

Bench Mark: Cut "X" on top northwest hex bolt on hydrant, 23' southeast of the intersection of Bond Avenue and South 4th Street. Elev. 414.63.

Existing Structure: S.N. 082-0255 was originally built in 1969 as FAI- 70, Sections 82-3HV(B,D,F&E)-1. The bridge was reconstructed in 1990 Under section 82-3HVB-2R-1. The existing structure consists of a continuous 3-span superstructure supported on multi-column piers, which are founded on pile supported footings. The structure width is variable and the total bridge length is 358' from Pier D26 to Pier P14. The deck is composite.

Salvage: None

SCOPE OF WORK

1. Deck patching is Span D26-0, Q1, and Q2
2. Girder 4 section loss repairs at Pier D26

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges
 1995 FHWA Seismic Retrofitting Manual

DESIGN STRESSES

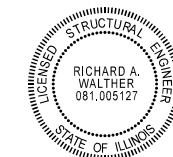
FIELD UNITS

NEW CONSTRUCTION

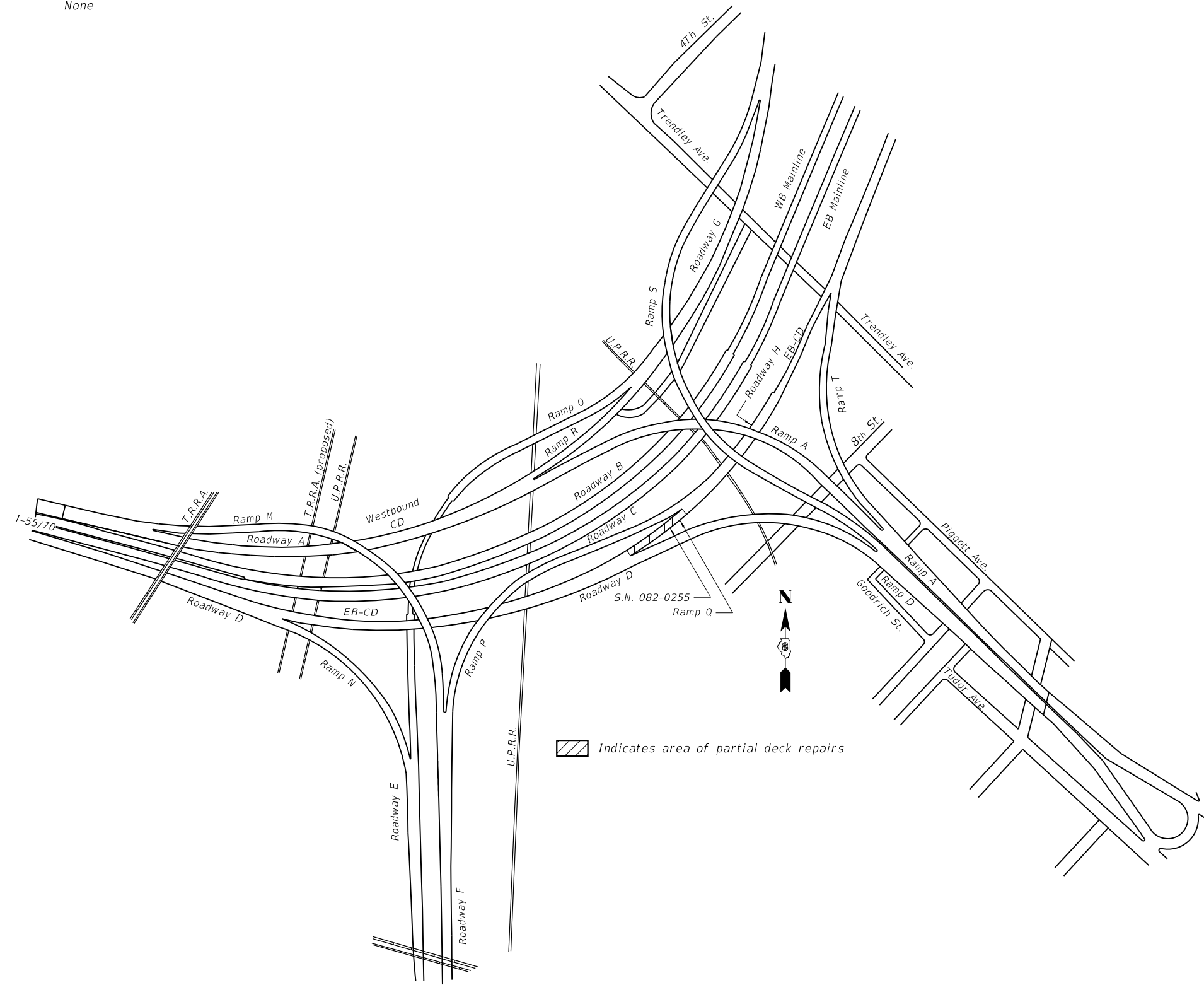
$f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Structural Steel)

EXISTING CONSTRUCTION

$f'_c = 3,500$ psi (1989+ Rehabs)
 $f'_c = 1,400$ psi (1967 Construction)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel 1967 Construction)
 $f_y = 36,000$ psi & $50,000$ psi (Structural Steel 1989+ Rehabs)

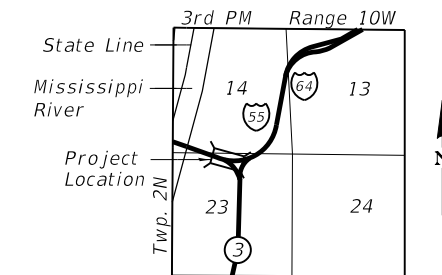


Signature: Richard A. Walthers
 Date Signed: 07-16-2020
 License Expires: 11/30/2020



Indicates area of partial deck repairs

GENERAL PLAN



LOCATION SKETCH

GENERAL PLAN
F.A.I. 70 (I-55/I-64) EB CD "Q"
SEC. 82-3HVB-2R-1-I-1
ST. CLAIR COUNTY
STATION 73+52.76
STRUCTURE NO. 082-0255

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WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax
 www.wje.com

USER NAME = Isalas	DESIGNED - ARB	REVISED -
PLOT SCALE = 02" / 1'	CHECKED - RW	REVISED -
PLOT DATE = 7/16/2020	DRAWN - LS	REVISED -
	CHECKED - RW	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND SCOPE OF WORK
SS.N. 082-0255

SHEET S-1 OF S-8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-I-1	ST. CLAIR	361	301
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

1. 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.
2. The Contractor shall exercise extreme caution with demolition activities to prevent damage to the existing structure. Any damage from the construction activities shall be repaired at the Contractor's expense.
3. The Contractor shall field verify all proposed structural plate and angle dimensions and spacing of holes prior to ordering steel.
4. All structural steel shall be AASHTO M-270 Grade 36, unless noted otherwise.
5. No field welding is permitted, except as specified in contract documents.
6. Fasteners shall be ASTM A325, Type 1, mechanically galvanized bolts. Bolts shall be 7/8 in. diameter and placed in 15/16 in. diameter holes, unless noted otherwise.
7. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
8. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision, "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
9. All new structural steel shall be hot-dip galvanized and painted. See Special Provisions for "Hot Dip Galvanizing For Structural Steel"
10. As directed by the Engineer, existing construction accessories, including existing metal deck accessories and shear studs, welded to the top flange of beams, stringers, and girders shall be removed at locations of deck replacement or full thickness patching. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding, and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

CONCRETE REPAIR NOTES

1. Concrete deck repair areas as shown in the drawings are based on a chain drag survey conducted in April 2020. Substructure repair areas are based on a September 2017 survey.
2. It is expected that actual repair areas may be different in shape, size, and location than shown on the drawings. The exact locations shall be determined by the Engineer. The Engineer shall show actual repair areas and their dimensions on as-built plans.
3. Only partial depth deck repairs are anticipated at locations away from joints; however, a nominal quantity of full depth repair quantities have been included for use in case removal operations extend to the bottom mat of reinforcement.
4. Surface preparation and application of a concrete sealer shall extend across the entire top surface of the deck and the tops and inside vertical faces of the parapets.

INDEX OF SHEETS

- S-1 General Plan and Scope of Work
- S-2 General Data
- S-3 General Plan & Elevation (Spans Q1 thru Q2)
- S-4 Deck Patching Repairs, SPan D26-Q, Q1, and Q2
- S-5 Cross Girder D26 Section Loss Repairs (1 of 4)
- S-6 Cross Girder D26 Section Loss Repairs (2 of 4)
- S-7 Cross Girder D26 Section Loss Repairs (3 of 4)
- S-8 Cross Girder D26 Section Loss Repairs (4 of 4)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Bridge Deck Concrete Sealer	Sq Ft	12831		12831
Structural Steel Repair	Pound	1140		1140
Cleaning Drainage System	L Sum	0.17		0.17
Deck Drain Extensions	Each	4		4
Deck Slab Repair (Full Depth, Type I)	Sq Yd	3		3
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3		3
Deck Slab Repair (Partial)	Sq Yd	21		21

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WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wes, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

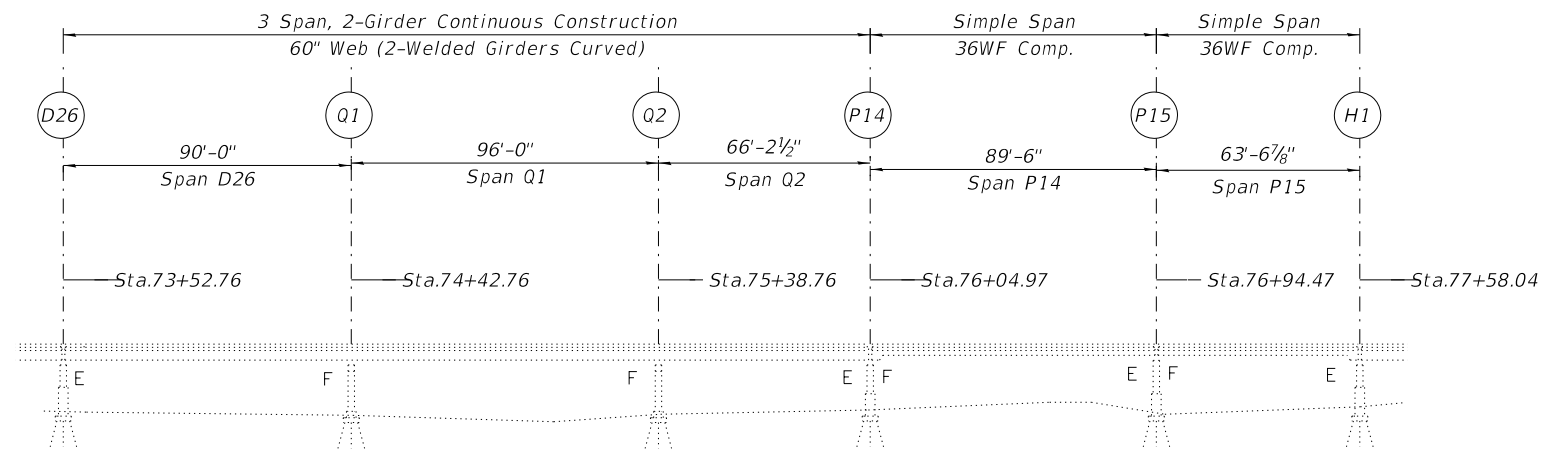
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

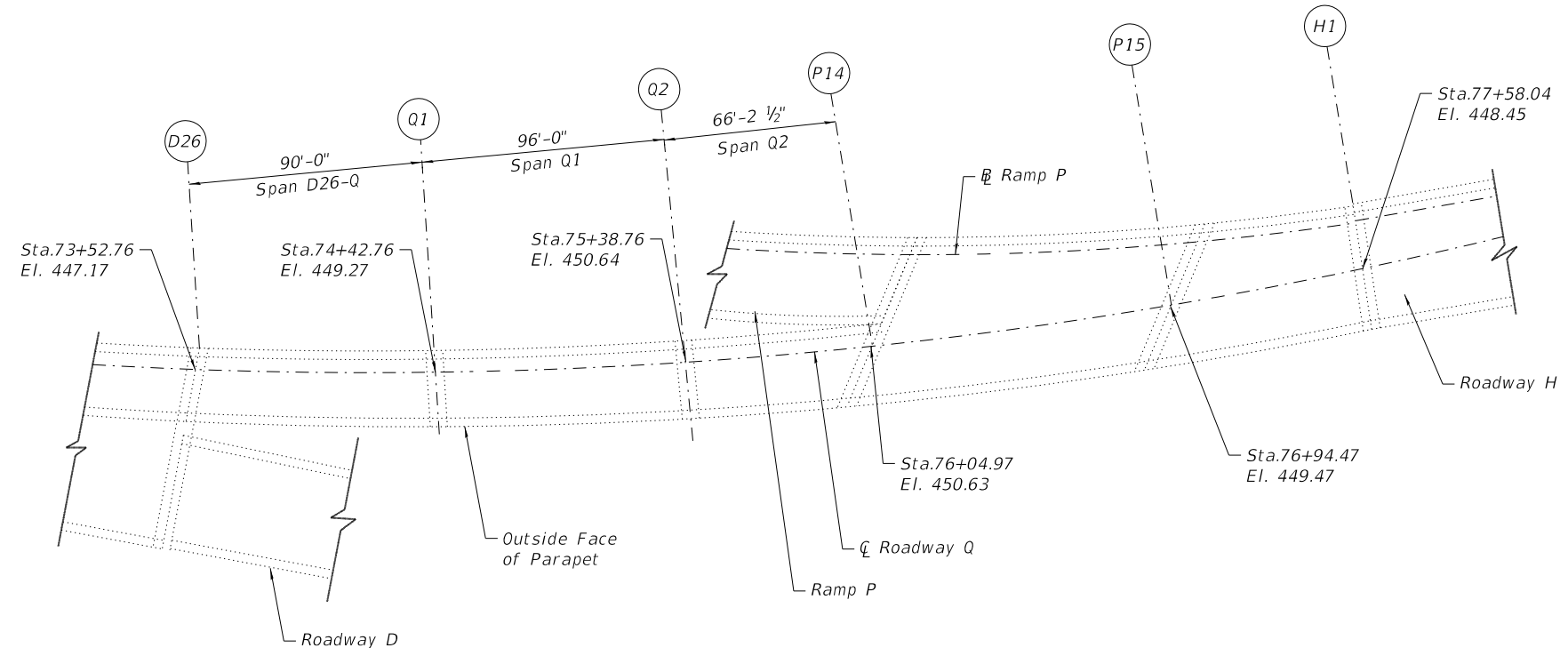
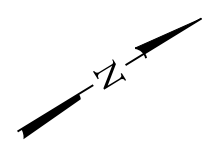
GENERAL DATA
S.N. 082-0255

SHEET S-2 OF S-8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1+1	ST. CLAIR	361	302
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				



ELEVATION



PLAN (SPANS D26-Q1 - Q2)

GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) EB CD "Q"
SEC. 82-3HVB-2R-(2,1)-I-2
ST. CLAIR COUNTY
STATION 73+52.76
STRUCTURE NO. 082-0255

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USER NAME = Isalas	DESIGNED - ARB	REVISD -
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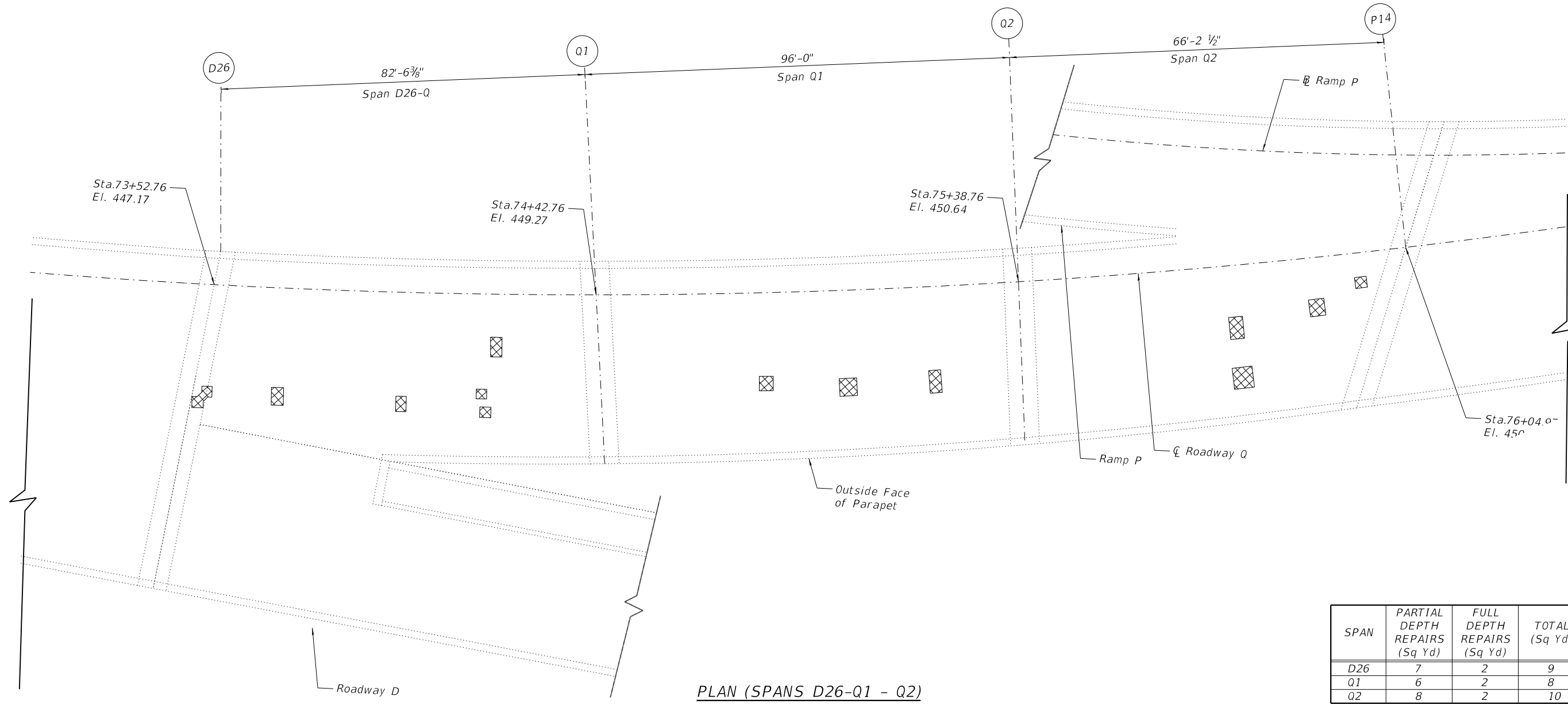
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION (SPANS Q1 THRU Q2)
S.N. 082-0255

SHEET S-3 OF S-8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

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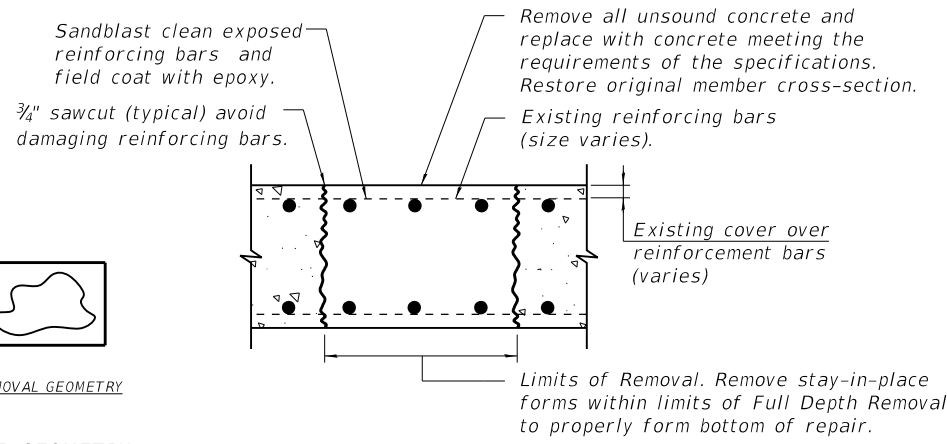
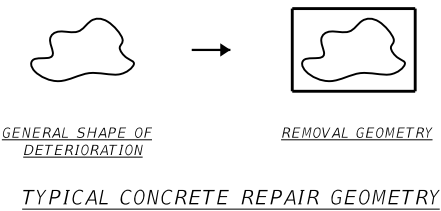
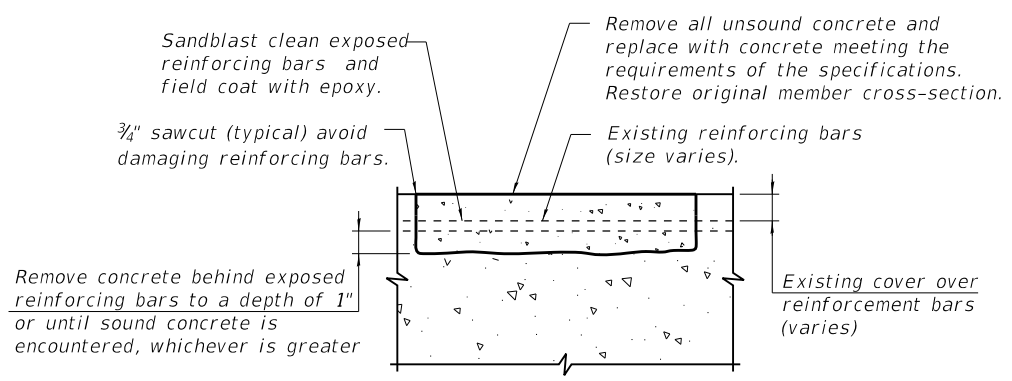
SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D26	7	2	9
Q1	6	2	8
Q2	8	2	10

Deck Slab Repair

Note:
 Deck sounding was performed in September 2017 with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
 For details of full depth or partial depth patching, see SheetS-167 of S-183
 Surface preparation and application of a concrete sealer shall extend across the entire top surface of the deck and the tops and inside vertical faces of the parapets.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq Yd	3
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3
Deck Slab Repair (Partial)	Sq Yd	21
Bridge Deck Concrete Sealer	Sq Yd	12831



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USER NAME = Isalas	DESIGNED - SMG	REVISED -
PLOT SCALE = 0.1667"/in.	CHECKED - RW	REVISED -
PLOT DATE = 8/7/2020	DRAWN - LM	REVISED -
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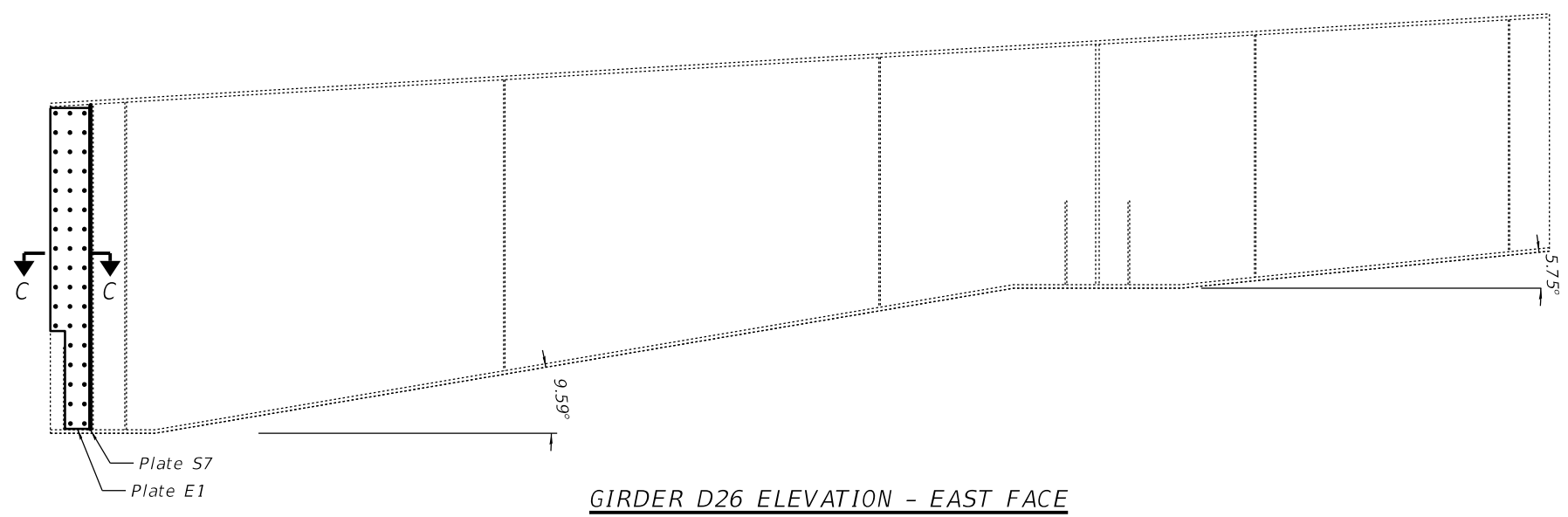
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DECK PATCHING REPAIRS, SPAN D26-Q, Q1, AND Q2
 S.N. 082-0255

SHEET S-4 OF S-8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1A-1	ST. CLAIR	361	304
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

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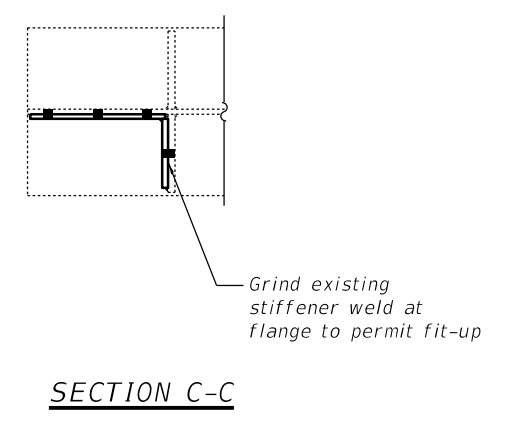


GIRDER D26 ELEVATION - EAST FACE

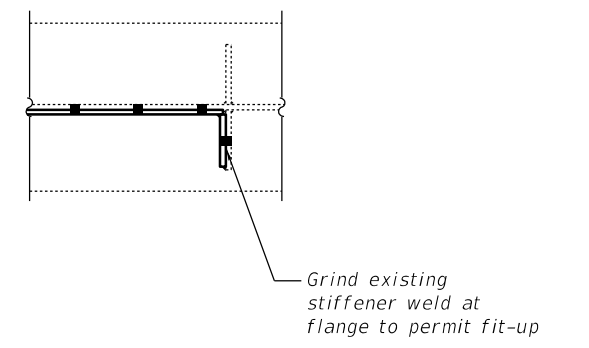
Note:
 Blast clean or grind the top of existing bottom flange where stiffener retrofit plates will bear on the bottom flange. Remove surface corrosion while limiting material removal. New stiffener plates to be beveled where required to match slope of bottom flange.

BILL OF MATERIAL

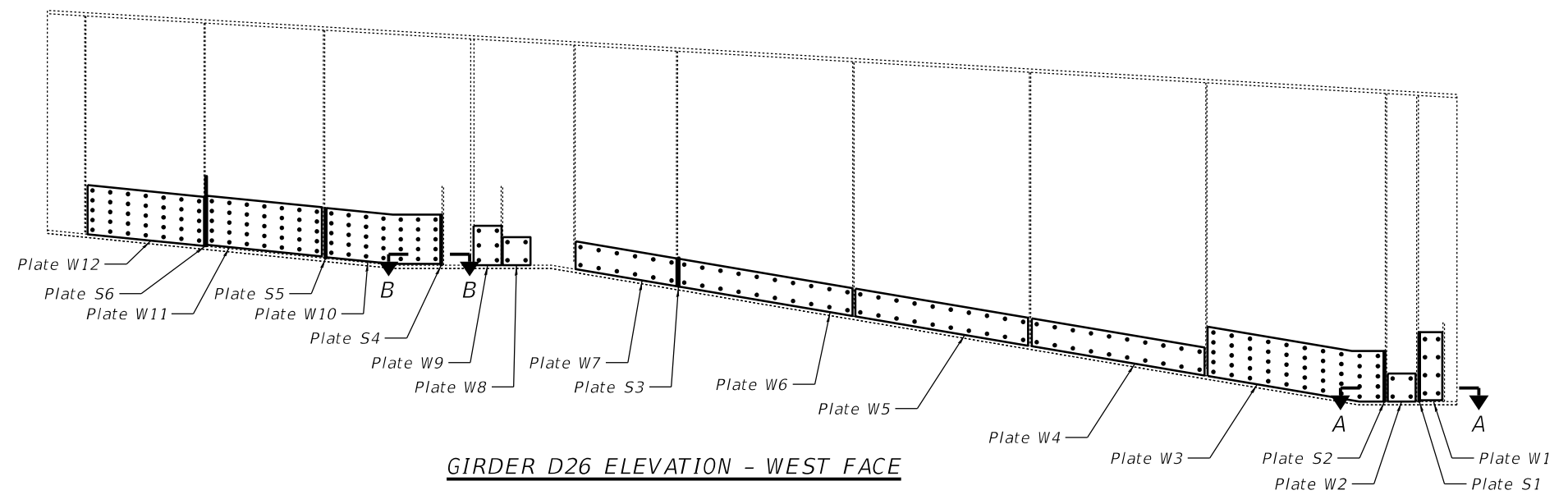
ITEM	UNIT	QUANTITY
Structural Steel Repair	Pound	1140



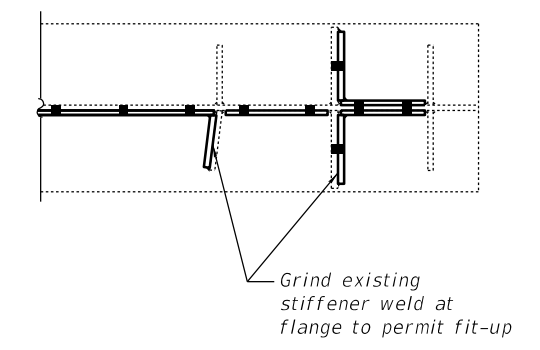
SECTION C-C



SECTION B-B



GIRDER D26 ELEVATION - WEST FACE



SECTION A-A

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wbs, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = Isalas	DESIGNED - ARB	REVISED -
PLOT SCALE = 0.1667"/in.	CHECKED - RW	REVISED -
PLOT DATE = 10/1/2020	DRAWN - TWS	REVISED -
	CHECKED - RW	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS GIRDER D26 SECTION LOSS REPAIRS (1 OF 4)
S.N. 082-0255
 SHEET S-5 OF S-8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1+1	ST. CLAIR	361	305
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

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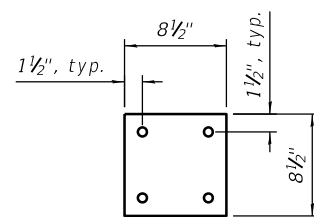
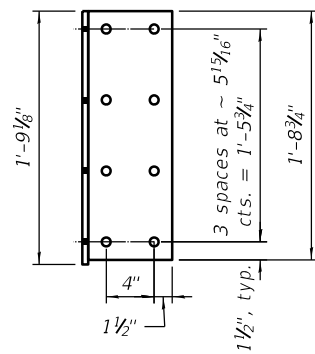


PLATE W1 AND S1 DETAIL

PLATE W2 DETAIL
 Plate W8 Similar

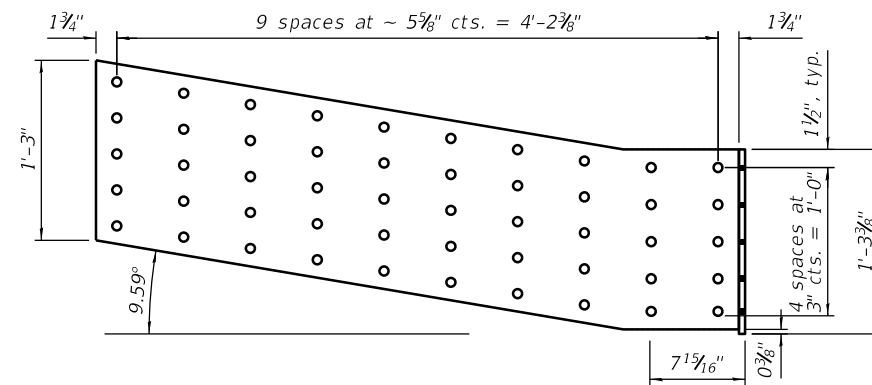


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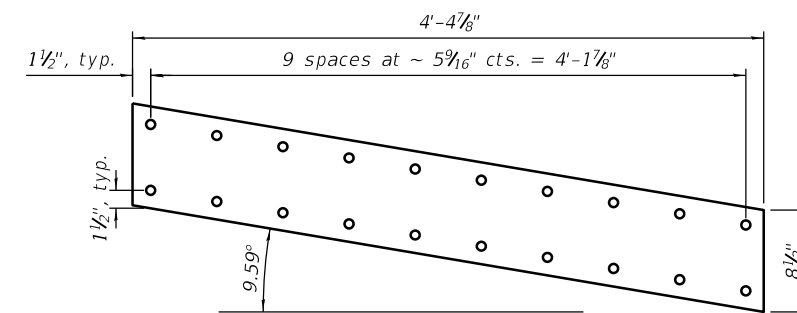


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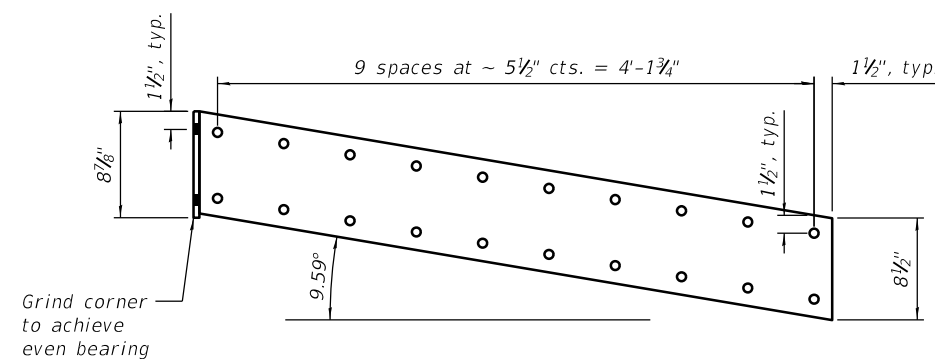
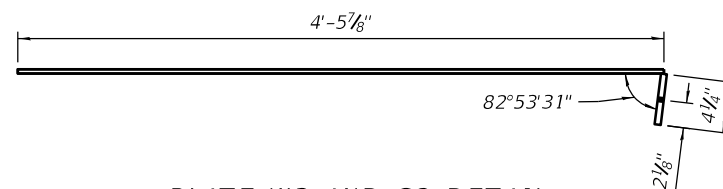
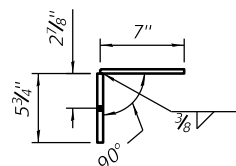


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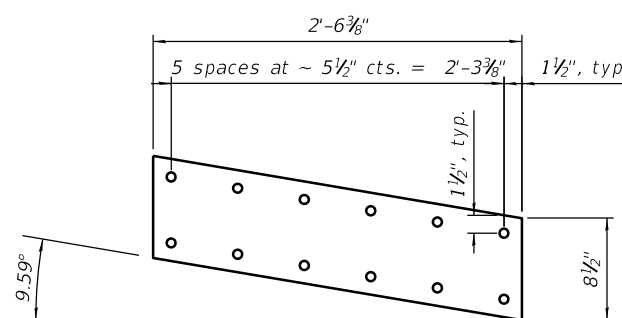


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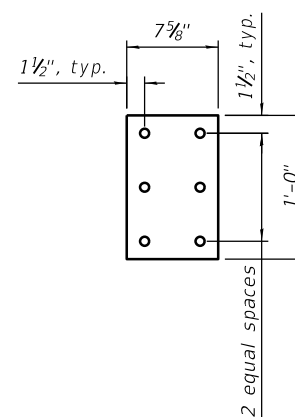


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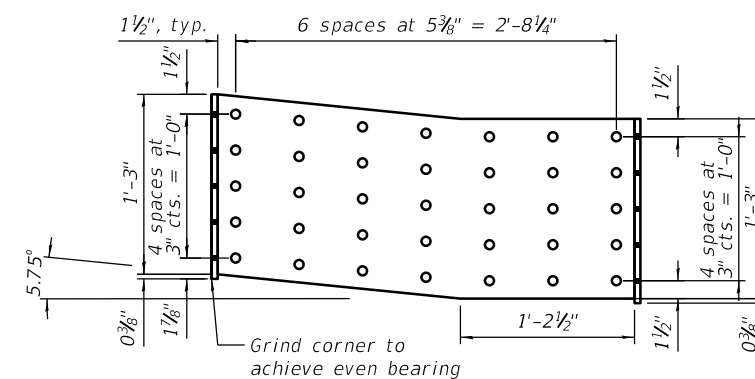
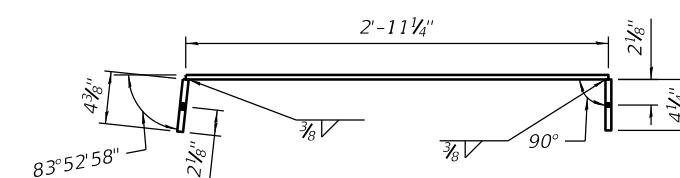
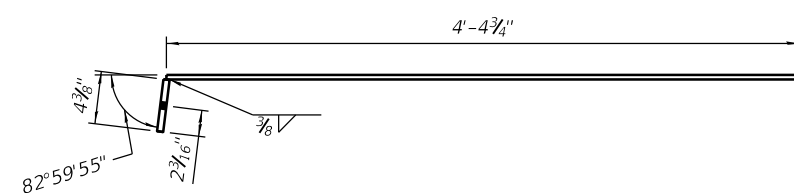


PLATE W10, S4, and S5 DETAIL



Note:
 All new plates are 1/2" thick.

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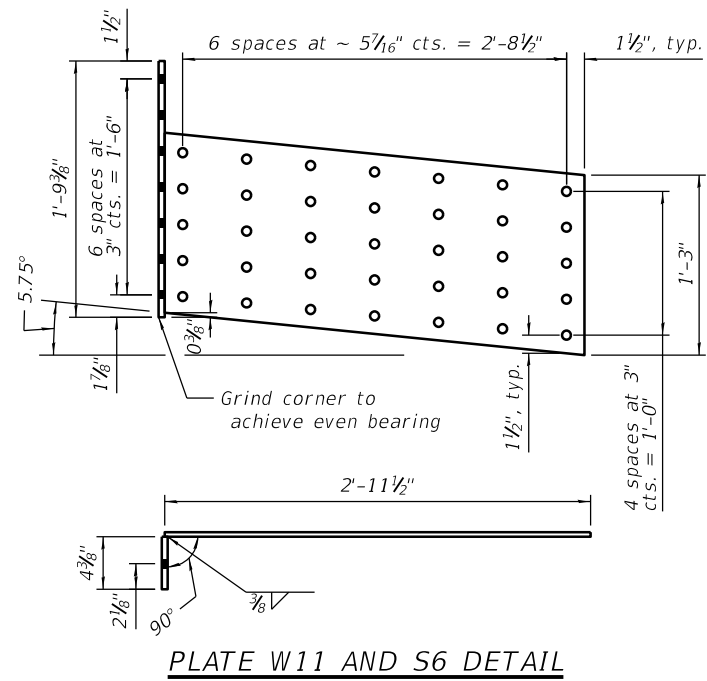


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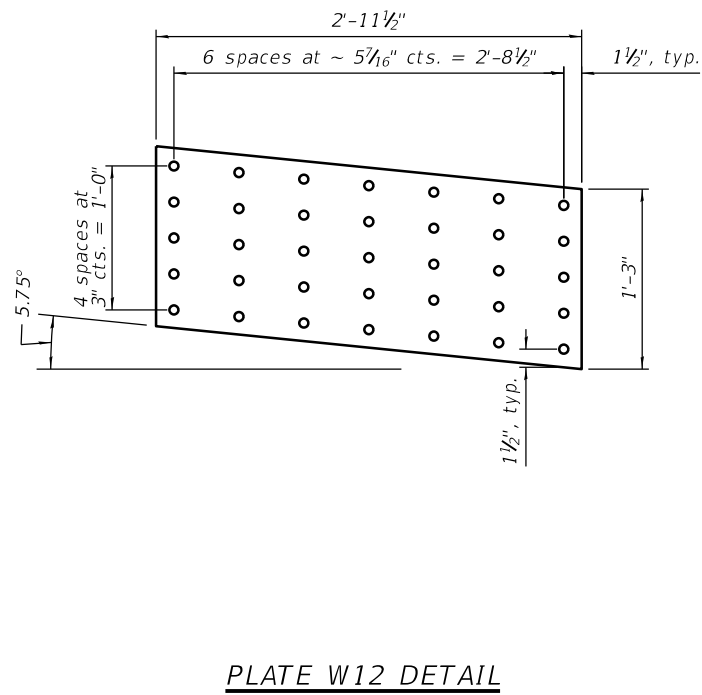


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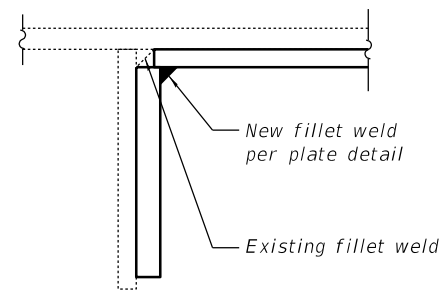


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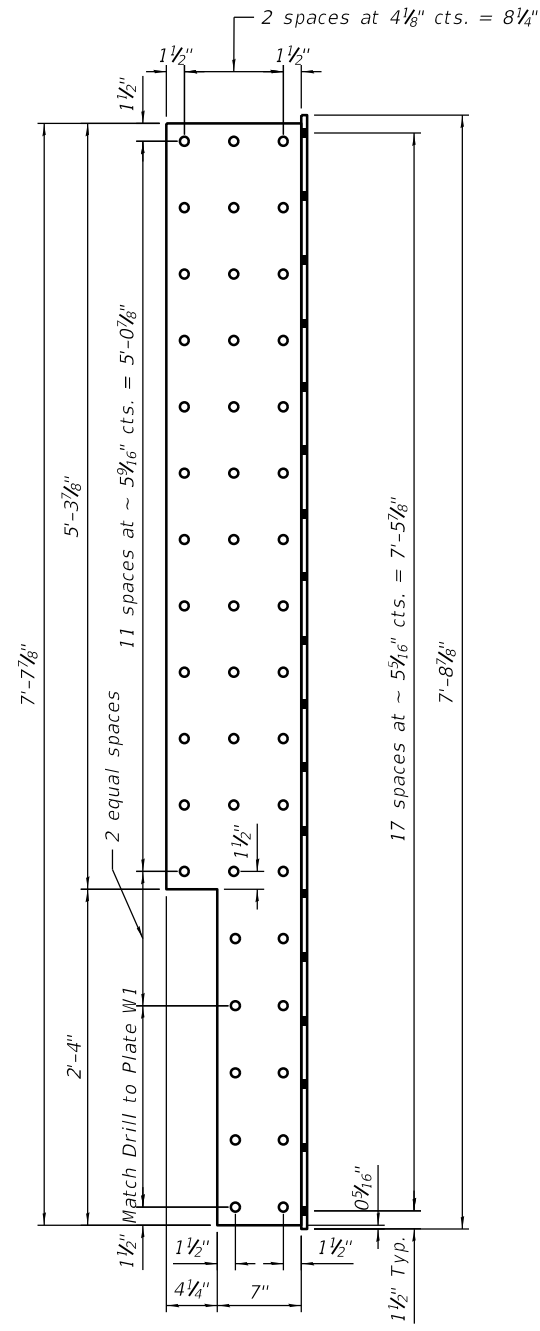
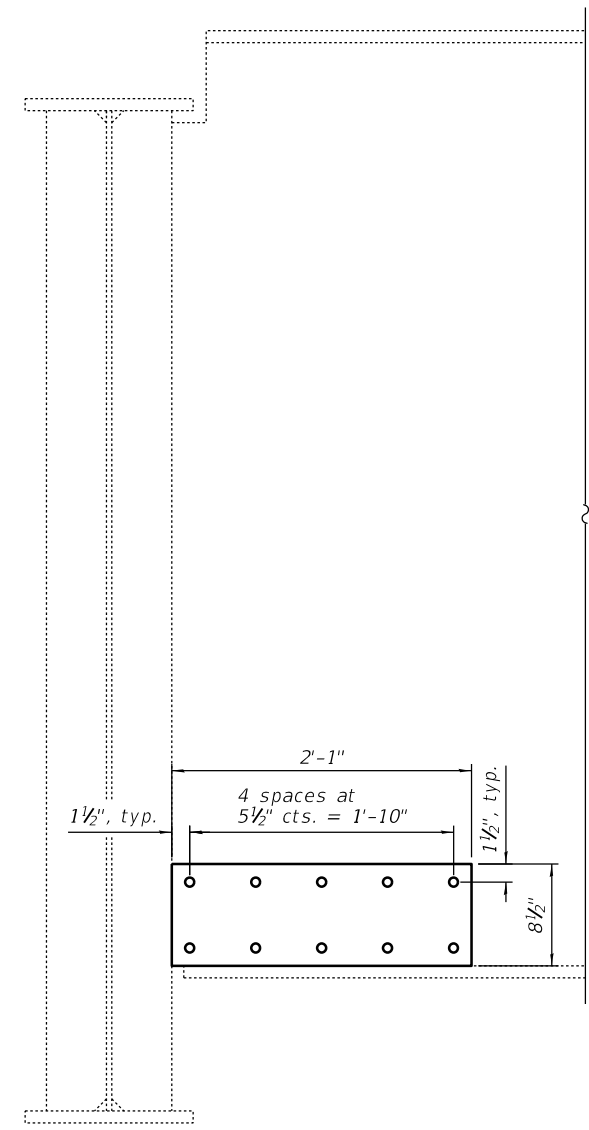


PLATE E1 AND S7 DETAIL



GIRDER G2 REPAIR
 South Face of Girder G2 (Looking North)

Note:
 All new plates are 1/2" thick.

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
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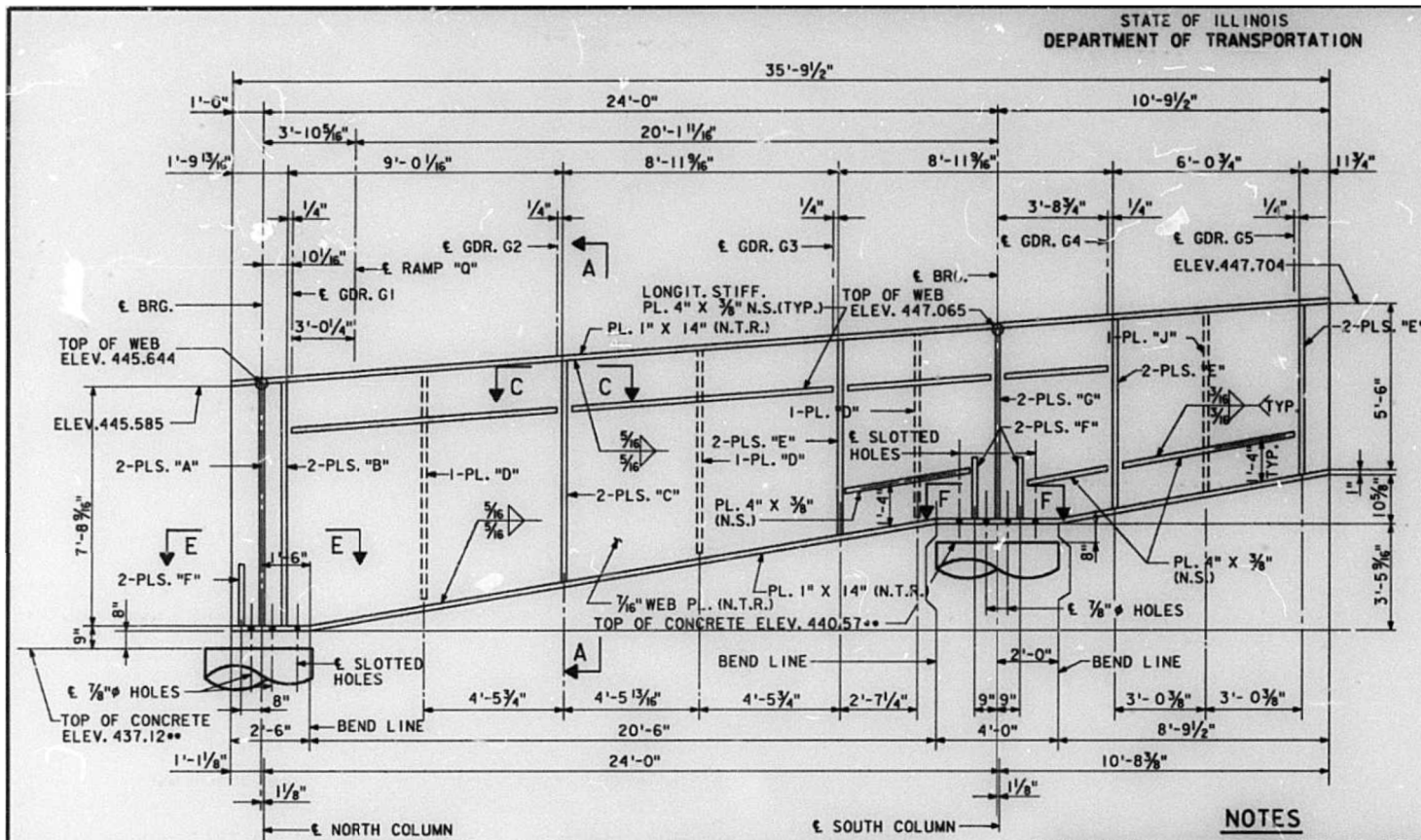
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PLOT SCALE = 0.1667"/in.	CHECKED - RW	REVISED -
PLOT DATE = 10/1/2020	DRAWN - TWS	REVISED -
	CHECKED - RW	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CROSS GIRDER D26 SECTION LOSS REPAIRS (3 OF 4)
 S.N. 082-0255

SHEET S-7 OF S-8 SHEETS

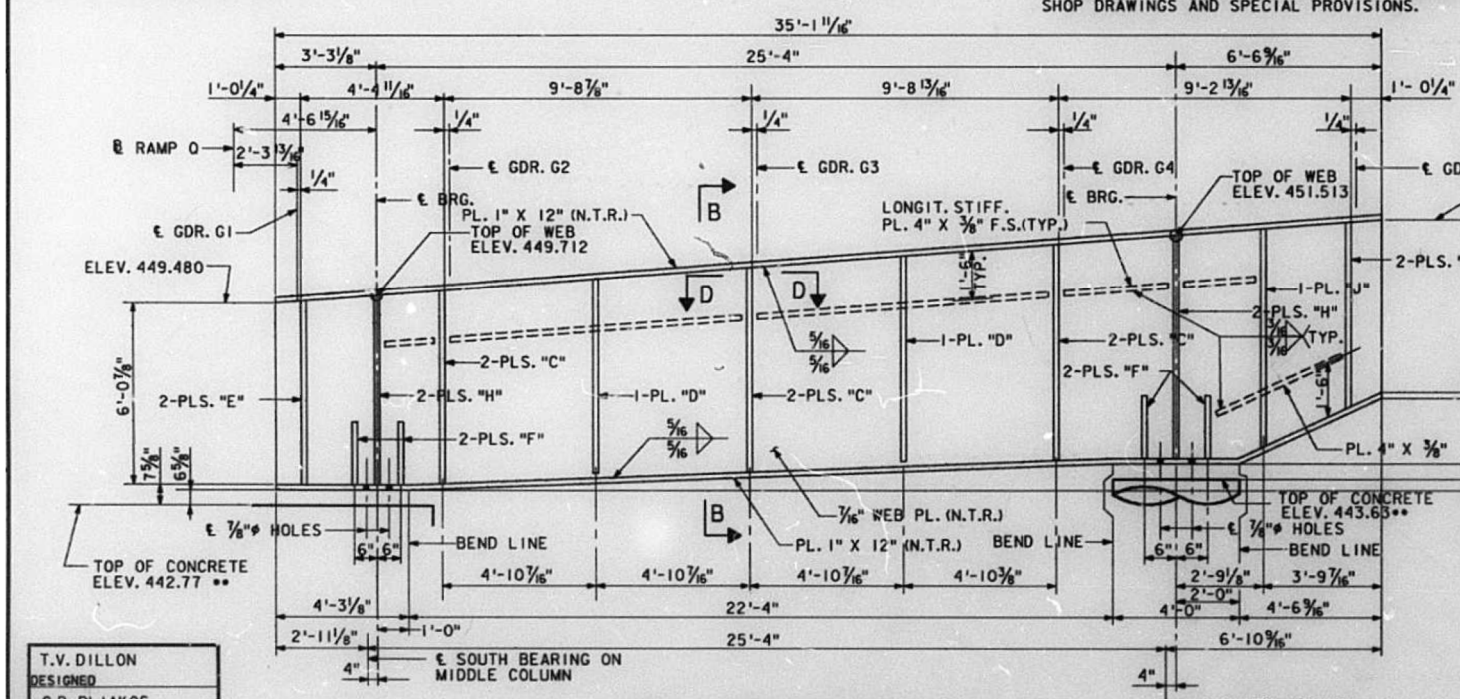
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1+1	ST. CLAIR	361	307
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				



CROSS GIRDER AT PIER D26

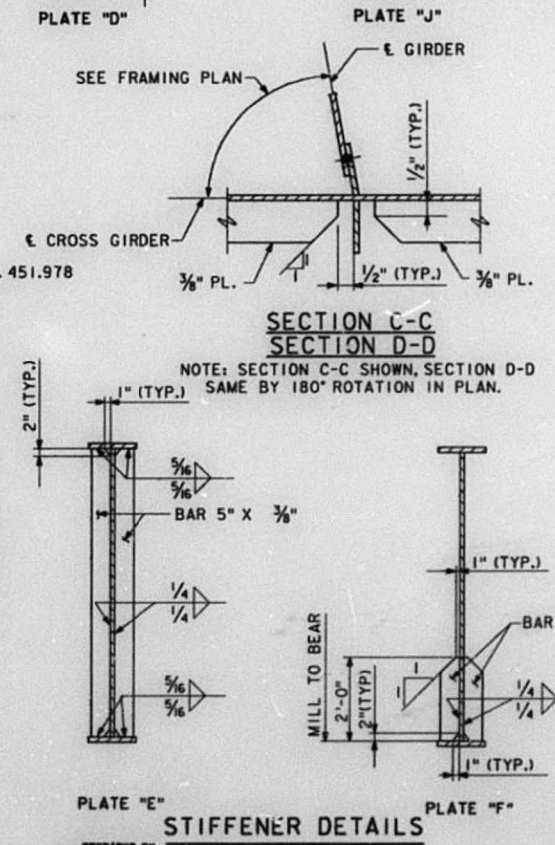
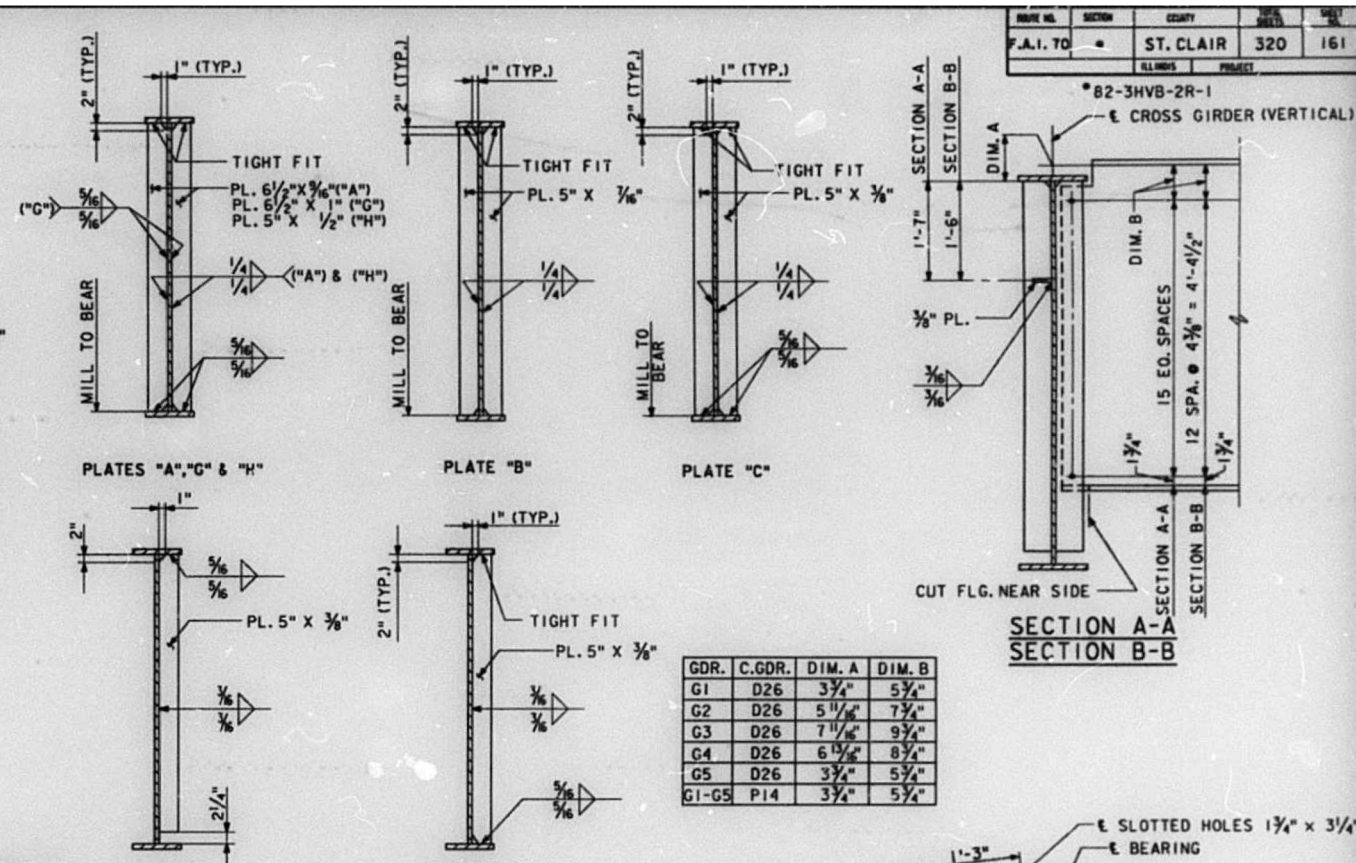
** ELEV. AT TOP OF COLUMNS ARE FROM 'TEEL FABRICATOR SURVEY DATA AND SHALL BE FIELD VERIFIED BEFORE ERECTION.

