

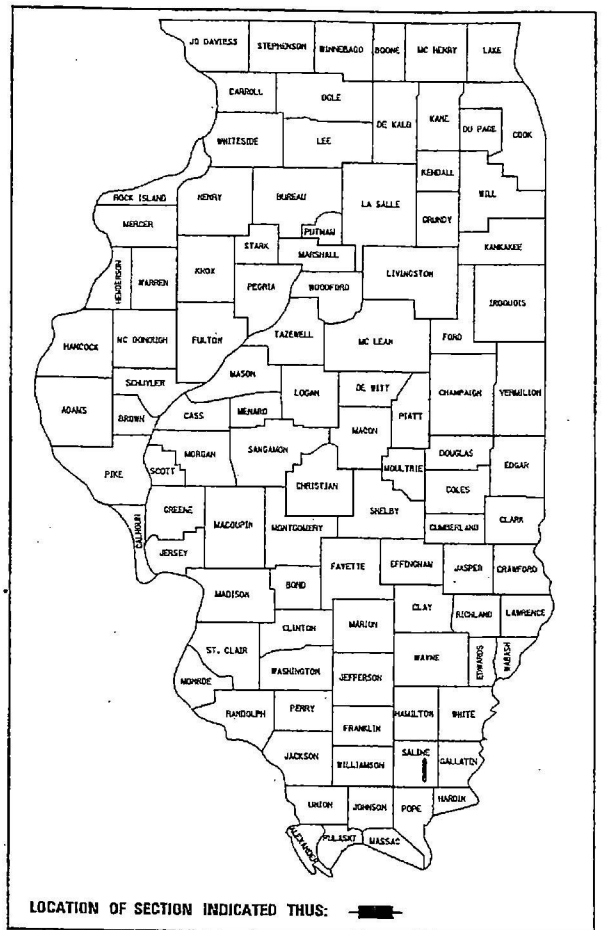
083-0038

INDEX OF SHEETS

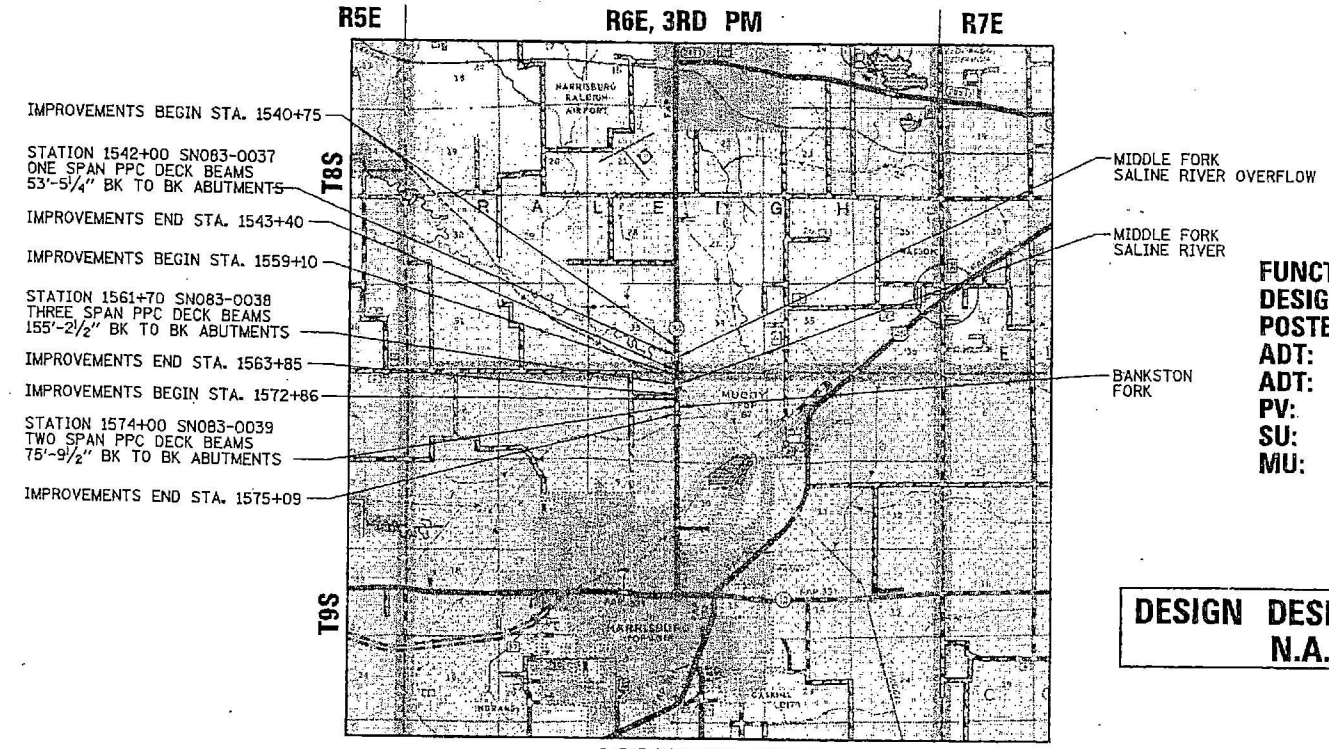
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EXISTING STRUCTURE PLANS			
SN 083-0038			
73.-82.	EXISTING STRUCTURE PLANS		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PROPOSED
HIGHWAY PLANS**
FAP RTE 869 (IL 34)
SECTIONS 105BR-1, 105BR-2, 105BR-3
PROJECT: *BHF-0869(035)*
SALINE COUNTY

CONTRACT NO. 78031				
FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	*	SALINE	118	1
* 105BR-1, 105BR-2, 105BR-3				
P- 99-011-08				

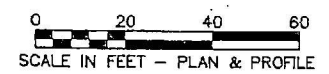


PPC DECK BEAM SUPERSTRUCTURE REPLACEMENTS
OVER MIDDLE FORK SALINE RIVER OVERFLOW, MIDDLE FORK SALINE RIVER, & BANKSTON FORK



FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL (RURAL)
DESIGN SPEED: 55 mph
POSTED SPEED: 55 mph
ADT: 3970 @ SN083-0037, SN083-0038 (2007)
ADT: 4020 @ SN083-0039 (2007)
PV: 92%
SU: 6%
MU: 2%

**DESIGN DESIGNATION
N.A.**

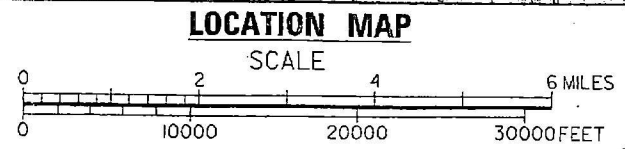


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

MICROFILMED _____
 REEL NUMBER _____
 AWARDED _____
 RESIDENT ENGINEER _____
 AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS _____

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-892-0123

DISTRICT 9 NO. (217) 549-2171
 PROJECT ENGINEER: DAVID PICHE
 UNIT CHIEF:
 TOWNSHIP: RALEIGH & HARRISBURG
 CONTRACT NO: 78031



GROSS LENGTH = 3438.62 FT. = 0.65 MI.
 NET LENGTH = 963 FT. = 0.18 MI.



DATE: 04/11/08
 ILLINOIS PROFESSIONAL LICENSE NO. 37421
 (EXPIRATION DATE: 11-30-09)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED May 1, 2008
Wm C. Rossi
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
June 27, 2008
Eric E. Horn
 ENGINEER OF DESIGN AND ENVIRONMENT
June 27, 2008
Christina M. Reed
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

083-0038

BENCHMARK: Chiseled Square in top of southwest wingwall of SN 083-0038, Sta. 1562+35.00, 17.5' Rtl., Elev. 366.31.

EXISTING STRUCTURE: SN 083-0038 was originally built in 1932 as S.B.I. Rte. 143, Section 105BC at Sta. 1561+70. The superstructure was replaced in 1972 and precast concrete bridge slabs were utilized to widen the approaches. The superstructure consists of three spans. The outer spans, Spans 1 & 3, consist of 21"x36" PPC deck beams. The interior span, Span 2 consists of 27"x36" PPC deck beams. The substructure consists of two reinforced concrete closed abutments and two reinforced concrete piers on timber piles. The back-to-back abutments length is 155'-2 1/2", the out-to-out width is 33'-0". The existing superstructure and the existing bridge approach shoulders shall be removed and replaced utilizing stage construction.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	LENS	POST	SHEET NO.
FAP 869	105BR-2	SALINE	118	50	23 SHEETS
FED. ROAD DIST. NO. 4					
ILLINOIS					
FED. AID PROJECT - 400					

78031



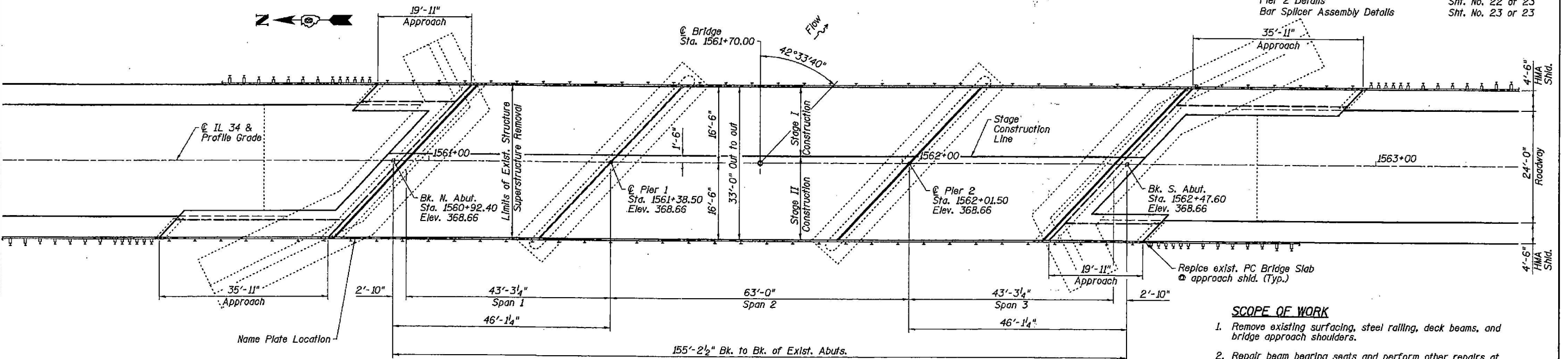
STATION 1561+70.00
REBUILT 20... BY
STATE OF ILLINOIS
F.A.P. RT. 869 SEC. 105BR-2
LOADING HS20
STR. NO. 083-0038

NAME PLATE
See Std. 515001

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Strip Seal Expansion Joint	Sht. No. 15 of 23
North Abutment	Sht. No. 16 of 23
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Pier 1	Sht. No. 19 of 23
Pier 1 Details	Sht. No. 20 of 23
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Pier 2 Details	Sht. No. 22 of 23
Bar Splicer Assembly Details	Sht. No. 23 of 23

ELEVATION



SCOPE OF WORK

1. Remove existing surfacing, steel railing, deck beams, and bridge approach shoulders.
2. Repair beam bearing seats and perform other repairs at abutments and piers as required.
3. Reconstruct a three-span PPCD beam superstructure with Concrete Wearing Surface and Steel Rolling, Type SM. Reconstruct existing approach shoulders with Precast Concrete Bridge Slab with Concrete Wearing Surface and Steel Rolling Type SM.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Andersen
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-08
Ralph E. Andersen
SIGNATURE
04/04/08
DATE

PLAN

DESIGN SPECIFICATION

2002 AASHTO
LOADING HS20-44
No allowance for future wearing surface

DESIGN STRESSES

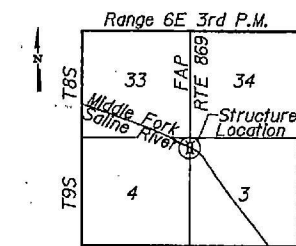
FIELD UNITS
f'c = 5,000 psi (Concrete Wearing Surface)
f'c = 3,500 psi (All concrete except CWS)
fy = 60,000 psi (reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'cl = 5,000 psi
f's = 270,000 psi (1/2" low lax strands)
fsl = 201,960 psi (1/2" low lax strands)

PRECAST UNITS

f'c = 4,500 psi
fy = 60,000 psi (reinf.)



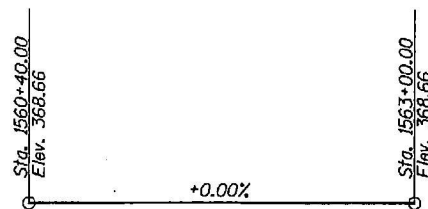
LOCATION SKETCH

GENERAL PLAN
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	KAH/HAS	02/08
CHECKED BY:	ELH	04/08
APPROVED BY:	RDP	04/08

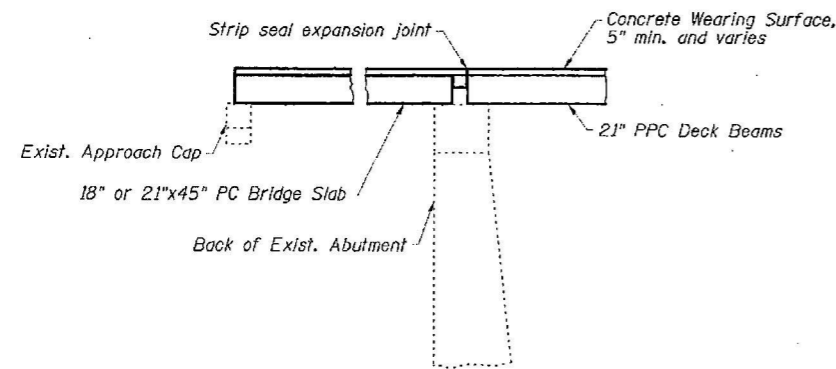
PROFILE GRADE
(Along Roadway)



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET
FAP 869	105BR-2	SALINE	11/8	51
FED. ROAD DIST. NO. 7		BUILDING	FED. AID PROJECT - AID	
780.31				

SHEET NO. 2
23 SHEETS



SECTION THRU ABUTMENTS
@ OUTSIDE BEAM

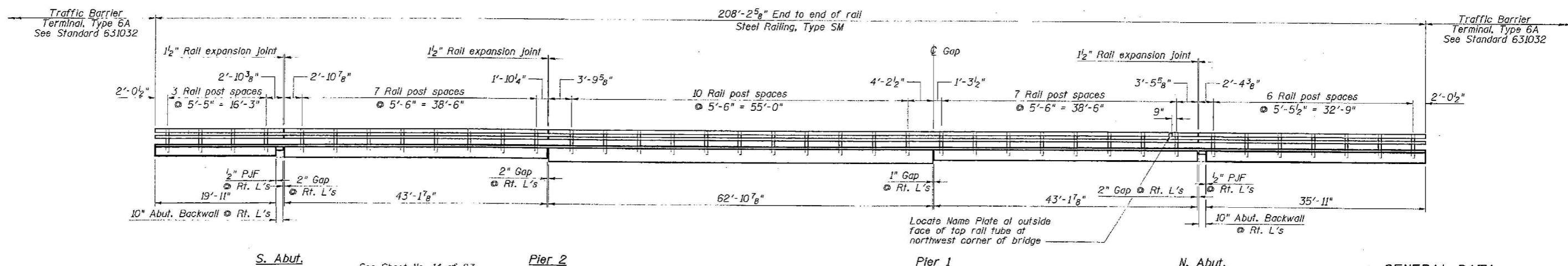
GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60 (IL Modified). See Special Provisions.
2. Plan dimensions and details relative to existing plans are subject to routine 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 based upon the unit price bid for the work.
3. Concrete Sealer shall be applied to bearing seats where Structural Repair of Concrete is performed and also to the front face of the new concrete backwalls.
4. All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M300 Type 1 unless noted otherwise.
5. Side Retainers shall be AASHTO M270 Grade 36 minimum.
6. No in-stream work will be allowed on this project.
7. The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
8. If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new or existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Precast Prestressed Concrete Deck Beams.

9. The minimum thickness of the concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber. Modify to meet field conditions as directed by the Engineer.
10. Repair of the substructure and removal of the existing expansion joints shall be completed prior to placement of the new deck beams. The cost of removing the existing expansion joints is included in Concrete Removal.
11. The existing expansion bearing pads contain asbestos. See Special Provisions for Asbestos Bearing Pad Removal.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures No. 2	Each	1	-	1
Bridge Deck Grooving	Sq. Yd.	595	-	595
Protective Coat	Sq. Yd.	641	-	641
Precast Concrete Bridge Slab	Sq. Ft.	420	-	420
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	2848	-	2848
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	2076	-	2076
Reinforcement Bars, Epoxy Coated	Pound	8020	260	8280
Bar Splicers	Each	155	4	159
Steel Railing, Type SM	Foot	418	-	418
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	135	-	135
Concrete Sealer	Sq. Ft.	-	142	142
Epoxy Crack Injection	Foot	-	302	302
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	-	89	89
Asbestos Bearing Pad Removal	Each	-	66	66
Concrete Wearing Surface, 5"	Sq. Yd.	641	-	641
Concrete Removal	Sq. Yd.	-	2.2	2.2
Concrete Structures	Sq. Yd.	-	2.2	2.2
Removal of Existing Precast Concrete Units	Sq. Ft.	420	-	420



RAILING ELEVATION
(Showing inside face of west railing;
east railing similar)

GENERAL DATA
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

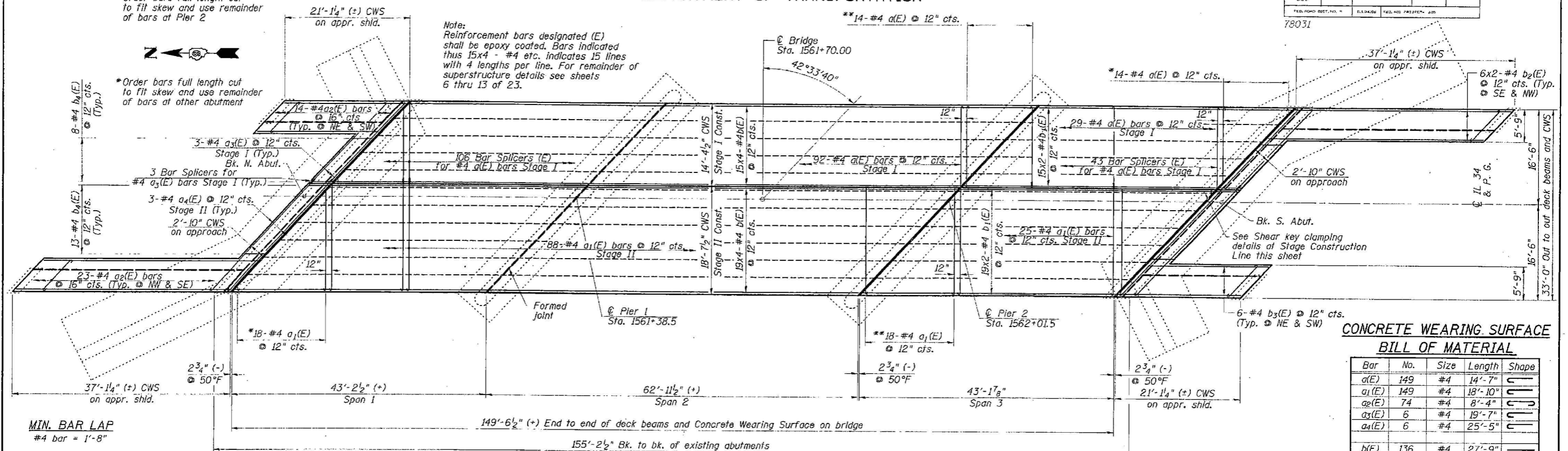
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
FAP 869	105BR-2	SALINE	118	54	23 SHEETS
FED. ROAD DIST. NO. 11					ILLINOIS REG. NO. PROJECT AIR
78031					

** Order bars full length cut to fit skew and use remainder of bars at Pier 2

* Order bars full length cut to fit skew and use remainder of bars at other abutment

Note:
Reinforcement bars designated (E) shall be epoxy coated. Bars indicated thus 15x4 - #4 etc. indicates 15 lines with 4 lengths per line. For remainder of superstructure details see sheets 6 thru 13 of 23.

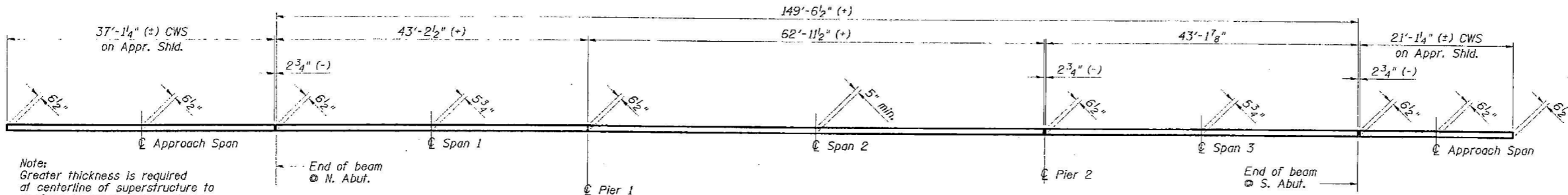


PLAN - WEARING SURFACE

CONCRETE WEARING SURFACE
BILL OF MATERIAL

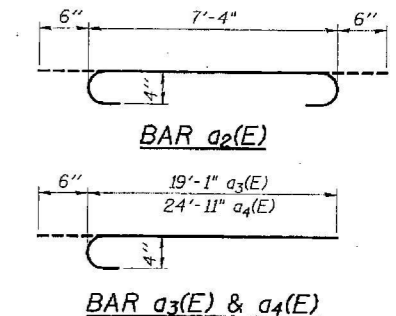
Bar	No.	Size	Length	Shape	
a ₁ (E)	149	#4	14'-7"	U	
a ₂ (E)	149	#4	18'-10"	U	
a ₃ (E)	74	#4	8'-4"	U	
a ₄ (E)	6	#4	19'-7"	U	
a ₁ (E)	6	#4	25'-5"	U	
b ₁ (E)	136	#4	27'-9"	—	
b ₂ (E)	68	#4	22'-1"	—	
b ₃ (E)	24	#4	19'-3"	—	
b ₄ (E)	12	#4	20'-9"	—	
b ₄ (E)	42	#4	3'-6"	—	
Reinforcement Bars, Epoxy Coated				Pound	8020
Concrete Wearing Surface, 5"				Sq. Yd.	641
Bridge Deck Grooving				Sq. Yd.	595
Bar Splicers				Each	155
Protective Coat				Sq. Yd.	641

MIN. BAR LAP
#4 bar = 1'-8"



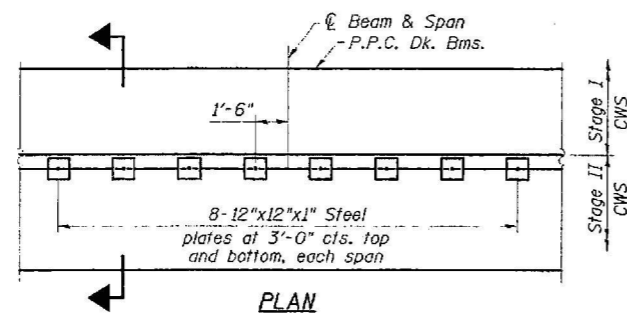
REINFORCED CONCRETE WEARING SURFACE PROFILE
(At west edge of bridge deck; east edge similar)

Note:
Greater thickness is required at centerline of superstructure to conform to cross section slopes shown on Sht. 7 & 9 of 23.

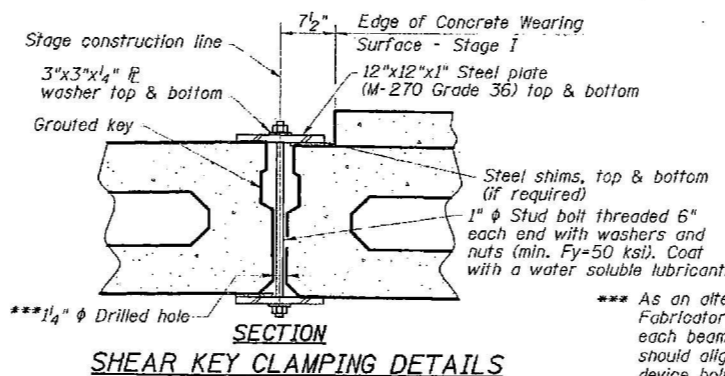


SUPERSTRUCTURE

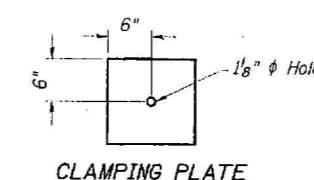
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038



PLAN



SECTION
SHEAR KEY CLAMPING DETAILS



CLAMPING PLATE

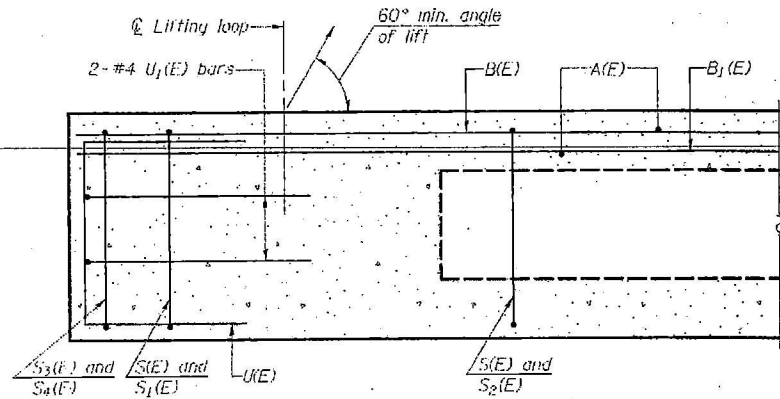
Note:
See Stage Construction Details for traffic lanes. Cost is included with Precast Prestressed Concrete Deck Beams.

*** As an alternate to the drilled holes, the Contractor may request the Fabricator to cast 2" diameter semi-circular recesses in the sides of each beam adjacent to the stage construction line. These recesses should align to form a hole at the appropriate location for the clamping device bolts. If the Contractor elects to use this alternate, the details shall be identified on the shop drawings.

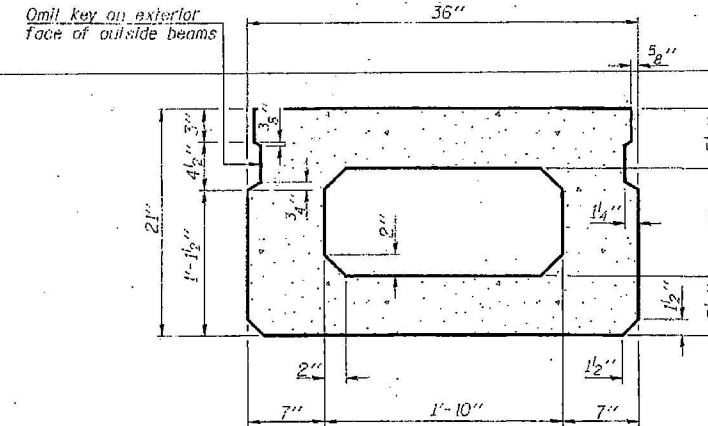
ESCA CONSULTANTS, INC.		
DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

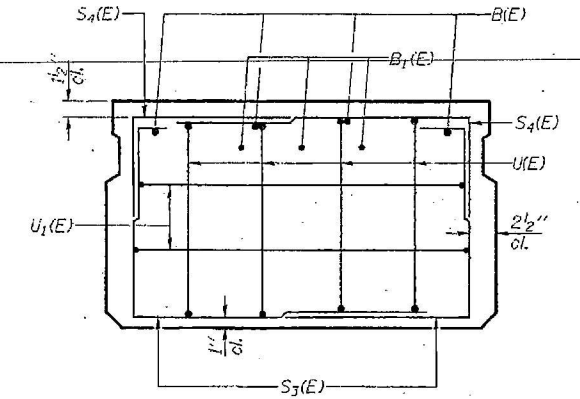
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 869	105BR-2	SALINE	118	55
FED. AID DIST. NO. 0				ILLINOIS PROJECT NO. 78031
				23 SHEETS



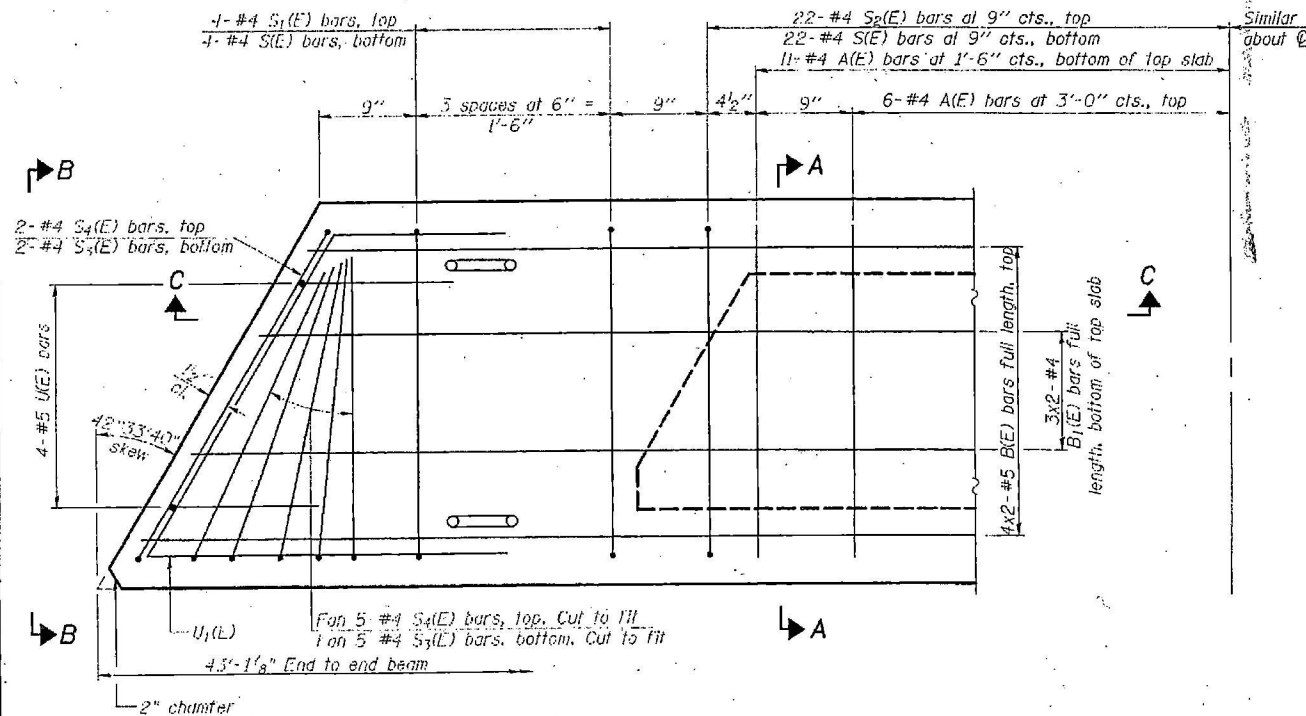
SECTION C-C



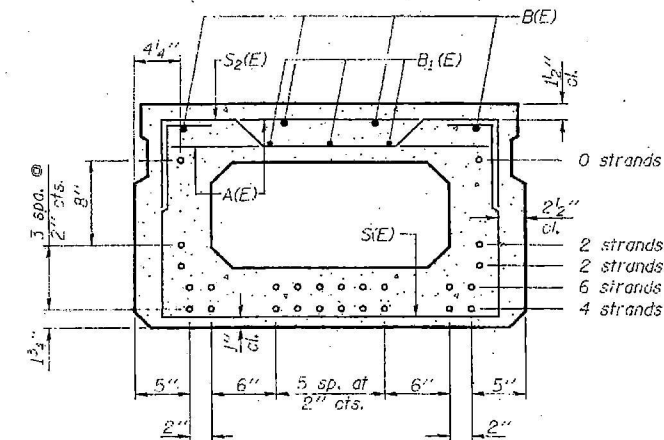
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



SECTION A-A
(Showing reinforcement and permissible strand locations)

14 #2 ϕ Strands, each stressed to 30,900 lbs.
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

21"x36"
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	34	#4	2'-7"	—
B(E)	8	#5	22'-7"	—
B1(E)	6	#4	22'-4"	—
S(E)	52	#4	6'-5"	□
S1(E)	8	#4	5'-7"	□
S2(E)	44	#4	5'-10"	□
S3(E)	14	#4	5'-5"	□
S4(E)	14	#4	5'-0"	□
U(E)	8	#5	4'-0"	E
U1(E)	4	#4	8'-2"	E

Note: See sheet 7 of 23 for additional details and Bill of Material.

MIN. BAR LAP
#5 bar = 2'-2"

- Notes:
1. Spacing of S1(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.
 2. Adjust reinforcement locations to clear dowel holes at fixed ends.

