

SPECIFICATION, SPECIAL PROVISIONS AND DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS AND DRAWINGS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Bridge Standards 707 thru 731 need to be revised and updated for content and presentation.

PROPOSED SOLUTION: The Bridge Standards 707 thru 731 have been revised and updated.

707-BPBB-01.....Propose to delete  
707-BPBF-01 thru 03.....Propose to revise  
707-BPDP-01 & 02, 04 & 05.....Propose to delete  
711-BREB-01 .....Propose to delete  
711-BSTS-01 & 02 .....Propose to delete  
724-BJTS-02.....Propose to delete  
724 BJTS-03 .....Propose to revise  
724 BJTS-04, 05, 06 .....Propose to delete  
731 BRRW-01 & 02 .....New Designation: 731-MSEW-01, 02, & 03

APPLICABLE STANDARD SPECIFICATIONS: 707

APPLICABLE STANDARD DRAWINGS:

707-BPBB-01  
707-BPBF-01 thru 03  
707-BPDP-01 & 02, 04 & 05  
711-BREB-01  
711-BSTS-01 thru 02  
724-BJTS-02 thru 06  
731-BRRW-01 thru 02

APPLICABLE DESIGN MANUAL SECTION: 406-12A Figure showing transverse tensioning rods will be deleted.

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS: none

Mr. Strain  
Date: 03/15/12

SPECIFICATION, SPECIAL PROVISIONS AND DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS AND DRAWINGS

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(CONTINUED)

Submitted By: Randy Strain

Title: Bridge Standard and Policy Engineer

Organization: INDOT

Phone Number: 317-232-3339

Date: Feb 17, 2012

APPLICABLE SUB-COMMITTEE ENDORSEMENT: none

FIRST DRAFT MINUTES ITEM 03

REVISION TO STANDARD SPECIFICATIONS

SECTION 702 - STRUCTURAL CONCRETE

702.13(f) PRECAST CONCRETE DECK PANELS

The Standard Specifications are revised as follows:

SECTION 702, BEGIN LINE 729, DELETE AND INSERT AS FOLLOWS:

**(f) Precast Concrete Deck Panels**~~Blank~~

~~The construction and furnishing of precast concrete deck panels in accordance with 707.10 will be permitted as an alternate method of forming a bridge deck slab for a prestressed concrete I beam bridge. Precast concrete deck panels will not be permitted on a prestressed concrete I beam bridge which is built on a sag vertical curve or on a superelevation transition unless otherwise shown on the plans. Precast concrete deck panels will not be permitted for use on a steel beam, steel girder, prestressed concrete bulb-T beam, or prestressed concrete spread box beam bridge.~~

~~The deck panel system shall replace the bottom mat of slab reinforcement and, depending on panel depth, the bottom 2 1/2 or 3 in. (64 or 75 mm) of the class C concrete slab. Formwork is eliminated in the areas between the beams, but forms shall be used for the copings and diaphragms.~~

~~Mating surfaces of the deck panels shall have a maximum deviation of 1/8 in. in 6 ft (3 mm in 1.8 m). All other dimensions as shown on the plans shall be fabricated to  $\pm 1/4$  in. ( $\pm 6$  mm), except the vertical location of prestressing strands shall be  $\pm 1/16$  in. ( $\pm 2$  mm). All panel joints shall be mortar tight immediately prior to placing the cast in place portion of the deck slab. Immediately prior to placement of concrete, the precast deck panels shall be wetted until free moisture appears and remains without ponding.~~

SECTION 702, BEGIN LINE 1494, DELETE AS FOLLOWS:

~~The cost of precast concrete deck panels shall be included in the cost of concrete, C, superstructure. The pay quantity of such concrete in the slab will be computed from the dimensions for the formed and poured bridge floor slab shown on the plans. The pay quantity of reinforcing bars will be the plan quantity shown with no adjustment for eliminating the bottom reinforcing bar layer nor for additional reinforcement required due to use of the precast concrete deck panels.~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 707 - PRECAST AND PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBERS

- 707.01 DESCRIPTION
- 707.02 MATERIALS
- 707.09 PLACING STRUCTURAL MEMBERS
- 707.10 PRECAST PRESTRESSED CONCRETE DECK PANELS
- 707.11 METHOD OF MEASUREMENTS
- 707.12 BASIS OF PAYMENT

The Standard Specifications are revised as follows:

SECTION 707, BEGIN LINE 4, DELETE AS FOLLOWS:

**707.01 Description**

This work shall consist of fabricating, furnishing, and installing reinforced precast concrete structural members, ~~concrete deck panels~~ cast outside the structure, transported to, and incorporated into the structure, or precast prestressed concrete structural members having a design 28-day concrete compressive strength,  $f'c$ , of up to and including 8,000 psi (55.2 MPa), all in accordance with 105.03.

SECTION 707, BEGIN LINE 37, DELETE AS FOLLOWS:

~~Tensioning rods and steel plates used with adjacent prestressed concrete box beams shall be in accordance with ASTM A 706, Grade 36 (A 706M, Grade 250). Nuts used with such tensioning rods shall be heavy hex in accordance with ASTM A 563 (A 563M). Grout used with such beams shall be non-shrink in accordance with ASTM C 1107.~~

All precast non-prestressed structural members shall be manufactured by a Department Certified Precast Concrete Producer in accordance with ITM 813. All precast prestressed structural members including, but not limited to concrete ~~deck panels~~, box-beams, I-beams, U-beams, and bulb-T beams shall be manufactured in a Department approved plant in accordance with ITM 814.

SECTION 707, BEGIN LINE 490, DELETE AS FOLLOWS:

~~After adjacent prestressed concrete box beams are in place, the transverse tensioning rods shall be preliminarily tightened as shown on the plans. The rods shall be final tensioned as shown on the plans. The final tensioning shall yield 20,000 psi (138 MPa) as developed by means of a torque of 19 lb/ft (271 N/m). The tensioning rod recesses and longitudinal joints between beams shall be filled with grout.~~

SECTION 707, BEGIN LINE 496, DELETE AND INSERT AS FOLLOWS:

**707.10 Precast Prestressed Concrete Deck Panels**~~Blank~~

~~Precast prestressed concrete deck panels shall be designed as a non-composite section to support the dead load of the panel, reinforcement, plastic concrete, and a construction load of 50 lb/sq ft (2.4 kPa).~~

~~When the Contractor elects to use precast prestressed deck panels, the panel shall be designed as a composite section with class C concrete to support the live load. The Contractor~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 707 - PRECAST AND PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBERS

- 707.01 DESCRIPTION
- 707.02 MATERIALS
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- 707.10 PRECAST PRESTRESSED CONCRETE DECK PANELS
- 707.11 METHOD OF MEASUREMENTS
- 707.12 BASIS OF PAYMENT

~~shall revise the area of top longitudinal reinforcing bars in the deck over interior supports for negative moment to be equal to the total area of top and bottom longitudinal reinforcing bars.~~

~~Working drawings shall be submitted in accordance with 105.02. Design calculations shall be submitted only for total slab thicknesses greater than 8 in. (200 mm) or clear spans in excess of 7 ft 6 in. (2.3 m). Design shall be in accordance with the AASHTO LRFD Bridge Design Specifications as shown on the plans. Details such as type, size, and location of the reinforcing bars, the prestressing strands, WWR, and concrete shall be as shown on the plans.~~

~~The concrete for deck panels shall be placed in accordance with 702.20. The concrete shall be vibrated to prevent honeycombs and voids, especially at the corners and edges of the panels. The tops of the deck panels shall be broom or wire brush finished in the direction of the prestressing strands. The corrugations formed shall be uniform in appearance and shall not be more than 1/4 in. (6 mm) in depth. The coarse aggregate shall not be displaced when preparing the roughened surface.~~

SECTION 707, BEGIN LINE 527, DELETE AS FOLLOWS:

~~When the Contractor elects to use precast prestressed concrete deck panels, the panels will not be measured for payment.~~

SECTION 707, BEGIN LINE 560, DELETE AS FOLLOWS:

~~When the Contractor elects to use precast prestressed concrete deck panels, the cost of the panels shall be included in the cost of class C concrete in superstructure.~~

REVISION TO STANDARD SPECIFICATIONS

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SECTION 910 - METAL MATERIALS

910.01(a) GENERAL

The Standard Specifications are revised as follows:

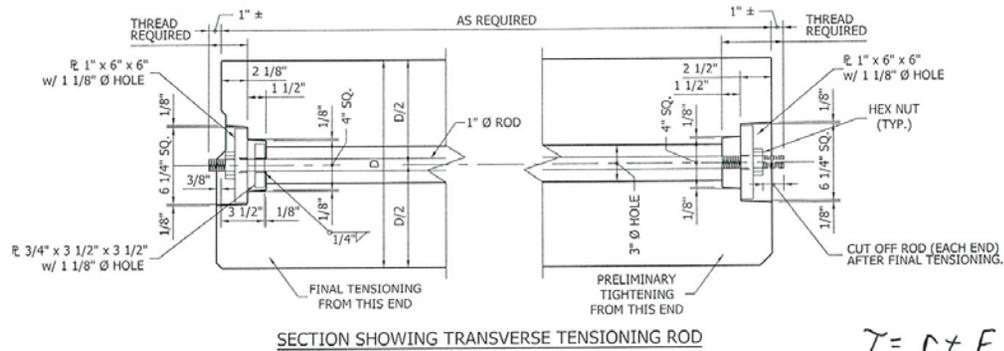
SECTION 910, BEGIN LINE 12, DELETE AS FOLLOWS:

~~Reinforcement used in precast or precast prestressed concrete structural members, including deck panels, shall be in accordance with ASTM A 615 grade 60 (A 615M, grade 420) or ASTM A 706 grade 60 (A 706M grade 420).~~

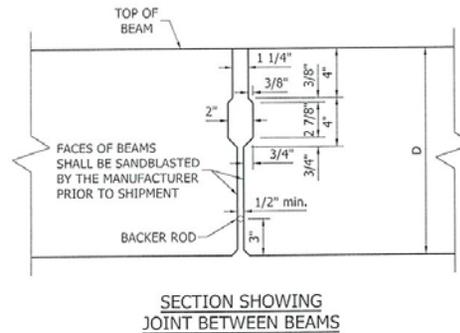
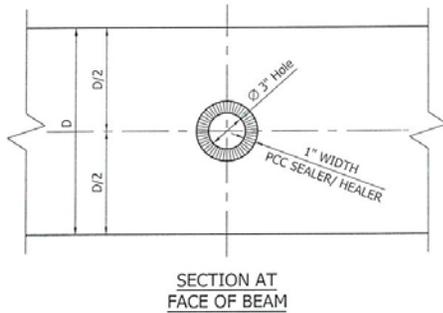
FIRST DRAFT MINUTES ITEM 03

REVISION TO STANDARD DRAWINGS

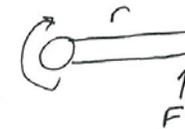
EXISTING 707-BPBB-01 BRIDGE PRESTRESSED BOX BEAM ADJACENT BOX BEAM (PROPOSE TO DELETE)



$$T = P + F$$



1"  $\phi$  rod  
 $A = \pi r^2 = 3.14159(.5)^2$   
 $A = .785''$   
 $.785 in^2 (29,000 \frac{lb}{in^2}) =$   
 $15707 \frac{lb}{rod}$

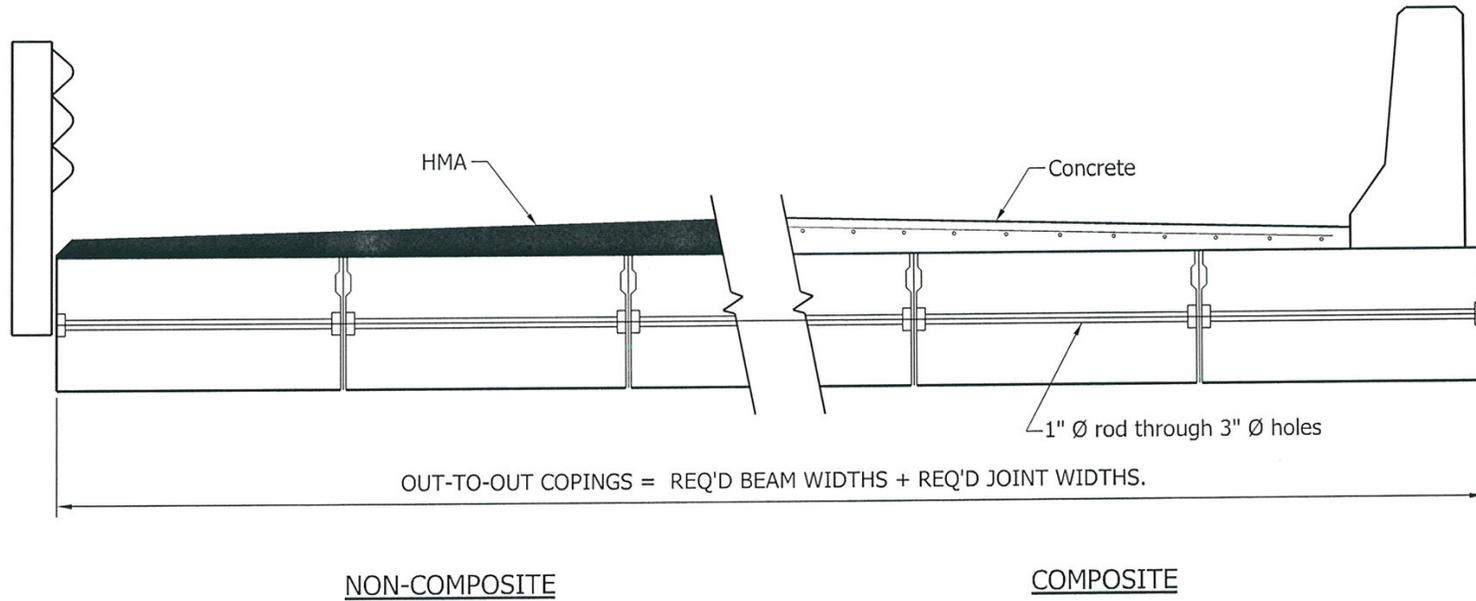


INDIANA DEPARTMENT OF TRANSPORTATION		
BRIDGE PRESTRESSED BOX BEAM ADJACENT BOX BEAM TRANSVERSE TENSIONING ROD DETAILS SEPTEMBER 2010		
STANDARD DRAWING NO. E 707-BPBB-01		
	/s/ Richard L. VanCleave	09/01/10
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	09/01/10
	CHIEF HIGHWAY ENGINEER	DATE

