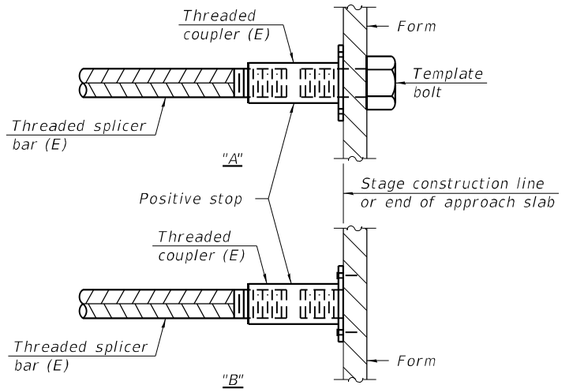
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

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

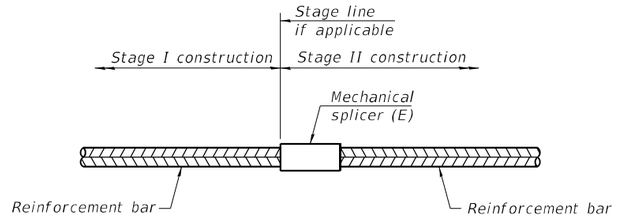
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies	Minimum lap length
East Abutment Exp. Jt.	#5	12	3'-6"
	#6	6	4'-0"
West Abutment Exp. Jt.	#5	12	3'-6"
	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
200 WEST ADAMS STREET, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-994-0100
Fax: 312-994-0058

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DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-1109 (NB)
SHEET S15-21 OF S15-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	782
		CONTRACT NO. 62K73		
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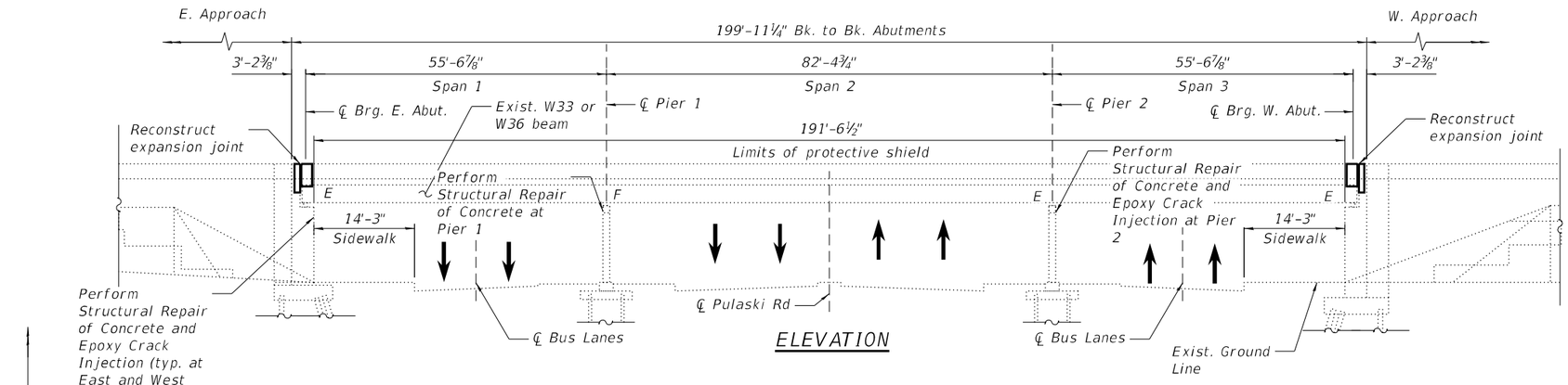
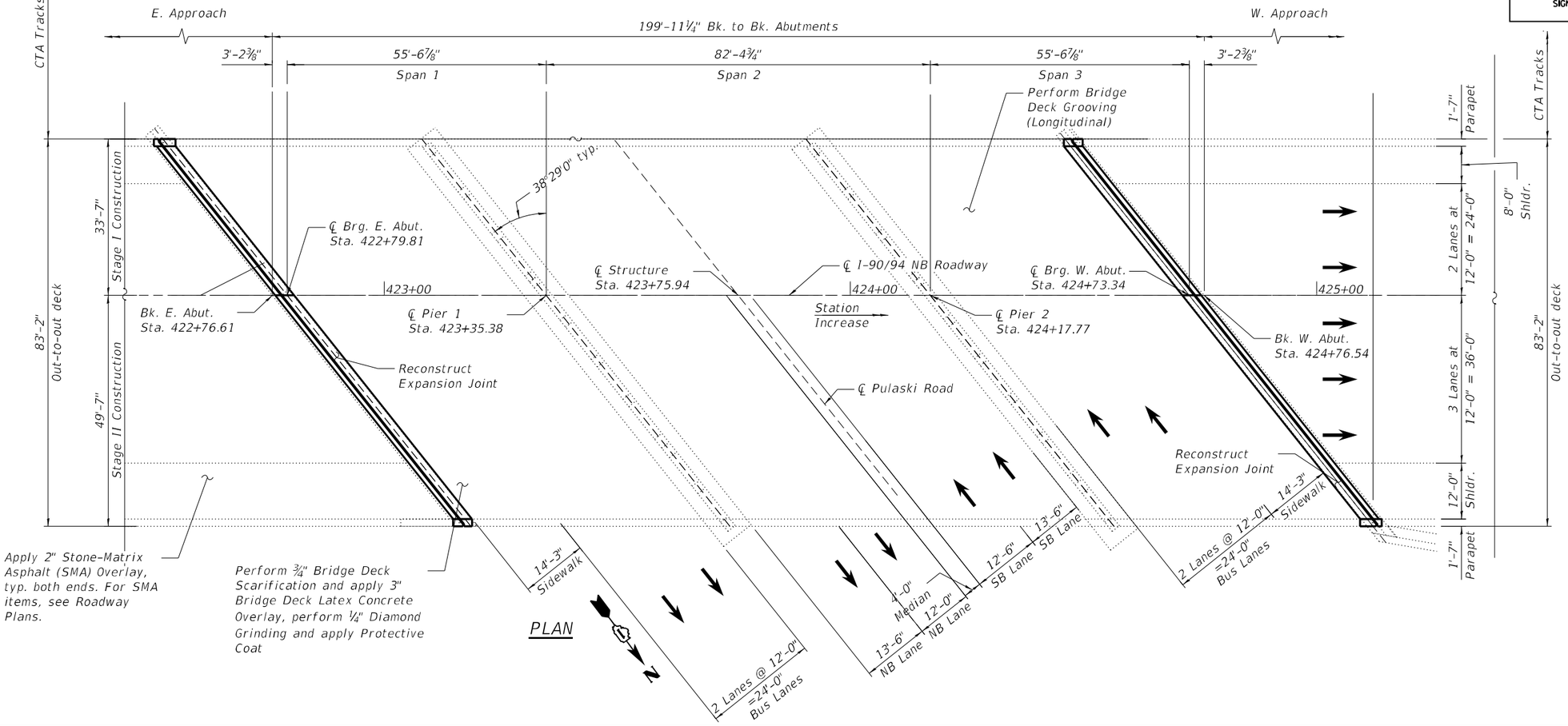
Existing Structure: S.N. 016-0117 was originally built in 1960. The bridge was widened between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a back-to-back abutment length of 199'-11¼" and an out-to-out deck width of 83'-2". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 55'-6⅞", 82'-4¾", and 55'-6⅞". The substructure consists of reinforced concrete abutments and piers supported on concrete piles.

Traffic is to be maintained utilizing stage construction.

No salvage.



ELEVATION



PLAN

LOADING

HS-20

DESIGN SPECIFICATIONS

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

RECONSTRUCTION 1993

1989 AASHTO Standard Specifications for Highway Bridges with 1990 & 1991 Interim Specifications.

NOTE:

1. All stations are to the ℄ I-90/94 NB Roadway and taken from existing plans.

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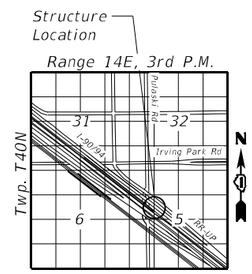
HIBA AHMED ABDALLA, PhD, PE, SE
*081-007634
DATE: 04/29/2024

EXPIRATION DATE: 11-30-2024

SIGNATURE AND SEAL APPLY TO DRAWINGS: S16-01 TO S16-18



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
NB I-90/94 OVER PULASKI RD.
F.A.I. ROUTE 90/94
SECTION 2020-005-BR
COOK COUNTY
STATION 423+75.94
S.N. 016-0117 (NB)

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
233 SOUTH WACKER DRIVE, SUITE 2450
CHICAGO, ILLINOIS
Telephone: 1-312-804-3100
Fax: 312-804-3018

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 016-0117 (NB)

SHEET S16-01 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	783
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

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GENERAL NOTES

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

2. Plan dimensions and details relative to 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. All exposed concrete edges shall have a ¾"x45° chamfer except where shown otherwise.

5. Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system at the Contractor's expense.

6. For SMA overlay on Approach Slab, see Roadway Sheets.

7. Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside faces of parapets, and top of Latex Concrete Overlay.

8. 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.

9. 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 ¼" 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.

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

11. Adjacent CTA Tracks bridge is not shown throughout the plans for clarity.

12. 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.

13. 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.

14. 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".

15. The Contractor shall exercise extreme caution during concrete removal to avoid damage to the existing steel beams and diaphragms to remain. Any damage to the existing steel beam and 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.

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 adjustment 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 including in the cost of Protective Shield.

18. The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.

19. The intent of the temporary fence is to deny access of any unauthorized personnel under the bridge during construction. Actual fence installations may vary from what is shown on the plans. All fence installations must be approved by the Engineer.

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	38.9	-	38.9
Protective Shield	Sq Yd	171	-	171
Concrete Superstructure	Cu Yd	43.3	-	43.3
Protective Coat	Sq Yd	1951	-	1951
Reinforcement Bars, Epoxy Coated	Pound	5760	-	5760
Bar Splicers	Each	32	-	32
Preformed Joint Strip Seal	Foot	211	-	211
Concrete Sealer	Sq Ft	-	783	783
Epoxy Crack Injection	Foot	-	101	101
Protect and Maintain Existing Underpass Luminaire	L Sum	-	0.04	0.04
Bridge Deck Grooving (Longitudinal)	Sq Yd	1271	-	1271
Approach Slab Repair (Full Depth)	Sq Yd	40	-	40
Approach Slab Repair (Partial Depth)	Sq Yd	40	-	40
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1694	-	1694
Bridge Deck Scarification 3/4"	Sq Yd	1694	-	1694
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	-	85	85
Deck Slab Repair (Full Depth, Type II)	Sq Yd	21.1	-	21.1
Diamond Grinding (Bridge Section)	Sq Yd	1763	-	1763
Temporary Shoring and Cribbing	Each	-	1	1

SCOPE OF WORK

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

2. Scarify ¾" from the bridge deck slab.

3. Perform Deck Slab Repairs.

4. Reconstruct Expansion Joints at the East and West abutments and install new preformed joint strip seals.

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

6. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.

7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the approach Slabs, see Roadway Plans.

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

9. Apply protective coat to the top of reconstructed transverse joint areas, top and inside faces of parapets, and top of Latex Concrete Overlay.

10. Perform structural concrete repairs for the abutments and piers as noted on the plans.

GENERAL NOTES (CONT.)

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

21. Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft of the abutment backwalls.

