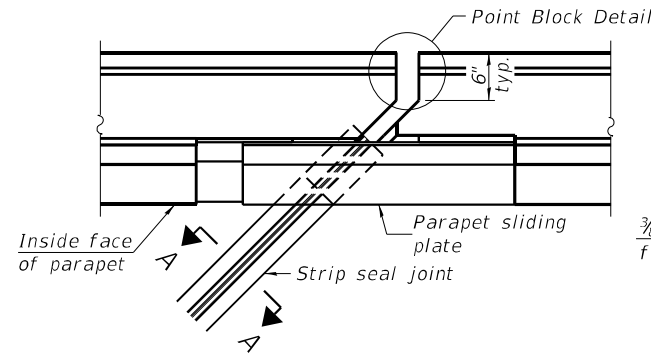
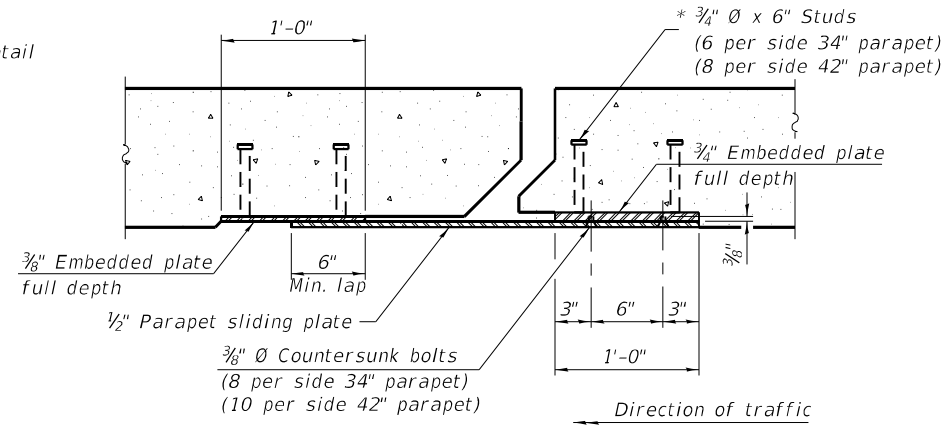


FOR SKEWS $\leq 30^\circ$

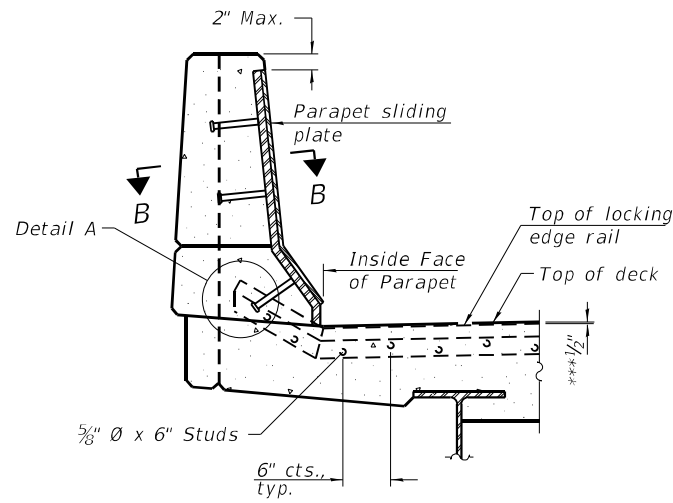
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

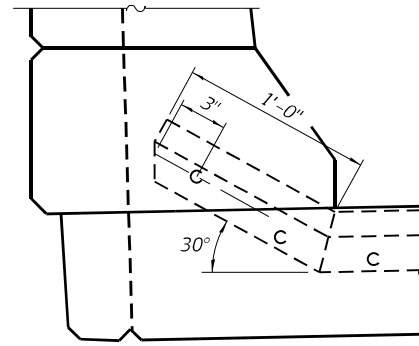


SECTION B-B

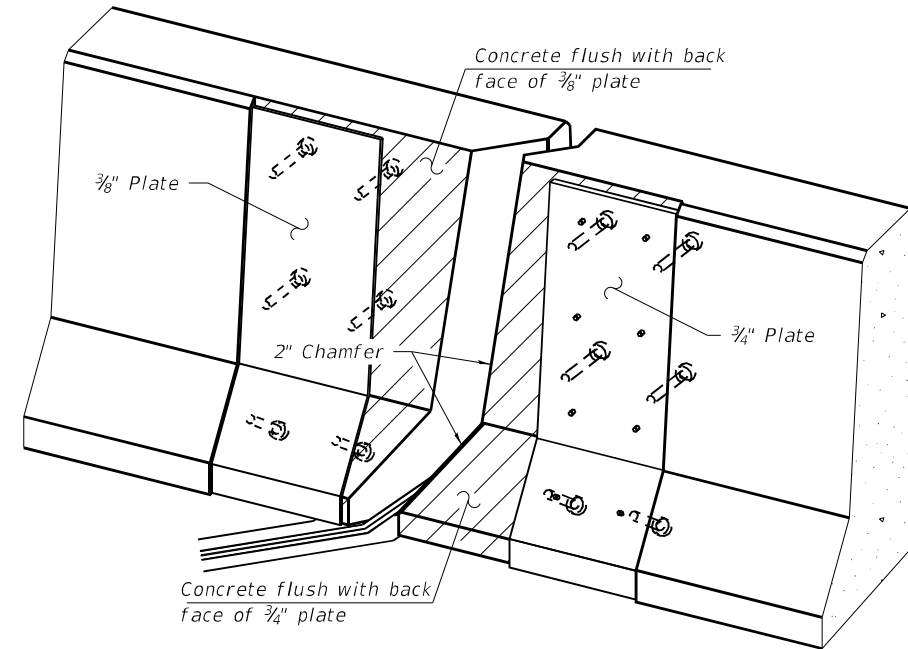


ELEVATION AT PARAPET

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



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)

Notes:

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

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

The manufacturer's recommended installation methods shall be followed.

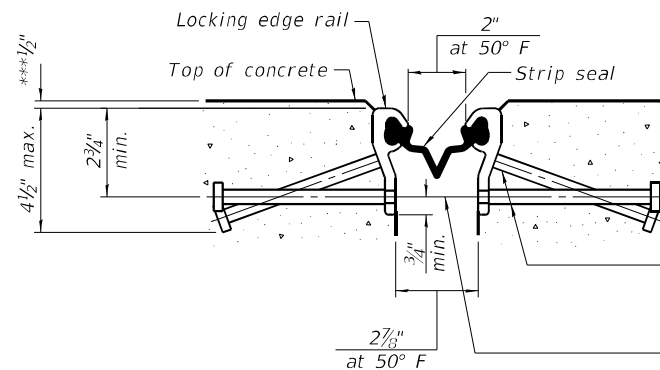
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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

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.

*** Prior to 1/4" Grinding



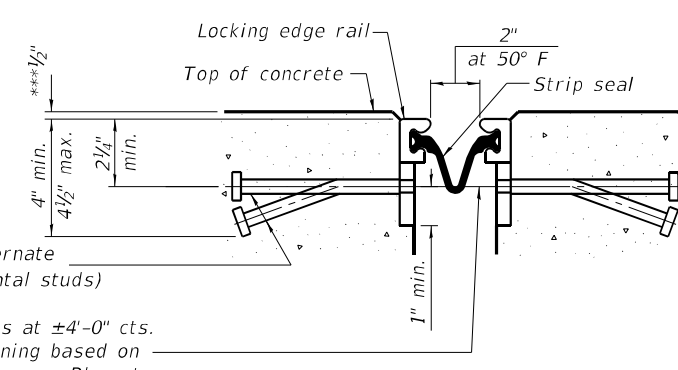
SHOWING ROLLED RAIL JOINT

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

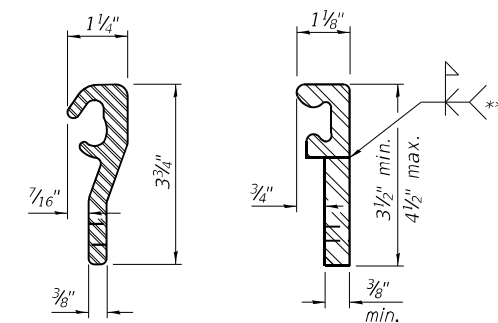
$\frac{3}{8}$ " ϕ threaded rods in $\frac{1}{16}$ " ϕ holes at ± 4 "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

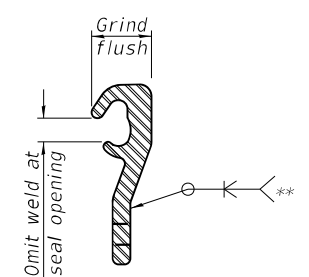


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Stage I	Stage II	Unit	Total
Preformed Joint Strip Seal	40	45	Foot	85

MODEL: 0960045-74997-012
FILE NAME: J:\201002_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

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CONSULTING ENGINEERS
3541 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 04-0061179
ILLINOIS REG. NO. 021-170-0844-79260277-91

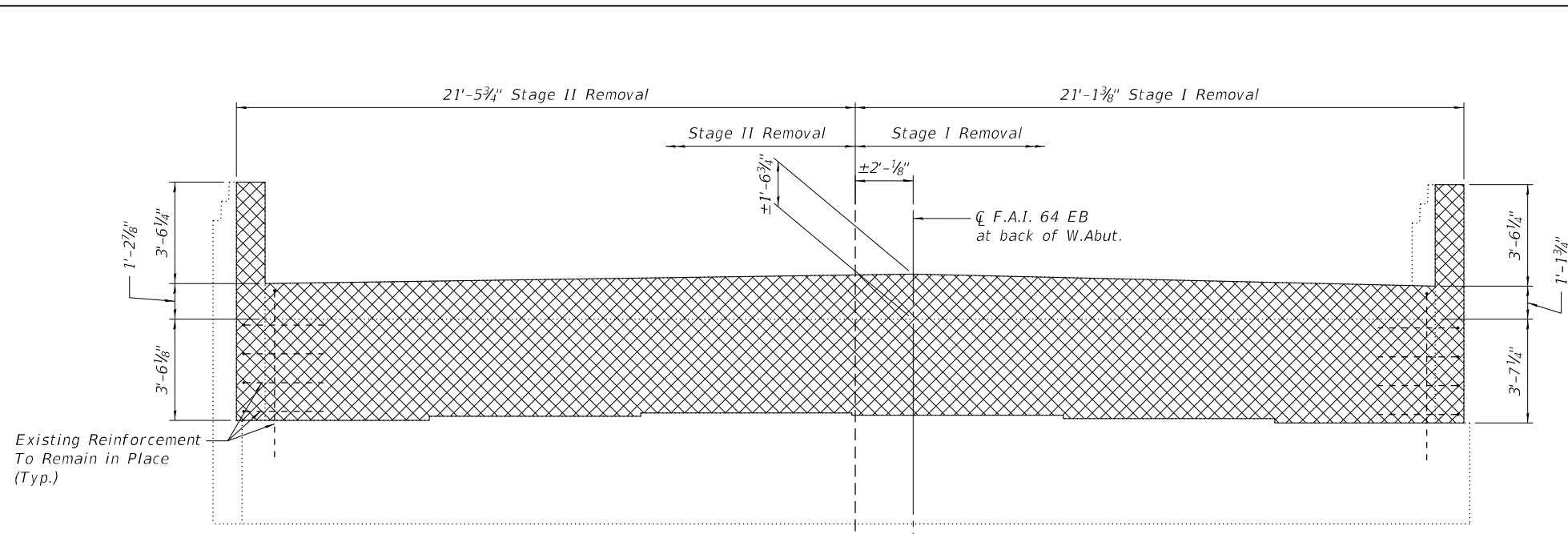
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PLOT SCALE = 0:2" / 1 in.	CHECKED - MC	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

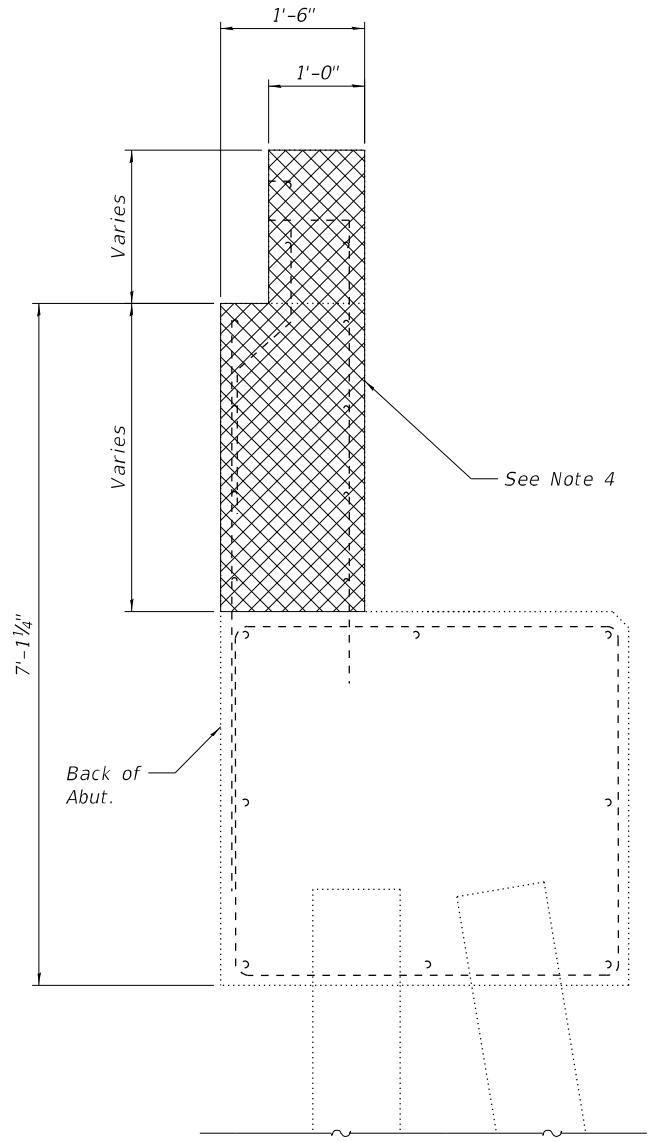
PREFORMED JOINT STRIP SEAL DETAILS
SN. 096-0045 (EB)

SHEET 12 OF 17 SHEETS

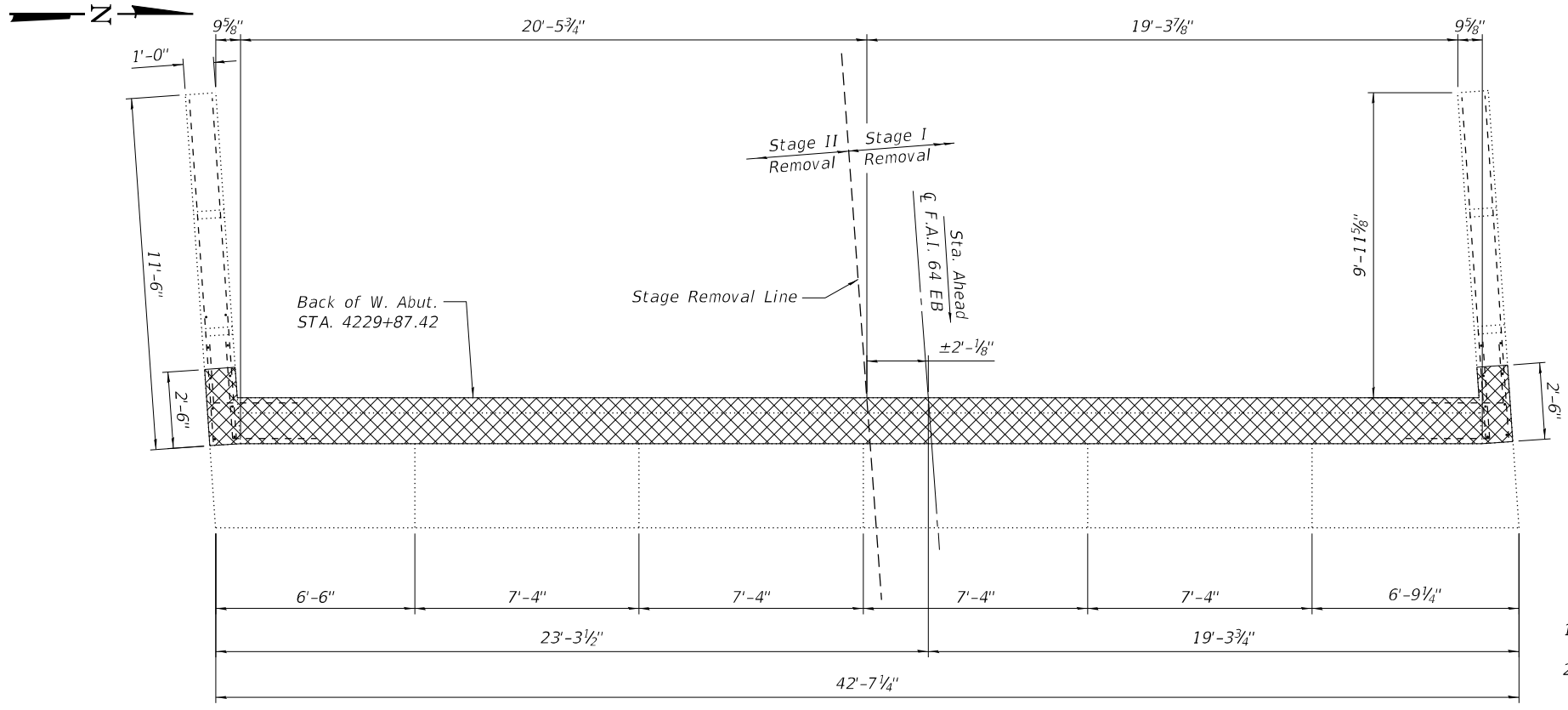
F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 101
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



ABUTMENT BACKWALL REMOVAL ELEVATION
(West Abutment)



SECTION THRU ABUTMENT
(Dimensions at right angles)



ABUTMENT BACKWALL REMOVAL PLAN
(West Abutment)

NOTES

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal Quantity of Entire West Abut. Backwall and Hatch Block is included in Bill of Material.

**WEST ABUTMENT
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	9.7

MODEL: 0960045-74997-013
FILE NAME: J:\201002_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

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3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL GEODESIC SURVEYING NO. 042-061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
(217) 755-8844 FAX (217) 755-8277

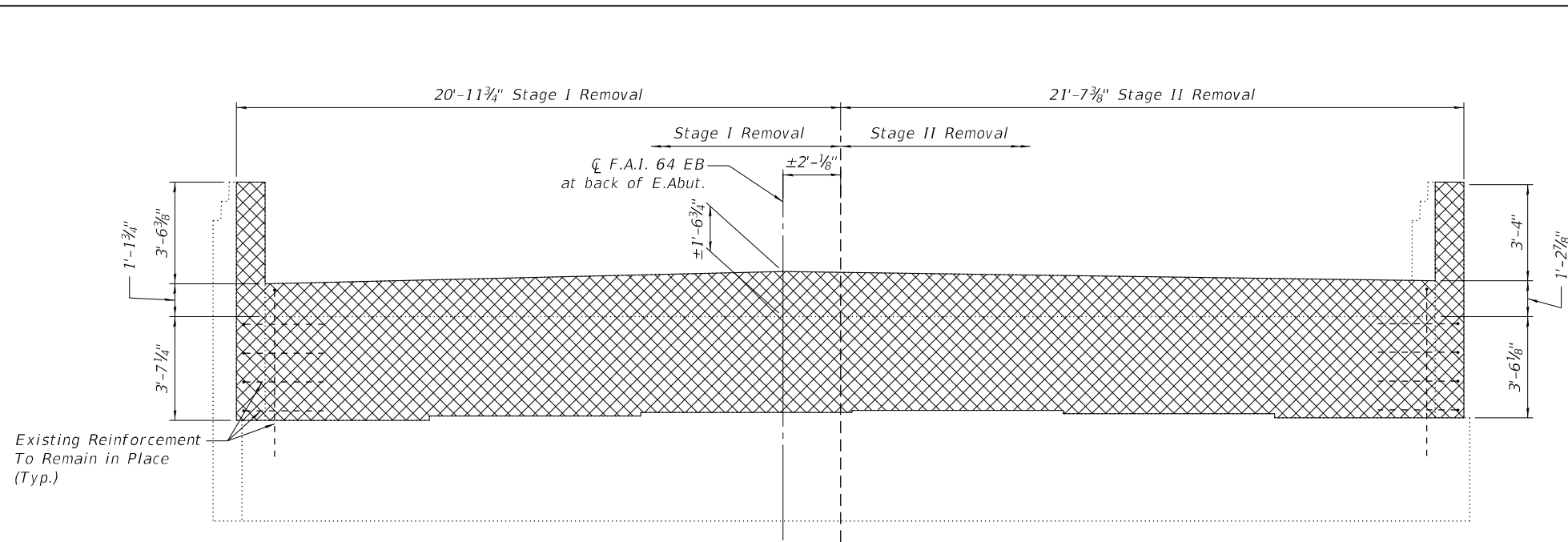
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**STATE OF ILLINOIS
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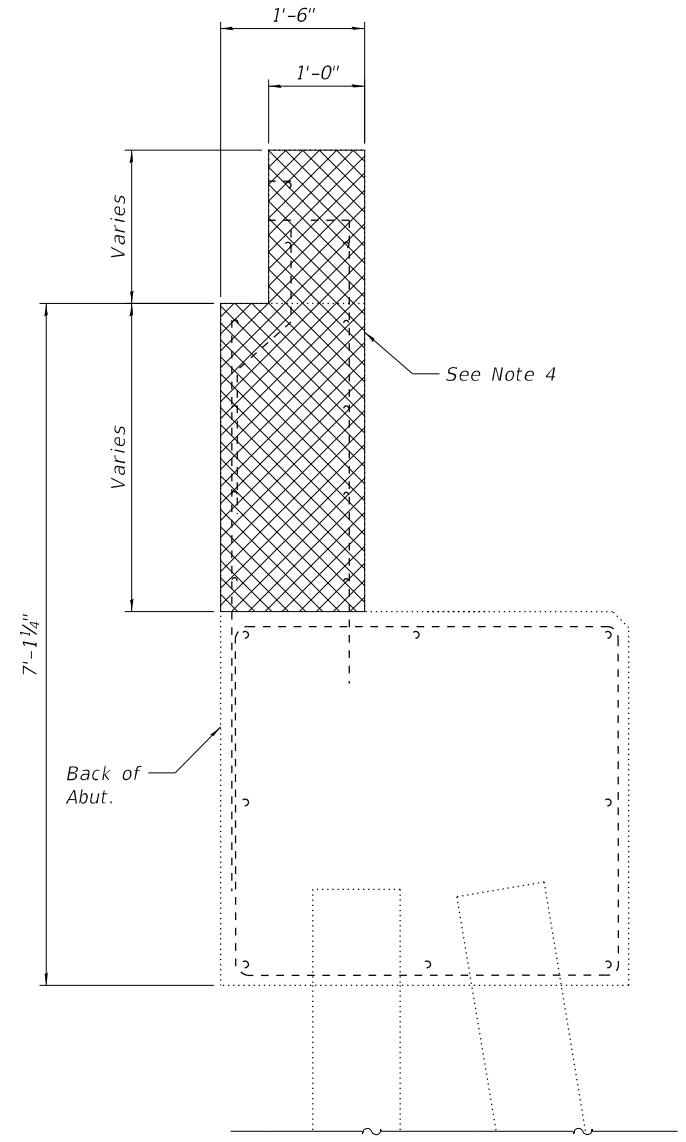
**ABUTMENT BACKWALL REMOVAL DETAILS - I
SN. 096-0045 (EB)**

SHEET 13 OF 17 SHEETS

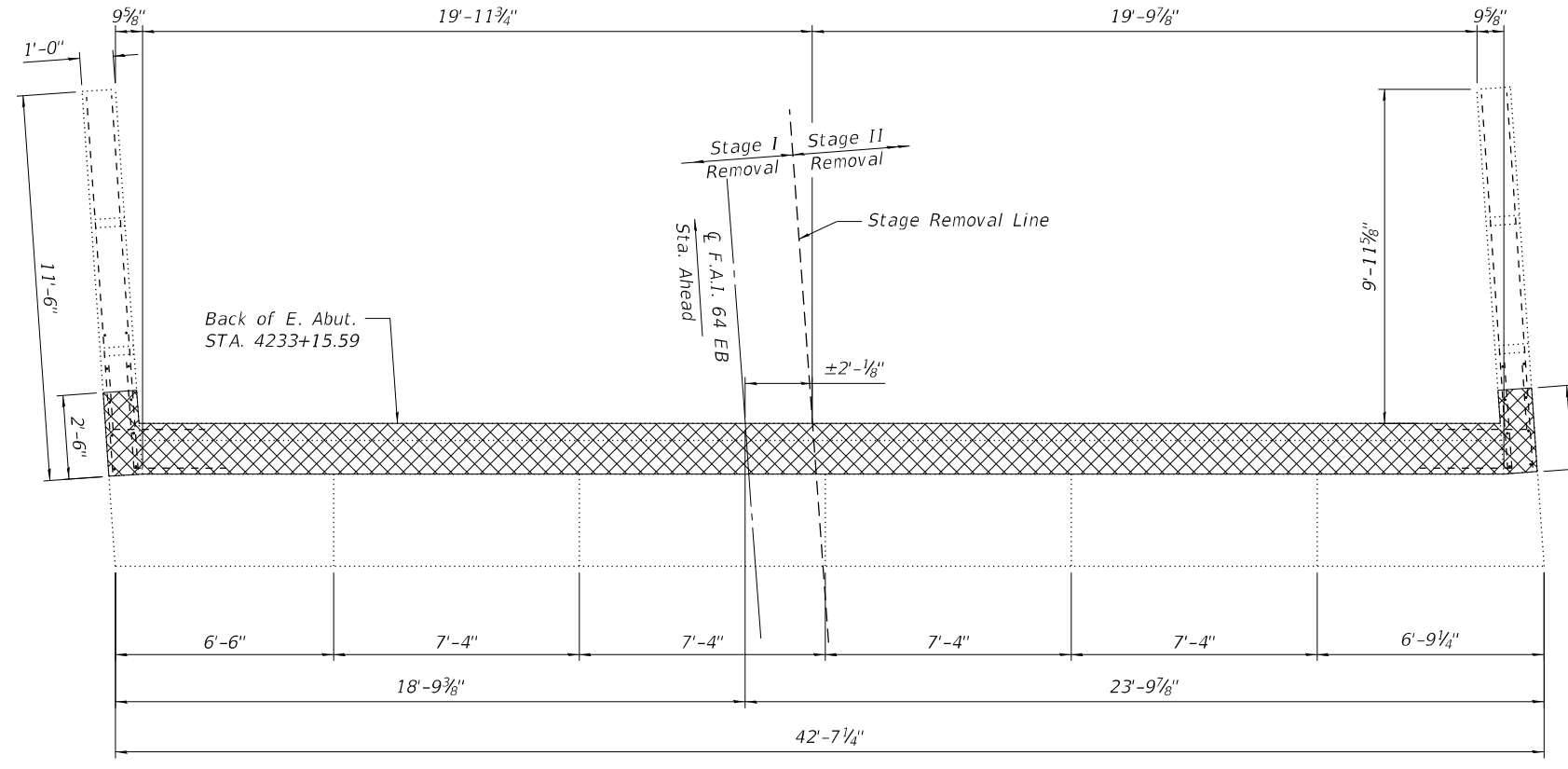
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64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	102
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



ABUTMENT BACKWALL REMOVAL ELEVATION
(East Abutment)



SECTION THRU ABUTMENT
(Dimensions at right angles)



ABUTMENT BACKWALL REMOVAL PLAN
(East Abutment)

NOTES

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal Quantity of Entire East Abut. Backwall and Hatch Block is included in Bill of Material.

**EAST ABUTMENT
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	9.7

MODEL: 0960045-74997-014
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PROFESSIONAL GEORGE FIRM NO. 042-061179
PROFESSIONAL LAND SURVEYING FIRM NO. 042-060098
(217) 752-8844, 792-6277, 791

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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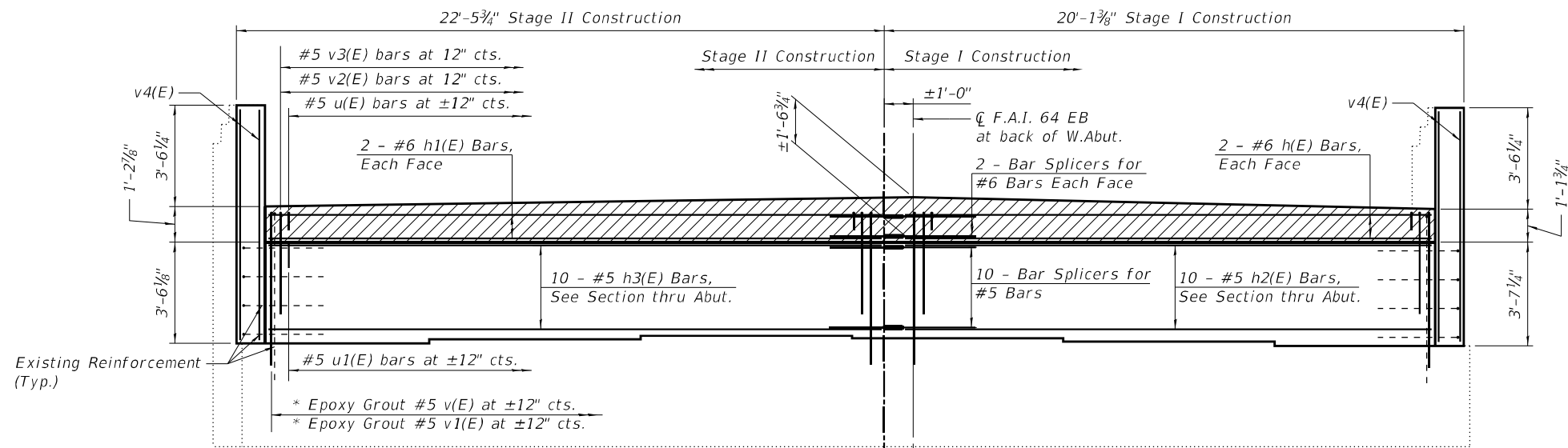
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DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL REMOVAL DETAILS - II
SN. 096-0045 (EB)**

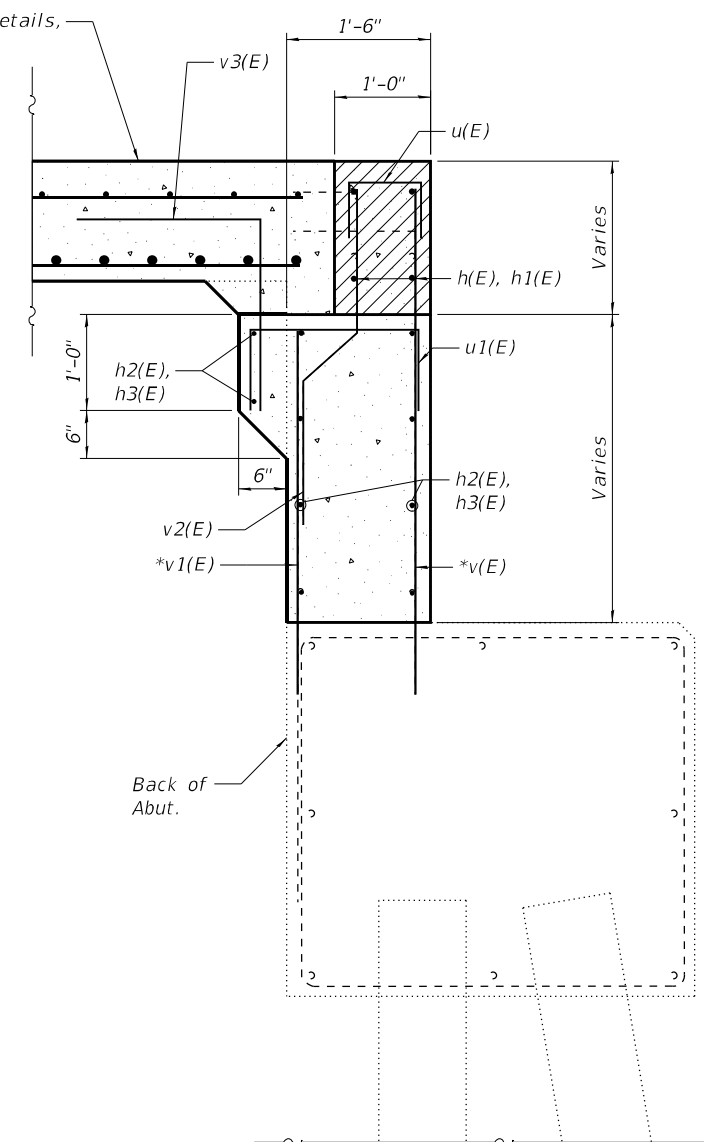
SHEET 14 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	103
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

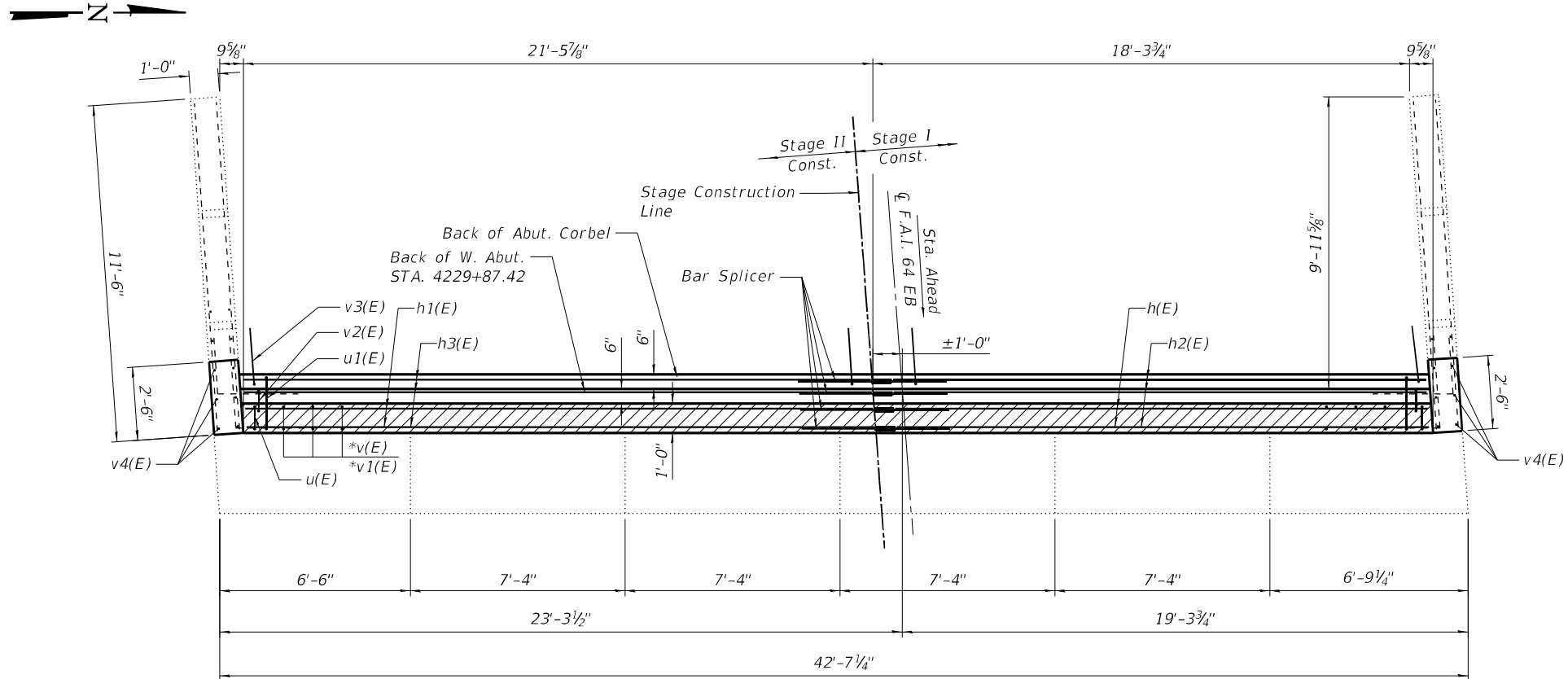
For Approach Slab Details, See Sheet 7-8 of 17



ABUTMENT BACKWALL REPLACEMENT ELEVATION
(West Abutment)



SECTION THRU ABUTMENT
(Dimensions at right angles)



ABUTMENT BACKWALL REPLACEMENT PLAN
(West Abutment)

- NOTE**
- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
 - All bars with asterisk (*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.



WEST ABUTMENT BILL OF MATERIAL

BAR	NO. OF BARS	TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II				
h(E)	4	4	#6	18'-2"	—	
h1(E)		4	#6	21'-5"	—	
h2(E)	10	10	#5	18'-2"	—	
h3(E)		10	#5	21'-5"	—	
u(E)	19	22	#5	1'-11"	□	
u1(E)	19	22	#5	3'-5"	□	
v(E)	19	22	#5	5'-4"	—	
v1(E)	19	22	#5	3'-9"	—	
v2(E)	19	22	#5	3'-9"	—	
v3(E)	19	22	#5	3'-11"	└	
v4(E)	6	6	#4	8'-0"	—	
Concrete Structures					Cu. Yd.	8.6
Reinforcement Bars, Epoxy Coated					Pound	1659
Bar Splicers					Each	14

MODEL: 0960045-74997-015
FILE NAME: J:\201002_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

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PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
(217) 755-8844, 792-6277, 79

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0'2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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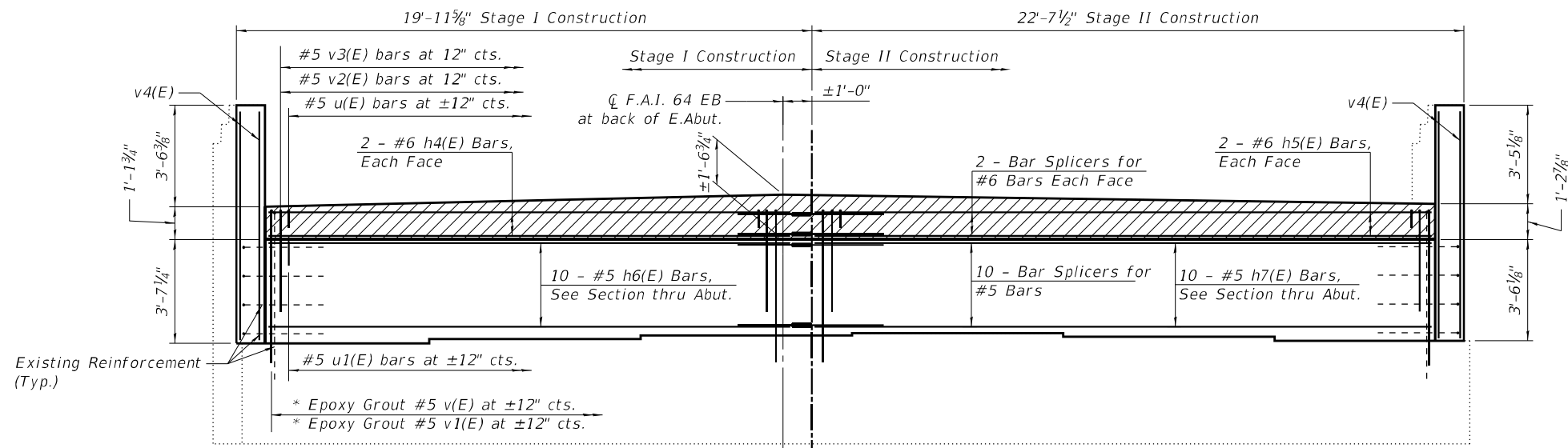
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT BACKWALL REPAIR DETAILS - I
SN. 096-0045 (EB)

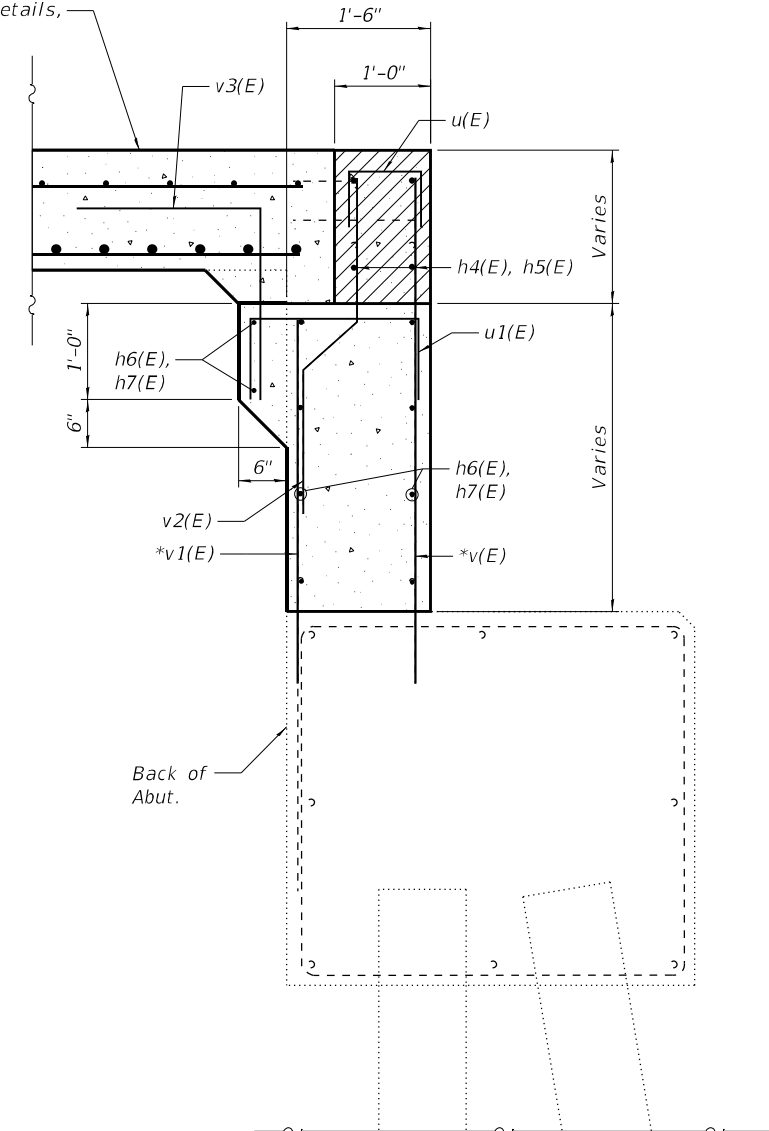
SHEET 15 OF 17 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 104
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

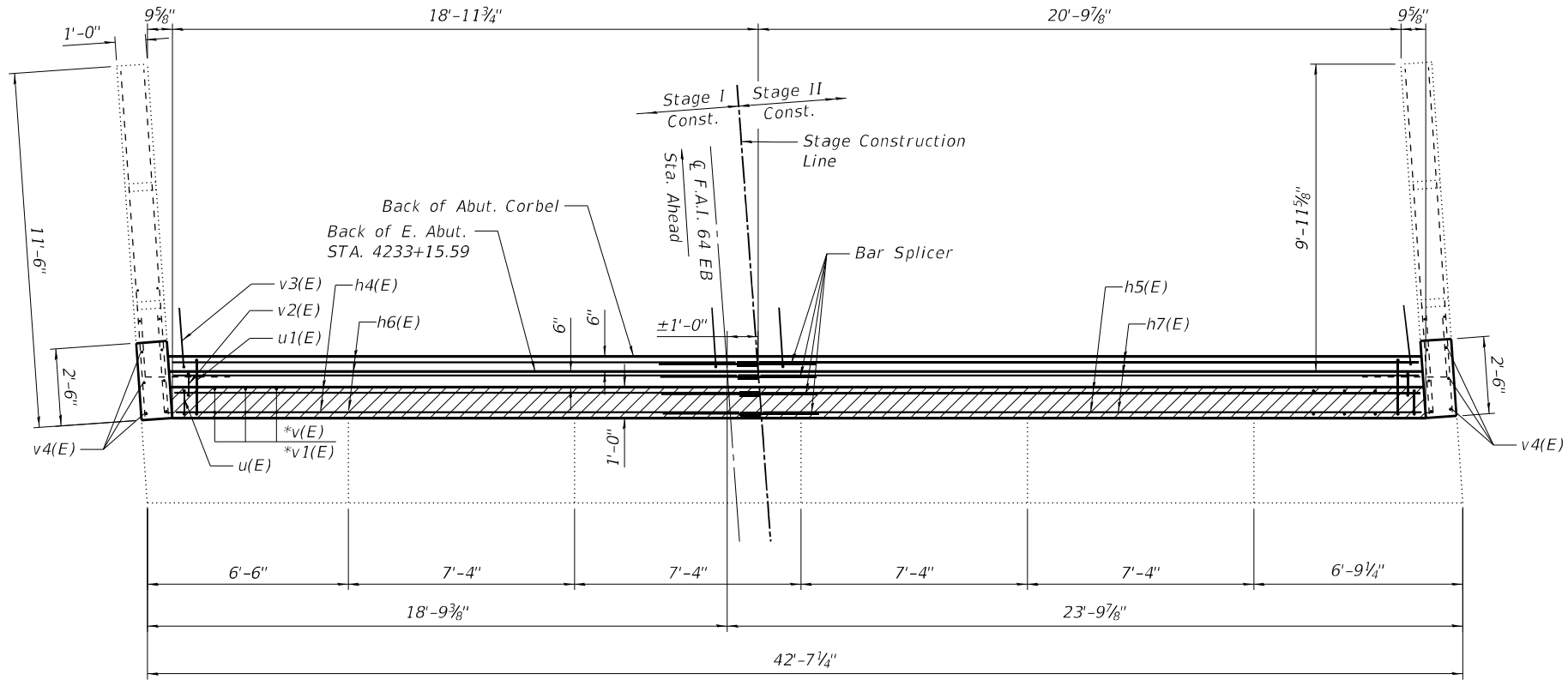
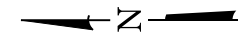
For Approach Slab Details,
See Sheet 7-8 of 17



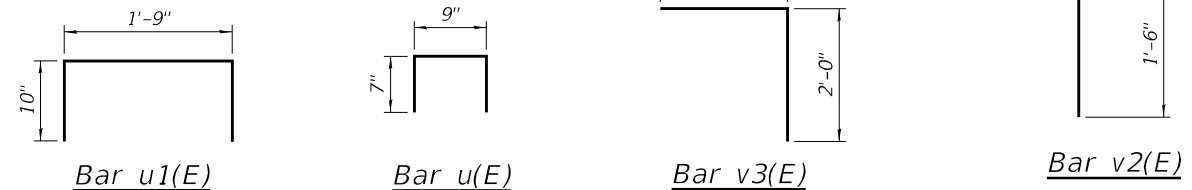
ABUTMENT BACKWALL REPLACEMENT ELEVATION
(East Abutment)



SECTION THRU ABUTMENT
(Dimensions at right angles)



ABUTMENT BACKWALL REPLACEMENT PLAN
(East Abutment)



EAST ABUTMENT
BILL OF MATERIAL

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
h4(E)	4		4	#6	18'-3"	—	
h5(E)		4	4	#6	21'-4"	—	
h6(E)	10		10	#5	18'-3"	—	
h7(E)		10	10	#5	21'-4"	—	
u(E)	19	22	41	#5	1'-11"	□	
u1(E)	19	22	41	#5	3'-5"	□	
v(E)	19	22	41	#5	5'-4"	—	
v1(E)	19	22	41	#5	3'-9"	—	
v2(E)	19	22	41	#5	3'-9"	—	
v3(E)	19	22	41	#5	3'-11"	┌	
v4(E)	6	6	12	#4	8'-0"	—	
Concrete Structures						Cu. Yd.	8.6
Reinforcement Bars, Epoxy Coated						Pound	1659
Bar Splicers						Each	14

NOTE

- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
- All bars with asterisk (*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.