FIR

REVISION TO STANDARD DRAWINGS

EXISTING IDM FIGURE 406-12A ADJACENT BOX BEAM WITH TRANSVERSE TENSIONING RODS (PROPOSE TO DELETE)



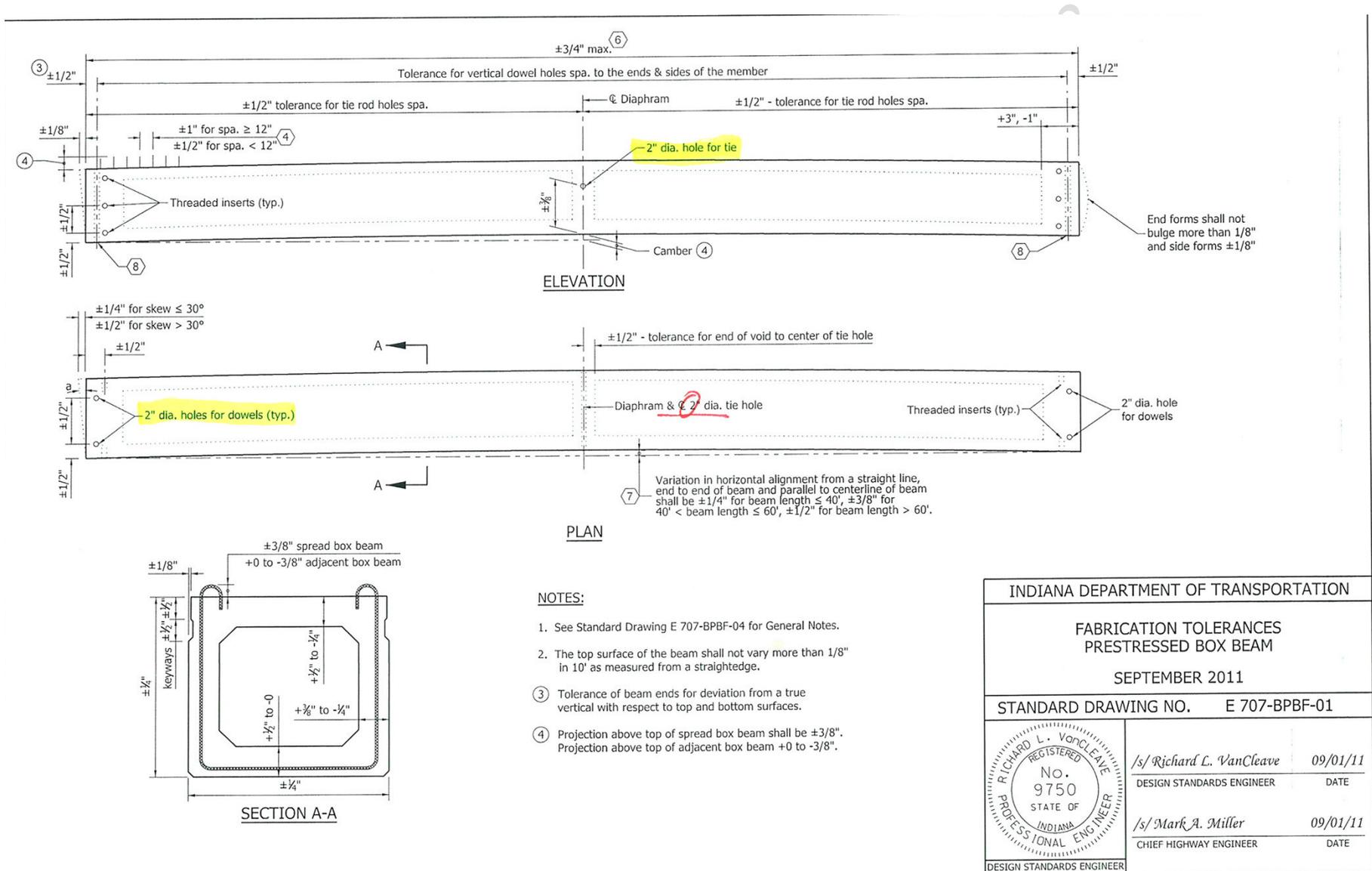
ADJACENT BOX BEAMS WITH TRANSVERSE TENSIONING RODS  
(Section View)

Figure 406-12A

Back

REVISION TO STANDARD DRAWINGS

EXISTING 707-BPBF-01 FABRICATION TOLERANCES PRESTRESSED BOX BEAM (WITH MARKUPS)

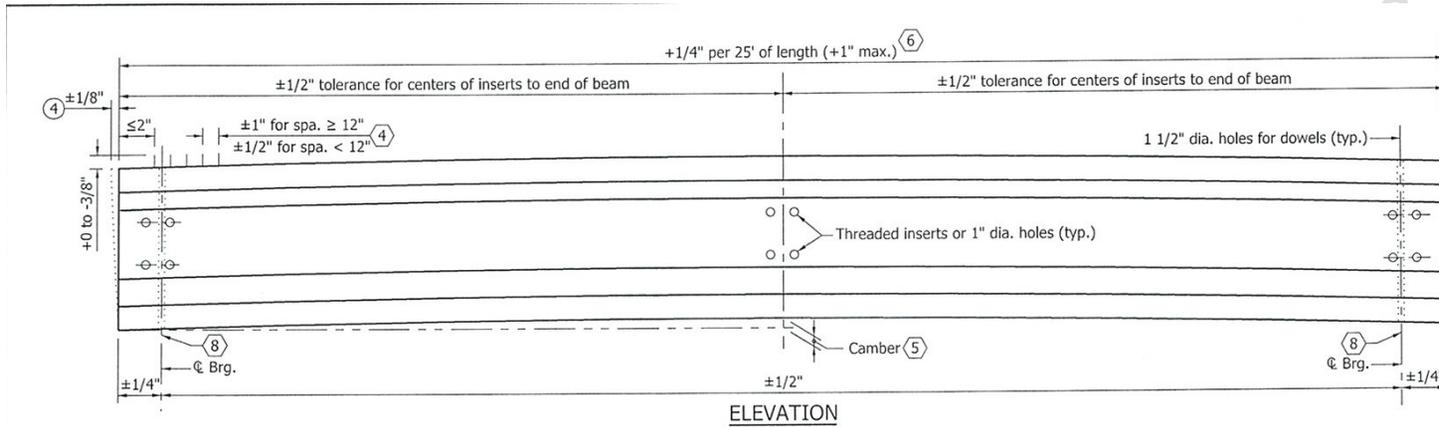


- NOTES:**
- See Standard Drawing E 707-BPBF-04 for General Notes.
  - The top surface of the beam shall not vary more than 1/8" in 10' as measured from a straightedge.
  - (3) Tolerance of beam ends for deviation from a true vertical with respect to top and bottom surfaces.
  - (4) Projection above top of spread box beam shall be ±3/8". Projection above top of adjacent box beam +0 to -3/8".

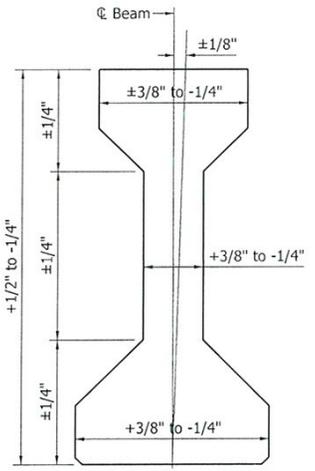
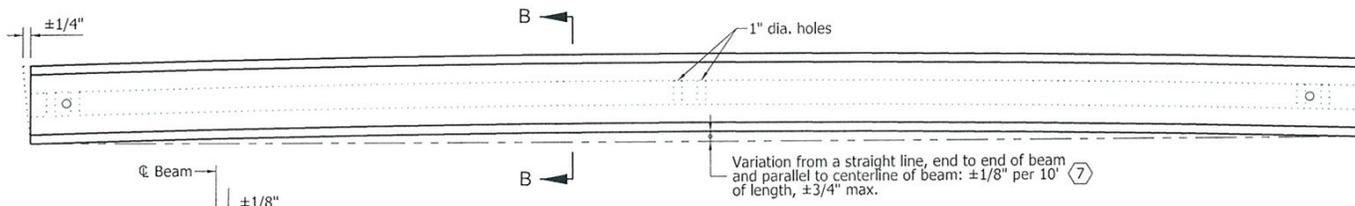
INDIANA DEPARTMENT OF TRANSPORTATION		
FABRICATION TOLERANCES PRESTRESSED BOX BEAM		
SEPTEMBER 2011		
STANDARD DRAWING NO. E 707-BPBF-01		
	/s/ Richard L. VanCleave	09/01/11
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	09/01/11
	CHIEF HIGHWAY ENGINEER	DATE
DESIGN STANDARDS ENGINEER		

REVISION TO STANDARD DRAWINGS

EXISTING 707-BPBF-02 FABRICATION TOLERANCES PRESTRESSED I BEAM (WITH MARKUPS)



*Tolerance added for holes*



SECTION B-B

PLAN

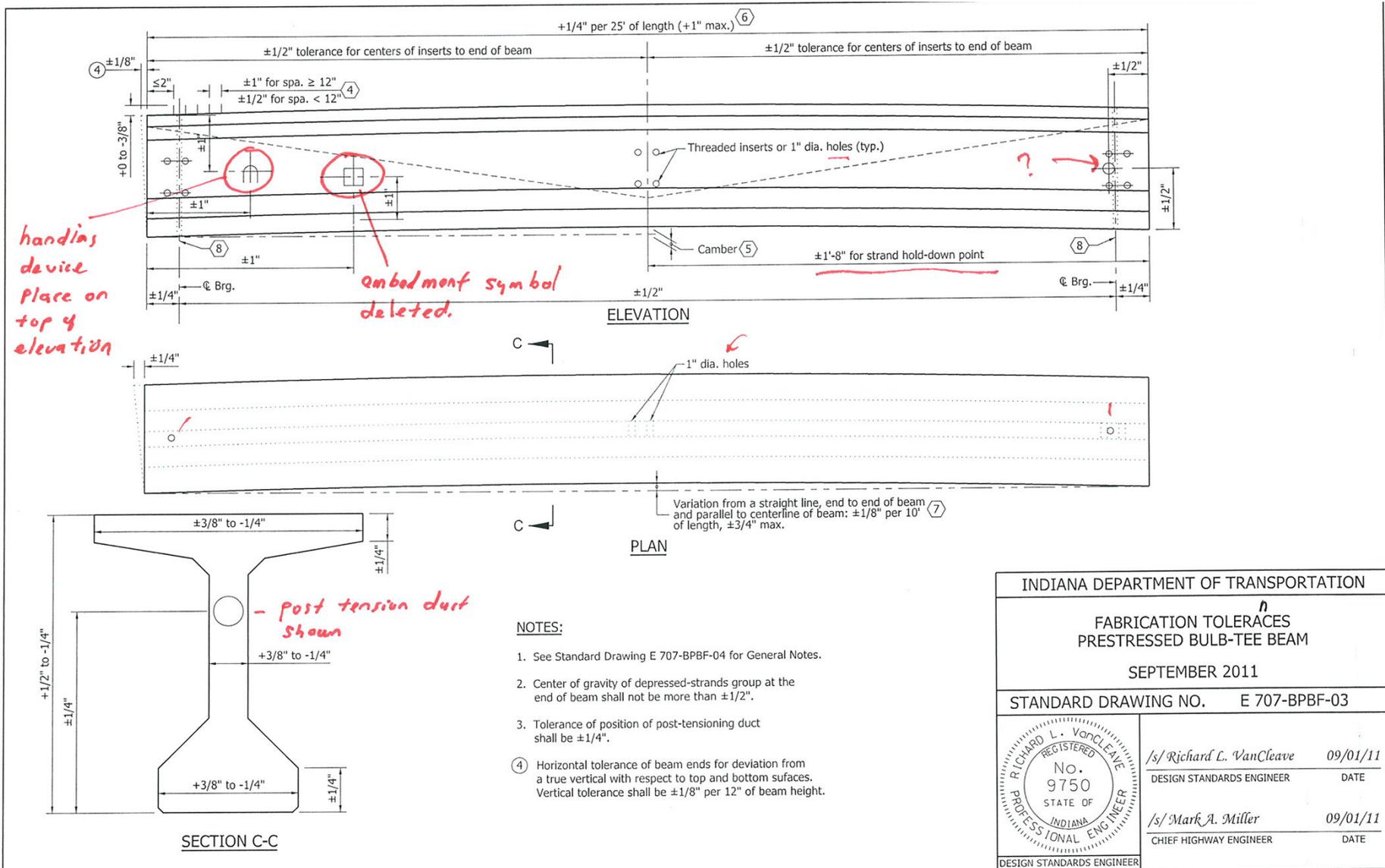
NOTES:

1. See Standard Drawing E 707-BPBF-04 for General Notes.
2. Center of gravity of depressed-strands group at the end of beam shall not be more than +/- 1/2".
3. Tolerance of position of post-tensioning duct shall be +/- 1/4".
4. Horizontal tolerance of beam ends for deviation from a true vertical with respect to top and bottom surfaces. Vertical tolerance shall be +/- 1/8" per 12" of beam height.

