3-7-08 Letting, Item 004

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821 FAP 776 FAP 328	*	JEFFERSON SALINE, WHITE	14	1
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

*(105I-1, 121-1, 1241-1)
CONTRACT NO. 78035

INDEX OF SHEETS

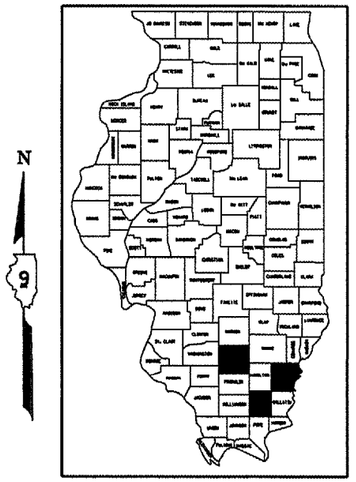
STANDARDS

701201-02 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
701321-09 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701901 TRAFFIC CONTROL DEVICES
704001-04 TEMPORARY CONCRETE BARRIER

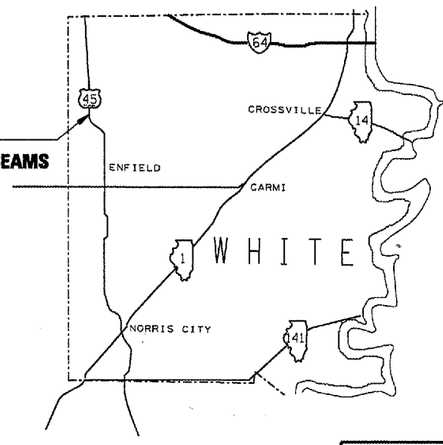
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

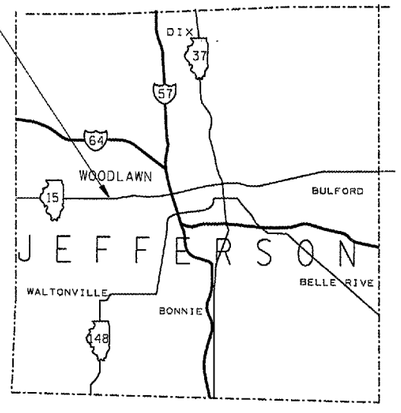
FAP ROUTE 821 (IL 15)
FAP 776 (IL 142)
FAP 328 (US 45)
SECTION 105I-1,121-1,124I-1
C-99-015-08
JEFFERSON, SALINE, WHITE COUNTIES



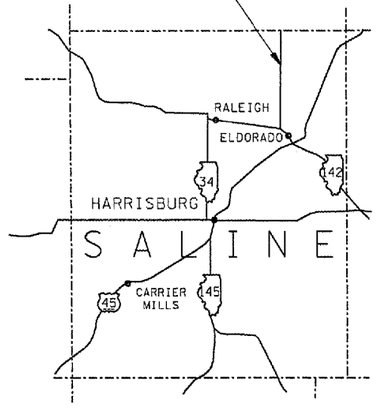
IMPROVEMENT LOCATION
US 45
STRUCTURE 097-0021
SHORING OF 7 PPC DECK BEAMS
2005 ADT = 1650
TRUCKS = 27%



IMPROVEMENT LOCATION
ILL 15
STRUCTURE 041-0021
REPLACEMENT OF 5 PPC DECK BEAMS
2005 ADT = 2200
TRUCKS = 6%



IMPROVEMENT LOCATION
ILL 142
STRUCTURE 083-0031
REPLACEMENT OF 2 PPC DECK BEAMS
2005 ADT = 1500
TRUCKS = 20%



PLAN DRAWINGS ARE NOT TO SCALE.

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

CONTRACT NO. 78035

MAP NOT TO SCALE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Dec 7 20 07
Mary C Ramis
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
February 1, 20 08
Eric E. Harm
Interim ENGINEER OF DESIGN AND ENVIRONMENT
February 1, 20 08
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

PROJECT ENGINEER: CASEY N. TECKENBROCK PHONE: (618) 549-2171
SQUAD LEADER: RITA GAUTNEY CENTREX: 782-4554

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821 FAP 778 FAP 326	*	JEFFERSON SALINE, WHITE	14	2
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*(105I-1, 121-1, 1241-1)
CONTRACT NO. 78035

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

THE THICKNESS OF HOT-MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT-MIX ASPHALT MIXTURE IS PLACED.

THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.

THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS.

TRAFFIC CONTROL SIGNS SHALL BE PLACED SO THAT THEY DO NOT INTERFERE WITH EXISTING SIGNS OR FLASHING BEACONS. THE DIMENSIONS BETWEEN SIGNS MAY BE MODIFIED SLIGHTLY SO AS TO AVOID CONFLICTS WITH EXISTING SIDEROADS, COMMERCIAL ENTRANCES, AND PRIVATE ENTRANCES. THE BUREAU OF OPERATIONS SHOULD APPROVE FINAL PLACEMENT OF TRAFFIC CONTROL SIGNING.

WHILE SIGNAL HEADS ARE MOUNTED IN PLACE, BUT NOT YET IN OPERATION, THEY SHALL BE SECURELY COVERED IN WHITE PLASTIC.

FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL HOT-MIX ASPHALT	2.016 TONS/CU. YD.

THE CONTRACTOR IS NOT ALLOWED TO REMOVE GUARDRAIL TO FACILITATE INSTALLATION OF PORTABLE SIGNALS.

Prepared By: Kevin Hammons
DISTRICT OPERATIONS ENGINEER

Examined By: Donna L. Clayton
ASSISTANT REGIONAL ENGINEER

Examined By: James Lisenby
DISTRICT LAND ACQUISITION ENGINEER

Examined By: Carrie Nelson
DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: Joe Dale Graves
DISTRICT STUDIES & PLANS ENGINEER

Examined By: Joseph Lenz
DISTRICT CONSTRUCTION ENGINEER

Examined By: Bruce W. Pebley
DISTRICT MATERIALS ENGINEER

Examined By: Greg Smothers
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Approved By: Mark Rami
DEPUTY DIRECTOR OF HIGHWAYS,
REGION 5 ENGINEER

Dec 6 20 07
DATE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821 FAP 775 FAP 325	*	JEFFERSON SALINE, WHITE	14	3
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*(105)-1, 121-1, 1241-1)
CONTRACT NO. 78035

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

	100% STATE		RURAL			
	CONSTRUCTION TYPE CODE: SAFETY - 2A		QUANTITY			
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	JEFFERSON 041-0021	WHITE 097-0021	SALINE 083-0031
40603320	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90	TON	12.1	6.4		5.7
44001005	HOT-MIX ASPHALT SURFACE REMOVAL	SQ YD	16.1	7		9.1
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	500.3	500.3		
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	295			295
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	22600		22600	
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	104.9	62.6		42.3
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	317	167		150
X0323078	REMOVE AND RE-ERECT EXISTING BRIDGE RAIL	FOOT	148	98		50
67100100	MOBILIZATION	L SUM	1	0.34	0.33	0.33
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	1		1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.34	0.33	0.33
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	1		1
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	97	81		16
70400100	TEMPORARY CONCRETE BARRIER	FOOT	420	220		200
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	190	190		
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	882	703		179
X0320047	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ FT	799.3	500.3		299
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	1	2	1
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	4	1	2	1
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	4			4
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	2		2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		

* SPECIALTY ITEMS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821 FAP 776 FAP 326	*	JEFFERSON SALINE, WHITE	14	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

*(105I-1, 121-1, 1241-1)
CONTRACT NO. 78035

BITUMINOUS MIX DESIGN

LOCATION:	HOT-MIX ASPHALT SURFACE COURSE
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE, MIX C, N90
AC/PG:	PG64-22
RAP % (MAX):	10
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL - 9.5 mm OR IL 12.5 mm
FRICTION AGGREGATE:	C SURFACE