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	04/08
APPROVED BY:	RDP	04/08

SUPERSTRUCTURE DETAILS - SPAN 1 & 3

IL 34 OVER

MIDDLE FORK SALINE RIVER

FAP ROUTE 869 - SECTION 105BR-2

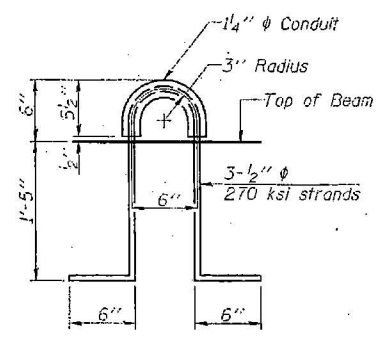
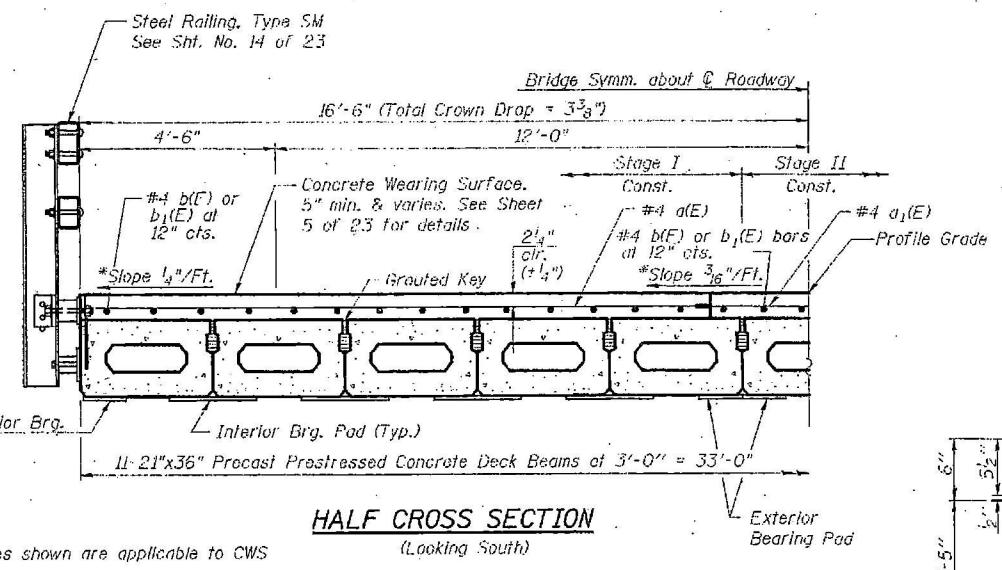
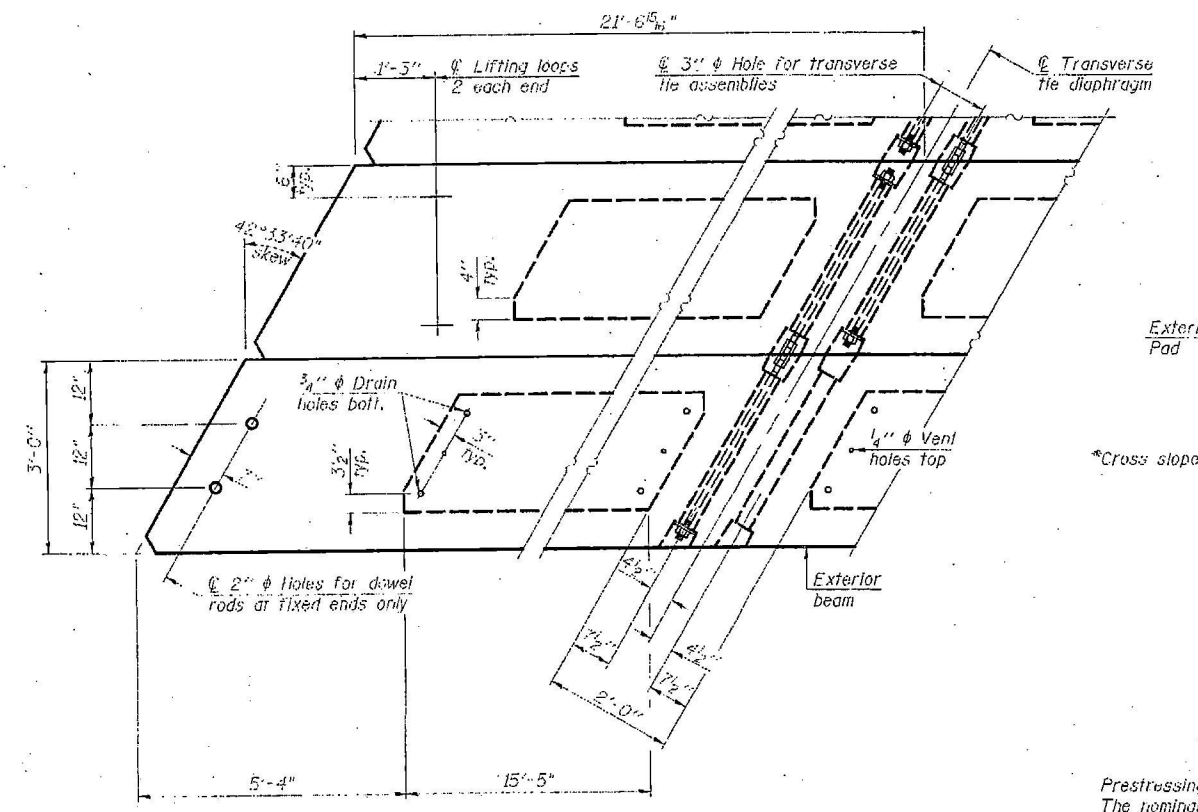
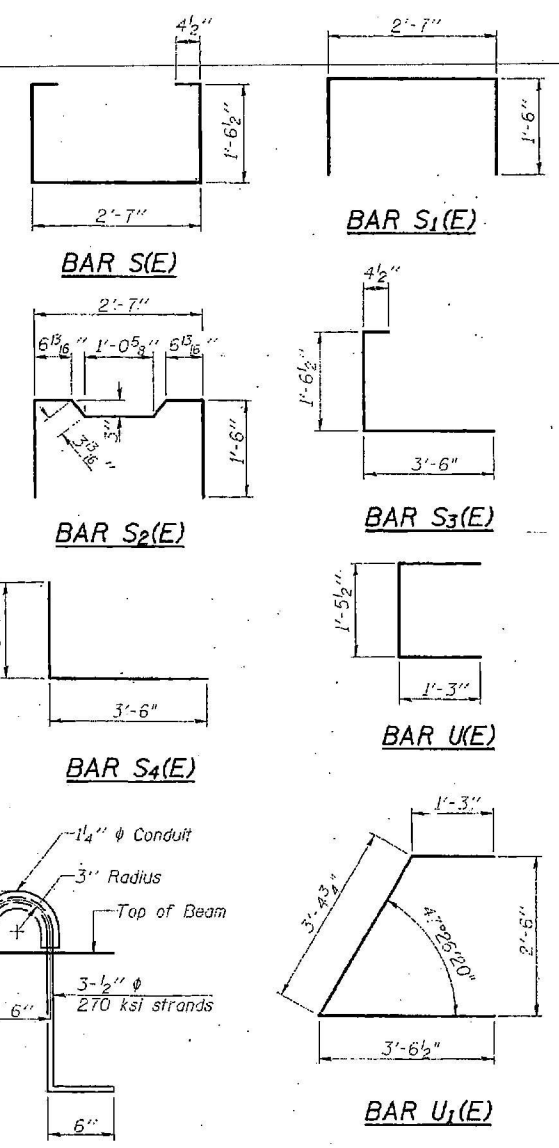
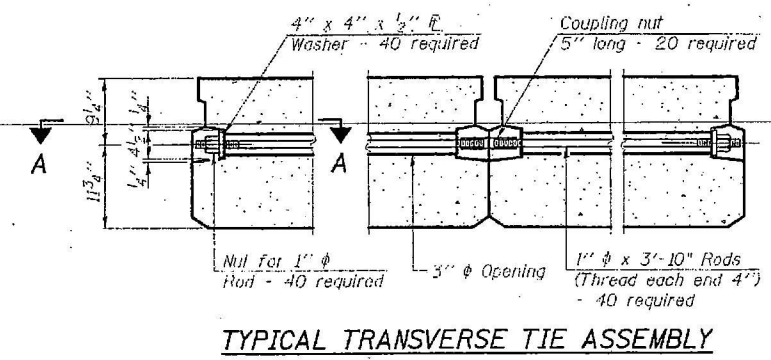
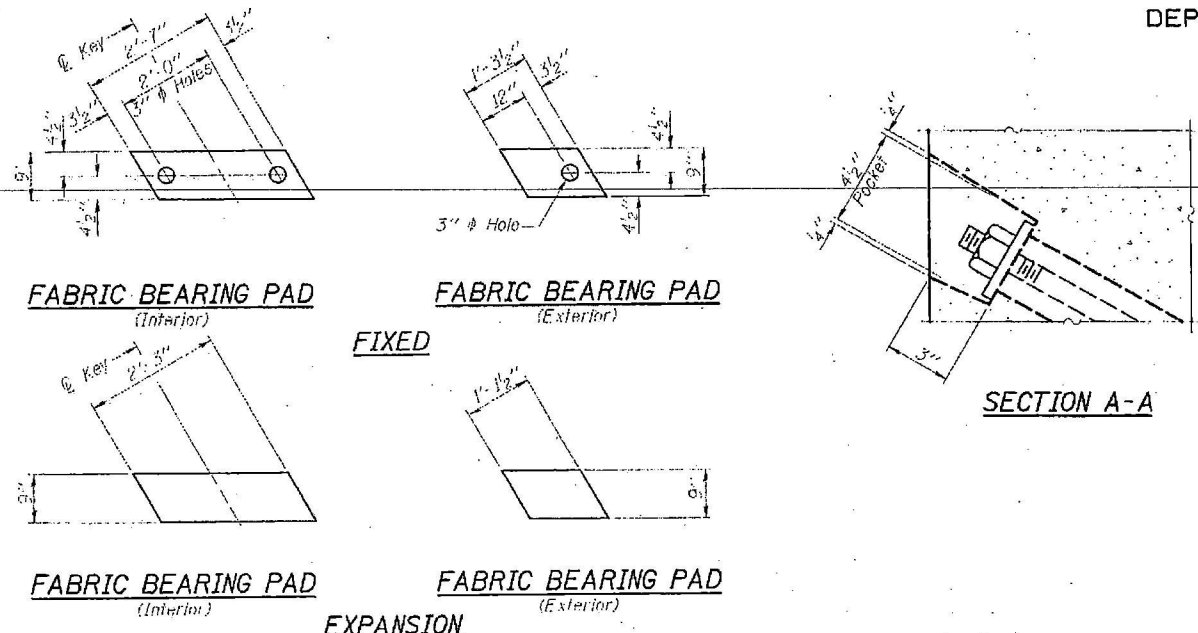
SALINE COUNTY

STATION 1561+70.00

STRUCTURE NO. 083-0038

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	DISTRICT	COUNTY	MILEAGE	POST	SHEET NO. 7
FAP 869	105BR-2	SALINE	118	56	23 SHEETS
FED. ROAD DIST. NO. 1					ILLINOIS
FED. ROAD PROJECT NO.					78031



*Cross slopes shown are applicable to CWS

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
 Reinforcement bars shall conform to ASTM A 706 (II, MOD), Grade 60. (See Special Provisions)
 Two 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
 A minimum 2 1/2" φ lifting pin shall be used to engage the lifting loops during handling.
 Corrosion inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
 Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
 Compressive strength of prestressed concrete at release, f'cl, shall be 5000 psi.
 See Sht. No. 2 of 23 for location of rail anchors and additional notes.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Conc. Deck Bms. (21" Depth)	Sq. Ft.	2848

SUPERSTRUCTURE DETAILS - SPAN 1 & 3

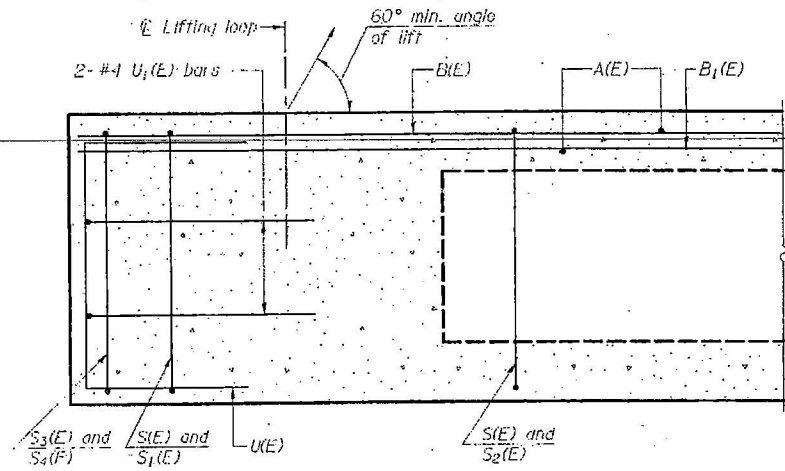
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.
 DESIGNED BY: JMS 02/08
 DRAWN BY: HAS 02/08
 CHECKED BY: ELH 04/08
 APPROVED BY: RDP 04/08

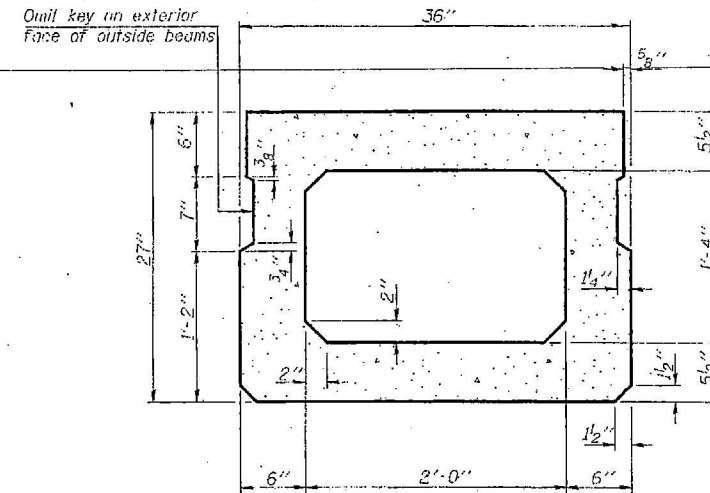
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SPAN	SHEET	SHEET NO. 8
FAP 869	105BR-2	SALINE	118	57	23 SHEETS
MEDIAN DIST. NO. 1 P.A. POINT # CD. AND PROJECT - AD					

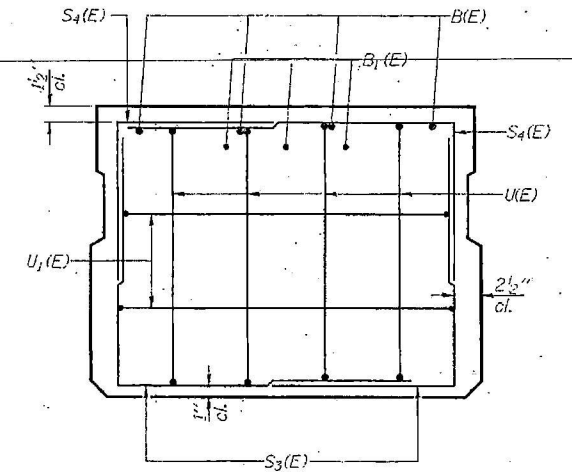
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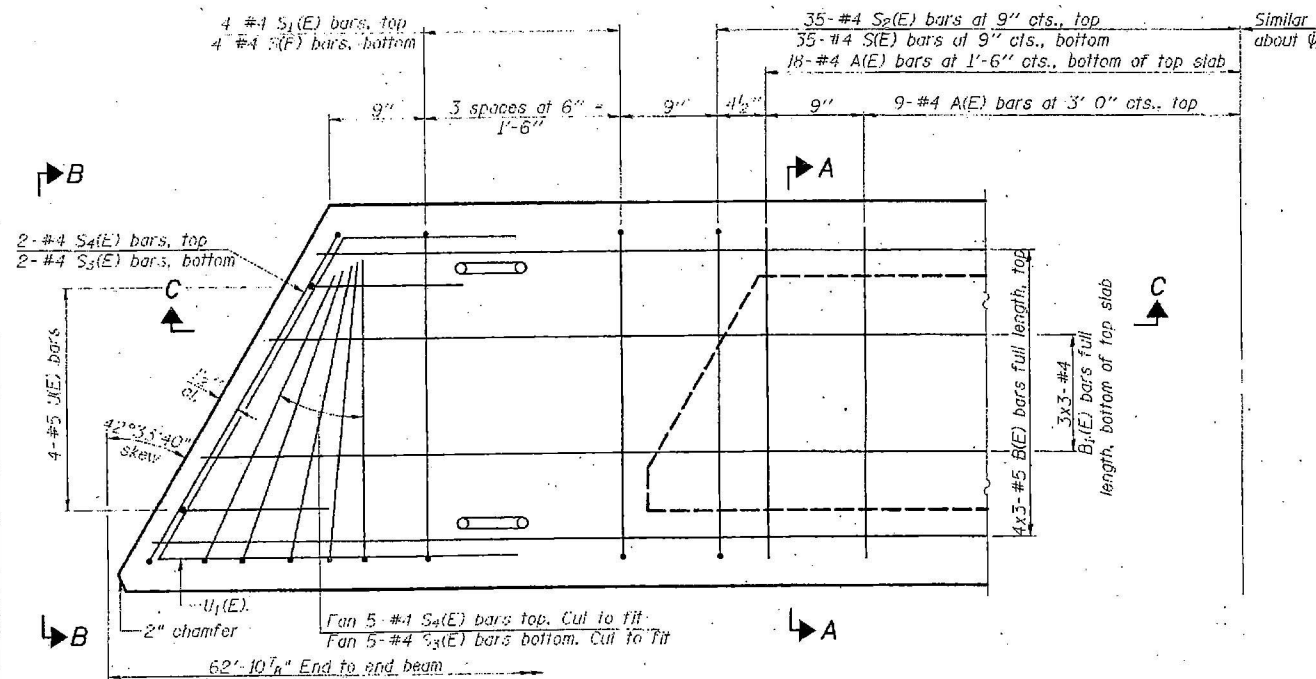
SECTION C-C



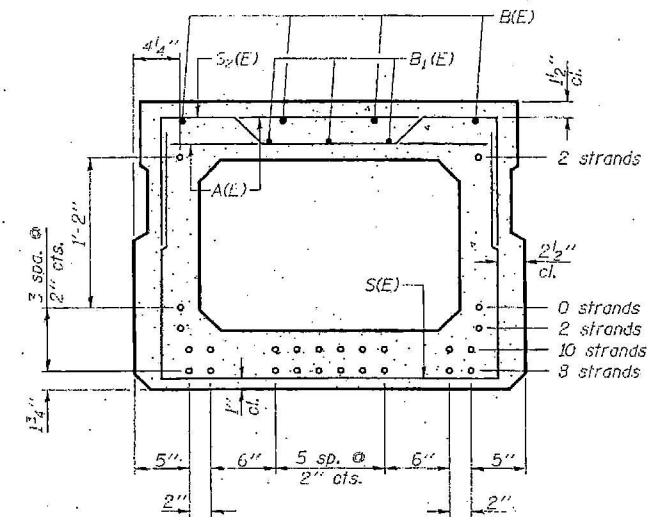
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



SECTION A-A

(Showing reinforcement and permissible strand locations)

22 - 1/2 inch diameter Strands, each strand stressed to 30,900 lbs
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

MIN. BAR LAP
#5 bar = 2'-2"

27"x36"
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	54	#4	2'-7"	—
B(E)	12	#5	22'-4"	—
B1(E)	9	#4	22'-0"	—
S(E)	78	#4	6'-5"	—
S1(E)	8	#4	6'-3"	—
S2(E)	70	#4	6'-6"	—
S3(E)	14	#4	5'-5"	—
S4(E)	14	#4	5'-0"	—
U(E)	8	#5	4'-6"	—
U1(E)	4	#4	8'-2"	—

Note: See sheet 9 of 23 for additional details and Bill of Material.

- Notes:
1. Spacing of S1(E) and S2(E) bars may be adjusted up to 4 inches in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.
 2. Adjust reinforcement locations to clear dowel holes at fixed ends.

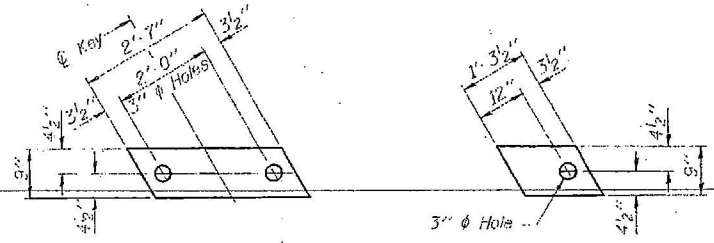
ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	04/08
APPROVED BY:	RDP	04/08

SUPERSTRUCTURE DETAILS - SPAN 2
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

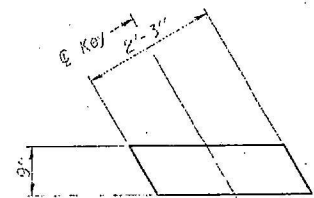
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 9
FAP 869	105BR-2	SALINE	18	58	23 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT - AID	78031		



FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

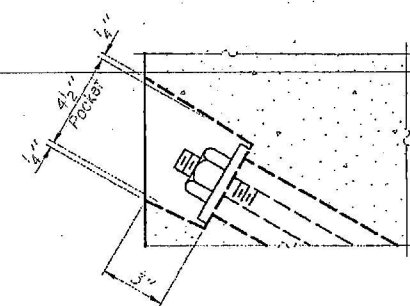
FIXED



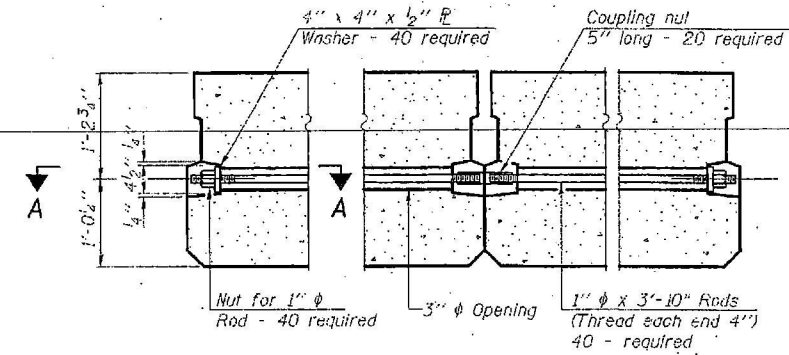
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

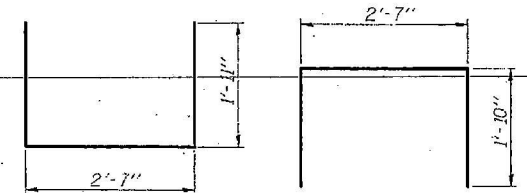
EXPANSION



SECTION A-A

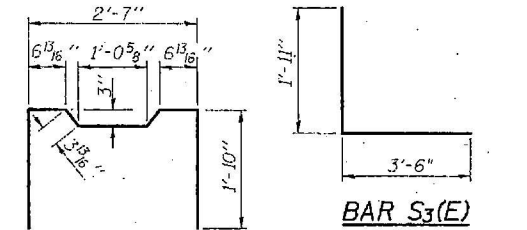


TYPICAL TRANSVERSE TIE ASSEMBLY



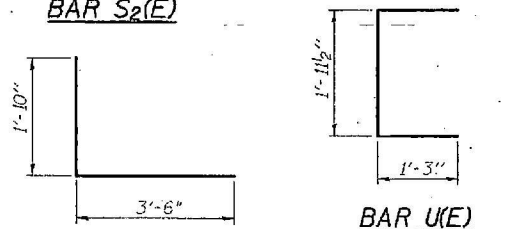
BAR S(E)

BAR S1(E)



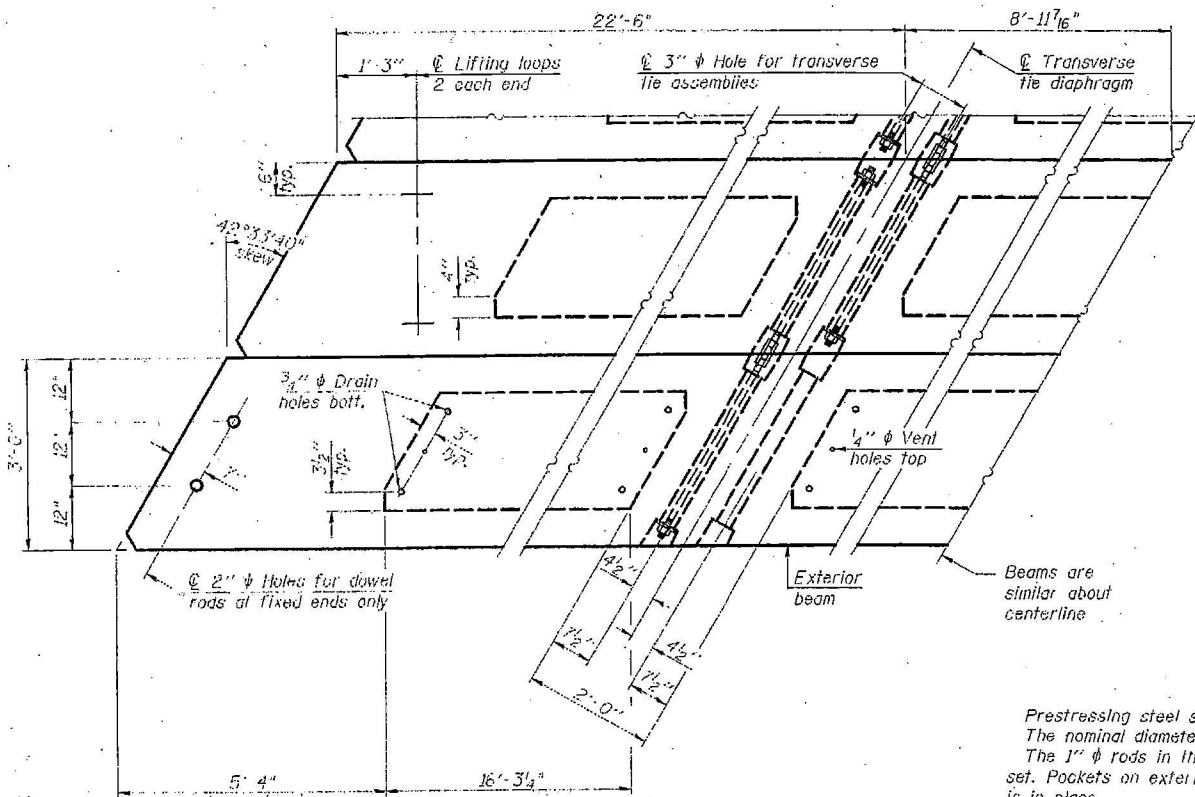
BAR S2(E)

BAR S3(E)

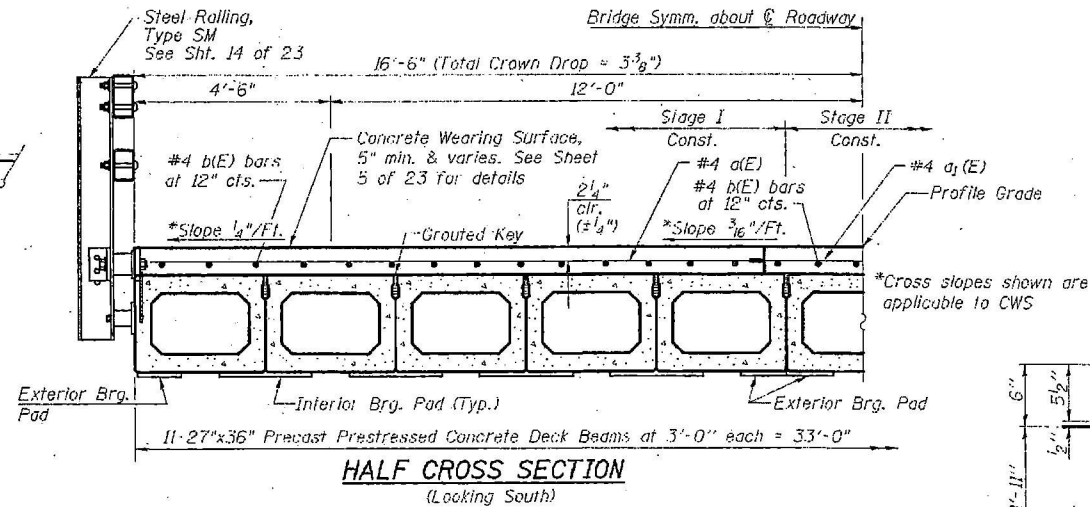


BAR S4(E)

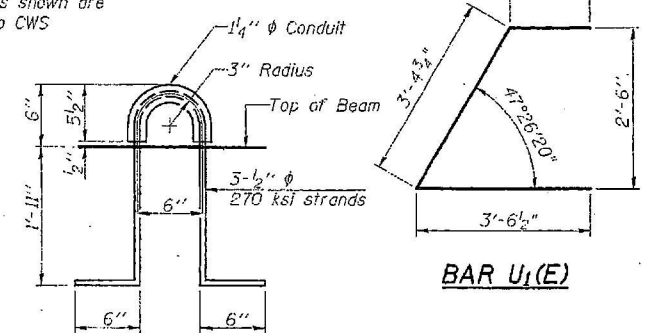
BAR U(E)



PLAN VIEW



HALF CROSS SECTION
(Looking South)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Conc. Deck Bms. (27" Depth)	Sq. Ft.	2076

SUPERSTRUCTURE DETAILS - SPAN 2

IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

NOTES

- Prestressing steel shall be uncoated, high strength, low relaxation 7 wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706 (IL MOD), Grade 60. (See Special Provisions)
- Two 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
- See Sht. No. 2 of 23 for location of rail anchors and additional notes.

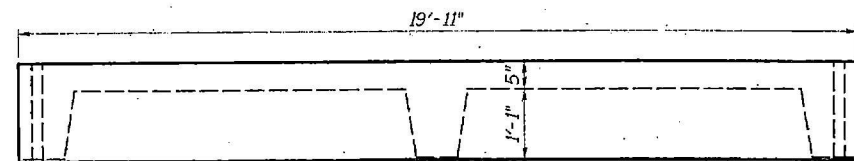
ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	04/08
APPROVED BY:	RDP	04/08

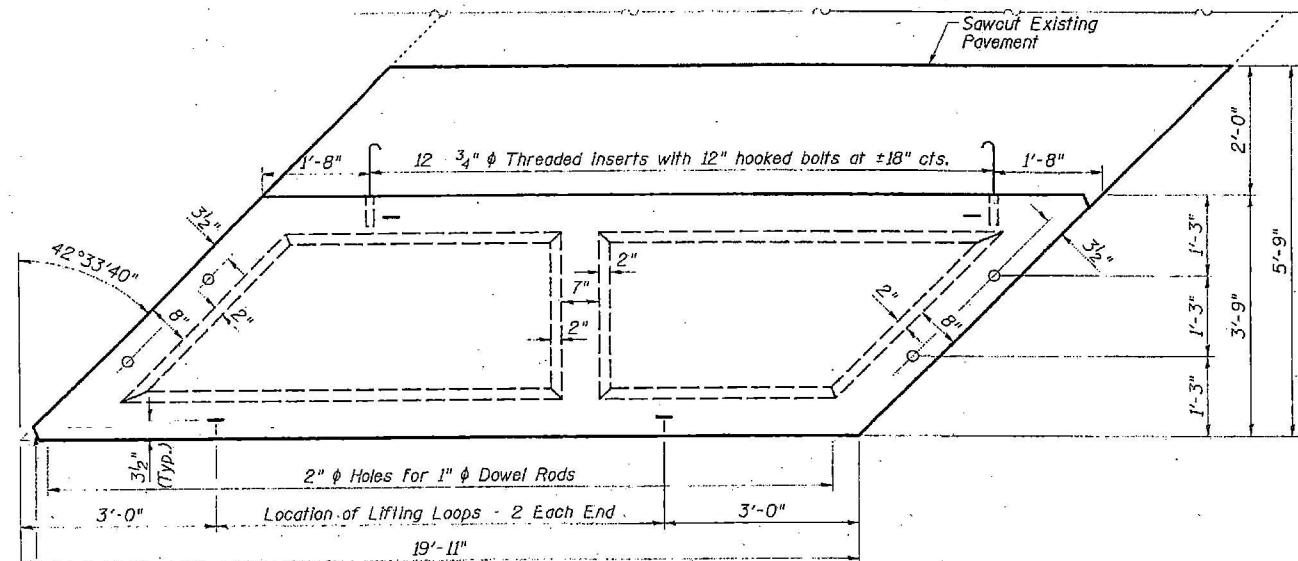
Note: Connect beams in pairs with the transverse tie configuration shown.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

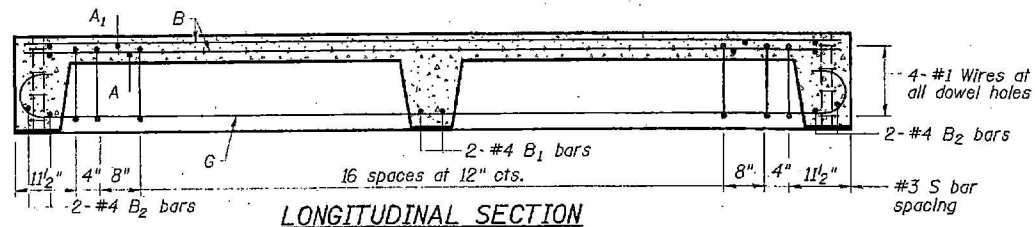
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FAP 869	105BR-2	SALINE	118	59	
78031					
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT NO.		



