

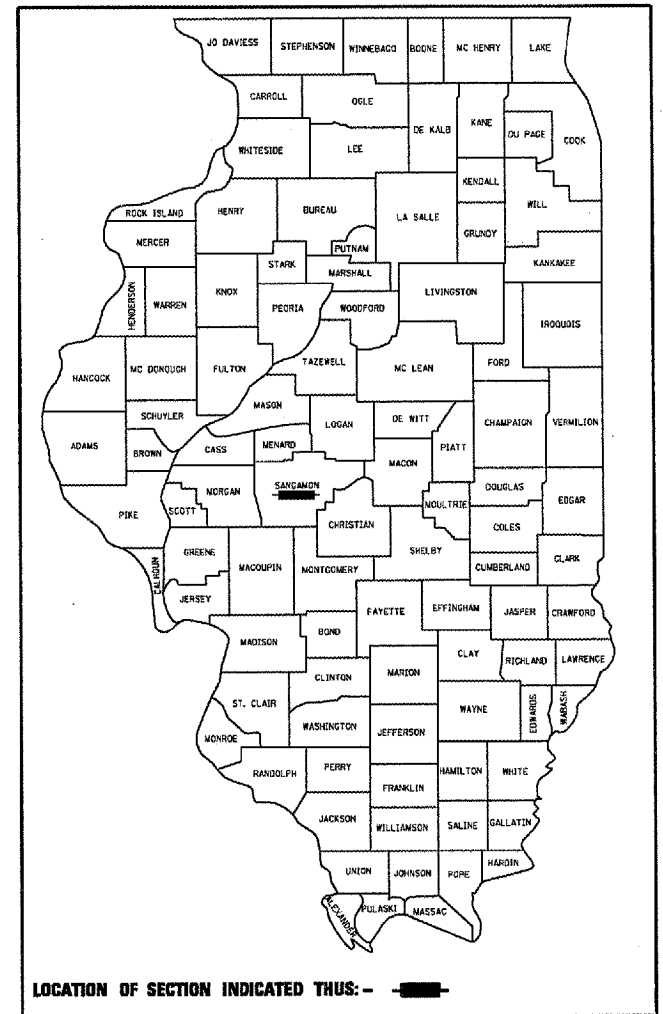
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	W/F	SANGAMON	10	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 72B69		

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

**PROPOSED**  
**HIGHWAY PLANS**

**FAP 67 (IL RTE. 97)**  
**SECTION (W)F**  
**PROJECT : ACF-0067 (077)**  
**SANGAMON COUNTY**  
**C-96-029-08**

D-96-029-08



**INDEX OF SHEETS**

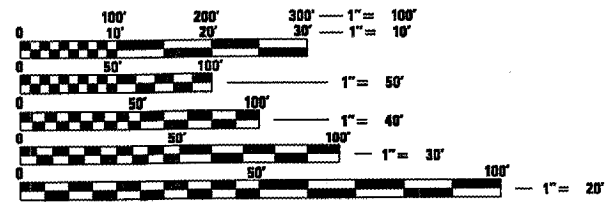
COVER SHEET	1
SIGNATURE BLOCK, SUMMARY OF QUANTIES	2
BRIDGE DETAILS	3-10

**LIST OF STANDARDS**

- 000001-05
- 001001-01
- 001006

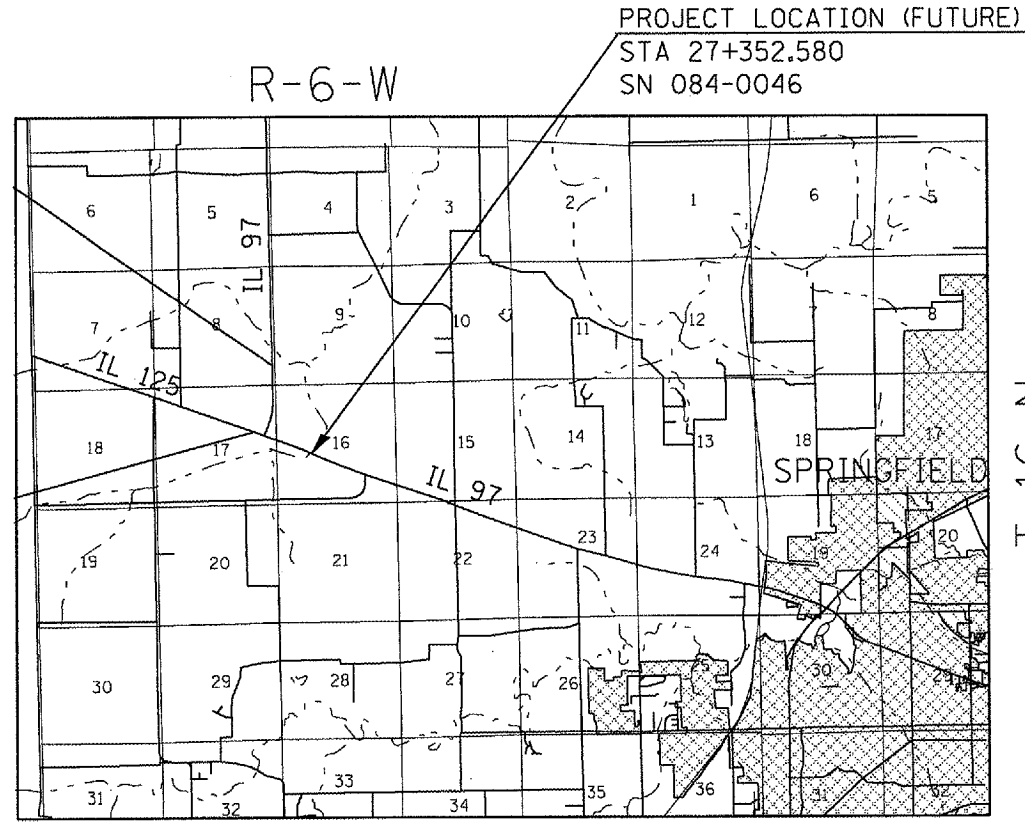
**PROJECT DESCRIPTION**

- FABRICATION OF PRECAST PRESTRESSED CONCRETE DECK BEAMS FOR THE FUTURE SUPERSTRUCTURE REPLACEMENT FOR SN 084-0046 CARRYING FAP 67 (IL 97) OVER PRAIRIE CREEK
- FURNISHING OF STRUCTURAL STEEL FOR THE TEMPORARY BRACING OF ABOVE SAID STRUCTURE



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.

J.U.L.I.E.  
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
 1-800-892-0123  
 OR 811



**LOCATION MAP**

PROJECT ENGINEER Sai Madonia 217-782-4761  
 PROJECT MANAGER Marcus Bruce 217-524-0946

CONTRACT NO. 72B69

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED Dec 4 2007  
CO. M. Reed  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

February 1, 2008  
Eric E. Horn  
 INTERIM ENGINEER OF DESIGN AND ENVIRONMENT

February 1, 2008  
Christine M. Reed  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

SUMMARY OF QUANTITIES

CODE	PAY ITEM	UNIT	80% FED. / 20% STATE SFTY-2A QUANTITY
X0325931	STORAGE OF PRECAST PRESTRESSED CONCRETE DECK BEAMS	CAL DA	30
X0325915	FURNISHING PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1927
X0325914	FURNISHING STRUCTURAL STEEL	POUND	26060
50500455	STORAGE OF STRUCTURAL STEEL	CAL DA	30

DISTRICT SIX	
EXAMINED	<u>November 29</u> 20 <u>07</u> <i>[Signature]</i> OPERATIONS ENGINEER
EXAMINED	<u>Nov 30</u> 20 <u>07</u> <i>[Signature]</i> PROGRAM IMPLEMENTATION ENGINEER
EXAMINED	<u>Dec 4</u> 20 <u>07</u> <i>[Signature]</i> PROGRAM DEVELOPMENT ENGINEER

Rev.

FILE NAME =	USER NAME = slglert	DESIGNED -	REVISED -
c:\projects\6502908\ahd\detail.dgn		DRAWN -	REVISED -
PLOT SCALE = 100.0000' / IN.		CHECKED -	REVISED -
PLOT DATE = Dec-04-2007 03:18:55PM		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES			
SCALE: _____	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	F.A.P. RTE. 67
			SECTION (W/F)
			COUNTY SANGAMON
			TOTAL SHEETS 10
			SHEET NO. 2
			CONTRACT NO. 72B69
			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
IL 97		SANGAMON	10	3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1  
8 SHEETS

Contract Number: 72B69

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

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.

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

Attach new name plate to the backside of 8" Rail element. Existing name plate is to be removed, cleaned and relocated adjacent to new name plate. Cost included in the cost of Name Plates.

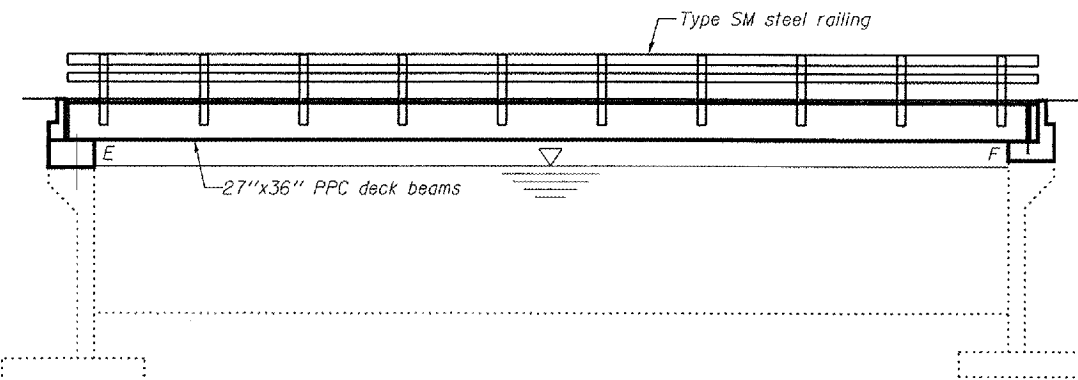
All structural steel embedded in the PPC deck beams shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing Precast Prestressed Concrete Deck Beams (27" Depth).

