Pay limits of Guardrail Attached to Culvert

- 50' (15.24 m) min. of other guardrail type required prior to barrier terminal.

- (non-blocked guardrail shown)

- 6'-3" (1.91 m) min.

- 6'-3" (1.91 m)

- 12 (300) min.

- 4 (102) min.

- (2 5 )

- 4 (102)

- (6 3 2)

- (1.91 m)

- (152)

- (318)

- (30)

- (5.7) dia.

- (16)

- (953) centers

- Posts at culvert spaced at 37½ (953) centers

- Steel post

- Steel backup plate with 7/8 (10) dia. UNC 3/4" (19.1) long hex bolt and nut.

- Steel plate beam guardrail

- Steel post standoff

- Steel socket. See Cases I - VI for assembly and mounting details

- Post standoff

- See DETAIL B for welding of post standoffs

- Steel post

- Culvert head wall

- Single 1:10 or flatter

- See DETAIL A for attachment to post.

- Steel post at culvert

- Steel backup plate nested between guardrail and steel post.

- SQUARE WASHER A with 7/8 (10) dia. UNC 3/4" (19.1) long hex bolt and nut.

- Post standoff

- SQUARE WASHER A

- POST STANDOFF

- STEEL POST

- BACKUP PLATE

- GENERAL NOTES

See Standard 630001 for details of guardrail not shown.

See Standard 630006 for details of non-blocked guardrail not shown.

All threaded rods and bolts shall be installed with heavy hex nuts and standard washers unless noted otherwise.

All dimensions are in inches (millimeters) unless otherwise shown.
CROSS SECTION
CASE 1, (H+T-R) < 18 (457), TOP MOUNT

ELEVATION

TOP VIEW

SIDE VIEW

FRONT VIEW

STANDARD 630111
WEAK POST GUARDRAIL
ATTACHED TO CULVERT

(Shet 2 of 6)
Steel post:

\[ \frac{3}{4} \times 5 \text{ (M16 x 127)} \] hex bolt and nut

Socket assembly:

Two \( \frac{1}{2} \times 2 \) (M13 x 50) hex bolts

Greater of 5\( \frac{1}{6} \) (140)
or R+2\( \frac{3}{4} \) (R+64)

* R varies between 0 to 6 (152)

Two 3\( \frac{1}{4} \) (19) threaded rods. Length shall be \( W + 4 \) (102).

SQUARE WASHER B

One 3\( \frac{1}{4} \) (19) expansion bolt

For R greater than 3 (76) provide BRACKET A. For R less than or equal to 3 (76) provide BRACKET B. (BRACKET A shown)

GUSSET C

PLATE D

PLATE C

V a r i e s

Expansion bolt

One 3\( \frac{1}{4} \) (19) threaded rods secured with chemical adhesive

Two 3\( \frac{1}{4} \) (19) hex bolts

Steel post:

\[ 12 \text{ (305)} \] mm.

Cross Section

Case II, \( (H+T-R) < 18 \text{ (457)} \), Side-Mount Through-Bolt

Cross Section

Case III, \( (H+T-R) < 18 \text{ (457)} \), Side-Mount Anchored

Elevation

For R greater than 3 (76) provide BRACKET A. For R less than or equal to 3 (76) provide BRACKET B. (BRACKET A shown)

Elevation

For R greater than 3 (76) provide BRACKET A. For R less than or equal to 3 (76) provide BRACKET B. (BRACKET A shown)

\[ 12 \text{ (305)} \] mm.

Two 3\( \frac{1}{4} \) (19) x 11 (M19 x 279) threaded rods secured with chemical adhesive

One 3\( \frac{1}{4} \) (19) expansion bolt

Cross Section

Case II, \( (H+T-R) < 18 \text{ (457)} \), Side-Mount Through-Bolt

Cross Section

Case III, \( (H+T-R) < 18 \text{ (457)} \), Side-Mount Anchored

Elevation

For R greater than 3 (76) provide BRACKET A. For R less than or equal to 3 (76) provide BRACKET B. (BRACKET A shown)

Elevation

For R greater than 3 (76) provide BRACKET A. For R less than or equal to 3 (76) provide BRACKET B. (BRACKET A shown)
CROSS SECTION

CASE IV, (H+T-R) > 18 (457), TOP MOUNT

ELEVATION

TOP VIEW

SIDE VIEW

FRONT VIEW

SOCKET ASSEMBLY

FOR CASE IV

STEEL POST

Socket assembly

Two 1/2 x 7 (M19 x 178) threaded rods secured with chemical adhesive

12 (305) mm

Two 1/2 x 7 (M19 x 178) threaded rods secured with chemical adhesive

* R varies between 0 to 6 (152)

Steel post

1/4 x 5
(M16 x 127)

hex bolt

and nut

THREADS

with chemical adhesive

1/4 x 5 (M16 x 127)

Steel

post

HHS 4 x 4 x

with chemical adhesive

WEAK POST GUARDRAIL
ATTACHED TO CULVERT

Illinois Department of Transportation

January 1, 2017

ENGINEER OF POLICY AND PROCEDURES

APPROVED
January 1, 2017

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED

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PASSED

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WEAK POST GUARDRAIL

STANDARD 630111

(Sheet 4 of 6)
WEAK POST GUARDRAIL ATTACHED TO CULVERT

STANDARD 630111

ILLINOIS DEPARTMENT OF TRANSPORTATION

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