### 07-30-2021 LETTING ITEM 031 STATE OF ILLINOIS INDEX OF SHEETS **DEPARTMENT OF TRANSPORTATION** 1. COVER SHEET 2. GENERAL NOTES 3-5. SUMMARY OF QUANTITIES 6. TYPICAL SECTIONS 7. LINE DIAGRAM **PROPOSED** 8. SCHEDULES OF QUANTITIES 9-24. BRIDGE REPAIR PLANS 25. EROSION CONTROL DETAIL 26-27. GUARDRAIL REPLACEMENT DETAIL **HIGHWAY PLANS** 28-29. DISTRICT STANDARD **FAP ROUTE 546 (IL 94/IL135)** SECTION [(104B)BR]BJR HIGHWAY STANDARDS PROJECT STP-GF9F(470) 000001-08 701001-02 001001-02 701006-05 BRIDGE JOINT REPLACE/REPAIR 001006 701011-04 701106-02 420001-09 WARREN COUNTY 630301-09 701301-04 631006-08 C-94-094-20 631032-09 701201-05 701321-18 701901-08 704001-08 **FUNCTIONAL CLASSIFICATION** MINOR ARTERIAL 2019 ADT: 1150 PV: 86.95% SU: 5.22% MU: 7.83% SN 094-0016 IL 94 /IL OVER **HENDERSON CREEK** STA 99 + 05.91 TO STA 102 + 03.06 FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

PROJECT ENGINEER: NICOLE FAYANT (309)671–3454
PROJECT MANAGER: TRAVIS WALLENFANG/ARLENE OTERO—FEBUS (309)671–3474
CATALOG NO. 036073–00D

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS

1-800-892-0123

CONTRACT NO. 68F71

0

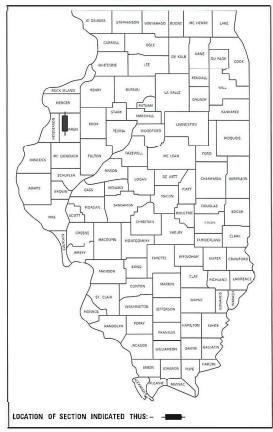
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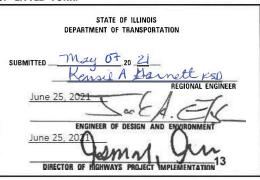
GROSS LENGTH = 760 FT. = 0.15 MILE NET LENGTH = 760 FT. = 0.15 MILE

### D-94-062-20



### **DESCRIPTION OF WORK:**

THIS PROJECT CONSISTS OF BRIDGE JOINT REPLACE/REPAIR, BEARING REPLACEMENT AND STRUCTURAL REPAIRS TO THE CONCRETE SUBSTRUCTURE AT SN 094-0016 CARRIYING IL 94/IL 135 OVER HENDERSON CREEK, 2 MILES NORTH OF LITTLE YORK.



PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

## **GENERAL NOTES**

### COMMITMENTS

Commitments are not to be altered without the written approval of all parties to which the commitment was made.

### PROPERTY OWNER ACCESS REQUIREMENT

Access must be maintained to all exisitng properties during the construction per Article 107.09 unless arrangements are made in writing by the Contractor with the property owners with a copy to the Engineer for short-term closures.

### **ENVIRONMENTAL REVIEWS**

Prior to the use of any proposed borrow areas, use areas (temporary access roads, detours, run-arounds, etc.) and/or waste areas, the Contractor shall file the required environmental resource request surveys according to Section 107.22 of the Standard Specifications. These surveys are required in order for the Department to conduct cultural and biological resource surveys for the proposed site.

The required environmental resource documentation shall include the following:

- \* BDE Form 2289 (Borrow Site Review)
- \* BDE Form 2290 (Waste/Use Area Review)
- \* A location map showing the size limits and location of the use area
- Color photographs depicting the use area
- \* Borrow Area Entry Agreement form D4 PI0101

Prior to any waste materials being removed from the construction site the required environmental resource surveys shall be obtained and filed by the Contractor. Excess waste products removed from the construction site shall be disposed of as required in Section 202.03 of the Standard Specifications.

Any protruding metal bars shall be removed prior to the disposal of broken concrete at approved disposal sites.

Please note that a minimum of four weeks shall be allowed for the District to obtain the required waste site environmental clearances and six weeks for the required borrow site environmental clearances.

USER NAME = OTEROFEBUSA	DESIGNED	-	ARLENE OTERO-FEBUS	REVISED	-
	DRAWN	-	ARLENE OTERO-FEBUS	REVISED	-
PLOT SCALE = 100.0000 / in	CHECKED	-		REVISED	-
PLOT DATE = 5/6/2021	DATE	-		REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

OFNIEDAL MOTEO	F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
GENERAL NOTES	546	[(104B)BR]BJR	WARREN	29	2
			CONTRACT	NO. 68	3F71
SHEET 1 OF 1 SHEETS STA. TO STA		ILLINOIS F	FED. AID PROJECT		

					80% FEDER
					20% STA
					BR I DGE
CODE				TOTAL	0047
NO.		ITEM	UNIT	QUANTITY	094-001
28100225	STONE RIPRAP, CLASS B3		TON	20	20
50102400	CONCRETE REMOVAL		CU YD	14.6	14.6
50300255	CONCRETE SUPERSTRUCTURE		CU YD	14.5	14.5
50500405	FURNISHING AND ERECTING STRUCTURAL STE	EEL	POUND	2750	2750
50800205	REINFORCEMENT BARS, EPOXY COATED		POUND	2760	2760
50800515	BAR SPLICERS		EACH	48	48
52000110	PREFORMED JOINT STRIP SEAL		FOOT	102	102
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I		EACH	16	16
52100520	ANCHOR BOLTS, 1"		EACH	32	32
59000200	EPOXY CRACK INJECTION		FOOT	70	70
59300100	CONTROLLED LOW-STRENGTH MATERIAL		CU YD	11	11
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6	FOOT POSTS	FOOT	475	475
63100041	TRAFFIC BARRIER TERMINAL, TYPE 1B		EACH	1	1
				F.A.P. RTE.	SECTION

\*= SPECIALTY ITEM

USER NAME = OTEROFEBUSA	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 / in	CHECKED -	REVISED -
PLOT DATE = 5/6/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTION COUNTY TOTAL SHEET NO.

04B)BR]BJR WARREN 29 3

CONTRACT NO. 68F71

ILLINOIS FED. AID PROJECT SUMMARY OF QUANTITIES [(104B)BR]BJR SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

CONSTR. CODE

					CONSTR. CO 80% FEDERA 20% STAT
CODE NO .		ITEM	UNIT	TOTAL QUANT I TY	BRIDGE 0047 094-0016
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6		EACH	2	2
63100089	TRAFFIC BARRIER TERMINAL, TYPE 6B		EACH	2	2
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPE	CIAL) TANGENT	EACH	3	3
63200310	GUARDRAIL REMOVAL		FOOT	712.5	712.5
67100100	MOBILIZATION		L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STAND,	ARD 701321	EACH	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STAND,	ARD 701201	L SUM	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS		EACH	1	1
70106700	TEMPORARY RUMBLE STRIPS		EACH	6	6
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"		FOOT	2078	2078
70107025	CHANGEABLE MESSAGE SIGN		CAL DA	14	14
70300150	SHORT TERM PAVEMENT MARKING REMOVAL		SQ FT	866	866
70400100	TEMPORARY CONCRETE BARRIER		FOOT	550	550
70400200	RELOCATE TEMPORARY CONCRETE BARRIER		FOOT	550	550

\*= SPECIALTY ITEM

USER NAME = OTEROFEBUSA	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 / in	CHECKED -	REVISED -
PLOT DATE = 5/6/2021	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

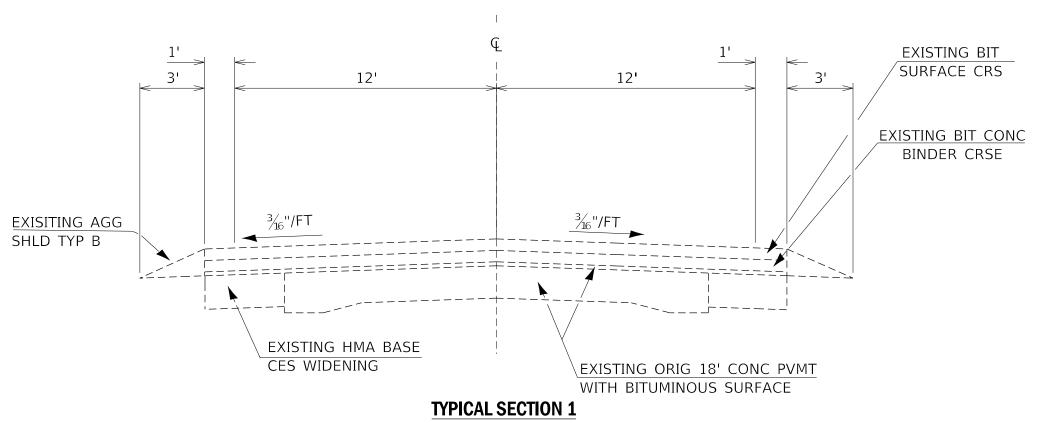
						F.A.P. RTE	SEC.	TION		COUNTY	TOTAL SHEETS	SHEET NO.
SUMMARY OF QUANTITIES					546	546 [(104B)BR]BJR			WARREN	29	4	
										CONTRACT	NO. 68	3F71
SCALE:	SHEET 2	OF 3	SHEETS	STA.	TO STA.			ILLINOIS	FED. AI	D PROJECT		

	CONSTR. CODE
	80% FEDERAL
	20% STATE
	BRIDGE
	0047
Υ	094-0016
	2

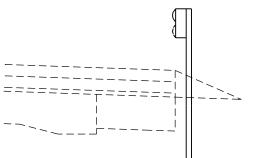
CODE			TOTAL	0047
NO.	ITEM	UNIT	QUANTITY	094-0016
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2078	2078
70200005	CHARDRAIL REFLECTORS TYRE A	FACIL	1.0	10
78200003	GUARDRAIL REFLECTORS, TYPE A	EACH	10	10
X0326394	FLOOR DRAINS TO BE CLEANED	EACH	34	34
X0327809	LINEAR DELINEATOR PANELS, 4 INCH	EACH	10	10
X5030550	PROTECTIVE COAT (SPECIAL)	SQ YD	116	116
Z0001002	GUARDRAIL AGGREGATE EROSION CONTROL	TON	163	163
70001000	LACK AND DEMOVE EVICTING DEADINGS	FAGU	1.6	16
20001899	JACK AND REMOVE EXISTING BEARINGS	EACH	16	16
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	157	157
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	2	2

## \*= SPECIALTY ITEM

USER NAME = OTEROFEBUSA	DESIGNED -	REVISED -					F.A.P. RTF	SECTION	COUNTY	TOTAL SHEET
	DRAWN - REVISED -		STATE OF ILLINOIS	SUMMARY OF QUANTITIES				[(104B)BR]BJR	WARREN	29 5
PLOT SCALE = 100.0000 / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION						CONTRACT	NO. 68F71
PLOT DATE = 5/7/2021	DATE -	REVISED -		SCALE:	SHEET 3 OF 3 SHEETS STA.	TO STA.		ILLINOIS FED. A	ID PROJECT	



