ASCE-INDOT
STRUCTURAL SUBCOMMITTEE
MEETING NO. 60 MINUTES
August 16, 2013

The meeting was called to order at 9:00 a.m. by Anne Rearick. Those in attendance were:

Anne Rearick	INDOT, Bridge Division
Naveed Burki	INDOT, Bridge Division
Mahmoud Hailat	INDOT, Bridge Division
Merril Dougherty	INDOT, Structural Services
Mike Wenning	GAI Consultants, Inc.
Mike McCool	Beam Longest & Neff, LLC.
Pete White	R. W. Armstrong
Mike Halterman	USI Consultants, Inc.
Michael Eichenauer	Butler, Fairman and Seufert, Inc.
Burleigh Law	HNTB Corp.
Kurt Heidenreich	Engineering Resources, Inc.
Celeste Spaans	Prestress Services, Inc.

In addition to the attendees, these minutes will be sent to the following:

Elizabeth Phillips	INDOT, Bridge Division
Keith Hoernschmeyer	Federal Highway Administration
Jason Yeager	Gohmann Asphalt Company
Jim Reilman	INDOT, Construction Management
Tom Harris	INDOT, Construction Management
Michael Matel	Butler, Fairman and Seufert, Inc.
Troy Jessop	R. W. Armstrong

A meeting agenda had previously been distributed and the following items were discussed:

1. Approval of the May 24, 2013 meeting minutes were tabled until the next meeeting.

2. The upcoming Bridge Design Conference was discussed. (McCool)

3. No action was taken on the PTFE plates. (Wenning)

4. No action was taken on the Bearing Pad Details. (White/Eichenauer) This item was reassigned to this team. The intent is to determine the limits of grades when beveled shims are required based on the current code and determine when/if vulcanizing should be required. Burleigh Law will send some samples to Pete White. Coordinate with Kenny Anderson at Materials and Tests.

5. No action was taken on the pavement ledge details or R.C. Bridge approach detail revisions. (Phillips) Standard drawings will be coming out soon. A specification will be added to explain the purpose of the threaded tie bars. Fan bars should be added to the acute corners of the bridge approach detail.

6. Prestressed Beam Top Notching. This item was reassigned to (White/Halterman).

7. Standard Beam Detail Sheets (Phillips/Law) Final version will be ready for review and comments by the next meeting.

8. Software Practice Pointers (McCool) All comments to Mike by 8/30/13.

9. Stay-in-Place metal forms (Phillips) Details were reviewed and approved. (See attachment)

10. Steel Diaphragm Details for Hybrid Girders (Phillips) Mike McCool is checking the designs for Ms. Phillips.

11. Steel Diaphragm Details for Steel Beams (McCool) (See attachment) Approved subject to adding bolt spacing for clearance between bolt heads.

12. MSE Walls and Riprap Turnouts (Phillips) Tabled

13. Prestressed Beam Camber and Shipping Strands (Spaans) The addition of shipping strands will modify the beams residual camber. Changes in camber can affect the depth of the fillets and therefore the design of the beam. A subcommittee will investigate alternatives to deal with this situation. Additional members include Reilman, Heidenreich, Hailat and Halterman.

14. Post-Tensioning Specs (Zurawska) This is on her list of tasks but other activities are of higher priority.

15. Concrete Mix Designs (Law) Subcommittee assigned to address issues/problems with various mixes and address them individually. Various mixes include lightweight, semi-lightweight, internal curing, self consolidating, etc. Additional members include Reilman, Zander and Phillips.

16. New Business

    a. Bridge Skews (Rearick) Unless there are compelling reasons, bridge skews should be developed to the nearest 5 degrees.

    b. SIP Form Loading (Heidenreich) A 15 psf loading is mandated when SIP forms are used. Can the designer limit this to a lesser amount on a deck replacement project? Discussion included checking with manufacturers to make sure lesser depth SIP forms would work but no decision was reached.

    c. Bridge Railing Offsets (Phillips) (See attachment) The current requirements for railing offsets to account for the additional transition offset are confusing and sometimes wrong. New versions of this table (Fig 402-6H) were distributed and comments were requested.

The next meeting for the INDOT Structural Committee is scheduled for 9:00 a.m. on November 14, 2013, in room N642. Mike McCool will distribute an agenda prior to the meeting. This meeting was adjourned at 11:10 a.m.

Respectfully submitted,
GAI Consultants, Inc.