INDIANA DEPARTMENT OF TRANSPORTATION	
FABRICATION TOLERANCES PRESTRESSED I BEAM	
SEPTEMBER 2011	
STANDARD DRAWING NO.	E 707-BPBF-02
	/s/ Richard L. VanCleave 09/01/11 DESIGN STANDARDS ENGINEER DATE
	/s/ Mark A. Miller 09/01/11 CHIEF HIGHWAY ENGINEER DATE
DESIGN STANDARDS ENGINEER	

REVISION TO STANDARD DRAWINGS

EXISTING 707-BPBF-03 FABRICATION TOLERANCES PRESTRESSED BULB-TEE BEAM (WITH MARKUPS)

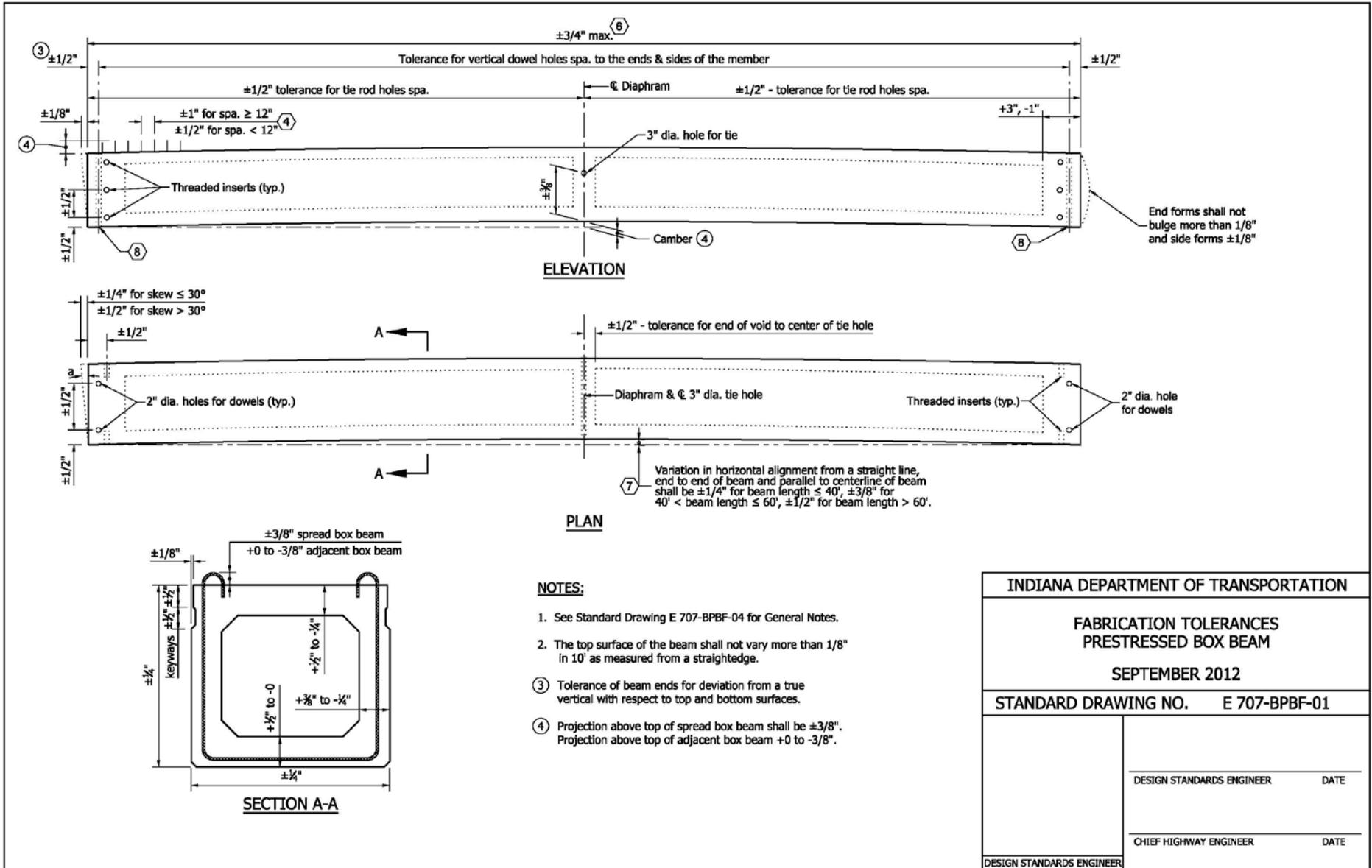


- NOTES:**
- See Standard Drawing E 707-BPBF-04 for General Notes.
  - Center of gravity of depressed-strands group at the end of beam shall not be more than  $\pm 1/2"$ .
  - Tolerance of position of post-tensioning duct shall be  $\pm 1/4"$ .
  - (4) Horizontal tolerance of beam ends for deviation from a true vertical with respect to top and bottom surfaces. Vertical tolerance shall be  $\pm 1/8"$  per 12" of beam height.

INDIANA DEPARTMENT OF TRANSPORTATION	
FABRICATION TOLERANCES PRESTRESSED BULB-TEE BEAM	
SEPTEMBER 2011	
STANDARD DRAWING NO. E 707-BPBF-03	
	/s/ Richard L. VanCleave 09/01/11 DESIGN STANDARDS ENGINEER DATE
	/s/ Mark A. Miller 09/01/11 CHIEF HIGHWAY ENGINEER DATE
DESIGN STANDARDS ENGINEER	

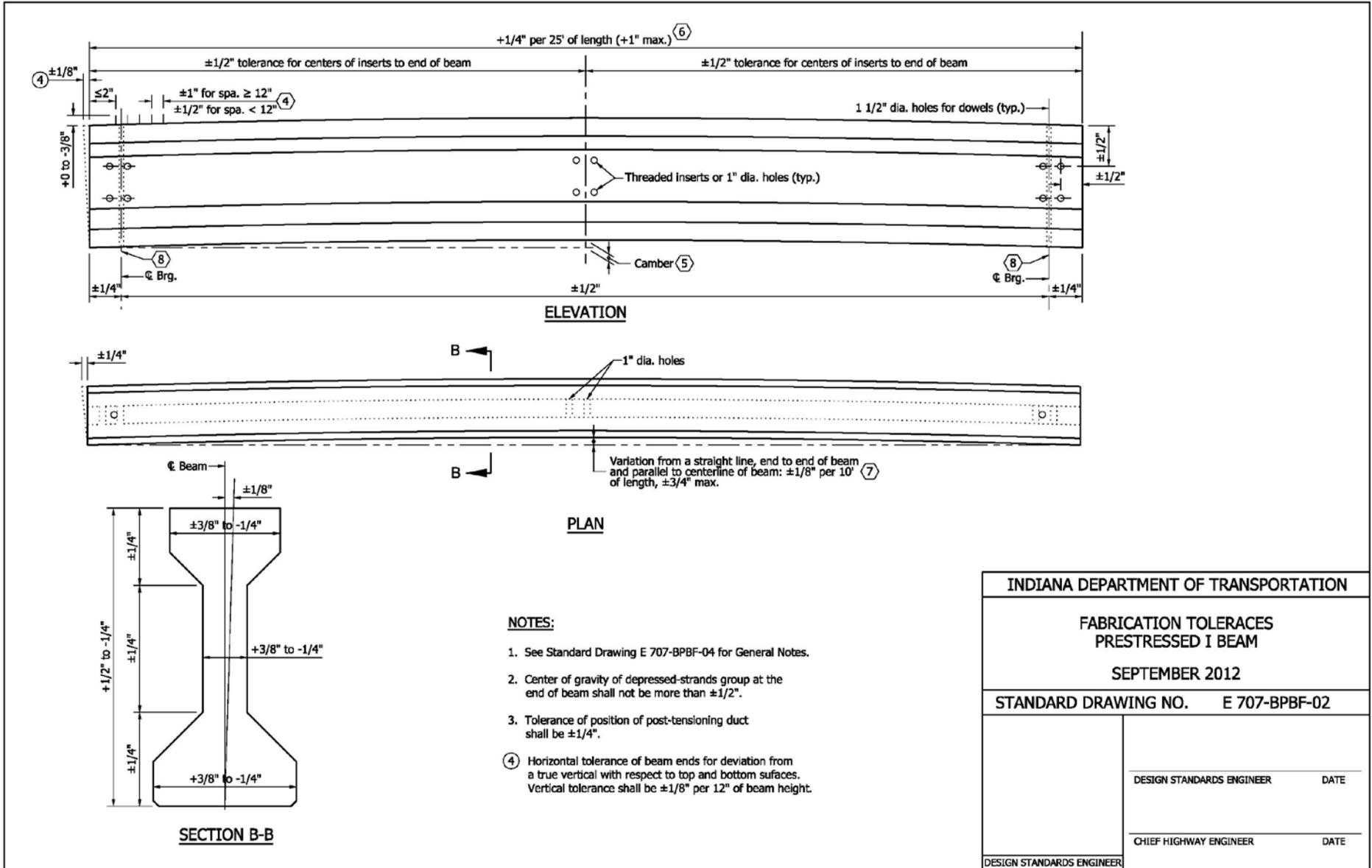
REVISION TO STANDARD DRAWINGS

707-BPBF-01 FABRICATION TOLERANCES PRESTRESSED BOX BEAM (DRAFT)



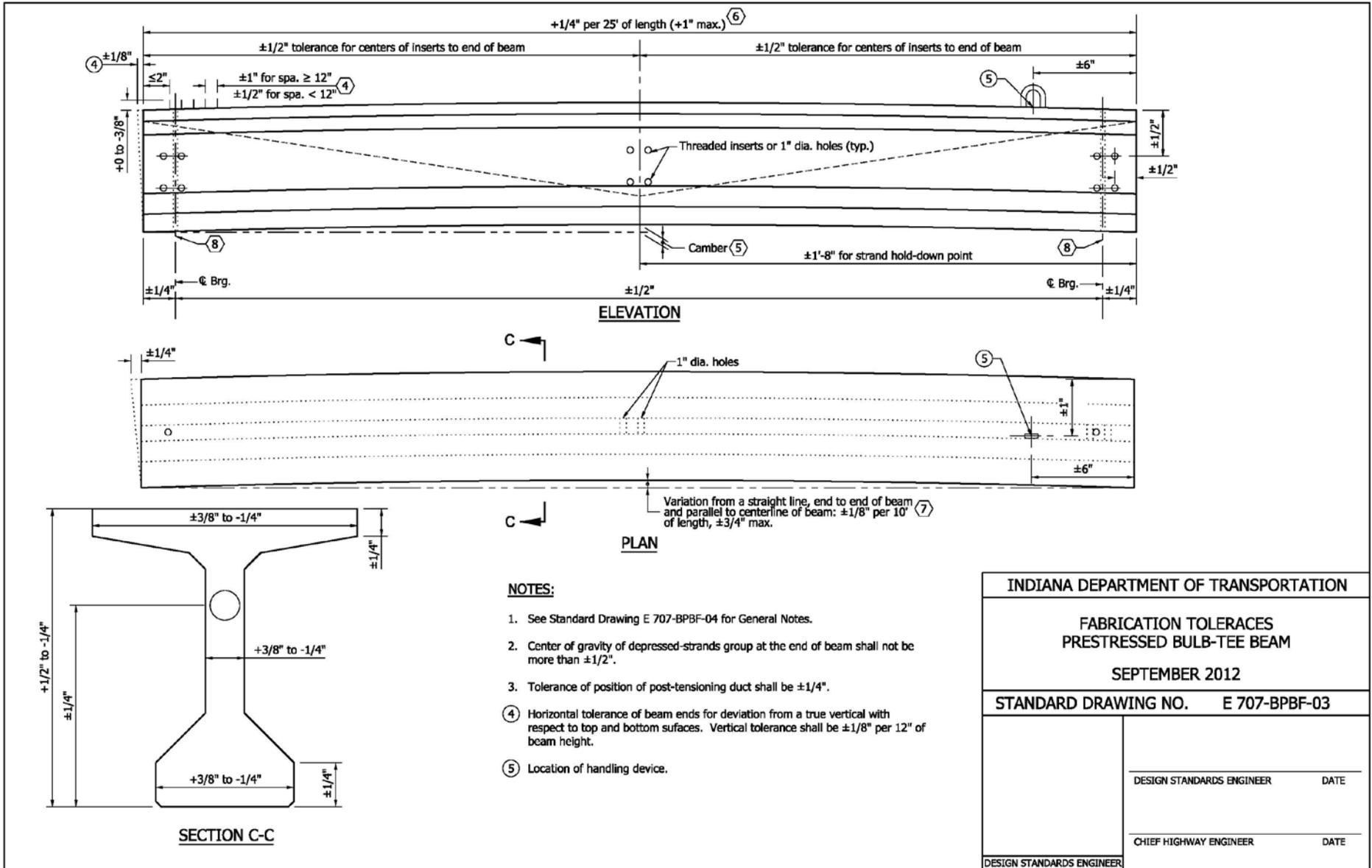
REVISION TO STANDARD DRAWINGS

707-BPBF-02 FABRICATION TOLERANCES PRESTRESSED I BEAM (DRAFT)



