2. See Standard Drawing E 706-BRTR-02 for Section A-A.
3. See Standard Drawing E 706-BRTR-05 for thrie beam guardrail transition type TGR.
4. Twelve 5/8\(\times\)2\" std. button head bolts with rectangular plate washers, round washers, and recess nuts.
5. See Standard Drawing E 706-BRTR-03 for post and blockout details. Attach rail using two 5/8\(\times\)2\" std. button head bolts with rectangular plate washers, round washers, and recess nuts.
6. Hand tighten post bolts on thrie beam expansion element and burr bolt threads.

INDIANA DEPARTMENT OF TRANSPORTATION

RETROFIT THRIE BEAM BRIDGE RAILING TR

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-BRTR-01

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE

NOTES

- Hand tighten post bolts on thrie beam expansion element and burr bolt threads.
- See Standard Drawing E 706-BRTR-04 for thrie beam expansion element.
- See Standard Drawing E 706-BRTR-02 for Section A-A.
- See Standard Drawing E 706-BRTR-05 for thrie beam guardrail transition type TGR.
- Twelve 5/8\(\times\)2\" std. button head bolts with rectangular plate washers, round washers, and recess nuts.
NOTES

SECTION A-A

* Reference dimensions
**W 6 x 25 Post Details for Curb Mounted Posts**

**Front View**
- W 6 x 25 post
- 1 1/8" 6 1/8" 1 1/8"

**Side View**
- TS 7 x 4 x 3/16 blockout
- 5/8" Ø button head bolt (typ.)
- W 6 x 25 post
- 6 3/8" 1 3/16" for 10" curb
- 2 1/2" 1 1/4" for 8" curb
- 1 1/4"

**Top View**
- 4"

**Base Plate Detail**
- bolt holes = bolt dia. +1/4"
- Locations of bolt holes on base plate shall match locations of existing anchor bolts.

**Notes**
1. Adjust the post length for thrie beam height above the deck.
2. Locations of bolt holes on base plate shall match locations of existing anchor bolts.
3. All holes drilled or punched to 3/4" Ø.

**Standard Drawing No.** E 706-BRTR-03

**Indiana Department of Transportation**

**Retrofit Thrie Beam Bridge Railing TR Components**

**September 2012**

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**Standard Drawing E 706-BRTR-03**

**No. 9750 State of Indiana**

**SUPERVISOR, ROADWAY STANDARDS DATE**

**CHIEF ENGINEER DATE**
THRIE BEAM ELEVATION

3/4" x 2 1/2" slots for post bolts
29/32" x 1 1/8" slots for splice bolts

THRIE BEAM EXPANSION ELEMENT ELEVATION

3/4" x 3 3/4" slots for post bolts
29/32" x 2 1/2" slots for splice bolts

NOTES

1 See Standard Drawing E 706-BRTR-01 for post locations.

INDIANA DEPARTMENT OF TRANSPORTATION

RETROFIT THRIE BEAM BRIDGE RAILING TR COMPONENTS

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-BRTR-04

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER

R.C. approach end
Attach to Post #0

Bridge deck end
Attach to Post #B
ELEVATION

Plan View

INFORMATION

E 706-BRTR-05

Retrofit Thrie Beam Guardrail Transition Type TGR

September 2012

INDIANA DEPARTMENT OF TRANSPORTATION

STANDARD DRAWING NO.

E 706-BRTR-05

TGR transition post/blockout assembly. See Standard Drawing E 601-TTGB-05 for post and blockout details. Adjust post height to accommodate guardrail heights indicated on this sheet. Attach rail using two 5/8" Ø x 2" std. button head bolts with rectangular plate washers, round washers, and recess nuts.


4. Twelve 5/8" Ø x 2" std. button head bolts with round washers and recess nuts, through rail sections.

5. Eight 5/8" Ø x 1 1/4" std. button head bolts with round washers and recess nuts.

6. Hand tighten post bolts on thrie beam expansion element and burr bolt threads.


8. See Standard Drawing E 706-BRTR-01 for thrie beam bridge railing TR.


NOTES

(1) See Standard Drawing E 706-BRTR-01 for thrie beam bridge railing TR.

(2) (typ.)

(3) (typ.)

(4) (typ.)

(5) (typ.)

(6) (typ.)

(7) (typ.)

(8) (typ.)

(9) (typ.)
1. Limits of guardrail transition type TGR from 2'-6" @ post #10 to 2'-3 3/4" @ post 16.

2. Top of W-beam guardrail varies in height uniformly.

3. W-beam guardrail or guardrail end treatment.


5. Eight 5/8" Ø x 1 1/4" std. button head bolts with round washers and recess nuts.

NOTES:

1. See Standard Drawing E 706-BRTR-05 for thrie beam guardrail transition type TGR.

2. W-beam guardrail height transition. See Standard Drawing E 706-BRTR-05 for thrie beam guardrail transition type TGR.

3. W-beam guardrail height transition.

4. Limits of W-beam guardrail or guardrail end treatment.

5. Limits of W-beam guardrail height transition.