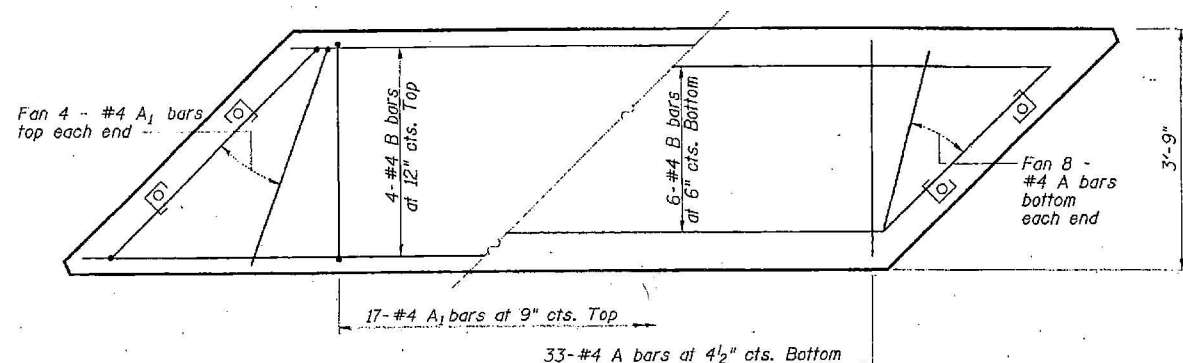
ELEVATION



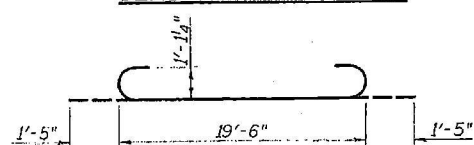
PARTIAL PLAN OF APPROACH
(CWS not shown)



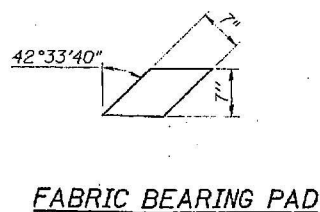
LONGITUDINAL SECTION



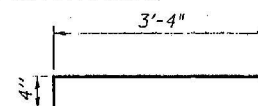
SLAB REINFORCEMENT



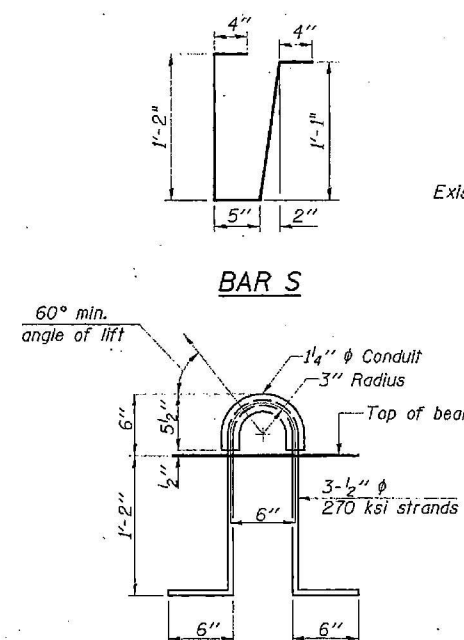
BAR G



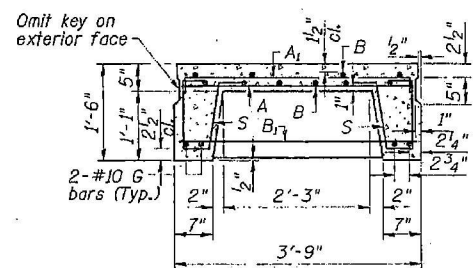
FABRIC BEARING PAD



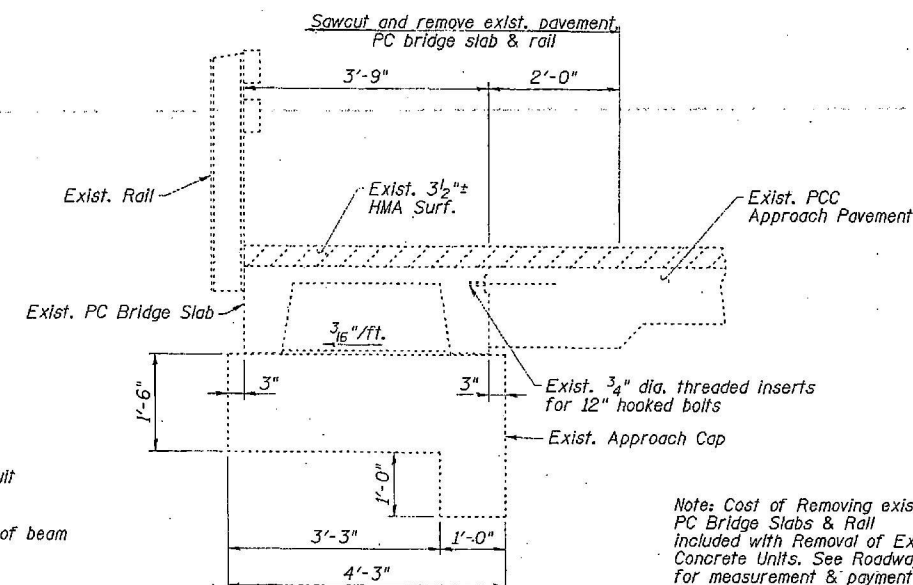
BAR A1



LIFTING LOOP DETAIL

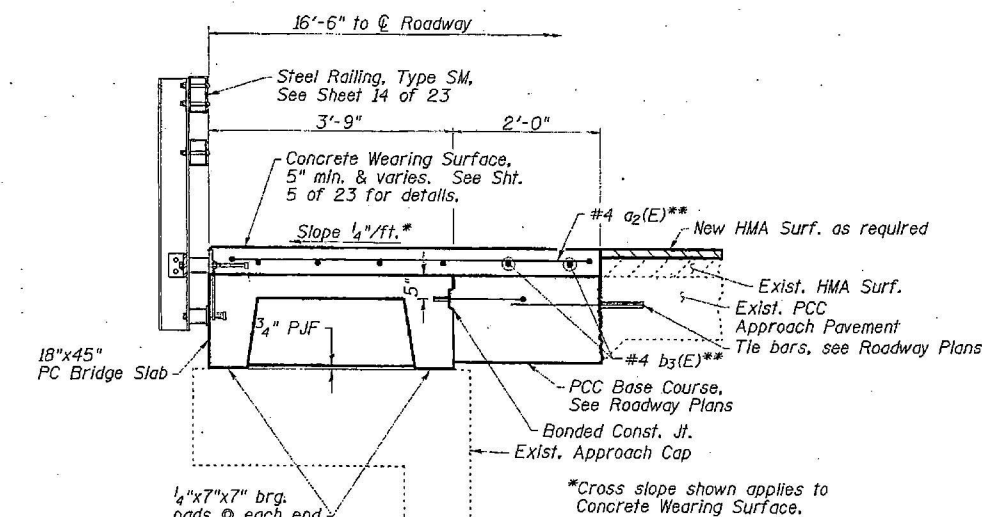


SECTION THRU PRECAST UNIT



EXISTING CROSS SECTION

Note: Cost of Removing exist. PC Bridge Slabs & Rail Included with Removal of Exist. Precast Concrete Units. See Roadway Plans for measurement & payment for Pavement Removal & Replacement.



PROPOSED CROSS SECTION

NOTES

- Reinforcing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
- The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Bearing Pad shall be provided for each bearing.
- Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the slabs. Cleaning shall be done by sandblasting the keyway areas between top of the slab and the bottom edge of the key.
- Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast concrete bridge slabs.
- Required Strength, f'c, shall be 4500 p.s.i.
- See Sht. No. 2 of 23 for location of rail anchors and additional notes.
- Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor rods and 3/4" diameter hooked bolts is included in contract Unit Price for "Precast Concrete Bridge Slab."
- The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.
- A minimum of 2-2" diameter lifting pin shall be used to engage the lifting loops during handling.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	150

APPROACH DETAILS

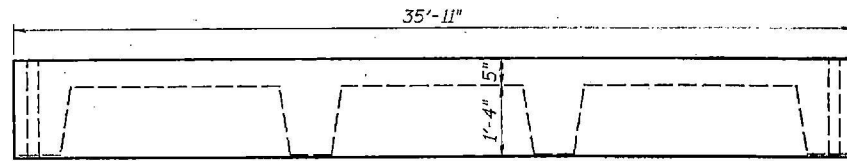
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

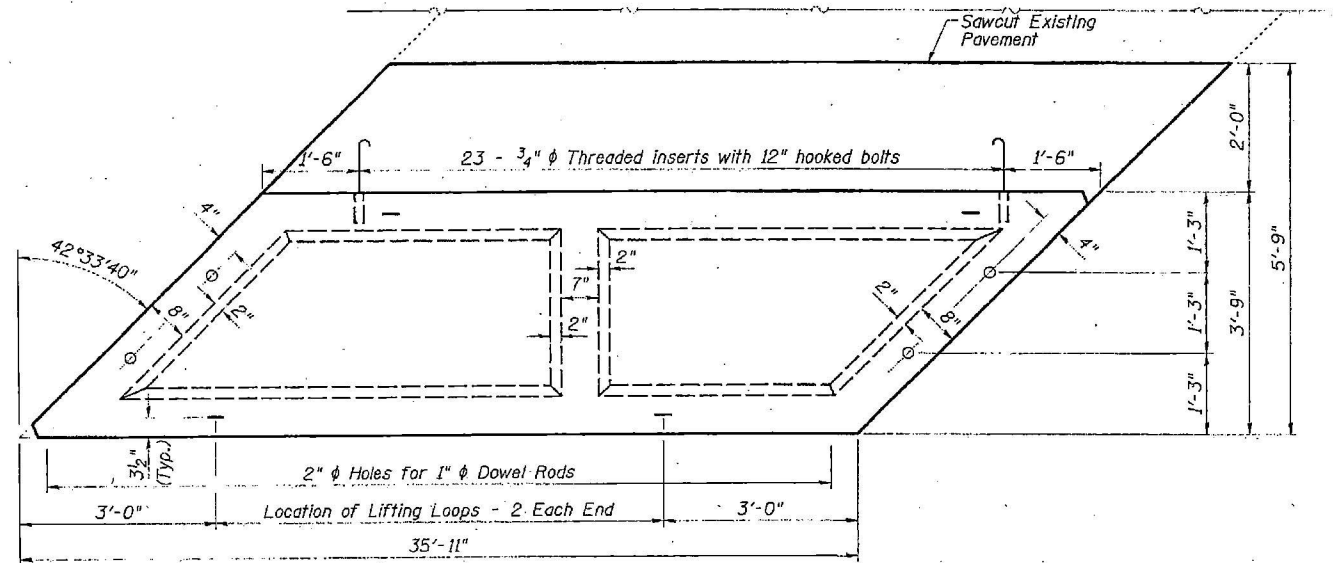
DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

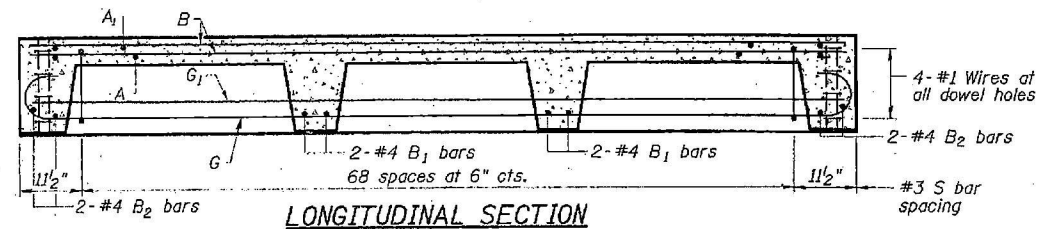
ROUTE NO.	SECTION	COUNTY	DISTRICT	SHEET	SHEET NO. 11
FAP 869	105BR-2	SALINE	118	60	23 SHEETS
78031					



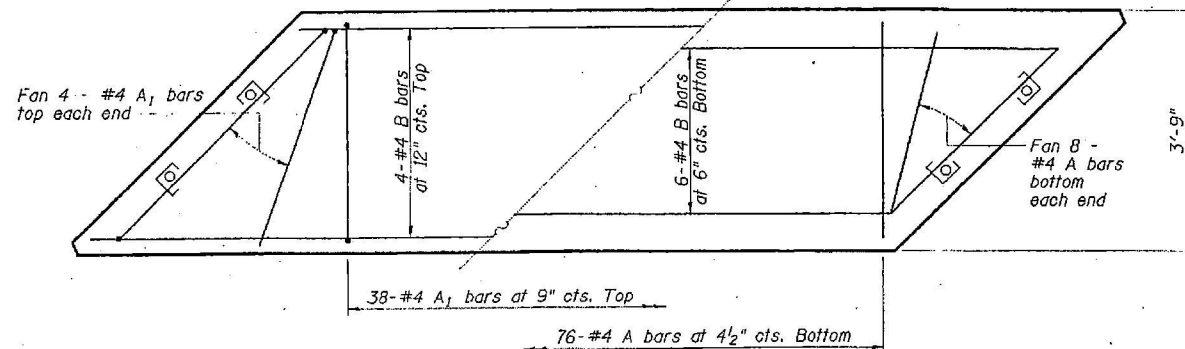
ELEVATION



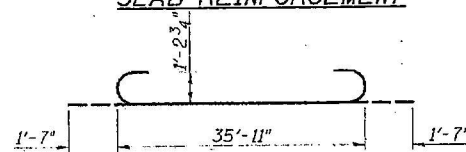
PARTIAL PLAN OF APPROACH
(CWS not shown)



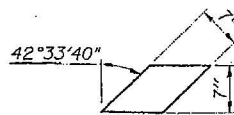
LONGITUDINAL SECTION



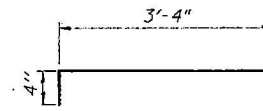
SLAB REINFORCEMENT



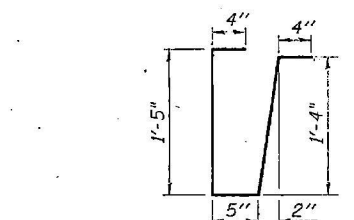
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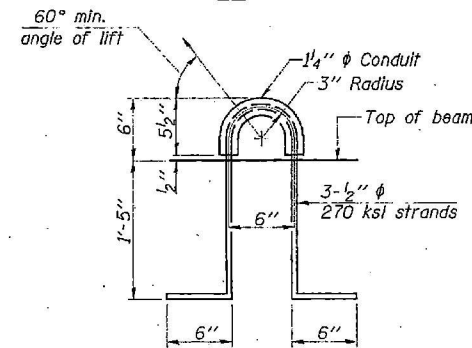
FABRIC BEARING PAD



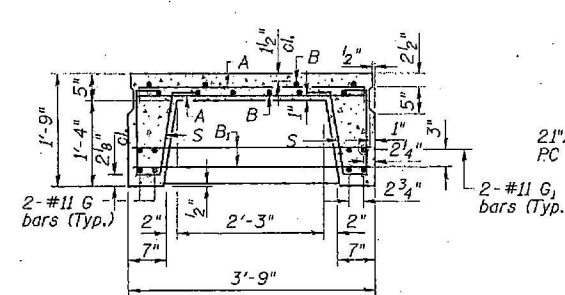
BAR A1



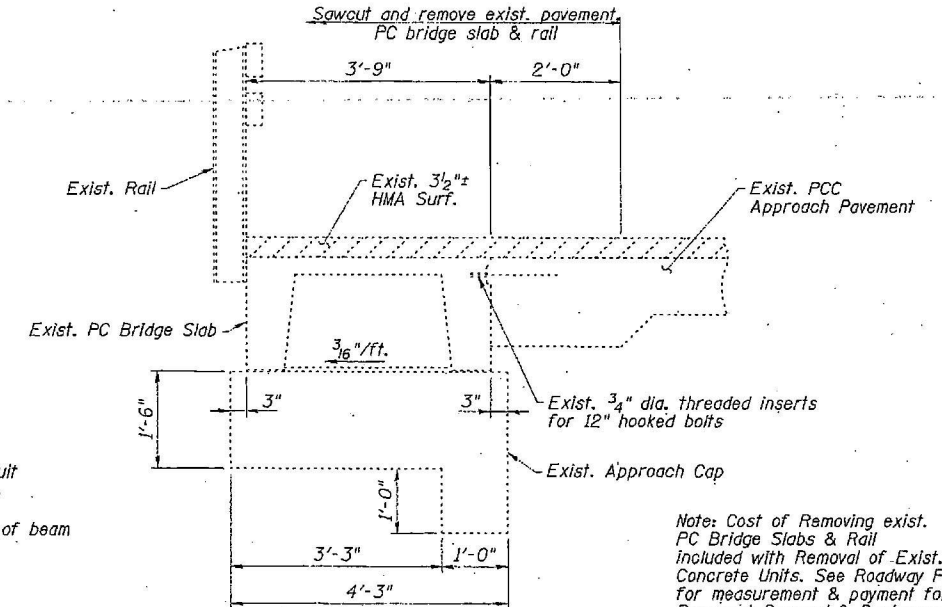
BAR S



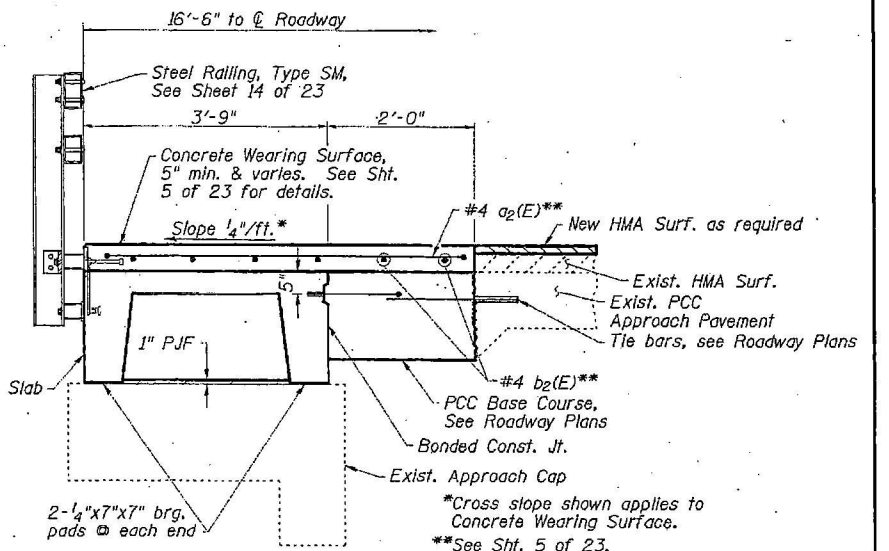
LIFTING LOOP DETAIL



SECTION THRU PRECAST UNIT



EXISTING CROSS SECTION



PROPOSED CROSS SECTION

NOTES

Reinforcing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2" fabric adjusting shims of the dimensions of the Bearing Pad shall be provided for each bearing.
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the slabs. Cleaning shall be done by sandblasting the keyway areas between top of the slab and the bottom edge of the key.
Corrosion inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast concrete bridge slabs.
Required Strength, f'c, shall be 4500 p.s.i.
See Sht. No. 2 of 23 for location of rail anchors and additional notes.
Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor rods and 3/4" diameter hooked bolts is included in contract Unit Price for "Precast Concrete Bridge Slab."
The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.
A minimum of 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	270

APPROACH DETAILS

IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
FAP 869	105BR-2	SALINE	118	61
SHEET NO. 12				
23 SHEETS				

NOTES

78031

After beams have been erected, holes shall be drilled into substructure and dowels rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.

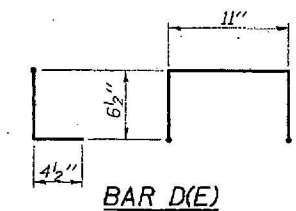
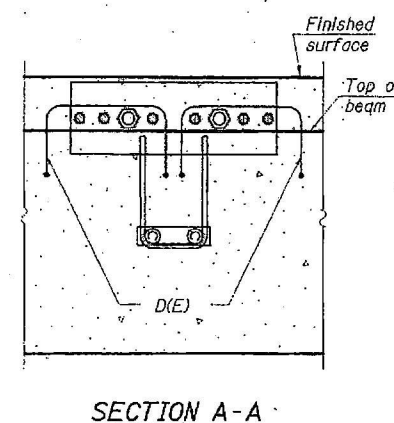
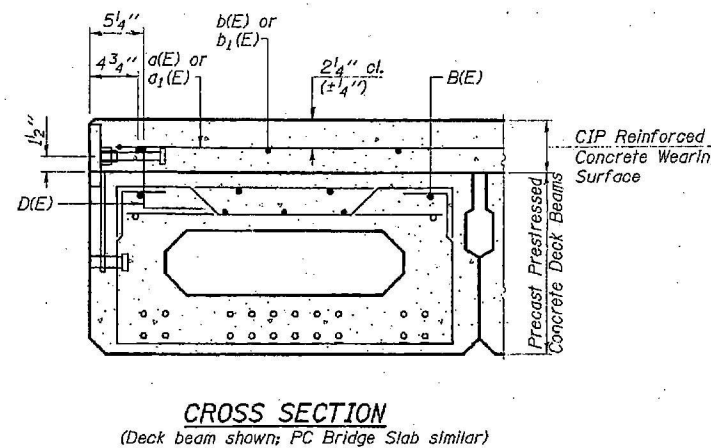
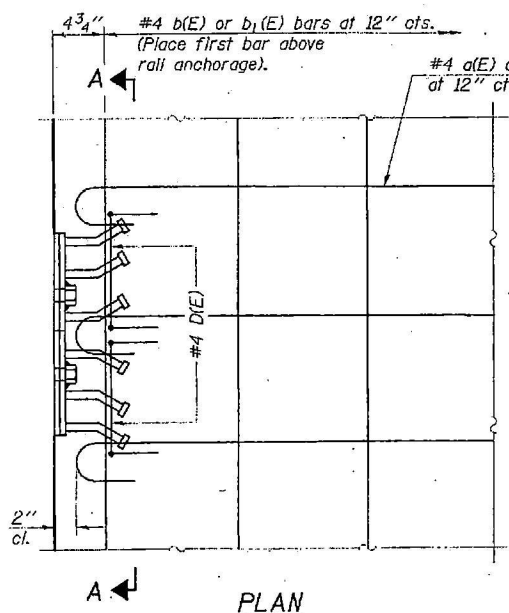
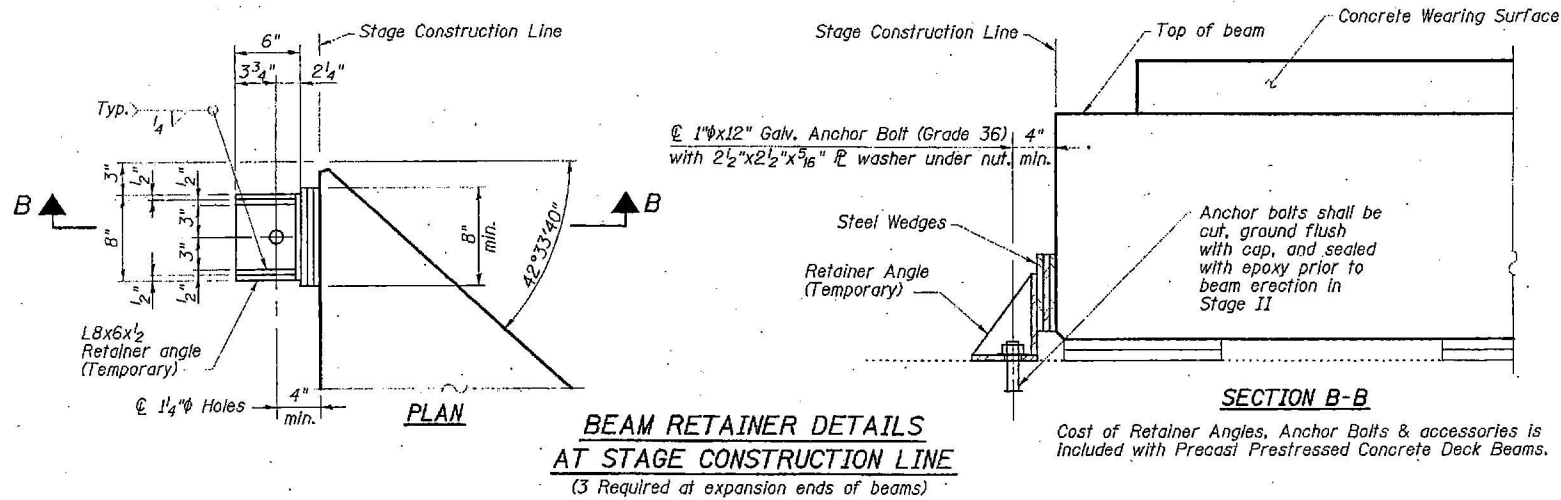
Concrete wearing surface to be poured after grouting the shear keys.

Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams or Precast Concrete Bridge Slabs.

The rail anchorage shall be cast with the beam or slab and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam or slab. Drilling into the beam or slab will not be permitted.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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



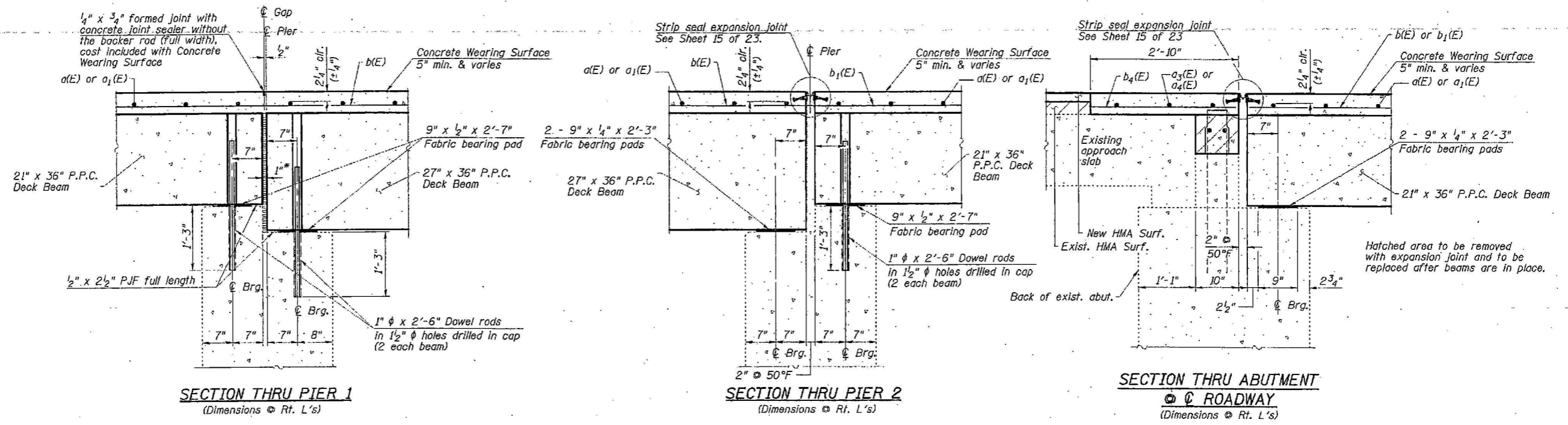
SUPERSTRUCTURE AND APPROACH DETAILS
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAP 869	105BR-2	SALINE	118	62
SHEET NO. 13 23 SHEETS				
78031				

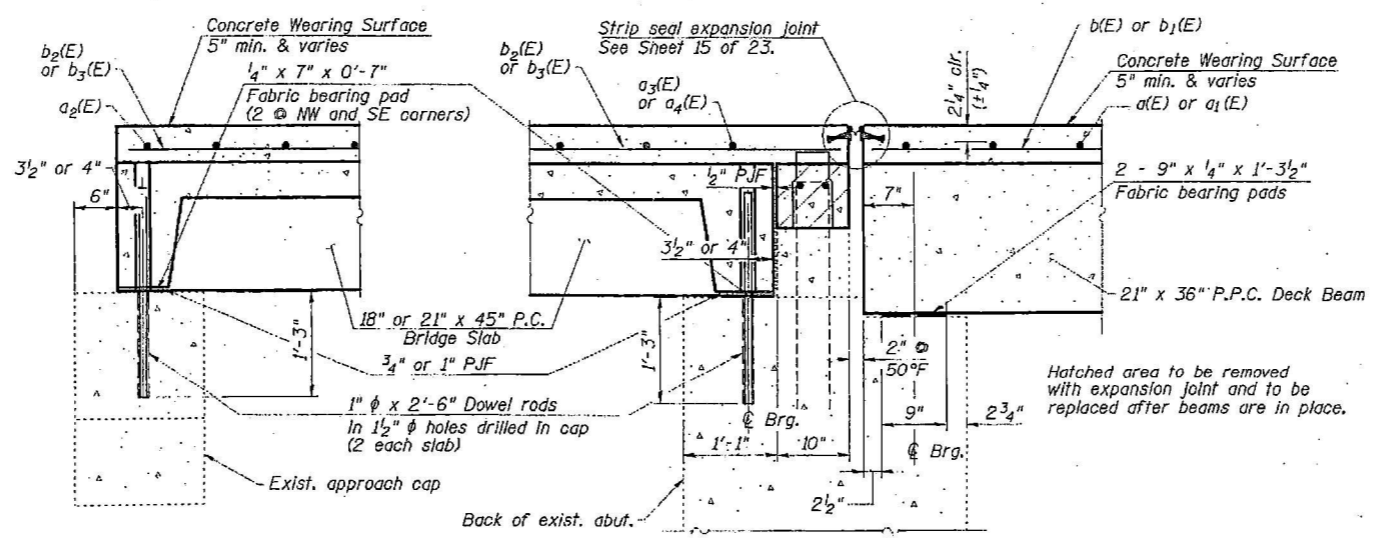


SECTION THRU PIER 1
(Dimensions @ Rt. L's)

SECTION THRU PIER 2
(Dimensions @ Rt. L's)

SECTION THRU ABUTMENT @ ROADWAY
(Dimensions @ Rt. L's)

*1" jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.