MODEL: 0960045-74997-016
FILE NAME: J:\2010\02_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

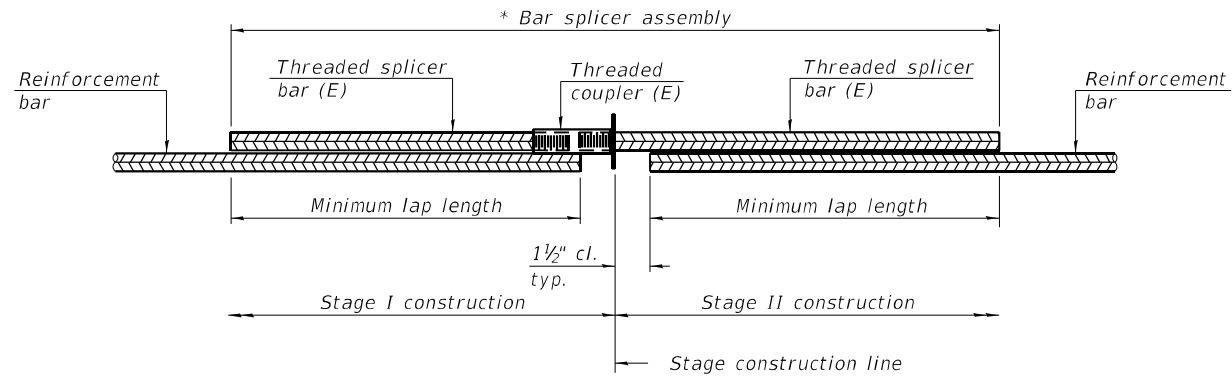
GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL ENGINEER REG. NO. 042-061179
PROFESSIONAL LAND SURVEYOR REG. NO. 048-060098
(217) 755-8844, 792-6277, 791

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0'2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

STATE OF ILLINOIS
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ABUTMENT BACKWALL REPAIR DETAILS - II
SN. 096-0045 (EB)

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 105
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

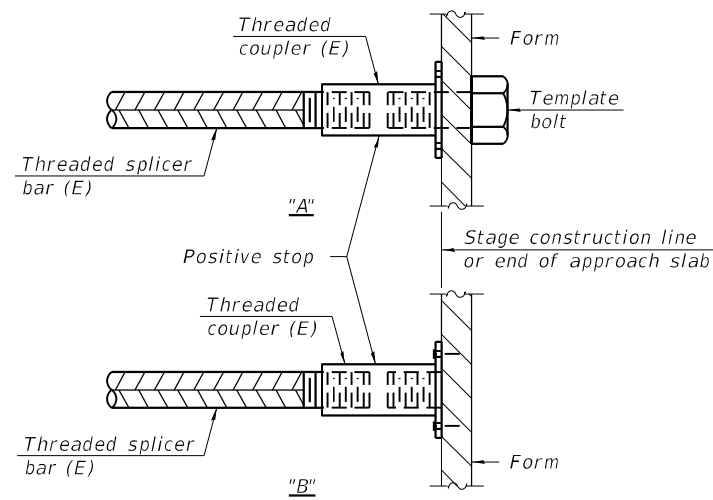


STANDARD BAR SPLICER ASSEMBLY PLAN
(All components shall be provided from one supplier)

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

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

Location	Bar size	No. assemblies required	Minimum lap length
Exp. Jt. Repair - Top & Bottom of Slab	#6	24	4'-4"
Abut. Backwall Repair - Hatch Block	#6	8	4'-4"
Abut. Backwall Repair - Backwall	#5	20	3'-7"
Approach Slab Repair - Top of Slab	#5	90	3'-7"
Approach Slab Repair - Bottom of Slab	#8	120	5'-1"
Approach Footing- Top & Bottom of Slab	#5	80	3'-7"

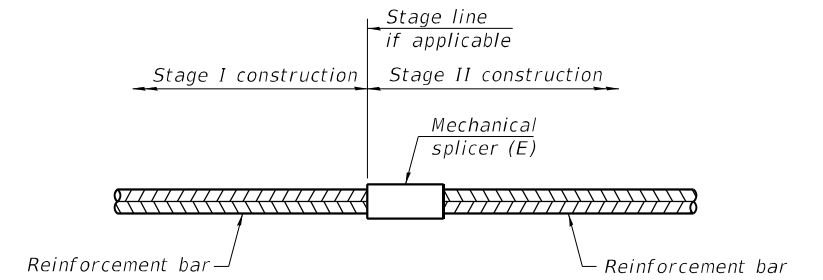


INSTALLATION AND SETTING METHODS

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

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

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

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

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

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

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

MODEL: 0960045-74997-017
FILE NAME: J:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

BSD-1 1-1-2020

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3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
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PROFESSIONAL LAND SURVEYING FIRM NO. 048-060398
(217) 754-8844, 754-6277, 754-6278

USER NAME = BenB	DESIGNED - KAS	REVISED -
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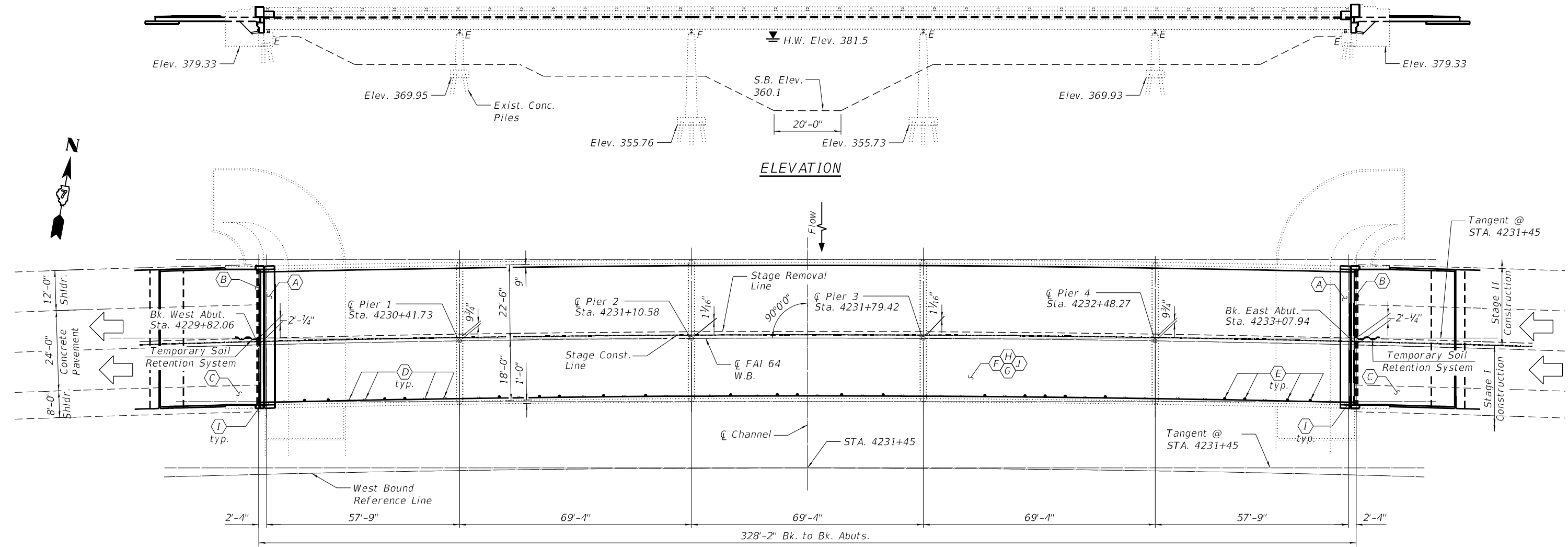
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN. 096-0045 (EB)

SHEET 17 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	106
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

The existing five span continuous steel beam structure was constructed in 1974 as F.A.I. Route 64 Section 96-3B-2 at STA. 4231+55. S.N. 096-0046 (WB) carries F.A.I. Route 64 (I-64) over Eagle Slough Ditch. The proposed project consists of new expansion joints, new abutment backwalls, new approach slabs, new deck drains, bridge deck scarification, a new concrete overlay, and bridge deck patching with Stage Construction.



ELEVATION

PLAN

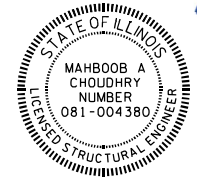
STRUCTURE INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	General Plan & Elevation
2	General Notes & Stage Construction Details
3	Bridge Deck Patching- Span 1 & 2
4	Bridge Deck Patching- Span 3
5	Bridge Deck Patching- Span 4 & 5
6	Deck Drain Replacement Details
7	Approach Slab Details-I
8	Approach Slab Details-II
9	Expansion Joint Removal Details
10	Expansion Joint Replacement Details
11	Wingwall Modification at Expansion Joint
12	Preformed Joint Strip Seal Details
13	Abutment Backwall Removal Details-I
14	Abutment Backwall Removal Details-II
15	Abutment Backwall Repair Details-I
16	Abutment Backwall Repair Details-II
17	Bar Splicer Assembly and Mechanical Splicers Details

SCOPE OF WORK

- (A) - Remove Existing Expansion Joint and Install Preformed Joint Strip Seal (See Sheet 9-10 of 17)
- (B) - Remove & Replace Abutment Backwall (See Sheet 13-16 of 17)
- (C) - Remove and Replace Bridge Approach Slab (See Sheet 7-8 of 17)
- (D) - Eliminate Floor Drains (See Sheet 3-6 of 17)
- (E) - Remove Existing Floor Drains and Install New 6"-Dia. Floor Drains. (See Sheet 3-6 of 17)
- (F) - Scarify Deck to remove existing 2 3/8" Microsilica Concrete Overlay (See Sheet 2 of 17)
- (G) - Install Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2" (See Sheet 2 of 17)
- (H) - Install Bridge Deck Patches. (See Sheet 3-5 of 17)
- (I) - Modify Parapet Transition (See Sheet 11 of 17)
- (J) - Perform Diamond Grinding (Bridge Section) & Bridge Deck Grooving (Longitudinal)

M. Chaudhry



Dated 8/31/2021
 Mahboob A Choudhry
 Licensed Structural Engineer
 In Illinois No. 081-004380
 Expires: 11/30/2022

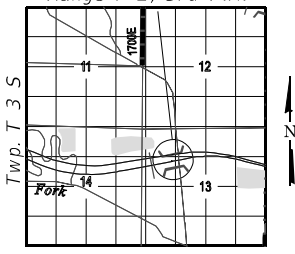
DESIGN STRESSES

FIELD UNITS
 f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)

EXIST. CURVE DATA

W.B. REFERENCE LINE
 Δ = 23°-55'-43"
 D = 0°-52'-00"
 R = 6611.05'
 T = 1400.92'
 L = 2761.00'
 E = 146.80
 S.E. = 0.024 ft./ft. Attained from
 STA. 4277+47.80 to STA. 4299+47.80
 STA. 4257+75.46 to STA. 4255+75.46

Project Location
 Range 7 E, 3rd P.M.



LOCATION SKETCH

MODEL: 0960046-74997-001
 FILE NAME: J:\201002_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn

GREENE & BRADFORD, INC.
 OF SPRINGFIELD
CONSULTING ENGINEERS
 3541 CONSTITUTION DRIVE
 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL DESIGN FIRM NO. 081-001179
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
 (217) 754-8844, 752-6227, 751

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG, BB	REVISED -
	CHECKED - MC	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION
 SN. 096-0046 (WB)**

SHEET 01 OF 17 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 107
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

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

Reinforcement Bars designated (E) shall be epoxy coated.

Unless noted otherwise, Specified Concrete Cover over Reinforcement shall be as follows;
Number 4 and 5 bars = 1 1/2", Number 6 and larger bars = 2".

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

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.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Removal and reinstallation of aluminum railing sections will be necessary for construction of the expansion joints.

All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated in the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

Prior to pouring the new concrete deck, all heavy and 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.

The Name Plate shall be removed from the existing wingwall and embedded into the new wingwall concrete at approximately the same location. This work and all materials shall be included in the contract unit price for Concrete Superstructures

Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is completed.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front faces and tops of the parapets and wingwalls and the top surfaces of the expansion joint blockouts. Protective Coat shall also be applied to the top of the new concrete overlay and to Areas of Concrete Superstructure (Approach Slab) including the front faces and tops of the curbs.

Synthetic fibers should be added to the Bridge Deck Fly Ash or GGBF Slag Concrete Overlay. See Special Provisions.

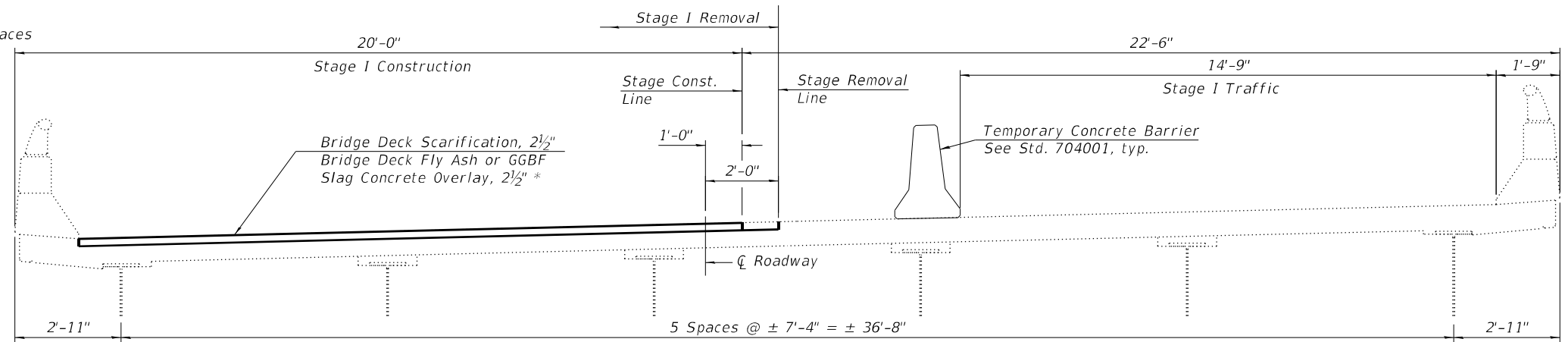
Full depth deck slab repair will be required at each floor drain location. Removal and disposal of existing floor drains shall be included in the contract unit price for deck slab repair (Full depth, Type 1).

TOTAL BILL OF MATERIAL

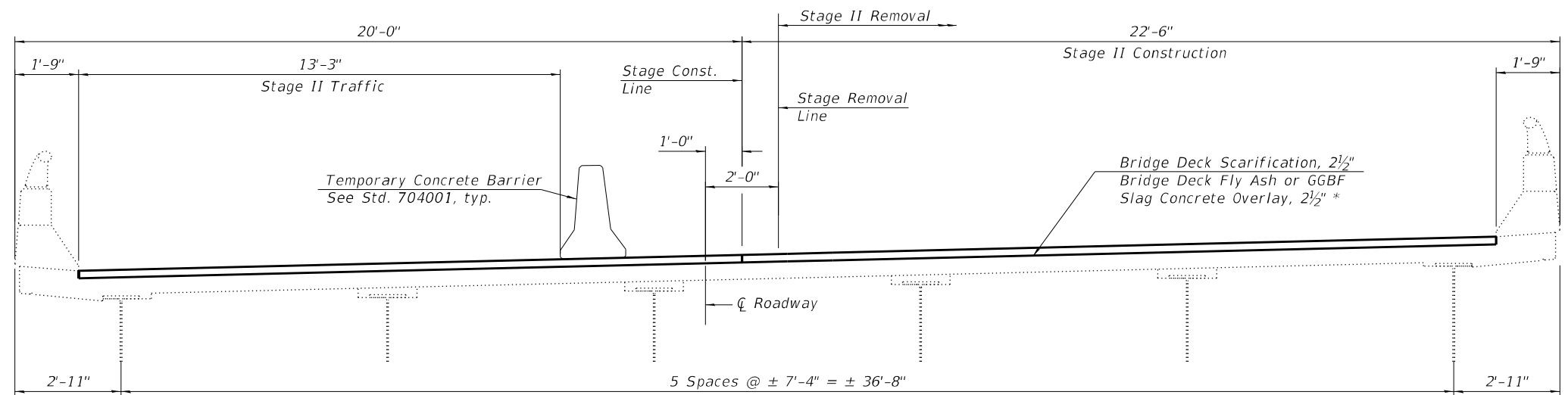
ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	31.0
Concrete Structures	Cu. Yd.	42.8
Concrete Superstructures	Cu. Yd.	16.8
Concrete Superstructure (Approach Slab)	Cu. Yd.	113.0
Reinforcement Bars, Epoxy Coated	Pound	49374
Bar Splicers	Each	342
Prefomed Joint Strip Seal	Foot	85
Floor Drains	Each	23
** Bridge Deck Scarification, 2 1/2"	Sq. Yd.	1382
** Bridge Deck Fly Ash or GGBF Slag Concrete Overlay 2 1/2"	Sq. Yd.	1382
** Bridge Deck Grooving (Longitudinal)	Sq. Yd.	866
** Diamond Grinding (Bridge Section)	Sq. Yd.	1688
*** Protective Coat	Sq. Yd.	1919
Deck Slab Repair (Full Depth, Type 1)	Sq. Yd.	10.8
Porous Granular Backfill	Cu. Yd.	46.5
Structure Excavation	Cu. Yd.	46.5
Temporary Soil Retention System	Sq. Ft.	47.4

** See Special Provisions.

*** New Concrete and overlay areas



* Overlay Thickness Prior to Grinding
Stage I
(Looking West)



Stage II
(Looking West)

MODEL: 0960046-74997-002
FILE NAME: J:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3541 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 04-001179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
(217) 755-8844, 752-6277, 752-6278

USER NAME =	BenB
PLOT SCALE =	0:2" / in.
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG
CHECKED -	MC

REVISED -	
REVISED -	
REVISED -	
REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, BILL OF MATERIALS & STAGE CONST. DETAILS
SN. 096-0046 (WB)

SHEET 02 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	108
ILLINOIS			CONTRACT NO. 74997	
FED. AID PROJECT				

096-0046 Spans 1 & 2



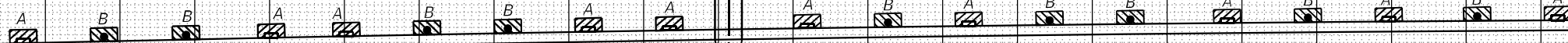
☉ Bridge

☉ WB Roadway

Bk West Abut.
Sta. 4229+82.06

Pier 2
Sta. 4231+10.58

☉ Pier 1
Sta. 4230+41.73



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
A - Remove Drain, 10 ea			2.3	
B - Replace Drain, 9 ea			2.0	
TOTALS			4.3	0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



A & B = Deck Slab Repair
(Full Depth, Type I)
2ft² = .22yd² Each



ESTIMATED PAY QUANTITIES

DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 4.3 SQ YD
DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD
FLOOR DRAINS = 9 Each

DATE OF SURVEY: OCT. 2020
SURVEY BY: DPM
METHOD OF SURVEY: VISUAL

MODEL: 0960046-74997-003
FILE NAME: J:\2010\002\W04 2 B Bridge Repairs in D7\DRAWINGS\096-0046-005 & 096-0046-006\0960046-74997.dgn

USER NAME = BenB	DESIGNED - T. Walk	REVISED -
	DRAWN - T. Walk	REVISED -
PLOT SCALE = 100:0' = 1" / in.	CHECKED - D. Macklin	REVISED -
PLOT DATE = 8/31/2021	DATE - Nov. 2020	REVISED -

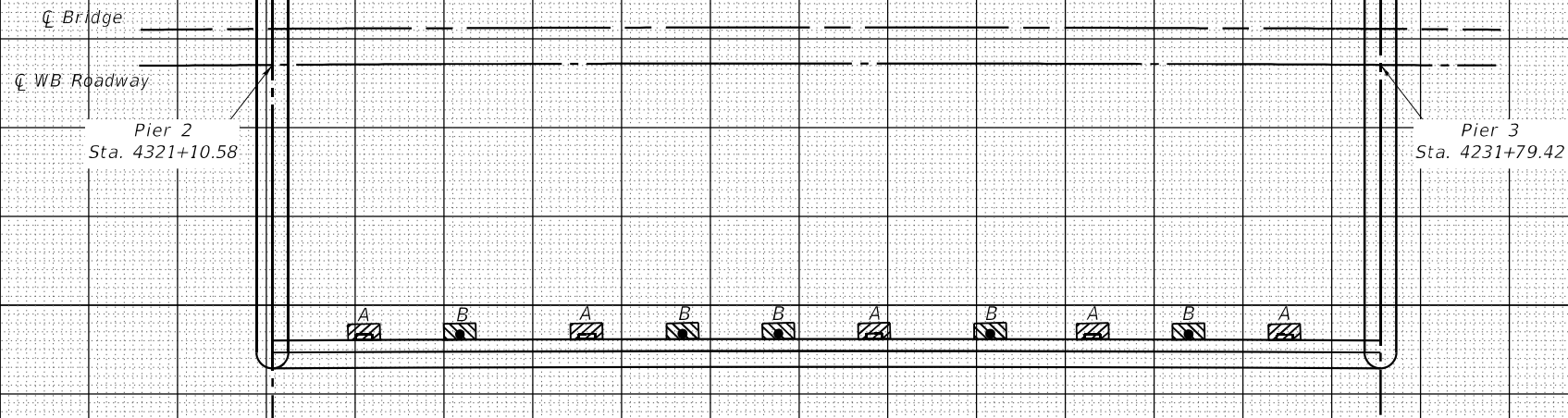
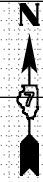
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING, SPANS 1 & 2
SN. 096-0046

SCALE: SHEET 03 OF 17 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	109
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

096-0046 Span 3



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
A - Remove Drain, 5 ea			1.1	
B- Replace Drain, 5 ea			1.1	
TOTALS			2.2	0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.

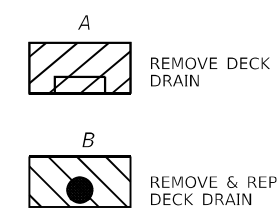


DATE OF SURVEY: OCT. 2020
 SURVEY BY: DPM
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)
 2ft² = .22yd² Each

ESTIMATED PAY QUANTITIES

DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 2.2 SQ YD
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD
 FLOOR DRAINS = 5 Each



MODEL: 0960046-74997-001
 FILE NAME: J:\2010\02\W04 2 B Bridge Repairs in D7\DRAWINGS\096-0046-005 & 096-0046-006\0960046-74997.dgn

USER NAME = BenB	DESIGNED - T. Walk	REVISED -
	DRAWN - T. Walk	REVISED -
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PLOT DATE = 8/31/2021	DATE - Nov. 2020	REVISED -

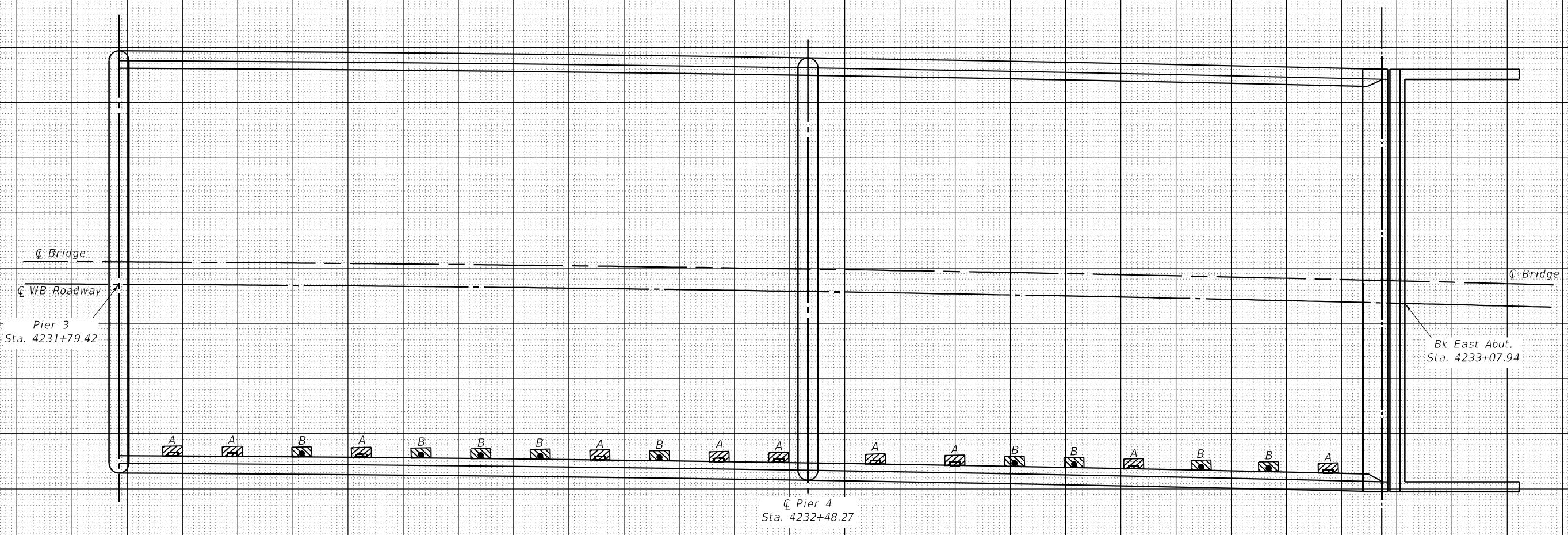
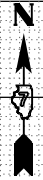
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING, SPAN 3
 SN. 096-0046

SCALE: SHEET 04 OF 17 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	110
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

096-0046 Spans 4 & 5



PATCH	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	NO.	LENGTH	WIDTH	SQ YD
A - Remove Drain, 10 ea			2.3	
B - Replace Drain, 9 ea			2.0	
TOTALS			4.3	0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020
 SURVEY BY: DPM
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)
 2ft² = .22yd² Each



ESTIMATED PAY QUANTITIES

DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 4.3 SQ YD
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD
 FLOOR DRAINS = 9 Each

MODEL: 0960046-74997-005
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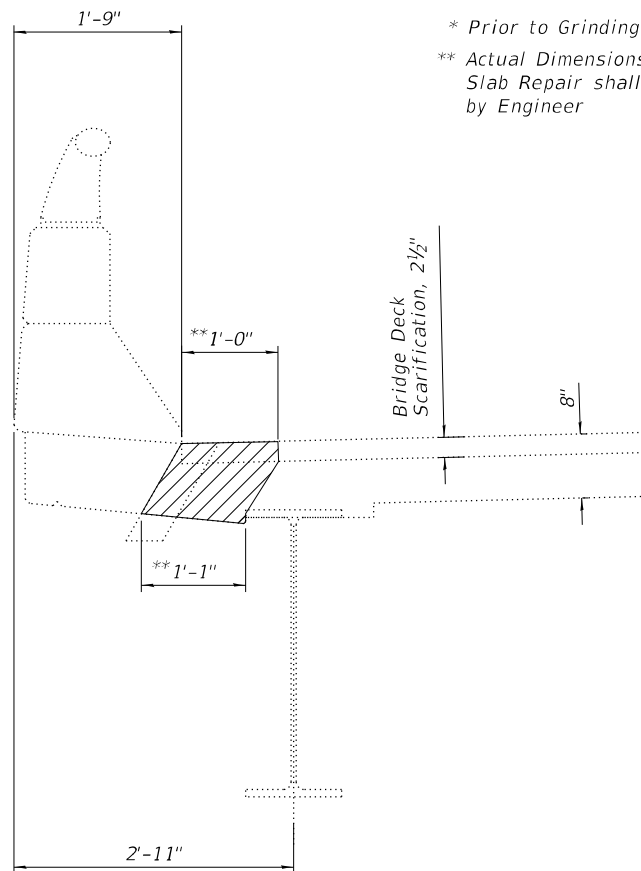
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PLOT SCALE = 100:0' = 1" / in.	DRAWN - T. Walk	REVISED -
PLOT DATE = 8/31/2021	CHECKED - D. Macklin	REVISED -
	DATE - Nov. 2020	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

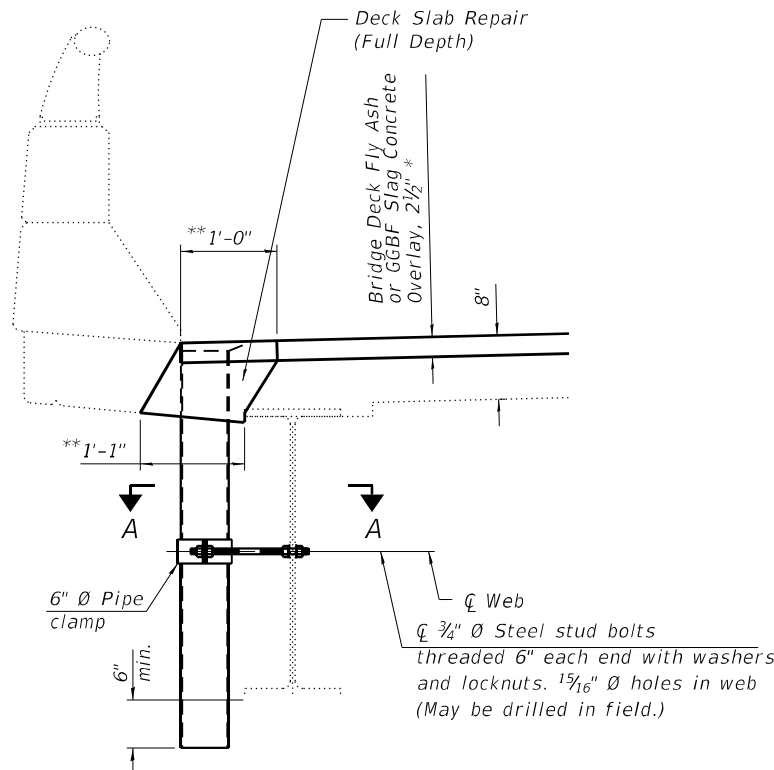
BRIDGE DECK PATCHING, SPANS 4 & 5
 SN. 096-0046

SCALE: SHEET 05 OF 17 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	111
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

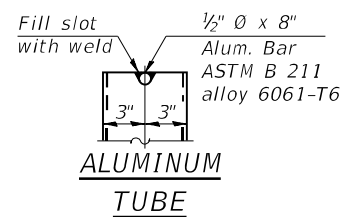


* Prior to Grinding
 ** Actual Dimensions of Deck Slab Repair shall be determined by Engineer

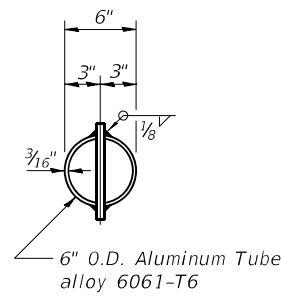


Notes:
 Fiberglass pipe alternative shall not be allowed for floor drains.
 Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.
 Concrete Removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheets 3-5 of 17.

SECTIONS THRU DRAIN TO BE REPLACED
 48 Locations - See Bridge Patching Sheet

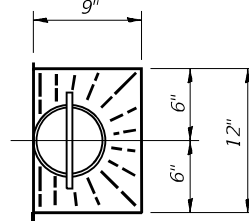


ALUMINUM TUBE

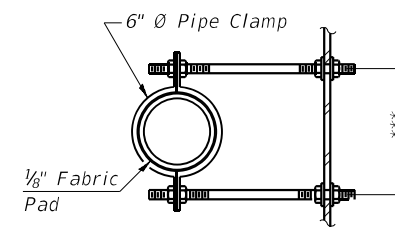


TOP PLAN

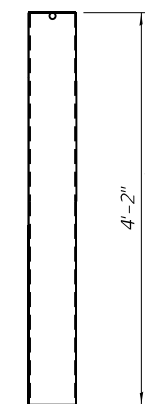
(Plan to be Updated with Limits of slab repair)



TOP PLAN



SECTION A-A
 *** Dimension as required by Pipe Clamp



DRAIN DETAIL

MODEL: 0960046-74997-006
 FILE NAME: J:\201002_WD# 2.8 Bridge Repairs in D7\DRAWINGS\096-0046 & 096-0046\0960046-74997.dgn

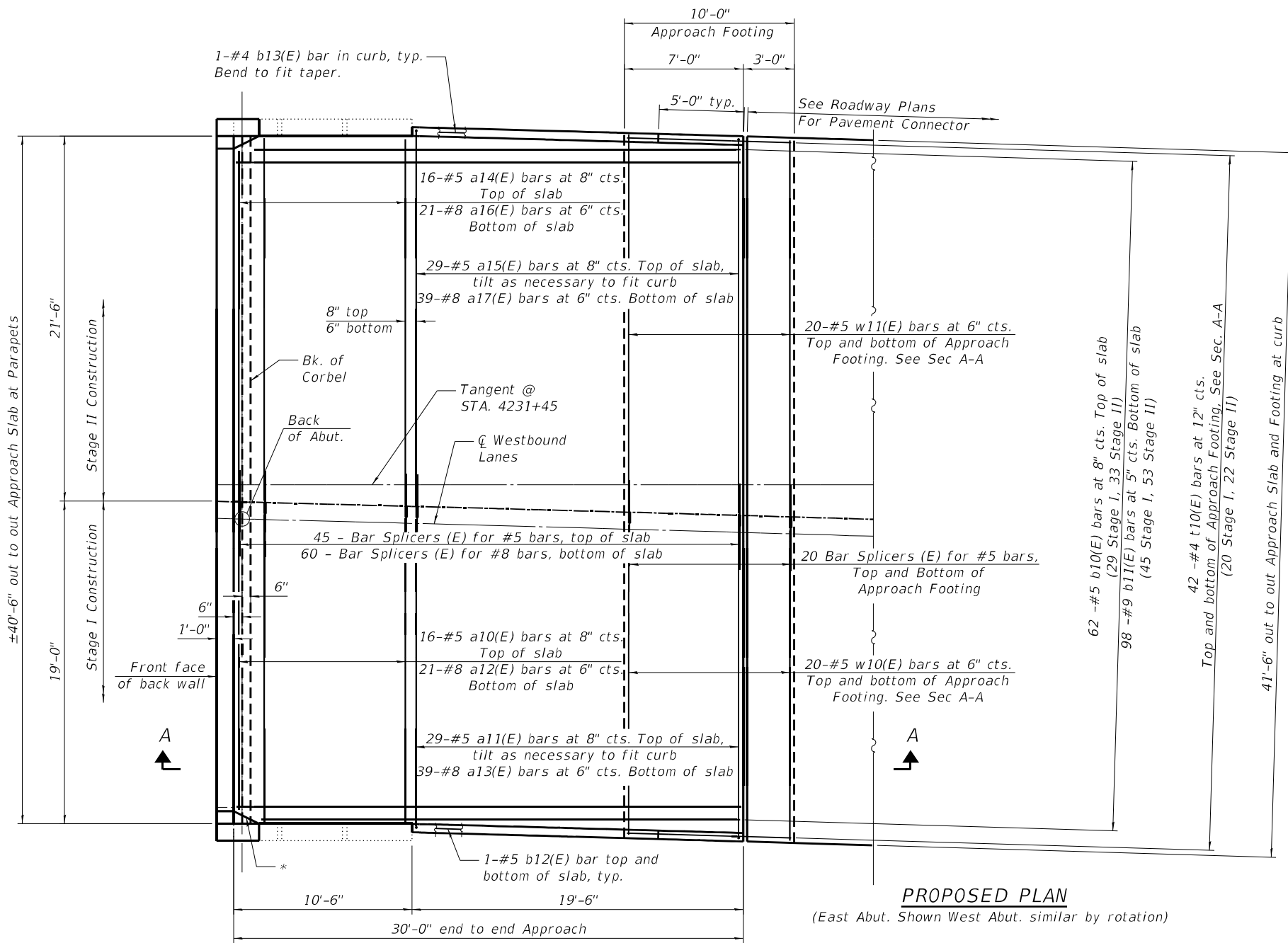
GREENE & BRADFORD, INC.
 OF SPRINGFIELD
 CONSULTING ENGINEERS
 3501 CONSTITUTION DRIVE
 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL DESIGN FIRM NO. 04-0061179
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098
 (217) 755-8844, 726-6277, 771

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

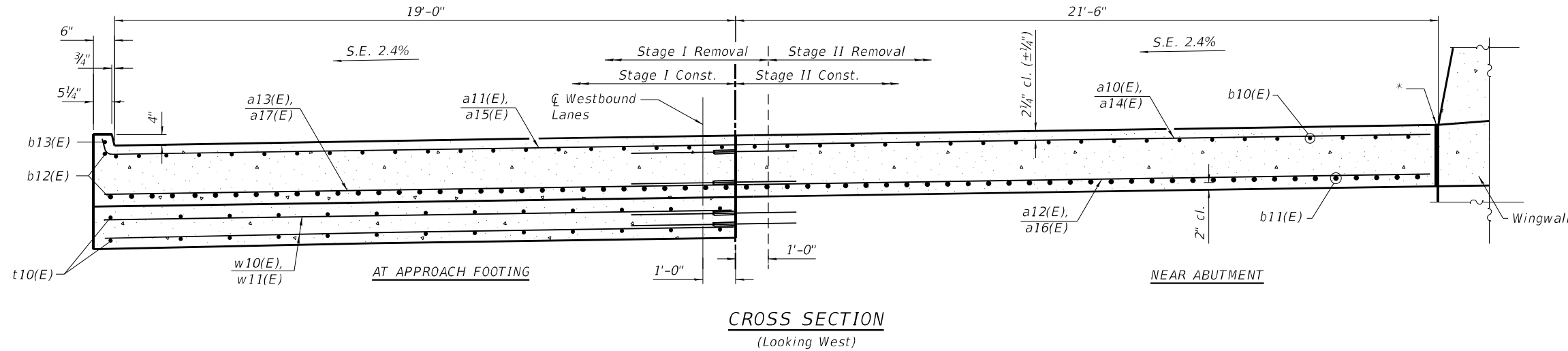
DECK DRAIN REPLACEMENT DETAILS
SN. 096-0046 (WB)
 SHEET 06 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	112
CONTRACT NO. 74997				
		ILLINOIS	FED. AID PROJECT	



* 1/2" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Typ. each parapet.
See Sheet 8 of 17 for Section A-A.

PROPOSED PLAN
(East Abut. Shown West Abut. similar by rotation)



CROSS SECTION
(Looking West)

MODEL: 0960046-74997-007
FILE NAME: J:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3541 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 042-0001179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
(217) 753-8844, 752-6227, 751

USER NAME =	BenB
PLOT SCALE =	0.2" / in.
PLOT DATE =	8/31/2021

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CHECKED -	MC
DRAWN -	PG
CHECKED -	MC

REVISED -	
REVISED -	
REVISED -	
REVISED -	

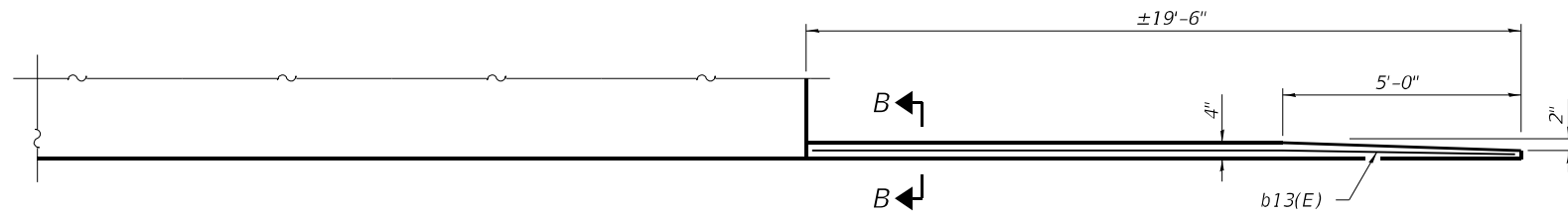
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS - I
SN. 096-0046 (WB)

SHEET 07 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	113
CONTRACT NO. 74997				

ILLINOIS FED. AID PROJECT

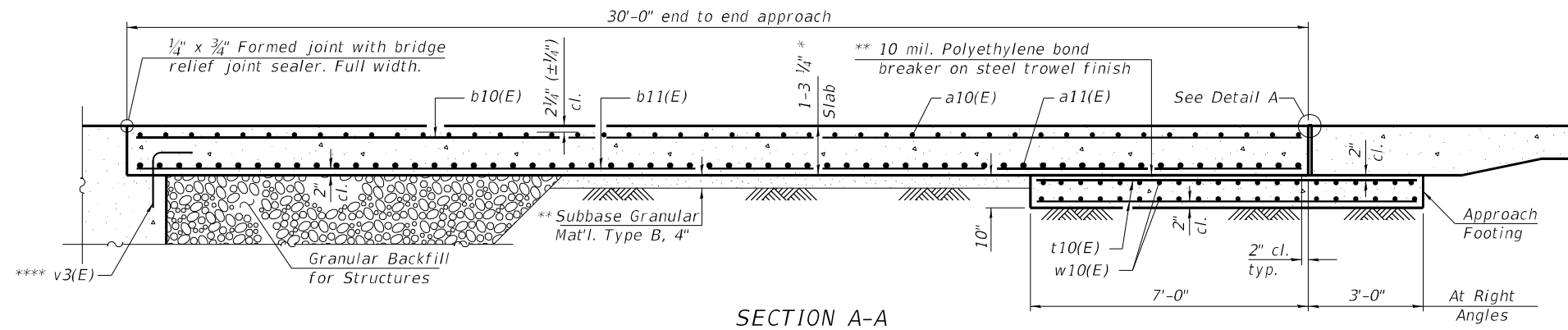


INSIDE ELEVATION OF PARAPET AND CURB

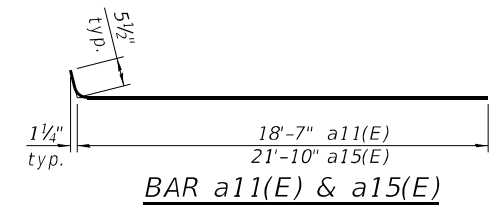
Notes:

Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 10 of 17.

* Prior to Grinding

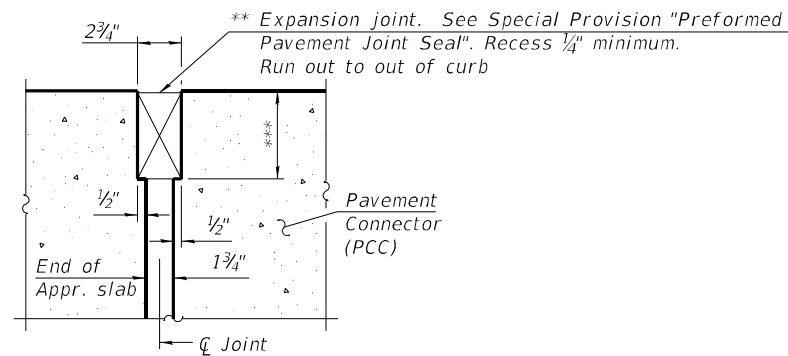


SECTION A-A



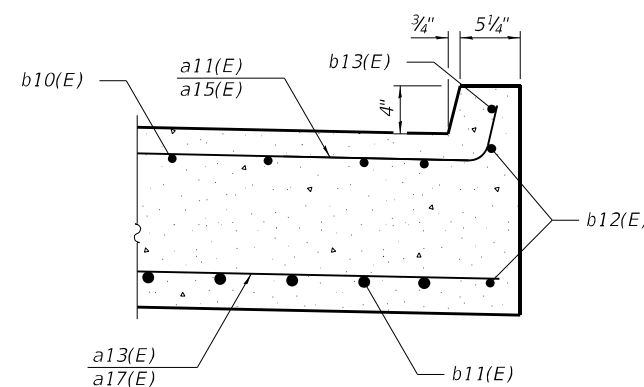
TWO APPROACHES
 BILL OF MATERIAL

Bar	Stage I	Stage II	Total	Size	Length	Shape
a10(E)	32		32	#5	18'-1"	—
a11(E)	58		58	#5	18'-7"	—
a12(E)	42		42	#8	18'-1"	—
a13(E)	78		78	#8	18'-2"	—
a14(E)		32	32	#5	21'-6"	—
a15(E)		58	58	#5	22'-6"	—
a16(E)	42		42	#8	21'-6"	—
a17(E)		78	78	#8	22'-1"	—
b10(E)	58	64	122	#5	29'-8"	—
b11(E)	90	104	194	#9	29'-8"	—
b12(E)	4	4	8	#5	19'-3"	—
b13(E)	2	2	4	#4	19'-4"	—
t10(E)	40	44	84	#4	9'-8"	—
w10(E)	80		80	#5	18'-2"	—
w11(E)		80	80	#5	22'-1"	—
Concrete Superstructure (Approach Slab)					Cu. Yd.	113.0
Concrete Structures					Cu. Yd.	25.6
Reinforcement Bars, Epoxy Coated					Pound	44087
Bar Splicers					Each	290



DETAIL A

(Detail A shown, applies to Highway Standard 420401 only.
 Detail A for pavement connector (HMA) may be found on
 Highway Standard 420406.)



