

CONSTR. CODE
100% STATE
BRIDGE
0047

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	090-0043
50800515	BAR SPLICERS	EACH	24	24
52000110	PREFORMED JOINT STRIP SEAL	FOOT	72	72
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12	12
52100510	ANCHOR BOLTS, 3/4"	EACH	24	24
52100520	ANCHOR BOLTS, 1"	EACH	24	24
59000200	EPOXY CRACK INJECTION	FOOT	93	93
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	638	638
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	4	4
63200310	GUARDRAIL REMOVAL	FOOT	804	804
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14	14

*= SPECIALTY ITEM

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PLOT DATE = 1/22/2025	CHECKED - CEM	REVISED -
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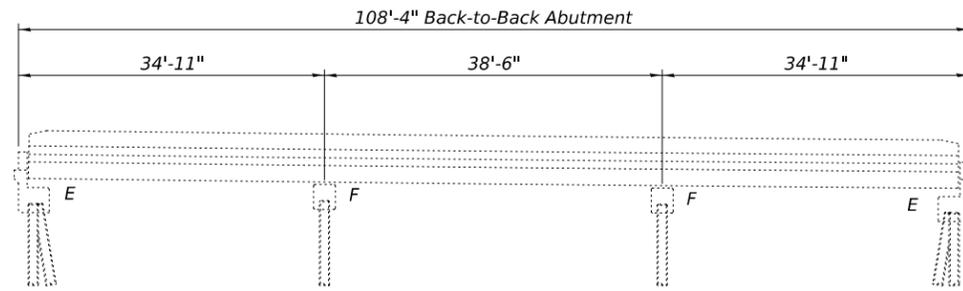
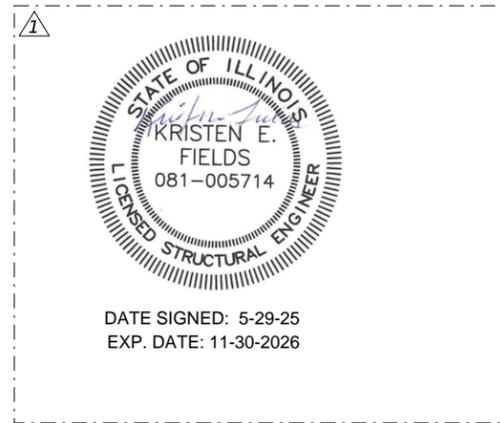
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES			
US 150 OVER MUD CREEK			
SCALE:	SHEET	OF	SHEETS
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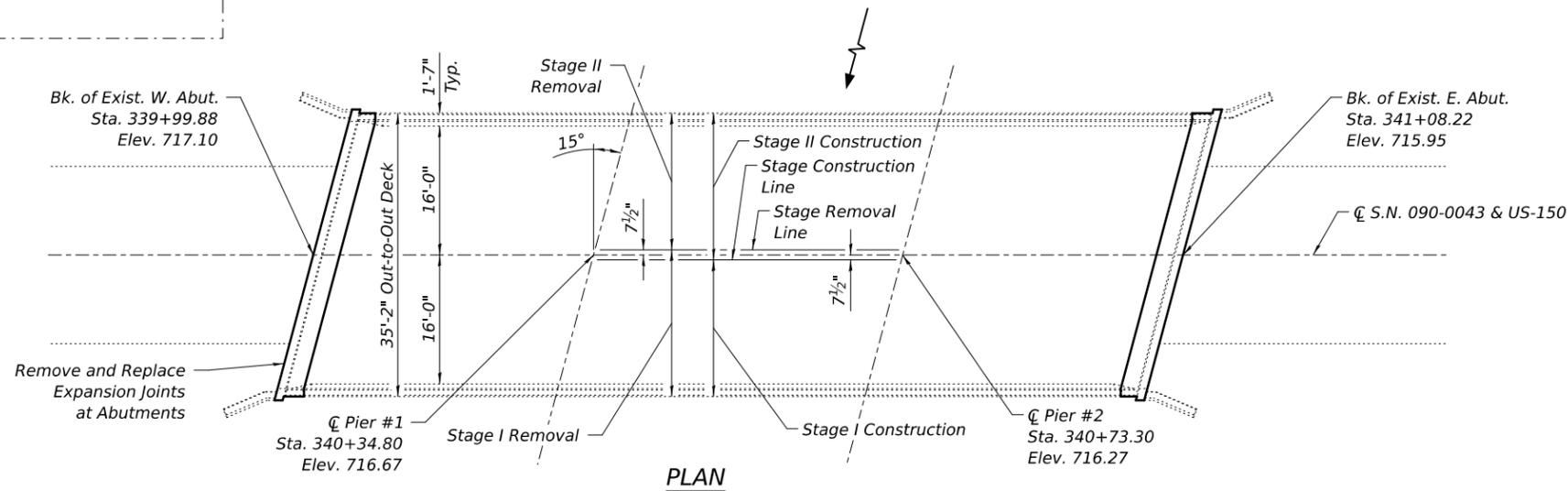
F.A.S. RTE. 2466	SECTION (6BR-1)BRR	COUNTY TAZEWELL	TOTAL SHEETS 37	SHEET NO. 4
			CONTRACT NO. 68J42	
ILLINOIS FED. AID PROJECT				

Existing Structure: S.N. 090-0043 was originally constructed in 1955 as SBI Route 9, Section 6BR and the superstructure deck of the original structure was removed and replaced as Section 6BR-I in 1984. The existing structure consists of 3 spans and is a 7½" thick reinforced concrete deck supported by 6, W24x84 steel beams. Back-to-back of abutments is 108'-4" and out-to-out of deck is 35'-2". Traffic is to remain open with staged construction.