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of each fascia beam. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

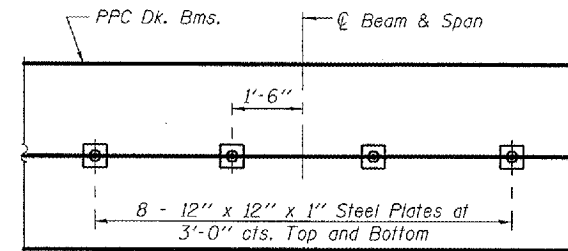
The Contractor has the option of using used steel. See Special Provisions.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

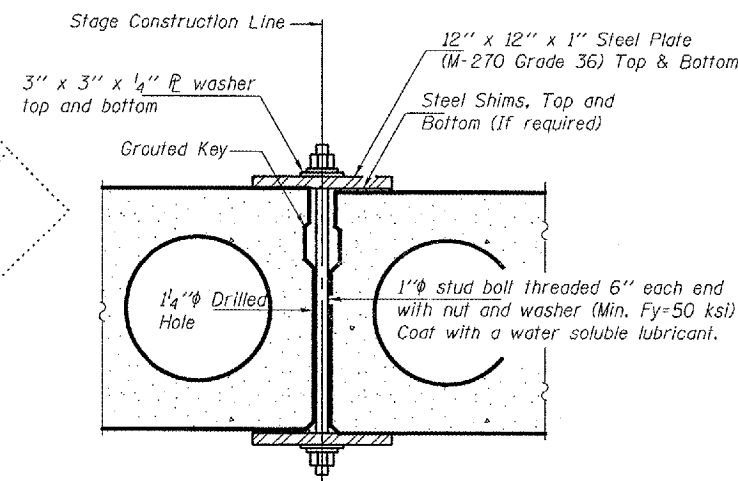


**ELEVATION**

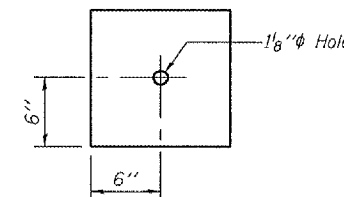
\* To be installed prior to switching traffic over for Stage I.



**PLAN**



**SECTION**



**CLAMPING PLATE**

Notes:  
See Special Provisions for Stage Construction  
Precast Prestressed Concrete Deck Beams.  
See Stage Construction Detail for Traffic Lane.  
Cost is included with Erecting Precast Prestressed Concrete Deck Beams.

**LOADING HS20-44**

**DESIGN SPECIFICATIONS**  
2002 AASHTO Standard Specifications

**DESIGN STRESSES**

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

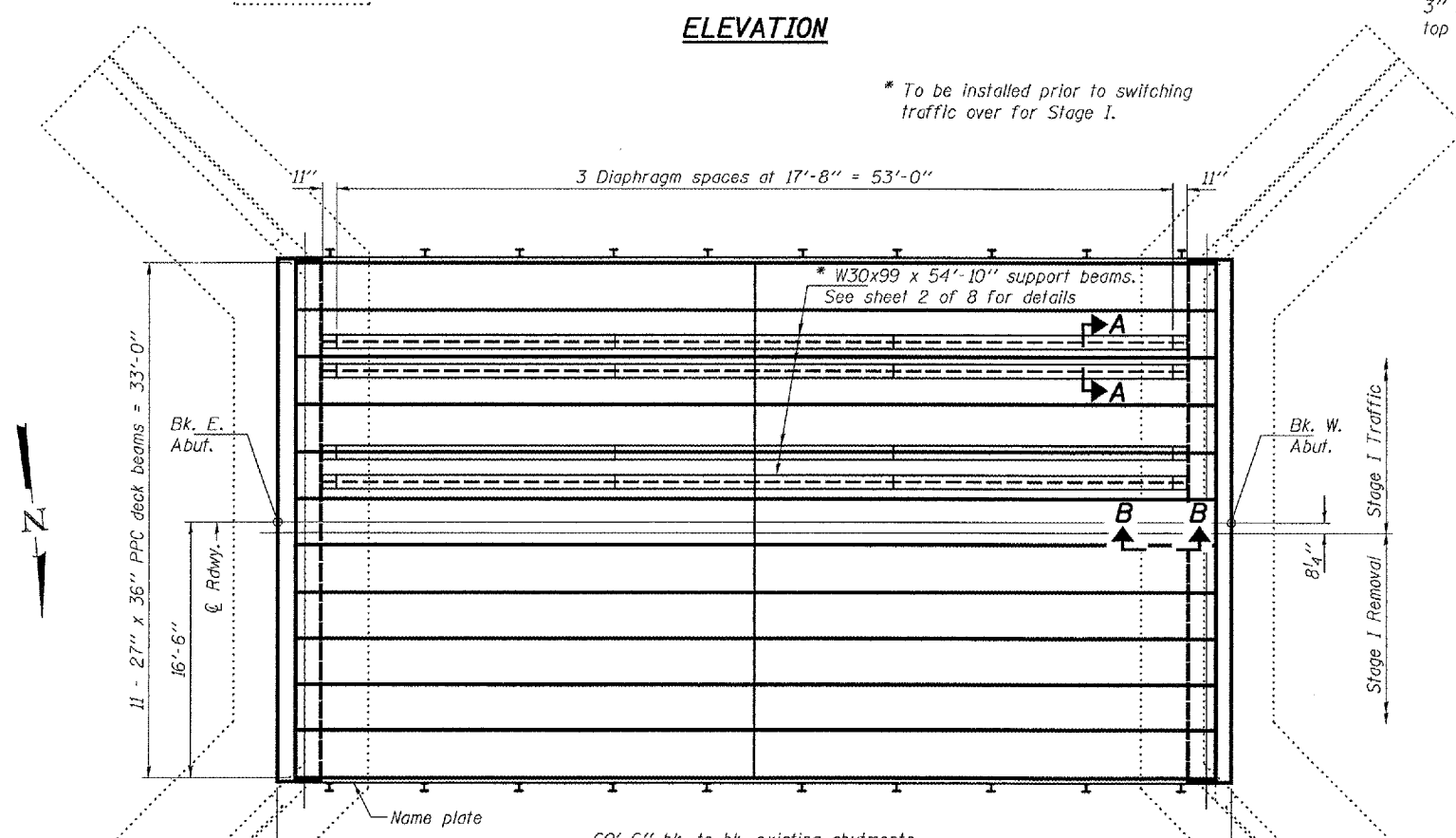
$f'_c = 5,000$  psi  
 $f'_ci = 4,000$  psi  
 $f'_s = 270,000$  psi ( $1/2$ " low lax strands)  
 $f'_si = 201,960$  psi ( $1/2$ " low lax strands)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
▲ Concrete Removal	Cu. Yd.	6.8		6.8
▲ Concrete Structures	Cu. Yd.		9.6	9.6
▲ Concrete Superstructure	Cu. Yd.	4.8		4.8
▲ Name Plates	Each	1		1
Furnishing Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1927		1927
▲ Reinforcement Bars, Epoxy Coated	Pound		1680	1680
▲ Removal of Existing Superstructures	Each	1		1
▲ Steel Railing, Type SM	Foot	121		121
▲ Waterproofing Membrane System	Sq. Yd.	214		214
Furnishing Structural Steel	Pound		26060	26060
▲ Silicone Joint Sealer	Foot	33		33
▲ Hot-Mix Asphalt Surface Course, Mix "C", NSO	Tons	36		36
▲ Polymer Concrete	Cu. Ft.	1.2		1.2
▲ PC Mortar Fairing Course	Foot	584		584
▲ Bar Splicers	Each	8	8	16

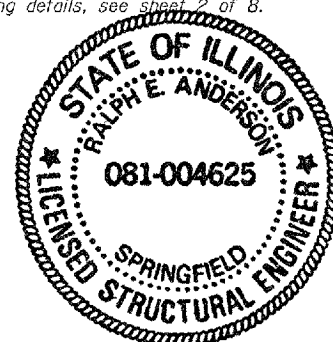
▲ For Information Only

**PLAN AND ELEVATION**  
**IL. 97 OVER PRAIRIE CREEK**  
**SANGAMON COUNTY**  
**SN 084-0046**



**PLAN**

For SECTIONS A-A & B-B & staging details, see sheet 2 of 8.



EXPIRES 11-30-2008

STATION 270+33  
REBUILT 2008 BY  
STATE OF ILLINOIS  
LOADING HS20  
STRUCTURE NO. 084-0046

**NAME PLATE**  
See Std. 515001

DESIGNED *Victon H. Veliz*  
CHECKED *Adrian T. Hallaway*  
DRAWN *baliva*  
CHECKED *VHV ATIT*

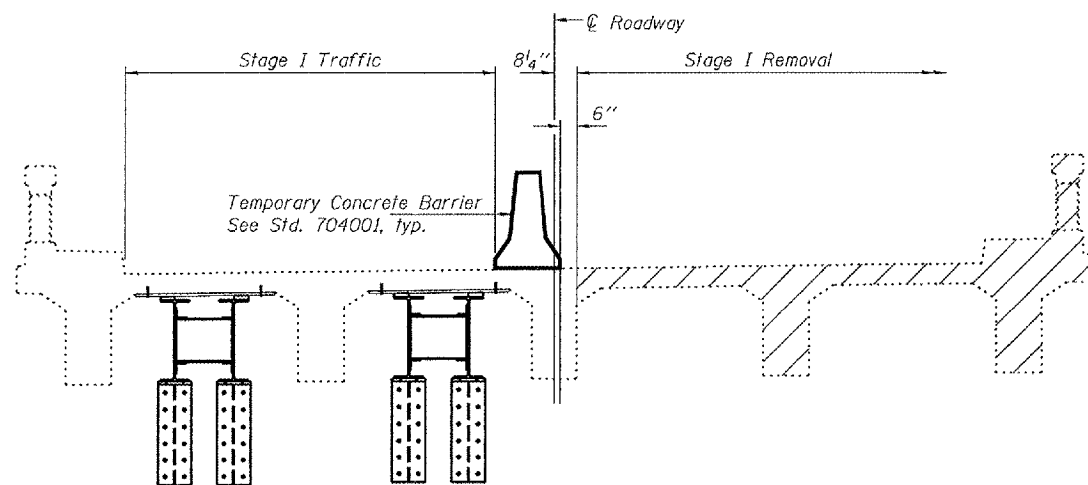
JANUARY 22, 2008  
EXAMINED *John Carl Pumper*  
PASSED *Ralph E. Anderson*