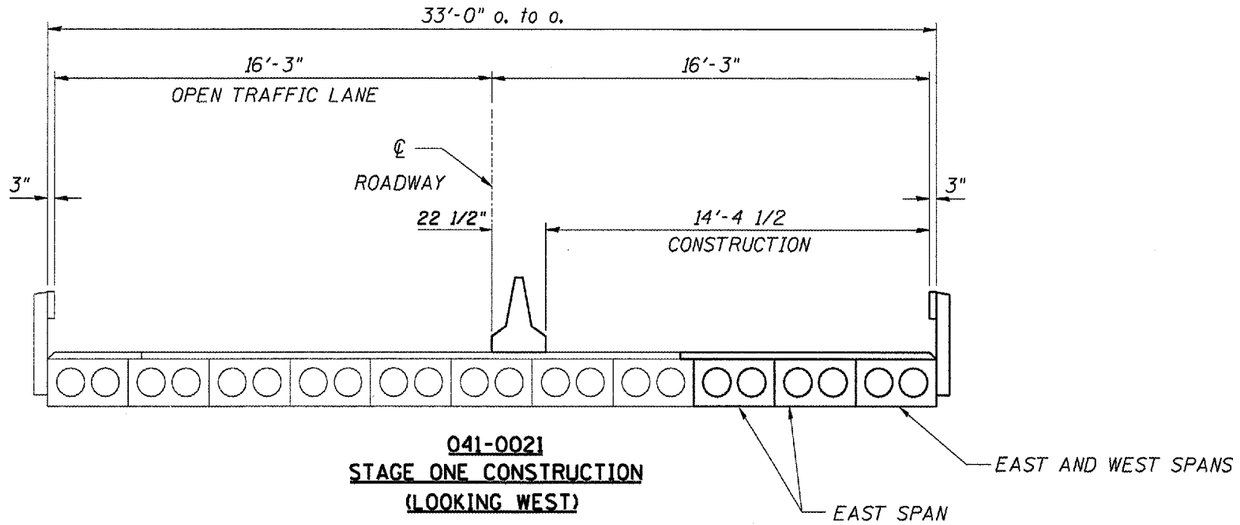
PAINT PAVEMENT MARKING - LINE 4"

QUANTITY	041-0021 FT.	083-0031 FT.
YELLOW	668	129
WHITE	35	50
TOTAL	703	179

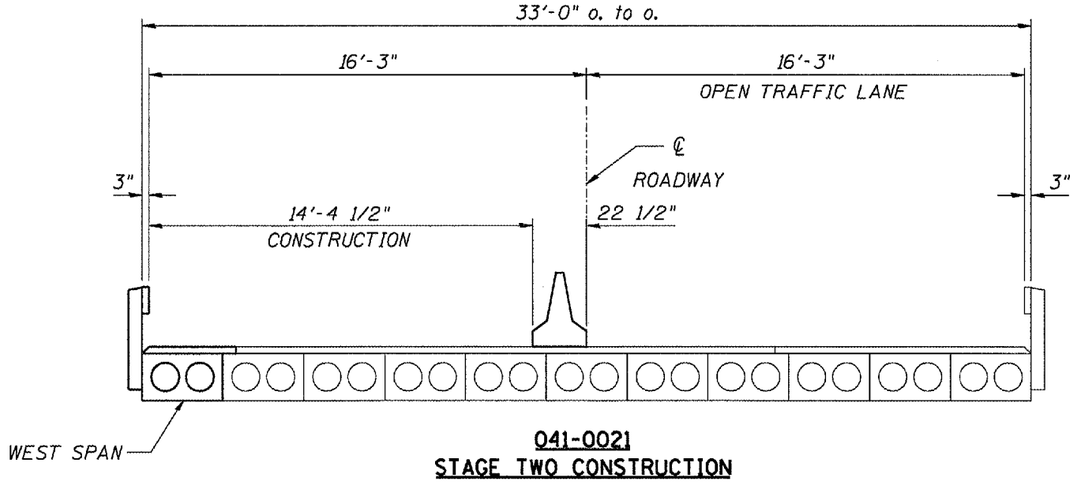
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 521 FAP 776 FAP 326	*	JEFFERSON SALINE, WHITE	14	5
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*(105I-1, 121-1, 1241-1)
CONTRACT NO. 78035

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



041-0021
STAGE ONE CONSTRUCTION
(LOOKING WEST)

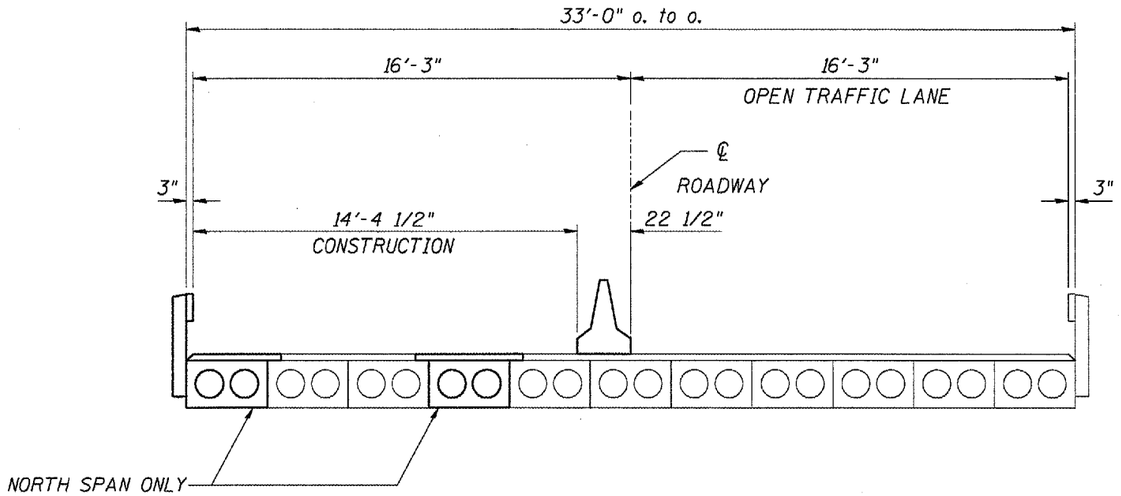


041-0021
STAGE TWO CONSTRUCTION
(LOOKING WEST)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821 FAP 778 FAP 328	*	JEFFERSON SALINE, WHITE	14	6
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

*(105I-1, 121-1, 1241-1)
CONTRACT NO. 78035

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



083-0031

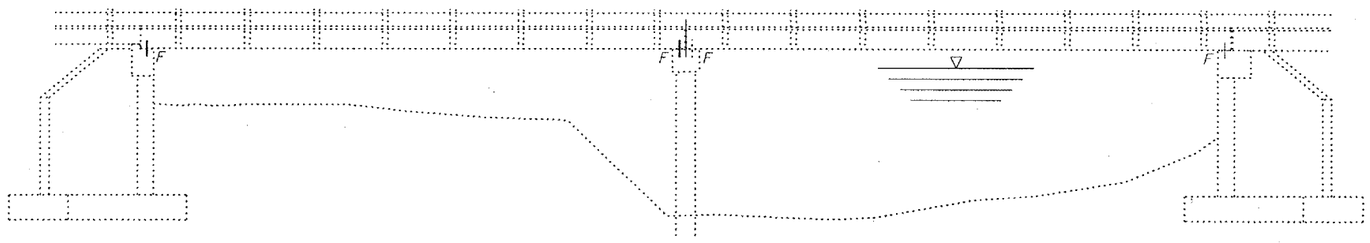
(LOOKING NORTH)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

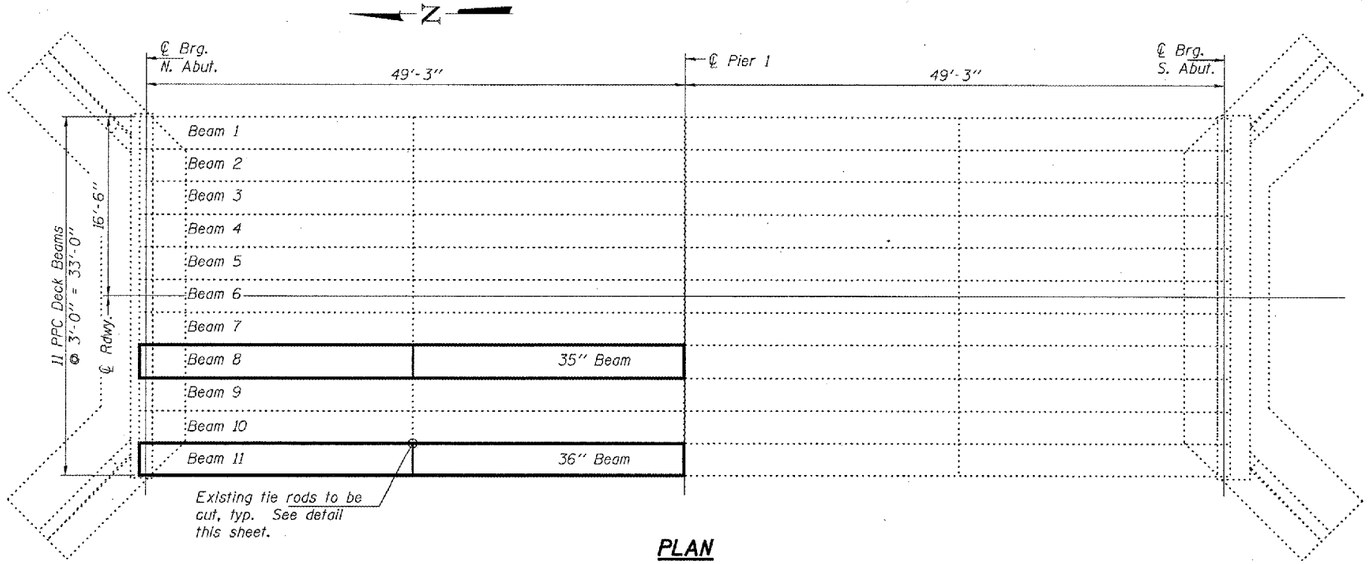
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 776	*	SALINE	14	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
3 SHEETS

Contract Number: 78035
* (1051-1, 121-1, 1241-1)



ELEVATION



PLAN

GENERAL NOTES

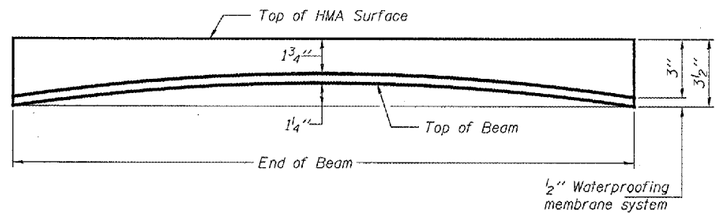
The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractors responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

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

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

Temporary concrete barrier shall only be anchored into the overlay and not into the PPC Deck Beams.