22. The Contractor shall Remove, Store, and re-erect portions of the structure mounted Timber Noise Abatement wall that interferes with the joint reconstruction. The Cost of this work, including any new hardware as required, is included in the cost of Concrete Superstructure.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
233 SOUTH WEKER DRIVE PLAZA, SUITE 2450
CHICAGO, IL 60606-6100
Telephone: 312-606-4100
Fax: 312-606-4101

USER NAME =	DESIGNED - JAB	REVISED -	
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DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS & TBOM
STRUCTURE NO. 016-0117 (NB)
SHEET S16-02 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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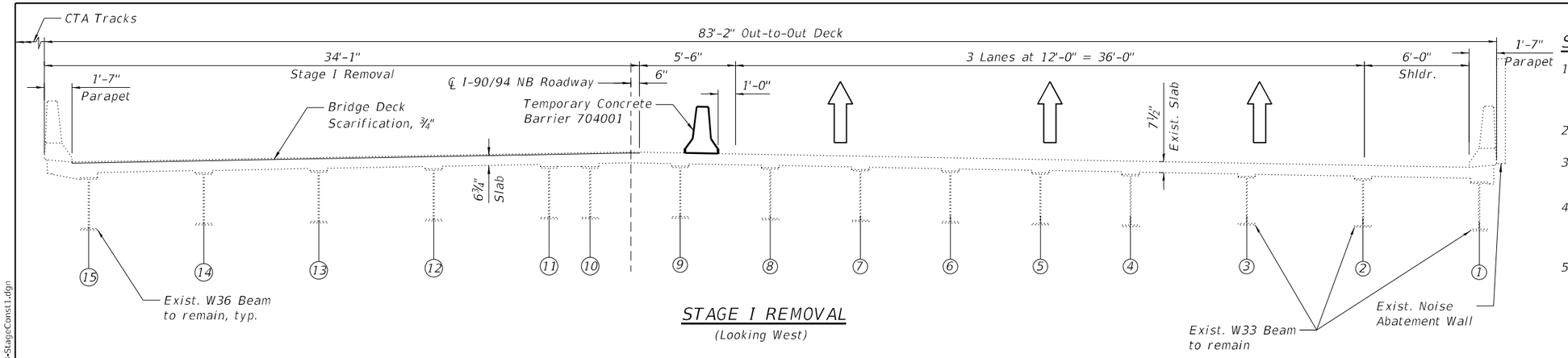
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	

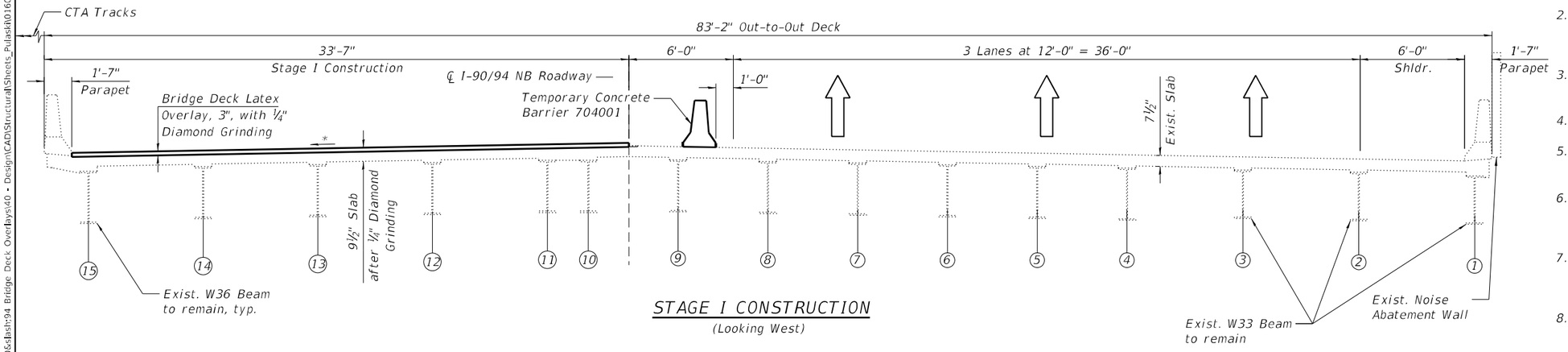


STAGE I REMOVAL

(Looking West)

STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the South side of the existing structure.
2. Perform ¾" 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 East and West Abutments.
5. Perform temporary shoring and cribbling at location shown on the plans with the limits of stage I removal.

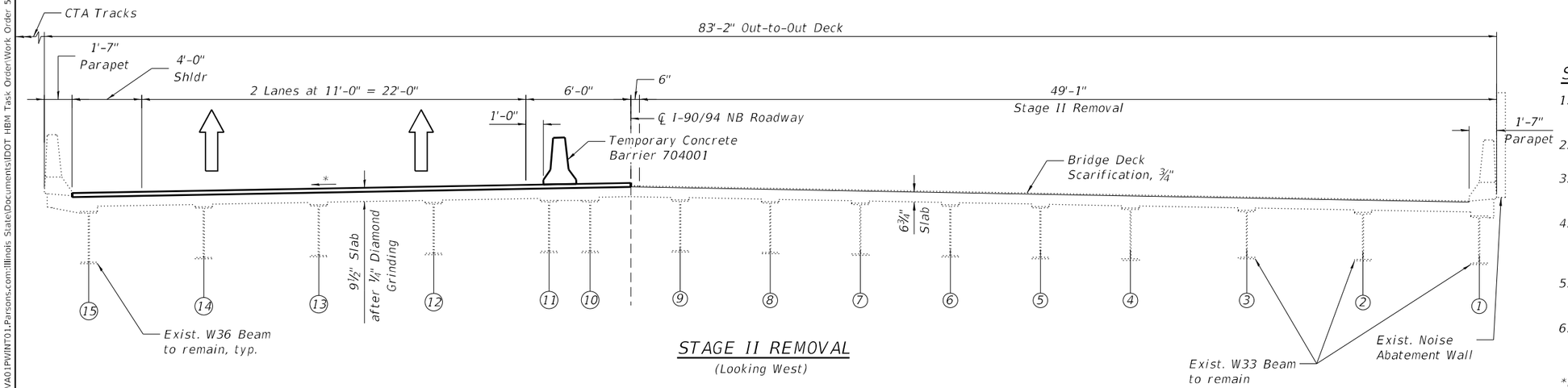


STAGE I CONSTRUCTION

(Looking West)

STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Decl Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of west parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.



STAGE II REMOVAL

(Looking West)

STAGE II REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the South side of the existing structure.
2. Perform ¾" 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 East and West Abutments.
5. Perform temporary shoring and cribbling at location shown on the plans with the limits of stage II removal.
6. Remove and preserve existing Noise Abatement Wall at expansion joints.

*Match existing cross slopes

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
233 SOUTH WACKER DRIVE PLAZA, SUITE 2450
CHICAGO, ILLINOIS
Telephone: 1-312-994-0100
Fax: 312-994-0018

USER NAME =	DESIGNED - JAB	REVISED -	
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STAGE CONSTRUCTION (SHEET 1 OF 2)
STRUCTURE NO. 016-0117 (NB)
SHEET S16-03 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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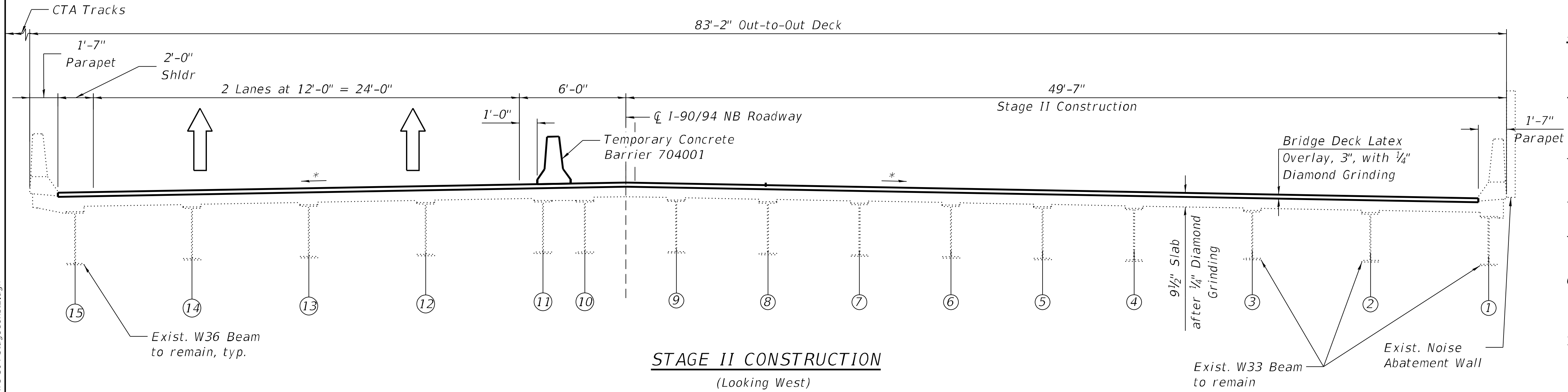
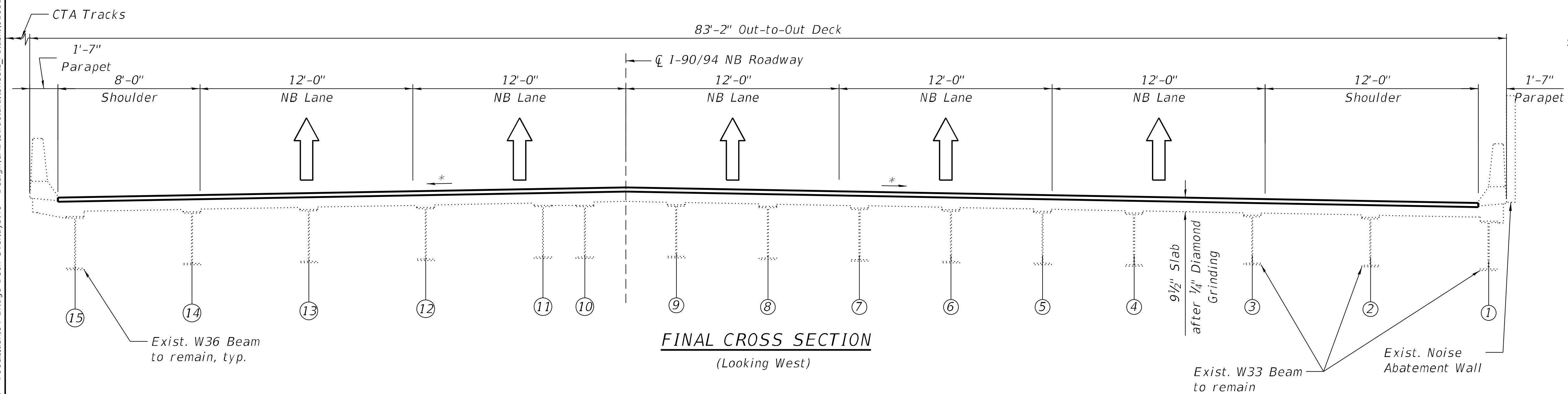
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



STAGE II CONSTRUCTION

(Looking West)



FINAL CROSS SECTION

(Looking West)

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. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform ¼" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of east parapet, reconstructed abutment expansion joints areas, and to the surfaces of the new overlay.
9. Re-erect removed portion of existing Noise Abatement Wall.

