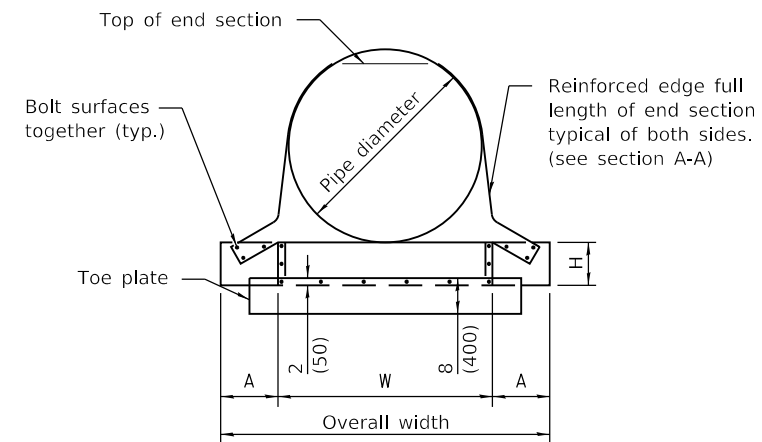
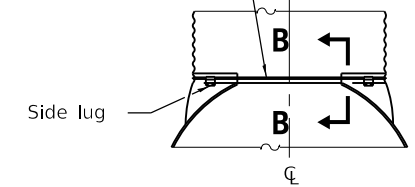


ELEVATION

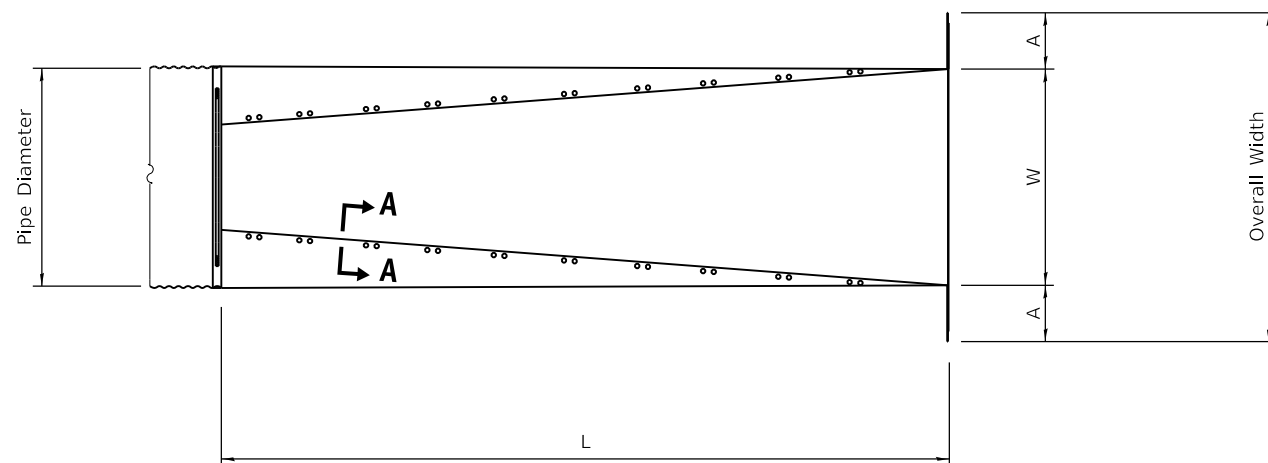


END VIEW

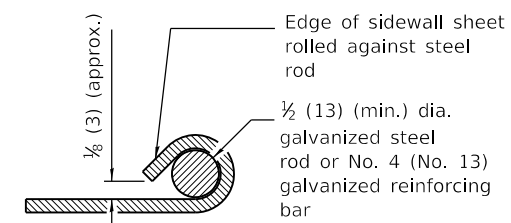
1/2 (M12) galvanized threaded rod over top of end section. Side lugs shall be bolted to end section