FROM STA 96+50 TO STA 98+86.66 FROM STA 102+22.31 TO STA 104+50

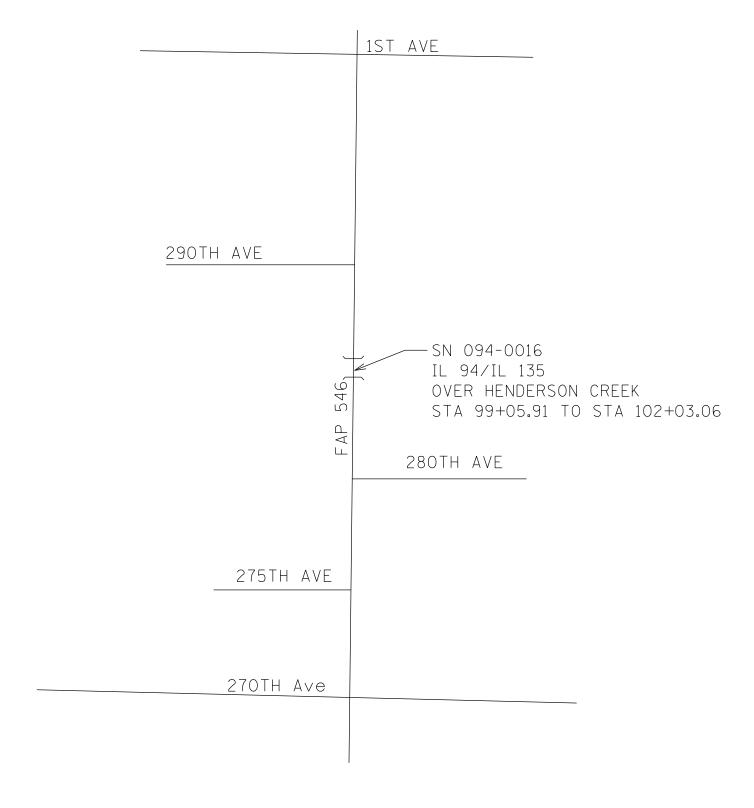


LT FROM STA 97+24 TO STA 98+87 RT FROM STA 96+74 TO STA 98+87 RT FROM STA 102+22 TO STA 103+84 LT FROM 102+22 TO STA 104+47

USER NAME = OTEROFEBUSA	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 / in	CHECKED -	REVISED -
PLOT DATE = 5/6/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

						F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TYPICAL SECTION				546	[(104B)BR]BJR	WARREN	29	6		
							CONTRACT	NO. 68	3F71	
	SHEET 1	OF 1	SHEETS	STA.	TO STA.		ILLINOIS FED. AI	D PROJECT		



MODEL: Default

 USER NAME
 = OTEROFEBUSA
 DESIGNED
 REVISED

 DRAWN
 REVISED

 PLOT SCALE
 = 100.0000 ' / in.
 CHECKED
 REVISED

 PLOT DATE
 = 5/6/2021
 DATE
 REVISED

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Chiseled "

" at SW corner of bridge, STA. 260+54, Elev. 694.09 Existing Structure No. 094-0016:
The existing Structure is a 5 Span, 36" Steel I-Beams for span 1.2.& 3 and 33" Steel I-Beams for span 4 & 5 supporting a cast in place concrete deck constructed in 1981 as Section (104B)-BR. The superstructure is supported by closed abutments and solid wall piers with timbers pile supported spread footing that are original to the bridge that was constructed in 1930. Rehabilitation to the substructure can procured in 1981 when the to the substructure caps occurred in 1981 when the superstructure was replaced. It has an out to out deck width of 35'-2" and a 297'-2 1/4" back to back abutment length.

### INDEX OF SHEETS

- General Plan and Elevation
- Cross Section & Stage Construction Joint Details North Abutment
- Joint Details South Abutment Joint Details Pier #3
- Bearing Details North Abutment Bearing Details Pier #3 & South Abutment
- Performed Joint Strip Seal Bar Splicer Assembly & Mechanical Splicer Details
- North Abutment Concrete Repair Details South Abutment Concrete Repair Details
- Pier 2 (Looking North) Concrete Repair Details Pier 3 (Looking North) Concrete Repair Details Pier 3 (Looking South) Concrete Repair Details Pier 4 Concrete Repair Details
- 15. Pier 4 Concrete Repair Deta 16. Floor Drains To Be Cleaned

## SCOPE OF WORK

- . Setup Traffic Control with Drums . Perform Joint Reconstructions . Replace Bearings at Abutments and Pier 3 . Switch Stages and repeat

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	14.6
Concrete Superstructure	Cu. Yd.	14.5
Furnishing and Erecting Structural Steel	Pound	2750
Reinforcement Bars, Epoxy Coated	Pound	2760
Bar Splicers	Each	48
Preformed Joint Strip Seal	Foot	102
Elastomeric Bearing Assembly, Type I	Each	16
Anchor Bolts, 1"	Each	32
Epoxy Crack Injection	Foot	70
Jack and Remove Existing Bearings	Each	16
Floors and Drains To Be Cleaned	Each	34
Protective Coat, Special	Sq. Yd.	116
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	157
Temporary Shoring and Cribbing	Each	2

TOTAL BILL OF MATERIAL

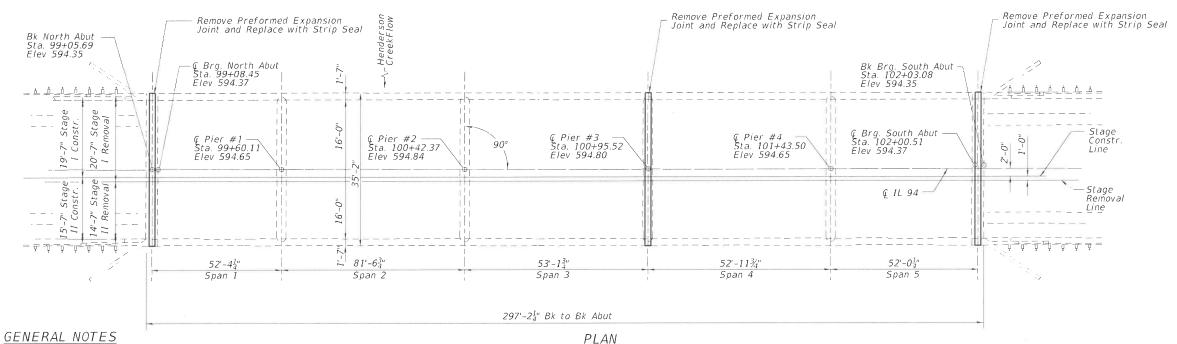
## DESIGN STRESSES

### FIELD UNITS

f'c = 3,500 psify = 60,000 psi (Reinforcement)

# S. Abut N. Abut Pier 3 Pier 1 Pier 2 Pier 4

# ELEVATION



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

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy and 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

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The contractor shall field verify existing dimensions and details aff ecting new contruction 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 the scope of work, however. The contractor will be paid for the quantity actually furnished at the unit price bid for work.

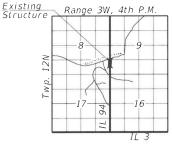
Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during Concrete Removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

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  $50^{\circ}$  Fahrenheit.

All new structural steel and bearing assembly shall be hot-dip galvanized. See Special Provision for "Hot Dip Galvanizing For Structural Steel."

HILL TRUCTURA! THE TRUCTURY Date: 6/25/21 CHASE J. CONNOR 081-7200 OF ILEMON

CHASE J. CONNOR, P.E., S.E. ILLINOIS STRUCTURAL NO. 7200 EXPIRES: NOVEMBER 30, 2022



LOCATION SKETCH

BRIDGE REPAIRS ILLINOIS ROUTE 94 OVER HENDERSON CREEK WARREN COUNTY STATION 100+54.48 STRUCTURE NO. 094-0016

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Hurst-Rosche, Inc.	USER NAME =	DESIGNED - CJC	REVISED -
1400 E. TREMONT ST.		CHECKED - CMV	REVISED -
HILLSBORO, IL PH: 217.532.3959	PLOT SCALE =	DRAWN - LO	REVISED -
JOB NO. 192-2050	PLOT DATE =	CHECKED - CMV	REVISED -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**  **GENERAL PLAN & ELEVATION STRUCTURE NO. 094-0016** 

F.A.P. RTE.	SECTION	COUNTY	TOTAL	SHEET NO.
546	(104B)-BR	WARREN	28	8
		CONTR	ACT NO.	68F71
	ILLINOIS FED	AID PROJECT		

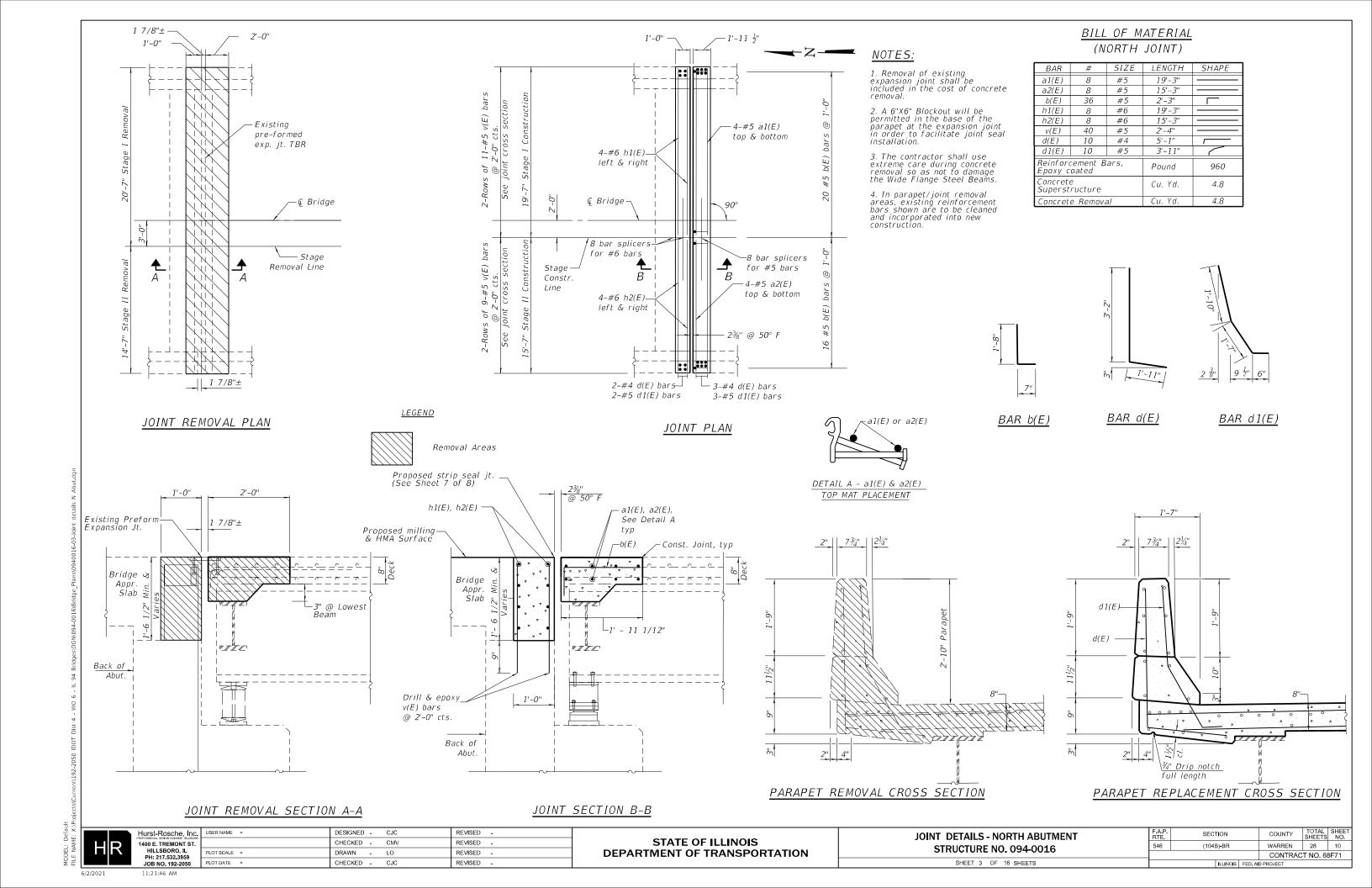
Hurst-Rosche, Inc. PROFESSIONAL DESIGNATION FOR THE ACCESS 1400 E. TREMONT ST. HILLSBORO, IL PH: 217.532,3959 JOB NO. 192-2050