SECTION THRU APPROACH CAP
(Dimensions @ Rt. L's)

SECTION THRU ABUTMENT @ OUTSIDE BEAM
(Dimensions @ Rt. L's)

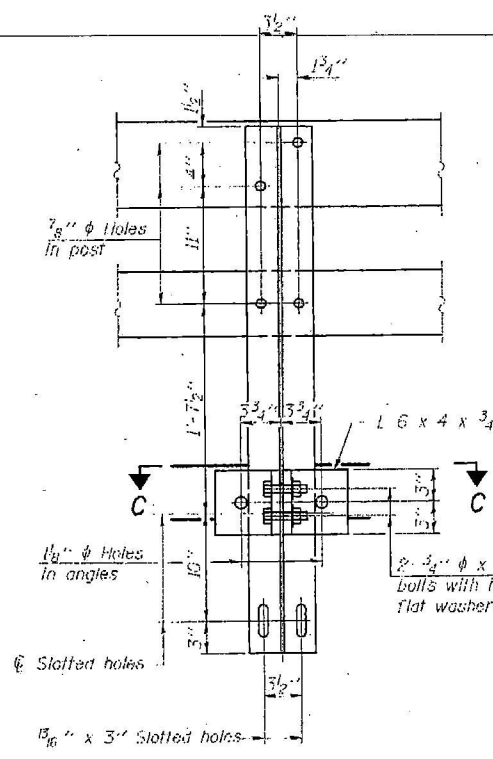
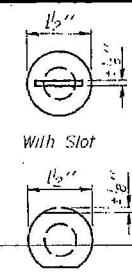
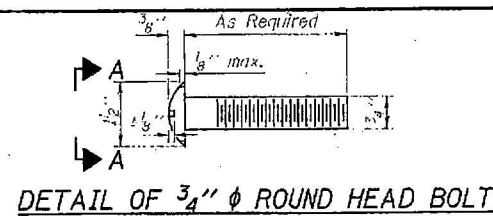
SUPERSTRUCTURE AND APPROACH DETAILS
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

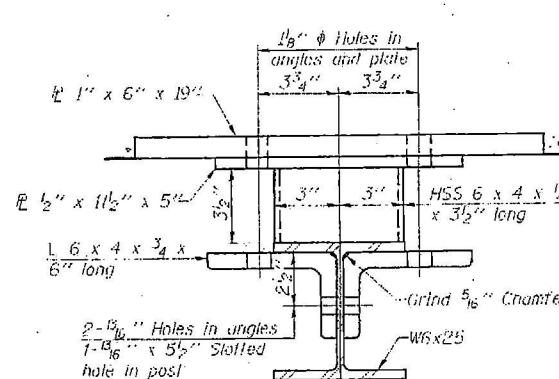
DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

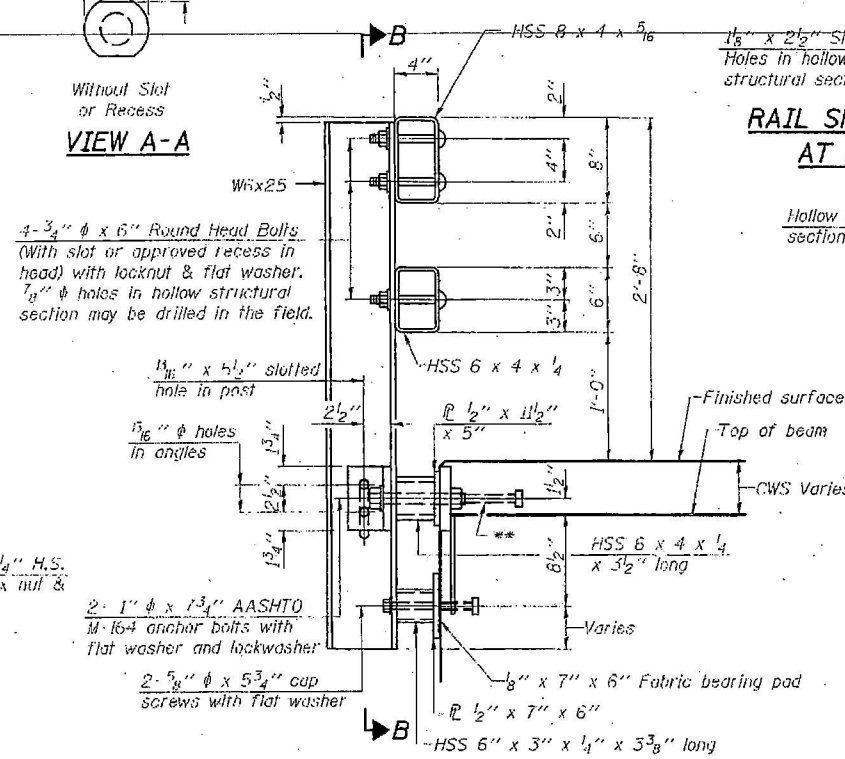
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FAP 869	105BR-2	SALINE	118	63	23 SHEETS
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT - AID	78031		



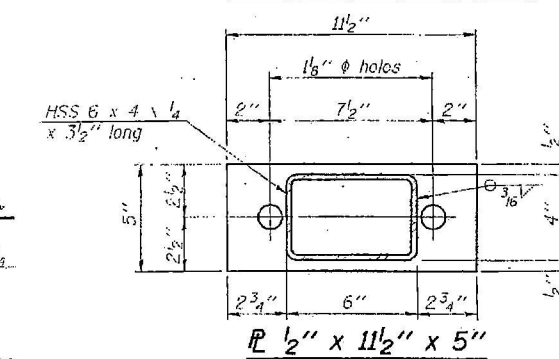
SECTION B-B



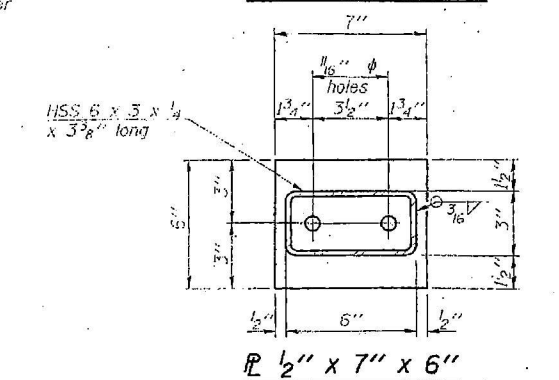
SECTION C-C



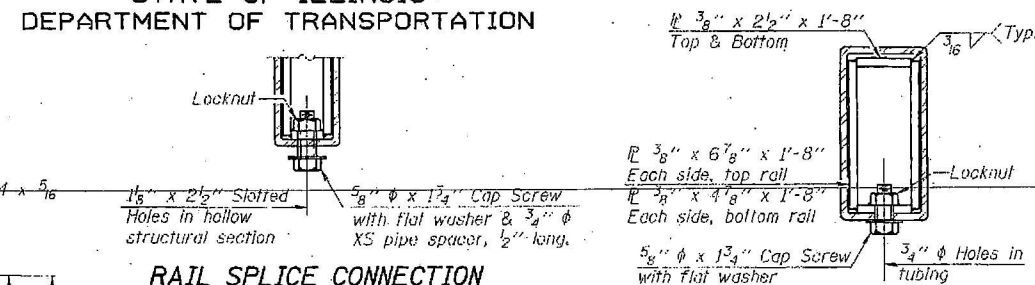
SECTION AT RAIL POST



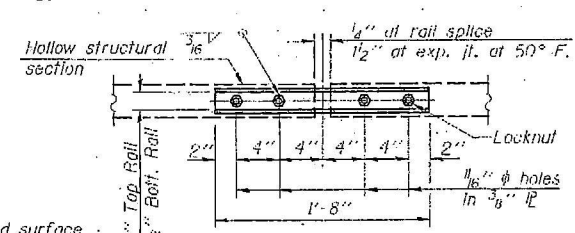
PLAN-BOTT. SPLICE R
TYPICAL



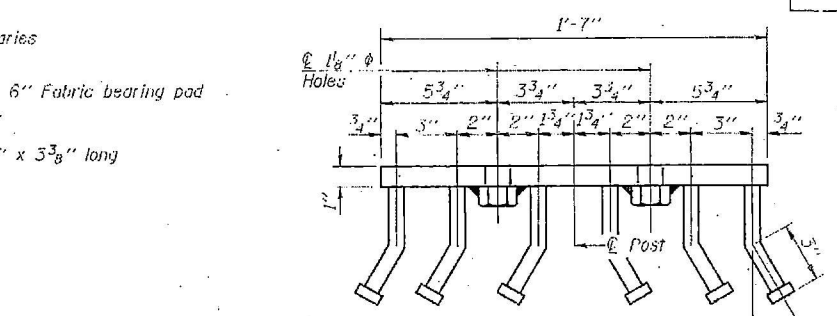
ANCHOR DEVICE



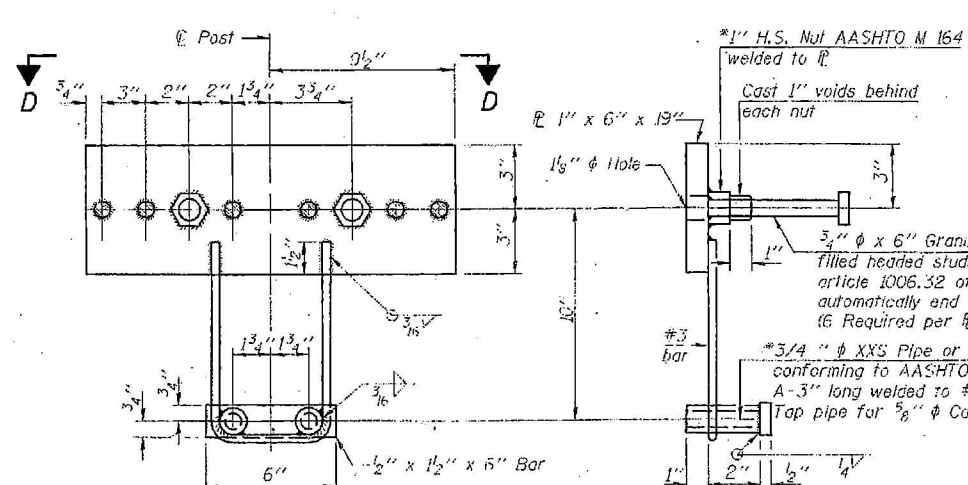
RAIL SPLICE CONNECTION
AT EXPANSION JT.



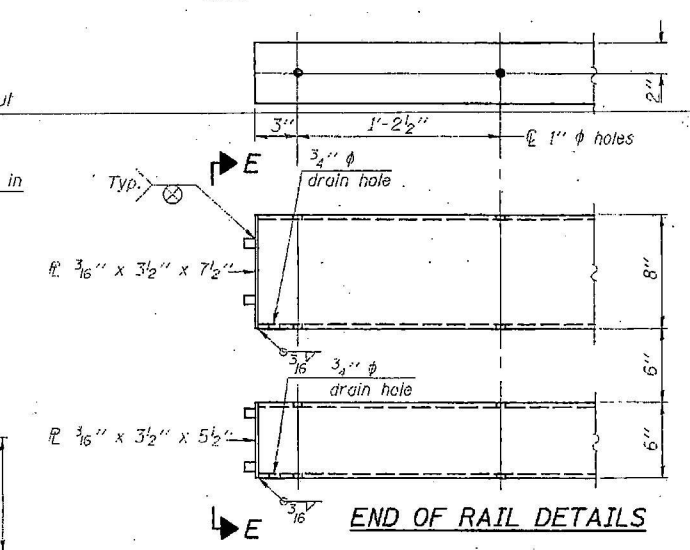
SECTION AT
RAIL SPLICE



VIEW D-D



*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.



END OF RAIL DETAILS

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
**The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	418

STEEL RAILING, TYPE SM
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 15 23 SHEETS
FAP 869	105BR-2	SALINE	118	64	
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT - JIC	78031		

GENERAL NOTES

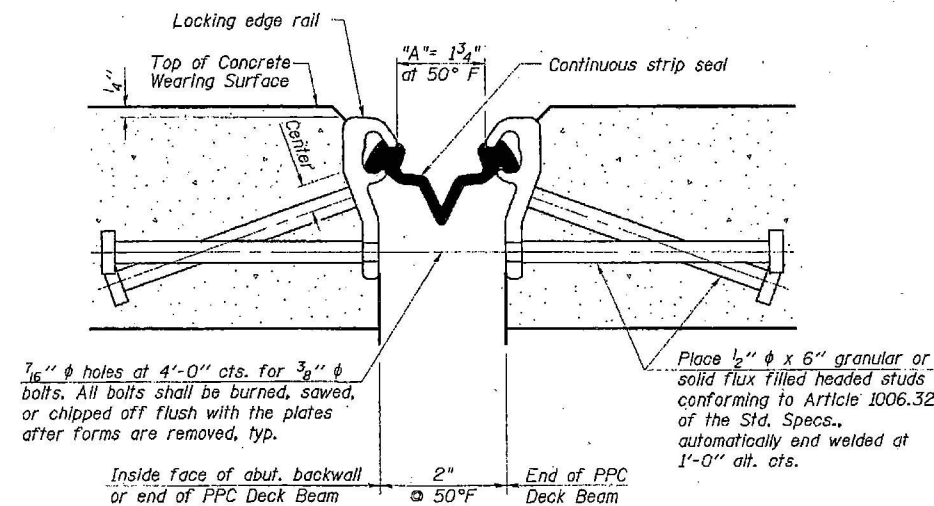
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails.

The height and thickness of the locking edge rails shown are minimum dimensions. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

Locking edge rails may be spliced at slope discontinuities and stage construction joints.

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.

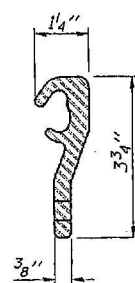


**SECTION THRU STRIP SEAL JOINT
FOR OVERLAY OVER DECK BEAMS**

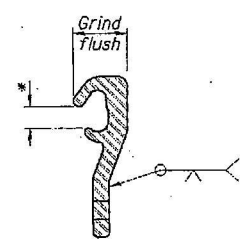
BILL OF MATERIAL

Item	Unit	Quantity
Preformed Joint Strip Seal	Foot	135

* Omit weld at seal opening.



LOCKING EDGE RAIL



LOCKING EDGE RAIL SPLICE

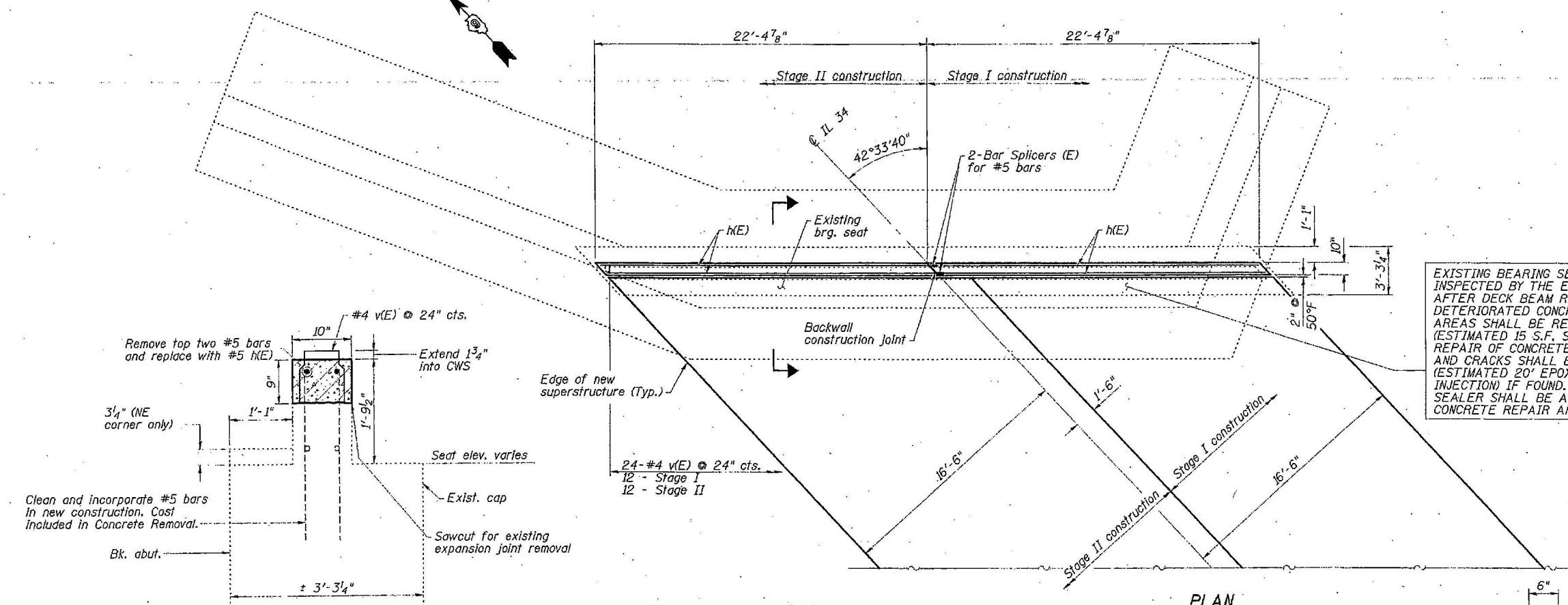
ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

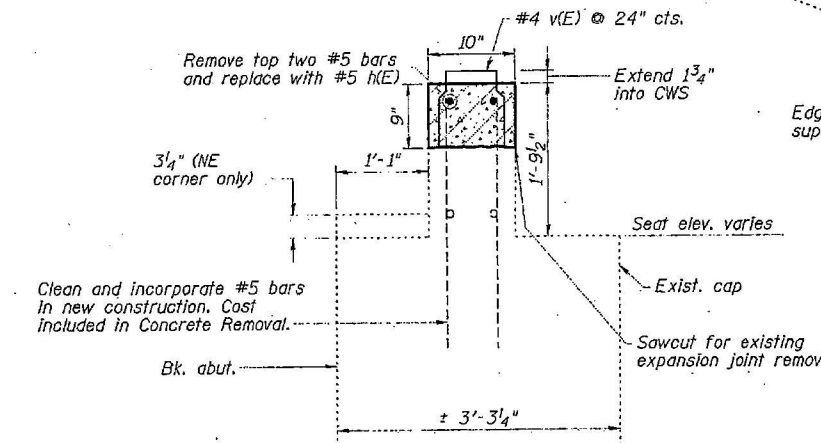
**STRIP SEAL EXPANSION JOINT
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

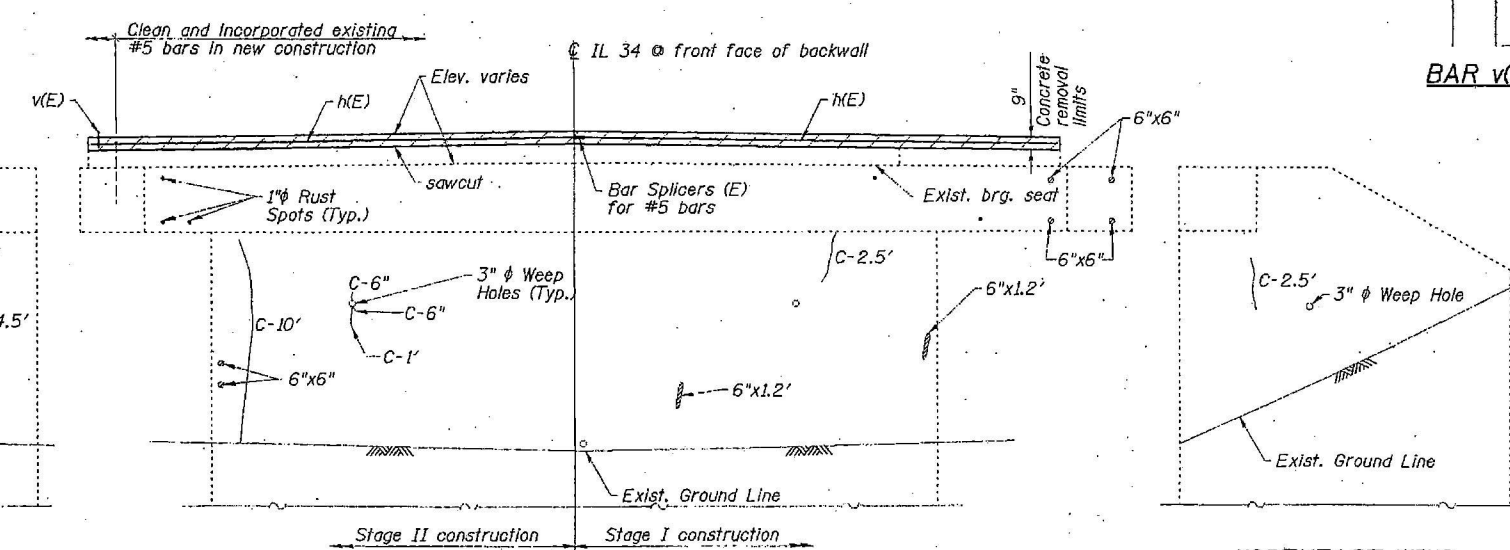
ROUTE NO.	SECTION	COUNTY	DIST.	SHEET	SHEET NO.
FAP 869	105BR-2	SALINE	118	65	16
FED. ROAD DIST. NO. 4					ILLINOIS
FED. AID PROJECT - A10					78031



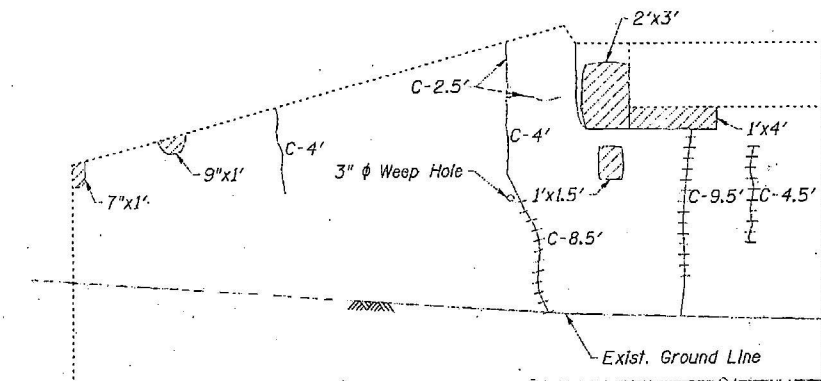
EXISTING BEARING SEAT TO BE INSPECTED BY THE ENGINEER AFTER DECK BEAM REMOVAL. DETERIORATED CONCRETE AREAS SHALL BE REPAIRED (ESTIMATED 15 S.F. STRUCTURAL REPAIR OF CONCRETE DEPTH < 5") AND CRACKS SHALL BE SEALED (ESTIMATED 20' EPOXY CRACK INJECTION) IF FOUND. CONCRETE SEALER SHALL BE APPLIED TO CONCRETE REPAIR AREAS.



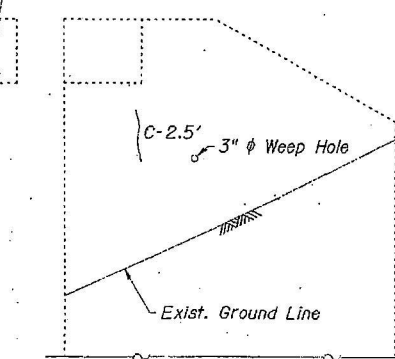
SECTION THRU ABUTMENT



NORTH ELEVATION



NORTHWEST WING ELEVATION



NORTHEAST WING ELEVATION

NORTH ABUTMENT
BILL OF MATERIAL

Bar No.	Size	Length	Shape
h(E)	#5	22'-0"	
v(E)	#4	2'-3"	
Concrete Sealer		Sq. Ft.	56
Epoxy Crack Injection		Foot	73
Structural Repair of Concrete (Depth Equal to or Less Than 5")		Sq. Ft.	31
Concrete Removal		Cu. Yd.	1.1
Concrete Structures		Cu. Yd.	1.1
Reinforcement Bars, Epoxy Coated		Pound	130
Asbestos Bearing Pad Removal		Each	22
Bar Splicers		Each	2

REPAIR LEGEND

- Inspection Date: 12/10/07
- C-6" Crack to be epoxy injected
 - Delaminated or spalled area - use Structural Repair of Concrete
 - Rust spot

NORTH ABUTMENT
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

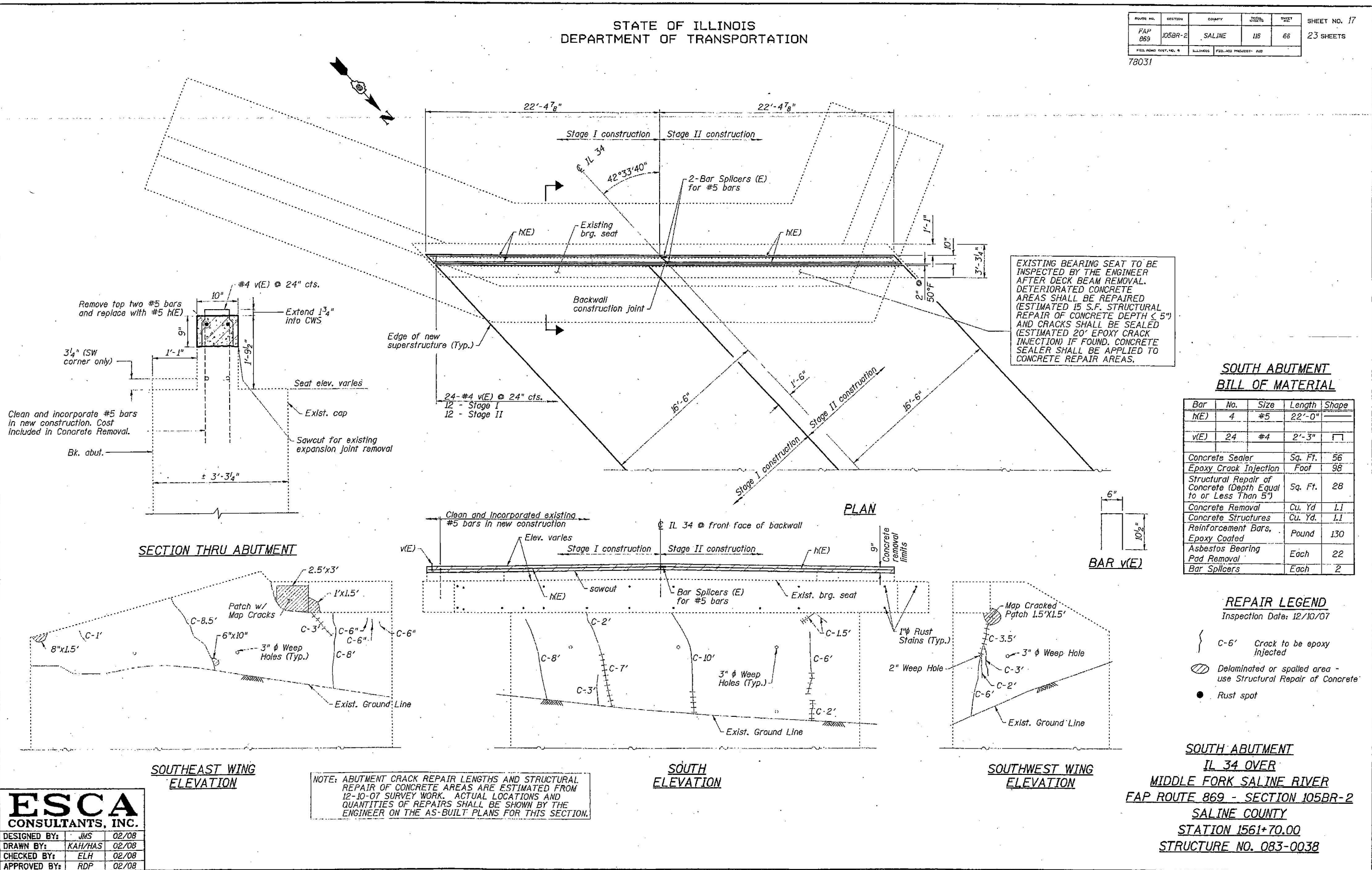
DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS/JPC	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

NOTE: ABUTMENT CRACK REPAIR LENGTHS AND STRUCTURAL REPAIR OF CONCRETE AREAS ARE ESTIMATED FROM 12-10-07 SURVEY WORK. ACTUAL LOCATIONS AND QUANTITIES OF REPAIRS SHALL BE SHOWN BY THE ENGINEER ON THE AS-BUILT PLANS FOR THIS SECTION.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET	SHEET NO. 17 23 SHEETS
FAP 869	105BR-2	SALINE	118	66	
FED. ROAD DIST. NO. 8		ILLINOIS	FED. AID PROJECT - AID		

78031



EXISTING BEARING SEAT TO BE INSPECTED BY THE ENGINEER AFTER DECK BEAM REMOVAL. DETERIORATED CONCRETE AREAS SHALL BE REPAIRED (ESTIMATED 15 S.F. STRUCTURAL REPAIR OF CONCRETE DEPTH < 5") AND CRACKS SHALL BE SEALED (ESTIMATED 20' EPOXY CRACK INJECTION) IF FOUND. CONCRETE SEALER SHALL BE APPLIED TO CONCRETE REPAIR AREAS.

**SOUTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	4	#5	22'-0"	
v(E)	24	#4	2'-3"	□
Concrete Sealer		Sq. Ft.	56	
Epoxy Crack Injection		Foot	98	
Structural Repair of Concrete (Depth Equal to or Less Than 5")		Sq. Ft.	28	
Concrete Removal		Cu. Yd	1.1	
Concrete Structures		Cu. Yd.	1.1	
Reinforcement Bars, Epoxy Coated		Pound	130	
Asbestos Bearing Pad Removal		Each	22	
Bar Splicers		Each	2	

REPAIR LEGEND

Inspection Date: 12/10/07

- C-6' Crack to be epoxy injected
- Delaminated or spalled area - use Structural Repair of Concrete
- Rust spot

**SOUTH ABUTMENT
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038**

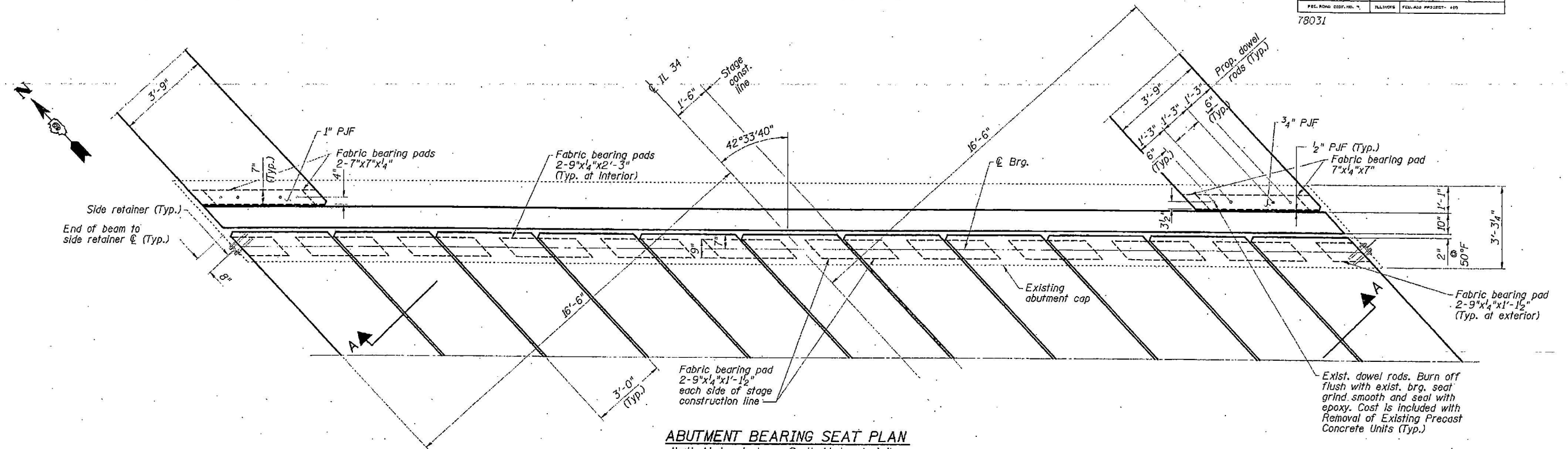
ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	KAH/HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

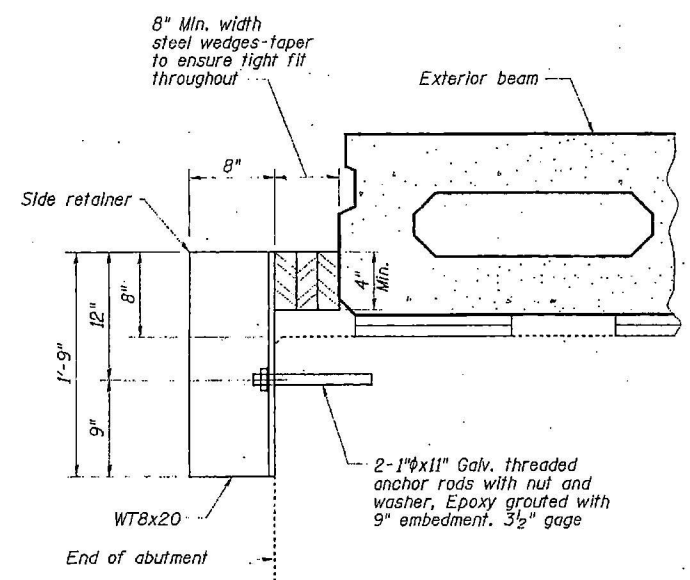
NOTE: ABUTMENT CRACK REPAIR LENGTHS AND STRUCTURAL REPAIR OF CONCRETE AREAS ARE ESTIMATED FROM 12-10-07 SURVEY WORK. ACTUAL LOCATIONS AND QUANTITIES OF REPAIRS SHALL BE SHOWN BY THE ENGINEER ON THE AS-BUILT PLANS FOR THIS SECTION.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
FAP 869	105BR-2	SALINE	118	67
78031				
SHEET NO. 18				
23 SHEETS				

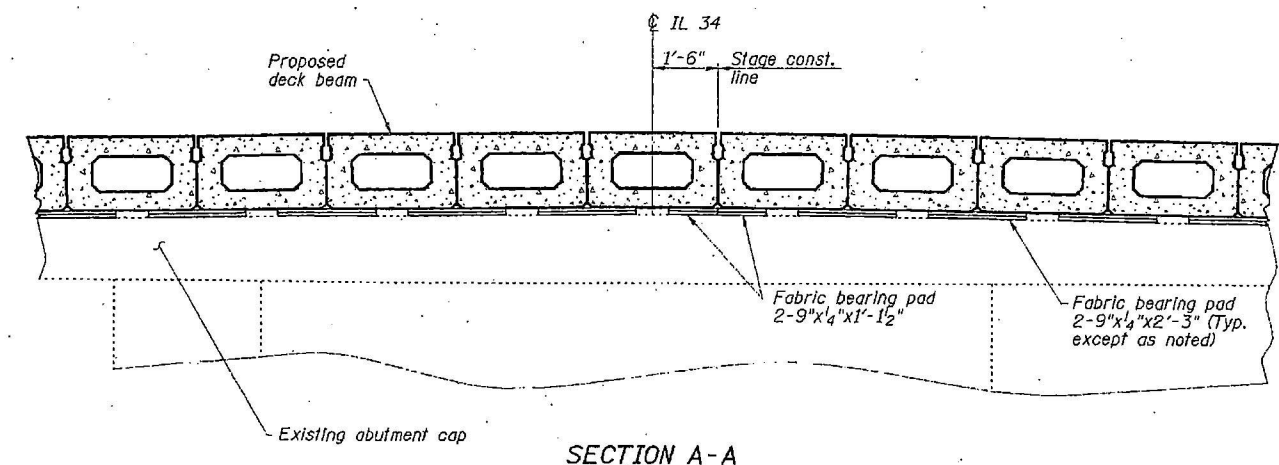


ABUTMENT BEARING SEAT PLAN
North Abutment shown; South Abutment similar
(Concrete Wearing Surface and approach pavement not shown)



EXTERIOR BEAM SIDE RETAINER DETAILS
(4 Required at abutments)

Cost of retainer & accessories are included with Precast Prestressed Concrete Deck Beams.