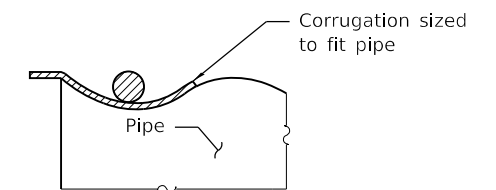
CONNECTIONS OF END SECTION



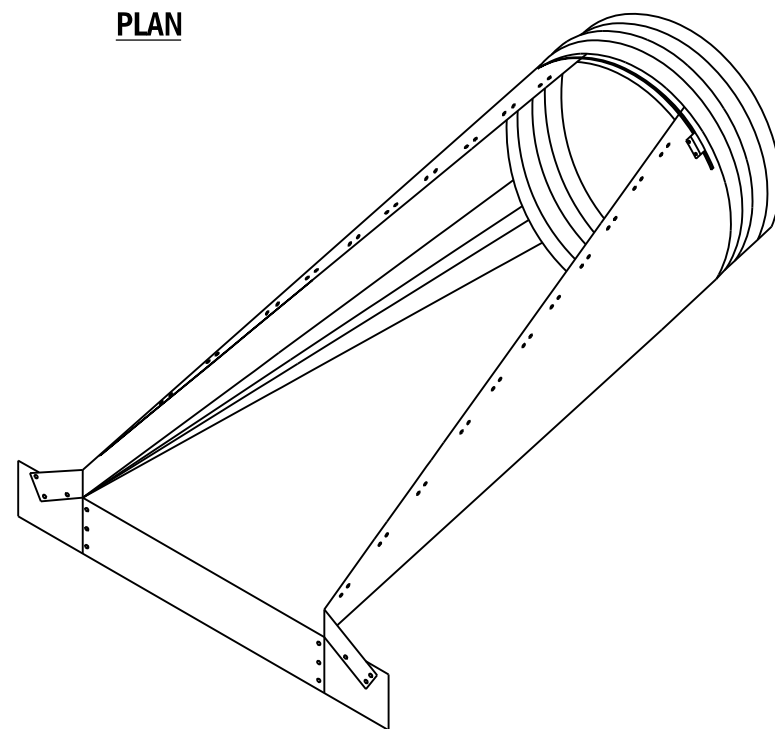
PLAN



SECTION A-A



SECTION B-B



**END SECTION
PERSPECTIVE VIEW**

METAL END SECTIONS FOR ROUND PIPE CULVERT

PIPE DIA.	METAL THICK. (min.)	DIMENSIONS					
		A	H	W	OVERALL WIDTH	L	
						SLOPE 1:4	SLOPE 1:6
15 (375)	0.064 (1.63)	8 (200)	6 (150)	21 (525)	37 (950)	20 (500)	30 (750)
18 (450)	0.064 (1.63)	8 (200)	6 (150)	24 (600)	40 (1000)	32 (800)	48 (1200)
21 (525)	0.064 (1.63)	8 (200)	6 (150)	27 (700)	43 (1100)	44 (1100)	60 (1500)
24 (600)	0.064 (1.63)	8 (200)	6 (150)	30 (750)	46 (1150)	55 (1400)	83 (2100)
30 (750)	0.109 (2.77)	12 (300)	9 (230)	36 (900)	60 (1500)	79 (2000)	118 (3000)
36 (900)	0.109 (2.77)	12 (300)	9 (230)	42 (1050)	66 (1650)	102 (2600)	154 (3900)
42 (1050)	0.109 (2.77)	16 (400)	12 (300)	48 (1200)	80 (2000)	126 (3200)	189 (4800)
48 (1200)	0.109 (2.77)	16 (400)	12 (300)	54 (1350)	86 (2150)	150 (3800)	224 (5700)
54 (1350)	0.109 (2.77)	16 (400)	12 (300)	60 (1500)	92 (2300)	173 (4400)	260 (6600)
60 (1500)	0.109 (2.77)	16 (400)	12 (300)	66 (1650)	98 (2450)	197 (5000)	295 (7500)

GENERAL NOTES

See roadway plans for slope (V:H) and pipe diameter.