SECTION B-B

** Cost included with Concrete Superstructure (Approach Slab).

*** Per manufacturer recommendations

**** v3(E) bars are shown on Sheets 15-16 of 17.

(Sheet 2 of 2)

MODEL: 0960046-74997-008
 FILE NAME: J:\2010\02_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn

GREENE & BRADFORD, INC.
 OF SPRINGFIELD
 CONSULTING ENGINEERS
 3501 CONSTITUTION DRIVE
 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL DESIGN FIRM NO. 04-0061179
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-006098
 (217) 755-8844, 752-6277 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

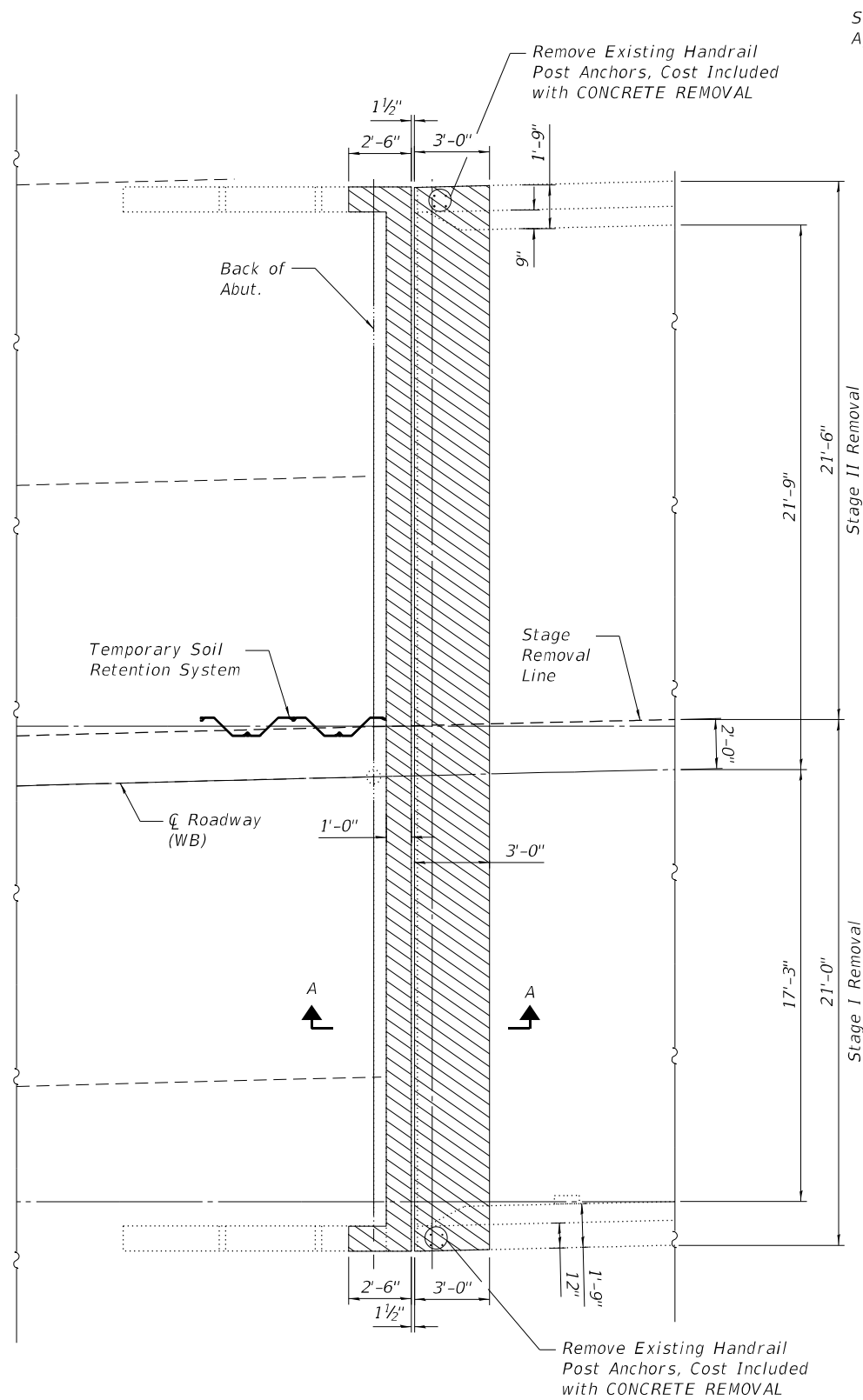
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS - II
 SN. 096-0046 (WB)

SHEET 08 OF 17 SHEETS

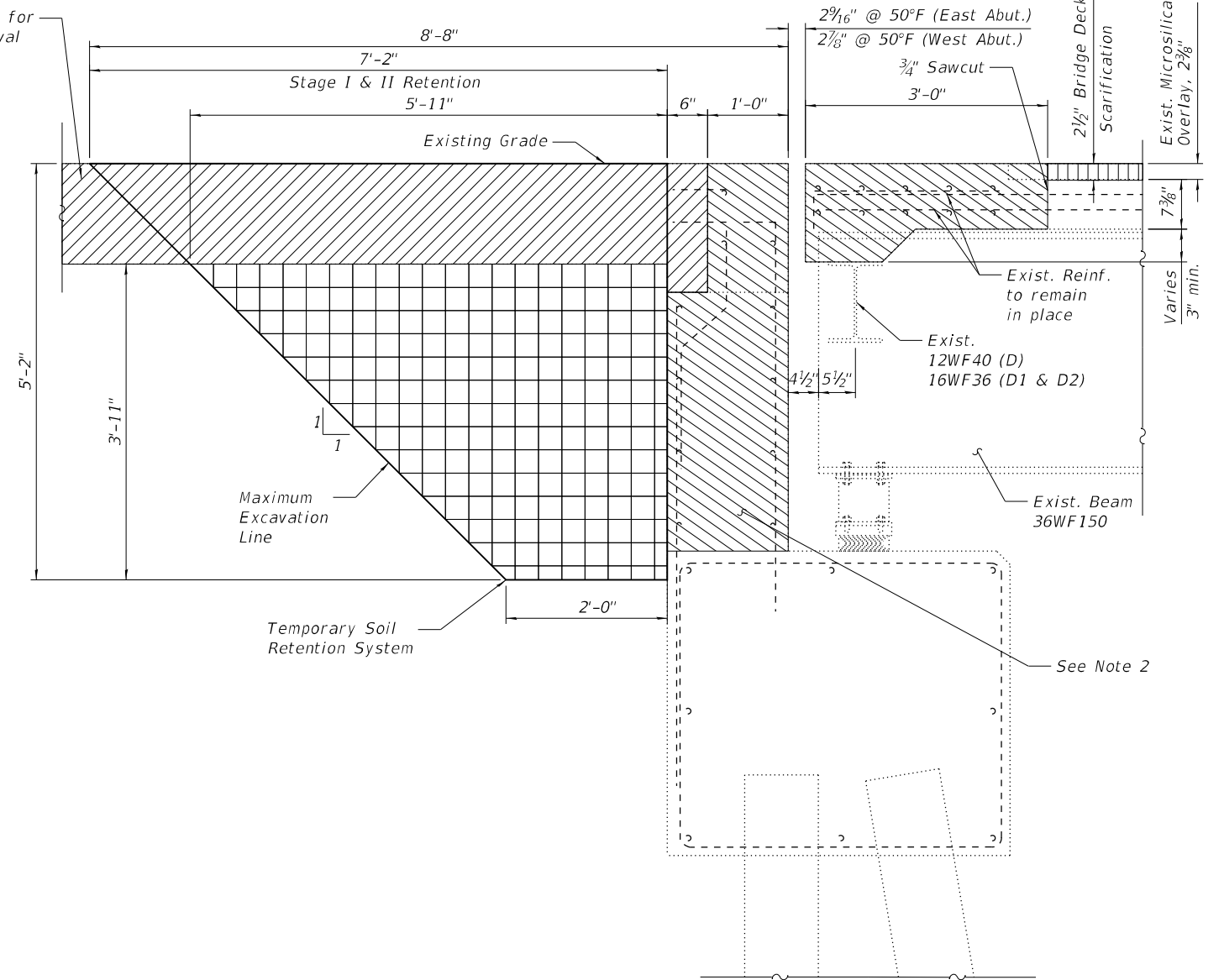
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	114
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

MODEL: 0960046-74997-009
 FILE NAME: J:\20100.02_WD# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn



CONCRETE REMOVAL PLAN
 (West Abutment shown, East Abutment similar by rotation)

See Roadway Sheets for Approach Slab Removal



SECTION A-A
 Removal

NOTE

1. Removal and Disposal of Exist. Expansion Joint is included in the cost of CONCRETE REMOVAL.
2. For Removal quantities for Abutment Backwall and hatch block, See sheet 13-14 of 17.

- Concrete Removal
- Approach Slab Removal (See Roadway Sheets)
- Bridge Deck Scarification
- Structure Excavation

TWO EXPANSION JOINTS
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
** Concrete Removal	Cu. Yd.	10.7
Structure Excavation	Cu. Yd.	46.5
Temporary Soil Retention System	Sq. Ft.	47.4

** Concrete Removal Quantity is for end of the Deck removal only, See Note 2

GREENE & BRADFORD, INC.
 OF SPRINGFIELD
 CONSULTING ENGINEERS
 3501 CONSTITUTION DRIVE
 SPRINGFIELD, ILLINOIS 62111
 PROFESSIONAL DESIGN FIRM NO. 04-0001179
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-0000098
 (217) 755-8844, 752-6277, 751

USER NAME =	BenB
PLOT SCALE =	0:2" / in.
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG
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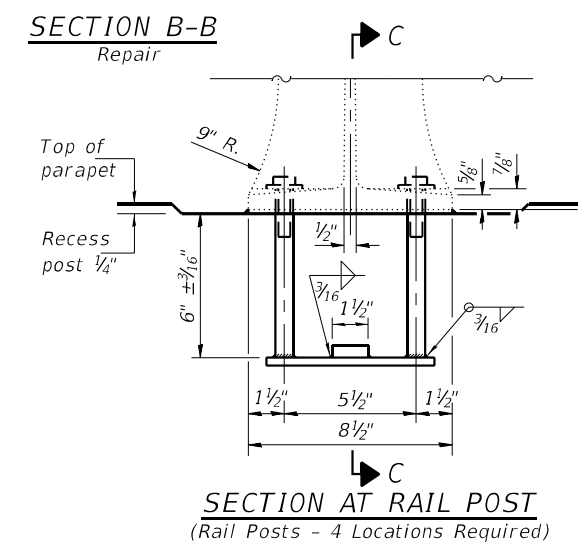
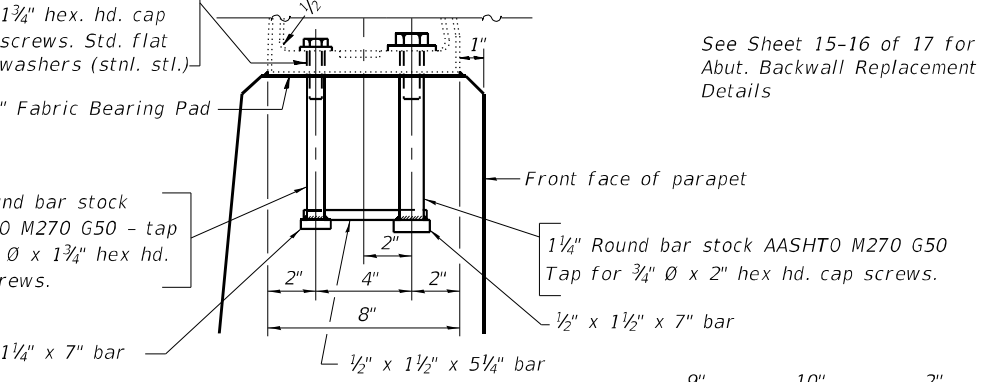
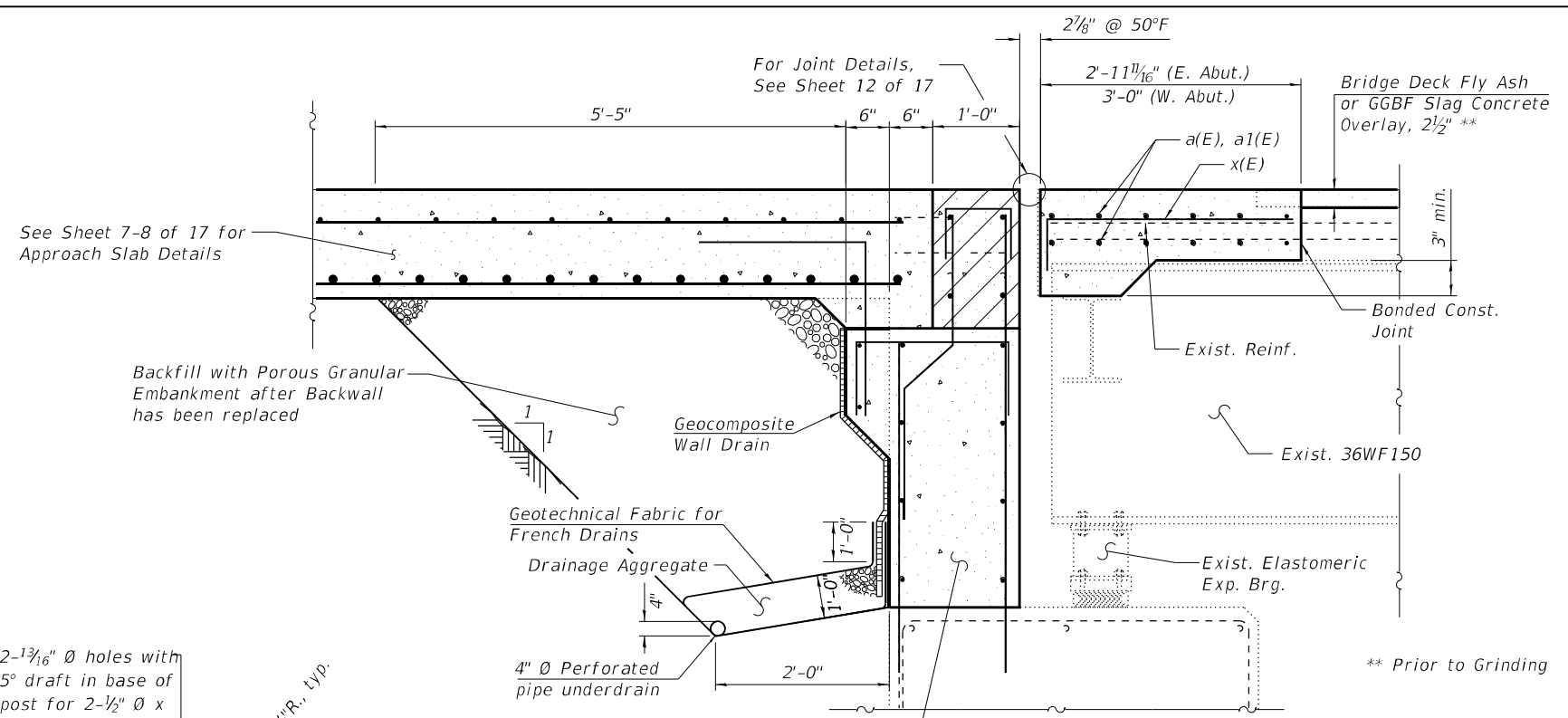
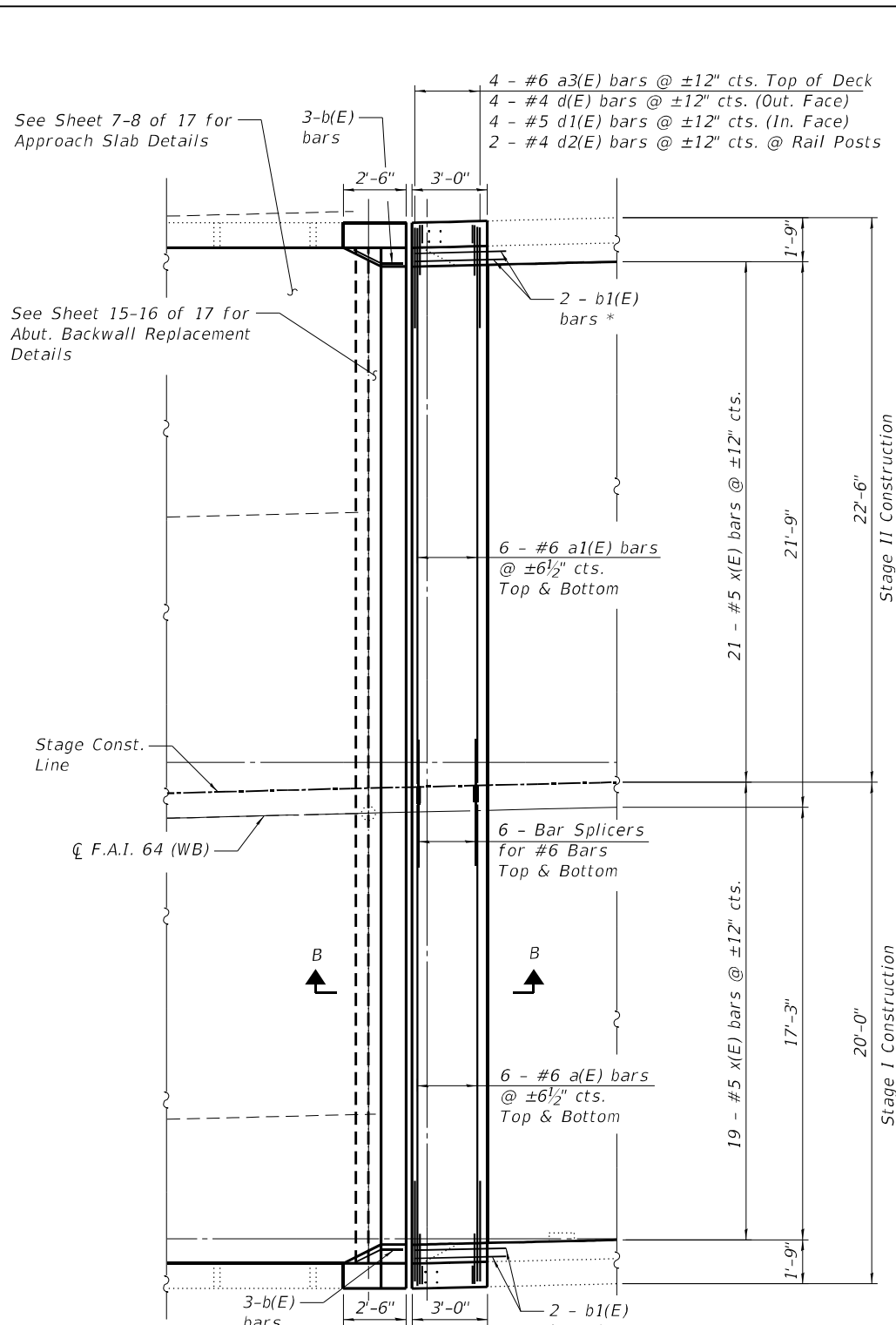
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REMOVAL DETAILS
SN. 096-0046 (WB)

SHEET 09 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	115
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

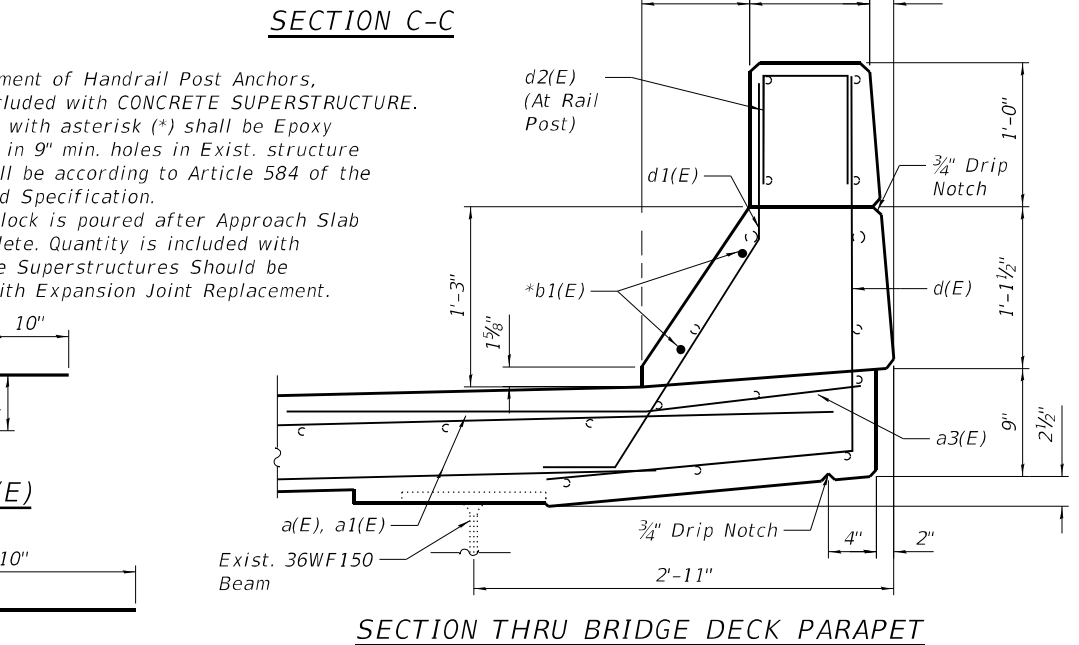
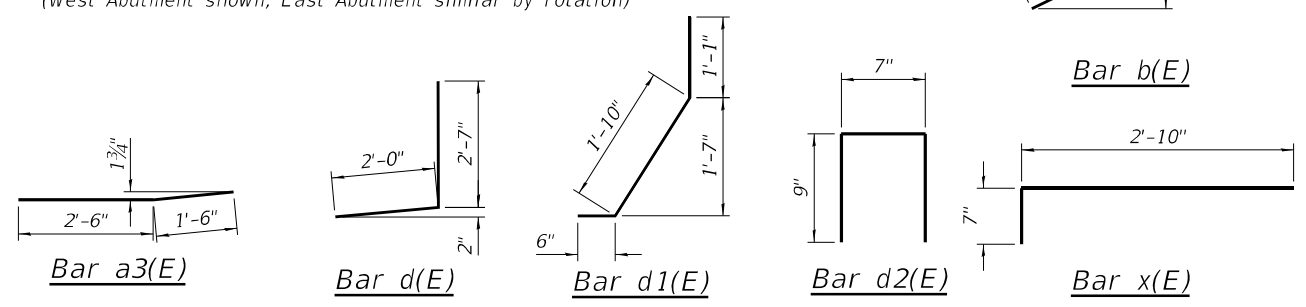


TWO EXPANSION JOINTS
BILL OF MATERIAL

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II				
a(E)	24		24	#6	19'-2"	—
a1(E)		24	24	#6	22'-2"	—
a3(E)	8		8	#6	4'-0"	—
b(E)	6		6	#5	2'-2"	—
b1(E)	4		4	#5	3'-8"	—
d(E)	8		8	#4	4'-7"	┘
d1(E)	8		8	#5	3'-5"	┘
d2(E)	4		4	#4	2'-1"	┘
x(E)	38	4	42	#5	3'-5"	┘
Concrete Superstructures					Cu. Yd.	16.8
Reinforcement Bars, Epoxy Coated					Pound	2046
Bar Splicers					Each	24
Porous Granular Backfill					Cu. Yd.	46.5

- NOTE**
1. Replacement of Handrail Post Anchors, Cost Included with CONCRETE SUPERSTRUCTURE.
 2. All bars with asterisk (*) shall be Epoxy Grouted in 9" min. holes in Exist. structure and shall be according to Article 584 of the Standard Specification.
 3. Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.

JOINT REPAIR PLAN
 (West Abutment shown, East Abutment similar by rotation)



STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

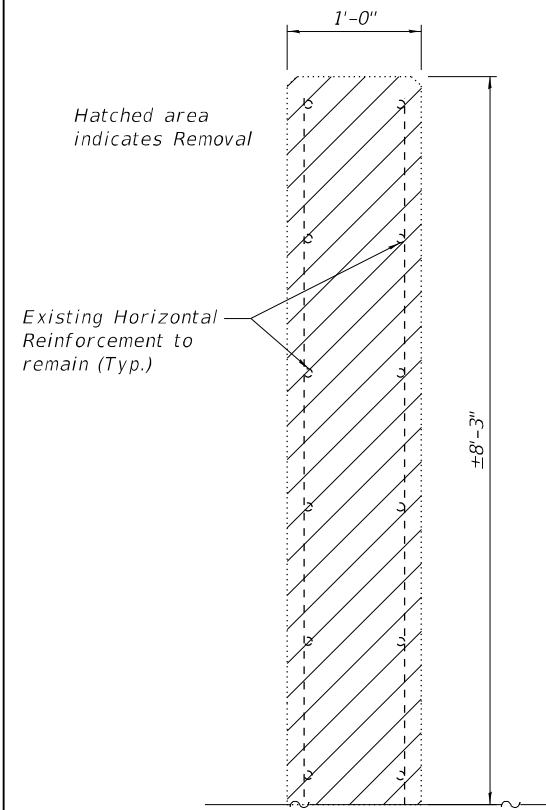
EXPANSION JOINT REPLACEMENT DETAILS
 SN. 096-0046 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				

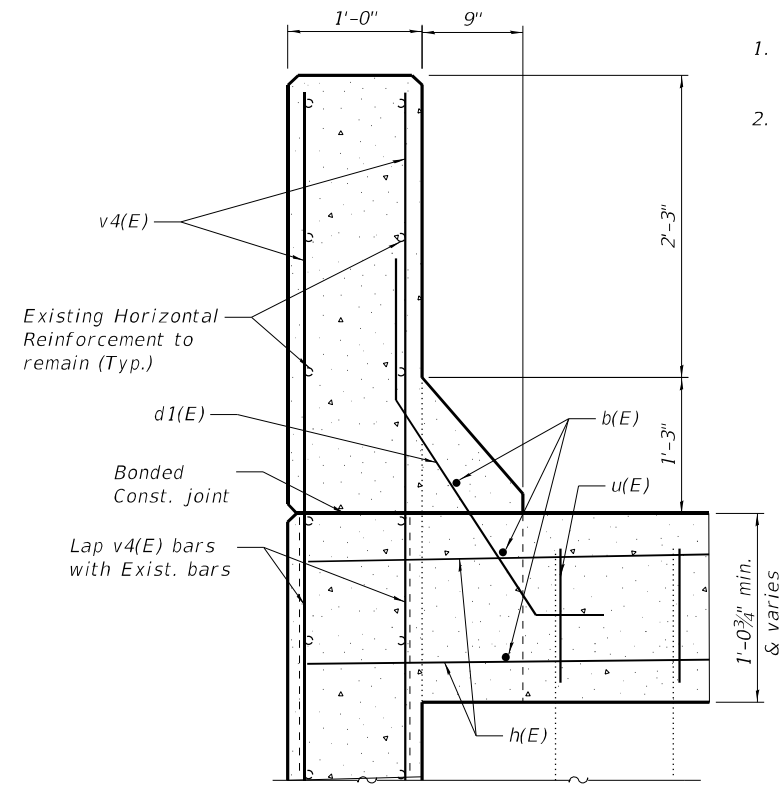
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GREENE & BRADFORD, INC.
 OF SPRINGFIELD
 CONSULTING ENGINEERS
 3501 CONSTRUCTION DRIVE
 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL GEORGE FIRM NO. 084-061179
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098
 (217) 755-8844, 792-6277, 792-6277

USER NAME = BenB	DESIGNED - KAS	REVISED -
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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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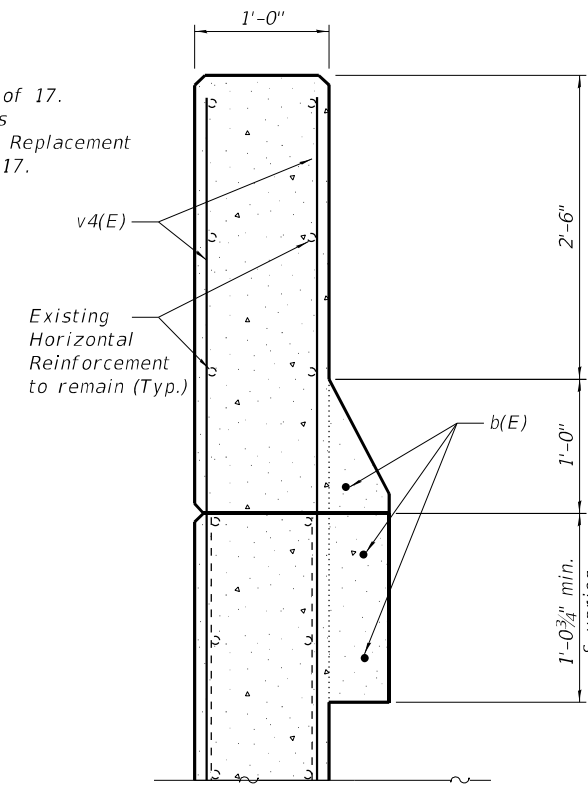
SECTION C-C
Removal Section
at Wingwall



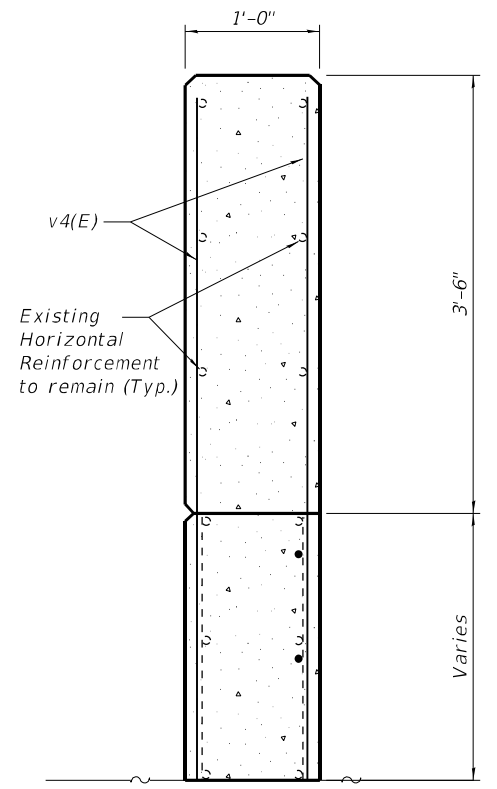
SECTION D-D
Section thru Proposed
Transition Parapet

NOTES

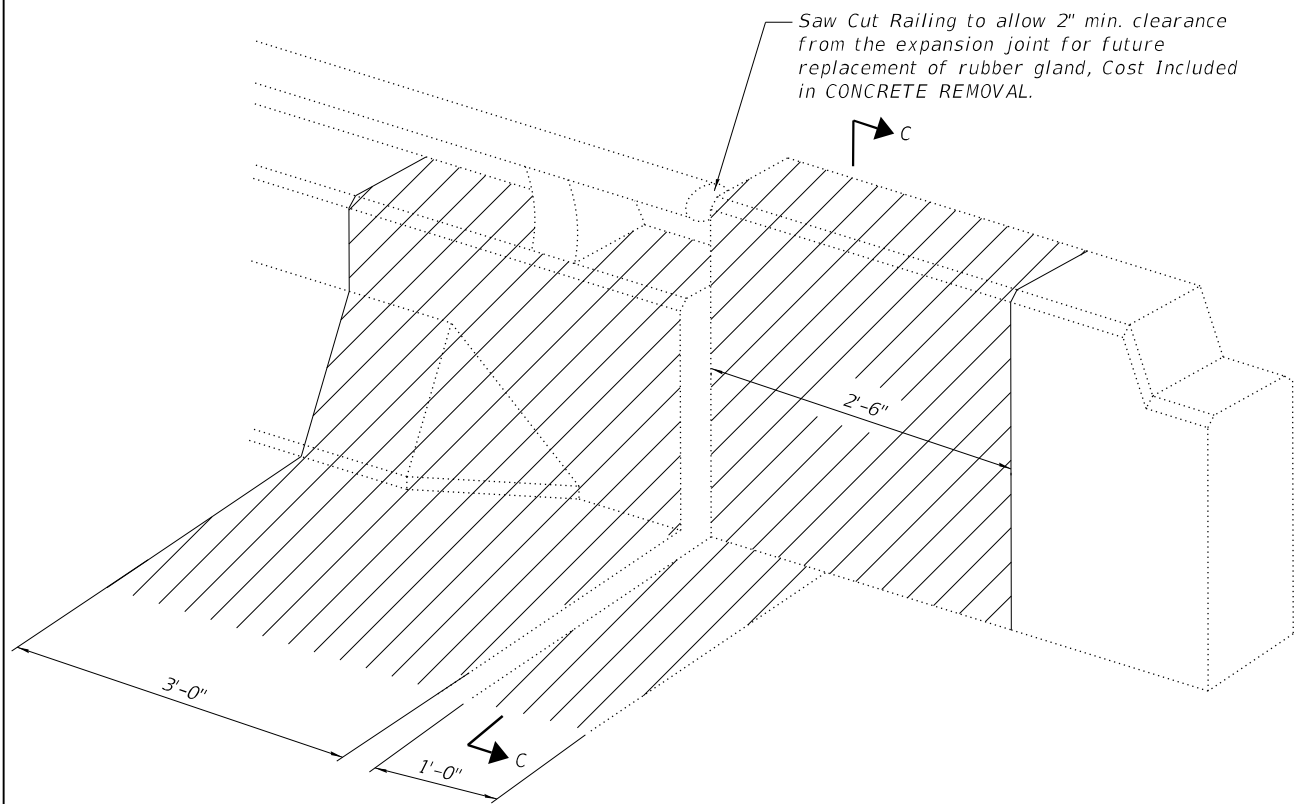
1. For Bill of Materials, Bar Bending Diagram and Section near Rail Post, See Sheet 10 of 17.
2. Quantity of v4(E) & u(E) bar is included in Abutment Backwall Replacement Sheets, See Sheets 15-16 of 17.



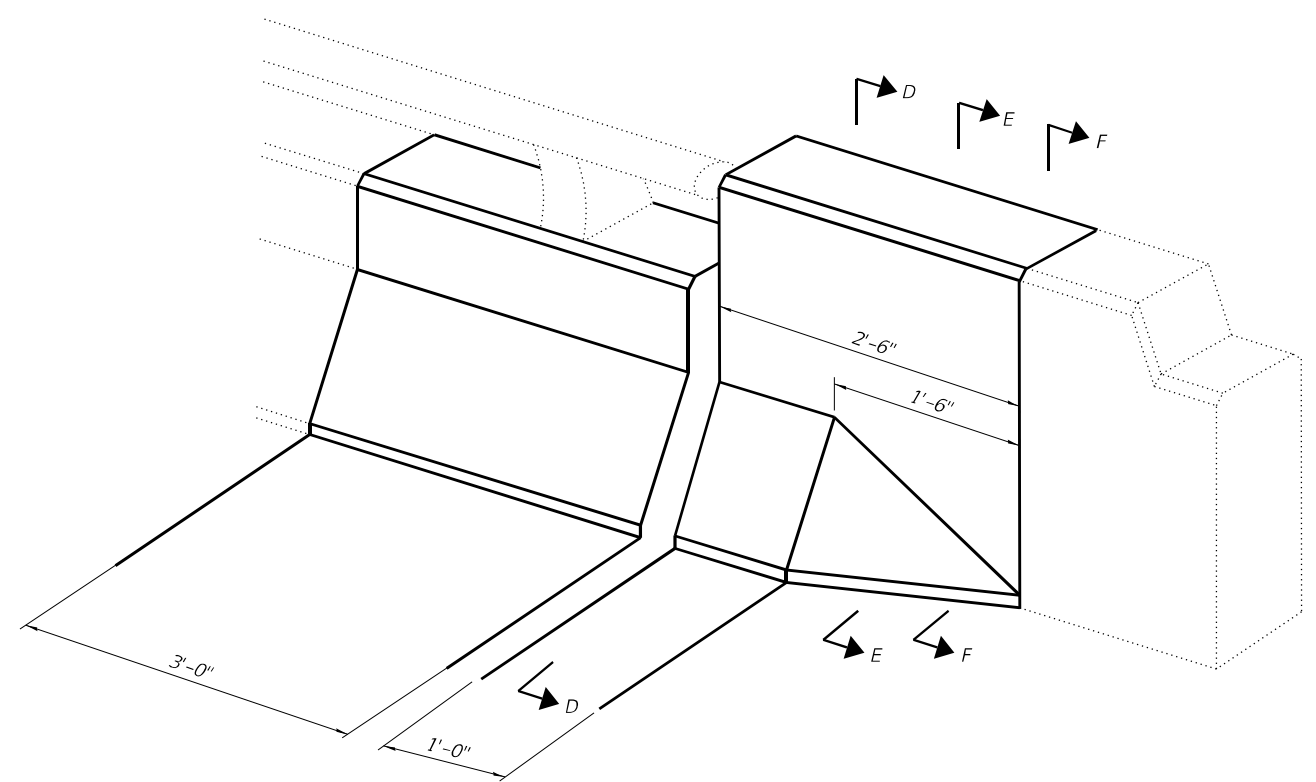
SECTION E-E
Section thru End of
Proposed Parapet



SECTION F-F
Section thru End of
Proposed Parapet



TYPICAL CONCRETE REMOVAL AT EACH ABUTMENT CORNER



TYPICAL PROPOSED WING WALL AT EACH ABUTMENT CORNER

MODEL: 0960046-74997-011
FILE NAME: J:\2010\02_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn

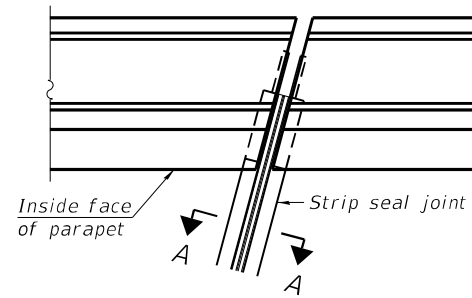
GREENE & BRADFORD, INC.
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CONSULTING ENGINEERS
3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL ENGINEER REG. NO. 044-061179
PROFESSIONAL LAND SURVEYING REG. NO. 048-060098
(217) 755-8844, 792-6227 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

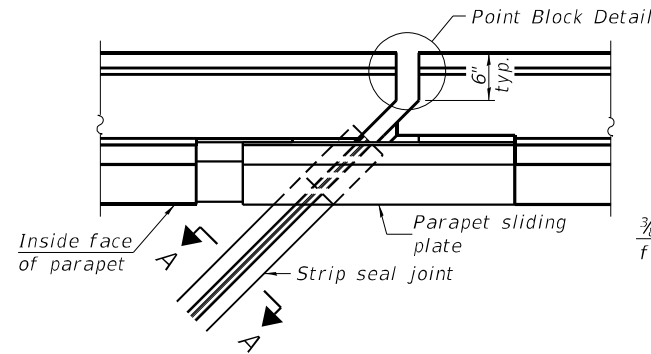
WINGWALL MODIFICATION AT EXPANSION JOINT
SN. 096-0046 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	117
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

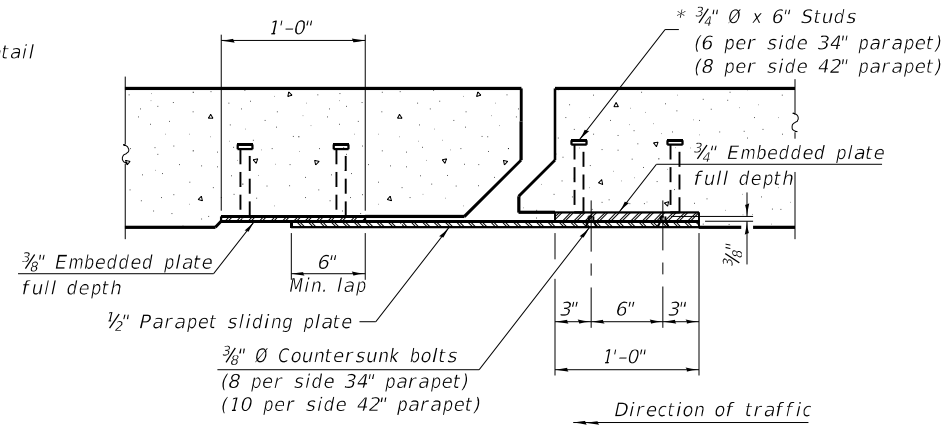


FOR SKEWS $\leq 30^\circ$

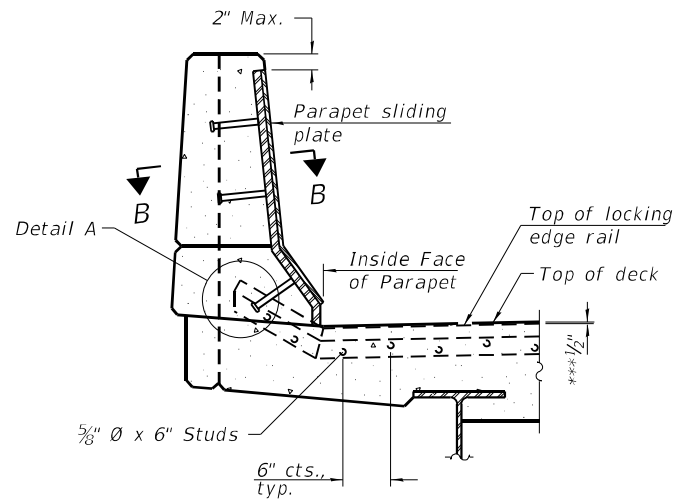
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

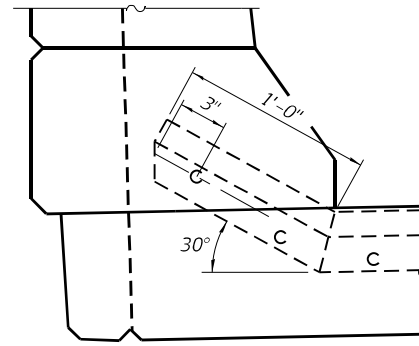


SECTION B-B

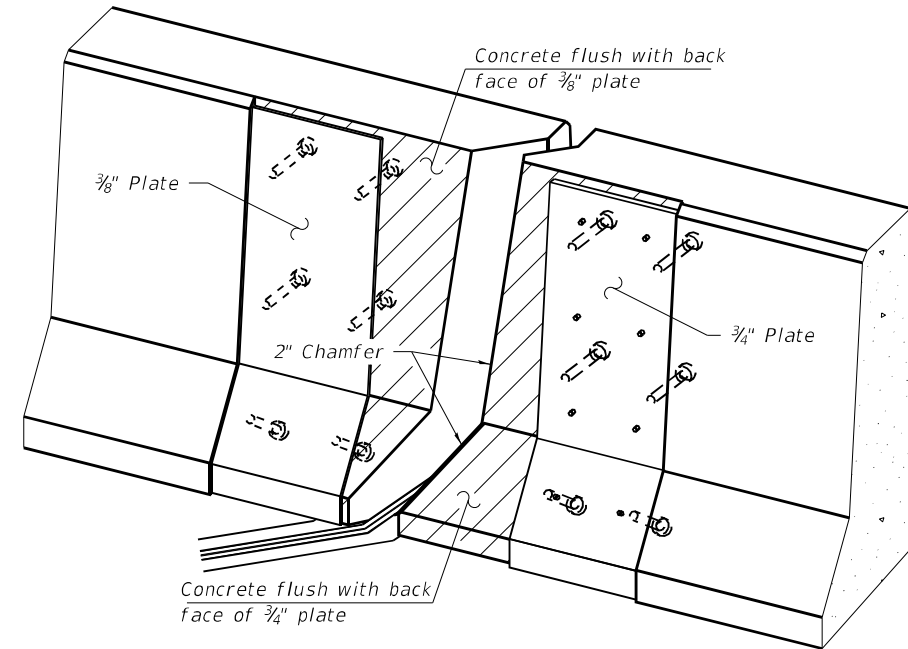


ELEVATION AT PARAPET

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



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)

Notes:

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

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

The manufacturer's recommended installation methods shall be followed.

