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)

ELEVATION SHOWING POST SPACING
* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB
WOOD POST OFFSET BLOCKS FOR GUARDRAIL, TYPE B AND TYPE BD

FOR USE ON WOOD POSTS

STEEL POST OFFSET BLOCKS FOR GUARDRAIL, TYPE B AND TYPE BD

FOR USE ON STEEL POSTS

(SEE NOTES ON SHEET 16 OF 16)
GUARDRAIL, TYPE T
(WOOD POST)

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

GUARDRAIL, TYPE TD
(WOOD POST)

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

GUARDRAIL, TYPE T OR TD (STEEL POST)

* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

GUARDRAIL, Type T
WOOD POST

GUARDRAIL, Type T
STEEL POST

GUARDRAIL, Type B
WOOD POST

GUARDRAIL, Type B
STEEL POST

BLOCK AND POST CONNECTION DETAILS

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8, & MGS-8D
WOOD POST
STEEL POST

THRIE BEAM ELEMENT SPLICE DETAILS

TOP

TOP

FRONT

SIDE

FOR USE ON STEEL POSTS

FOR USE ON WOOD POSTS

(SEE NOTES ON SHEET 16 OF 16)

WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE T AND TYPE TD
GUARDRAIL, TYPE MGS-8
(WOOD POST)

** FOR PAVED SHOULDER WIDTHS OF AT LEAST 12’, USE 3'-8".

GUARDRAIL, TYPE MGS-8D
(WOOD POST)

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

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8, & MGS-8D
GUARDRAIL, TYPE MGS-8 (OR MGS-8D)
(STEEL POST)
WOOD OFFSET BLOCKS FOR GUARDRAIL, TYPE MGS-8 AND TYPE MGS-8D

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8BD

WOOD POST
STEEL POST

BLOCK AND POST CONNECTION DETAILS

TOP

SIDE

FOR USE ON STEEL POSTS

FOR USE ON WOOD POSTS

(SEE NOTES ON SHEET 16 OF 16)
ELEVATION SHOWING POST SPACING FOR
GUARDRAIL, TYPE MGS-8 OR MGS-8D

* SEE NOTES FOR GUARDRAIL IN CONJUNCTION WITH CURB

GUARDRAIL, TYPE B
GUARDRAIL, TYPE BD
GUARDRAIL, TYPE MGS-8 OR MGS-8D

34'-4.5" HEIGHT TRANSITION

ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
GUARDRAIL, TYPE MGS-8 OR MGS-8D TO
GUARDRAIL, TYPE B, GUARDRAIL, TYPE BD, OR
GUARDRAIL APPROACH TERMINAL TYPE 1B, 2B, OR 3B

GUARDRAIL, TYPE MGS-8 OR MGS-8D

28'-1.5" HEIGHT TRANSITION

ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING
GUARDRAIL, TYPE MGS-8 OR MGS-8D TO
GUARDRAIL, TYPE T, GUARDRAIL, TYPE TD,
GUARDRAIL ANCHORAGE, MEDIAN,
GUARDRAIL ANCHORAGE, BRIDGE DETAIL A1, T1, T4 OR T6

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D

2-27-2019
ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING GUARDRAIL, TYPE B TO GUARDRAIL APPROACH TERMINAL TYPE 2M

ELEVATION SHOWING TRANSITION DETAIL FOR CONNECTING GUARDRAIL, TYPE T TO GUARDRAIL APPROACH TERMINAL TYPE 2M
SECTION THROUGH BEAM ELEMENT

FRONT ELEVATION OF BEAM ELEMENT

FRONT ELEVATION OF MGS (9'-4\(\frac{1}{2}\)"") BEAM ELEMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL,
TYPES A, B, BD, T, TD,
MGS-8, & MGS-8D
SECTION THROUGH THRIE BEAM ELEMENT

FOR GUARDRAIL, TYPE T AND TD

FRONT ELEVATION OF THRIE BEAM ELEMENT

SECTION THROUGH THRIE BEAM ELEMENT

(For Guardrail, Type T and TD)
SYMMETRICAL THRIE BEAM TRANSITIONS

ASYMMETRICAL THRIE BEAM TRANSITIONS

NOTE: ASYMMETRICAL TRANSITION TYPE WILL VARY BY LOCATION DEPENDING ON GUARDRAIL LAYOUT
**PAY ITEM EACH SIDE:**
GUARDRAIL, TYPE B (OR T)  
GUARDRAIL, TYPE BD (OR TYPE TD)