Provide traversable pipe grate when specified.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	New standard.

**SLOPED METAL END SECTIONS
FOR PIPE CULVERTS 15" (375 mm)
THRU 60" (1500 mm) DIA.**

(Sheet 1 of 2)

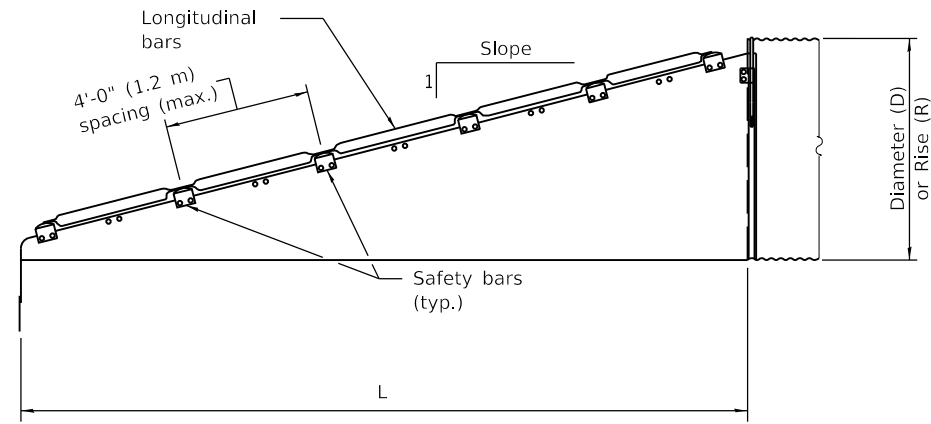
STANDARD 542411

Illinois Department of Transportation

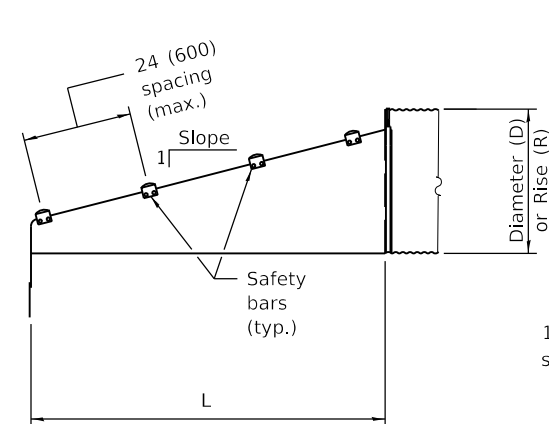
PASSED January 1, 2018
Michael Beard
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018
Marcus M. Adams
ENGINEER OF DESIGN AND ENVIRONMENT