SECTION A-A
(Concrete Wearing Surface not shown)

ABUTMENT DETAILS
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. 19 23 SHEETS
FAP 869	105BR-2	SALINE	118	68	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT - AID			



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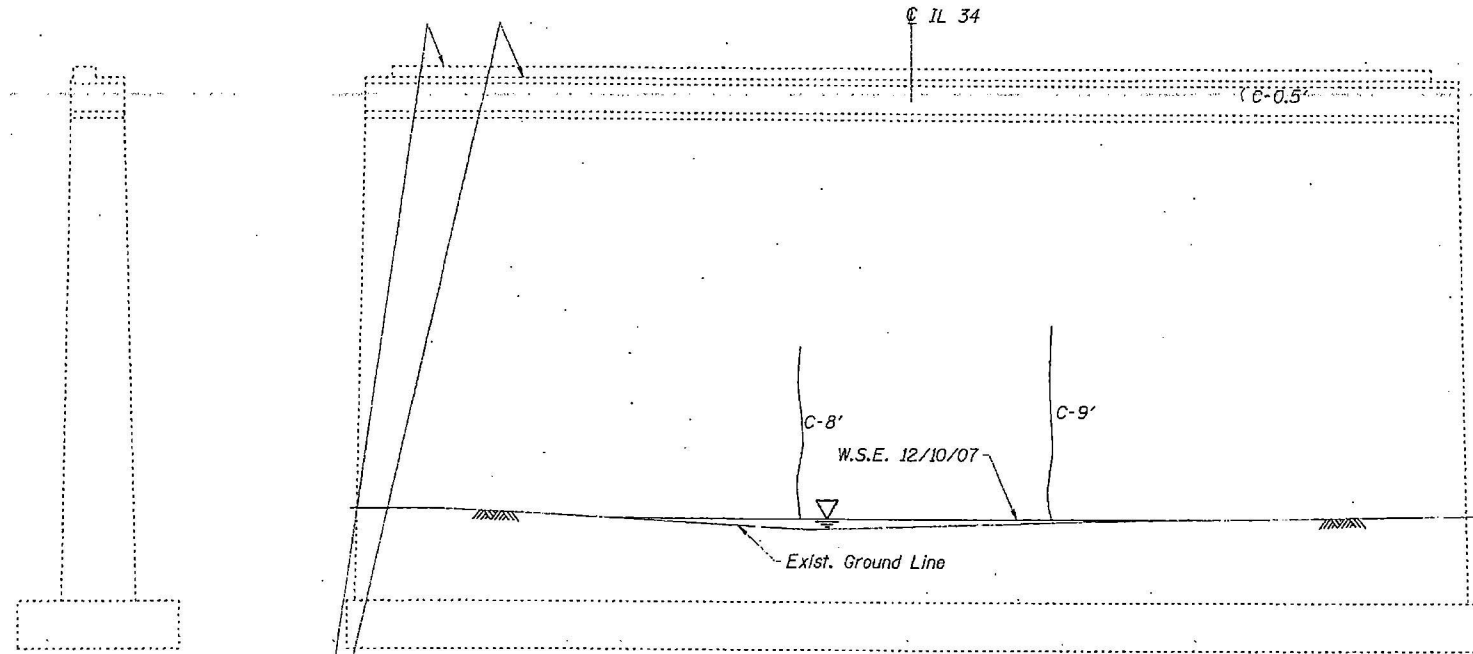
PIER 1
BILL OF MATERIAL

Item	Unit	Total
Concrete Sealer	Sq. Ft.	15
Epoxy Crack Injection	Foot	79
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	15

REPAIR LEGEND

Inspection Date: 12/10/07

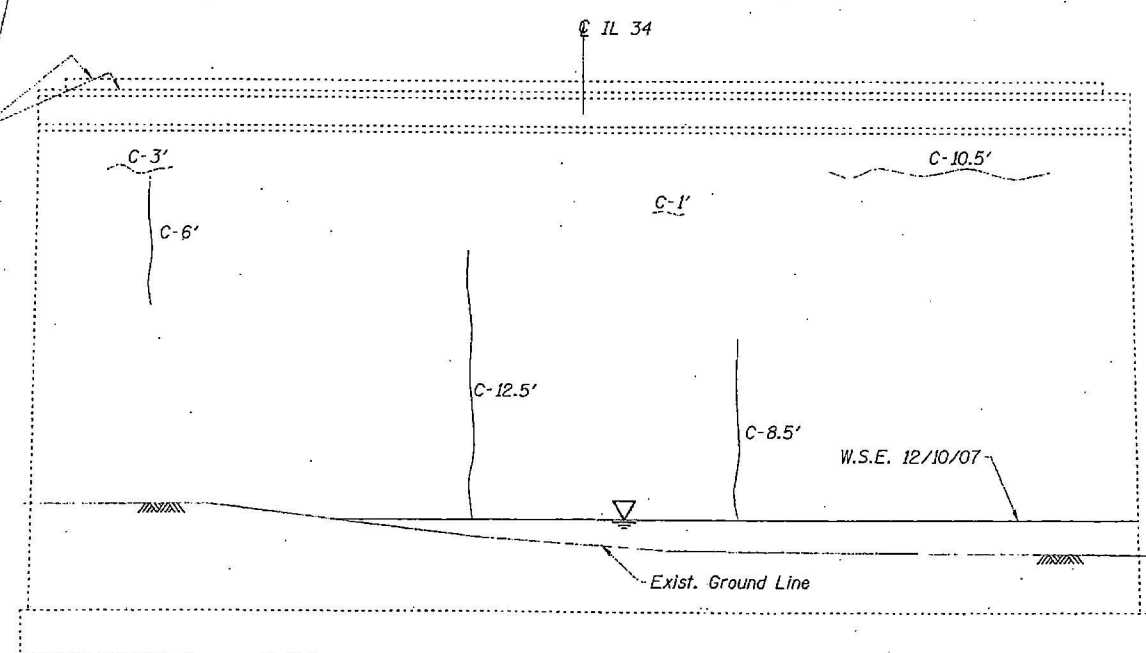
-  C-6' Crack to be epoxy injected
-  Delaminated or spalled area - use Structural Repair of Concrete



NORTH ELEVATION

END VIEW

EXISTING BEARING SEAT TO BE INSPECTED BY THE ENGINEER AFTER DECK BEAM REMOVAL. DETERIORATED CONCRETE AREAS SHALL BE REPAIRED (ESTIMATED 15 S.F. STRUCTURAL REPAIR OF CONCRETE DEPTH < 5") AND CRACKS SHALL BE SEALED (ESTIMATED 20' EPOXY CRACK INJECTION) IF FOUND. CONCRETE SEALER SHALL BE APPLIED TO CONCRETE REPAIR AREAS.



SOUTH ELEVATION

NOTE: PIER CRACK REPAIR LENGTHS AND STRUCTURAL REPAIR OF CONCRETE AREAS ARE ESTIMATED FROM 12-10-07 SURVEY WORK. ACTUAL LOCATIONS AND QUANTITIES OF REPAIRS SHALL BE SHOWN BY THE ENGINEER ON THE AS-BUILT PLANS FOR THIS SECTION.

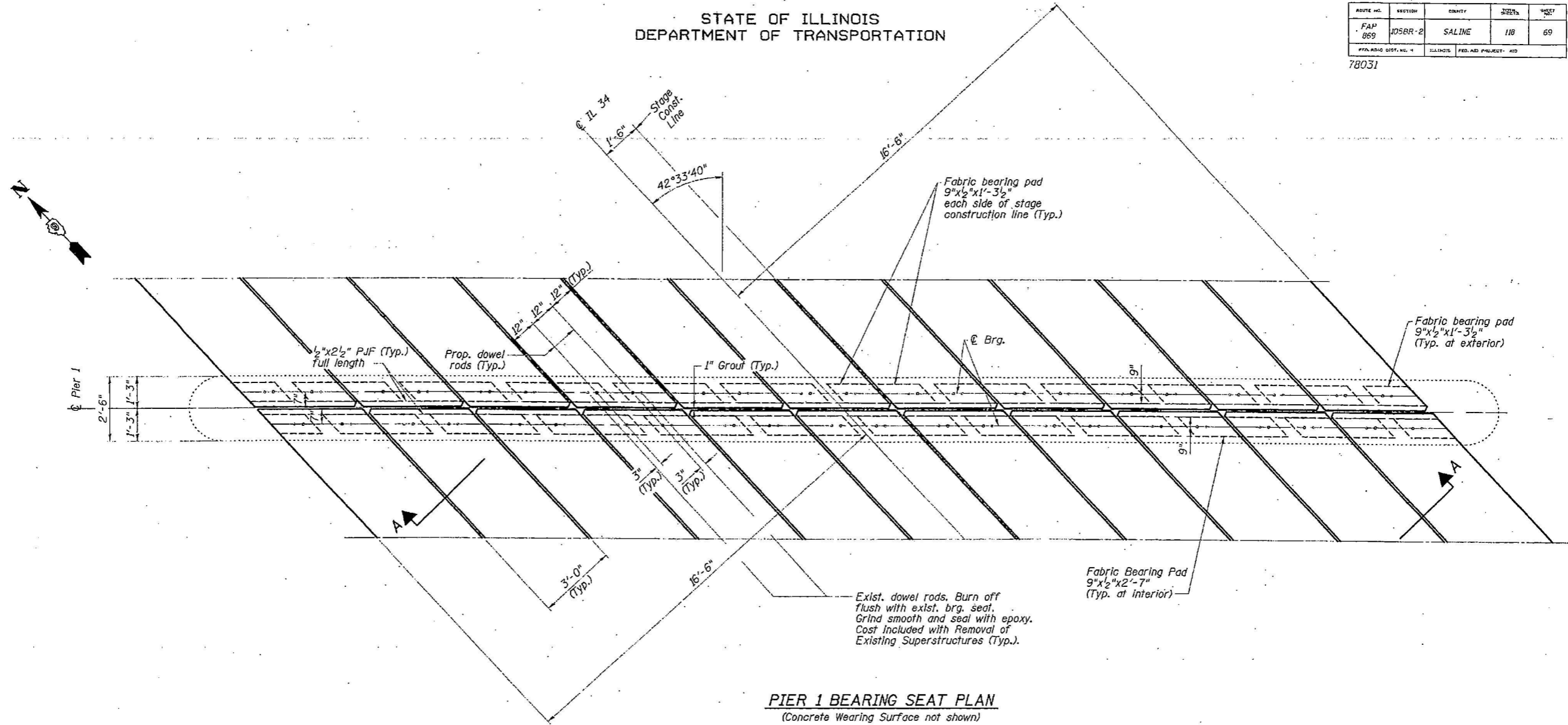
PIER 1
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

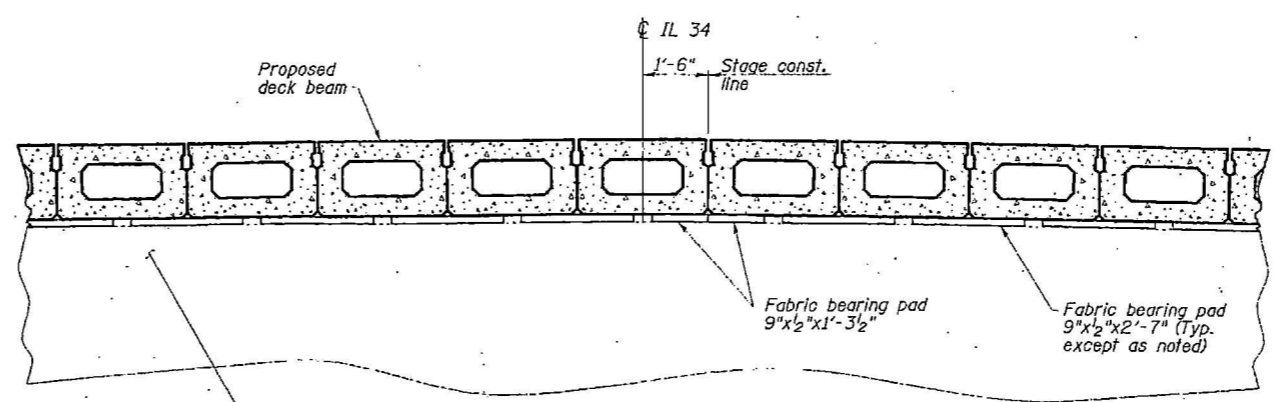
DESIGNED BY:	JMS	02/08
DRAWN BY:	KAH/HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 20
FAP 869	105BR-2	SALINE	118	69	23 SHEETS
78031					



PIER 1 BEARING SEAT PLAN
(Concrete Wearing Surface not shown)



SECTION A-A
(Concrete Wearing Surface not shown)

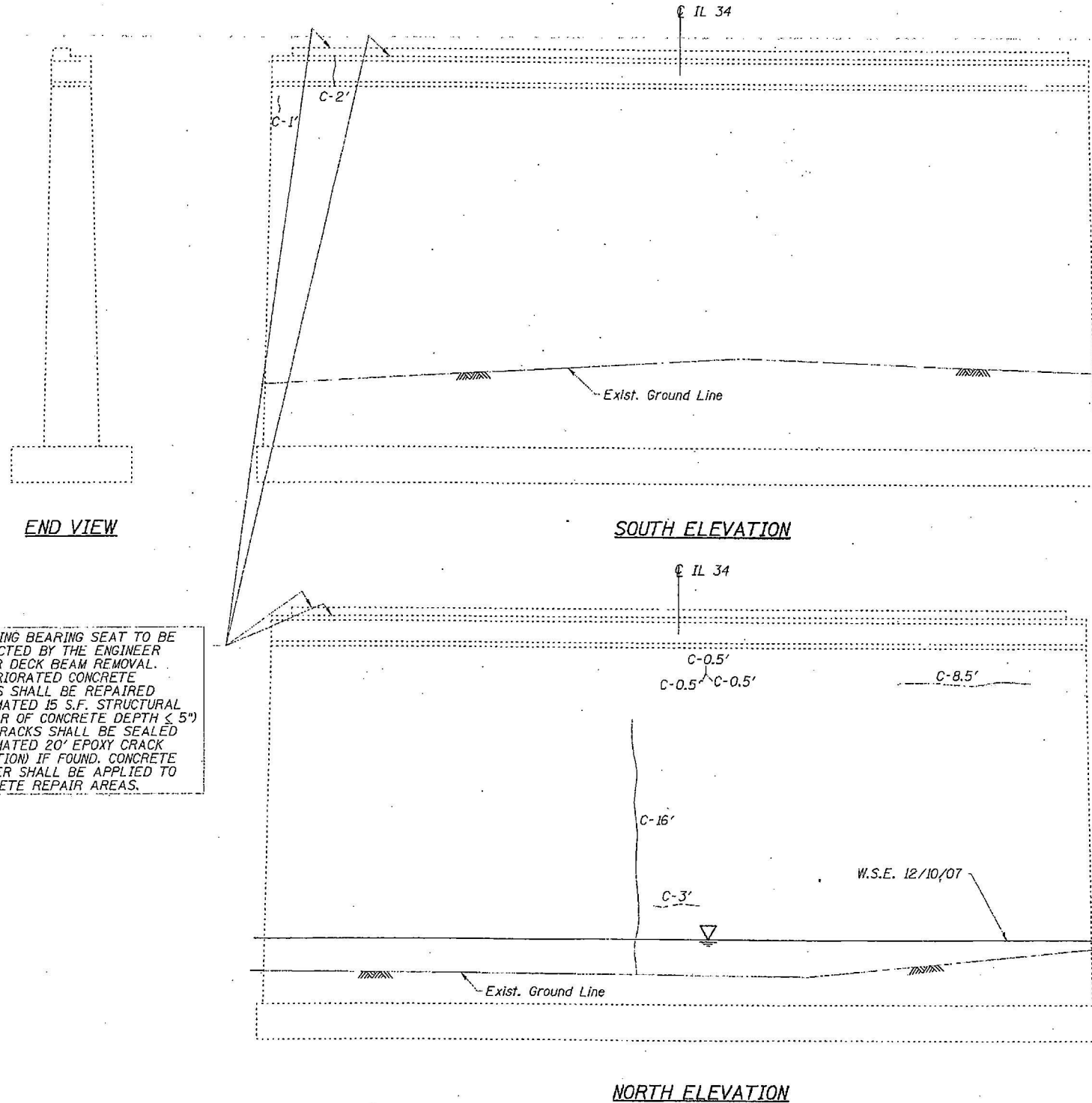
PIER 1 DETAILS
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REVISION NO.	SECTION	COUNTY	DISTRICT	SHEET	SHEET NO. 21 23 SHEETS
FAP 669	105BR-2	SALINE	118	70	
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT NO. 78031					



EXISTING BEARING SEAT TO BE INSPECTED BY THE ENGINEER AFTER DECK BEAM REMOVAL. DETERIORATED CONCRETE AREAS SHALL BE REPAIRED (ESTIMATED 15 S.F. STRUCTURAL REPAIR OF CONCRETE DEPTH < 5") AND CRACKS SHALL BE SEALED (ESTIMATED 20' EPOXY CRACK INJECTION) IF FOUND. CONCRETE SEALER SHALL BE APPLIED TO CONCRETE REPAIR AREAS.

PIER 2
BILL OF MATERIAL

Item	Unit	Total
Concrete Sealer	Sq. Ft.	15
Epoxy Crack Injection	Foot	52
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	15
Asbestos Bearing Pad Removal	Each	22

REPAIR LEGEND

Inspection Date: 12/10/07

- { C-6' Crack to be epoxy injected
- ⊘ Delaminated or spalled area - use Structural Repair of Concrete

NOTE: PIER CRACK REPAIR LENGTHS AND STRUCTURAL REPAIR OF CONCRETE AREAS ARE ESTIMATED FROM 12-10-07 SURVEY WORK. ACTUAL LOCATIONS AND QUANTITIES OF REPAIRS SHALL BE SHOWN BY THE ENGINEER ON THE AS-BUILT PLANS FOR THIS SECTION.

ESCA
CONSULTANTS, INC.

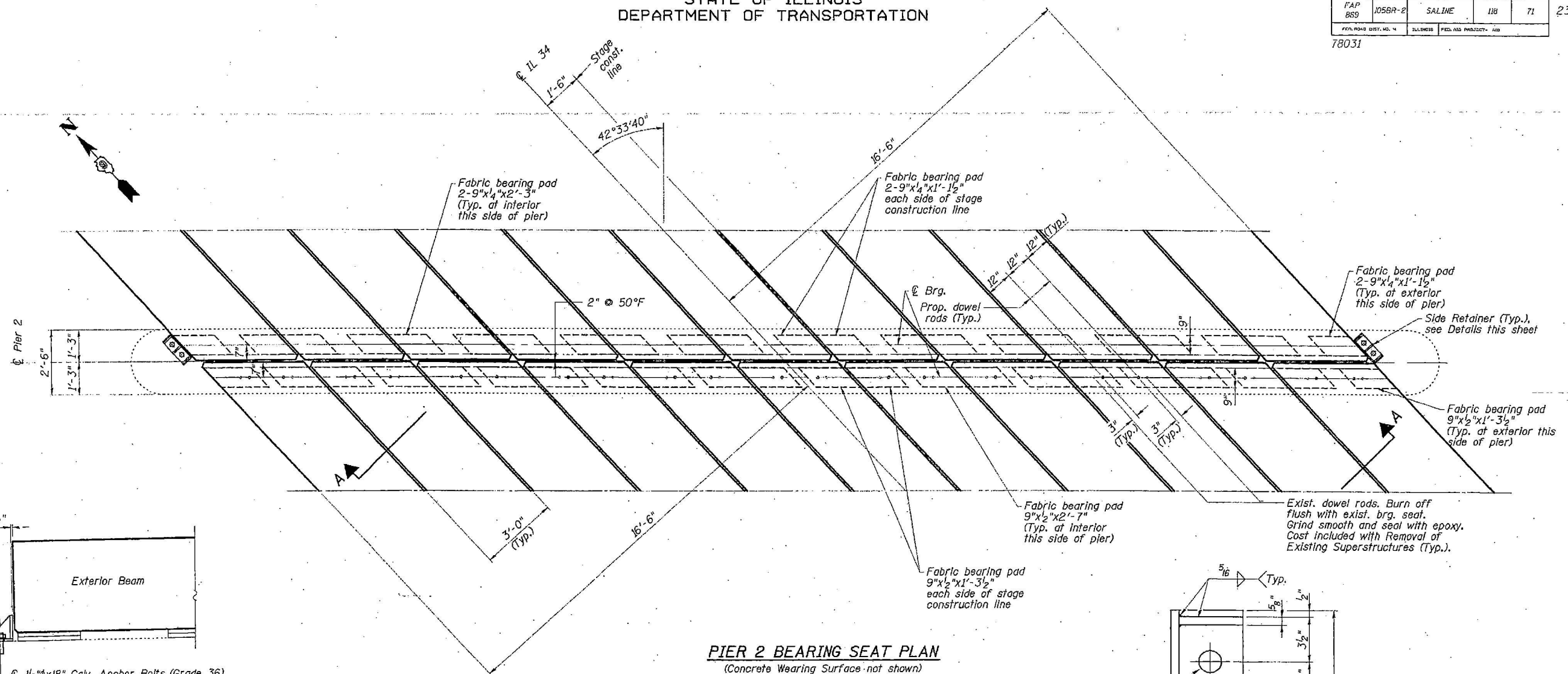
DESIGNED BY:	JMS	02/08
DRAWN BY:	KAH/HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

PIER 2
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

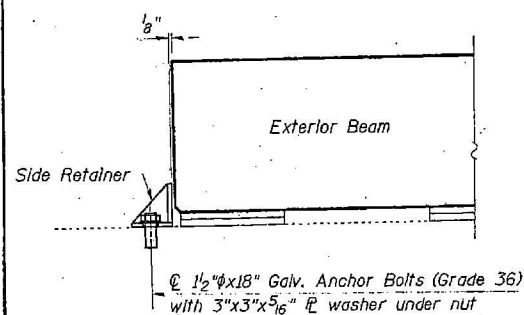
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 869	105BR-2	SALINE	118	71
23 SHEETS				

78031



PIER 2 BEARING SEAT PLAN
(Concrete Wearing Surface not shown)



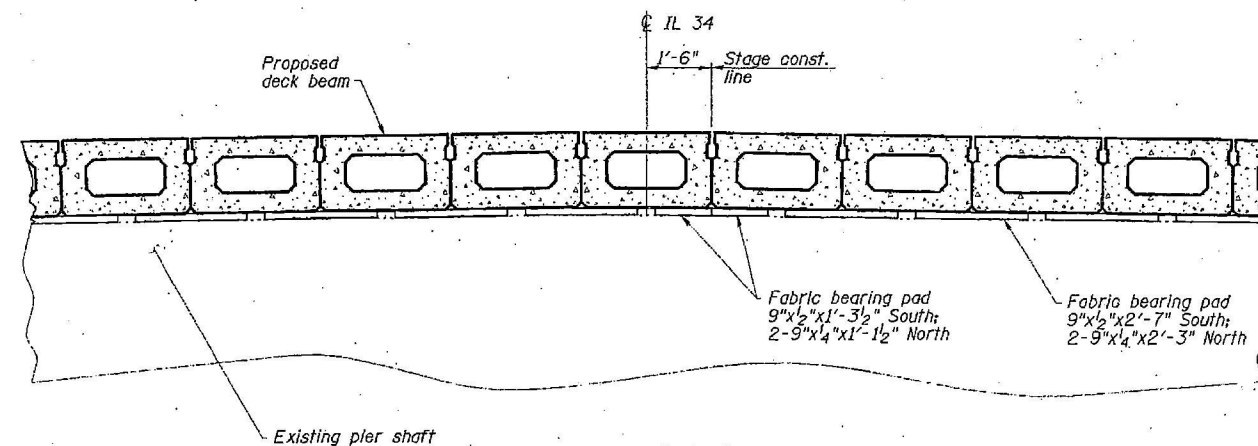
EXTERIOR BEAM RETAINER DETAILS
(2 Required)

Cost of Retainer Angles, Anchor Bolts & accessories are included with Precast Prestressed Concrete Deck Beams.

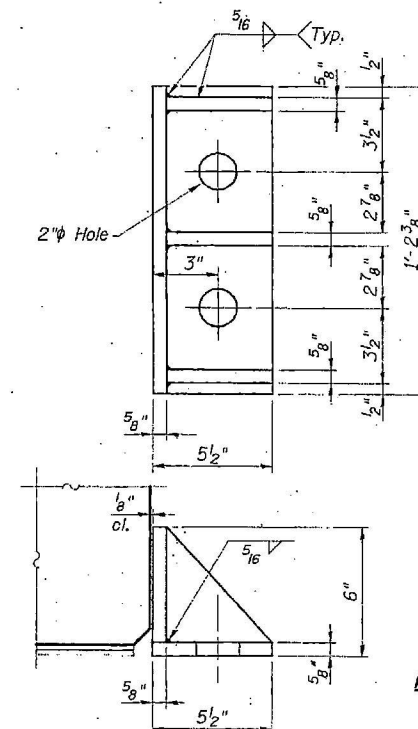
Fill 1/8" gap with shim Ø to provide temporary lateral support until shear keys have been grouted and concrete wearing surface has been placed.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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



SECTION A-A
South side shown
(Concrete Wearing Surface not shown)



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

PIER 2 DETAILS
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

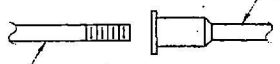
DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STATE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 23
FAP 869	105BR-2	SALINE	1/8	72	23 SHEETS
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT NO.			

78031

The diameter of this part is equal or larger than the diameter of bar spliced.



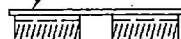
The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



** ONE PIECE

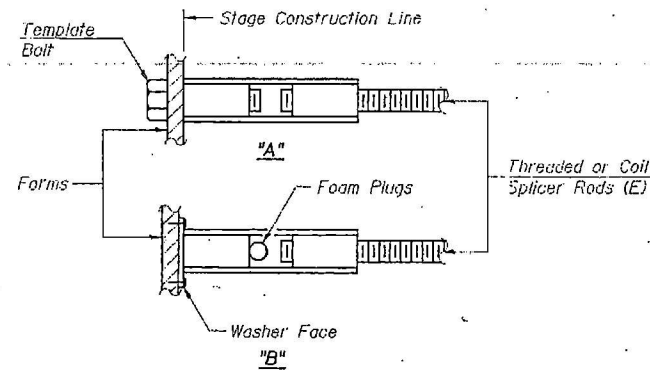
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



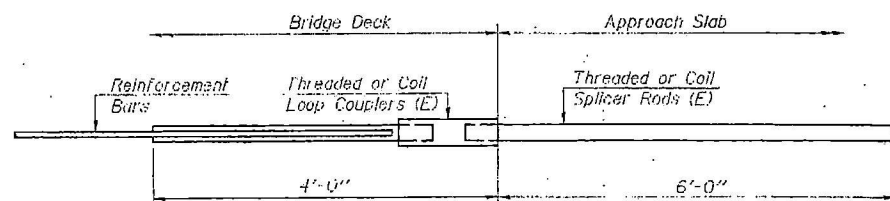
INSTALLATION AND SETTING METHODS

"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.