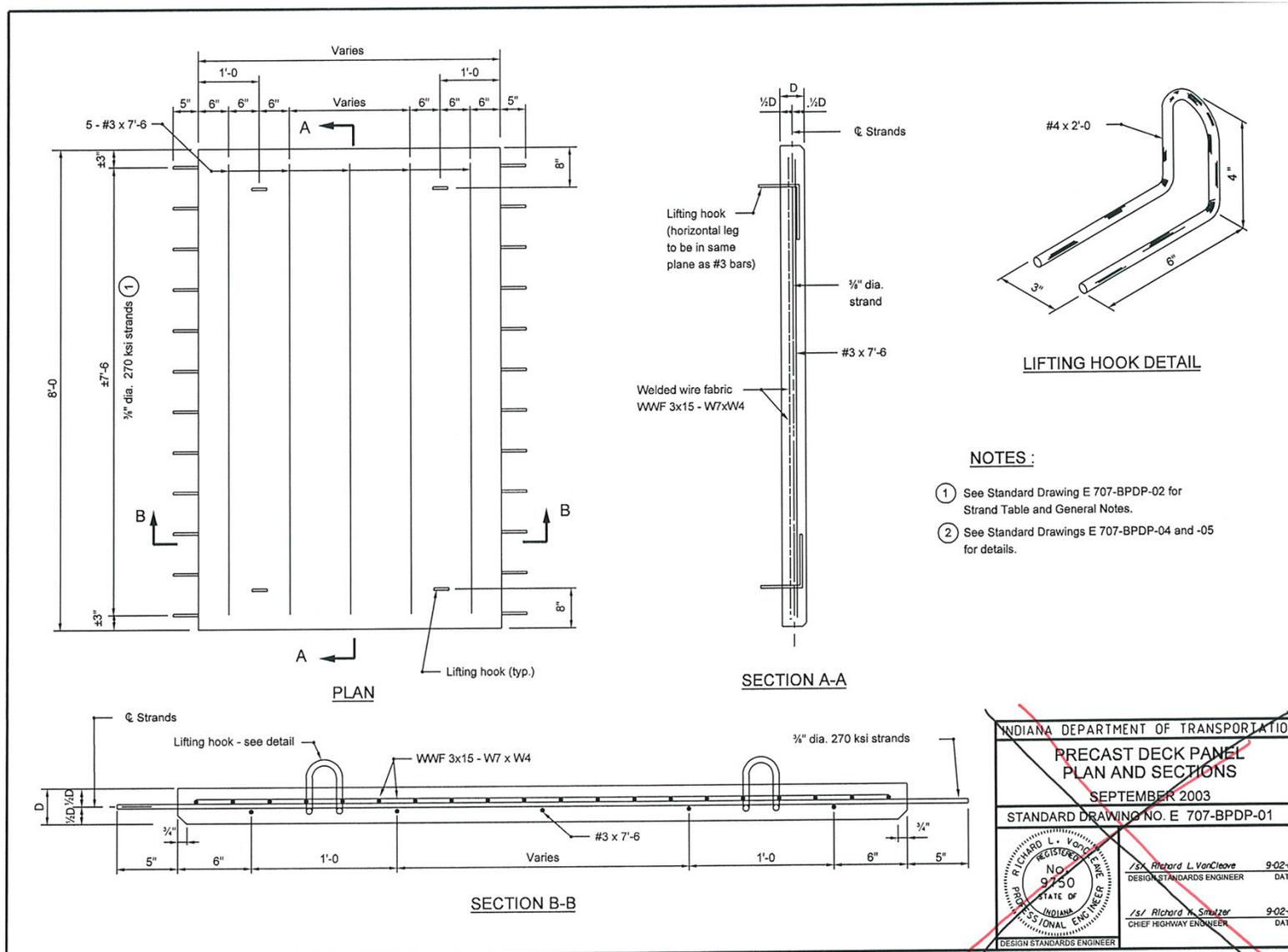
REVISION TO STANDARD DRAWINGS

707-BPBF-03 FABRICATION TOLERANCES PRESTRESSED BULB-TEE BEAM (DRAFT)



REVISION TO STANDARD DRAWINGS

EXISTING 707-BPDP-01 PRECAST DECK PANEL PLAN AND SECTIONS (PROPOSE TO DELETE)



INDIANA DEPARTMENT OF TRANSPORTATION	
PRECAST DECK PANEL PLAN AND SECTIONS	
SEPTEMBER 2003	
STANDARD DRAWING NO. E 707-BPDP-01	
	/s/ Richard L. VanCleave DESIGN STANDARDS ENGINEER 9-02-03 DATE
	/s/ Richard N. Smutzer CHIEF HIGHWAY ENGINEER 9-02-03 DATE

REVISION TO STANDARD DRAWINGS

EXISTING 707-BPDP-02 PRECAST DECK PANEL STRAND TABLE & NOTES (PROPOSE TO DELETE)

STRAND TABLE

Deck panel thickness		Clear span				
		Under 4'	4' through 5'	5' through 6'	6' through 7'	7' through 7'-6"
3" Panel, Stress Relieved Strands	No. of Strands	10	12	14	18	20
	Strand Spacing	9 e 10"	11 e 8 $\frac{1}{2}$ "	13 e 6 $\frac{7}{8}$ "	17 e 5 $\frac{1}{4}$ "	19 e 4 $\frac{3}{4}$ "
3" Panel, Low Relaxation Strands	No. of Strands	9	11	13	16	18
	Strand Spacing	8 e 11 $\frac{1}{4}$ "	10 e 9"	12 e 7 $\frac{1}{2}$ "	16 e 6"	17 e 5 $\frac{1}{4}$ "
2 $\frac{1}{2}$ " Panel, Stress Relieved Strands	No. of Strands	10	11	13	18	22
	Strand Spacing	9 e 10"	10 e 9"	12 e 7 $\frac{1}{2}$ "	17 e 5 $\frac{1}{4}$ "	21 e 4 $\frac{1}{4}$ "
2 $\frac{1}{2}$ " Panel, Low Relaxation Strands	No. of Strands	9	10	12	17	18
	Strand Spacing	8 e 11 $\frac{1}{4}$ "	9 e 10"	11 e 8 $\frac{1}{8}$ "	16 e 5 $\frac{5}{8}$ "	17 e 5 $\frac{1}{4}$ "

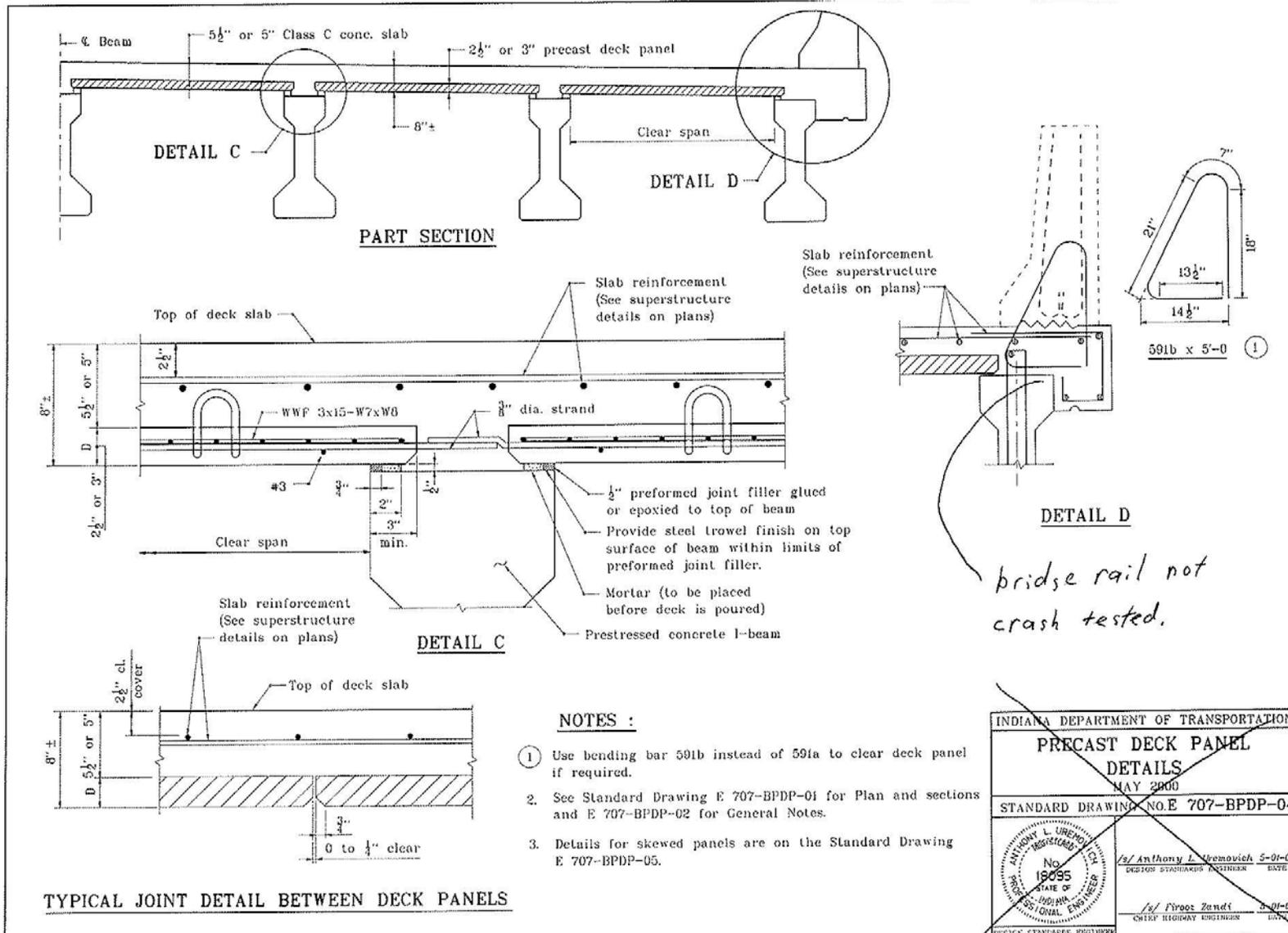
GENERAL NOTES :

1. Details shown on this sheet are based on an 8 ft panel width. Alternate widths will be permitted, subject to the approval of the Engineer.
2. Initial tension per strand to be 16070 lbs for stress relieved strands or 17210 lbs for low relaxation strands.
3. Nominal steel area of a  $\frac{3}{8}$ " dia. grade 270 ksi strand to be 0.111 sq in.
4. Precast deck panel concrete:  
 Minimum compressive strength at 28 days shall be 5000 psi.  
 Minimum compressive strength at time of initial prestressing shall be 4000 psi.

INDIANA DEPARTMENT OF TRANSPORTATION	
PRECAST DECK PANEL STRAND TABLE & NOTES	
MAY 2000	
STANDARD DRAWING NO. E 707-BPDP-02	
	/s/ Anthony L. Urechio 5-01-00 DESIGN STANDARD ENGINEER ENR
	/s/ Pirooz Sani 5-01-00 CHIEF HIGHWAY ENGINEER DATE

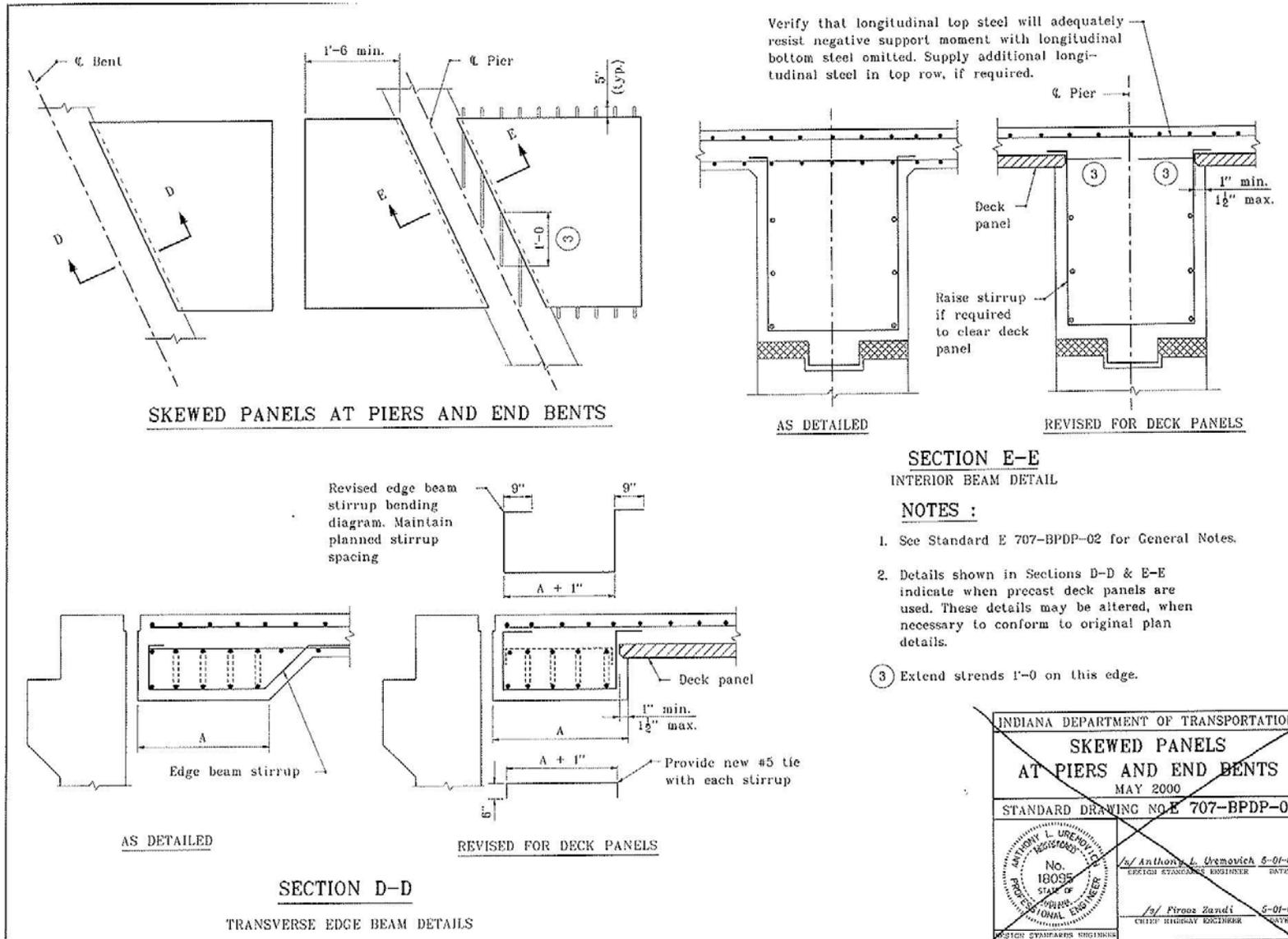
REVISION TO STANDARD DRAWINGS

EXISTING 707-BPDP-04 PRECAST DECK PANEL DETAILS (PROPOSE TO DELETE)