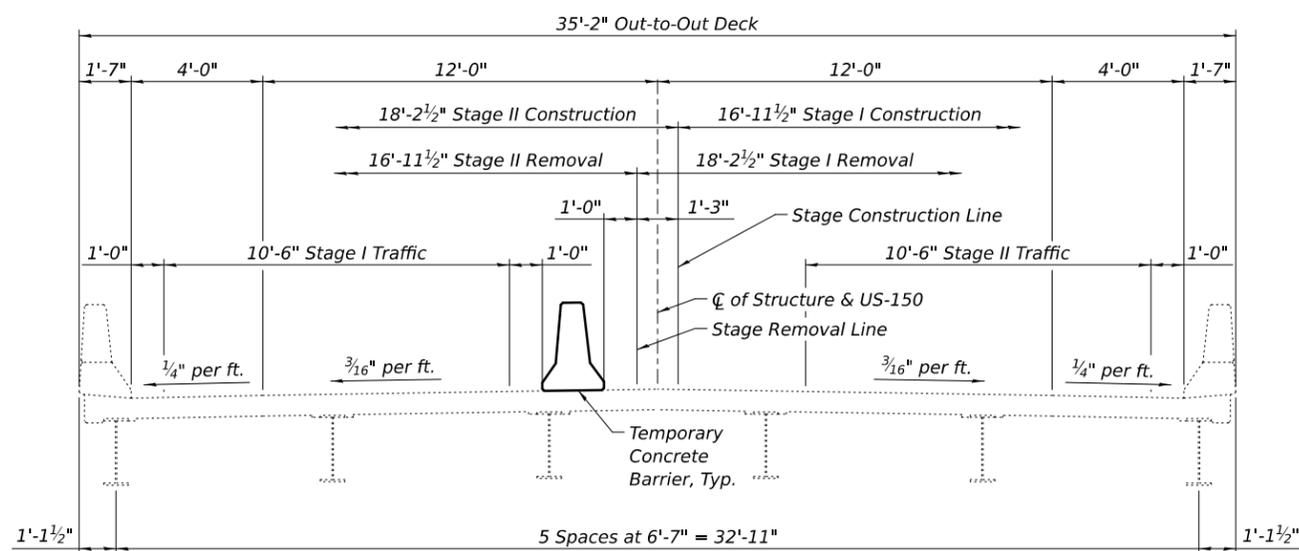
Salvage: None



ELEVATION



PLAN



CROSS SECTION
(Looking East)

GENERAL NOTES

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 or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work. 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° Fahrenheit.

INDEX OF SHEETS

1. General Plan & Elevation
2. West Abutment Expansion Joint Details
3. East Abutment Expansion Joint Details
4. Parapet Removal & Replacement Details
5. Preformed Joint Strip Seal
6. Bar Splicer Assembly & Mechanical Splicer Details
7. Beam End Repairs
8. Bearing Details
9. West Abutment Substructure Repairs
10. East Abutment Substructure Repairs
11. West Pier Substructure Repairs
12. East Pier Substructure Repairs

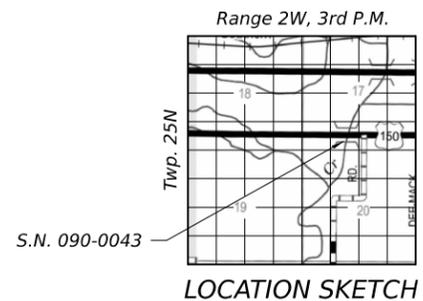
SCOPE OF WORK

1. Remove and replace existing expansion joints with new preformed joint strip seals.
2. Jack and crib existing steel beams as indicated in the plans. Perform beam end repairs as indicated in the plans. Remove and replace existing bearings with new elastomeric bearings at abutments.
3. Apply Protective Coat to the top and inside faces of parapets, bridge deck, and hatch block.
4. Perform substructure unit repairs as indicated in the plans.

TOTAL BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu Yd	10.7
Concrete Superstructure	Cu Yd	10.5
* Protective Coat	Sq Yd	27
Furnishing and Erecting Structural Steel	Pound	1,330
Reinforcement Bars, Epoxy Coated	Pound	1,500
Bar Splicers	Each	24
Preformed Joint Strip Seal	Foot	72
Elastomeric Bearing Assembly, Type I	Each	12
Anchor Bolts, 1"	Each	24
Epoxy Crack Injection	Foot	88
Jack and Remove Existing Bearings	Each	12
Structural Steel Repair	Pound	310
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	91
Temporary Shoring and Cribbing	Each	3

* Apply to new concrete only.



LOCATION SKETCH

GENERAL PLAN & ELEVATION
US 150 OVER MUD CREEK
US 150 (FAS 2466) - SECTION (6BR-1)BRR
TAZEWELL COUNTY
STATION 340+54.05
STRUCTURE NO. 090-0043

MODEL: Border
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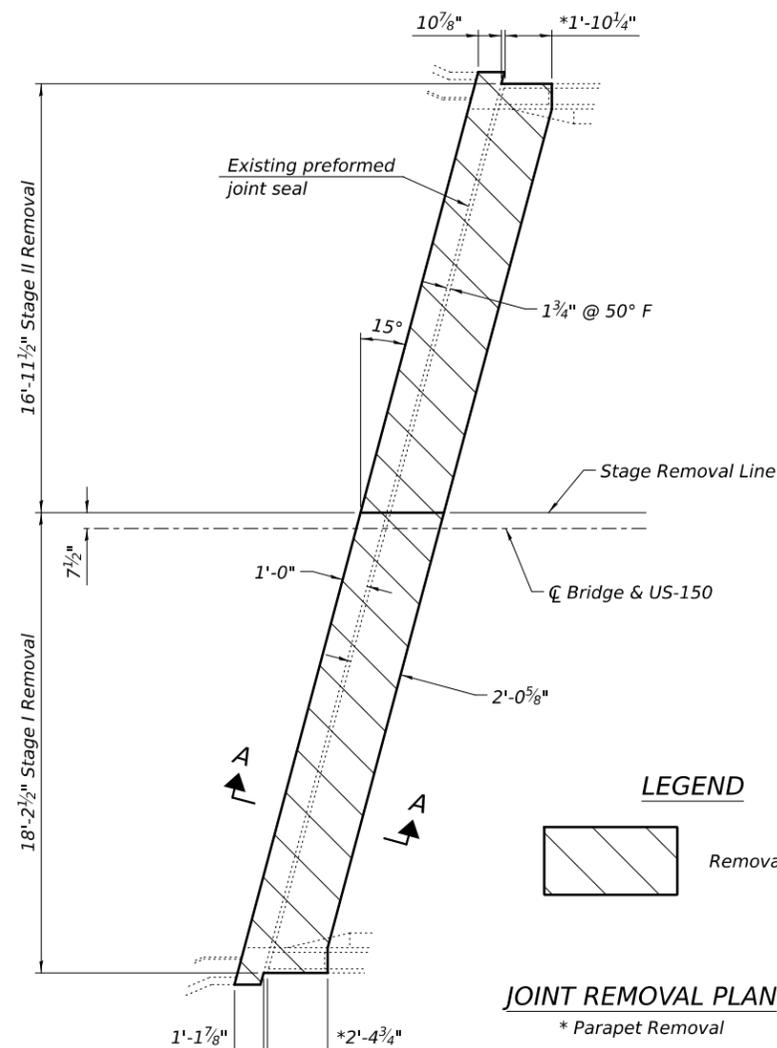
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 090-0043