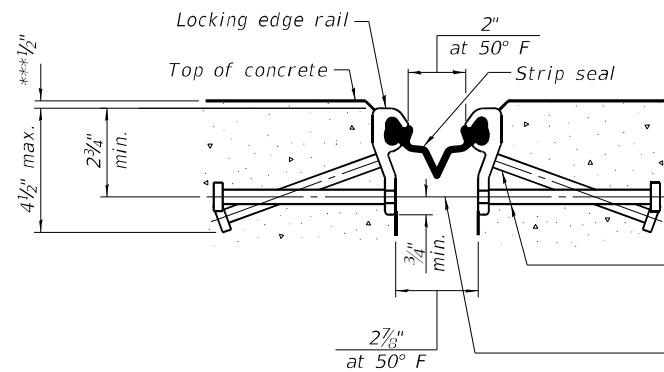
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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

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

34" F-shape barrier shown, 42" F-shape similar as noted. The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

*** Prior to 1/4" Grinding



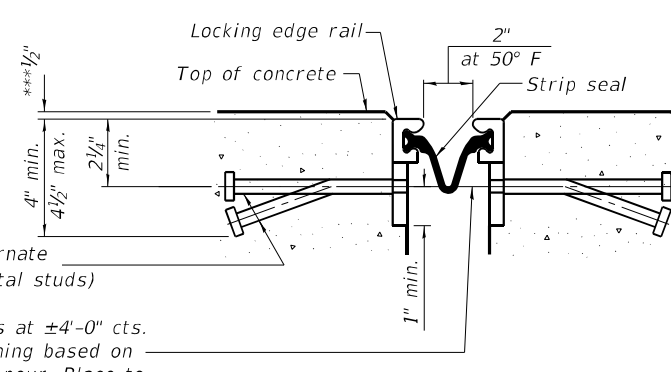
SHOWING ROLLED RAIL JOINT

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

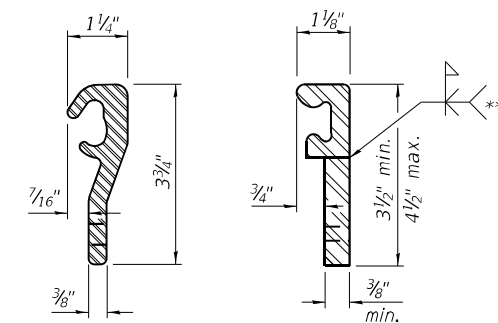
$3/8$ " ϕ threaded rods in $1/16$ " ϕ holes at ± 4 "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

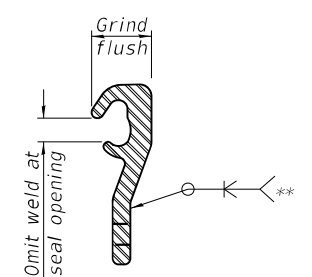


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Stage I	Stage II	Unit	Total
Preformed Joint Strip Seal	40	45	Foot	85

MODEL: 0960046-74997-012
FILE NAME: J:\201002_WD# 2.8 Bridge Repairs in D7\DRAWINGS\096-0046 & 096-0046\0960046-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3541 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 044-061179
ILLINOIS REG. NO. 0217, 75-0884, 79-0627, 81

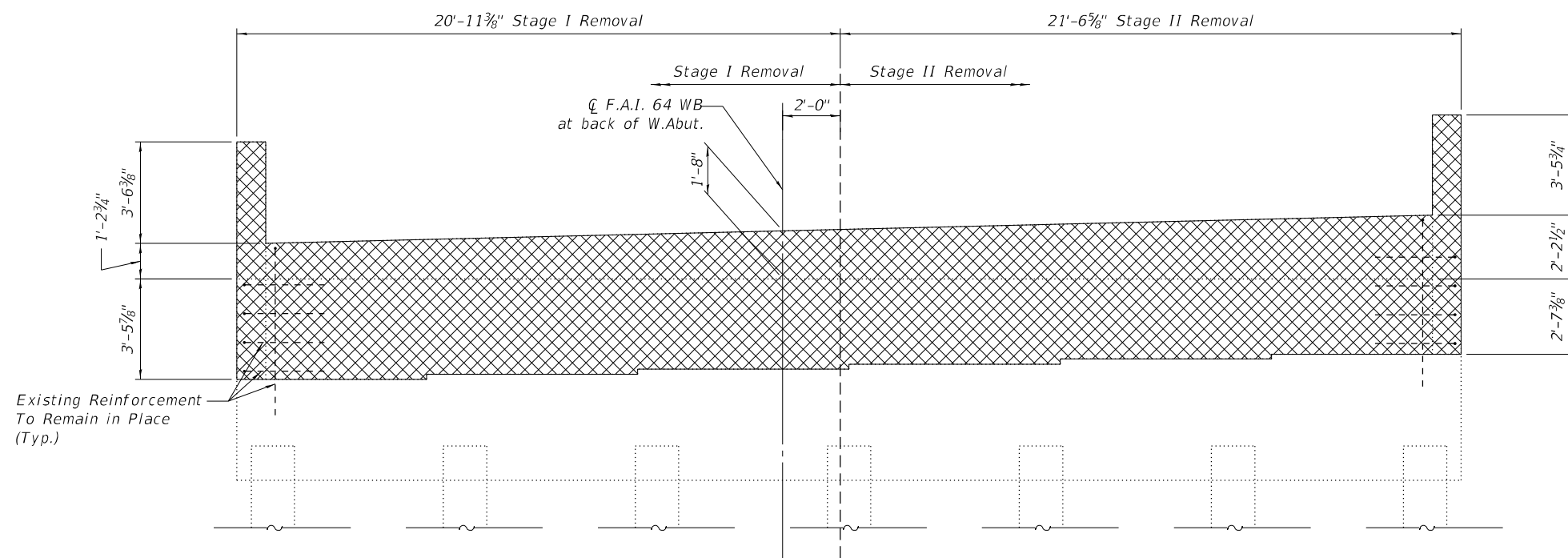
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

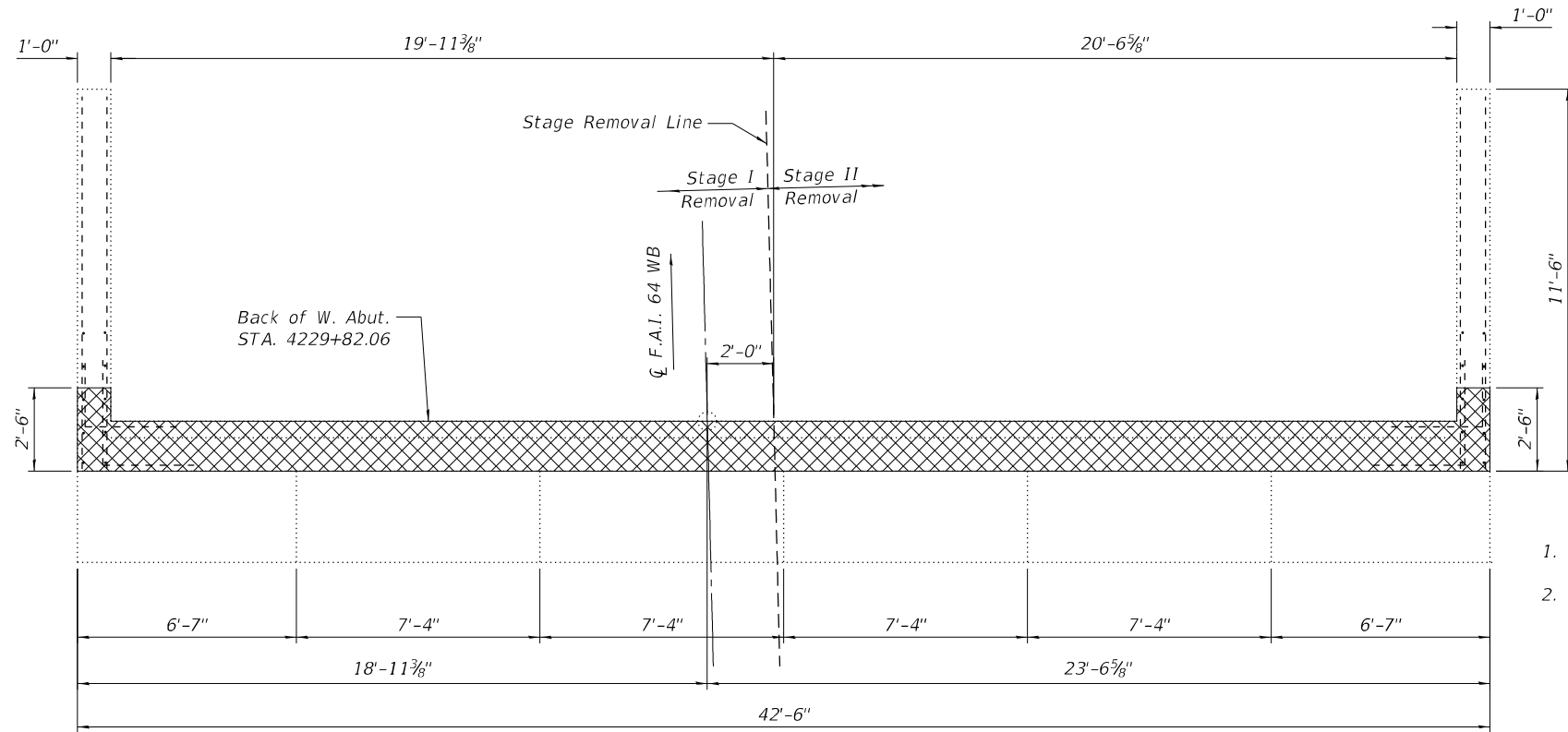
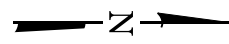
PREFORMED JOINT STRIP SEAL DETAILS
SN. 096-0046 (WB)

SHEET 12 OF 17 SHEETS

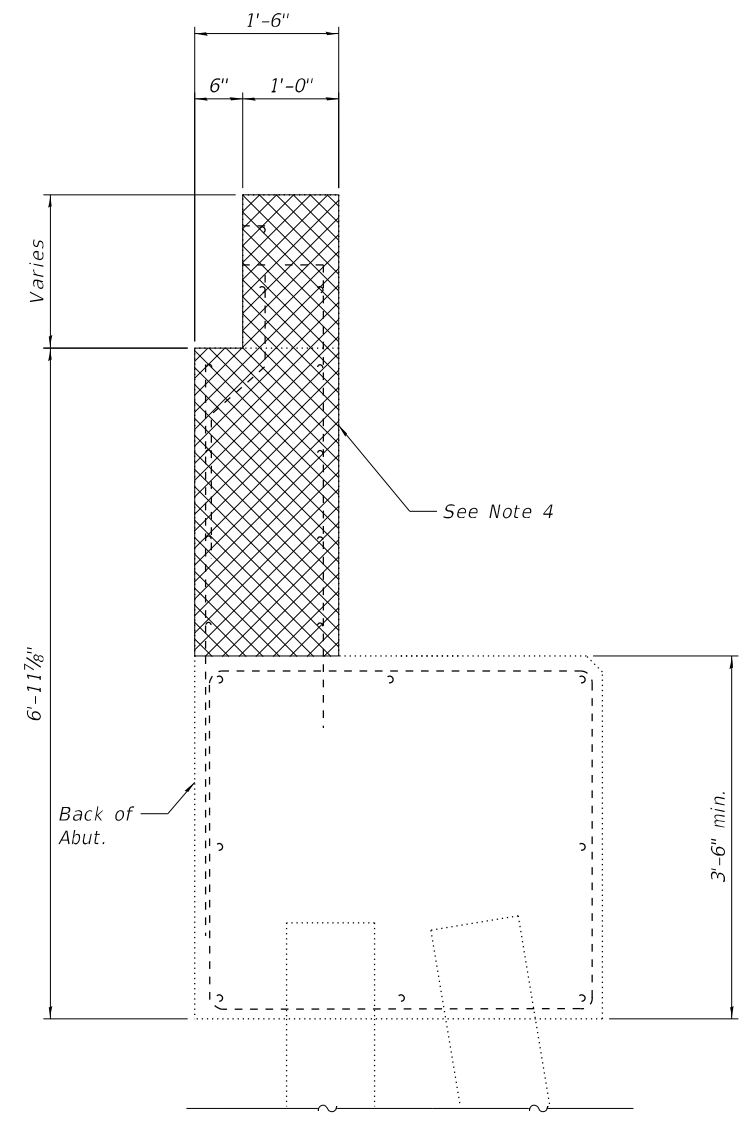
F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 118
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



ABUTMENT BACKWALL REMOVAL ELEVATION
(West Abutment)



ABUTMENT BACKWALL REMOVAL PLAN
(West Abutment)



SECTION THRU ABUTMENT
(Removal)

NOTES

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal of Entire West Abut. Backwall and Hatch Block is included in Bill of Material.

**WEST ABUTMENT
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	10.2

MODEL: 0960046-74997-013
FILE NAME: J:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 04-001179
PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098
(217) 755-8844 FAX (217) 755-8277

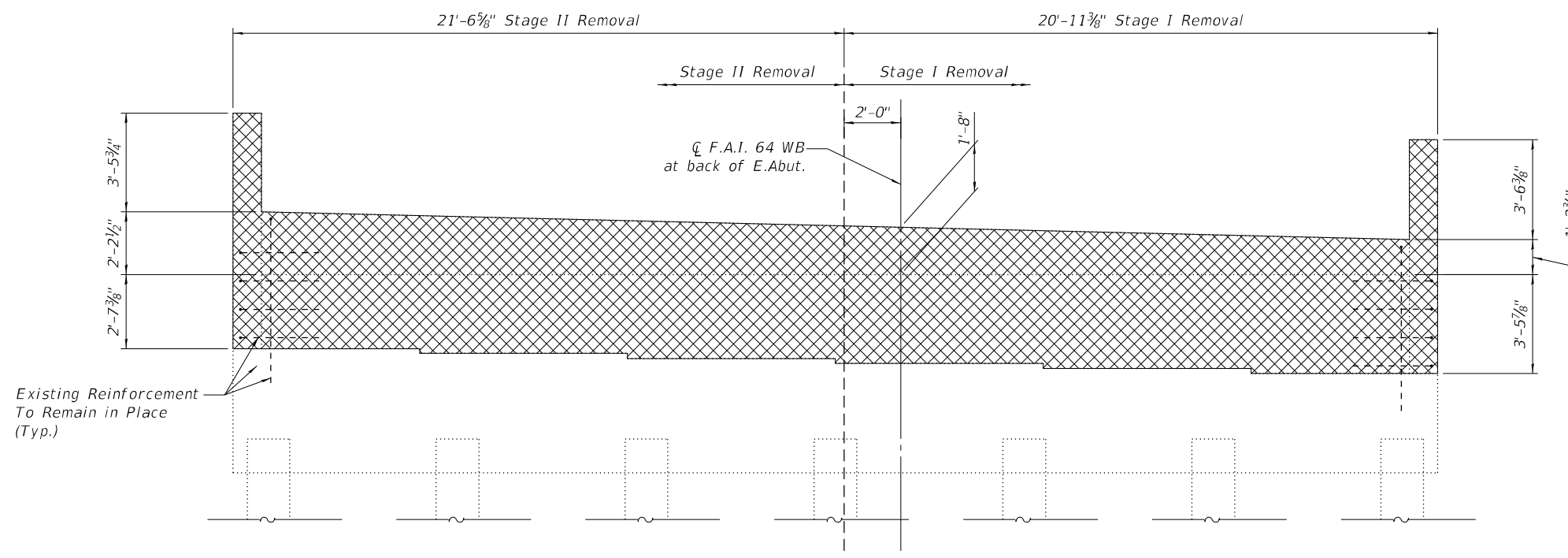
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

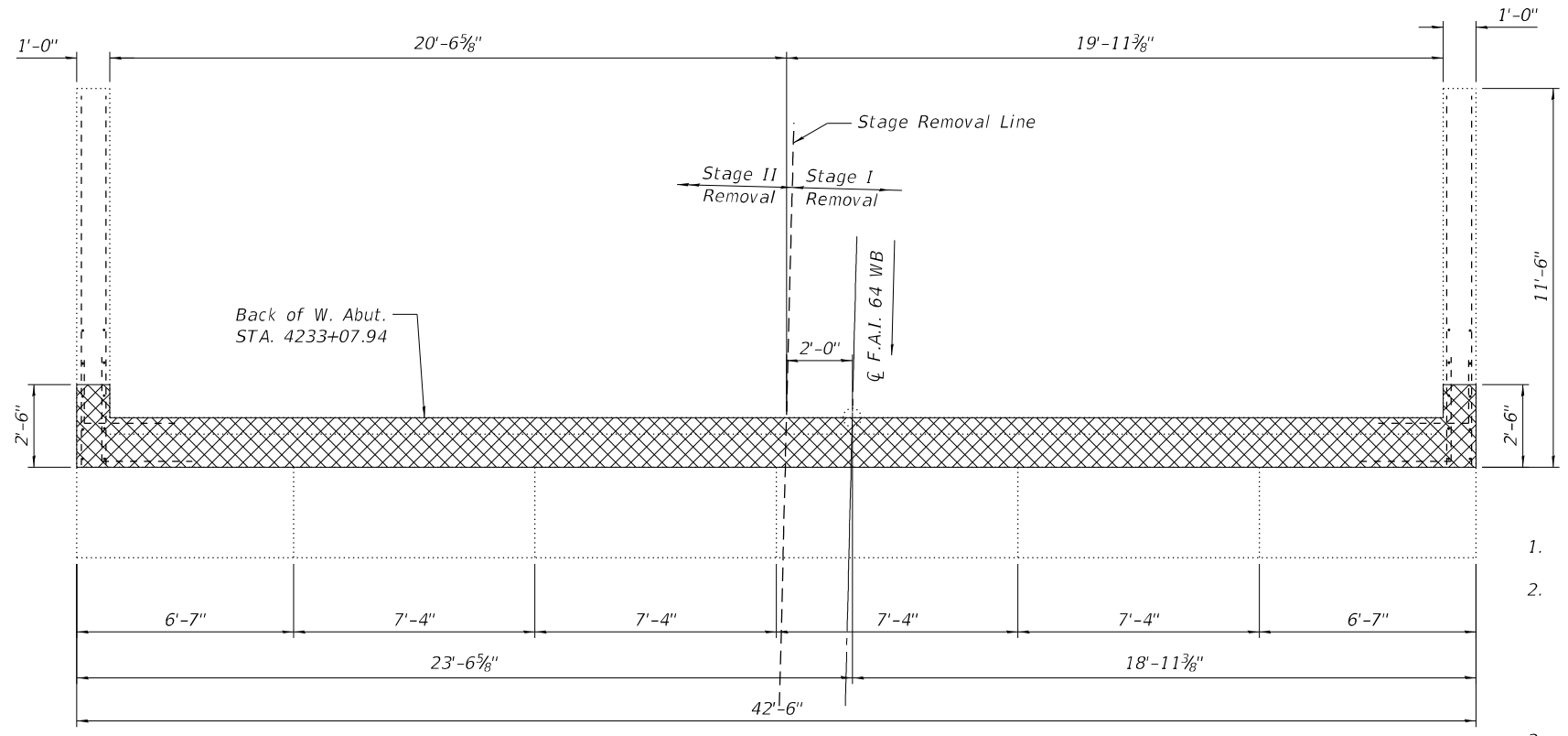
**ABUTMENT BACKWALL REMOVAL DETAILS - I
SN. 096-0046 (WB)**

SHEET 13 OF 17 SHEETS

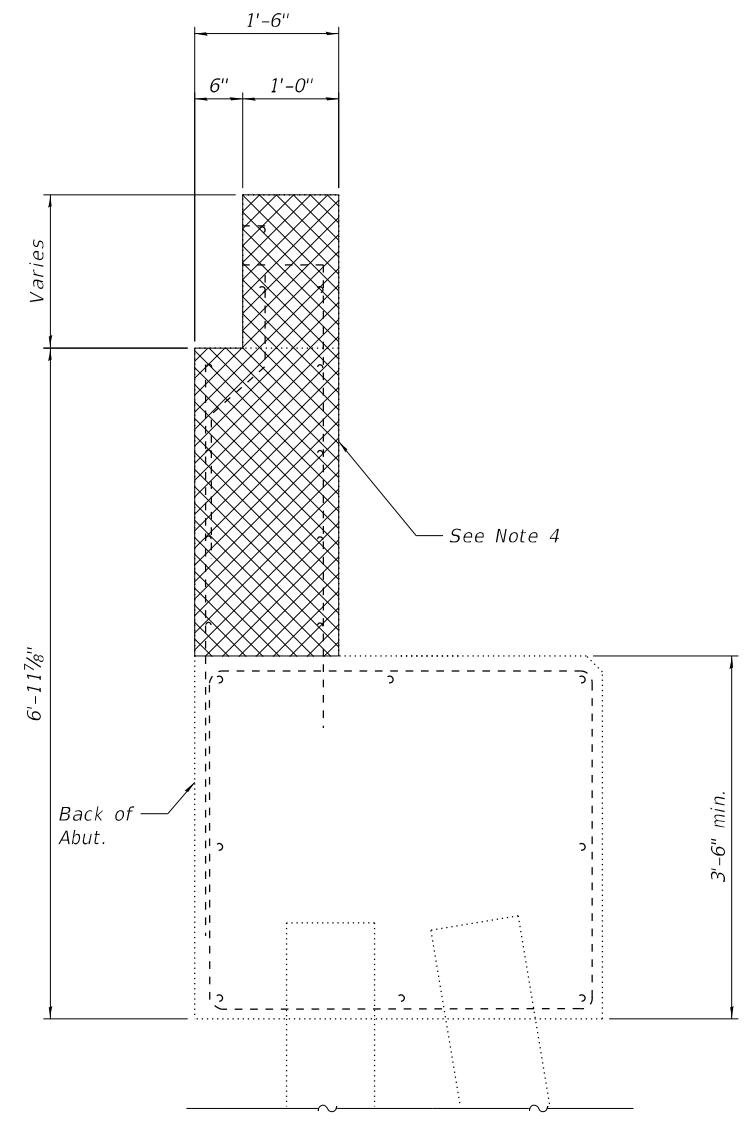
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



ABUTMENT BACKWALL REMOVAL ELEVATION
(East Abutment)



ABUTMENT BACKWALL REMOVAL PLAN
(East Abutment)



SECTION THRU ABUTMENT
(Removal)

NOTES

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal of Entire West Abut. Backwall and Hatch Block is included in Bill of Material.

**EAST ABUTMENT
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	10.2

MODEL: 0960046-74997-014
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GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 044-061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098
(217) 755-8844 FAX (217) 755-8277

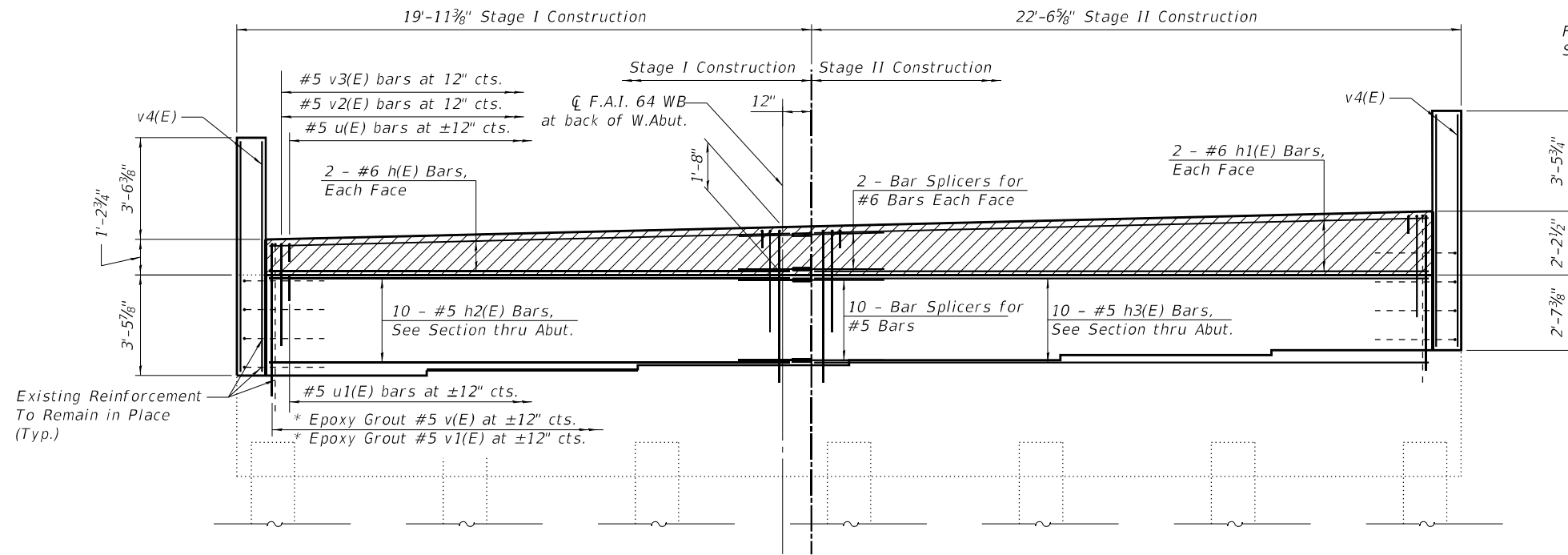
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

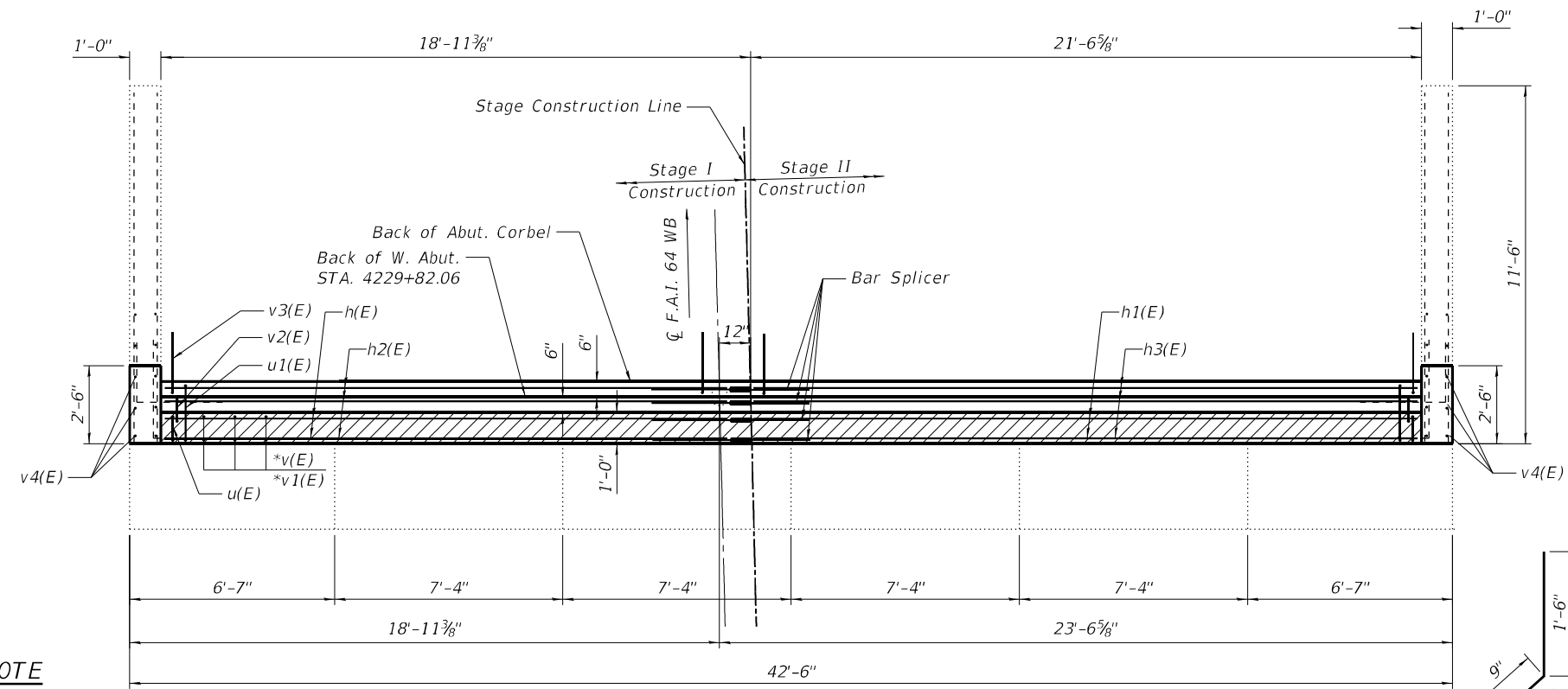
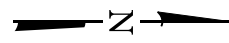
**ABUTMENT BACKWALL REMOVAL DETAILS - II
SN. 096-0046 (WB)**

SHEET 14 OF 17 SHEETS

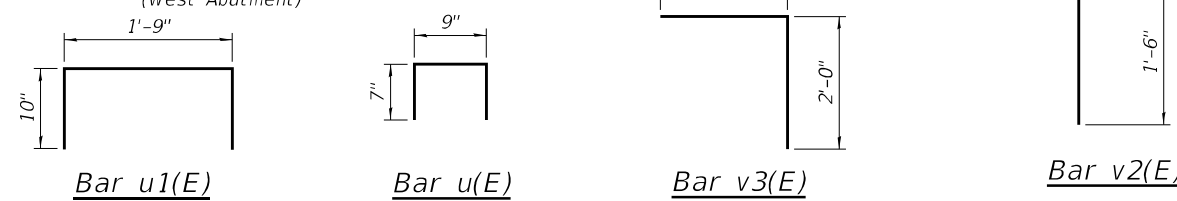
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64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	120
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



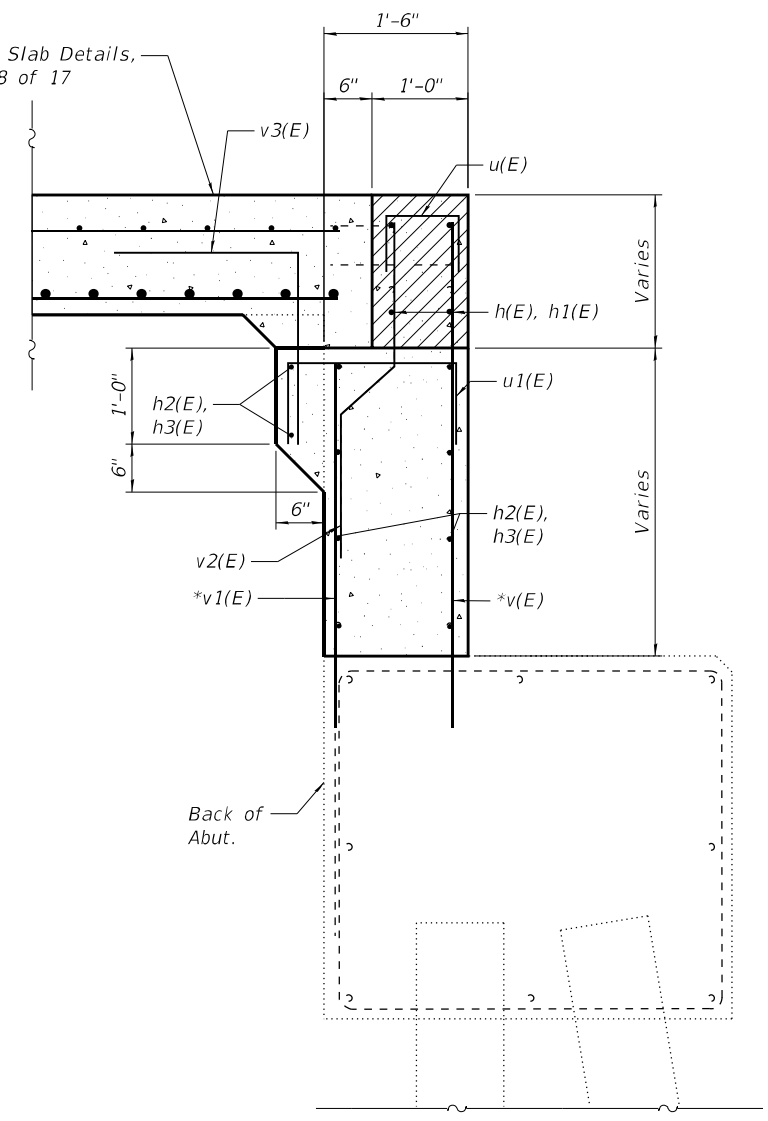
ABUTMENT BACKWALL REPLACEMENT ELEVATION
(West Abutment)



ABUTMENT BACKWALL REPLACEMENT PLAN
(West Abutment)



For Approach Slab Details, See Sheet 7-8 of 17



SECTION THRU ABUTMENT
(Removal)

WEST ABUTMENT
BILL OF MATERIAL

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
h(E)	4		4	#6	18'-1"	—	
h1(E)		4	4	#6	21'-4"	—	
h2(E)	10		10	#5	18'-1"	—	
h3(E)		10	10	#5	21'-4"	—	
u(E)	19	22	41	#5	1'-11"	□	
u1(E)	19	22	41	#5	3'-5"	□	
v(E)	19	22	41	#5	5'-4"	—	
v1(E)	19	22	41	#5	3'-9"	—	
v2(E)	19	22	41	#5	3'-9"	—	
v3(E)	19	22	41	#5	3'-11"	└	
v4(E)	6	6	12	#4	8'-0"	—	
Concrete Structures						Cu. Yd.	8.6
Reinforcement Bars, Epoxy Coated						Pound	1657
Bar Splicers						Each	14

- NOTE**
- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
 - All bars with asterisk (*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.

MODEL: 0960046-74997-015
FILE NAME: J:\2010\02_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3541 CONSTRUCTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL GEORGE FIRM NO. 084-061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098
(217) 755-8844, 792-6277, 79

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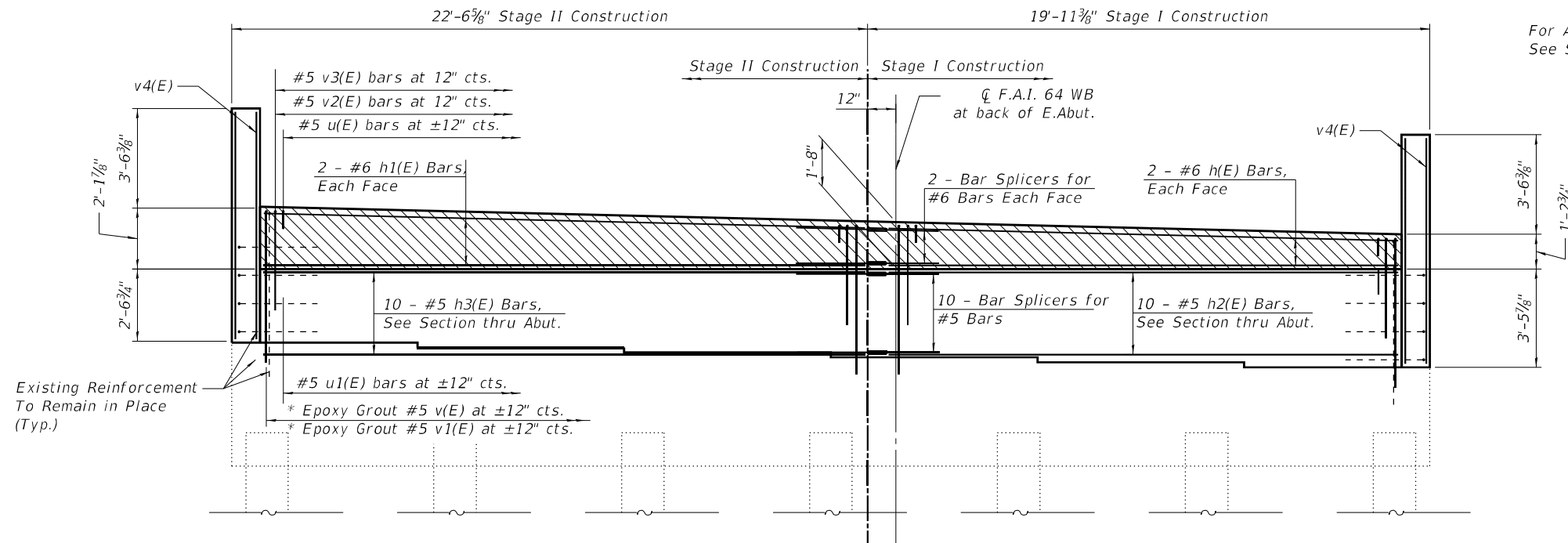
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

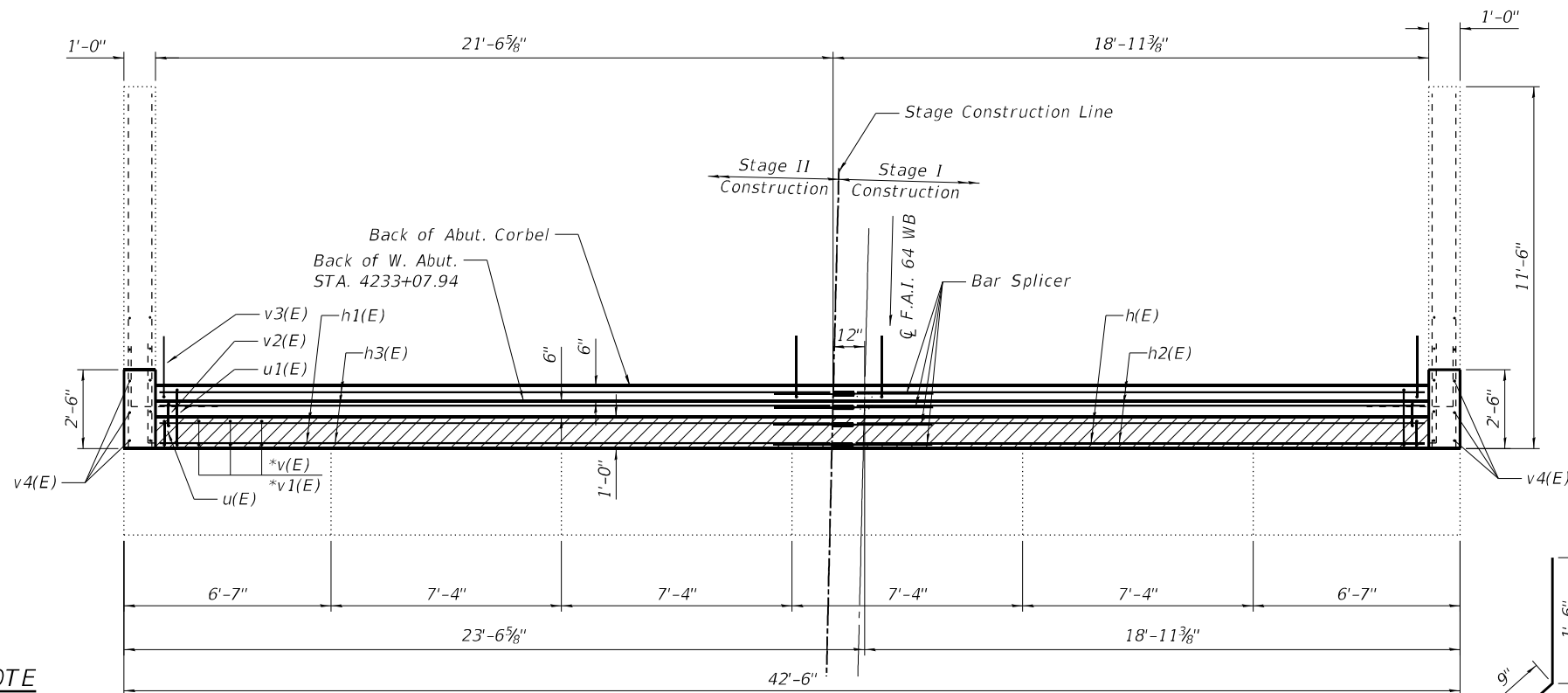
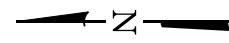
ABUTMENT BACKWALL REPAIR DETAILS - I
SN. 096-0046 (WB)

SHEET 15 OF 17 SHEETS

F.A.I. RTE. 64
SECTION D7 BRIDGE REPAIRS 2022-3
COUNTY WAYNE
TOTAL SHEETS 152
SHEET NO. 121
CONTRACT NO. 74997
ILLINOIS FED. AID PROJECT

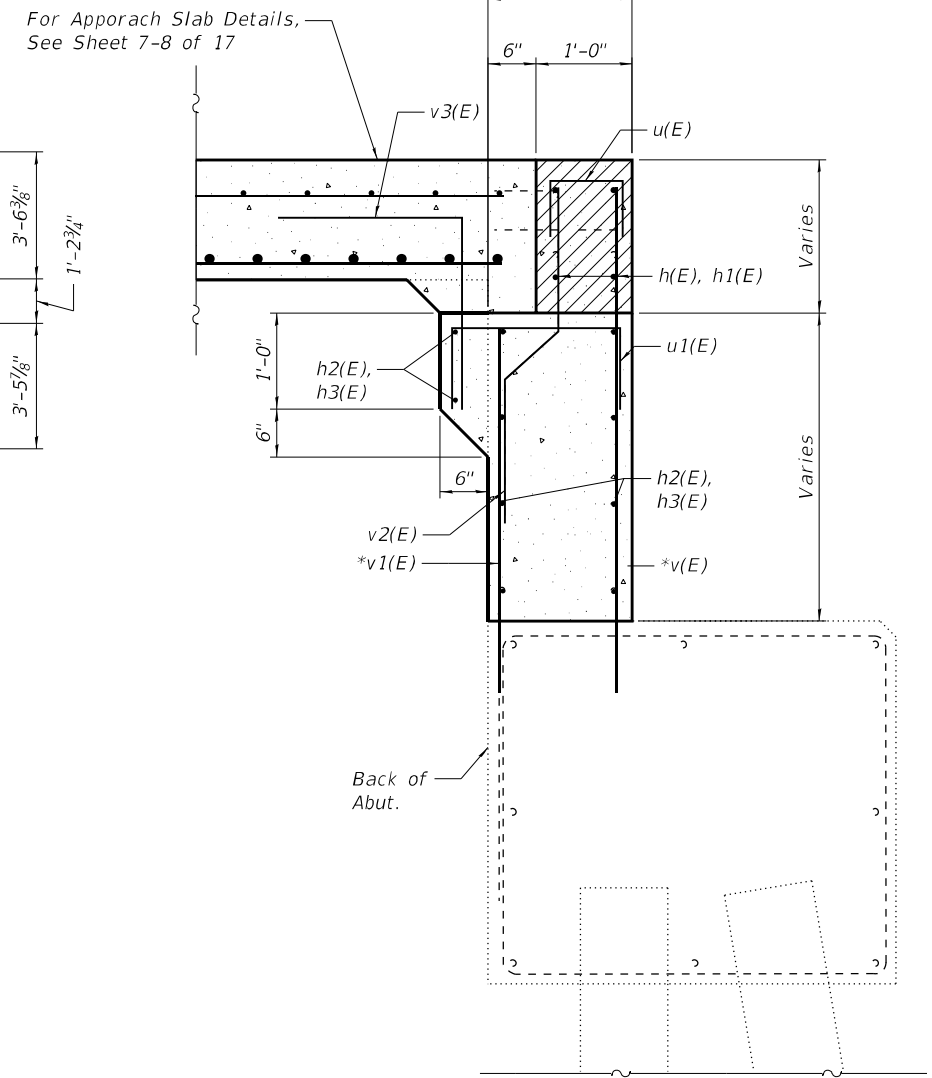
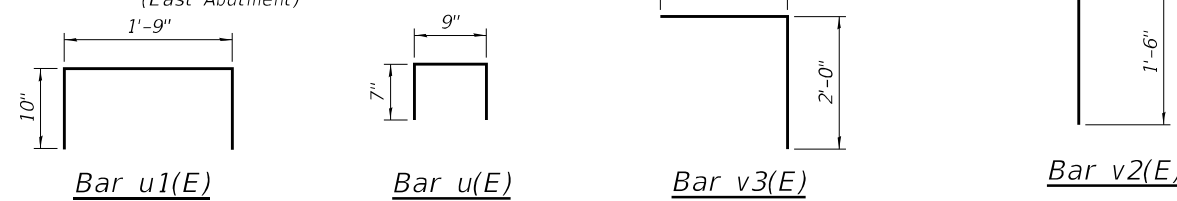


ABUTMENT BACKWALL REPLACEMENT ELEVATION
(East Abutment)



ABUTMENT BACKWALL REPLACEMENT PLAN
(East Abutment)

- NOTE**
- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
 - All bars with asterisk (*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.