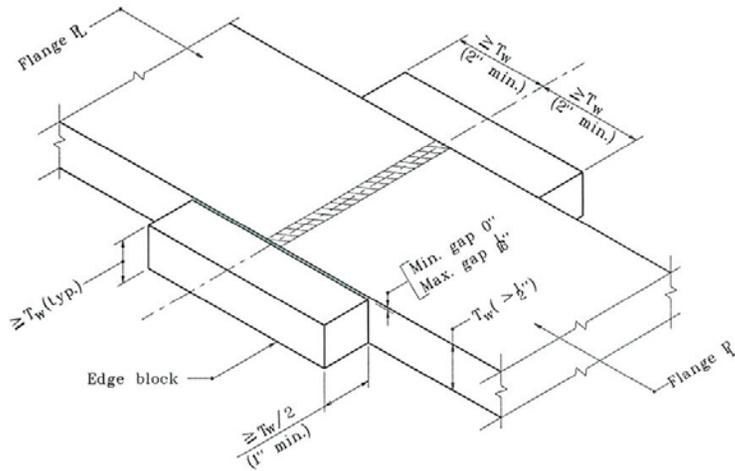
REVISION TO STANDARD DRAWINGS

EXISTING 707-BPDP-05 SKEWED PANELS AT PIERS AND END BENTS (PROPOSE TO DELETE)

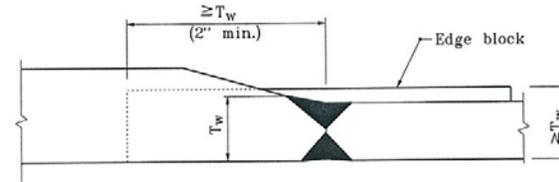


REVISION TO STANDARD DRAWINGS

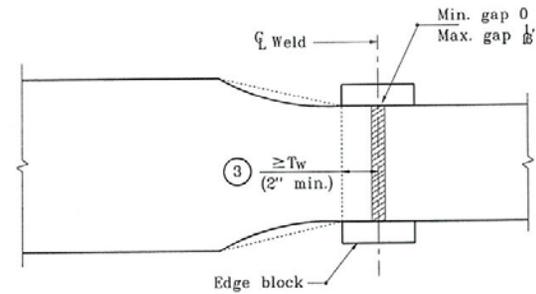
EXISTING 707-BREB-01 STEEL STRUCTURES (PROPOSE TO DELETE)



CONSTANT PLATE SIZE ACROSS JOINT



THICKNESS TRANSITION



WIDTH TRANSITION

Mike McCool IDM fig 407-1C

6.2 AASHTO/AWS D1.5:2010

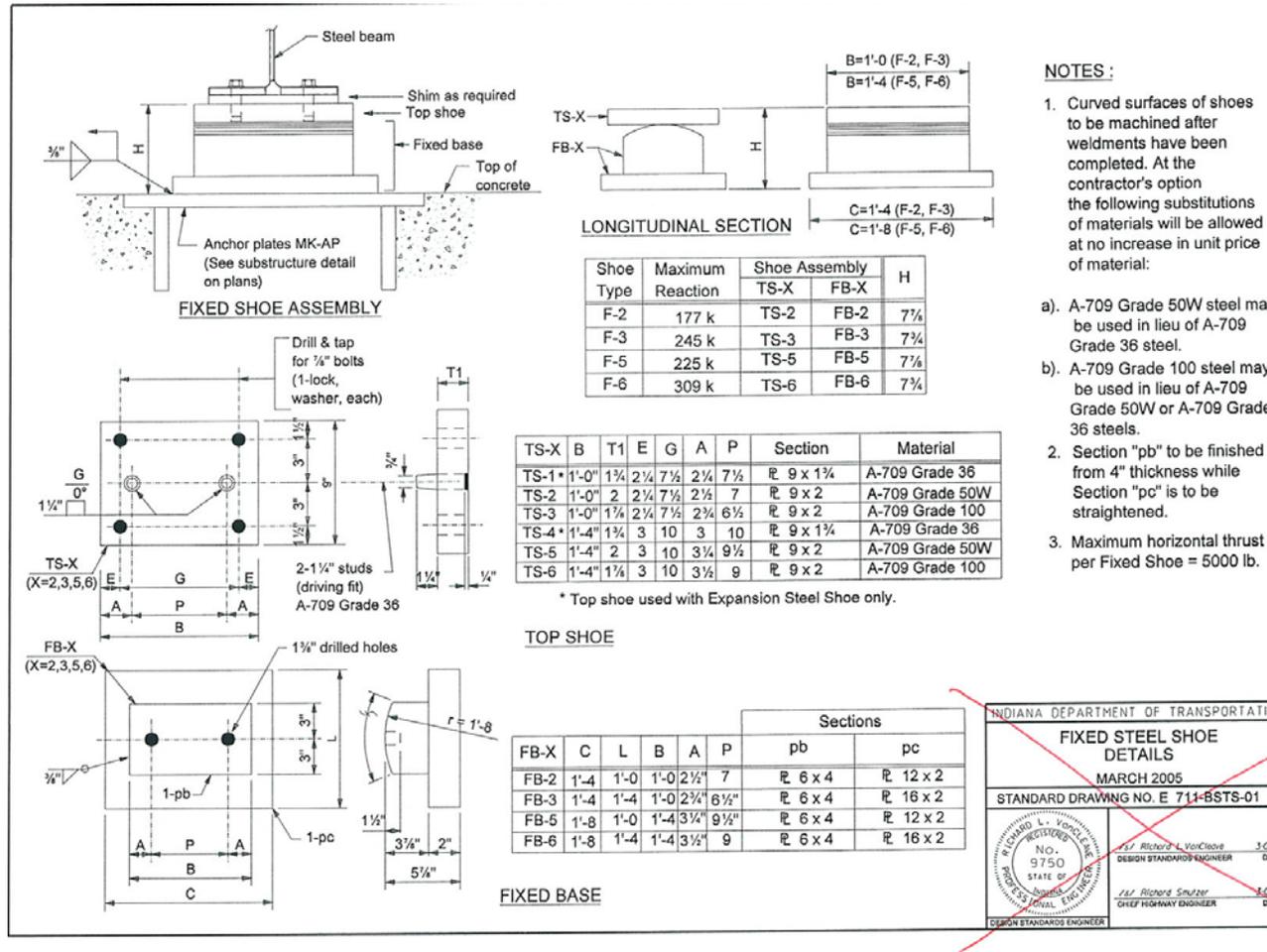
NOTES :

1. This drawing shows the fabrication methods used in structural steel plates not having rolled edges.
2. Edge blocks shall be used when radiographing flange butt shop welds of greater than  $\frac{1}{2}$ " thickness. Edge block shall not be tack welded.
- ③ The transition may start beyond the edge block.
4.  $T_w$  = Maximum weld thickness at joint.

INDIANA DEPARTMENT OF TRANSPORTATION	
<b>STEEL STRUCTURES</b>	
PLACEMENT OF RADIOGRAPHIC EDGE BLOCKS	
MAY 2000	
STANDARD DRAWING NO. E 711-BREB-01	
	/s/ Anthony L. Urenovich 5-01-00 DESIGN STANDARDS ENGINEER DATE
	/s/ Firooz Zandi 5-01-00 CHIEF HIGHWAY ENGINEER DATE

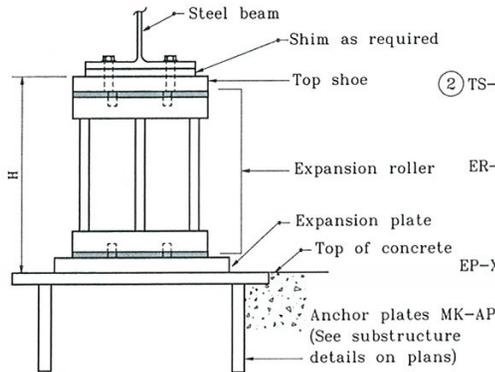
REVISION TO STANDARD DRAWINGS

EXISTING 711-BSTS-01 FIXED STEEL SHOE DETAILS (PROPOSE TO DELETE)

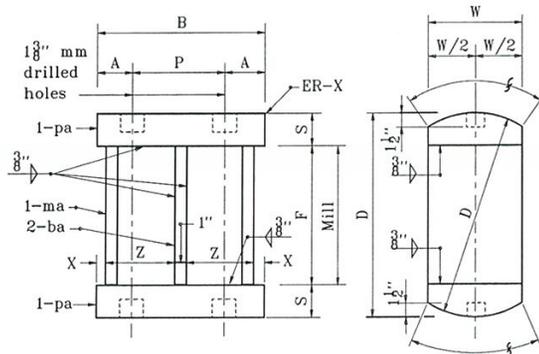


REVISION TO STANDARD DRAWINGS

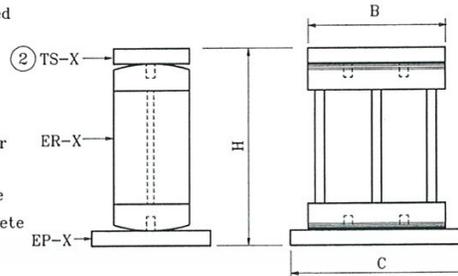
EXISTING 711-BSTS-02 EXPANSION STEEL SHOE DETAILS (PROPOSE TO DELETE)



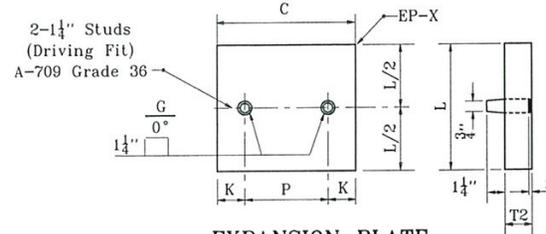
EXPANSION SHOE ASSEMBLY



EXPANSION ROLLER



EXPANSION SHOE



EXPANSION PLATE

EP-X	C	L	T2	K	P	Section	Material
EP-1	1'-4"	9"	1 3/4"	4 1/4"	7 1/2"	ℓ 9 x 1 3/4"	A-709 Grade 36
EP-2	1'-4"	10"	2"	4 1/2"	7"	ℓ 10 x 2	A-709 Grade 50W
EP-3	1'-4"	1'-3"	1 7/8"	4 3/4"	6 1/2"	ℓ 15 x 2	A-709 Grade 100
EP-4	1'-8"	9"	1 3/4"	5"	10"	ℓ 9 x 1 3/4"	A-709 Grade 36
EP-5	1'-8"	10"	2"	5 1/4"	9 1/2"	ℓ 10 x 2	A-709 Grade 50W
EP-6	1'-8"	1'-3"	1 7/8"	5 1/2"	9"	ℓ 15 x 2	A-709 Grade 100

TABLE OF SHOE ASSEMBLY

Shoe Type	Maximum Reaction	Shoe Assembly			H
		TS-X	ER-X	EP-X	
E-1	95 k	TS-1	ER-1	EP-1	1'-6 1/2"
E-2	154 k	TS-2	ER-2	EP-2	1'-7"
E-3	240 k	TS-3	ER-3	EP-3	1'-3 3/4"
E-4	137 k	TS-4	ER-4	EP-4	1'-6 1/2"
E-5	200 k	TS-5	ER-5	EP-5	1'-7"
E-6	300 k	TS-6	ER-6	EP-6	1'-3 3/4"

NOTES :

1. Curved surfaces of shoes to be machined after weldments have been completed. At the contractor's option the following substitutions of materials will be allowed at no increase in unit price of material.
  - a). A-709 Grade 50W steel may be used in lieu of A-709 Grade 36 steel.
  - b). A-709 Grade 100 steel may be used in lieu of A-709 Grade 50W or A-709 Grade 36 steels.

② Top shoe TS-X details are shown on Standard Drawing E 711-BSTS-01.