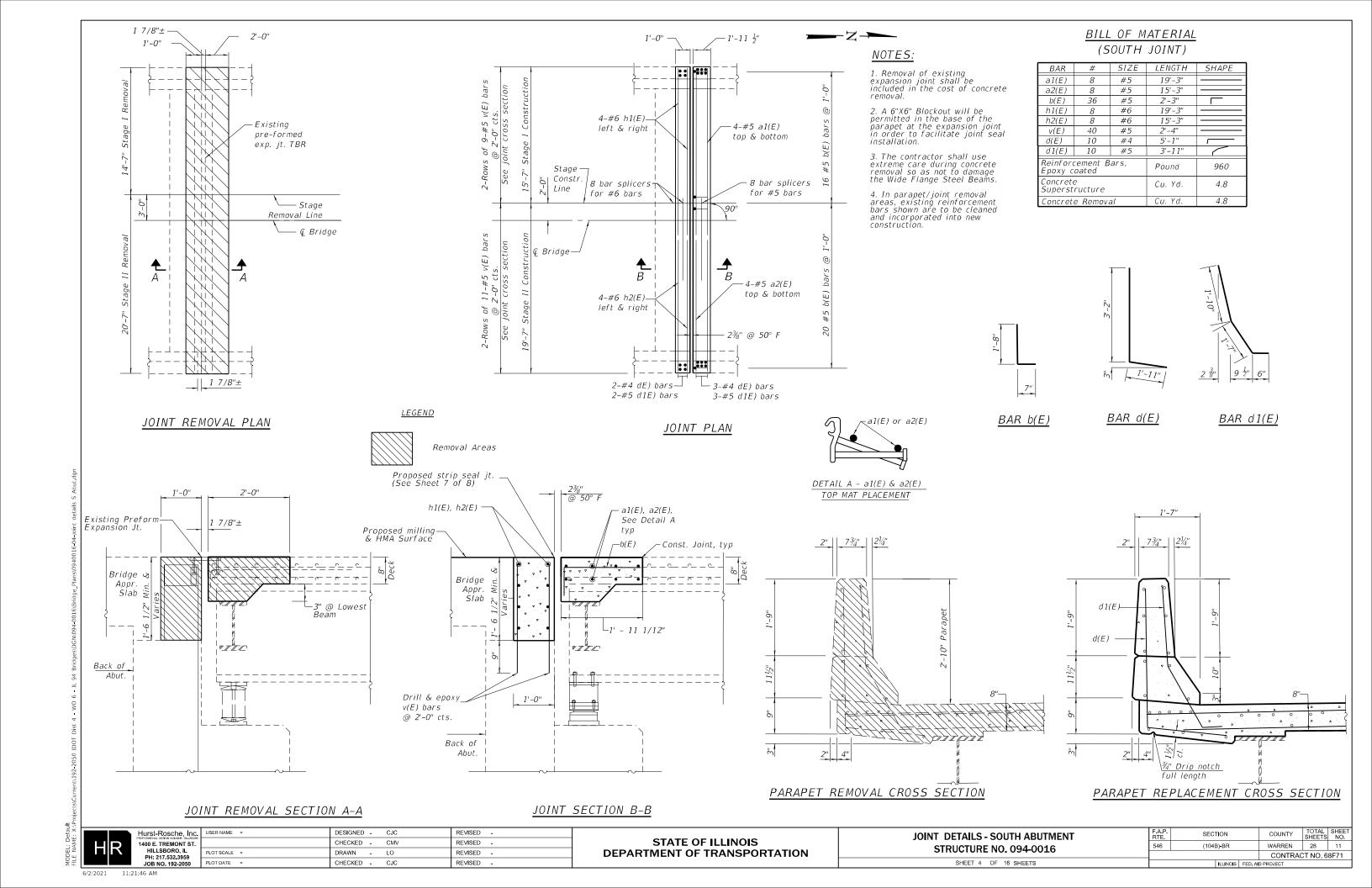
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PLOT SCALE =	DRAWN - LO	REVISED -
PLOT DATE =	CHECKED - CMV	REVISED -

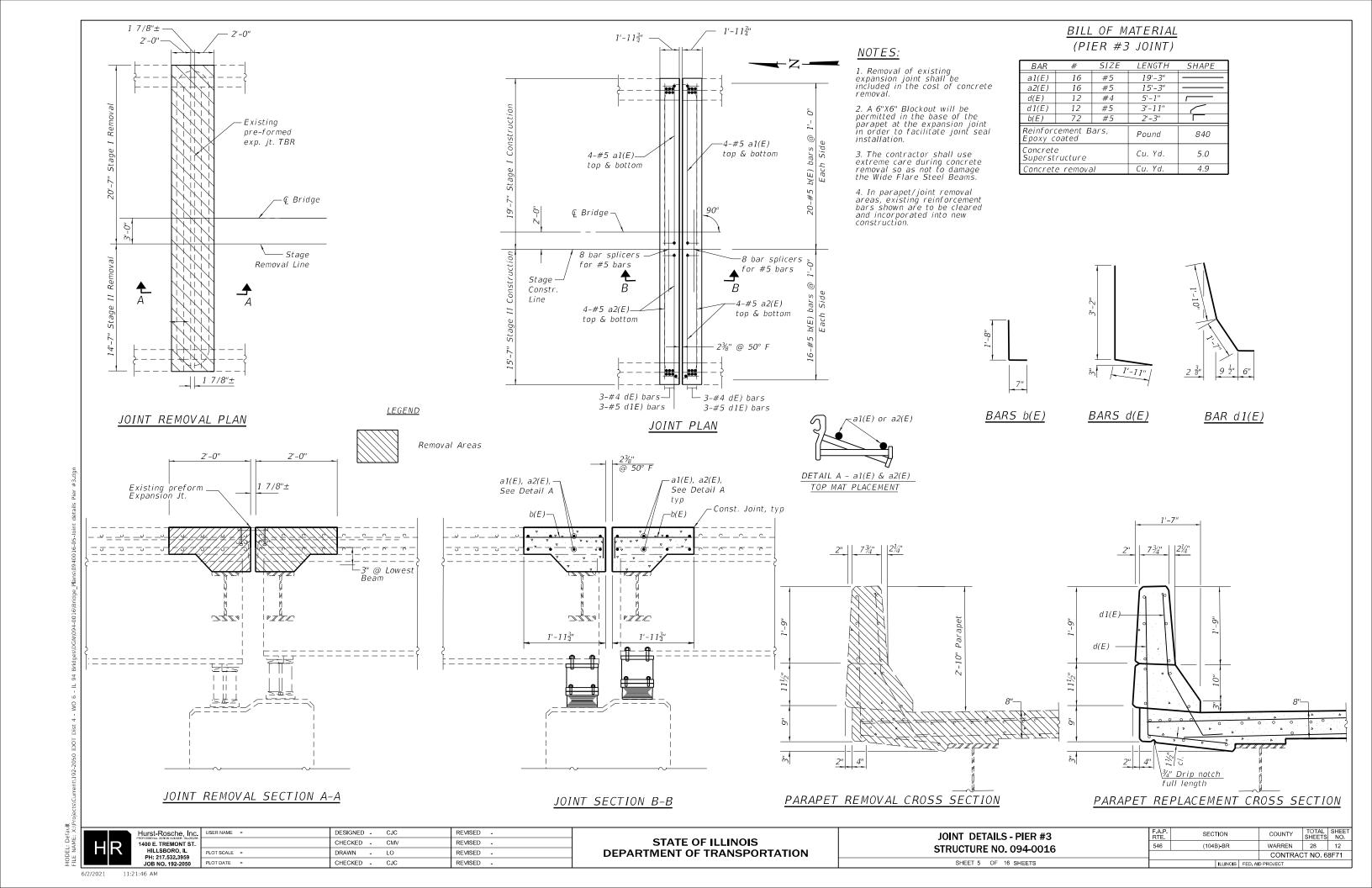
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

**CROSS SECTION & STAGE CONSTRUCTION STRUCTURE NO. 094-0016** SHEET 2 OF 16 SHEETS

COUNTY TOTAL SHEET NO.
WARREN 28 9 SECTION (104B)-BR CONTRACT NO. 68F71



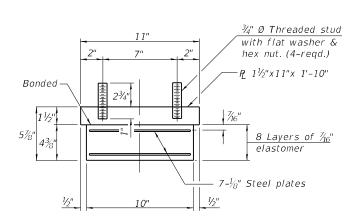




### ELEVATION AT NORTH ABUT.

### SECTION A-A

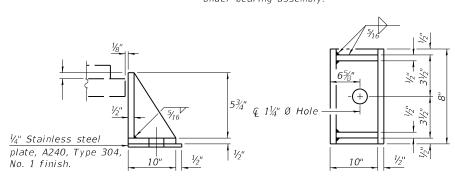
## TYPE I ELASTOMERIC EXP. BRG.



### BEARING ASSEMBLY

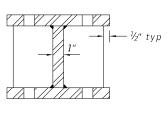
Note:

Shim plates shall not be placed under bearing assembly.

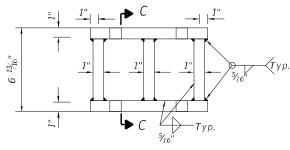


### SIDE RETAINER

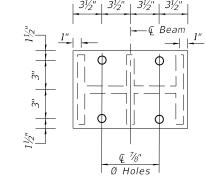
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SECTION C-C



ELEVATION STEEL EXTENSION



Anchor bolts shall be ASTM F1554 all-thread (or an Engineer approved alternate material) of grades and dimensions specified. ASTM A307 grade C anchor bolts may be used in lieu of ASTM F1554 grade 36 (Fy=36ksi). The corresponding specified grade

Drilled and set anchor bolts shall be installed according to Article 521.06 of

Prior to ordering any materials, the contractor shall verify in the field all bearings height and shim thickness dimensions. Adjustment must account for deck heave

Side retainers and  $\frac{1}{4}$ " stainless steel plates required for the bearing assembly

Existing diaphragm removal and reinstallation may be required to facilitate drilling

Two 1/8" adjusting shims shall be provided for each bearing in addition to all other

New steel extensions, connection bolts, fill plates and shim plates are included in

Anchor bolts and side retainers at all supports shall be installed as each member is

of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

holes, cost to be included with Jack and Remove Existing Bearings.

The minimum jack capacity required is 50 tons.

plates or shims and placed as shown on bearing details.

shall be included in the cost of Elastomeric Bearing Assembly, Type I.

erected unless an equivalent temporary means of lateral restraint is used.

Standard Specifications.

due to pack rust (if present).

Furnishing and Erecting Structural Steel.

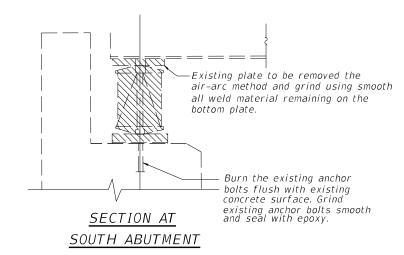
PLAN STEEL EXTENSION

### GIRDER REACTIONS

	W 36 X 194
	N Abut
$RQ_{(k)}$	28.3
R4(k)	50.7
Imp. (k)	14.2
RTotal(k)	93.2

## BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	580
Elastomeric Bearing Assembly Type I	Each	4
Anchor Bolts, 1"	Each	8
Jack and Remove Existing Bearings	Each	4



## EXISTING BEARING REMOVAL DETAIL

Cost is included with jack & remove existing bearings.