ANTICIPATED INITIAL CAMBER DIAGRAM

DESIGN STRESSES

PRECAST PRESTRESSED UNITS

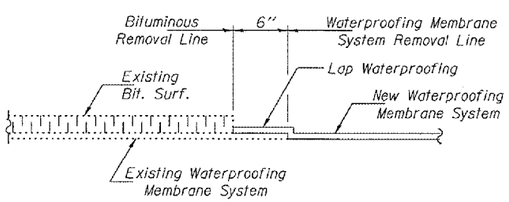
f'c = 5,000 psi
f'ci = 4,000 psi
f's = 270,000 psi (½"ϕ low lax strands)
f'si = 201,960 psi (½"ϕ low lax strands)

DESIGNED	
CHECKED	Victor H. Velita
DRAWN	baliva
CHECKED	AJB VHV

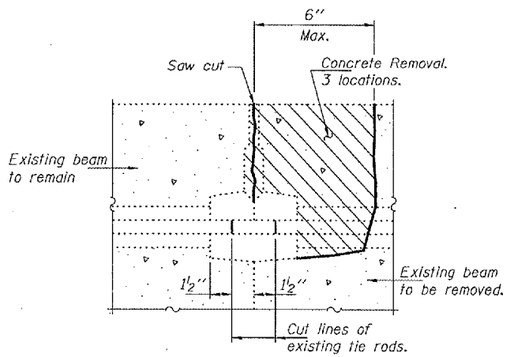
JANUARY 3, 2008
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
RALPH E. ANDERSON
081-004625
SPRINGFIELD
LICENSED STRUCTURAL ENGINEER

Expires: November 30, 2008



WATERPROOFING TREATMENT



BEAM REMOVAL DETAIL AT TRANSVERSE TIES

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing PPC Deck Beams	Sq. Ft.	299
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	295
HMA Surface Removal	Sq. Yd.	9.1
HMA Surface Course Mix "C" N90	Tons	5.7
PC Mortar Fairing Course	Foot	150
Asbestos Bearing Pad Removal	Each	4
Waterproofing Membrane System	Sq. Yd.	42.3
Remove and Re-Erect Existing Bridge Rail	Foot	50

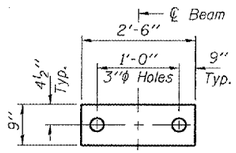
PLAN AND ELEVATION
FA 776 OVER RECTOR CREEK
SALINE COUNTY
SN 083-0031

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 776	*	SALINE	14	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
3 SHEETS

Contract Number: 78035
* (1051-1, 121-1, 1241-1)



FABRIC BEARING PAD
(4 required)

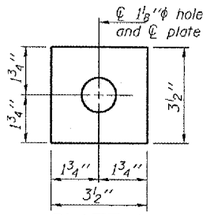
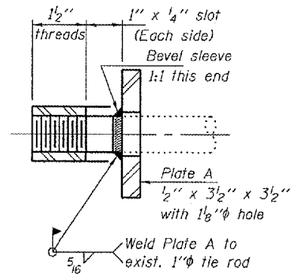
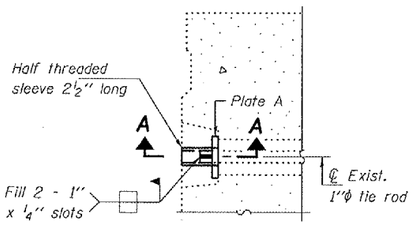


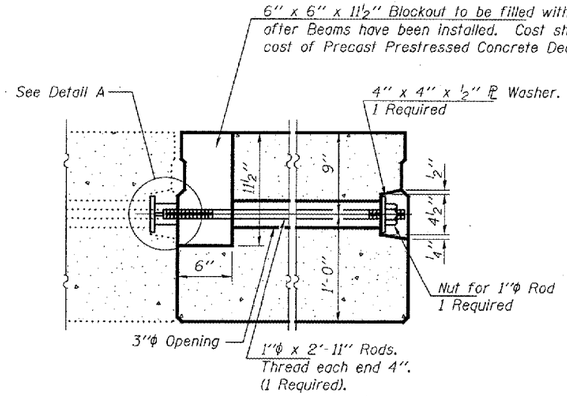
PLATE A
(2 Required)



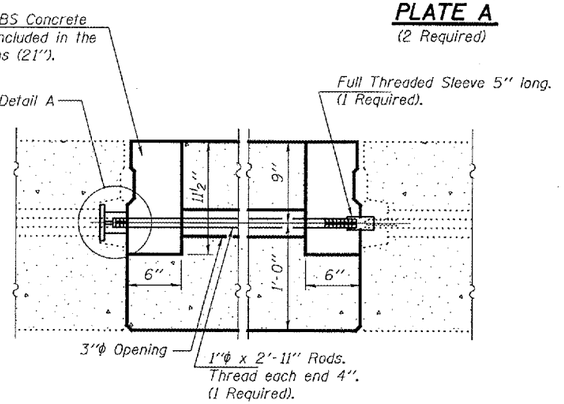
SECTION A-A



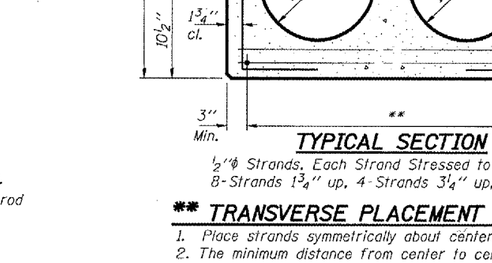
DETAIL A



TRANSVERSE TIE ASSEMBLY
(Typ. span 1 beam 11 replacement)



TRANSVERSE TIE ASSEMBLY
(Typ. span 1 beam 8 replacement)

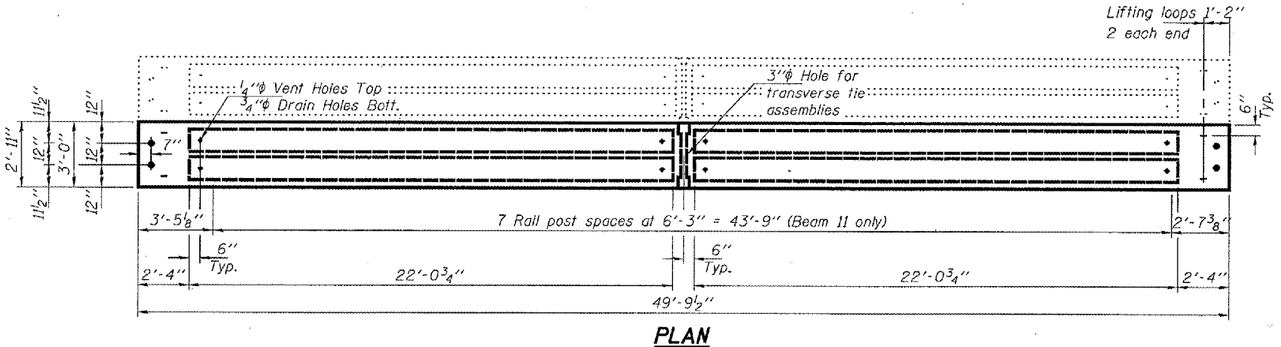


TYPICAL SECTION
½"φ Strands. Each Strand Stressed to 30,900 Lbs.
8-Strands 1¾" up, 4-Strands 3¼" up, 2-Strands 9" up

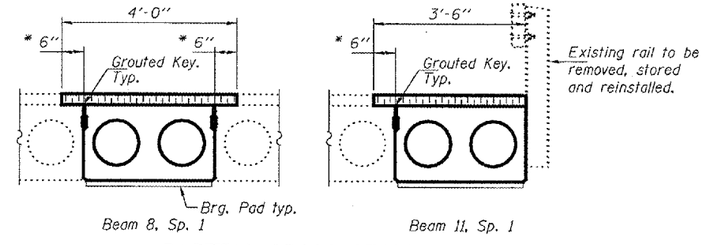
** TRANSVERSE PLACEMENT GUIDELINES

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 ½".
4. The minimum clearance from strand to void shall be 1½".