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

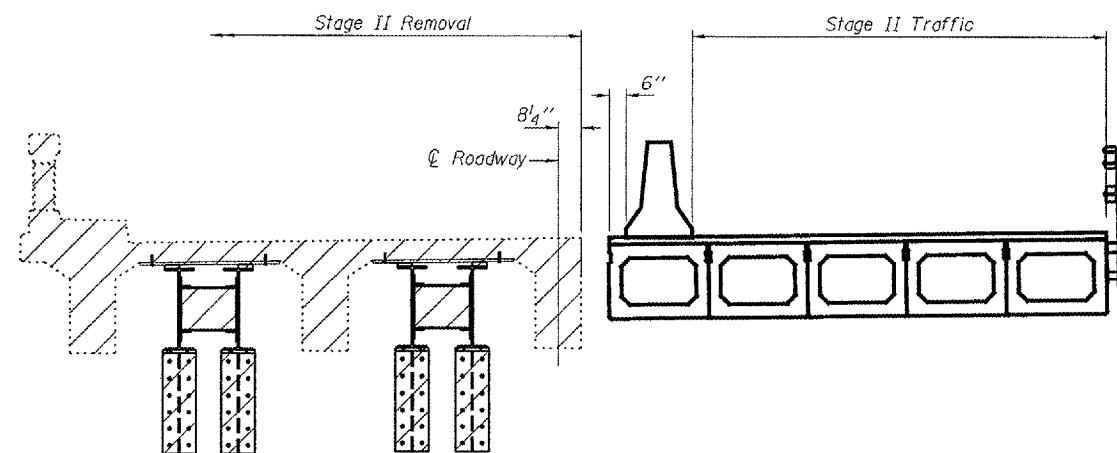
ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
IL 97		SANGAMON	10	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2  
8 SHEETS

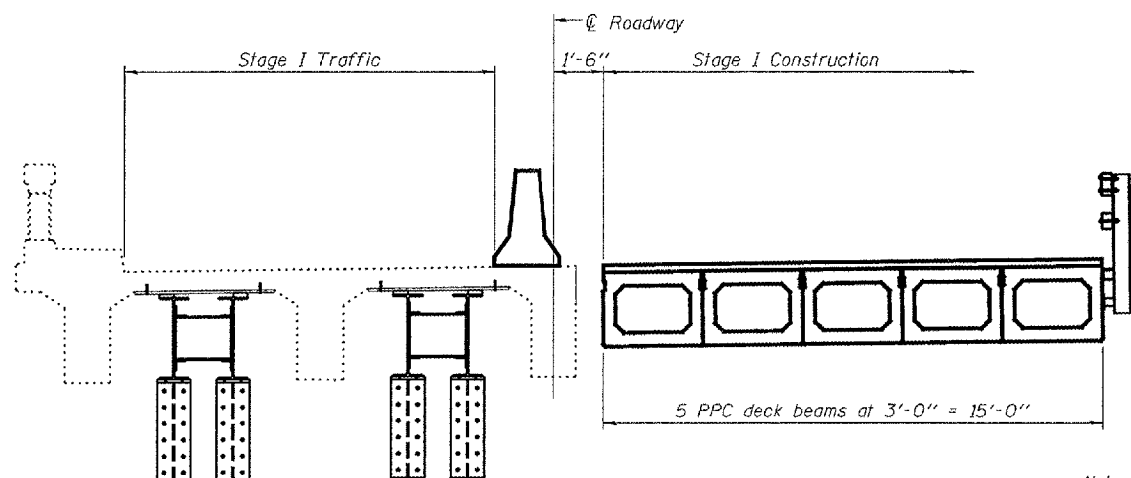
Contract Number: 72B69



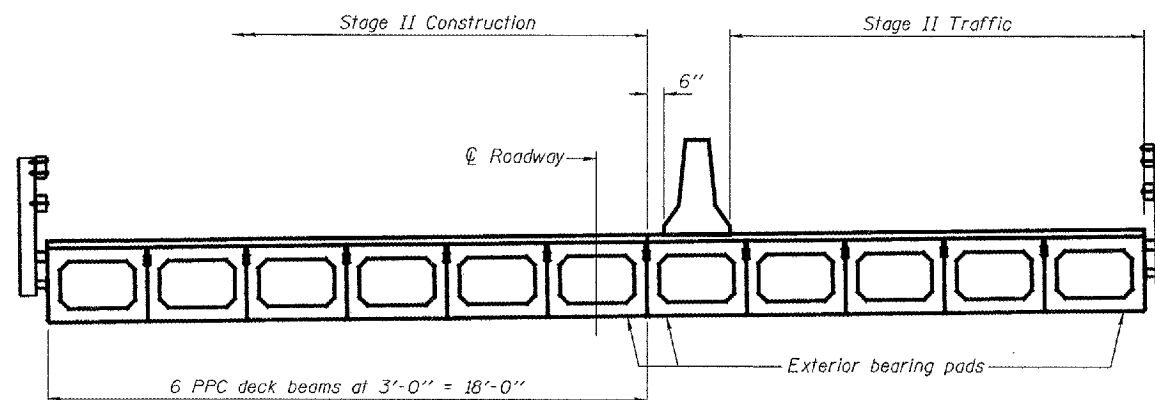
**STAGE I REMOVAL**



**STAGE II REMOVAL**



**STAGE I CONSTRUCTION**



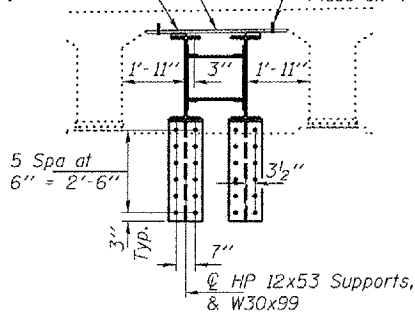
**STAGE II CONSTRUCTION**

Note:  
All views are looking West.  
Hatched areas indicate Removal.  
After removal, anchor bolts for  
HP sections to be cut flush with  
wall and sealed. Typ.

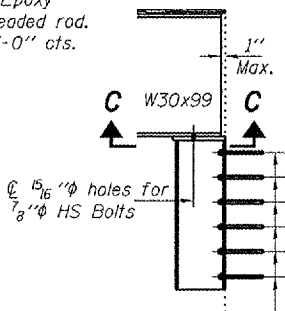
1" x 4'-1/2" Plywood.  
Cost included with Erecting  
Structural Steel.

1" x 6" x 12" Shim Pl., placed  
at 3'-0" cts. Add additional  
shims as necessary. Tack  
weld to beam.

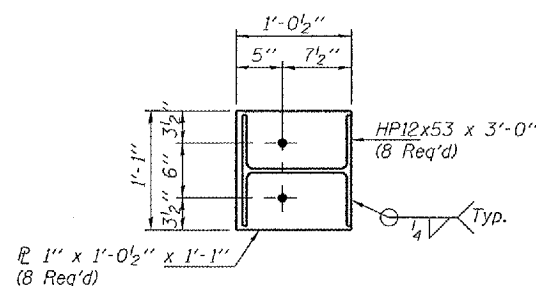
5/8" φ x 5" Epoxy  
grouted threaded rod.  
Place on 4'-0" cts.



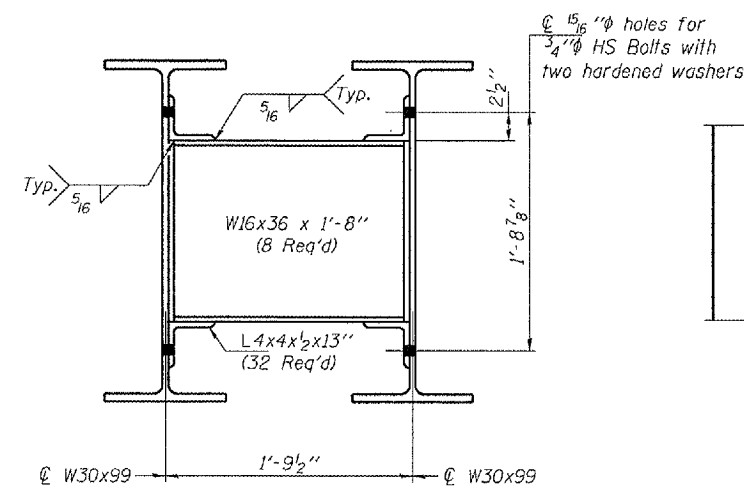
**SECTION A-A**



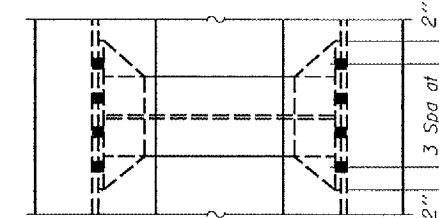
**SECTION B-B**



**SECTION C-C**



**DIAPHRAGM ELEVATION**



**DIAPHRAGM PLAN**

**STAGING DETAILS**  
**IL. 97 OVER PRAIRIE CREEK**  
**SANGAMON COUNTY**  
**SN 084-0046**

DESIGNED	VHV
CHECKED	ATH
DRAWN	baliva
CHECKED	VHV ATH

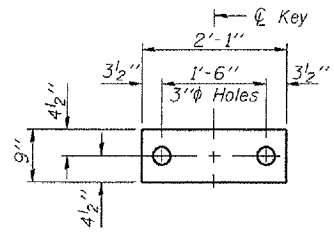
JANUARY 22, 2008  
EXAMINED *Carl P. ...*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

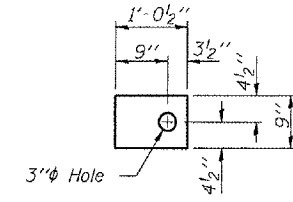
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
IL 97		SANGAMON	10	5
FED. ROAD DIST. NO. 7	ILLINOIS	REG. AID PROJECT		

SHEET NO. 3  
8 SHEETS

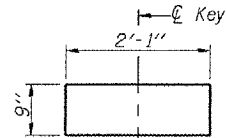
Contract Number: 72B69



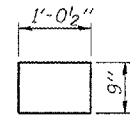
**FABRIC BEARING PAD**  
(Interior)