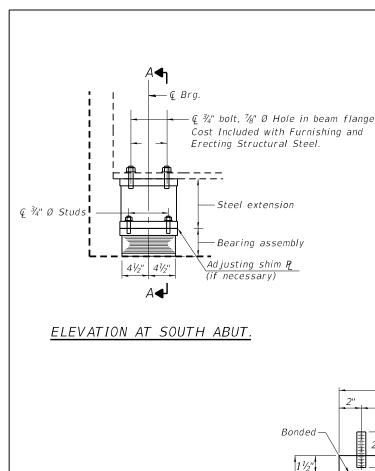
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	PLOT SCALE =	DRAWN -	LO	REVISED -
	PLOT DATE =	CHECKED -	CJC	REVISED -

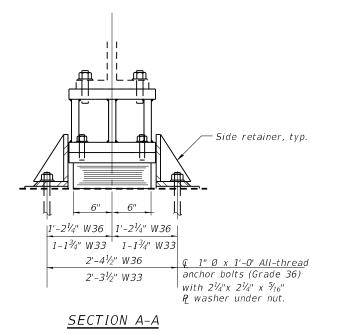
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

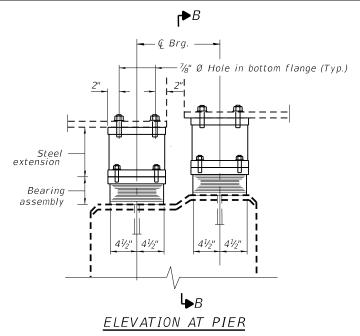
BEARING DETAILS - NORTH ABUTMENT STRUCTURE NO. 094-0016

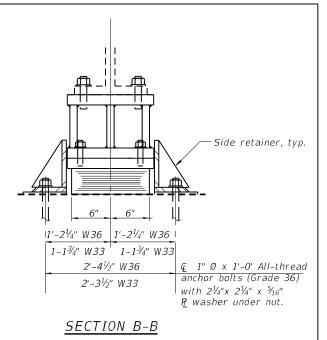
	F.A.P. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
	546	(104B)-BR	WARREN	28	13	
				CONTRA	CT NO.	68F71
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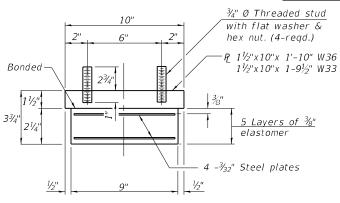


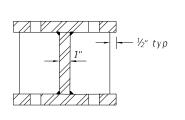




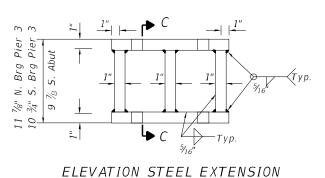


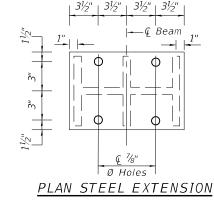
## TYPE I ELASTOMERIC EXP. BRG.





SECTION C-C





Shim plates shall not be placed under bearing assembly.

## BEARING ASSEMBLY

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer approved alternate material) of grades and dimensions specified. ASTM A307 grade C anchor bolts may be used in lieu of ASTM F1554 grade 36 (Fy=36ksi).

The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of Standard Specifications.

Side retainers and  $\frac{1}{4}$ " stainless steel plates required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

The minimum jack capacity required is 50 tons.

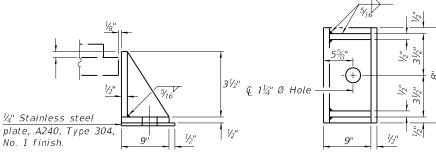
Existing diaphragm removal and reinstallation may be required to facilitate drilling holes, cost to be included with jack and remove existing Bearings.

Prior to ordering any materials, the contractor shall verify in the field all bearings height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

New steel extensions, connection bolts, fill plates and shim plates are included in Furnishing and Erecting Structural Steel.

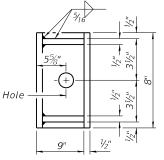
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.



SIDE RETAINER

will be allowed in lieu of welded plates.

Equivalent rolled angle with stiffeners



# Existing plate to be removed the air-arc method and grind using smooth all weld material remaining on the bottom plate. Burn the existing anchor bolts flush with existing concrete surface. Grind existing anchor bolts smooth and seal with epoxy.

SECTION AT SOUTH ABUTMENT

SECTION AT PIER 3

## EXISTING BEARING REMOVAL DETAIL

Cost is included with jack & remove existing bearings.

### GIRDER REACTIONS

	W 36 X 194	W 33 X 130
	N Brg Pier 3	S Abut or S Brg Pier 3
		J big iter J
$RQ_{(k)}$	28.3	31.4
R4 (k)	50.7	50.9
Imp. (k)	14.2	14.3
RT ot al(k)	93.2	96.6

### BILL OF MATERIAL

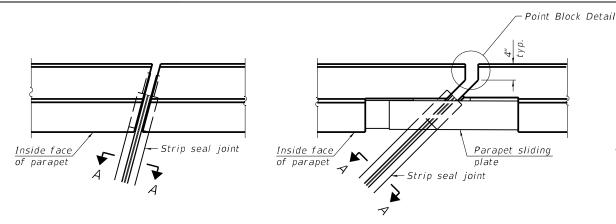
Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	2170
Elastomeric Bearing Assembly Type I	Each	12
Anchor Bolts, 1"	Each	24
Jack and Remove Existing Bearings	Each	12

Hurst-Rosche, Inc

c.	USER NAME =	DESIGNED -	CIC	REVISED -
1298		CHECKED -	CMV	REVISED -
	PLOT SCALE =	DRAWN -	LO	REVISED -
	PLOT DATE =	CHECKED -	CJC	REVISED -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**  **BEARING DETAILS - PIER 3 & SOUTH ABUTMENT STRUCTURE NO. 094-0016** SHEET 7 OF 16 SHEETS

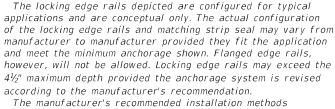
F.A.P. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEE NO.
546	(104B)-BR		WARREN	28	14
			CONTRA	CT NO.	68F71
	ILLINOIS	FED AL	D PROJECT		



FOR SKEWS > 30°

## \* ¾" Ø x 6" Studs (8 per side 39" parapet) (10 per side 44" parapet) ∏ ¾" Embedded plate full depth 3/8" Embedded plate full depth $\frac{1}{2}$ " Parapet sliding plate ¾" Ø Countersunk bolts 1'-0" (10 per side 39" parapet) (12 per side 44" parapet) Direction of traffic

## SECTION B-B



shall be followed.

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

The strip seal shall be made continuous and shall have a minimum thickness of  $\frac{1}{4}$ ". The configuration of the strip

are not permitted. The gland shall be sized for a maximum

seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations

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.

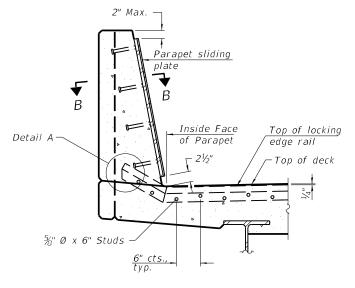
39" constant slope barrier shown, 44" constant slope barrier

rated movement of 4 inches.

Notes:

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.

### PLAN AT PARAPET



FOR SKEWS ≤ 30°

### SECTION AT PARAPET

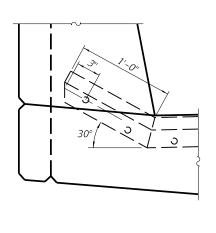
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)

at 50° F

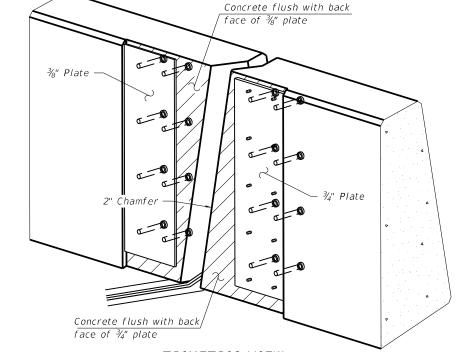
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Locking edge rail-

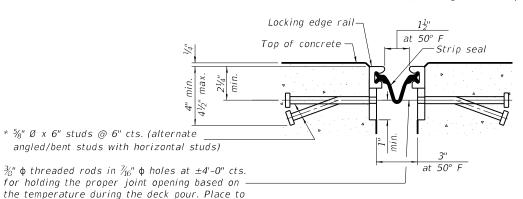
Top of concrete



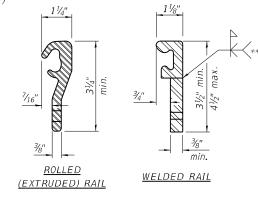
DETAIL A



### TRIMETRIC VIEW (Showing embedded plates only)

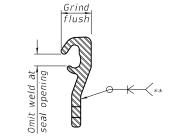


SHOWING WELDED RAIL JOINT



### LOCKING EDGE RAILS

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



### LOCKING EDGE RAIL SPLICE

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

### BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	102

## SHOWING ROLLED RAIL JOINT

at 50° F

-Strip seal

### SECTION A-A

miss studs. All rods shall be burned, or sawed

off flush with the plates after concrete is set.

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

EJ-SS

Hurst-Rosche, Inc. 1400 E. TREMONT ST. HILLSBORO, IL PH: 217.532.3959

Ī	USER NAME =	DESIGNED -	CJC	REVISED -
		CHECKED -	CMV	REVISED -
	PLOT SCALE =	DRAWN -	LO	REVISED -
	PLOT DATE =	CHECKED -	CMV	REVISED -

**STATE OF ILLINOIS** 

PREFORMED JOINT STRIP SEAL **STRUCTURE NO. 094-0016** 

SHEET 8 OF 16 SHEETS

F.A.P. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEE NO.
546	(104B)-BR		WARREN	28	15
			CONTRAC	CT NO. 6	8F71
	ILLINOIS	FED. AL	D PROJECT		

**DEPARTMENT OF TRANSPORTATION** 

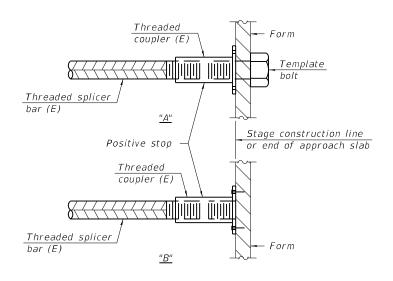
### STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length +  $1\frac{1}{2}$ " + thread length

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

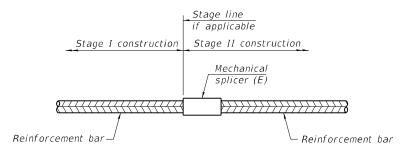
Location	Bar	No. assemblies	Minimum
Location	size	required	lap length
North Abutment	#5	8	3'-6"
North Abutment	#6	8	4'-0"
South Abutment	#5	8	3'-6"
South Abutment	#6	8	4'-0"
Pier	#5	16	3'-6"



## INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E): Indicates epoxy coating.



## STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

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

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

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications. See approved list of bar splicer assemblies and mechanical splicers for

See approved list of bar splicer assemblies and mechanical splicer: alternatives.