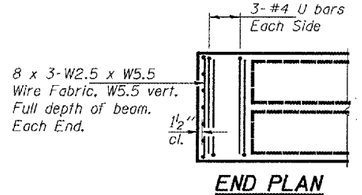
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



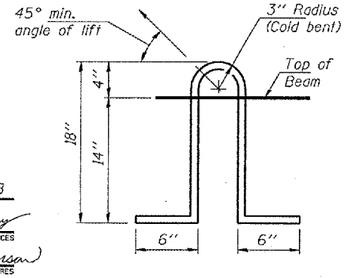
PLAN



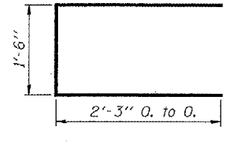
PARTIAL CROSS SECTION
(Looking South)
* Limits of HMA surface removal.



END PLAN



LIFTING LOOP DETAIL



BAR U

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.
Lifting loops shall be 2-½"φ-270 ksi strands, as shown.
The 1"φ 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 ⅛" fabric adjusting shims of the dimensions shown 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

Item	Unit	Total
Precast Prestressed Conc. Deck Bms. (21")	Sq. Ft.	295

DESIGNED	AJB
CHECKED	VHV
DRAWN	baliva
CHECKED	AJB VHV

JANUARY 3, 2008
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

PD-5-S 11-1-06

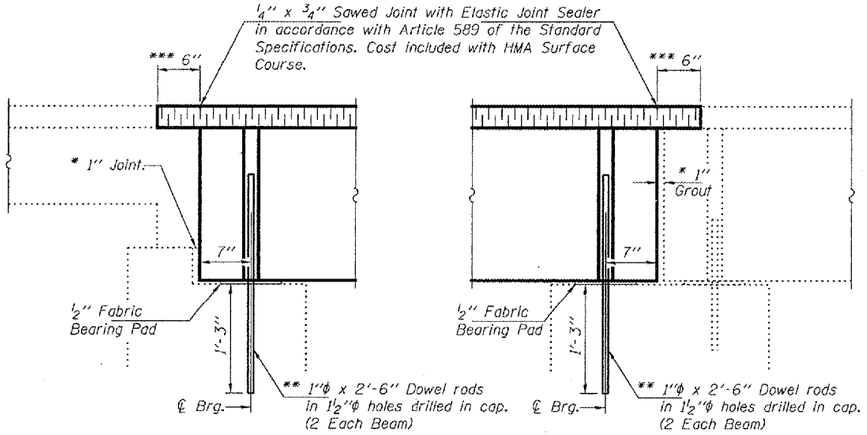
REPAIR DETAILS
FA 776 OVER RECTOR CREEK
SALINE COUNTY
SN 083-0031

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 776	*	SALINE	14	9
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT -	

SHEET NO. 3
3 SHEETS

Contract Number: 78035
* (1051-1, 121-1, 1241-1)



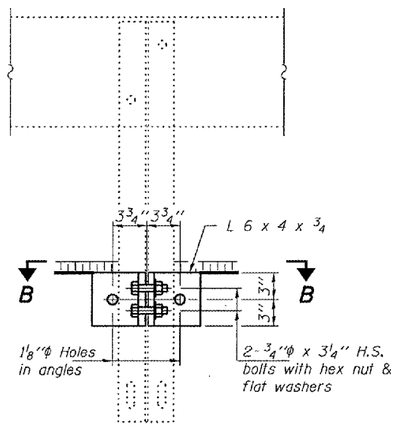
TYPICAL SECTION AT ABUTMENT

TYPICAL SECTION AT PIER

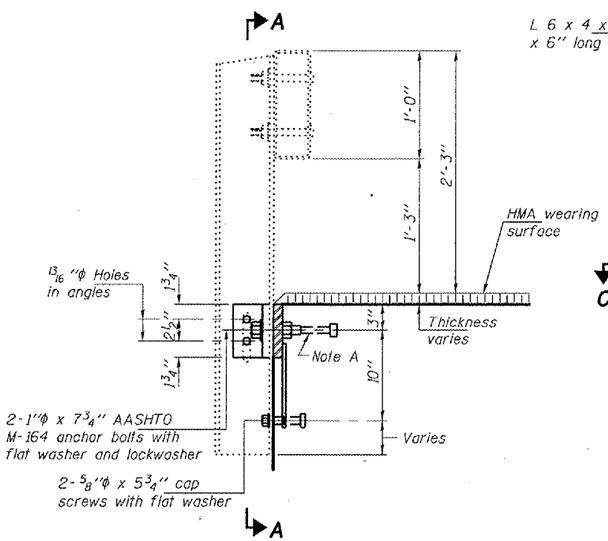
* 1" Joint shall be packed with a very dry mix of 2:1 sand and PC mortar. This dimension may vary plus or minus to accommodate tolerance in beam lengths.

** Existing Dowel Rods shall be cut off & ground flush with the top of the existing concrete. Cost included with Removal of Existing PPC Deck Beams. Proposed Dowel Rods shall be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting shear keys.

*** Limits of HMA surface removal.



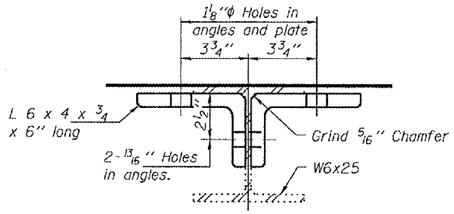
SECTION A-A



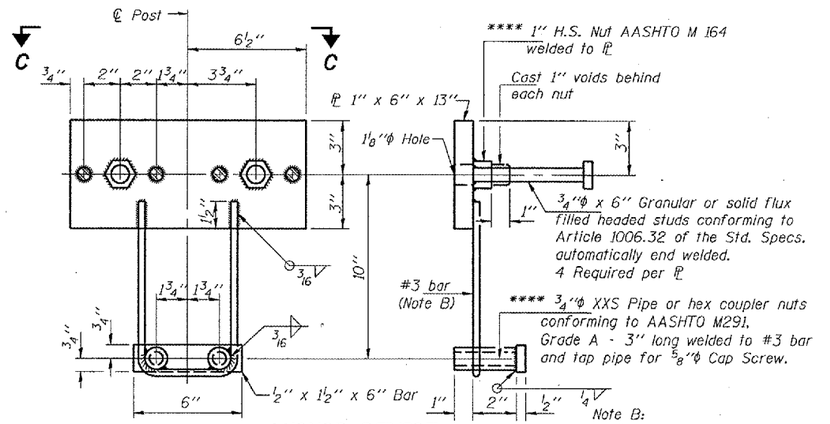
SECTION AT RAILING POST

(See sheet 2 of 3 for rail post spacing)

Note A:
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.



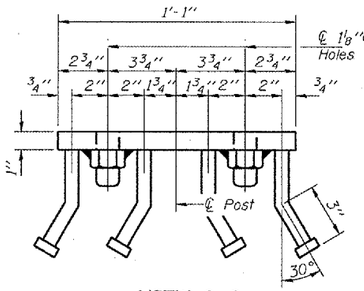
SECTION B-B



ANCHOR DEVICE

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

Note B:
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".



VIEW C-C

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 S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
Cost of the anchorage devices is included with the cost of Precast Prestressed Concrete Deck Beams (21" Depth).

DESIGNED	AJB
CHECKED	VHV
DRAWN	baliva
CHECKED	AJB VHV

JANUARY 3, 2008
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

REPAIR DETAILS
FA 776 OVER RECTOR CREEK
SALINE COUNTY
SN 083-0031

*Contractor is to verify beam length prior to ordering material. Other sections meeting the section modulus requirements shown may be allowed subject to approval by the Bureau of Bridges and Structures.