*Match Existing Cross-slopes

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PARSONS TRANSPORTATION GROUP	USER NAME =	DESIGNED - JAB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION (SHEET 2 OF 2) STRUCTURE NO. 016-0117 (NB)
		CHECKED - HAA	REVISED -		
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	PLOT DATE =	DATE - 04/29/2024	REVISED -		SHEET S16-04 OF S16-18 SHEETS

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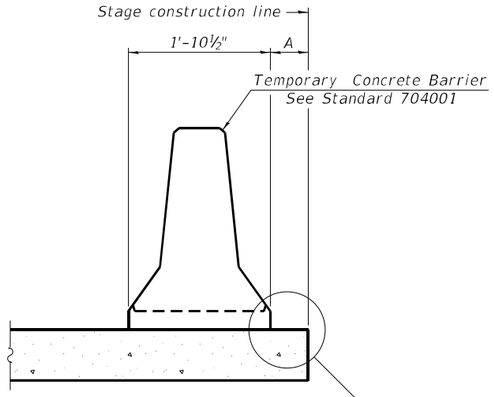
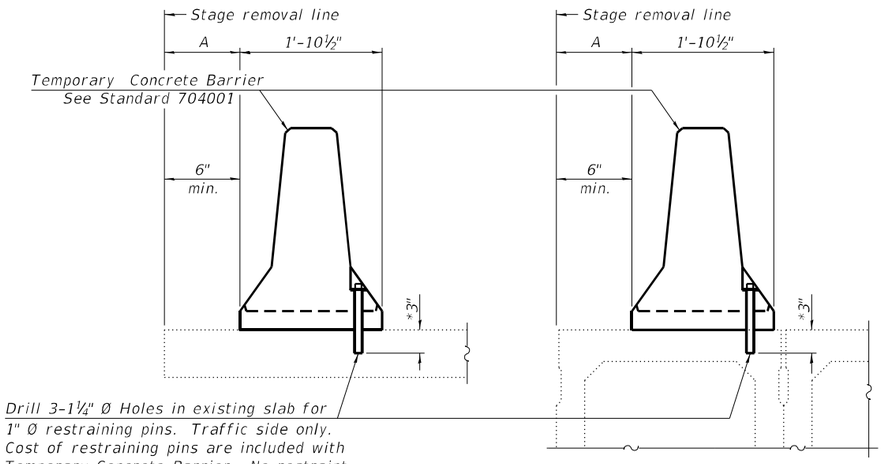


When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

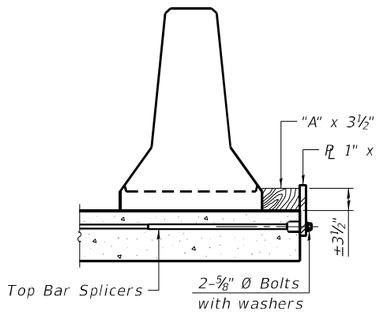


EXISTING SLAB

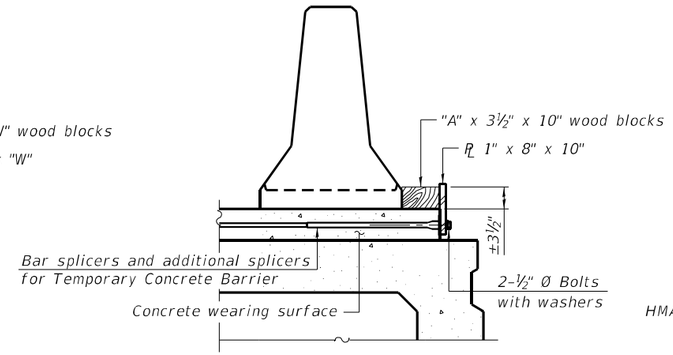
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

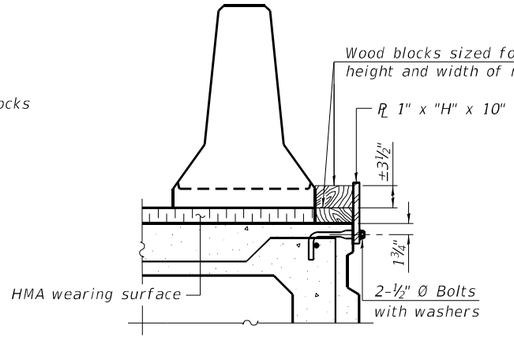
SECTIONS THRU SLAB OR DECK BEAM



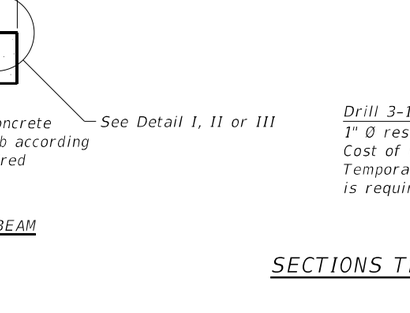
DETAIL I



DETAIL II

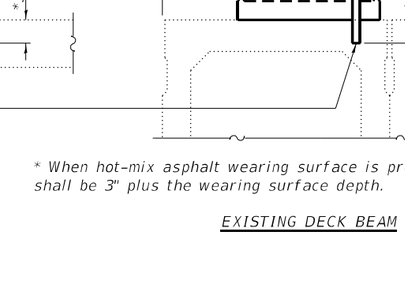


DETAIL III



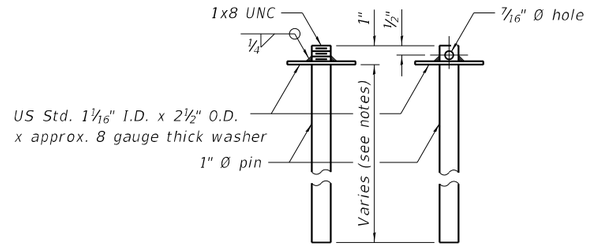
STEEL RETAINER ℄ 1" x 8" x "W"

(Detail I and II)

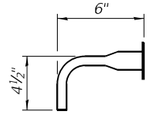


STEEL RETAINER ℄ 1" x "H" x 10"

(Detail III)



RESTRAINING PIN



BAR SPLICER FOR #4 BAR - DETAIL III

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate ℄ 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 1½", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

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

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

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

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

10-12-2021

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
233 SOUTH WEKER SIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-939-0700
Fax: 312-939-0038

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TEMPORARY CONCRETE BARRIER
STRUCTURE NO. 016-0117 (NB)

SHEET S16-05 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	787
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			

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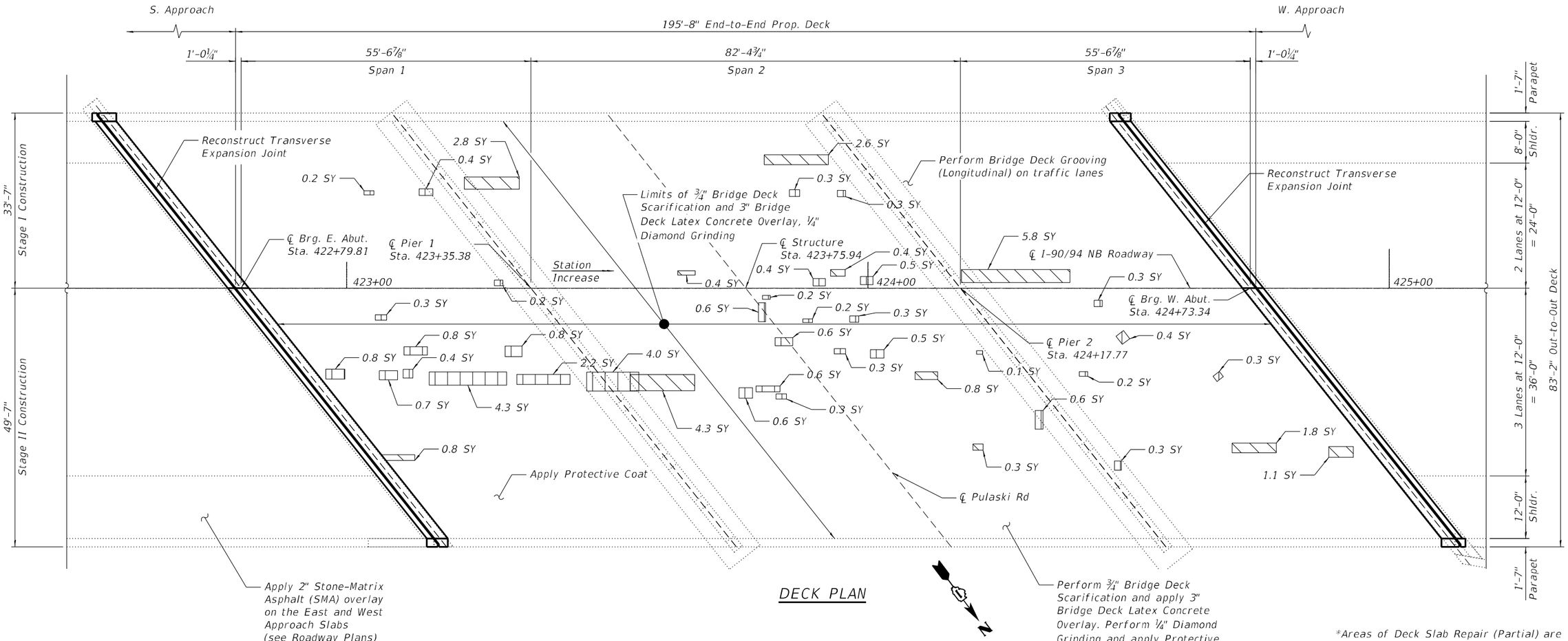
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	1,875
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,271
Approach Slab Repair (Full Depth)	Sq Yd	40
Approach Slab Repair (Partial Depth)	Sq Yd	40
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,694
Bridge Deck Scarification 3/4"	Sq Yd	1,694
Deck Slab Repair (Full Depth Type II)	Sq Yd	21.1
Diamond Grinding (Bridge Section)	Sq Yd	1,763



DECK PLAN

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

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 S16-04.
3. For East and West transverse joint removal and reconstruction, see Sheets S16-07 thru S16-12.
4. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
5. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched area.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
9. Approach Slab Repair (Full Depth) and Approach Slab Repair (Partial Depth) quantites have been estimated (based on a nominal 3% of bridge approach area) 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:

*Deck Slab Repair (Partial Depth)

Deck Slab Repair (Full Depth, Type II)

SY Square Yard

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-876-4100
Fax: 312-876-0518

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DECK REPAIR PLAN
STRUCTURE NO. 016-0117 (NB)
SHEET S16-06 OF S16-18 SHEETS

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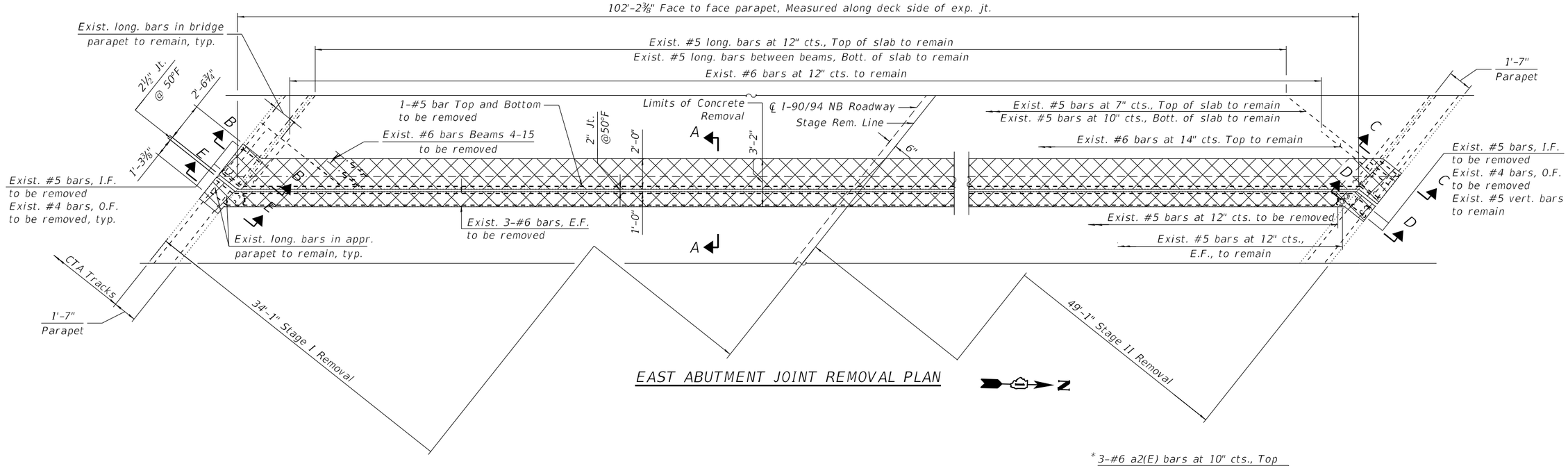

* Cut and bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.

** Field drill and epoxy grout in place according to Section 584 of the Standard Specifications.

*** Lap 2 a1(e) bars across Stage II construction, 3'-1" min. Lap.

NOTES:

1. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S16-08.
2. For Sections D-D, E-E, DD-DD and EE-EE, additional Notes, Bar diagram and Bill of Material, see Sheet S16-09.