BSD-1

Hurst-Rosche, Inc.
PROFESSION. CESSIANMEE 16-00-001
1400 E. TREMONT ST.
HILLSBORO, II.
PH: 217,532,3959
JOB NO. 192-2050

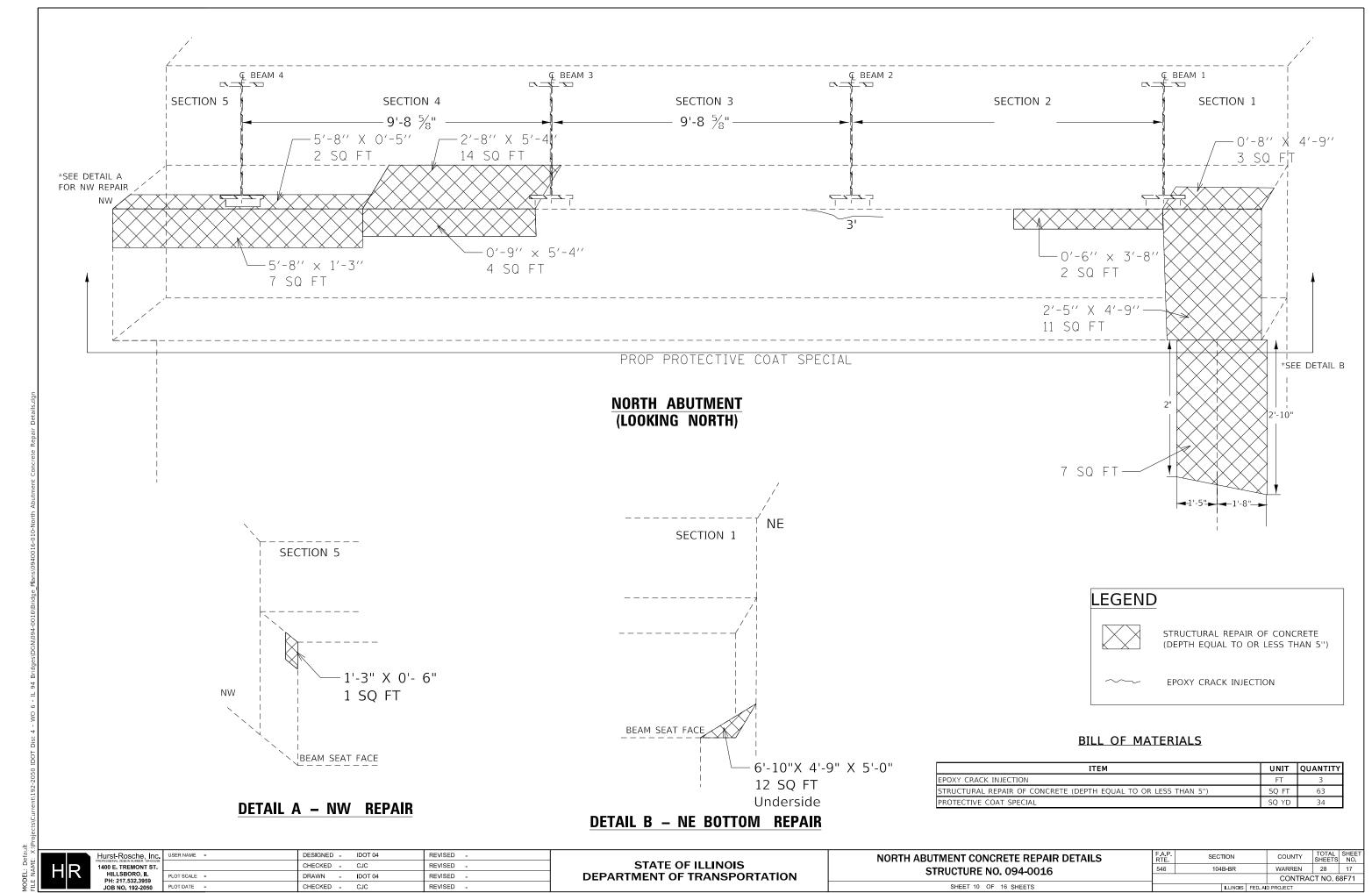
1-1-2020

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

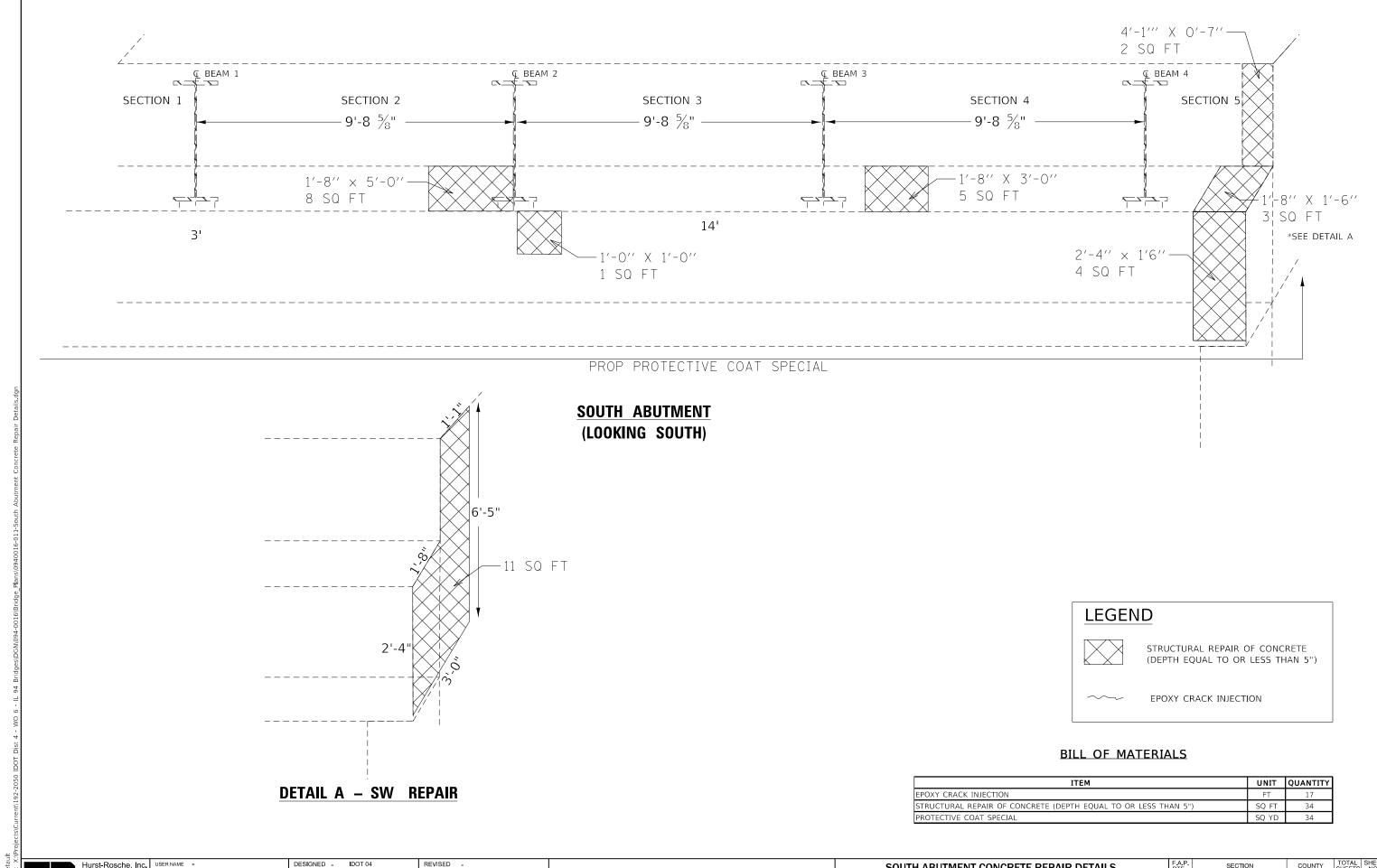
BAR SPLICER ASSEMBLY & MECHANICAL SPLICER DETAILS
STRUCTURE NO. 094-0016

SHEET 9 OF 16 SHEETS

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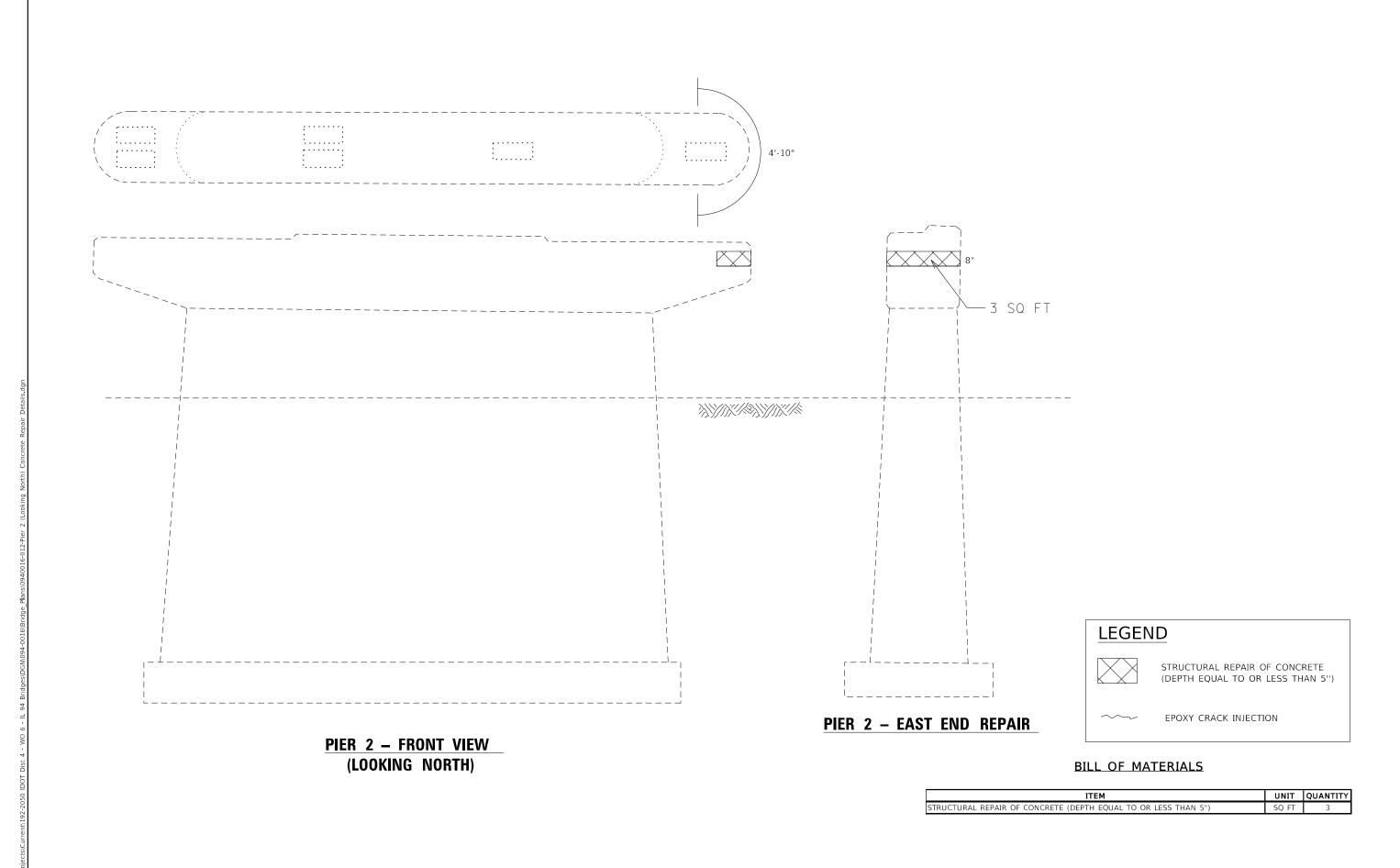
1400 E. TREMONT ST HILLSBORO, IL PH: 217.532.3959 JOB NO. 192-2050

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT CONCRETE REPAIR DETAILS **STRUCTURE NO. 094-0016** SHEET 11 OF 16 SHEETS