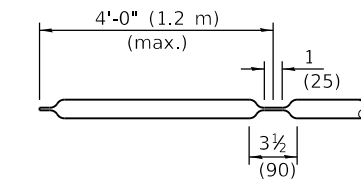
ISSUED 1-1-18



**CROSS DRAINAGE
END SECTION - ELEVATION**

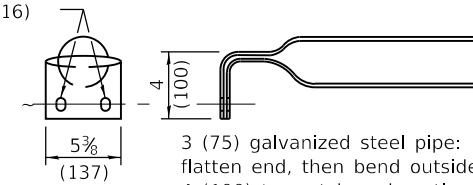


**PARALLEL DRAINAGE
END SECTION - ELEVATION**



LONGITUDINAL DRAINAGE BAR

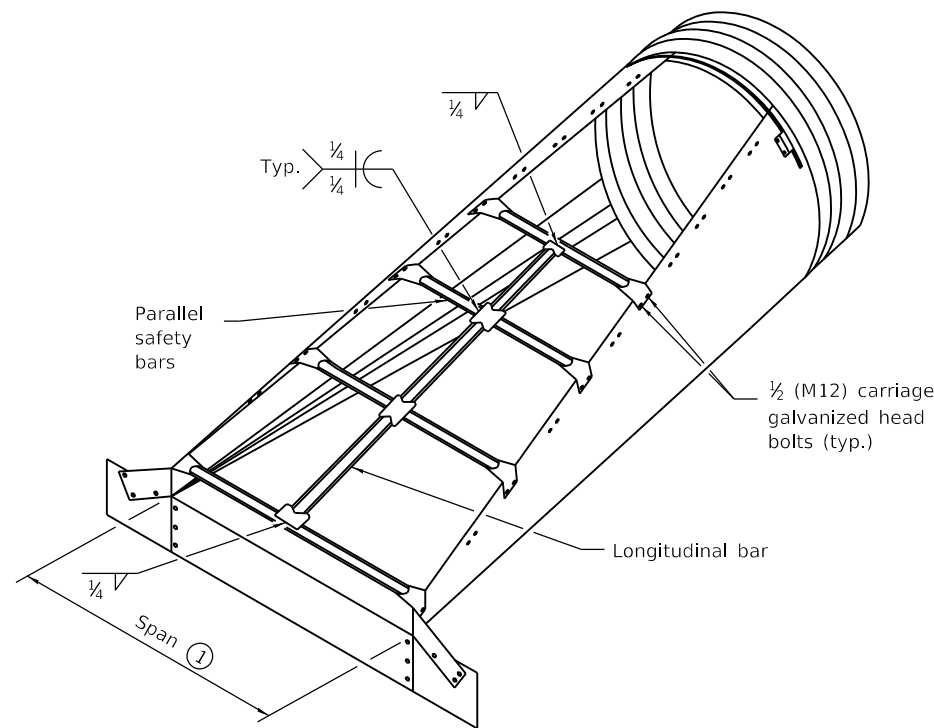
1 x 5/8 (25 x 16) slots



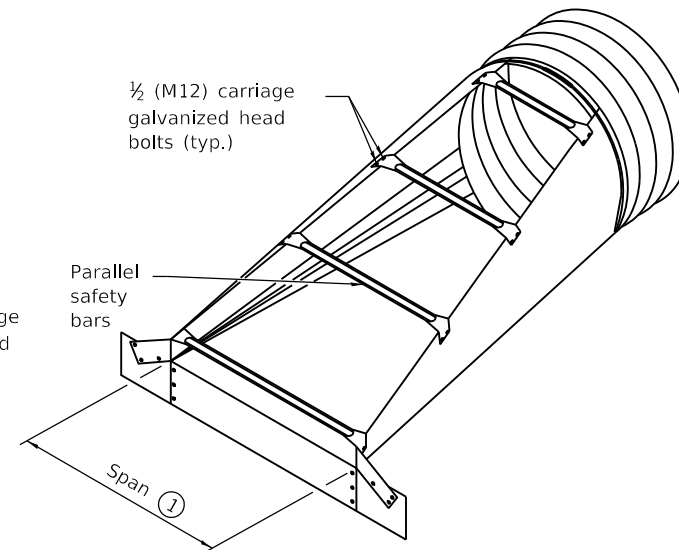
3 (75) galvanized steel pipe: flatten end, then bend outside 4 (100) to match end section sides.

