WOOD POST

STEEL POST

GUARDRAIL, TYPE A

GUARDRAIL, TYPE B
(WOOD POST)

** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-0".
GUARDRAIL, TYPE BD  
(WOOD POST)

GUARDRAIL, TYPE B (OR BD)  
(STEEL POST)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
GUARDRAIL,  
TYPES A, B, BD, T, & TD
FRONT ELEVATION OF BEAM ELEMENT

SECTION THROUGH BEAM ELEMENT

(FOR GUARDRAIL, TYPE A, TYPE B, AND TYPE BD)

THREE BEAM TRANSITION
WOOD POST
BEAM ELEMENT SPLICE DETAILS

STEEL POST

WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE B AND TYPE BD

WOOD POST
STEEL POST

FOR USE ON STEEL POSTS
FOR USE ON WOOD POSTS

(SEE NOTES ON SHEET 10 OF 10)
GUARDRAIL, TYPE T
(WOOD POST)

ELEVATION SHOWING POST SPACING

GUARDRAIL, TYPE TD
(WOOD POST)

ELEVATION SHOWING POST SPACING

** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12', USE 3'-0".

** SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB
GUARDRAIL, TYPE T OR TD
(STEEL POST)

ELEVATION SHOWING POST SPACING
* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

GUARDRAIL, TYPE T
WOOD POST

GUARDRAIL, TYPE T
STEEL POST

BLOCK AND POST CONNECTION DETAILS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
GUARDRAIL, TYPES A, B, BD, T, & TD

9-30-2014
7-5-2013
R-60-I
SHEET 6 OF 10
FRONT ELEVATION OF THRIE BEAM ELEMENT

SECTION THROUGH THRIE BEAM ELEMENT
(FOR GUARDRAIL, TYPE T AND TD)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT
STANDARD PLAN FOR
GUARDRAIL,
TYPES A, B, BD, T, & TD

9-30-2014
F.H.W.A. APPROVAL

7-5-2013
PLAN DATE

R-60-I
SHEET 7 OF 10
WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE T AND TYPE TD

WOOD POST

THRIE BEAM ELEMENT SPLICE DETAILS

STEEL POST

FOR USE ON STEEL POSTS

(SEE NOTES ON SHEET 10 OF 10)

Woods Offset Blocks for Guardrail, Type T and Type TD
DETAIL SHOWING TRANSITION FROM GUARDRAIL, TYPE B (OR TYPE T) TO GUARDRAIL, TYPE BD (OR TYPE TD)

<table>
<thead>
<tr>
<th>GUARDRAIL TYPE</th>
<th>POST</th>
<th>OFFSET BLOCK</th>
<th>POST BOLTS</th>
<th>SPLICE BOLTS</th>
<th>WASHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>WOOD</td>
<td>N/A</td>
<td>1</td>
<td>9½“ (NO. REQ'D)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>STEEL</td>
<td>N/A</td>
<td>1</td>
<td>2”</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>WOOD</td>
<td>WOOD</td>
<td>1</td>
<td>18”</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>STEEL</td>
<td>WOOD</td>
<td>1</td>
<td>9½“</td>
<td>1</td>
</tr>
<tr>
<td>BD</td>
<td>WOOD</td>
<td>WOOD</td>
<td>1</td>
<td>#26½“</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>STEEL</td>
<td>WOOD</td>
<td>2</td>
<td>9½“</td>
<td>2</td>
</tr>
<tr>
<td>T</td>
<td>WOOD</td>
<td>WOOD</td>
<td>2</td>
<td>18”</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>STEEL</td>
<td>WOOD</td>
<td>2</td>
<td>9½“</td>
<td>2</td>
</tr>
<tr>
<td>TD</td>
<td>WOOD</td>
<td>WOOD</td>
<td>2</td>
<td>#26½“</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>STEEL</td>
<td>WOOD</td>
<td>4</td>
<td>9½“</td>
<td>4</td>
</tr>
</tbody>
</table>

Three beam transitions require 20 splice bolts each (12 on Type T end and 8 on Type B end).

* Except as specified on detail showing transition from guardrail, Type B (or Type T) to guardrail, Type BD (or Type TD). Post bolts shall not extend more than 1½” beyond nut.