SECTION WARREN 28 18 CONTRACT NO. 68F71



1400 E. TREMONT ST. HILLSBORO, IL PH: 217.532.3959 JOB NO. 192-2050 CHECKED - CJC CHECKED - CJC

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

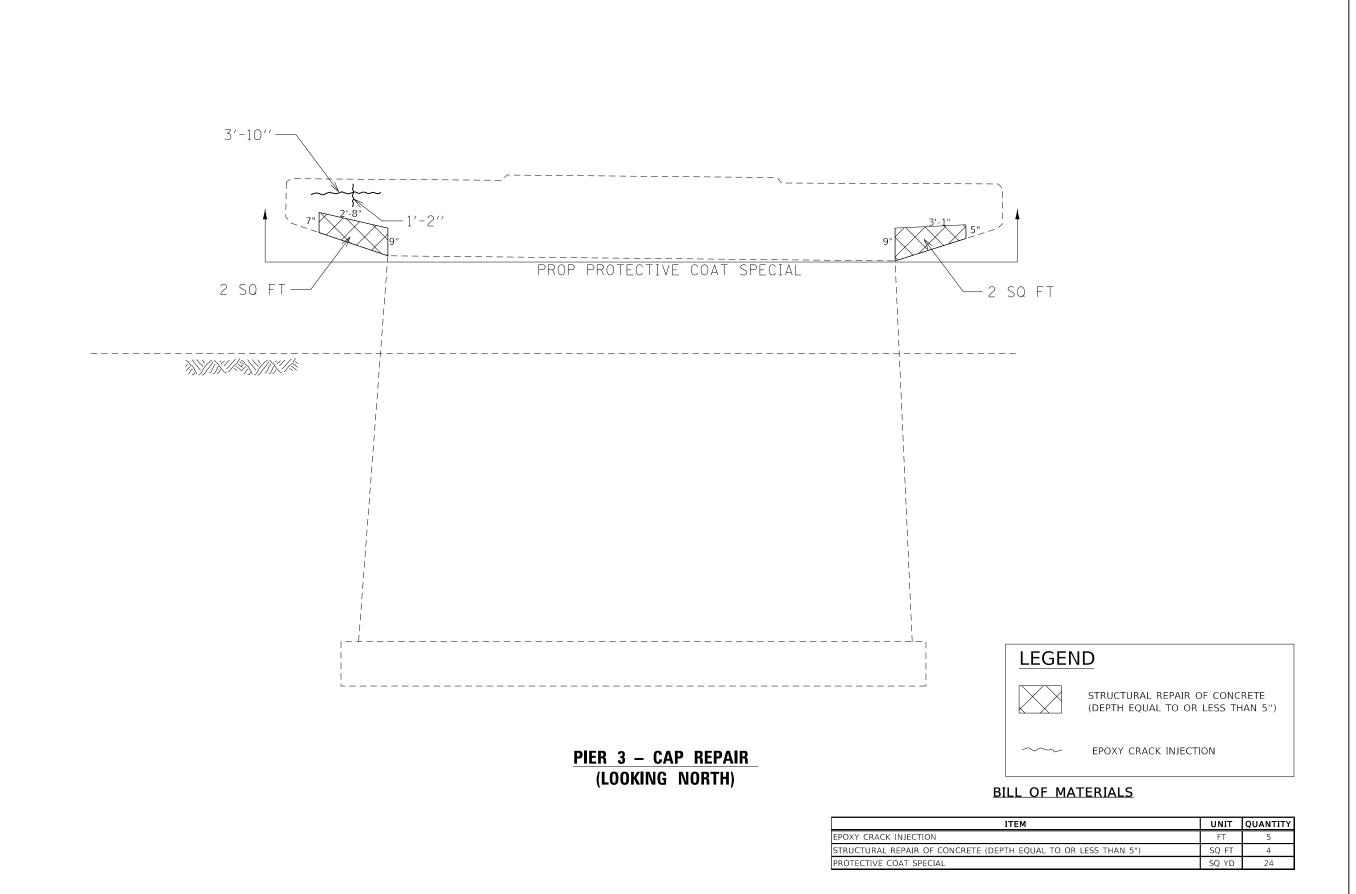
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PIER 2 (LOOKING NORTH) CONCRETE REPAIR DETAILS **STRUCTURE NO. 094-0016** SHEET 12 OF 16 SHEETS

COUNTY TOTAL SHEETS NO.
WARREN 28 19 CONTRACT NO. 68F71



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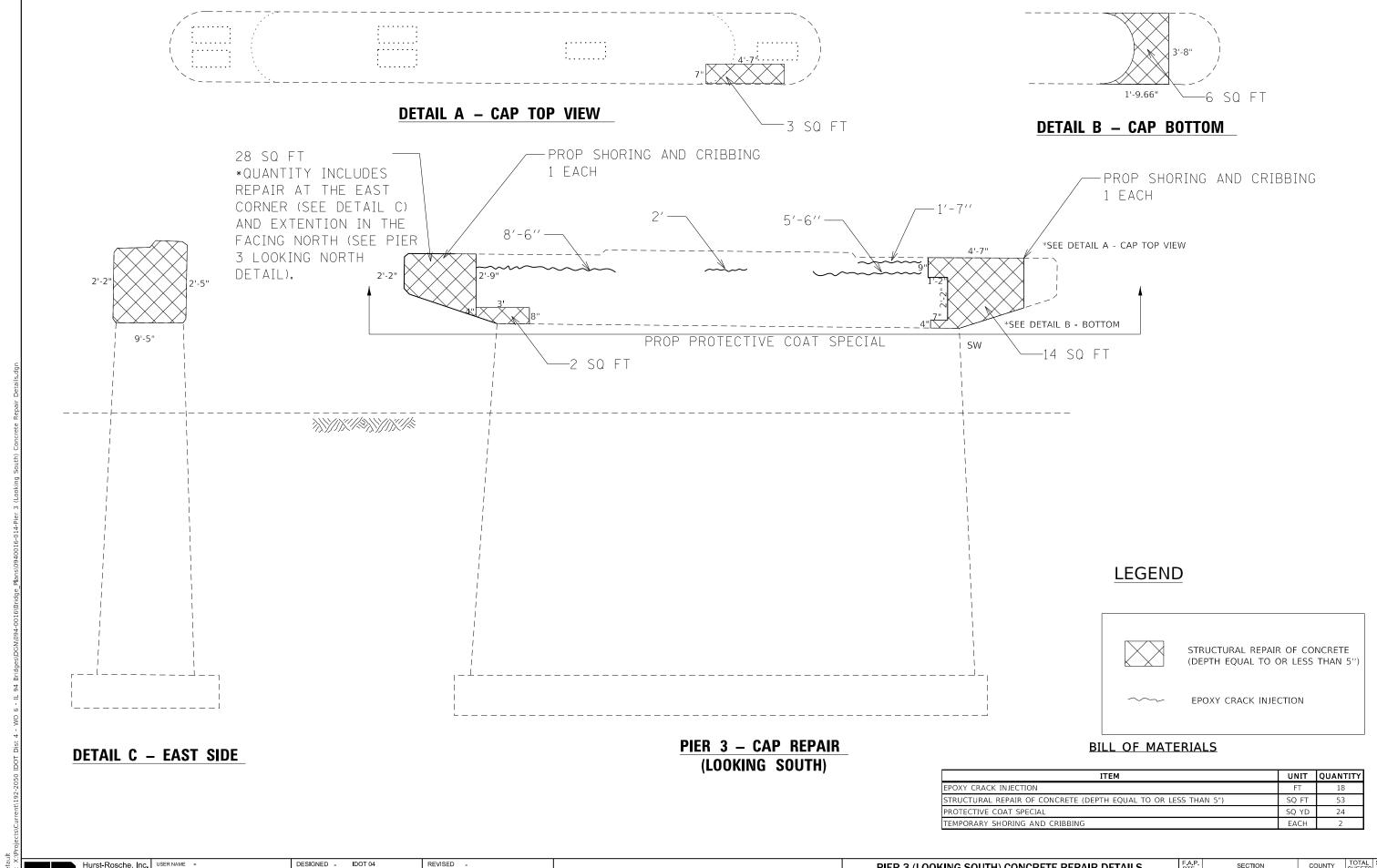
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PIER 3 (LOOKING NORTH) CONCRETE REPAIR DETAILS STRUCTURE NO. 094-0016

SHEET 13 OF 16 SHEETS



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HUIST-ROSCHE, Inc.
PROFESSIONAL DESIGN NUMBER: 194-02025

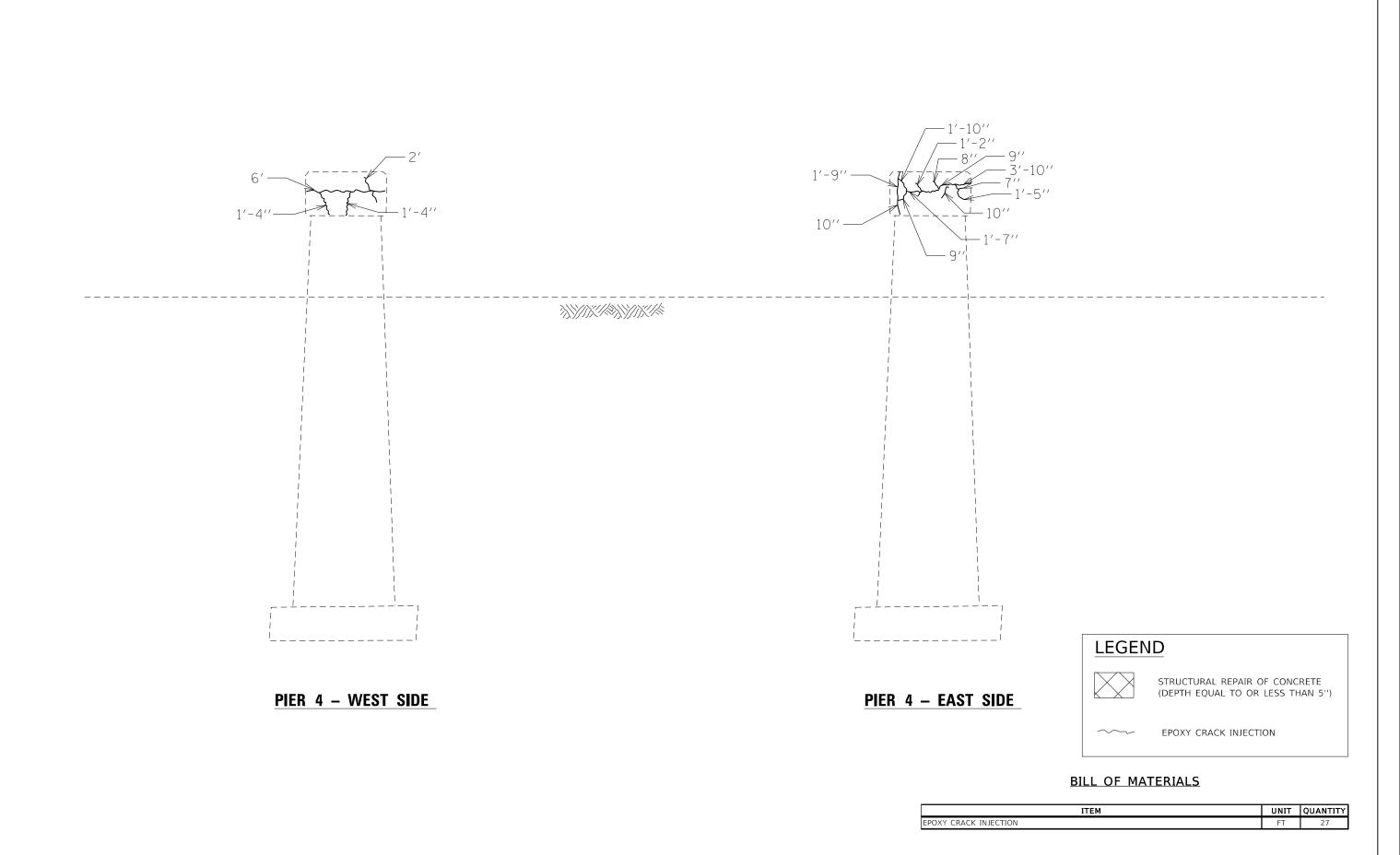
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HILLSBORO, IL
PH: 217.532.3959
JOB NO. 192-2050

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 (LOOKING SOUTH) CONCRETE REPAIR DETAILS
STRUCTURE NO. 094-0016

SHEET 14 OF 16 SHEETS

F.A.P. SECTION COUNTY TOTAL SHEET NO. 546 104B-BR WARREN 28 21 CONTRACT NO. 68F71



1400 E. TREMONT ST. HILLSBORO, IL PH: 217.532.3959 JOB NO. 192-2050

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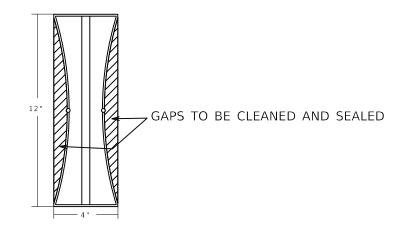
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER 4 CONCRETE REPAIR DETAILS **STRUCTURE NO. 094-0016** SHEET 15 OF 16 SHEETS

 
 COUNTY
 TOTAL SHEETS NO.

