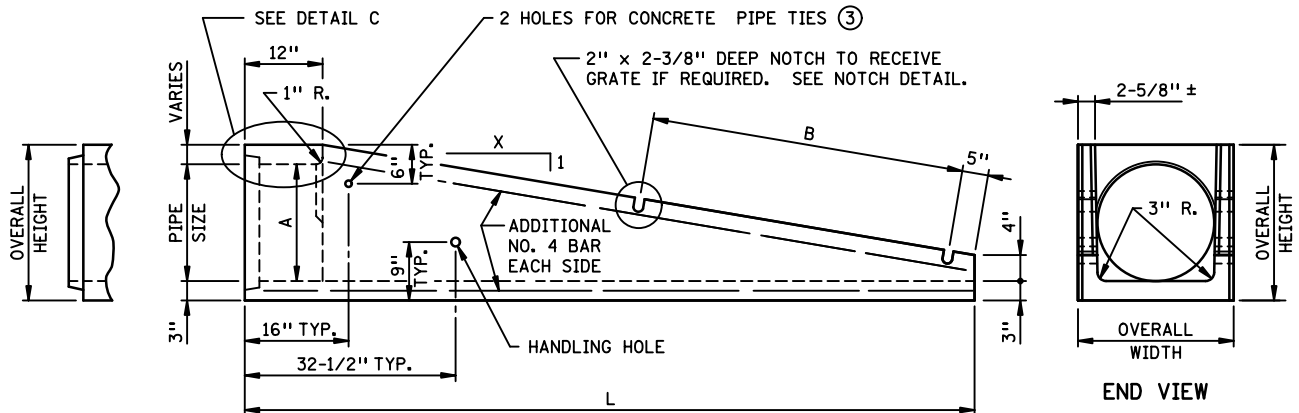


TOP VIEW



SIDE VIEW

END VIEW

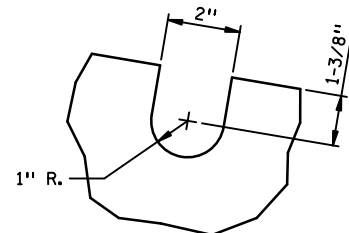
DESIGN OPTION NO. 1

1:6 SLOPES

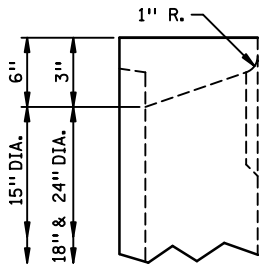
PIPE SIZE	A INSIDE	B ℄ - ℄	L	OVERALL HEIGHT	OVERALL WIDTH	WEIGHT (LBS.)
15"	15"	4' 0"	9' 4-1/2"	24"	24"	1800
18"	18"	4' 0"	9' 4-1/2"	24"	24"	1700
24"	24"	6' 0"	12' 4" (2)	30"	30"	2800

1:4 SLOPES

PIPE SIZE	A INSIDE	B ℄ - ℄	L	OVERALL HEIGHT	OVERALL WIDTH	WEIGHT (LBS.)
24"	24"	4' 0"	8' 5"	30"	30"	1900



NOTCH DETAIL



DETAIL C

NOTES:

THE DESIGN USED IS THE CONTRACTOR'S OPTION.
 REINFORCING STEEL AND CONCRETE PER AASHTO M170.
 REINFORCEMENT SHALL CONFORM TO STANDARD REINFORCED CONCRETE PIPE CLASS II, LOCATED AT CENTER OF WALL PLUS ONE (1) NO. 4 BAR, TOP, BOTTOM AND EACH SIDE.
 JOINT IN END SECTION PER STANDARD PLATE 3000.
 TOP EXPOSED CONCRETE CORNERS SHALL HAVE 3/4" CHAMFER.
 TIE BOLTS AS REQUIRED.

- ① SEE PLANS FOR TYPE OF END REQUIRED.
- ② TWO PIECE CONSTRUCTION PERMISSIBLE.
- ③ SEE STANDARD PLATE 3145 FOR DETAILS.

