* See standard plan R-60-series for post spacing and guardrail layout to transition from guardrail, type MGS-8 to guardrail approach terminal, type 1B or guardrail approach terminal, type 2B.

Guardrail may be flared at this point or beyond.

See post placement detail.

Shoulder hinge point.

Guardrail, type MGS-8.

Guardrail, departing terminal, type MGS.

Guardrail, type MGS-8.

W-beam backed guardrail installations.

Guardrail, approach terminal, type 1B.

Guardrail, approach terminal, type 2B.

Guardrail, departing terminal, type MGS.

Guardrail, type MGS-8.

Plan.

Guardrail, approach terminal, type 1B.

Guardrail, approach terminal, type 2B.

Guardrail, departing terminal, type MGS.

Guardrail, type MGS-8.

Guardrail, approach terminal, type 1B.

Guardrail, approach terminal, type 2B.

Guardrail, departing terminal, type MGS.

Guardrail, type MGS-8.

Elevation.

Guardrail long span, detail MGS-1.
* SEE STANDARD PLAN R-60-SERIES FOR POST SPACING AND GUARDRAIL LAYOUT TO TRANSITION FROM GUARDRAIL, TYPE MGS-8 TO GUARDRAIL APPROACH TERMINAL, TYPE 1B OR GUARDRAIL APPROACH TERMINAL, TYPE 2B.

GUARDRAIL, TYPE MGS-8 *
GUARDRAIL, APPROACH TERMINAL, TYPE 1B
GUARDRAIL, APPROACH TERMINAL, TYPE 2B
GUARDRAIL, DEPARTING TERMINAL, TYPE MGS
GUARDRAIL, TYPE MGS-8

37'-6"
GUARDRAIL, TYPE MGS-8 *
GUARDRAIL, APPROACH TERMINAL, TYPE 1B
GUARDRAIL, APPROACH TERMINAL, TYPE 2B
GUARDRAIL, DEPARTING TERMINAL, TYPE MGS
GUARDRAIL, TYPE MGS-8

87'-6" GUARDRAIL LONG SPAN, DETAIL MGS-2
37'-6" GUARDRAIL, TYPE MGS-8 *

GUARDRAIL LONG SPAN, DETAIL MGS-2

12'-6"
12'-6"
12'-6"
12'-6"
12'-6"
12'-6"
12'-6"
31"
31"

GUARDRAIL, APPROACH TERMINAL, TYPE 1B
GUARDRAIL, APPROACH TERMINAL, TYPE 2B
GUARDRAIL, DEPARTING TERMINAL, TYPE MGS
GUARDRAIL, TYPE MGS-8

18'-6" CLEAR SPAN

GUARDRAIL, APPROACH TERMINAL, TYPE 1B
GUARDRAIL, APPROACH TERMINAL, TYPE 2B
GUARDRAIL, DEPARTING TERMINAL, TYPE MGS
GUARDRAIL, TYPE MGS-8

28" GUARDRAIL, APPROACH TERMINAL, TYPE 1B
28" GUARDRAIL, APPROACH TERMINAL, TYPE 2B
31" GUARDRAIL, DEPARTING TERMINAL, TYPE MGS
31" GUARDRAIL, TYPE MGS-8

ELEVATION

2-7-2019

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR W-BEAM BACKED GUARDRAIL INSTALLATIONS
**Michigan Department of Transportation**

**Bureau of Development Standard Plan for**

**W-Beam Backed Guardrail Installations**

**Plan**

- Guardrail, Type MGS-8 *
- Guardrail, Departing Terminal, Type MGS
- Guardrail, Type MGS-8

Guardrail may be flared at this point or beyond.

**Elevation**

Guardrail Long Span, Detail MGS-3

- 31" Guardrail, Type MGS-8 *
- 31" Guardrail, Departing Terminal, Type MGS
- 31" Guardrail, Type MGS-8

Guardrail may be flared at this point or beyond.

- 12'-6" Clear Span
- 25'-0" Clear Span

- 112'-6" Guardrail Long Span, Detail MGS-3
- 37'-6" Guardrail, Type MGS-8 *
- 37'-6" Guardrail, Departing Terminal, Type MGS
- 37'-6" Guardrail, Type MGS-8

Shoal hinge point.

- See standard plan R-50-series for post spacing and guardrail layout to transition from guardrail, type MGS-8 to guardrail approach terminal, type 1B or guardrail approach terminal, type 2B.
NOTES:

Posts 1, 2, and 3 are CRT posts with two standard wood offset blocks attached to the post. See Sheet 10 for CRT post detail.

Posts 4, 5, 6, and 7 are standard steel or wood Type B posts with offset block. See Standard Plan R-60-Series.

Install a minimum of 12'-6" of Type B guardrail between Post 7 and guardrail terminal.