NOTES
FURNISHING OF STRUCTURAL STEEL IS NOT PART OF THIS CONTRACT, UNLESS OTHERWISE NOTED. FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.



CROSS GIRDER AT PIER P14

DESIGNED	T.V. DILLON
CHECKED	C.D. PLIAKOS
DRAWN	P. NELSON
CHECKED	R. BECK



GDR.	C.GDR.	DIM. A	DIM. B
G1	D26	3 3/4"	5 3/4"
G2	D26	5 1/2"	7 3/4"
G3	D26	7 1/2"	9 3/4"
G4	D26	6 1/2"	8 3/4"
G5	D26	3 3/4"	5 3/4"
G1-G5	P14	3 3/4"	5 3/4"

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
CROSS GIRDER AT PIERS D26 AND P14

STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.
REV. 8/26/88
REV. 2/26/88
SHEET NO. 25 OF 32

FOR INFORMATION ONLY

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Bench Mark: Cut "X" on top northwest hex bolt on hydrant, 23' southeast of the intersection of Bond Avenue and South 4th Street. Elev. 414.63.

Existing Structure: S.N. 082-0005 was originally built in 1966 as F.A.I. 70, Section 82-3VB & reconstructed in 1991 as F.A.I. 70, Section 82-3HVB-2R-2. The existing structure consists of a 6-span superstructure supported on multi-column piers, which are founded on pile supported footings and a solid wall pier at the west end. The structure width varies and the total length is 856' from River Pier 6 to Pier A1/BC1/D1. The superstructure framing is arranged in single and five span units between expansion joints, and is composite with the deck.

Salvage: None

SCOPE OF WORK

1. Installation of new continuous, strip seal joint at Pier 5.
2. Installation of a new finger joint at Pier BC1.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges
 1995 FHWA Seismic Retrofitting Manual

DESIGN STRESSES

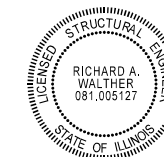
FIELD UNITS

NEW CONSTRUCTION

$f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Structural Steel)

EXISTING CONSTRUCTION

$f'_c = 3,500$ psi (1989+ Rehabs)
 $f_c = 1,400$ psi (1967 Construction)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel 1967 Construction)
 $f_y = 36,000$ psi & $50,000$ psi (Structural Steel 1989+ Rehabs)

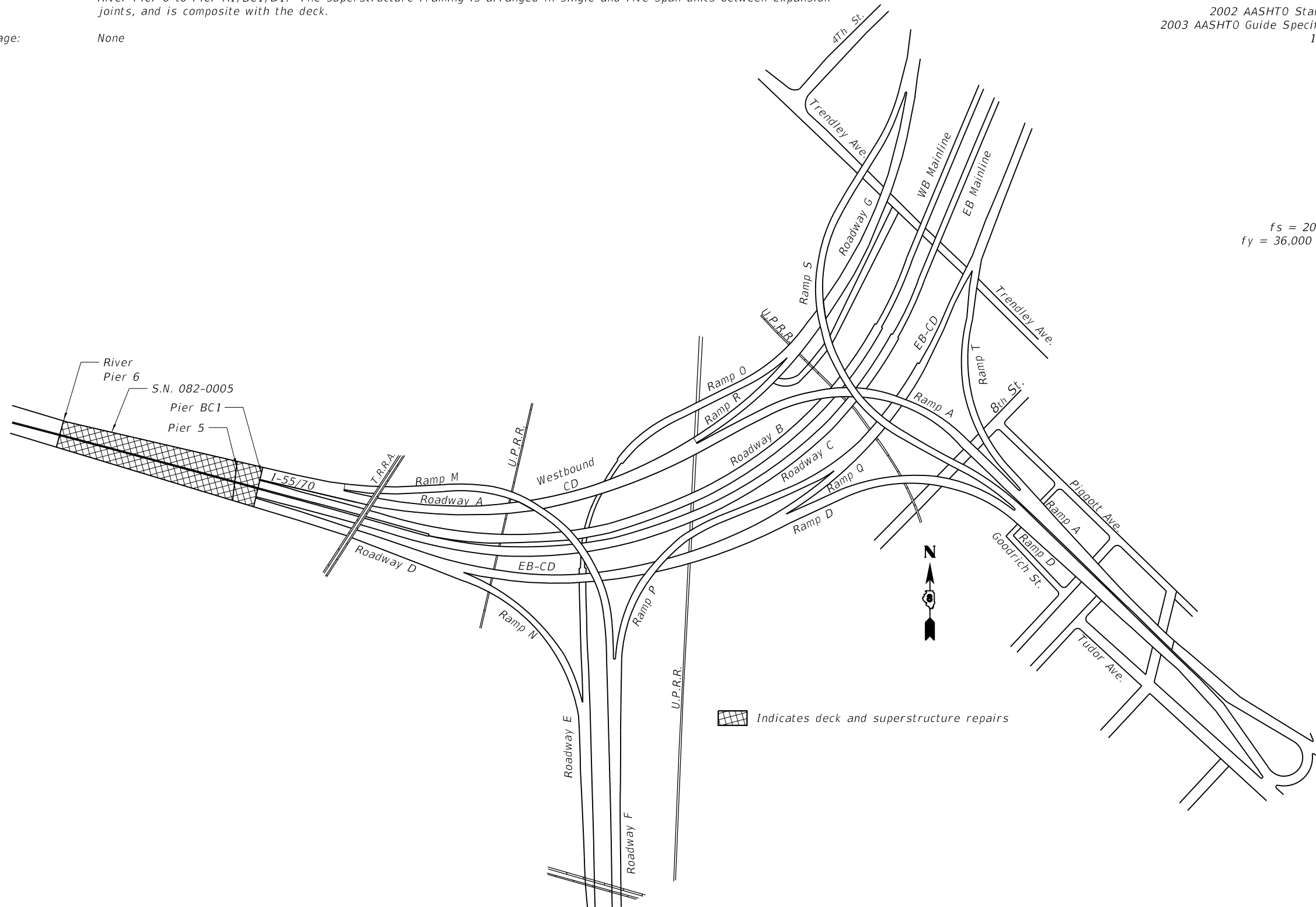


Signature: *Richard A. Walther*

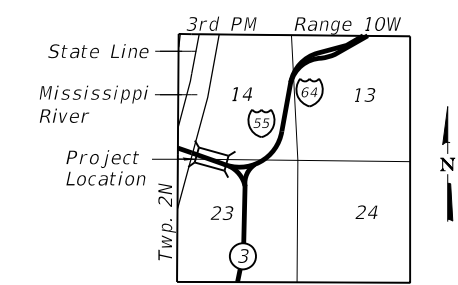
Date Signed: 07-16-2020

License Expires: 11/30/2020

The seal shown above is valid for all 13 sheets in this set, which were prepared under my direct supervision.



Indicates deck and superstructure repairs



LOCATION SKETCH

GENERAL PLAN
 F.A.I. 70 (I-55/I-64) US 40
 SEC. 82-3HVB-2R-1-I-1
 SEC. 82-3HVB-2R-(2,1)-I-2
 ST. CLAIR COUNTY
 STATION 41+00.00
 STRUCTURE NO. 082-0005

GENERAL PLAN

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 330 Pingsten Road
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 www.wje.com

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	CHECKED - RW	REVISD -
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PLOT DATE = 7/16/2020	CHECKED - RW	REVISD -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND SCOPE OF WORK
 S.N. 082-0005**

SHEET S-1 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-I-1	ST. CLAIR	361	309
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

1. 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.
2. The Contractor shall exercise extreme caution with demolition activities to prevent damage to the existing structure. Any damage from the construction activities shall be repaired at the Contractor's expense.
3. The Contractor shall field verify all proposed structural plate and angle dimensions and spacing of holes prior to ordering steel.
4. All structural steel shall be AASHTO M-270 Grade 50, unless noted otherwise.
5. No field welding is permitted, except as specified in the contract documents.
6. Fasteners shall be ASTM A325, Type 1, mechanically galvanized bolts. Bolts shall be 7/8 in. diameter and placed in 15/16 in. diameter holes, unless noted otherwise.
7. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
8. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision, "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
9. All new structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel or Structural Steel Repair, as appropriate. All faying surfaces of bolted connections must meet the requirements for a class A surface, as defined by AASHTO.
10. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign materials shall be removed from the surface in contact with concrete. Tightly adhered paint may remain unless noted otherwise. Removal shall be accomplished by methods that will not damage the steel, with cost included in "Concrete Removal".
11. As directed by the Engineer, existing construction accessories, including existing metal deck accessories and shear studs, welded to the top flange of beams, stringers, and girders shall be removed at locations of deck replacement at joints. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding, and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
12. Reinforcing bars designated (E) shall be epoxy-coated.
13. Any reinforcing bars damaged during concrete removal shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with concrete removal.
14. Existing reinforcing bars extending into joint repair areas and existing concrete surfaces to be in contact with repair material shall be cleaned by sandblasting to remove all dirt, contaminants, rust, and adhered concrete. After cleaning, all exposed reinforcement shall be carefully evaluated to determine if replacement or additional reinforcement bars are required. Section loss shall be reported to the Engineer. Cost is included with Concrete Removal. Existing reinforcing bars shall be field-coated with epoxy. Segments of existing bars with more than 1/2 in. cover from the original concrete surface, which were partially or fully exposed during concrete removal operations, shall receive one coat of epoxy enveloping the entire surface area of the bar. A secondary coat shall be applied if visible pin holes or holidays remain following
15. Existing reinforcing bars shall be field-coated with epoxy. Segments of existing bars with more than 1/2 in. cover from the original concrete surface, which were partially or fully exposed during concrete removal operations, shall receive one coat of epoxy enveloping the entire surface area of the bar. A secondary coat shall be applied if visible pin holes or holidays remain following application of the first coat. The dry film thickness of the applied coating shall be approximately 10 to 12 mils. Cost is included with superstructure concrete.
16. Extreme caution shall be exercised with coating existing reinforcement to avoid spillage of epoxy onto concrete surfaces. It is recommended that heavy paper, cardboard, or plastic be installed below the bars during the coating process. Excess epoxy resting on existing concrete surfaces shall be removed by additional chipping or another approved method at the Contractor's expense.
17. New concrete deck surfaces adjacent to expansion joints shall have a tined finish as per Article 420.09(e)(1) of the Standard Specifications. Cost is included with Superstructure Concrete.
18. Finger Plate Expansion Joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
19. Tapered shims shall be added under the stools, as required by the Engineer, to make a smooth finger joint. Cost shall be included with Finger Plate Expansion Joint.
20. The finger plates shall be flame cut as provided in Article 505.04(k) of the Standard Specifications.
21. Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at ambient temperature other than 50°F
22. Protective Coat shall be applied to new concrete surfaces following completion of expansion joint replacement and only after sufficient curing of new concrete. Work may be completed under a separate traffic control setup and mobilization following substantial completion of other work.

INDEX OF SHEETS

- S-1 General Plan and Scope of Work
- S-2 General Data
- S-3 Plan and Elevation
- S-4 Expansion Joint Removal Details
- S-5 Expansion Joint Replacement Details - Pier ABCD
- S-6 Expansion Joint Replacement Details - Pier BC1 (1 of 2)
- S-7 Expansion Joint Replacement Details - Pier BC1 (2 of 2)
- S-8 Preformed Joint Strip Seal
- S-9 Finger Joint Replacement Details - Pier BC1 (1 of 4)
- S-10 Finger Joint Replacement Details - Pier BC1 (2 of 4)
- S-11 Finger Joint Replacement Details - Pier BC1 (3 of 4)
- S-12 Finger Joint Replacement Details - Pier BC1 (4 of 4)
- S-13 Bar Splicer Assembly and Mechanical Splicer Details

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	35.3		35.3
Concrete Superstructure	Cu Yd	35.3		35.3
Protective Coat	Sq Yd	79		79
Reinforcement Bars, Epoxy Coated	Pound	4860		4860
Bar Splicers	Each	28		28
Preformed Joint Strip Seal	Foot	74		74
Finger Plate Expansion Joint, 5"	Foot	32		32
Relocating Name Plates	Each	1		1

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 330 Pfingsten Road
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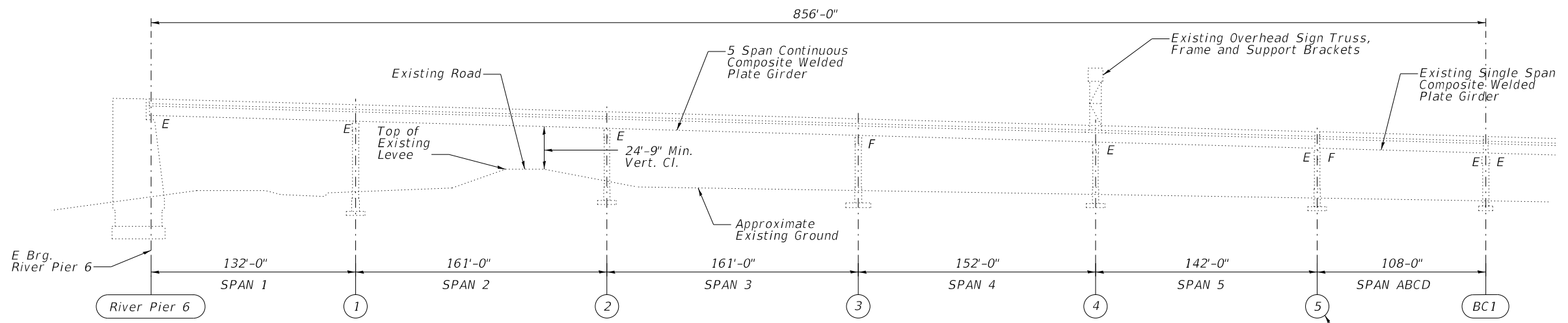
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DEPARTMENT OF TRANSPORTATION**

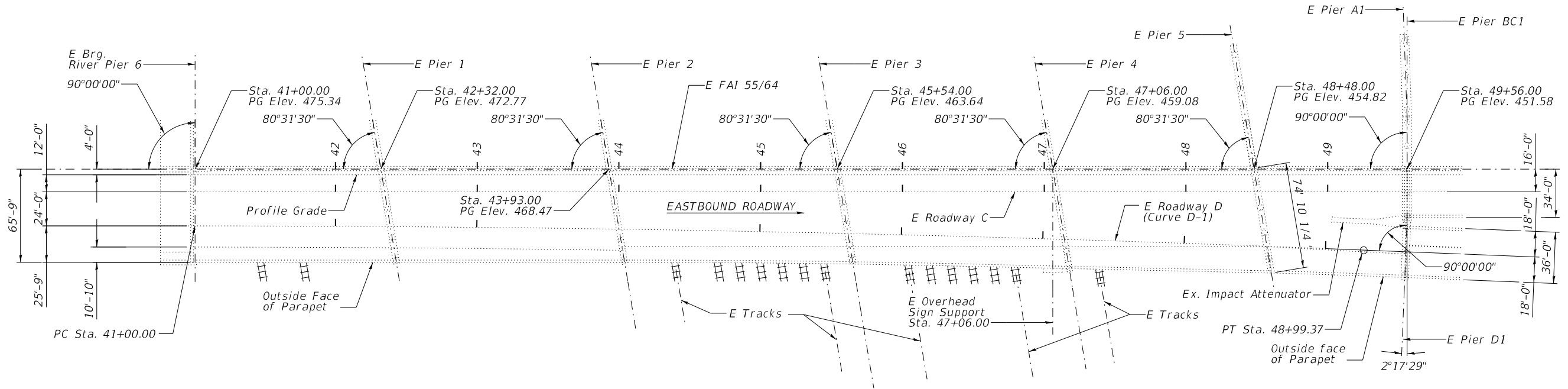
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S.N. 082-0005**

SHEET S-2 OF S-13 SHEETS

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CONTRACT NO. 76B55				
ILLINOIS		FED. AID PROJECT		



ELEVATION



PLAN

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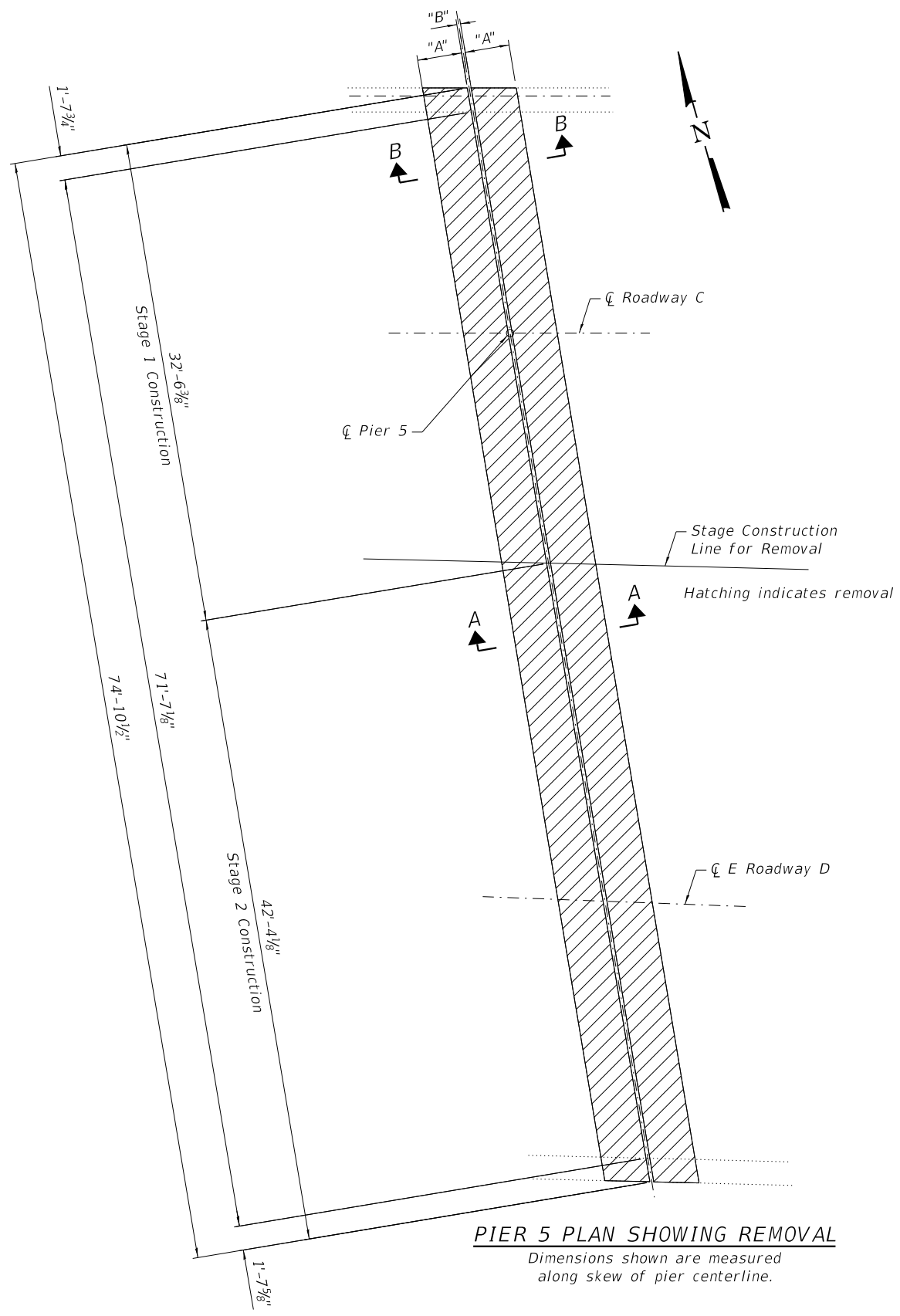
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PLAN AND ELEVATION
 S.N. 082-0005**

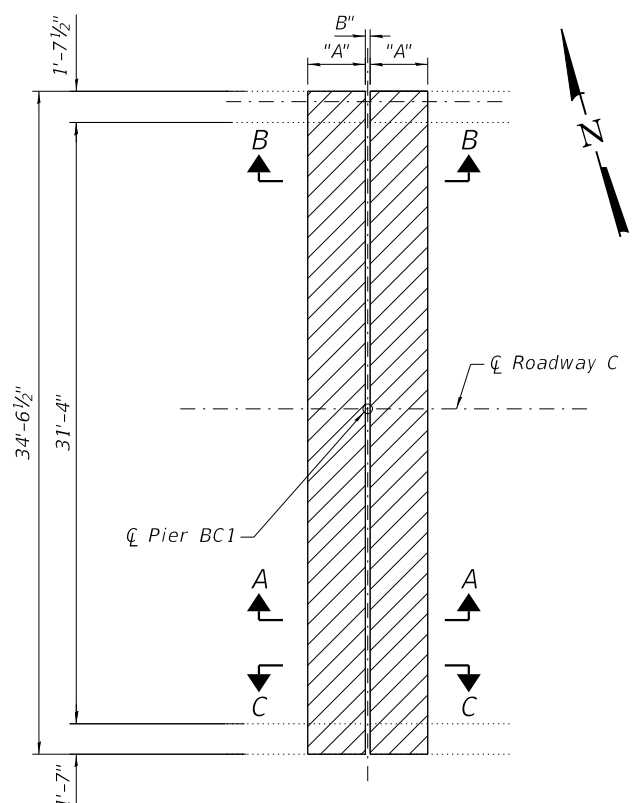
SHEET S-3 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

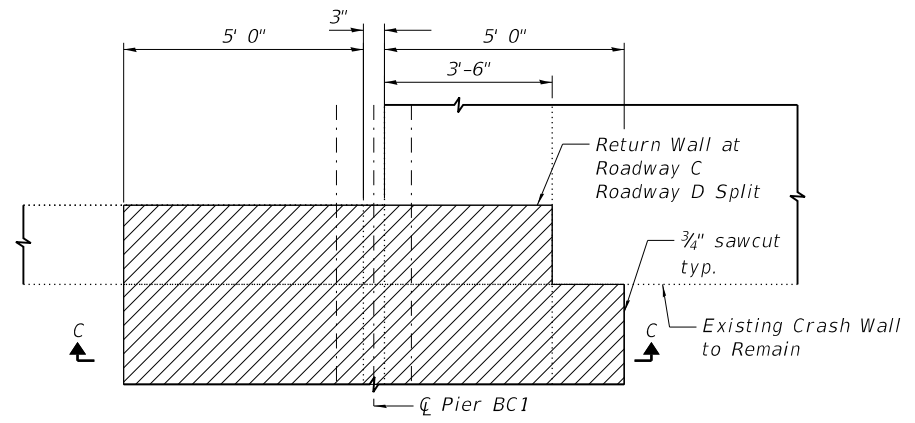
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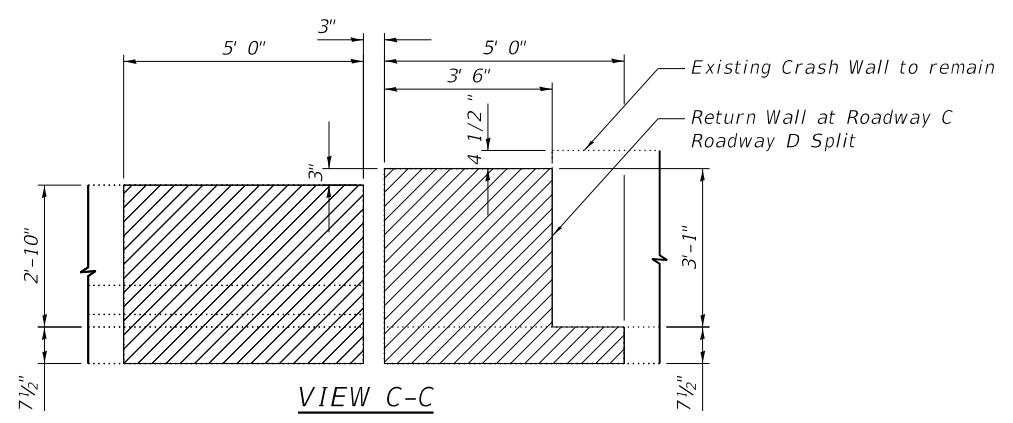
PIER 5 PLAN SHOWING REMOVAL
 Dimensions shown are measured along skew of pier centerline.



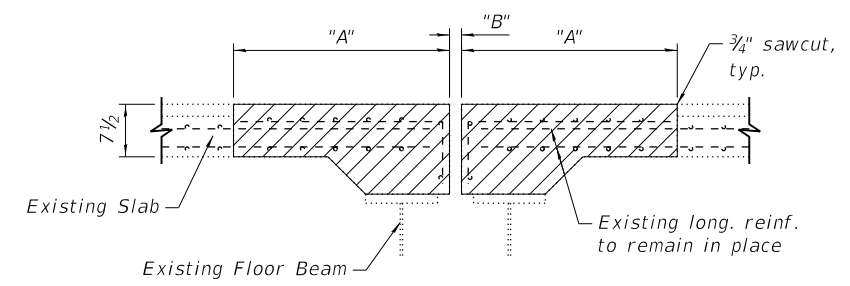
PLAN SHOWING REMOVAL AT PIER BC1
 Dimensions shown are measured along skew of pier centerline.



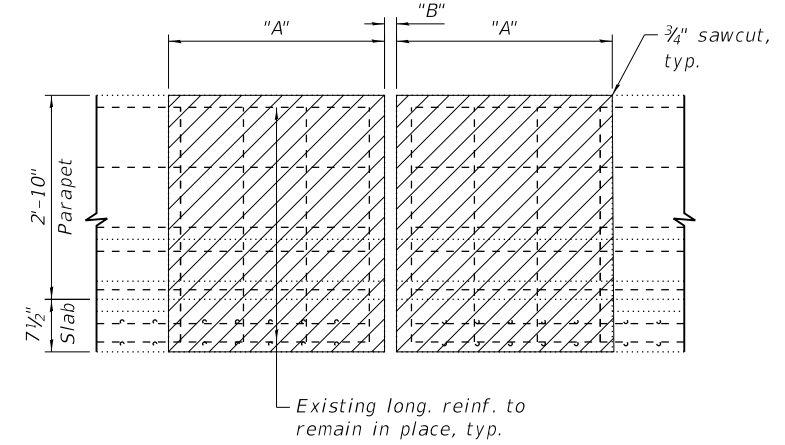
PIER BC1 RETURN WALL PLAN VIEW



VIEW C-C



SECTION A-A



VIEW B-B
 (Showing Reinforcement)

Location	Dimension "A"	Dimension "B"	Concrete Removal (Cu Yd)
Pier ABCD	3'-0"	3"	24.1
Pier BC1	5'-0"	3"	11.2

Notes:
 Saw cut perimeter of repair area as shown. Extreme caution shall be exercised while removing concrete adjacent to beams. Any damage to beams shall be repaired at the Contractor's expense.
 Removal of existing expansion joint and stay-in-place metal pans shall be included in the cost of Concrete Removal. Contractor shall take precautions during removal of southern parapet to prevent debris from entering Westbound lanes.
 The Contractor shall ensure that construction activities are in compliance with the Railroad General Notes shown on Sheet 2 of the Roadway Plans.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	35.3

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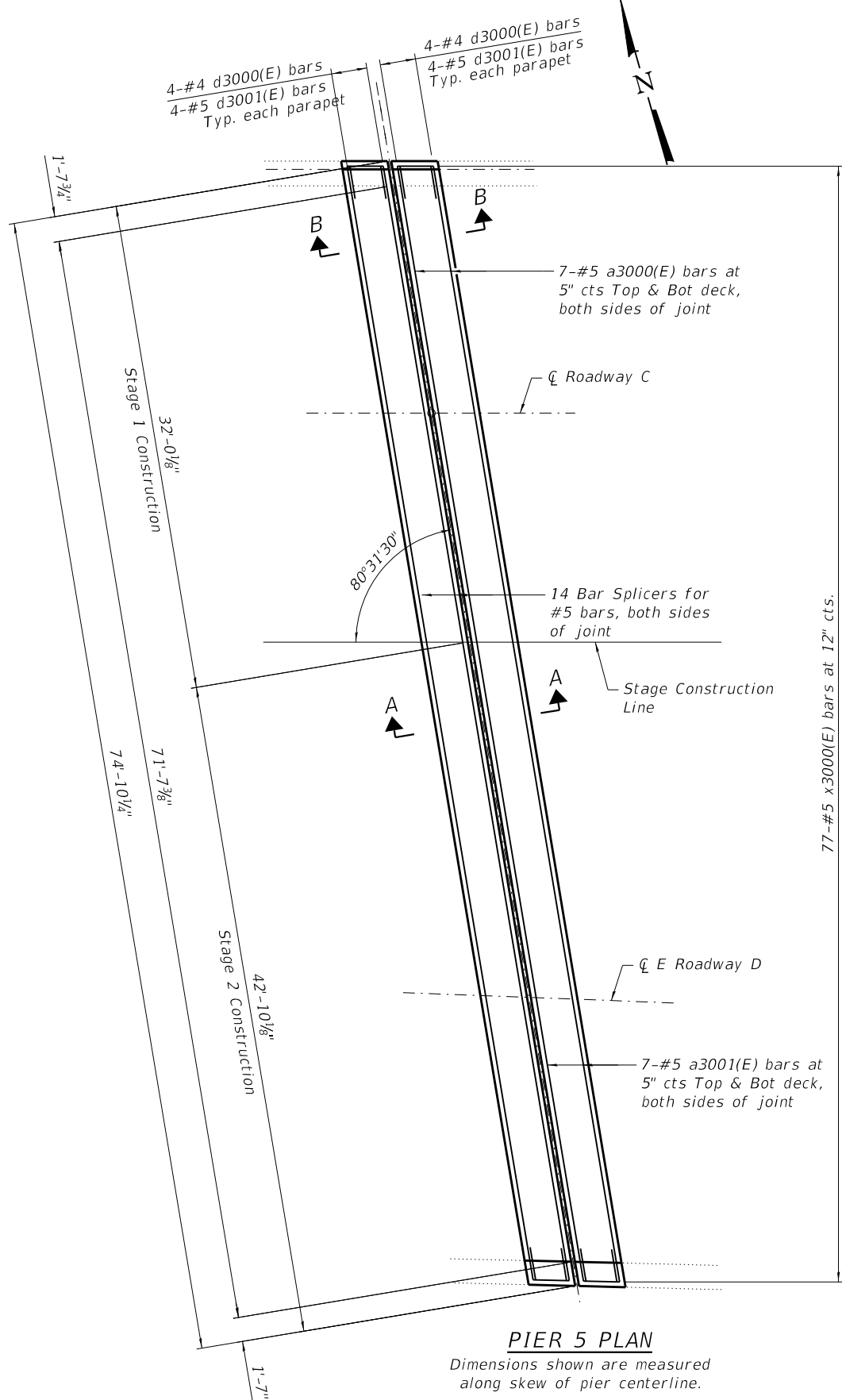
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REMOVAL DETAILS
S.N. 082-0005

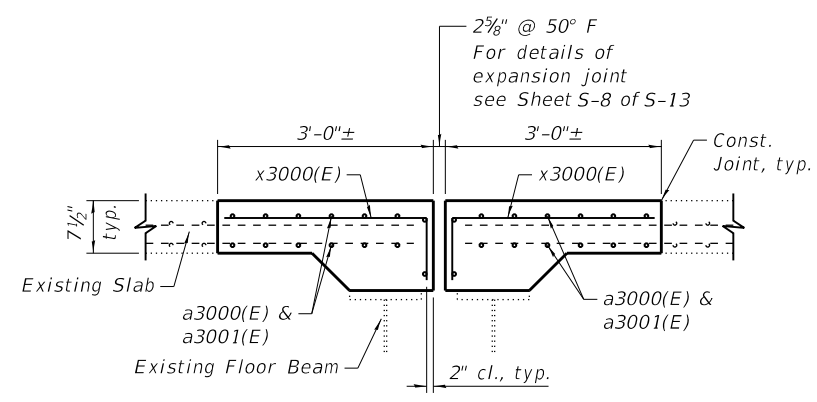
SHEET S-4 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

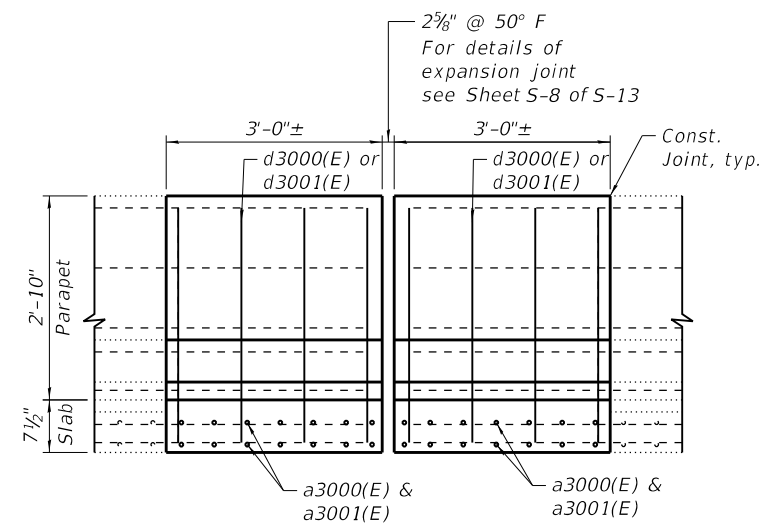
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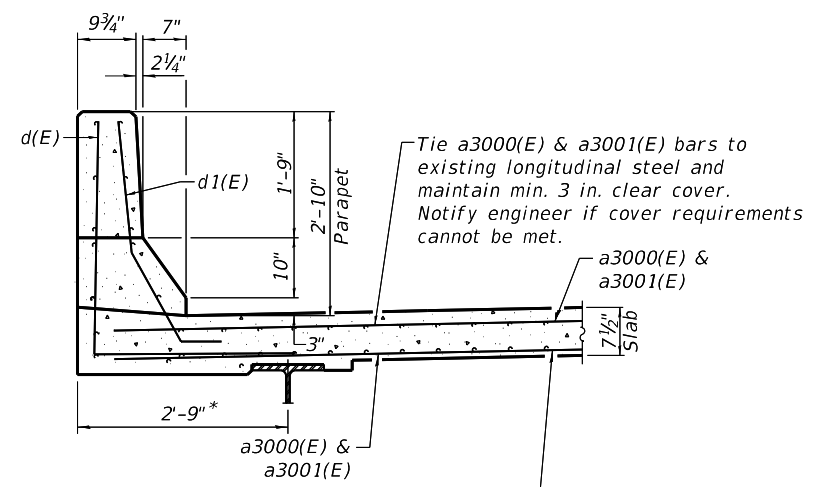
PIER 5 PLAN
 Dimensions shown are measured along skew of pier centerline.



SECTION A-A



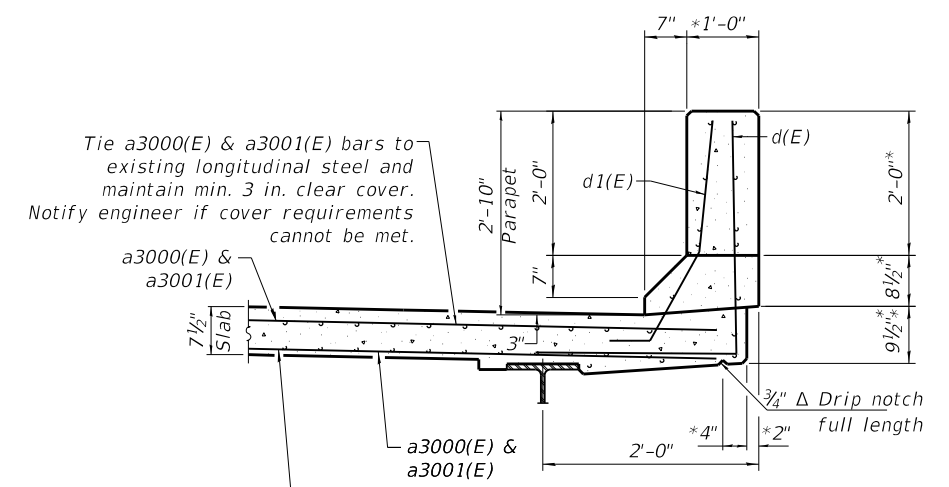
VIEW B-B
 (Showing Reinforcement)



Tie a3000(E) & a3001(E) bars to existing longitudinal steel and maintain min. 1 in. clear cover. Notify engineer if cover requirements cannot be met.

SECTION THRU NORTH PARAPET

*Adjust to match existing dimensions of parapet.

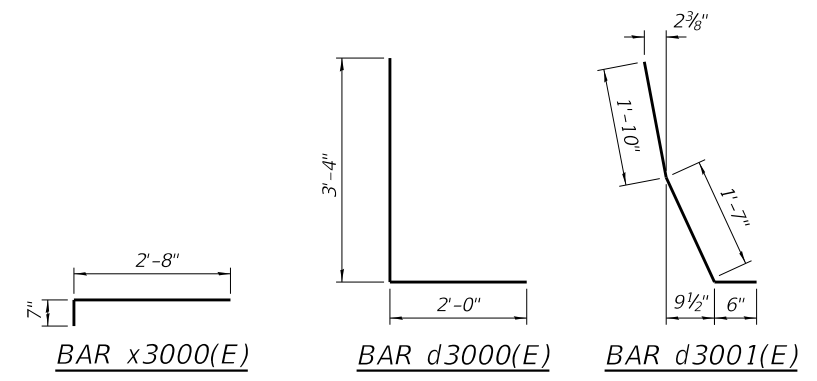


Tie a3000(E) & a3001(E) bars to existing longitudinal steel and maintain min. 1 in. clear cover. Notify engineer if cover requirements cannot be met.

SECTION THRU SOUTH PARAPET

*Adjust to match existing dimensions of parapet.

Notes:
 Existing reinforcing bars shall be field-coated with epoxy, in accordance with the Special Provision "Field Coating Reinforcing Bars with Epoxy".
 New concrete deck surfaces adjacent to expansion joints shall have a tined finish as per Article 420.09(e)(1) of the Standard Specifications. At locations where the roadway will be open to traffic within two weeks or less of concrete placement due to construction staging, an accelerating admixture from IDOT Qualified Product List of Concrete Admixtures shall be used for deck slab repairs. Refer to the Roadway Plans and project schedule. Cost included with Concrete Superstructure.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a3000(E)	28	#5	31'-8"	—	
a3001(E)	28	#5	42'-4"	—	
d3000(E)	16	#4	5'-4"	L	
d3001(E)	16	#5	3'-11"	L	
x3000(E)	154	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	2810
Concrete Superstructure				Cu. Yds.	24.1
Protective Coat				Sq Yd	53
Bar Splicer				Each	28

See Roadway Plans for extents of required traffic control.

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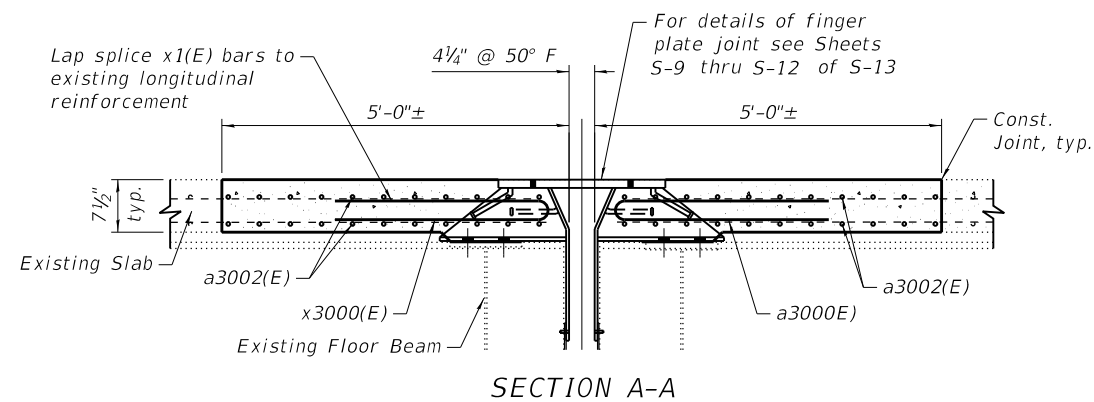
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS - PIER ABCD
S.N. 082-0005

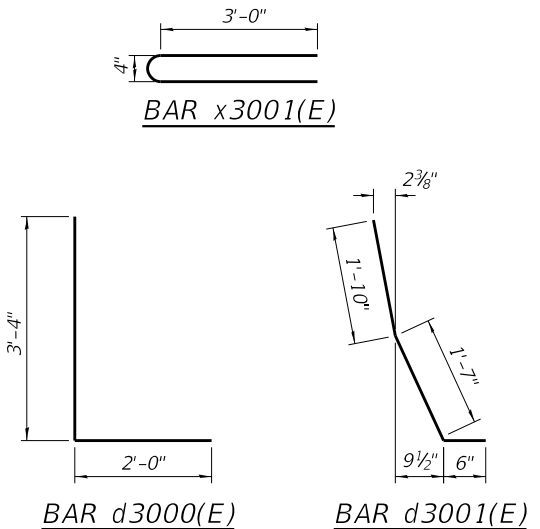
SHEET S-5 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

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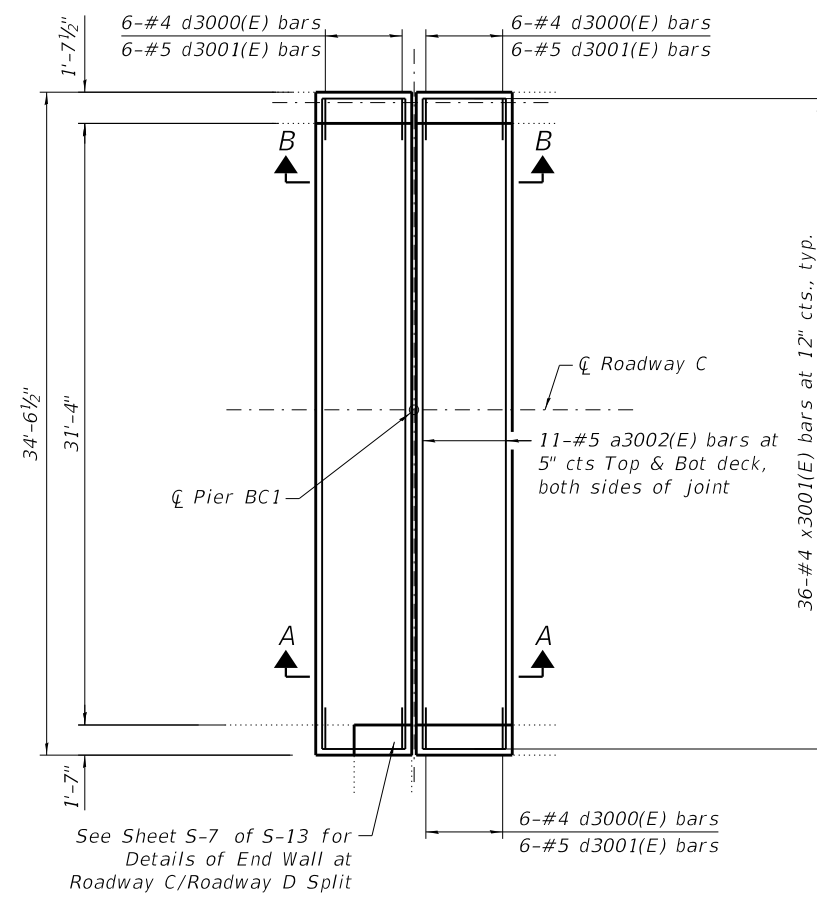
SECTION A-A



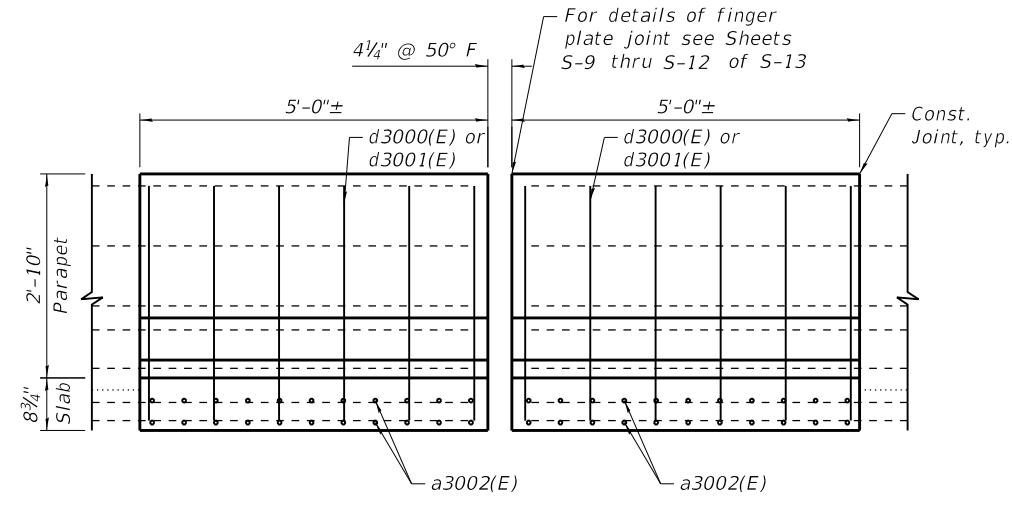
BAR x3001(E)
 BAR d3000(E)
 BAR d3001(E)

BILL OF MATERIAL

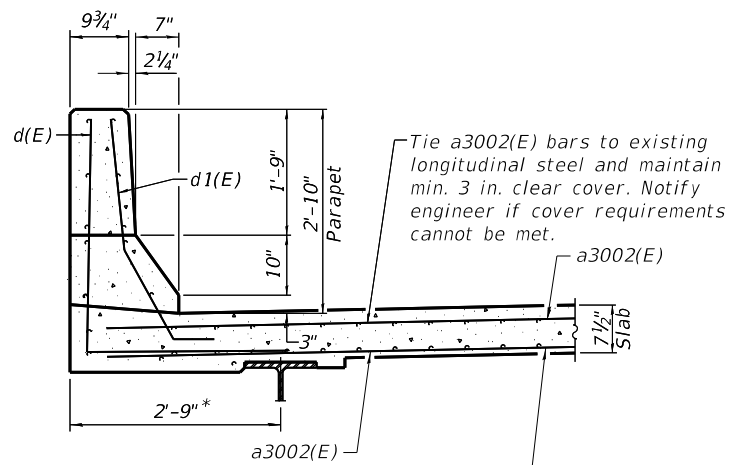
Bar	No.	Size	Length	Shape
a3002(E)	44	#5	34'-2"	—
d3000(E)	22	#4	5'-4"	L
d3001(E)	22	#5	3'-11"	∟
x3001(E)	72	#4	6'-7"	U
Reinforcement Bars, Epoxy Coated			Lbs.	2050
Concrete Superstructure			Cu. Yds.	11.1
Protective Coat			Sq Yd	26
Relocating Name Plates			Each	1



PLAN AT PIER BC1
 Dimensions shown are measured along skew of pier centerline.



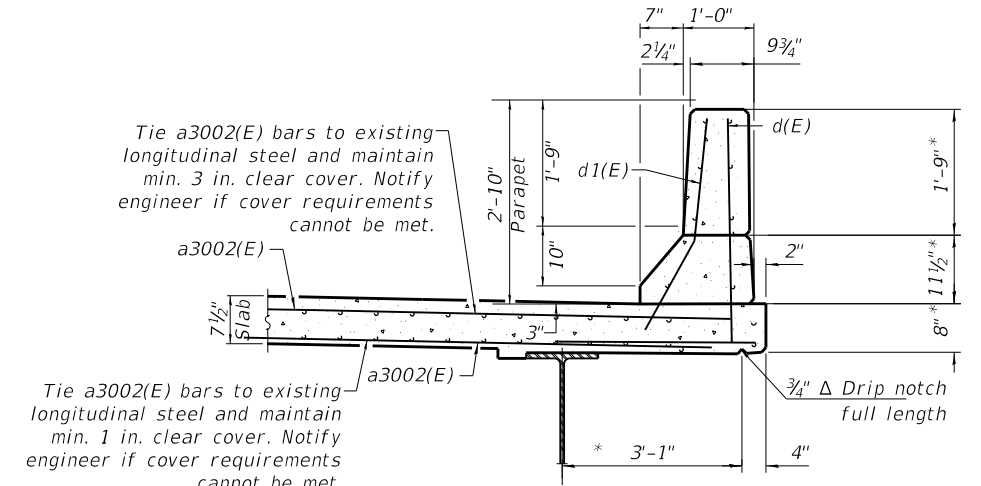
VIEW B-B
 (Showing Reinforcement)



Tie a3002(E) bars to existing longitudinal steel and maintain min. 1 in. clear cover. Notify engineer if cover requirements cannot be met.

SECTION THRU NORTH PARAPET

*Adjust to match existing dimensions of parapet.



Tie a3002(E) bars to existing longitudinal steel and maintain min. 1 in. clear cover. Notify engineer if cover requirements cannot be met.