SECTION THRU ABUTMENT
(Removal)

EAST ABUTMENT
BILL OF MATERIAL

BAR	NO. OF BARS	TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II				
h(E)	4	4	#6	18'-1"	—	
h1(E)		4	#6	21'-4"	—	
h2(E)	10	10	#5	18'-1"	—	
h3(E)		10	#5	21'-4"	—	
u(E)	19	22	#5	1'-11"	⌊	
u1(E)	19	22	#5	3'-5"	⌊	
v(E)	19	22	#5	5'-4"	—	
v1(E)	19	22	#5	3'-9"	—	
v2(E)	19	22	#5	3'-9"	—	
v3(E)	19	22	#5	3'-11"	⌊	
v4(E)	6	6	#4	8'-0"	—	
Concrete Structures					Cu. Yd.	8.6
Reinforcement Bars, Epoxy Coated					Pound	1657
Bar Splicers					Each	14

MODEL: 0960046-74997-016
FILE NAME: J:\2010\02_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn
8/31/2021 9:44:50 AM

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3541 CONSTRUCTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL GEORGE FIRM NO. 084-061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098
(217) 755-8844, 792-6227, 79

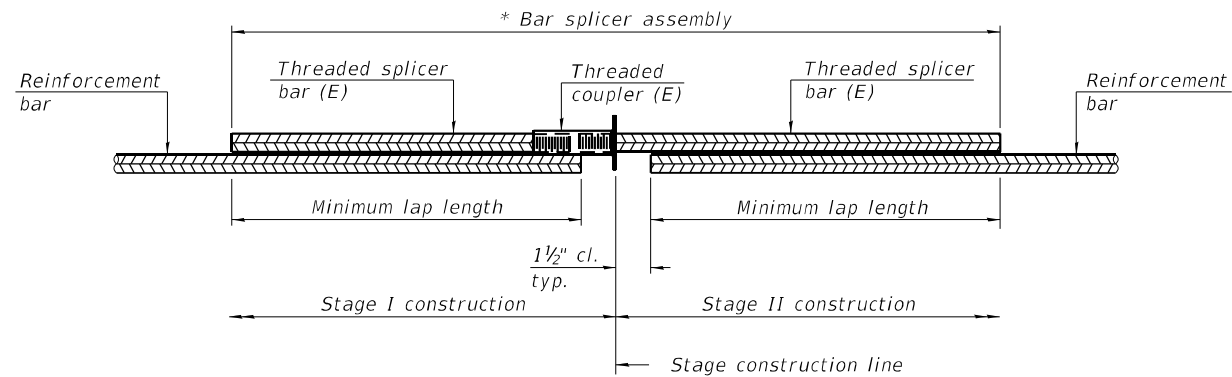
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PLOT SCALE = 0'2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT BACKWALL REPAIR DETAILS - II
SN. 096-0046 (WB)

SHEET 16 OF 17 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 122
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

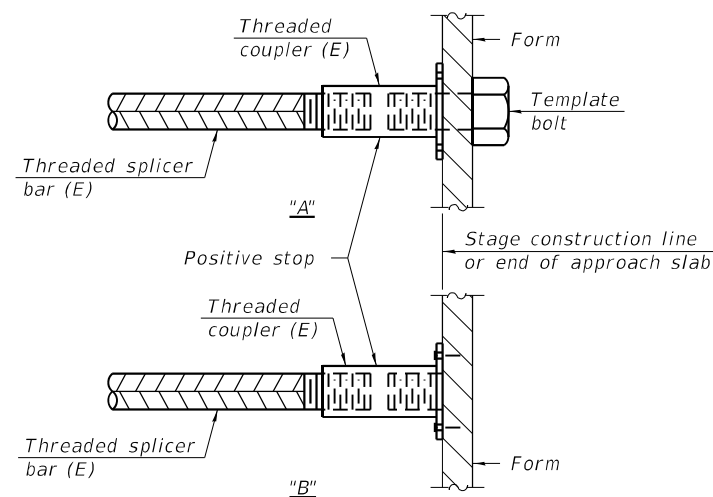


STANDARD BAR SPLICER ASSEMBLY PLAN
(All components shall be provided from one supplier)

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

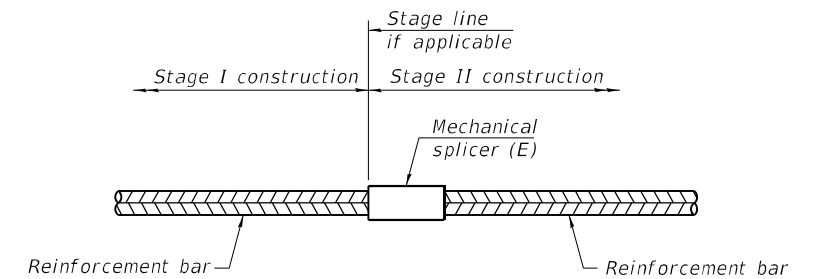
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Exp. Jt. Repair - Top & Bottom of Slab	#6	24	4'-4"
Abut. Backwall Repair - Hatch Block	#6	8	4'-4"
Abut. Backwall Repair - Backwall	#5	20	3'-7"
Approach Slab Repair - Top of Slab	#5	90	3'-7"
Approach Slab Repair - Bottom of Slab	#8	120	5'-1"
Approach Footing - Top & Bottom of Slab	#5	80	3'-7"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

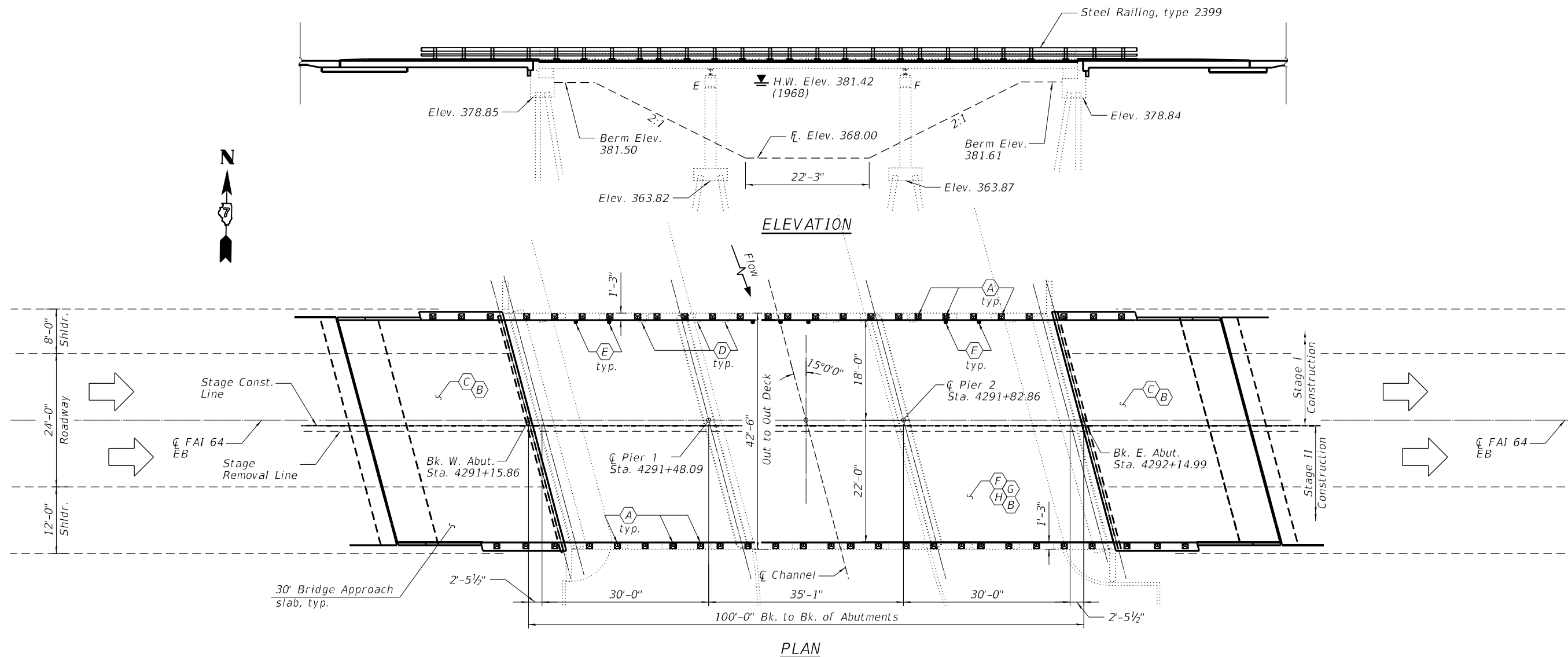
Notes:
 Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.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

BSD-1 1-1-2020

MODEL: 0960046-74997-017
FILE NAME: J:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960046-74997.dgn

	GREENE & BRADFORD, INC. OF SPRINGFIELD <small>CONSULTING ENGINEERS 3501 CONSTRUCTION DRIVE SPRINGFIELD, ILLINOIS 62711 PROFESSIONAL DESIGN FIRM NO. 04-0061179 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098 (217) 753-8844, 753-6227 (F)</small>	USER NAME = BenB DESIGNED - KAS CHECKED - MC DRAWN - PG CHECKED - MC	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS SN. 096-0046 (WB)	F.A.I. RTE. = 64 SECTION = D7 BRIDGE REPAIRS 2022-3 COUNTY = WAYNE ILLINOIS FED. AID PROJECT	TOTAL SHEETS = 152 SHEET NO. = 123 CONTRACT NO. 74997
	PLOT SCALE = 0:2" / 1 in. PLOT DATE = 8/31/2021		SHEET 17 OF 17 SHEETS				

The existing three span reinforced concrete slab structure was constructed in 1974 as F.A.I. Route 64 Section 96-3B-3 at STA. 4291+53.00. S.N. 096-0047 (EB) carries F.A.I. Route 64 (I-64) over Skillet Fork Branch. The proposed project consists of new approach slabs, new deck drains, bridge deck scarification, new concrete overlay, bridge deck patching, and new bridge railings with Stage Construction.



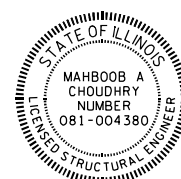
STRUCTURE INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	General Plan & Elevation
2	General Notes, Bill of Materials & Stage Construction Details
3	Bridge Deck Patching
4	Deck Drain Replacement Details
5	Bridge Approach Slab Details-I
6	Bridge Approach Slab Details-II
7	Bridge Railing Removal Details
8	Bridge Railing Replacement Details
9	Steel Railing, Type 2399
10	Abutment Repairs
11	Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- (A) - Remove Existing Concrete Bridge Railing
Install Steel Railing, Type 2399, (See Sheet 7-9 of 11)
- (B) - Perform Diamond Grinding (Bridge Section) and Bridge Deck Grooving (Longitudinal)
- (C) - Remove and Replace Bridge Approach Slab (See Sheet 5-6 of 11)
- (D) - Eliminate Floor Drains (See Sheet 3-4 of 11)
- (E) - Remove Existing Floor Drains and Install New 6"-Dia. Floor Drains. (See Sheet 3-4 of 11)
- (F) - Scarify Deck 2½" to remove existing Microsilica Concrete Overlay, (See Sheet 2 of 11)
- (G) - Install Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2½" (See Sheet 2 of 11)
- (H) - Install Bridge Deck Patches. (See Sheet 3 of 11)

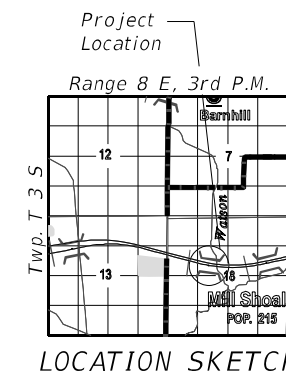
M. Choudhry



Dated **8/31/2021**
 Mahboob A Choudhry
 Licensed Structural Engineer
 In Illinois No. 081-004380
 Expires: 11/30/2022

DESIGN STRESSES
FIELD UNITS

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



MODEL: 0960047-74997-001
 FILE NAME: I:\201002_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

GREENE & BRADFORD, INC. OF SPRINGFIELD <small>CONSULTING ENGINEERS 3541 CONSTRUCTION DRIVE SPRINGFIELD, ILLINOIS 62711 PROFESSIONAL DESIGN FIRM NO. 081-0061179 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098 (217) 754-8844, 752-6227, 751</small>	USER NAME = BenB PLOT SCALE = 0:2" / 1 in. PLOT DATE = 8/31/2021	DESIGNED - KAS CHECKED - MC DRAWN - PG, BB CHECKED - MC	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION SN. 096-0047 (EB) SHEET 01 OF 11 SHEETS	F.A.I. RTE. = 64 SECTION = D7 BRIDGE REPAIRS 2022-3 COUNTY = WAYNE ILLINOIS FED. AID PROJECT	TOTAL SHEETS = 152 SHEET NO. = 124 CONTRACT NO. 74997
	8/31/2021 9:46:13 AM						

GENERAL NOTES

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

Reinforcement Bars designated (E) shall be epoxy coated.

Unless noted otherwise, Specified Concrete Cover over Reinforcement shall be as follows; Number 4 and 5 bars = 1 1/2", Number 6 and larger bars = 2".

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is completed.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front faces and tops of the parapets and wingwalls and the top surfaces of the expansion joint blockouts. Protective Coat shall also be applied to the top of the new concrete overlay and to areas of Concrete Superstructure (Approach Slab) including the front faces and tops of the curbs.

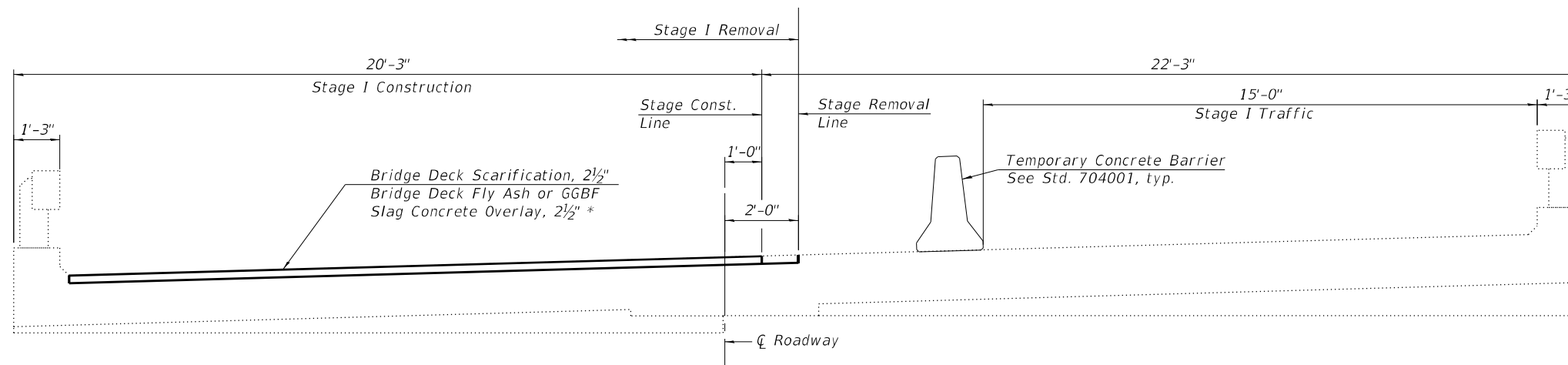
Synthetic fibers should be added to the Bridge Deck Fly Ash or GGBF Slag Concrete Overlay. See Special Provisions.

Full depth deck slab repair will be required at each floor drain location. Removal and disposal of existing floor drains shall be included in the contract unit price for deck slab repair (Full depth, Type 1).

TOTAL BILL OF MATERIAL

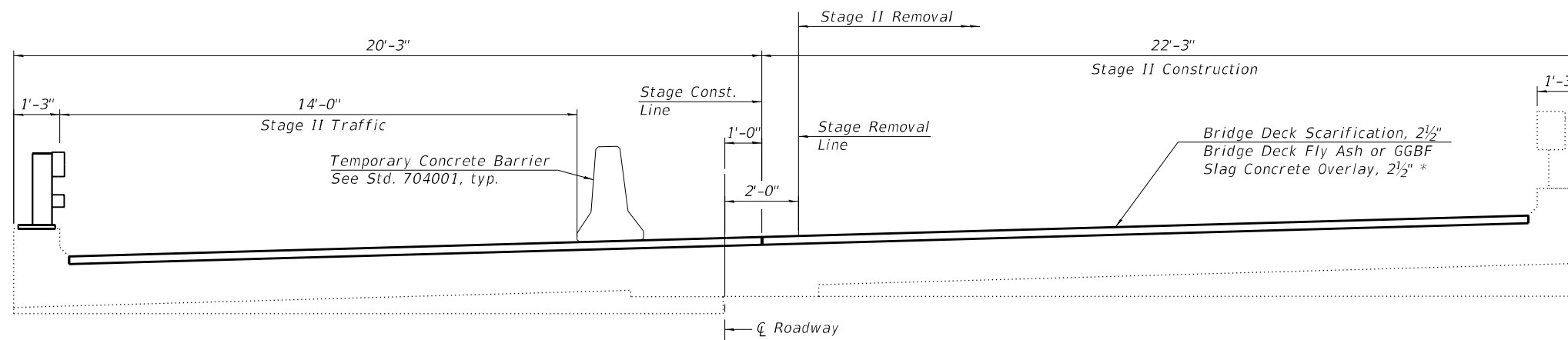
ITEM	UNIT	QUANTITY
Concrete Structures	Cu. Yd.	27.8
Concrete Superstructures	Cu. Yd.	2.2
Concrete Superstructure (Approach Slab)	Cu. Yd.	116.7
Reinforcement Bars, Epoxy Coated	Pound	47493
Bar Splicers	Each	296
Floor Drains	Each	7
** Bridge Deck Scarification, 2 1/2"	Sq. Yd.	440
** Bridge Deck Fly Ash or GGBF Slag Concrete Overlay 2 1/2"	Sq. Yd.	440
** Bridge Deck Grooving (Longitudinal)	Sq. Yd.	264
** Diamond Grinding (Bridge Section)	Sq. Yd.	707
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	7.0
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	4.1
Steel Railing, Type 2399	Foot	258
Bridge Rail Removal	Foot	193
*** Protective Coat	Sq. Yd.	732

** See Special Provisions.
*** New Concrete and overlay areas



* Overlay Thickness Prior to Grinding

STAGE I
(Looking East)



STAGE II
(Looking East)

MODEL: 0960047-74997-002
FILE NAME: J:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL GEOMETRIC ENGINEERS NO. 054-061179
PROFESSIONAL LAND SURVEYING ENGINEERS NO. 048-060098
(217) 754-8844, 752-6277, 751

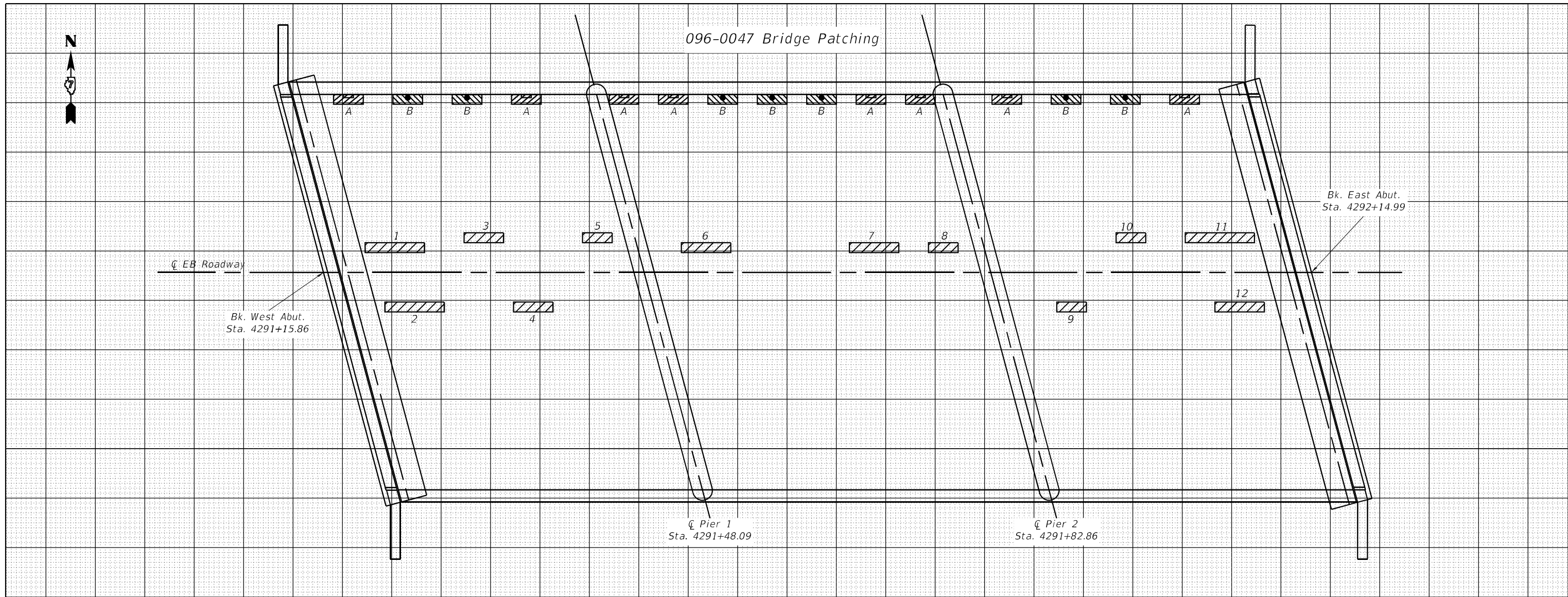
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PLOT SCALE = 0:2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, BILL OF MATERIALS & STAGE CONST. DETAILS
SN. 096-0047 (EB)

SHEET 02 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	125
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



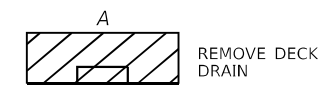
PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
1	6.0	1.0		0.7
2	6.0	1.0		0.7
3	4.0	1.0	0.4	
4	4.0	1.0	0.4	
5	3.0	1.0	0.3	
6	5.0	1.0		0.6
7	5.0	1.0		0.6
8	3.0	1.0	0.3	
9	3.0	1.0	0.3	
10	3.0	1.0	0.3	
11	8.0	1.0		0.9
12	5.0	1.0		0.6
A - Remove Drain, 8 ea			2.7	
B - Replace Drain, 7 ea			2.3	
TOTALS			7.0	4.1

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020
 SURVEY BY: DPM
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)
 $3ft^2 = .33yd^2$ Each



ESTIMATED PAY QUANTITIES
 DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 7.0 SQ YD
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 4.1 SQ YD
 FLOOR DRAINS = 7 Each

MODEL: 0960047-74997-003
 FILE NAME: J:\2010\02\WDR 2 B Bridge Repairs in D7\DRAWING\096-0047 & 096-0048\0960047-74997.dgn

USER NAME = BenB	DESIGNED - T. Walk	REVISED -
	DRAWN - T. Walk	REVISED -
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PLOT DATE = 8/31/2021	DATE - Nov. 2020	REVISED -

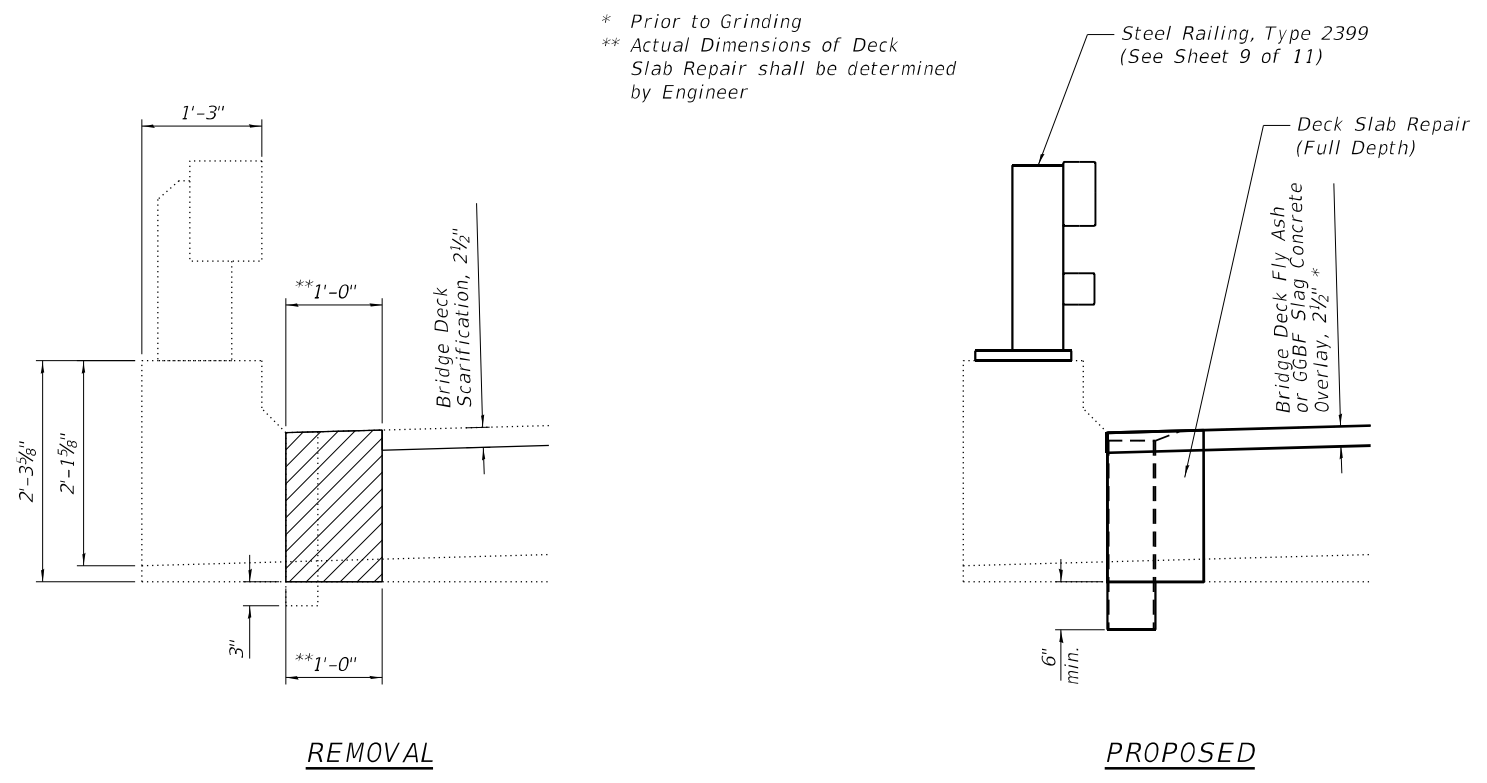
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK PATCHING
 SN. 096-0047**

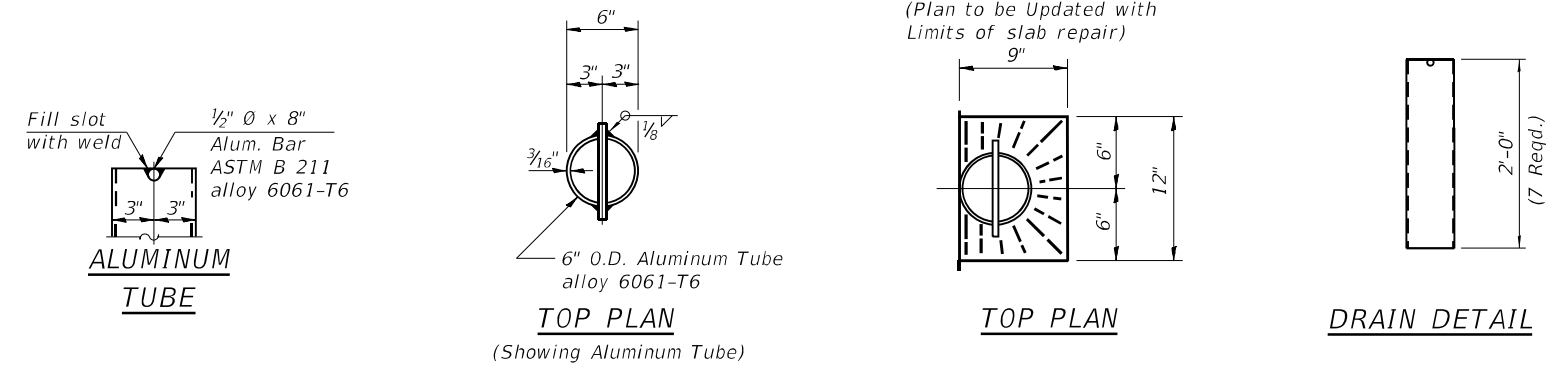
SCALE: SHEET 3 OF 11 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	126
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

Notes:
 Fiberglass pipe alternative shall not be allowed for floor drains.
 Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.
 Concrete Removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheets 3 of 11.

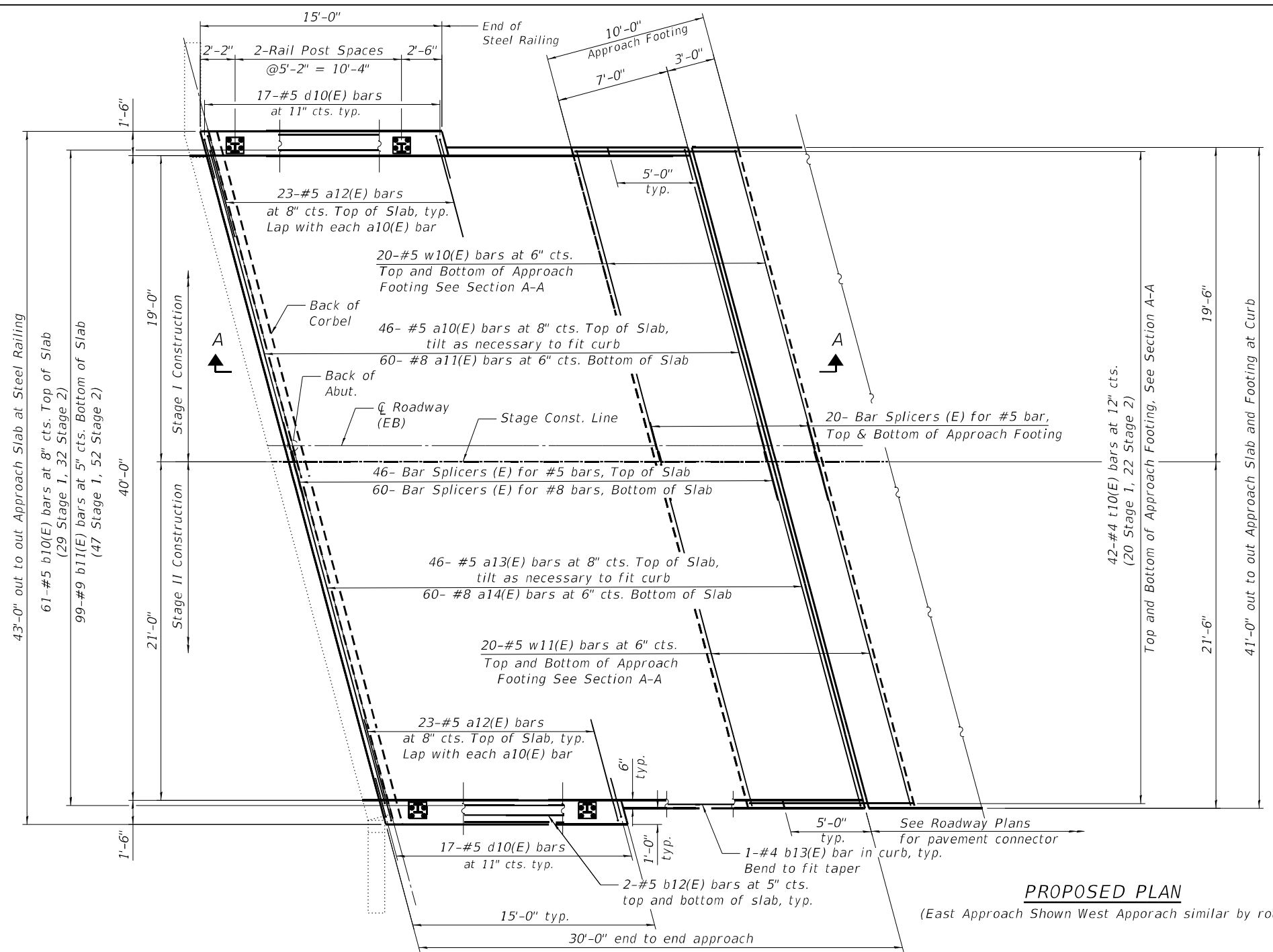


SECTIONS THRU DRAIN TO BE REPLACED
 15 Locations - See Sheet 3 of 11

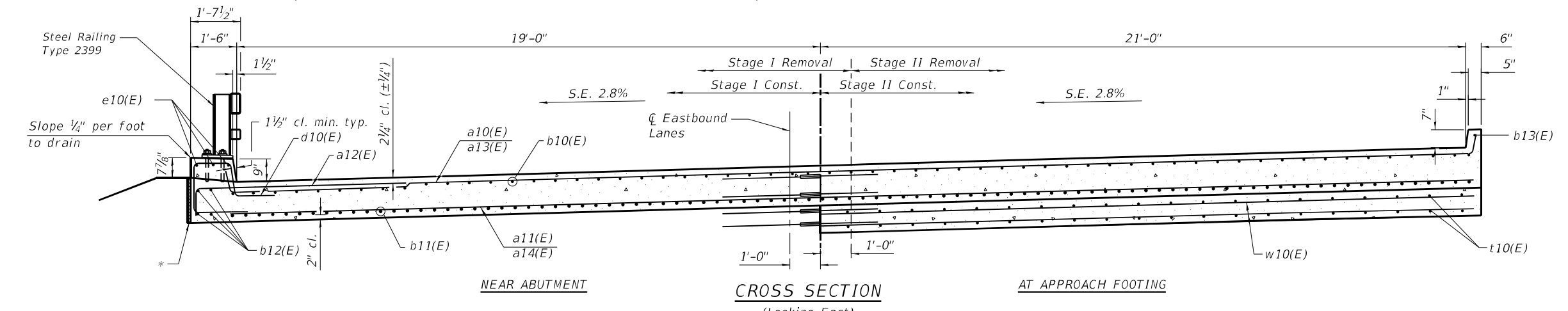


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GREENE & BRADFORD, INC. OF SPRINGFIELD <small>CONSULTING ENGINEERS 3501 CONSTITUTION DRIVE SPRINGFIELD, ILLINOIS 62711 PROFESSIONAL DESIGN FIRM NO. 04-061179 PROFESSIONAL LAND SURVEYING FIRM NO. 04-060098 (217) 753-8844, 724-6277, 81</small>	USER NAME = BenB PLOT SCALE = 0.2" / in. PLOT DATE = 8/31/2021	DESIGNED - KAS CHECKED - MC DRAWN - PG CHECKED - MC	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK DRAIN REPLACEMENT DETAILS SN. 096-0047 (EB)	F.A.I. RTE. = 64 SECTION = D7 BRIDGE REPAIRS 2022-3 COUNTY = WAYNE ILLINOIS FED. AID PROJECT	TOTAL SHEETS = 152 SHEET NO. = 127 CONTRACT NO. 74997
	SHEET 04 OF 11 SHEETS						



* 2" PJF as per Article 1051.09 of the Standard Specifications bonded to wingwall with suitable adhesive as recommended by supplier.
See Sheet 6 of 11 for Section A-A



MODEL: 0960047-74997-005
FILE NAME: J:\20100402_W04# 2.8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3541 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 042-061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-060298
1211, 710-0444, 792-6227, 81

USER NAME =	BenB
PLOT SCALE =	0:2" / in.
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG
CHECKED -	MC

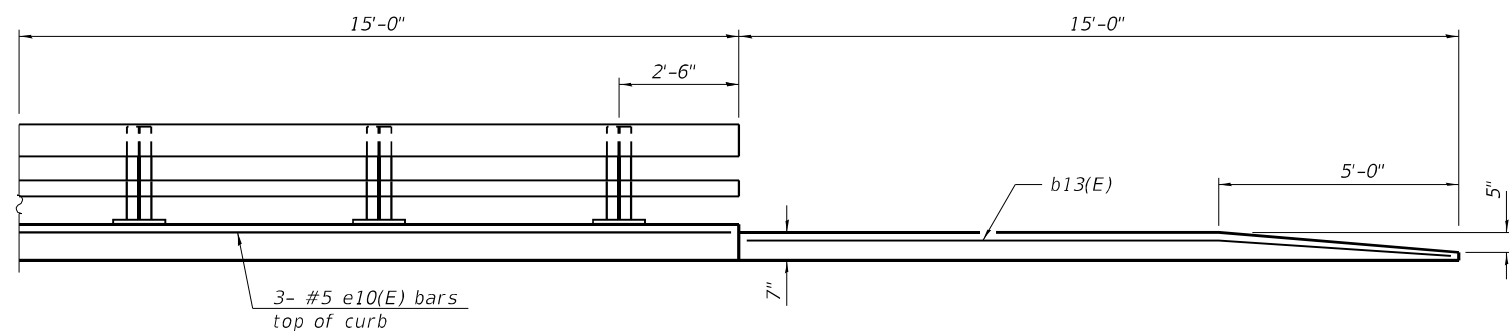
REVISED -	
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REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS - I
SN. 096-0047 (EB)**

SHEET 05 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	128
CONTRACT NO. 74997				
ILLINOIS		FED. AID PROJECT		



INSIDE ELEVATION OF RAILING AND CURB

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

Curb concrete under railing shall be paid for as Concrete Superstructure.

Approach slab shall be paid for as Concrete Superstructure (Approach Slab).

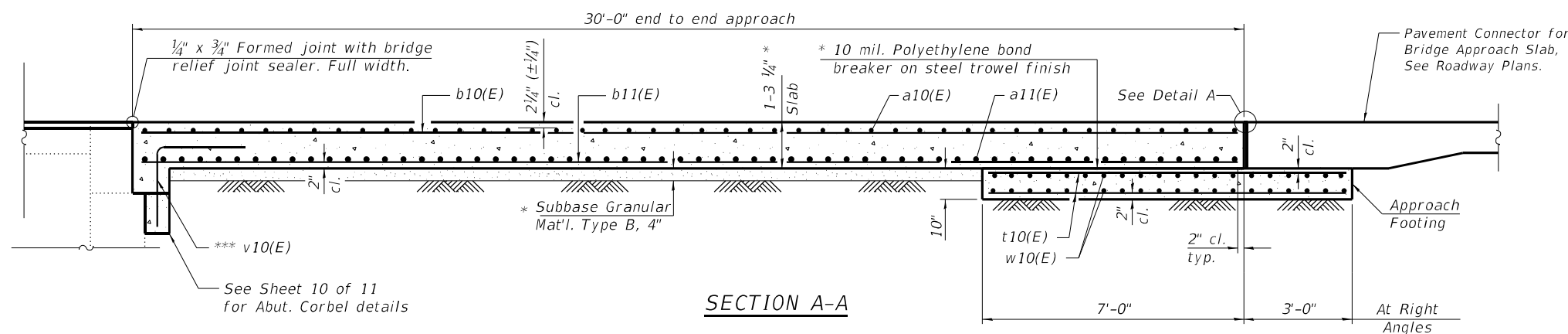
Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

For railing details, see sheet 9 of 11.

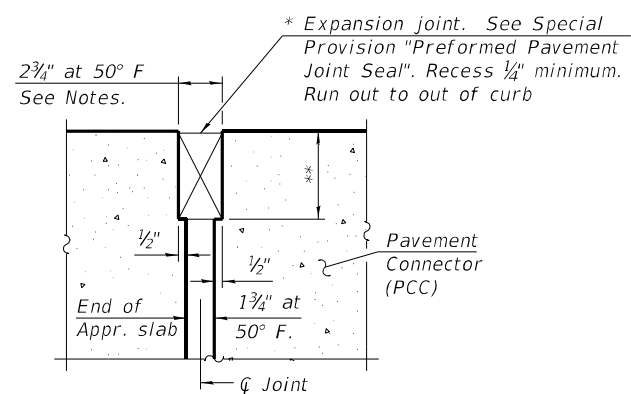
* Prior to Grinding



SECTION A-A

TWO APPROACHES
BILL OF MATERIAL

Bar	No. of Bars		Total	Size	Length	Shape	
	Stage I	Stage II					
a10(E)	92		92	#5	19'-10"	—	
a11(E)	120		120	#8	19'-3"	—	
a12(E)	46	46	92	#5	7'-4"	—	
a13(E)		92	92	#5	22'-6"	—	
a14(E)		120	120	#8	22'-0"	—	
b10(E)	58	64	122	#5	29'-8"	—	
b11(E)	94	104	198	#9	29'-8"	—	
b12(E)	8	8	16	#5	14'-8"	—	
b13(E)	2	2	4	#4	14'-8"	—	
d10(E)	34	34	68	#5	6'-8"	L	
e10(E)	6	6	12	#5	14'-8"	—	
t10(E)	40	44	84	#4	10'-2"	—	
w10(E)	80		80	#5	19'-3"	—	
w11(E)		80	80	#5	22'-0"	—	
Concrete Superstructure						Cu. Yd.	2.2
Concrete Superstructure (Approach Slab)						Cu. Yd.	116.7
Concrete Structures						Cu. Yd.	26.2
Reinforcement Bars, Epoxy Coated						Pound	46685
Bar Splicers						Each	292

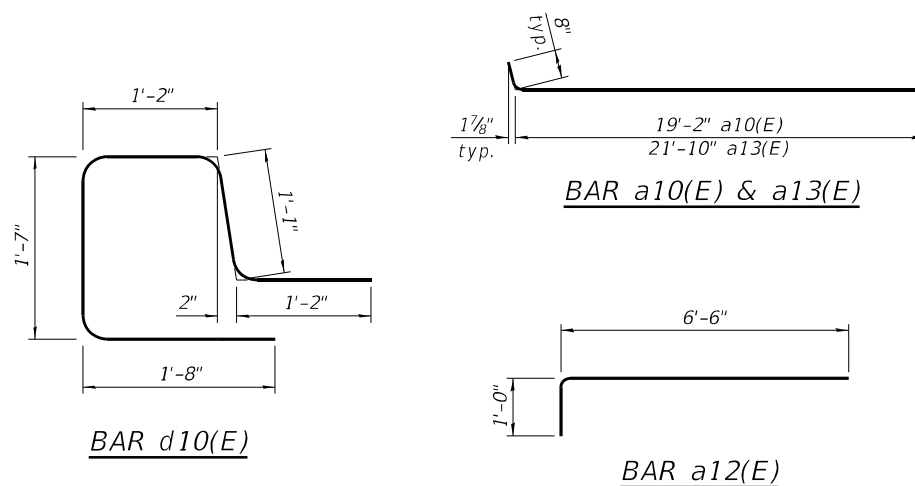


DETAIL A

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

*** v10(E) bars shown in Sheet 10 of 11.



MODEL: 0960047-74997-006
FILE NAME: J:\201002_LWO# 2.8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 054-061179
ILLINOIS AND SURVIVING FIRM NO. 048-000098
(217) 753-8844, 752-6277 (F)

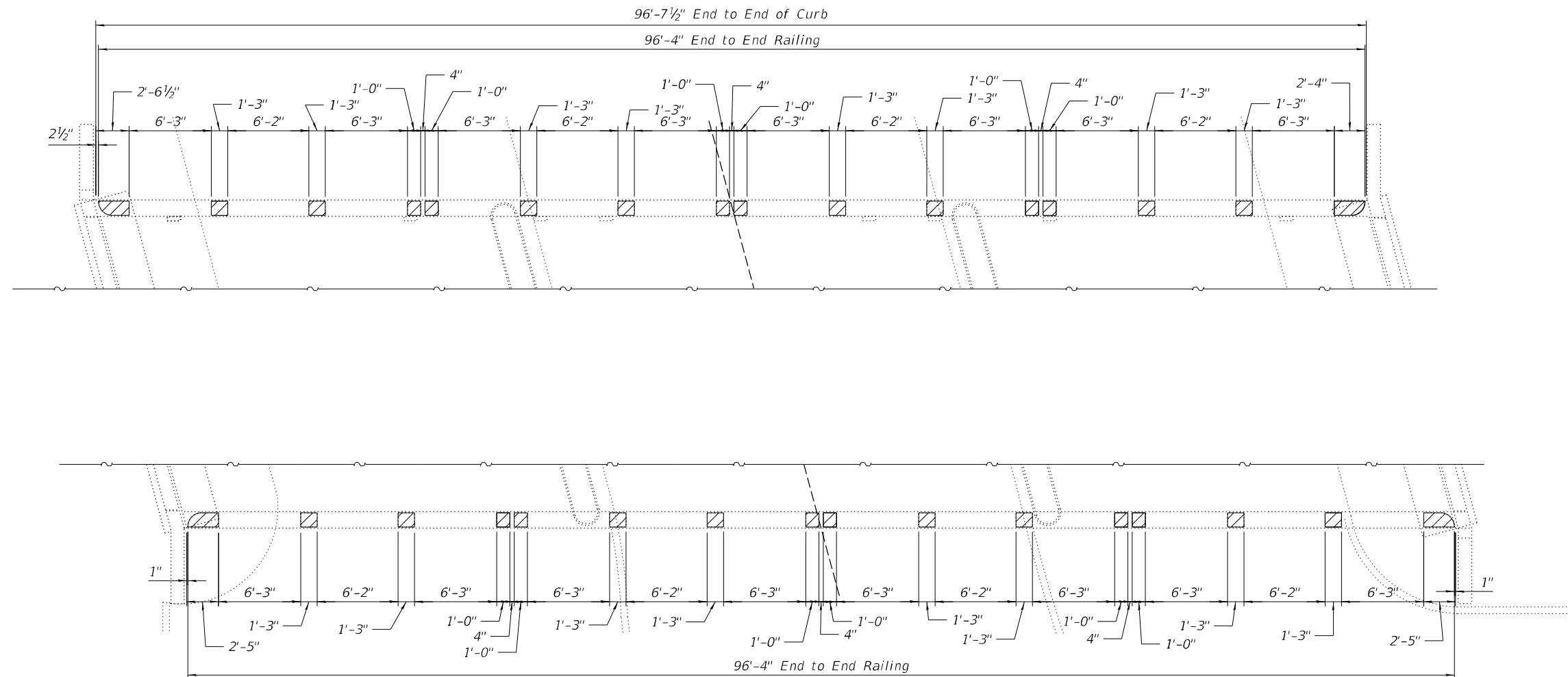
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PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS - II
SN. 096-0047 (EB)

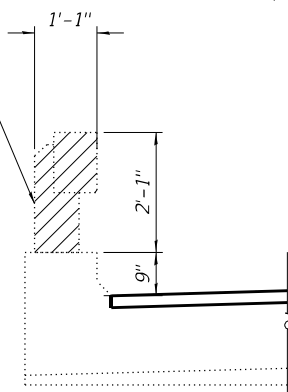
F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 129
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

Notes:
 Completely remove existing concrete railing down to curb level.
 Saw cut existing post and grind flush with existing curbs.




BRIDGE RAILINGS EXISTING PLAN
 (Removal)

Remove concrete railing and post



CURB DETAIL
 (Removal)

 - Railing and Post Removal

BILL OF MATERIAL

Item	Unit	Quantity
Bridge Rail Removal	Foot	193

MODEL: 0960047-74997-007
 FILE NAME: J:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

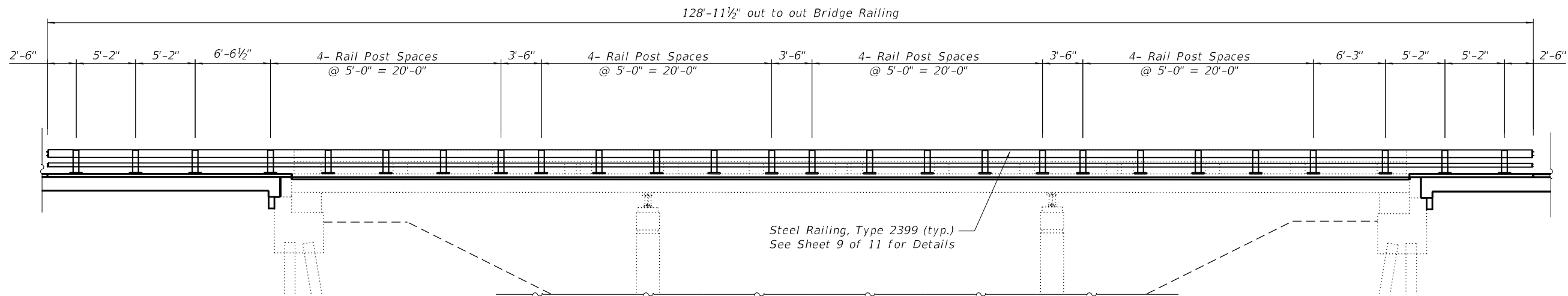
GREENE & BRADFORD, INC.
 OF SPRINGFIELD
CONSULTING ENGINEERS
 3541 CONSTITUTION DRIVE
 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL ENGINEERING FIRM NO. 048-000098
 (217) 753-8844, 752-6277, 751

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG, BB	REVISED -
	CHECKED - MC	REVISED -

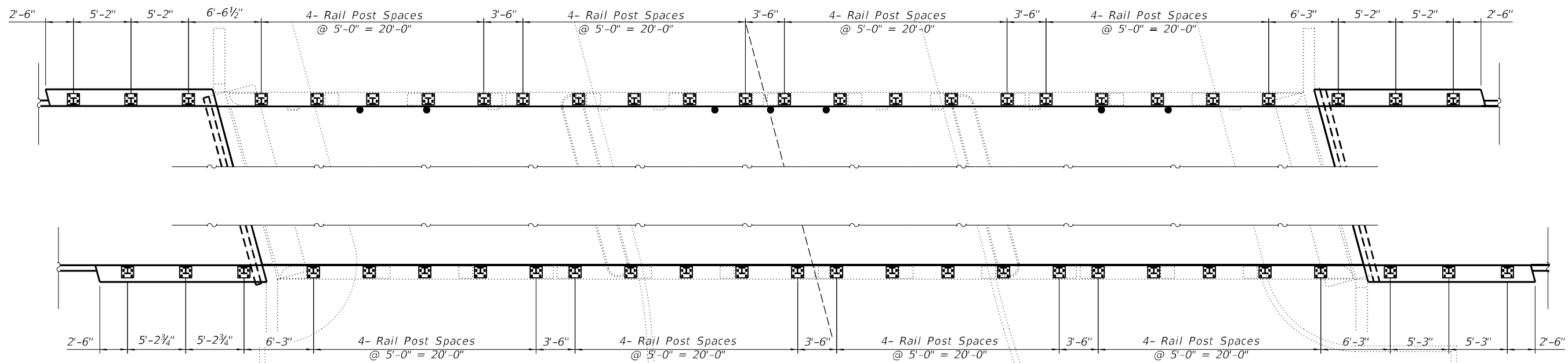
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE RAILING REMOVAL DETAILS
SN. 096-0047 (EB)
 SHEET 07 OF 11 SHEETS

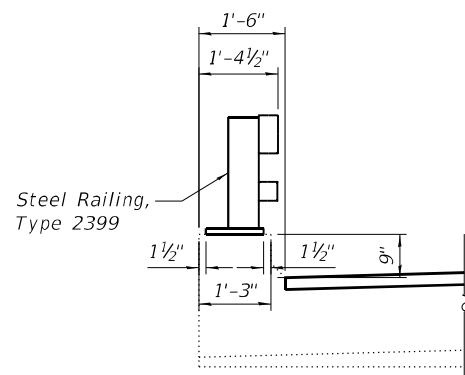
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	130
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



BRIDGE RAILINGS PROPOSED ELEVATION
(Replacement)



BRIDGE RAILINGS PROPOSED PLAN
(Replacement)



CURB DETAIL
(Proposed)

Notes:
For Bill of material for Steel Railing, Type 2399,
See Sheet 9 of 11.