PARALLEL BARS

SAFETY BAR DETAILS

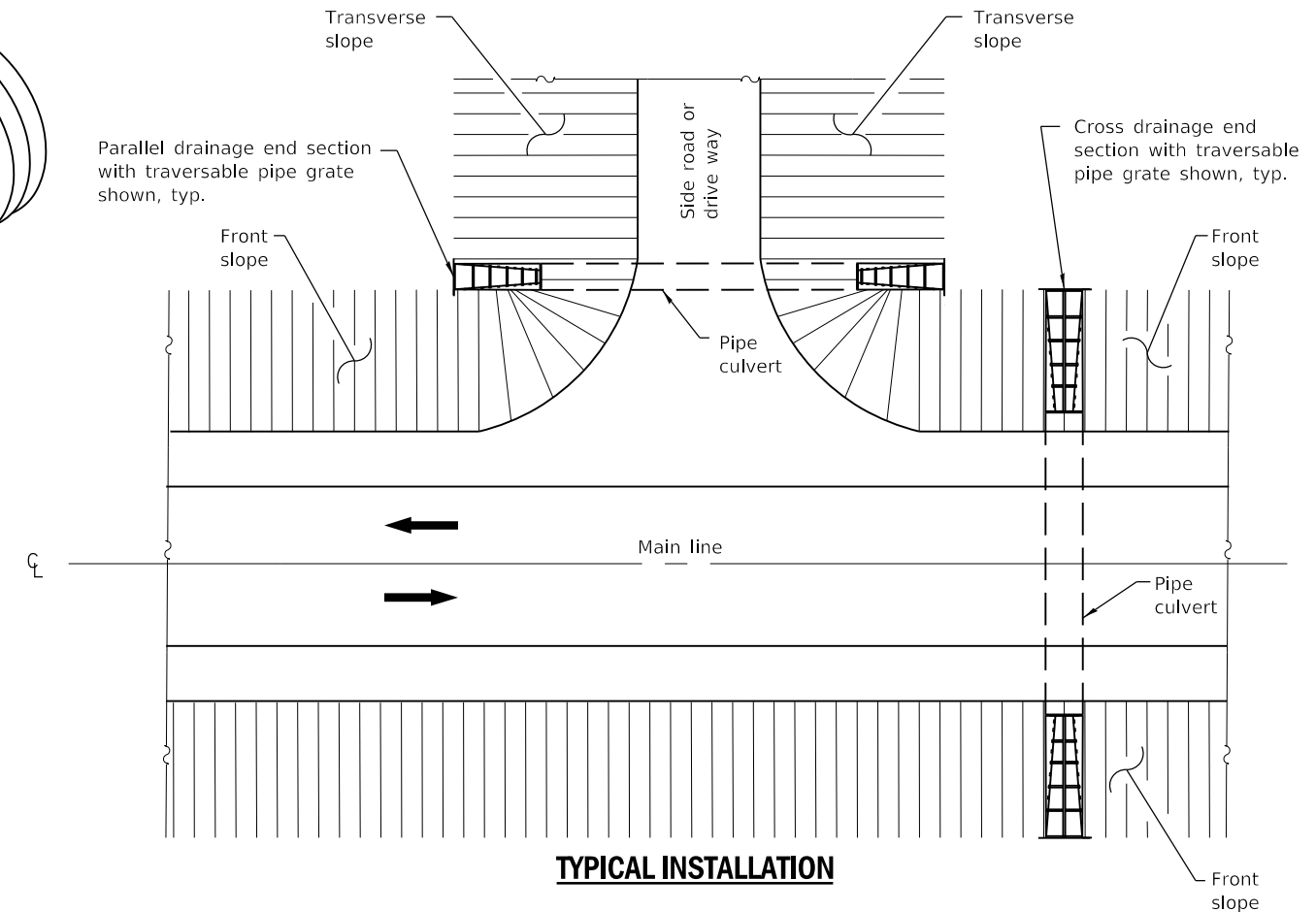


CROSS DRAINAGE END SECTION



**PARALLEL DRAINAGE
END SECTION**

① Provide longitudinal bar(s) when the span exceeds 30 (750). Provide additional longitudinal bars as needed so that spacing does not exceed 30 (750) for larger end sections.



TYPICAL INSTALLATION

Illinois Department of Transportation

PASSED January 1, 2018
Michael Beard
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2018
Maureen M. Beck
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-18

**SLOPED METAL END SECTIONS
FOR PIPE CULVERTS 15" (375 mm)
THRU 60" (1500 mm) DIA.**

(Sheet 2 of 2)

STANDARD 542411