NOTES
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

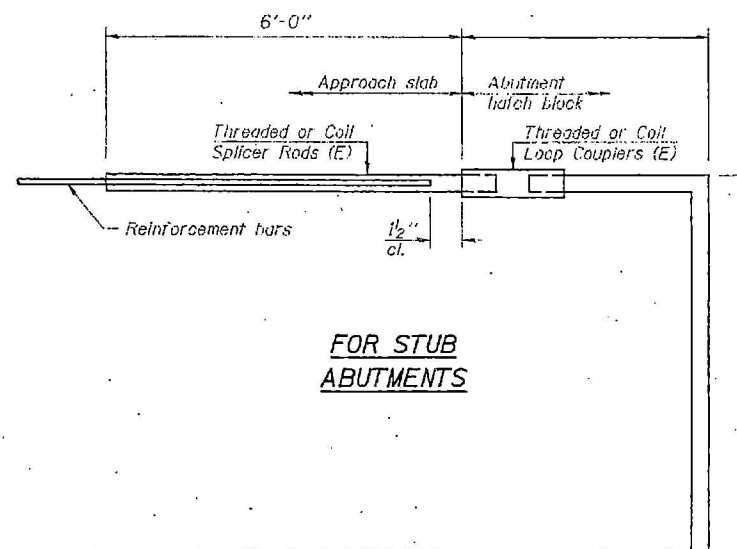
- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - ② Minimum "Pull-out Strength" (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



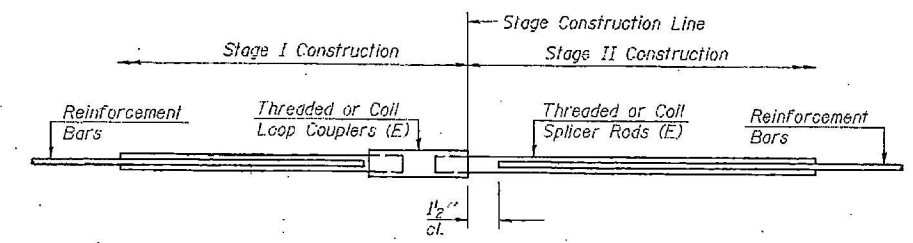
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar		
Min. Capacity =	23.0 kips	tension
Min. Pull-out Strength =	12.3 kips	tension
No. Required =	0	



FOR STUB ABUTMENTS

Bar Splicer for #5 bar		
Min. Capacity =	23.0 kips	tension
Min. Pull-out Strength =	12.3 kips	tension
No. Required =	0	



STANDARD

Bar Size	No. Assemblies Required	Location
#4	155	Concrete Wearing Surface
#5	2	North Abutment
#5	2	South Abutment

BAR SPLICER ASSEMBLY DETAILS
IL 34 OVER
MIDDLE FORK SALINE RIVER
FAP ROUTE 869 - SECTION 105BR-2
SALINE COUNTY
STATION 1561+70.00
STRUCTURE NO. 083-0038

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JMS	02/08
DRAWN BY:	HAS	02/08
CHECKED BY:	ELH	02/08
APPROVED BY:	RDP	02/08

BSD-1

11-1-06

8E00-E80

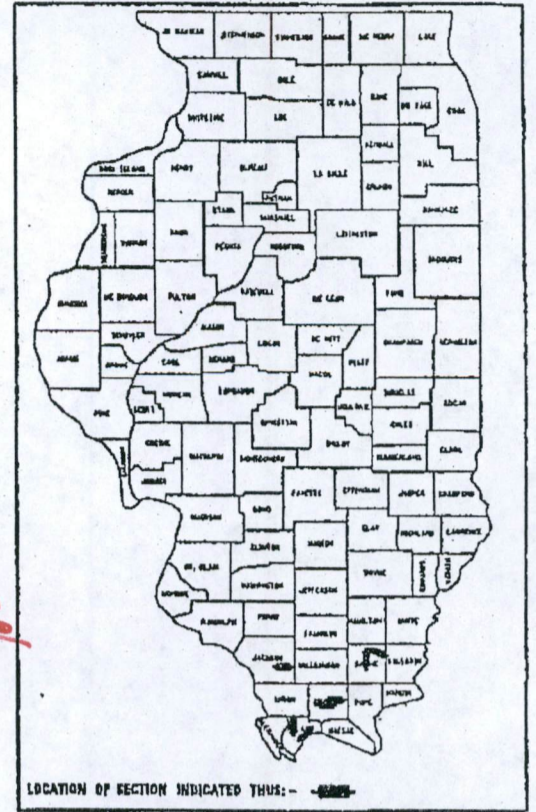
VARIOUS ROUTES
SECTION D9 SCOUR REPAIR FY2008-1
VARIOUS COUNTIES
SHEET 1 OF 24
D-99-032-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

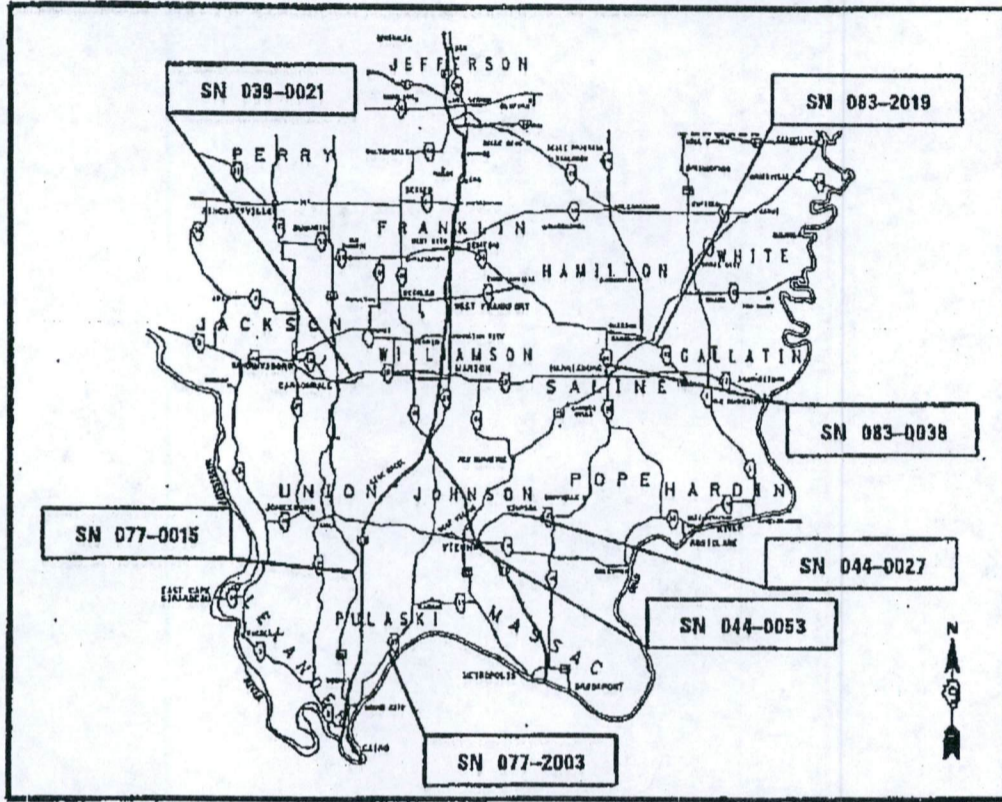
PROPOSED HIGHWAY PLANS

VARIOUS ROUTES
SECTION D9 SCOUR REPAIR FY2008-1
VARIOUS COUNTIES
C-99-039-07

083-0038



8-8-2008
100%



FOR INDEX OF SHEETS, SEE SHEET NO. 2

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

PROJECT ENGINEER: DAVID PICHE 618-351-5227
DESIGNER: BILL PORTER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED June 19 20 07

Mary C. Lammie
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

20

ENGINEER OF DESIGN AND ENVIRONMENT

20

DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 78014

SUMMARY OF QUANTITIES

100% STATE
CONSTRUCTION TYPE CODE - SFTY-2A

CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
20300100	CHANNEL EXCAVATION	CU YD	17
28100201	STONE RIPRAP, CLASS A1	TON	16
28100209	STONE RIPRAP, CLASS A5	TON	393
29200200	FILTER FABRIC	SQ YD	422
51100400	SLOPE WALL, SPECIAL	SQ YD	105
54002050	EXPANSION BOLTS 3/4 INCH x 12 INCH	EACH	45
67100100	MOBILIZATION	L SUM	1

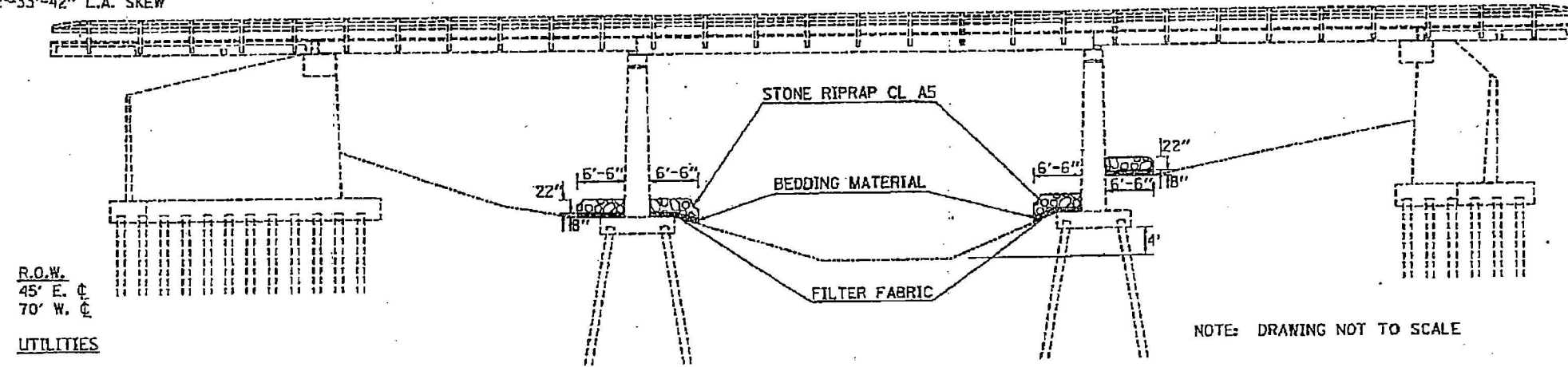
SCHEDULE OF QUANTITIES

STRUCTURE NUMBER	COUNTY	CHANNEL EXCAVATION	STONE RIPRAP CL. A1	STONE RIPRAP CL. A5	FILTER FABRIC	SLOPE WALL SPECIAL	EXPANSION BOLTS
		CU YD	TON	TON	SQ YD	SQ YD	EACH
039-0021	JACKSON			68	74		
041-0027	JOHNSON			96	105		
044-0053	JOHNSON			12	13		
077-0015	PULASKI			51	59		
077-2003	PULASKI	17	16			105	45
083-0038	SALINE			124	135		
083-2019	SALINE			42	36		
	TOTALS	17	16	393	422	105	45

SN 083-0038
 @ STA 1561+70
 155'- 2 1/2" BK TO BK ABUTMENTS
 34'-0" OUT TO OUT
 42°-33'-42" L.A. SKEW

VARIOUS ROUTES
 SECTION 09 SCOUR REPAIR FY2008-1
 VARIOUS COUNTIES
 SHEET 21 OF 24
 D-99-032-07

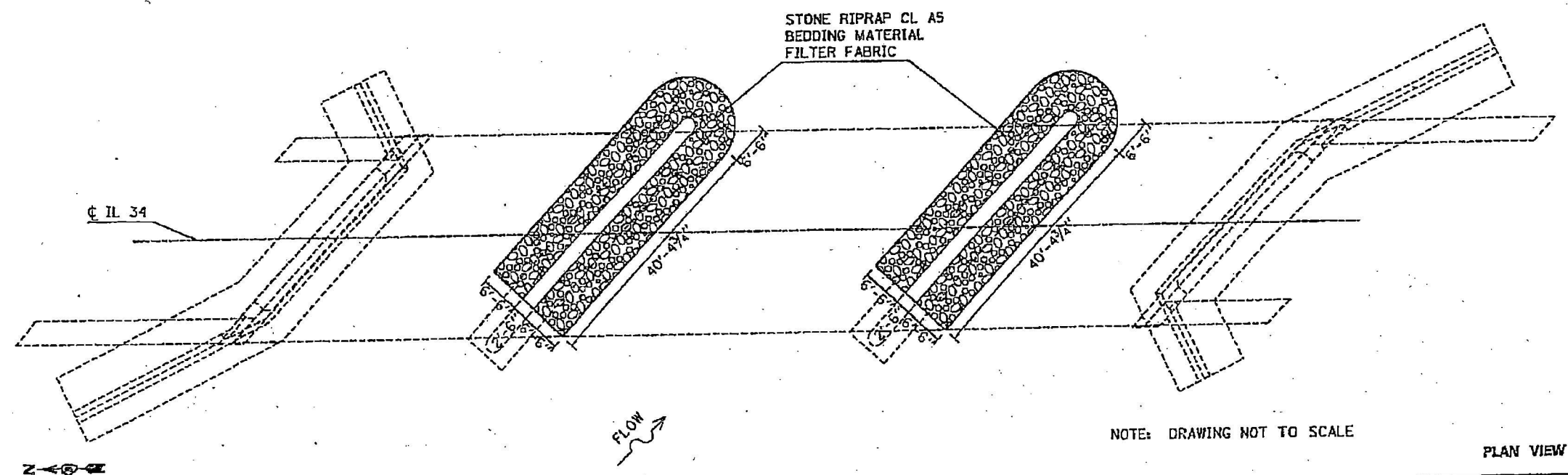
WEST FACE OF STRUCTURE



R.O.W.
 45' E. @
 70' W. @
 UTILITIES

NOTE: DRAWING NOT TO SCALE

ELEVATION VIEW



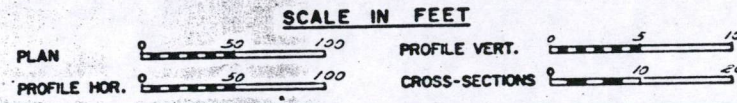
NOTE: DRAWING NOT TO SCALE

PLAN VIEW

SCOUR REPAIR SN 083-0038
 IL 34 OVER MIDDLE FORK DITCH

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY



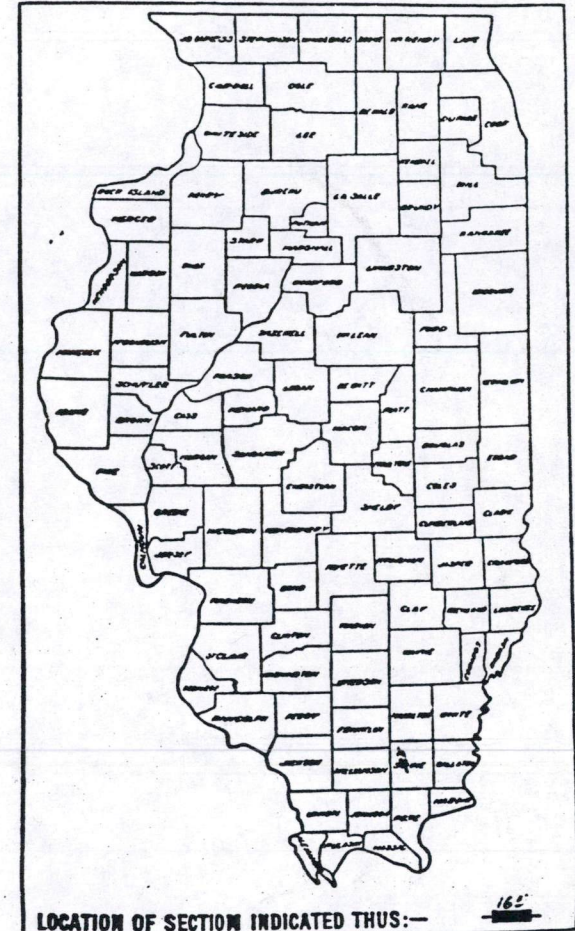
F.A. ROUTE 126 SPUR
SEC. 105(B-DR, B-DR-1, B-DR-2, B-DR-3, B-DR-4)
SALINE CO. PROJECT RF-375(10)
C-99-415-71

INDEX OF SHEETS ON SHEET NO. 3
SUMMARY OF QUANTITIES ON SHEET NO. 4

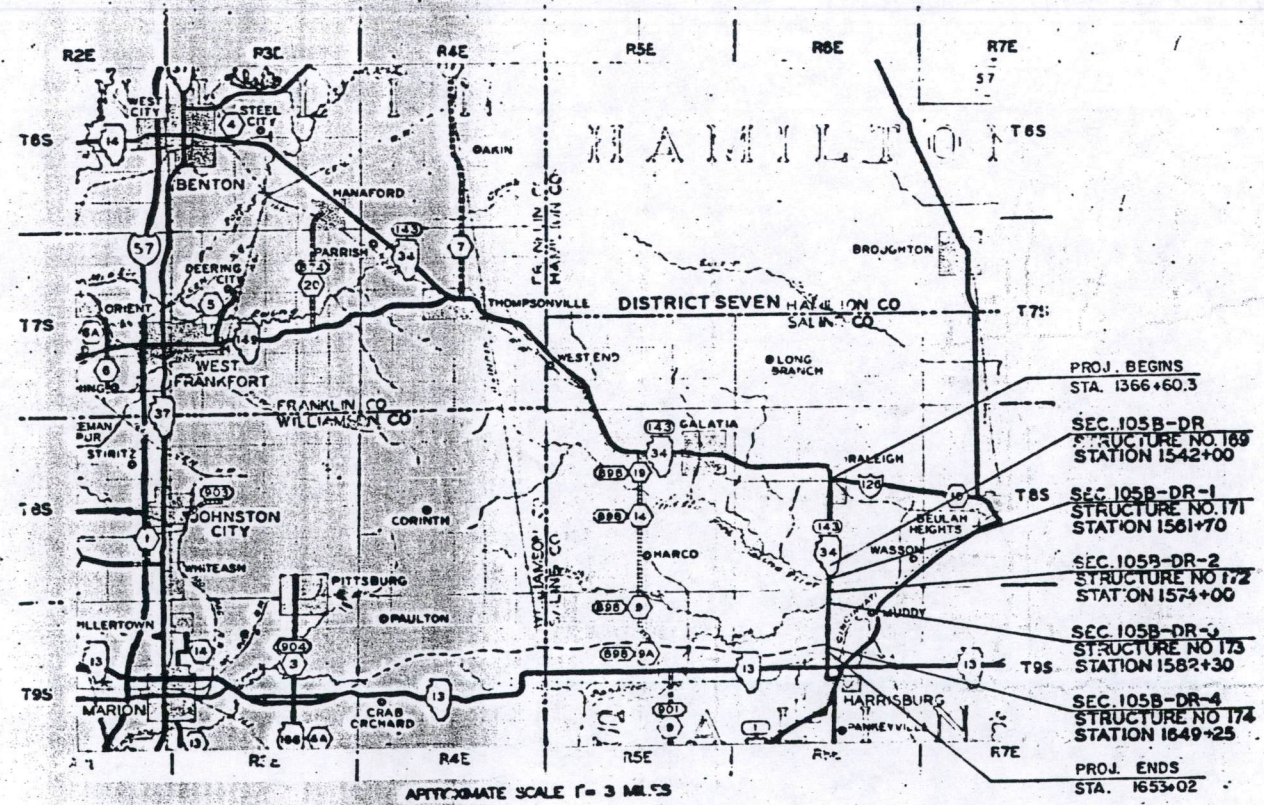
ROAD ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA 126 SPUR	105	SALINE	68	1

*105(B-DR, B-DR-1, B-DR-2, B-DR-3, B-DR-4)

P-99-116-70



LOCATION OF SECTION INDICATED THUS:—



PROJ. BEGINS
STA. 1366+60.3

SEC. 105B-DR
STRUCTURE NO. 169
STATION 1542+00

SEC. 105B-DR-1
STRUCTURE NO. 171
STATION 1561+70

SEC. 105B-DR-2
STRUCTURE NO. 172
STATION 1574+00

SEC. 105B-DR-3
STRUCTURE NO. 173
STATION 1582+30

SEC. 105B-DR-4
STRUCTURE NO. 174
STATION 1649+25

PROJ. ENDS
STA. 1653+02

PROJECT OMISSIONS
STATION TO STATION
1373+70.3 - 1538+29.5
1545+75.5 - 1557+43.5
1565+96.5 - 1570+13.5
1586+31 - 1645+48

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED: January 15, 1974

DATE: January 11, 1974

APPROVED: January 11, 1974

DIRECTOR OF HIGHWAYS

Reel 9-94
SIA: 156470
ADMINISTRATOR

LENGTH TO BE IMPROVED:

SEC. 105B-DR = 71000 LIN. FT. = 0.1285 MILES
SEC. 105B-DR-1 = 85500 LIN. FT. = 0.1561 MILES
SEC. 105B-DR-2 = 79450 LIN. FT. = 0.1475 MILES
SEC. 105B-DR-3 = 82300 LIN. FT. = 0.1535 MILES
SEC. 105B-DR-4 = 74400 LIN. FT. = 0.1380 MILES

NET LENGTH OF IMPROVEMENT = 460050 LIN. FT. = 0.8365 MILES
PROJECT LENGTH = 4,680.5 LIN. FT. = 0.866 MILE

REVISED SET 9-18-75

CONTRACT NO. 28994

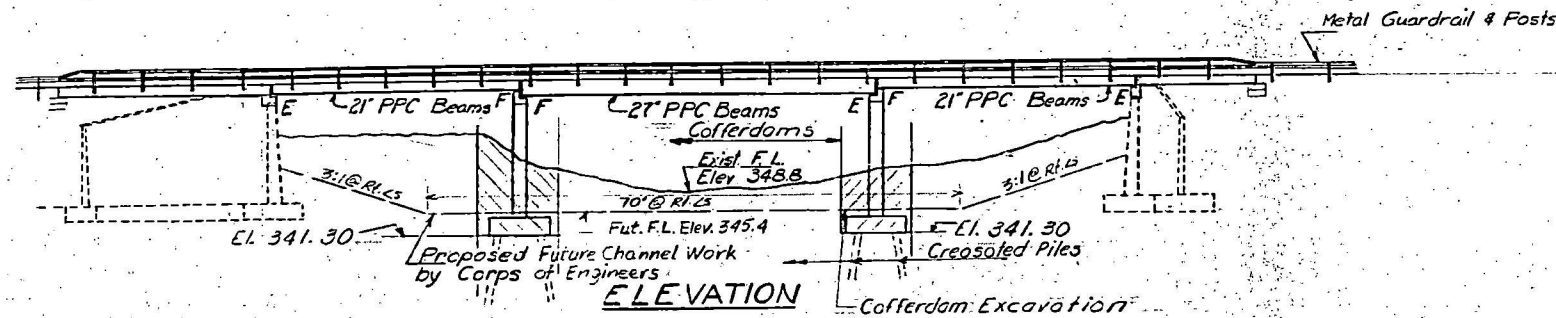
083-0038

083-0038

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
143		SALINE	68	23
10 SHEETS				

B.M. - Sq cut in top S.W. Wingwall 15' Rt. Sta. 1562+36 Elev. 368.15
Exist. Structure: Built 1932 as S.B.I. Rt. 143 Sec. 105BC at Sta 1561+70 1 Span Penn Truss on R.C. Closed Abuts. Superstructure to be removed by Bridge Contractor. Traffic detoured over Temporary Bridge. Floor Stringers & Handrail Channels to be Salvaged. (See Special Provisions)



GENERAL NOTES
All reinforcement bars shall be lapped 2d diameters unless otherwise shown.
It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.

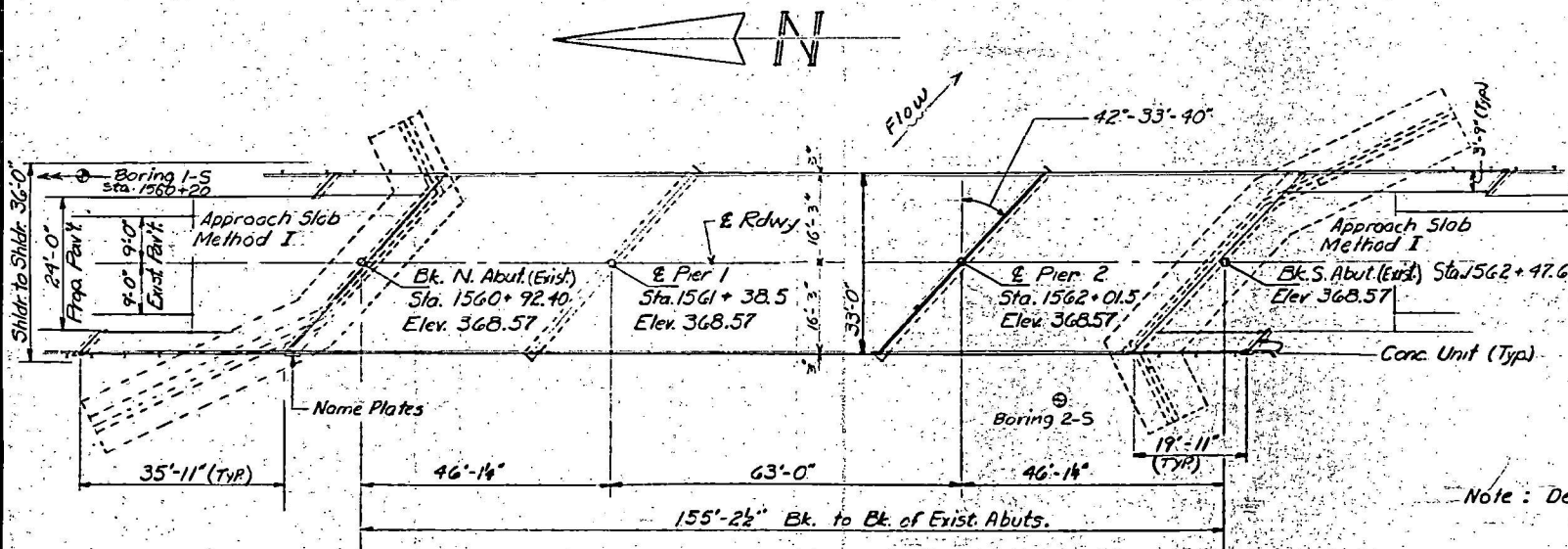
Expansion bolts shall consist of self drilling expansion anchors and 3/4" x 12" hooked bolts.
The Contractor shall drive 1 timber test pile in a permanent location at Pier 1 as directed by the Engineer before ordering the remainder of piles. The Contractor is cautioned not to overdrive the piling.
Shoulder transition to wingwall shall be shaped with broken concrete. Cost incidental.
The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.

STATION 1561+70
REBUILT 19 BY
STATE OF ILLINOIS
FA RTE 126 SPUR SEC. 105B-DR-1
FA PROJ. RF-375 (10)
LOADING HS20
NAME PLATE
See Std. 2113

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Bit Conc. Surf. Course Class I	Tons	62		62
Removal of Existing Superstructure	Ea	1		1
Concrete Removal	Cu. Yds.		26	26
Cofferdams	Each		2	2
Cofferdam Excavation	Cu. Yds.		620	620
P.P.C. Deck Beams (27")	Sq. Ft.	2077		2077
P.P.C. Deck Beams (21")	Sq. Ft.	2843		2843
Steel Railing, Type N	Lin. Ft.	417		417
Reinforcement Bars	Lbs.	570	19370	19940
Name Plates	Ea.	1		1
Waterproofing Membrane System	Sq. Yds.	567		567
Neoprene Expansion Joint 2"	Lin. Ft.	134		134
Precast Concrete Bridge Slab	Sq. Ft.	418		418
Test Pile (Timber)	Ea.		1	1
Temporary Bridge Complete	Ea.		1	1
Class X Concrete	Cu. Yds.	62	355.2	361.4
Creosoted piles up to 20'	Lin. Ft.		1206	1206
Portland Cement Mortar Fair/Cd	Lin. Ft.	1492		1492

*See Special Provisions.



Note: Deck elevations are on top of Bituminous Surfacing.

PLAN

DESIGN STRESSES

FIELD UNITS	PRECAST UNITS
f _c = 14,000 p.s.i. sub	f _c = 4,500 p.s.i.
v _c = 75 p.s.i. footings	f _c = 1,800 p.s.i.
f _s = 20,000 p.s.i. reinf.	f _s = 20,000 p.s.i.
n = 10	n = 8

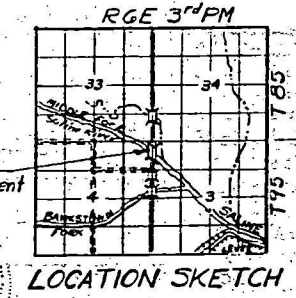
PRECAST PRESTRESSED UNITS

f_c = 5000 p.s.i.
f_{ci} = 4000 p.s.i.
f_s = 270,000 p.s.i. - 7/8" Strands
f_{si} = 189,000 p.s.i. - 7/8" Strands
Allow 25% for fut. wearing surface

LOADING HS20-44

WATERWAY INFORMATION

Drainage Area: 103 Sq. Mi.
Character: Rolling, Clay, Wooded, Cultivated
Required Opening: 2220 Sq. Ft.
Present Opening: 2220 Sq. Ft.
Proposed Opening:
Overflow Struct. @ Sta. 1542+00: 577 Sq. Ft.
Saline River @ Sta. 1561+70: 1143 Sq. Ft.
Overflow Struct. @ Sta. 1574+00: 904 Sq. Ft.
12'-0" x 11'-6" Box Culvert: 138 Sq. Ft.
8550 cfs

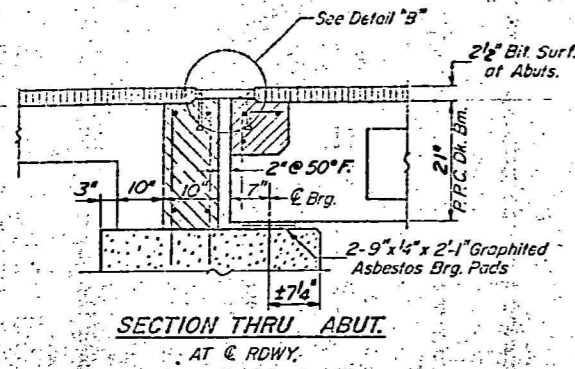


FA - Rt. 126 Spur OVER
MIDDLE FORK SALINE RIVER
SEC. 105B-DR-1
SALINE COUNTY
STA. 1561+70

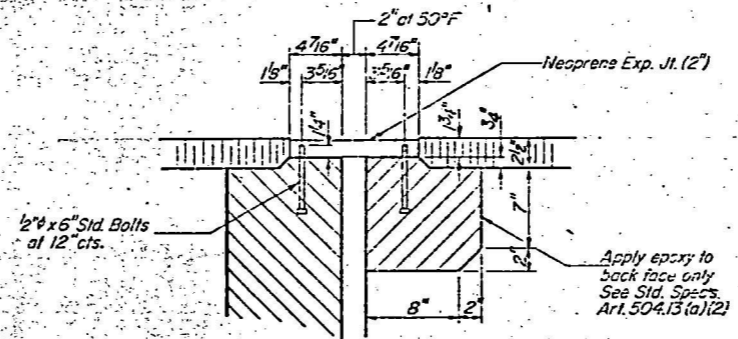
DESIGNED	L. J. Houck	NOVEMBER 11 1971
CHECKED	D. A. Ryan	EXAMINED
DRAWN	J. R. B.	PASSED
CHECKED	D. A. Ryan	APPROVED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

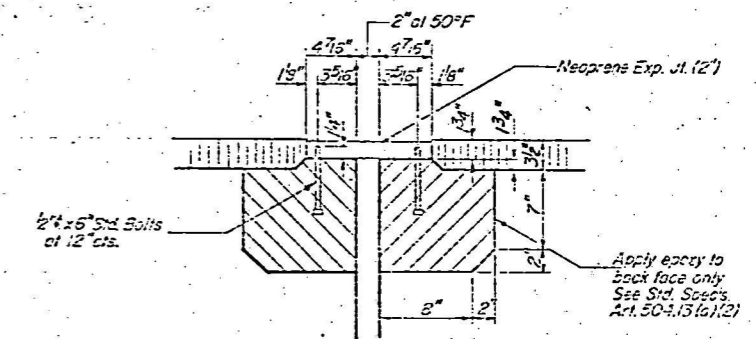
STATE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
143	*	SALINE	68	24
SHEET NO. 2 10 SHEETS				



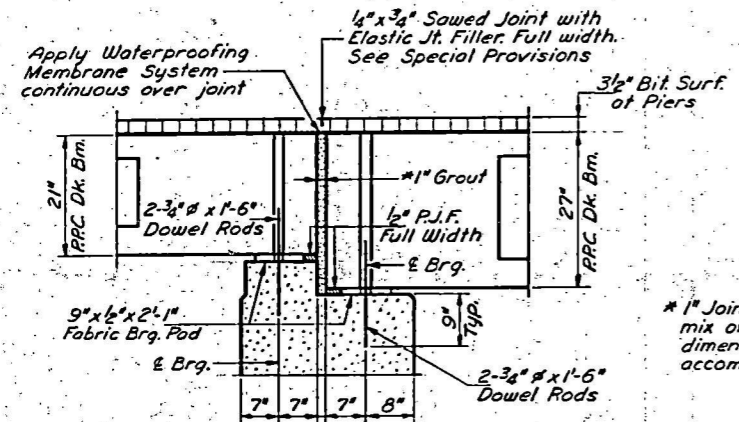
SECTION THRU ABUT.
AT C. RDWY.



DETAIL "B"



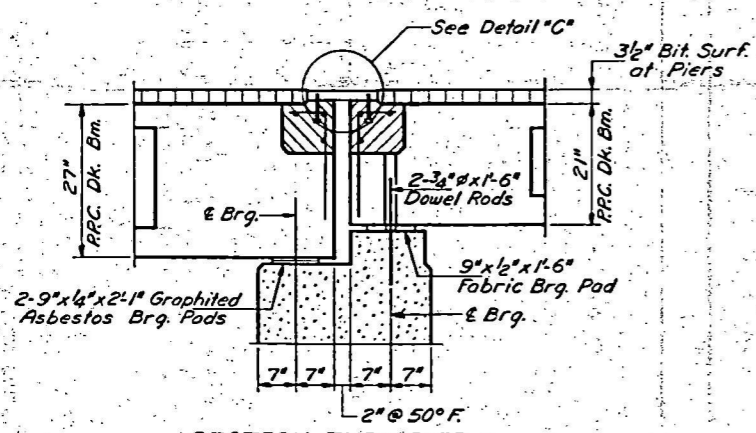
DETAIL "C"



SECTION THRU PIER 1

* 1" Joint shall be packed with a very dry mix of 2:1 sand and PC mortar. This dimension may vary plus or minus to accommodate tolerance in beam lengths.

NOTE: Dimensions are at right angles.
Hatched areas to be poured after beams have been erected and joint's grouted.
Ends of beams shall be aligned at the expansion joints. Any linear variation in the beam lengths shall be placed at the fixed joint. See End of Beam Detail for reinforcement.



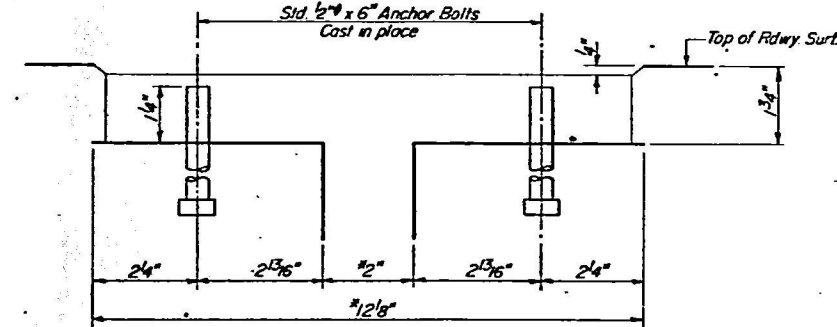
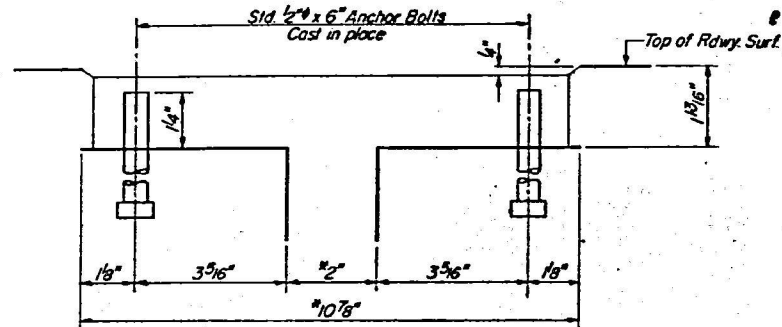
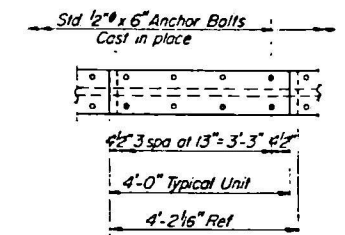
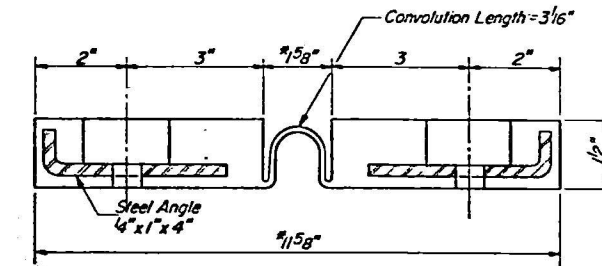
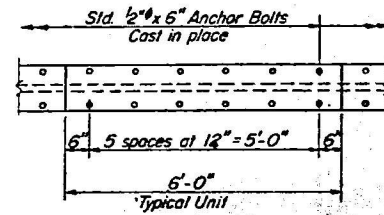
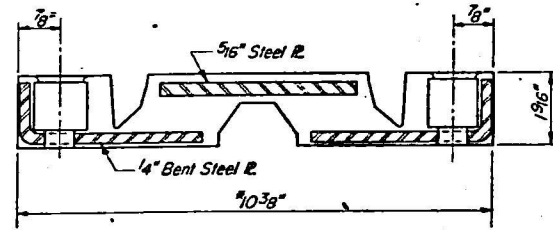
SECTION THRU PIER 2

DESIGNED <i>William H. Hark</i>	EXAMINED <i>[Signature]</i>
CHECKED <i>[Signature]</i>	PASSED
DRAWN <i>G.D. Ritchie</i>	APPROVED
CHECKED <i>[Signature]</i>	DIRECTOR OF HIGHWAYS

SUPERSTRUCTURE DETAILS
S.B.I. RT. 143-SEC. 105DR-1
SALINE COUNTY
STA. 1561 + 70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	QUANTITY	TOTAL SQUARE FEET	SHEET NO.
105	SA-11E	2	244	22
SHEET NO. 22				
10 SHEETS				
* 105(B-DR, B-DR-1, B-DR-2, B-DR-3, B-DR-4)				



CROSS SECTION
*At 50°F
Dimensions are at right angles.