MODEL: 0960047-74997-008
FILE NAME: J:\20100402_WD# 2 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

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CONSULTING ENGINEERS
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SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 04-0061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
(217) 753-8844, 752-6277, 751

USER NAME =	BenB
PLOT SCALE =	0:2" / in.
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG, BB
CHECKED -	MC

REVISED -	-
REVISED -	-
REVISED -	-
REVISED -	-

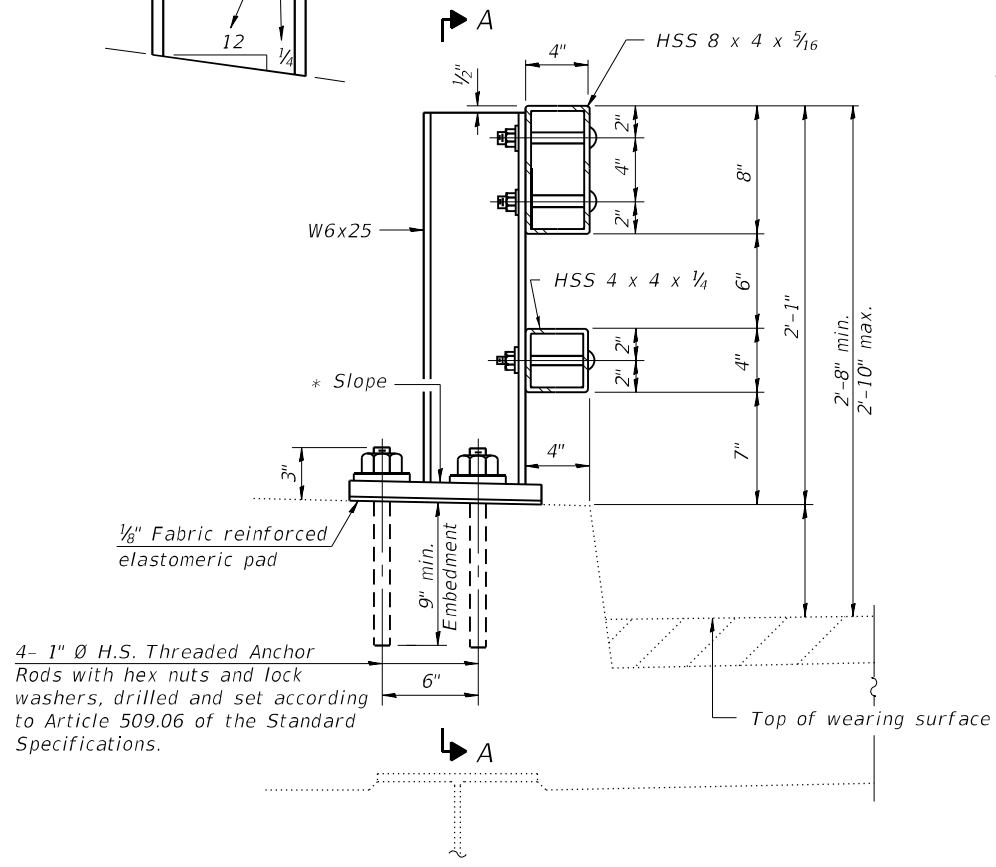
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE RAILING REPLACEMENT DETAILS
SN. 096-0047 (EB)

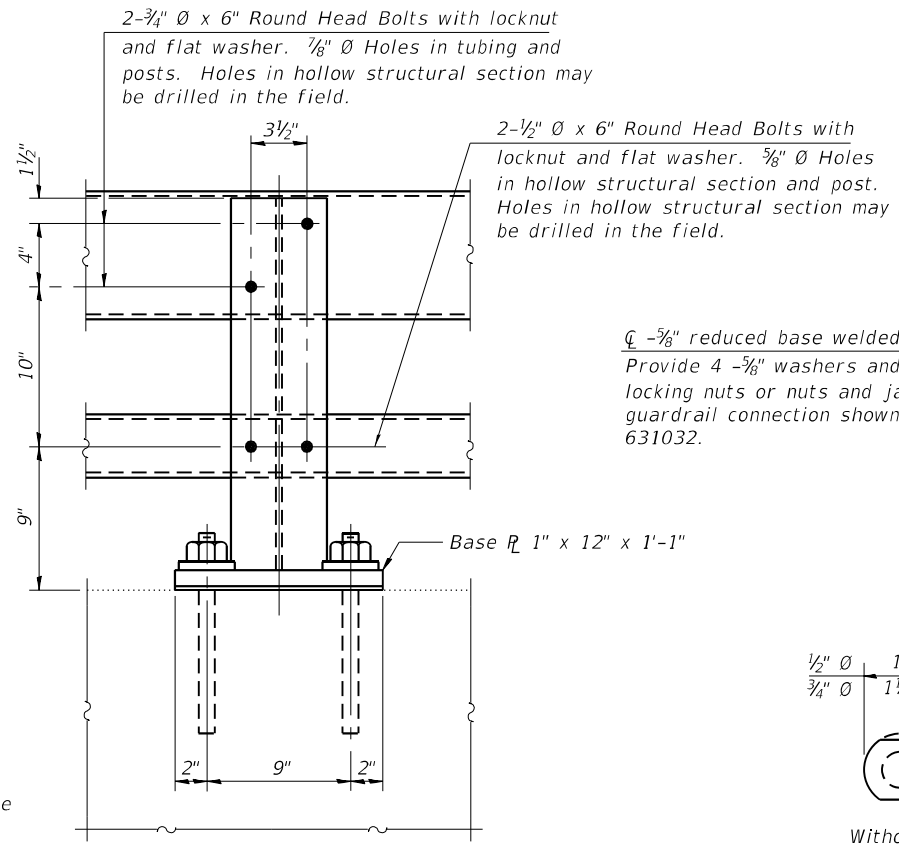
SHEET 08 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	131
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

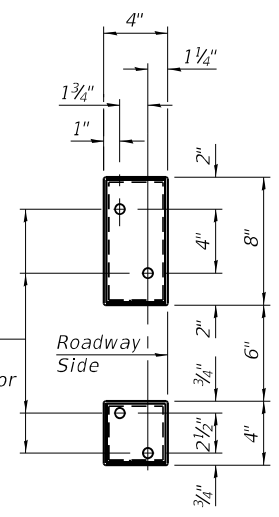
* Cut bottom end of post to curb slope.



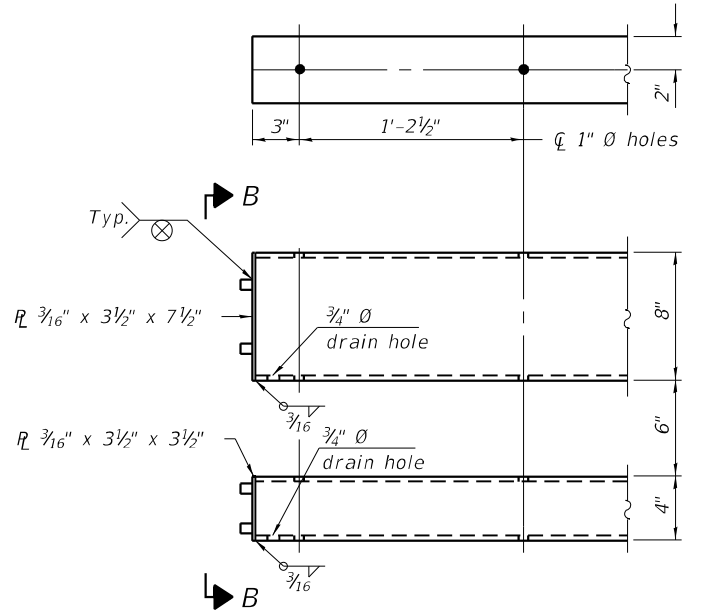
SECTION AT RAIL POST



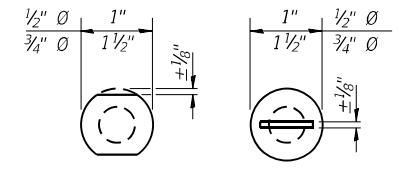
SECTION A-A



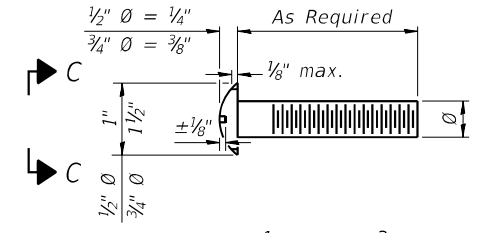
VIEW B-B



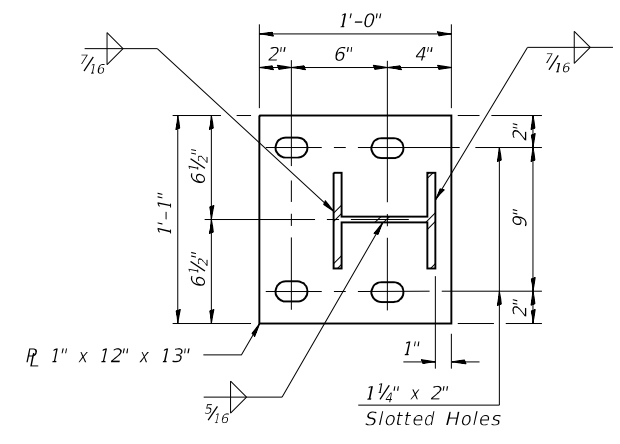
END OF RAIL DETAILS



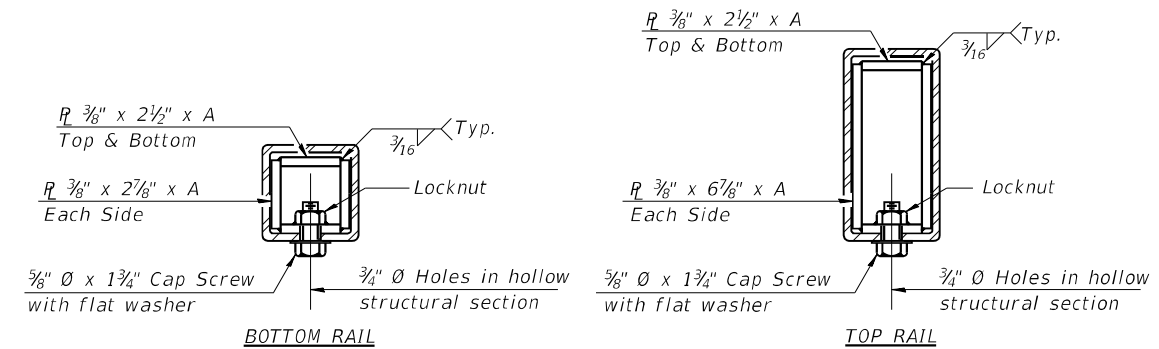
VIEW C-C



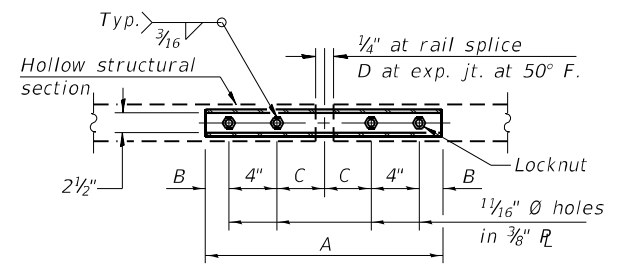
DETAIL OF 1/2" & 3/4" ROUND HEAD BOLTS



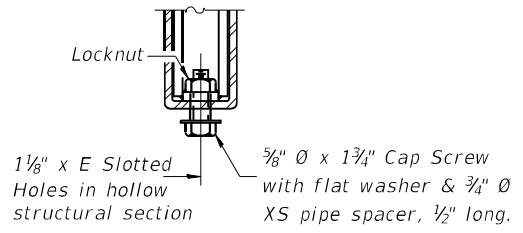
BASE PLATE DETAIL



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE R TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Notes:
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	258

MODEL: 0960047-74997-009
 FILE NAME: J:\201002_WD# 2 - Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

R-31 2-17-2017 (6'-3" Maximum Post Spacing)

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 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
 (217) 755-8844, 752-6277, 751

USER NAME = BenB
 DESIGNED - KAS
 CHECKED - MC
 DRAWN - PG, BB
 CHECKED - MC
 PLOT SCALE = 0:2" / 1"
 PLOT DATE = 8/31/2021

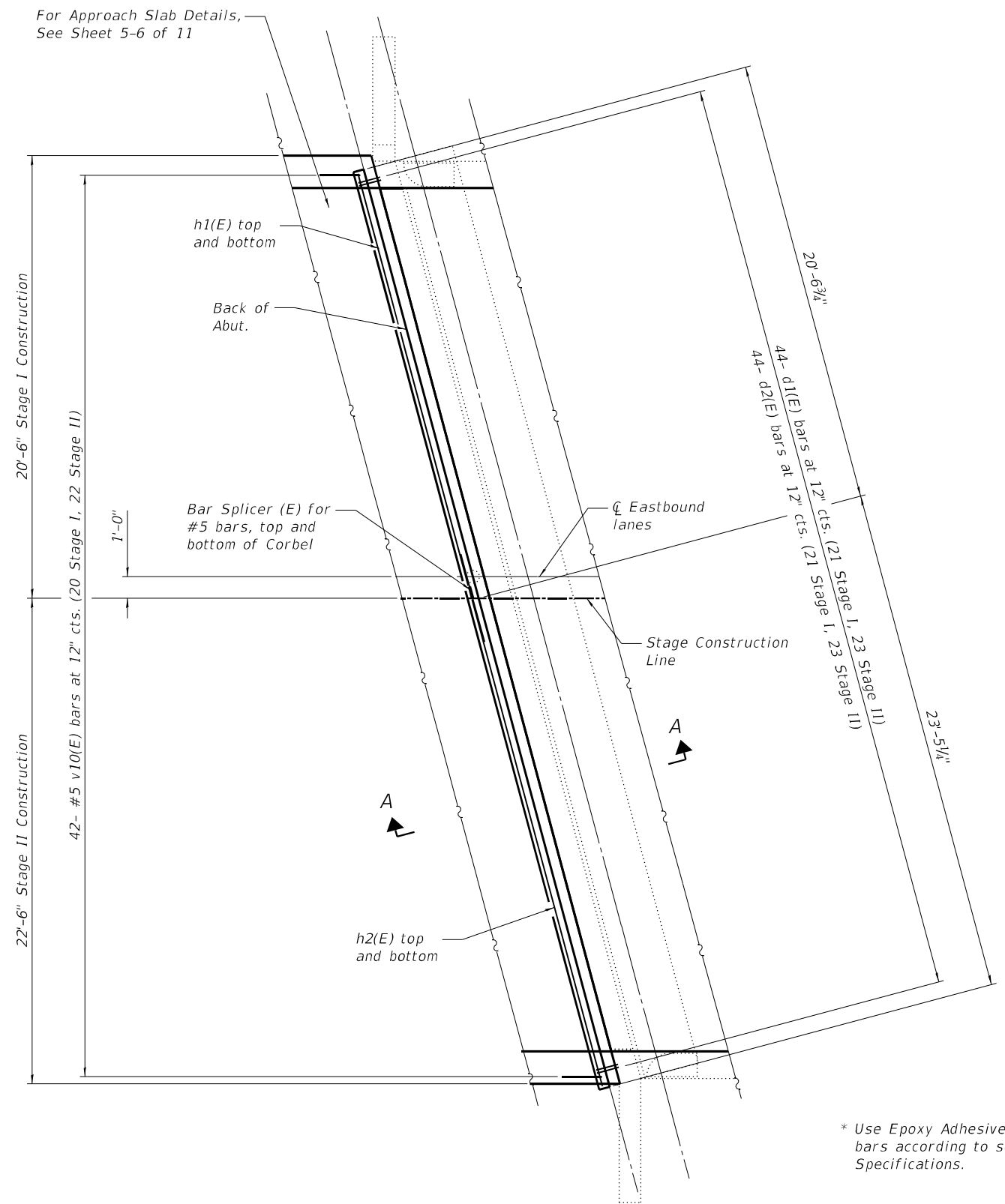
REVISOR -
 REVISION -
 REVISION -
 REVISION -
 REVISION -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STEEL RAILING, TYPE 2399
 SN. 096-0047 (EB)**

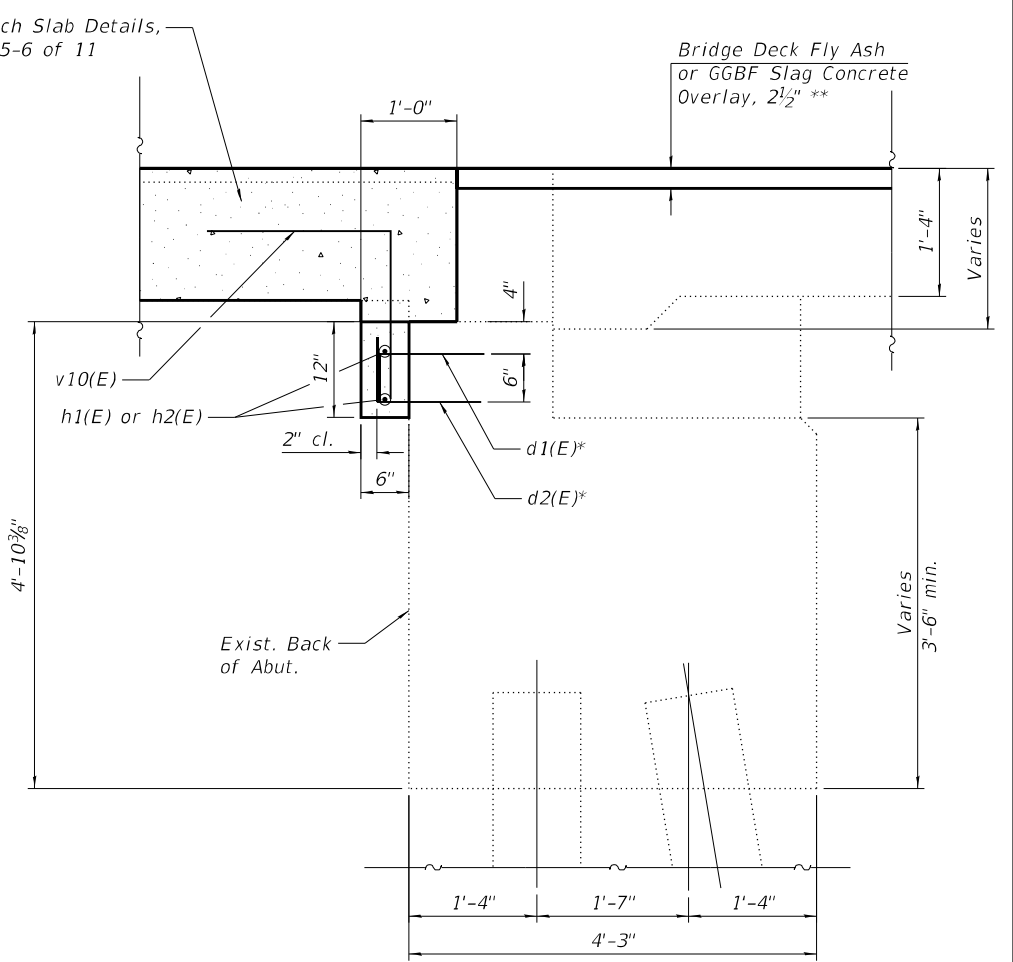
SHEET 09 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	132
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

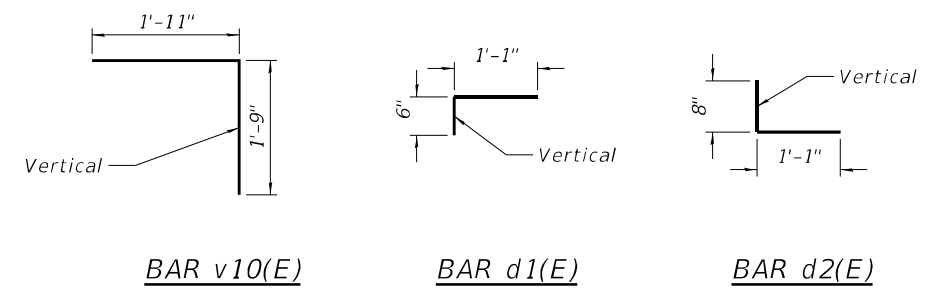


**PROPOSED PLAN
FOR ABUTMENT CORBEL**
(West Abut. Shown, East Abut. similar by rotation)

For Approach Slab Details,
See Sheet 5-6 of 11



SECTION A-A



**TWO ABUTMENT CORBEL
BILL OF MATERIAL**

Bar	No. of Bars		Total	Size	Length	Shape	
	Stage I	Stage II					
d1(E)	42	46	88	#5	1'-7"	┌	
d2(E)	42	46	88	#5	1'-9"	└	
h1(E)	4		4	#5	19'-9"	—	
h2(E)		4	4	#5	23'-4"	—	
v10(E)	40	44	84	#5	3'-8"	└	
Concrete Structure						Cu. Yd.	1.6
Reinforcement Bars, Epoxy Coated						Pound	807
Bar Splicers						Each	4

* Use Epoxy Adhesive in 9" holes for d1(E) and d2(E) bars according to section 584 of the Standard Specifications.

Notes:
Abutment Corbel Concrete shall be paid for as Concrete Structures.
Cost of excavation and backfill is included in Concrete Structures.

MODEL: 0960047-74997-010
FILE NAME: J:\20100402_W04# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3501 CONSTRUCTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 04-0061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
(217) 755-8844, 752-6277, 751

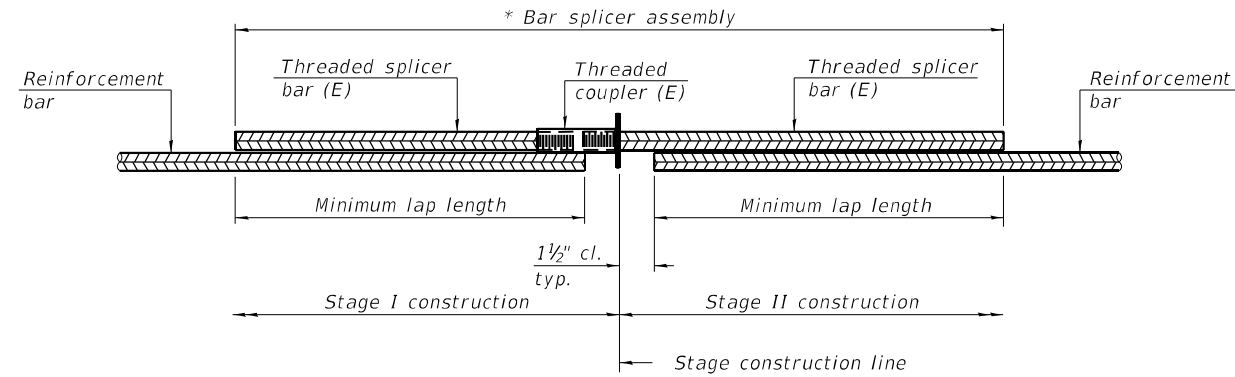
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PLOT SCALE = 0:2" = 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG, BB	REVISED -
	CHECKED - MC	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT REPAIRS
SN. 096-0047 (EB)**

SHEET 10 OF 11 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 133
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

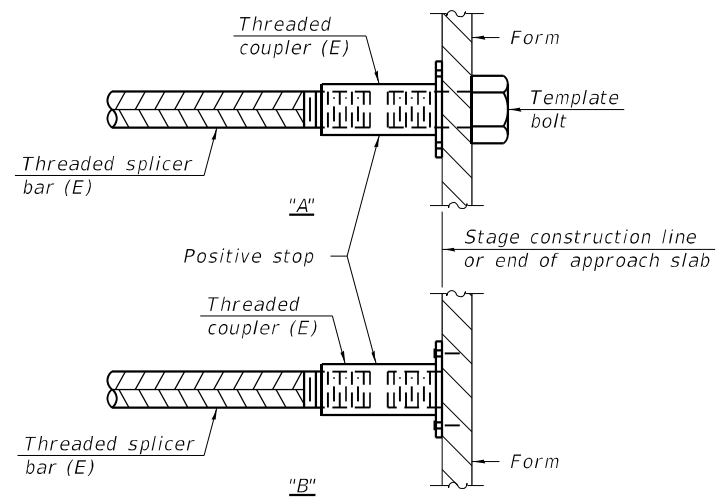


STANDARD BAR SPLICER ASSEMBLY PLAN
(All components shall be provided from one supplier)

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

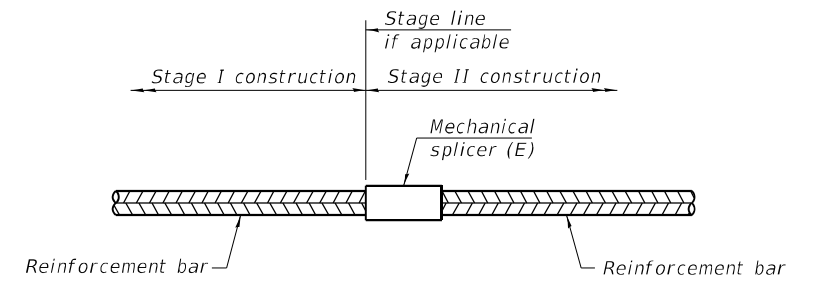
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Approach Slab Repair - Top of Slab	#5	92	3'-7"
Approach Slab Repair - Bottom of Slab	#8	120	5'-1"
Approach Footing - Top & Bottom of Slab	#5	80	3'-7"
Abutment Corbel	#5	4	3'-7"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

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

MODEL: 0960047-74997-011
 FILE NAME: J:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

BSD-1

1-1-2020

GREENE & BRADFORD, INC.
 OF SPRINGFIELD
CONSULTING ENGINEERS
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 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL DESIGN FIRM NO. 024-0001179
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
 (217) 755-8844, 792-6277, 79

USER NAME = BenB	DESIGNED - KAS	REVISED -
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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

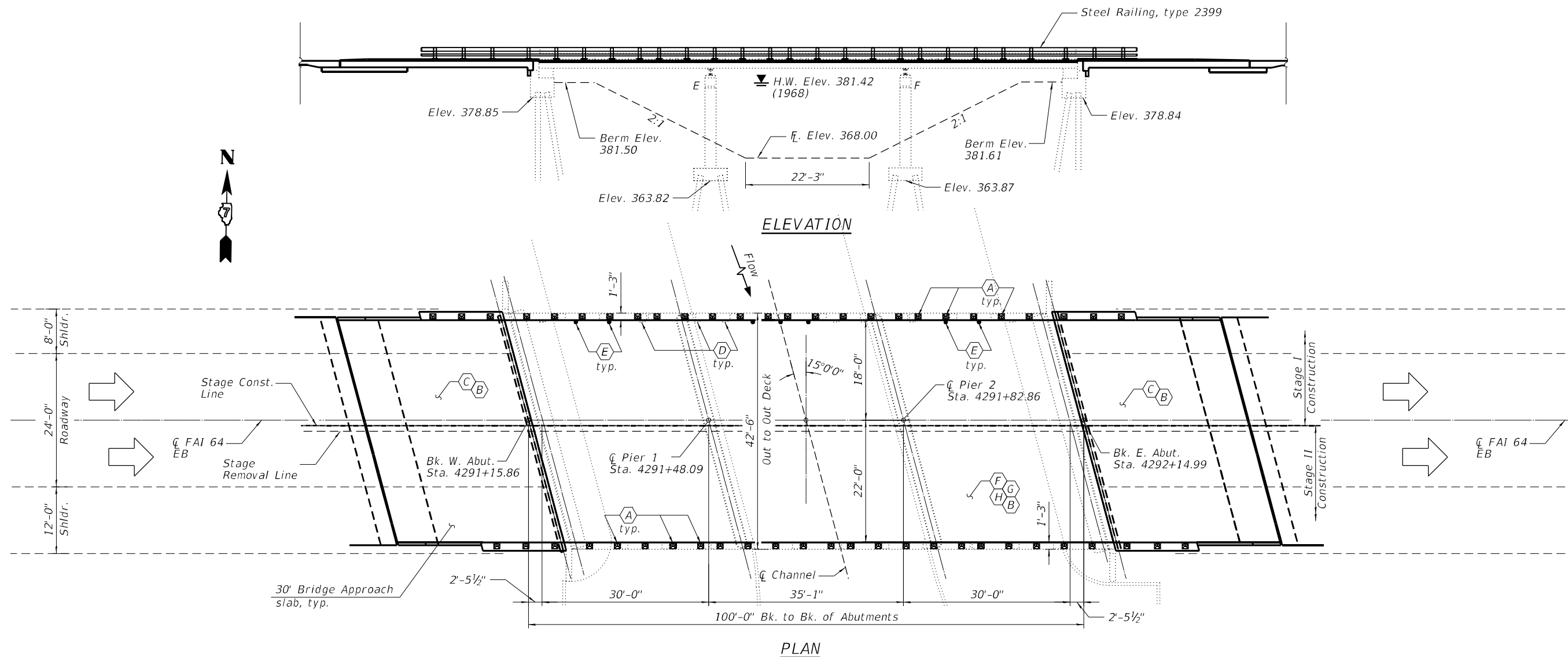
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN. 096-0047 (EB)

SHEET 11 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	134
CONTRACT NO. 74997				

ILLINOIS FED. AID PROJECT

The existing three span reinforced concrete slab structure was constructed in 1974 as F.A.I. Route 64 Section 96-3B-3 at STA. 4291+53.00. S.N. 096-0047 (EB) carries F.A.I. Route 64 (I-64) over Skillet Fork Branch. The proposed project consists of new approach slabs, new deck drains, bridge deck scarification, new concrete overlay, bridge deck patching, and new bridge railings with Stage Construction.



STRUCTURE INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	General Plan & Elevation
2	General Notes, Bill of Materials & Stage Construction Details
3	Bridge Deck Patching
4	Deck Drain Replacement Details
5	Bridge Approach Slab Details-I
6	Bridge Approach Slab Details-II
7	Bridge Railing Removal Details
8	Bridge Railing Replacement Details
9	Steel Railing, Type 2399
10	Abutment Repairs
11	Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- (A) - Remove Existing Concrete Bridge Railing
Install Steel Railing, Type 2399, (See Sheet 7-9 of 11)
- (B) - Perform Diamond Grinding (Bridge Section) and Bridge Deck Grooving (Longitudinal)
- (C) - Remove and Replace Bridge Approach Slab (See Sheet 5-6 of 11)
- (D) - Eliminate Floor Drains (See Sheet 3-4 of 11)
- (E) - Remove Existing Floor Drains and Install New 6"-Dia. Floor Drains. (See Sheet 3-4 of 11)
- (F) - Scarify Deck 2½" to remove existing Microsilica Concrete Overlay, (See Sheet 2 of 11)
- (G) - Install Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2½" (See Sheet 2 of 11)
- (H) - Install Bridge Deck Patches. (See Sheet 3 of 11)

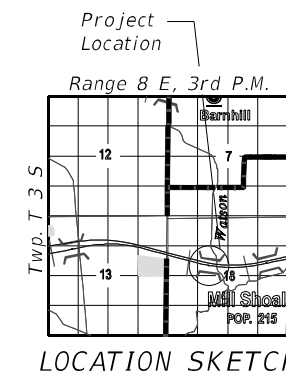
M. Chaudhry



Dated **8/31/2021**
 Mahboob A Choudhry
 Licensed Structural Engineer
 In Illinois No. 081-004380
 Expires: 11/30/2022

DESIGN STRESSES
FIELD UNITS

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



MODEL: 0960047-74997-001
 FILE NAME: I:\201002_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960047-74997.dgn

GREENE & BRADFORD, INC.
 OF SPRINGFIELD
REGISTERED PROFESSIONAL ENGINEERS
 3541 CONSTRUCTION DRIVE
 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL DESIGN FIRM NO. 081-0061179
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
 (217) 754-8844, 752-6227, 751

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PLOT DATE = 8/31/2021	DRAWN - PG, BB	REVISED -
	CHECKED - MC	REVISED -

DESIGNED - KAS	REVISED -
CHECKED - MC	REVISED -
DRAWN - PG, BB	REVISED -
CHECKED - MC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
SN. 096-0047 (EB)

SHEET 01 OF 11 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 124
ILLINOIS			FED. AID PROJECT	

GENERAL NOTES

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

Reinforcement Bars designated (E) shall be epoxy coated.

Unless noted otherwise, Specified Concrete Cover over Reinforcement shall be as follows; Number 4 and 5 bars = 1 1/2", Number 6 and larger bars = 2".

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is completed.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front faces and tops of the parapets and wingwalls and the top surfaces of the expansion joint blockouts. Protective Coat shall also be applied to the top of the new concrete overlay and to areas of Concrete Superstructure (Approach Slab) including the front faces and tops of the curbs.

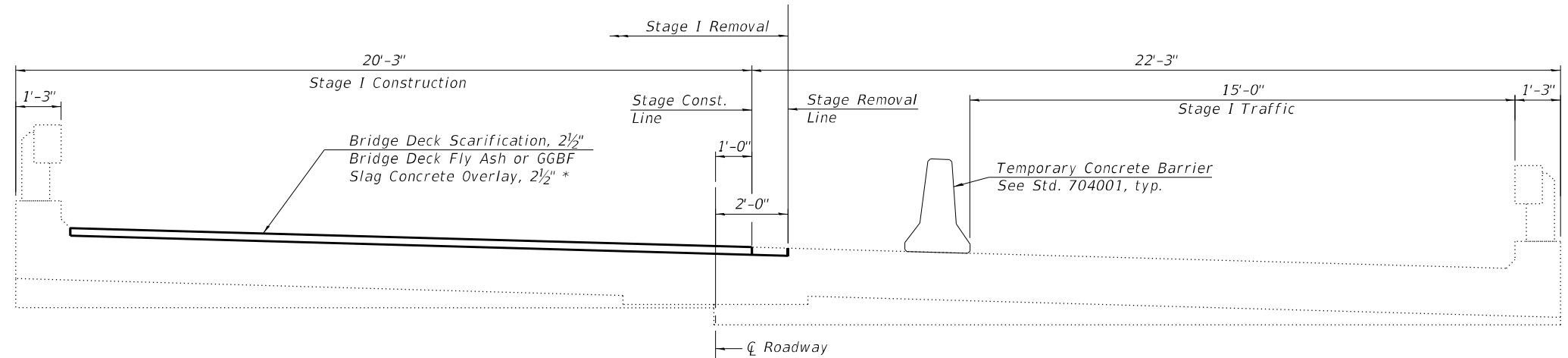
Synthetic fibers should be added to the Bridge Deck Fly Ash or GGBF Slag Concrete Overlay. See Special Provisions.

Full depth deck slab repair will be required at each floor drain location. Removal and disposal of existing floor drains shall be included in the contract unit price for deck slab repair (Full depth, Type 1).

TOTAL BILL OF MATERIAL

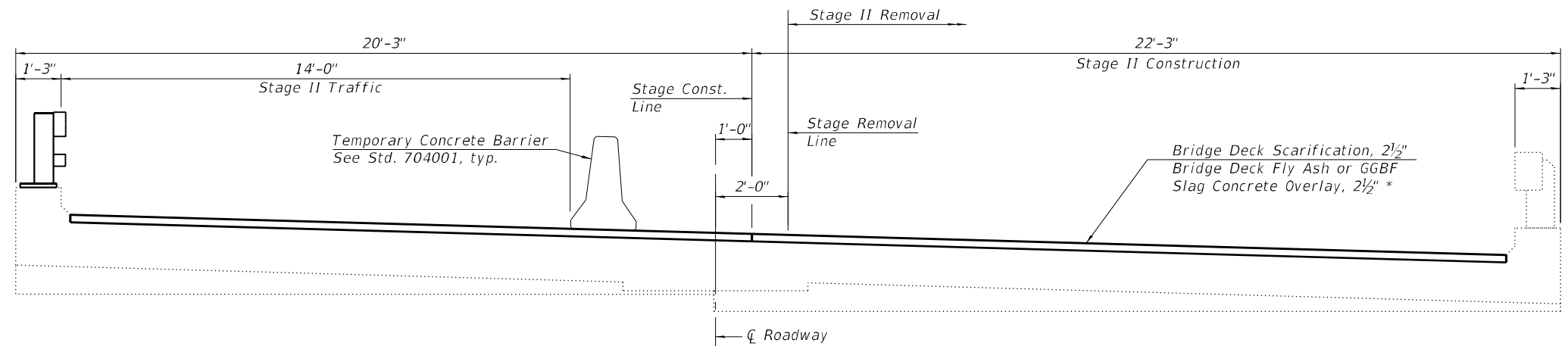
ITEM	UNIT	QUANTITY
Concrete Structures	Cu. Yd.	27.8
Concrete Superstructures	Cu. Yd.	2.2
Concrete Superstructure (Approach Slab)	Cu. Yd.	116.7
Reinforcement Bars, Epoxy Coated	Pound	47492
Bar Splicers	Each	296
Floor Drains	Each	6
** Bridge Deck Scarification, 2 1/2"	Sq. Yd.	440
** Bridge Deck Fly Ash or GGBF Slag Concrete Overlay 2 1/2"	Sq. Yd.	440
** Bridge Deck Grooving (Longitudinal)	Sq. Yd.	264
** Diamond Grinding (Bridge Section)	Sq. Yd.	707
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	5.5
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	4.9
Steel Railing, Type 2399	Foot	258
Bridge Rail Removal	Foot	193
*** Protective Coat	Sq. Yd.	732

** See Special Provisions.
*** New Concrete and overlay areas



* Overlay Thickness Prior to Grinding

STAGE I
(WBL Looking West)



STAGE II
(WBL Looking West)

MODEL: 0960048-74997-002
FILE NAME: J:\2010\02_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960048-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3501 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL ENGINEER, FIRM NO. 084-061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098
(217) 754-8844, 752-6277, 751

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
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	CHECKED - MC	REVISED -

STATE OF ILLINOIS
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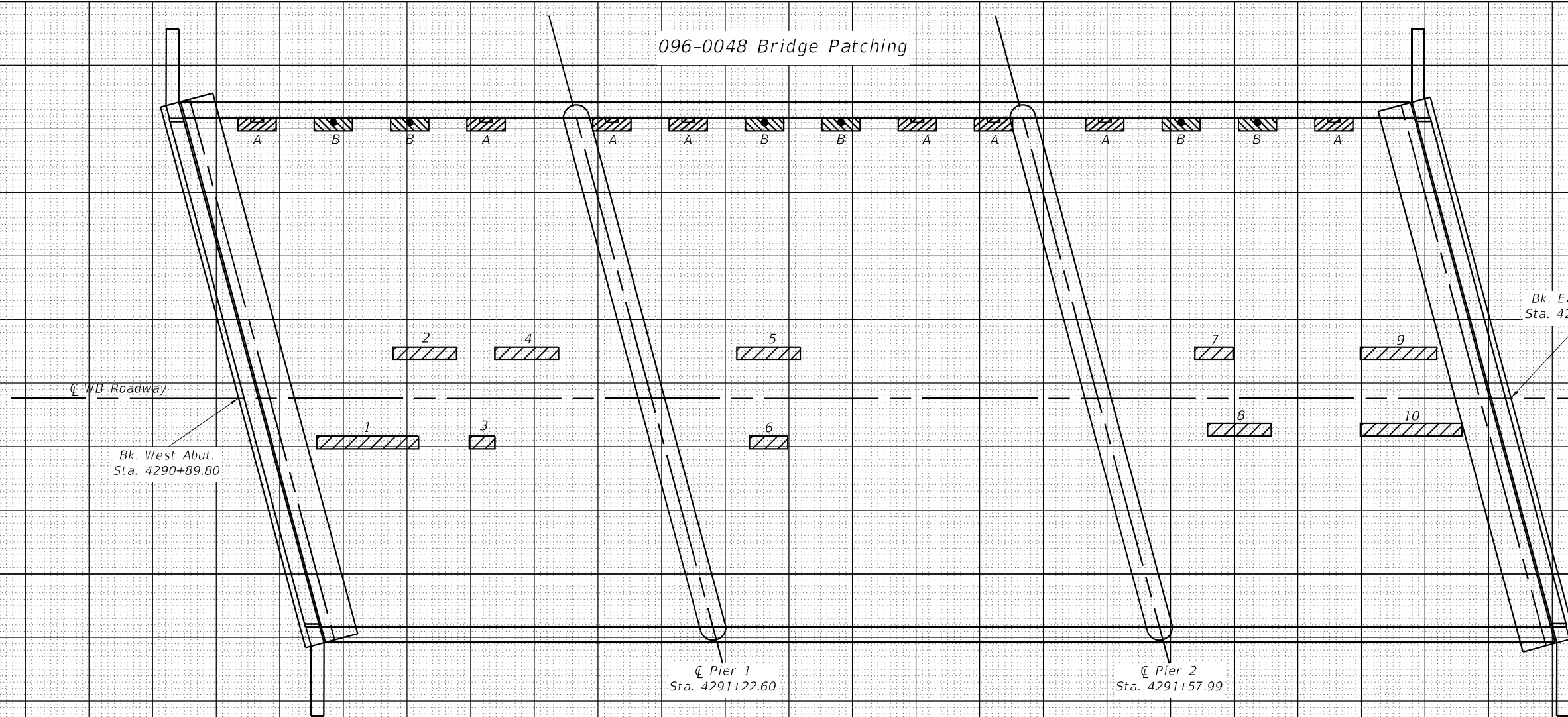
GENERAL NOTES, BILL OF MATERIALS & STAGE CONST. DETAILS
SN. 096-0048 (WB)

SHEET 02 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	136
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



096-0048 Bridge Patching



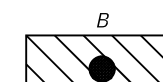
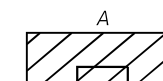
PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
1	8.0	1.0		0.9
2	5.0	1.0		0.6
3	2.0	1.0	0.2	
4	5.0	1.0		0.6
5	5.0	1.0		0.6
6	5.0	1.0		0.6
7	3.0	1.0	0.3	
8	3.0	1.0	0.3	
9	6.0	1.0		0.7
10	8.0	1.0		0.9
A - Remove Drain, 8 ea			2.7	
B - Replace Drain, 6 ea			2.0	
TOTALS			5.5	4.9

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020
 SURVEY BY: DPM
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)
 $3ft^2 = .33yd^2$ Each



ESTIMATED PAY QUANTITIES
 DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 5.5 SQ YD
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 4.9 SQ YD
 FLOOR DRAINS = 6 Each

MODEL: 0960048-74997-003
 FILE NAME: J:\2020\07\02\WCH 2 B Bridge Repairs in D7\DRAWINGS\096-0048 & 096-0048\0960048-74997.dgn

USER NAME = BenB	DESIGNED - T. Walk	REVISED -
PLOT SCALE = 100:0' = 1" / in.	DRAWN - T. Walk	REVISED -
PLOT DATE = 8/31/2021	CHECKED - D. Macklin	REVISED -
	DATE - Nov. 2020	REVISED -

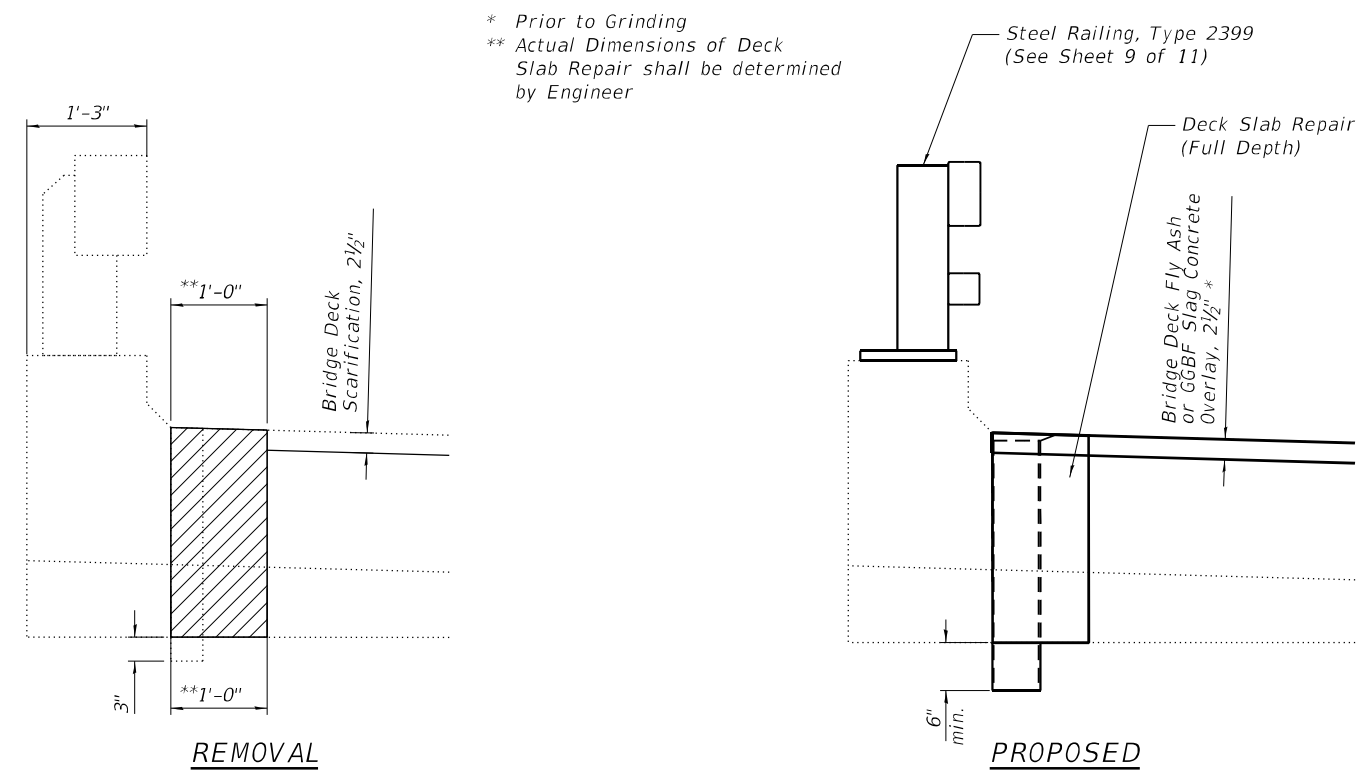
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING
 SN. 096-0048

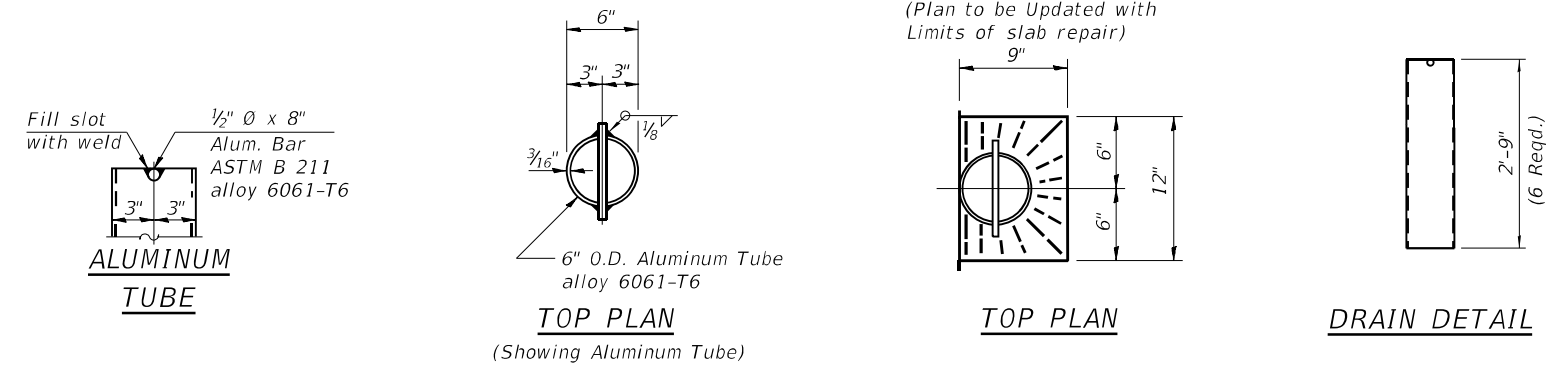
SCALE: SHEET 03 OF 11 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	137
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

Notes:
 Fiberglass pipe alternative shall not be allowed for floor drains.
 Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.
 Concrete Removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheets 3 of 11.