SECTION THRU SOUTH PARAPET-SPAN BC1

* Adjust to match existing dimensions of parapet

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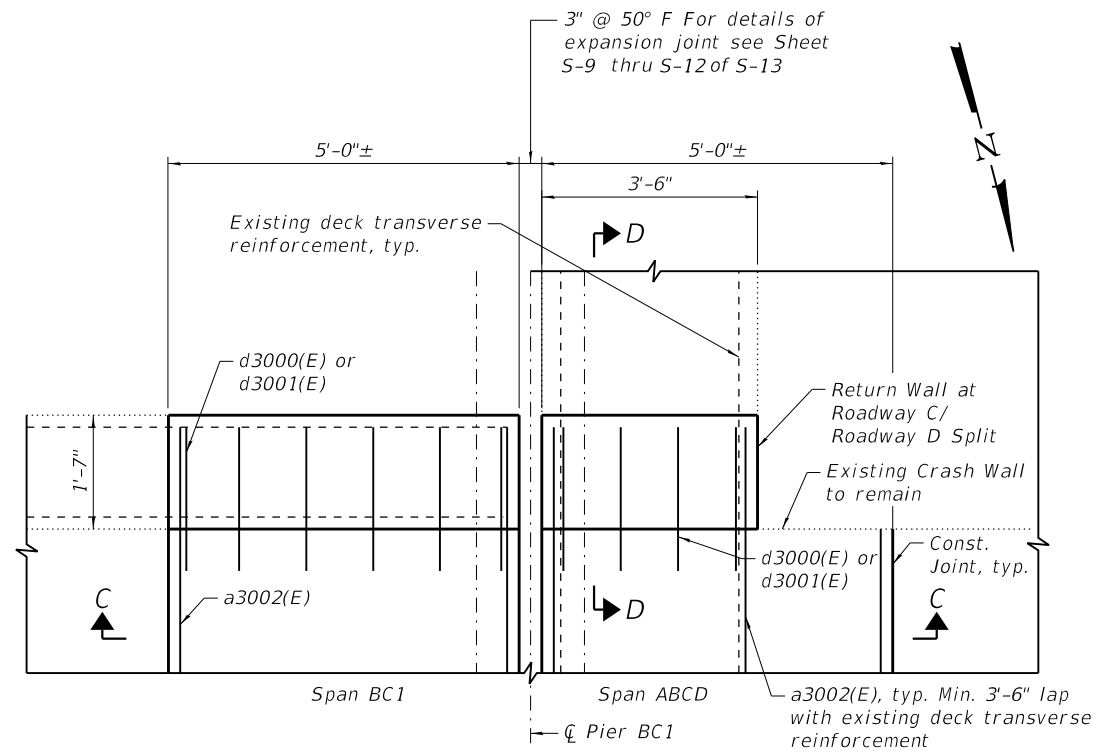
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS - PIER BC1 (1 OF 2)
 S.N. 082-0005

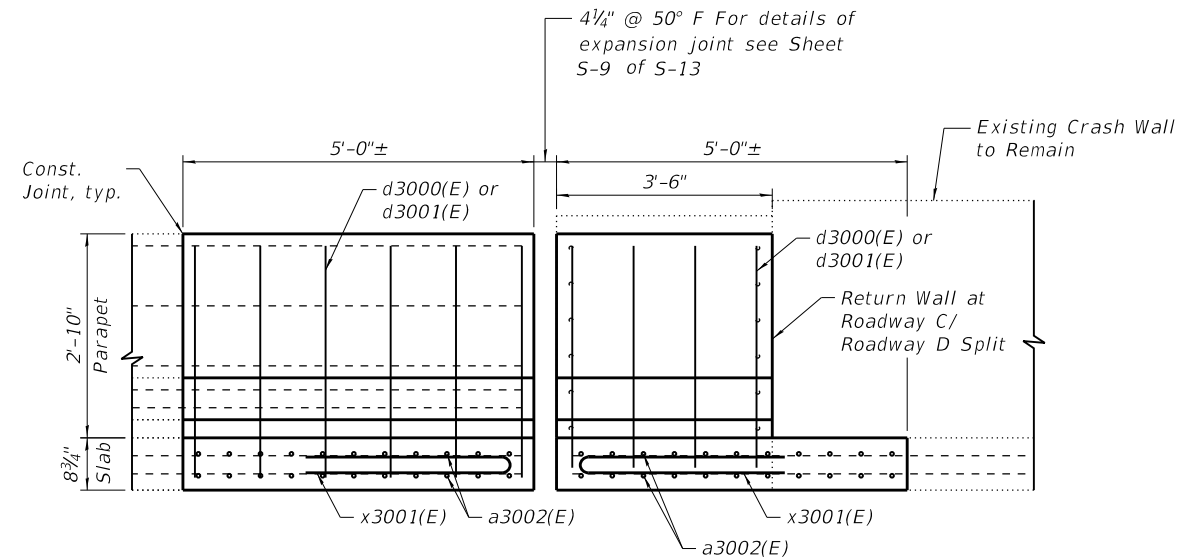
SHEET S-6 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

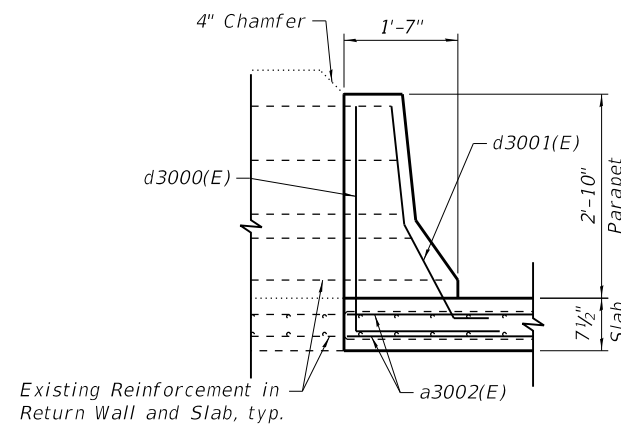
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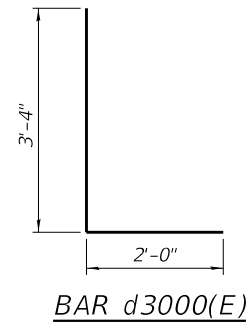
PIER BC1 RETURN WALL PLAN VIEW



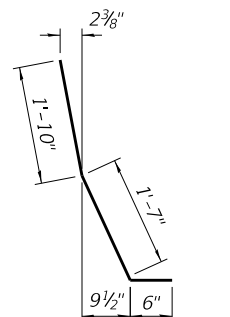
VIEW C-C



VIEW D-D



BAR d3000(E)



BAR d3001(E)

Notes:
 See Sheet S-9 of S-13 for additional details and quantities.

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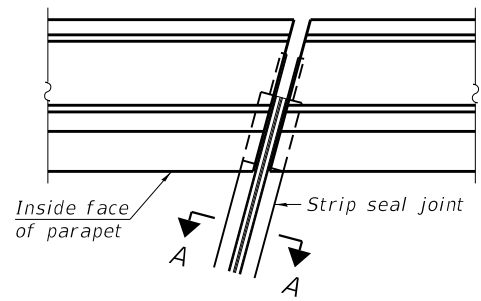
**STATE OF ILLINOIS
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**EXPANSION JOINT REPLACEMENT DETAILS - PIER BC1 (2 OF 2)
 S.N. 082-0005**

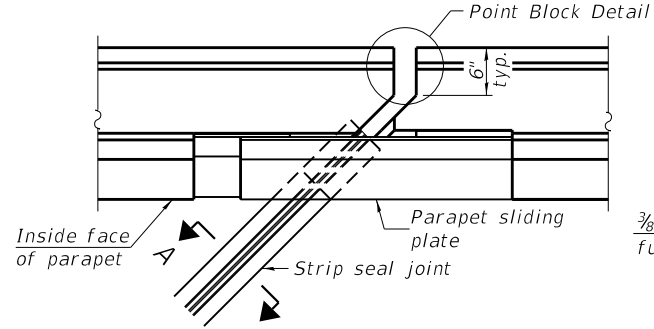
SHEET S-7 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-I-1	ST. CLAIR	361	315
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

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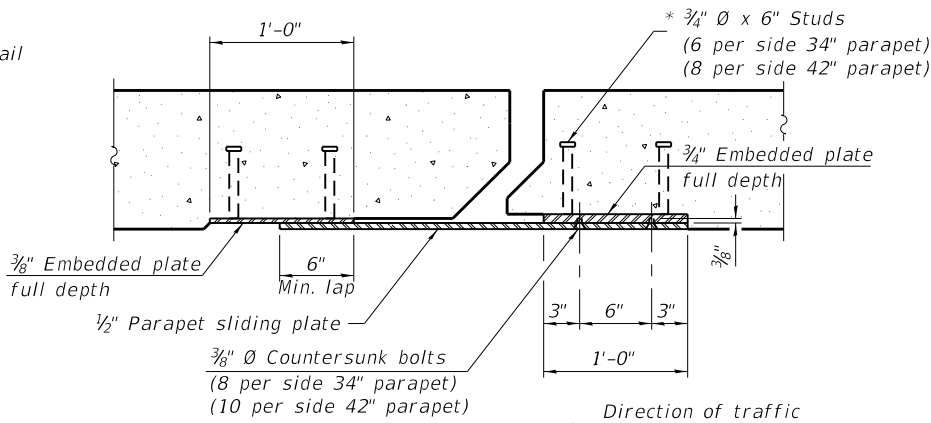


FOR SKEWS $\leq 30^\circ$



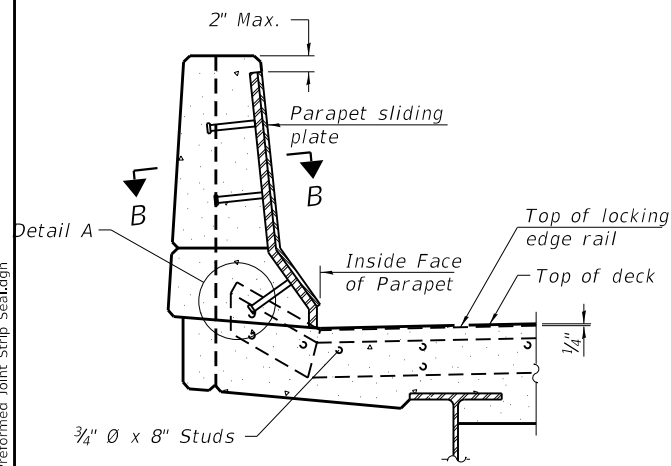
FOR SKEWS $> 30^\circ$

PLAN AT PARAPET



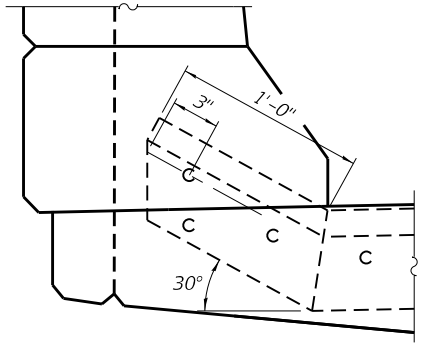
SECTION B-B

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed.
 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.



ELEVATION AT PARAPET

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

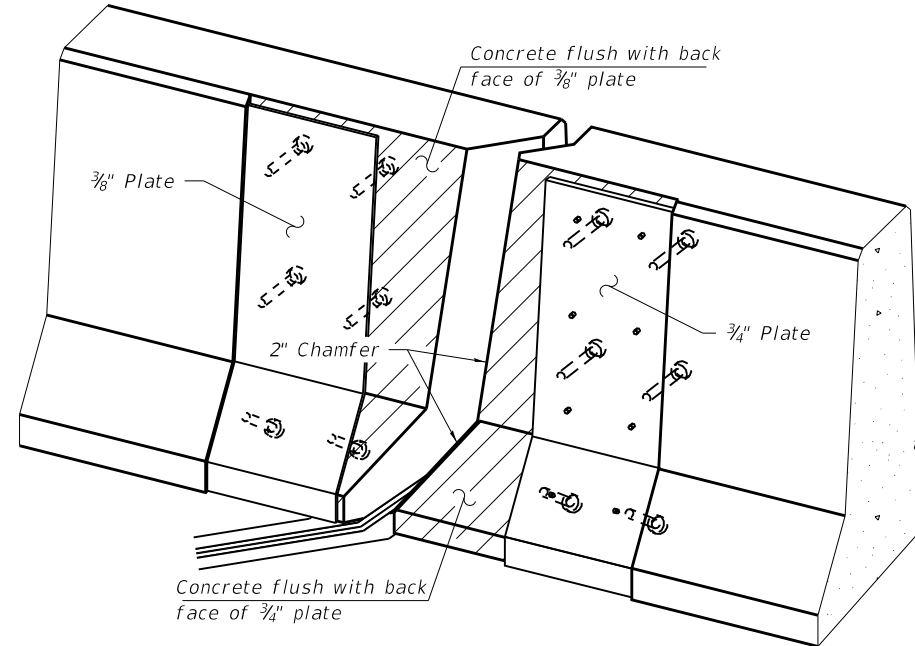


DETAIL A

EXPANSION OPENINGS

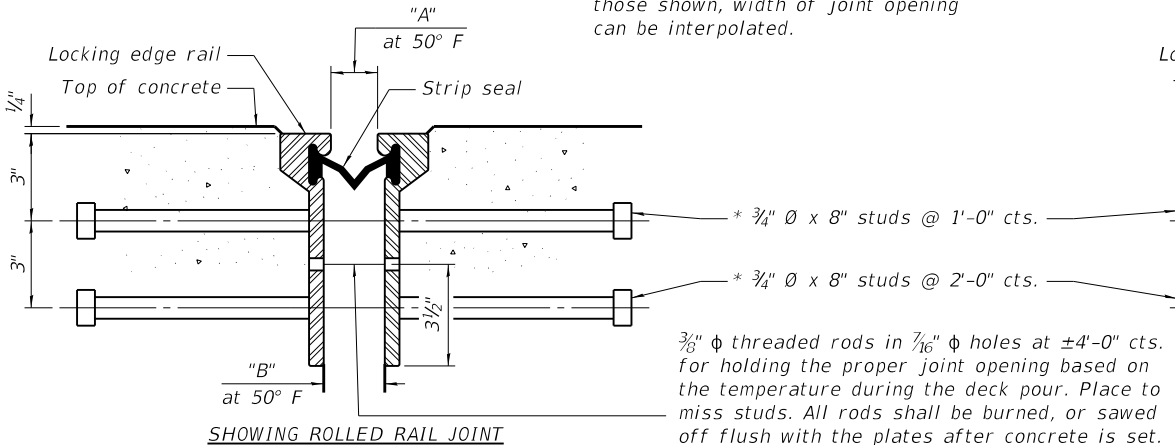
Location	Dimension "A"			Dimension "B"		
	@ -20°F	@ 50°F	@ 120°F	@ -20°F	@ 50°F	@ 120°F
Pier 5	3 3/4"	2 1/8"	1/2"	4 1/4"	2 3/8"	1"

Note: For deck temperatures between those shown, width of joint opening can be interpolated.

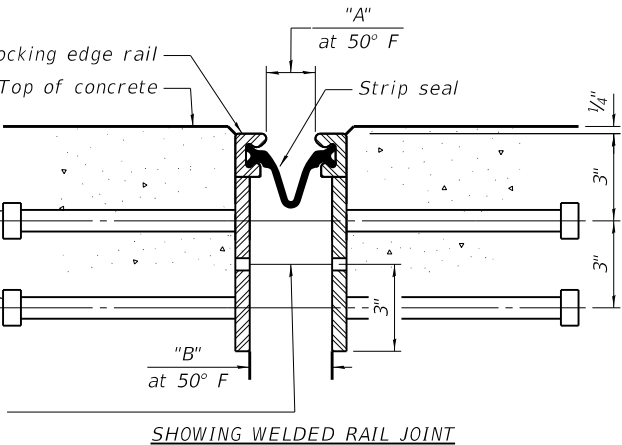


TRIMETRIC VIEW

(Showing embedded plates only)



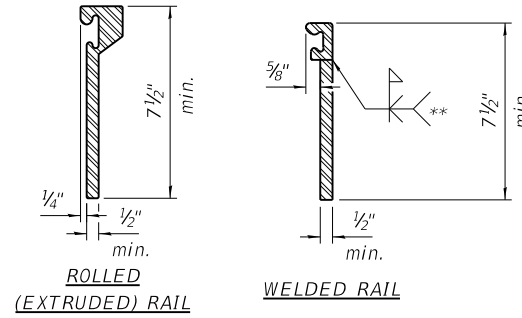
SHOWING ROLLED RAIL JOINT



SHOWING WELDED RAIL JOINT

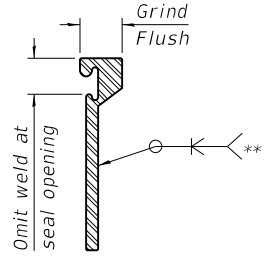
SECTION A-A

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



LOCKING EDGE RAILS

** 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	74

EJ-SS (TALL WITH GUTTER) 10-1-19

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

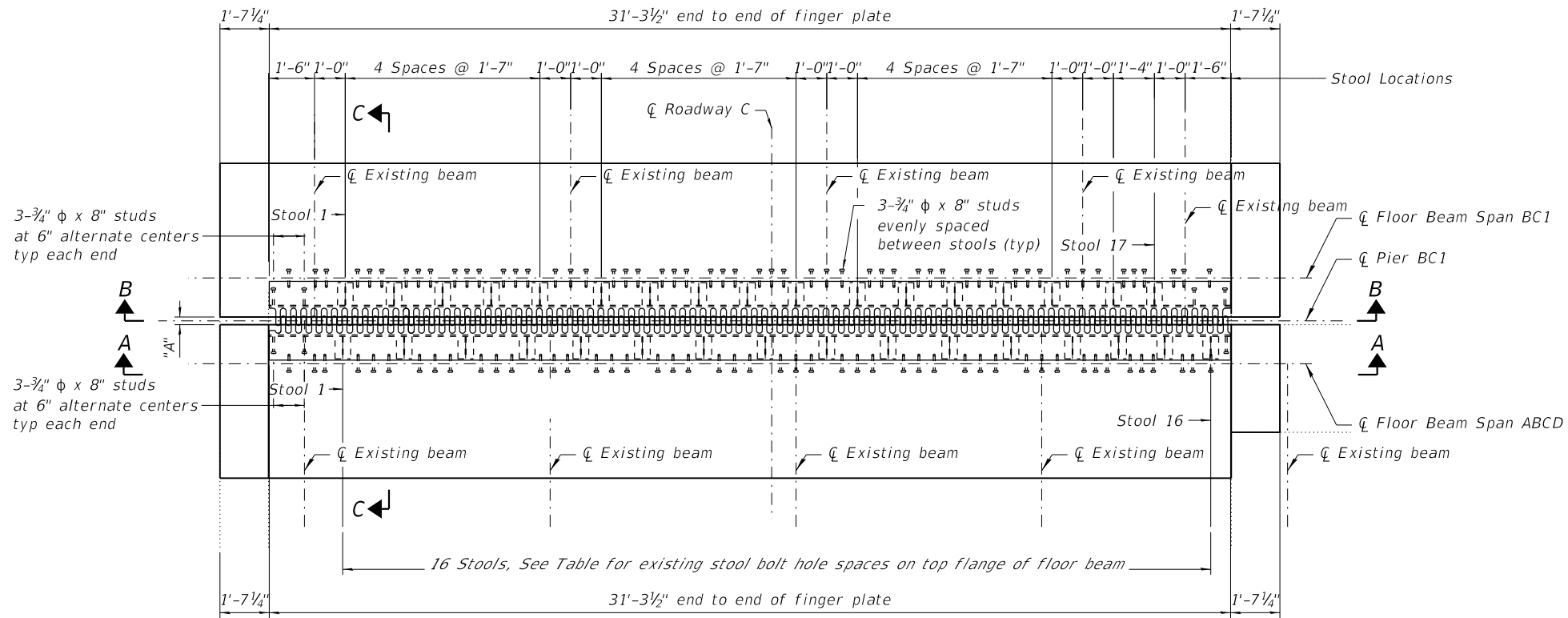
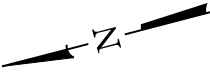
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL S.N. 082-0005

SHEET S-8 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HB-2R-1A-1	ST. CLAIR	361	316
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				



PLAN OF FINGER PLATE EXPANSION JOINT AT PIER BC1
 * See Sheet S-12 of S-13 for Dimension "A"

Existing stool bolt hole spaces on top flange of floor beam (inches)																	
Stool	1*	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Girder*
Span ABCD	29 1/8	16 3/8	18	17 3/8	24 3/8	23 5/8	23 7/8	23 7/8	23 1/2	25 3/4	24	24 1/8	21 5/8	24	23 7/8	24	15 1/8

Notes:
 Dimensions based on field survey performed June 2020. Field verify locations of existing holes prior to fabrication.
 *From centerline of stool 1 and 16 to interior face of web girder.

NOTES:
 See Sheet S-10 thru S-12 of S-13 for Sections A-A, B-B, and C-C. See Sheet S-12 of S-13 for details of stools.

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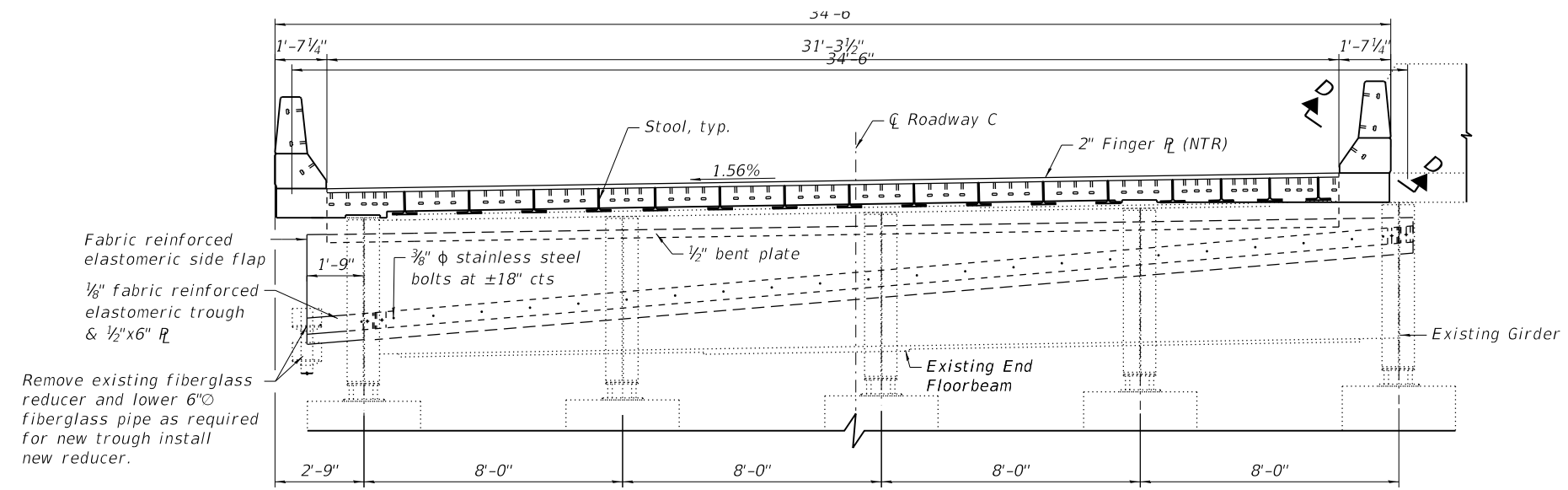
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FINGER JOINT REPLACEMENT DETAILS - PIER BC1 (1 OF 4)
 S.N. 082-0005**

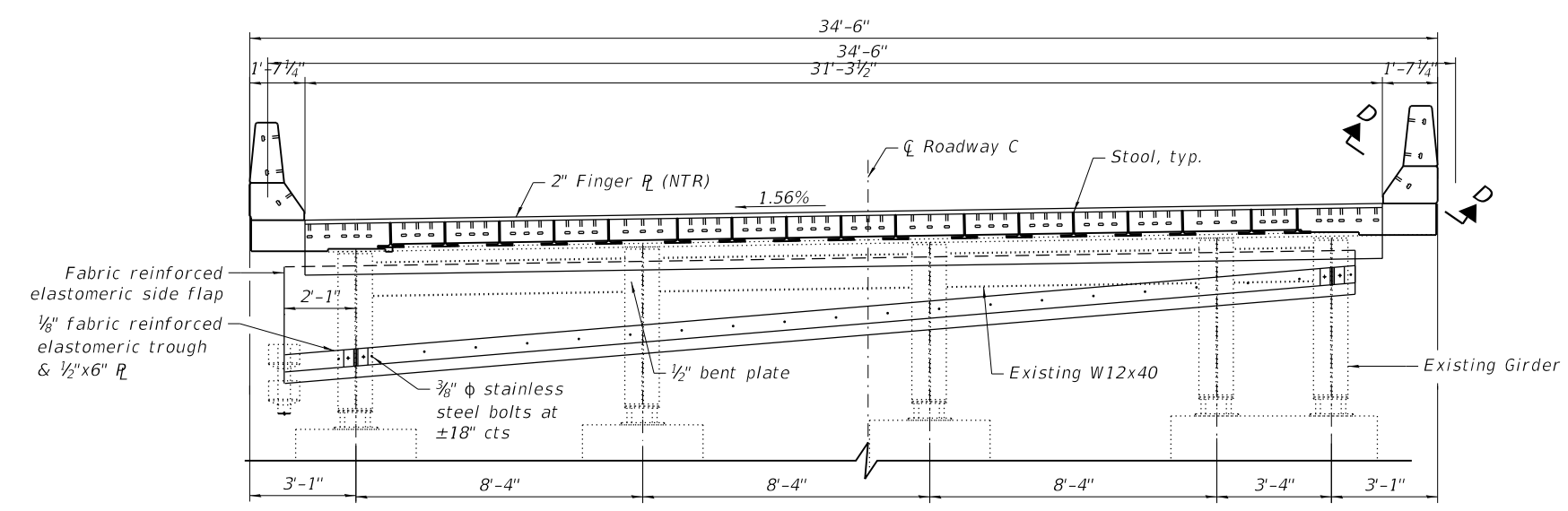
SHEET S-9 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

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 7/15/2020 3:41:43 PM



SECTION A-A



SECTION B-B
 Existing cross frame bracing angles not shown

Note:
 See Sheet S-12 of S-13 for Section D-D.

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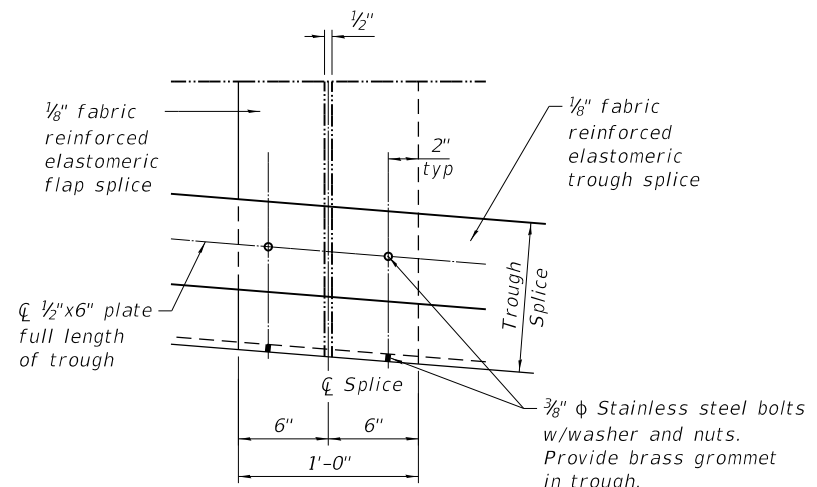
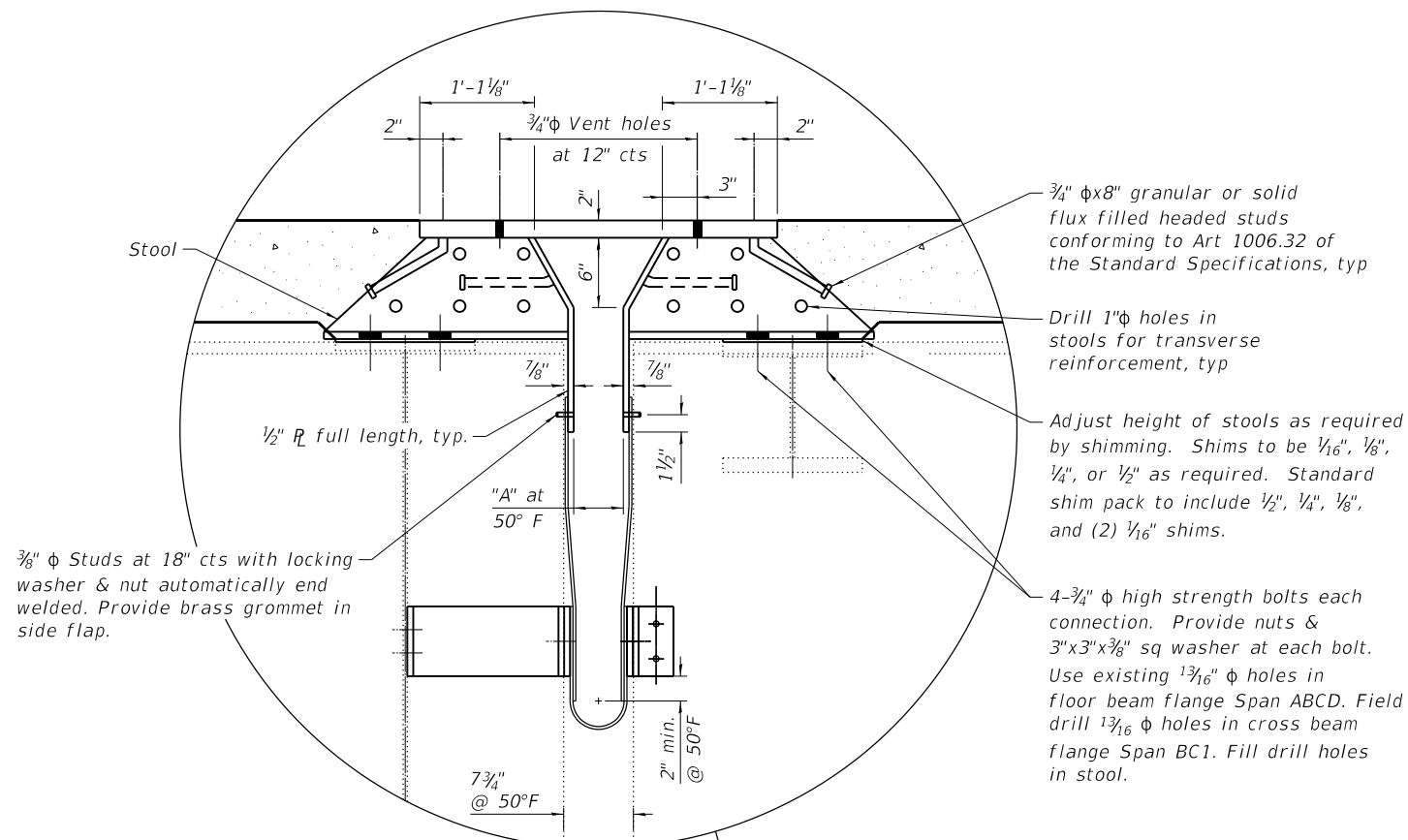
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

FINGER JOINT REPLACEMENT DETAILS - PIER BC1 (2 OF 4)
 S.N. 082-0005

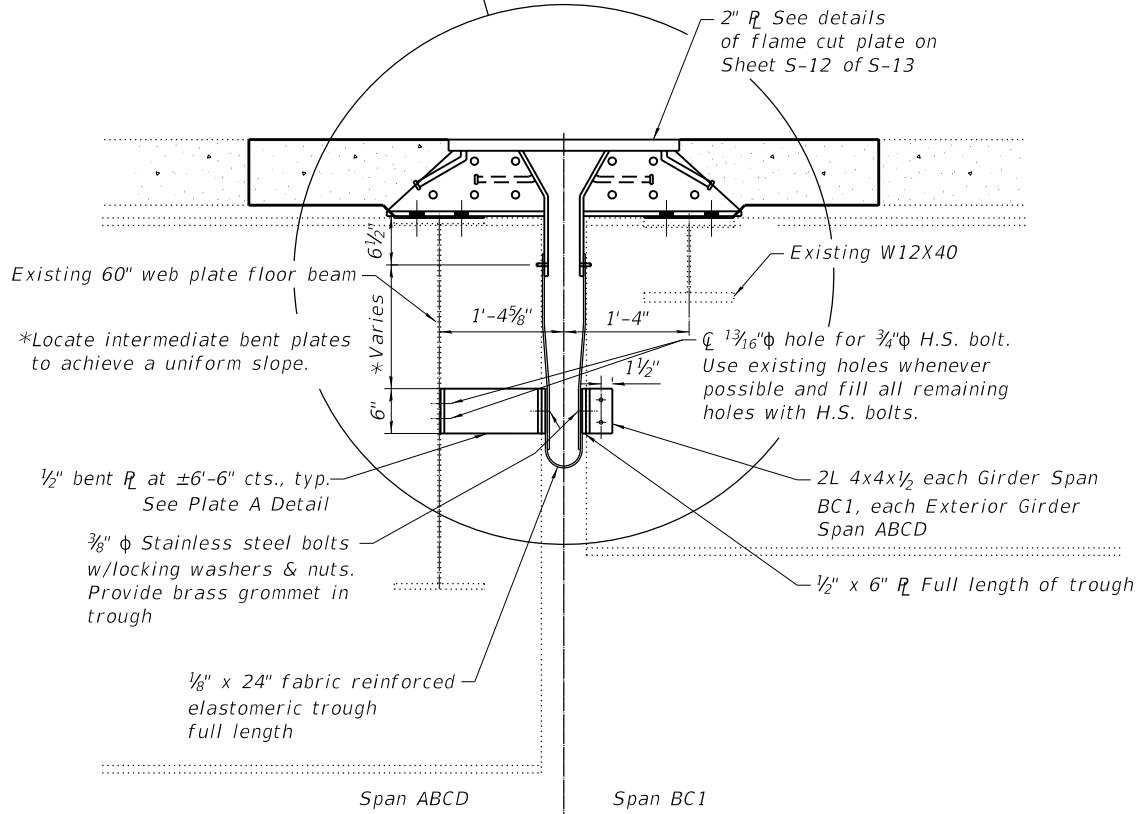
SHEET S-10 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

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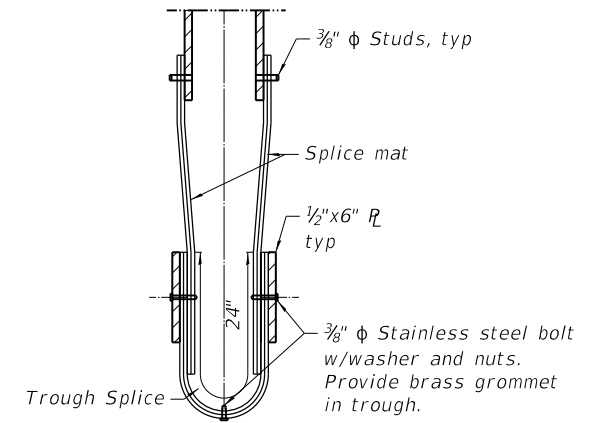
TROUGH SPLICE DETAIL



SECTION C-C

Note: Cut end of existing exterior girders where needed to clear the 1/2" plates and trough

Dimension "A"		
@ -20°F	@ 50°F	@ 120°F
9 1/4"	5 3/4"	2 1/4"



SECTION THRU TROUGH SPLICE

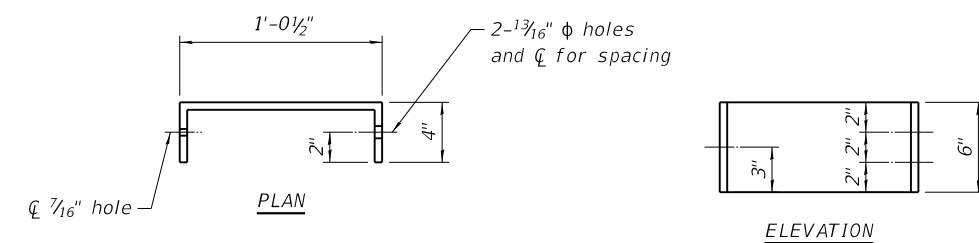


PLATE A DETAIL

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
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 Northbrook, Illinois 60062
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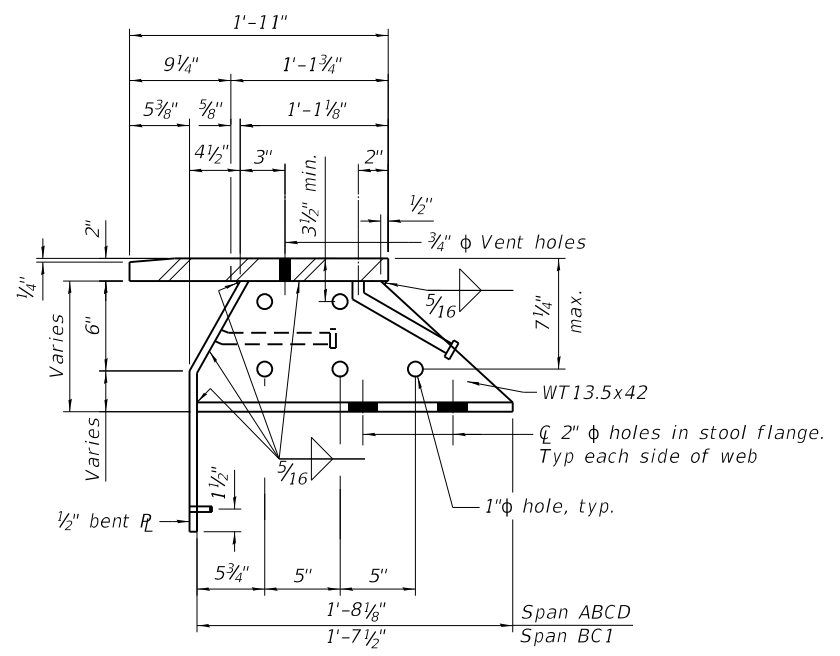
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FINGER JOINT REPLACEMENT DETAILS - PIER BC1 (3 OF 4)
 S.N. 082-0005**

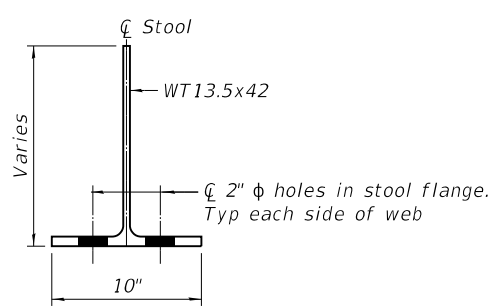
SHEET S-11 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

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STOOL DETAILS AT FINGER PLATE JOINT



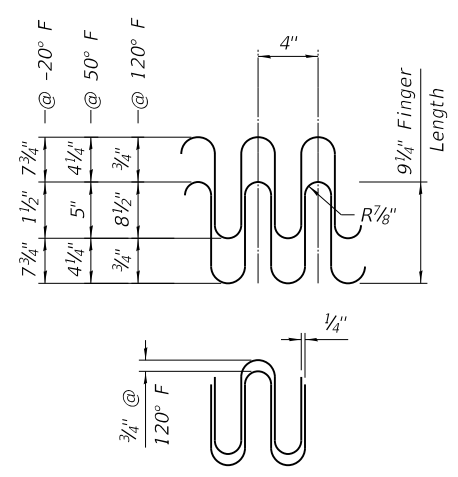
SECTION THRU STOOL

Cut stool from WT13.5x42, typ. See table below for stool heights

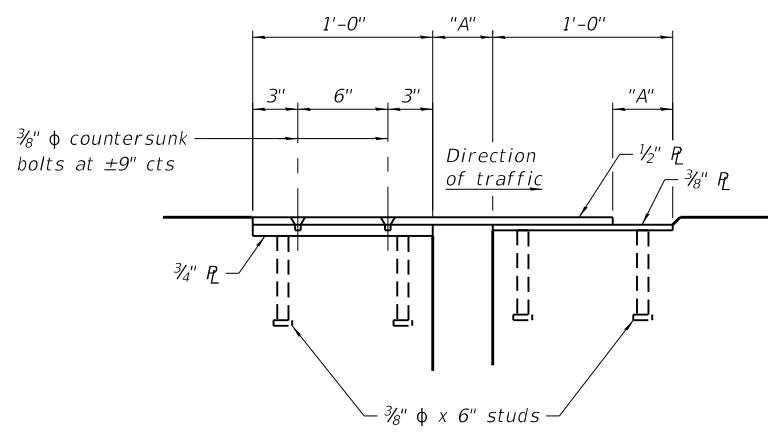
STOOL HEIGHTS

SPAN	STOOL NUMBER	HEIGHT
ABCD	1-16	11"
BC1	1-17	11"

Note: Stool heights to be field verified.



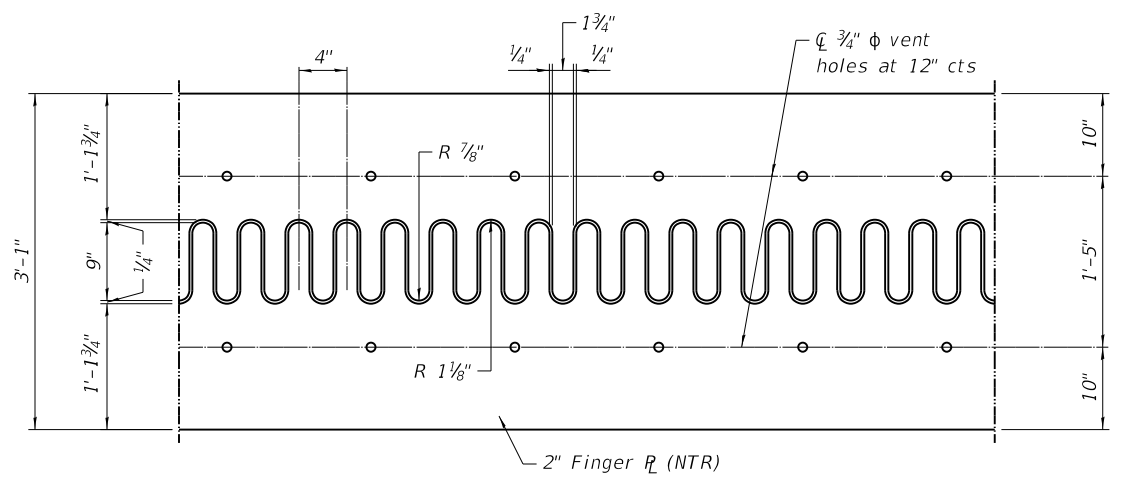
JOINT OPENING AND GEOMETRY DETAIL



SECTION D-D

See Sheet S-8 of S-13 for typical sliding plate detail.
 See Sheet S-6 of S-13 for parapete dimensions

DIMENSION "A"		
@-20° F	@50° F	@120° F
9 1/4"	5 3/4"	2 1/4"



FLAME CUTTING DIAGRAM

NOTES:

"NTR" denotes Notch Toughness Requirements conforming to the Supplemental Requirements for Notch Toughness (Zone 2).
 Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
 Finger plates and sliding plates shall conform to the requirements of AASHTO M270, Grade 50.
 The cost of all material for finger plates and trough support brackets shall be included in the cost of Finger Plate Expansion Joint, 5".
 All steel components of the expansion joint including hardware associated with the trough system and sliding plates shall be galvanized after fabrication according to Section 520.03 of the Standard Specifications.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Finger Plate Expansion Joint, 5"	Foot	32
Fabric Reinforced Elastomeric Trough	Foot	36

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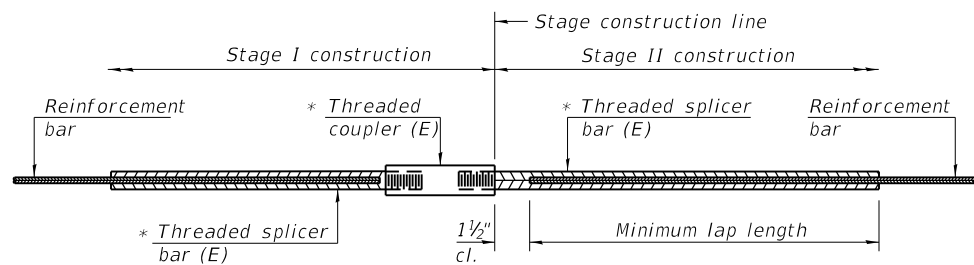
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FINGER JOINT REPLACEMENT DETAILS - PIER BC1 (4 OF 4)
 S.N. 082-0005**

SHEET S-12 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

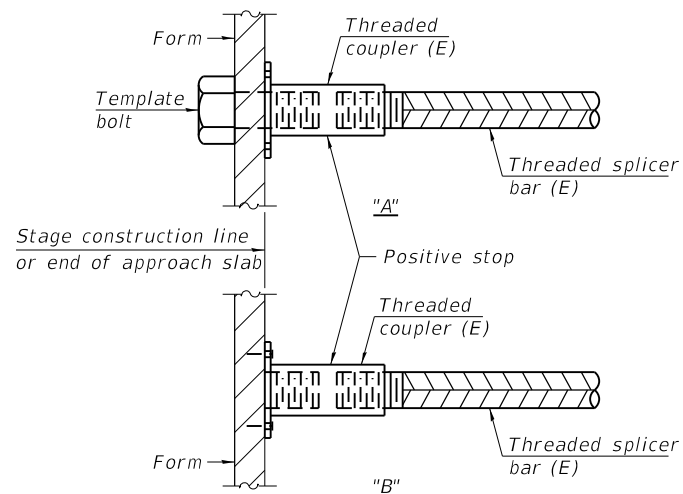


STANDARD BAR SPLICER ASSEMBLY

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

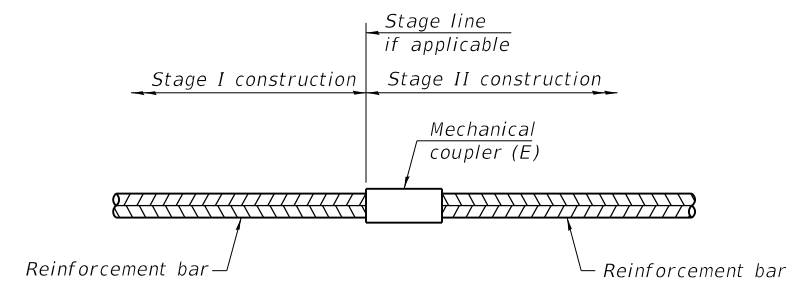
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Pier ABCD	#5	28	3'-6"

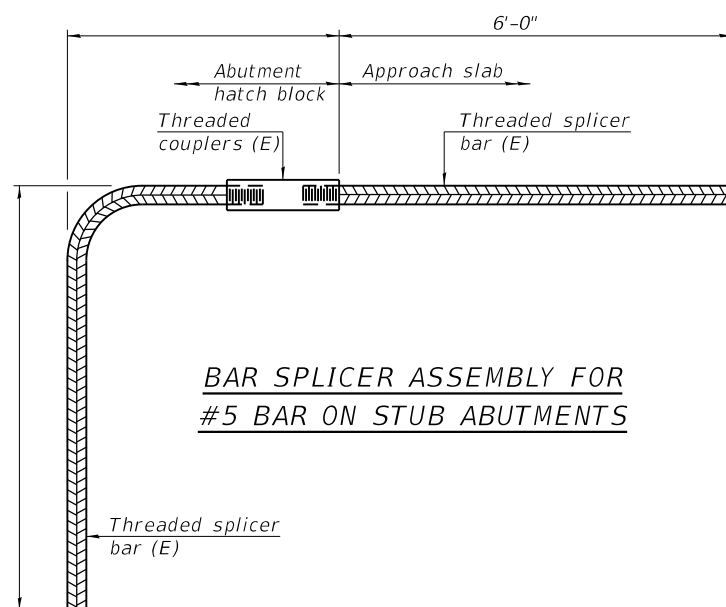


INSTALLATION AND SETTING METHODS

"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



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

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.
 Bar splicer assemblies shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

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WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wess, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
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 847.272.7400 tel | 847.291.9595 fax
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USER NAME = Isalas	DESIGNED - LTP	REVISED -
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 S.N. 082-0005**

SHEET S-13 OF S-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-I-1	ST. CLAIR	361	321
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

Benchmark: Cut "X" on top northwest hex bolt on hydrant, 23' southeast of the intersection of Bond Avenue and South 4th Street. Elevation 414.63.

Existing Structure: S.N. 082-0140 originally built in 1966 as Section 82-4HB. The structure is a 3-span continuous wide flange steel beam bridge on stub abutments and multi-column spread footing piers founded on concrete piles. The length and width of the structure vary. Traffic to be maintained along Roadway H using staged construction. Ramp T is to be closed to traffic during Stage 3 construction.

Salvage: None

SCOPE OF WORK

1. Remove and replace existing concrete deck.
2. Make new deck composite in positive moment regions.
3. Remove and replace strip seal joints at abutments.
4. Replace all expansion rocker bearings with elastomeric bearings.
5. Seismic retrofit existing fixed bearings.
6. Repair substructures as required.
7. Remove undermined slope wall, correct drainage, and restore slope protection.
8. Remove and replace approach slabs.

LOADING HS20-44 & ALT (NEW CONST.)

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
1995 FHWA Seismic Retrofitting Manual

DESIGN STRESSES

FIELD UNITS

NEW CONSTRUCTION

f'c = 3,500 psi

f'c = 4,000 psi (Superstructure Concrete)

fy = 60,000 psi (Reinforcement)

fy = 50,000 psi (Structural Steel)

EXISTING CONSTRUCTION

f'c = 3,500 psi (1990+ Rehabs)

fc = 1,400 psi (1966 Construction)

fs = 20,000 psi (Reinforcement)

fs = 20,000 psi (Structural Steel 1966 Construction)

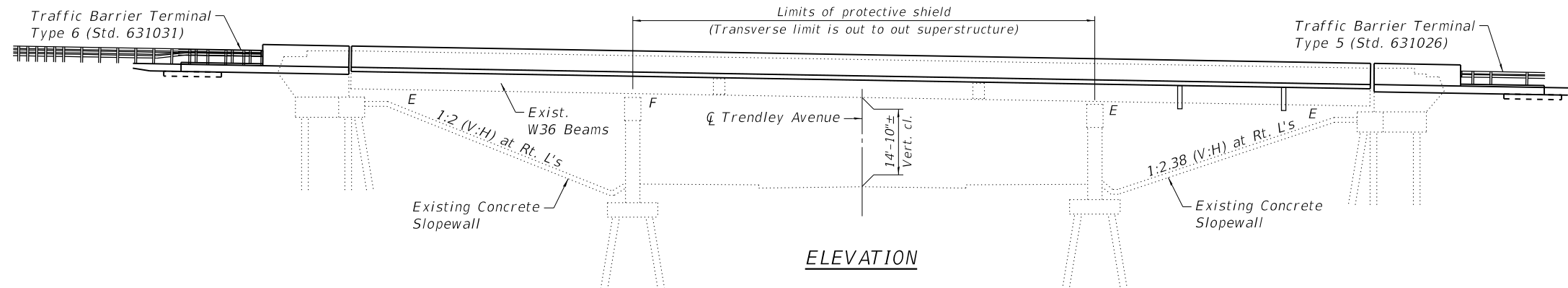
fy = 36,000 psi (Structural Steel 1990+ Rehabs)

SEISMIC DATA

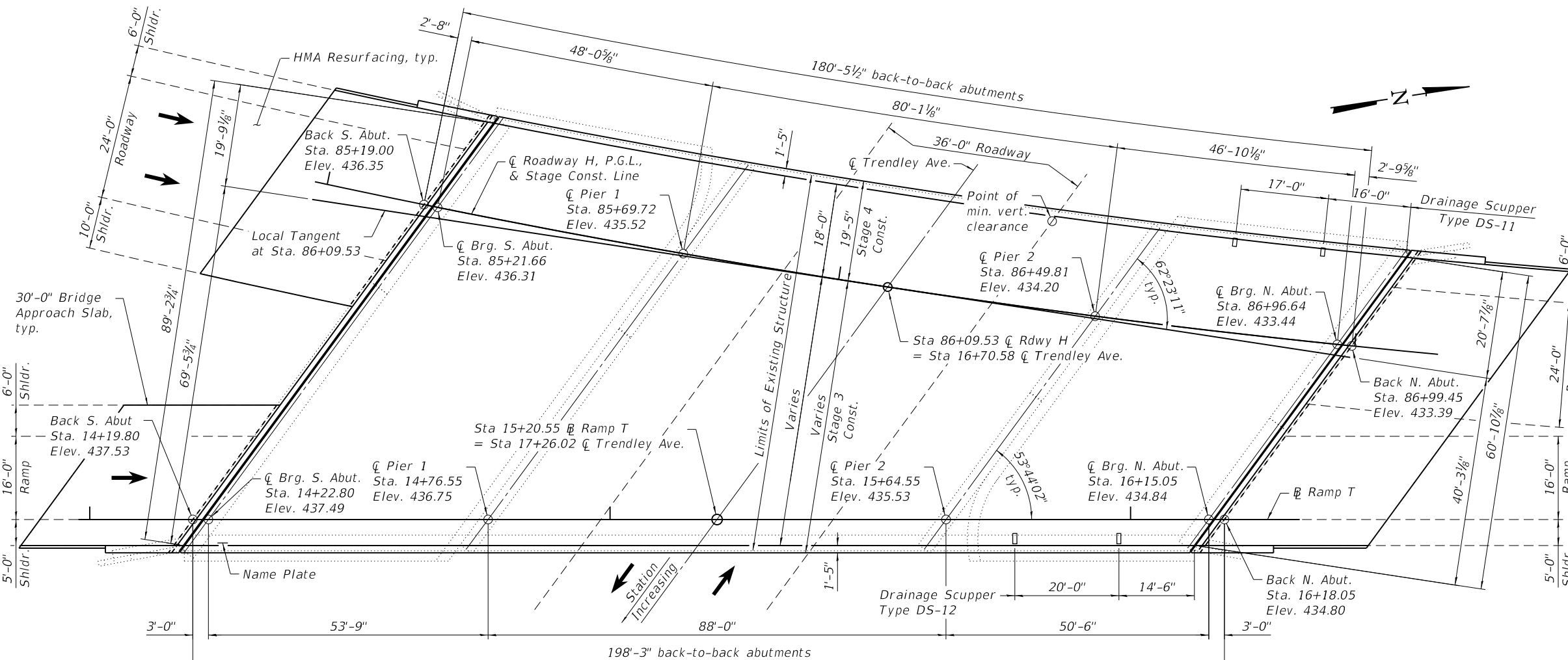
Seismic Performance Category (SPC) = B

Acceleration Coefficient (A) = 0.12g

Soil Coefficient (S) = 1.0

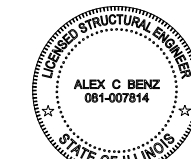


ELEVATION

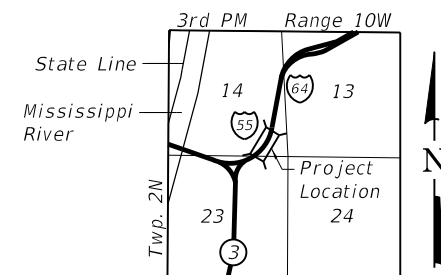


PLAN

Longitudinal dimensions are measured along the centerline of Roadway H or the baseline of Ramp T



Signed: *Alex C. Benz*
Date: 7/16/2020
License Expires: 11/30/2020
The seal shown above is valid for all 40 sheets in this set, which were prepared under my direct supervision.



LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) EB CD "H"
& RAMP T
OVER TRENDLEY AVENUE
SEC. 82-3HVB-2R-1-I-1
ST. CLAIR COUNTY
STATION 86+09.53
STRUCTURE NO. 082-0140

MODEL: Default
FILE NAME: Z:\15052222_Poplar Street Bridge Complex EB\DWG\Bridges\final\Plotsheets\01-General Plan & Elevation.dwg

EFK Moen
Civil Engineering Design

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PLOT SCALE = 0.1667"/in.	CHECKED - CDL	REVISIONS
PLOT DATE = 7/16/2020	DRAWN - ACB	REVISIONS
	CHECKED - CDL	REVISIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 082-0140

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-I-1	ST. CLAIR	361	322
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

SHEET S-1 OF 40 SHEETS

INDEX OF SHEETS

- S-1. General Plan & Elevation
- S-2. General Data
- S-3. Slope Wall Plan and Details
- S-4. Stage Construction Details
- S-5. Temporary Concrete Barrier for Stage Construction
- S-6. Top of Slab Elevations
- S-7. Top of Slab Elevations
- S-8. Top of Slab Elevations
- S-9. Top of Slab Elevations
- S-10. Top of Approach Slab Elevations
- S-11. Top of Approach Slab Elevations
- S-12. Top of Approach Slab Elevations
- S-13. Superstructure
- S-14. Superstructure
- S-15. Superstructure
- S-16. Superstructure Details
- S-17. Diaphragm Details
- S-18. South Bridge Approach Slab Details (Roadway H)
- S-19. South Bridge Approach Slab Details (Roadway H)
- S-20. South Bridge Approach Slab Details (Roadway H)
- S-21. South Bridge Approach Slab Details (Ramp T)
- S-22. South Bridge Approach Slab Details (Ramp T)
- S-23. South Bridge Approach Slab Details (Ramp T)
- S-24. North Bridge Approach Slab Details
- S-25. North Bridge Approach Slab Details
- S-26. North Bridge Approach Slab Details
- S-27. Preformed Joint Strip Seal
- S-28. Drainage Scupper DS-11
- S-29. Drainage Scupper DS-12
- S-30. Framing Plan
- S-31. Moment and Reaction Tables
- S-32. Moment and Reaction Tables
- S-33. Bearing Details
- S-34. Bearing Details
- S-35. South Abutment Concrete Removal
- S-36. South Abutment Details
- S-37. North Abutment Concrete Removal
- S-38. North Abutment Details
- S-39. Bar Splicer Assembly and Mechanical Splicer Details
- S-40. Concrete Parapet Slipforming Option

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ " \emptyset , holes $1\frac{1}{16}$ " \emptyset , unless otherwise noted.