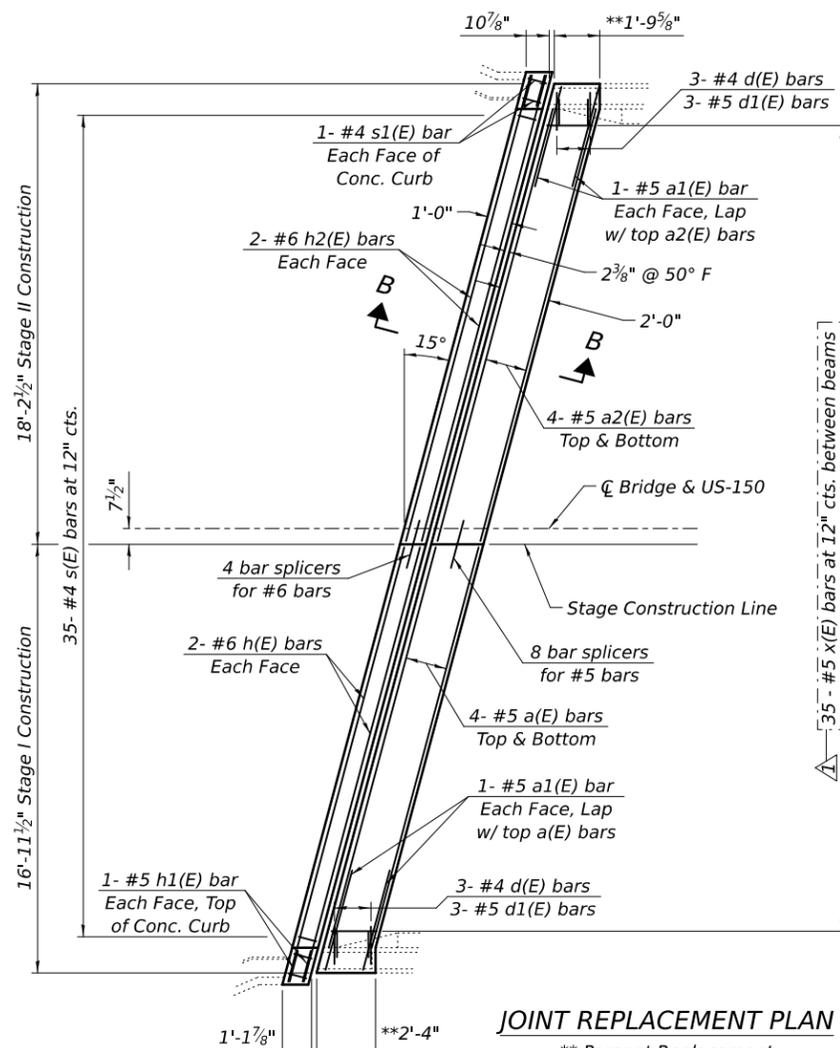
SHEET 1 OF 12 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2466	(6BR-1)BRR	TAZEWELL	37	15
CONTRACT NO. 68J42				
ILLINOIS FED. AID PROJECT				

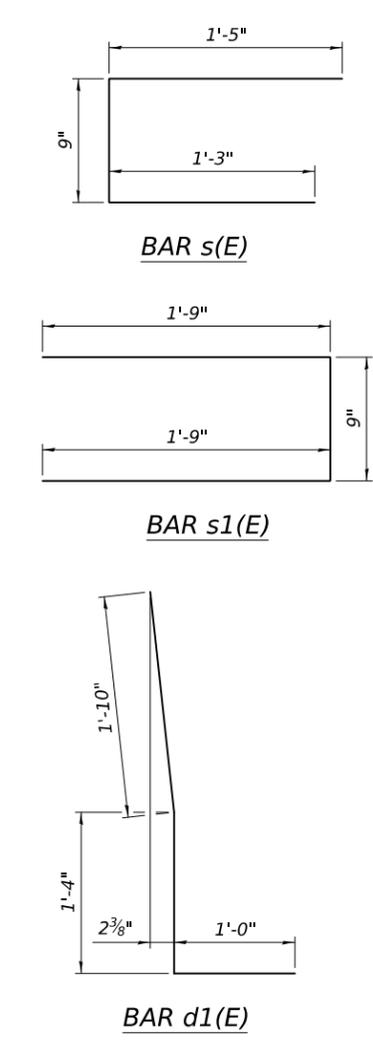
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JOINT REMOVAL PLAN
* Parapet Removal



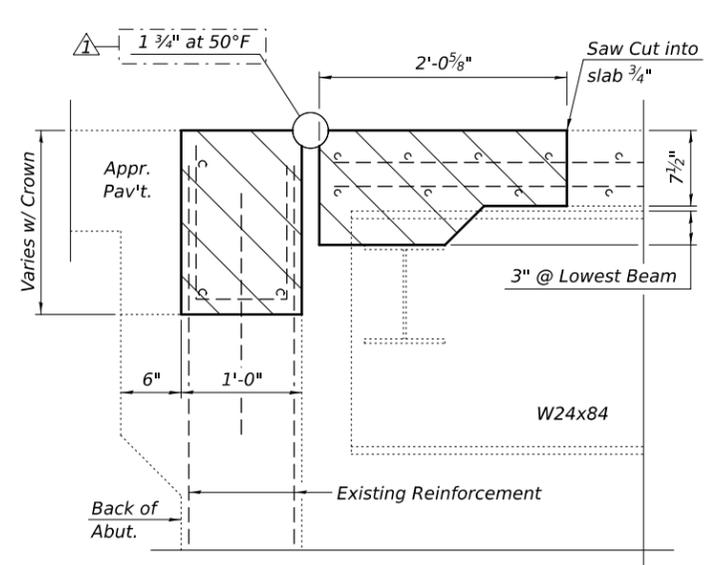
JOINT REPLACEMENT PLAN
** Parapet Replacement