Michael Wenning, P.E.
m.wenning@gaiconsultants.com

Attachments

INDOT Bridge Design Conference 2013

INDOT Government Center South

September 17th, 2013

Topics

8:00am—8:30am: Registration

8:30am—9:00am: General (A. Rearick)

- Welcome and Introduction
- INDOT Policy Updates
- INDOT Design Manual Update
- INDOT Procedure Updates
- INDOT/ASCE Structures Committee Updates

9:00am—9:30am: Shop Drawing Review Procedures (J. Reilman)

9:30am—10:15am: Hydraulic Updates (C. Weaver)

10:15am—10:30am: Break

10:30am—11:00am: Condition Assessment of Existing Bridge Decks (V. Hong)

11:00am—11:30am: Minor versus Major Rehabilitation Projects (INDOT Rehab)

11:30am—12:45pm: Lunch

(Lunch is on your own)

12:45pm—1:45pm: Identification and Rehabilitation of Fatigue Details (M. McCool and R. Conner)

1:45pm—2:15pm: Overlay Types and Guidelines (R. Frosch)

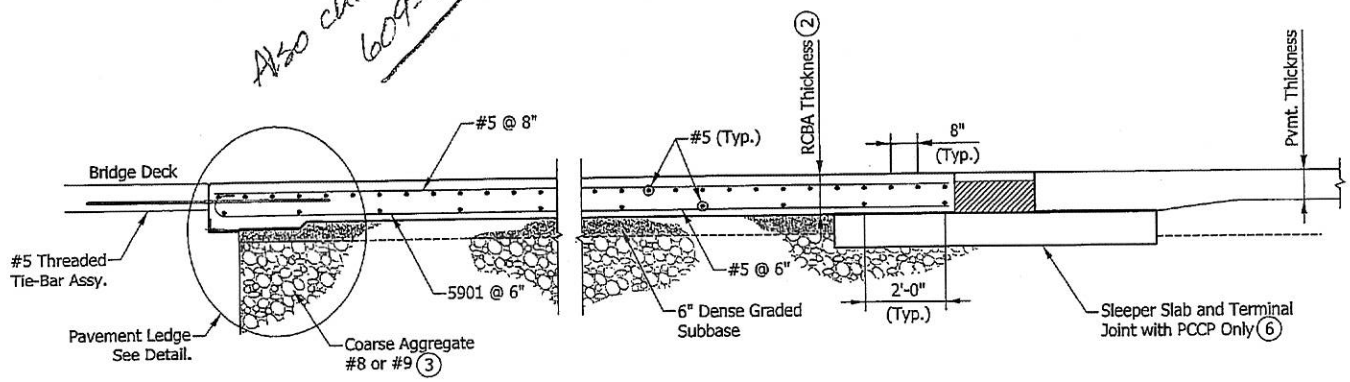
2:15pm—2:45pm: Rehabilitation Special Project Considerations (INDOT Rehab)

2:45pm—3:00pm: Break

3:00pm—3:30pm: Savings and Innovation on Cleveland's Innerbelt Project (D. McDougall)

3:30pm—4:30pm: Deck Design Example (K. Heidenreich and M.Wenning)

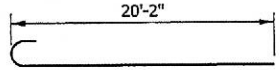
Also change to 609-TBA?



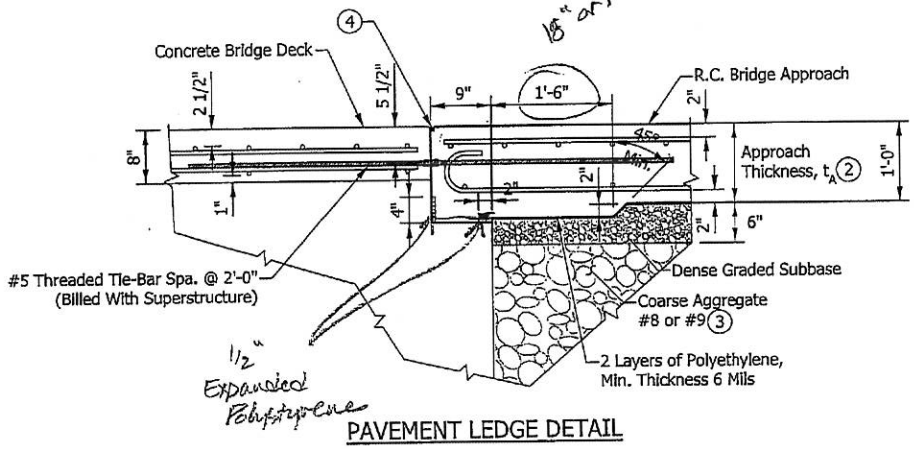
SECTION THROUGH APPROACH

NOTES:

1. All reinforcing bars shall be epoxy-coated.
2. See plans for approach thickness.
3. Flowable backfill if slab bridge.
4. Joint type 1A. See Standard Drawing E 609-BRJT-01 for details.
5. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending details and notes.
6. See Standard Drawing E 503-BATJ-01 for terminal joint and sleeper slab details.