ER-X	B	W	D	S	F	Sections					ma	ba	pa	Note
						A	P	X	Z					
ER-1	1'-0"	8"	1'-3"	2 3/8"	10 1/4"	2 1/4"	7 1/2"	9 1/8"	4 5/8"	W 10 x 88	BAR 3 1/2 x 1	ℓ 8 x 2 1/2"	A-709 Grade 36	
ER-2	1'-0"	8"	1'-3"	2 3/8"	10 1/4"	2 1/2"	7"	9 1/8"	4 5/8"	W 10 x 88	BAR 3 1/2 x 1	ℓ 8 x 2 1/2"	A-709 Grade 50W	
ER-3	1'-0"	6"	1'-0"	1 7/8"	8 1/4"	2 3/8"	6 1/2"	9 1/8"	4 5/8"	W 10 x 88	BAR 2 1/2 x 1	ℓ 6 x 2	A-709 Grade 100	
ER-4	1'-4"	8"	1'-3"	2 3/8"	10 1/4"	3"	10"	11 1/8"	6 3/8"	W 14 x 132	BAR 3 1/2 x 1	ℓ 8 x 2 1/2"	A-709 Grade 36	
ER-5	1'-4"	8"	1'-3"	2 3/8"	10 1/4"	3 1/4"	9 1/2"	11 1/8"	6 3/8"	W 14 x 132	BAR 3 1/2 x 1	ℓ 8 x 2 1/2"	A-709 Grade 50W	
ER-6	1'-4"	6"	1'-0"	1 7/8"	8 1/4"	3 1/2"	9"	11 1/8"	6 3/8"	W 14 x 132	BAR 2 1/2 x 1	ℓ 6 x 2	A-709 Grade 100	

INDIANA DEPARTMENT OF TRANSPORTATION  
**EXPANSION STEEL SHOE DETAILS**  
 JANUARY 2001  
 STANDARD DRAWING NO. E 711-BSTS-02

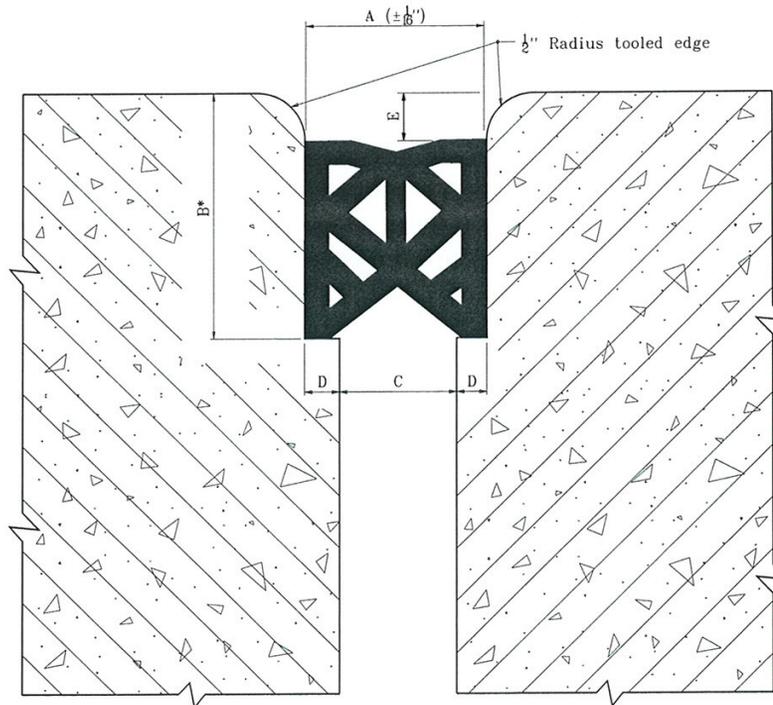
*/s/ Anthony L. Uremovich* 1-02-01  
 DESIGN STANDARDS ENGINEER DATE

*/s/ Firooz Zandi* 1-02-01  
 CHIEF HIGHWAY ENGINEER DATE

ANTHONY L. UREMOWICH  
 No. 18095  
 STATE OF INDIANA  
 PROFESSIONAL ENGINEER

REVISION TO STANDARD DRAWINGS

EXISTING 724-BJTS-02 TYPE BS EXPANSION JOINT (PROPOSE TO DELETE)



\*To be determined in the field

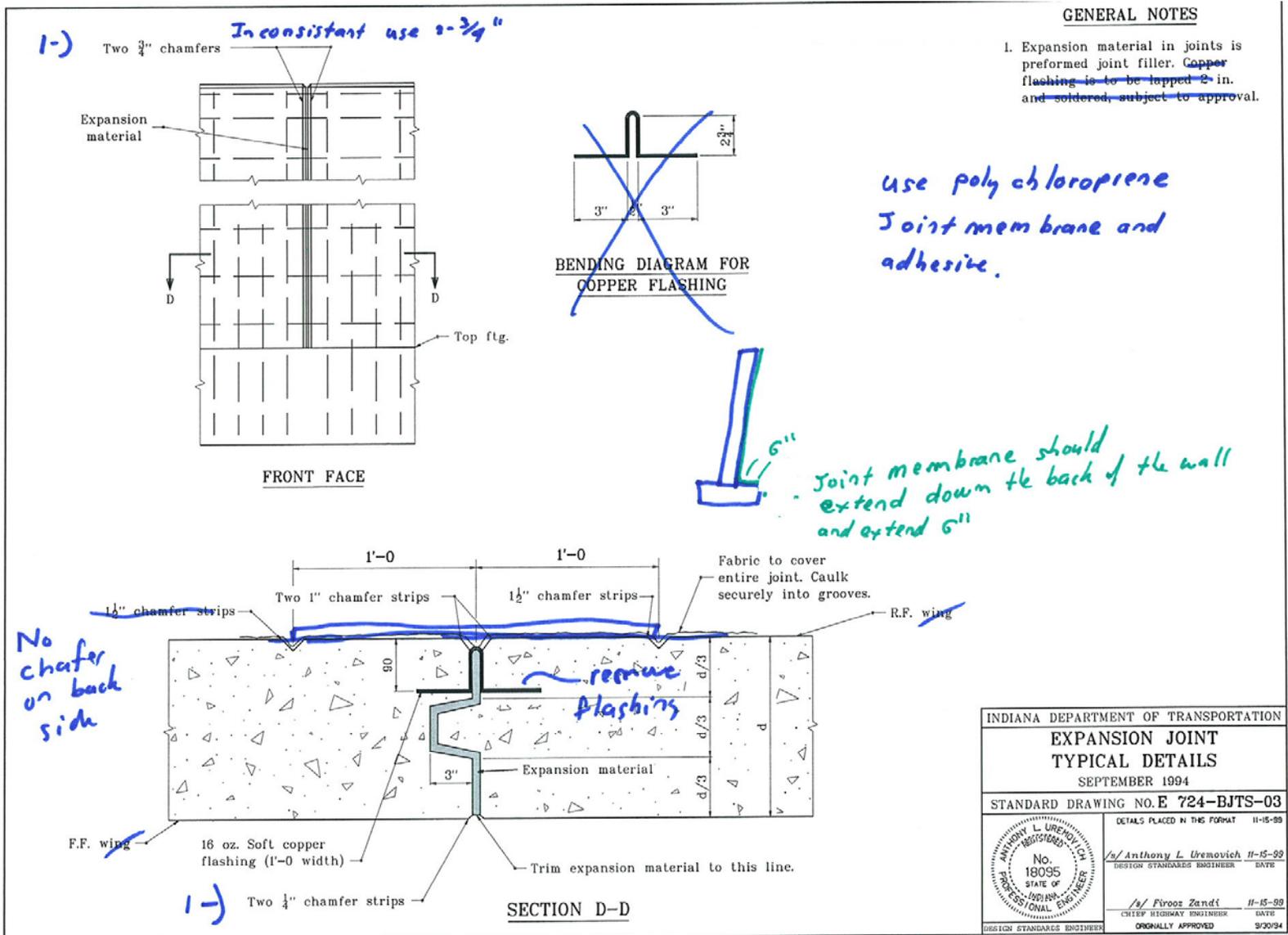
BRIDGE SEAL	A	B	C	D	E
BS2	1"	*	0	1/2"	1/2"(+1/2",-0")
BS6	1 3/8"	*	7/8"±	3/8"	1/2"(+1/4",-0")
BS8	2"	*	1 1/4"±	3/8"	1/2"(+1/4",-0")
BS9	2 3/8"	*	1 3/8"±	1/2"	3/4"(+1/4",-0")
BS11	3 1/8"	*	2 1/8"±	1/2"	3/4"(+1/4",-0")

*Standard was to be deleted - has not been approved for use for several years.*

INDIANA DEPARTMENT OF TRANSPORTATION	
TYPE BS EXPANSION JOINT JANUARY 1995	
STANDARD DRAWING NO. E 724-BJTS-02	
DETAILS PLACED IN THIS FORMAT 11-15-99	
	/s/ Anthony L. Uremovich 11-15-95 DESIGN STANDARDS ENGINEER DATE
	/s/ Firooz Zandi 11-15-95 CHIEF HIGHWAY ENGINEER DATE
DESIGN STANDARDS ENGINEER	ORIGINALLY APPROVED 1-03-95

REVISION TO STANDARD DRAWINGS

EXISTING 724-BJTS-03 EXPANSION JOINT TYPICAL DETAILS (WITH MARKUPS)

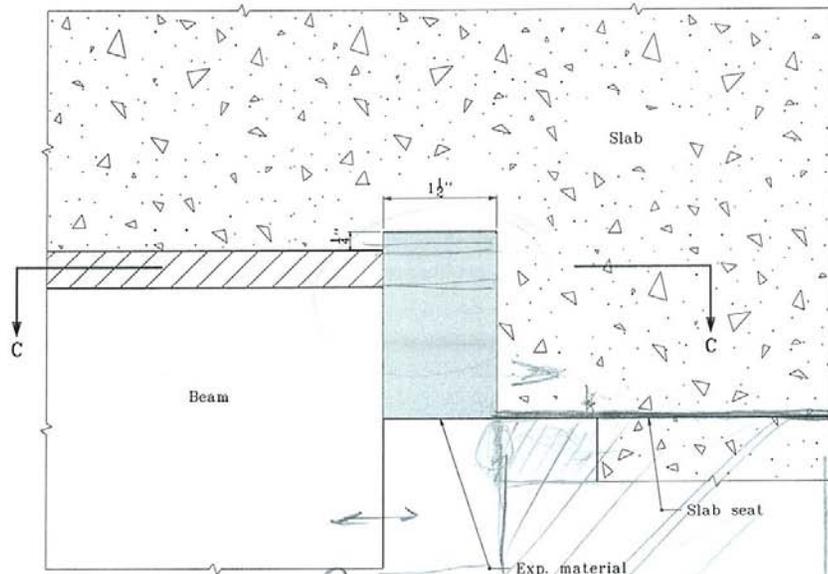


INDIANA DEPARTMENT OF TRANSPORTATION	
EXPANSION JOINT TYPICAL DETAILS SEPTEMBER 1994	
STANDARD DRAWING NO. E 724-BJTS-03	
DETAILS PLACED IN THIS FORMAT 11-15-99	
	/s/ Anthony L. Uremovich 11-15-99 DESIGN STANDARDS ENGINEER DATE
	/s/ Firooz Zandi 11-15-99 CHIEF REGISTERED ENGINEER DATE
DESIGN STANDARDS ENGINEER	ORIGINALLY APPROVED 9/20/94

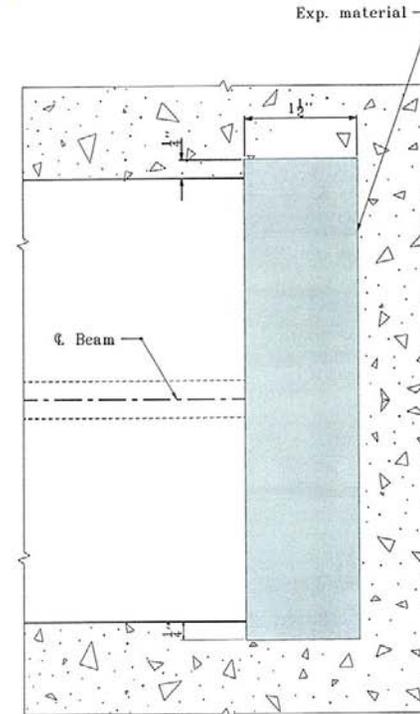
REVISION TO STANDARD DRAWINGS

EXISTING 724-BJTS-04 BEAM END SLAB NOTCH TYPICAL DETAILS (PROPOSE TO DELETE)

*Non-composite - jointed bridge decks*



SECTION THROUGH BEAM FLANGE AND SLAB

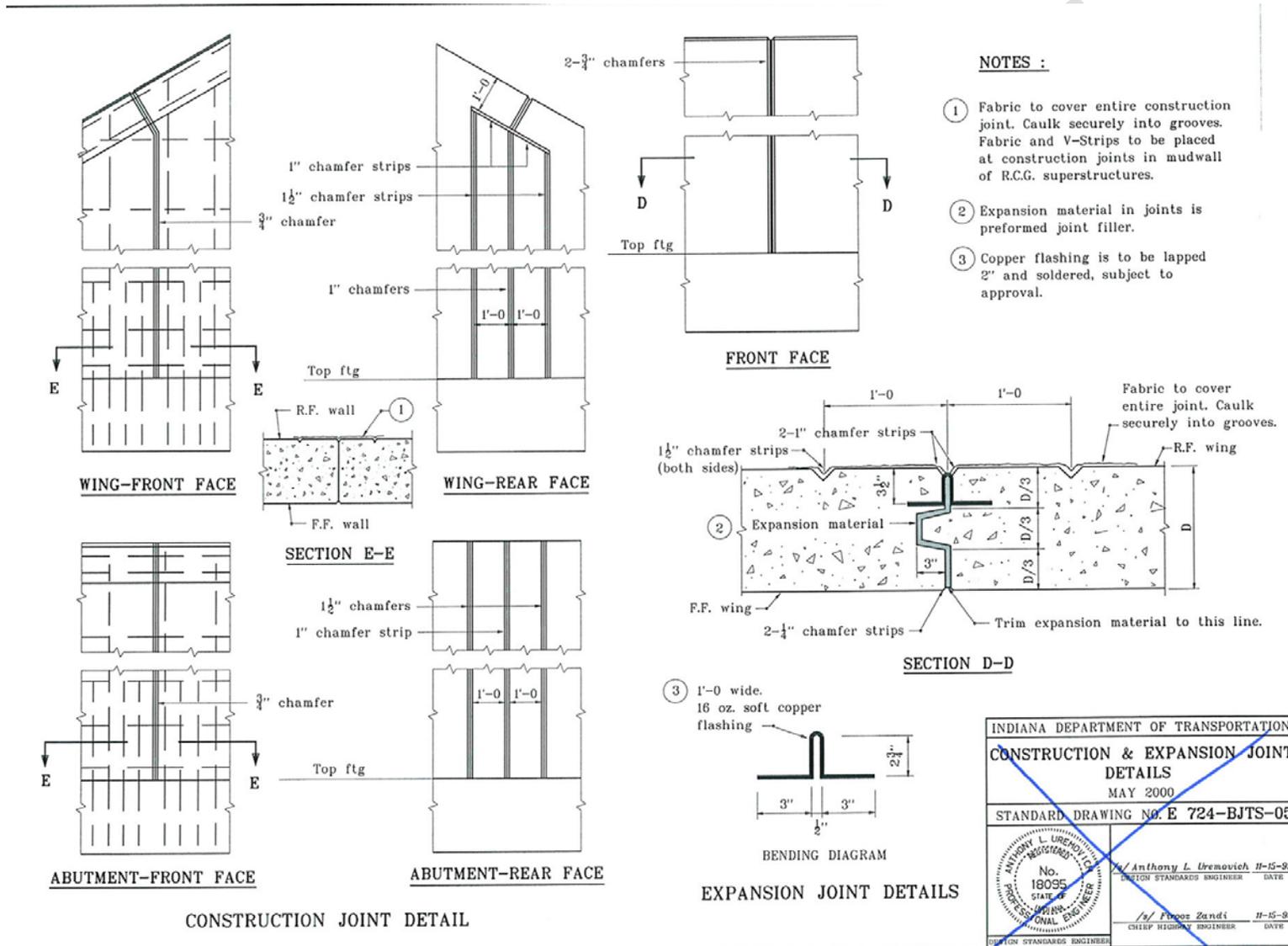


SECTION C-C

INDIANA DEPARTMENT OF TRANSPORTATION	
<b>BEAM END SLAB NOTCH TYPICAL DETAILS</b>	
SEPTEMBER 1994	
STANDARD DRAWING NO. E 724-BJTS-04	
<small>DETAILS PLACED IN THIS FORMAT 11-15-99</small>	
	<i>/s/ Anthony L. Uremovich</i> 11-15-99 DESIGN STANDARDS ENGINEER DATE
	<i>/s/ Firooz Zandi</i> 11-15-99 CHIEF HIGHWAY ENGINEER DATE
	<small>ORIGINALLY APPROVED 9-30-94</small>