**FABRIC BEARING PAD**  
(Exterior)

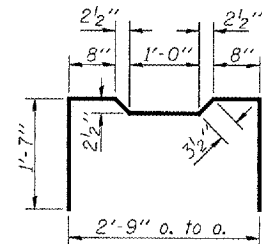


**FABRIC BEARING PAD**  
(Interior)

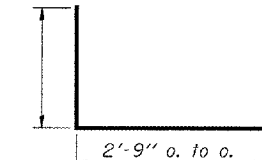


**FABRIC BEARING PAD**  
(Exterior)

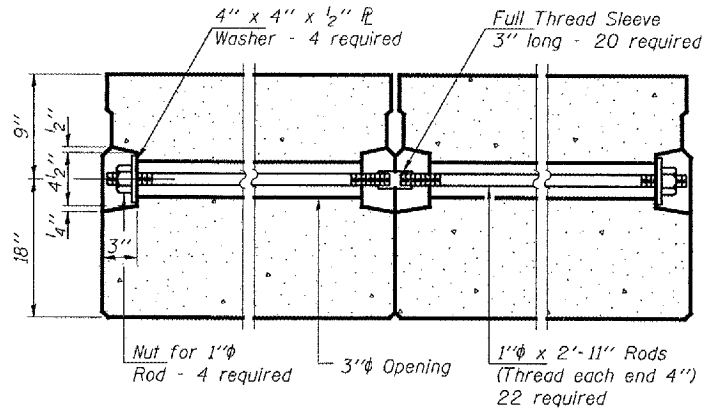
**FIXED**  
**EXPANSION**



**BAR A1**



**BARS U & U1**

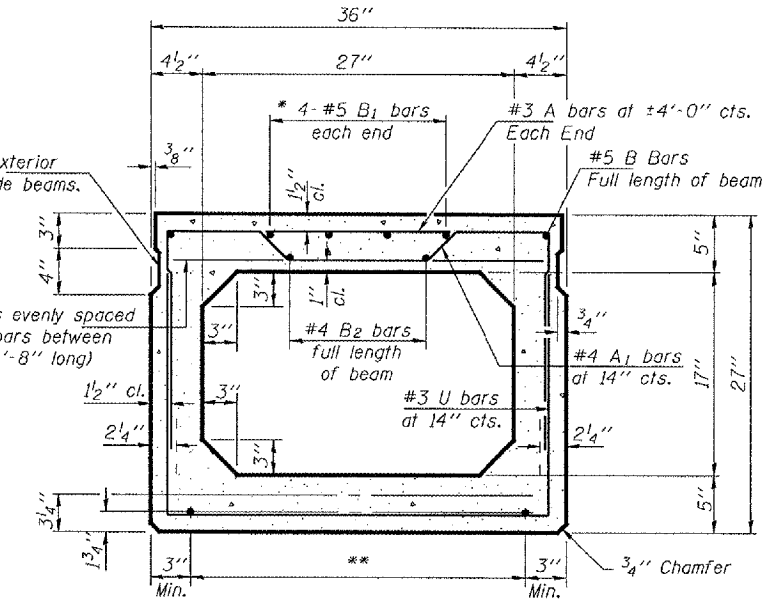


**TYPICAL TRANSVERSE TIE ASSEMBLY**

**\* TRANSVERSE PLACEMENT GUIDELINES**

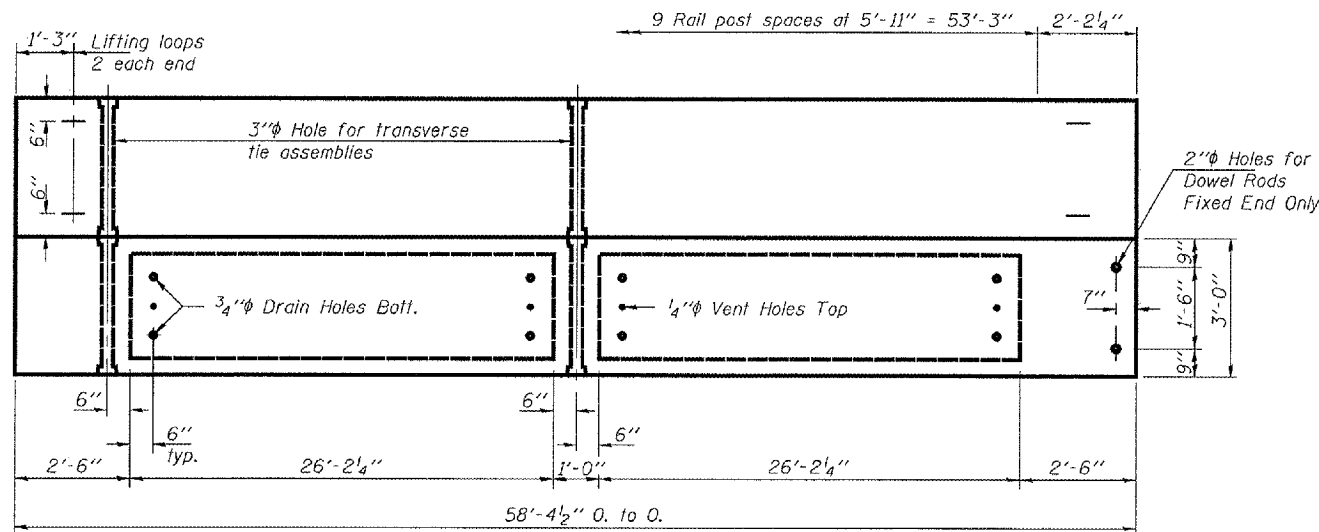
1. Place strands symmetrically about centerline of beam.
2. The minimum distance from center to center of strands in all directions shall be 2".
3. The minimum clearance from strand to dowel hole shall be 1/2".
4. The minimum clearance from strand to void shall be 1 1/2".

Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

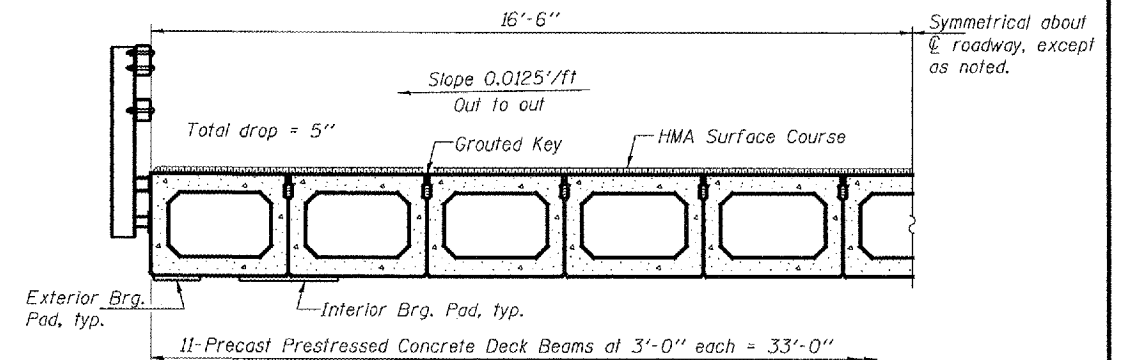


**TYPICAL SECTION**

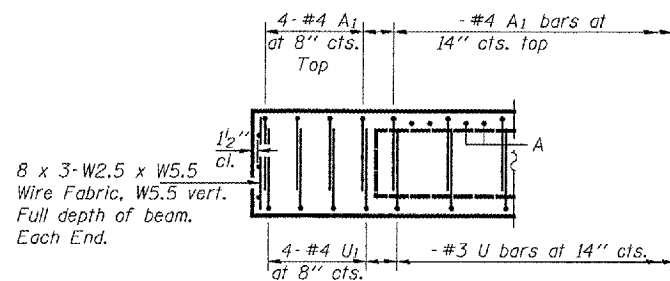
1/2" Strands, Each Strand Stressed to 30,900 Lbs.  
6-Strands 1 3/4" up, 6-Strands 3/4" up, 2-Strands 4 1/2" up



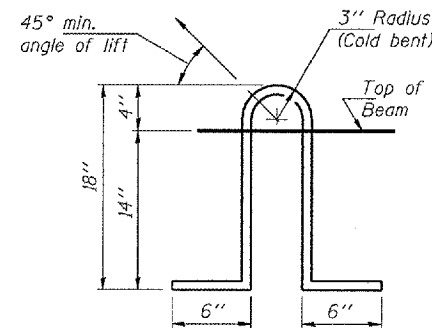
**PLAN**



**HALF CROSS SECTION**  
(Looking West)



**END ELEVATION**



**LIFTING LOOP DETAIL**

**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. Lifting loops shall be 2-1/2" diameter 270 ksi strands, as shown.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
- Non prestressing 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 Exterior 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 beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam 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 prestressed concrete deck beams.
- Required Release Strength, f'ci, shall be 4000 p.s.i.

**BILL OF MATERIAL**

Furnishing Precast Prestressed Conc. Deck Bms. 27" Depth	Sq. Ft.	1927

DESIGNED	VHV
CHECKED	ATH
DRAWN	baliva
CHECKED	VHV ATH

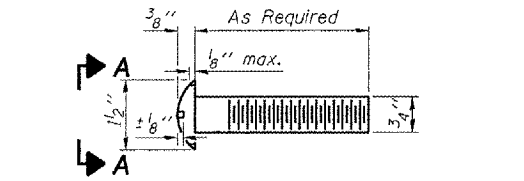
JANUARY 22, 2008  
EXAMINED *Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**BEAM DETAILS**  
**IL. 97 OVER PRAIRIE CREEK**  
**SANGAMON COUNTY**  
**SN 084-0046**

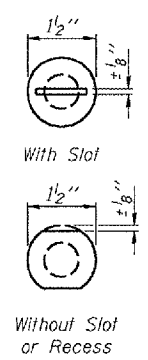
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
IL 97		SANGAMON	10	8
FED. ROAD DIST. NO. 3	ILLINOIS	FED. AID PROJECT		