LEGEND

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

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 1-312)344-1199
Fax: 1-312)454-0411

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DEPARTMENT OF TRANSPORTATION

E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)
STRUCTURE NO. 016-0117 (NB)
SHEET S16-07 OF S16-18 SHEETS

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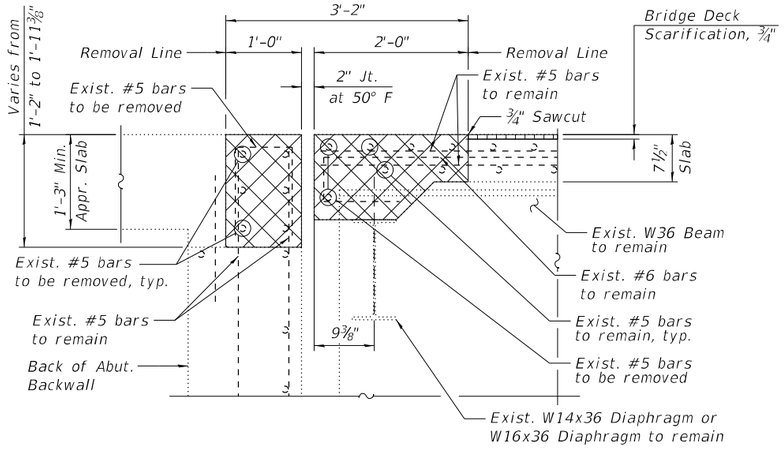
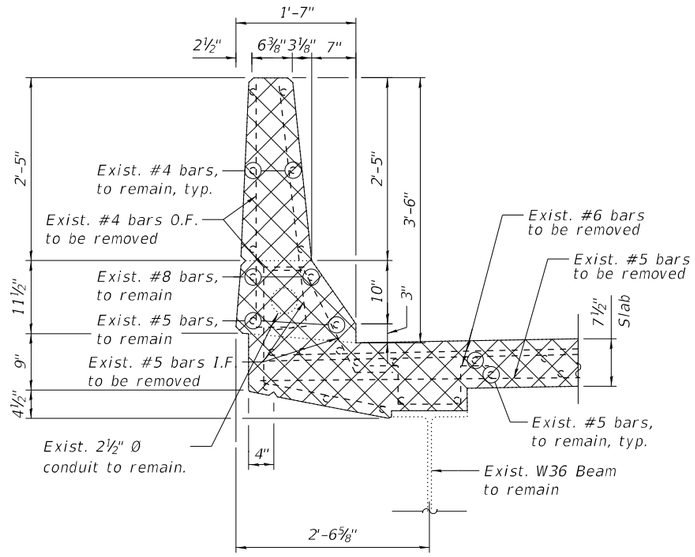
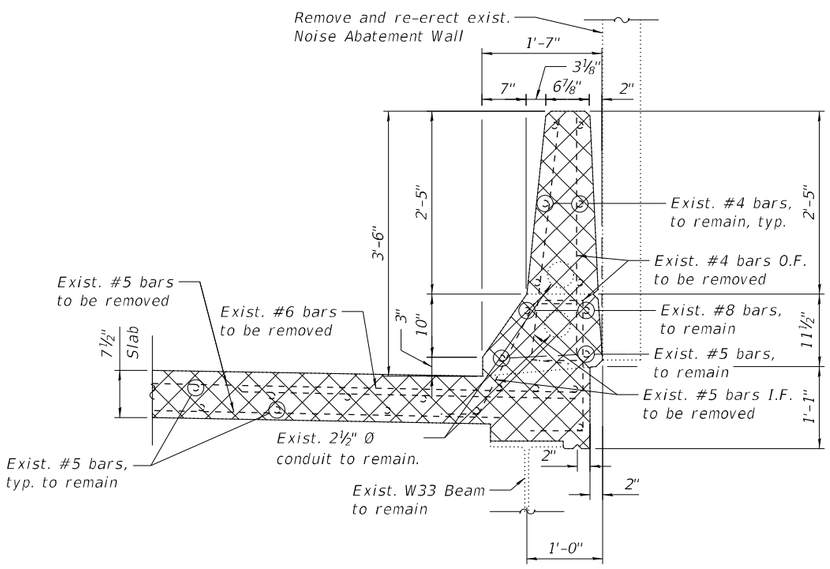


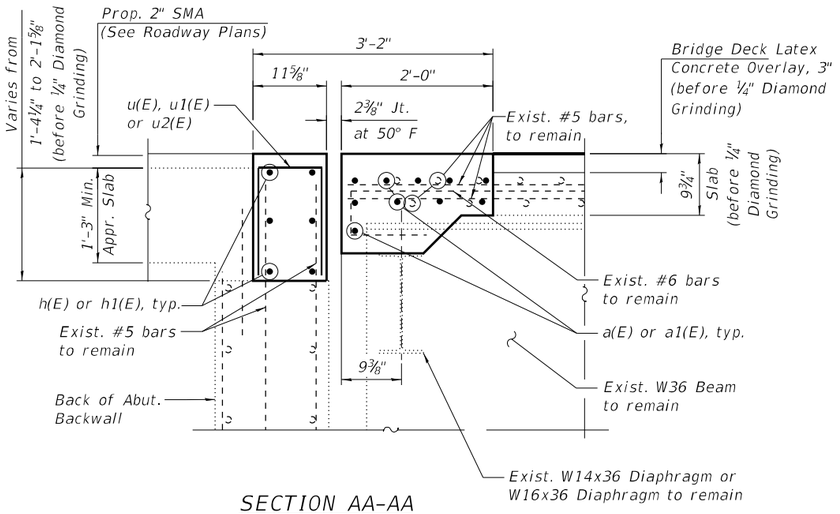
SECTION A-A



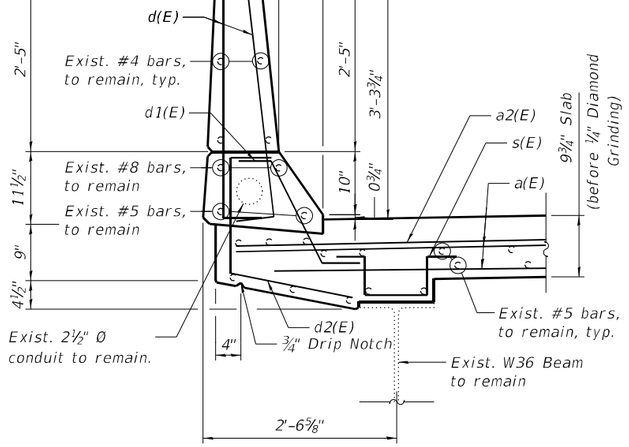
SECTION B-B



SECTION C-C



SECTION AA-AA



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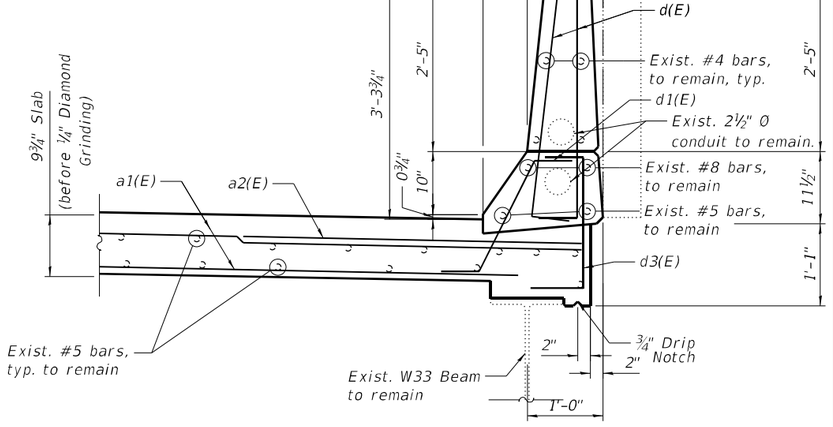

SECTION CC-CC

NOTES:

1. For legend, see Sheet S16-07.
2. For bar diagrams, notes and Bill of Material, see Sheet S16-09.

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
200 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 1-312-344-7100
Fax: 1-312-454-0411

USER NAME =	DESIGNED - JAB	REVISED -
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PLOT DATE =	DATE - 04/29/2024	REVISED -

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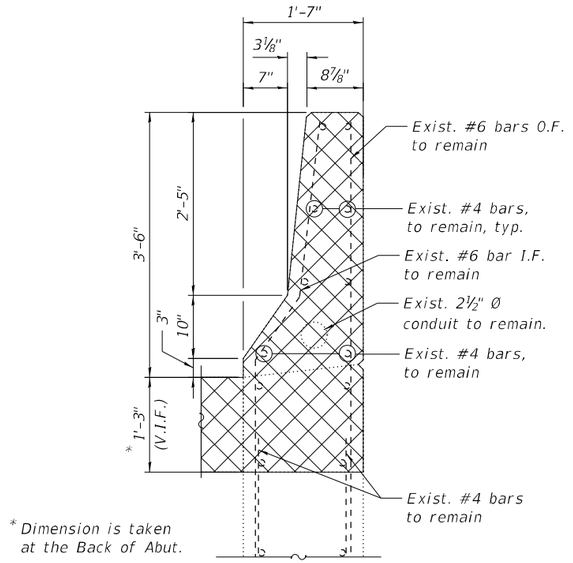
DEPARTMENT OF TRANSPORTATION

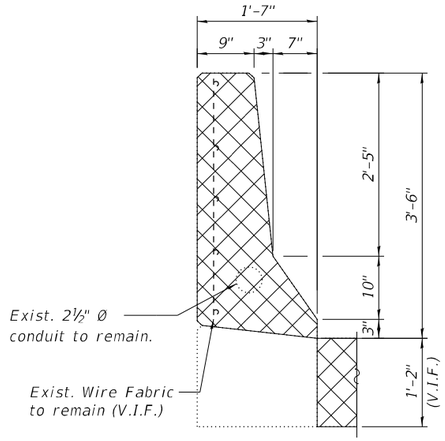
E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)
STRUCTURE NO. 016-0117 (NB)

SHEET S16-08 OF S16-18 SHEETS

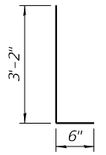
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	790
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	



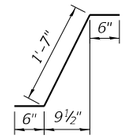
SECTION D-D



SECTION E-E



BAR d(E)



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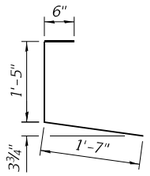
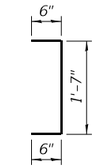


BAR d2(E)



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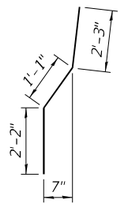

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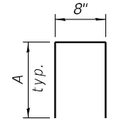
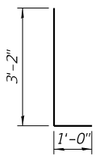
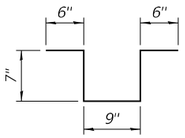


BAR u(E), u1(E)
& u2(E)

	A
u(E)	1'-0"
u1(E)	1'-4"
u2(E)	1'-8"



BAR d7(E)



BAR s(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	20	#5	23'-0"	
a1(E)	20	#5	33'-0"	
a2(E)	6	#6	6'-6"	
d(E)	14	#5	3'-8"	
d1(E)	7	#5	2'-7"	
d2(E)	4	#4	3'-6"	
d3(E)	3	#4	2'-7"	
d4(E)	2	#5	5'-2"	
d5(E)	2	#5	5'-6"	
d6(E)	2	#5	1'-6"	
d7(E)	2	#5	4'-2"	
h(E)	12	#6	22'-0"	
h1(E)	12	#6	32'-9"	
s(E)	48	#5	2'-11"	
u(E)	36	#5	2'-8"	
u1(E)	34	#5	3'-4"	
u2(E)	33	#5	4'-0"	
Concrete Removal			Cu Yd	19.0
Concrete Superstructure			Cu Yd	21.2
Protective Coat			Sq Yd	38
Reinforcement Bars, Epoxy Coated			Pound	2,850

MIN BAR LAPS

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

NOTES:

1. For legend, see Sheet S16-07.
2. For preformed joint strip seal details, see Sheet S16-13.
3. For bar splicer assembly details, see Sheet S16-18.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d4(E), d5(E) and d6(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
6. For conduit repair refer to Electrical Plans and Specifications for details.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-930-0100
Fax: 312-930-0018

