

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

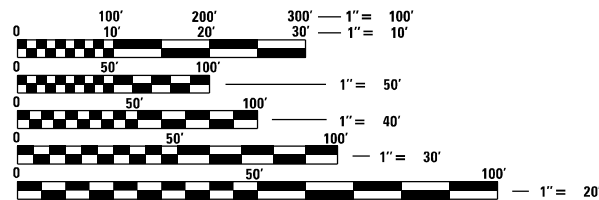
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	(1-5HB-1)BRR	ADAMS	5	1
		ILLINOIS	CONTRACT NO. 72A34	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED MCHD BRIDGE REPAIRS

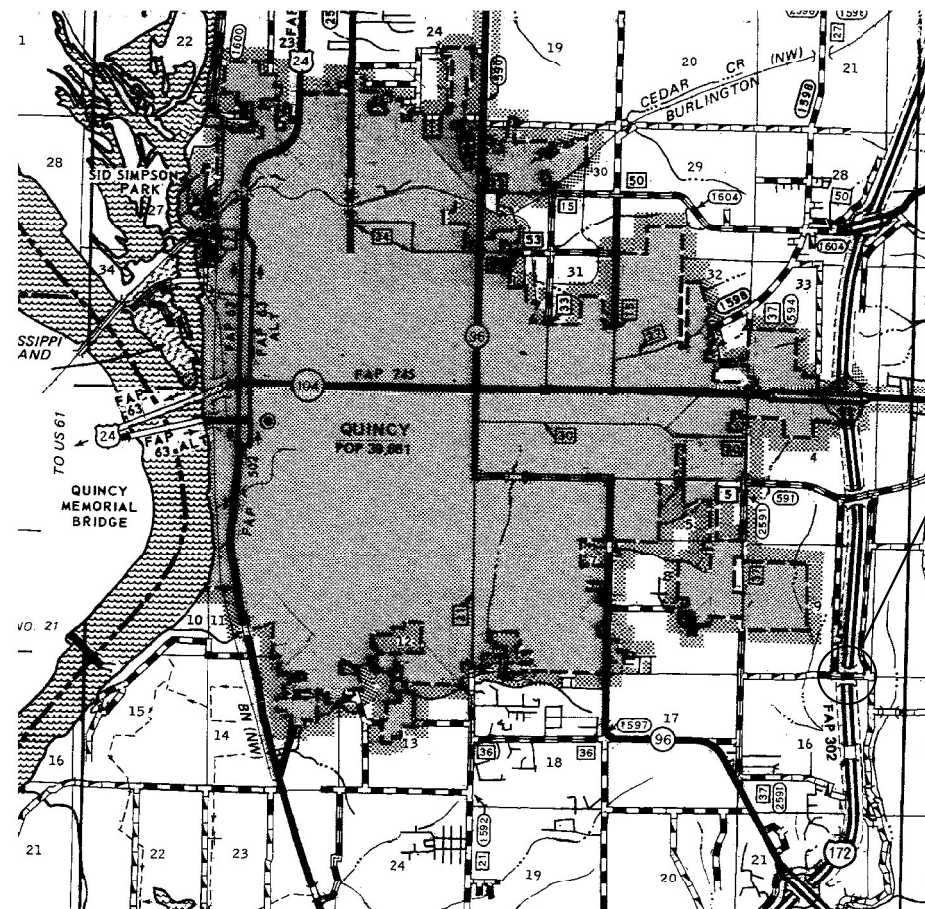
FAI ROUTE 172 (I-172)
SECTION (1-5HB-1)BRR
PROJECT (STATE ONLY)
BRIDGE BEAM REPAIR
ADAMS COUNTY