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

The Contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.

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.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.

Any cracks that cannot be removed by grinding $\frac{1}{4}$ " inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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.

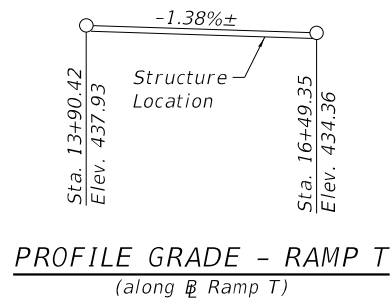
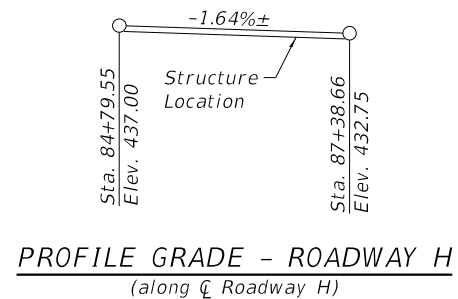
Cleaning and field painting of structural steel shall be done under a separate painting contract.

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

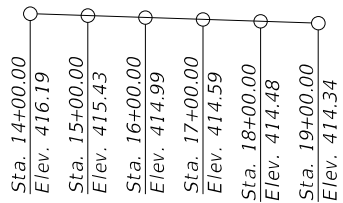
All new structural steel shall be galvanized and painted.

The existing structural steel shall only be cleaned and painted as required by the Special Provision for "Cleaning and Painting Contact Surface Areas of Existing Steel Structures."

Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".



Perform Smoothness Grinding to bridge deck and approach slabs. Up to $\frac{1}{4}$ " inch may be ground off the bridge deck and the bridge approach slabs. The profile grade elevations are based on the final elevations after grinding.



PROFILE GRADE - TRENDLEY AVENUE
(along C Trendley Avenue)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	9.8	7.9	17.7
Slope Wall Removal	Sq. Yd.		113	113
Removal of Existing Concrete Deck No. 2	Each	1		1
Protective Shield	Sq. Yd.	666		666
Concrete Structures	Cu. Yd.		44.8	44.8
Concrete Superstructure	Cu. Yd.	444.2		444.2
Protective Coat	Sq. Yd.	2,074		2,074
Concrete Superstructure (Approach Slab)	Cu. Yd.	178.2		178.2
Furishing and Erecting Structural Steel	Pound	6,190		6,190
Stud Shear Connectors	Each	6,558		6,558
Reinforcement Bars, Epoxy Coated	Pound	210,780	8,090	218,870
Bar Splicers	Each	953		953
Slope Wall 4 Inch	Sq. Yd.		113	113
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	174		174
Elastomeric Bearing Assembly, Type I	Each	39		39
Anchor Bolts, 5/8"	Each	208		208
Epoxy Crack Injection	Foot		107	107
Jack and Remove Existing Bearings	Each	39		39
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.		12	12
Drainage Scuppers, DS-11	Each	2		2
Drainage Scuppers, DS-12	Each	2		2
Diamond Grinding (Bridge Section)	Sq. Yd.	1,737		1,737
Seismic Restrainer	Each	26		26
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	1,086		1,086

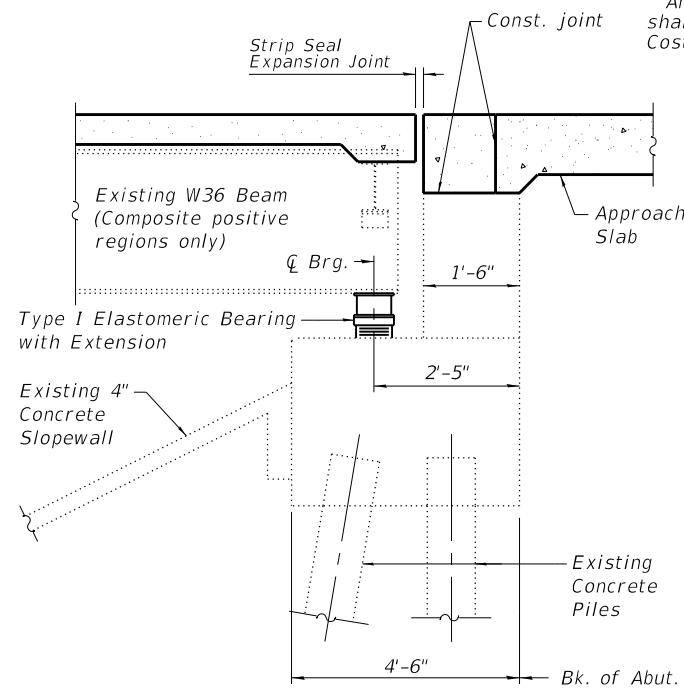
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 $D = 3^\circ-09'-01"$
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 $T = 607.82'$
 $L = 1173.19'$
 $e = 98.88'$
 $e = 8.00\%$
 P.C. Sta. = 77+11.00
 P.T. Sta. = 88+84.19

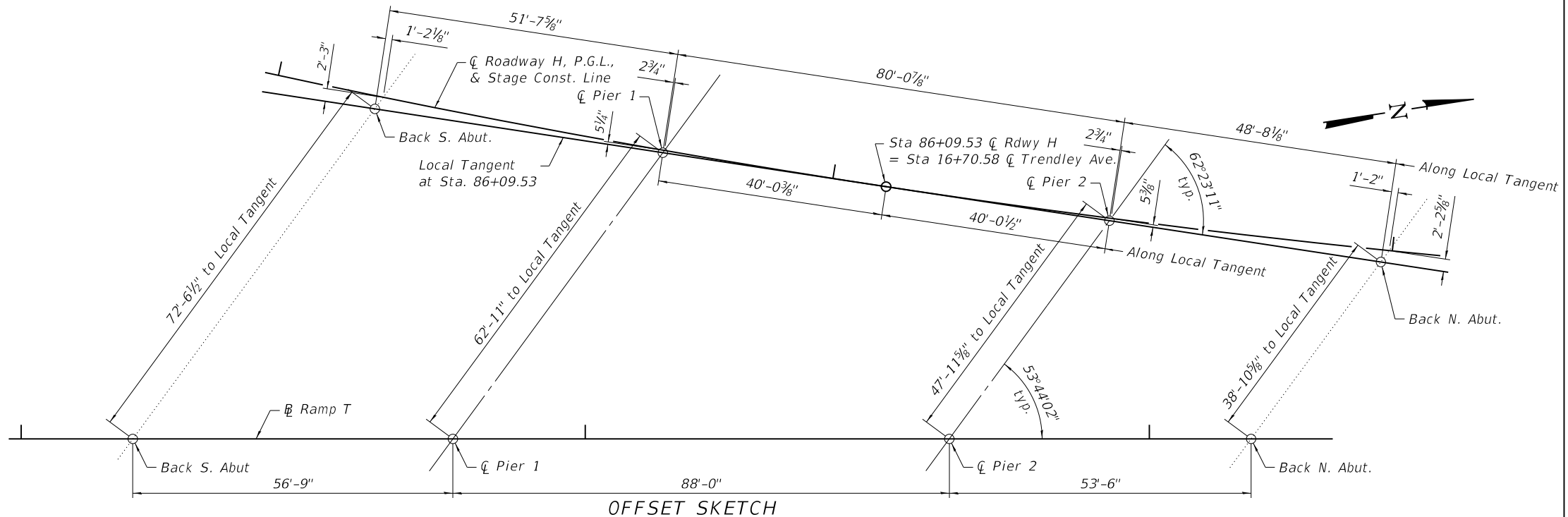
STATION 86+09.53
 RE-BUILT BY
 STATE OF ILLINOIS
 F.A.I. 70(1-55/1-64) EB
 SEC. 82-3HVB-2R-1-1-1
 LOADING HS-20 & ALT
 STRUCTURE NO. 082-0140

NAME PLATE
See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



SECTION THRU ABUTMENTS
(Horiz. dim. @ Rt. L's)



OFFSET SKETCH

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Civil Engineering Design

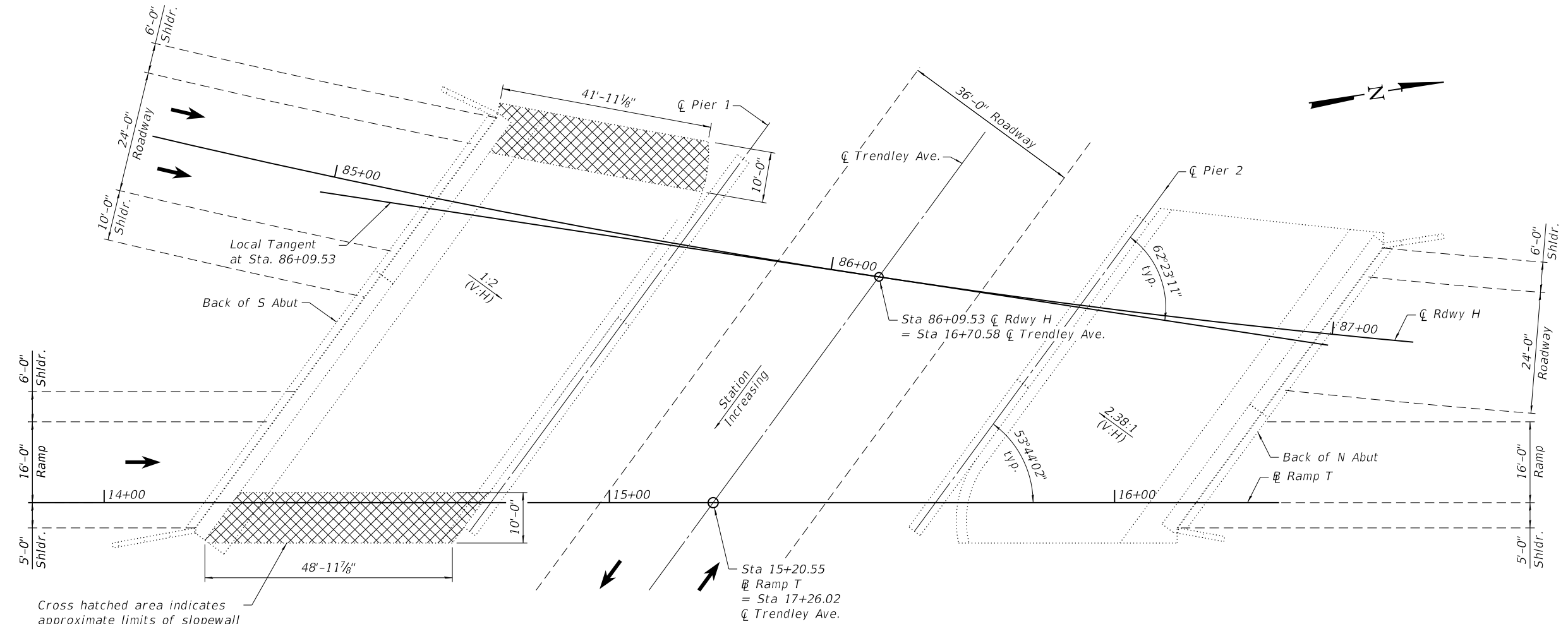
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 082-0140

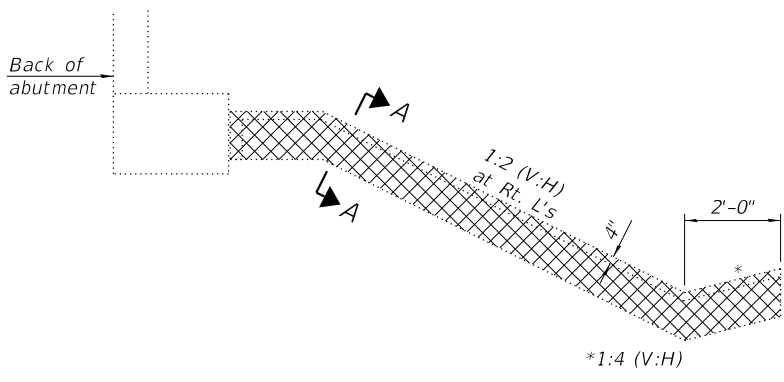
SHEET S-2 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

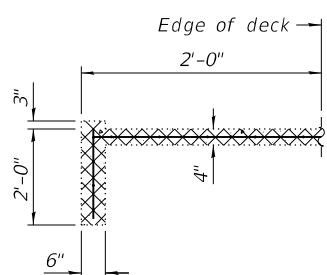


Cross hatched area indicates approximate limits of slopewall removal and replacement, typ.

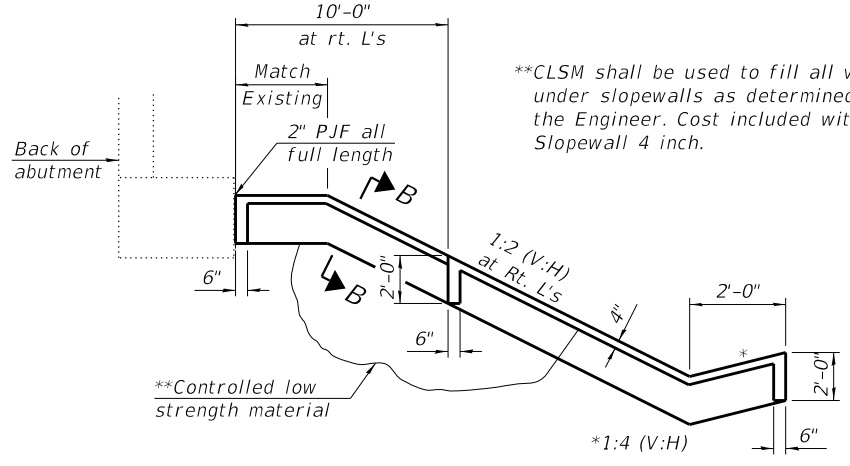
SLOPEWALL PLAN



SECTION THRU EXISTING CONCRETE SLOPEWALL



SECTION A-A

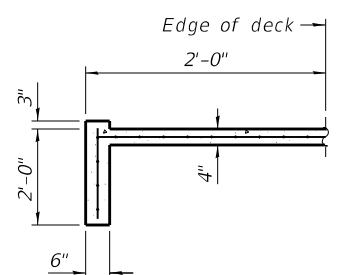


SECTION THRU NEW CONCRETE SLOPEWALL

Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

BILL OF MATERIAL

Item	Unit	Total
Slope Wall Removal	Sq. Yd.	113
Slope Wall 4 Inch	Sq. Yd.	113



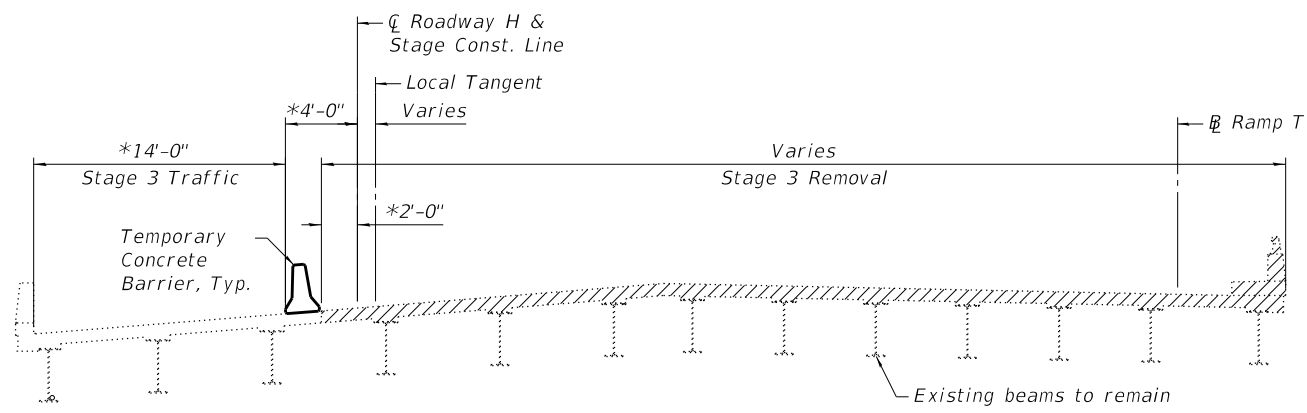
SECTION B-B

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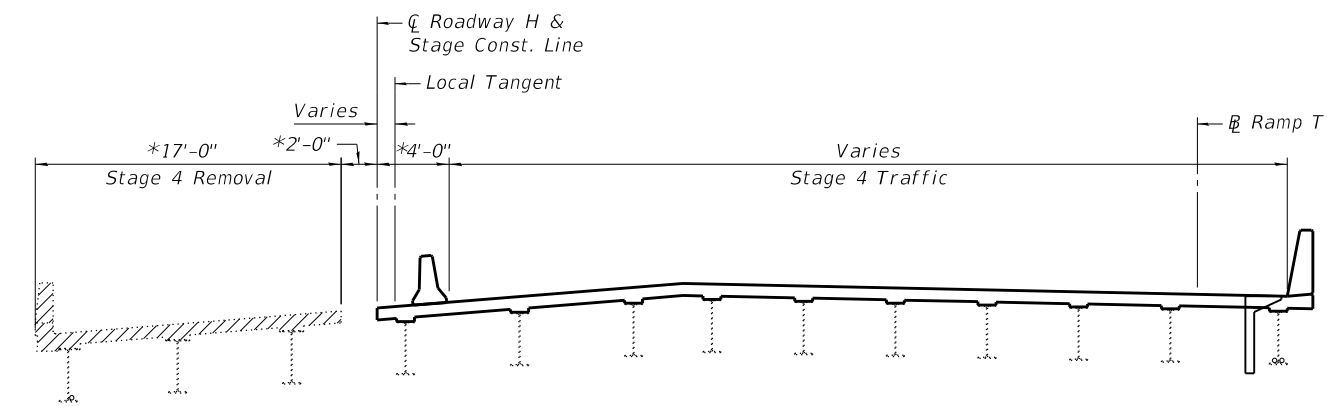
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HV2R-1-1	ST. CLAIR	361	324
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76B55	

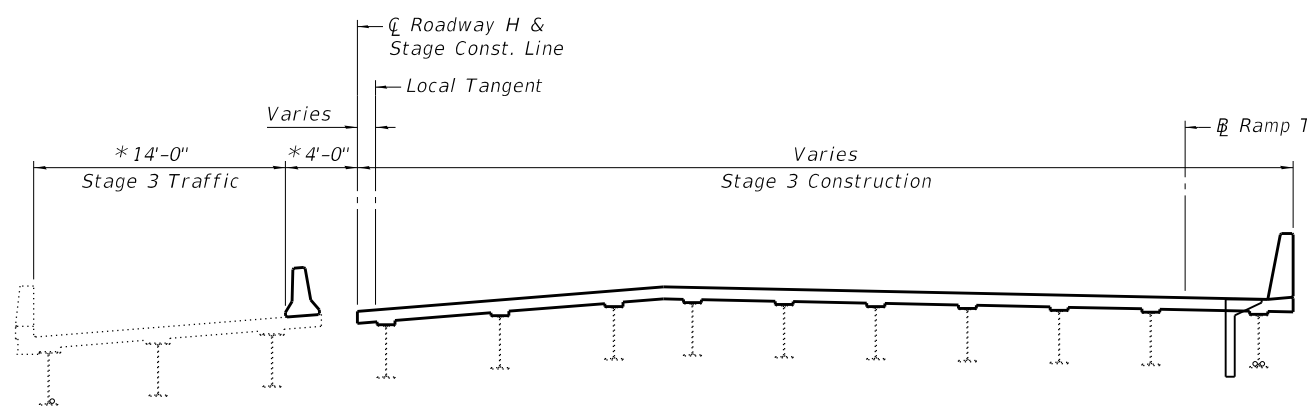
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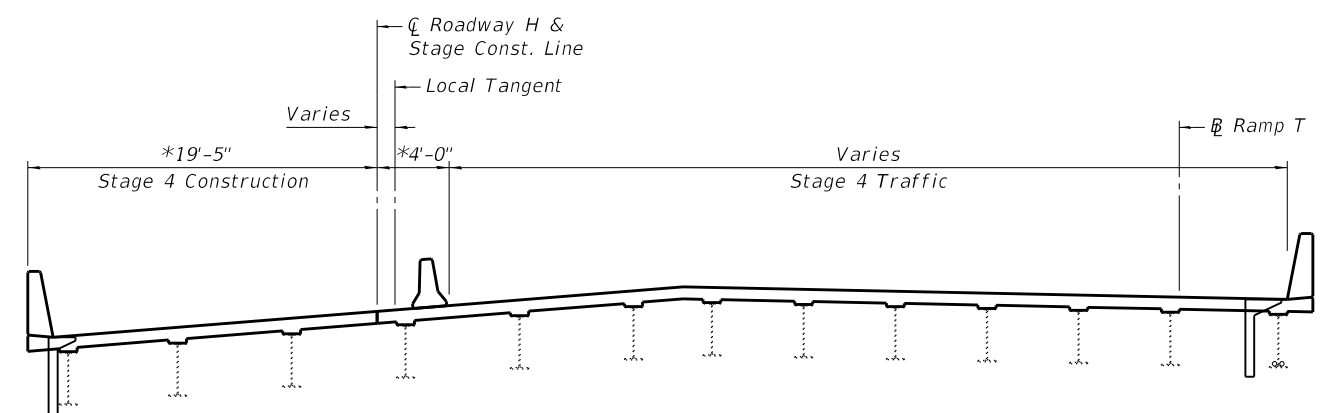
STAGE 3 REMOVAL
 (Looking North)



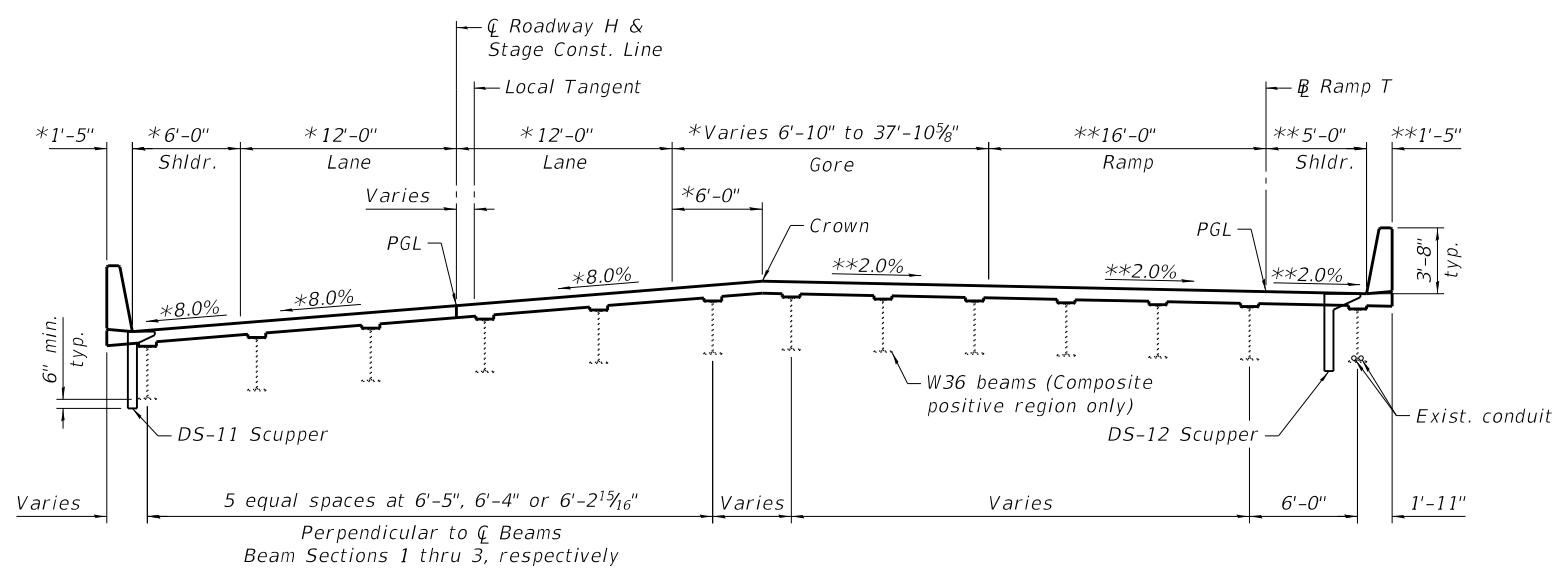
STAGE 4 REMOVAL
 (Looking North)



STAGE 3 CONSTRUCTION
 (Looking North)



STAGE 4 CONSTRUCTION
 (Looking North)



FINAL SECTION
 (Looking North)

*Radial to \bar{C} Roadway H
 **Perpendicular to \bar{R} Ramp T

Notes:
 Hatched area indicates Removal of Existing Concrete Deck No. 2.
 For details of Temporary Concrete Barrier, see Sheet S-5 of 40.
 For quantity of Temporary Concrete Barrier, see Roadway Plans.



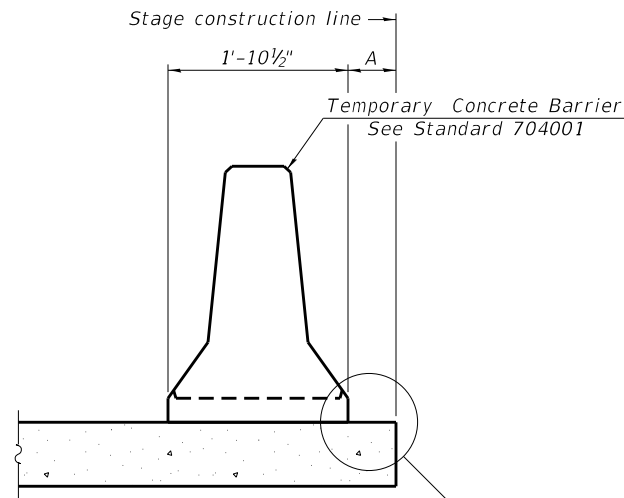
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PLOT DATE = 7/16/2020	DRAWN - ACB	REVISD -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 082-0140

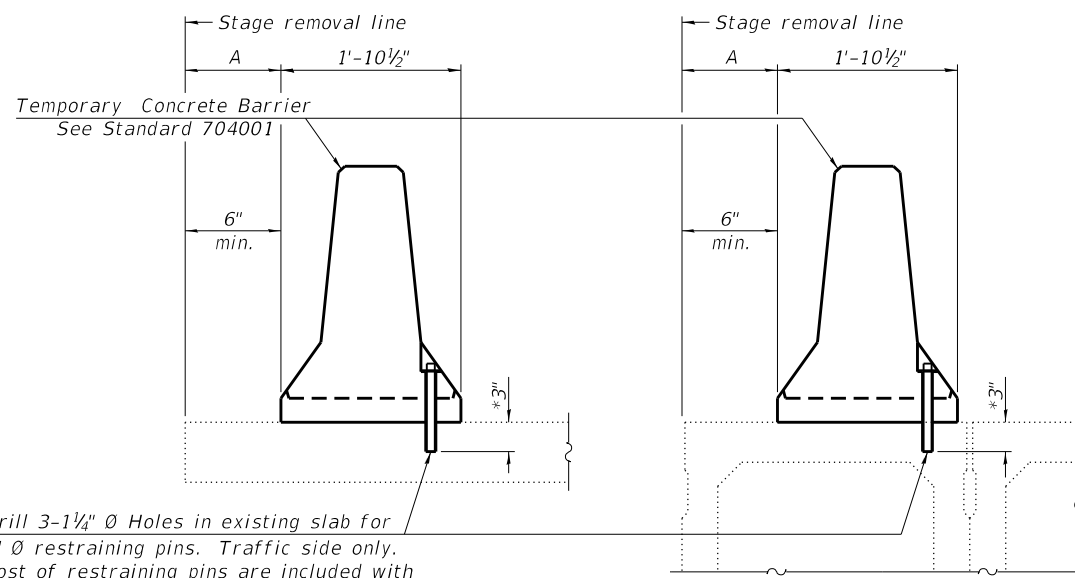
SHEET S-4 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	325
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				



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

NEW SLAB OR NEW DECK BEAM

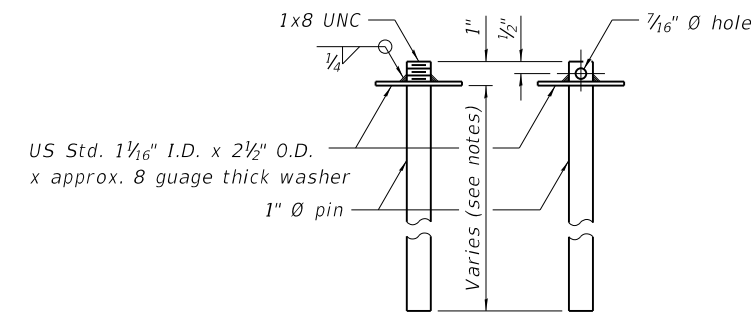


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

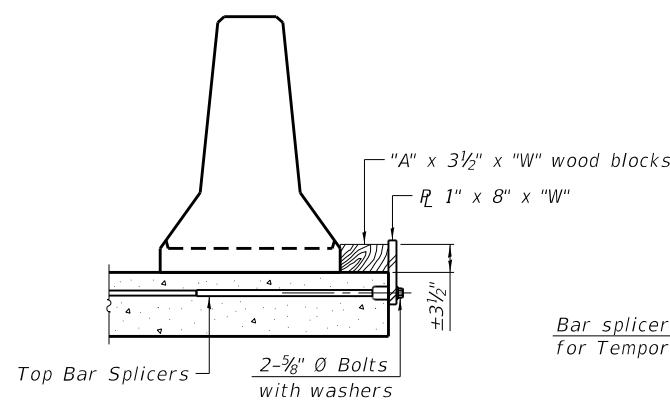
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

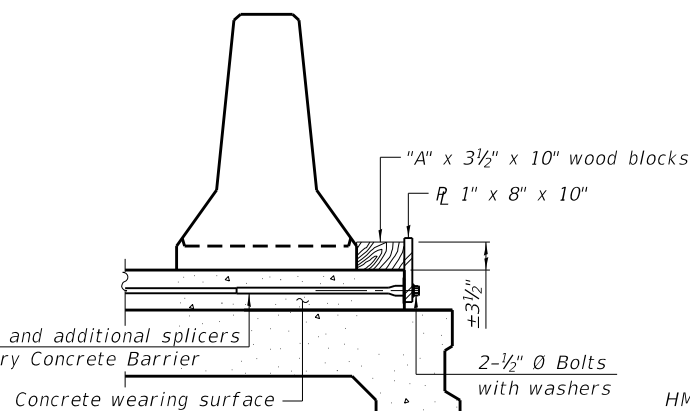


RESTRAINING PIN

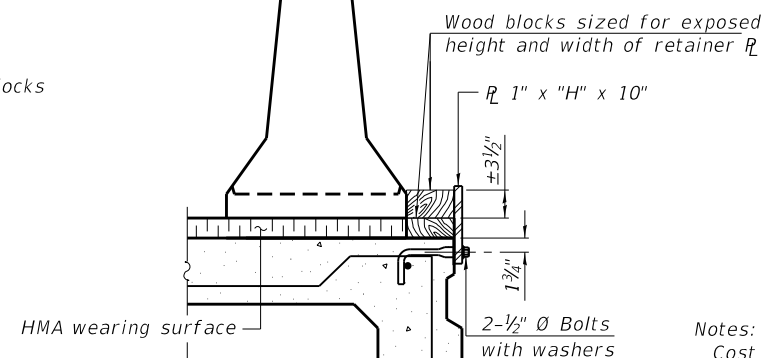
SECTIONS THRU SLAB OR DECK BEAM



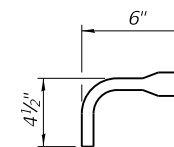
DETAIL I



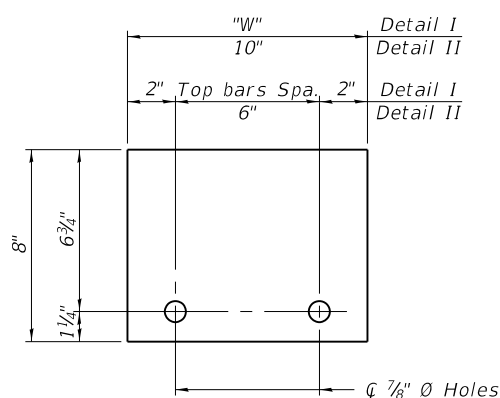
DETAIL II



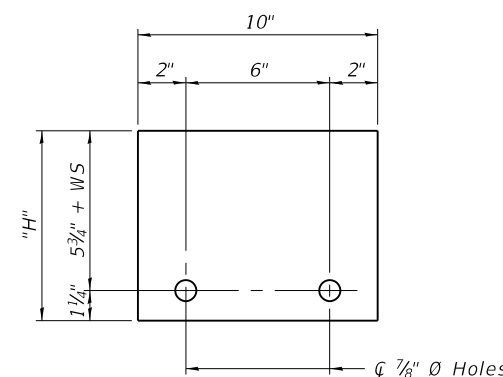
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



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

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate \bar{C} of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

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

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R-27 2-17-2017

EFK Moen
 Civil Engineering Design

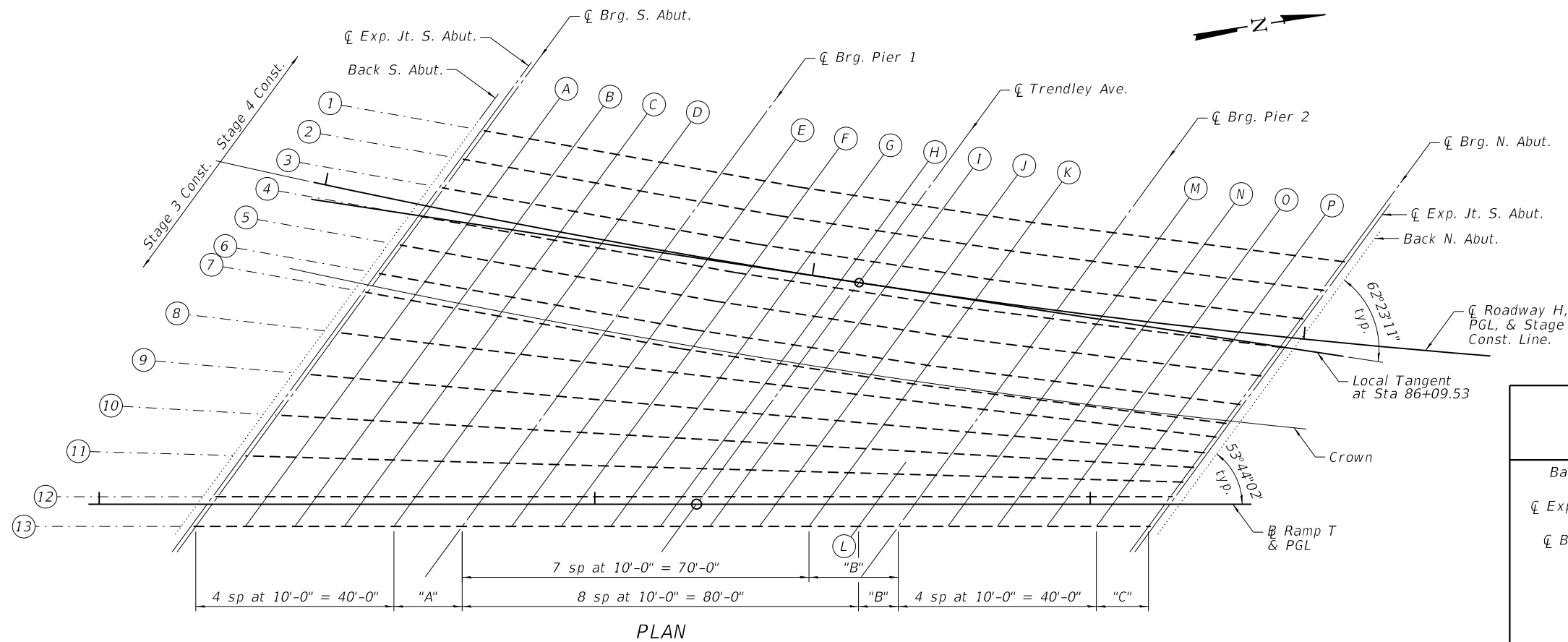
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
 STRUCTURE NO. 082-0140

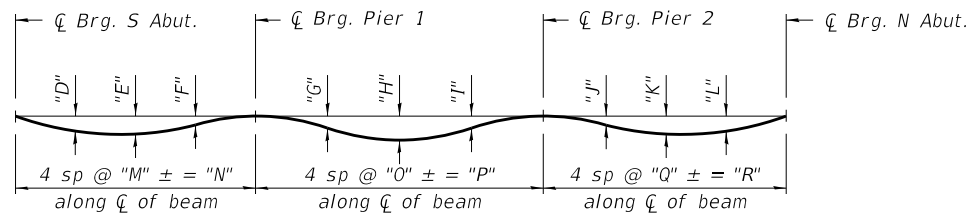
SHEET S-5 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1A-1	ST. CLAIR	361	326
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				



PLAN

Note:
 Increments for elevations are measured along centerline of each individual girder. Stations and offsets are located along and radial to $\bar{\bar{C}}$ Roadway H or normal to $\bar{\bar{R}}$ Ramp T.



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
 The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown in the tables on Sheets S-6 thru S-9 of 40.

DEFLECTION DIAGRAM VARIABLES

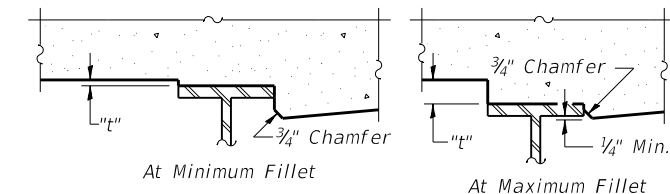
Beam	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"	"R"
1	0"	0"	0"	5/8"	7/8"	5/8"	0"	0"	0"	12'-0 3/4"	48'-3 1/4"	20'-0 1/4"	80'-1 1/4"	11'-7 3/4"	46'-7 1/4"
2	0"	0"	0"	5/8"	1"	5/8"	0"	0"	0"	12'-0 3/4"	48'-3 1/4"	20'-0 1/4"	80'-1 1/4"	11'-7 3/4"	46'-7 1/4"
3	0"	0"	0"	5/8"	7/8"	5/8"	0"	0"	0"	12'-0 3/4"	48'-3 1/4"	20'-0 1/4"	80'-1 1/4"	11'-7 3/4"	46'-7 1/4"
4	0"	0"	0"	1/2"	7/8"	1/2"	0"	0"	0"	12'-0 3/4"	48'-3 1/4"	20'-0 1/4"	80'-1 1/4"	11'-7 3/4"	46'-7 1/4"
5	0"	0"	0"	1/2"	7/8"	1/2"	0"	0"	0"	12'-0 3/4"	48'-3 1/4"	20'-0 1/4"	80'-1 1/4"	11'-7 3/4"	46'-7 1/4"
6	0"	0"	0"	3/8"	3/4"	3/8"	0"	0"	0"	12'-0 3/4"	48'-3 1/4"	20'-0 1/4"	80'-1 1/4"	11'-7 3/4"	46'-7 1/4"
7	1/8"	1/8"	0"	3/8"	3/8"	3/8"	0"	0"	0"	12'-0 3/4"	48'-3 1/4"	20'-0 1/4"	80'-1 1/4"	11'-7 3/4"	46'-7 1/4"
8	1/8"	1/8"	0"	3/8"	3/4"	1/2"	-1/8"	0"	0"	12'-5 3/8"	49'-9 3/8"	20'-4 1/2"	81'-6"	11'-8 3/8"	46'-9 1/4"
9	1/8"	1/8"	0"	1/2"	7/8"	5/8"	-1/8"	-1/8"	0"	12'-8 1/8"	50'-8 1/2"	20'-9"	83'-0"	11'-10 1/8"	47'-7 3/8"
10	1/8"	1/8"	0"	3/8"	1"	5/8"	-1/8"	-1/8"	0"	12'-11"	51'-8"	21'-1 3/4"	84'-7 1/8"	12'-1 3/8"	48'-6 1/2"
11	1/8"	1/8"	0"	5/8"	1 1/8"	3/4"	-1/8"	-1/8"	0"	13'-2 1/8"	52'-8 1/4"	21'-6 3/4"	86'-3 1/8"	12'-4 1/2"	49'-6"
12	1/8"	1/8"	0"	3/4"	1 1/4"	3/4"	-1/8"	0"	0"	13'-5 1/4"	53'-9"	22'-0"	88'-0"	12'-7 1/2"	50'-6"
13	0"	0"	0"	1/2"	7/8"	5/8"	-1/8"	0"	0"	13'-5 1/4"	53'-9"	22'-0"	88'-0"	12'-7 1/2"	50'-6"

VARIABLES

Beam	"A"	"B"	"C"
1	8'-3 1/4"	10'-1 1/8"	6'-7 1/4"
2	8'-3 1/4"	10'-1 1/8"	6'-7 1/4"
3	8'-3 1/4"	10'-1 1/8"	6'-7 1/4"
4	8'-3 1/4"	10'-1 1/8"	6'-7 1/4"
5	8'-3 1/4"	10'-1 1/8"	6'-7 1/4"
6	8'-3 1/4"	10'-1 1/8"	6'-7 1/4"
7	8'-3 1/4"	10'-1 1/8"	6'-7 1/4"
8	9'-9 3/8"	11'-6"	6'-9 1/4"
9	10'-8 3/8"	13'-0 1/8"	7'-7 3/8"
10	11'-8"	14'-7 1/8"	8'-6 1/2"
11	12'-8 1/4"	6'-3 1/8"	9'-6"
12	13'-9"	8'-0"	10'-6"
13	13'-9"	8'-0"	10'-6"

BEAM 1

Location	Station ($\bar{\bar{C}}$ Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	85+29.98	-17.13	434.80	434.82
$\bar{\bar{C}}$ Exp. Jt. S. Abut.	85+28.78	-17.16	434.82	434.84
$\bar{\bar{C}}$ Brg. S. Abut.	85+29.70	-17.18	434.80	434.82
A	85+39.80	-17.33	434.62	434.64
B	85+49.89	-17.43	434.45	434.47
C	85+59.99	-17.47	434.28	434.30
D	85+70.09	-17.46	434.12	434.14
$\bar{\bar{C}}$ Brg. Pier 1	85+78.44	-17.41	433.98	434.00
E	85+88.53	-17.29	433.83	433.85
F	85+98.63	-17.23	433.67	433.69
G	86+08.73	-17.27	433.50	433.52
H	86+18.82	-17.24	433.33	433.35
I	86+28.92	-17.16	433.17	433.19
J	86+39.01	-17.03	433.02	433.04
K	86+49.10	-17.00	432.86	432.88
$\bar{\bar{C}}$ Brg. Pier 2	86+59.29	-17.01	432.69	432.71
M	86+69.39	-16.97	432.53	432.55
N	86+79.48	-16.88	432.37	432.39
O	86+89.57	-16.72	432.21	432.23
P	86+99.66	-16.52	432.07	432.09
$\bar{\bar{C}}$ Brg. N. Abut.	87+06.32	-16.35	431.97	431.99
$\bar{\bar{C}}$ Exp. Jt. N. Abut.	87+07.27	-16.32	431.96	431.98
Back N. Abut.	87+09.11	-16.27	431.93	431.95



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown in the tables on Sheets S-6 thru S-9 of 40, minus the initial slab thickness prior to grinding, equals the fillet heights "t" above top flange of beams. The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown in the tables on Sheets S-6 thru S-9 of 40. For grinding the deck, see Special Provisions.

FILLET HEIGHTS

MODEL: Default
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EFK•Moen
 Civil Engineering Design

USER NAME = ABenz
 PLOT SCALE = 0.1667 1/in.
 PLOT DATE = 7/16/2020

DESIGNED - ACB
 CHECKED - CDL
 DRAWN - ACB
 CHECKED - CDL

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
 STRUCTURE NO. 082-0140

SHEET S-6 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HV-2R-1-1	ST. CLAIR	361	327
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

MODEL: Default
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7/16/2020 9:25:31 AM

BEAM 2

Location	Station (C Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	85+23.94	-10.65	435.42	435.44
C Exp. Jt. S. Abut.	85+25.74	-10.69	435.38	435.40
C Brg. S. Abut.	85+26.65	-10.70	435.37	435.39
A	85+36.71	-10.87	435.19	435.21
B	85+46.77	-10.99	435.02	435.04
C	85+56.83	-11.05	434.85	434.87
D	85+66.89	-11.05	434.68	434.70
C Brg. Pier 1	85+75.22	-11.02	434.55	434.57
E	85+85.28	-10.92	434.39	434.41
F	85+95.33	-10.88	434.23	434.25
G	86+05.39	-10.93	434.06	434.08
H	86+15.46	-10.92	433.89	433.91
I	86+25.52	-10.86	433.73	433.75
J	86+35.57	-10.75	433.58	433.60
K	86+45.63	-10.73	433.41	433.43
C Brg. Pier 2	86+55.79	-10.77	433.25	433.27
M	86+65.84	-10.75	433.08	433.10
N	86+75.90	-10.67	432.92	432.94
O	86+85.96	-10.54	432.77	432.79
P	86+96.02	-10.35	432.62	432.64
C Brg. N. Abut.	87+02.66	-10.20	432.52	432.54
C Exp. Jt. N. Abut.	87+03.60	-10.17	432.51	432.53
Back N. Abut.	87+05.44	-10.13	432.48	432.50

BEAM 3

Location	Station (C Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	85+20.93	-4.16	435.99	436.01
C Exp. Jt. S. Abut.	85+22.71	-4.20	435.95	435.97
C Brg. S. Abut.	85+23.62	-4.22	435.94	435.96
A	85+33.65	-4.41	435.76	435.78
B	85+43.67	-4.54	435.58	435.60
C	85+53.69	-4.62	435.41	435.43
D	85+63.72	-4.64	435.25	435.27
C Brg. Pier 1	85+72.01	-4.62	435.11	435.13
E	85+82.04	-4.54	434.95	434.97
F	85+92.06	-4.51	434.79	434.81
G	86+02.09	-4.58	434.62	434.64
H	86+12.11	-4.60	434.46	434.48
I	86+22.14	-4.55	434.29	434.31
J	86+32.16	-4.46	434.14	434.16
K	86+42.19	-4.46	433.97	433.99
C Brg. Pier 2	86+52.30	-4.52	433.80	433.82
M	86+62.33	-4.52	433.64	433.66
N	86+72.35	-4.46	433.48	433.50
O	86+82.38	-4.35	433.32	433.34
P	86+92.40	-4.18	433.17	433.19
C Brg. N. Abut.	86+99.02	-4.04	433.07	433.09
C Exp. Jt. N. Abut.	87+00.05	-4.02	433.06	433.08
Back N. Abut.	87+01.79	-3.97	433.03	433.05

C ROADWAY H, STAGE CONSTRUCTION LINE, & PROFILE GRADE

Location	Station (C Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	85+19.00	0.00	436.35	436.37
C Exp. Jt. S. Abut.	85+20.76	0.00	436.32	436.34
C Brg. S. Abut.	85+21.66	0.00	436.31	436.33
A	85+31.66	0.00	436.14	436.16
B	85+41.66	0.00	435.98	436.00
C	85+51.66	0.00	435.81	435.83
D	85+61.66	0.00	435.65	435.67
C Brg. Pier 1	85+69.72	0.00	435.52	435.54
E	85+79.72	0.00	435.35	435.37
F	85+89.72	0.00	435.19	435.21
G	85+99.72	0.00	435.03	435.05
H	86+09.72	0.00	434.86	434.88
I	86+19.72	0.00	434.70	434.72
J	86+29.72	0.00	434.53	434.55
K	86+39.72	0.00	434.37	434.39
C Brg. Pier 2	86+49.80	0.00	434.21	434.23
M	86+59.80	0.00	434.04	434.06
N	86+69.80	0.00	433.88	433.90
O	86+79.80	0.00	433.71	433.73
P	86+89.80	0.00	433.55	433.57
C Brg. N. Abut.	86+96.64	0.00	433.44	433.46
C Exp. Jt. N. Abut.	86+97.59	0.00	433.42	433.44
Back N. Abut.	86+99.45	0.00	433.39	433.41

BEAM 4

Location	Station (C Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	85+29.70	2.33	436.36	436.38
C Exp. Jt. S. Abut.	85+29.70	2.28	436.36	436.38
C Brg. S. Abut.	85+20.62	2.26	436.50	436.52
A	85+29.54	2.06	436.34	436.36
B	85+38.47	1.91	436.18	436.20
C	85+47.40	1.82	436.03	436.05
D	85+56.32	1.78	435.88	435.90
C Brg. Pier 1	85+68.84	1.79	435.68	435.70
E	85+77.93	1.85	435.53	435.55
F	85+87.02	1.85	435.38	435.40
G	85+96.12	1.77	435.23	435.25
H	86+05.21	1.74	435.08	435.10
I	86+14.31	1.76	434.93	434.95
J	86+23.41	1.84	434.79	434.81
K	86+32.50	1.81	434.63	434.65
C Brg. Pier 2	86+48.85	1.74	434.36	434.38
M	86+58.07	1.72	434.21	434.23
N	86+67.29	1.76	434.06	434.08
O	86+76.51	1.85	433.92	433.94
P	86+85.73	2.00	433.78	433.80
C Brg. N. Abut.	86+95.40	2.13	433.63	433.65
C Exp. Jt. N. Abut.	87+06.32	2.15	433.45	433.47
Back N. Abut.	87+06.32	2.19	433.45	433.47

BEAM 5

Location	Station (C Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	85+14.95	8.82	437.12	437.14
C Exp. Jt. S. Abut.	85+16.73	8.77	437.09	437.11
C Brg. S. Abut.	85+17.63	8.75	437.07	437.09
A	85+27.58	8.53	436.89	436.91
B	85+37.53	8.37	436.72	436.74
C	85+47.49	8.26	436.54	436.56
D	85+57.44	8.20	436.38	436.40
C Brg. Pier 1	85+65.68	8.20	436.24	436.26
E	85+75.63	8.24	436.08	436.10
F	85+85.59	8.23	435.92	435.94
G	85+95.54	8.12	435.74	435.76
H	86+05.50	8.07	435.58	435.60
I	86+15.45	8.08	435.41	435.43
J	86+25.41	8.14	435.26	435.28
K	86+35.36	8.10	435.09	435.11
C Brg. Pier 2	86+45.41	8.00	434.92	434.94
M	86+55.37	7.97	434.75	434.77
N	86+65.32	7.99	434.59	434.61
O	86+75.28	8.06	434.43	434.45
P	86+85.23	8.19	434.28	434.30
C Brg. N. Abut.	86+91.81	8.30	434.18	434.20
C Exp. Jt. N. Abut.	86+92.74	8.32	434.17	434.19
Back N. Abut.	87+94.56	8.36	432.50	432.52

BEAM 6

Location	Station (C Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	85+12.00	15.32	437.69	437.71
C Exp. Jt. S. Abut.	85+13.77	15.27	437.66	437.68
C Brg. S. Abut.	85+14.67	15.25	437.64	437.66
A	85+24.58	15.01	437.46	437.48
B	85+34.50	14.83	437.28	437.30
C	85+44.42	14.70	437.11	437.13
D	85+54.34	14.63	436.94	436.96
C Brg. Pier 1	85+62.55	14.61	436.80	436.82
E	85+72.47	14.63	436.64	436.66
F	85+82.39	14.61	436.48	436.50
G	85+92.31	14.48	436.31	436.33
H	86+02.23	14.42	436.14	436.16
I	86+12.15	14.40	435.97	435.99
J	86+22.07	14.45	435.82	435.84
K	86+31.99	14.38	435.65	435.67
C Brg. Pier 2	86+42.00	14.27	435.47	435.49
M	86+51.92	14.22	435.31	435.33
N	86+61.85	14.22	435.14	435.16
O	86+71.77	14.27	434.99	435.01
P	86+81.69	14.38	434.83	434.85
C Brg. N. Abut.	86+88.24	14.48	434.73	434.75
C Exp. Jt. N. Abut.	87+89.17	14.50	433.08	433.10
Back N. Abut.	87+90.98	14.53	433.05	433.07



USER NAME = ABenz
PLOT SCALE = 0.1667 1/in
PLOT DATE = 7/16/2020

DESIGNED - ACB
CHECKED - CDL
DRAWN - ACB
CHECKED - CDL

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 082-0140

SHEET S-7 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	328
CONTRACT NO. 76B55				
ILLINOIS		FED. AID PROJECT		

BEAM 12

Location	Station (@ Ramp T)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	14+54.12	-1.50	437.09	437.11
☉ Exp. Jt. S. Abut.	14+62.91	-1.50	436.97	436.99
☉ Brg. S. Abut.	14+23.90	-1.50	437.50	437.52
A	14+33.90	-1.50	437.37	437.39
B	14+43.90	-1.50	437.23	437.25
C	14+53.90	-1.50	437.09	437.11
D	14+63.90	-1.50	436.95	436.97
☉ Brg. Pier 1	14+77.65	-1.50	436.76	436.78
E	14+87.65	-1.50	436.63	436.65
F	14+97.65	-1.50	436.49	436.51
G	15+07.65	-1.50	436.35	436.37
H	15+17.65	-1.50	436.21	436.23
I	15+27.65	-1.50	436.07	436.09
J	15+37.65	-1.50	435.94	435.96
K	15+47.65	-1.50	435.80	435.82
L	15+57.65	-1.50	435.66	435.68
☉ Brg. Pier 2	15+65.65	-1.50	435.55	435.57
M	15+75.65	-1.50	435.41	435.43
N	15+85.65	-1.50	435.27	435.29
O	15+95.65	-1.50	435.13	435.15
P	16+05.65	-1.50	435.00	435.02
☉ Brg. N. Abut.	16+15.65	-1.50	434.86	434.88
☉ Exp. Jt. N. Abut.	16+17.44	-1.50	434.83	434.85
Back N. Abut.	16+27.05	-1.50	434.70	434.72