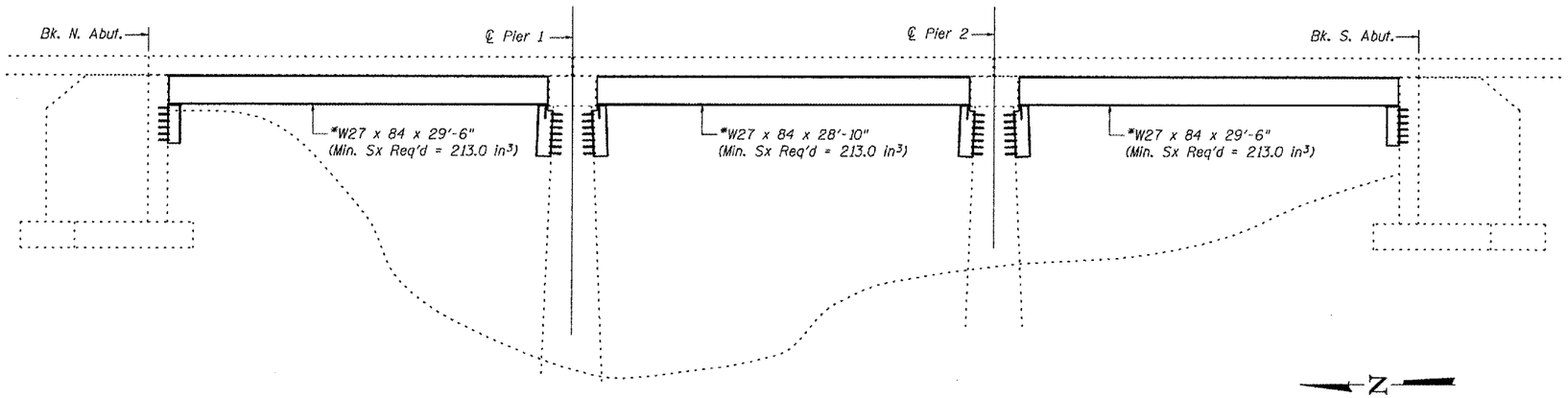
**℄ Transverse tie ℄'s (3 per span). Place additional shims at midpoints between tie ℄'s. Securely weld shims to top flange of support beam. Minimum shim size is 6" x flange width. Spacing may be adjusted to miss adjacent transverse tie ℄'s.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

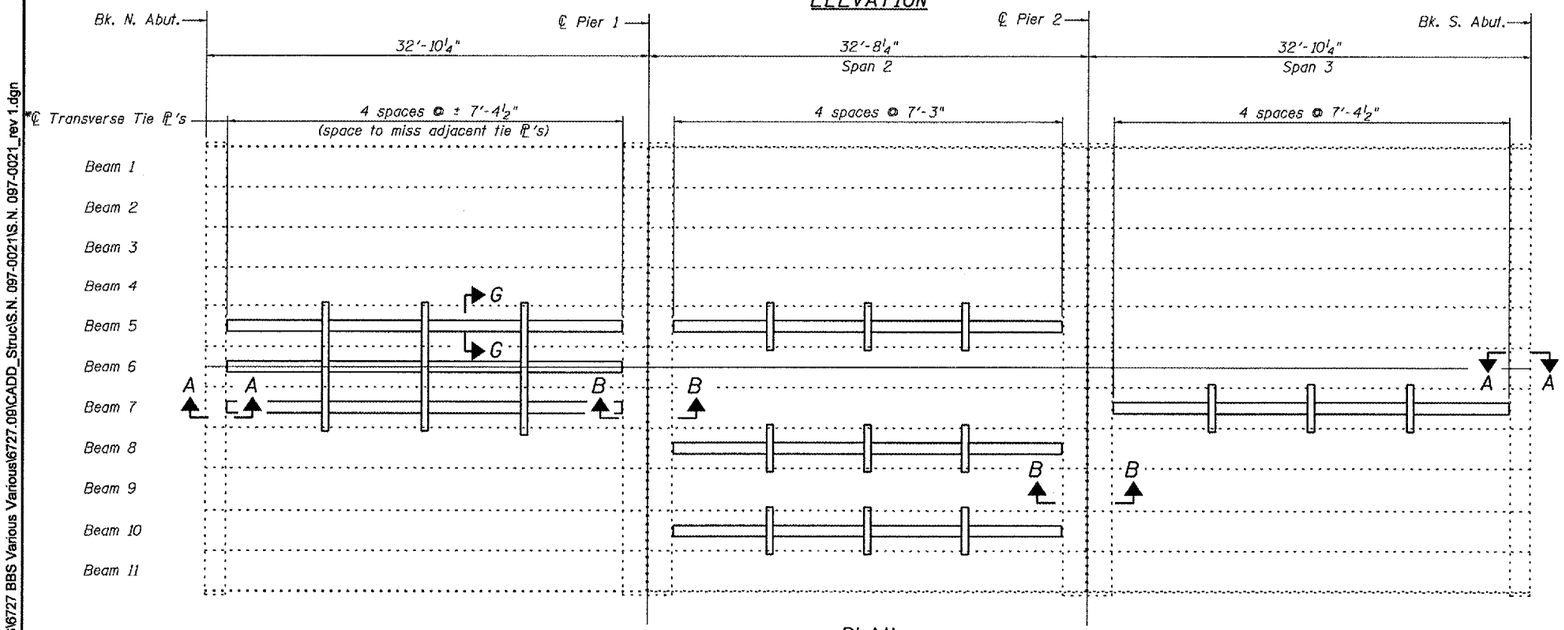
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 328	-	White	14	10
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
2 SHEETS

Contract # 78035



ELEVATION



PLAN

GENERAL NOTES

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

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.

See Section 584 of the Standard Specifications for Epoxy Grouting of Threaded Rods: Min. embedment 9".

The cost of epoxy grouting threaded rods shall be included with Furnishing and Erecting Structural Steel.

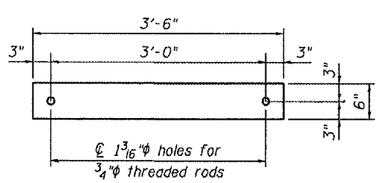
The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractors responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for placement of beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams.

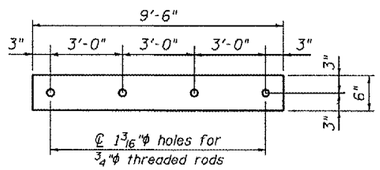
Contractor has the option of using used steel. See Special Provision.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	22,600



TRANSVERSE TIE ℄ "A"
℄ ½" x 3'-6" x 6" (12 Req'd.)



TRANSVERSE TIE ℄ "B"
℄ ½" x 9'-6" x 6" (3 Req'd.)

11-26-07
STATE OF ILLINOIS
SCOTT D. SANFORD
081-005468
LICENSED SPRINGFIELD STRUCTURAL ENGINEER
Expires: 11/30/08

GENERAL PLAN AND ELEVATION
REPAIR DETAILS
US 45 OVER UNNAMED STREAM
WHITE COUNTY
S.N. 097-0021

DESIGNED	CMV
CHECKED	SDS
DRAWN	DLH
CHECKED	CMV

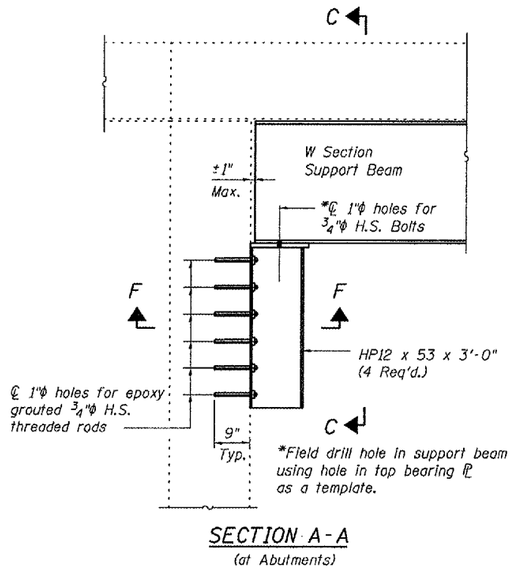
WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

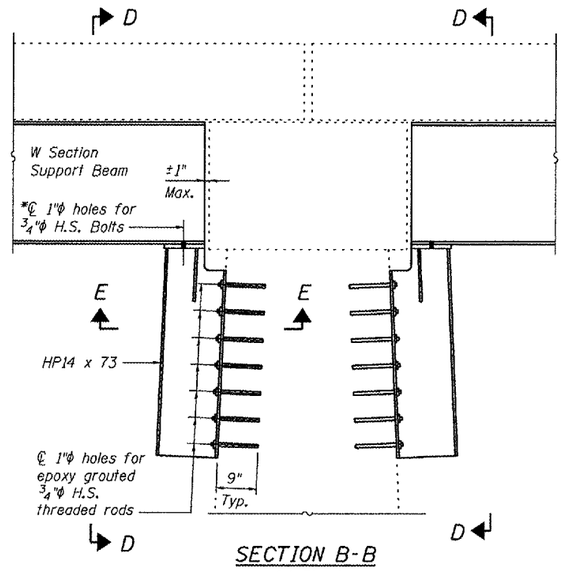
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 328	-	White	14	11
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
2 SHEETS