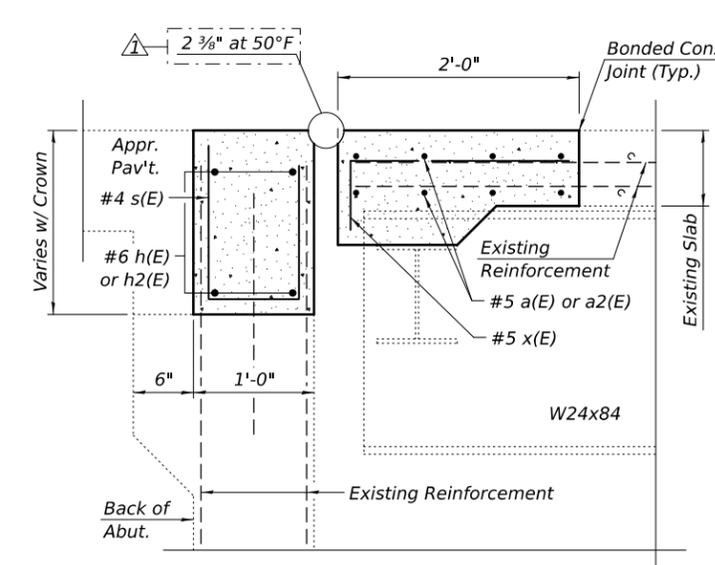
BILL OF MATERIAL (WEST JOINT)

Bar	No.	Size	Length	Shape
a(E)	8	#5	16'-4"	—
a1(E)	4	#5	4'-1"	—
a2(E)	8	#5	17'-8"	—
d(E)	6	#4	4'-8"	┌
d1(E)	6	#5	4'-2"	┌
h(E)	4	#6	17'-9"	—
h1(E)	4	#5	1'-3"	—
h2(E)	4	#6	19'-0"	—
s(E)	35	#4	3'-5"	┌
s1(E)	4	#4	4'-3"	┌
x(E)	35	#5	2'-5"	┌
Reinforcement Bars, Epoxy Coated			Pound	750
Concrete Superstructure			Cu. Yd.	5.3
Concrete Removal			Cu. Yd.	5.4

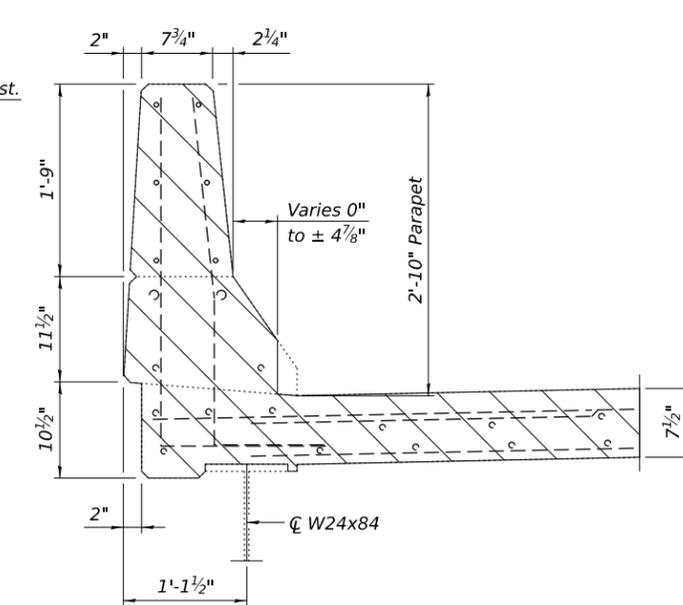
Notes:
Removal of existing expansion joint shall be included in the cost of Concrete Removal.
In parapet/joint removal areas, existing reinforcement bars shown are to be cleaned and incorporated into new construction.