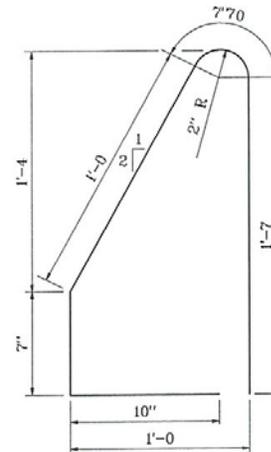
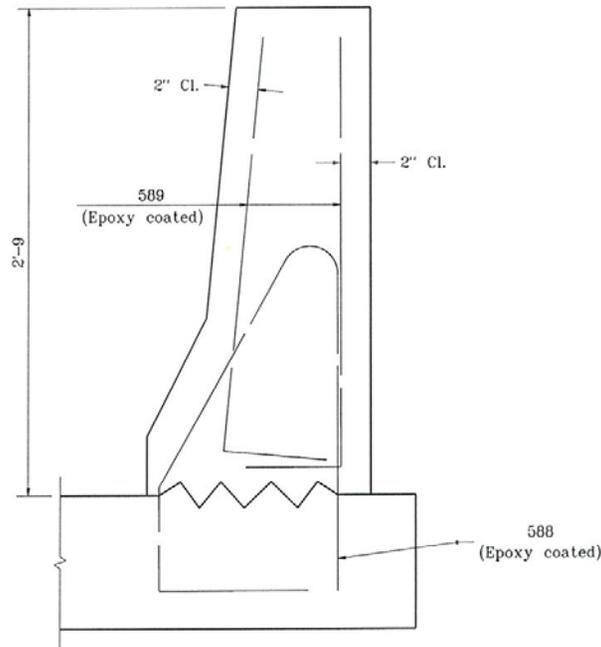
REVISION TO STANDARD DRAWINGS

EXISTING 724-BJTS-05 CONSTRUCTION AND EXPANSION JOINT DETAILS (PROPOSE TO DELETE)

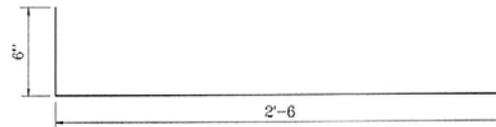


REVISION TO STANDARD DRAWINGS

EXISTING 724-BJTS-06 OPTIONAL RAILING VERTICAL REINFORCEMENT SPLICE (PROPOSE TO DELETE)



588 x 5'1



589 x 3'-0

GENERAL NOTES

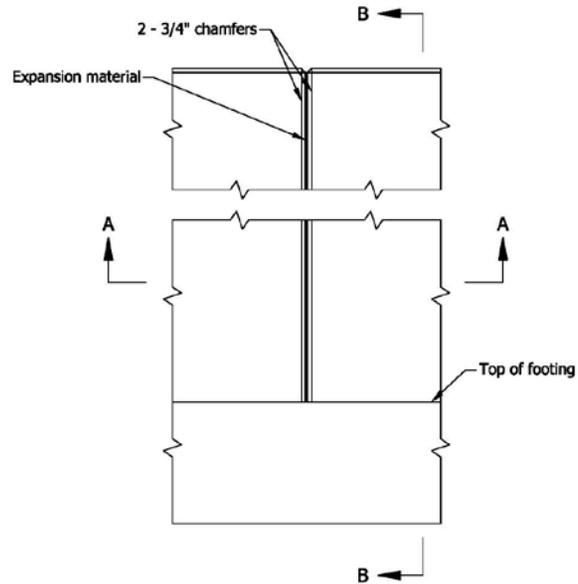
1. The optional vertical railing reinforcement shown may be used for bridge railing in lieu of that shown on the plans. Longitudinal reinforcing shall be as shown on the plans.
2. Vertical reinforcing lengths shown are for a 2'-9" railing height. If a higher rail is used, these lengths shall be increased accordingly.

*This alternate can not be allowed. This reinforcement configuration has not been crash tested.*

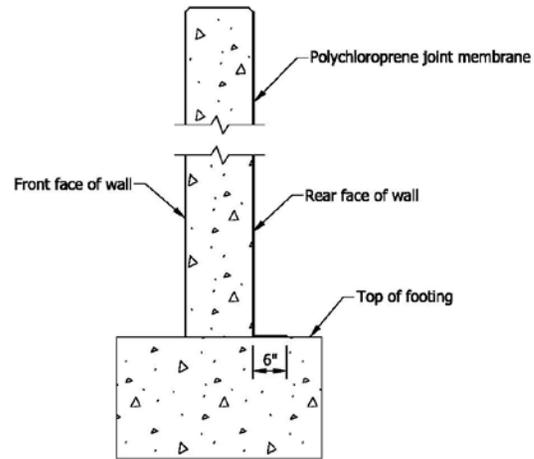
INDIANA DEPARTMENT OF TRANSPORTATION	
OPTIONAL RAILING VERTICAL REINFORCEMENT SPLICE	
SEPTEMBER 1997	
STANDARD DRAWING NO. E 724-BJTS-06	
DETAILS PLACED IN THE FORMAT 11-15-99	
	/s/ Anthony L. Uremovich 11-15-99 DESIGN STANDARDS ENGINEER DATE
	/s/ Firooz Zandi 11-15-99 CHIEF HIGHWAY ENGINEER DATE
	ORIGINALLY APPROVED 9-01-97

REVISION TO STANDARD DRAWINGS

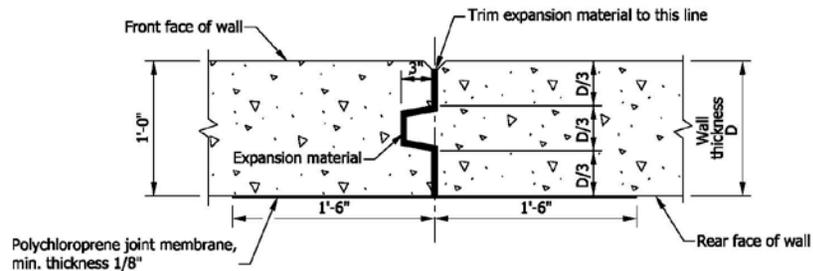
724-BJTS-01 EXPANSION JOINT (DRAFT)



WALL FRONT FACE



SECTION B-B



SECTION A-A

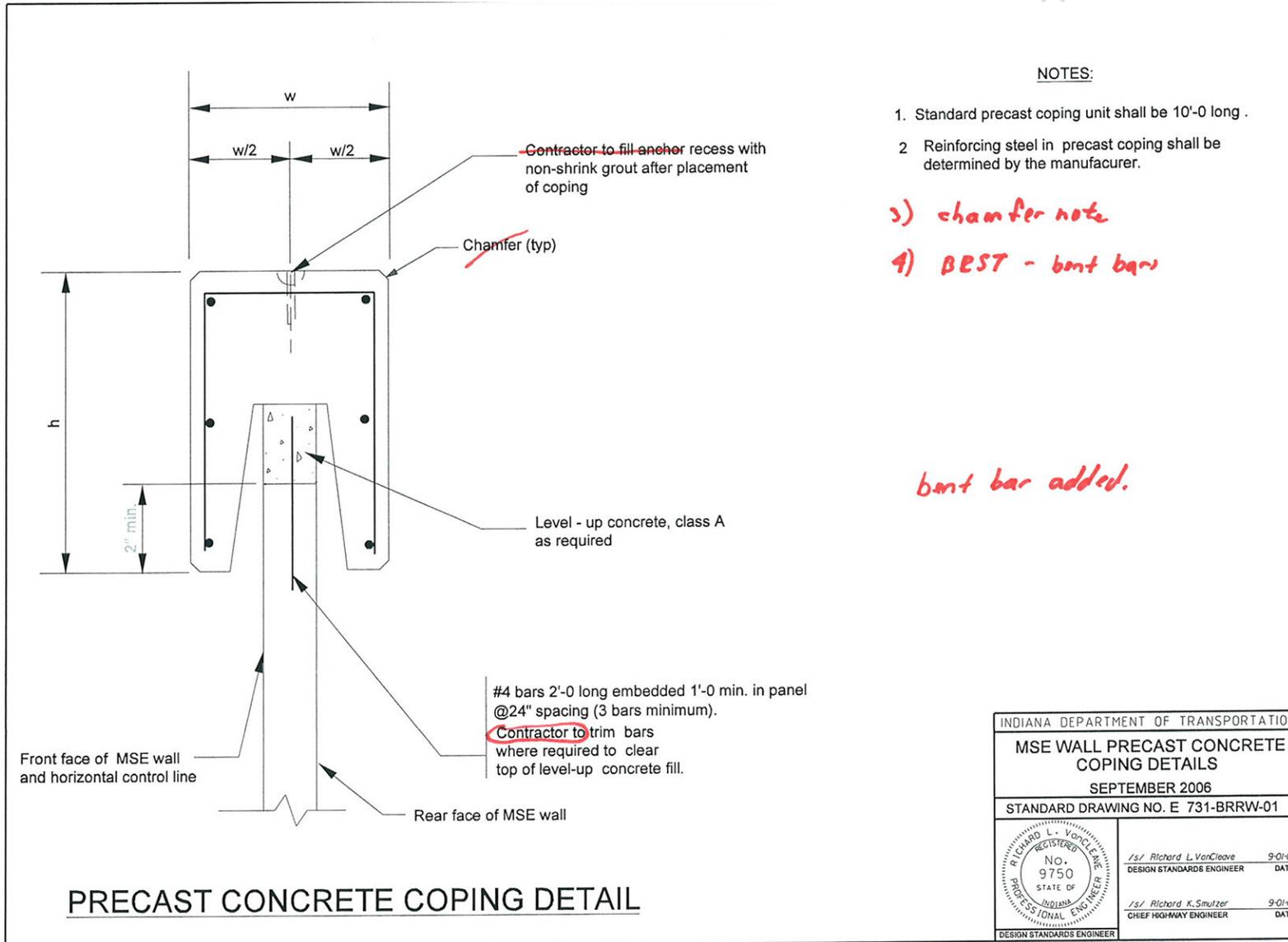
**NOTES**

1. Expansion material in joints shall be preformed joint filler.
2. All chamfered edges shall be 3/4".

INDIANA DEPARTMENT OF TRANSPORTATION	
EXPANSION JOINT	
SEPTEMBER 2012	
STANDARD DRAWING NO.	E 724-BJTS-01
DESIGN STANDARDS ENGINEER	DATE
CHIEF HIGHWAY ENGINEER	DATE
DESIGN STANDARDS ENGINEER	