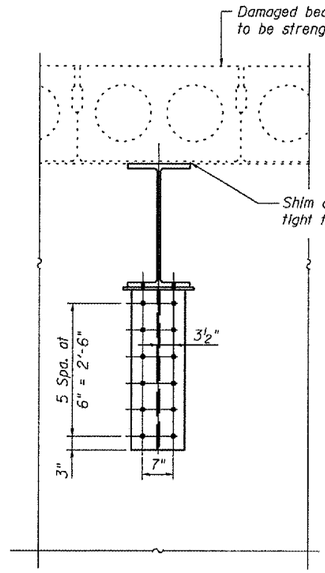
Contract # 78035



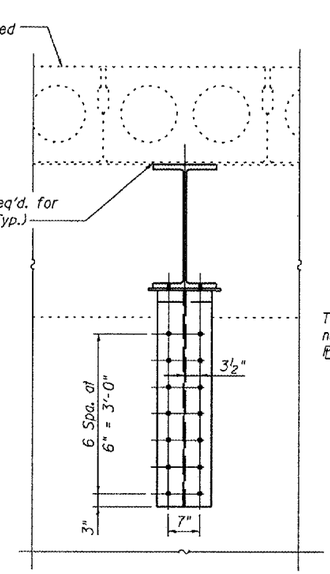
SECTION A-A
(at Abutments)



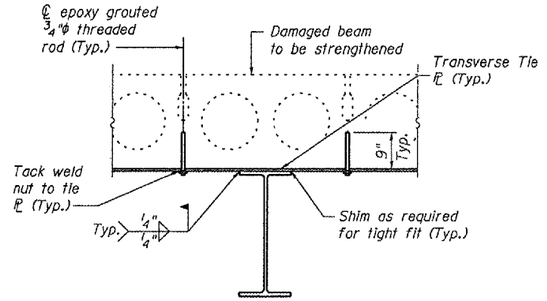
SECTION B-B
(at Piers)



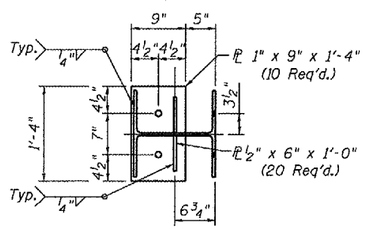
SECTION C-C
(at Abutments)



SECTION D-D
(at Piers)



SECTION G-G



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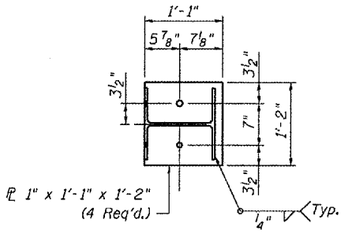
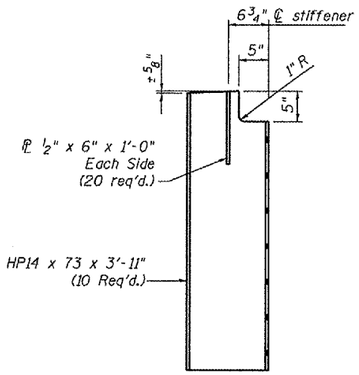


SECTION F-F



TYPICAL HP SECTION
(at Piers)

DESIGNED	CMV
CHECKED	SDS
DRAWN	DLH
CHECKED	CMV

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

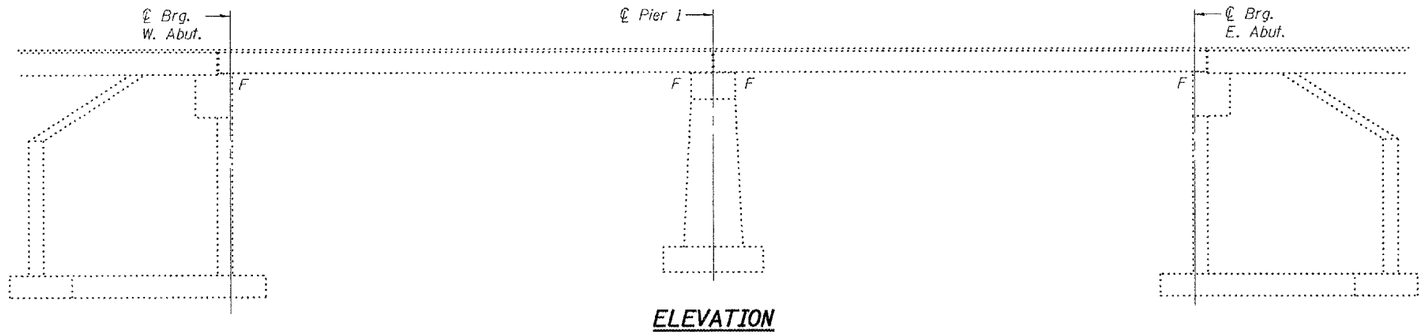
REPAIR DETAILS
US 45 OVER UNNAMED STREAM
WHITE COUNTY
S.N. 097-0021

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

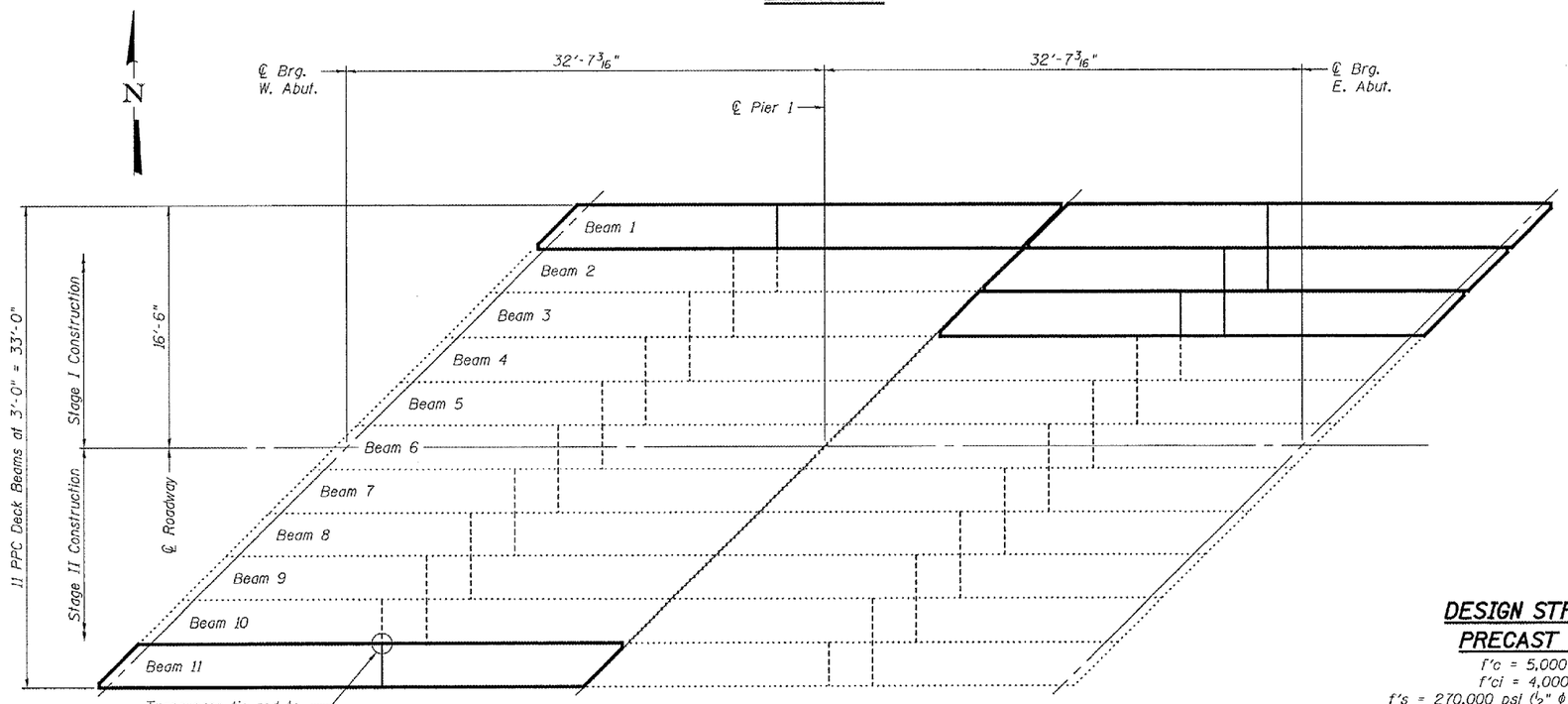
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821		JEFFERSON	14	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
3 SHEETS

Contract Number: 78035



ELEVATION



PLAN

GENERAL NOTES

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractors responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

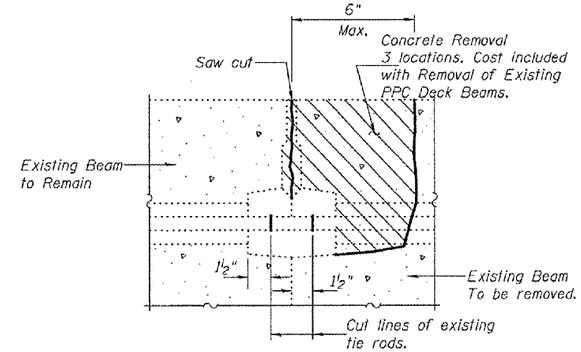
The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

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.