Contract Number: 72B69

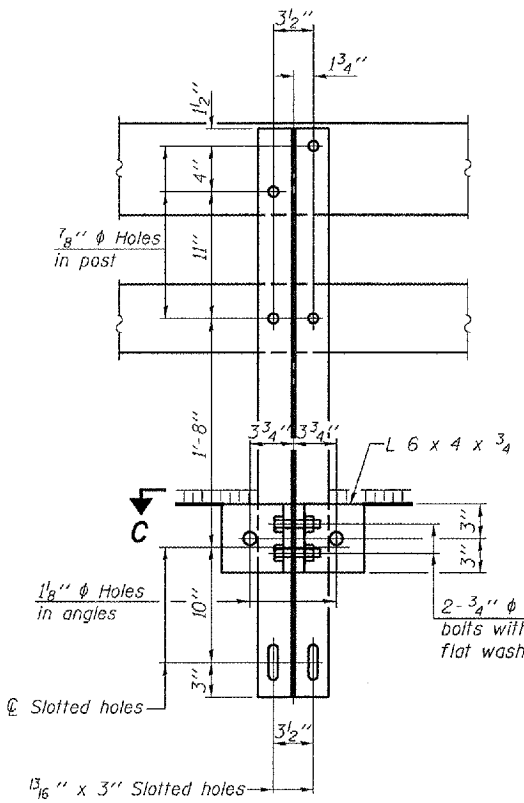


DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT

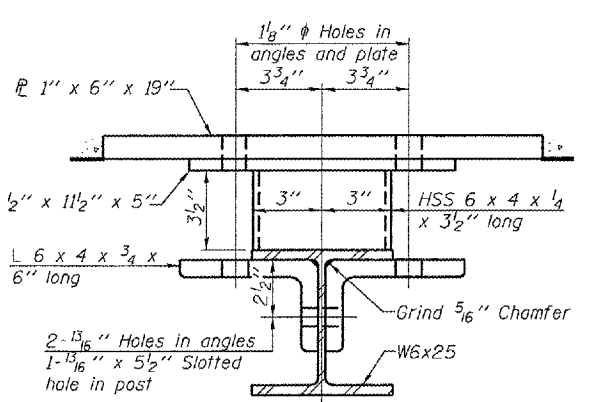


VIEW A-A

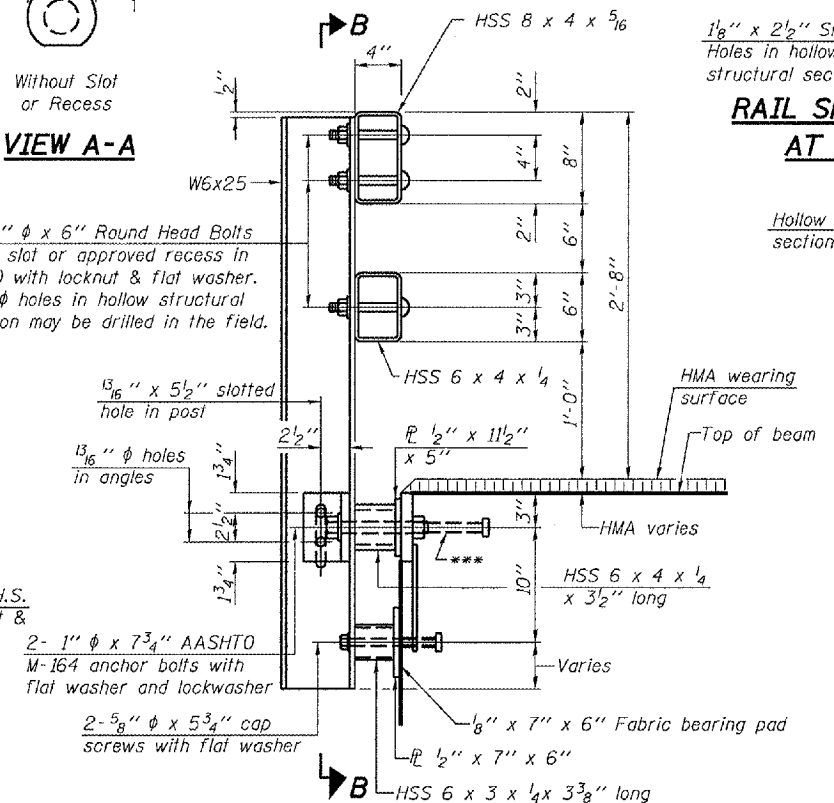
4- 3/4"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8"  $\phi$  holes in hollow structural section may be drilled in the field.



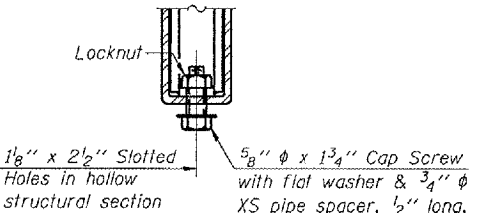
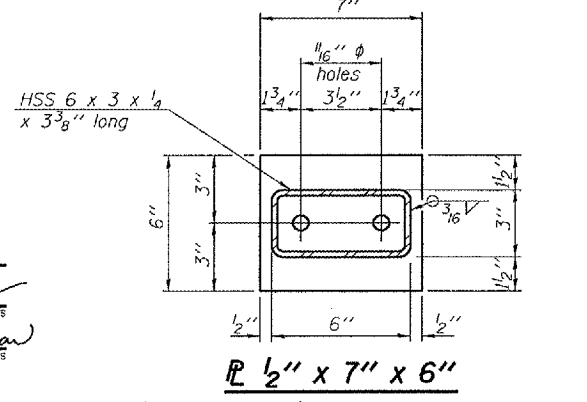
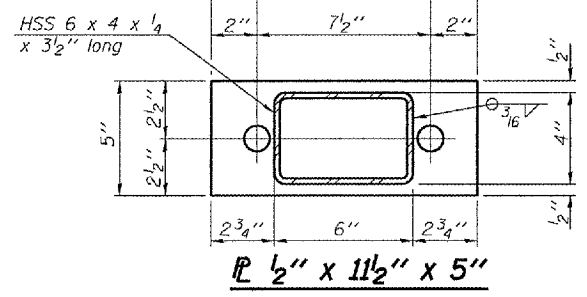
SECTION B-B



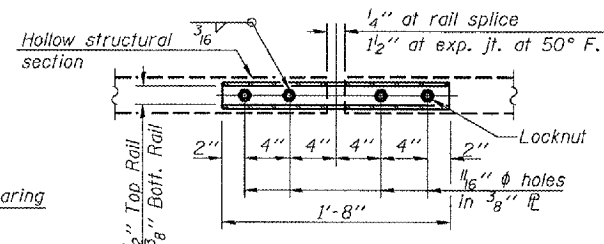
SECTION C-C



SECTION AT RAIL POST

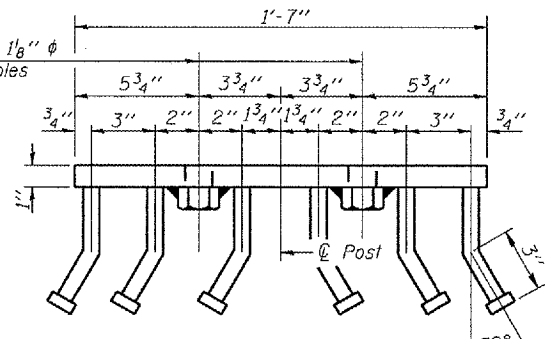


RAIL SPLICE CONNECTION AT EXPANSION JT.

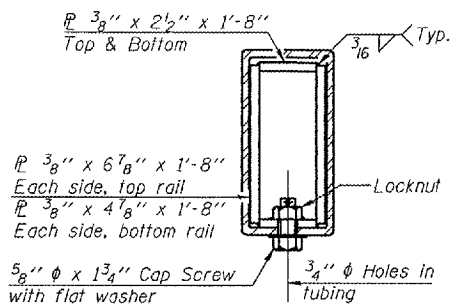


PLAN-BOTT. SPLICE R TYPICAL

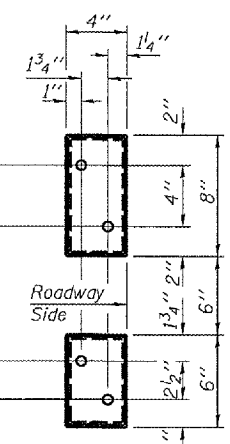
5/8" reduced base welded studs. Provide 4 - 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032



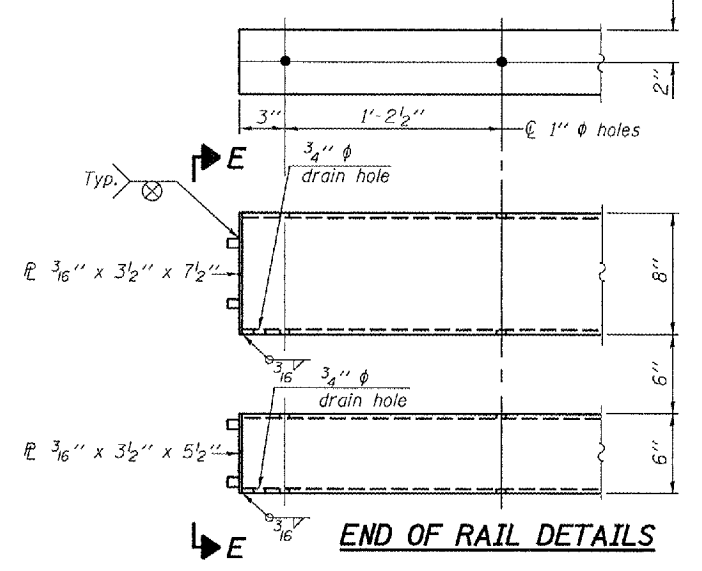
VIEW D-D



SECTION AT RAIL SPLICE



VIEW E-E



END OF RAIL DETAILS

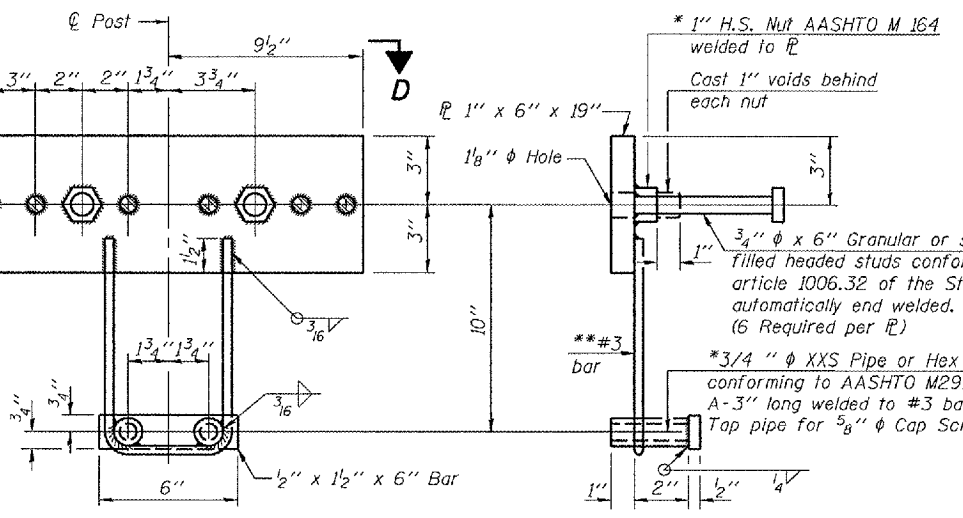
**FOR INFORMATION ONLY**

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.  
All steel rail members 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	121