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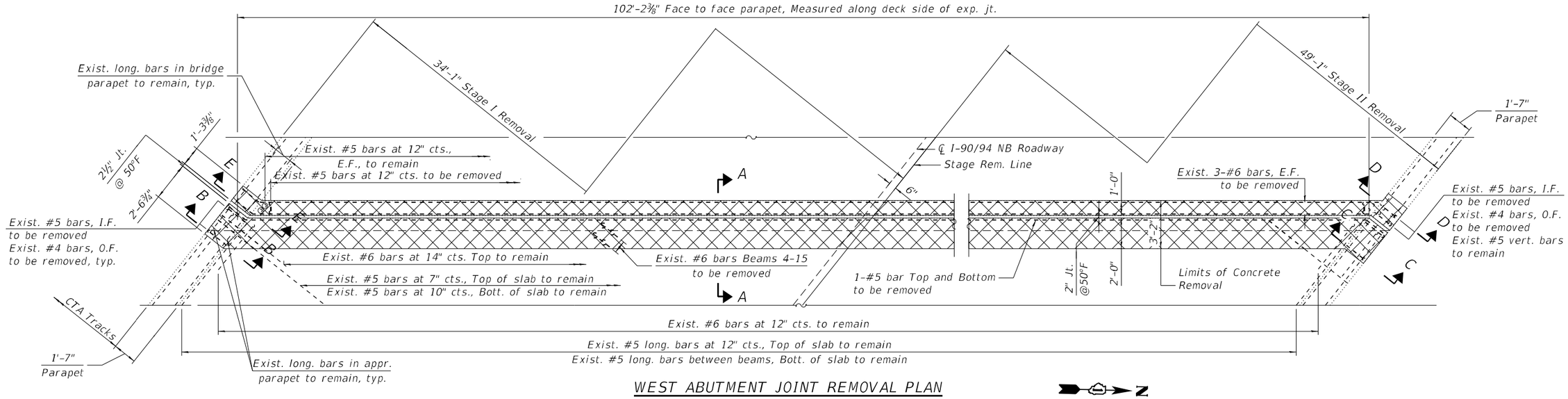
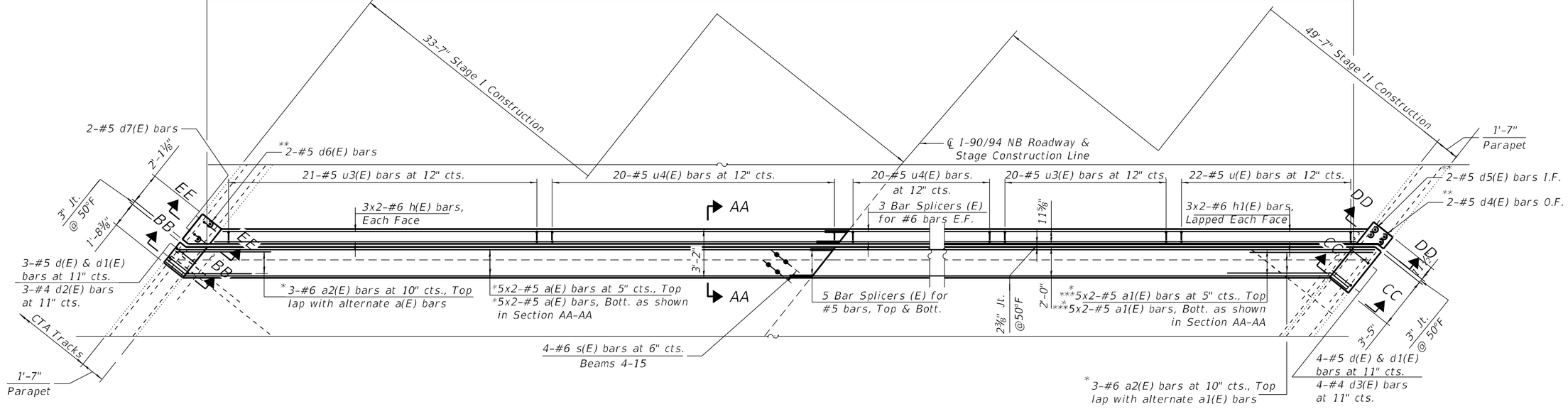
E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)
STRUCTURE NO. 016-0117 (NB)
SHEET S16-09 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	791
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

1. For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see Sheet S16-11.
2. For Sections D-D, E-E, DD-DD and EE-EE, Notes, Bar diagram and Bill of Material, see Sheet S16-12.

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

** Field drill and epoxy grout in place according to Section 584 of the Standard Specifications.

*** Lap 2 a1(e) bars across Stage II construction, 3'-1" min. Lap.

LEGEND

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

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
233 SOUTH WEKER DRIVE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-939-0700
Fax: 312-939-0038

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)
STRUCTURE NO. 016-0117 (NB)
SHEET S16-10 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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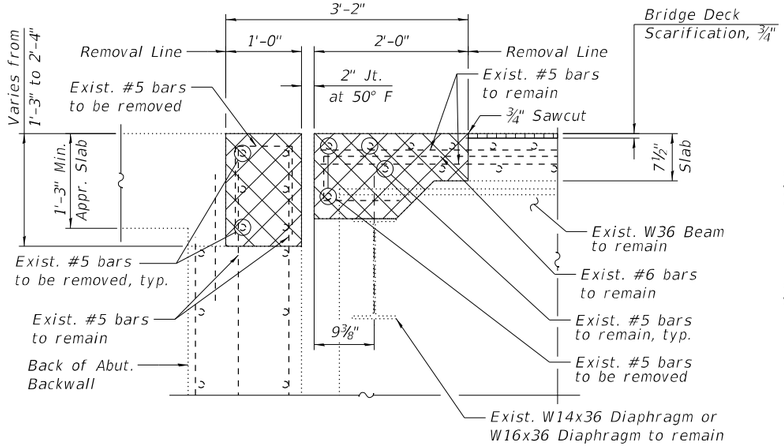
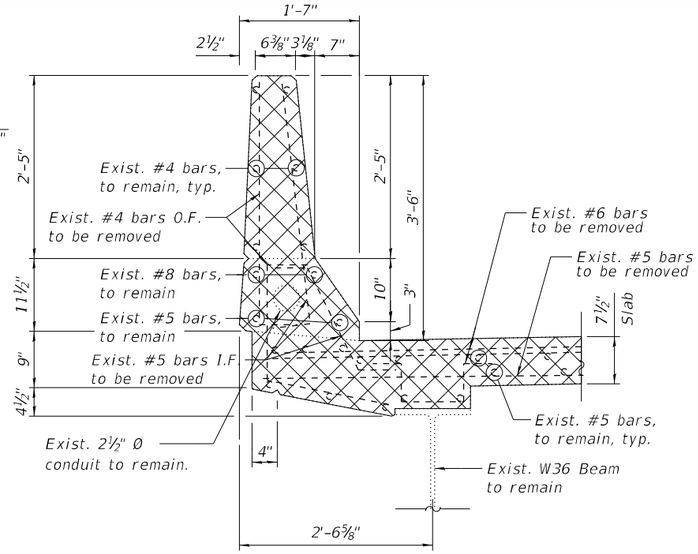
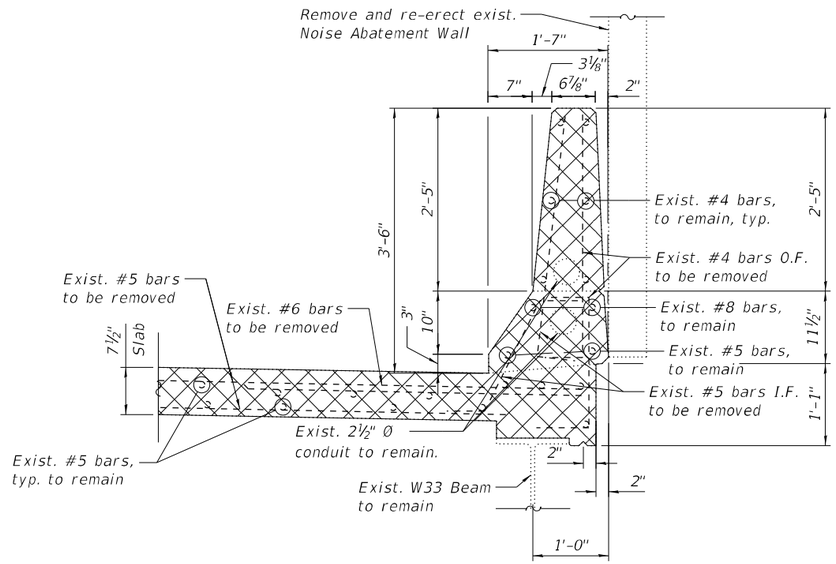
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



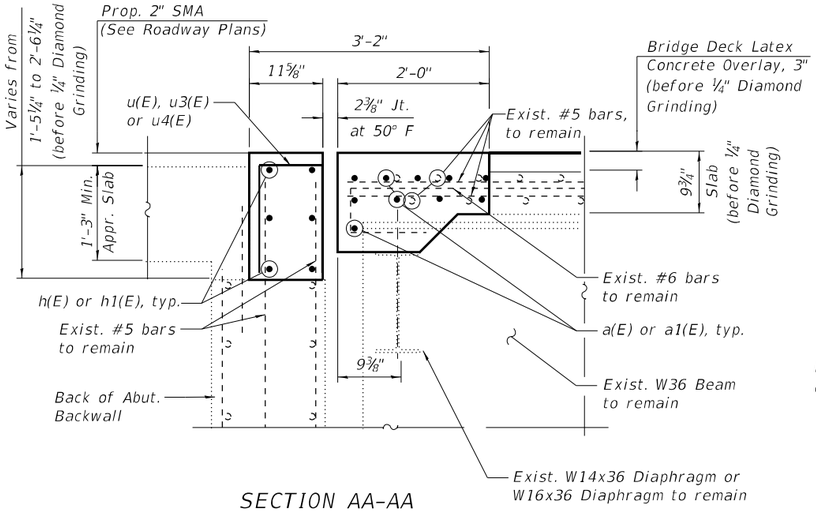
SECTION A-A



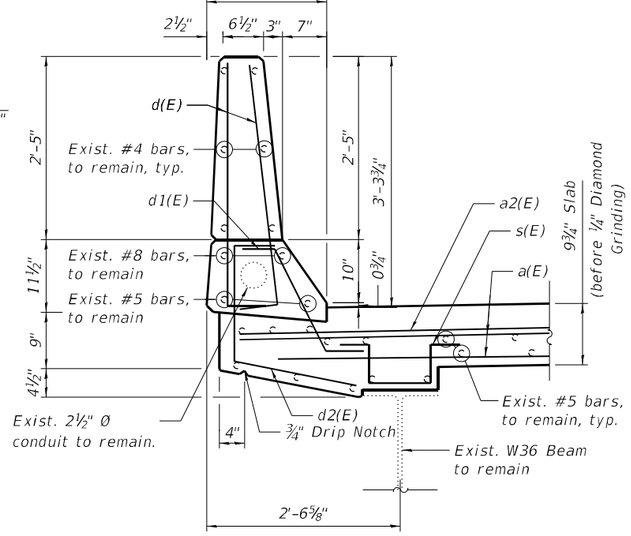
SECTION B-B



SECTION C-C



SECTION AA-AA



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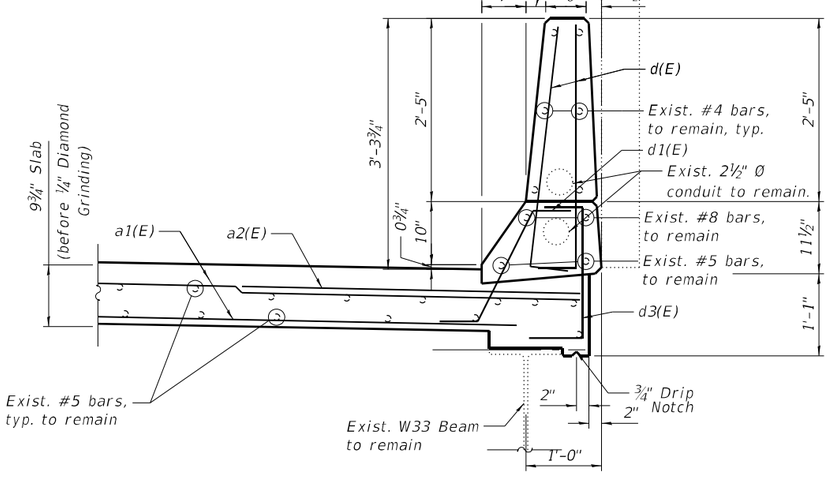