SHOULDER HINGE POINT

12'-6" 12'-6" 12'-6" 25'-0" CLEAR SPAN 12'-6" 12'-6" 12'-6"

100'-0" NESTED TYPE B BEAM ELEMENTS

GUARDRAIL, TYPE B

GUARDRAIL, TYPE B

GUARDRAIL, TYPE B

GUARDRAIL, TYPE B

GUARDRAIL LONG SPAN, DETAIL B-25

GUARDRAIL LONG SPAN, DETAIL B-25

GUARDRAIL LONG SPAN, DETAIL B-25

GUARDRAIL LONG SPAN, DETAIL B-25

GUARDRAIL LONG SPAN, DETAIL B-25

GUARDRAIL LONG SPAN, DETAIL B-25

GUARDRAIL LONG SPAN, DETAIL B-25

ELEVATION

GUARDRAIL LONG SPAN, DETAIL B-25
PLAN VIEW (12'-6" SPAN)

6'-3" POST SPACING

12'-6"

6'-3" POST SPACING

37'-6" of W-beam guardrail with W-beam on back (use 7'-0" posts)

A

See spacer block detail G1 (Typ.)

GUARDRAIL, TYPE B

BACKED GUARDRAIL, DETAIL G1

GUARDRAIL, TYPE B

W-BEAM BACKED GUARDRAIL, TYPE B (12'-6" SPAN)

6'-3" POST SPACING

12'-6"

6'-3" POST SPACING

37'-6" of three beam guardrail with W-beam on back (use 7'-0" posts)

B

See spacer block detail G2 (Typ.)

GUARDRAIL, TYPE B

BACKED GUARDRAIL, DETAIL G2

GUARDRAIL, TYPE B

W-BEAM BACKED GUARDRAIL, TYPE T (12'-6" SPAN)

(USE AT DEEP THROATED DOWNSPOUT READERS)

6'-3" POST SPACING

12'-6"

6'-3" POST SPACING

37'-6" of three beam guardrail with W-beam on back (use 7'-0" posts)

C

See spacer block detail G3 (Typ.)

GUARDRAIL, TYPE T

BACKED GUARDRAIL, DETAIL G3

GUARDRAIL, TYPE T

W-BEAM BACKED GUARDRAIL, TYPE T (12'-6" SPAN)
W-BEAM BACKED GUARDRAIL, TYPE T (18'-9” SPAN)

SYMmetrical

37'-6” OF THRIE BEAM GUARDRAIL WITH W-BEAM ON BACK (USE 7'-0” POSTS)

THRIE BEAM TRANSITION

SEE SPACER BLOCK DETAIL G2 (TYP.)

GUARDRAIL, TYPE T

B

BACKED GUARDRAIL, DETAIL G2

GUARDRAIL, TYPE T

C

W-BEAM BACKED GUARDRAIL, TYPE T (18'-9” SPAN)

SYMmetrical

37'-6” OF THRIE BEAM GUARDRAIL WITH W-BEAM ON BACK (USE 7'-0” POSTS)

THRIE BEAM TRANSITION

SEE SPACER BLOCK DETAIL G3 (TYP.)

GUARDRAIL, TYPE T

C

BACKED GUARDRAIL, DETAIL G3

GUARDRAIL, TYPE T
POST PLACEMENT DETAIL

NOTE: HEADWALL MUST NOT PROTRUDE MORE THAN 2" ABOVE THE SHOULDER

HEADWALL MUST BE FLUSH WITH OR IN FRONT OF FRONT FACE OF HEADWALL (TYP)

SHOULDER HINGE POINT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT
STANDARD PLAN FOR W-BEAM BACKED GUARDRAIL AND GUARDRAIL LONG SPAN INSTALLATIONS

F.H.W.A. APPROVAL
2-7-2019
R-72-D
SHEET 8 OF 11
POST 1 THROUGH 3 DETAIL
GUARDRAIL LONG SPAN DETAIL B-25

POST 4 THROUGH 7 DETAIL
GUARDRAIL LONG SPAN DETAIL B-25

CONTROLLED RELEASING TERMINAL POST (CRT)

NESTED GUARDRAIL DETAIL

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR
W-BEAM BACKED GUARDRAIL AND GUARDRAIL LONG SPAN INSTALLATIONS

2-7-2019
R-72-D
10 OF 11
NOTES:

ALL POSTS, OFFSET BLOCKS, BEAM ELEMENTS, AND HARDWARE (INCLUDING BOLTS, NUTS, AND WASHERS) SHALL BE ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS AND THE CURRENT STANDARD PLAN R-60-SERIES, WHERE APPLICABLE, EXCEPT WHERE NOTED ON THIS STANDARD.

THE GUARDRAIL MODIFICATIONS DETAILED ON THIS STANDARD SHOULD ONLY BE USED WHERE 6'-3" POST SPACING AND POST EMBEDMENT CANNOT BE MET. WHEN THE SPANNING DISTANCE BETWEEN POSTS IS 15'-1½", THE 3'-1½" POST SPACING SHOULD BE PLACED ON THE APPROACH END.

IF USE OF THIS DESIGN WOULD INTERFERE WITH THE POST SPACING WITHIN A GUARDRAIL BRIDGE ANCHORAGE AS SPECIFIED ON STANDARD PLAN R-67-SERIES, OTHER OPTIONS SHOULD BE INVESTIGATED AND USED.