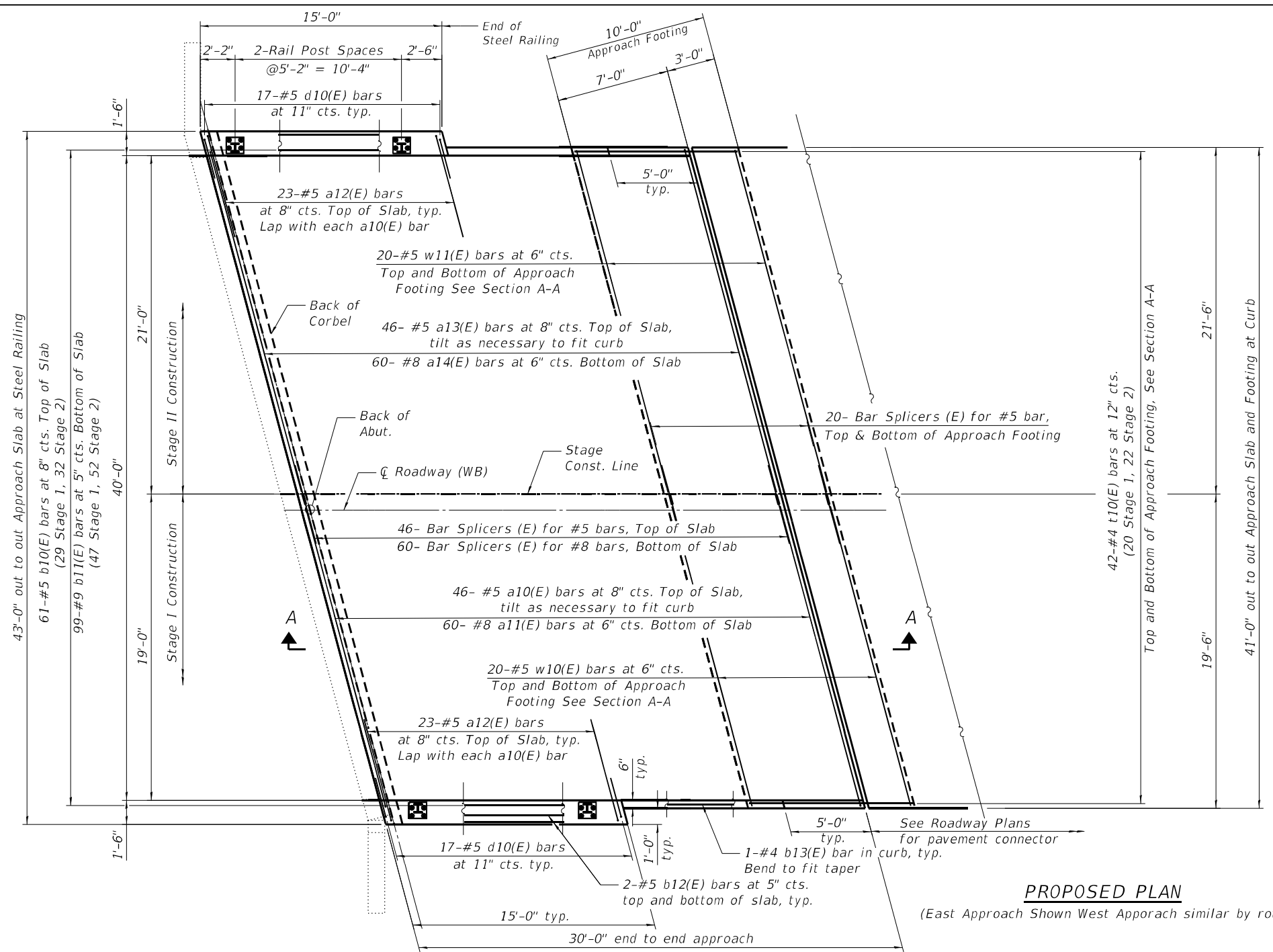


SECTIONS THRU DRAIN TO BE REPLACED
 14 Locations - See Sheet 3 of 11

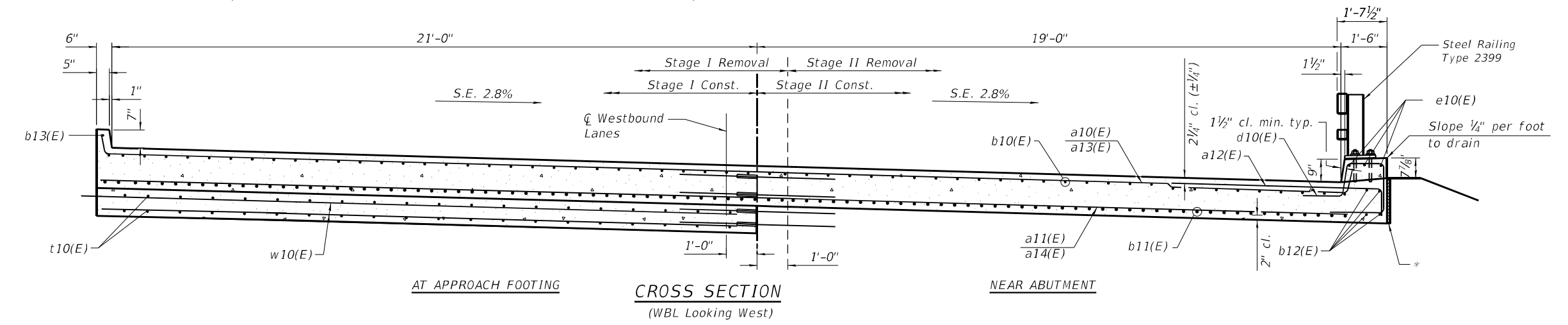


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 8/31/2021 9:47:38 AM

GREENE & BRADFORD, INC. OF SPRINGFIELD <small>CONSULTING ENGINEERS 3501 CONSTITUTION DRIVE SPRINGFIELD, ILLINOIS 62711 PROFESSIONAL DESIGN FIRM NO. 04-061179 PROFESSIONAL LAND SURVEYING FIRM NO. 04-060098 (217) 755-8844, 726-6277, 771</small>	USER NAME = BenB	DESIGNED - KAS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK DRAIN REPLACEMENT DETAILS SN. 096-0048 (WB)	F.A.I. RTE. = 64	SECTION = D7 BRIDGE REPAIRS 2022-3	COUNTY = WAYNE	TOTAL SHEETS = 152	SHEET NO. = 138
	PLOT SCALE = 0:2" = 1'	DRAWN - PG	REVISED -			CONTRACT NO. 74997				
	PLOT DATE = 8/31/2021	CHECKED - MC	REVISED -	SHEET 04 OF 11 SHEETS			ILLINOIS FED. AID PROJECT			



* 2" PJF as per Article 1051.09 of the Standard Specifications bonded to wingwall with suitable adhesive as recommended by supplier.
See Sheet 6 of 11 for Section A-A



MODEL: 0960048-74997-005
FILE NAME: J:\201002_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960048-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3541 CONSTITUTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 042-001179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
1211, 1104844, 7924627, 81

USER NAME =	BenB
PLOT SCALE =	0:2" = 1'-0"
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG
CHECKED -	MC

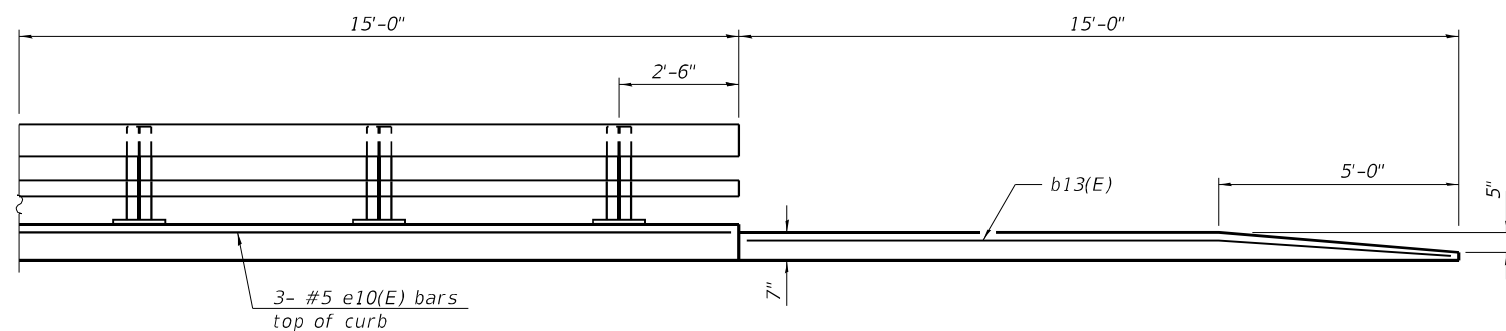
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REVISED -	
REVISED -	
REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS - I
SN. 096-0048 (WB)**

SHEET 05 OF 11 SHEETS

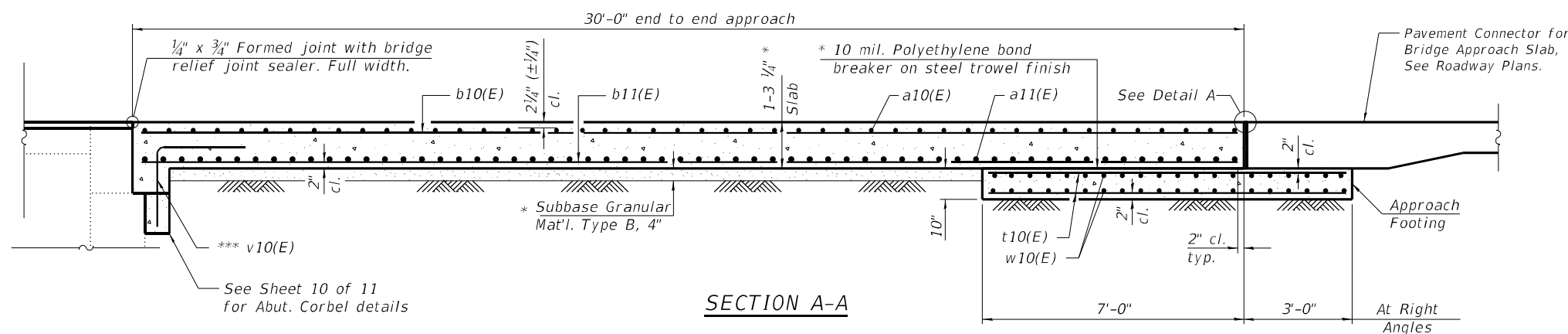
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	139
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



INSIDE ELEVATION OF RAILING AND CURB

Notes:
 The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.
 Curb concrete under railing shall be paid for as Concrete Superstructure.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For railing details, see sheet 9 of 11.

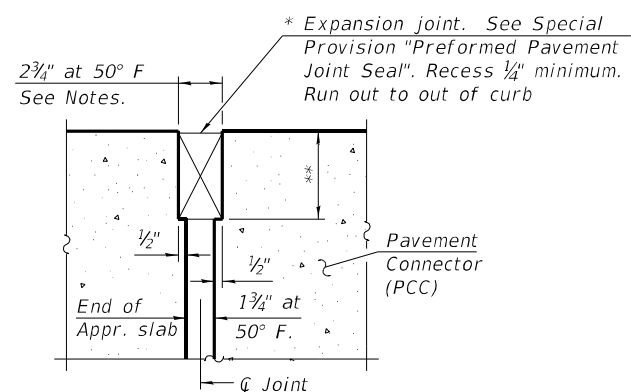
* Prior to Grinding



SECTION A-A

**TWO APPROACHES
BILL OF MATERIAL**

Bar	No. of Bars		Total	Size	Length	Shape	
	Stage I	Stage II					
a10(E)	92		92	#5	19'-10"	—	
a11(E)	120		120	#8	19'-3"	—	
a12(E)	46	46	92	#5	7'-4"	—	
a13(E)		92	92	#5	22'-6"	—	
a14(E)		120	120	#8	22'-0"	—	
b10(E)	58	64	122	#5	29'-8"	—	
b11(E)	94	104	198	#9	29'-8"	—	
b12(E)	8	8	16	#5	14'-8"	—	
b13(E)	2	2	4	#4	14'-8"	—	
d10(E)	34	34	68	#5	6'-8"	⊏	
e10(E)	6	6	12	#5	14'-8"	—	
t10(E)	40	44	84	#4	10'-2"	—	
w10(E)	80		80	#5	19'-3"	—	
w11(E)		80	80	#5	22'-0"	—	
Concrete Superstructure						Cu. Yd.	2.2
Concrete Superstructure (Approach Slab)						Cu. Yd.	116.7
Concrete Structures						Cu. Yd.	26.2
Reinforcement Bars, Epoxy Coated						Pound	46685
Bar Splicers						Each	292

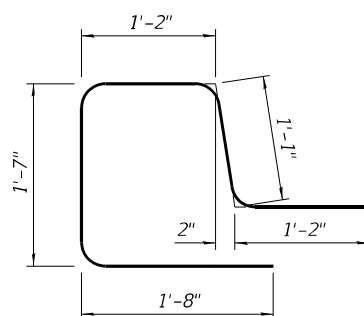


DETAIL A

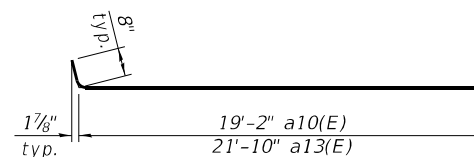
* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

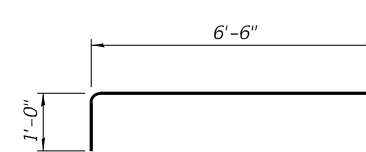
*** v10(E) bar shown in Sheet 10 of 11.



BAR d10(E)



BAR a10(E) & a13(E)



BAR a12(E)

(Sheet 2 of 2)

MODEL: 0960048-74997-006
 FILE NAME: J:\201002_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960048-74997.dgn

GREENE & BRADFORD, INC.
 OF SPRINGFIELD
 CONSULTING ENGINEERS
 3501 CONSTITUTION DRIVE
 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL DESIGN FIRM NO. 054-061179
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-060798
 (217) 755-8844, 792-6277, 81

USER NAME = BenB
 PLOT SCALE = 0.2" / in.
 PLOT DATE = 8/31/2021

DESIGNED - KAS
 CHECKED - MC
 DRAWN - PG
 CHECKED - MC

REVISED -
 REVISED -
 REVISED -
 REVISED -

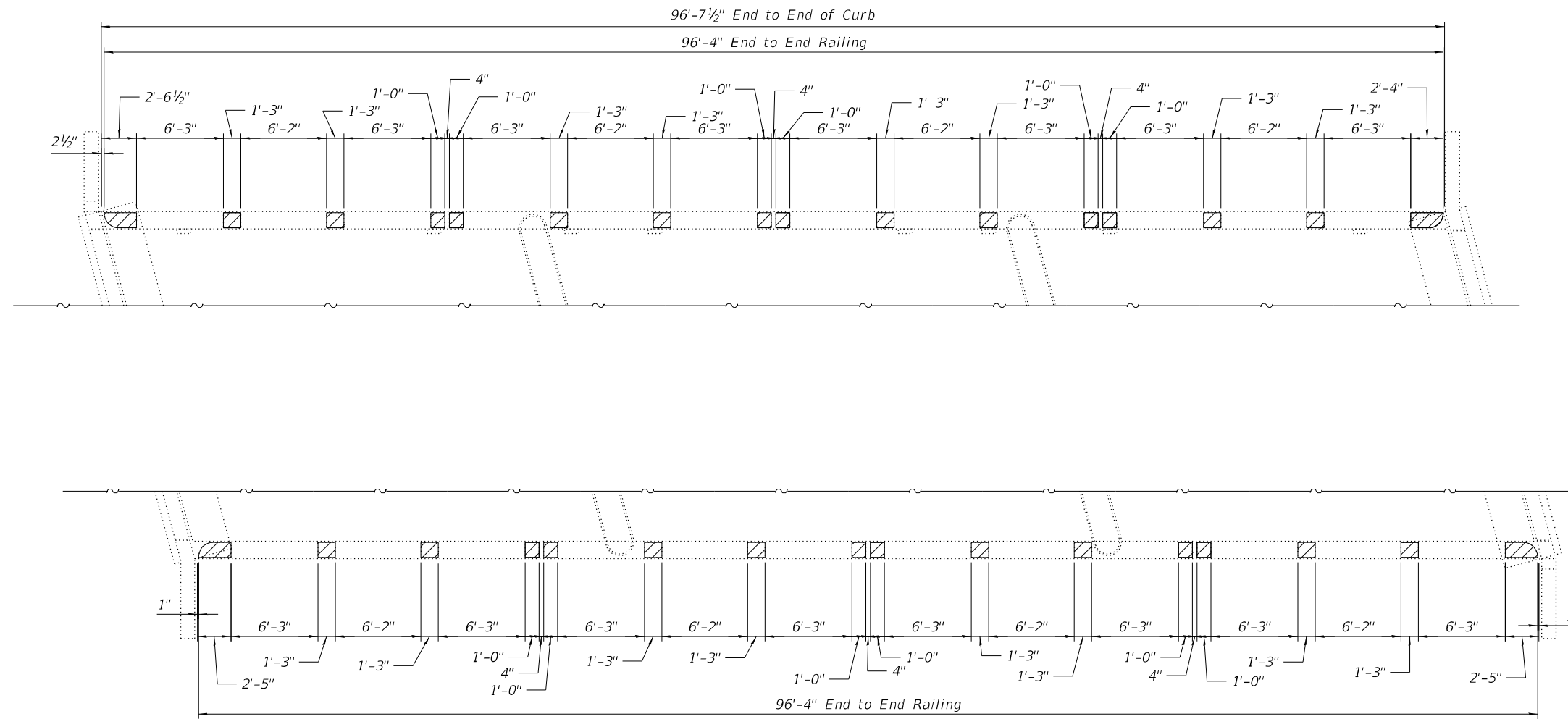
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS - II
SN. 096-0048 (WB)**

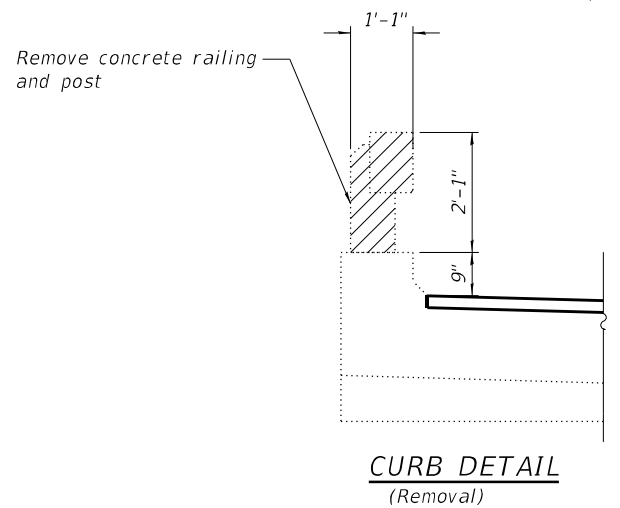
SHEET 06 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	140
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

Notes:
 Completely remove existing concrete railing down to curb level.
 Saw cut existing post and grind flush with existing curbs.



BRIDGE RAILINGS EXISTING PLAN
 (Removal)



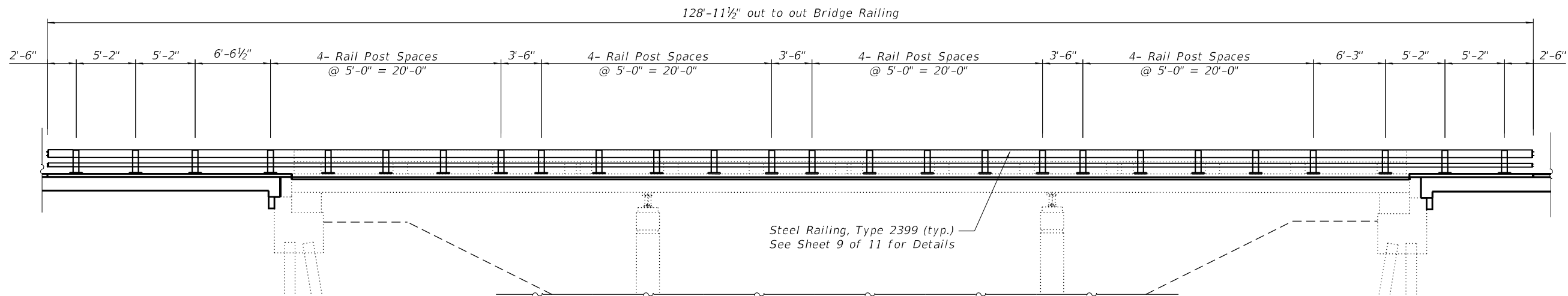
- Railing and Post Removal

BILL OF MATERIAL

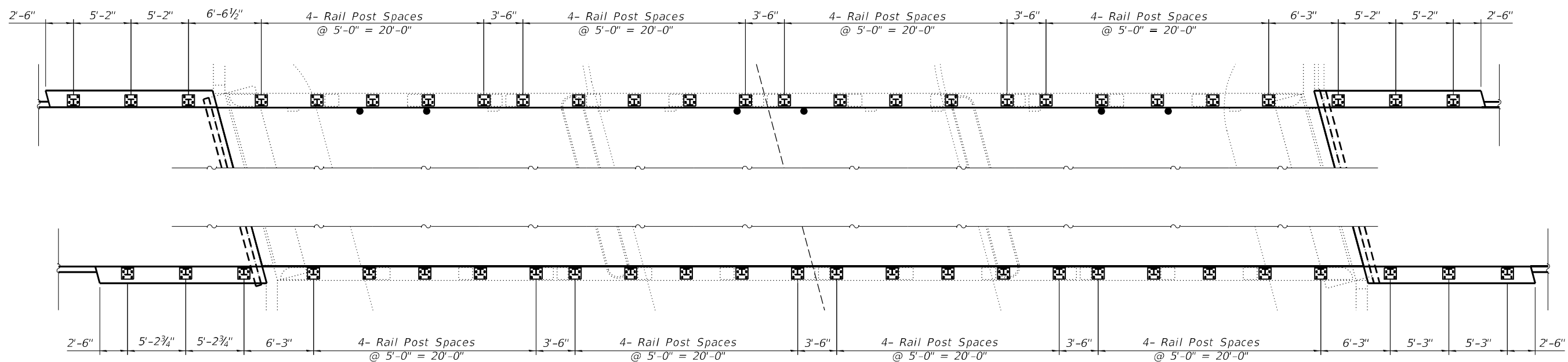
Item	Unit	Quantity
Bridge Rail Removal	Foot	193

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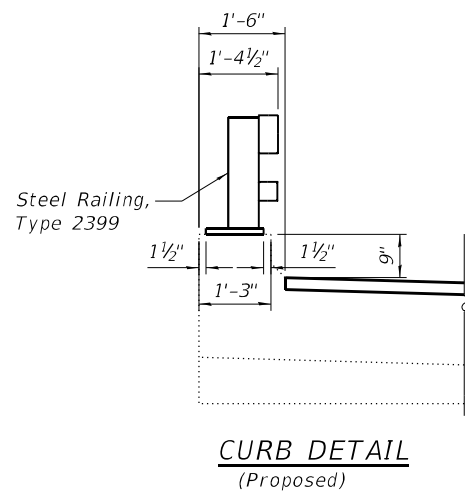
	GREENE & BRADFORD, INC. OF SPRINGFIELD <small>CONSULTING ENGINEERS 3541 CONSTITUTION DRIVE SPRINGFIELD, ILLINOIS 62711 PROFESSIONAL DESIGN FIRM NO. 04-006117P PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098 (217) 755-8844, 752-6277, 751</small>	USER NAME = BenB PLOT SCALE = 0:2" / 1" PLOT DATE = 8/31/2021	DESIGNED - KAS CHECKED - MC DRAWN - PG, BB CHECKED - MC	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE RAILING REMOVAL DETAILS SN. 096-0048 (WB) SHEET 07 OF 11 SHEETS	F.A.I. RTE. 64 SECTION D7 BRIDGE REPAIRS 2022-3 COUNTY WAYNE TOTAL SHEETS 152 SHEET NO. 141 CONTRACT NO. 74997 ILLINOIS FED. AID PROJECT
	8/31/2021 9:47:40 AM						



BRIDGE RAILINGS PROPOSED ELEVATION
(Replacement)



BRIDGE RAILINGS PROPOSED PLAN
(Replacement)



Notes:
For Bill of material for Steel Railing, Type 2399,
See Sheet 9 of 11.

MODEL: 0960048-74997-008
FILE NAME: J:\20100402_W04# 2 8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960048-74997.dgn

GREENE & BRADFORD, INC.
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3501 CONSTRUCTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 04-0061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
(217) 755-8844, 752-6277, 751

USER NAME =	BenB
PLOT SCALE =	0:2" / in.
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG, BB
CHECKED -	MC

REVISED -	
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REVISED -	

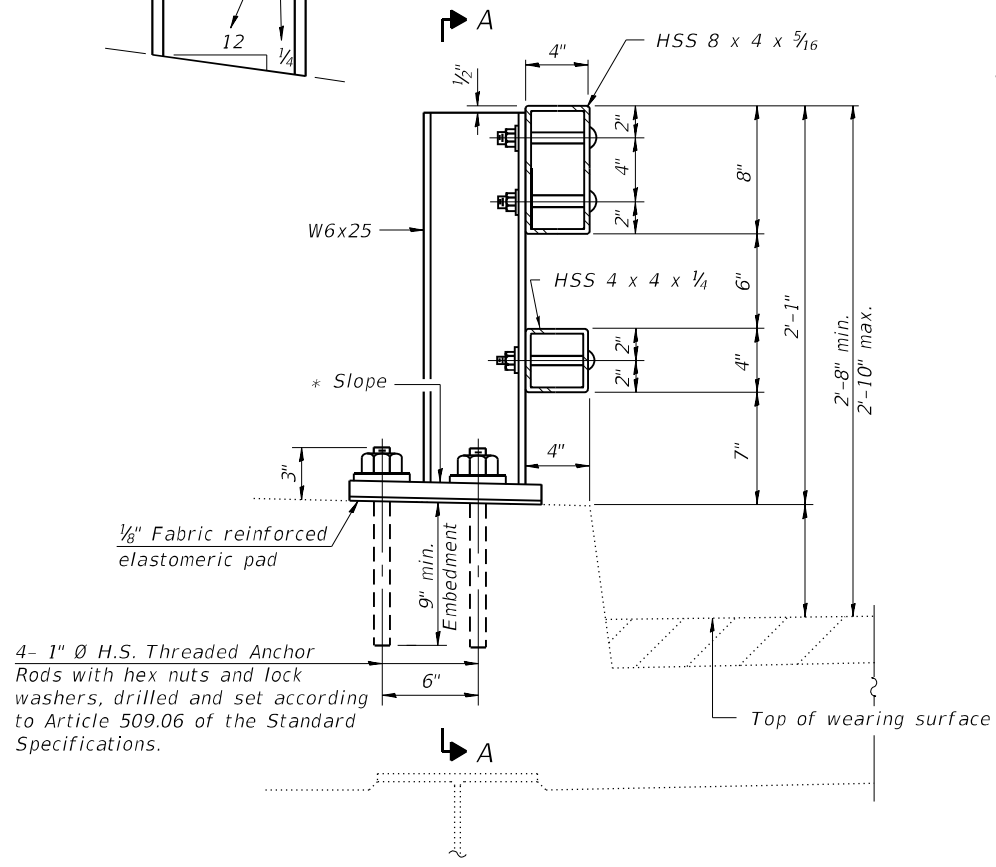
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE RAILING REPLACEMENT DETAILS
SN. 096-0048 (WB)

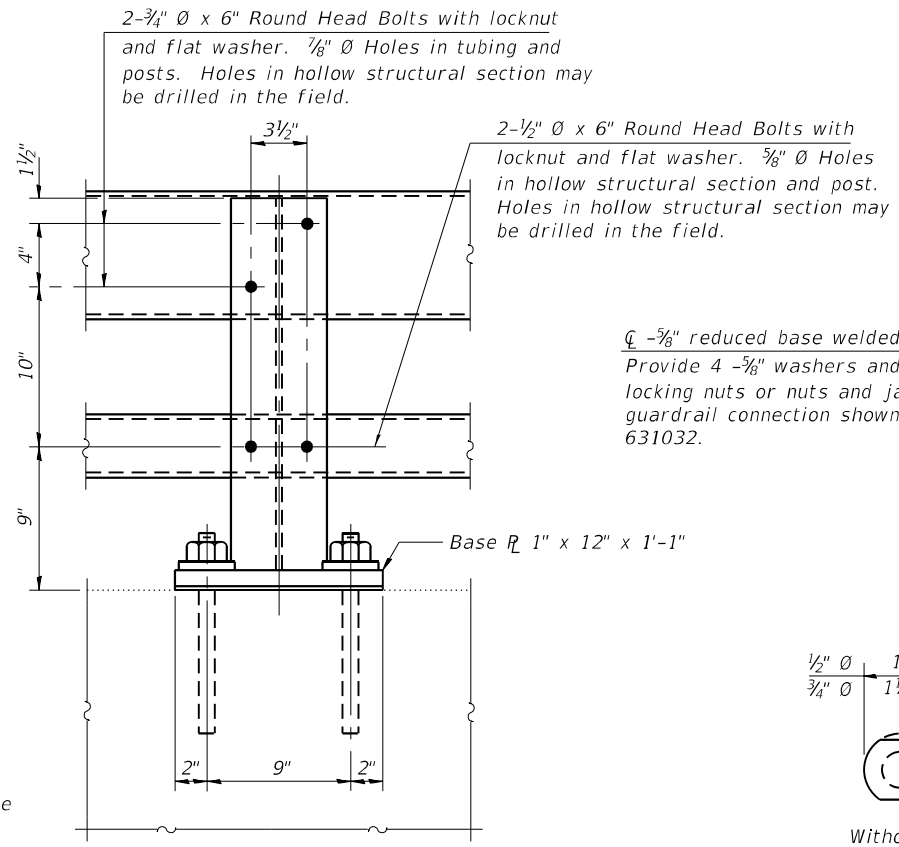
SHEET 08 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				
		ILLINOIS	FED. AID PROJECT	

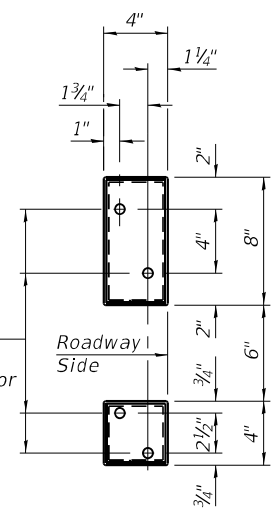
* Cut bottom end of post to curb slope.



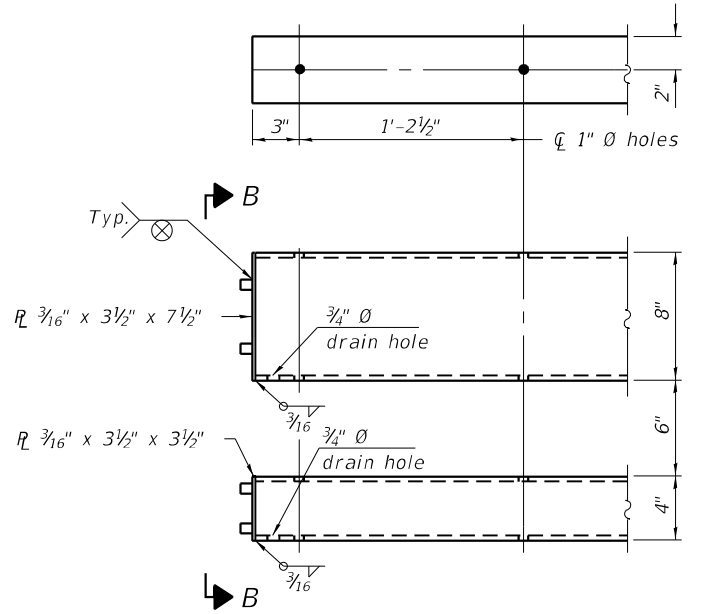
SECTION AT RAIL POST



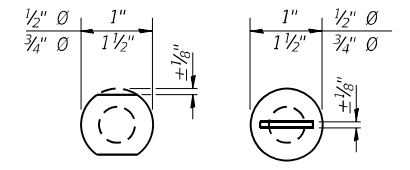
SECTION A-A



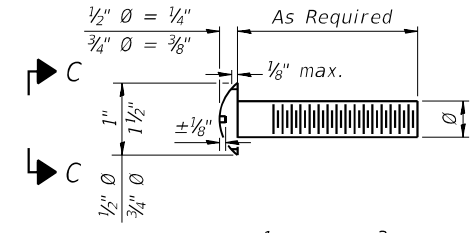
VIEW B-B



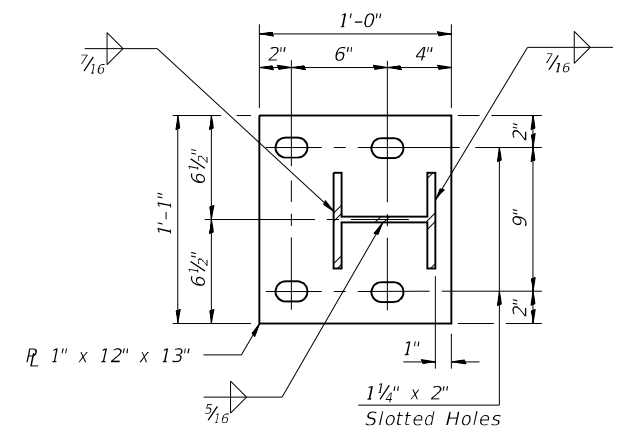
END OF RAIL DETAILS



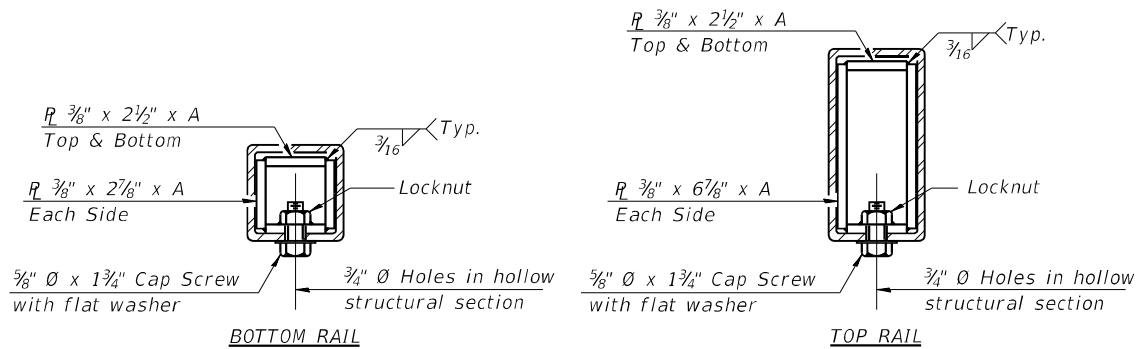
VIEW C-C



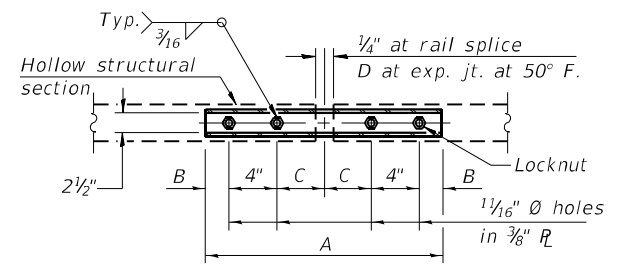
DETAIL OF 1/2" & 3/4" ROUND HEAD BOLTS



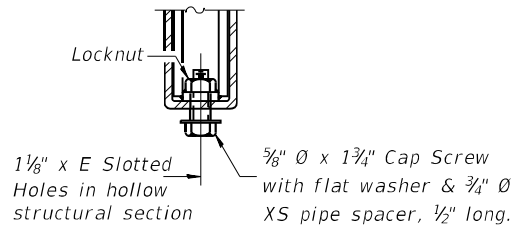
BASE PLATE DETAIL



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE R TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Notes:
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	258

MODEL: 0960048-74997-009
 FILE NAME: J:\201002_WD# 2 - Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960048-74997.dgn

R-31 2-17-2017 (6'-3" Maximum Post Spacing)



DESIGNED - KAS
 CHECKED - MC
 DRAWN - PG, BB
 CHECKED - MC

USER NAME = BenB
 PLOT SCALE = 0:2" / 1"
 PLOT DATE = 8/31/2021

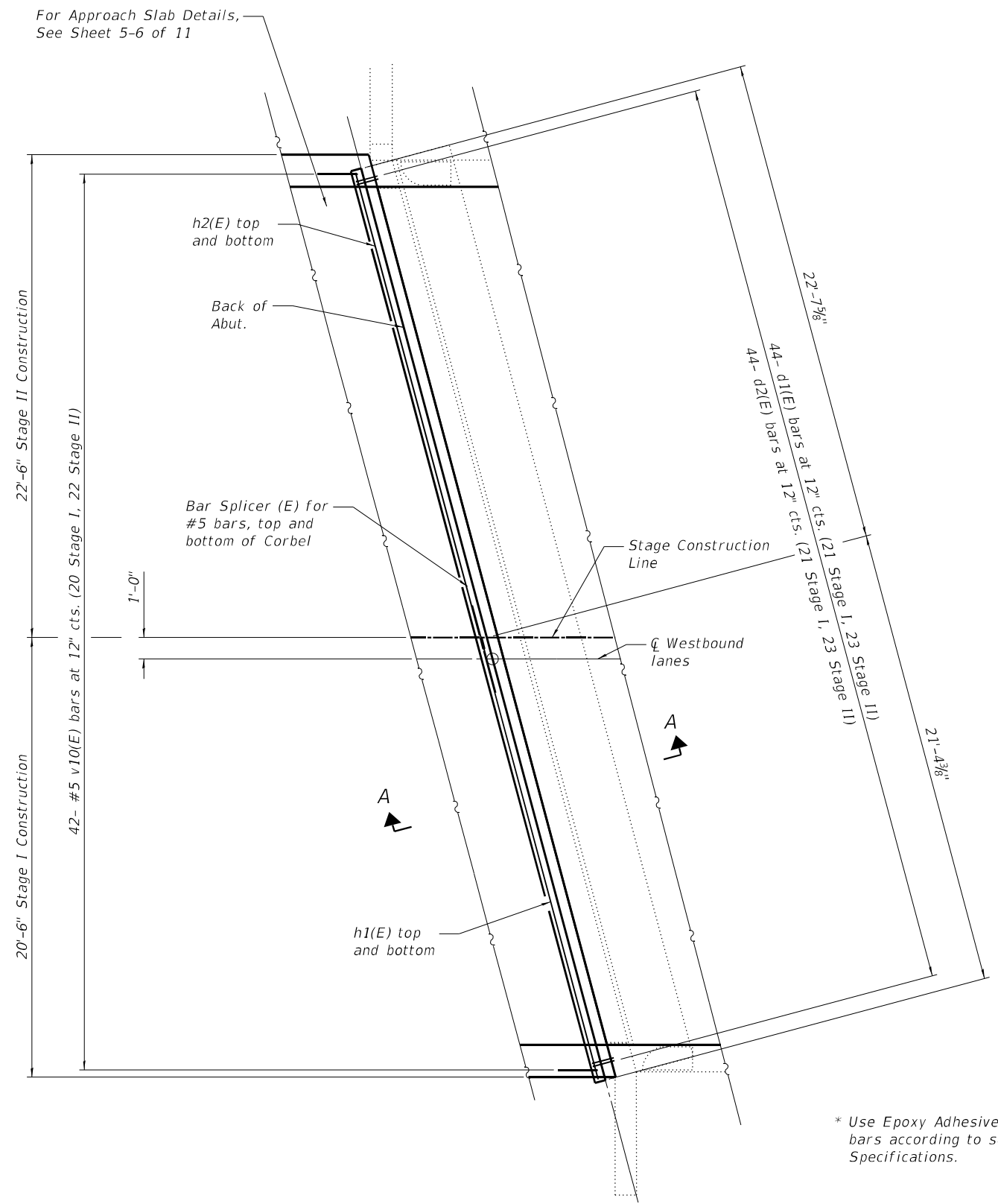
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE 2399
 SN. 096-0048 (WB)

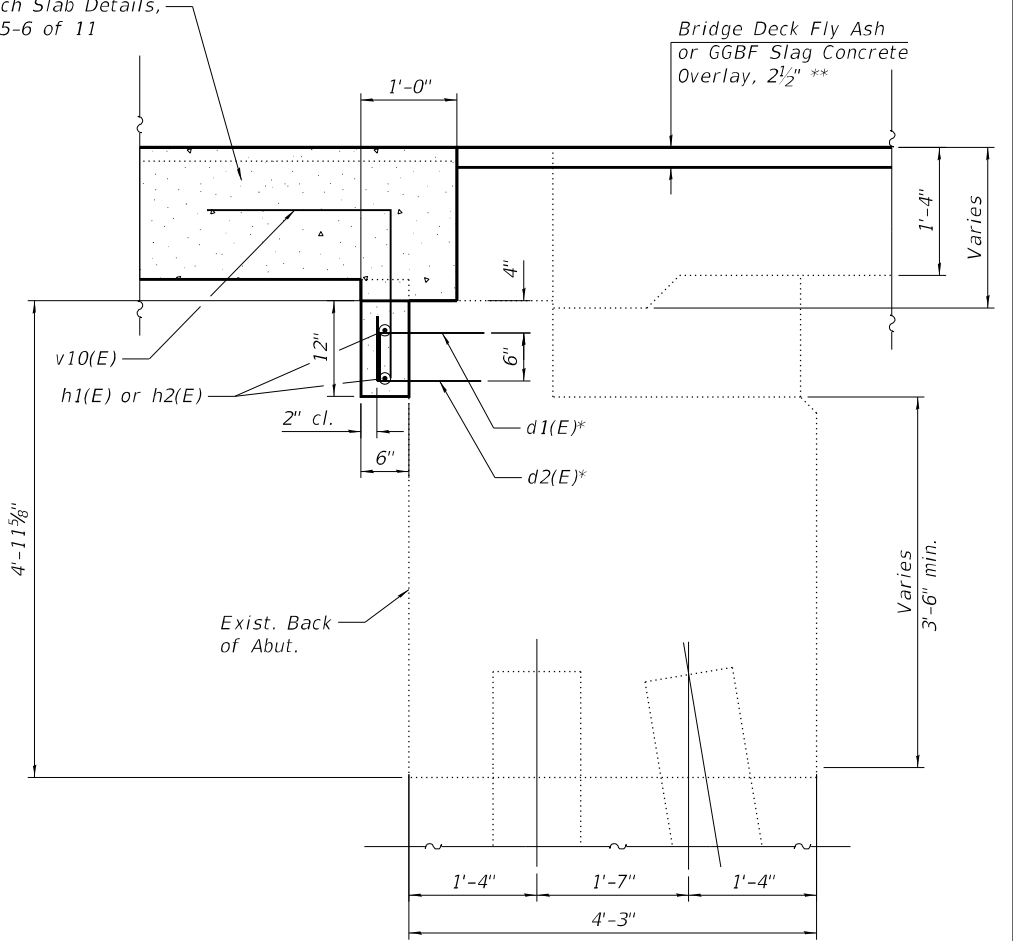
SHEET 09 OF 11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	143
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

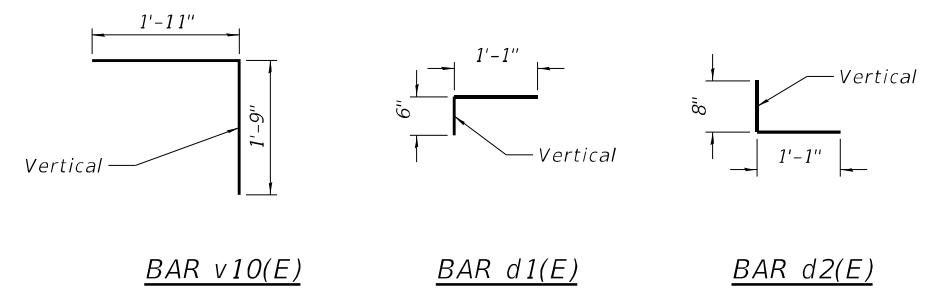


**PROPOSED PLAN
FOR ABUTMENT CORBEL**
(West Abut. Shown, East Abut. similar by rotation)

For Approach Slab Details,
See Sheet 5-6 of 11



SECTION A-A



**TWO ABUTMENT CORBEL
BILL OF MATERIAL**

Bar	No. of Bars		Total	Size	Length	Shape	
	Stage I	Stage II					
d1(E)	42	46	88	#5	1'-7"	┌	
d2(E)	42	46	88	#5	1'-9"	└	
h1(E)	4		4	#5	20'-8"	—	
h2(E)		4	4	#5	22'-4"	—	
v10(E)	40	44	84	#5	3'-8"	└	
Concrete Structure						Cu. Yd.	1.6
Reinforcement Bars, Epoxy Coated						Pound	807
Bar Splicers						Each	4

* Use Epoxy Adhesive in 9" holes for d1(E) and d2(E) bars according to section 584 of the Standard Specifications.