### Post Bolts, Splice Bolts and Washers

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Wood</td>
<td>N/A</td>
<td>1</td>
<td>9½&quot;</td>
<td>8</td>
<td>1</td>
<td>18&quot;</td>
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<tr>
<td>B</td>
<td>Wood</td>
<td>N/A</td>
<td>1</td>
<td>2&quot;</td>
<td>8</td>
<td>2</td>
<td>26½&quot;</td>
</tr>
<tr>
<td>BD</td>
<td>Wood</td>
<td>Wood</td>
<td>1</td>
<td>18&quot;</td>
<td>8</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td>Wood/Wood</td>
<td>1</td>
<td>18&quot;</td>
<td>8</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>TD</td>
<td>Wood</td>
<td>Wood</td>
<td>1</td>
<td>18&quot;</td>
<td>8</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td>Wood/Wood</td>
<td>2</td>
<td>9½&quot;</td>
<td>12</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wood/Wood</td>
<td>2</td>
<td>9½&quot;</td>
<td>12</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wood/Wood</td>
<td>2</td>
<td>9½&quot;</td>
<td>24</td>
<td>4</td>
<td>*</td>
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<tr>
<td></td>
<td></td>
<td>Steel/Wood</td>
<td>4</td>
<td>9½&quot;</td>
<td></td>
<td></td>
<td>24</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.

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**Splice Bolt and Post Bolt**

- **1½" Diameter**
- **¾" Diameter**

**Round Washer**

- Diameter: ¼" ± ¼" (Max)
- Thickness: 0.012" ± 0.001"

**Curved Guardrail Radius**

- Embossed ¾" High on the Metal Tag

**Metal Tag**

- For curved guardrail with radius of 150' or less

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**Michigan Department of Transportation**

**Bureau of Development Standard Plan for**

GUARDRAIL, TYPES A, B, BD, T, TD, MGS-8, & MGS-8D

**F.H.W.A. Approval**

2-27-2019  R-60-J  SHEET 15 OF 17
**POST BOLTS, SPLICE BOLTS AND WASHERS AT BEAM ELEMENT SPLICE POSTS AND AT INTERMEDIATE POSTS**

<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>MGS-8</td>
<td>WOOD</td>
<td>WOOD</td>
<td>1</td>
<td>18&quot;</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>STEEL</td>
<td>WOOD</td>
<td>1</td>
<td>9½&quot;</td>
<td>1</td>
</tr>
<tr>
<td>MGS-80</td>
<td>WOOD</td>
<td>WOOD</td>
<td>1</td>
<td>26½&quot;</td>
<td>16</td>
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<tr>
<td></td>
<td>STEEL</td>
<td>WOOD</td>
<td>2</td>
<td>9½&quot;</td>
<td>2</td>
</tr>
</tbody>
</table>

**MINIMUM POST BOLT THREAD LENGTH**

<table>
<thead>
<tr>
<th>BOLT LENGTH</th>
<th>MINIMUM THREAD LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>9½&quot;</td>
<td>1½&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>2½&quot;</td>
</tr>
<tr>
<td>26½&quot;</td>
<td>3&quot;</td>
</tr>
</tbody>
</table>

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

*Except as specified on detail showing transition from guardrail, Type MGS-8 to guardrail, Type MGS-8D post bolts shall not extend more than ½" beyond nut.*
GUARDRAIL REFLECTOR

SEE NOTES BELOW

GUARDRAIL

REFLECTORIZED SIDE FACING TRAFFIC

DIRECTION OF TRAFFIC

GUARDRAIL SURFACE FACING TRAFFIC

DIRECTION OF TRAFFIC

GUARDRAIL

SEE NOTES BELOW

PLACE GUARDRAIL REFLECTORS IN OPPOSITE DIRECTIONS ON ADJACENT GUARDRAIL POSTS

DIRECTION OF TRAFFIC

DIRECTION OF TRAFFIC

GUARDRAIL

DIRECTION OF 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 PLAN.

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.

BUREAU OF DEVELOPMENT STANDARD PLAN FOR

GUARDRAIL,

TYPES A, B, BD, T, TD,

MGS-8, & MGS-8D

F.H.W.A. APPROVAL

R-60-J

SHEET

17 OF 17

MICHIGAN DEPARTMENT OF TRANSPORTATION