RAILING DETAILS  
IL. 97 OVER PRAIRIE CREEK  
SANGAMON COUNTY  
SN 084-0046



ANCHOR DEVICE

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

\*\*Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

DESIGNED	VHV
CHECKED	ATH
DRAWN	baliva
CHECKED	VHV ATH

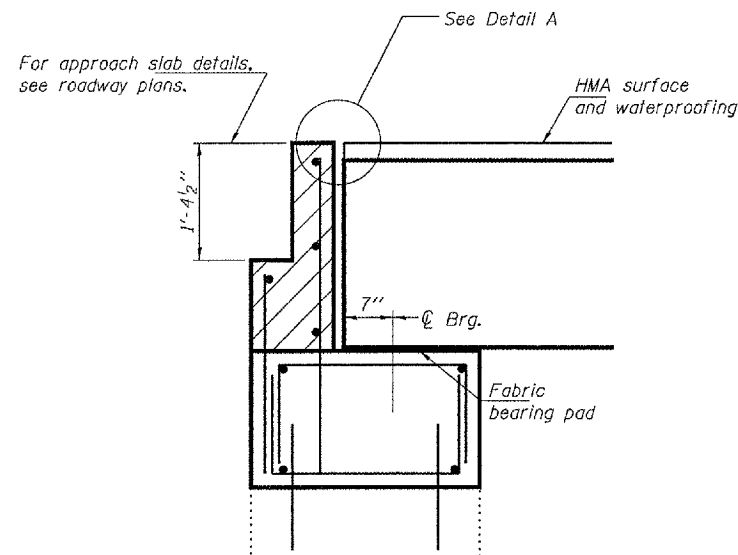
JANUARY 22, 2008  
EXAMINED *Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

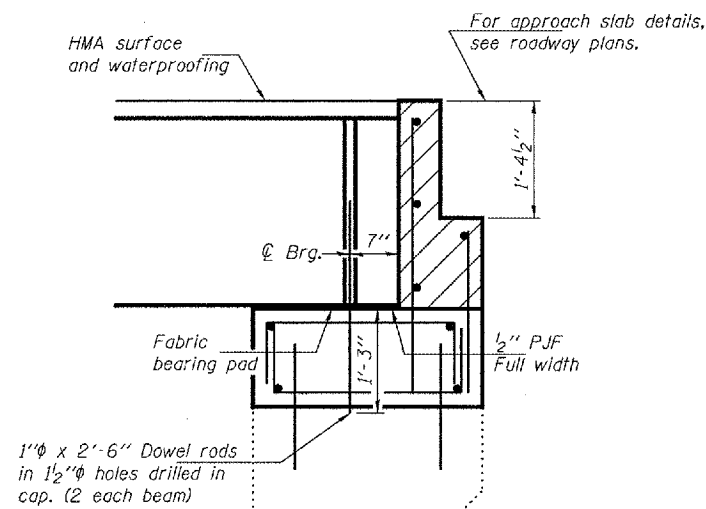
ROUTE NO.	SECTION	COUNTY	DATE	SHEET
IL 97		SANGAMON	10	7
FED. ROAD DIST. NO. 7	ALLIANCE	FED. AID PROJECT		

SHEET NO. 5  
8 SHEETS

Contract Number: 72B69

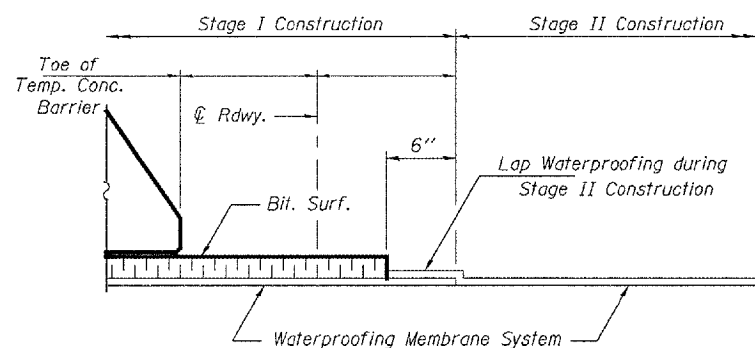


**SECTION THRU E. ABUTMENT**

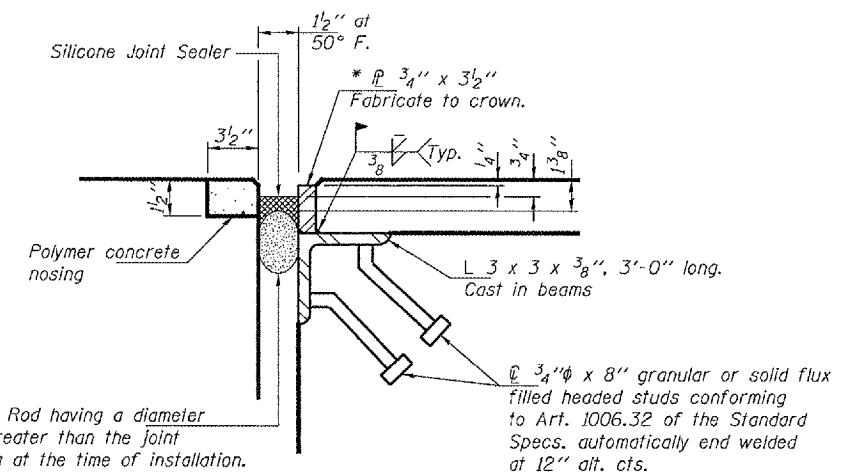


**SECTION THRU W. ABUTMENT**

Notes:  
After beams have been erected, holes shall be drilled into substructure and anchor dowels 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.  
Hatched area to be poured after beams are in place.

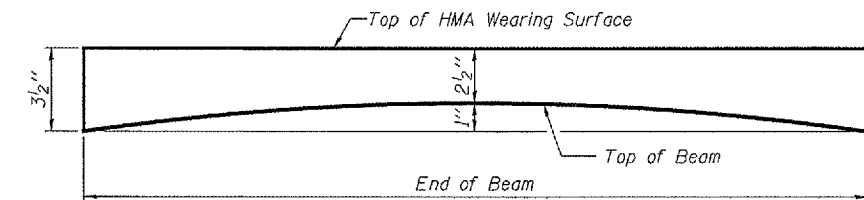


**WATERPROOFING TREATMENT AT STAGE CONSTRUCTION**



**DETAIL A**

\* Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel. After fabrication, all surfaces of the steel shall be given one shop coat of paint specified for structural steel. No field painting required. Cost included with HMA overlay.



**ANTICIPATED INITIAL CAMBER DIAGRAM**

DESIGNED	VHV
CHECKED	ATH
DRAWN	baliva
CHECKED	VHV ATH

JANUARY 22, 2008

EXAMINED *Carl Proyer*  
ENGINEER OF STRUCTURAL SERVICES

PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**JOINT DETAILS**  
**IL. 97 OVER PRAIRIE CREEK**  
**SANGAMON COUNTY**  
**SN 084-0046**

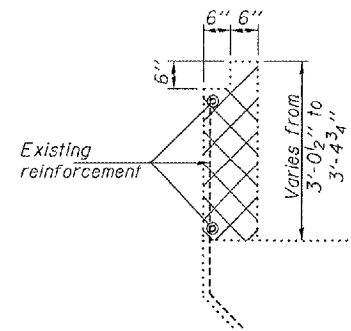


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

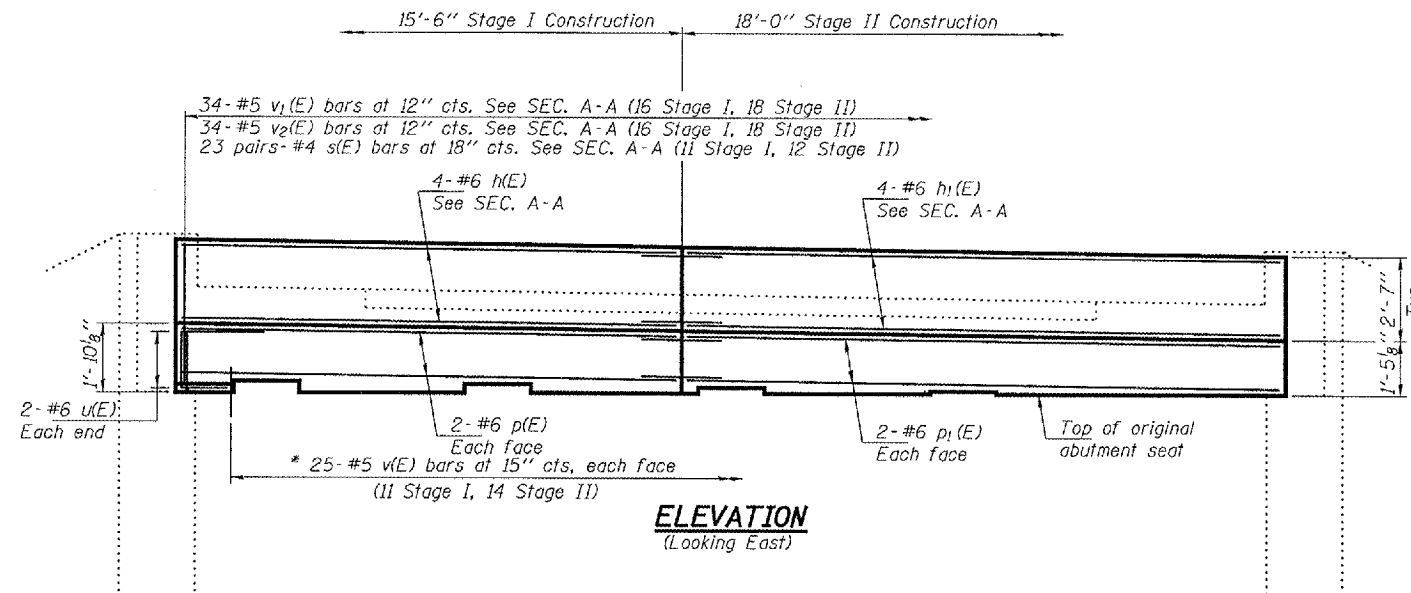
ROUTE NO.	SECTION	QUANTITY	SHEETS	SHEET NO.
IL 97		SANGAMON	10	8
FED. ROAD DIST. NO. 7		ILLINOIS	FED. ROAD PROJECT	

SHEET NO. 6  
8 SHEETS

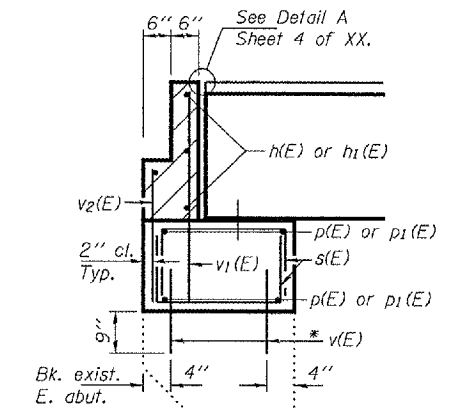
Contract Number: 72869



SEC. THRU EXIST. ABUT.