C-96-035-22



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

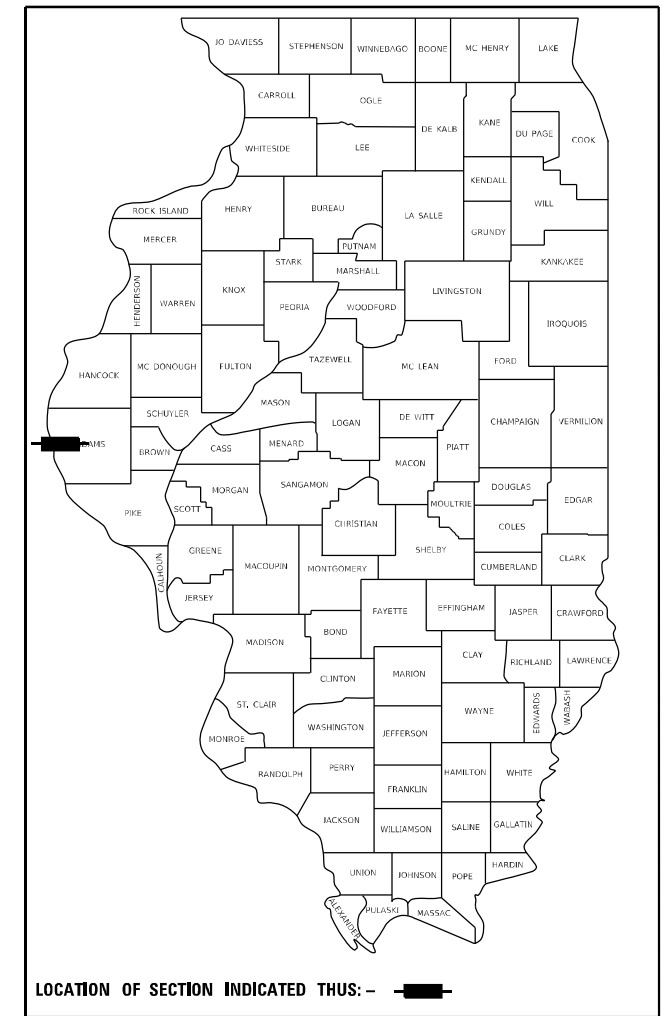


BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY - (217) 785-9290

GROSS LENGTH = XX FT. = XX MILE
NET LENGTH = XX FT. = XX MILE

CONTRACT NO. 72A34

D-96-030-22



LOCATION OF SECTION INDICATED THIS: - [thick black line] -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED January 31 20 22
[Signature] REGIONAL ENGINEER
March 25 20 22
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT
March 2 20 22
[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

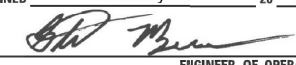


INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, SIGNATURES, & GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4-5 SN 001-0045 BRIDGE PLANS

STANDARDS

- 000001-08
- 001001-02
- 001006
- 701001-02
- 701006-05
- 701101-05
- 701106-02
- 701316-13
- 701400-11
- 701401-13
- 701901-08

GENERAL NOTES:

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6	
EXAMINED	January 31 20 22
 ENGINEER OF OPERATIONS	
EXAMINED	January 31 20 22
 ENGINEER OF PROJECT IMPLEMENTATION	
EXAMINED	January 28 20 22
 ENGINEER OF PROGRAM DEVELOPMENT	

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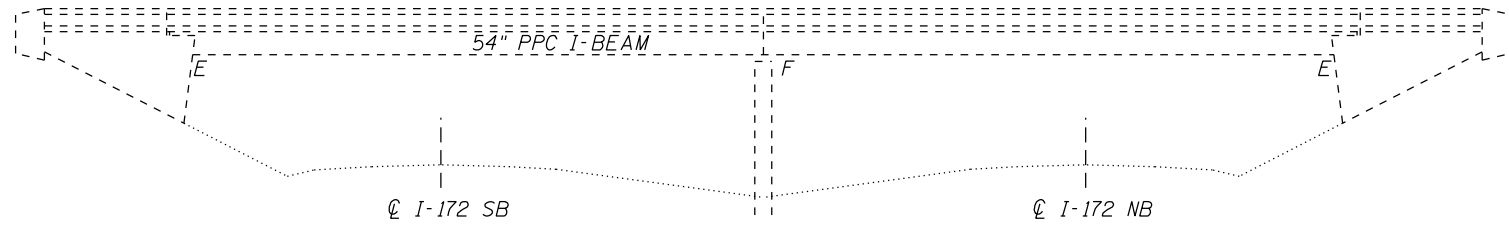
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	DRAWN -	REVISED -
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 2/4/2022	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

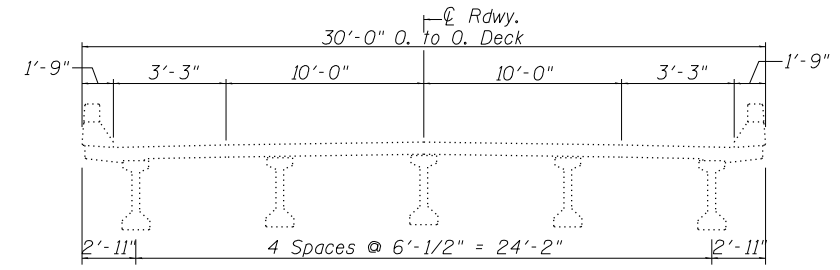
**INDEX OF SHEETS, STANDARDS,
GENERAL NOTES, & SIGNATURES**