RAMP T & PROFILE GRADE

Location	Station (@ Ramp T)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	14+19.80	0.00	437.53	437.55
☉ Exp. Jt. S. Abut.	14+21.78	0.00	437.50	437.52
☉ Brg. S. Abut.	14+22.80	0.00	437.49	437.51
A	14+32.80	0.00	437.35	437.37
B	14+42.80	0.00	437.21	437.23
C	14+52.80	0.00	437.08	437.10
D	14+62.80	0.00	436.94	436.96
☉ Brg. Pier 1	14+76.55	0.00	436.75	436.77
E	14+86.55	0.00	436.61	436.63
F	14+96.55	0.00	436.47	436.49
G	15+06.55	0.00	436.33	436.35
H	15+16.55	0.00	436.20	436.22
I	15+26.55	0.00	436.06	436.08
J	15+36.55	0.00	435.92	435.94
K	15+46.55	0.00	435.78	435.80
L	15+56.55	0.00	435.64	435.66
☉ Brg. Pier 2	15+64.55	0.00	435.53	435.55
M	15+74.55	0.00	435.40	435.42
N	15+84.55	0.00	435.26	435.28
O	15+94.55	0.00	435.12	435.14
P	16+04.55	0.00	434.98	435.00
☉ Brg. N. Abut.	16+15.05	0.00	434.84	434.86
☉ Exp. Jt. N. Abut.	16+16.06	0.00	434.82	434.84
Back N. Abut.	16+18.04	0.00	434.80	434.82

BEAM 13

Location	Station (@ Ramp T)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Back S. Abut.	14+17.12	4.50	437.48	437.50
☉ Exp. Jt. S. Abut.	14+18.48	4.50	437.46	437.48
☉ Brg. S. Abut.	14+19.50	4.50	437.45	437.47
A	14+29.50	4.50	437.31	437.33
B	14+39.50	4.50	437.17	437.19
C	14+49.50	4.50	437.03	437.05
D	14+59.50	4.50	436.89	436.91
☉ Brg. Pier 1	14+73.25	4.50	436.70	436.72
E	14+83.25	4.50	436.57	436.59
F	14+93.25	4.50	436.43	436.45
G	15+03.25	4.50	436.29	436.31
H	15+13.25	4.50	436.15	436.17
I	15+23.25	4.50	436.01	436.03
J	15+33.25	4.50	435.88	435.90
K	15+43.25	4.50	435.74	435.76
L	15+53.25	4.50	435.60	435.62
☉ Brg. Pier 2	15+61.25	4.50	435.49	435.51
M	15+71.25	4.50	435.35	435.37
N	15+81.25	4.50	435.21	435.23
O	15+91.25	4.50	435.08	435.10
P	16+01.25	4.50	434.94	434.96
☉ Brg. N. Abut.	16+11.75	4.50	434.79	434.81
☉ Exp. Jt. N. Abut.	16+12.76	4.50	434.78	434.80
Back N. Abut.	16+14.74	4.50	434.75	434.77

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USER NAME = ABenz	DESIGNED - ACB	REVISED -
	CHECKED - CDL	REVISED -
PLOT SCALE = 0.1667" / in.	DRAWN - ACB	REVISED -
PLOT DATE = 7/16/2020	CHECKED - CDL	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS
STRUCTURE NO. 082-0140**

SHEET S-9 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-1-1	ST. CLAIR	361	330
CONTRACT NO. 76B55				
		ILLINOIS	FED. AID PROJECT	

WEST EDGE OF SHOULDER

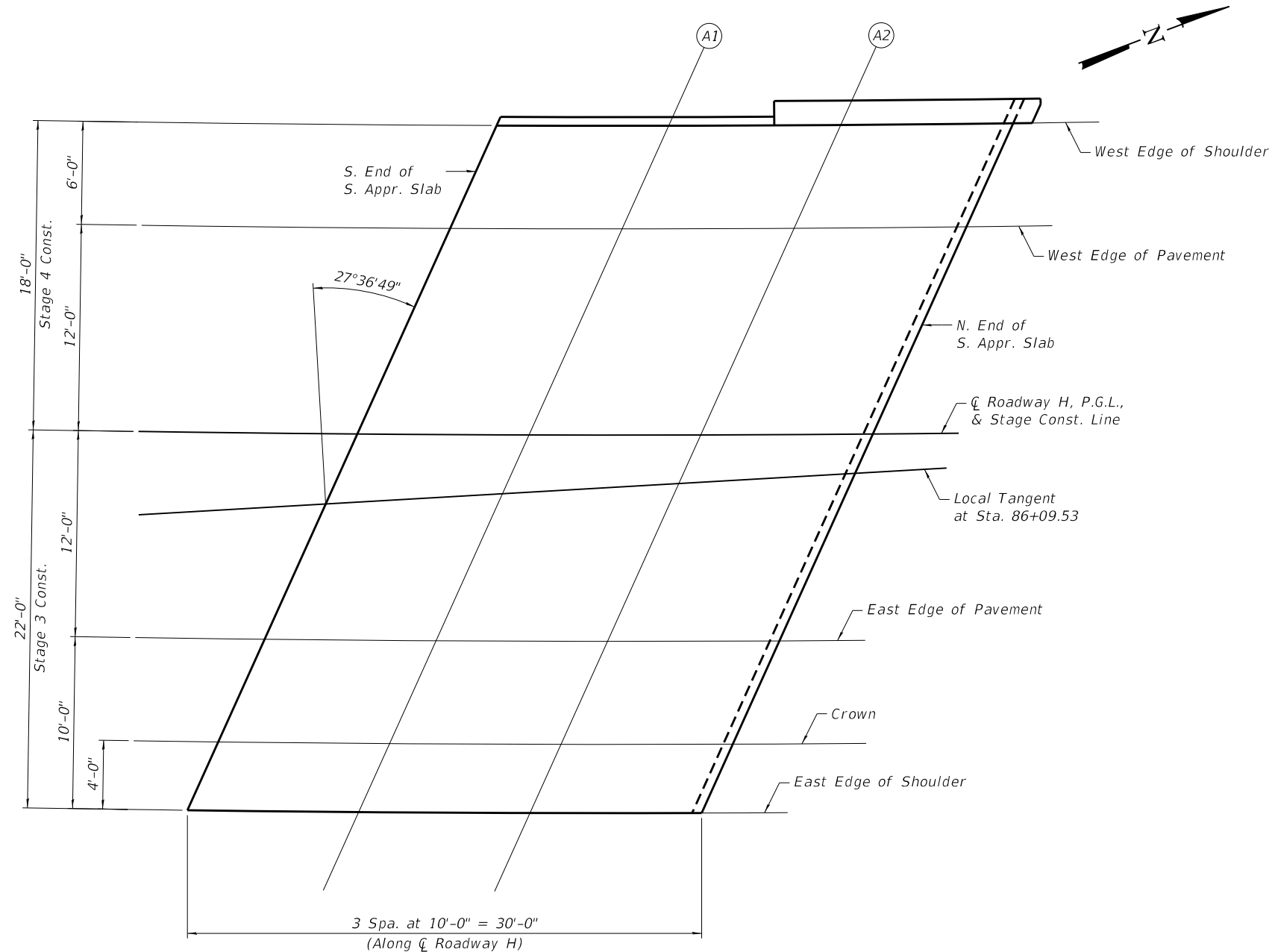
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	84+97.59	-18.00	435.26	435.28
A1	85+07.07	-18.00	435.11	435.13
A2	85+17.82	-18.00	434.93	434.95
N. End of S. Appr. Slab	85+27.95	-18.00	434.76	434.78

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	84+94.89	-12.00	435.79	435.81
A1	85+04.96	-12.00	435.62	435.64
A2	85+15.04	-12.00	435.46	435.48
N. End of S. Appr. Slab	85+25.13	-12.00	435.29	435.31

CL ROADWAY H, P.G.L., & STAGE CONST. LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	84+89.55	0.00	436.83	436.85
A1	84+99.54	0.00	436.67	436.69
A2	84+09.54	0.00	436.51	436.53
N. End of S. Appr. Slab	84+19.55	0.00	436.34	436.36



PLAN OF SOUTH APPROACH SLAB (ROADWAY H)
(Dimensions are radial to CL Roadway H unless noted otherwise)

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	84+84.29	12.00	437.88	437.90
A1	84+94.20	12.00	437.72	437.74
A2	85+04.12	12.00	437.55	437.58
N. End of S. Appr. Slab	85+14.05	12.00	437.39	437.41

CROWN

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	84+81.68	18.00	438.40	438.42
A1	84+91.56	18.00	438.24	438.26
A2	85+01.44	18.00	438.08	438.10
N. End of S. Appr. Slab	85+11.33	18.00	437.92	437.94

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	84+79.96	22.00	438.35	438.37
A1	84+89.81	22.00	438.19	438.21
A2	84+99.66	22.00	438.03	438.05
N. End of S. Appr. Slab	85+09.53	22.00	437.87	437.89

MODEL: Default
FILE NAME: Z:\15052222_Poplar Street Bridge Complex EB\DWG\Bridges\10-Top of Approach Slab Elevations.dgn
7/16/2020 9:25:35 AM

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	14+06.56	-22.00	438.16	438.18
A3	14+16.56	-22.00	438.02	438.04
A4	14+26.56	-22.00	437.88	437.90
N. End of S. Appr. Slab	14+36.56	-22.00	437.74	437.76

WEST EDGE OF PAVEMENT

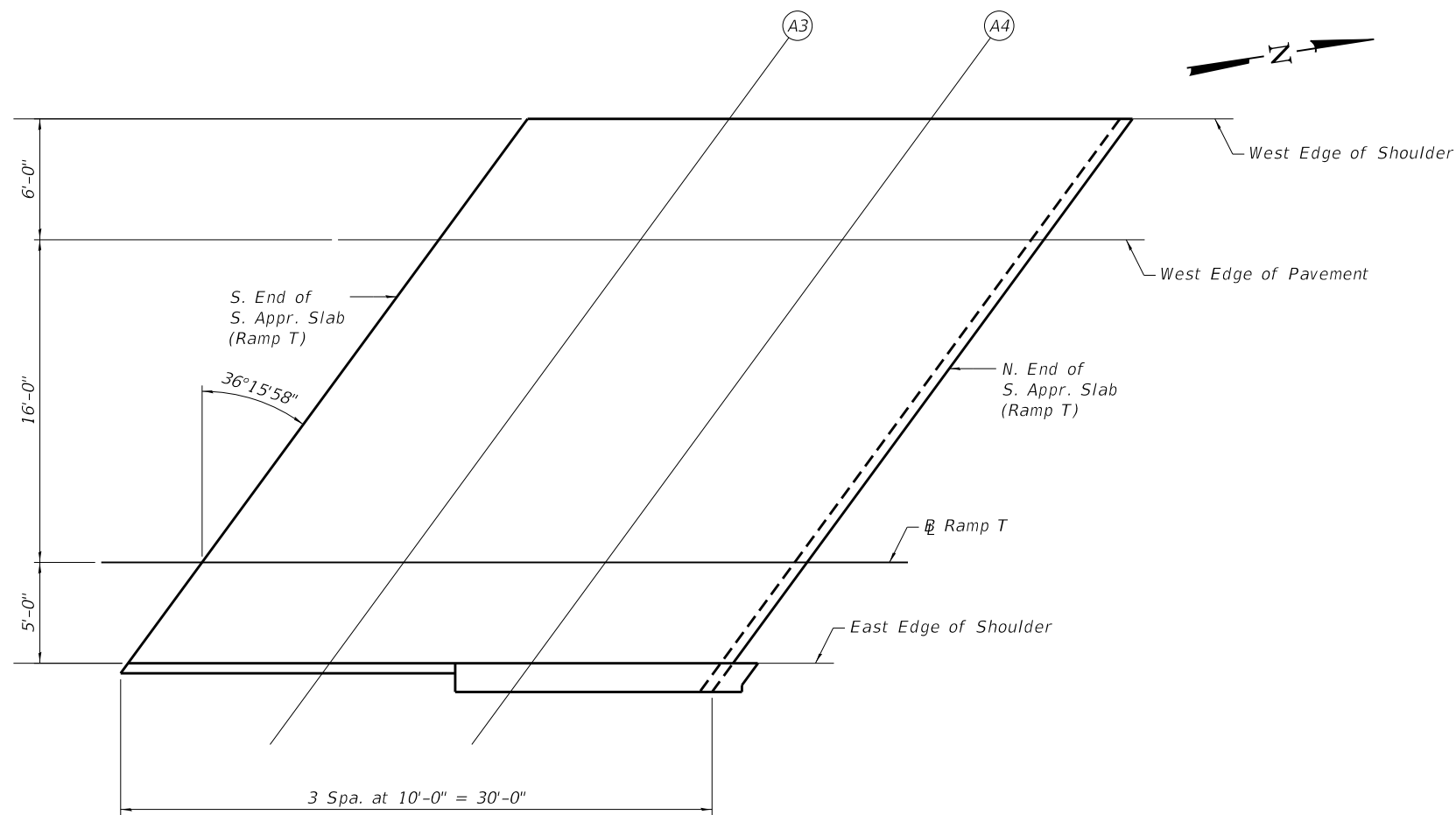
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	14+02.16	-16.00	438.10	438.12
A3	14+12.16	-16.00	437.96	437.98
A4	14+22.16	-16.00	437.82	437.84
N. End of S. Appr. Slab	14+32.16	-16.00	437.68	437.70

RAMP T

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	13+90.42	0.00	437.97	437.99
A3	14+00.42	0.00	437.81	437.83
A4	14+10.42	0.00	437.66	437.68
N. End of S. Appr. Slab	14+20.42	0.00	437.52	437.54

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	13+86.75	5.00	437.94	437.96
A3	13+96.75	5.00	437.77	437.79
A4	14+06.75	5.00	437.62	437.64
N. End of S. Appr. Slab	14+16.75	5.00	437.47	437.49



PLAN OF SOUTH APPROACH SLAB (RAMP T)

MODEL: Default
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USER NAME = ABenz	DESIGNED - ACB	REVISED -
PLOT SCALE = 0.1667"/in.	CHECKED - CDL	REVISED -
PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-1-1	ST. CLAIR	361	332
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

WEST EDGE OF SHOULDER

Location	Station (☐ Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	87+09.56	-18.00	431.79	431.81
A5	87+19.69	-18.00	431.62	431.64
A6	87+29.82	-18.00	431.45	431.47
N. End of N. Appr. Slab	87+39.97	-18.00	431.29	431.31

WEST EDGE OF ROADWAY H

Location	Station (☐ Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	87+05.97	-12.00	432.32	432.34
A5	87+16.05	-12.00	432.16	432.18
A6	87+26.14	-12.00	431.99	432.01
N. End of N. Appr. Slab	87+36.24	-12.00	431.83	431.85

☐ ROADWAY H, P.G.L., & STAGE CONST. LINE

Location	Station (☐ Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	86+98.87	0.00	433.40	433.42
A5	87+08.86	0.00	433.24	433.26
A6	87+18.85	0.00	433.07	433.09
N. End of N. Appr. Slab	87+28.87	0.00	432.91	432.93

EAST EDGE OF ROADWAY H

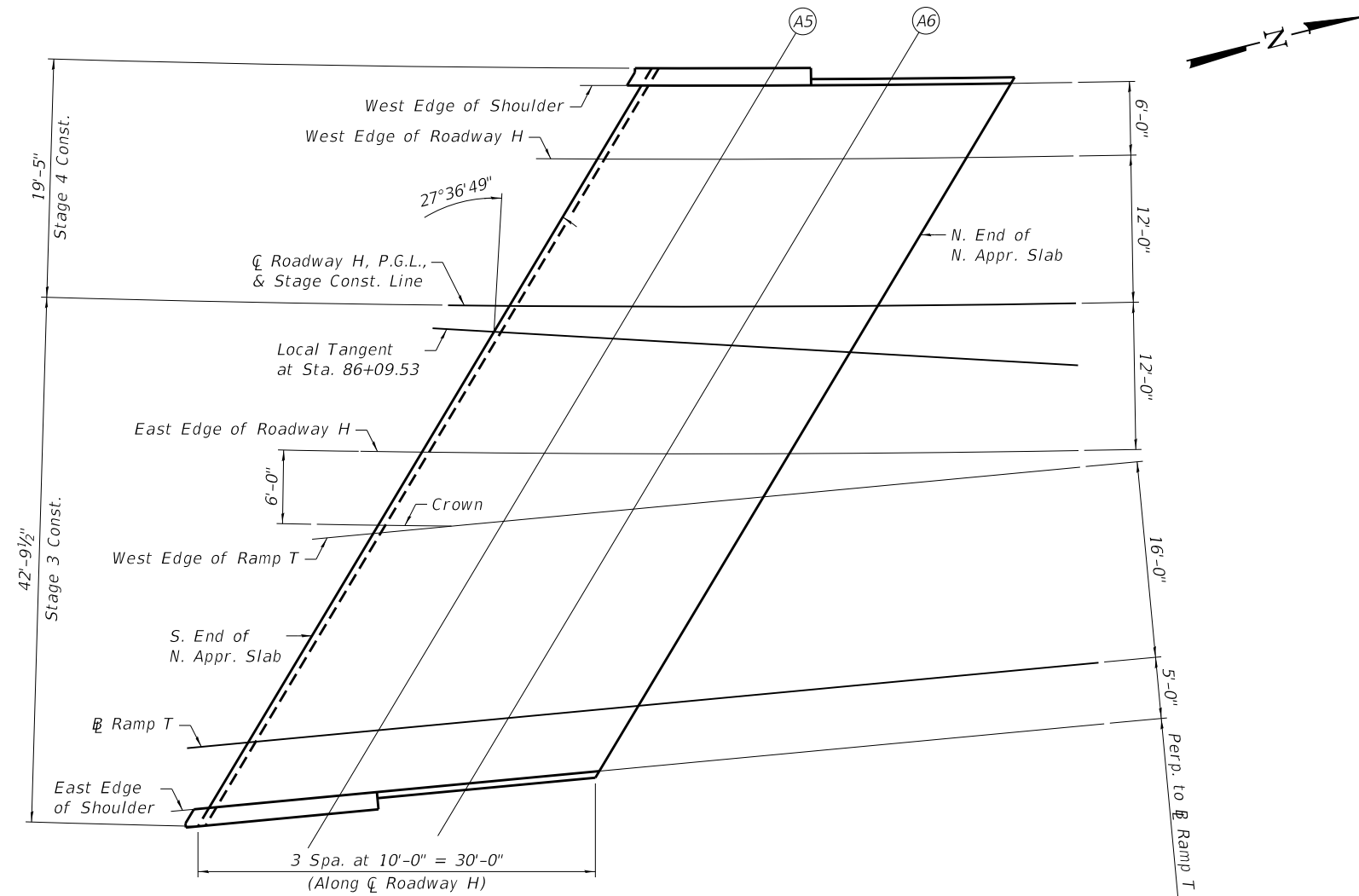
Location	Station (☐ Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	86+91.87	12.00	434.48	434.50
A5	87+01.78	12.00	434.31	434.33
A6	87+11.68	12.00	434.15	434.17
N. End of N. Appr. Slab	87+21.61	12.00	433.99	434.01

CROWN

Location	Station (☐ Roadway H)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	86+88.42	18.00	435.01	435.03
A5	-	-	-	-
A6	-	-	-	-
N. End of N. Appr. Slab	-	-	-	-

WEST EDGE OF RAMP T

Location	Station (☐ Ramp T)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	16+29.16	-16.00	434.96	434.98
A5	16+39.83	-16.00	434.76	434.78
A6	16+50.47	-16.00	434.55	434.57
N. End of N. Appr. Slab	16+61.09	-16.00	434.30	434.32



PLAN OF NORTH APPROACH SLAB

(Dimensions are radial to ☐ Roadway H unless noted otherwise)

☐ RAMP T

Location	Station (☐ Ramp T)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	16+17.42	0.00	434.80	434.83
A5	16+28.09	0.00	434.66	434.68
A6	16+38.73	0.00	434.51	434.53
N. End of N. Appr. Slab	16+49.35	0.00	434.36	434.38

EAST EDGE OF SHOULDER

Location	Station (☐ Ramp T)	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	16+13.76	5.00	434.75	434.78
A5	16+24.43	5.00	434.61	434.63
A6	16+35.06	5.00	434.47	434.49
N. End of N. Appr. Slab	16+45.68	5.00	434.34	434.36

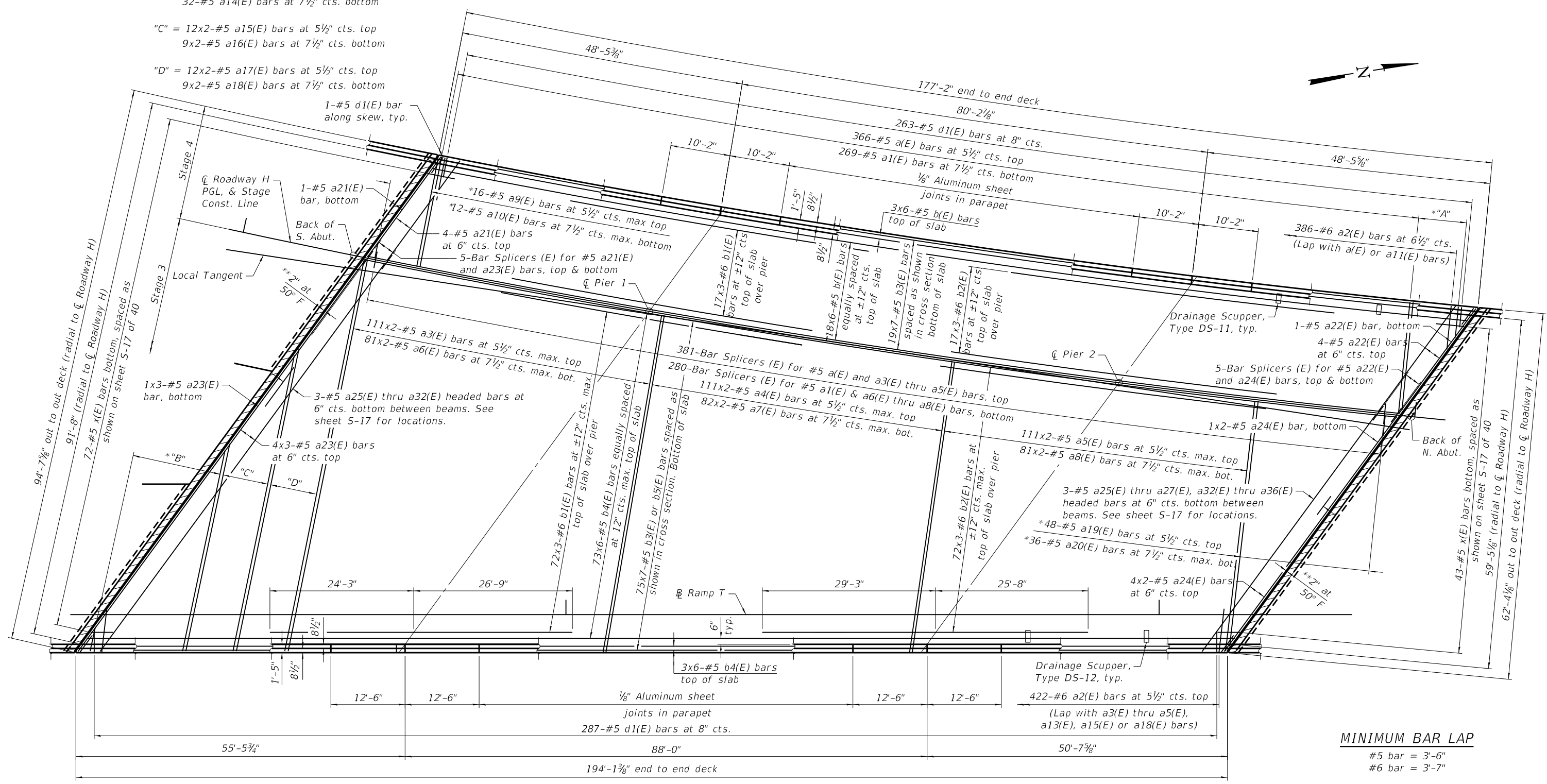
MODEL: Default
FILE NAME: Z:\15052222_Poplar Street Bridge Complex EB\DWG\Bridges\final\Plotsheets\12-Top of Approach Slab Elevations.dgn

"A" = 20-#5 a11(E) bars at 5 1/2" cts. top
 14-#5 a12(E) bars at 7 1/2" cts. bottom

"B" = 44-#5 a13(E) bars at 5 1/2" cts. top
 32-#5 a14(E) bars at 7 1/2" cts. bottom

"C" = 12x2-#5 a15(E) bars at 5 1/2" cts. top
 9x2-#5 a16(E) bars at 7 1/2" cts. bottom

"D" = 12x2-#5 a17(E) bars at 5 1/2" cts. top
 9x2-#5 a18(E) bars at 7 1/2" cts. bottom



MINIMUM BAR LAP
 #5 bar = 3'-6"
 #6 bar = 3'-7"

PLAN

* See Field Cutting Diagram on sheet S-16 of 40.
 ** Dimension showing concrete opening. For joint opening see sheet S-27 of 40.

Notes:
 See sheet S-16 of 40 for superstructure details and Bill of Material.
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

MODEL: Default
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PLOT SCALE = 0.1667' / in.	CHECKED - CDL	REVISED -
PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

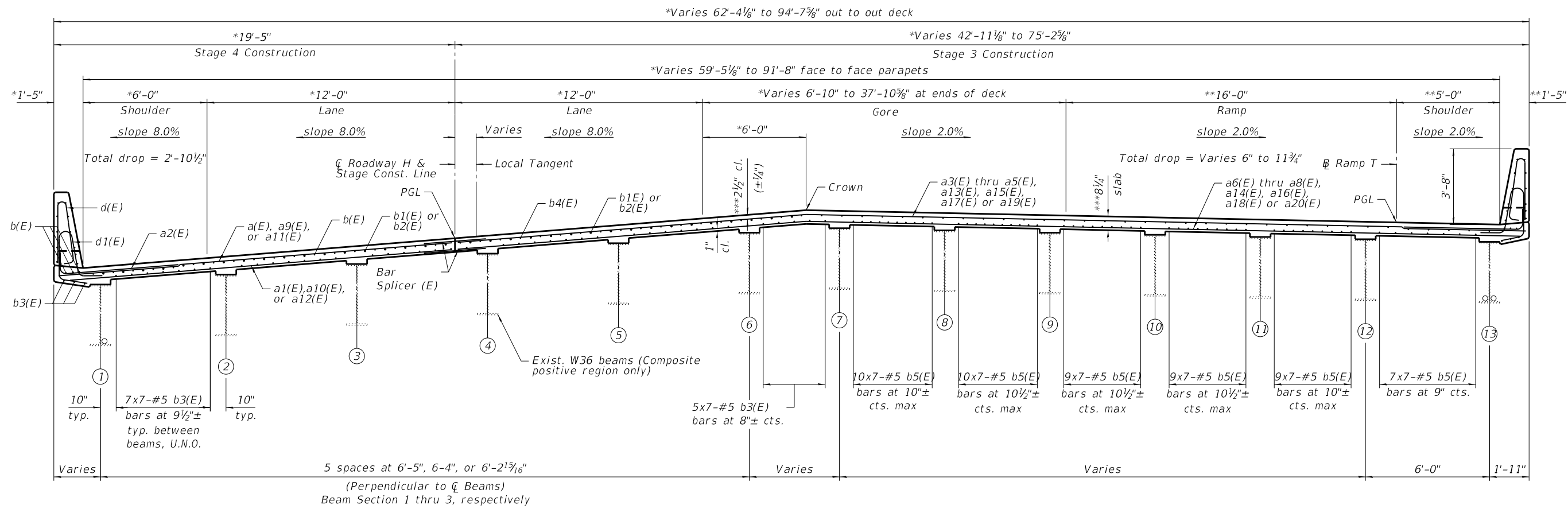
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE
 STRUCTURE NO. 082-0140**

SHEET S-13 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	334
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

MODEL: Default
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NEAR PIER

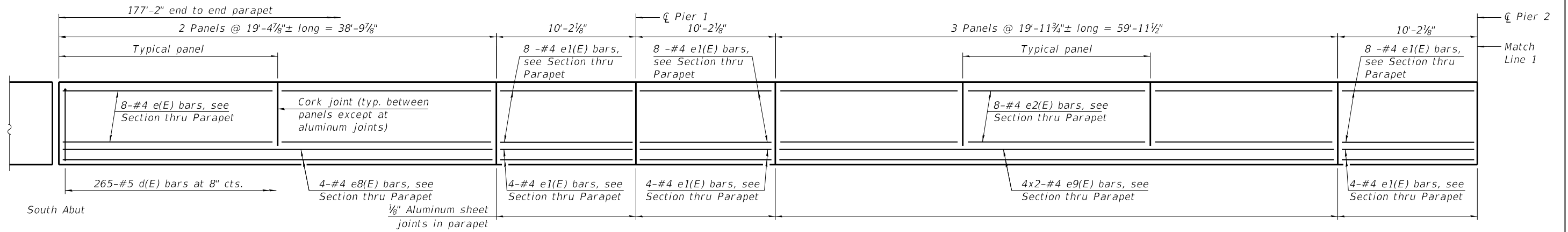
CROSS SECTION
 (Looking North)

NEAR MIDSPAN

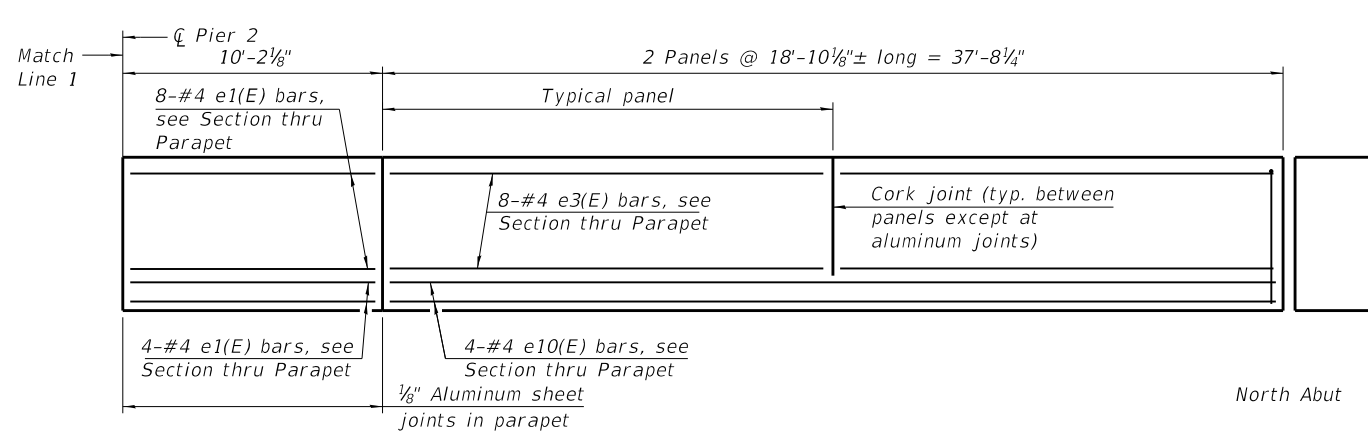
*Radial to \bar{C} Roadway H
 **Perpendicular to \bar{R} Ramp T
 ***Prior to grinding

Notes:
 See sheet S-16 of 40 for superstructure details and Bill of Material.
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

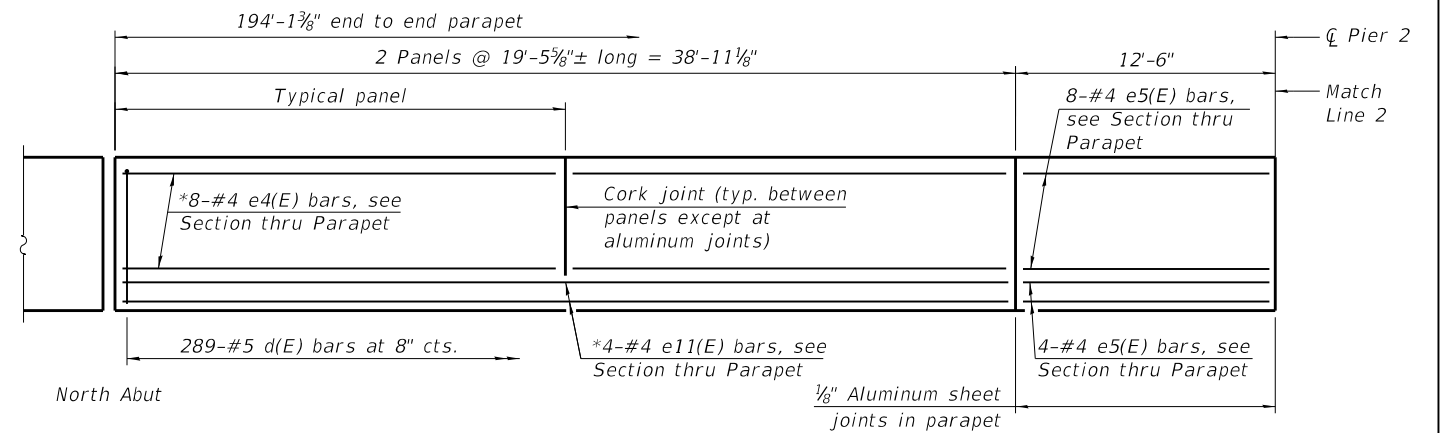
EFK Moen Civil Engineering Design	USER NAME = ABenz	DESIGNED - ACB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STRUCTURE NO. 082-0140	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE = 02" = 1'-0"	CHECKED - CDL	REVISED -			70	82-3HVB-2R-14-1	ST. CLAIR	361	335	
	PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -			CONTRACT NO. 76B55					
		CHECKED - CDL	REVISED -			ILLINOIS FED. AID PROJECT					



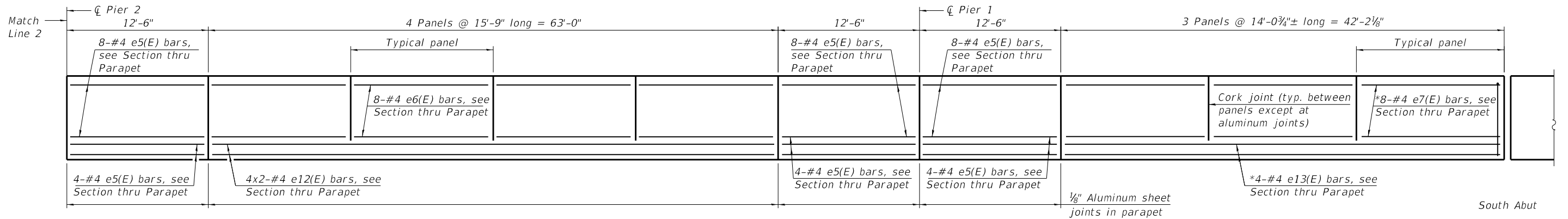
INSIDE ELEVATION OF WEST PARAPET - SPANS 1 & 2



INSIDE ELEVATION OF WEST PARAPET - SPAN 3



INSIDE ELEVATION OF EAST PARAPET - SPAN 3



INSIDE ELEVATION OF EAST PARAPET - SPANS 1 & 2

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-5"

Notes:
See Sheet S-16 of 40 for bar details, Bill of Material & Parapet Joint Details.
See Sheet S-16 of 40 for Section Thru Parapet.

MODEL: Default
FILE NAME: Z:\15052222_Poplar Street Bridge Complex EB\DWG\Bridges\15-Superstructure (Parapets).dgn

EFK Moen
Civil Engineering Design

USER NAME = ABenz
PLOT SCALE = 0.1667"/in.
PLOT DATE = 7/16/2020

DESIGNED - ACB
CHECKED - CDL
DRAWN - ACB
CHECKED - CDL

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

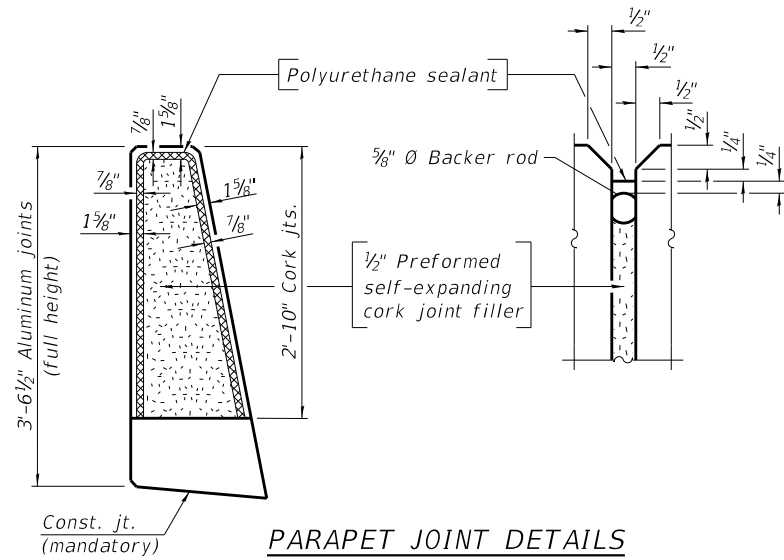
SUPERSTRUCTURE
STRUCTURE NO. 082-0140

SHEET S-15 OF 40 SHEETS

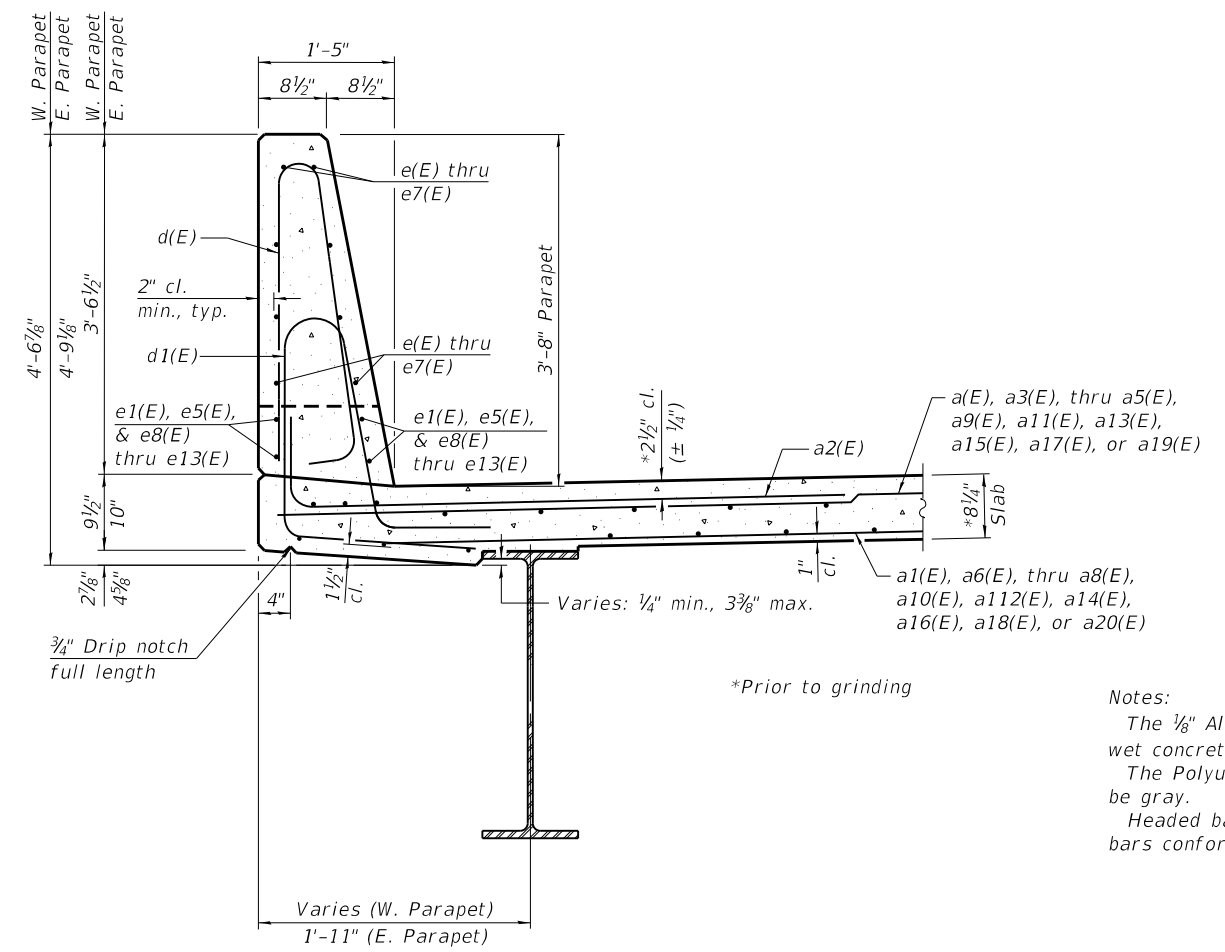
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	336
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	366	#5	19'-1"	—
a1(E)	269	#5	18'-10"	—
a2(E)	808	#6	8'-4"	└
a3(E)	222	#5	35'-7"	—
a4(E)	222	#5	30'-8"	—
a5(E)	222	#5	26'-6"	—
a6(E)	162	#5	35'-5"	—
a7(E)	164	#5	30'-6"	—
a8(E)	162	#5	26'-4"	—
a9(E)	8	#5	22'-0"	—
a10(E)	6	#5	20'-8"	—
a11(E)	10	#5	22'-3"	—
a12(E)	7	#5	22'-5"	—
a13(E)	22	#5	49'-4"	—
a14(E)	16	#5	49'-6"	—
a15(E)	24	#5	29'-9"	—
a16(E)	18	#5	29'-7"	—
a17(E)	24	#5	35'-2"	—
a18(E)	18	#5	35'-1"	—
a19(E)	24	#5	45'-2"	—
a20(E)	18	#5	44'-1"	—
a21(E)	5	#5	21'-1"	—
a22(E)	5	#5	22'-2"	—
a23(E)	15	#5	29'-9"	—
a24(E)	10	#5	26'-7"	—
a25(E)	24	#5	5'-3"	—
a26(E)	6	#5	3'-7"	—
a27(E)	6	#5	1'-5"	—
a28(E)	3	#5	2'-10"	—
a29(E)	3	#5	8'-1"	—
a30(E)	3	#5	8'-6"	—
a31(E)	9	#5	8'-3"	—
a32(E)	6	#5	5'-4"	—
a33(E)	3	#5	2'-10"	—
a34(E)	3	#5	1'-6"	—
a35(E)	3	#5	1'-11"	—
a36(E)	9	#5	1'-8"	—
a37(E)	32	#5	1'-6"	—
b(E)	126	#5	32'-5"	—
b1(E)	267	#6	19'-5"	—
b2(E)	267	#6	20'-9"	—
b3(E)	280	#5	28'-4"	—
b4(E)	456	#5	35'-3"	—
b5(E)	378	#5	30'-9"	—
d(E)	554	#5	7'-0"	└
d1(E)	554	#5	7'-4"	└
e(E)	16	#4	19'-1"	—
e1(E)	48	#4	9'-10"	—
e2(E)	24	#4	19'-8"	—
e3(E)	16	#4	18'-6"	—
e4(E)	16	#4	19'-2"	—
e5(E)	48	#4	12'-2"	—
e6(E)	32	#4	15'-5"	—
e7(E)	24	#4	13'-9"	—
e8(E)	4	#4	38'-6"	—
e9(E)	8	#4	31'-3"	—
e10(E)	4	#4	37'-4"	—
e11(E)	4	#4	38'-7"	—
e12(E)	8	#4	32'-9"	—
e13(E)	4	#4	41'-10"	—
x(E)	115	#5	6'-0"	└
Reinforcement Bars, Epoxy Coated		Pound	138,160	
Concrete Superstructure		Cu. Yd.	435.8	



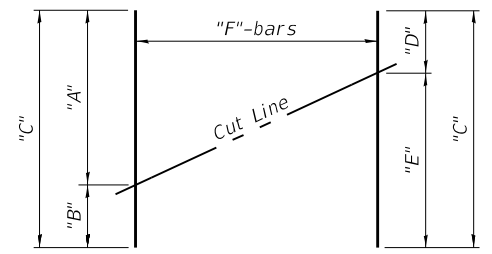
PARAPET JOINT DETAILS



SECTION THRU PARAPET

Notes:

The 1/8" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.
 The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

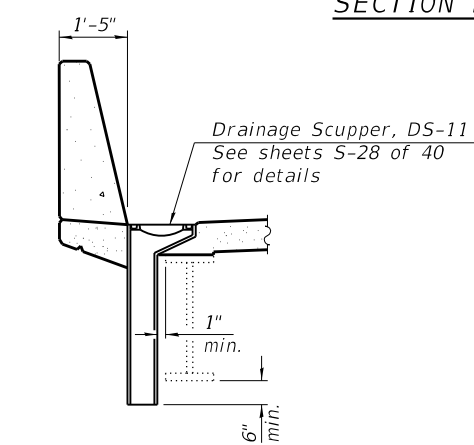


FIELD CUTTING DIAGRAM

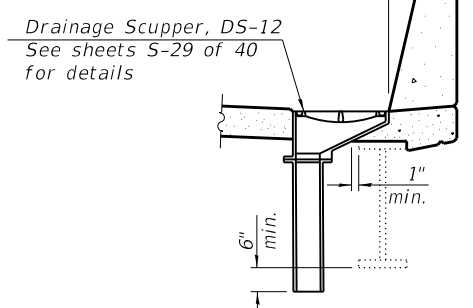
Order a9(E) thru a14(E), a19(E) and a20(E) bars full length. Cut as shown and use remainder of bars in opposite end of section.

FIELD CUTTING TABLE

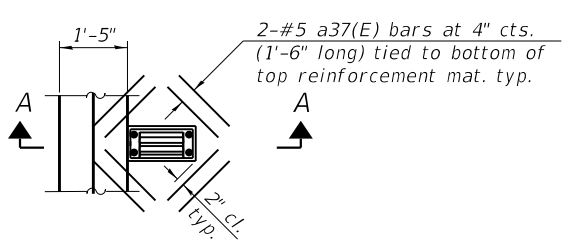
Bar	"A"	"B"	"C"	"D"	"E"	"F"
a9(E)	18'-4"	3'-8"	22'-0"	10'-6"	11'-6"	8
a10(E)	17'-8"	3'-0"	20'-8"	9'-8"	11'-0"	6
a11(E)	18'-6"	3'-9"	22'-3"	10'-8"	11'-7"	10
a12(E)	18'-1"	4'-4"	22'-5"	10'-8"	11'-9"	7
a13(E)	45'-0"	4'-4"	49'-4"	24'-2"	25'-2"	22
a14(E)	44'-9"	4'-9"	49'-6"	24'-1"	25'-5"	16
a19(E)	41'-6"	3'-8"	45'-2"	22'-2"	23'-0"	24
a20(E)	41'-2"	2'-11"	44'-1"	21'-6"	22'-7"	18



SECTION A-A

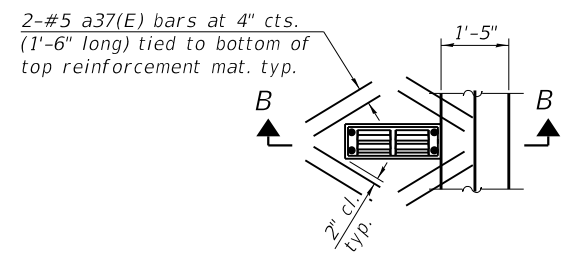


SECTION B-B



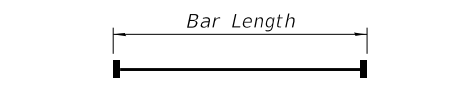
PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

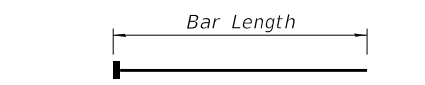


PLAN

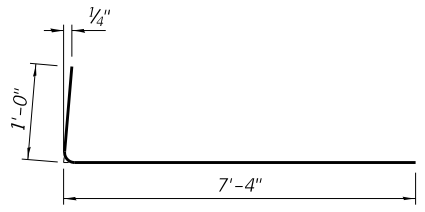
Note:
Cut longitudinal reinforcement to clear drainage scuppers.