Temporary concrete barrier shall only be anchored into the overlay and not into the PPC Deck Beams.

DESIGN STRESSES
PRECAST UNITS

f'c = 5,000 psi
f'ci = 4,000 psi
f's = 270,000 psi (½" ϕ low lax strands)
f'si = 201,960 psi (½" ϕ low lax strands)



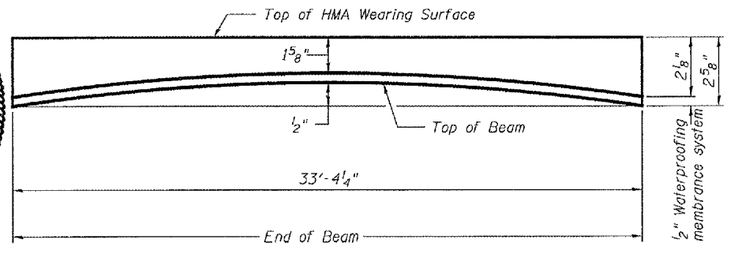
BEAM REMOVAL DETAIL AT TRANSVERSE TIES

DESIGNED
CHECKED Victor H. Velez
DRAWN
CHECKED AJB VHV

January 3, 2008
EXAMINED
PASSED
ENGINEER OF STRUCTURAL SERVICES
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
RALPH E. ANDERSON
081-004625
LICENSED STRUCTURAL ENGINEER
SPRINGFIELD

Expires: November 30, 2008



ANTICIPATED INITIAL CAMBER DIAGRAM

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing PPC Deck Beams	Sq. Ft.	500.3
PPC Deck Beams (17" Depth)	Sq. Ft.	500.3
Hotmix Asphalt Surface Removal	Sq. Yd.	7.0
Hotmix Asphalt Surface Course, Mix "C" N90	Tons	6.4
PC Mortar Fairing Course	Foot	167
Waterproofing Membrane System	Sq. Yd.	62.6
Remove and Re-erect Existing Bridge Rail	Foot	98

PLAN AND ELEVATION
FAP 821
OVER POLE CAT CREEK
JEFFERSON COUNTY
SN 041-0021

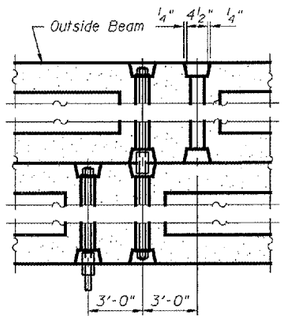
SLT 08 001 07

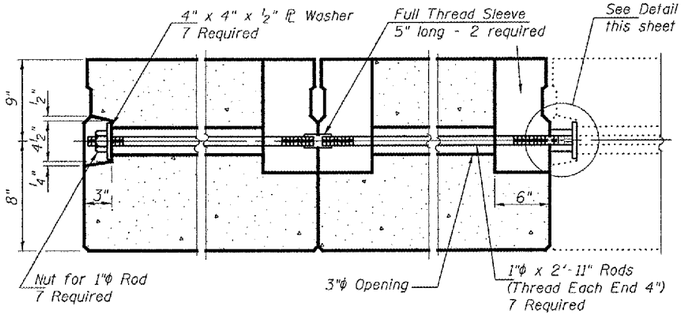
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821		JEFFERSON	14	13
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
3 SHEETS

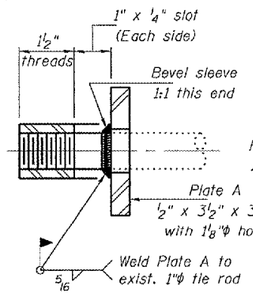
Contract Number: 78035

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

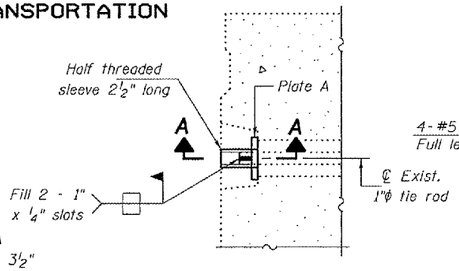




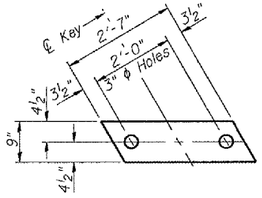
TYPICAL TRANSVERSE TIE ASSEMBLY



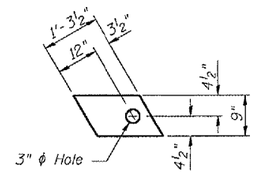
SECTION A-A
(3 Required)



DETAIL A



FABRIC BEARING PAD
(Interior)



FABRIC BEARING PAD
(Exterior)

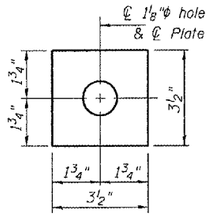
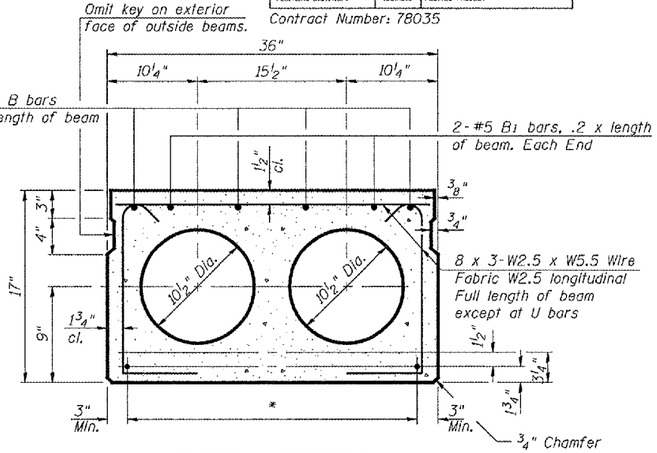


PLATE A
(3 Required)

* TRANSVERSE PLACEMENT GUIDELINES

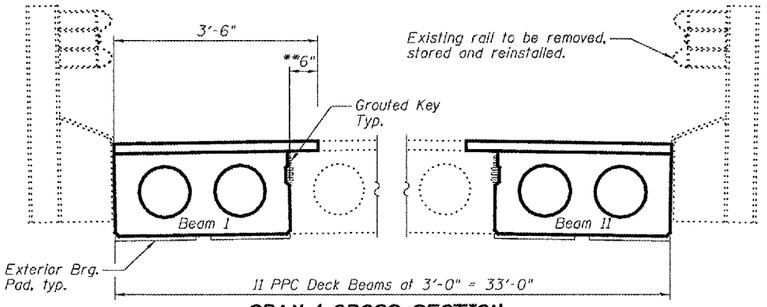
1. Place strands symmetrically about centerline of beam.
2. The minimum distance from center to center of strands in all directions shall be 2".
3. The minimum clearance from strand to dowel hole shall be 1/2".
4. The minimum clearance from strand to void shall be 1 1/2".

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



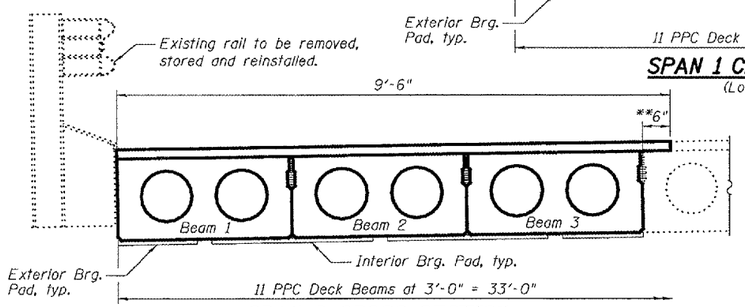
TYPICAL SECTION

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

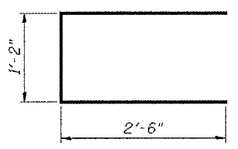


SPAN 1 CROSS SECTION
(Looking East)

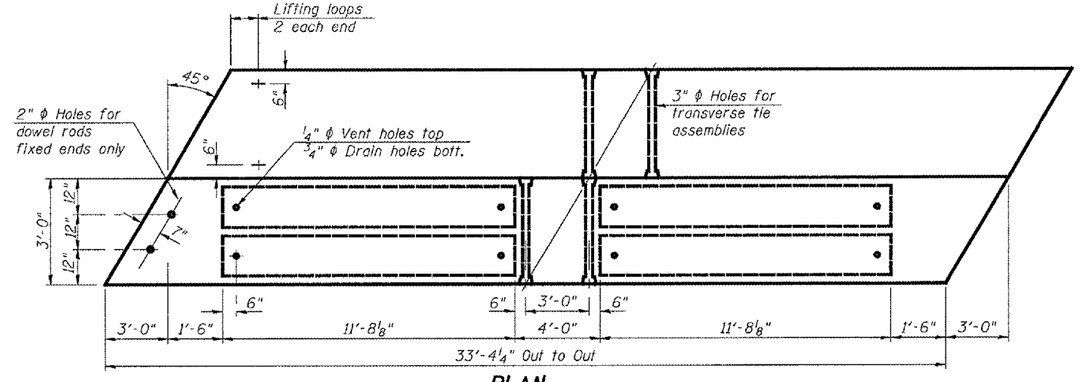
**Limits of HMA surface removal.