SECTION CC-CC

NOTES:

1. For legend, see Sheet S16-10.
2. For bar diagrams, additional notes and Bill of Material, see Sheet S16-12.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
PHONE: (312) 938-0100
FAX: (312) 803-0018

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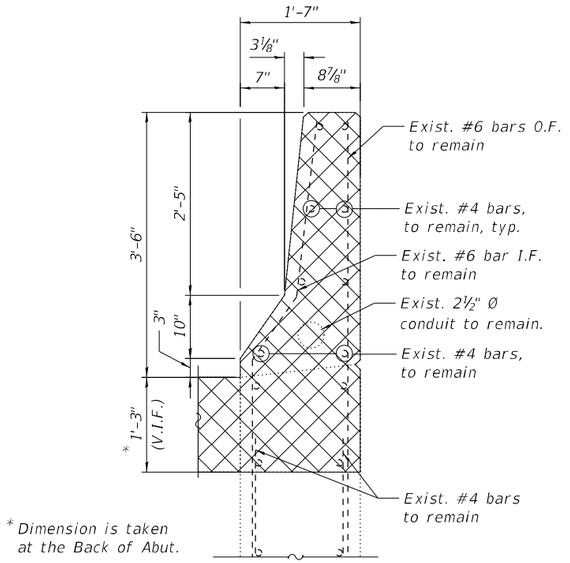
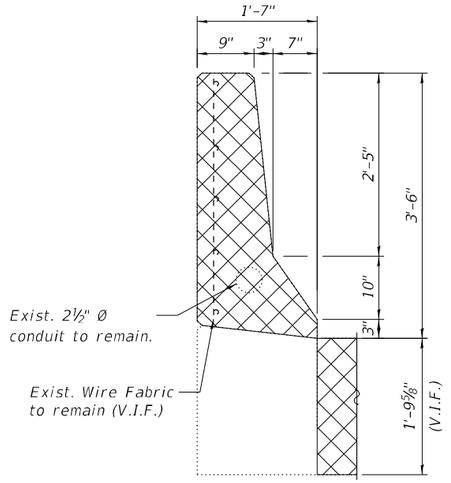
W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)
STRUCTURE NO. 016-0117 (NB)

SHEET S16-11 OF S16-18 SHEETS

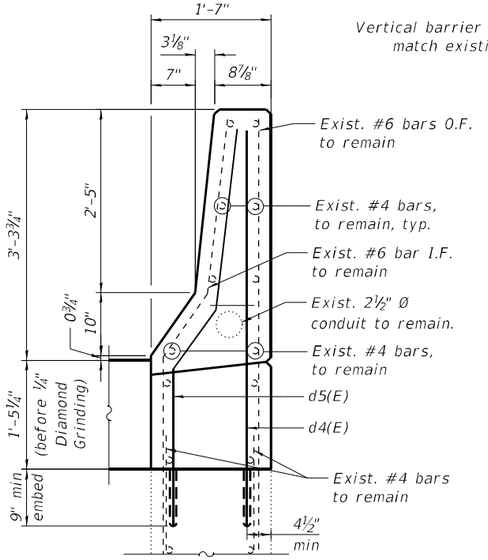
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	793
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



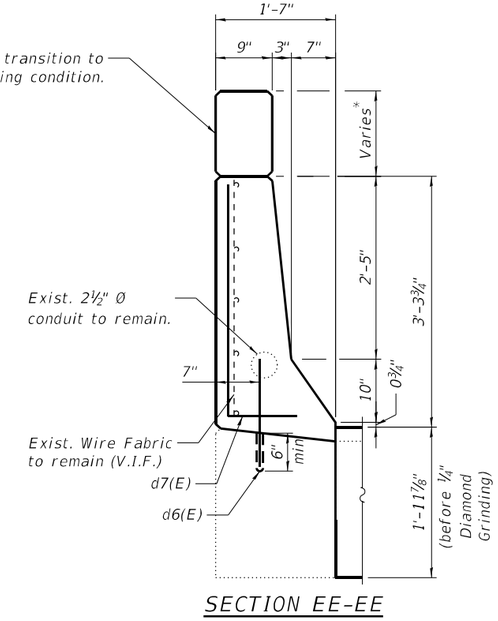
SECTION D-D



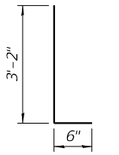
SECTION E-E



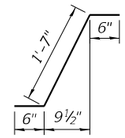
SECTION DD-DD



SECTION EE-EE



BAR d(E)



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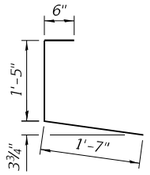

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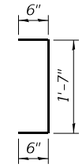

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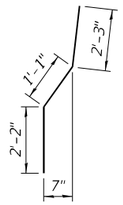
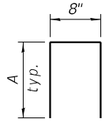


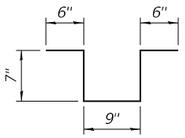
BAR d5(E)



BAR u(E), u3(E) & u4(E)

	A
u(E)	1'-0"
u3(E)	1'-6"
u4(E)	2'-0"

BAR d7(E)



BAR s(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	20	#5	23'-0"	
a1(E)	20	#5	33'-0"	
a2(E)	6	#6	6'-6"	
d(E)	14	#5	3'-8"	
d1(E)	7	#5	2'-7"	
d2(E)	3	#4	3'-6"	
d3(E)	4	#4	2'-7"	
d4(E)	2	#5	5'-2"	
d5(E)	2	#5	5'-6"	
d6(E)	2	#5	1'-6"	
d7(E)	2	#5	4'-2"	
h(E)	12	#6	22'-0"	
h1(E)	12	#6	32'-9"	
s(E)	36	#5	2'-11"	
u(E)	22	#5	2'-8"	
u3(E)	41	#5	3'-8"	
u4(E)	40	#5	4'-8"	
Concrete Removal			Cu Yd	19.9
Concrete Superstructure			Cu Yd	22.1
Protective Coat			Sq Yd	38
Reinforcement Bars, Epoxy Coated			Pound	2,910

MIN BAR LAPS

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

* Provide vertical transition to match existing approach barrier. Estimated height of transition section varies from 0'-0" to 1'-0" at constant slope. Prior to removal field measure barrier transition section at cut and replace in kind when casting new barrier.

NOTES:

1. For legend, see Sheet S16-10.
2. For preformed joint strip seal details, see Sheet S16-13.
3. For bar splicer assembly details, see Sheet S16-18.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d4(E), d5(E) and d6(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.
6. For conduit repairs refer to Electrical Plans and Specifications for details.

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-930-0100
Fax: 312-930-0018

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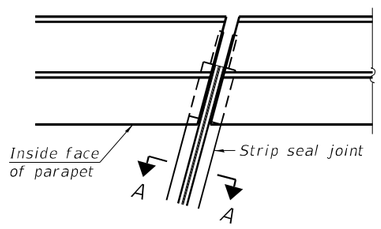
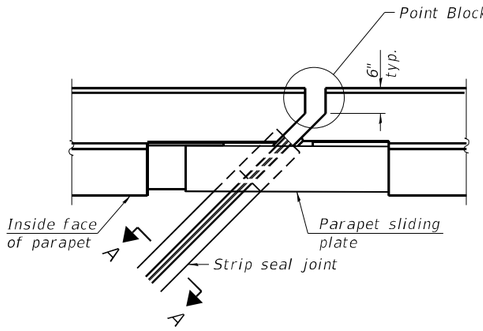
DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)
STRUCTURE NO. 016-0117 (NB)
SHEET S16-12 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	794
		CONTRACT NO. 62K73		
		ILLINOIS	FED. AID PROJECT	

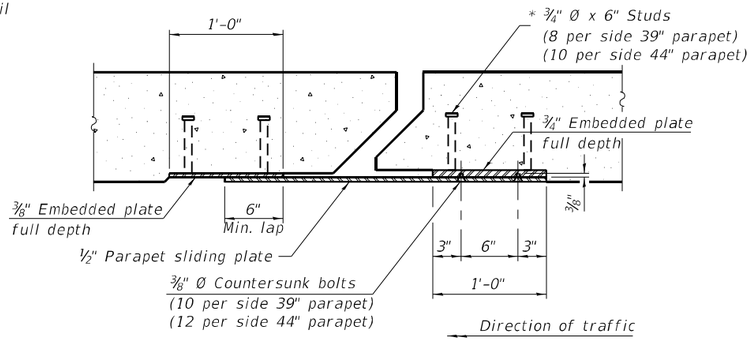


FOR SKEWS ≤ 30°



FOR SKEWS > 30°

PLAN AT PARAPET



SECTION B-B

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

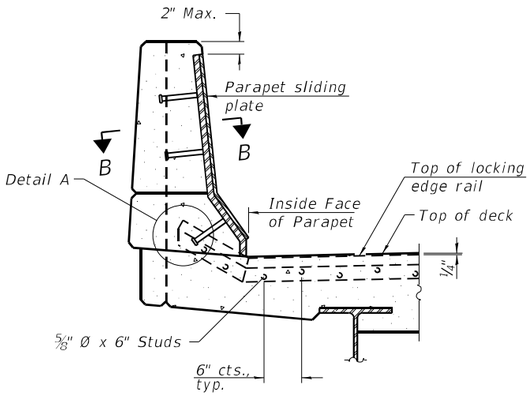
The manufacturer's recommended installation methods shall be followed.

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

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

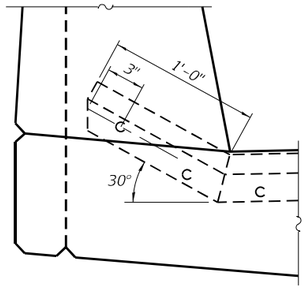
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal. 34" F-shape barrier shown, 42" F-shape similar as noted.