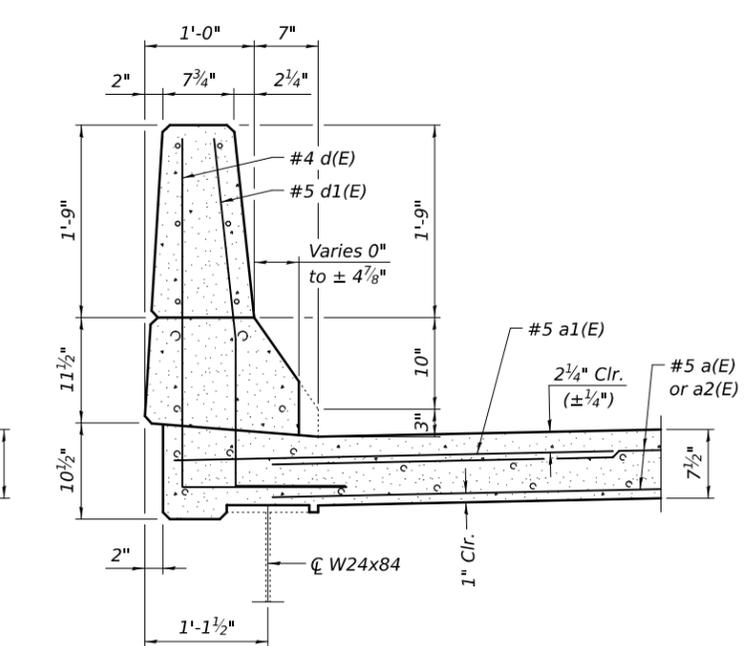
JOINT REMOVAL SECTION A-A



JOINT REPLACEMENT SECTION B-B



PARAPET REMOVAL CROSS-SECTION



PARAPET REPLACEMENT CROSS-SECTION

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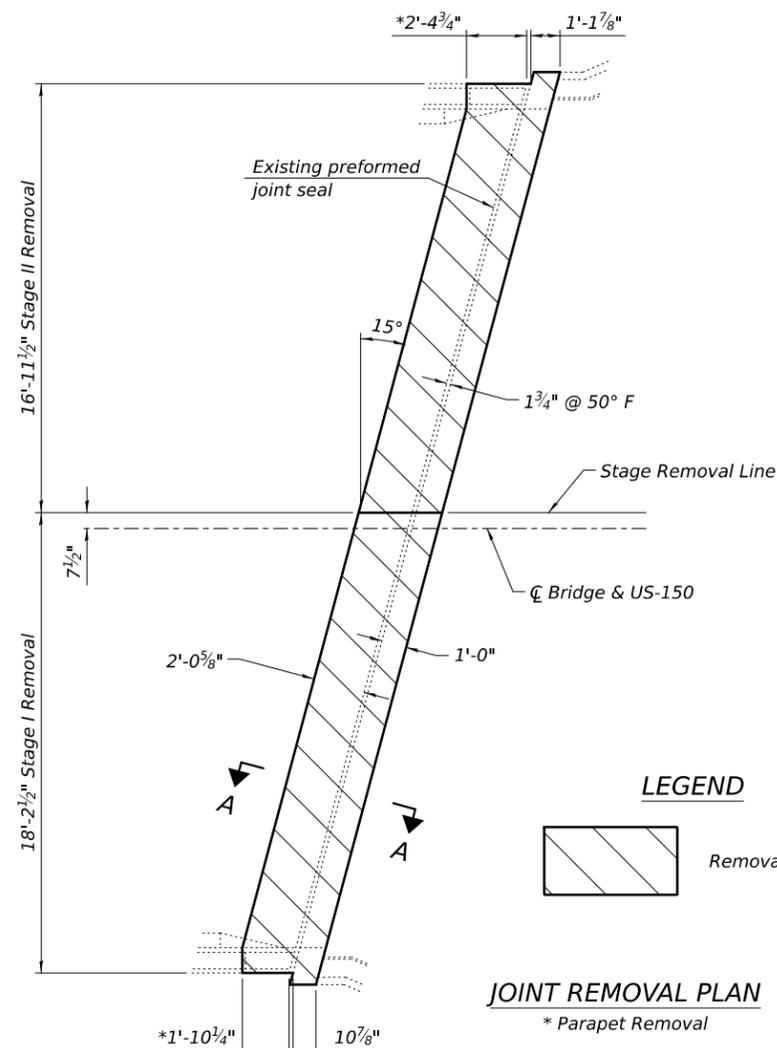
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

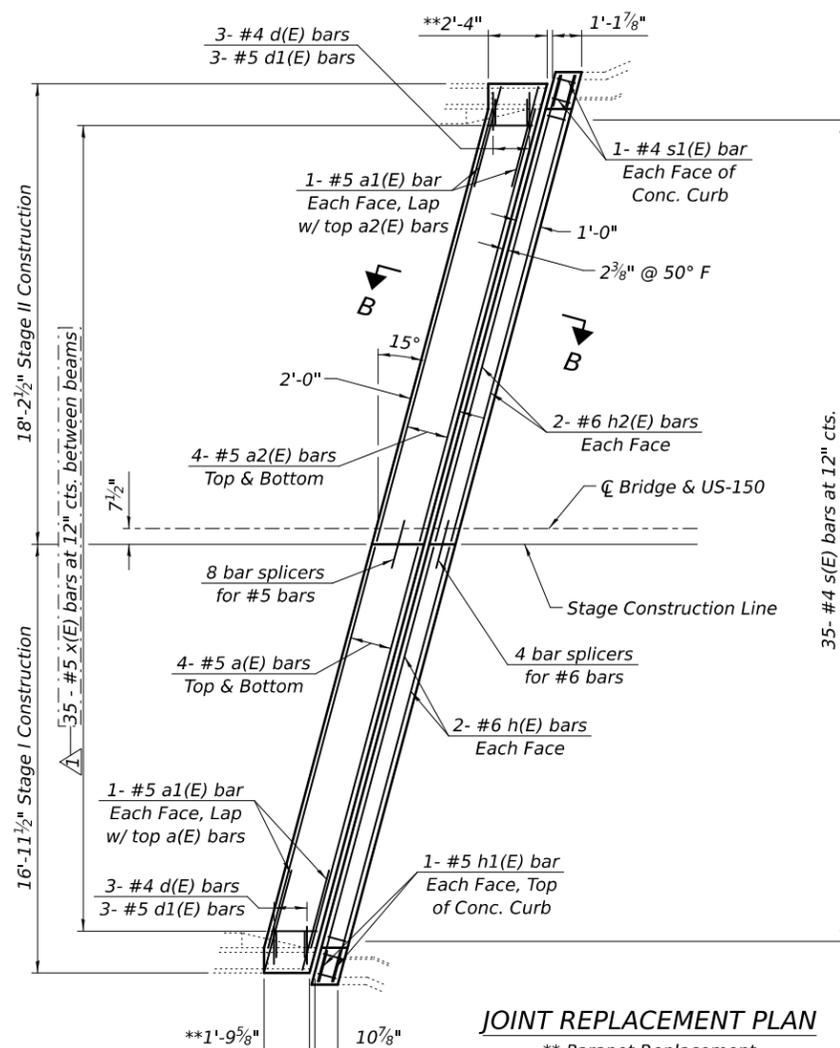
**WEST ABUTMENT EXPANSION JOINT DETAILS
STRUCTURE NO. 090-0043**

SHEET 2 OF 12 SHEETS

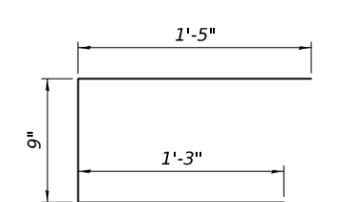
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2466	(6BR-1)BRR	TAZEWELL	37	16
CONTRACT NO. 68J42				
ILLINOIS FED. AID PROJECT				



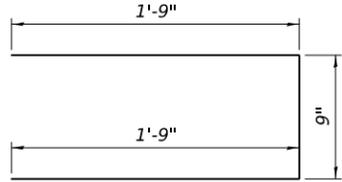
JOINT REMOVAL PLAN
* Parapet Removal



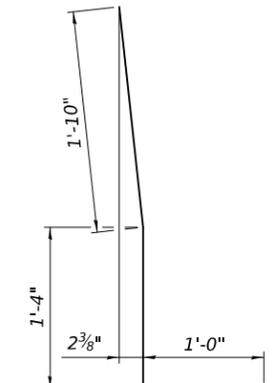
JOINT REPLACEMENT PLAN
** Parapet Replacement



BAR s(E)



BAR s1(E)

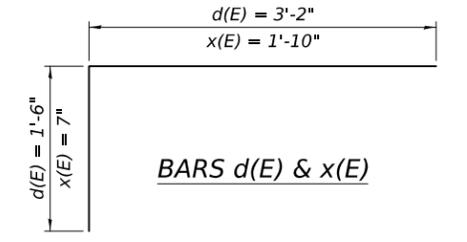


BAR d1(E)