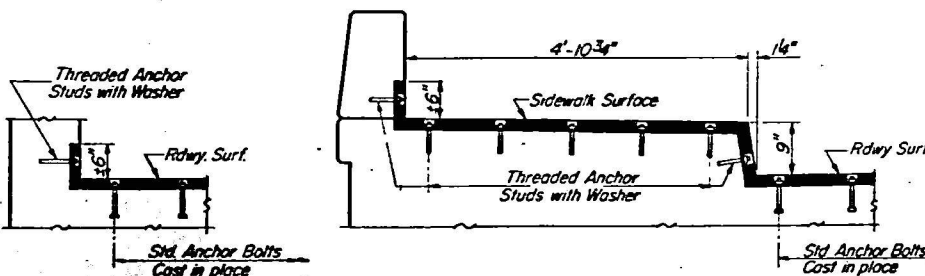
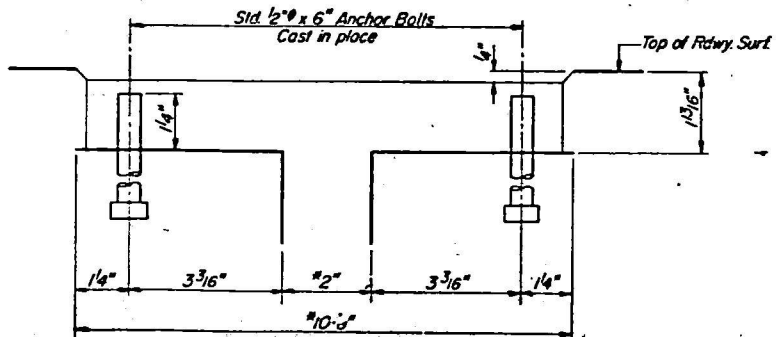
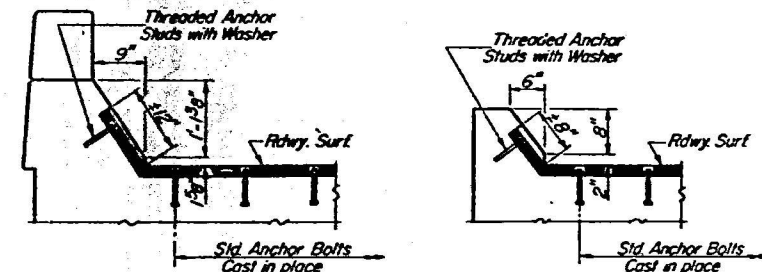
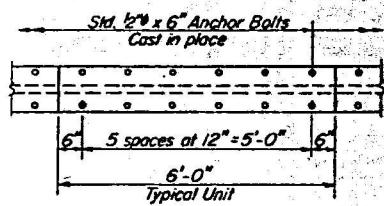
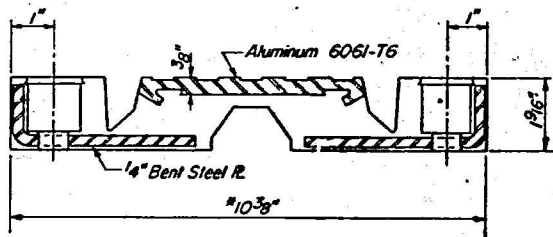
CROSS SECTION
*At 50°F
Dimensions are at right angles.

TRANSFLEX MODEL 200A
(Structural Rubber Products Co.)

FEL-SPAN MODEL T-30
(Fel-Pro Building Products Inc.)

Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

Note: Anchor bolts require a flat washer and locknut.



CROSS SECTION
*At 50°F
Dimensions are at right angles.

TYPICAL END TREATMENTS

Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

NOTE:
Joint openings shall be adjusted in accordance with Article 503.07 (c) of the Std Spec's when the deck is poured at an ambient temperature other than 50°F.

DESIGNED	Frank Merenda	EXAMINED	[Signature]
CHECKED	Alan Schiller	PASSED	
DRAWN	F.M.	APPROVED	
CHECKED	D.L.G.	DIRECTOR OF HIGHWAYS	

WABOFLEX MODEL SR 2
(Watson-Bowman Associates Inc.)

NEOPRENE EXPANSION JOINTS (2")
FOR EXPANSION LENGTH OF DECK = 0 TO 150 FT.

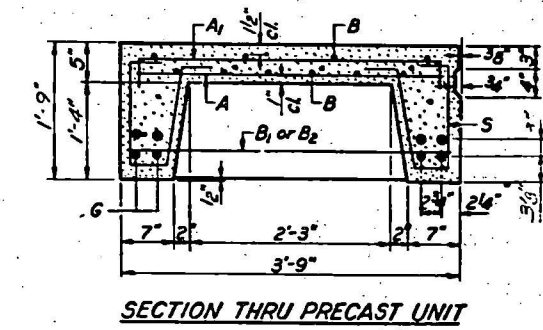
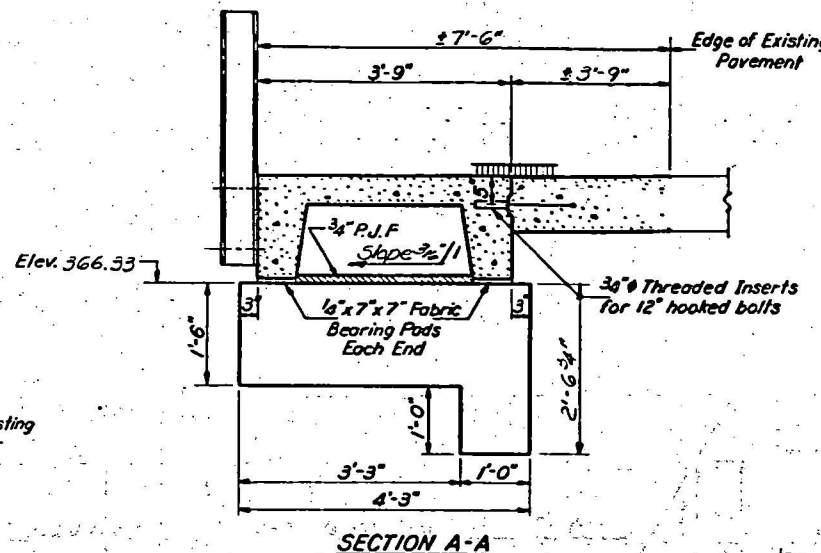
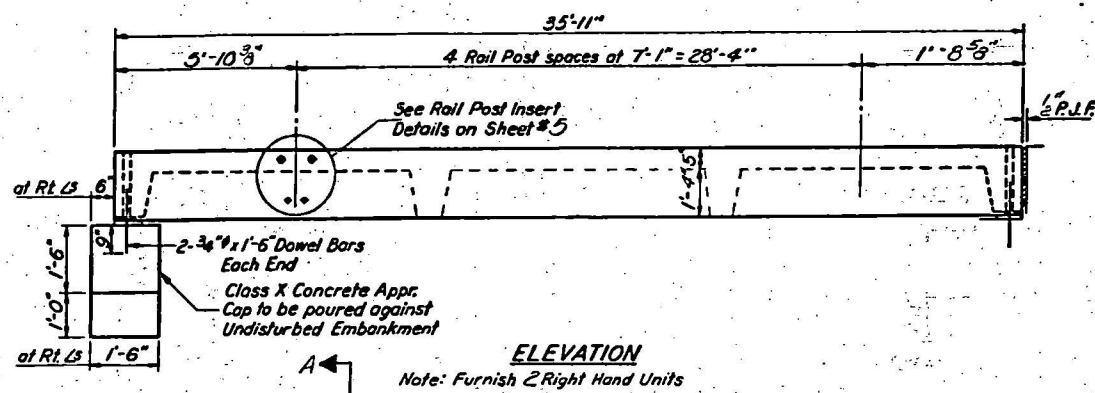
S.B.I.R.T. 143 SEC. 105 DR-1
SALINE COUNTY
STA. 1561+70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

*105 (B-DR, B-DR-1, B-DR-2, B-DR-3, B-DR-4)

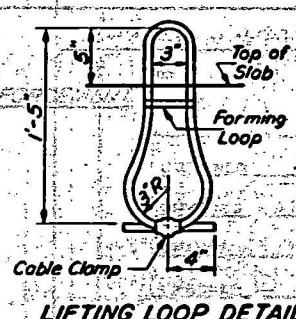
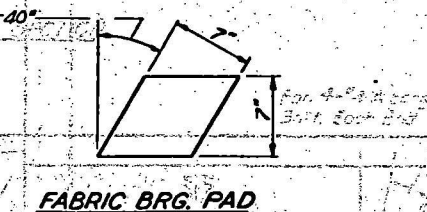
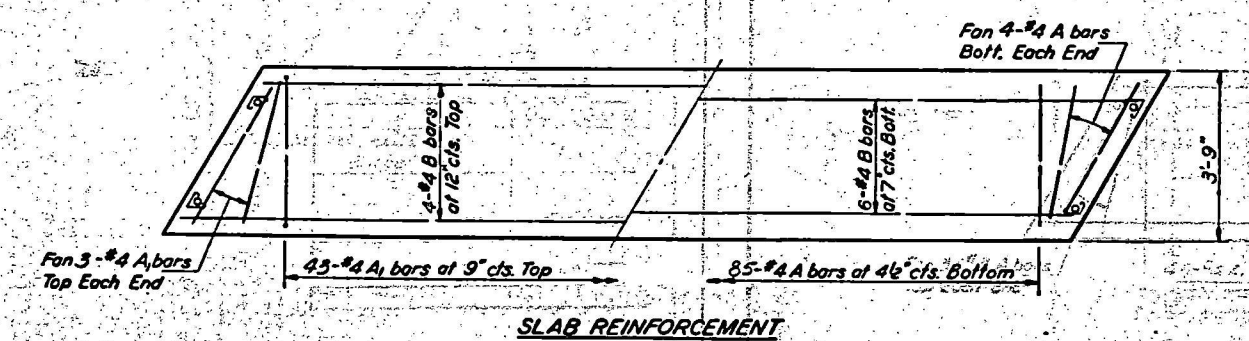
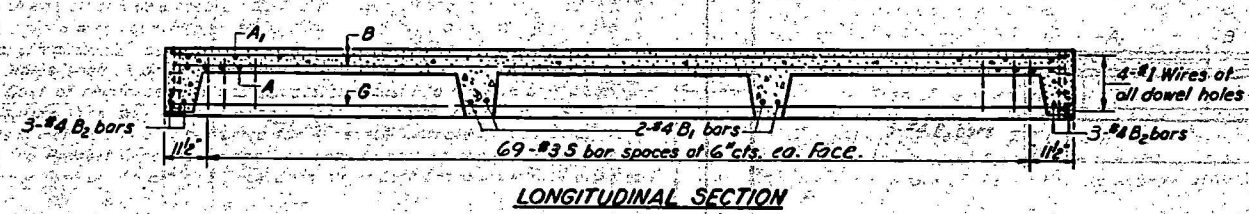
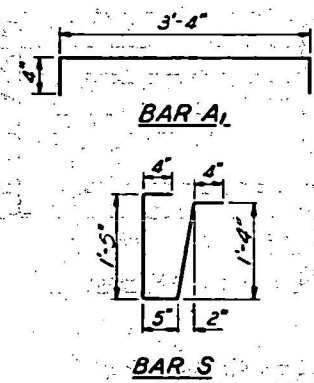
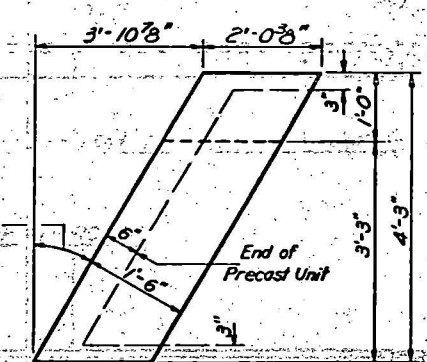
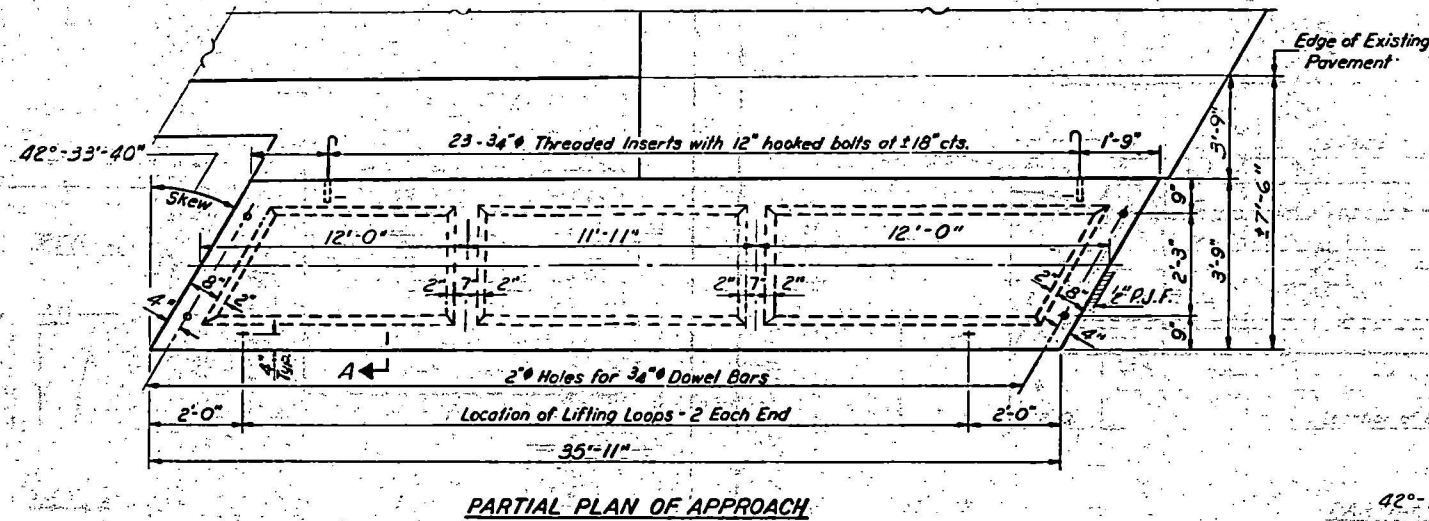
DATE	NO.	BY	REV.	NO.
143	4	SALINE	68	28

SHEET NO. 6
10 SHEETS



BAR LIST - ONE UNIT
Reinforcement to be cast into slab

Bar	No.	Size	Length	Shape
A	95	#4	3'-3"	—
A _r	49	#4	4'-0"	—
B	20	#4	18'-4"	—
B ₁	4	#4	3'-6"	—
B ₂	6	#4	4'-9"	—
G	8	#11	35'-7"	—
S	140	#3	3'-10"	U



NOTES
Unless otherwise approved by the Engineer, lifting loops shall be 1/2", 6x25 class wire rope with fiber core and shall have a minimum ultimate strength of 21,000 lbs. Loops shall be buried after slab has been erected. Holes shall be drilled and anchor dowels grouted in place. Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor dowels and 3/4" hooked balls is included in Unit bid price for "Precast Concrete Bridge Slab". The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.

TWO UNITS BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	269
Class X Concrete	Cu. Yds.	1.1

STRESSES
f_c = 4,500 psi.
f_t = 1,800 psi.
f_s = 20,000 psi.
n = 8

NORTHWEST & SOUTHEAST APPROACH DETAILS
S.B.I. RT. 143 SEC. 105B-DR/1
SALINE COUNTY
STA. 1561+70
LOADING HS-20

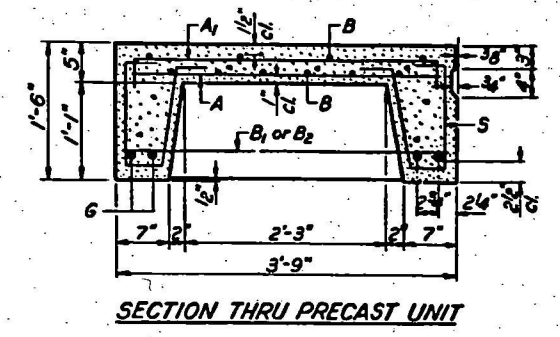
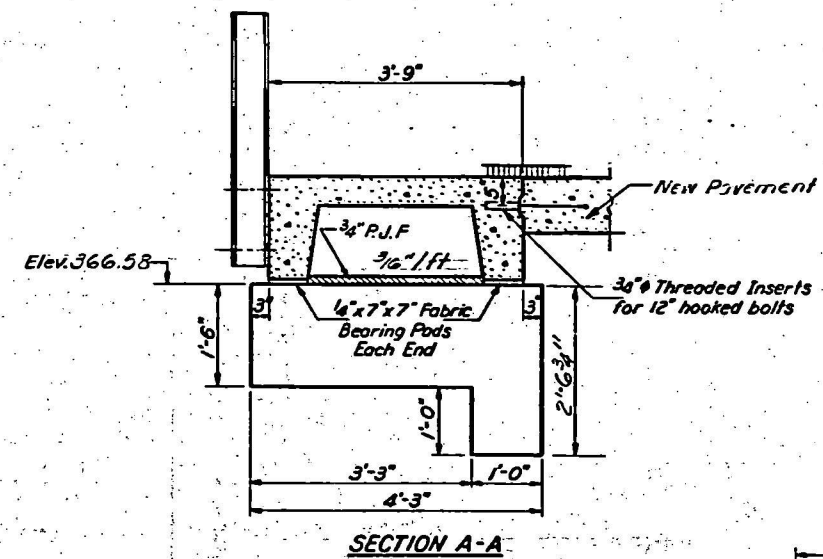
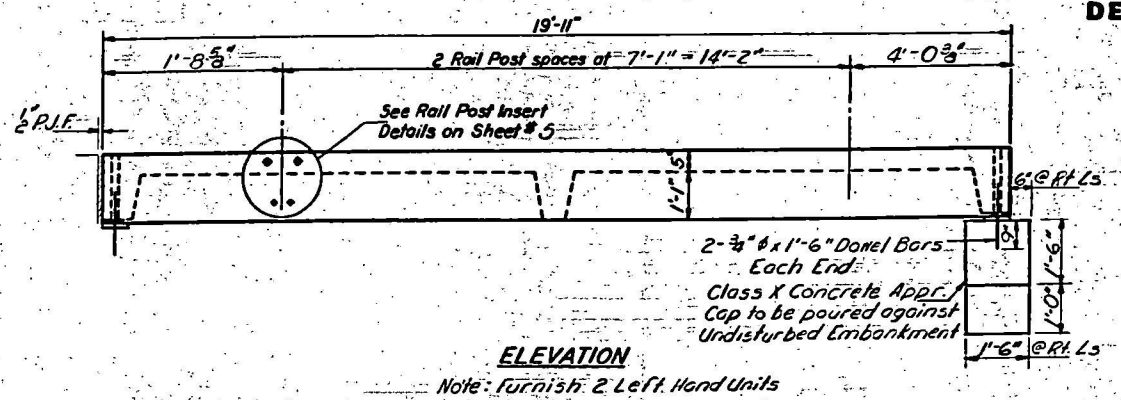
DESIGNED: J. L. Hush
CHECKED: D. A. R. J.
DRAWN: J. L. Armstrong
CHECKED: D. A. R. J.
EXAMINED: [Signature]
PASSED: [Signature]
APPROVED: [Signature]
DIRECTOR OF HIGHWAYS

DESIGNED: [Signature]
CHECKED: D. A. R. J.
DRAWN: J. L. Armstrong
CHECKED: D. A. R. J.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

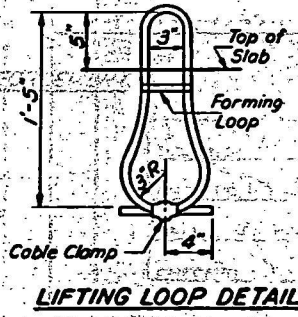
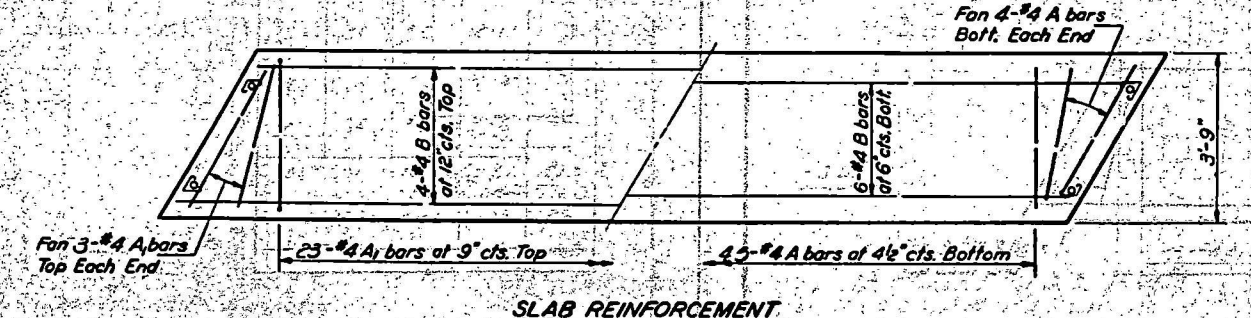
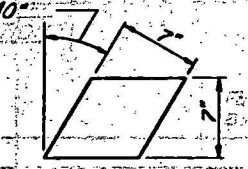
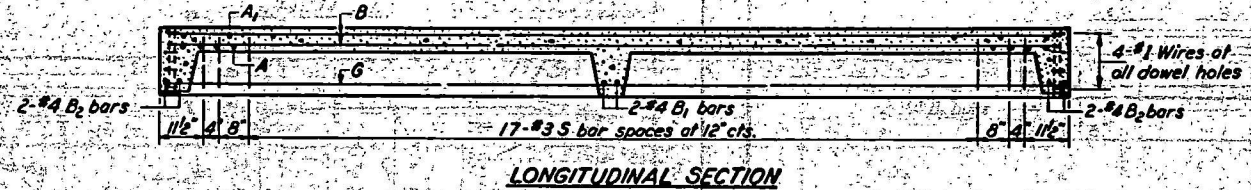
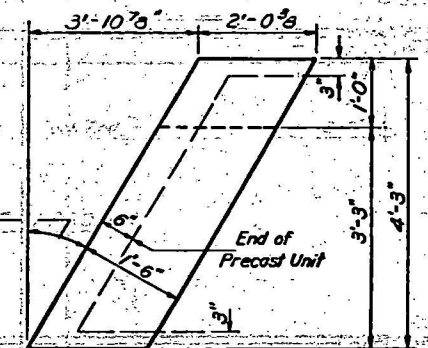
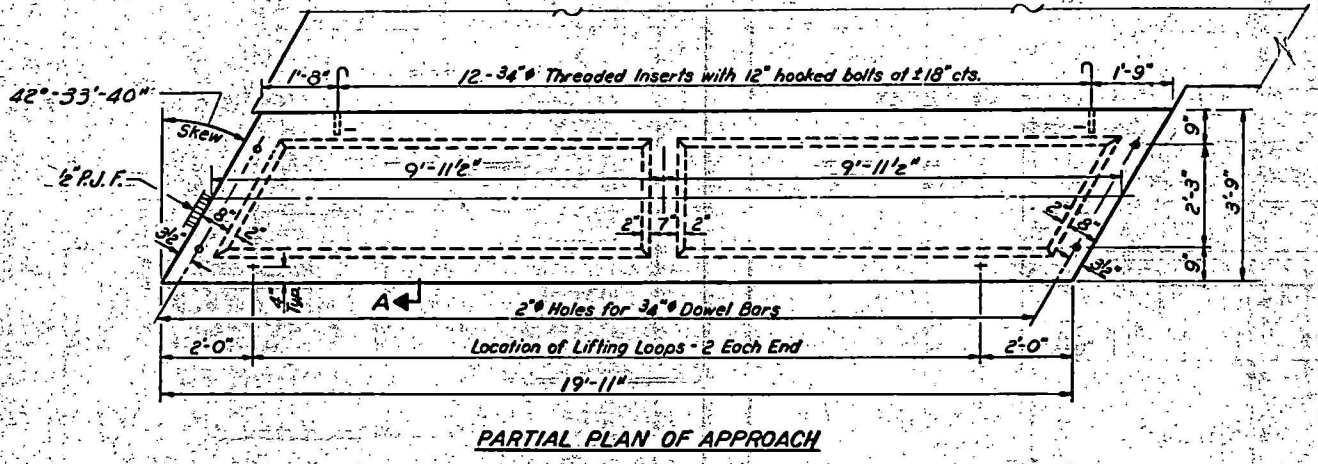
#105(B-DR, B-DR-1, B-DR-2, B-DR-3, B-DR-4)

PROJECT NO.	143	SECTION	SALINE	SHEET NO.	7
DISTRICT	68	DATE	29	TOTAL SHEETS	10



BAR LIST - ONE UNIT
Reinforcement to be cast into slab

Bar	No	Size	Length	Shape
A	53	#4	3'-3"	—
A1	29	#4	4'-0"	—
B	10	#4	19'-6"	—
B1	2	#4	3'-6"	—
B2	4	#4	4'-9"	—
G	4	#10	19'-6"	—
S	44	#3	3'-4"	—



NOTES
Unless otherwise approved by the Engineer, lifting loops shall be 1/2" 6x25 class wire rope with fiber core and shall have a minimum ultimate strength of 21,000 lbs. Loops shall be burned off after slab has been erected. Holes shall be drilled and anchor dowels grouted in place. Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor dowels and 3/4" hooked bolts is included in Unit bid price for "Precast Concrete Bridge Slab." The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.

TWO UNITS BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	149
Class X Concrete	Cu. Yds.	1.1

STRESSES
f_c = 4,500 psi.
f_c = 1,800 psi.
f_s = 20,000 psi.
n = 8
LOADING HS-20-44

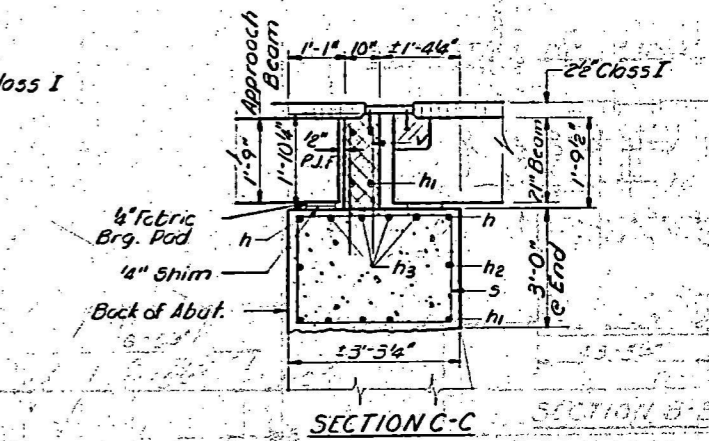
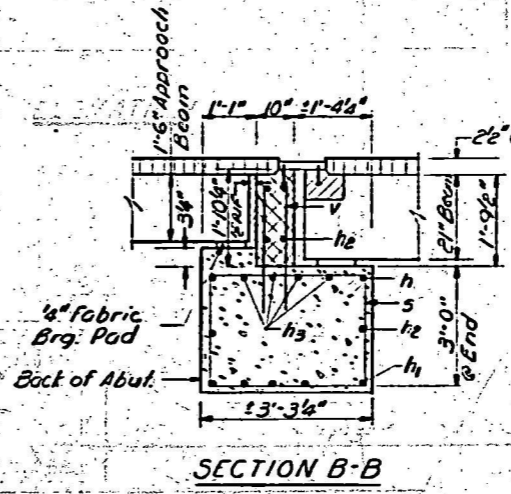
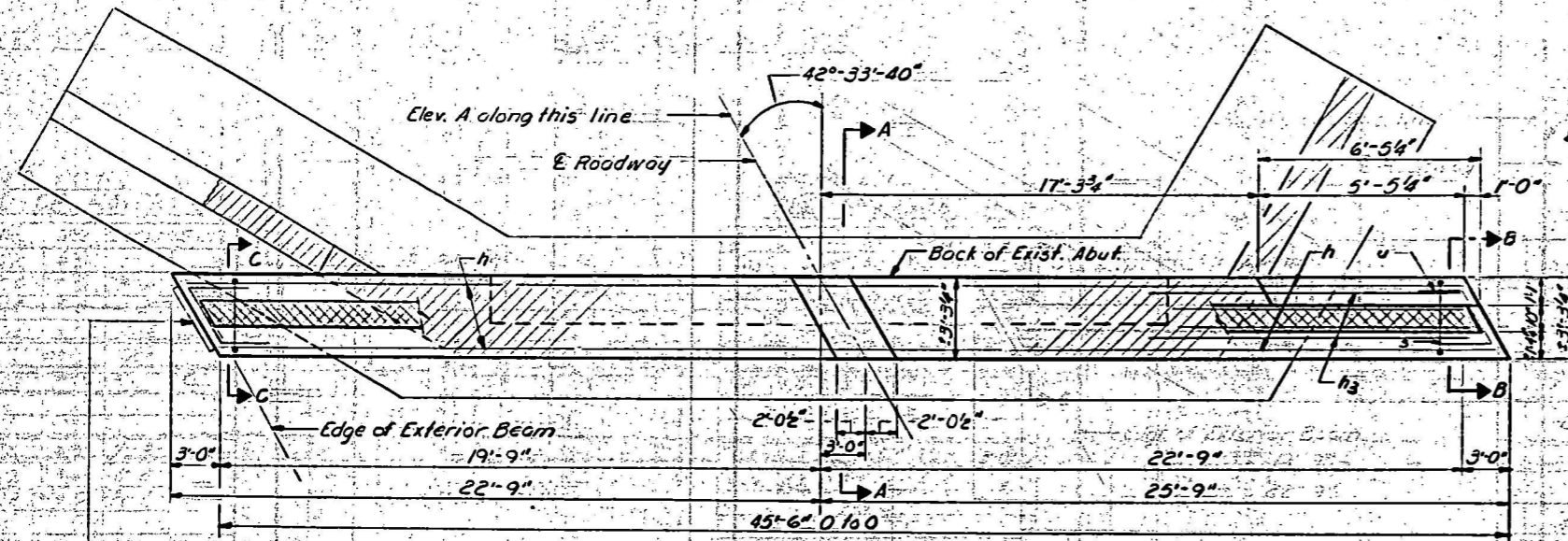
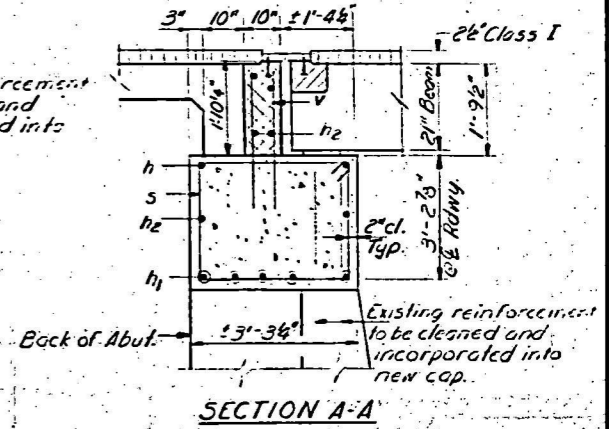
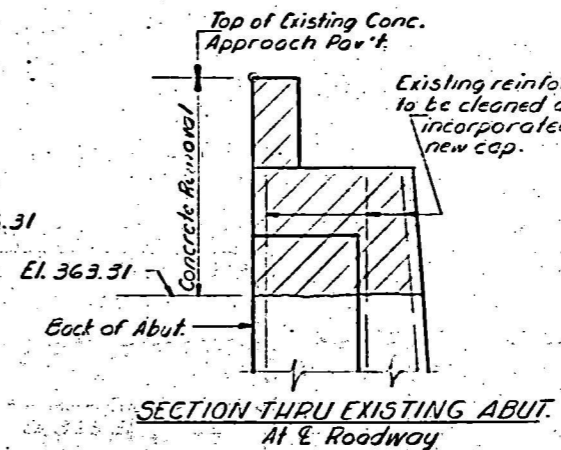
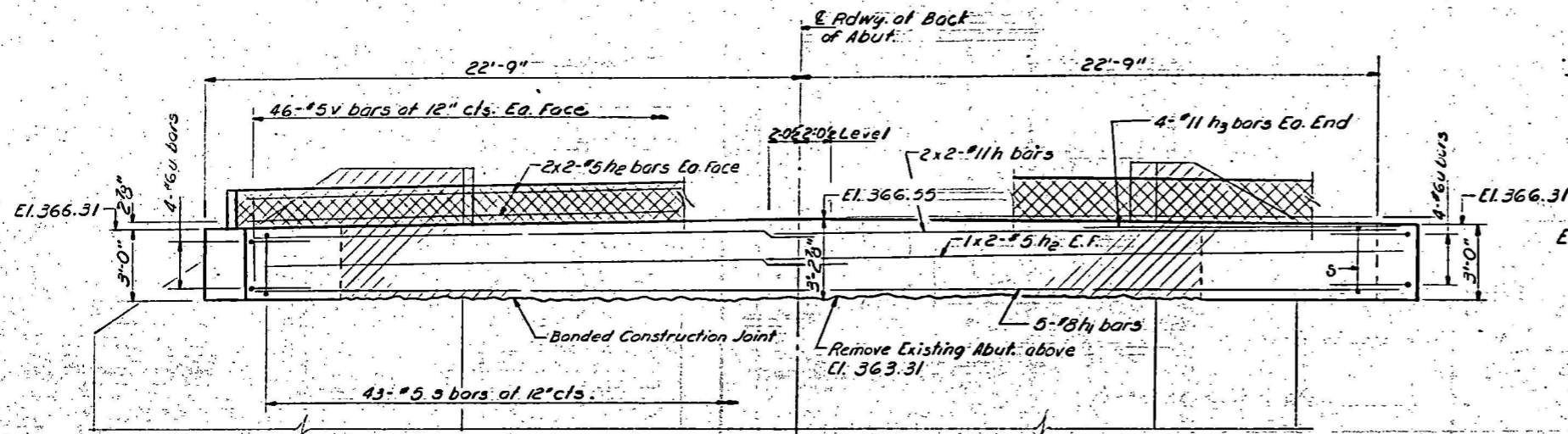
NORTH EAST - SOUTH WEST
APPROACH DETAILS
S.B.T. RT. 143 SEC. 105B-DR-1
SALINE COUNTY
STA. 1561+70

DESIGNED: L. J. Hinch
CHECKED: D. A. Rye
DRAWN: J. L. Armstrong
CHECKED: D. A. Rye

EXAMINED: Nov. 11, 1971
PASSED: J. L. Armstrong
APPROVED: J. L. Armstrong
DIRECTOR OF HIGHWAYS

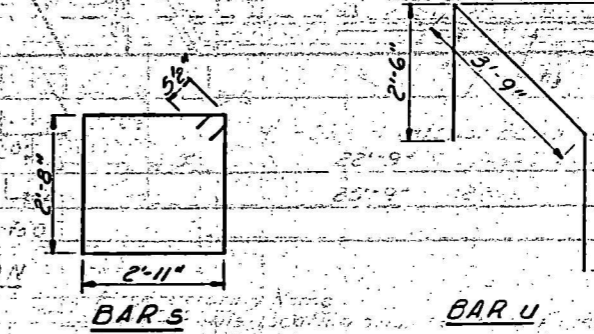
DESIGNED: L. J. Hinch
CHECKED: D. A. Rye
DRAWN: J. L. Armstrong
CHECKED: D. A. Rye

PROJECT NO.	SECTION	DATE	SHEET NO.
143	#	SALINE	68
TOTAL SHEETS		30	
SHEET NO.		10	



**TWO ABUTMENTS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h	8	#11	23'-7"	
h ₁	10	#8	45'-0"	
h ₂	24	#5	22'-10"	
h ₃	16	#11	12'-0"	
s	86	#5	12'-1"	
u	16	#6	8'-9"	
v	184	#5	3'-6"	
Class X Concrete			Cu Yds	39.8
Reinforcement Bars			Lbs.	5760
Concrete Removal			Cu Yds	26



Place existing Name Plate at this location below new Name Plate. Cost: Incidental.