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

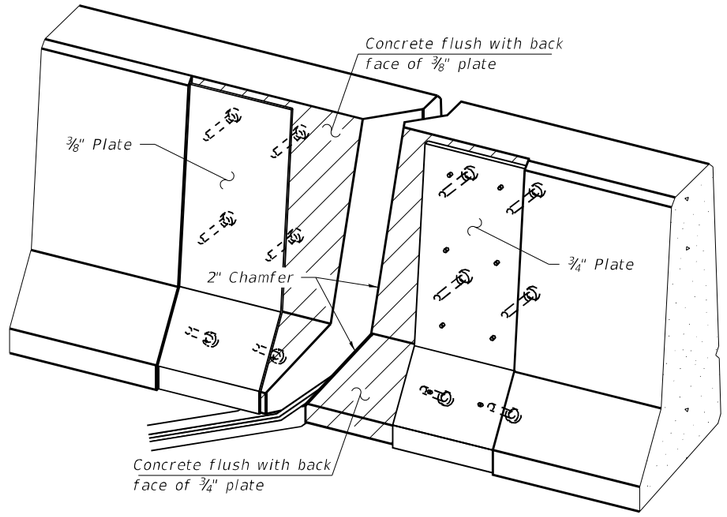


SECTION AT PARAPET

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

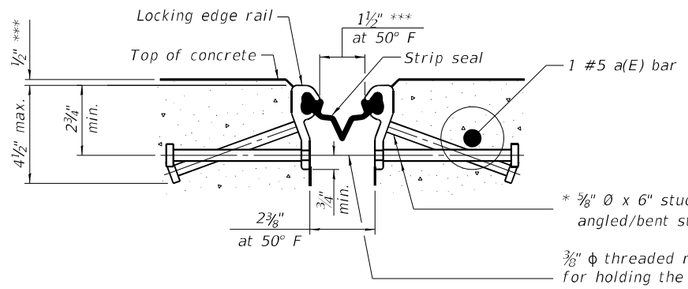


DETAIL A

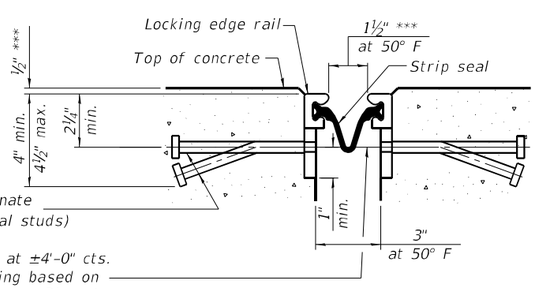


TRIMETRIC VIEW

(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT



SHOWING WELDED RAIL JOINT

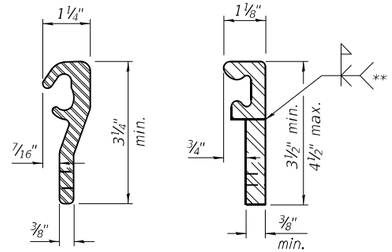
* ⅜" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

⅜" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

****Before ¼" Diamond Grinding*

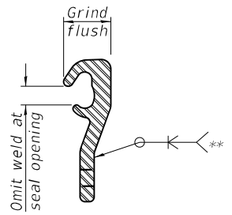


ROLLED (EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	211

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ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-994-0100
Fax: 312-994-0958

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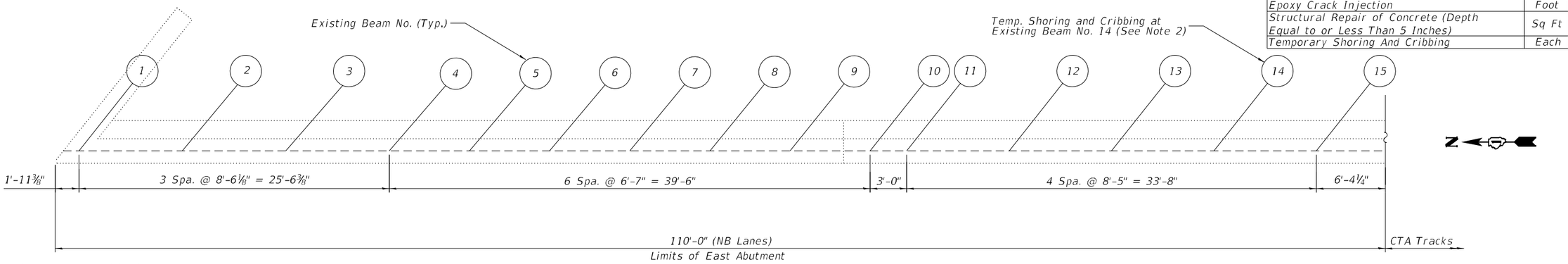
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-0117 (NB)
SHEET S16-13 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	795
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			

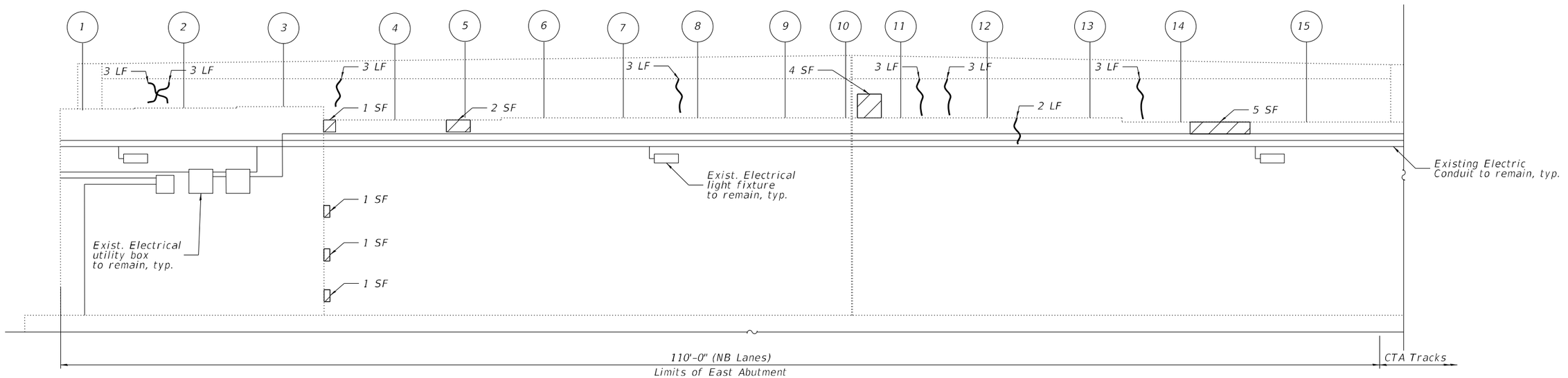
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	396
Epoxy Crack Injection	Foot	34
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	19
Temporary Shoring And Cribbing	Each	1



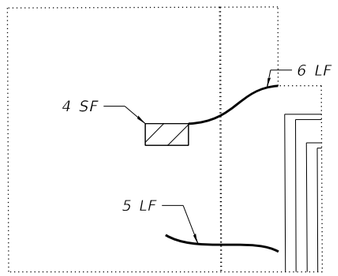
Line Beams Up with Plan

EAST ABUTMENT PLAN



EAST ABUTMENT ELEVATION

(Looking East)



NORTHEAST WINGWALL ELEVATION

(Looking West)

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. Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.
3. Concrete Sealer is to be applied to the abutment seat and the bottom 2 ft of the abutment backwall.

EXISTING LIGHTING: E. ABUT.

(Looking East)

SUMMARY OF REACTIONS EAST ABUTMENT		
R DL	(k)	20.4
R LL	(k)	38.6
R IM	(k)	10.6
R Total	(k)	69.6

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

PARSONS
PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Phone: 312-930-6100
Fax: 312-930-6101

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

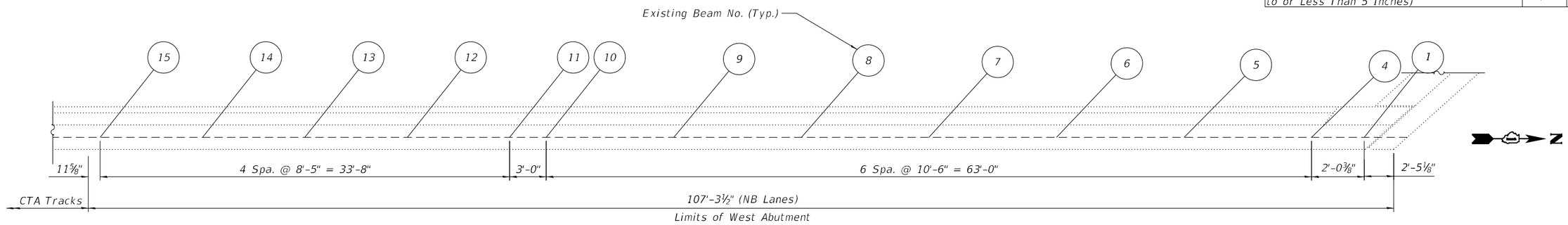
EAST ABUTMENT REPAIRS
STRUCTURE NO. 016-0117 (NB)

SHEET S16-14 OF S16-18 SHEETS

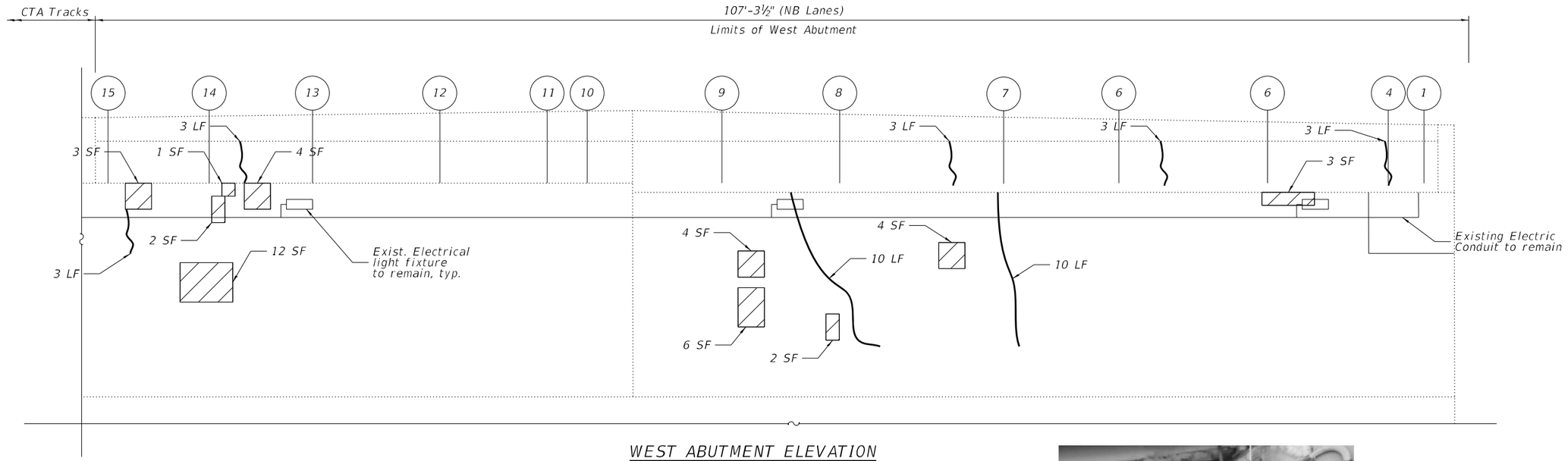
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	796
		CONTRACT NO. 62K73		
	ILLINOIS FED. AID PROJECT			

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	387
Epoxy Crack Injection	Foot	61
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	43

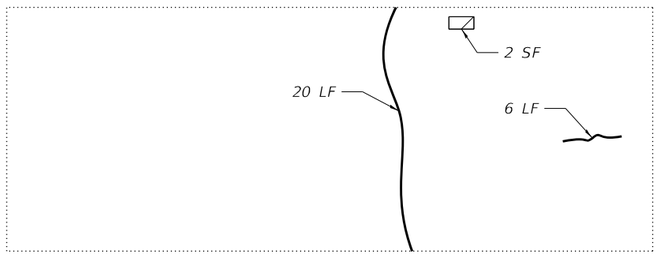


WEST ABUTMENT PLAN



WEST ABUTMENT ELEVATION

(Looking West)



NORTHWEST ABUTMENT ELEVATION

(Looking South)

NOTES:

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

EXISTING LIGHTING: W. ABUT.