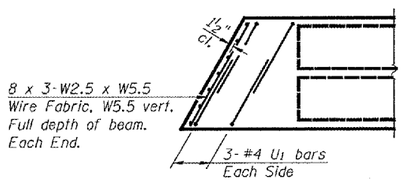
SPAN 2 CROSS SECTION
(Looking East)



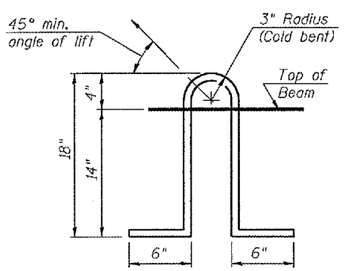
BAR U1



PLAN



END PLAN



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" ϕ-270 ksi strands, as shown.
The 1" ϕ 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 4,000 p.s.i.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms.	Sq. Ft.	500.3

DESIGNED	A.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	A.J.B. V.H.V.

January 3, 2008
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

PD-3-L 11-1-06

BEAM DETAILS
FAP 821
JEFFERSON COUNTY
SN 041-0021

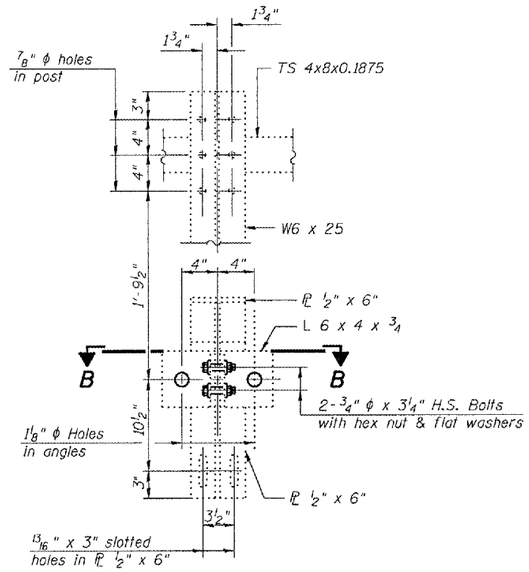
SLT-99-001-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

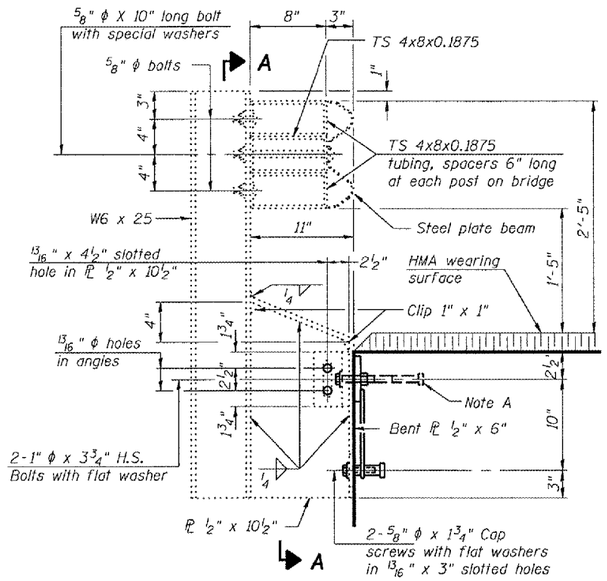
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821		JEFFERSON	14	14
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
3 SHEETS

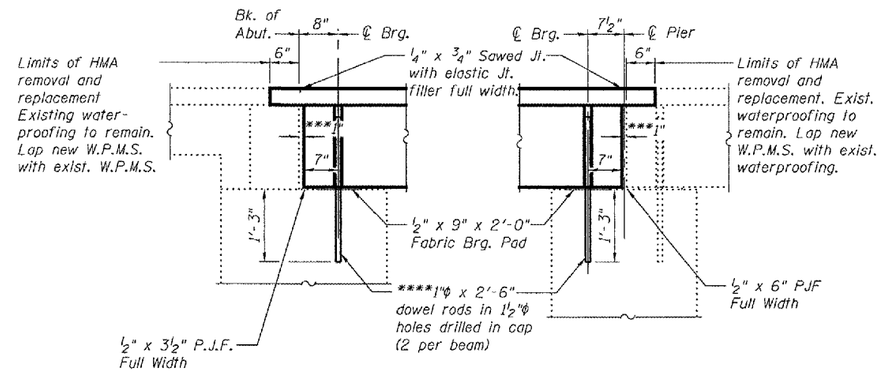
Contract Number: 78035



SECTION A-A



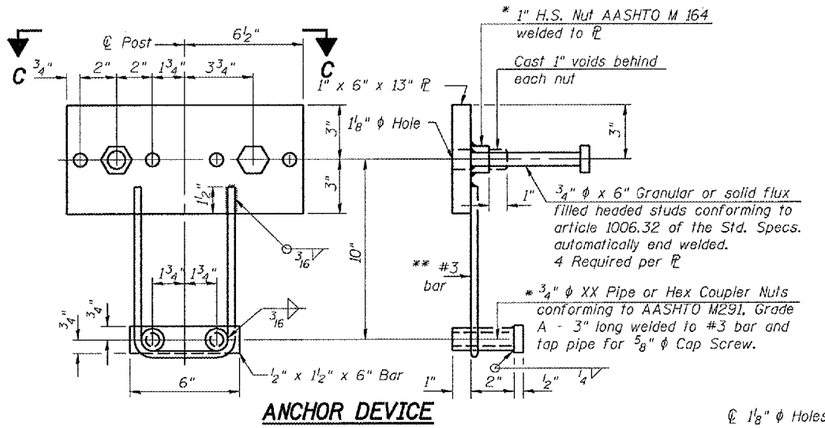
SECTION AT RAIL POST



TYPICAL SECTION AT ABUTMENTS

TYPICAL SECTION AT PIER

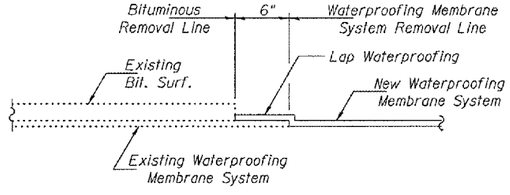
*1" Joint shall be filled with non-shrink grout. Dimension may vary to accommodate tolerance in beam lengths.
**Existing dowel rods are to be burned off, ground flush, and sealed with epoxy prior to placement of new beams. Cost included in Removal of Existing PPC Deck Beams. After beams have been erected holes shall be drilled into cap and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a minimum of 24 hours prior to grouting the shear keys.



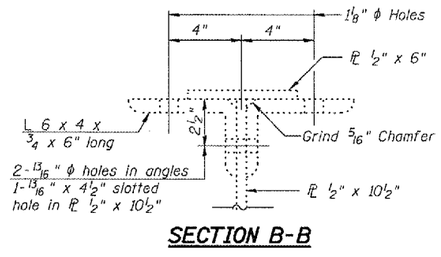
ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.
** 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".

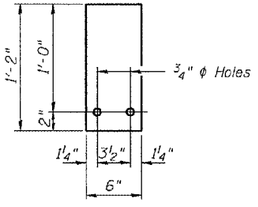
Note A:
The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



WATERPROOFING TREATMENT

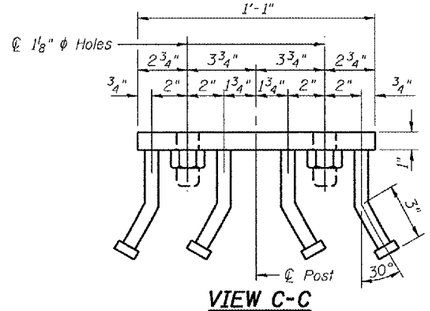


SECTION B-B

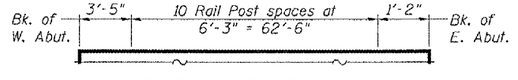


1/4" SHIM PLATE

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 Remove and Re-Erect Existing Bridge Rail.
All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.
Cost of all labor and material necessary to complete the work as shown on this sheet will be paid for at the contract unit price per foot for Remove and Re-erect Existing Bridge Rail.



VIEW C-C



RAIL POST SPACING

BILL OF MATERIAL

Item	Unit	Quantity
Remove and Re-Erect Existing Bridge Rail	Foot	98

DESIGNED	A.J.B.
CHECKED	V.H.V.
DRAWN	Drew Christopher
CHECKED	A.J.B. V.H.V.

January 3, 2008
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

R-30 11-1-06 6'-3" Maximun Post Spacing

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