 WARREN
 28
 22

 CONTRACT NO. 68F71
 SECTION



# TYPICAL "HOUR-GLASSED" FLOOR DRAIN

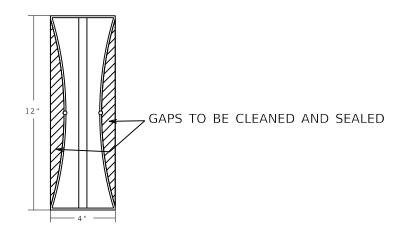
NOTE: SEE SPECIAL PROVISION "FLOOR DRAINS TO BE CLEANED".

## **BILL OF MATERIALS**

ITEM	UNIT	QUANTITY
FLOOR DRAINS TO BE CLEANED	EACH	34

FLOOR DRAINS TO BE CLEANED				
STRUCTURE NO. 094-0016				
SHEET 16 OF 16 SHEETS				

F.A.P. RTE	SEC.	TION		COUNTY	TOTAL SHEETS	SH
546	104B-BR			WARREN	28	2
				CONTRA	CT NO. 6	8F7
		ILLINOIS	FED. Al	D PROJECT		



# TYPICAL "HOUR-GLASSED" FLOOR DRAIN

NOTE:

SEE SPECIAL PROVISION "FLOOR DRAINS TO BE CLEANED".

## **BILL OF MATERIALS**

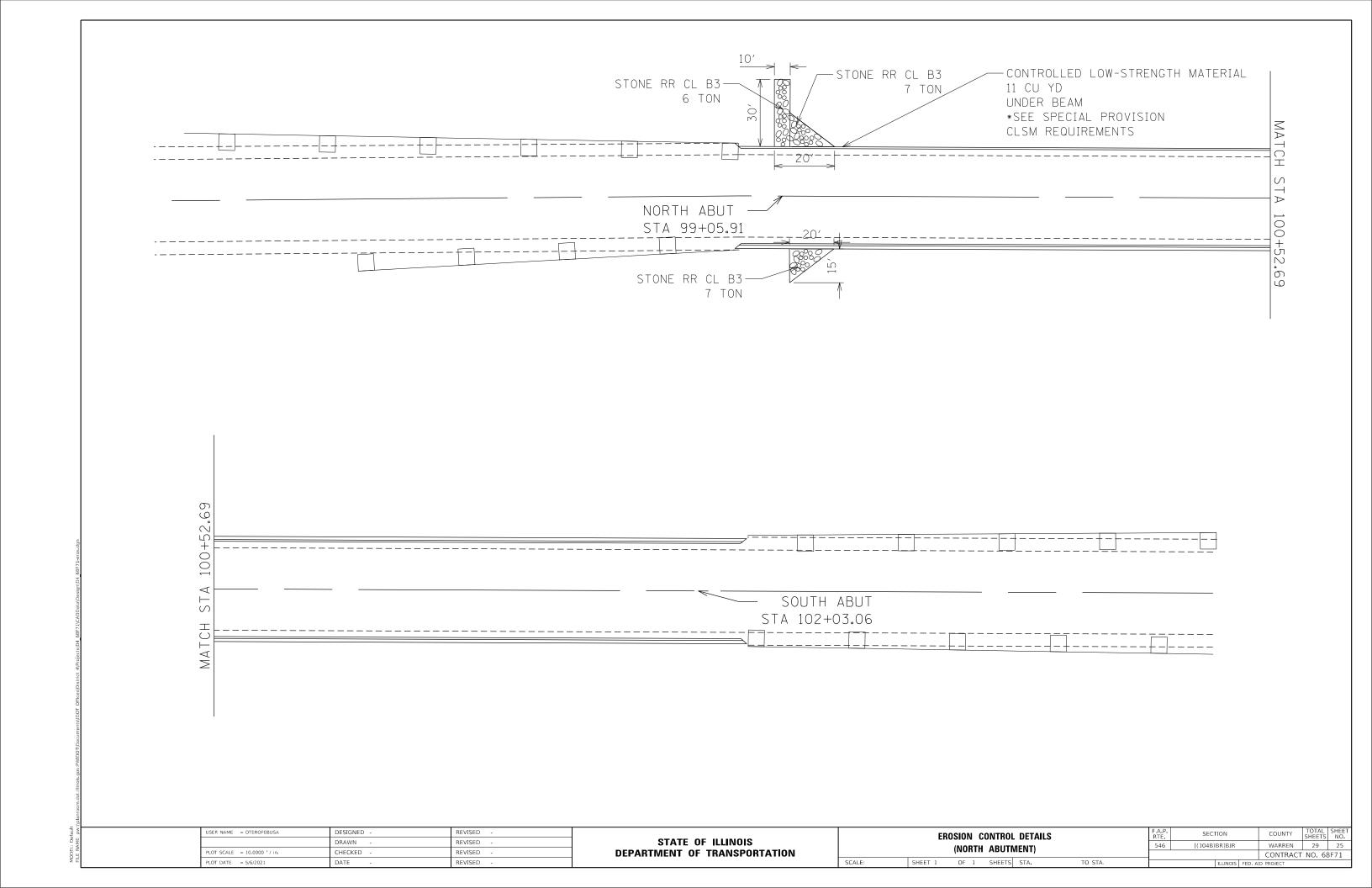
ITEM	UNIT	QUANTITY
FLOOR DRAINS TO BE CLEANED	EACH	34

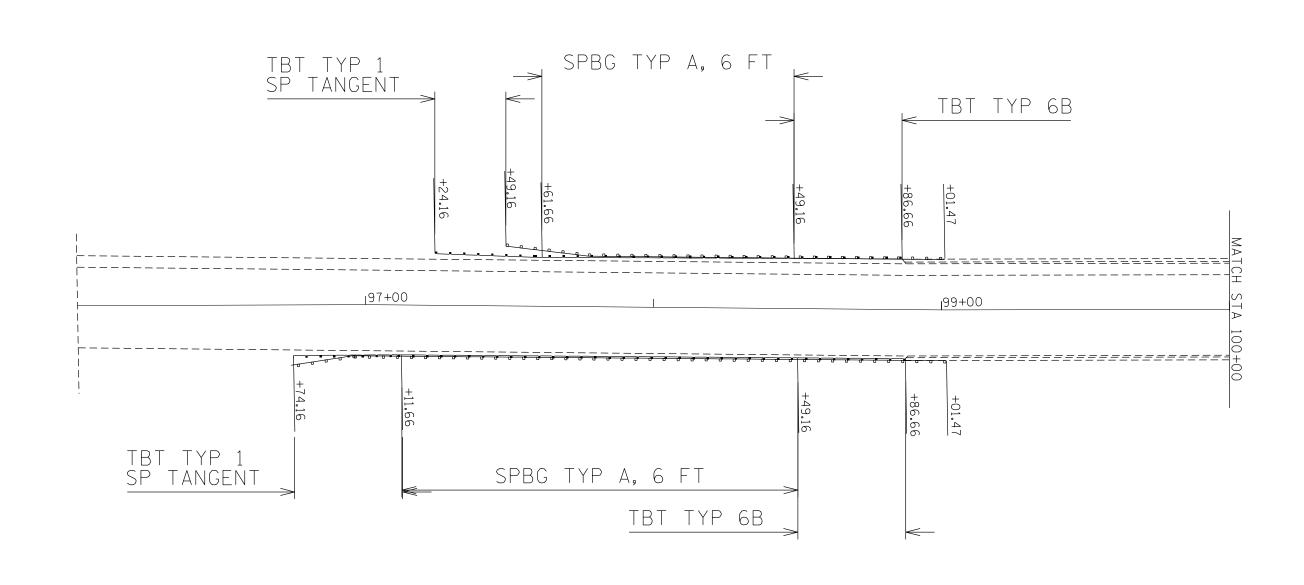


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PLOT DATE = 5/6/2021	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

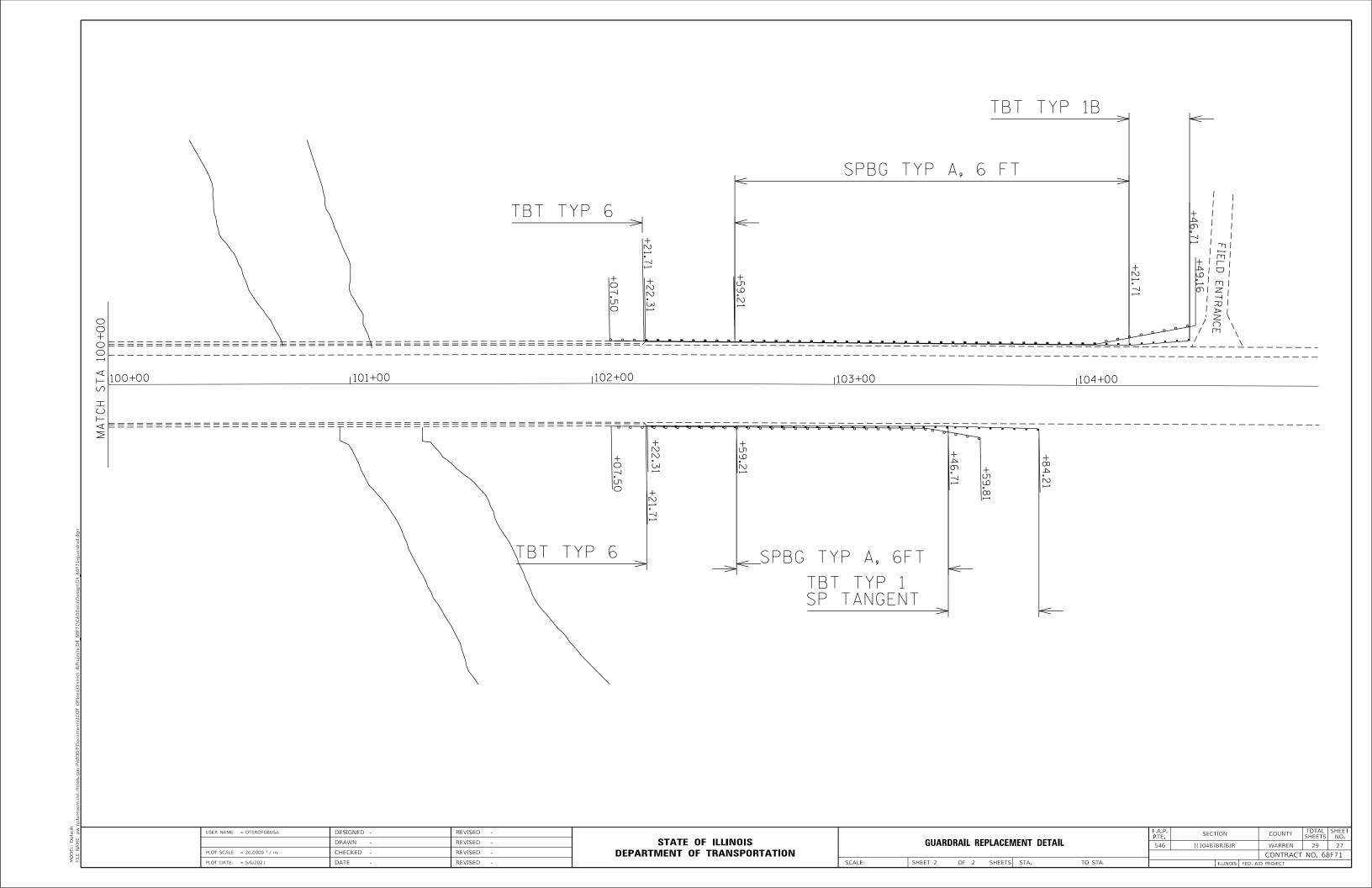
FLOOR DRAINS TO BE CLEANED				A.P. RTE	SECT	ION		COUNTY	TOTAL SHEETS	SHEET NO.			
	FLOO	R DRAII	NS TO B	E CLEAN	IED	5	546	[(104B)E	BR]BJR		WARREN	29	24
											CONTRACT	NO. 68	3F71
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		DRAWN -	REVISED -					[(104B)BR]BJR	WARREN	29 26
	PLOT SCALE = 20.0000 ' / in.	CHECKED -	REVISED -						CONTRACT	Г NO. 68F71
	PLOT DATE = 5/6/2021	DATE -	REVISED -		SCALE:	SHEET 1 OF 2 SHEETS STA. TO STA.		ILLINOIS FED. AI	D PROJECT	