(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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ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-930-2100
Fax: 312-930-0018

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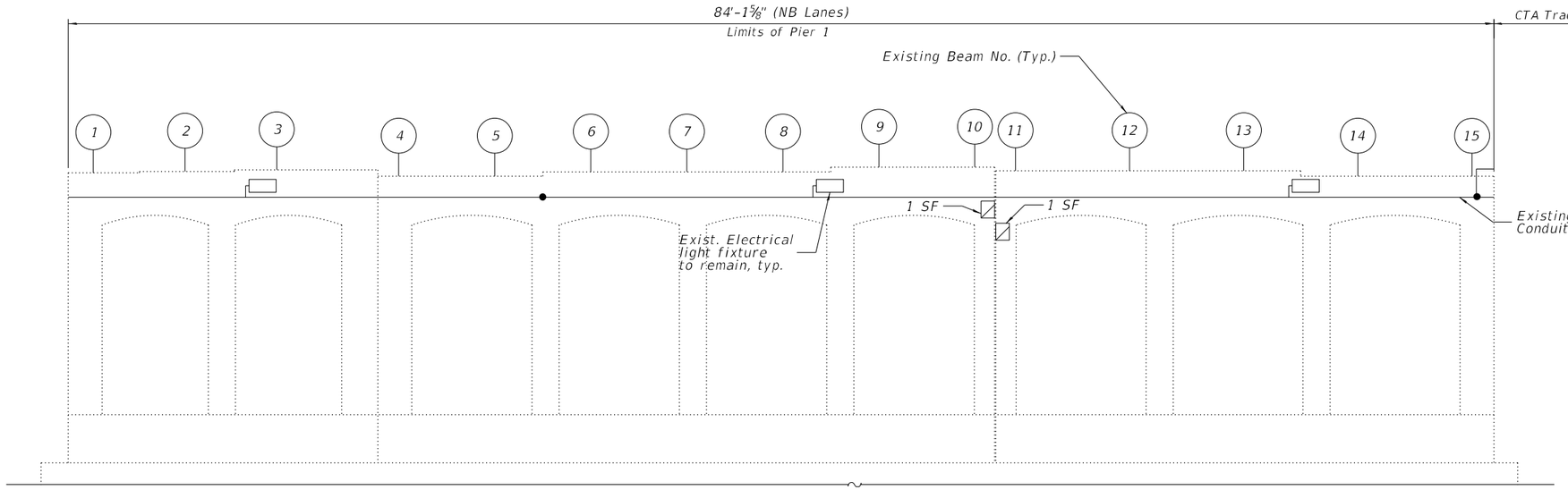
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT REPAIRS
STRUCTURE NO. 016-0117 (NB)
SHEET S16-15 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	797
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		



PIER 1 ELEVATION

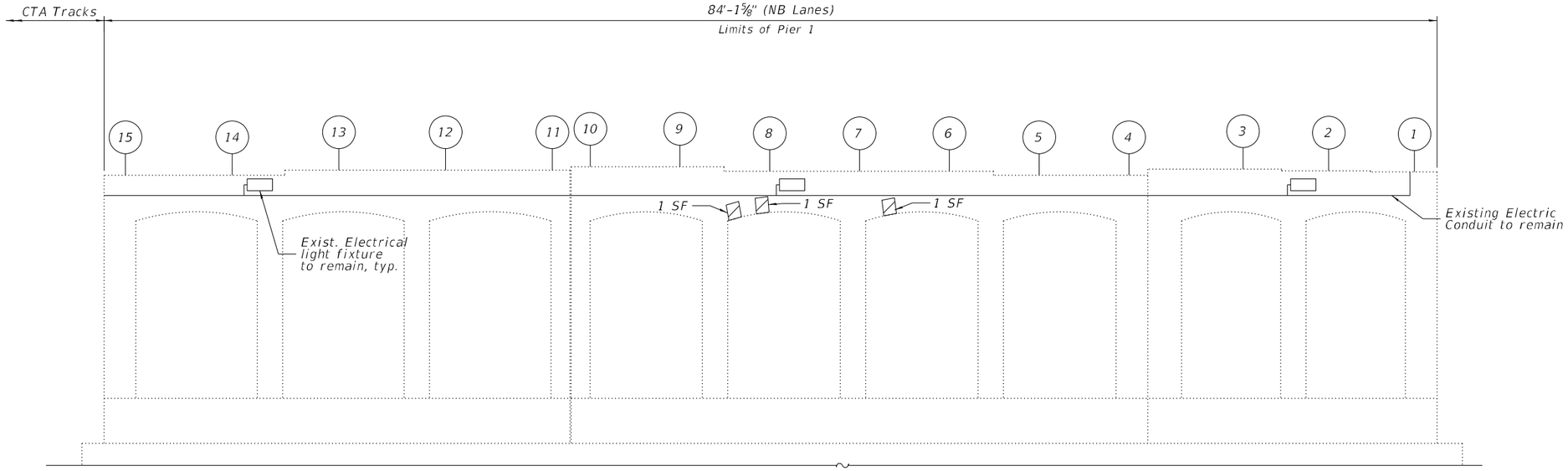
(Looking East)
Limits of Pier 1

BILL OF MATERIAL

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

EXISTING LIGHTING: PIER 1

(Looking Southwest)



PIER 1 ELEVATION

(Looking West)

EXISTING LIGHTING: PIER 1

(Looking Northwest)

NOTE:

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

LEGEND

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

SF – Square Foot

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
233 SOUTH WEKER DRIVE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-939-6100
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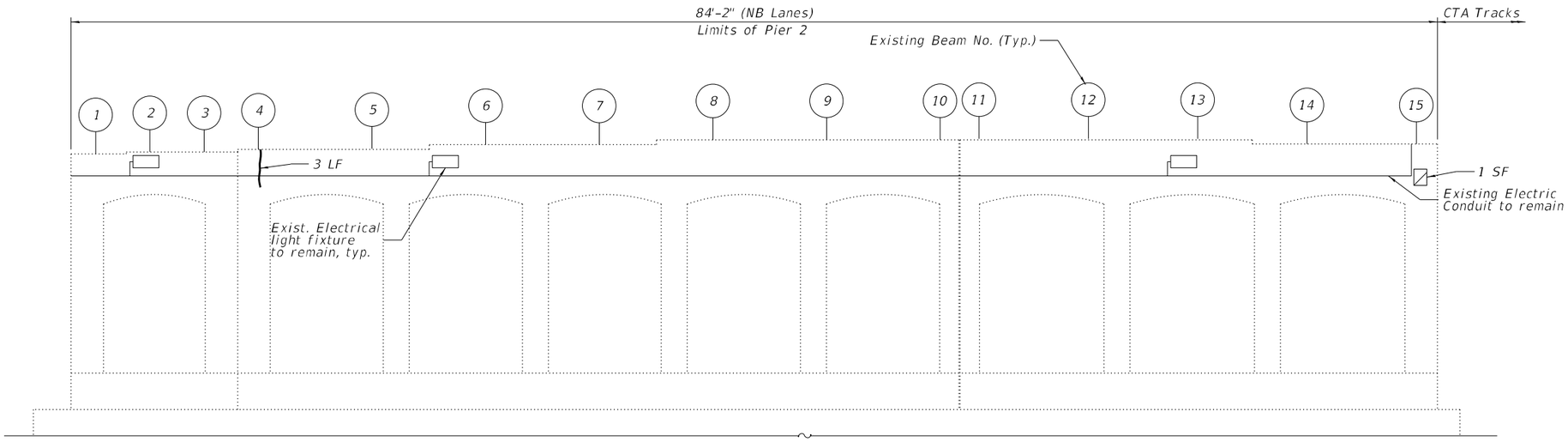
PIER 1 REPAIRS
STRUCTURE NO. 016-0117 (NB)
SHEET S16-16 OF S16-18 SHEETS

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	798
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	6
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	18

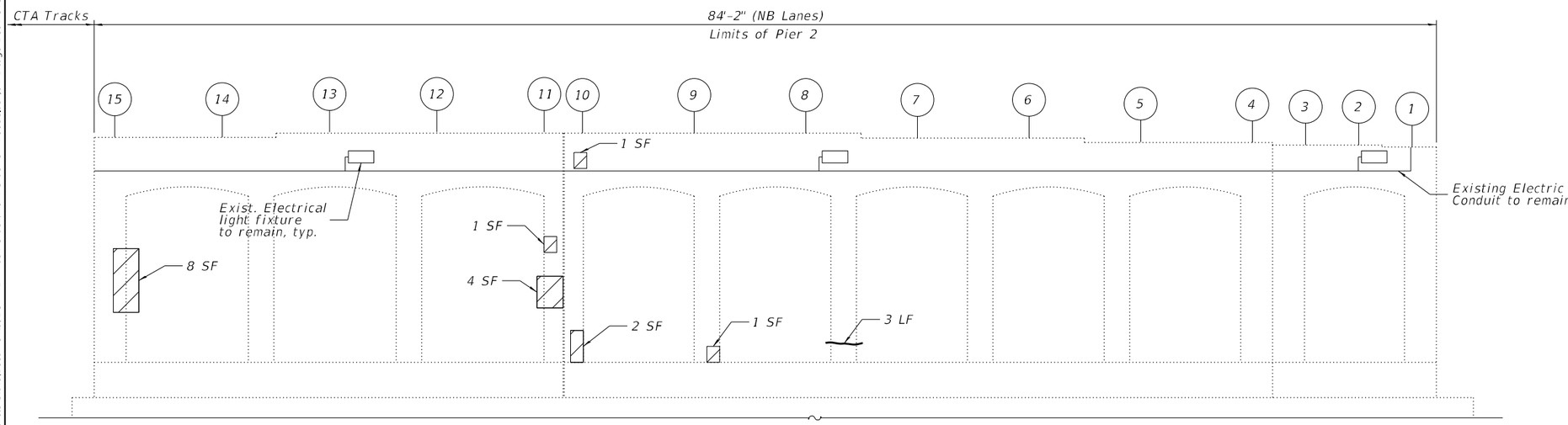


PIER 2 ELEVATION

(Looking East)

EXISTING LIGHTING: PIER 2

(Looking Northwest)



PIER 2 ELEVATION

(Looking West)

PIER 2

(Looking Southeast)

NOTE:

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

LEGEND

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

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
222 SOUTH RIVERSIDE PLAZA, SUITE 2450
CHICAGO, IL 60606
Telephone: (312)930-0100
Fax: (312)930-0018

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PIER 2 REPAIRS
STRUCTURE NO. 016-0117 (NB)

SHEET S16-17 OF S16-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	799
		CONTRACT NO. 62K73		
	ILLINOIS	FED. AID PROJECT		

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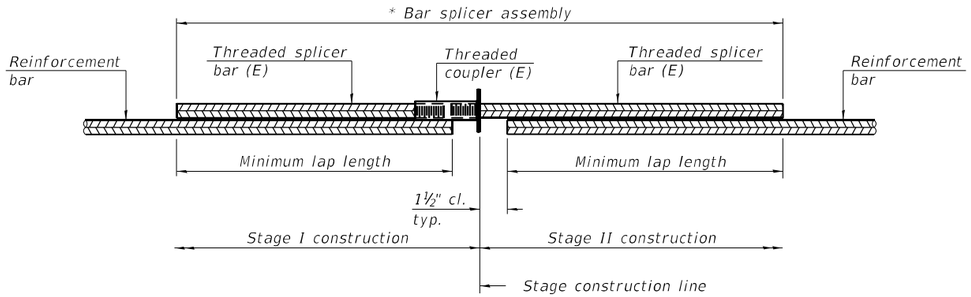


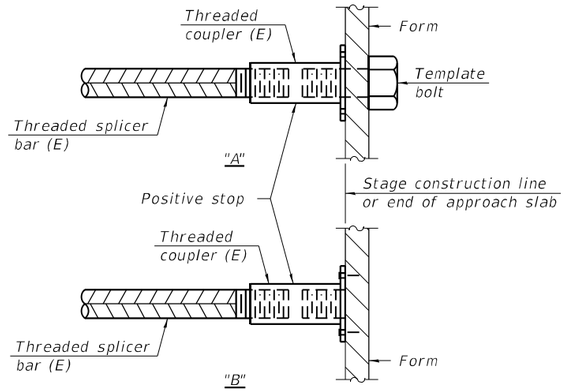
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

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

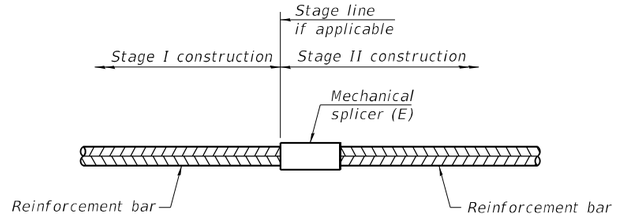
** Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.*

Location	Bar size	No. assemblies	Minimum lap length
East Abutment Exp. Jt.	#5	10	3'-6"
	#6	6	4'-0"
West Abutment Exp. Jt.	#5	10	3'-6"
	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

BSD-1

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PARSONS TRANSPORTATION GROUP
ENGINEERS & PLANNERS
200 WEST ADAMS STREET, SUITE 2450
CHICAGO, IL 60606
Telephone: 312-994-0100
Fax: 312-994-0058

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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0117 (NB)
SHEET S16-18 OF S16-18 SHEETS

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