SPLICE BOLT AND POST BOLT

ROUND WASHER

NUT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT

GUARDRAIL, TYPES A, B, BD, T, & TD

FOR CURVED GUARDRAIL WITH RADIUS OF 150’ OR LESS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL,
TYPES A, B, BD, T, & TD

9-30-2014 F.H.W.A. APPROVAL
7-5-2013 PLAN DATE
R-60-I SHEET 9 OF 10
GUARDRAIL REFLECTOR

SEE NOTES BELOW

GUARDRAIL REFLECTOR

SEE NOTES BELOW

GUARDRAIL

REFLECTORIZED SIDE FACING TRAFFIC

REFLECTORIZED SURFACE FACING TRAFFIC

ONE-WAY TRAFFIC

TWO-WAY TRAFFIC

PLACEMENT OF GUARDRAIL REFLECTORS

NOTES GOVERNING THE USE OF GUARDRAIL REFLECTORS

1. GUARDRAIL REFLECTORS SHALL BE USED ON ALL STANDARD GUARDRAIL RUNS, REGARDLESS OF ROADWAY LIGHTING.

2. GUARDRAIL REFLECTORS ARE TO BE SPACED AT THE FOLLOWING INTERVALS:
   a) 50'-0" ON TANGENT SECTIONS AND CURVES WITH A RADIUS OF 1150' OR MORE.
   b) 25'-0" ON CURVES WITH A RADIUS LESS THAN 1150'.

3. FOR GUARDRAIL REFLECTOR PLACEMENT ON APPROACH TERMINALS, SEE THE APPROPRIATE GUARDRAIL APPROACH TERMINAL STANDARD PLAIN.

4. A GUARDRAIL REFLECTOR IS TO BE PLACED ON THE SECOND POST FROM THE GUARDRAIL DEPARTING TERMINAL.

5. ON GUARDRAIL, TYPE T AND TYPE TD GUARDRAIL REFLECTORS ARE TO BE PLACED ON THE UPPER POST BOLT.

6. GUARDRAIL REFLECTORS SHALL MATCH COLOR OF EDGE LINE.

NOTES:

DETAILS SPECIFIED ON THIS STANDARD ARE ACCORDING TO THE JOINT AASHTO - ARIIA TECHNICAL BULLETIN NO. 268. "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE".

BEAM ELEMENTS SHALL BE SHOP BENT TO PLAN RADIUS FOR CURVE RADII 150' OR LESS. A TAG IDENTIFYING THE CURVATURE OF THE SHOP BENT SECTION WILL BE REQUIRED FOR EACH CURVED ELEMENT.

POST BOLT SLOTS AT 6'-3" INTERVALS WILL BE ALLOWED IN BEAM ELEMENTS USED TO CONSTRUCT GUARDRAIL, TYPE A.

SEE STANDARD PLAN R-61-SERIES, R-62-SERIES OR R-63-SERIES FOR GUARDRAIL APPROACH TERMINALS, STANDARD PLAN R-66-SERIES FOR GUARDRAIL DEPARTING TERMINALS, AND STANDARD PLAN R-67-SERIES FOR GUARDRAIL ANCHORAGE, BRIDGE.

WHEN THE PLANS SPECIFY GUARDRAIL IS TO BE PLACED ON THE SHOULDER HINGE POINT, RATHER THAN AS SPECIFIED ON THIS PLAN, 8'-0" POSTS SHALL BE PROVIDED, WITH THE ADDITIONAL LENGTH EMBEDDED FOR ADDED STABILITY. (NOT NECESSARY WHEN THE SLOPE IS REASONABLY LEVEL BEYOND THE SHOULDER HINGE POINT, AS DETERMINED BY THE ENGINEER.)

WOOD POSTS WITH 1/2" BEVELS AT THE TOP MAY BE USED IN LIEU OF WOOD POSTS WITHOUT BEVELS SPECIFIED. THE LENGTH, WIDTH AND DEPTH OF THE POST SHALL BE AS SPECIFIED ON THIS STANDARD AND THE POST BOLT HOLES SHALL BE LOCATED TO ENSURE PROPER RAIL HEIGHT.

WOOD OFFSET BLOCKS WITH 1/2" BEVELS AT THE TOP AND BOTTOM OR A 1" BEVELED TOP MAY BE USED IN LIEU OF WOOD BLOCKS WITHOUT BEVELS SPECIFIED. THE LENGTH (FRONT AND BACK FACE), WIDTH AND DEPTH OF THE BLOCK SHALL BE AS SPECIFIED ON THIS STANDARD AND THE POST BOLT HOLES SHALL BE LOCATED TO ENSURE PROPER RAIL HEIGHT AND COMPATIBILITY WITH POST HOLES.