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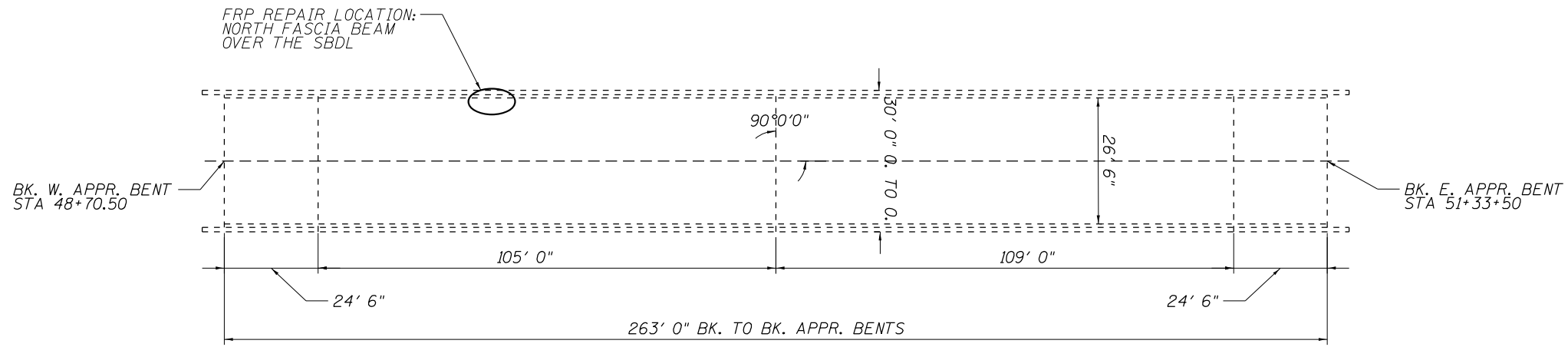
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(1-5HB-1)BRR	ADAMS	5	2
CONTRACT NO. 72A34				
ILLINOIS FED. AID PROJECT				



ELEVATION



DECK CROSS SECTION



PLAN

STRUCTURE GENERAL NOTES:

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

TOTAL BILL OF MATERIAL (SN 001-0045)

ITEM	UNIT	QUANTITY
Acrylic Coating	Sq Yd	9
Fiber Wrap	Sq Ft	90
Precast Prestressed Concrete I-Beam Repair	Sq Ft	10



EXPIRES 11-30-2022
Jayme F. Schiff

USER NAME = dudleybm	DESIGNED - BRANDON DUDLEY	REVISED -
	DRAWN - BRANDON DUDLEY	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 2/4/2022	DATE - 1/10/2022	REVISED -

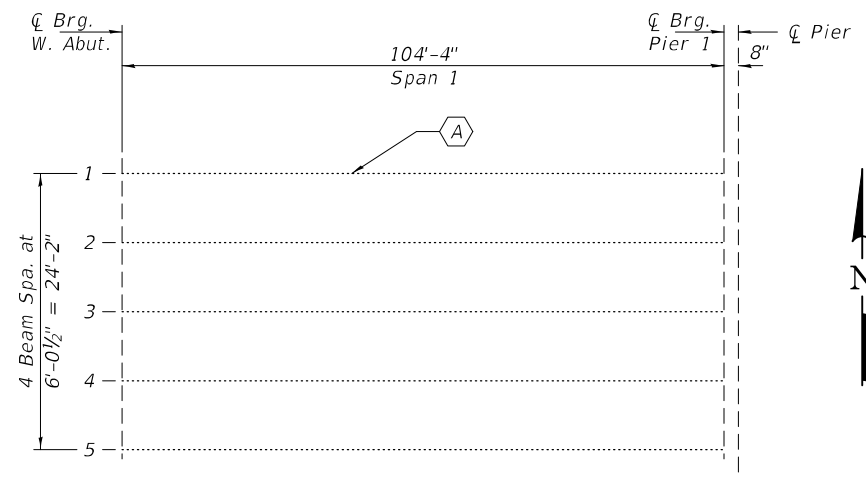
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE PLAN & ELEVATION
 SN 001-0045**

SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

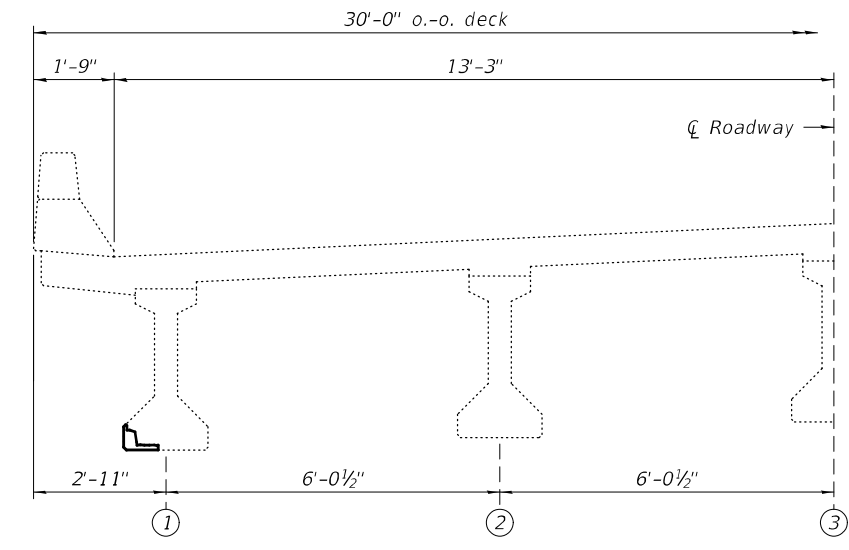
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(1-5HB-1)BRR	ADAMS	5	4
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72A34	

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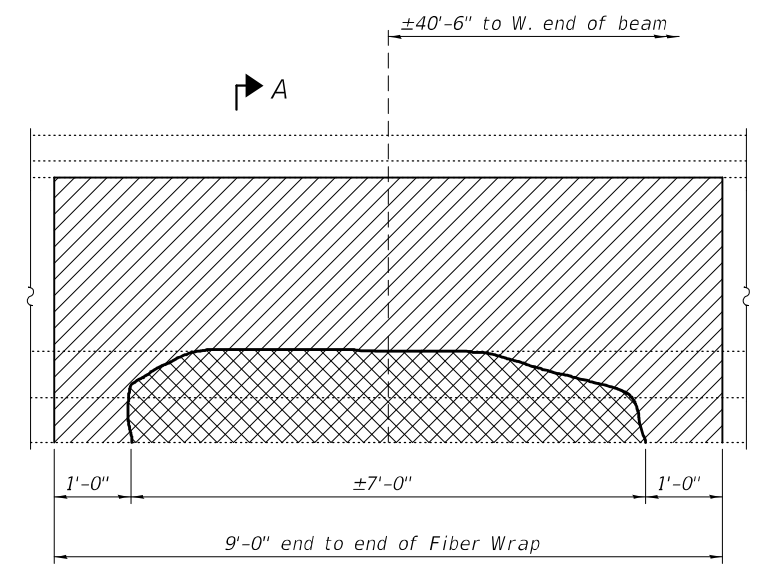


HALF PLAN

(A) - Repair Location

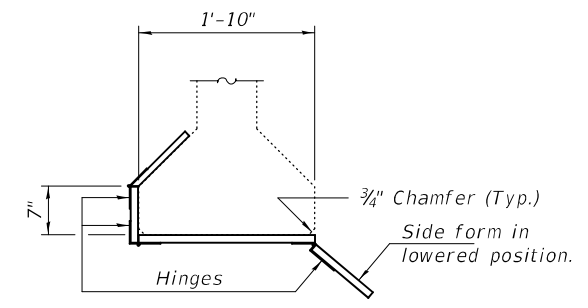


CROSS SECTION SPAN 2
(Looking East)



ELEVATION BEAM
(Looking South)

Hatched areas indicate Fiber Wrap.
Cross hatched areas indicate areas to be patched.