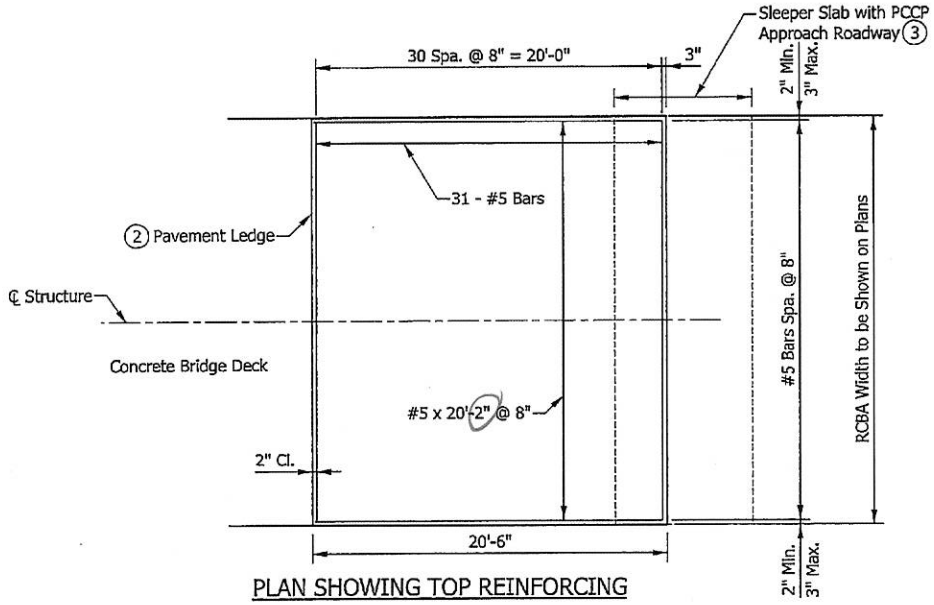
5901 x 20'-9"



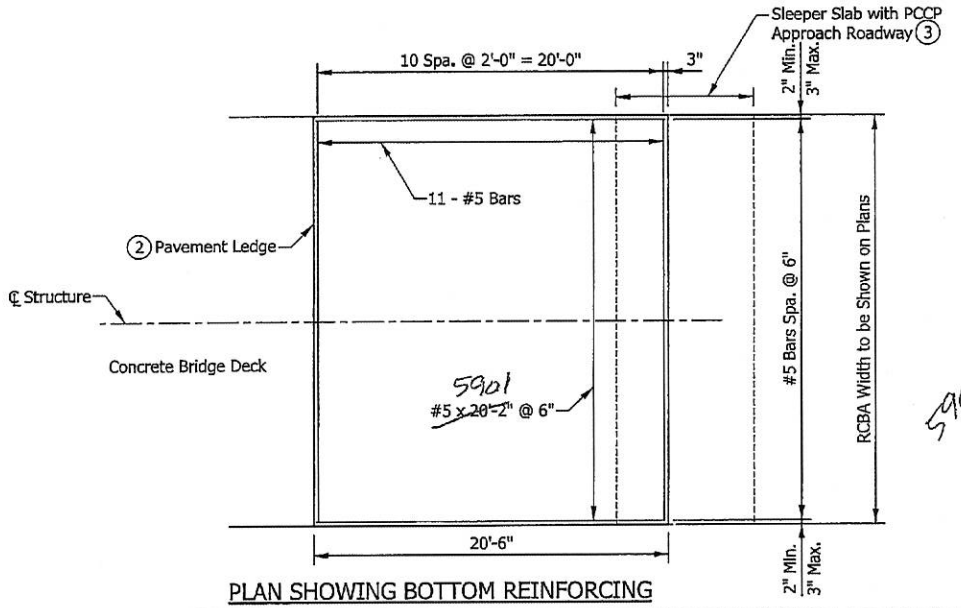
PAVEMENT LEDGE DETAIL

Address angles of threaded tie-bars an explain purpose in Specs.

INDIANA DEPARTMENT OF TRANSPORTATION	
REINFORCED CONCRETE BRIDGE APPROACH SECTION AND PAVEMENT LEDGE DETAIL SEPTEMBER 2014	
STANDARD DRAWING NO.	E 609-RCBA-01
	DESIGN STANDARDS ENGINEER DATE CHIEF ENGINEER DATE



PLAN SHOWING TOP REINFORCING



PLAN SHOWING BOTTOM REINFORCING

5901 ?

NOTES:

1. All reinforcing bars shall be epoxy-coated.
2. See Standard Drawing E 609-RCBA-01 for section and pavement ledge detail.
3. See Standard Drawing E 503-BATJ-01 for terminal joint and sleeper slab details.
4. See Standard Drawing E 609-RCBA-01 for reinforcing-bar bending diagram.