Notes:
Abutment Corbel Concrete shall be paid for as Concrete Structures.
Cost of excavation and backfill is included in Concrete Structures.

MODEL: 0960048-74997-010
FILE NAME: J:\20100402_W04# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0047 & 096-0048\0960048-74997.dgn

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
3501 CONSTRUCTION DRIVE
SPRINGFIELD, ILLINOIS 62711
PROFESSIONAL DESIGN FIRM NO. 04-0061179
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098
(217) 755-8844, 752-6277, 751

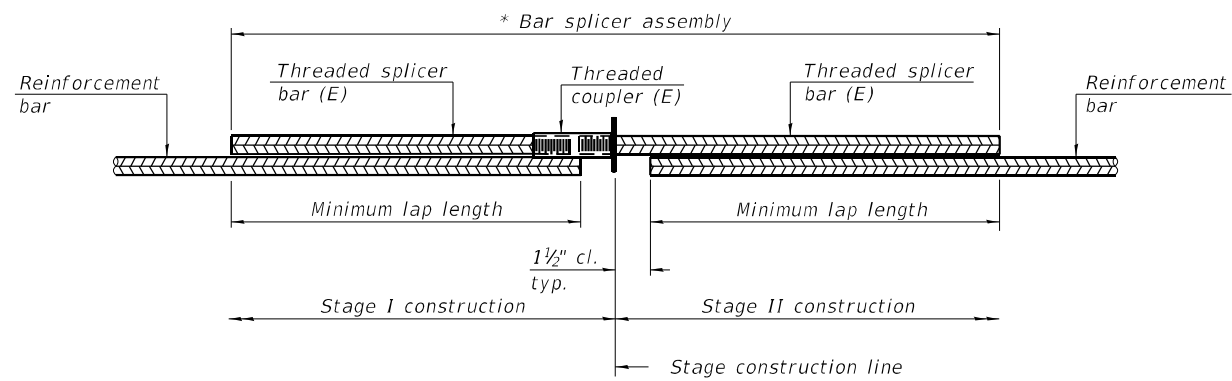
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	CHECKED - MC	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT REPAIRS
SN. 096-0048 (WB)**

SHEET 10 OF 11 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 144
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

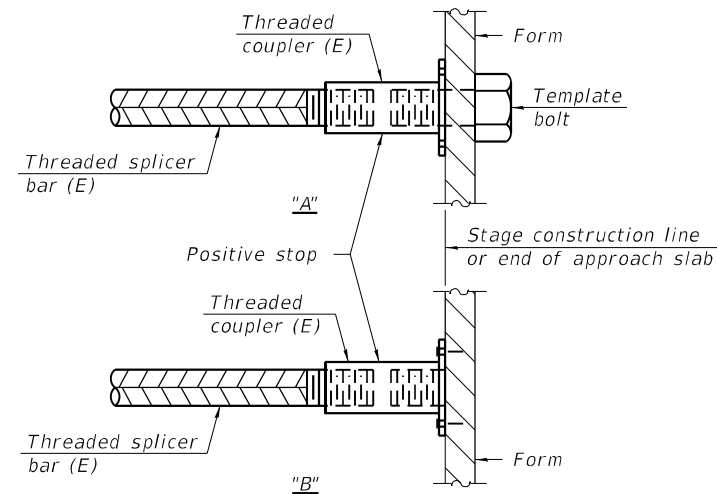


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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

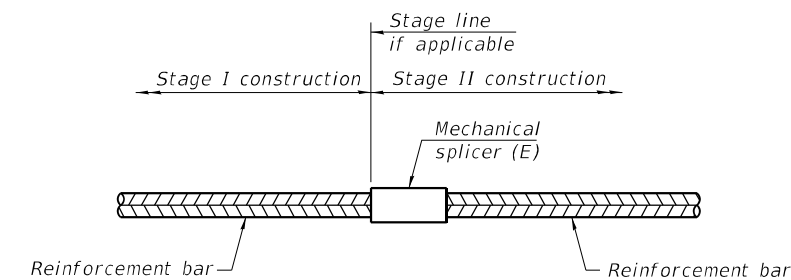
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Approach Slab Repair - Top of Slab	#5	92	3'-7"
Approach Slab Repair - Bottom of Slab	#8	120	5'-1"
Approach Footing - Top & Bottom of Slab	#5	80	3'-7"
Abutment Corbel	#5	4	3'-7"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

MODEL: 0960048-74997-011
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BSD-1

1-1-2020

GREENE & BRADFORD, INC.
 OF SPRINGFIELD
 CONSULTING ENGINEERS
 3501 CONSTITUTION DRIVE
 SPRINGFIELD, ILLINOIS 62711
 PROFESSIONAL DESIGN FIRM NO. 054-0061179
 (217) 755-8844, 752-6227 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

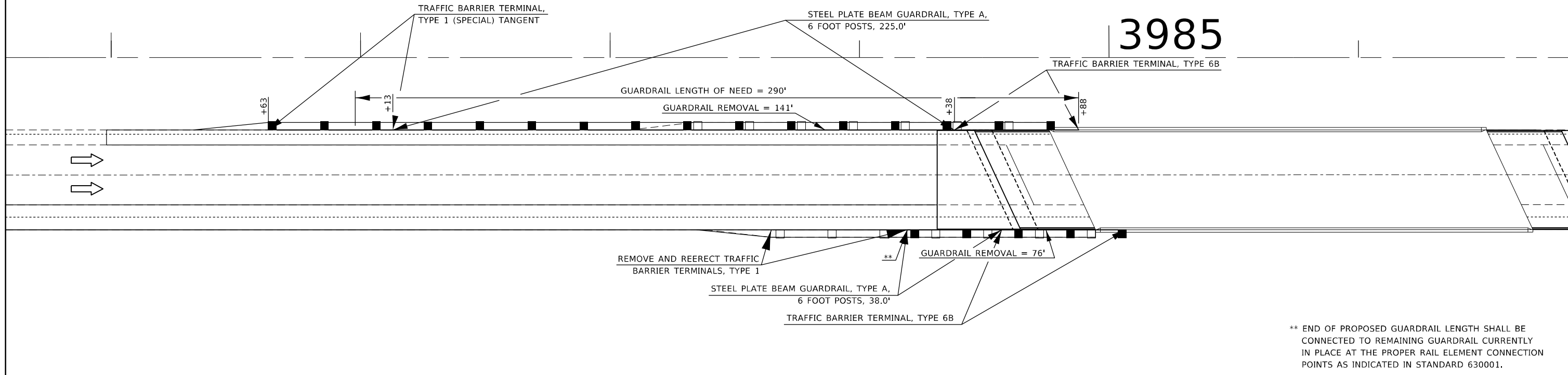
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN. 096-0048 (WB)

SHEET 11 OF 11 SHEETS

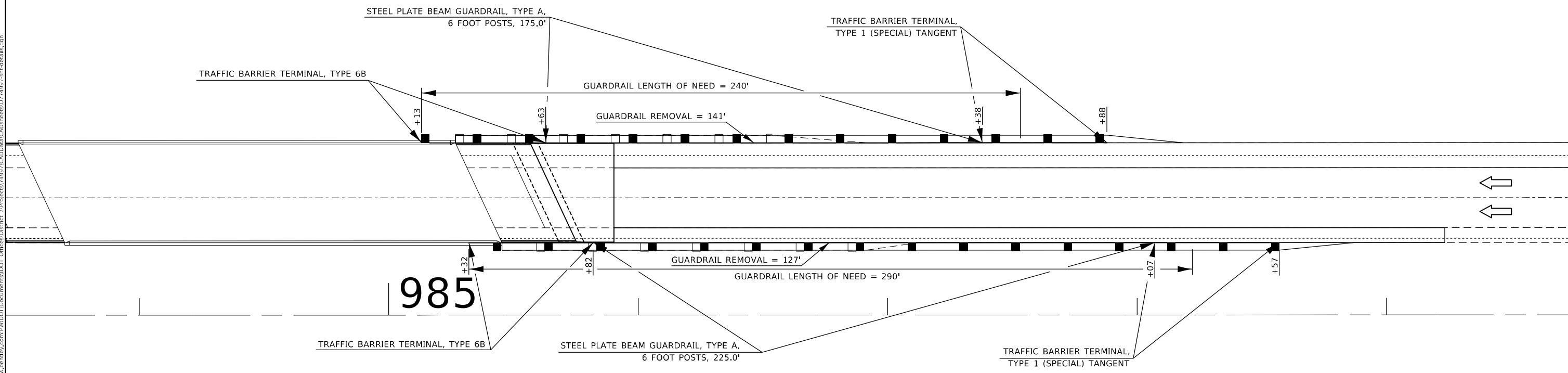
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	145
CONTRACT NO. 74997				

ILLINOIS FED. AID PROJECT

GUARDRAIL DETAILS - S.N. 096-0041



GUARDRAIL DETAILS - S.N. 096-0042



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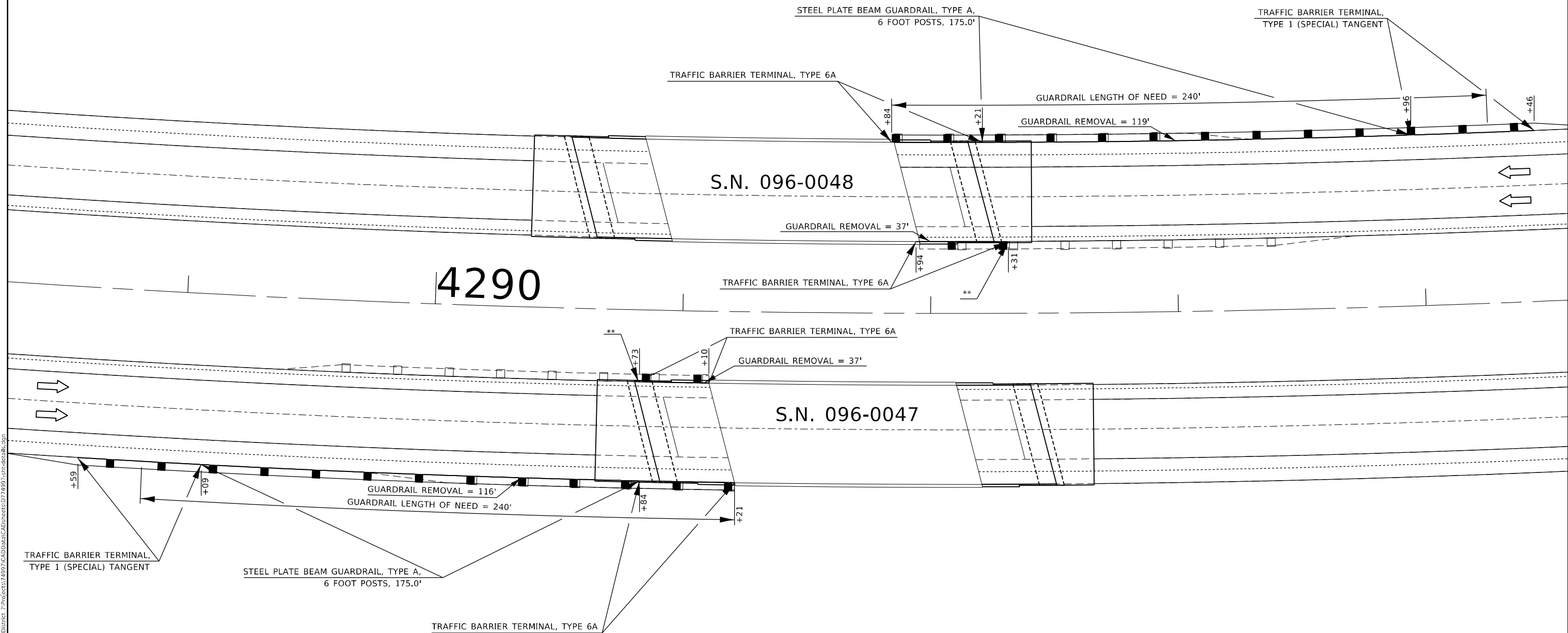
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE:		SHEET 1 OF 2 SHEETS		STA.	TO STA.
		GUARDRAIL DETAILS			

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	146
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

GUARDRAIL DETAILS - S.N. 096-0047 & 096-0048



** END OF PROPOSED GUARDRAIL LENGTH SHALL BE CONNECTED TO REMAINING GUARDRAIL CURRENTLY IN PLACE AT THE PROPER RAIL ELEMENT CONNECTION POINTS AS INDICATED IN STANDARD 630001.

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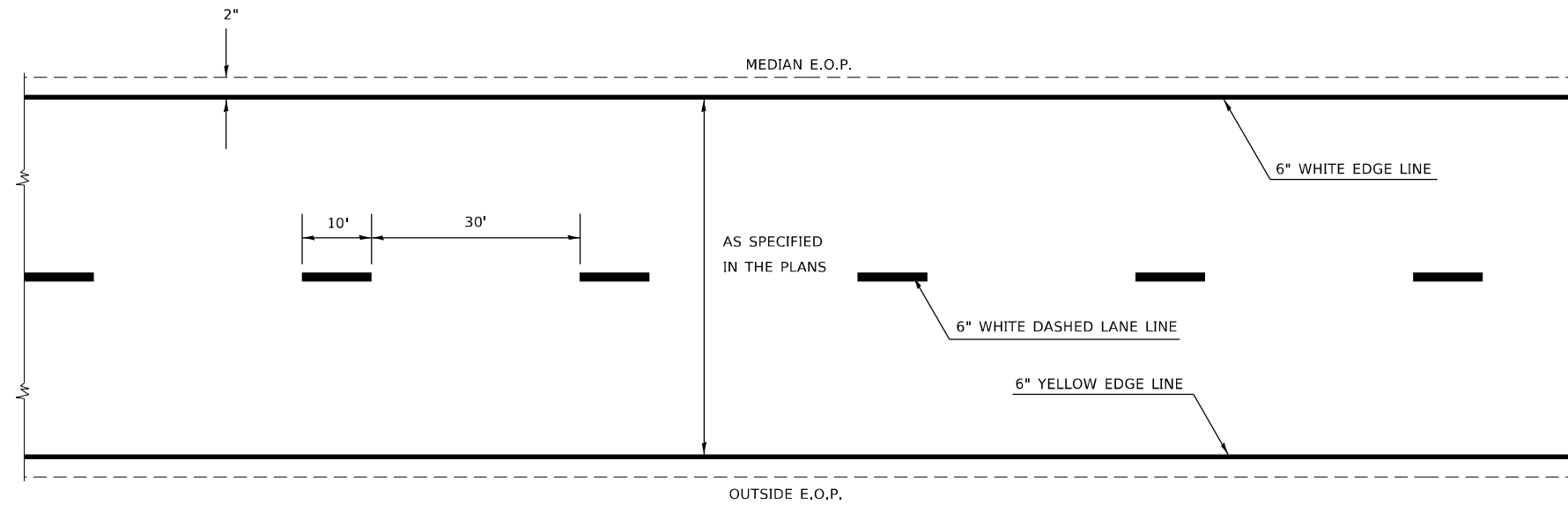
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PLOT DATE = 8/19/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

GUARDRAIL DETAILS	
SCALE:	SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022	WAYNE	152	147
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

TYPICAL CENTERLINE & EDGELINE MARKINGS



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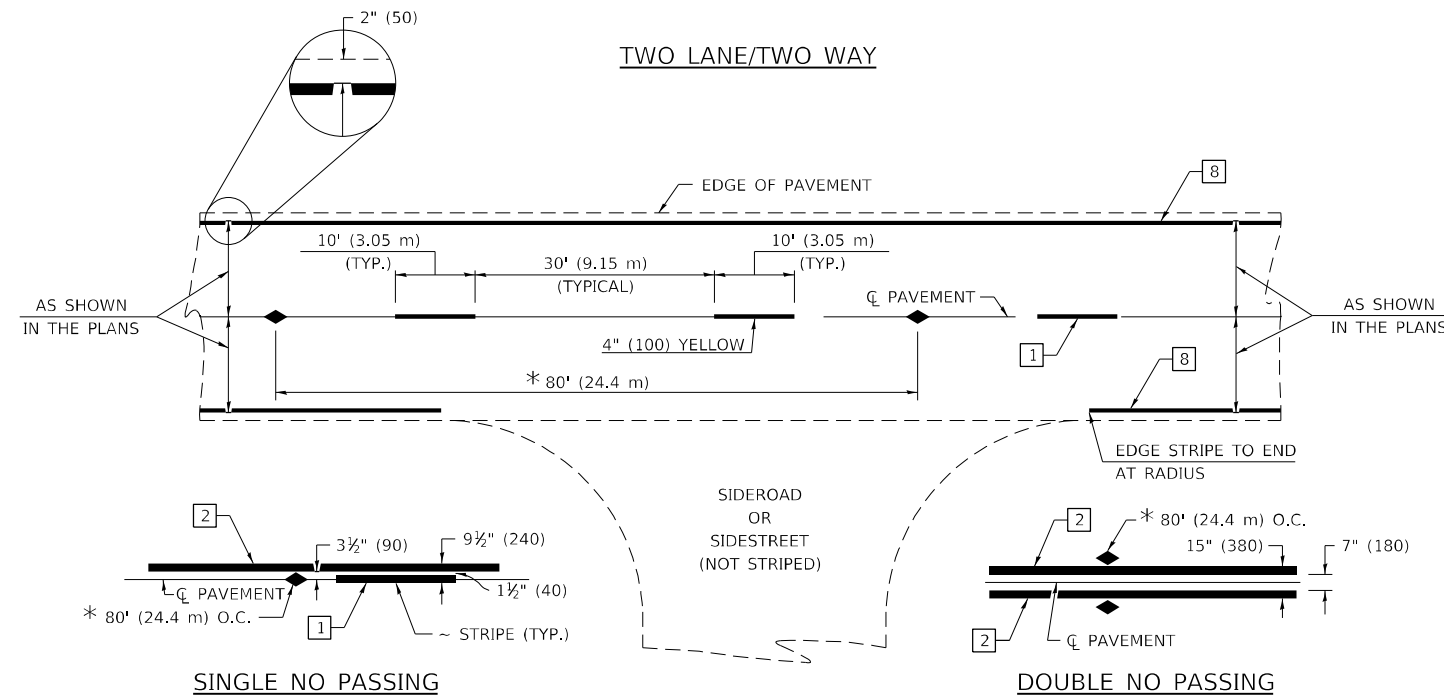
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PLOT DATE = 8/19/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

MISCELLANEOUS DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

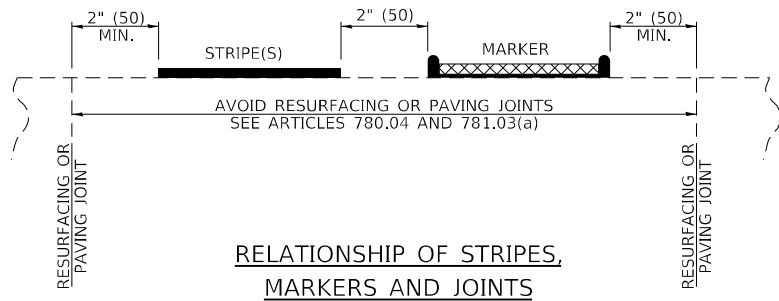
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	148
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



* REDUCE TO 40' (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

PAVEMENT MARKING LEGEND

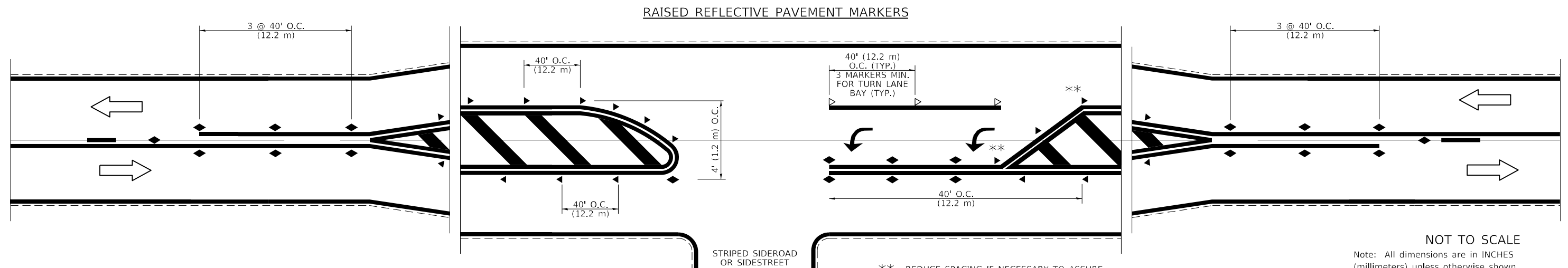
- 1 4" (100) SKIP-DASH (YELLOW)
 - 2 4" (100) SOLID (YELLOW)
 - 3 12" (300) DIAGONAL (YELLOW)
 - 4 4" (100) DOUBLE YELLOW (NARROW)
 - 5 12" (300) SOLID WHITE
 - 6 RESERVED
 - 7 6" (150) SKIP-DASH (WHITE)
 - 8 4" (100) SOLID (WHITE)
 - 9 12" (300) DIAGONAL (WHITE)
 - 10 6" (150) SOLID (WHITE)
 - 11 24" (600) STOP BAR (WHITE)
 - 12 8" (200) SOLID (WHITE)
 - 13 4" (100) PARKING WHITE
-



RELATIONSHIP OF STRIPES, MARKERS AND JOINTS

TYPICAL PAVEMENT MARKERS LEGEND

- ◆ TWO-WAY AMBER MARKER
- ▶ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER



** REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

~ D7 BRIDGE REPAIRS 2021-6

DISTRICT 7 DETAIL NO. 7800001

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS
(RURAL AND URBAN APPLICATIONS)

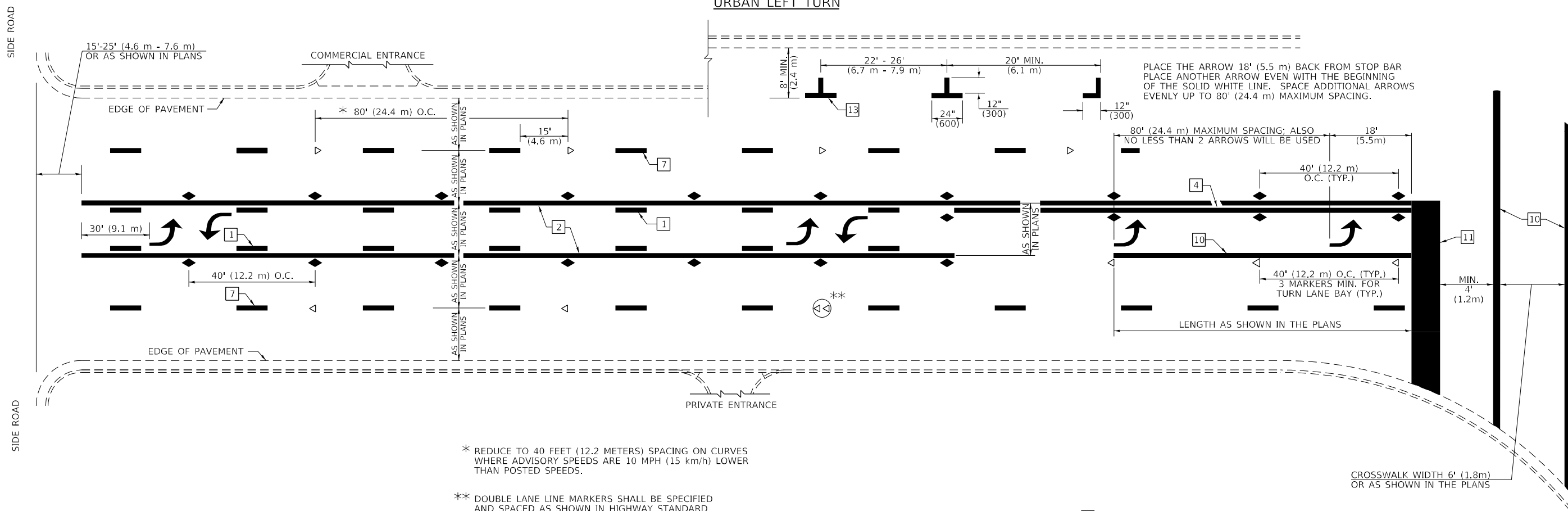
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SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	149
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

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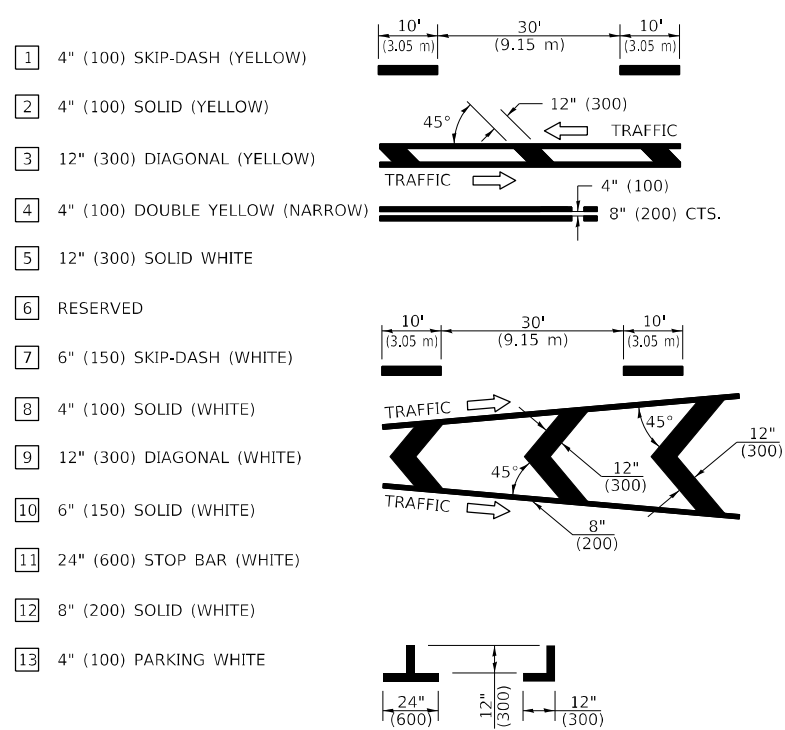
URBAN LEFT TURN



* REDUCE TO 40 FEET (12.2 METERS) SPACING ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

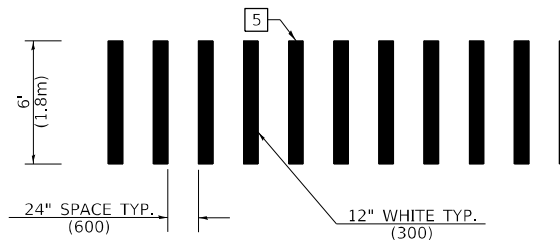
** DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

PAVEMENT MARKING LEGEND

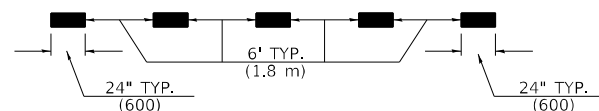


GENERAL NOTES

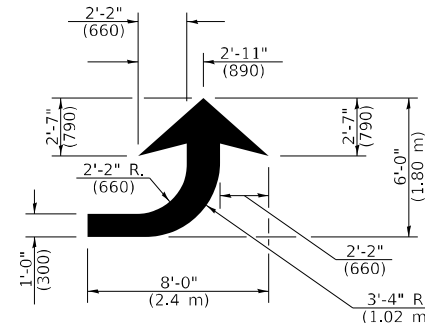
- TURN ARROW PAIRS SHALL BE PLACED AT 250'(75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE. USE A MINIMUM OF TWO PAIRS PER BLOCK.
- THE SOLID YELLOW PAVEMENT MARKINGS SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.
- THE SKIP-DASH PAVEMENT MARKINGS OR SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER.
- USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE LAST PAGE OF SECTION 780x FOR SYMBOLS TABLE)
- LANE LINE EXTENSIONS SHALL BE THE SAME COLOR AND WIDTH AS THE LANE LINE BEING EXTENDED.



CROSSWALK DETAIL
(DECATUR CITY LIMITS ONLY)

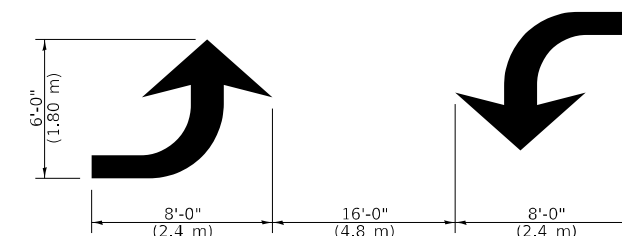


LANE LINE EXTENSIONS



LEFT ARROW

REVERSE FOR RIGHT ARROW
AREA = 15.6 SQ. FT. (1.47 m²)
(WHITE)



TYPICAL DOUBLE
TURN ARROWS (WHITE)

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

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	DRAWN -	REVISED -
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PLOT DATE = 8/19/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

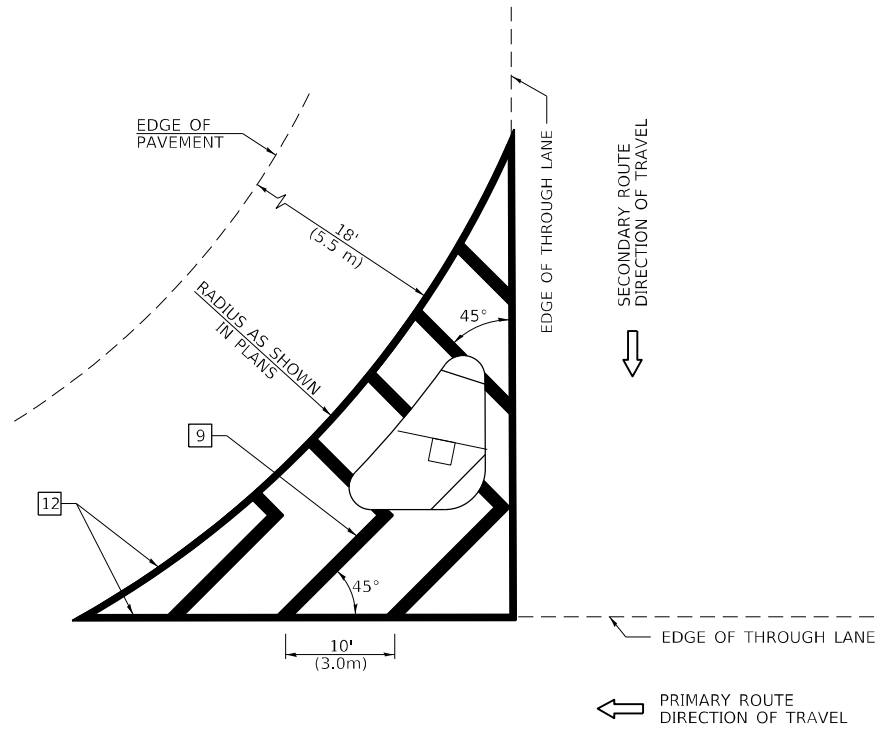
PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS
(RURAL AND URBAN APPLICATIONS)

SCALE: SHEET 2 OF 4 SHEETS STA. TO STA.

DISTRICT 7 DETAIL NO. 78000001				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	150
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

~ D7 BRIDGE REPAIRS 2021-6

ISLAND

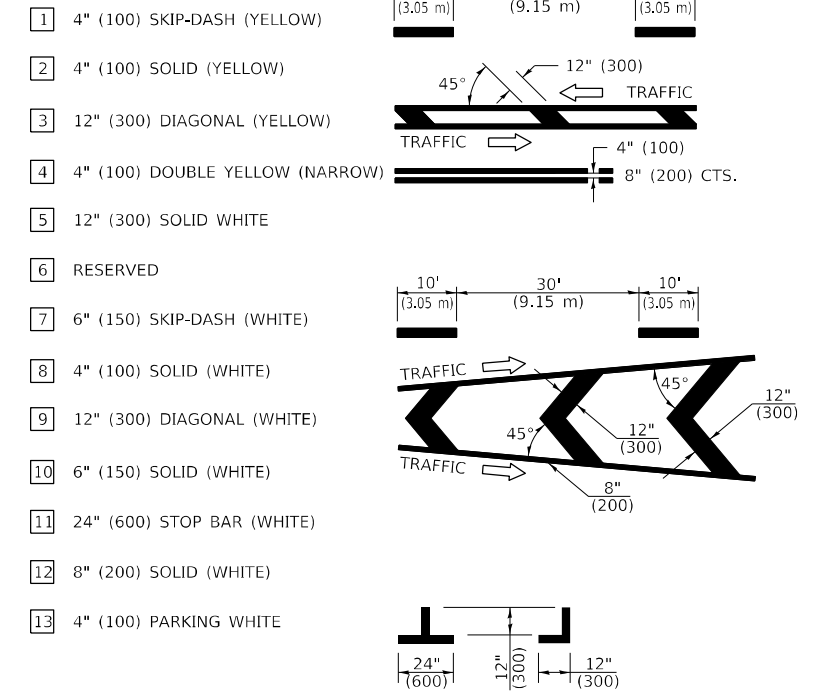


GENERAL NOTES

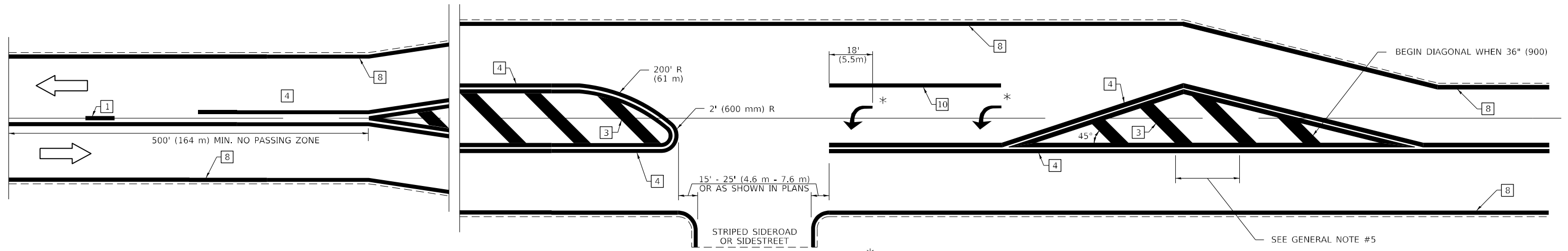
1. RAISED AND CORRUGATED MEDIANS SHALL BE OUTLINED WITH [2] IF PRESENT.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
5. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING:

<30 MPH (<50 km/h)	15' (4.5 m)
30-45 MPH (50-75 km/h)	20' (6.0 m)
>45 MPH (>75 km/h)	30' (9.0 m)

PAVEMENT MARKING LEGEND



RURAL LEFT TURN STRIPING



* PLACE AN ARROW 18' (5.5 m) BACK FROM STOP BAR. PLACE ANOTHER ARROW EVEN WITH THE BEGINNING OF THE SOLID WHITE LINE. SPACE ADDITIONAL ARROWS EVENLY UP TO 80' (24.4 m) MAXIMUM SPACING. USE MINIMUM OF 2 ARROWS.

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

~ D7 BRIDGE REPAIRS 2021-6

DISTRICT 7 DETAIL NO. 78000001

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS
(RURAL AND URBAN APPLICATIONS)

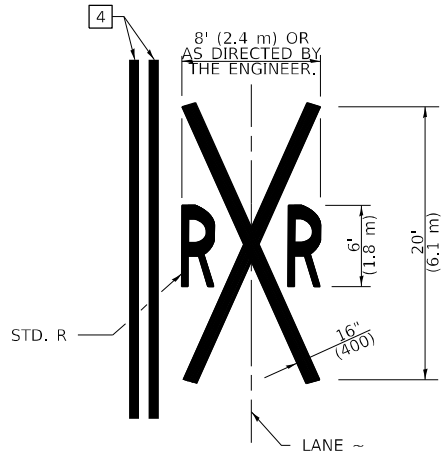
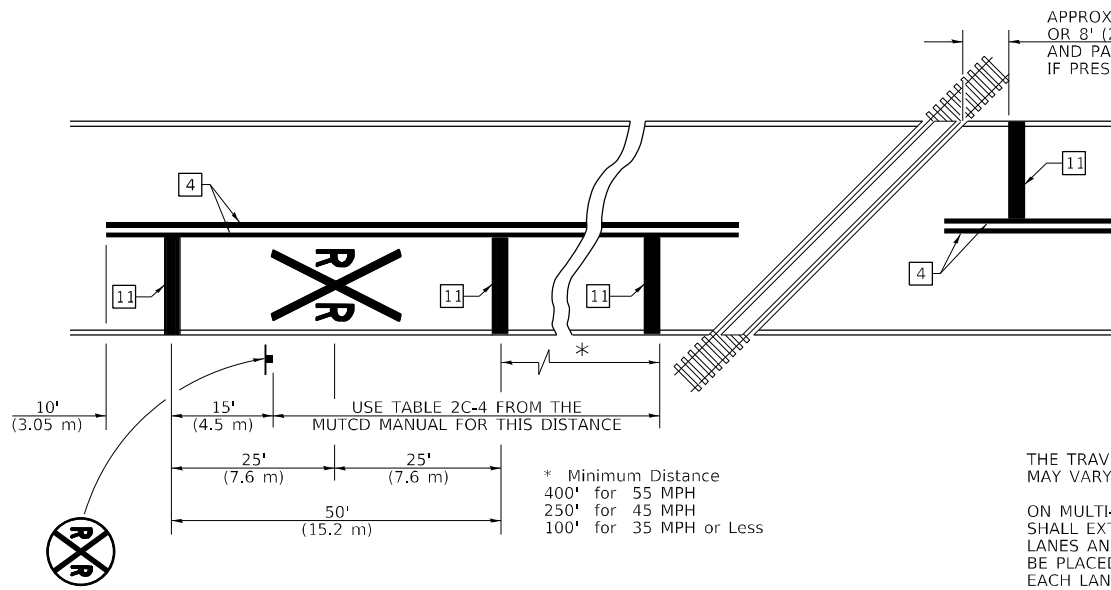
SCALE: SHEET 3 OF 4 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	151
			CONTRACT NO. 74997	
ILLINOIS FED. AID PROJECT				

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PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 8/19/2021	CHECKED -	REVISED -
	DATE -	REVISED -

PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING



NOTES

THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

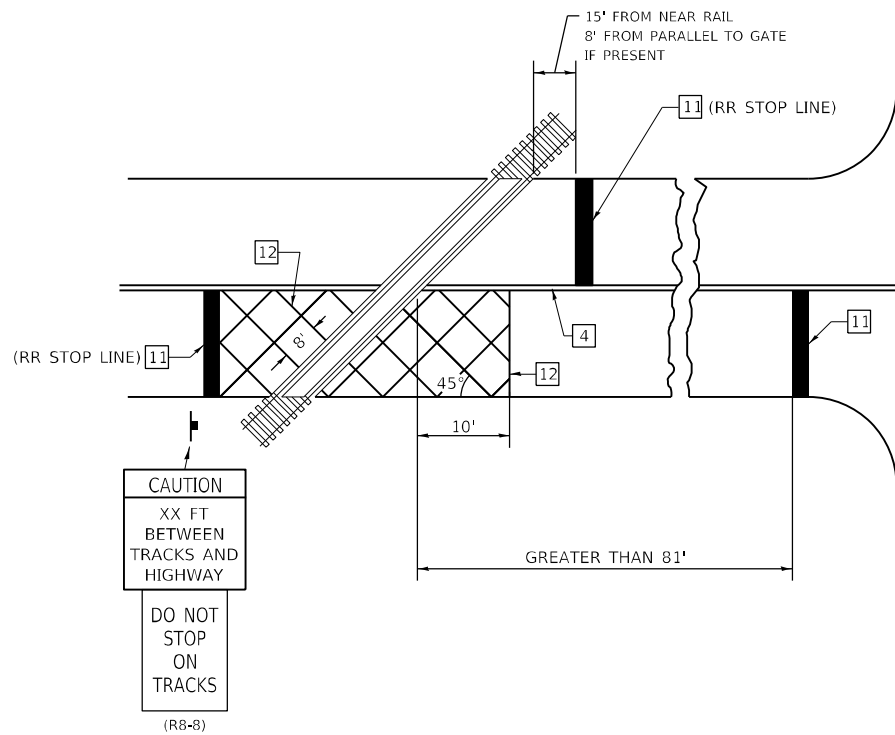
ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.

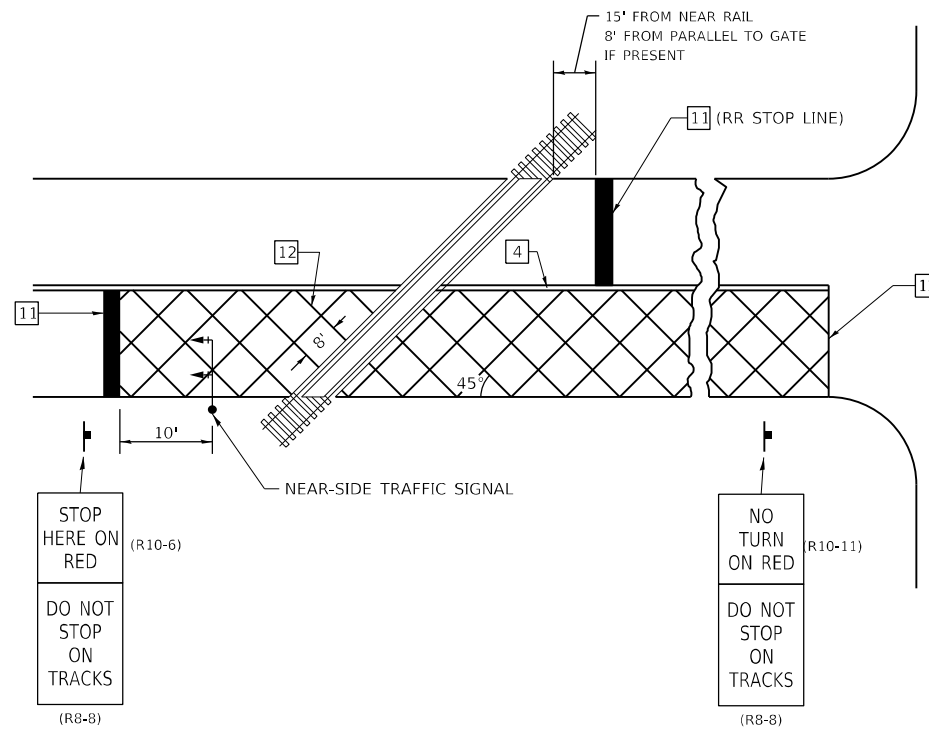
PAVEMENT MARKING LEGEND

- 1 4" (100) SKIP-DASH (YELLOW)
 - 2 4" (100) SOLID (YELLOW)
 - 3 12" (300) DIAGONAL (YELLOW)
 - 4 4" (100) DOUBLE YELLOW (NARROW)
 - 5 12" (300) SOLID WHITE
 - 6 RESERVED
 - 7 6" (150) SKIP-DASH (WHITE)
 - 8 4" (100) SOLID (WHITE)
 - 9 12" (300) DIAGONAL (WHITE)
 - 10 6" (150) SOLID (WHITE)
 - 11 24" (600) STOP BAR (WHITE)
 - 12 8" (200) SOLID (WHITE)
 - 13 4" (100) PARKING WHITE
-

RAILROAD CROSSING WITH INTERCONNECT ONLY



RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



GENERAL NOTES

- SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
- EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.

SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

~ D7 BRIDGE REPAIRS 2021-6

DISTRICT 7 DETAIL NO. 78000001

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS
(RURAL AND URBAN APPLICATIONS)

SCALE: SHEET 4 OF 4 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	152
				CONTRACT NO. 74997
ILLINOIS FED. AID PROJECT				

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	DATE -	REVISED -