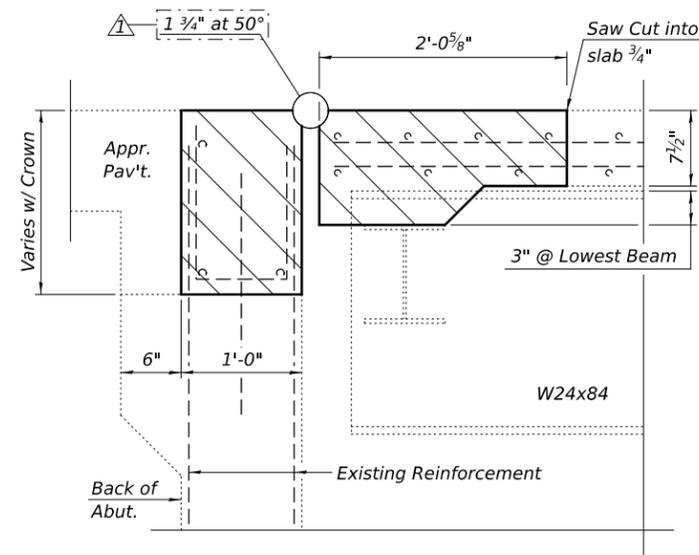
BILL OF MATERIAL (EAST JOINT)

Bar	No.	Size	Length	Shape
a(E)	8	#5	16'-4"	—
a1(E)	4	#5	4'-1"	—
a2(E)	8	#5	17'-8"	—
d(E)	6	#4	4'-8"	┌
d1(E)	6	#5	4'-2"	┌
h(E)	4	#6	17'-9"	—
h1(E)	4	#5	1'-3"	—
h2(E)	4	#6	19'-0"	—
s(E)	35	#4	3'-5"	┌
s1(E)	4	#4	4'-3"	┌
x(E)	35	#5	2'-5"	┌
Reinforcement Bars, Epoxy Coated			Pound	750
Concrete Superstructure			Cu. Yd.	5.2
Concrete Removal			Cu. Yd.	5.3

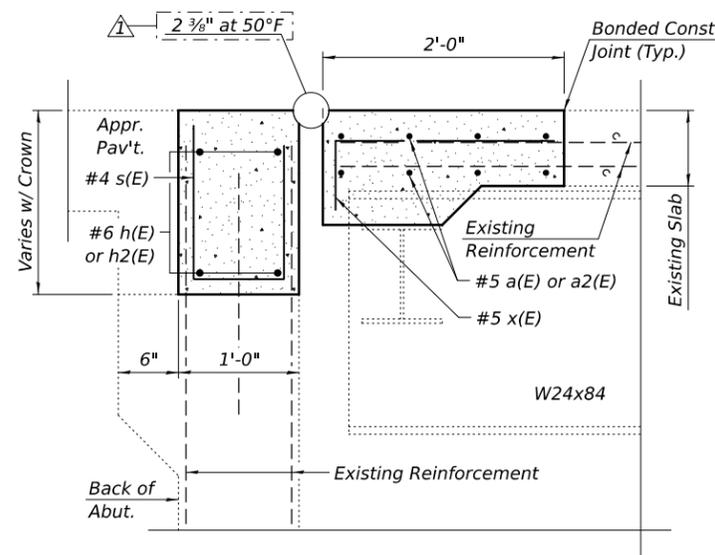
Notes:
Removal of existing expansion joint shall be included in the cost of Concrete Removal.
In parapet/joint removal areas, existing reinforcement bars shown are to be cleaned and incorporated into new construction.



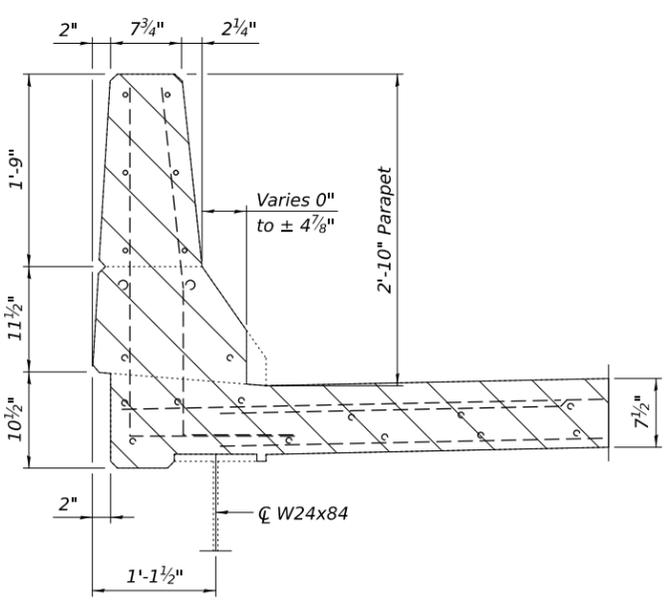
BARS d(E) & x(E)