5901

INDIANA DEPARTMENT OF TRANSPORTATION

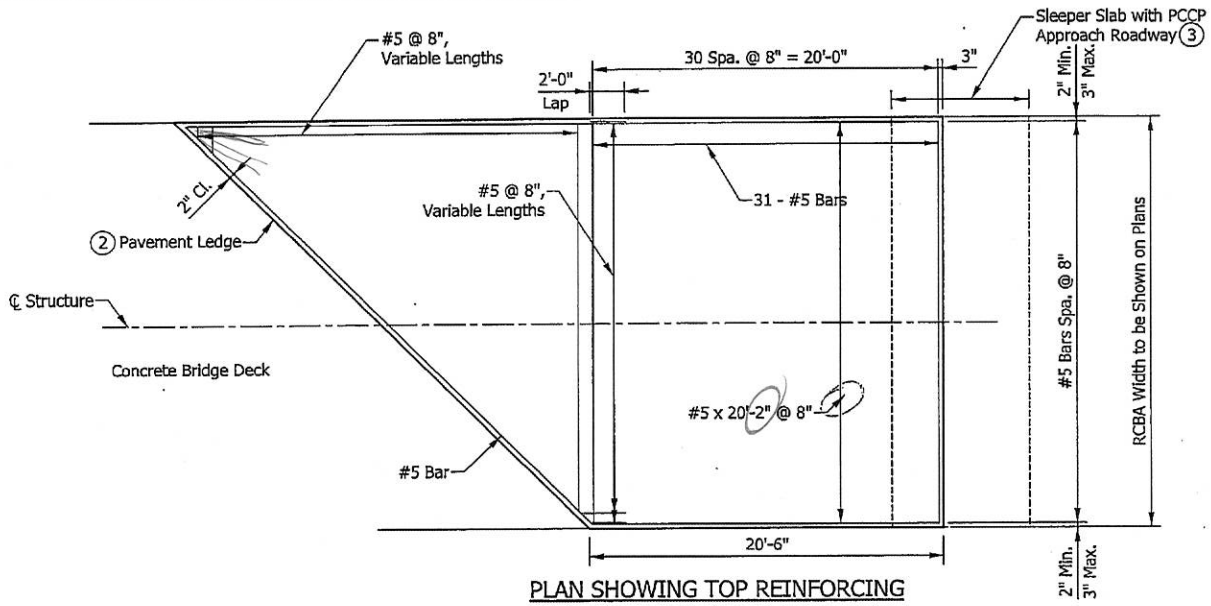
REINFORCED CONCRETE BRIDGE APPROACH SQUARE

SEPTEMBER 2014

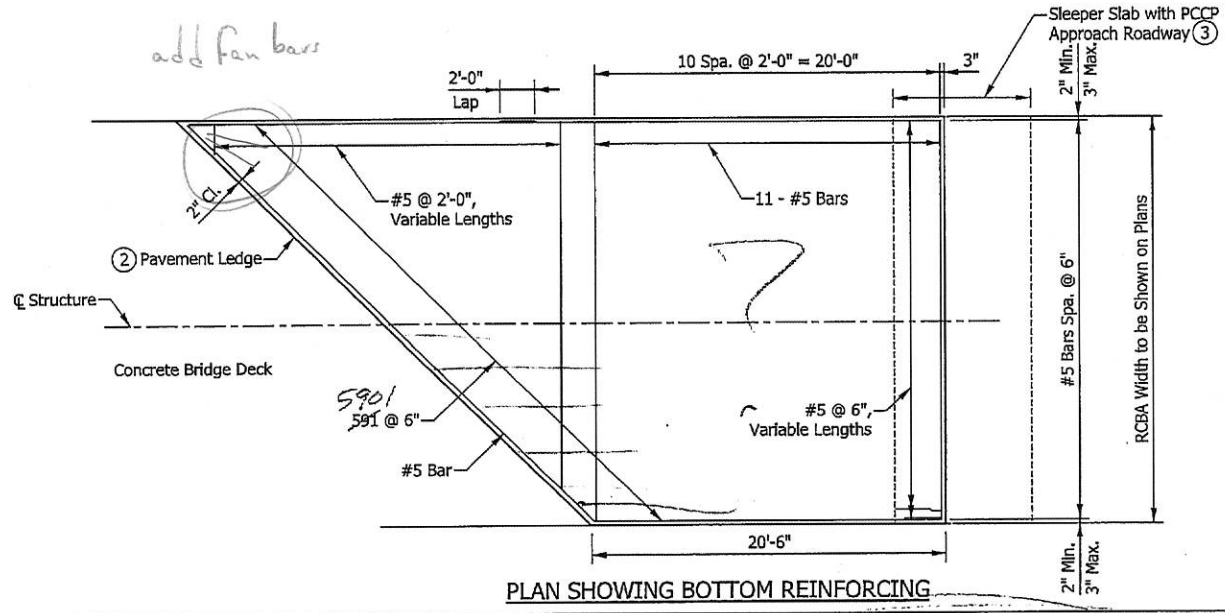
STANDARD DRAWING NO. E 609-RCBA-02

DESIGN STANDARDS ENGINEER DATE

CHIEF ENGINEER DATE



PLAN SHOWING TOP REINFORCING



PLAN SHOWING BOTTOM REINFORCING

Match sample plan?

NOTES:

1. All reinforcing bars shall be epoxy-coated.
2. See Standard Drawing E 609-RCBA-01 for section and pavement ledge detail.
3. See Standard Drawing E 503-BATJ-01 for terminal joint and sleeper slab details.
4. Variable-length #5 bars should be detailed by means of cutting diagrams.
5. See Standard Drawing E 609-RCBA-01 for reinforcing-bar bending diagram.