Notes:
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.

All edges shall have standard 3/4" chamfers. Cross hatched area shall be poured after beams are in place. Quantities are included in the Abutment Bill of Material.

Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.

All edges shall have standard 3/4" chamfers. Cross hatched area shall be poured after beams are in place. Quantities are included in the Abutment Bill of Material.

DESIGNED: *L. S. Houck*
 CHECKED: *D. A. R. J.*
 DRAWN: *Ben Robinson*
 CHECKED: *D. A. R. J.*

EXAMINED: *[Signature]* Nov 11 1971
 PASSED:
 APPROVED: *[Signature]* DIRECTOR OF HIGHWAYS

DESIGNED: *[Signature]*
 CHECKED: *[Signature]*
 DRAWN: *[Signature]*
 CHECKED: *[Signature]*

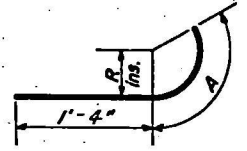
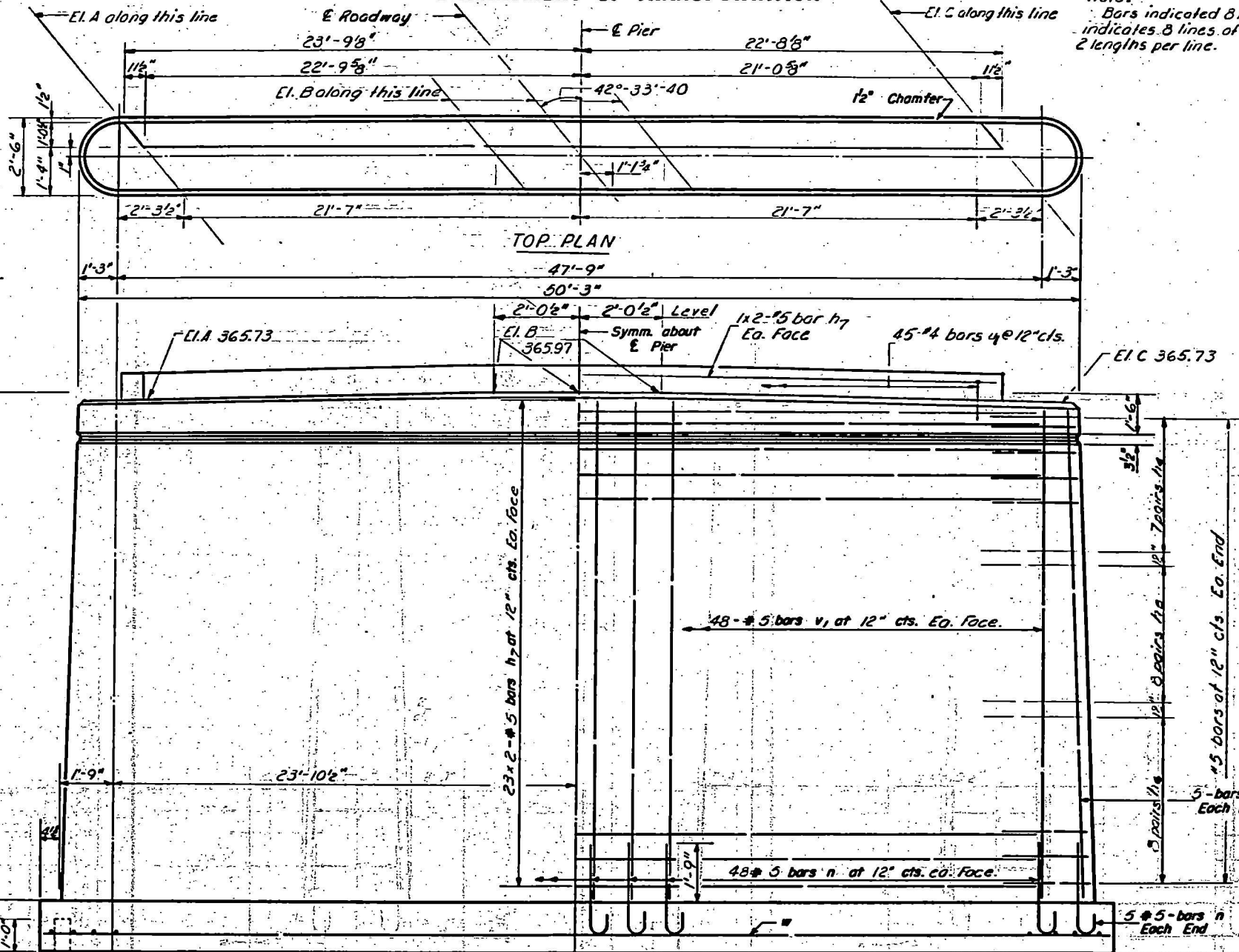
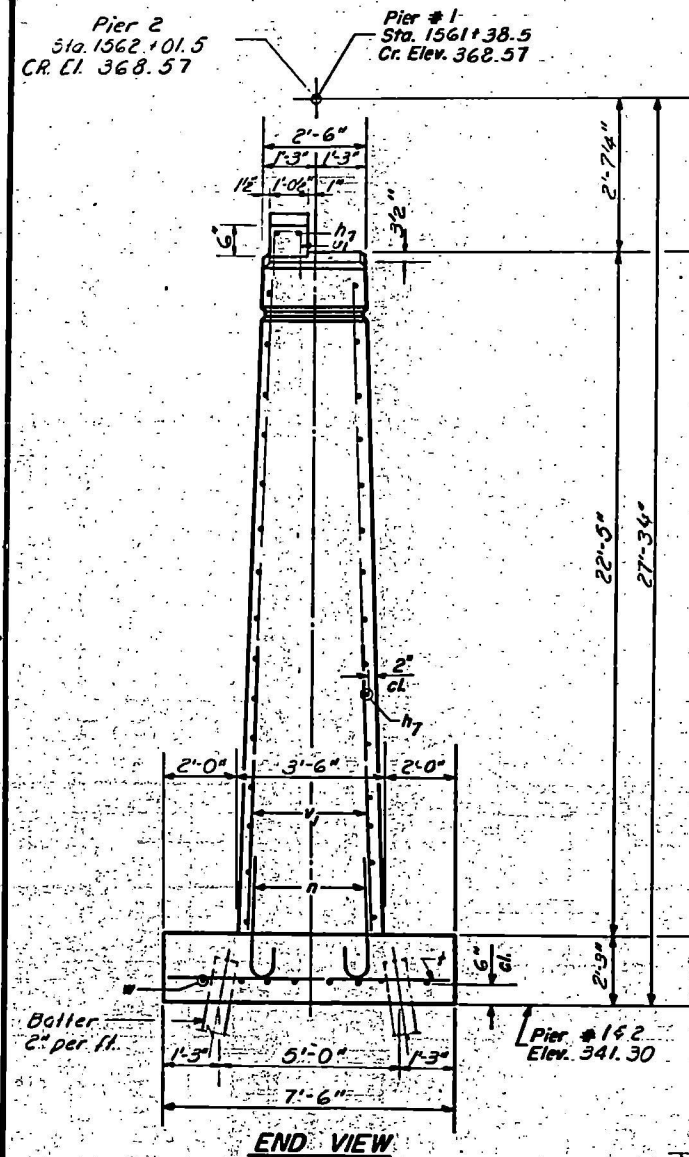
ABUTMENTS
S.B.I. RT 143 SEC. 105B-DR-1
SALINE COUNTY
STA. 1561+70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

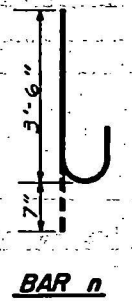
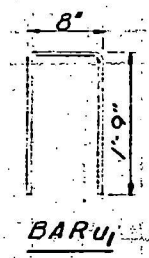
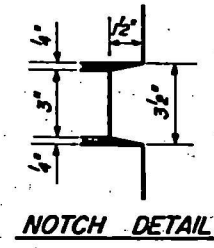
ROUTE NO.	SECTION	COUNTY	POST MILES	SHEET NO.
143		SALINE	6.8	31
SHEET NO. 9				
10 SHEETS				

Note:
Bars indicated 8 x 2-#6 etc.
indicates 8 lines of bars with
2 lengths per line.

PILE DATA
Type: Creosoted
Capacity: 20 Tons
Est. Length: 18'-0"
No. Req'd: 67 1 test pile at Pier #1



Bar	R	A
h4	1'-1"	2'-4"
h5	1'-3"	2'-7"
h6	1'-5"	2'-10"



TWO PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h4	56	#5	3'-8"	U
h5	64	#5	3'-11"	U
h6	64	#5	4'-2"	U
h7	192	#5	24'-6"	U
n	212	#5	4'-1"	C
v	88	#5	7'-3"	U
u	90	#4	4'-2"	U
v	212	#5	21'-11"	U
n	32	#6	26'-9"	U

Class X Concrete Cu. Yds. 315.4
Reinforcement Bars Lbs. 13610
Creosoted Piles up to 18' Lin. Ft. 1206
Test Piles Timber Ea. 1

DESIGNED: J. S. Hunch
CHECKED: D. A. R. J.
DRAWN: W. A. Scauphorn
CHECKED: D. A. R. J.

EXAMINED: [Signature]
PASSED: [Signature]
APPROVED: [Signature]

DIRECTOR OF HIGHWAYS

PIERS 142
S.B.I. RT. 143, SEC. 105 B-DR-1
SALINE COUNTY
STA. 1561+70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE	10/15/70
PROJECT	105(B-D-R-B-D-R-1, B-D-R-2, B-D-R-3, B-D-R-4)
NO. SHEETS	32
SHEET NO.	10

DESIGNED: *F. J. Hill*
 CHECKED: *D. A. Robinson*
 DRAWN: *Dev Robinson*
 CHECKED: *D. A. Robinson*
 APPROVED: _____
 DIRECTOR OF HIGHWAYS

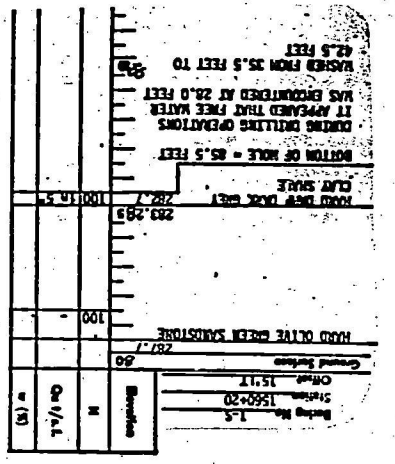
NOV 11 1971

Depth (ft)	Soils	Penetration (lb/ft)	Blows per foot	Notes
12	SEE PREVIOUS COLUMN	358.7	2.35	GREY CLAY A7-6(19)
16	SEE PREVIOUS COLUMN	358.7	3.18	BLACK SILTY CLAY A-6(12)
19	SEE PREVIOUS COLUMN	358.7	4.28	STIFF MOIST GREY SILTY CLAY A-6(11)
22	SEE PREVIOUS COLUMN	358.7	1.88	STIFF MOIST GREY SILTY CLAY A-6(10)
25	SEE PREVIOUS COLUMN	358.7	1.05	MEDIUM VERY MOIST GREY SILTY CLAY A-6(9)
28	SEE PREVIOUS COLUMN	358.7	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(8)
31	SEE PREVIOUS COLUMN	358.7	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(7)
34	SEE PREVIOUS COLUMN	358.7	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(6)
37	SEE PREVIOUS COLUMN	358.7	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(5)
40	SEE PREVIOUS COLUMN	358.7	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(4)
43	SEE PREVIOUS COLUMN	358.7	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(3)
46	SEE PREVIOUS COLUMN	358.7	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(2)
49	SEE PREVIOUS COLUMN	358.7	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(1)

Depth (ft)	Soils	Penetration (lb/ft)	Blows per foot	Notes
24	SEE PREVIOUS COLUMN	357.5	0.68	MEDIUM VERY MOIST GREY SILTY CLAY A-6(18)
27	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
30	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
33	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
36	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
39	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
42	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
45	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
48	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
51	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND

Depth (ft)	Soils	Penetration (lb/ft)	Blows per foot	Notes
12	SEE PREVIOUS COLUMN	357.5	2.35	GREY CLAY A7-6(19)
16	SEE PREVIOUS COLUMN	357.5	3.18	BLACK SILTY CLAY A-6(12)
19	SEE PREVIOUS COLUMN	357.5	4.28	STIFF MOIST GREY SILTY CLAY A-6(11)
22	SEE PREVIOUS COLUMN	357.5	1.88	STIFF MOIST GREY SILTY CLAY A-6(10)
25	SEE PREVIOUS COLUMN	357.5	1.05	MEDIUM VERY MOIST GREY SILTY CLAY A-6(9)
28	SEE PREVIOUS COLUMN	357.5	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(8)
31	SEE PREVIOUS COLUMN	357.5	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(7)
34	SEE PREVIOUS COLUMN	357.5	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(6)
37	SEE PREVIOUS COLUMN	357.5	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(5)
40	SEE PREVIOUS COLUMN	357.5	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(4)
43	SEE PREVIOUS COLUMN	357.5	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(3)
46	SEE PREVIOUS COLUMN	357.5	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(2)
49	SEE PREVIOUS COLUMN	357.5	0.78	MEDIUM VERY MOIST GREY SILTY CLAY A-6(1)

Depth (ft)	Soils	Penetration (lb/ft)	Blows per foot	Notes
24	SEE PREVIOUS COLUMN	357.5	0.68	MEDIUM VERY MOIST GREY CLAY A7-6(18)
27	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
30	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
33	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
36	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
39	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
42	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
45	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
48	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND
51	SEE PREVIOUS COLUMN	357.5	0.58	VERY LOOSE MET FINE SAND



N-Standard Penetration Test - Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 # hammer falling 30" of oven dry weight - %
 Qu-Unconfined Compressive Strength - 1st
 S-Shear failure
 D-Dulge failure
 E-Estimated Value
 P-Penetrometer

BORING DATA
 SALINE COUNTY
 STA. 1561+70
 S.B.T. RT. 143 SEC. 105 B-D-R-1

INDEX TO SHEETS SECTION 105-A

SHEET NO.	1	COVER SHEET
"	2	STANDARD CROSS SECTION NO 1230
"	3	PLAN & PROFILE STA 1498+00 TO STA 1525+00
"	4	" " " " 1525+00 " " 1555+00
"	5	" " " " 1555+00 " " 1585+00
"	6	" " " " 1585+00 " " 1615+00
"	7	" " " " 1615+00 " " 1645+00
"	8	" " " " 1645+00 " " 1662+00
"	9-20	INCLUSIVE CROSS SECTIONS
"	21	STD. CULV. DESIGN 828-3
"	21	SPEC. " " STA 1501+00, 1514+30, 1515+00
"	22	" " " " 1540+00, 1541+50, 1628+48, 1650+19
"	23	" " " " 1658+00
"	23	STANDARD NO 1162

SECTION 105B-C

SHEET NO.	1	COVER SHEET
"	4	PLAN & PROFILE
"	5	" " " "
"	8	" " " "
"	24	SPECIAL BRIDGE DESIGN STA 1542+00 (Sheet 1 of 3)
"	25	" " " " 1542+00 C " " 3 of 3
"	26	" " " " 1542+00 C " " 2 of 3
"	26	" " " " 1551+88 " " " "
"	26	" " " " 1574+00 C " " 2 of 3
"	26	" " " " 1574+00 C " " 3 of 3
"	27	" " " " 1574+00 C " " 1 of 3
"	28	" " " " 1560+00 C " " 1 of 1
"	29	" " " " 1561+70 C " " 1 of 2
"	30	" " " " 1561+70 C " " 2 of 2
"	31	" " " " 1582+30 C " " 1 of 2
"	32	" " " " 1582+30 C " " 2 of 2
"	33	" " " " 1649+25 C " " 1 of 2
"	34	" " " " 1649+25 C " " 2 of 2
"	34-A	STANDARD NO 1178

ROUTE-143-SEC-105A-BC-SALINE CO.

FROM A POINT NEAR THE S.E. CORNER OF SECTION 28, T-8-S, R-6-E, OF THE 3RD R.M.
TO A POINT NEAR THE S.E. CORNER OF SECTION 9, T-9-S, R-6-E, OF THE 3RD R.M.

SECTION 105B INCLUDES:

- RC GIRDER BRIDGE - 1 SPAN @ 50'
STA 1542+00
- RC BOX CULVERT - 1 SPAN @ 12'
STA 1551+88
- STEEL BEAM BRIDGE - 3 SPANS @ 15'
STA 1560+00
- RC SUBSTRUCTURE FOR STEEL BRIDGE
STA 1561+70
- RC GIRDER BRIDGE - 2 SPANS @ 35'
STA 1574+00
- RC SUBSTRUCTURE FOR STEEL BRIDGE
STA 1582+30
- RC SUBSTRUCTURE FOR STEEL BRIDGE
STA 1649+25

SECTION 105C INCLUDES:

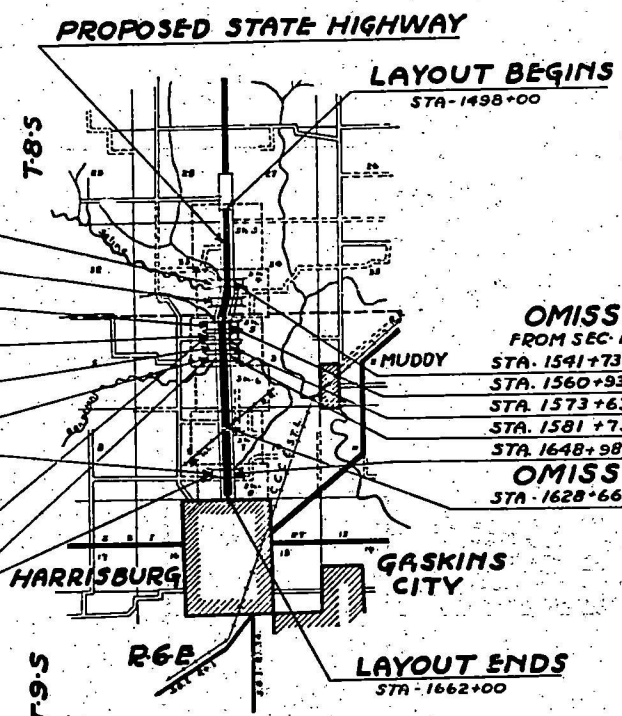
- STEEL SUPERSTRUCTURE - 1 SPAN @ 150'
FOR BRIDGE AT STA 1561+70
- STEEL SUPERSTRUCTURE - 1 SPAN @ 100'
FOR BRIDGE AT STA 1582+30
- STEEL SUPERSTRUCTURE - 1 SPAN @ 50'
FOR BRIDGE AT STA 1649+25

OMISSIONS: FROM SEC 105A-ONLY

- STA 1591+73.5 - 1542+26.5
- STA 1560+93.5 - 1562+46.5
- STA 1573+63.5 - 1574+36.5
- STA 1581+79 - 1582+81
- STA 1648+98 - 1649+52

OMISSION:

- STA 1628+66.6 - 1628+77.6



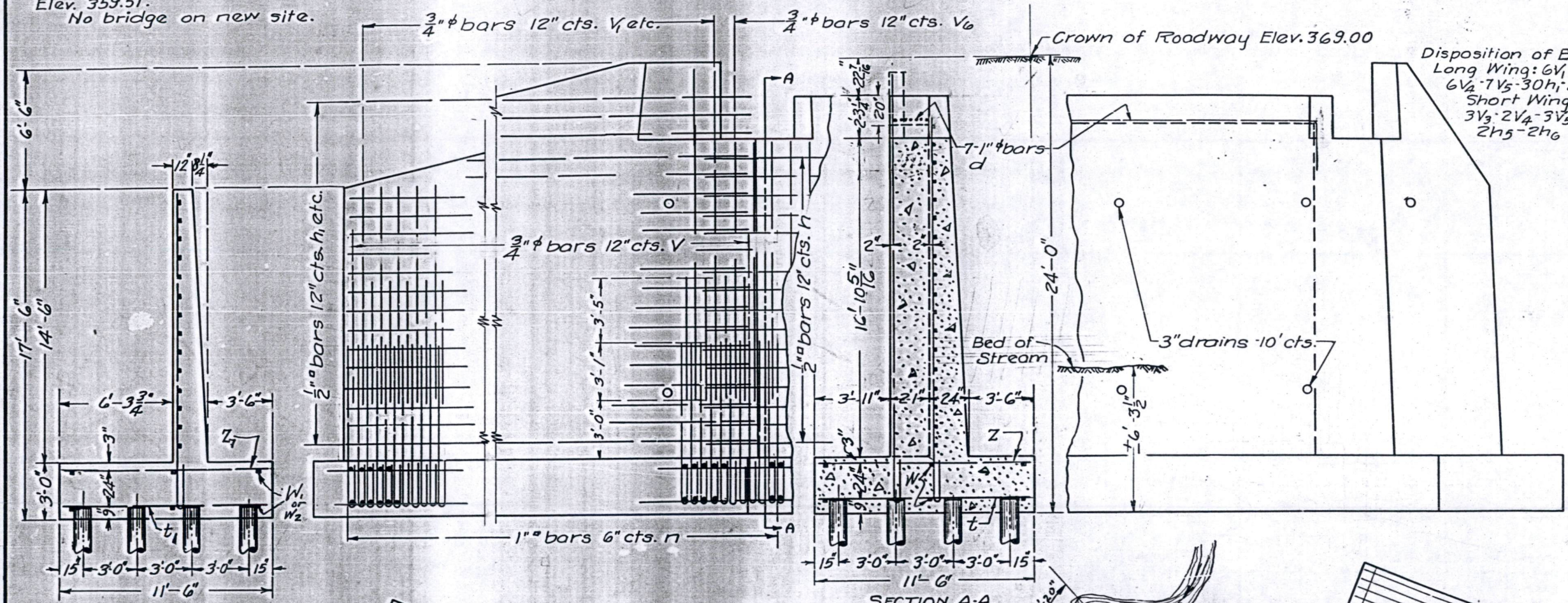
LAYOUT
APPROXIMATE SCALE 1-INCH=1 MILE
NET LENGTH OF LAYOUT=16389.0 FT=3.1040 MI

STATE OF ILLINOIS	
DEPARTMENT OF PUBLIC WORKS AND BUILDING	
DIVISION OF HIGHWAYS	
APPROVED	DEC 5 1931
G. A. SOMERVILLE	
DESIGNED	DEC 5 1931
E. D. DEYER	
CHECKED	DEC 5 1931
J. B. PRINCE	
APPROVED	DEC 5 1931
H. W. CROSBY	
APPROVED	DEC 5 1931
L. H. CROSBY	

Reel 9-15
sec: 105B
STA: 1561+70

083-0038

B.M. "X" cut on N.E. corner Middle Fork Dredge Ditch Bridge Abutment, Elev. 359.51.
No bridge on new site.



Disposition of Bars:
Long Wing: 6V₁-7V₂-6V₃
6V₂-7V₅-30h₁-2h₂-2h₃
Short Wing: 3V₁-2V₂
3V₃-2V₄-3V₅-15h₄
2h₅-2h₆

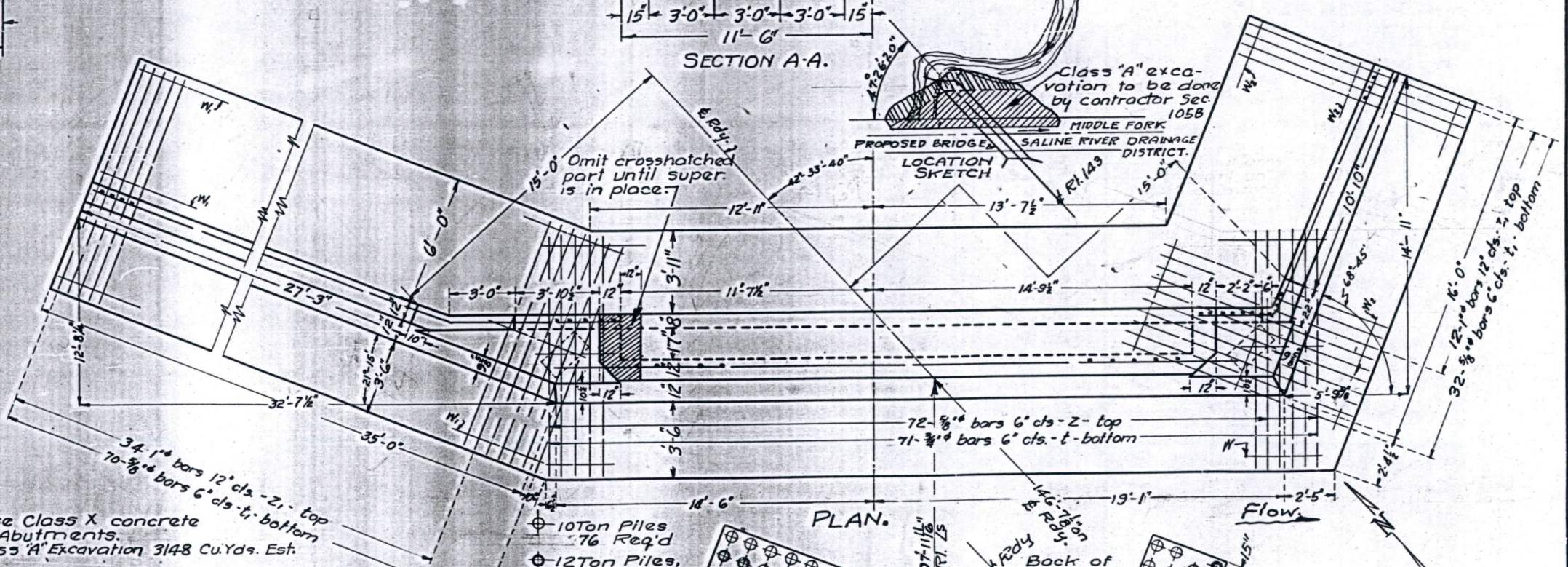
END OF WING.

BILL OF MATERIAL.

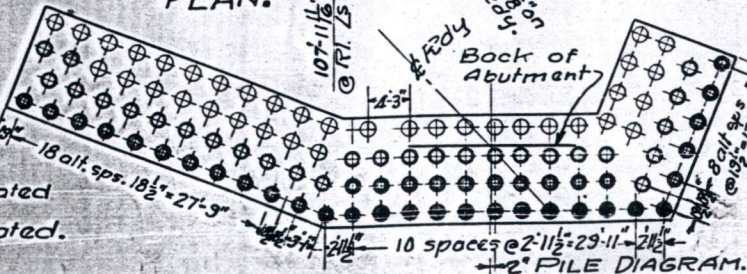
Bars	No.	Size	Length
V	160	3/4" φ	6'-6"
V ₁	18	"	11'-6"
V ₂	18	"	13'-0"
V ₃	18	"	14'-6"
V ₄	16	"	16'-0"
V ₅	20	"	17'-6"
V ₆	70	"	15'-6"
d	14	1" φ	30'-6"
h	68	1/2" #	16'-6"
h ₁	60	"	18'-0"
h ₂	4	"	27'-6"
h ₃	4	"	19'-0"
h ₄	30	"	14'-6"
h ₅	4	"	12'-6"
h ₆	4	"	8'-6"
n	320	1" #	10'-3"
t	142	3/4" #	11'-3"
t ₁	204	5/8" #	11'-3"
t ₂	144	"	11'-3"
t ₃	92	1" #	11'-3"
w	24	1/2" #	19'-0"
w ₁	24	"	18'-6"
w ₂	12	"	16'-6"

Reinforcing Steel Lbs. 30,100
Concrete Class X Cuds. 399.0
Piles Lin. Ft. 4120

Use Class X concrete in Abutments.
Class 'A' Excavation 3148 Cu.Yds. Est.



- 10 Ton Piles 76 Req'd
 - 12 Ton Piles 52 Req'd
 - 15 Ton Piles 52 Req'd
 - 18 Ton Piles 26 Req'd
- Piles are estimated 20 Ft. long.
Piles are untreated.



MIDDLE FORK SALINE RIVER DRAINAGE DITCH
S.B.I. RT. 143 SEC. 105-B
SALINE CO.
STA. 1561 + 70.

COMPUTED	H.L. Owen
CHECKED	<i>[Signature]</i>
DRAWN	H.L.O. M.H.F.R. 3
CHECKED	<i>[Signature]</i>
ASSEMBLED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>

EXAMINED 9-8-1931
PASSED *[Signature]*
APPROVED *[Signature]*
BRIDGE ENGINEER
ENGINEER OF DESIGN
CHIEF HIGHWAY ENGINEER