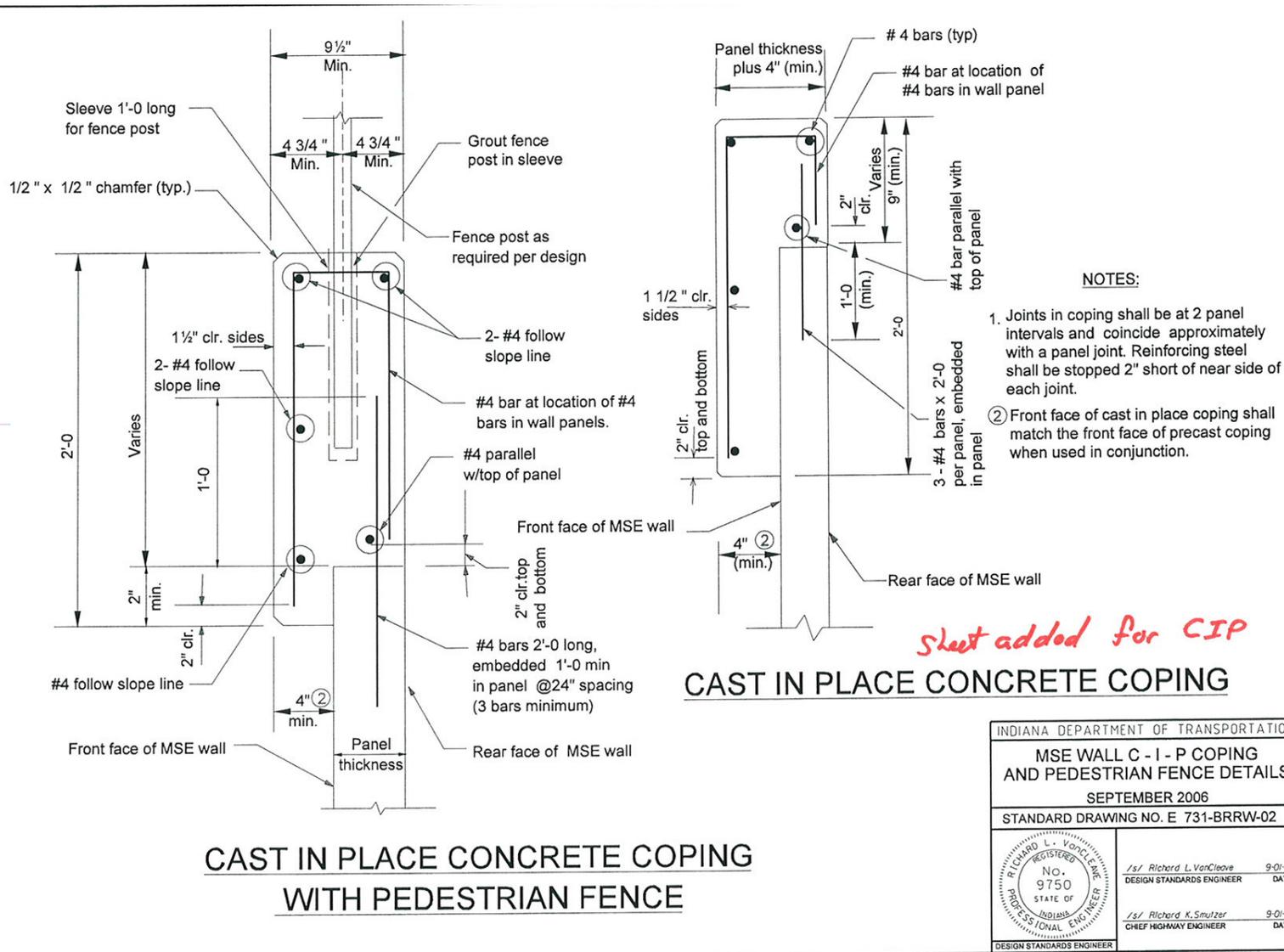
REVISION TO STANDARD DRAWINGS

EXISTING 731-BRRW-01 MSE WALL PRECAST CONCRETE COPING DETAILS (WITH MARKUPS)



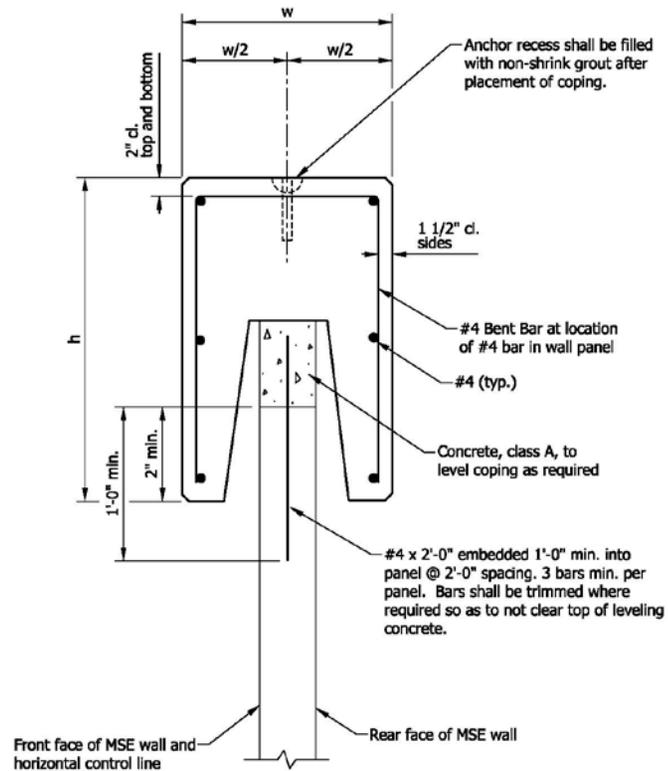
REVISION TO STANDARD DRAWINGS

EXISTING 731-BRRW-02 MSE WALL C-I-P COPING AND PEDESTRIAN FENCE DETAILS (WITH MARKUPS)



REVISION TO STANDARD DRAWINGS

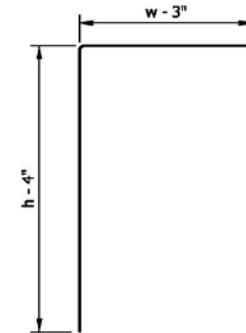
731-MSEW-01 MSE WALL PRECAST CONCRETE COPING (DRAFT)



TYPICAL SECTION

NOTES

1. Precast coping unit length shall be 10'-0".
2. Reinforcing bars' size, length, and spacing shall be determined by the manufacturer.
3. All chamfered edges shall be 3/4".
4. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending details and notes.

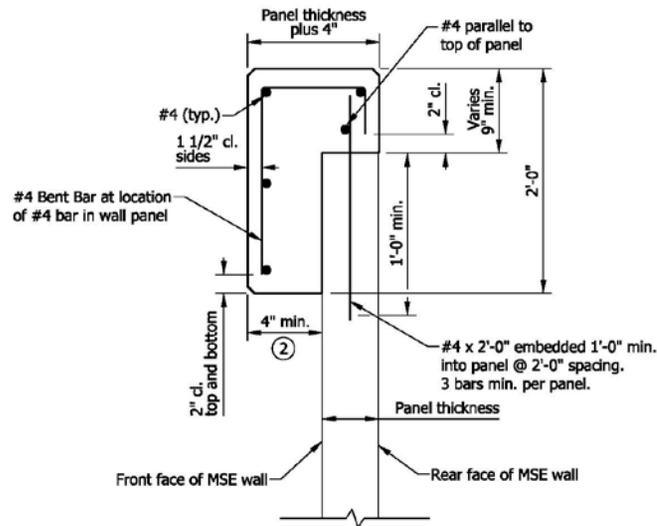


#4 BENT BAR

INDIANA DEPARTMENT OF TRANSPORTATION	
MSE WALL PRECAST CONCRETE COPING	
SEPTEMBER 2012	
STANDARD DRAWING NO. E 731-MSEW-01	
	DESIGN STANDARDS ENGINEER      DATE
	CHIEF HIGHWAY ENGINEER      DATE
DESIGN STANDARDS ENGINEER	

REVISION TO STANDARD DRAWINGS

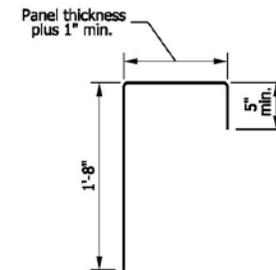
731-MSEW-02 MSE WALL CAST-IN-PLACE CONCRETE COPING (DRAFT)



TYPICAL SECTION

NOTES

1. Coping joints shall coincide approximately with the panel joints. Reinforcing bars' ends shall be 2" short of near side of each joint.
- ② The front face of a cast-in-place coping shall match the front face of a precast coping where used in conjunction.
3. All chamfered edges shall be 3/4".
4. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending details and notes.

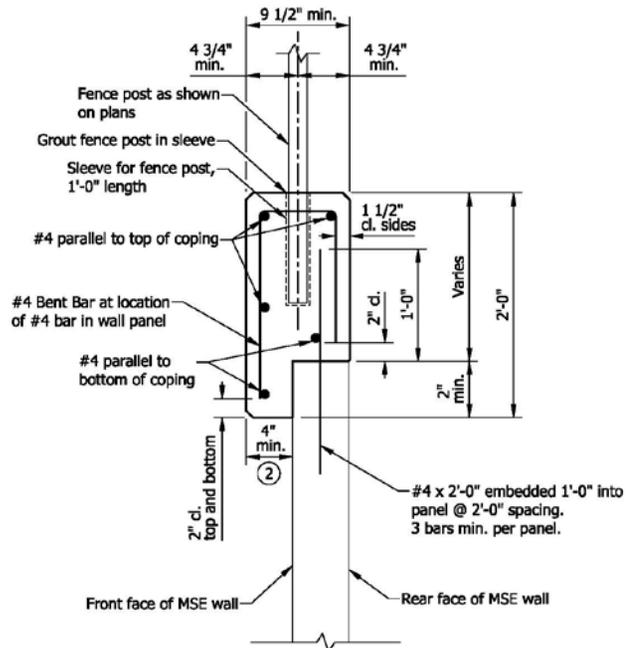


#4 BENT BAR

INDIANA DEPARTMENT OF TRANSPORTATION	
MSE WALL CAST-IN-PLACE CONCRETE COPING SEPTEMBER 2012	
STANDARD DRAWING NO. E 731-MSEW-02	
	DESIGN STANDARDS ENGINEER      DATE
	CHIEF HIGHWAY ENGINEER      DATE
	DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

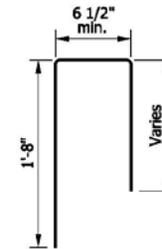
731-MSEW-03 MSE WALL CAST-IN-PLACE CONCRETE COPING WITH PEDESTRIAN FENCE (DRAFT)



TYPICAL SECTION

NOTES

1. Coping joints shall coincide approximately with the panel joints. Reinforcing bars' ends shall be 2" short of near side of each joint.
- ② The front face of a cast-in-place coping shall match the front face of a precast coping where used in conjunction.
3. All chamfered edges shall be 3/4".
4. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending details and notes.



#4 BENT BAR

INDIANA DEPARTMENT OF TRANSPORTATION	
MSE WALL CAST-IN-PLACE CONCRETE COPING WITH PEDESTRIAN FENCE SEPTEMBER 2012	
STANDARD DRAWING NO. E 731-MSEW-03	
	DESIGN STANDARDS ENGINEER      DATE
	CHIEF HIGHWAY ENGINEER      DATE
DESIGN STANDARDS ENGINEER	

COMMENTS AND ACTION

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**702.13(f) PRECAST CONCRETE DECK PANELS**

707.01 DESCRIPTION  
707.02 MATERIALS  
707.09 PLACING STRUCTURAL MEMBERS  
707.10 PRECAST PRESTRESSED CONCRETE DECK PANELS  
707.11 METHOD OF MEASUREMENTS  
707.12 BASIS OF PAYMENT

**910.01(a) GENERAL**

707-BPBB-01; 707-BPBF-01 thru 03; 707-BPDP-01 & 02, 04 & 05;  
711-BREB-01; 711-BSTS-01 thru 02; 724-BJTS-02 thru 06;  
731-BRRW-01 thru 02

DISCUSSION: This item was introduced and presented by Mr. Strain who explained that there are additional revisions necessary since the deck panel information also shows up in 702.13, 708.02 and 910.01. Those deleted sections are as shown incorporated into these minutes.

Mr. Strain further explained the revisions to some of the drawings included herein, and the reasoning behind those revisions. There were brief discussions concerning waterstop materials, and how that issue is now being addressed in these revisions.

Mr. Miller asked about the MSE wall coping, and if it is resting on the wall by gravity, or if reinforcing bars are sticking up and grouted into the coping (agenda page 26). Mr. Reilman stated that it appears to be not tied down and just sits on there, held down by gravity. Mr. Strain suggested that be looked at by the wall committee, to prevent the meandering appearance of the coping. Mr. Pankow suggested a tighter fit might help. Further discussion revealed that the copings fit too loosely and should be a tighter fit to prevent the pieces from moving around so much.

FIRST DRAFT MINUTES

COMMENTS AND ACTION

**702.13(f) PRECAST CONCRETE DECK PANELS**

- 707.01 DESCRIPTION
- 707.02 MATERIALS
- 707.09 PLACING STRUCTURAL MEMBERS
- 707.10 PRECAST PRESTRESSED CONCRETE DECK PANELS
- 707.11 METHOD OF MEASUREMENTS
- 707.12 BASIS OF PAYMENT

**910.01(a) GENERAL**

- 707-BPBB-01; 707-BPBF-01 thru 03; 707-BPDP-01 & 02, 04 & 05;
- 711-BREB-01; 711-BSTS-01 thru 02; 724-BJTS-02 thru 06;
- 731-BRRW-01 thru 02

(CONTINUED)

<p>Motion: Mr. Strain                  Second: Mr. Cales                  Ayes: 7                  Nays: 0</p>	<p>Action:  <input type="checkbox"/> Passed as Submitted  <input checked="" type="checkbox"/> Passed as Revised  <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections affected:                  SECTION 707 pg 529; 539; 540; 541.</p>	<p><input checked="" type="checkbox"/> 2014 Standard Specifications Book  <input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision affected:                  NONE</p>	<p><input checked="" type="checkbox"/> Create RSP (No. <input )<br="" type="text" value="TBD"/>                 Effective <input type="text" value="Sept. 01, 2012"/> Letting                  RSP Sunset Date: <input type="text"/>  <input type="checkbox"/> Revise RSP (No. <input type="text"/>)                  Effective <input type="text"/> Letting                  RSP Sunset Date: <input type="text"/></p>
<p>Standard Sheets affected:                  707-BPBB-01; 707-BPBF-01 - 03; 707-BPDP-01 &amp; 02, 04 &amp; 05;                  711-BREB-01; 711-BSTS-01 - 02; 724-BJTS-02 - 06;                  731-BRRW-01 - 02.</p>	<p>Standard Drawing Effective <input type="text" value="Sept. 01, 2012"/>  <input type="checkbox"/> Create RPD (No. <input type="text"/>)                  Effective <input type="text"/> Letting  <input type="checkbox"/> Technical Advisory</p>
<p>Design Manual Sections affected:                  NONE</p>	<p>GIFE Update Req'd.? Y <input type="text"/> N <input type="text"/>                  By <input type="text"/> Addition or <input type="text"/> Revision</p>
<p>GIFE Sections cross-references:                  NONE</p>	<p>Frequency Manual Update Req'd? Y <input type="text"/> N <input type="text"/>                  By <input type="text"/> Addition or <input type="text"/> Revision                  Received FHWA Approval? <input checked="" type="text" value="YES"/></p>