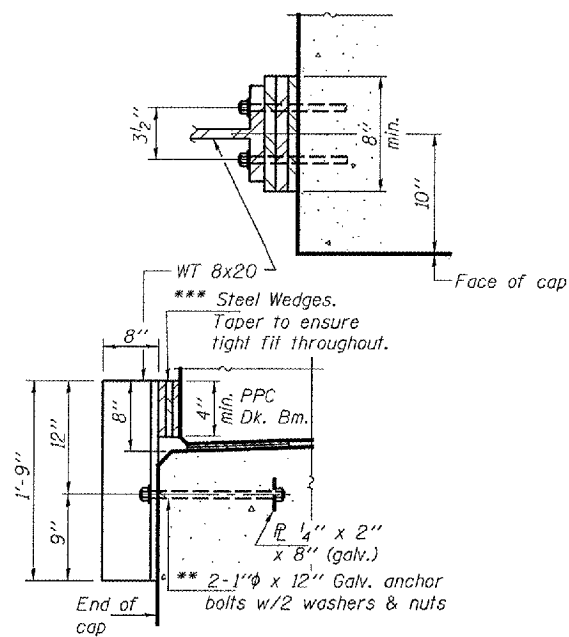


ELEVATION  
(Looking East)



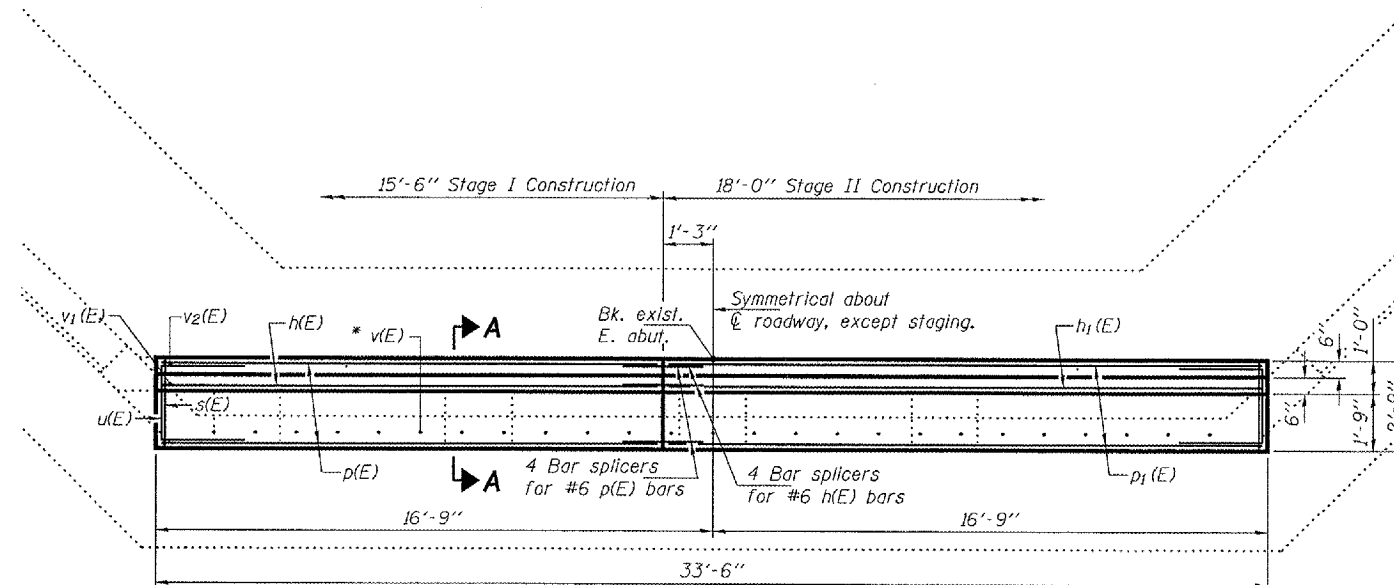
SECTION A-A

\* Epoxy grout v(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.

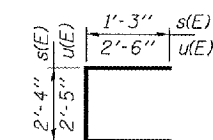


RETAINER

\*\* Anchor bolts may be cast into the masonry or approved threaded rod may be placed in drilled holes and grouted in place. Cost of retainer and accessories are included with Erecting Precast Prestressed Concrete Deck Beams.  
\*\*\* Wedges to be removed after overlay is placed.



PLAN



BARS s(E) & u(E)

**FOR INFORMATION ONLY**

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	4	#6	15'-2"	—
h <sub>1</sub> (E)	4	#6	17'-8"	—
p(E)	4	#6	15'-2"	—
p <sub>1</sub> (E)	4	#6	17'-8"	—
s(E)	46	#4	4'-10"	□
u(E)	4	#6	7'-5"	⊔
v(E)	50	#5	1'-6"	—
v <sub>1</sub> (E)	34	#5	3'-6"	—
v <sub>2</sub> (E)	34	#5	2'-0"	—
Concrete Removal			Cu. Yd.	3.7
Concrete Structures			Cu. Yd.	5.6
Concrete Superstructure			Cu. Yd.	2.4
Reinforcement Bars, Epoxy Coated			Pound	860

Notes:  
Hatched area to be poured after beams are in place.  
Cost of concrete included with Concrete Superstructure.  
Cross hatched area indicates Concrete Removal.  
All edges shall have standard 3/4" chamfers except as noted.  
Removal of concrete between T-girder stems at abutments is included with Removal of Existing Superstructures.

**EAST ABUTMENT  
IL. 97 OVER PRAIRIE CREEK  
SANGAMON COUNTY  
SN 084-0046**

DESIGNED	VHV
CHECKED	ATH
DRAWN	baliva
CHECKED	VHV ATH

JANUARY 22, 2008  
EXAMINED *Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

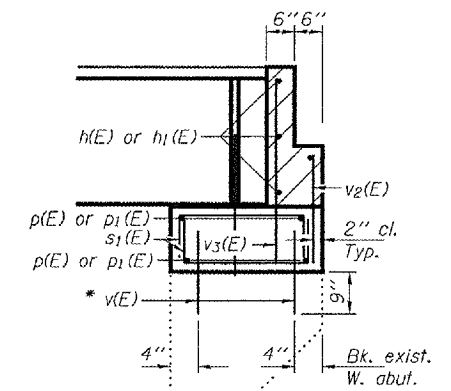
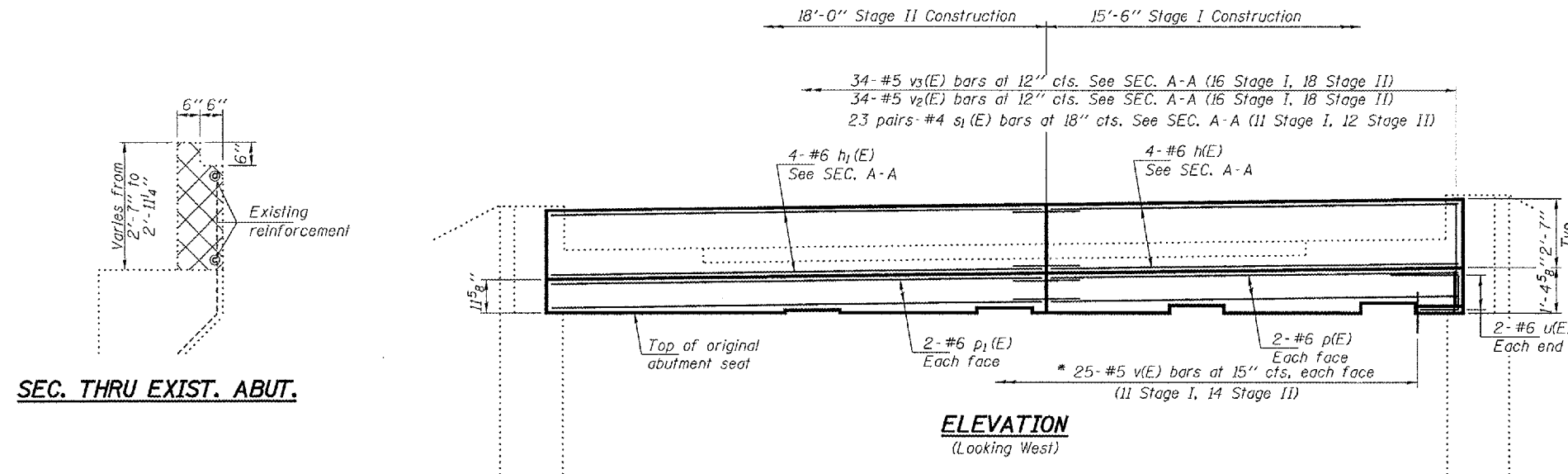