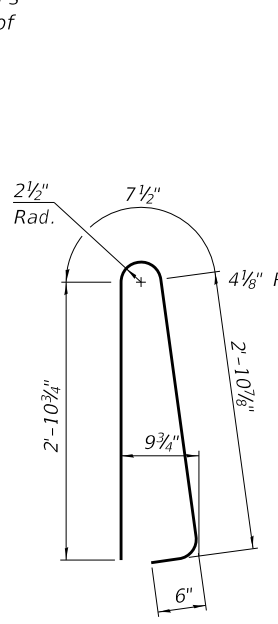
**BAR a25(E), a28(E) thru a36(E)
(Headed)**



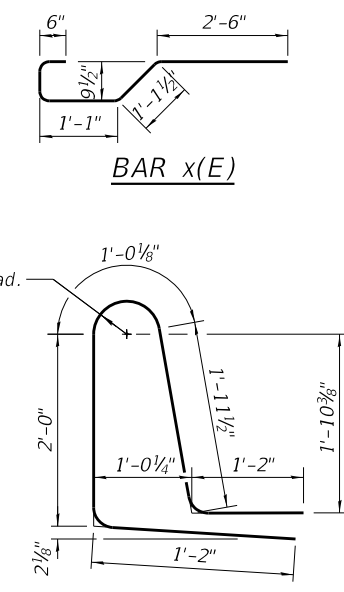
**BAR a26(E) and a27(E)
(Headed)**



BAR a2(E)



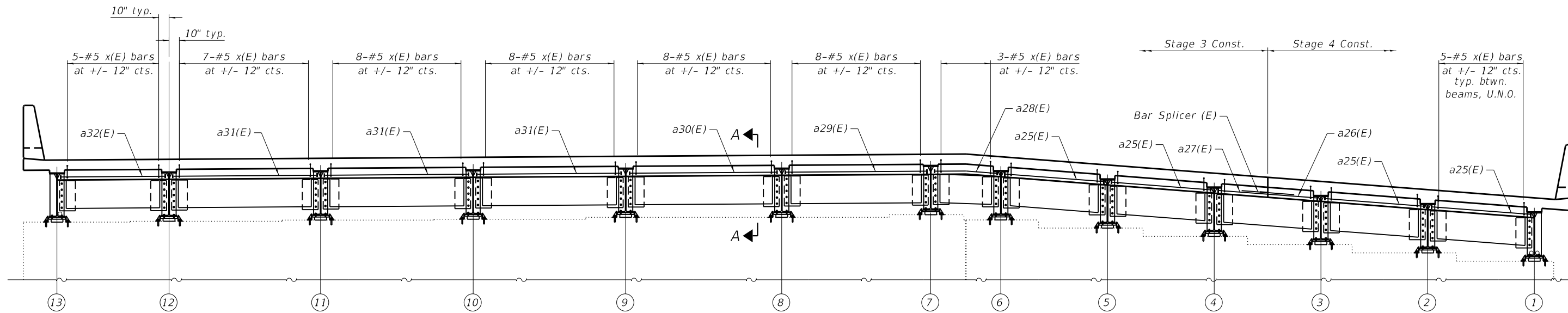
BAR d(E)



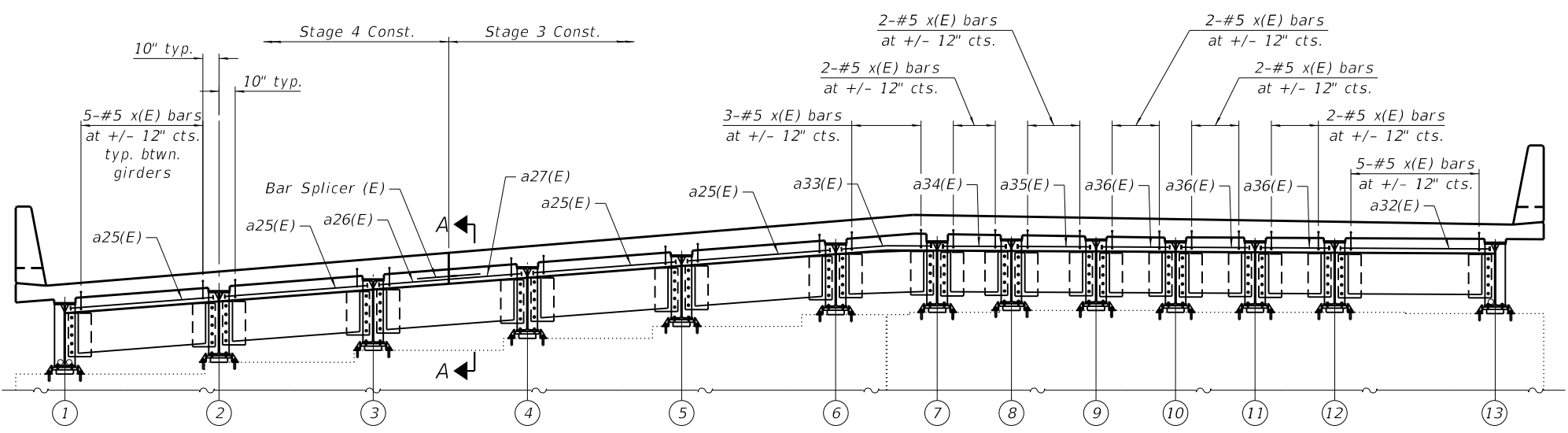
BAR d1(E)

BAR x(E)

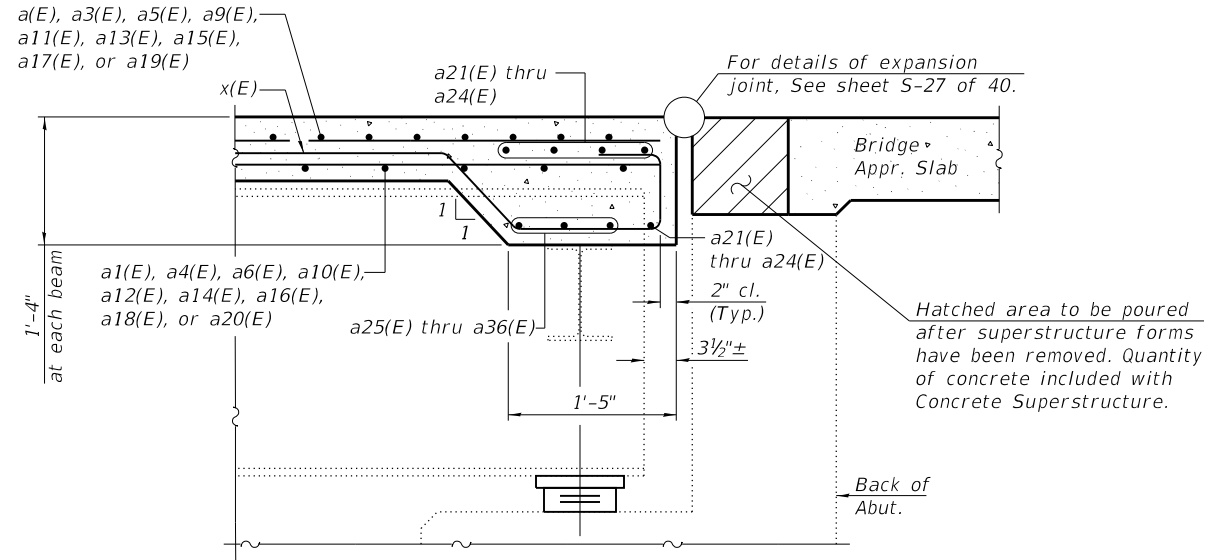
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7/16/2020 9:25:42 AM



DIAPHRAGM AT SOUTH ABUTMENT



DIAPHRAGM AT NORTH ABUTMENT



SECTION A-A

(at Rt. L's)

Notes:
See sheet S-16 of 40 for superstructure details and Bill of Material.
The x(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

MODEL: Default
FILE NAME: Z:\15052222_Poplar Street Bridge Complex EB\DWG\Bridges\final\Plotsheets\17-Diaphragm.dgn

DEA-SB<40-LR>20 1-1-2020

EFK•Moen
Civil Engineering Design

USER NAME = ABenz	DESIGNED - ACB	REVISED -
PLOT SCALE = 0.1667"/in.	CHECKED - CDL	REVISED -
PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

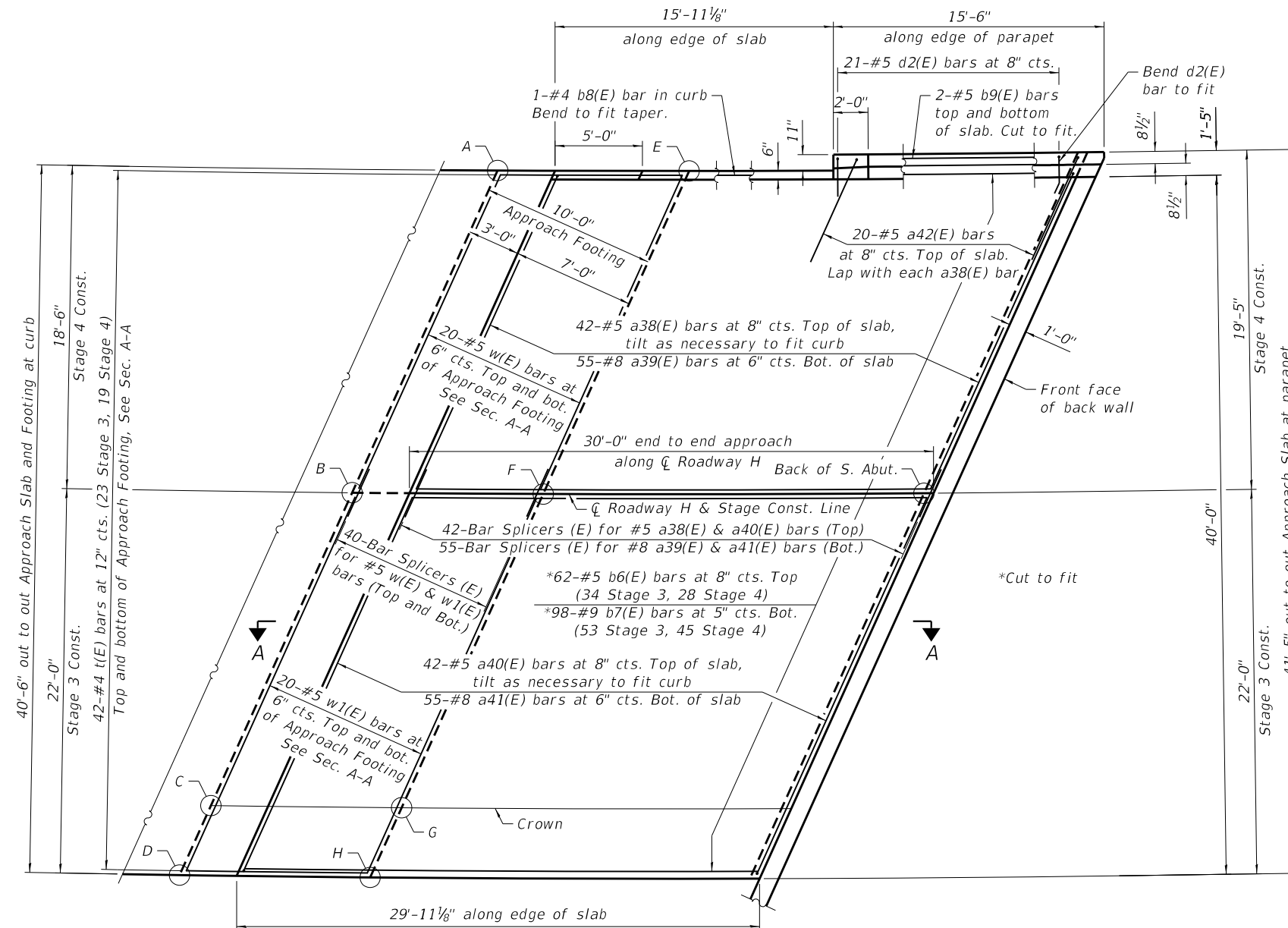
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
STRUCTURE NO. 082-0140

SHEET S-17 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	338
CONTRACT NO. 76B55				

ILLINOIS FED. AID PROJECT

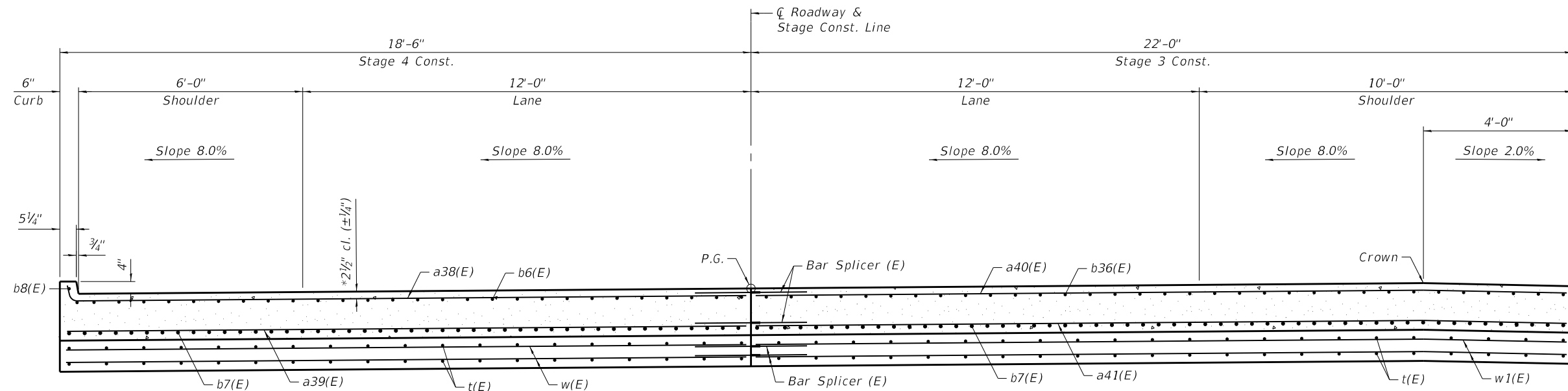


PLAN OF SOUTH APPROACH SLAB (ROADWAY H)

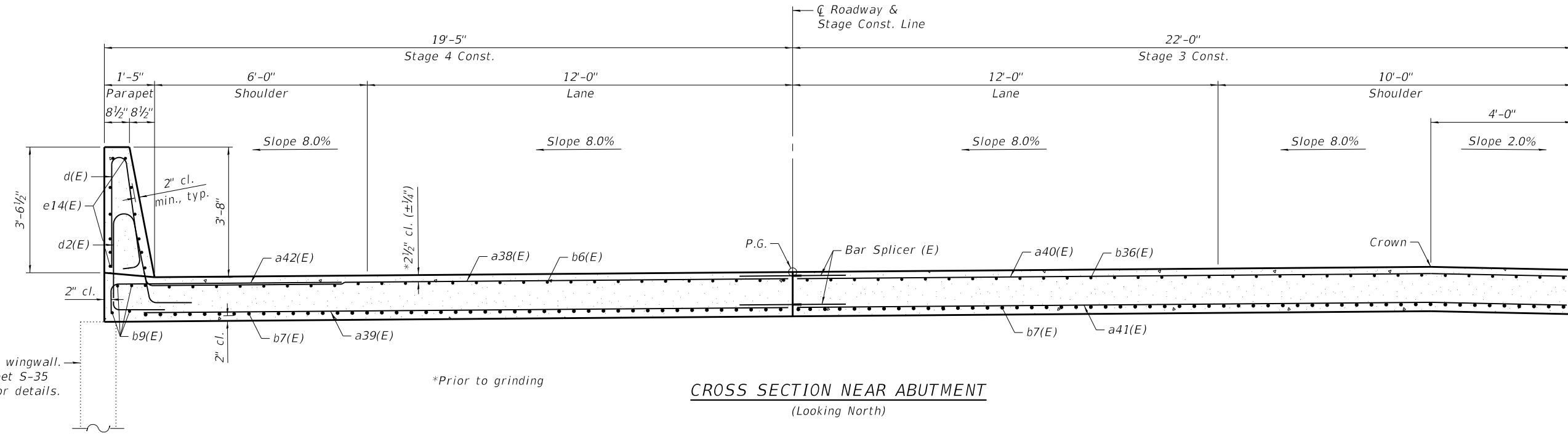
TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING

Point	Top	Bottom
A	434.02	433.19
B	435.64	434.80
C	437.21	436.37
D	437.15	436.32
E	433.84	433.01
F	435.46	434.62
G	437.03	436.19
H	436.98	436.14

MODEL: Default
FILE NAME: Z:\15052222_Poplar Street Bridge Complex EB\DWG\Bridges\18-Bridge Approach Slab Details.dgn



CROSS SECTION AT APPROACH FOOTING
(Looking North)



CROSS SECTION NEAR ABUTMENT
(Looking North)

Existing wingwall.
See Sheet S-35
of 40 for details.

*Prior to grinding

MODEL: Default
FILE NAME: Z:\1505222_Poplar Street Bridge Complex EB\DWG\Bridges\19-Bridge Approach Slab Details.dgn

EFK•Moen
Civil Engineering Design

USER NAME = ABenz
PLOT SCALE = 0.1667"/in.
PLOT DATE = 7/16/2020

DESIGNED - ACB
CHECKED - CDL
DRAWN - ACB
CHECKED - CDL

REVISED -
REVISED -
REVISED -
REVISED -

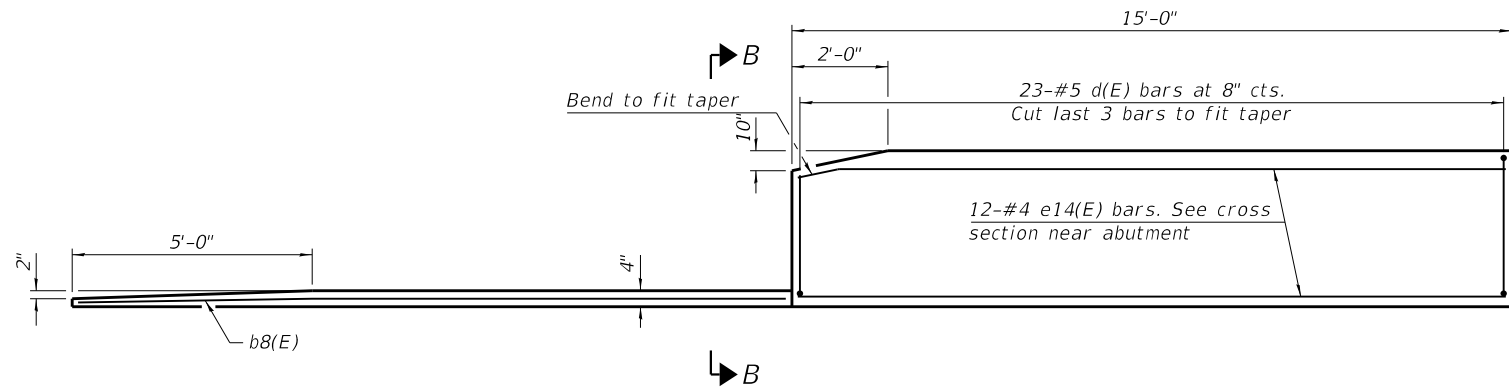
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH BRIDGE APPROACH SLAB DETAILS (ROADWAY H)
STRUCTURE NO. 082-0140

SHEET S-19 OF 40 SHEETS

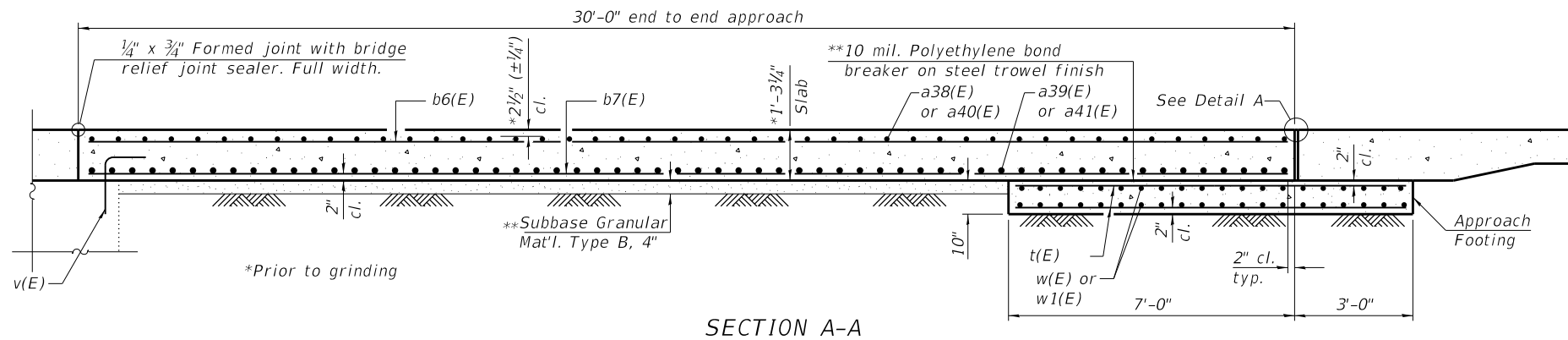
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				

ILLINOIS FED. AID PROJECT

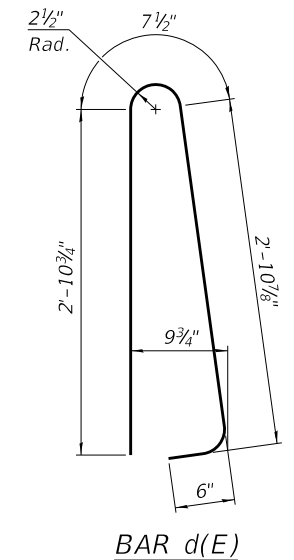


INSIDE ELEVATION OF PARAPET AND CURB

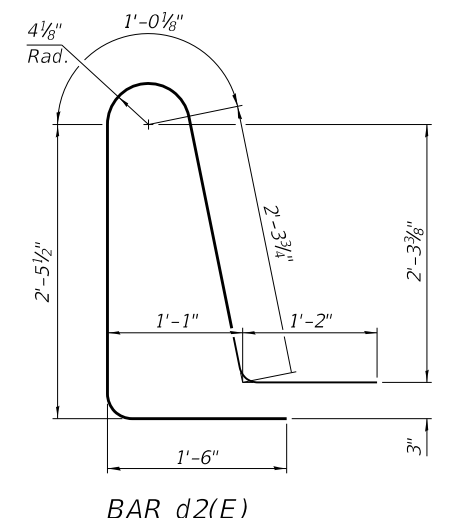
Notes:
 Parapet concrete shall be paid for as Concrete Superstructure.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.



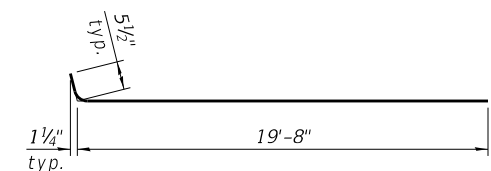
SECTION A-A



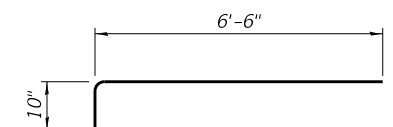
BAR d(E)



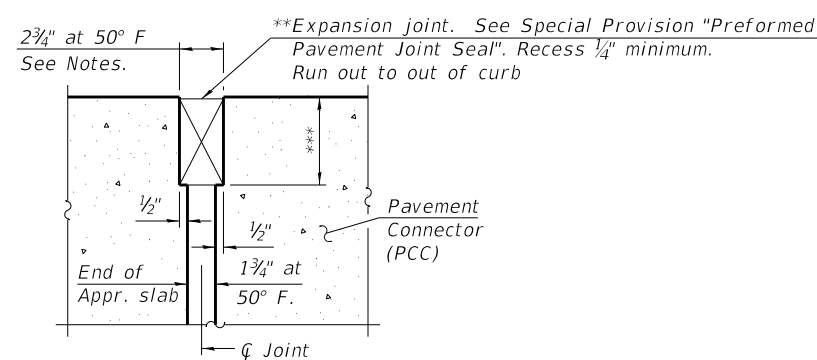
BAR d2(E)



BAR a38(E)

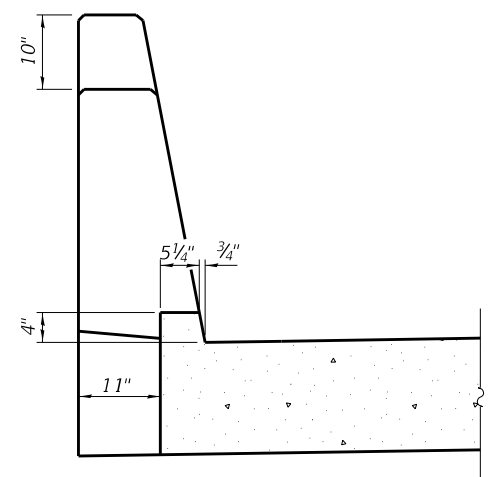


BAR a42(E)



DETAIL A

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



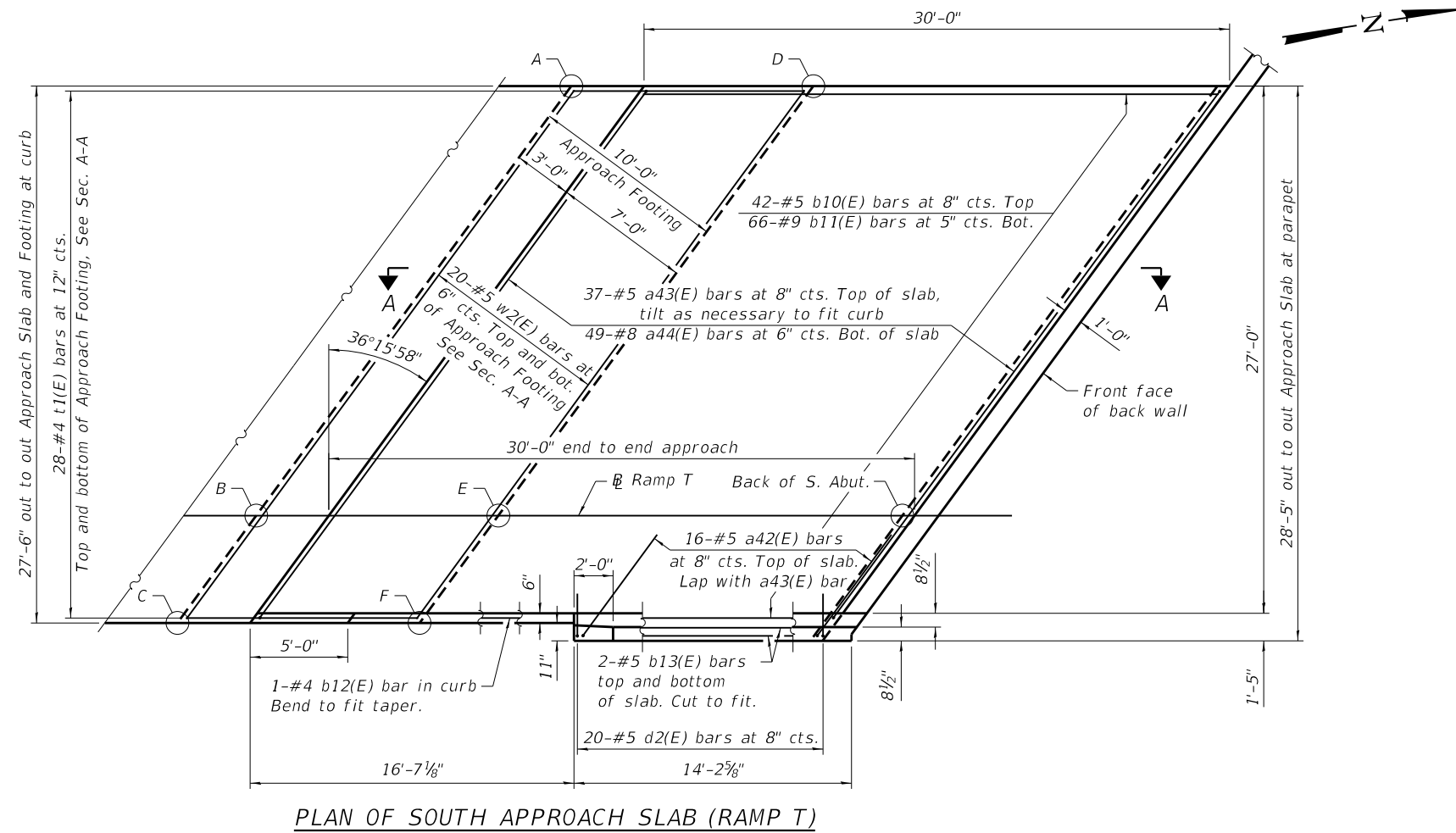
VIEW B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a38(E)	42	#5	20'-2"	U
a39(E)	55	#8	19'-11"	U
a40(E)	42	#5	23'-8"	U
a41(E)	55	#8	23'-8"	U
a42(E)	20	#5	7'-4"	U
b6(E)	62	#5	29'-8"	—
b7(E)	98	#9	29'-8"	—
b8(E)	1	#4	15'-7"	—
b9(E)	4	#5	13'-8"	—
d(E)	23	#5	7'-0"	U
d2(E)	21	#5	8'-6"	U
e14(E)	12	#4	14'-8"	—
t(E)	84	#4	10'-7"	—
w(E)	40	#5	19'-10"	—
w1(E)	40	#5	23'-8"	—
Concrete Superstructure		Cu. Yd.	2.1	
Concrete Superstructure (Approach Slab)		Cu. Yd.	56.9	
Concrete Structures		Cu. Yd.	13.7	
Reinforcement Bars, Epoxy Coated		Pound	23,230	

** Cost included with Concrete Superstructure (Approach Slab).
 *** Per manufacturer recommendations

MODEL: Default
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**TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING**

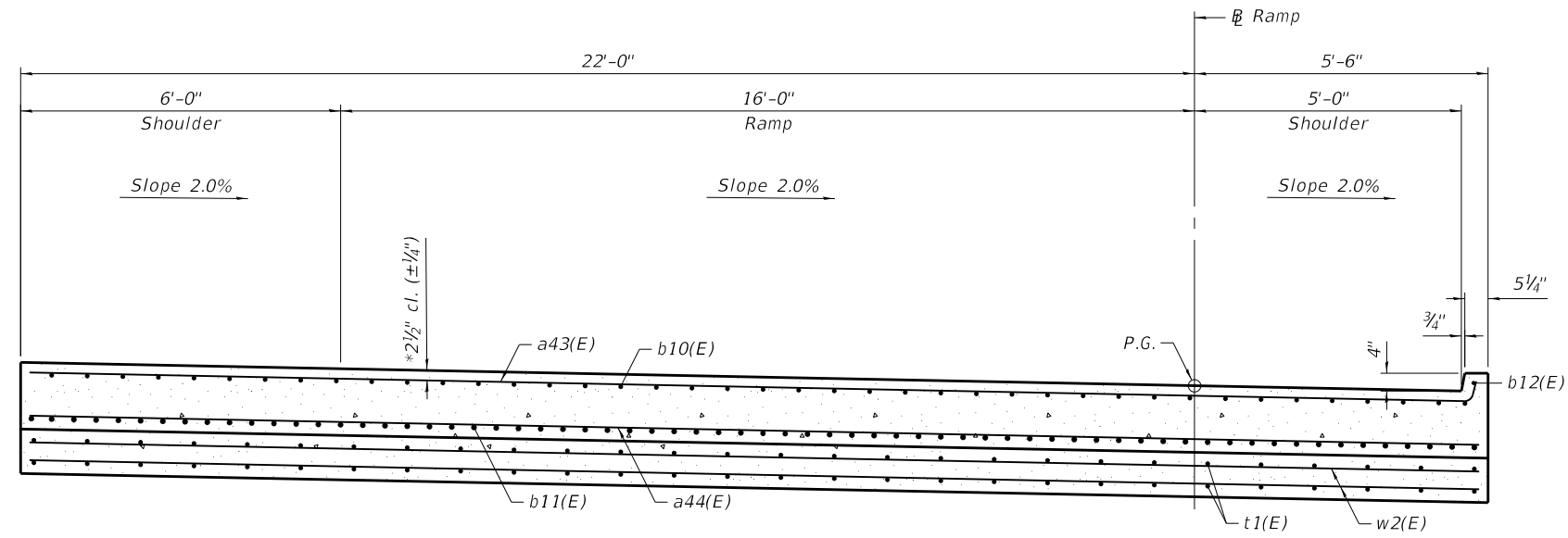
Point	Top	Bottom
A	436.96	436.13
B	436.79	435.95
C	436.75	435.91
D	436.78	435.95
E	436.58	435.75
F	436.54	435.70

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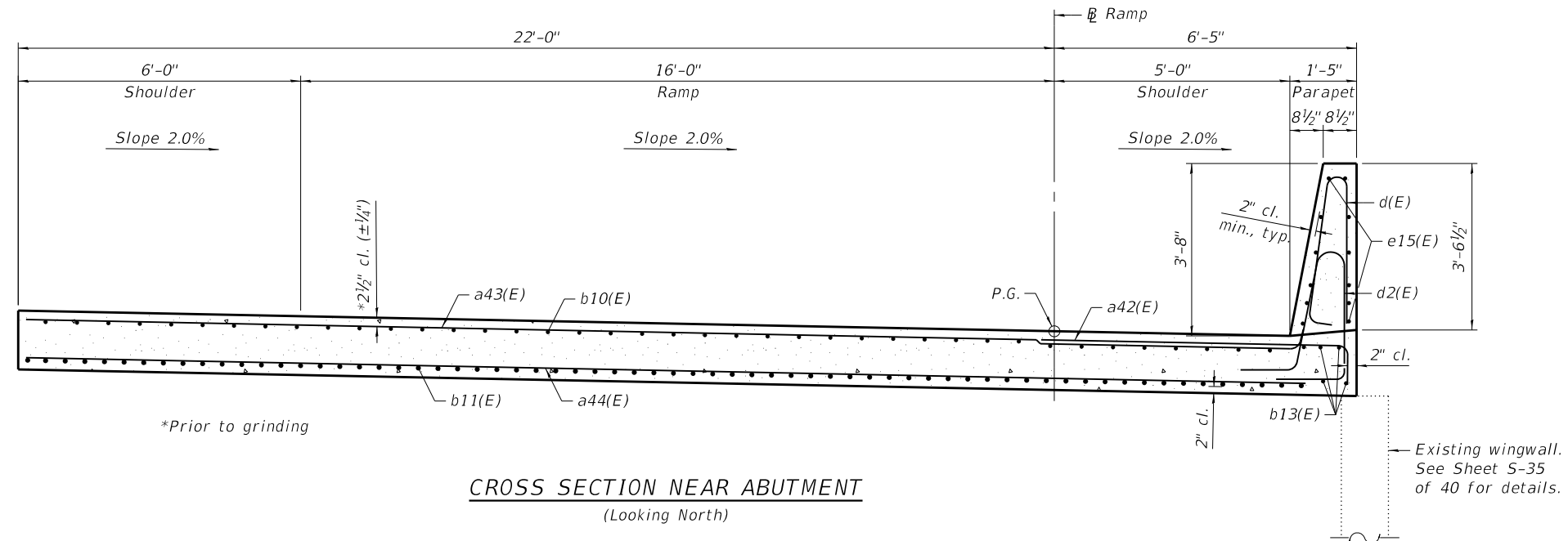
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PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-I-1	ST. CLAIR	361	342
CONTRACT NO. 76B55				
		ILLINOIS FED. AID PROJECT		

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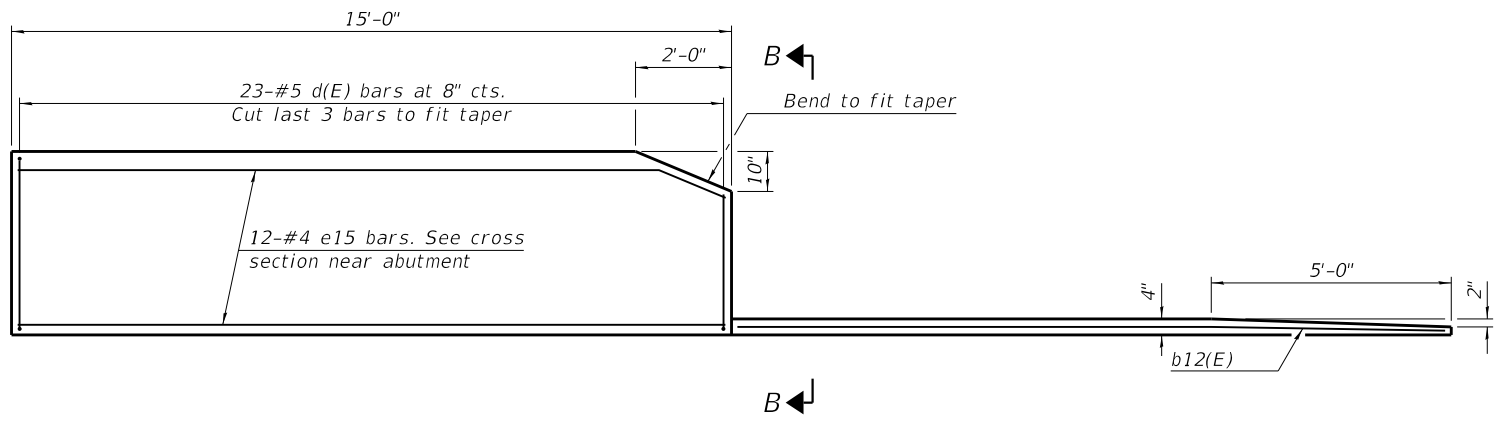


CROSS SECTION AT APPROACH FOOTING
 (Looking North)



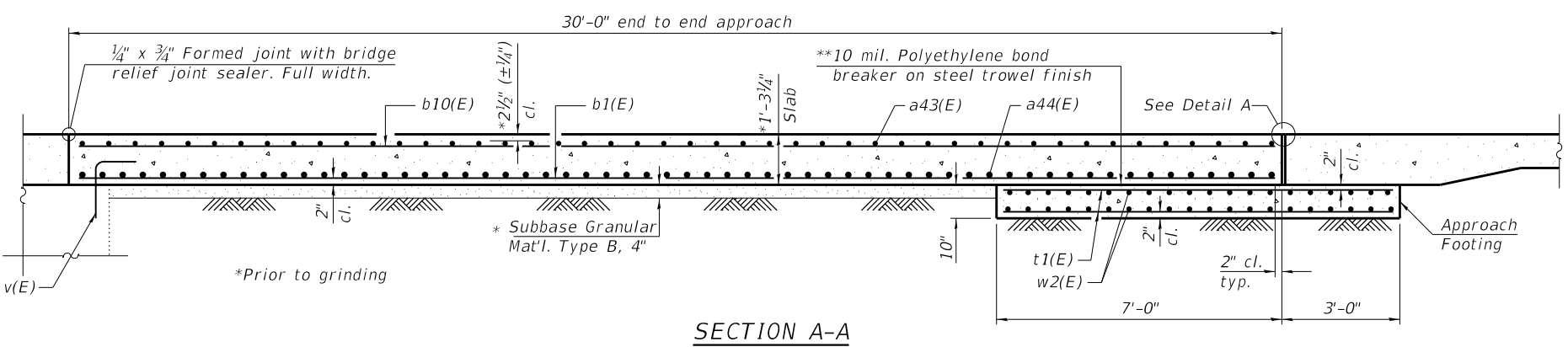
CROSS SECTION NEAR ABUTMENT
 (Looking North)

*Prior to grinding

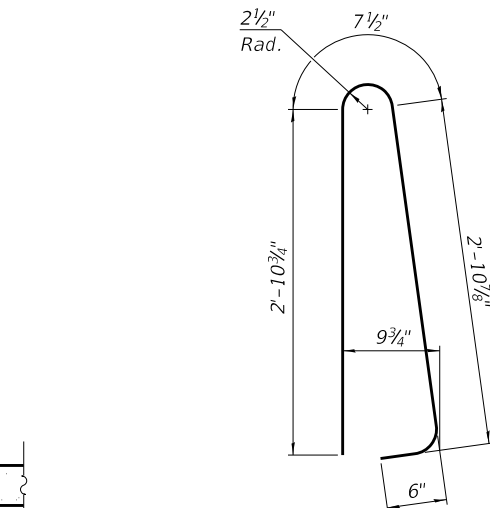


INSIDE ELEVATION OF PARAPET AND CURB

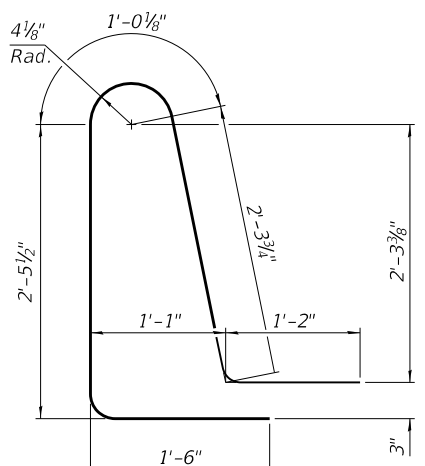
Notes:
 Parapet concrete shall be paid for as Concrete Superstructure.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.



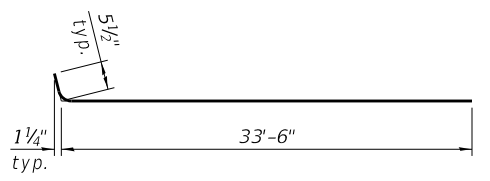
SECTION A-A



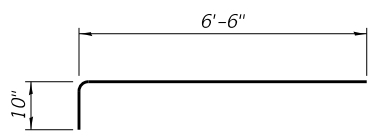
BAR d(E)



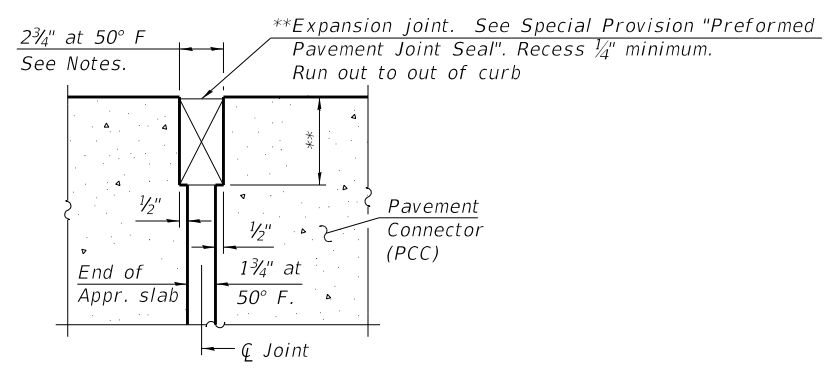
BAR d2(E)



BAR a43(E)



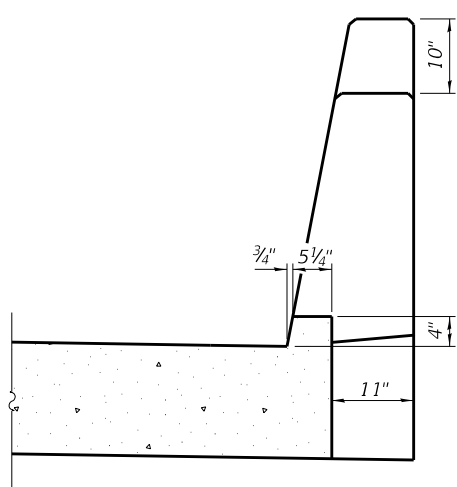
BAR a42(E)



DETAIL A

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

** Cost included with Concrete Superstructure (Approach Slab).
 *** Per manufacturer recommendations



VIEW B-B

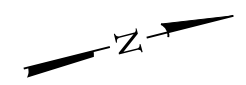
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a42(E)	16	#5	7'-4"	U
a43(E)	37	#5	34'-0"	—
a44(E)	49	#8	33'-9"	—
b10(E)	42	#5	29'-8"	—
b11(E)	66	#9	29'-8"	—
b12(E)	1	#4	16'-0"	—
b13(E)	4	#5	14'-0"	—
d(E)	23	#5	7'-0"	U
d2(E)	20	#5	8'-6"	U
e15(E)	12	#4	14'-0"	—
t1(E)	56	#4	12'-0"	—
w2(E)	40	#5	33'-9"	—
Concrete Superstructure			Cu. Yd.	2.1
Concrete Superstructure (Approach Slab)			Cu. Yd.	38.8
Concrete Structures			Cu. Yd.	10.5
Reinforcement Bars, Epoxy Coated			Pound	16,190

MODEL: Default
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PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	344
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

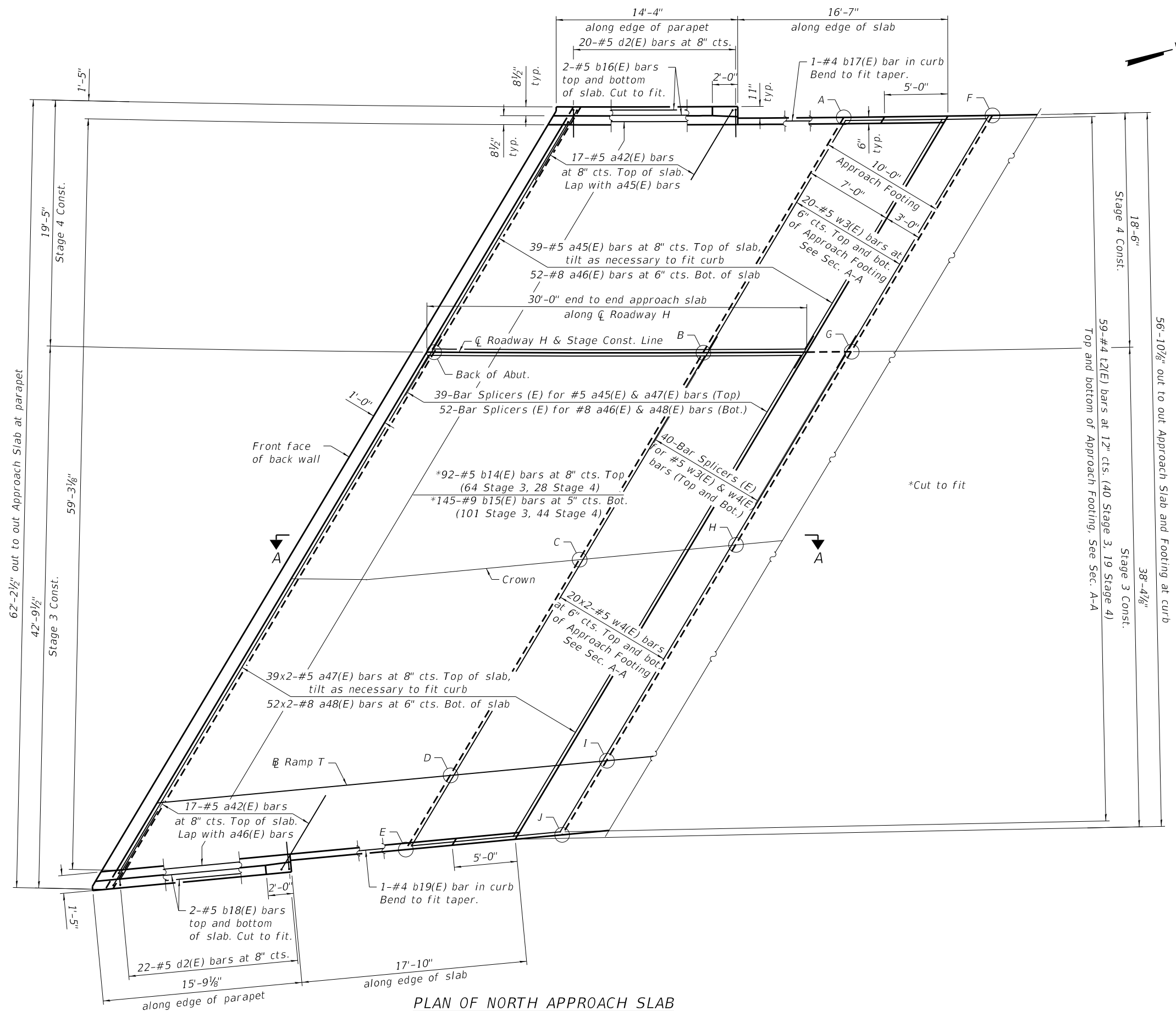


**TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING**

Point	Top	Bottom
A	430.13	429.29
B	431.79	430.96
C	433.26	432.43
D	433.23	432.40
E	433.19	432.36
F	429.93	429.10
G	431.60	430.77
H	432.97	432.13
I	433.04	432.21
J	433.04	432.21

MINIMUM BAR LAP

#5 bar = 2'-3"
#8 bar = 3'-8"



PLAN OF NORTH APPROACH SLAB

MODEL: Default
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EFK Moen
Civil Engineering Design

USER NAME = ABenz
PLOT SCALE = 0.1667"/in.
PLOT DATE = 7/16/2020

DESIGNED - ACB
CHECKED - CDL
DRAWN - ACB
CHECKED - CDL

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 082-0140**

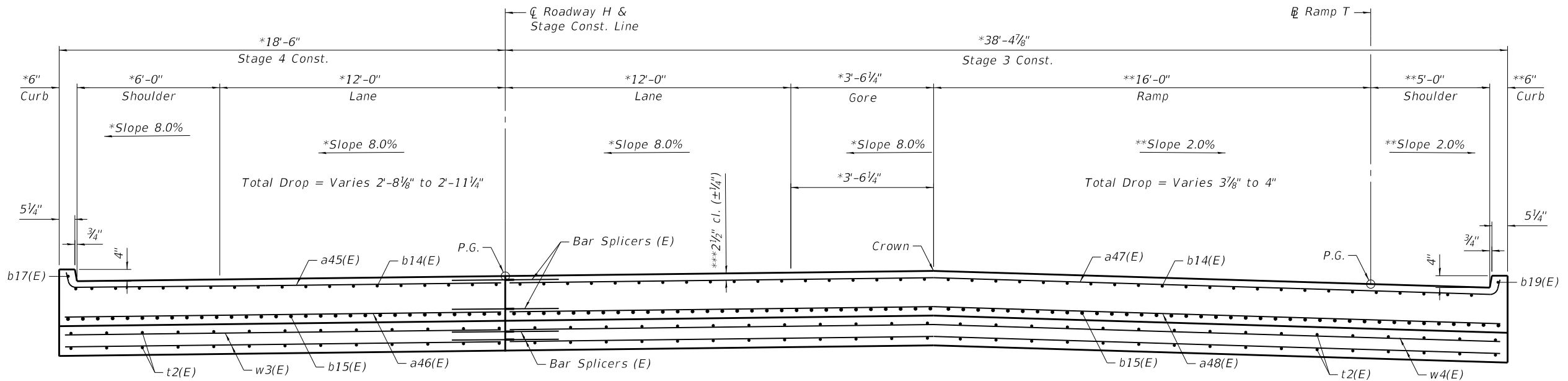
SHEET S-24 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	345

CONTRACT NO. 76B55

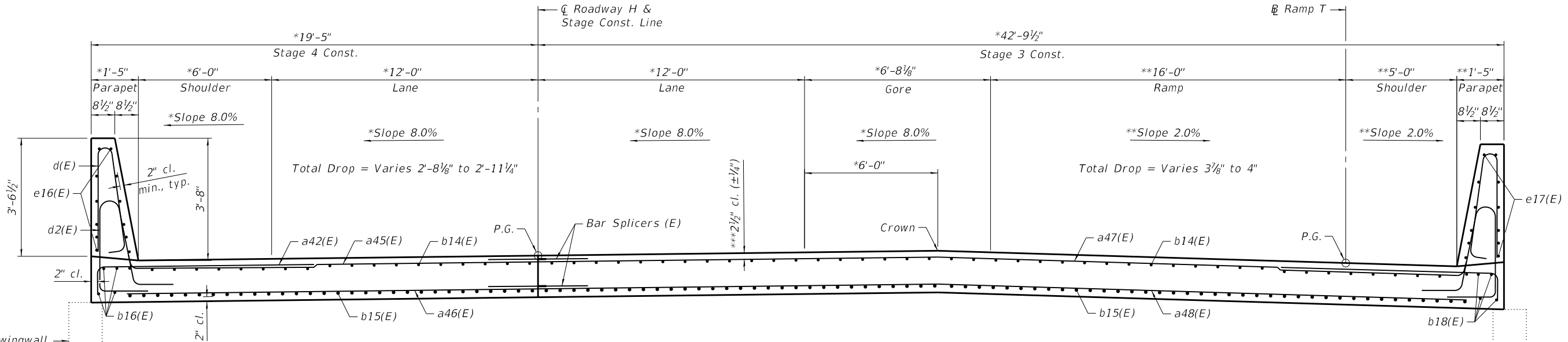
ILLINOIS FED. AID PROJECT

MODEL: Default
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CROSS SECTION AT APPROACH FOOTING

(Looking North)
 *Radial to ζ Roadway H
 **Perpendicular to ζ Ramp T
 ***Prior to grinding



CROSS SECTION NEAR ABUTMENT

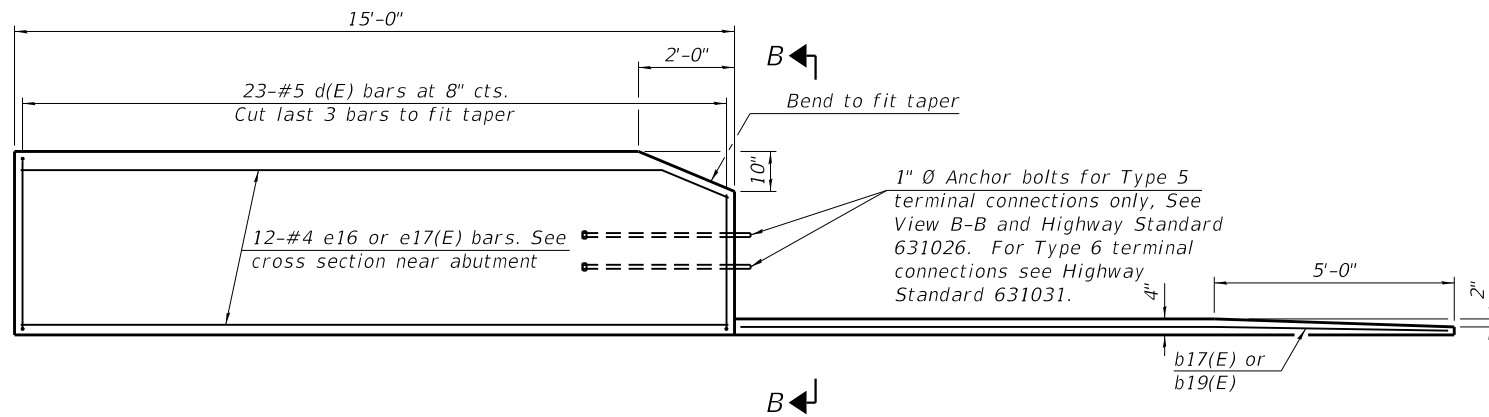
(Looking North)
 *Radial to ζ Roadway H
 **Perpendicular to ζ Ramp T
 ***Prior to grinding

Existing wingwall.
 See Sheet S-37
 of 40 for details.

Existing wingwall.
 See Sheet S-37
 of 40 for details.

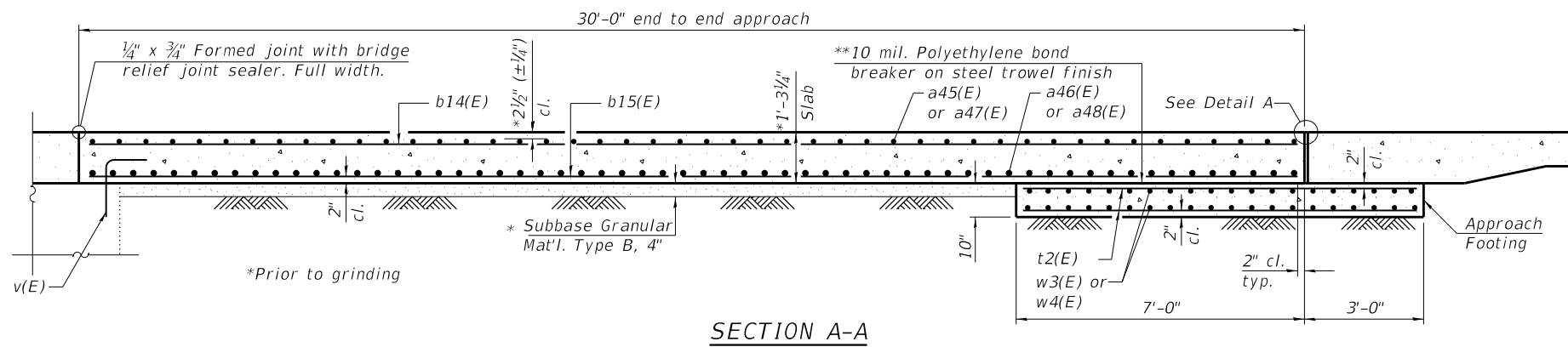
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

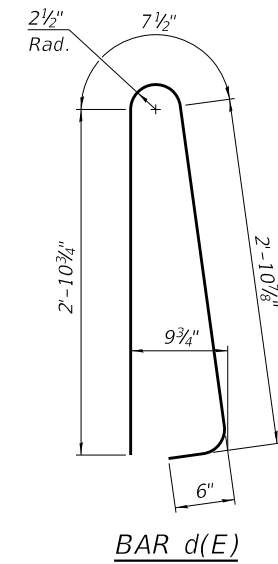


INSIDE ELEVATION OF PARAPET AND CURB

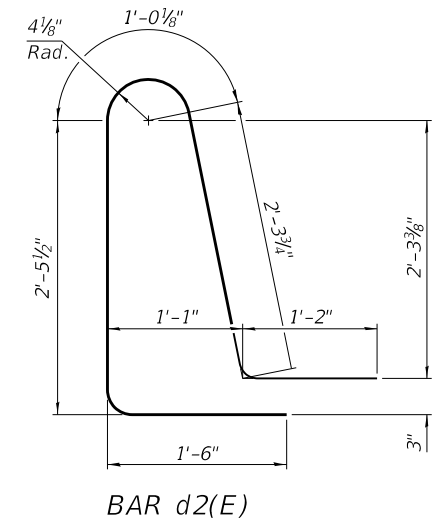
Notes:
 Parapet concrete shall be paid for as Concrete Superstructure.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.