SUGGESTED FORM DETAIL

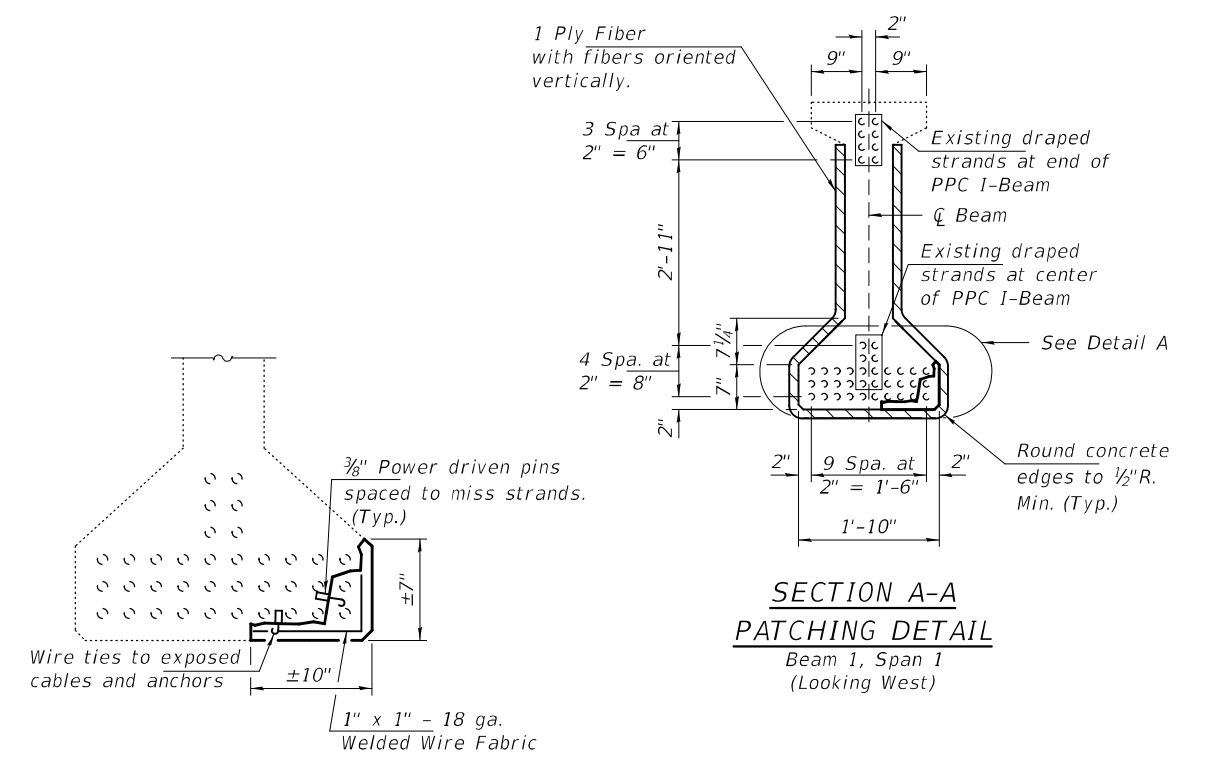
REPAIR PROCEDURES FOR BEAM 1
(SPAN 1)

- The damaged area of the beam shall be cleaned of all loose and spalled concrete, and sealant. Hand tools shall be used for the removal of concrete adjacent to the prestressing strands. While a 15 pound chipping hammer may be used away from prestressing strands, extreme care shall be taken not to damage the exposed prestressing strands. Any exposed portions of the strands shall be sandblasted.
- Using the same tools, remove the existing concrete to sound concrete along the edges of the damaged area to a depth of 1" min. to 1 1/2" max. The edges shall be saw cut 3/4" deep or less.
- Power driven pins as shown in Detail A shall be placed at 9" alternate centers along damaged length of beam at locations shown in Detail A. Use wire ties in areas where the strands are exposed as shown in Detail A. Place 1" x 1" x 18 gauge welded wire fabric in repair areas and attach it to the pins or strands with wire ties. The clearance between the finished surface of the new concrete and the welded wire fabric shall be 1" minimum. All beams involved in this work shall be rebuilt to their original dimensions.
- All surfaces of the existing concrete in the areas to be repaired shall be prepared in accordance with Art. 503.09 (b) of the Standard Specs. The concrete beam to be repaired must be at a temperature of at least 50° F. or higher.
- The repair shall be made using a concrete meeting all the requirements specified in Section 1020 of the Standard Specifications for Class PS Concrete for precast prestressed concrete members, except the maximum size of the aggregate shall be 1/2". Place the lower form on the bottom of the beam and compact by vibrating (or other approved methods) the concrete mix into the voids. After accessible voids have been filled and compacted, the top vertical form shall be raised into position and the remaining voids filled and compacted. The sloping upper surface shall be finished to the configuration of the existing PPC I-Beam flange.

PRELOADING FOR PPC I-BEAM REPAIRS
(Service Moment)

Beam	Span	Location		* Moment (kip-ft)
		From	Distance	
1	1	W End Bm	40'-6"	861

* The magnitude of the moments to be applied were obtained by assuming a simple span behavior between the fascia and first interior beams (AASHTO 3.23.2.3.1.2) for Live Load + Impact. The effect of the proposed preload system shall be determined using the same assumption.



DETAIL A AT BEAM 1
(Looking West)

Note:
The cost of concrete removal, Class PS Concrete, power driven pins, wire ties, wire mesh, epoxy bonding agent, Epoxy Crack Sealing and all other work required to perform repairs on Beam 1 in Span 1 shall be included in the cost of PPC I Beam Repairs.
See Special Provisions for FRP Strengthening.