Cutting Diagram + 590 X

INDIANA DEPARTMENT OF TRANSPORTATION

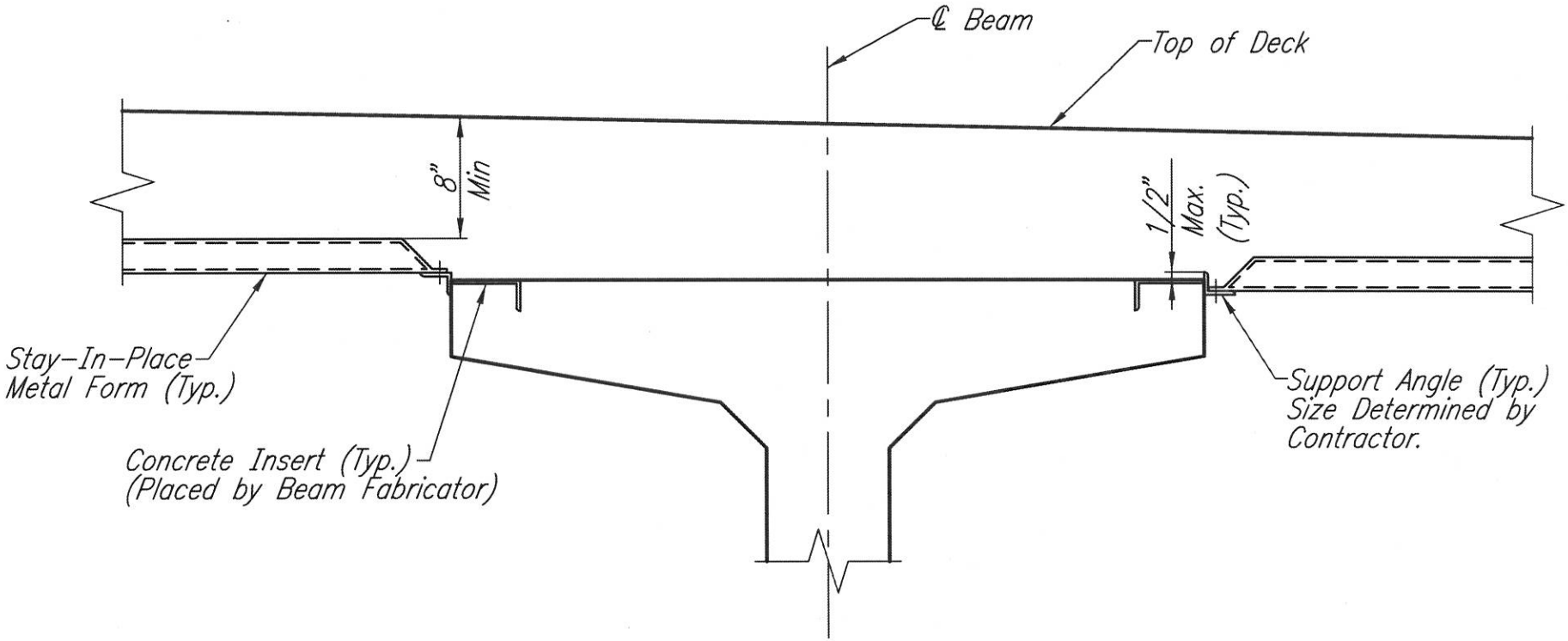
REINFORCED CONCRETE BRIDGE APPROACH SKEW