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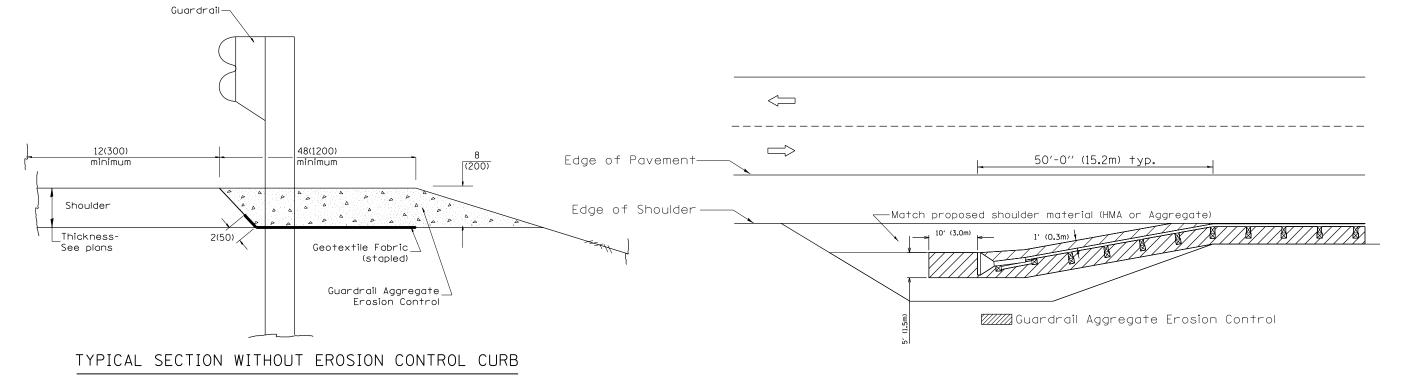


PIPES; SEEPAGE COLLARS FOR BURIED ARE EQUAL TO OR CREATER THAN 1% AND AT INLETS. (INCLUDE DISTRICT GRADES ARE LESS THAN 1% (INCLUDE DISTRICT SPECIAL PROVISION). DIVIDING LINE OF. AS NEEDED: SLOPE DRAINS FOR EXPOSED PIPES; RUST BLOCKS AND PIPE ELBOW.
OUALITY" FOR PROJECTS LOCATED IN THE WESTER FILES.
FORESLOPE WITH RIPRAP. USE NON-WETALLIC PIPE.
USE DISTRICT SPECIAL PROVISION FOR SEEDING. BE PAY ITEM AT GUARDRAIL INSTALLATIONS WHERE GRADES E EROSION CONTROL" AT GUARDRAIL INSTALLATIONS WHERE 610001, IF APPLICABLE.
SISTRICT CADD STANDARDS AS NEEDED, SLOPE DRAINS FOR POSED PIPES, CONCRETE THRUST BLOCKS AND PIPE ELBOW.
PROVISION - "AGGREGATE QUALITY" FOR PROJECTS LOCATE HEN INSERTING INTO PLAN FILES.
PRO OUTLETING ONTO FORESLOPE WITH RIPRAP. USE NIAD FOR ON THE CONTRACT, USE DISTRICT SPECTAL DRAWNETS. 

48(1200) minimum Guardrail (200) /(100) PCC or Bituminous Shoulder (100) Thickness-See plans Geotextile Fabric (stapled) Comb. CC&G, Type B Pan Width - See Plans Guardrail Aggregate\_ Erosion Control TYPICAL SECTION WITH COMBINATION CONCRETE CURB & GUTTER

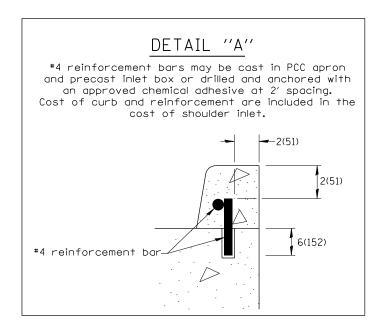
# GENERAL NOTES: GUARDRAIL AGGREGATE EROSION CONTROL

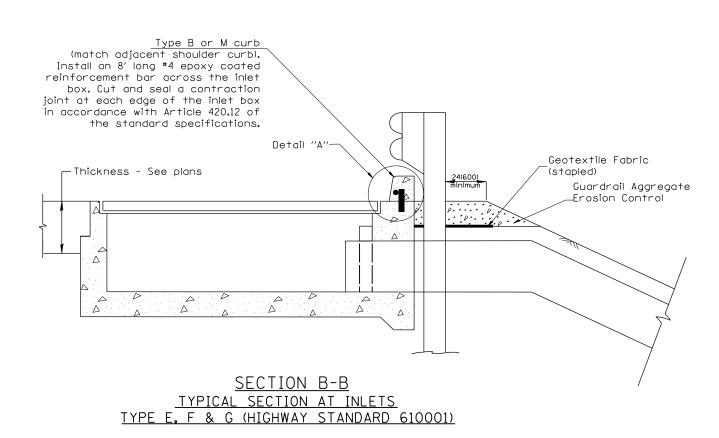
- 1. This work shall consist of grading as needed, furnishing and installing geotextile fabric and staples, and furnishing, placing and shaping crushed aggregate around and behind Steel Plate Beam Guardrail posts in accordance with Plan Details.
- 2. Before placing the aggregate and the Geotextile Fabric, weeds and grass shall be removed from the area to be covered.
- 3. After the area has been prepared, and in a dry condition, the Geotextile fabric shall be placed with a 12(300) minimum overlap. A knife cut for guardrail post installation is necessary.
- 4. The aggregate shall be deposited, compacted and shaped by either mechanical or hand methods, in a manner reasonably true to line and grade.
- 5. The Contractor shall have the option of placing the guardrail before or after the Geotextile Fabric and Aggregate are in place. If the guardrail is placed after the Geotextile Fabric and Aggregate, then any voids must be filled and the aggregate returned to line and grade.
- 6. Materials shall meet the following requirements:
- A. The crushed aggregate shall be CA1 gradation in accordance with Article 1004.01(c) of the Standard Specifications.
- B. The Geotextile Fabric shall be nonwoven fabric in accordance with Article 1080.02 of the Standard Specifications.

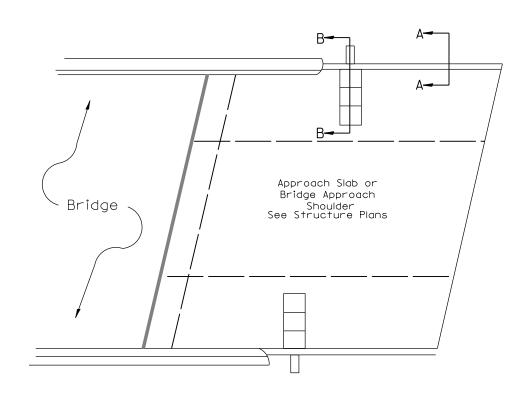


All dimensions are in inches (millimeters) unless otherwise noted.

08-10-12 REVISED CURB "B" AND AGGREGATE R.D. 07-16-19 SPELLING CORRECTIONS R.D. STATE OF ILLINOIS  07-15-15 ADDRESSED SHOULDER INLET CURB R.D. O7-16-19 SPELLING CORRECTIONS R.D. STATE OF ILLINOIS  DEPARTMENT OF TRANSPORTATION  SHT. 1 OF 2  CONTRACT NO. 68F71	03-07-11 ADDED DETAIL SHOWING PLAN VIEW R.	R.D.	5-30-18 CHANGE B CURB TO CC&G	R.D.			F.A.P. SECT	ION	COUNTY	TOTAL SHEET SHEETS NO.
	08-10-12 REVISED CURB "B" AND AGGREGATE R.	R.D.	07-16-19 SPELLING CORRECTIONS	R.D.	STATE OF ILLINOIS	GUARDRAIL EROSION CONTROL TREATMENTS	546 [(104B)E	BR]BJR	WARREN	29 28
NOT TO SCALE	07-15-15 ADDRESSED SHOULDER INLET CURB R.	R.D.			DEPARTMENT OF TRANSPORTATION	SHT. 1 OF 2			CONTRACT	NO. 68F71
10 TO SOACE CADD STD. OSCIOL D. F. FED. ROAD DIST. NO.   ILLINOIS FED. AID PROJECT	O1-26-17 REVISED R.	R.D.				NOT TO SCALE CADD STD. 630101-D4	FED. ROAD DIST. NO.	ILLINOIS FED. AID P	ROJECT	

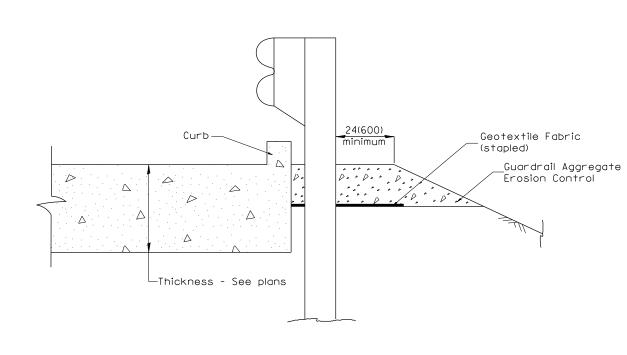






PLAN VIEW

APPROACH SLAB OR SHOULDER PLACEMENT



SECTION A-A

TYPICAL SECTION WITH BRIDGE APPROACH CURB

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

		OTATE OF HUMBIO	CHARDEN FROM CONTROL TREATMENTS	F.A.P. RTE.	SECTION	COUNTY	TOTAL	S SHEE
		STATE OF ILLINOIS	GUARDRAIL EROSION CONTROL TREATMENTS	546 [(10	14B)BR]BJR	WARREN	29	29
		DEPARTMENT OF TRANSPORTATION	SHT. 2 OF 2	?		CONTRACT	JT NO.	68F71
			NOT TO SCALE CADD STD. 630101-D-	FED. ROAD DIST. NO	. ILLINOIS FED. AI	D PROJECT		