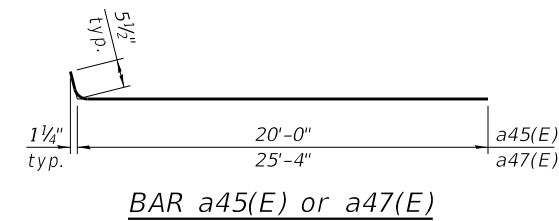
SECTION A-A



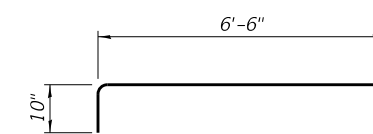
BAR d(E)



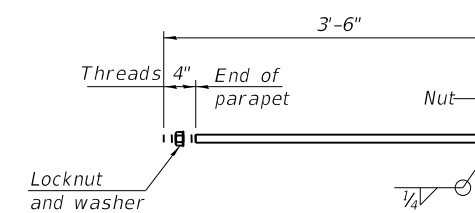
BAR d2(E)



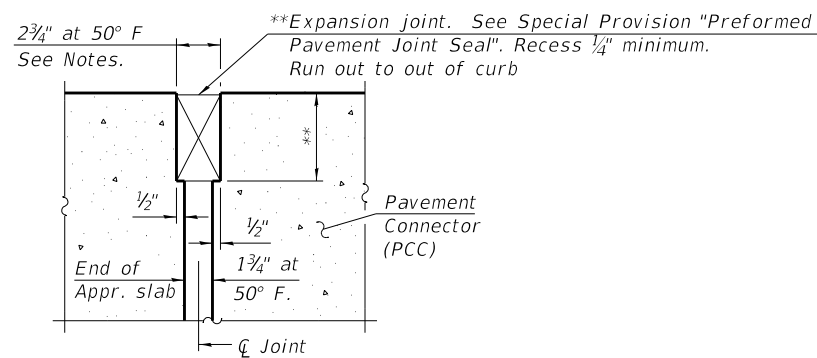
BAR a45(E) or a47(E)



BAR a42(E)



*1" Ø ANCHOR BOLT
 (Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications)

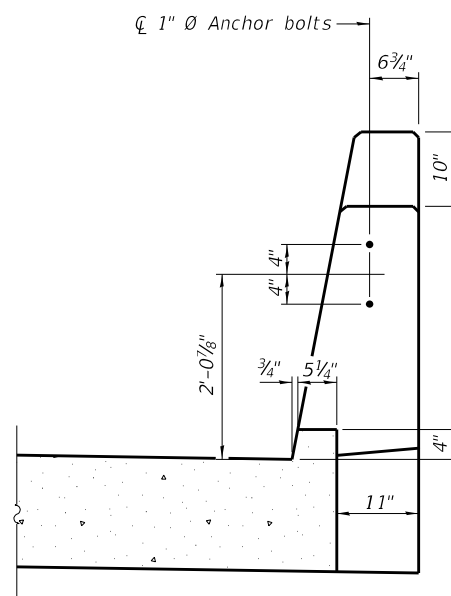


DETAIL A

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

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

*** Per manufacturer recommendations



VIEW B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a42(E)	34	#5	7'-4"	U
a45(E)	39	#5	21'-6"	—
a46(E)	52	#8	21'-3"	—
a47(E)	78	#8	25'-10"	—
a48(E)	104	#8	26'-5"	—
b14(E)	92	#5	29'-8"	—
b15(E)	145	#9	29'-8"	—
b16(E)	4	#4	12'-9"	—
b17(E)	1	#5	16'-1"	—
b18(E)	4	#4	13'-6"	—
b19(E)	1	#5	17'-9"	—
d(E)	46	#5	7'-0"	U
d2(E)	42	#5	8'-6"	U
e16(E)	12	#4	14'-0"	—
e17(E)	12	#4	14'-9"	—
t2(E)	118	#4	11'-6"	—
w3(E)	40	#5	21'-5"	—
w4(E)	80	#5	24'-3"	—
Concrete Superstructure			Cu. Yd.	4.2
Concrete Superstructure (Approach Slab)			Cu. Yd.	82.5
Concrete Structures			Cu. Yd.	20.6
Reinforcement Bars, Epoxy Coated			Pound	39,140

MODEL: Default
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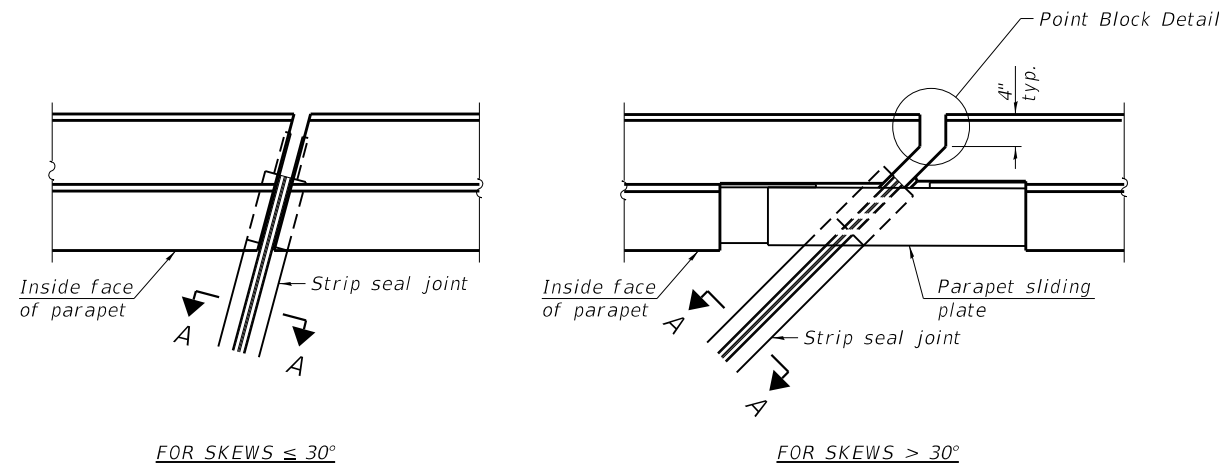
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 DRAWN - ACB
 PLOT DATE = 7/16/2020
 CHECKED - CDL
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

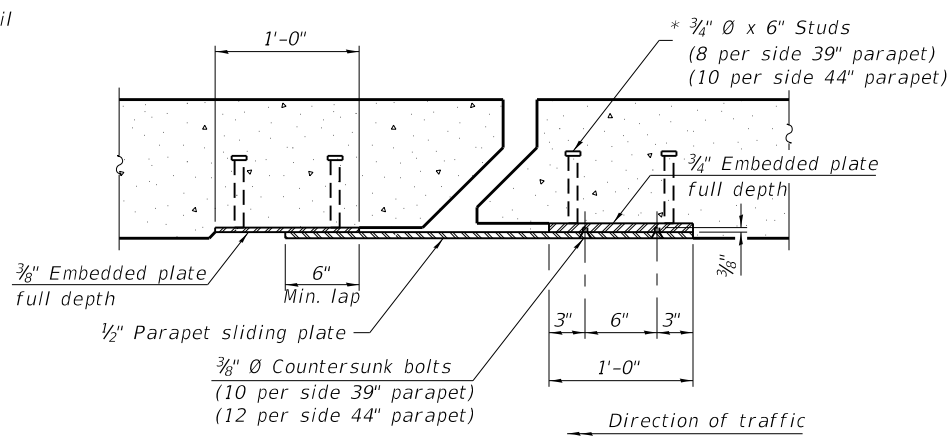
NORTH BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 082-0140

SHEET S-26 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1A-1	ST. CLAIR	361	347
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

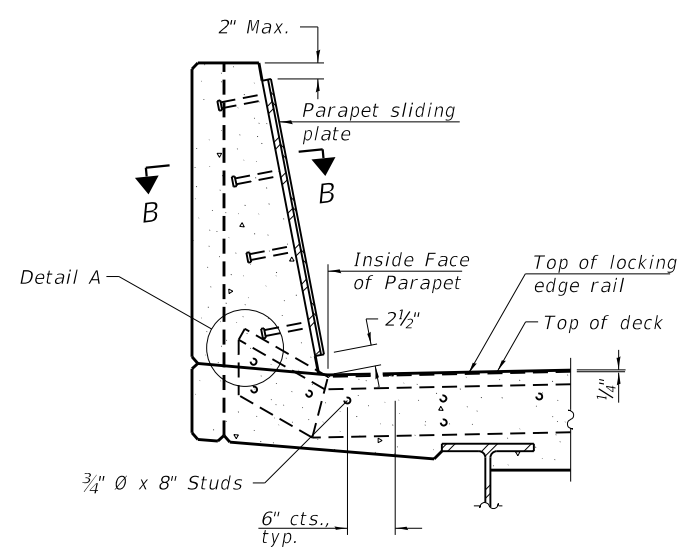


PLAN AT PARAPET



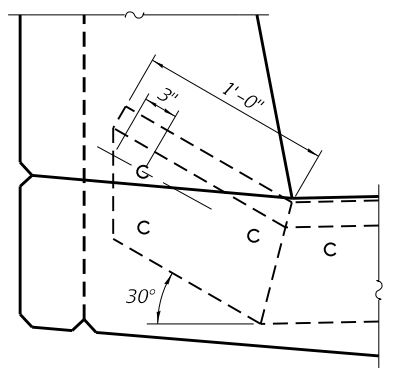
SECTION B-B

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
 The manufacturer's recommended installation methods shall be followed.

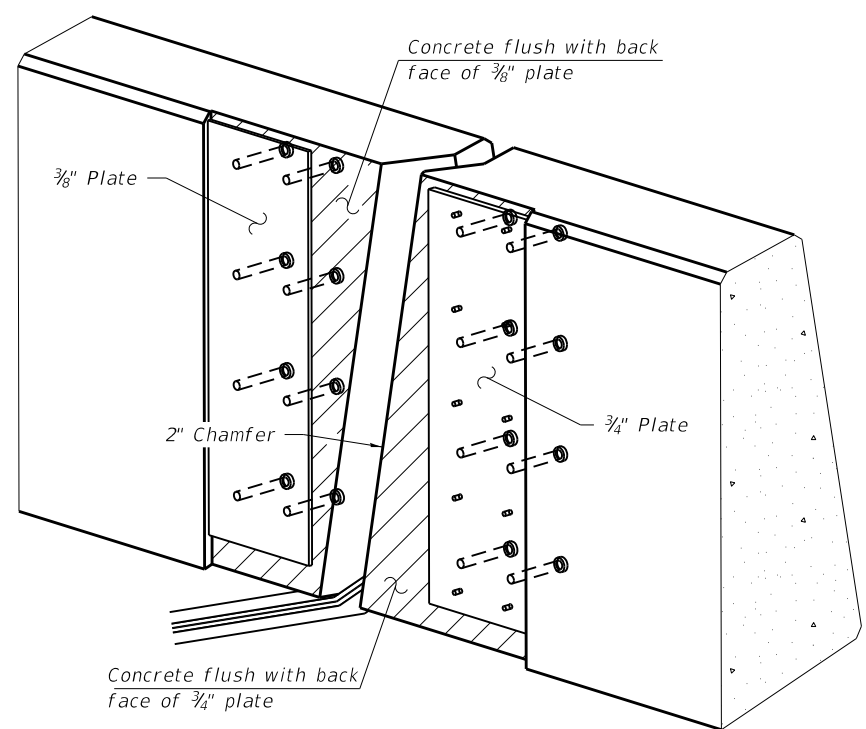


SECTION AT PARAPET

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



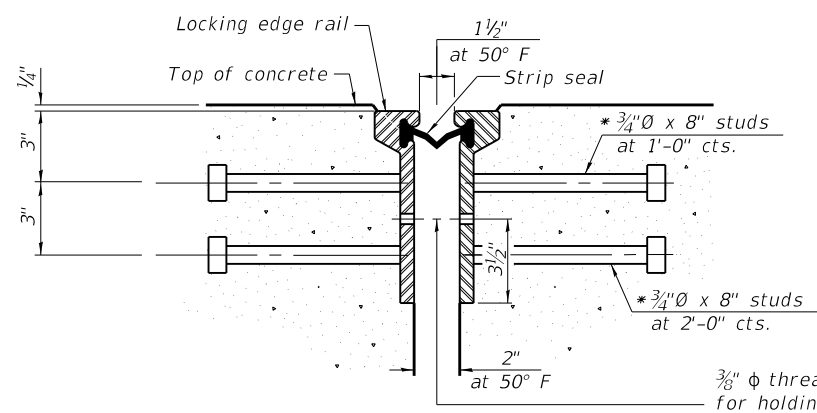
DETAIL A



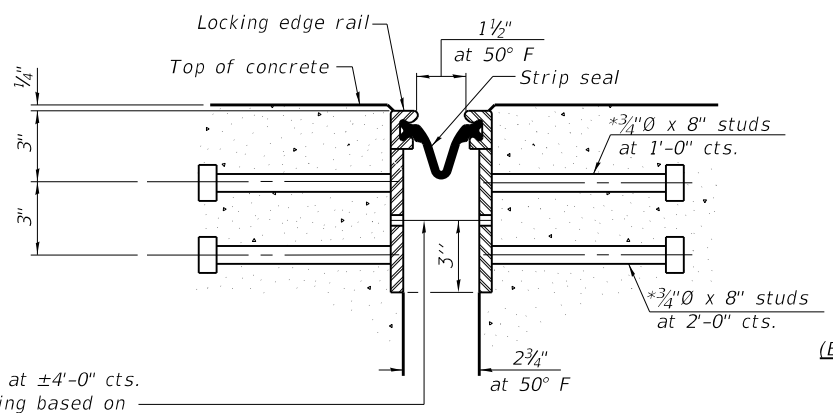
TRIMETRIC VIEW

(Showing embedded plates only)

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.
 Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.
 39" constant slope barrier shown, 44" constant slope barrier similar as noted.
 The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



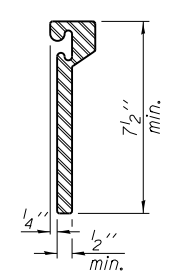
SHOWING ROLLED RAIL JOINT



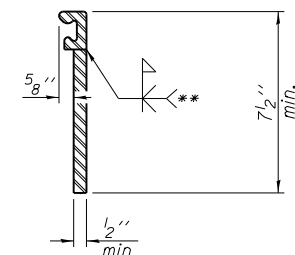
SHOWING WELDED RAIL JOINT

SECTION A-A

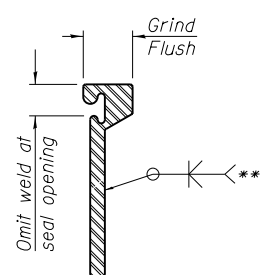
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED (EXTRUDED) RAIL



WELDED RAIL



LOCKING EDGE RAIL SPLICE

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

LOCKING EDGE RAILS

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	174

EJ-SS (TALL WITH GUTTER) 10-1-19

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Civil Engineering Design

USER NAME = ABenz	DESIGNED - ACB	REVISED -
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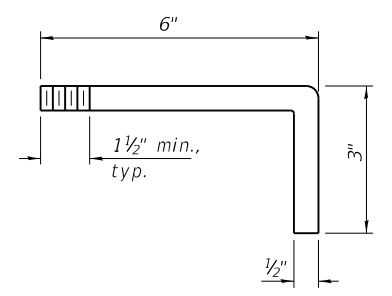
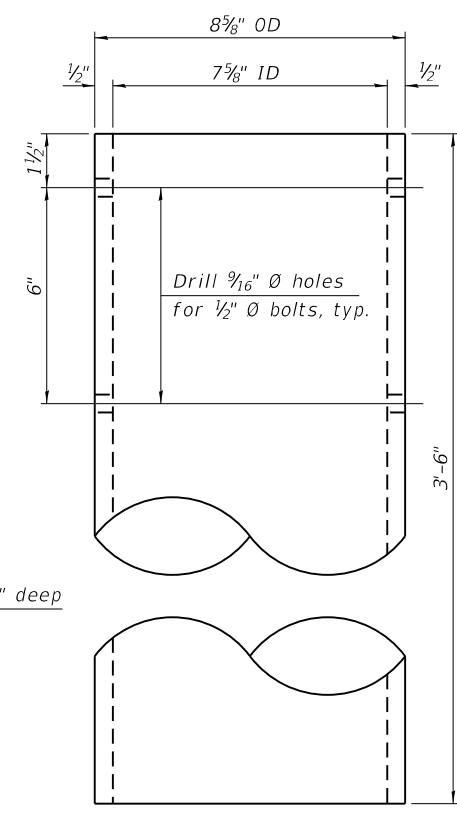
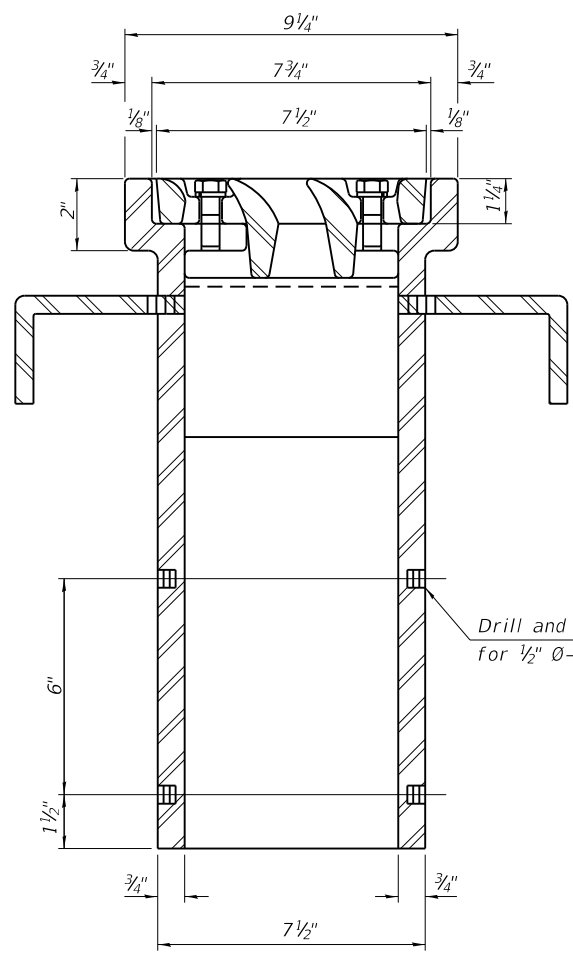
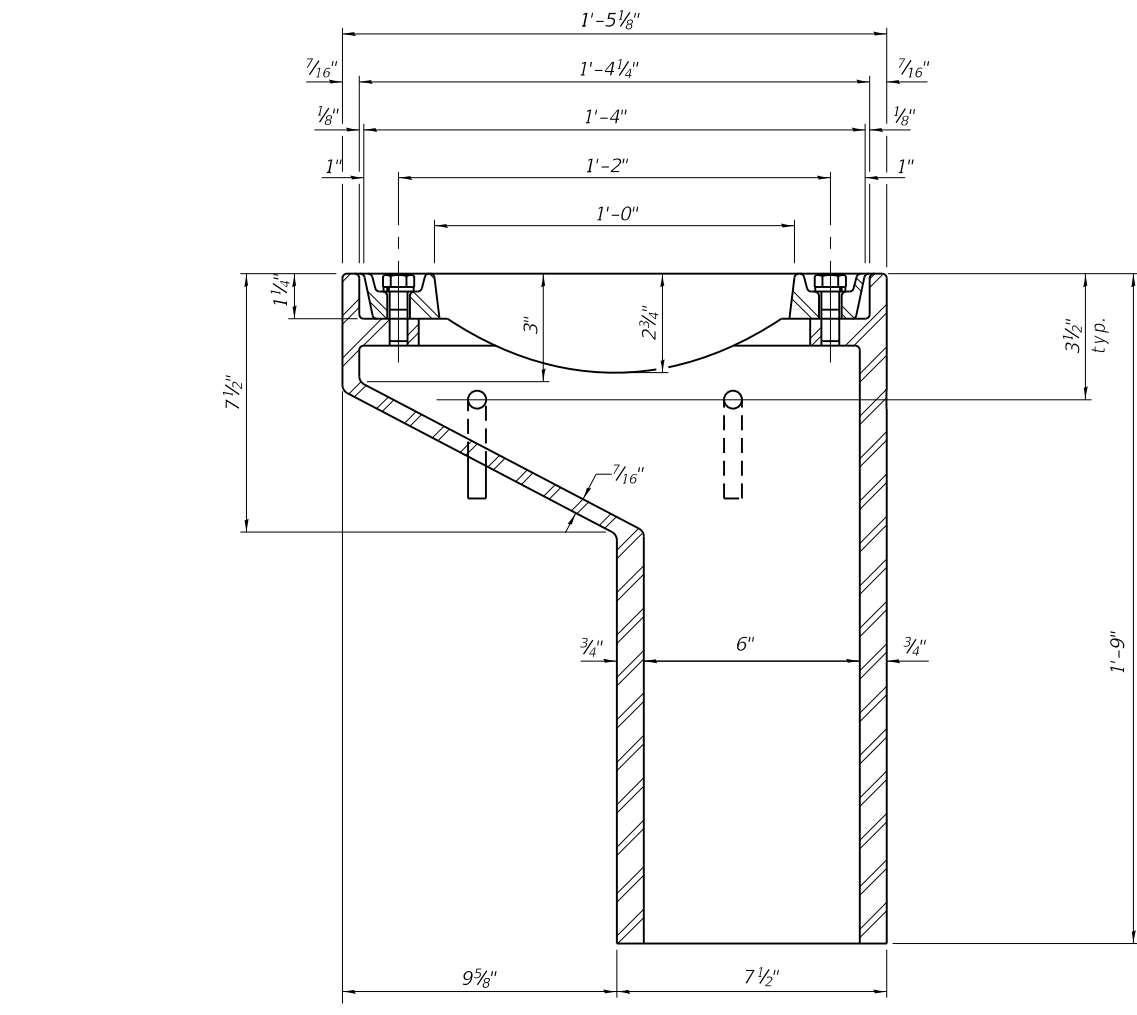
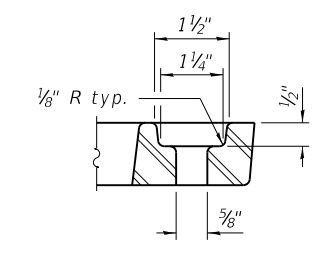
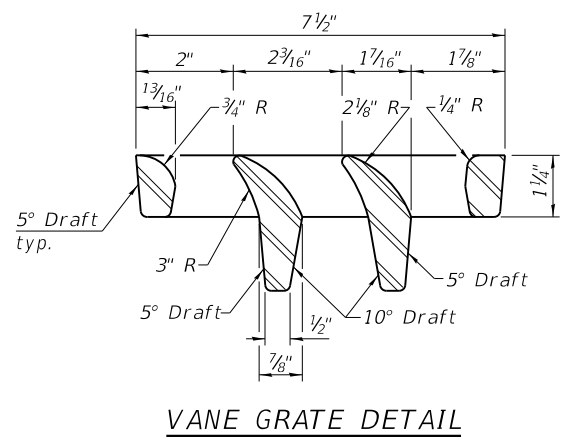
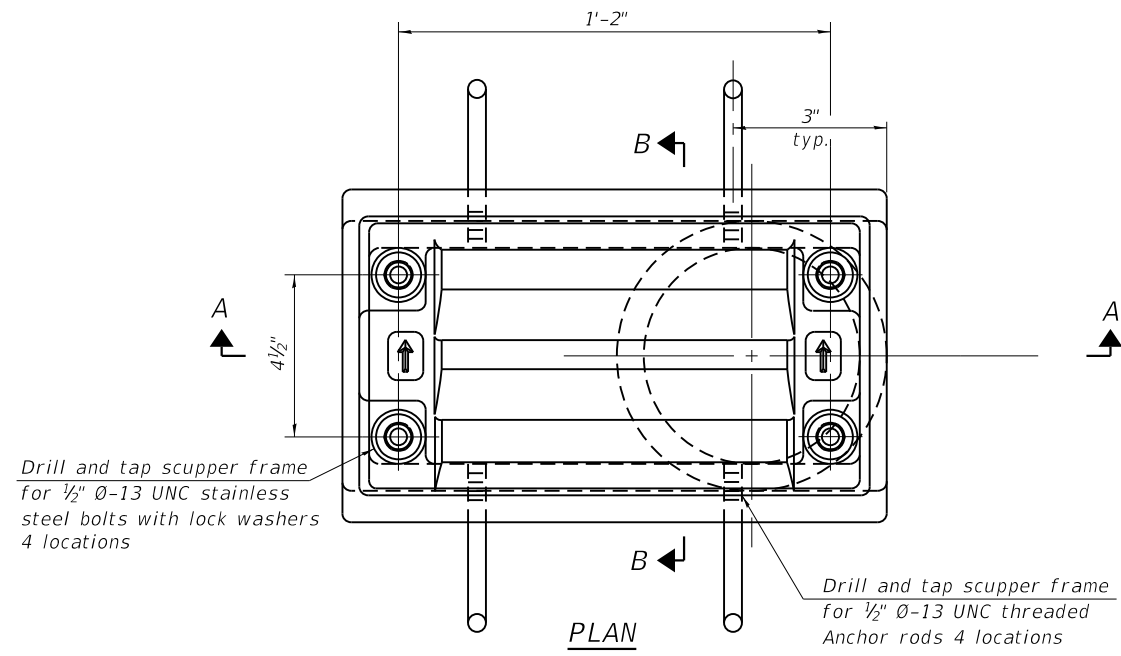
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 082-0140

SHEET S-27 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1A-1	ST. CLAIR	361	348
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

MODEL: Default
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7/16/2020 9:25:54 AM



See sheet S-16 of 38 for scupper location relative to parapet.

Notes:
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306.
 Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used.
 Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
 Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M111.
 As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.
 Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be treated as specified on sheet S-2 of 40.
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
 Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-11.

BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scupper, DS-11	Each	2

MODEL: Default
 FILE NAME: Z:\1505222_Poplar Street Bridge Complex EB\DWG\Bridges\28-Drainage Scupper_DS-11.dgn

DS-11

1-1-2020

EFK Moen
 Civil Engineering Design

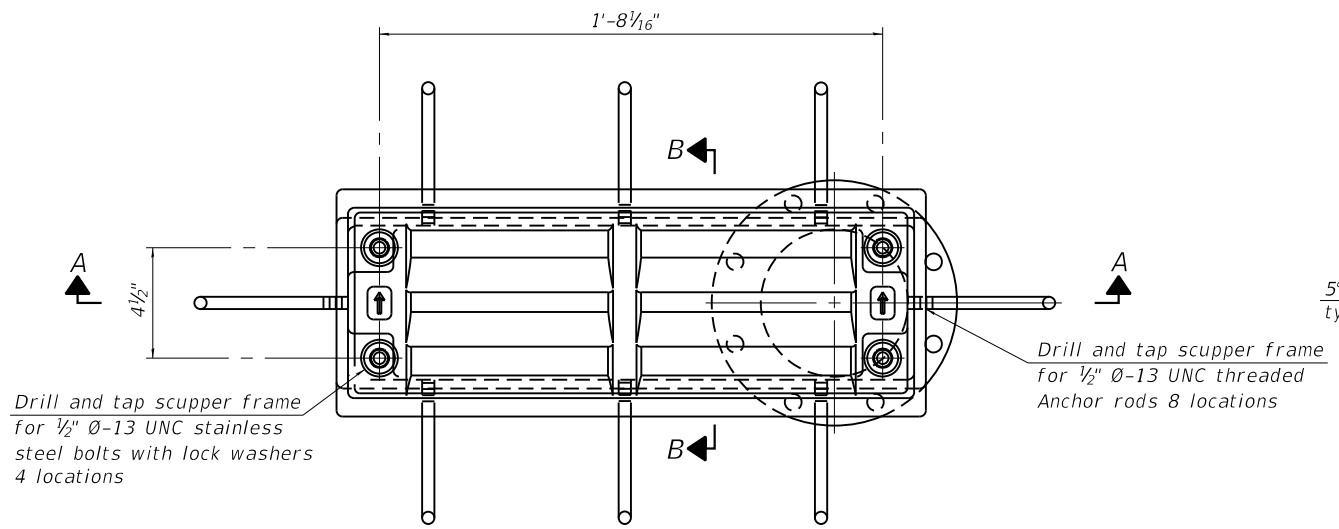
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	CHECKED - CDL	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

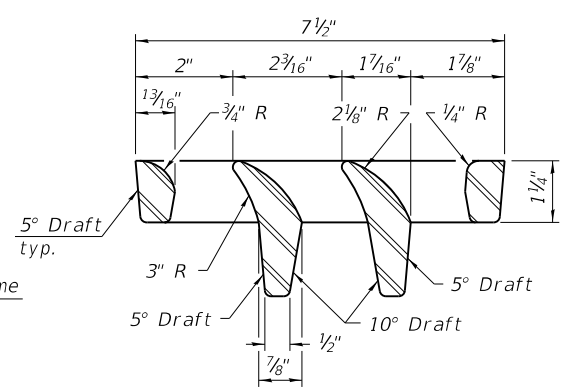
DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 082-0140

SHEET S-28 OF 40 SHEETS

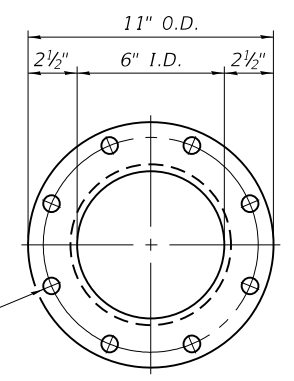
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	349
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				



PLAN

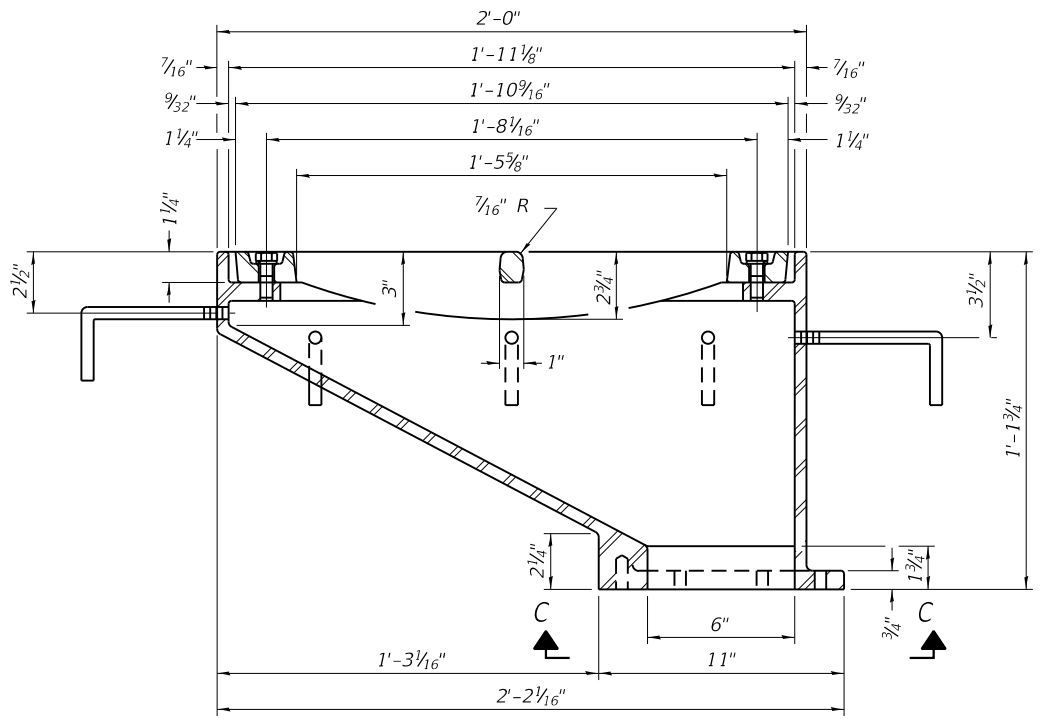


VANE GRATE DETAIL

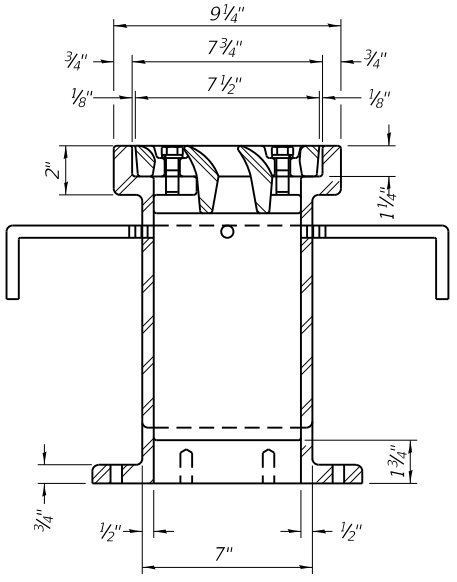


VIEW C-C

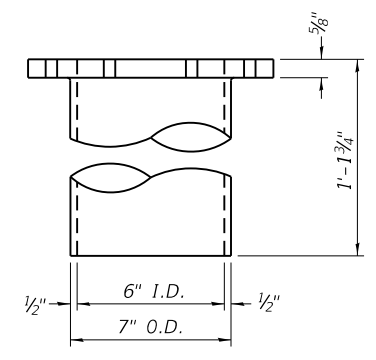
Notes:
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306.
 Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used.
 Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
 Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M111.
 As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.
 Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be treated as specified on sheet S-2 of 40.
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
 Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-12.



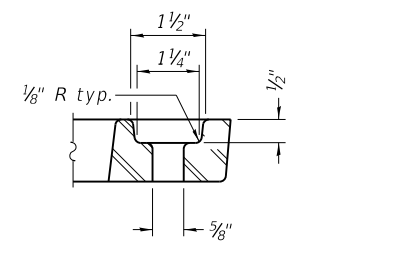
SECTION A-A
 See sheet S-16 of 38 for scupper location relative to parapet.



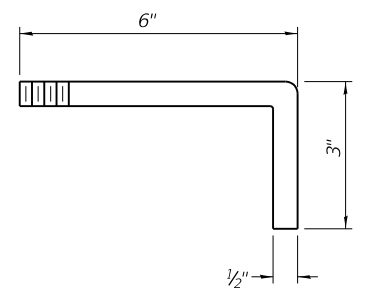
SECTION B-B



DOWNSPOUT



GRATE BOLT HOLE DETAIL



ANCHOR ROD DETAIL

Drill and tap 8 holes for 3/4" Ø-13 UNC bolts on 9 1/2" Ø bolt circle. (2 blind holes are 1 1/4" deep, 6 thru holes)

BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scupper, DS-12	Each	2

MODEL: Default
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DS-12

1-1-2020

EFK•Moen
 Civil Engineering Design

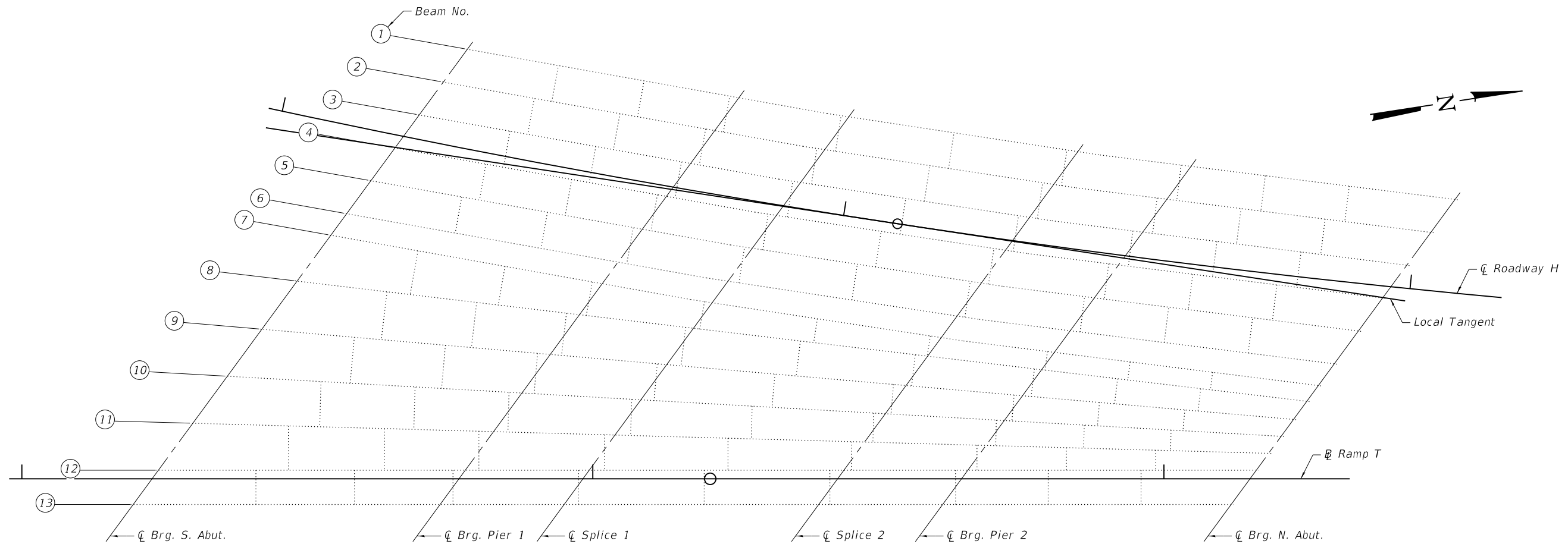
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STATE OF ILLINOIS
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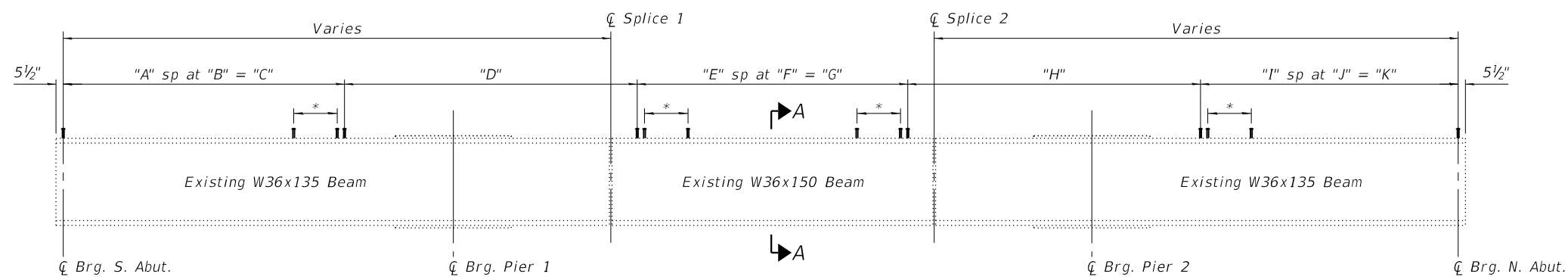
DRAINAGE SCUPPER, DS-12
 STRUCTURE NO. 082-0140

SHEET S-29 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-1	ST. CLAIR	361	350
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				



EXISTING FRAMING PLAN

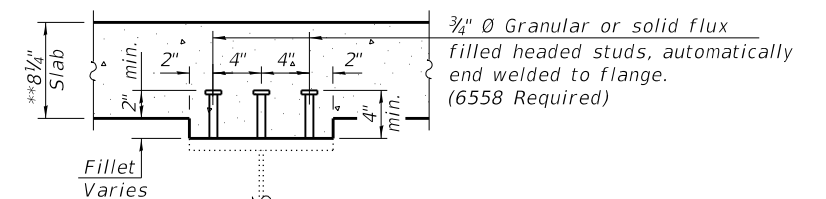


BEAM ELEVATION

*8 rows of additional studs spaced between studs shown in table

HEADED STUD SPACING VARIABLES

Beam	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"
1	44	8"	29'-4"	37'-5 1/4"	64	8"	42'-8"	38'-10 3/8"	40	8"	26'-8"
2	39	9"	29'-3"	37'-5 3/4"	57	9"	42'-9"	38'-5 7/8"	36	9"	27'-0"
3	44	8"	29'-4"	37'-5 1/4"	64	8"	42'-8"	38'-10 3/8"	40	8"	26'-8"
4	39	9"	29'-3"	37'-5 3/4"	57	9"	42'-9"	38'-5 7/8"	36	9"	27'-0"
5	39	9"	29'-3"	37'-5 3/4"	57	9"	42'-9"	38'-5 7/8"	36	9"	27'-0"
6	36	10"	30'-0"	36'-10 1/4"	51	10"	42'-6"	38'-1 3/8"	33	10"	27'-6"
7	27	1'-2"	31'-6"	35'-7 1/4"	36	1'-2"	42'-0"	40'-2 3/8"	22	1'-2"	25'-8"
8	40	10"	33'-4"	35'-6 1/8"	51	10"	42'-6"	42'-6 3/8"	29	10"	24'-2"
9	44	9"	33'-0"	37'-1"	59	9"	44'-3"	43'-9 1/4"	31	9"	23'-3"
10	45	9"	33'-9"	37'-4 1/4"	61	9"	45'-9"	44'-8 7/8"	31	9"	23'-3"
11	46	9"	34'-6"	38'-0 1/8"	62	9"	46'-6"	45'-4 3/4"	32	9"	24'-0"
12	46	9"	34'-6"	39'-7 1/2"	63	9"	47'-3"	43'-10 1/2"	36	9"	27'-0"
13	51	8"	34'-0"	40'-1"	71	8"	47'-4"	46'-10"	36	8"	24'-0"



**Prior to grinding SECTION A-A

MODEL: Default
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EFK Moen
Civil Engineering Design

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PLOT DATE = 7/16/2020

DESIGNED - ACB
CHECKED - CDL
DRAWN - ACB
CHECKED - CDL

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
STRUCTURE NO. 082-0140

SHEET S-30 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	351
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

BEAM 2

INTERIOR BEAM MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
<i>I_s</i>	(in ⁴)	7800	11374	9040	11374	7800
<i>I_c(n)</i>	(in ⁴)	23017	-	25476	-	23017
<i>I_c(3n)</i>	(in ⁴)	16749	-	18412	-	16749
<i>S_s</i>	(in ³)	438.9	622.6	503.6	622.6	438.9
<i>Sc</i> (n)	(in ³)	687.9	-	769.9	-	687.9
<i>Sc</i> (3n)	(in ³)	617.8	-	690.1	-	617.8
<i>Z</i>	(in ³)	-	509.0	-	509.0	-
<i>ρ</i>	(k/')	0.82	1.19	0.81	1.17	0.80
<i>M_ρ</i>	(k)	79	538	279	524	62
<i>s_ρ</i>	(k/')	0.35	-	0.35	-	0.35
<i>M_{sρ}</i>	(k)	43	-	134	-	38
<i>M_l</i>	(k)	313	259	440	234	257
<i>MIM</i>	(k)	90	70	107	64	75
<i>S₃ [M_l + i]</i>	(k)	673	548	912	497	553
<i>Ma</i>	(k)	1034.0	1411.0	1723.0	1327.0	849.0
<i>Mu</i>	(k)	2954.0	2099.0	3235.0	2099.0	2937.0
<i>fs_ρ non-comp</i>	(ksi)	2.2	10.4	6.6	10.1	1.7
<i>fs_ρ (comp)</i>	(ksi)	0.8	-	2.3	-	0.7
<i>fs_{S3} [M_l + M_i]</i>	(ksi)	13.1	10.6	15.9	9.6	10.7
<i>fs (Overload)</i>	(ksi)	16.1	20.9	24.8	19.7	13.2
<i>fs (Total)</i>	(ksi)	-	-	-	-	-
<i>VR</i>	(k)	51	-	51	-	44

INTERIOR BEAM REACTION TABLE					
		S. Abutment	Pier 1	Pier 2	N. Abutment
<i>R_ρ</i>	(k)	18.8	87.9	86.2	17.1
<i>R_l</i>	(k)	32.1	48.6	43.4	30.3
<i>R_i</i>	(k)	9.3	9.6	8.6	8.8
<i>R_{Total}</i>	(k)	60.2	146.1	138.2	56.2

* Compact section
 ** Braced non-compact and partially braced section

BEAM 6

INTERIOR BEAM MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
<i>I_s</i>	(in ⁴)	7800	11374	9040	11374	7800
<i>I_c(n)</i>	(in ⁴)	21975	-	24275	-	21822
<i>I_c(3n)</i>	(in ⁴)	15743	-	17317	-	15602
<i>S_s</i>	(in ³)	438.9	622.6	503.6	622.6	438.9
<i>Sc</i> (n)	(in ³)	677.6	-	758.1	-	676.0
<i>Sc</i> (3n)	(in ³)	603.9	-	674.9	-	601.9
<i>Z</i>	(in ³)	-	509.0	-	509.0	-
<i>ρ</i>	(k/')	0.71	0.86	0.70	0.84	0.69
<i>M_ρ</i>	(k)	71	391	238	378	55
<i>s_ρ</i>	(k/')	0.13	-	0.13	-	0.13
<i>M_{sρ}</i>	(k)	17	-	49	-	12
<i>M_l</i>	(k)	141	150	270	165	184
<i>MIM</i>	(k)	41	38	66	45	54
<i>S₃ [M_l + i]</i>	(k)	302	315	560	350	396
<i>Ma</i>	(k)	509.0	917.0	1101.0	946.0	602.0
<i>Mu</i>	(k)	2829.0	2099.0	3081.0	2099.0	2809.0
<i>fs_ρ non-comp</i>	(ksi)	2.0	7.5	5.7	7.3	1.5
<i>fs_ρ (comp)</i>	(ksi)	0.3	-	0.9	-	0.2
<i>fs_{S3} [M_l + M_i]</i>	(ksi)	6.0	6.1	10.0	6.7	7.9
<i>fs (Overload)</i>	(ksi)	8.3	13.6	16.5	14.0	9.6
<i>fs (Total)</i>	(ksi)	-	-	-	-	-
<i>VR</i>	(k)	35	-	40	-	36

INTERIOR BEAM REACTION TABLE					
		S. Abutment	Pier 1	Pier 2	N. Abutment
<i>R_ρ</i>	(k)	13.6	63.5	61.8	12.2
<i>R_l</i>	(k)	25.2	29.0	34.5	25.1
<i>R_i</i>	(k)	7.3	5.7	6.9	7.3
<i>R_{Total}</i>	(k)	46.1	98.2	103.2	44.6

* Compact section
 ** Braced non-compact and partially braced section

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing *fs*(Total and Overload) due to non-composite dead loads (in.⁴ and in.³).
I_c(n), S_c(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing *fs*(Total and Overload) due to short-term composite live loads (in.⁴ and in.³).
I_c(3n), S_c(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing *fs*(Total and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
Z: Plastic Section Modulus of the steel section in non-composite areas (in.³).
ρ: Un-factored non-composite dead load (kips/ft.).
M_ρ: Un-factored moment due to non-composite dead load (kip-ft.).
s_ρ: Un-factored long-term composite (superimposed) dead load (kips/ft.).
M_{sρ}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_l: Un-factored live load moment (kip-ft.).
M_i: Un-factored moment due to impact (kip-ft.).
Ma: Factored design moment (kip-ft.).
 1.3 [*M_ρ* + *M_{sρ}* + $\frac{5}{3}$ (*M_l* + *M_i*)]
Mu: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
fs (Overload): Sum of stresses as computed from the moments below (ksi).
M_ρ + *M_{sρ}* + $\frac{5}{3}$ (*M_l* + *M_i*)
fs (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 1.3 [*M_ρ* + *M_{sρ}* + $\frac{5}{3}$ (*M_l* + *M_i*)]
VR: Maximum *l* + impact shear range within the composite portion of the span for stud shear connector design (kips).

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT AND REACTION TABLES
 STRUCTURE NO. 082-0140

SHEET S-31 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	352
CONTRACT NO. 76B55				
ILLINOIS		FED. AID PROJECT		

BEAM 7

INTERIOR BEAM MOMENT TABLE table with columns: 0.4 Sp. 1, Pier 1, 0.5 Sp. 2, Pier 2, 0.6 Sp. 3. Rows include Is, Ic(n), Ic(3n), Ss, Sc(n), Sc(3n), Z, P, MP, sP, MsP, Ml, MIM, S3 [Mt + i], Ma, Mu, fs P non-comp, fs P (comp), fs S3 [Mt + Mi], fs (Overload), fs (Total), VR.

BEAM 8

INTERIOR BEAM MOMENT TABLE table with columns: 0.4 Sp. 1, Pier 1, 0.5 Sp. 2, Pier 2, 0.6 Sp. 3. Rows include Is, Ic(n), Ic(3n), Ss, Sc(n), Sc(3n), Z, P, MP, sP, MsP, Ml, MIM, S3 [Mt + i], Ma, Mu, fs P non-comp, fs P (comp), fs S3 [Mt + Mi], fs (Overload), fs (Total), VR.

BEAM 9

INTERIOR BEAM MOMENT TABLE table with columns: 0.4 Sp. 1, Pier 1, 0.5 Sp. 2, Pier 2, 0.6 Sp. 3. Rows include Is, Ic(n), Ic(3n), Ss, Sc(n), Sc(3n), Z, P, MP, sP, MsP, Ml, MIM, S3 [Mt + i], Ma, Mu, fs P non-comp, fs P (comp), fs S3 [Mt + Mi], fs (Overload), fs (Total), VR.

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INTERIOR BEAM REACTION TABLE table with columns: S. Abutment, Pier 1, Pier 2, N. Abutment. Rows include RP, RL, RI, RTotal.

INTERIOR BEAM REACTION TABLE table with columns: S. Abutment, Pier 1, Pier 2, N. Abutment. Rows include RP, RL, RI, RTotal.

* Compact section
** Braced non-compact and partially braced section

* Compact section
** Braced non-compact and partially braced section

* Compact section
** Braced non-compact and partially braced section

BEAM 10

INTERIOR BEAM MOMENT TABLE table with columns: 0.4 Sp. 1, Pier 1, 0.5 Sp. 2, Pier 2, 0.6 Sp. 3. Rows include Is, Ic(n), Ic(3n), Ss, Sc(n), Sc(3n), Z, P, MP, sP, MsP, Ml, MIM, S3 [Mt + i], Ma, Mu, fs P non-comp, fs P (comp), fs S3 [Mt + Mi], fs (Overload), fs (Total), VR.

BEAM 11

INTERIOR BEAM MOMENT TABLE table with columns: 0.4 Sp. 1, Pier 1, 0.5 Sp. 2, Pier 2, 0.6 Sp. 3. Rows include Is, Ic(n), Ic(3n), Ss, Sc(n), Sc(3n), Z, P, MP, sP, MsP, Ml, MIM, S3 [Mt + i], Ma, Mu, fs P non-comp, fs P (comp), fs S3 [Mt + Mi], fs (Overload), fs (Total), VR.

BEAM 12

INTERIOR BEAM MOMENT TABLE table with columns: 0.4 Sp. 1, Pier 1, 0.5 Sp. 2, Pier 2, 0.6 Sp. 3. Rows include Is, Ic(n), Ic(3n), Ss, Sc(n), Sc(3n), Z, P, MP, sP, MsP, Ml, MIM, S3 [Mt + i], Ma, Mu, fs P non-comp, fs P (comp), fs S3 [Mt + Mi], fs (Overload), fs (Total), VR.

INTERIOR BEAM REACTION TABLE table with columns: S. Abutment, Pier 1, Pier 2, N. Abutment. Rows include RP, RL, RI, RTotal.

INTERIOR BEAM REACTION TABLE table with columns: S. Abutment, Pier 1, Pier 2, N. Abutment. Rows include RP, RL, RI, RTotal.

INTERIOR BEAM REACTION TABLE table with columns: S. Abutment, Pier 1, Pier 2, N. Abutment. Rows include RP, RL, RI, RTotal.

* Compact section
** Braced non-compact and partially braced section

* Compact section
** Braced non-compact and partially braced section

* Compact section
** Braced non-compact and partially braced section

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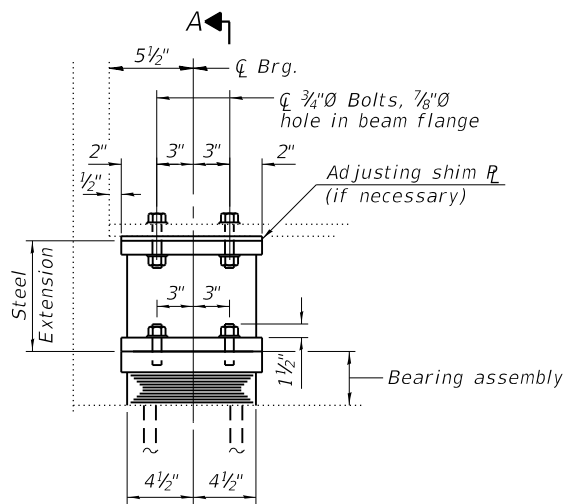
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

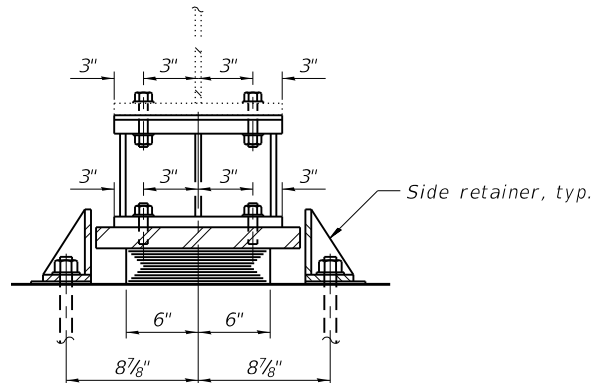
MOMENT AND REACTION TABLES
STRUCTURE NO. 082-0140

SHEET S-32 OF 40 SHEETS

Table with columns: F.A.I. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., ILLINOIS, FED. AID PROJECT.

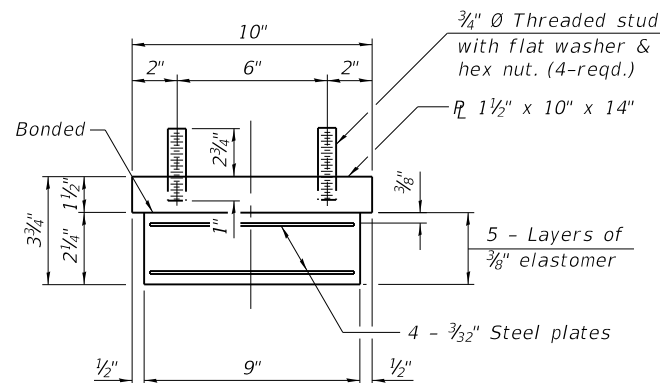


ELEVATION AT ABUT.



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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

TABLE OF SHIM PLATES

Beam	S. Abut.	N. Abut.
1	1 3/4" x 10" x 12"	-
2	1" x 10" x 12"	1/2" x 10" x 12"
3	1 1/2" x 10" x 12"	1/2" x 10" x 12"
4	1 1/2" x 10" x 12"	1/8" x 10" x 12"
5	1 1/2" x 10" x 12"	5/8" x 10" x 12"
6	1 1/4" x 10" x 12"	-
7	1 1/4" x 10" x 12"	-
8	2 3/8" x 10" x 12"	3/4" x 10" x 12"
9	1/4" x 10" x 12"	1 7/8" x 10" x 12"
10	-	1/2" x 10" x 12"
11	1/4" x 10" x 12"	1/4" x 10" x 12"
12	-	1/2" x 10" x 12"
13	3/8" x 10" x 12"	1/8" x 10" x 12"

Notes:
End diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates, and connection bolts are included with Furnishing and Erecting Structural Steel.
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. 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 the Standard Specifications.
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I

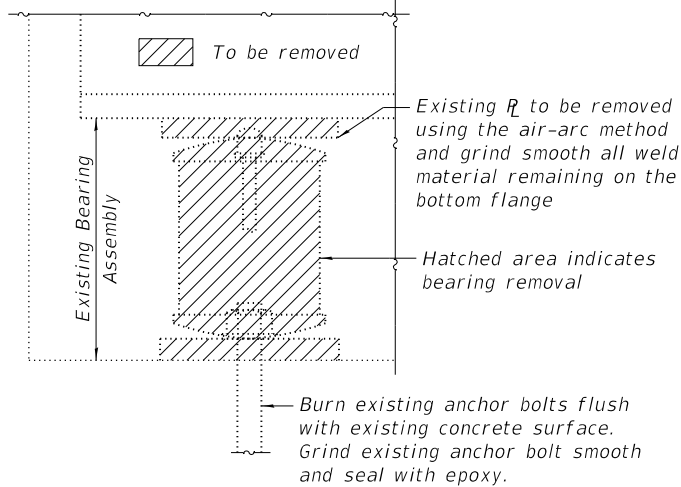
Two 1/8" adjusting shims shall be provided for each abutment bearing in addition to all other plates or shims and placed as shown on bearing details.

The structural steel plates of the bearing assembly including steel extension shall conform to the requirements of ASHTO M 270 Grade 50.

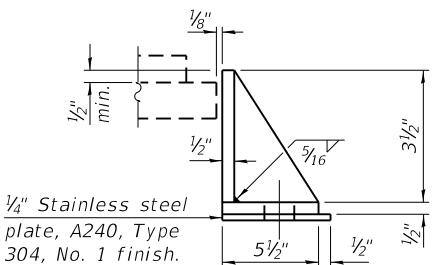
All (embedded and separate) bearing plates, side retainers, extensions, anchor bolts, nuts, and washers shall be galvanized according to AASHTO M111 or M232 as applicable unless noted otherwise.

The maximum load reaction per beam (weight of steel only) at North and South Abutments is 2.9 kips. Minimum jack capacity is 5 kips.

Prior to ordering any material, the Contractor shall verify in the field all existing bearing heights and shim thickness dimensions.