SEPTEMBER 2014

STANDARD DRAWING NO. E 609-RCBA-03

DESIGN STANDARDS ENGINEER DATE

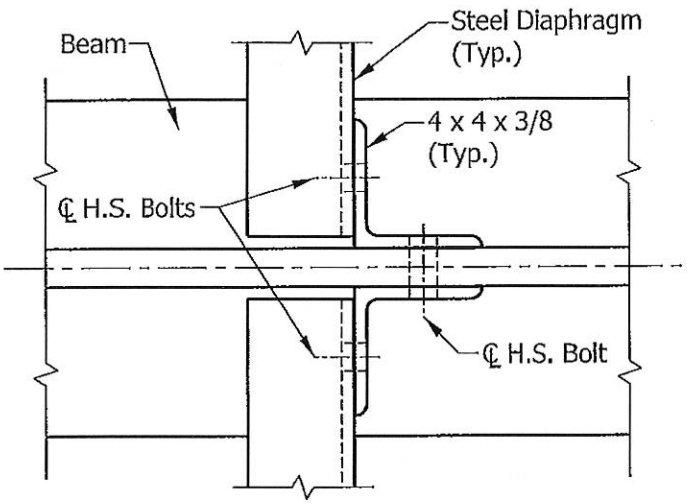
CHIEF ENGINEER DATE



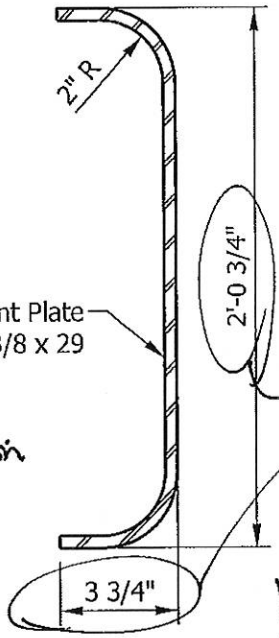
FILLET TREATMENT

No Scale

H.S. = high strength
A.I.S.C = American Institute of Steel Construction

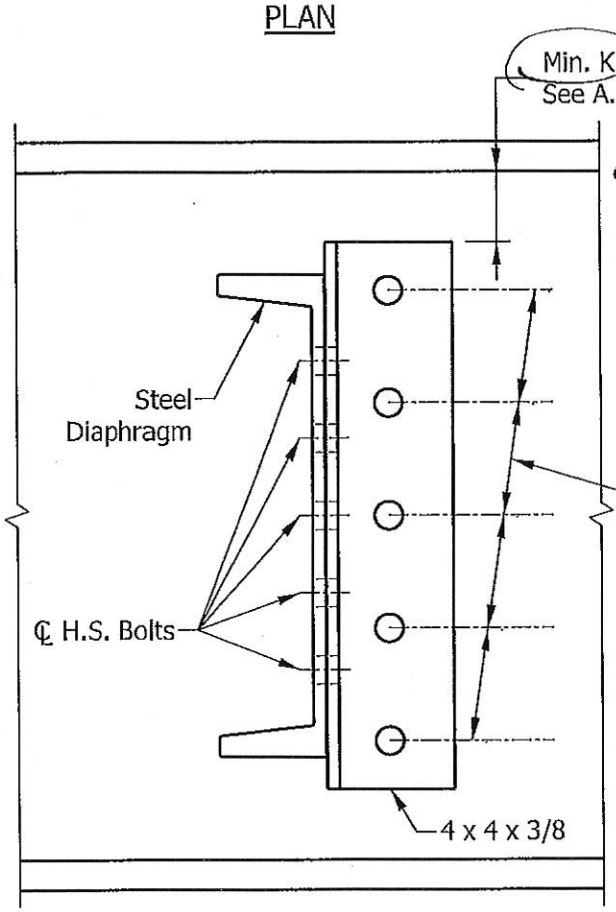


PLAN



Are these dimensions valid for both W36 & W33?

SECTION THROUGH BENT PLATE DIAPHRAGM



Is 'K' a designation A1SC uses consistently for this dimension?

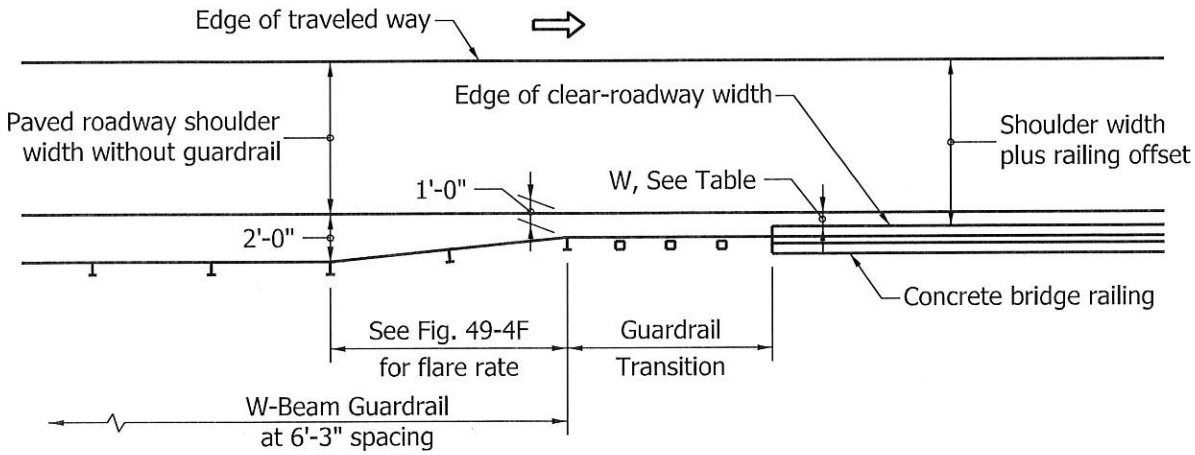
Is this still accurate guidance?

ELEVATION

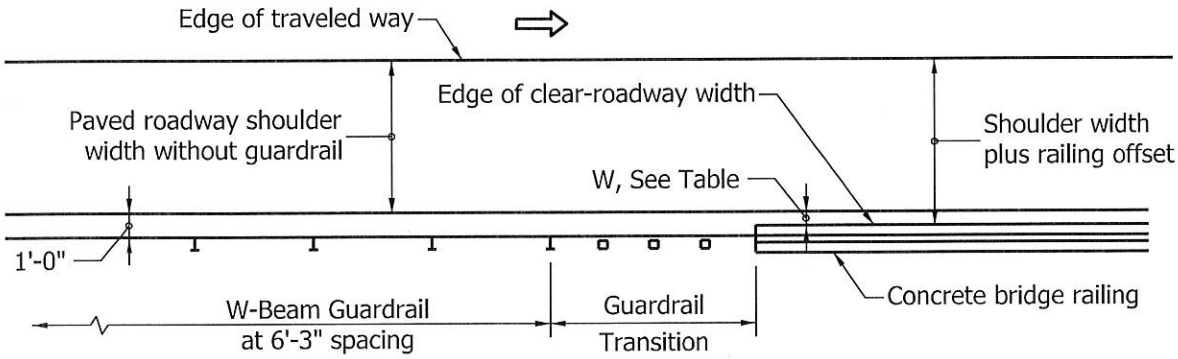
BEAM	DIAPHRAGM	H.S. BOLTS
W 36	Bent Plate	5 - 7/8" Ø
W 33	Bent Plate	5 - 7/8" Ø
W 30	MC 18x42.7	4 - 7/8" Ø
W 27	C 15x33.9	4 - 7/8" Ø
W 24	C 12x20.7	3 - 3/4" Ø