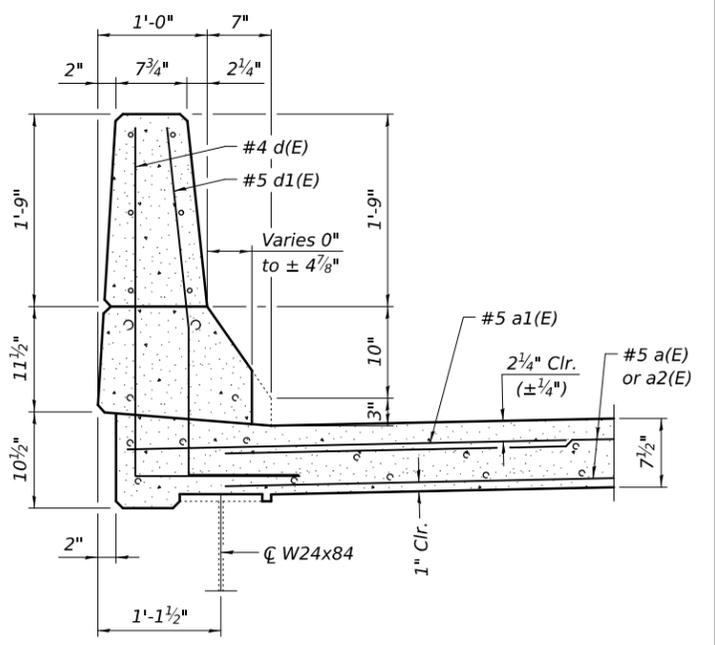
JOINT REMOVAL SECTION A-A



JOINT REPLACEMENT SECTION B-B



PARAPET REMOVAL CROSS-SECTION



PARAPET REPLACEMENT CROSS-SECTION

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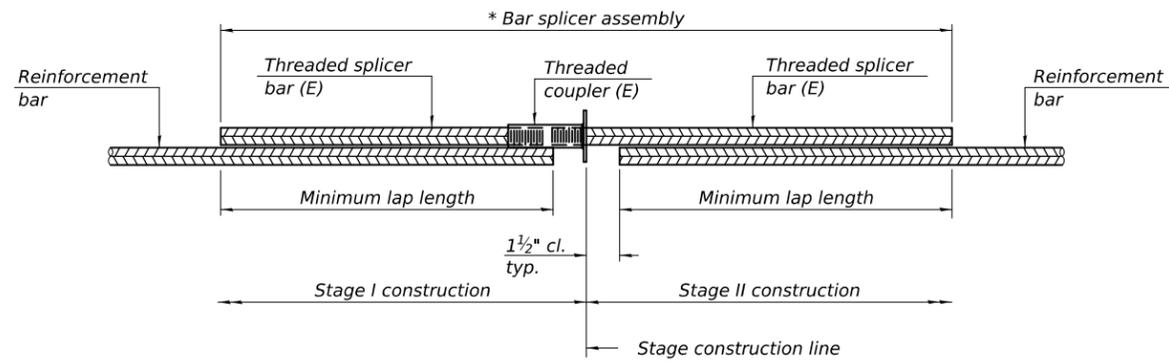
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT EXPANSION JOINT DETAILS
STRUCTURE NO. 090-0043**

SHEET 3 OF 12 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2466	(6BR-1)BRR	TAZEWELL	37	17
CONTRACT NO. 68J42				
ILLINOIS FED. AID PROJECT				



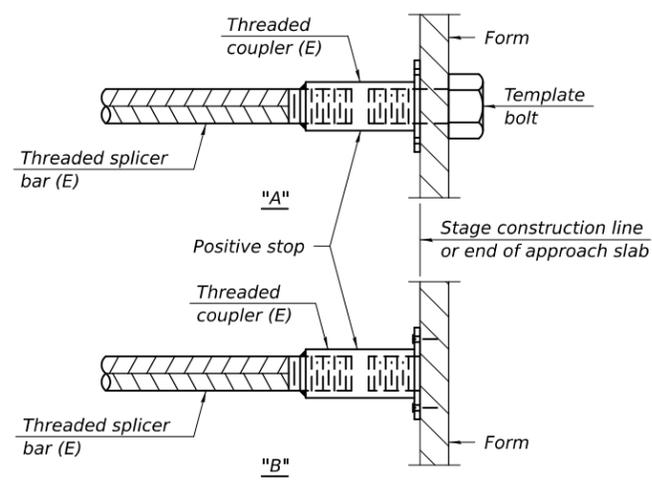
STANDARD BAR SPLICER ASSEMBLY PLAN

Only bar splicer assemblies as presented on the approved QPL list may be used.

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

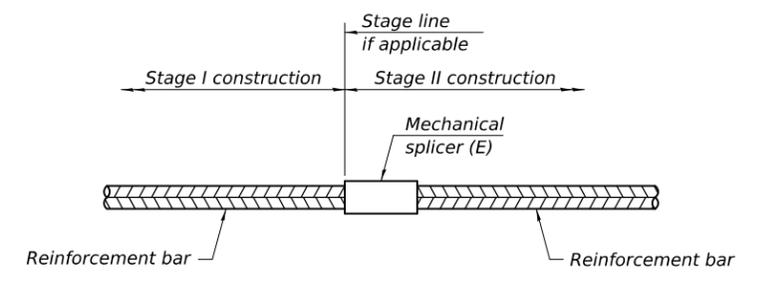
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
West Abutment	#5	8	3'-10"
West Abutment	#6	4	4'-5"
East Abutment	#5	8	3'-10"
East Abutment	#6	4	4'-5"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

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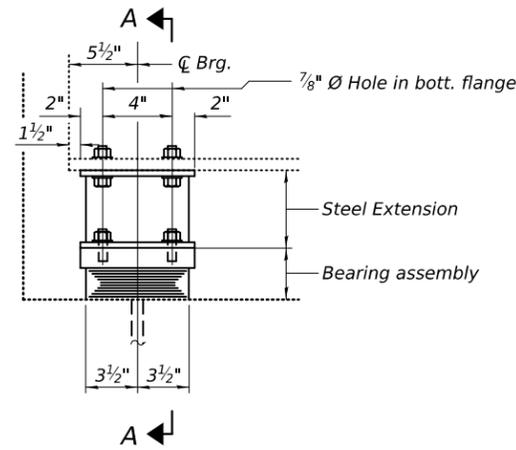
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STATE OF ILLINOIS
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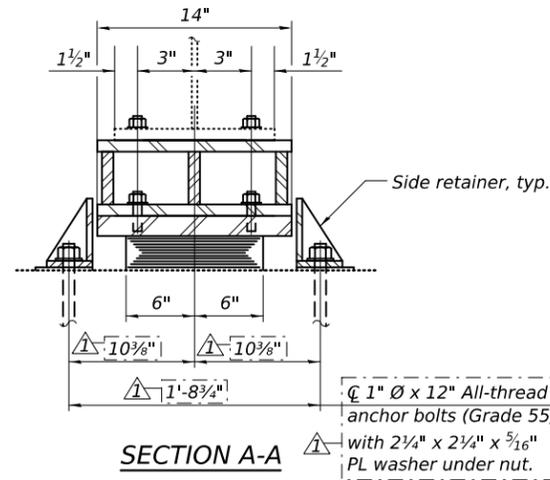
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 090-0043

SHEET 6 OF 12 SHEETS

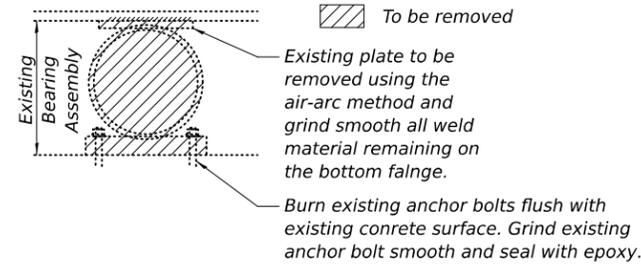
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2466	(6BR-1)BRR	TAZEWELL	37	20
CONTRACT NO. 68J42				
ILLINOIS FED. AID PROJECT				



ELEVATION AT ABUT.