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

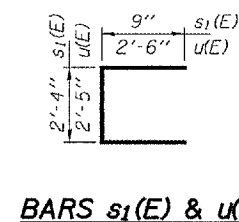
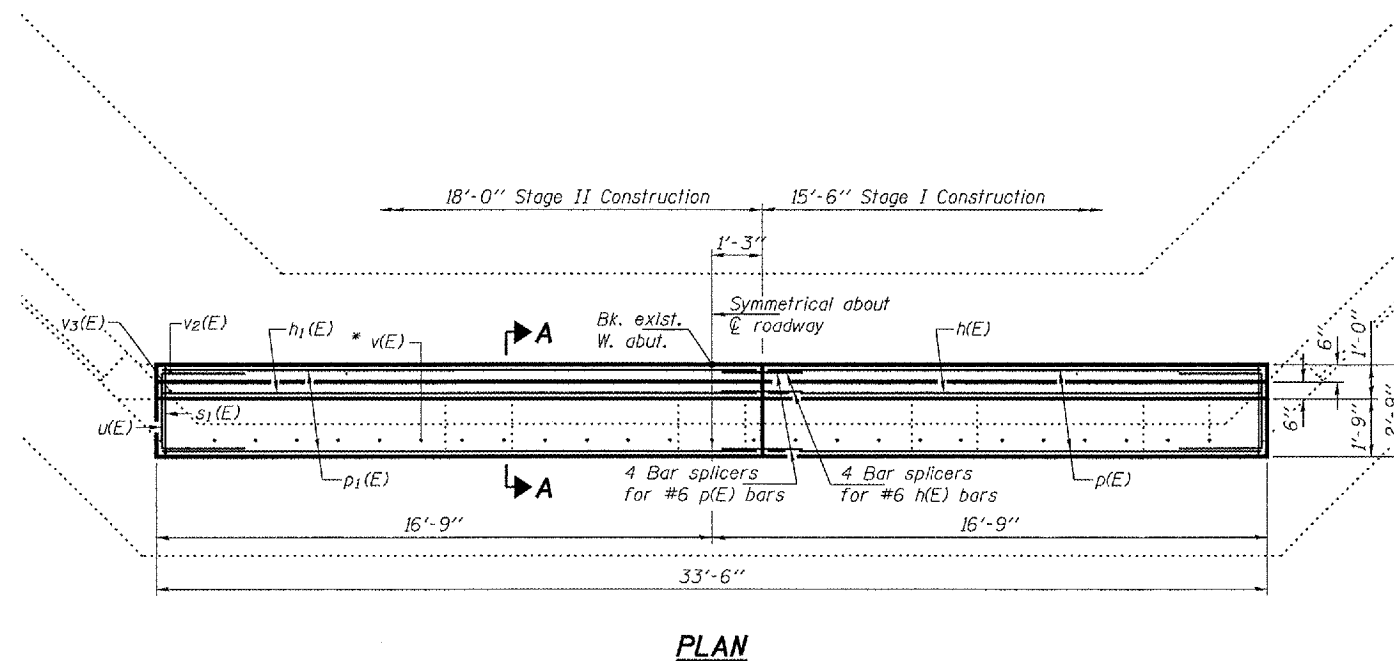
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 97		SANGAMON	10	9
FED. ROAD DIST. NO. 3	LAUNCHER	FED. AID PROJECT		

SHEET NO. 7  
8 SHEETS

Contract Number: 72869



**FOR INFORMATION ONLY**



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
$h(E)$	4	#6	15'-2"	—
$h_1(E)$	4	#6	17'-8"	—
$p(E)$	4	#6	15'-2"	—
$p_1(E)$	4	#6	17'-8"	—
$s_1(E)$	46	#4	3'-10"	□
$u(E)$	4	#6	7'-5"	C
$v(E)$	50	#5	1'-6"	—
$v_2(E)$	34	#5	2'-0"	—
$v_3(E)$	34	#5	3'-1"	—
Concrete Removal			Cu. Yd.	3.1
Concrete Structures			Cu. Yd.	4.0
Concrete Superstructure			Cu. Yd.	2.4
Reinforcement Bars, Epoxy Coated			Pound	820

DESIGNED	VHV
CHECKED	ATH
DRAWN	baliva
CHECKED	VHV ATH

JANUARY 22, 2008  
EXAMINED *Carl P. ...*  
PASSED *Ralph E. Anderson*  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES

Notes:  
Hatched area to be poured after beams are in place.  
Cost of concrete included with Concrete Superstructure.  
Cross hatched area indicates Concrete Removal.  
All edges shall have standard  $\frac{3}{4}$ " chamfers except as noted.  
Removal of concrete between T-girder stems at abutments is included with Removal of Existing Superstructures.

**WEST ABUTMENT**  
**IL. 97 OVER PRAIRIE CREEK**  
**SANGAMON COUNTY**  
**SN 084-0046**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 97		SANGAMON	10	10
REG. ROAD DIST. NO. 7		ILLINOIS REG. AID PROJECT		

SHEET NO. 8  
8 SHEETS

Contract Number: 72869

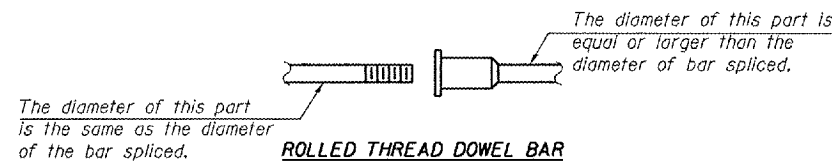
**NOTES**

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 =  $1.25 \times f_y \times A_t$   
(Tension in kips)
- ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)

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

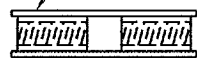


ROLLED THREAD DOWEL BAR



\*\* ONE PIECE

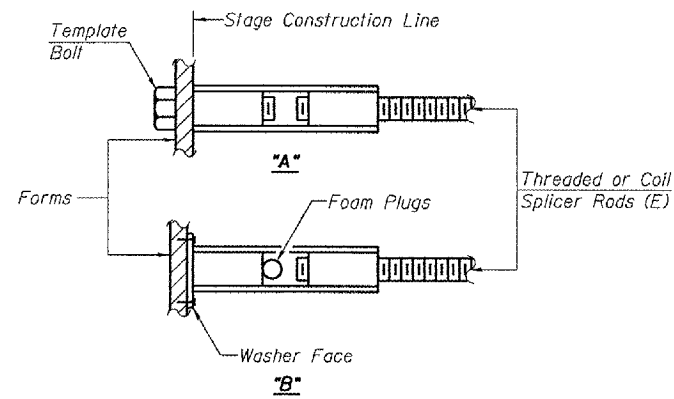
Wire Connector



WELDED SECTIONS

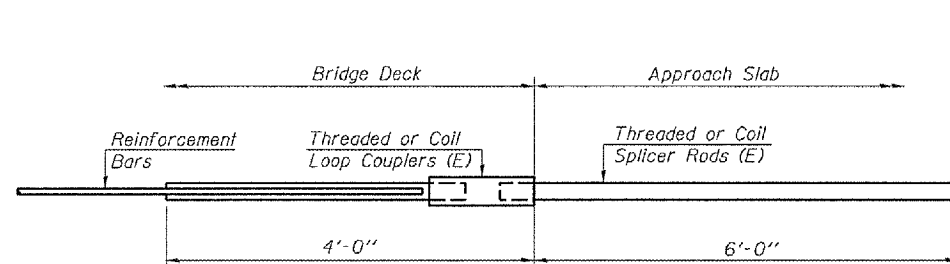
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



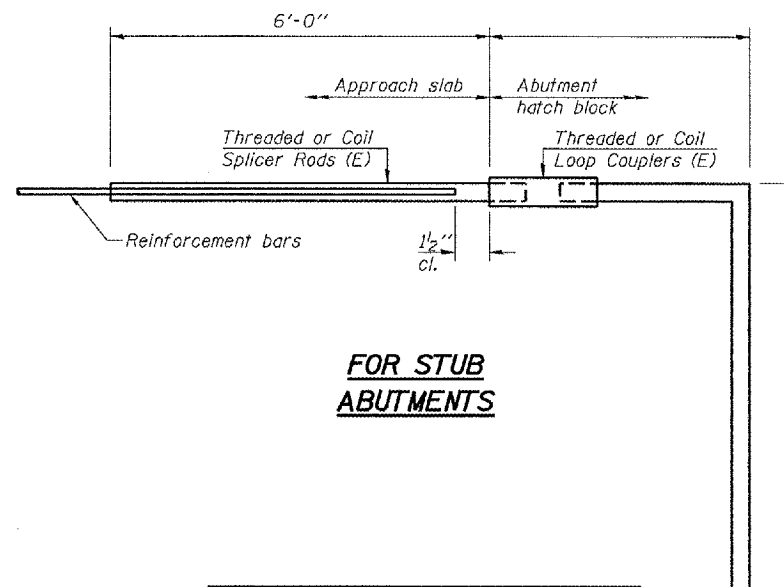
**INSTALLATION AND SETTING METHODS**

"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.



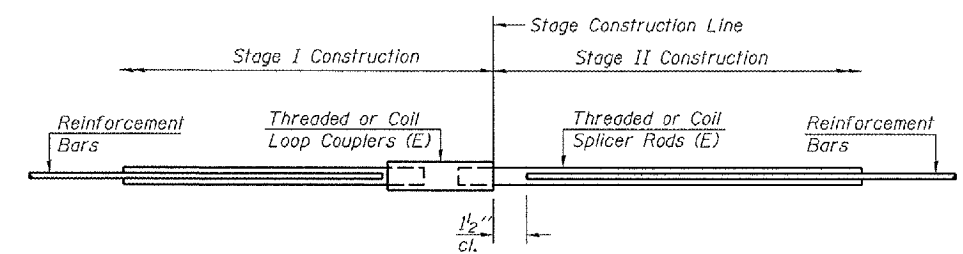
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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



**FOR STUB ABUTMENTS**

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



**STANDARD**

Bar Size	No. Assemblies Required	Location
#6	8	East Abutment
#6	8	West Abutment

DESIGNED	VHV
CHECKED	ATH
DRAWN	baliva
CHECKED	VHV ATH

JANUARY 22, 2008  
EXAMINED *A. Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1

11-1-06

**FOR INFORMATION ONLY**

**BAR SPLICER DETAILS**  
**IL. 97 OVER PRAIRIE CREEK**  
**SANGAMON COUNTY**  
**SN 084-0046**