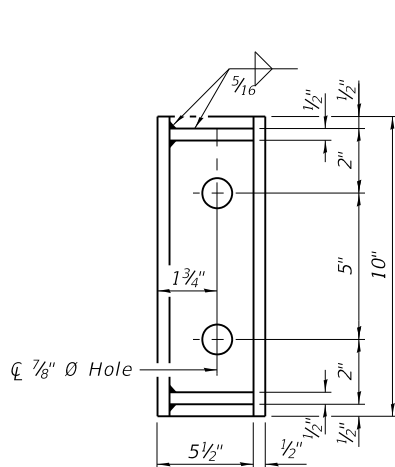


EXISTING BEARING REMOVAL DETAIL
Cost included with Jack and Remove Existing Bearings



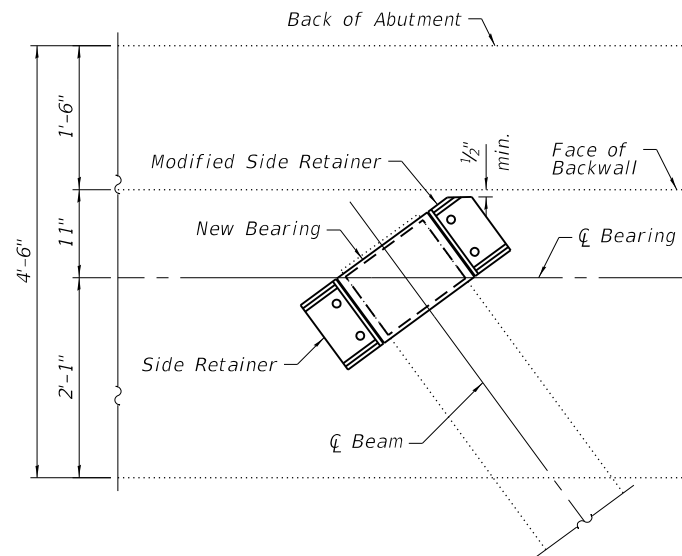
SIDE RETAINER

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

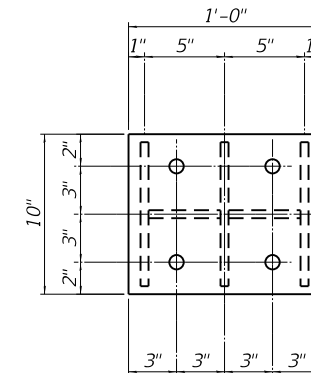


MODIFIED SIDE RETAINER

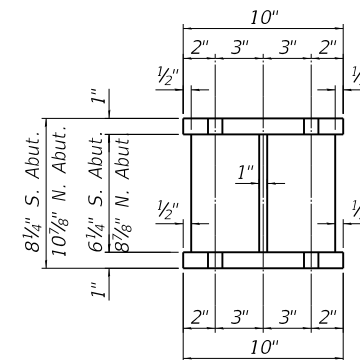
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



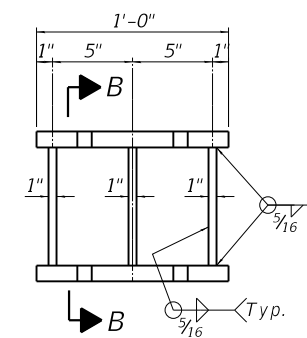
BEARING PLAN AT ABUTMENTS



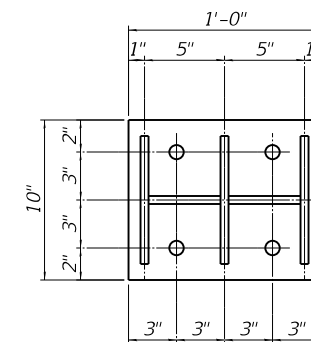
PLAN - TOP EXTENSION PLATE



SECTION B-B



STEEL EXTENSION DETAIL

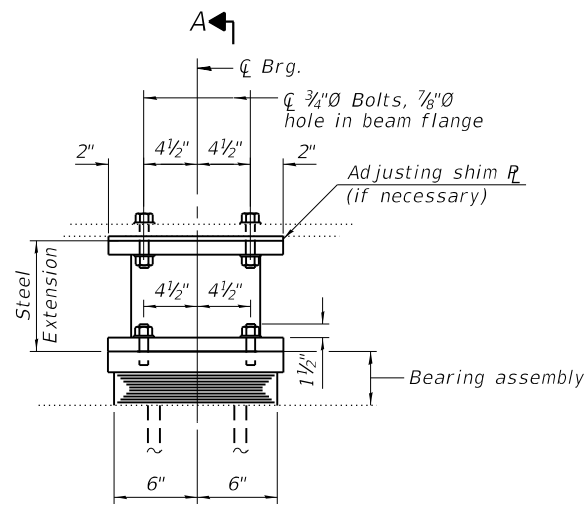


PLAN - BOTTOM EXTENSION PLATE

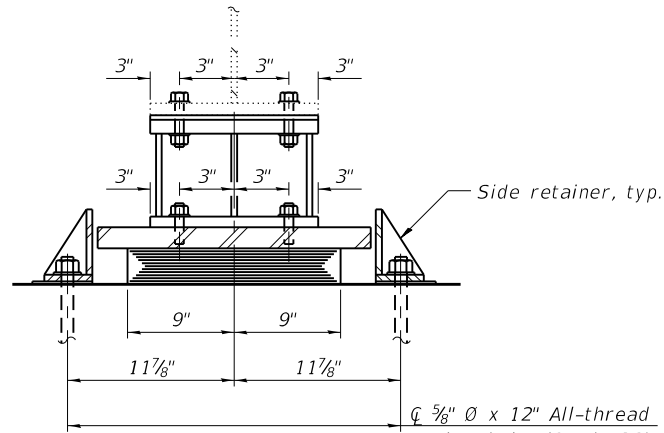
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	26
Jack and Remove Existing Bearing	Each	26
Furnishing and Erecting Structural Steel	Pound	3,720
Anchor Bolts, 3/8" φ	Each	104

MODEL: Default
FILE NAME: Z:\15052.22.Poplar Street Bridge Complex EB\DWG\Bridges\33-Bearing_Details.dgn

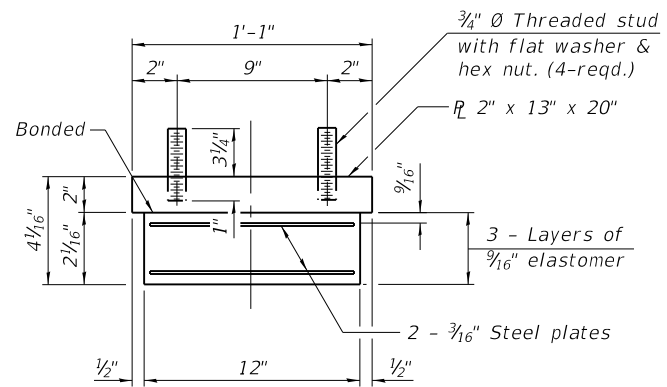


ELEVATION AT PIER 2



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

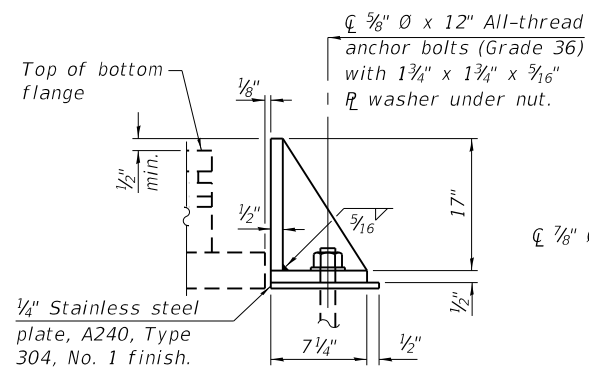
Note:
Shim plates shall not be placed under bearing assembly.

TABLE OF SHIM PLATES

Beam	Pier 2
1	1 1/8" x 12" x 13"
2	5/8" x 12" x 13"
3	3/4" x 12" x 13"
4	5/8" x 12" x 13"
5	3/4" x 12" x 13"
6	1/8" x 12" x 13"
7	7/8" x 12" x 13"
8	7/8" x 12" x 13"
9	1/4" x 12" x 13"
10	7/8" x 12" x 13"
11	1" x 12" x 13"
12	-
13	1/8" x 12" x 13"

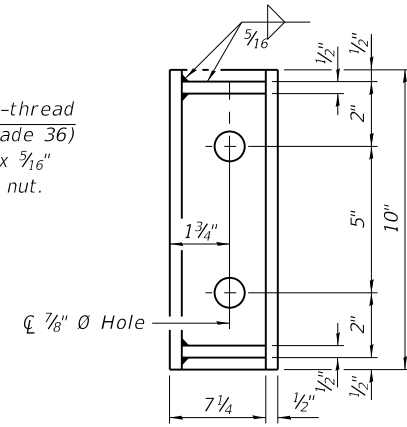
Notes:

Cross frame removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
 New steel extensions, shim plates, and connection bolts are included with Furnishing and Erecting Structural Steel.
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. 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 the Standard Specifications.
 Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I
 Two 1/8 inch adjusting shims shall be provided for each abutment bearing in addition to all other plates or shims and placed as shown on bearing details.
 The structural steel plates of the bearing assembly including steel extension shall conform to the requirements of ASHTO M 270 Grade 50.
 All (embedded and separate) bearing plates, side retainers, extensions, anchor bolts, nuts, and washers shall be galvanized according to AASHTO M111 or M232 as applicable unless noted otherwise.
 The maximum load reaction per beam (weight of steel only) at Pier 2 is 17.4 kips. Minimum jack capacity is 27 kips.
 Prior to ordering any material, the Contractor shall verify in the field all existing bearing heights and shim thickness dimensions.

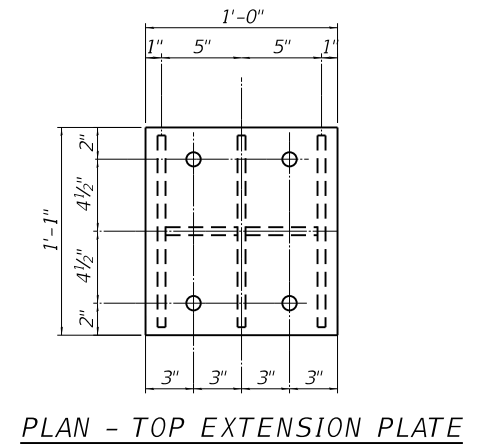


SEISMIC RESTRAINER AT PIER 1

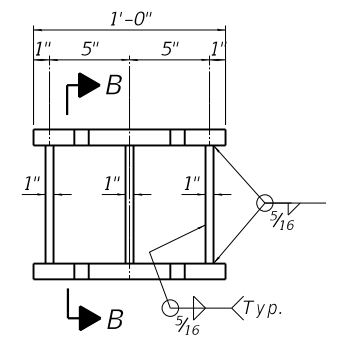
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



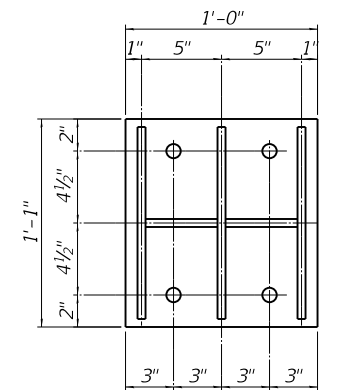
SECTION B-B



PLAN - TOP EXTENSION PLATE

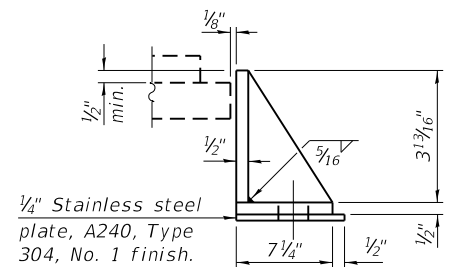


STEEL EXTENSION DETAIL



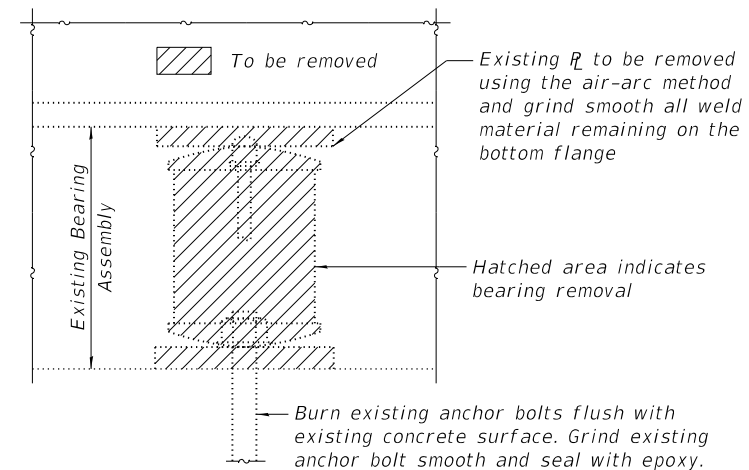
PLAN - BOTTOM EXTENSION PLATE

MODEL: Default
FILE NAME: Z:\15052222.Poplar Street Bridge Complex EB\DWG\Bridges\final\Plotsheets\34-Bearing_Details.dwg



SIDE RETAINER

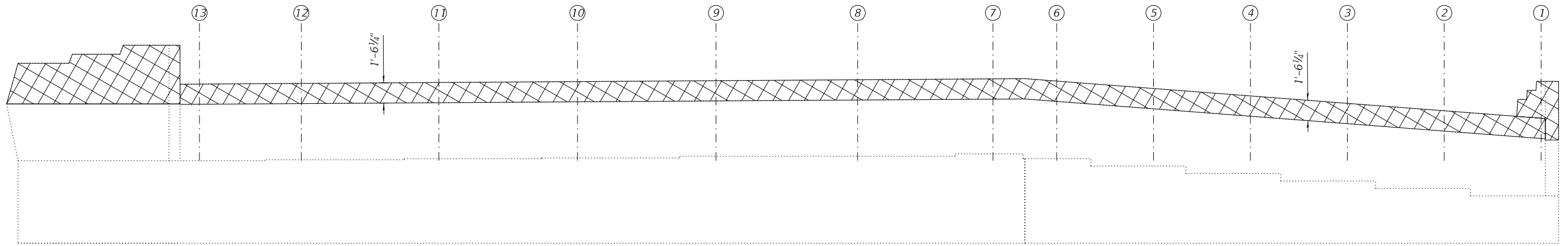
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



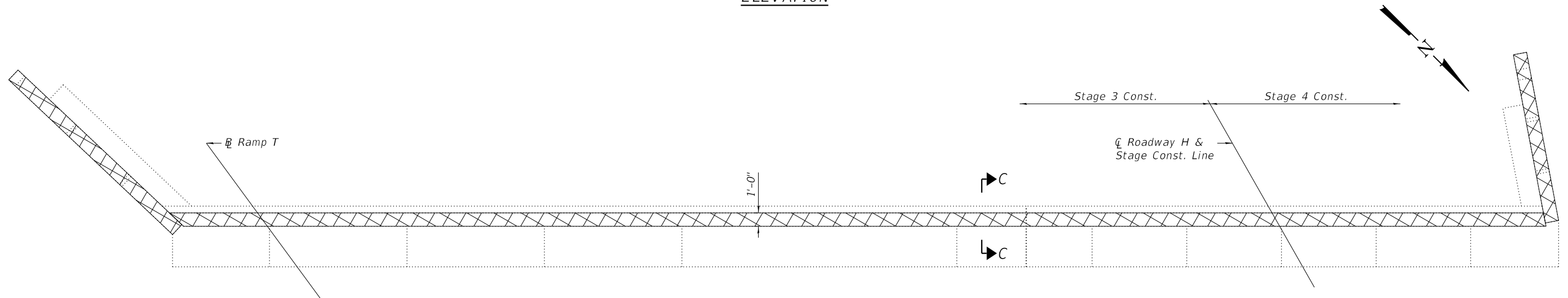
EXISTING BEARING REMOVAL DETAIL
Cost included with Jack and Remove Existing Bearings

BILL OF MATERIAL

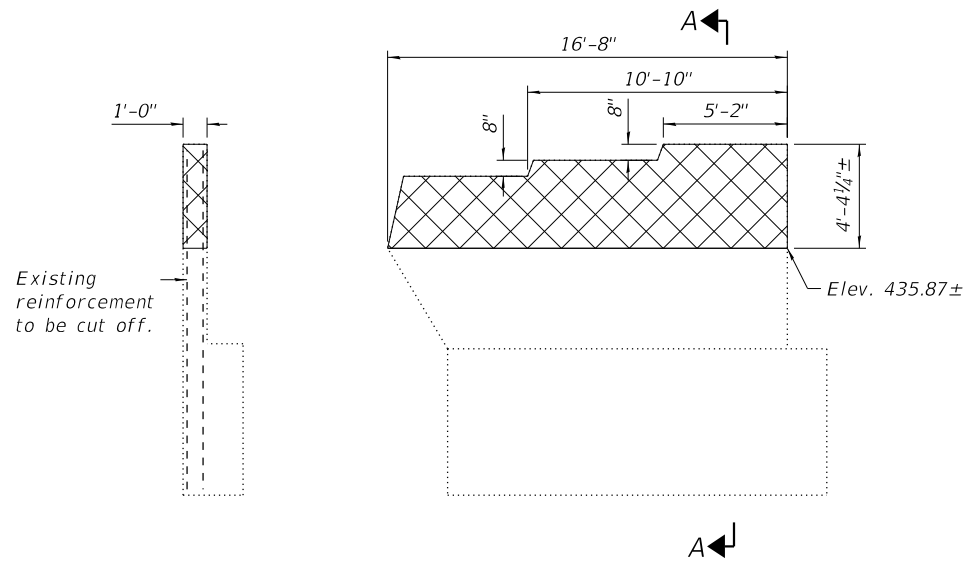
Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	13
Jack and Remove Existing Bearing	Each	13
Furnishing and Erecting Structural Steel	Pound	2,470
Anchor Bolts, 5/8 inch diameter	Each	104
Seismic Restrainer	Each	26



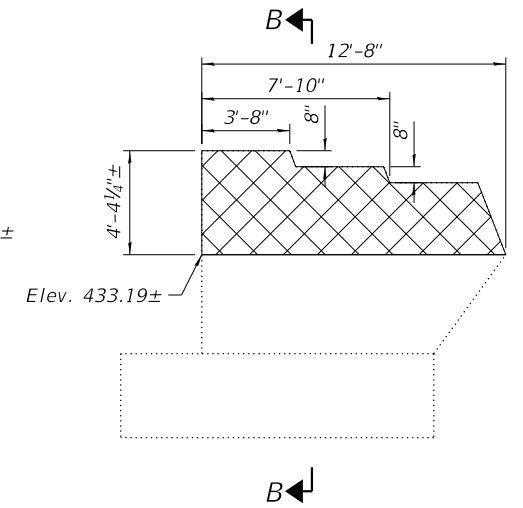
ELEVATION



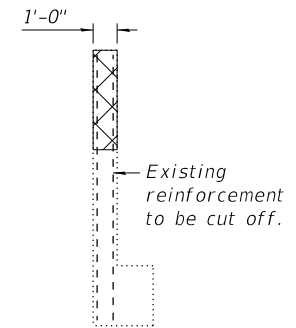
TOP VIEW



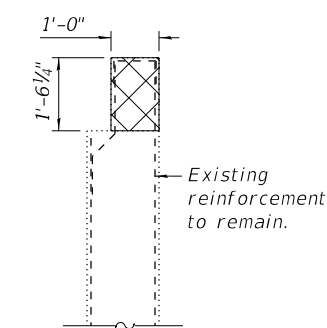
SECTION A-A EAST WINGWALL ELEVATION



WEST WINGWALL ELEVATION



SECTION B-B



SECTION C-C

Notes:
 Hatched area indicates Concrete Removal.
 Existing reinforcement bars extending into areas of new construction shall be cleaned, straightened, and incorporated into the new construction. Cost included in Concrete Removal.
 Existing reinforcement not extending into new construction shall be cut off, ground flush, and sealed with epoxy. Cost included with Concrete Removal.

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	9.7

MODEL: Default
 FILE NAME: Z:\15052222_Poplar Street Bridge Complex EB\DWG\Bridges\35-South Abutment Concrete Removal.dgn
 7/16/2020 9:26:07 AM

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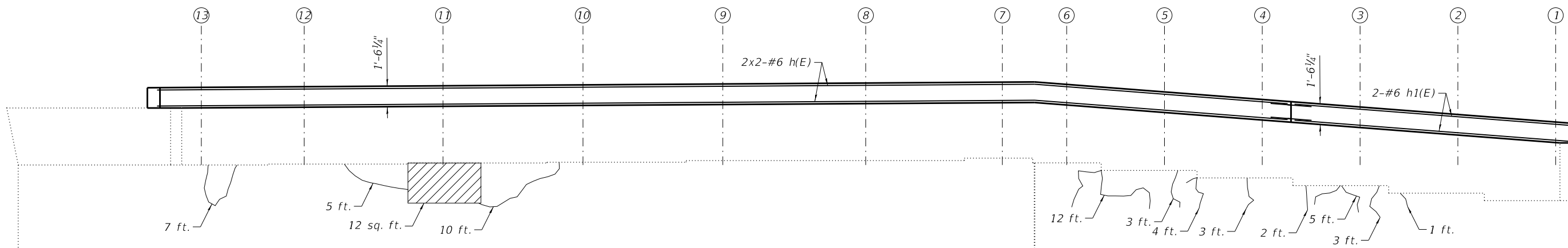
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PLOT SCALE = 0.1667"/in.	CHECKED - CDL	REVISED -
PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT CONCRETE REMOVAL
STRUCTURE NO. 082-0140

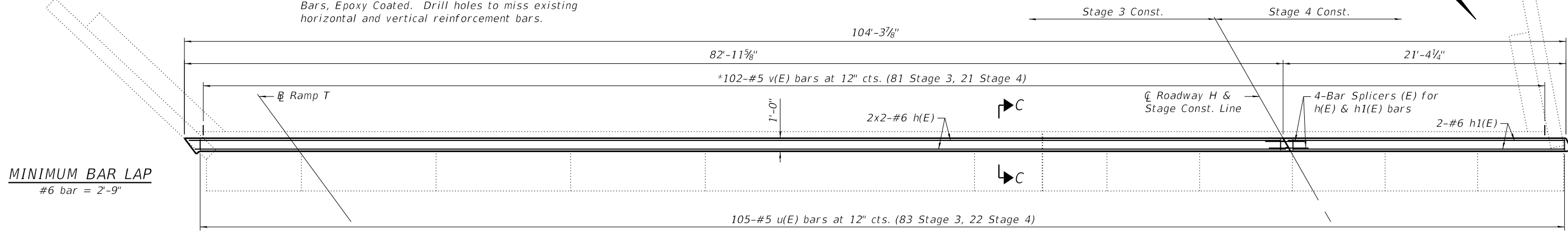
SHEET S-35 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-I-1	ST. CLAIR	361	356
CONTRACT NO. 76B55				
		ILLINOIS	FED. AID PROJECT	



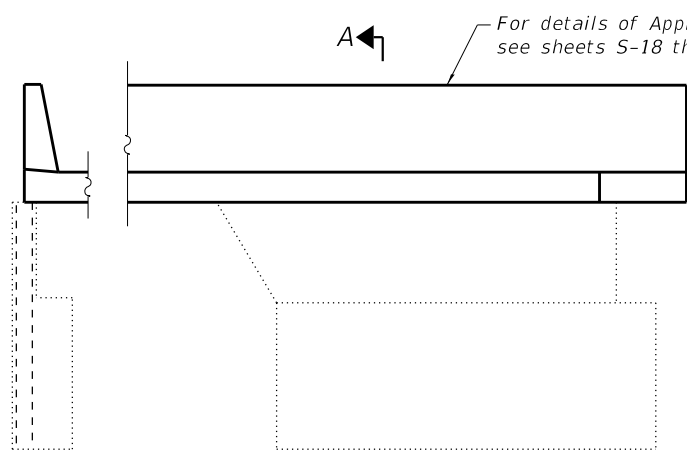
ELEVATION

*Epoxy grout bars into 9" deep holes into existing backwall as per Section 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated. Drill holes to miss existing horizontal and vertical reinforcement bars.

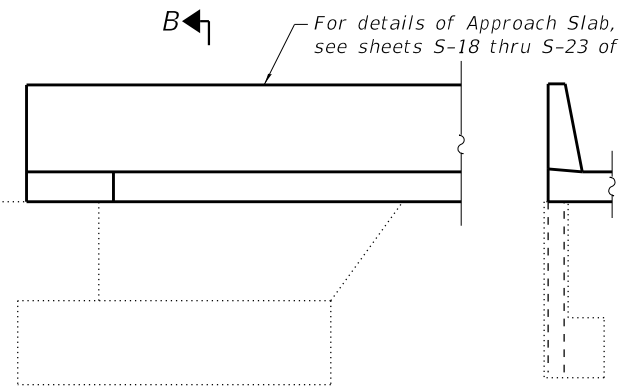


TOP VIEW

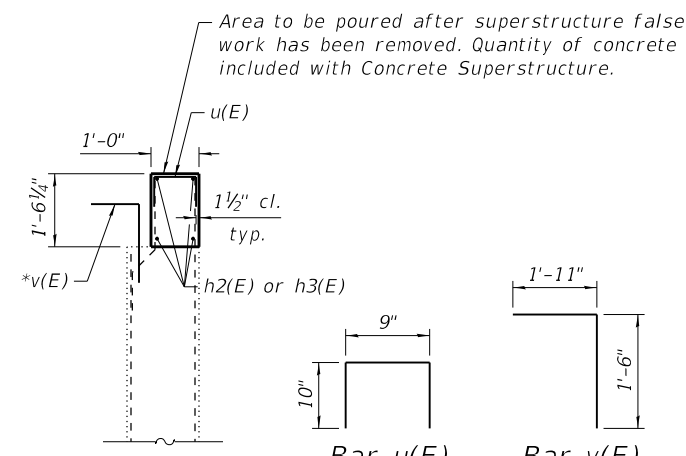
MINIMUM BAR LAP
#6 bar = 2'-9"



SECTION A-A EAST WINGWALL ELEVATION



SECTION B-B WEST WINGWALL ELEVATION



SECTION C-C

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- Epoxy Crack Injection

BILL OF MATERIAL

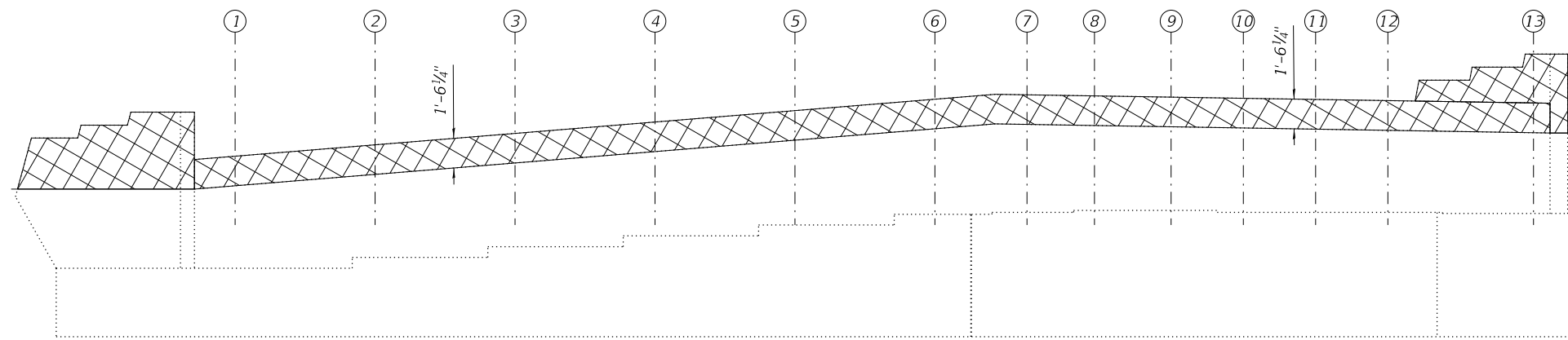
Bar	No.	Size	Length	Shape
h(E)	8	#6	42'-8"	—
h1(E)	4	#6	20'-9"	—
v(E)	102	#5	3'-5"	└
u(E)	105	#5	2'-5"	□
Structural Repair of Concrete (Depth equal to or less than 5 inches)			Sq. Ft.	12
Epoxy Crack Injection			Foot	55
Reinforcement Bars, Epoxy Coated			Pound	1,270

Note:
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

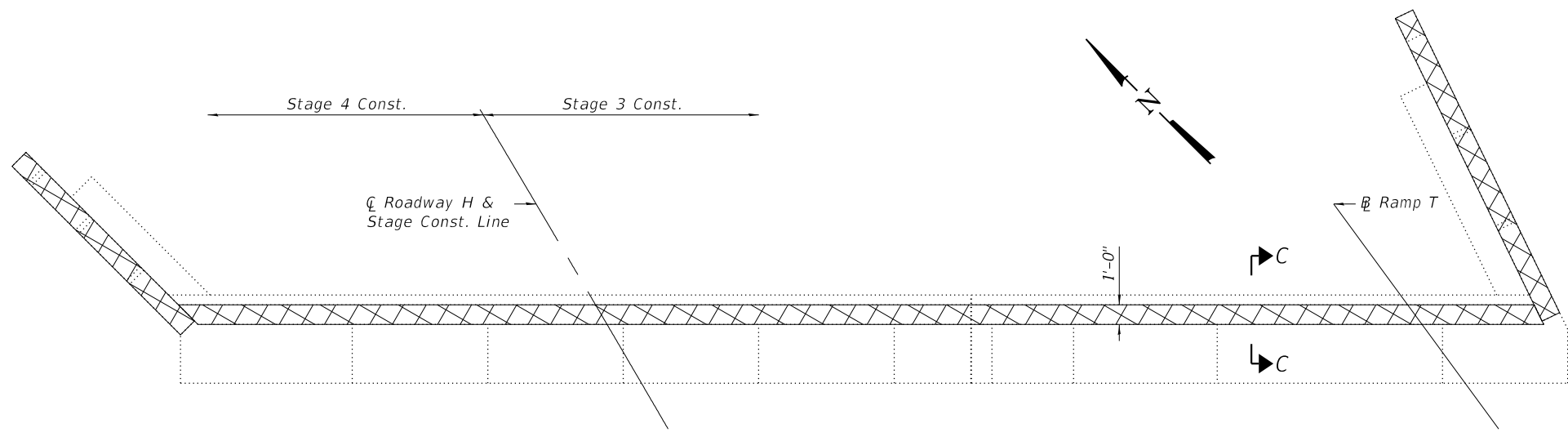
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USER NAME = ABenz	DESIGNED - ACB	REVISED -
PLOT SCALE = 0.1667"/in.	CHECKED - CDL	REVISED -
PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	357
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				

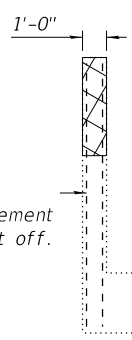


ELEVATION

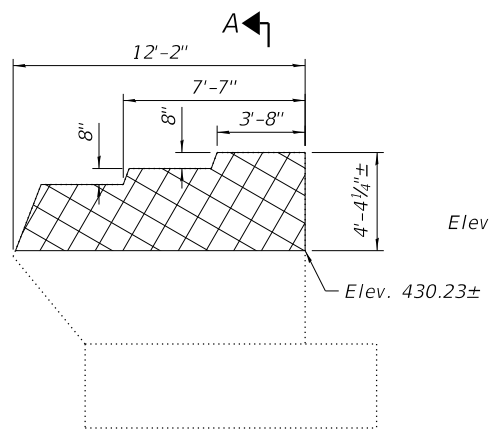


TOP VIEW

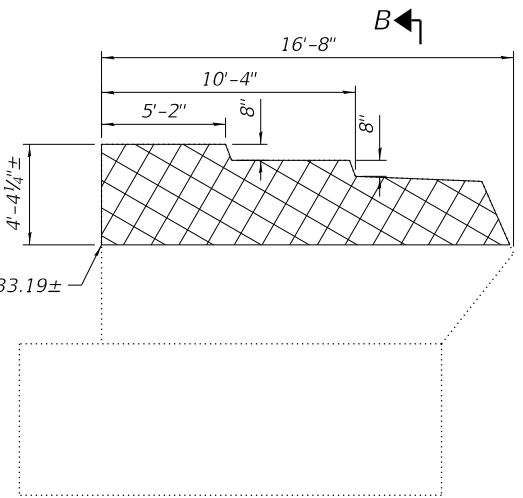
Notes:
 Hatched area indicates Concrete Removal.
 Existing reinforcement bars extending into areas of new construction shall be cleaned, straightened, and incorporated into the new construction. Cost included in Concrete Removal.
 Existing reinforcement not extending into new construction shall be cut off, ground flush, and sealed with epoxy. Cost included with Concrete Removal.



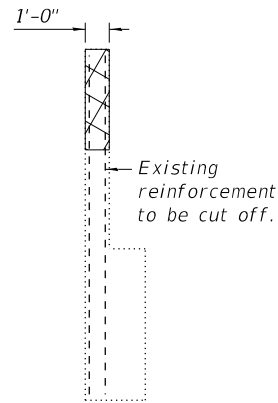
SECTION A-A



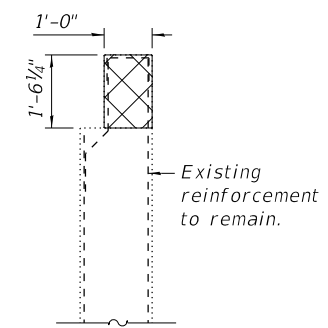
WEST WINGWALL ELEVATION



EAST WINGWALL ELEVATION



SECTION B-B

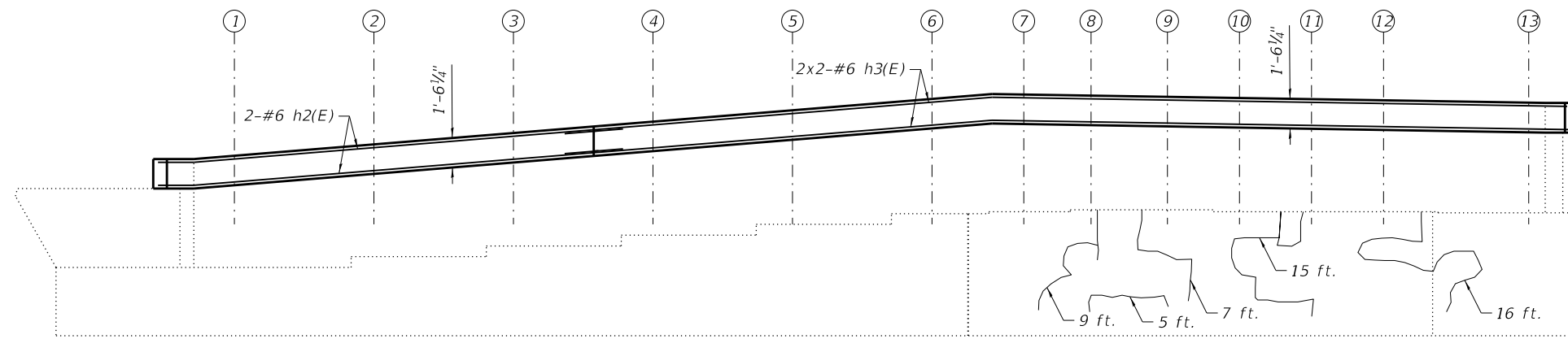


SECTION C-C

BILL OF MATERIAL

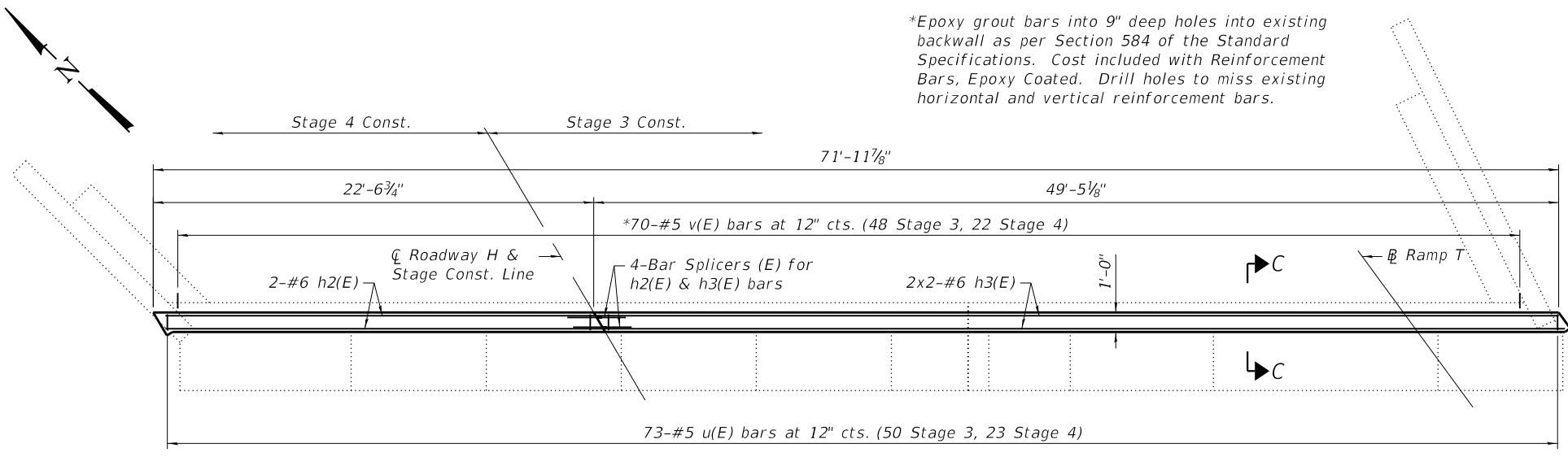
Item	Unit	Total
Concrete Removal	Cu. Yd.	8.0

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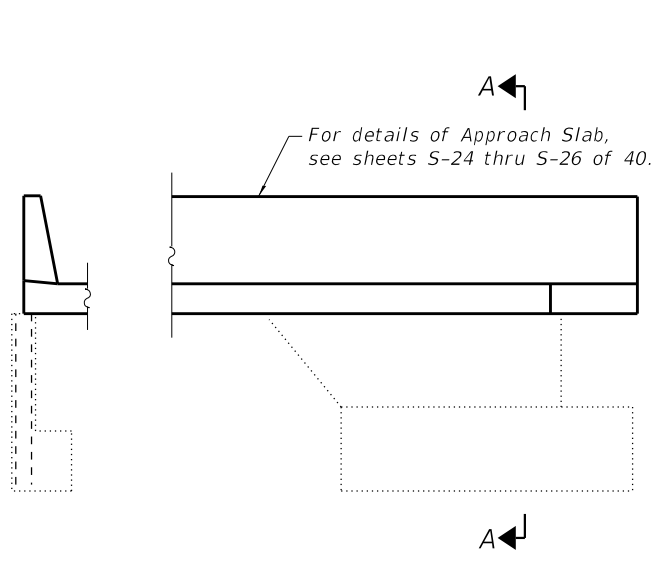
ELEVATION

*Epoxy grout bars into 9" deep holes into existing backwall as per Section 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated. Drill holes to miss existing horizontal and vertical reinforcement bars.

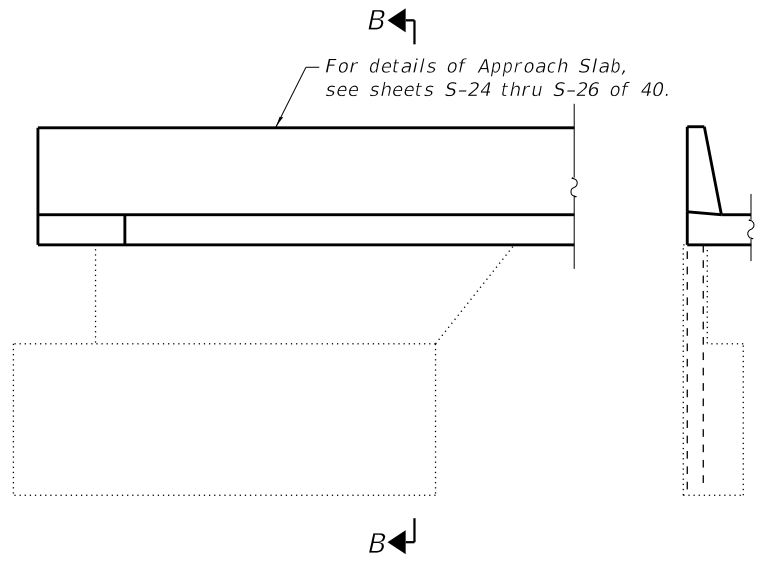


TOP VIEW

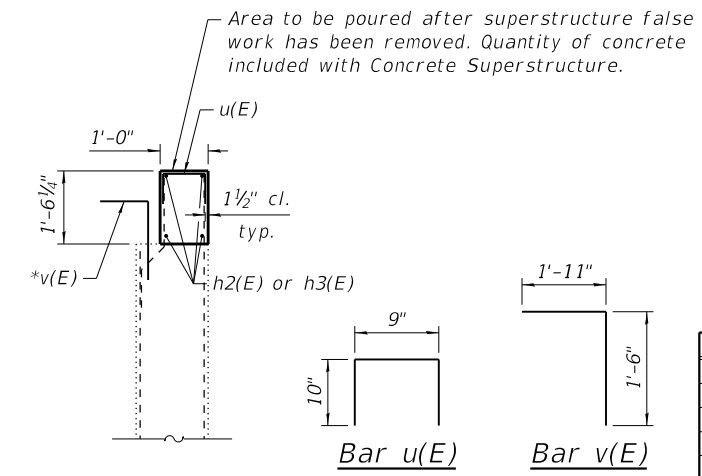
MINIMUM BAR LAP
#6 bar = 2'-9"



SECTION A-A WEST WINGWALL ELEVATION



SECTION B-B EAST WINGWALL ELEVATION



SECTION C-C

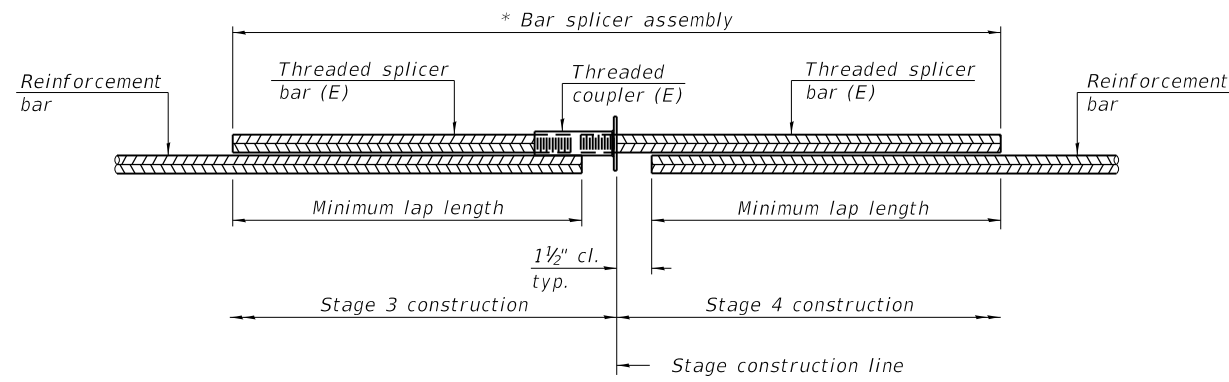
Structural Repair of Concrete (Depth equal to or less than 5 Inches)
 Epoxy Crack Injection

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h2(E)	4	#6	22'-3"	—
h3(E)	8	#6	25'-11"	—
v(E)	70	#5	3'-5"	└
u(E)	73	#5	2'-5"	┐
Epoxy Crack Injection			Foot	52
Reinforcement Bars, Epoxy Coated			Pound	880

Note:
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

MODEL: Default
FILE NAME: Z:\15052222_Poplar_Street_Bridge_Complex_EBI\DWG\Bridges\final\Plotsheets\38-North Abutment Details.dgn

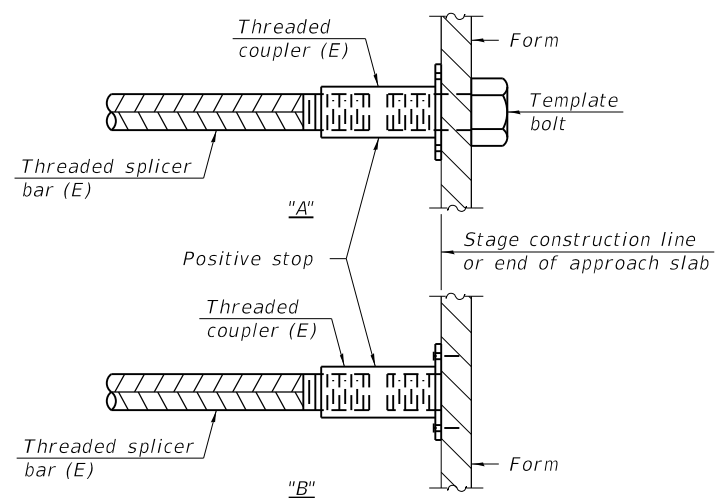


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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

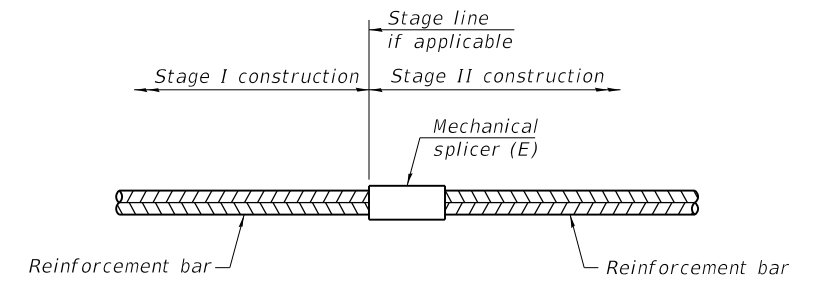
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Deck	#5	671	3'-6"
S. Approach Slab	#5	82	2'-3"
S. Approach Slab	#8	55	3'-8"
N. Approach Slab	#5	79	2'-3"
N. Approach Slab	#8	52	3'-8"
South Abutment	#6	4	2'-9"
North Abutment	#6	4	2'-9"



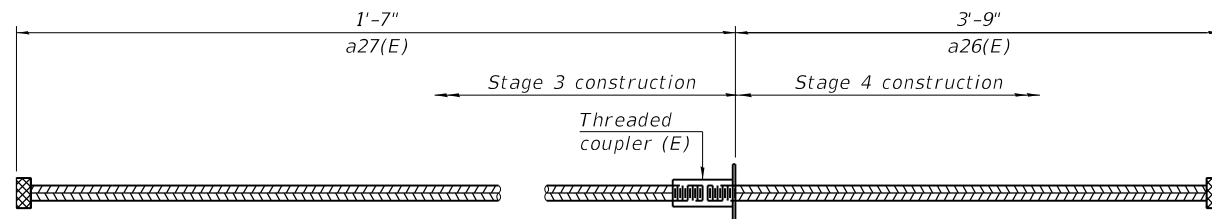
INSTALLATION AND SETTING METHODS

"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



#5 a26(E) & a27(E) BAR SPLICER ASSEMBLY FOR EDGE BEAMS AT STAGE CONSTRUCTION JOINT

No. required = 6

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: Default
 FILE NAME: Z:\15052222_Poplar Street Bridge Complex EB\DWG\Bridges\39-Bar Splicer Assembly and Mechanical Splicer Details.dgn

BSD-1

1-1-2020

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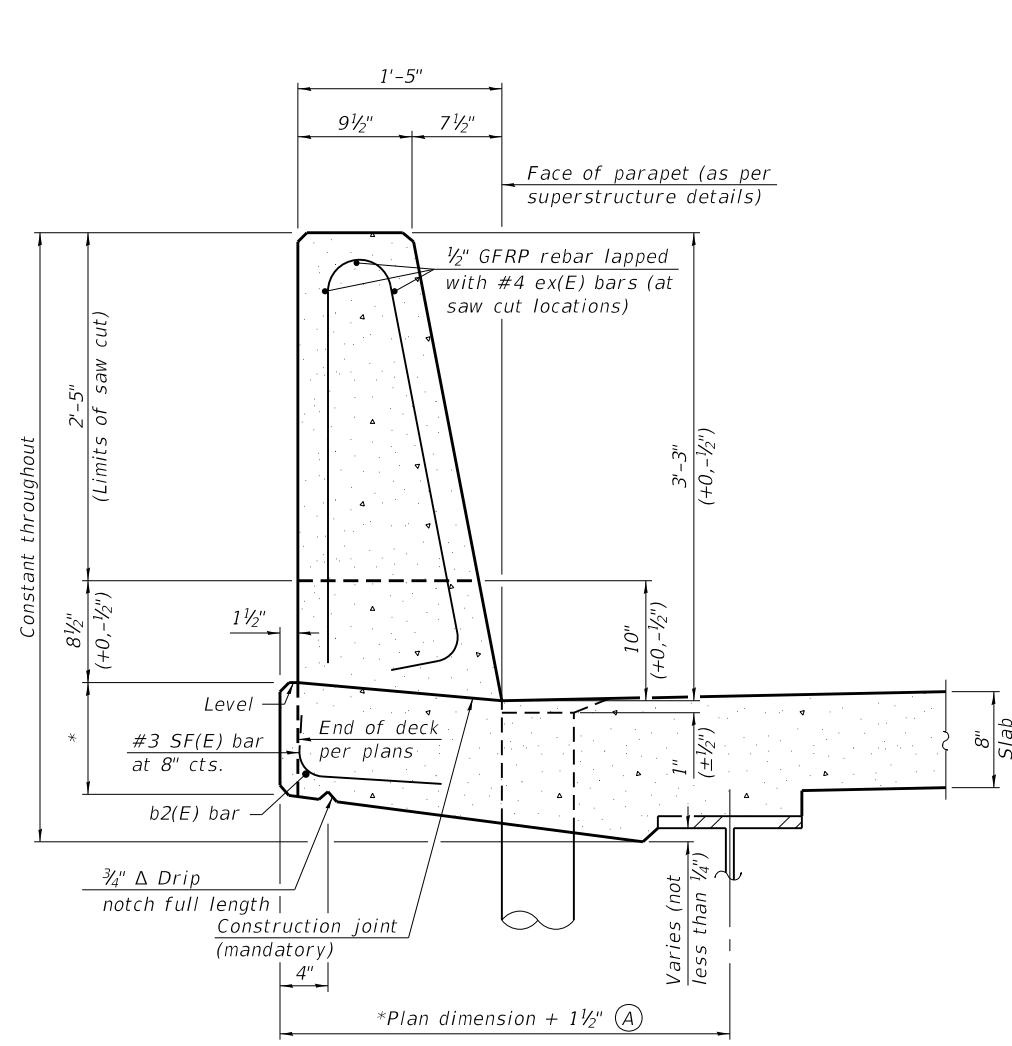
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PLOT SCALE = 0.1667' / in.	CHECKED - CDL	REVISED -
PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 082-0140

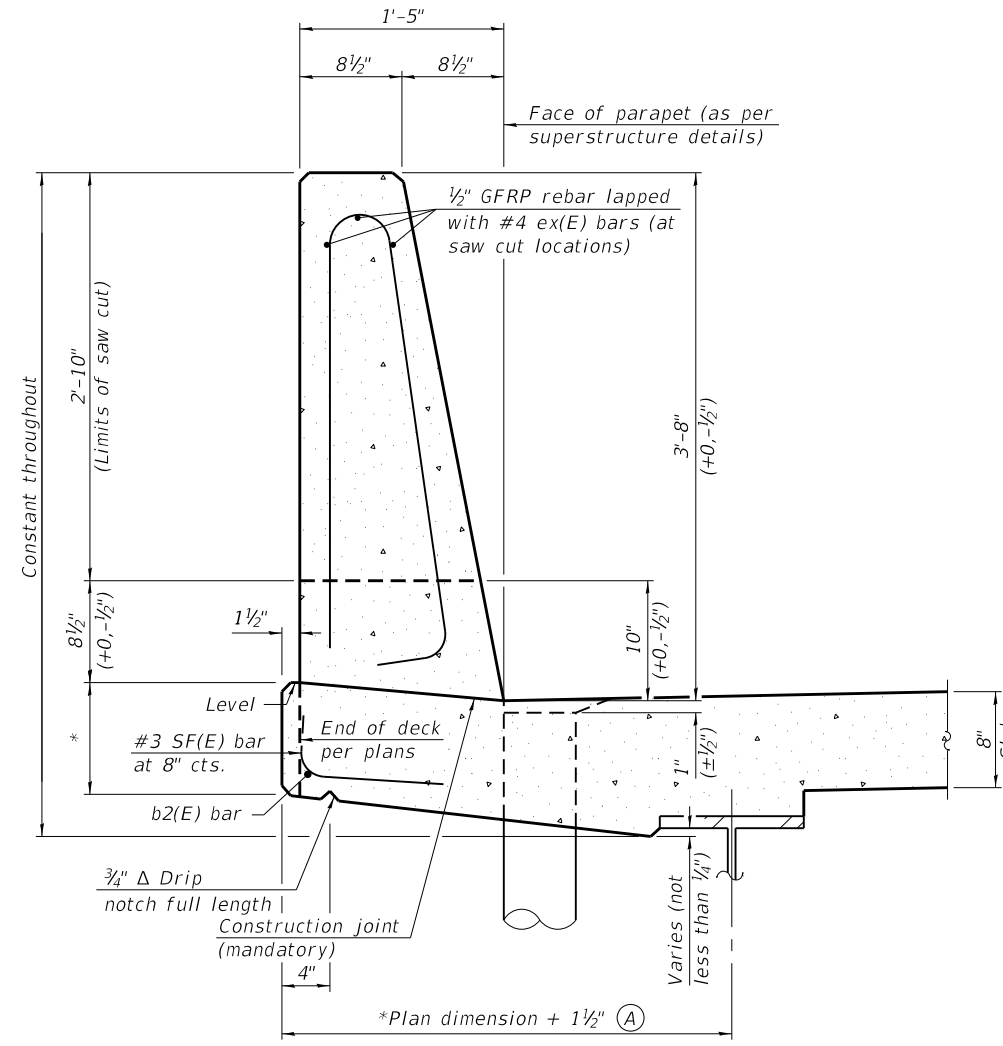
SHEET S-39 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-14-1	ST. CLAIR	361	360
CONTRACT NO. 76B55				
ILLINOIS FED. AID PROJECT				



**39" CONSTANT-SLOPE
PARAPET SECTION**

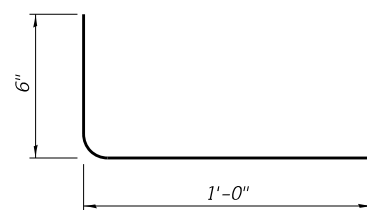
(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



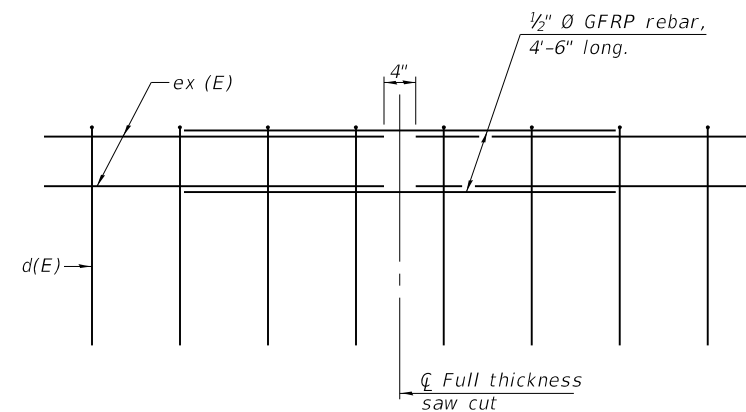
**44" CONSTANT-SLOPE
PARAPET SECTION**

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)

*See Superstructure Details.



#3 (E) BAR



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

Notes:
All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.00348 cu. yds./ft. for 39" and 44" parapets.
Place full depth aluminum sheets as shown on superstructure details.
Replace all cork joint filler locations with a full thickness saw cut.
Steel superstructure shown. Other superstructure types similar.

MODEL: Default
FILE NAME: Z:\15052.22_Poplar_Street_Bridge_Complex_EBI\DWG\Bridges\final\Plotsheets\40-Concrete_Parapet_Slipforming_Option.dgn

SFP 39-44

1-1-2020

EFK Moen
Civil Engineering Design

USER NAME = ABenz	DESIGNED - ACB	REVISED -
PLOT SCALE = 02.0000 " = 1 in.	CHECKED - CDL	REVISED -
PLOT DATE = 7/16/2020	DRAWN - ACB	REVISED -
	CHECKED - CDL	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 082-0140**

SHEET S-40 OF 40 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1-1-1	ST. CLAIR	361	361
CONTRACT NO. 76B55				
		ILLINOIS	FED. AID PROJECT	