INTERMEDIATE DIAPHRAGM FOR ROLLED STEEL BEAMS

Figure 407-XX



NEW CONSTRUCTION / RECONSTRUCTION / 4R PROJECT



3R PROJECT

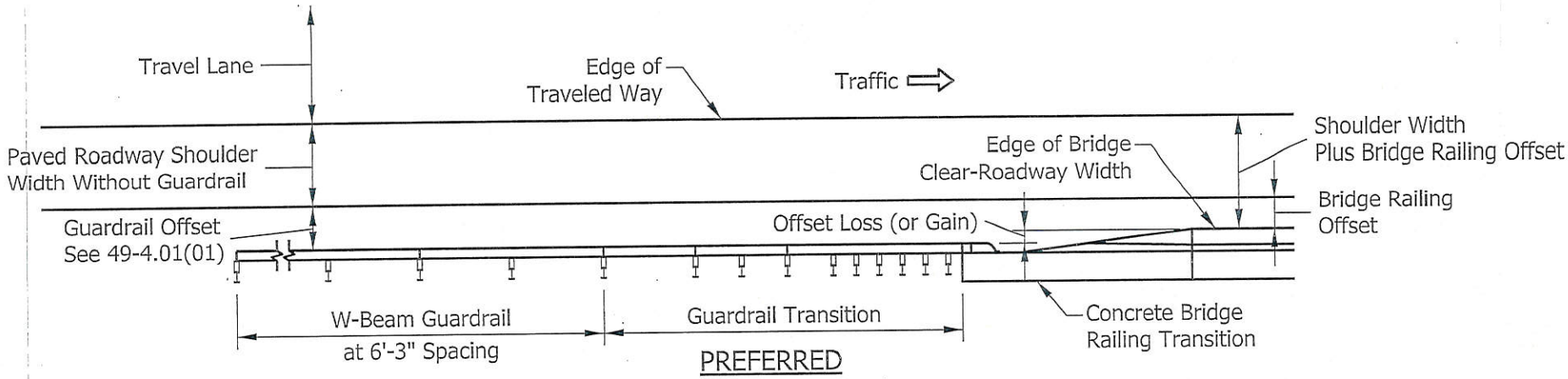
W	BRIDGE-RAILING TYPE
1'-3 1/2"	PF-1, PP-2, PS-1, PS-2, TX
10 1/2"	CF-1, TF-2
8 1/2"	FC
6 1/2"	FT

BRIDGE-RAILING OFFSET
GUARDRAIL TRANSITION TO BRIDGE RAILING

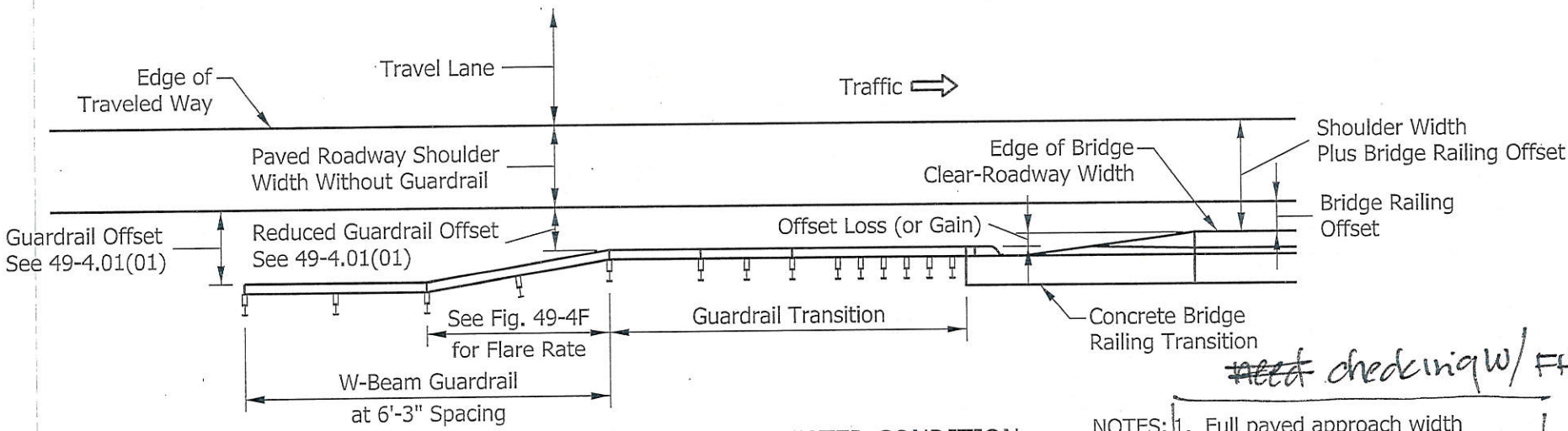
Figure 402-6H

Back

FOR NEW BUSINESS



PREFERRED
(UNIFORM OFFSET)