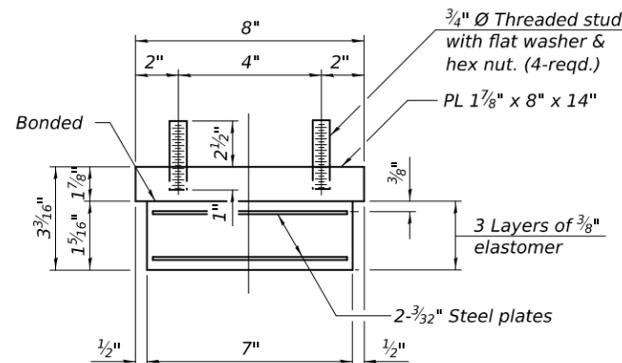
SECTION A-A



EXISTING BEARING REMOVAL DETAIL

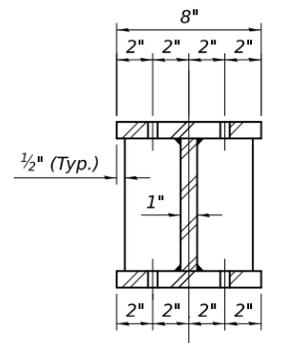
Cost included with Jack and Remove Existing Bearings.

TYPE I ELASTOMERIC EXP. BRG.

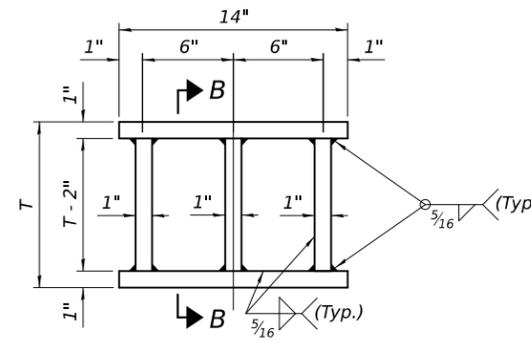


BEARING ASSEMBLY

Note:
Shim plates shall not be placed under bearing assembly.

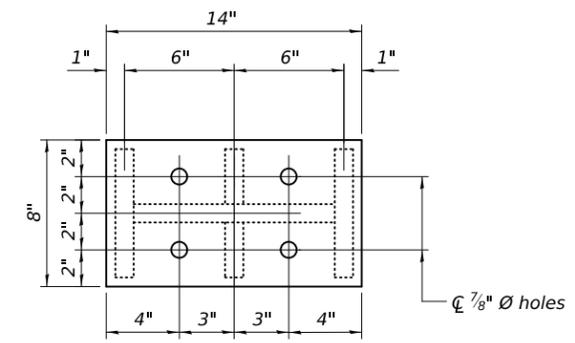


SECTION B-B

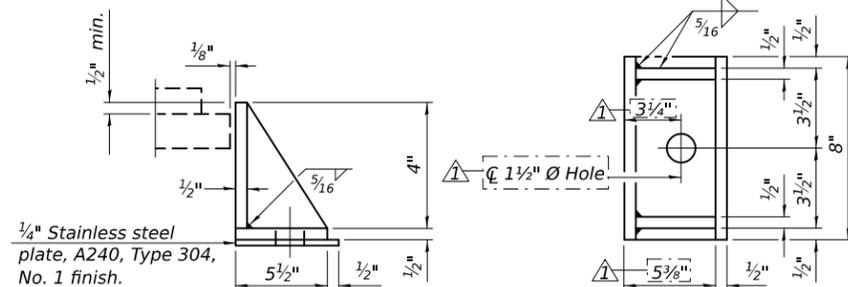


STEEL EXTENSION DETAIL

For dimension "T" see Steel Extension Height Table

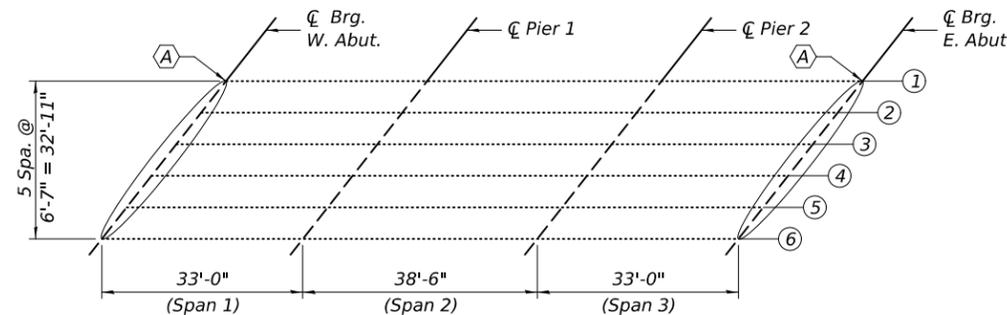


PLAN TOP & BOTTOM PLATE



SIDE RETAINER

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



PARTIAL FRAMING PLAN

A - Bearing Removal and Replacement

STEEL EXTENSION HEIGHT "T" TABLE

Location	Beams 1-3 and 6	Beam 4	Beam 5
West Abutment	6' 15/16"	7' 3/16"	7' 5/16"
East Abutment	6' 15/16"	7' 1/8"	7' 1/4"

Based on existing plan information. Contractor shall field verify prior to fabrication.

INTERIOR BEAM REACTION TABLE

R ₀	(k)	14.8
R ₁	(k)	36.4
R ₂	(k)	10.9
R _{Total}	(k)	62.1

(Unfactored Loads)

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Jack and Remove Existing Bearings	Each	12
Elastomeric Bearing Assembly, Type I	Each	12
Furnishing and Erecting Structural Steel	Pound	1,330
Anchor Bolts, 1"	Each	24

MODEL: Border
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	CHECKED - DDB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 090-0043

SHEET 8 OF 12 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2466	(6BR-1)BRR	TAZEWELL	37	22
CONTRACT NO. 68J42				
ILLINOIS FED. AID PROJECT				