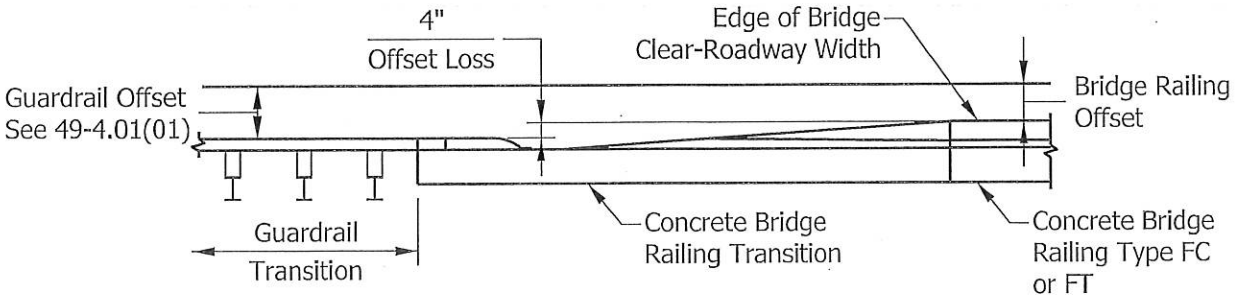
ACCEPTABLE IN RESTRICTED CONDITION
(TAPERED OFFSET)

~~need~~ checking w/ FHWA

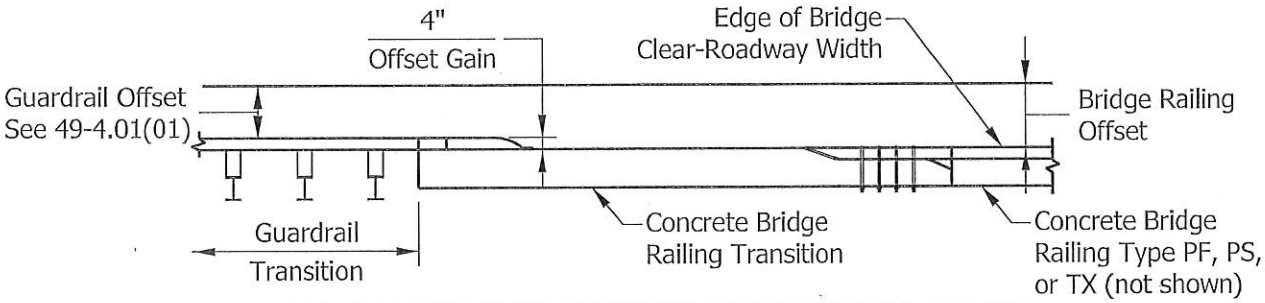
NOTES:
1. Full paved approach width requirement includes travel lanes plus shoulders.
2. See Page 2 of 2 for Offset Gain/Loss details.

BRIDGE-RAILING OFFSET
GUARDRAIL TRANSITION TO BRIDGE RAILING

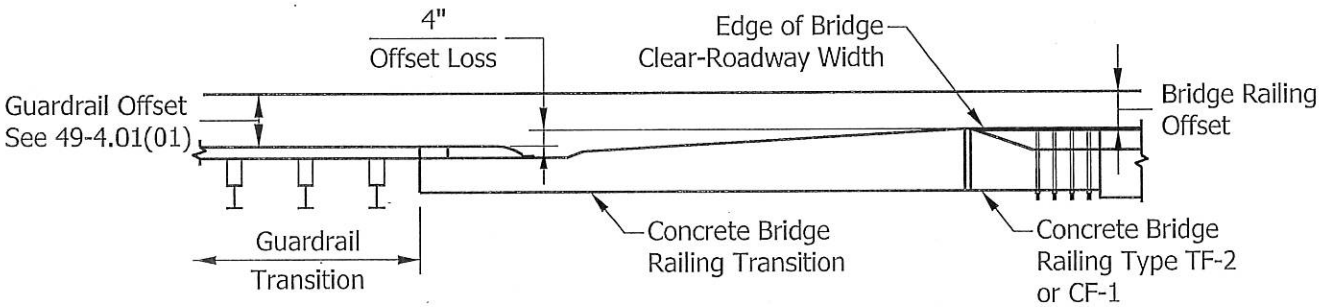
Figure 402-6H
(Page 1 of 2)



BRIDGE RAILING TRANSITION TYPE TFC OR TFT



BRIDGE RAILING TRANSITION TYPE TPF, TPS, OR TTX



BRIDGE RAILING TRANSITION TYPE TTF-2

Bridge Railing Offset = Guardrail Offset or Reduced Guardrail Offset in Restricted Condition + Offset Gain (+) or Offset Loss (-)

Example: Guardrail Offset of 2'-0" on the bridge approach, and Bridge Railing Type FC. 4" of Railing Offset is lost through the Bridge Railing Transition Type TFC.

Bridge Railing Offset = (2'-0") + (- 4") = 1'-8"

BRIDGE-RAILING OFFSET GUARDRAIL TRANSITION TO BRIDGE RAILING

Figure 402-6H
(Page 2 of 2)