APPROVED SEPT. 19, 2000

Delbert W. Jordan
 STATE DESIGN ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE SAFETY APRON
 (DESIGN OPTION NO. 1)

SPECIFICATION
 REFERENCE

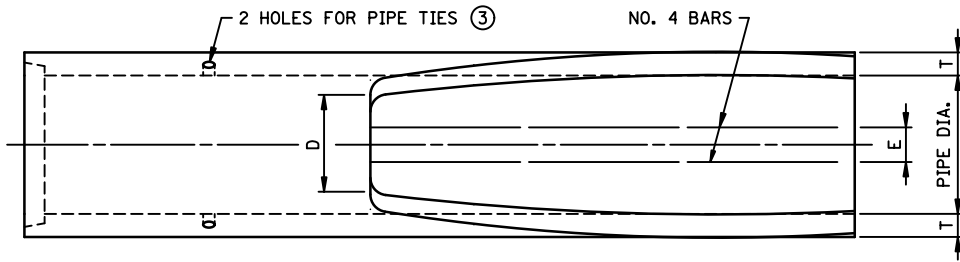
2501

REVISED
 3-22-2013 M.J.E.

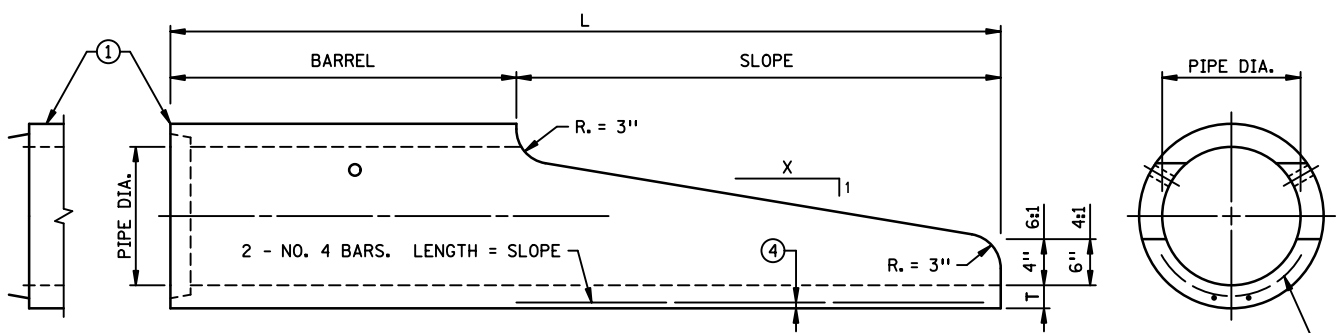
STANDARD
 PLATE
 NO.

3022C

1 OF 3



TOP VIEW



SIDE VIEW

END VIEW

REINF. CAGE DIA. = PIPE DIA. PLUS (2 X T), MINUS F.

DESIGN OPTION NO. 2

1:6 SLOPES

DIAMETER (IN.)	T (IN.)	L (IN.)	SLOPE (IN.)	BARREL (IN.)	D (IN.)	E (IN.)	F (IN.)	WEIGHT (LBS.)
12	2	72	42	30	6	3	2-1/4	415
15	2-1/4	84	60	24	8	4	2-1/4	595
18	2-1/2	96	81	15	10	5	2-1/2	850
24	3	144 ②	120	24	11	6	2-1/2	NO. 1 1280 NO. 2 720

1:4 SLOPES

DIAMETER (IN.)	T (IN.)	L (IN.)	SLOPE (IN.)	BARREL (IN.)	D (IN.)	E (IN.)	F (IN.)	WEIGHT (LBS.)
18	2-1/2	72	46	26	10	5	2-1/2	750
24	3	96	72	24	11	6	2-1/2	1450

NOTES:

THE DESIGN USED IS THE CONTRACTOR'S OPTION.
 REINFORCEMENT AND CONCRETE SHALL CONFORM TO STANDARD REINFORCED CONCRETE PIPE CLASS II, EXCEPT AS NOTED.
 JOINT IN END SECTION PER STANDARD PLATE 3000, OR APPROVED EQUAL.

- ① GROOVE END ON OUTLET END SECTION. TONGUE END ON INLET END SECTION.
- ② TWO 6 FOOT SECTIONS.
- ③ SEE STANDARD PLATE 3145 FOR DETAILS.
- ④ 5/8" CLEAR TO 15" DIA., 3/4" CLEAR OVER 15" DIA.

APPROVED SEPT. 19, 2000

Delbert W. Jordan
 STATE DESIGN ENGINEER

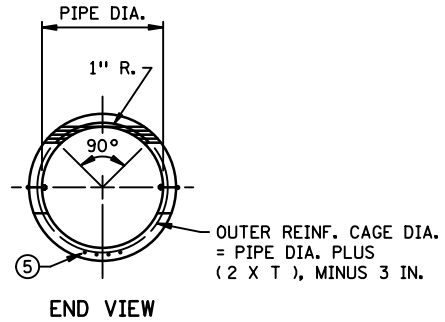
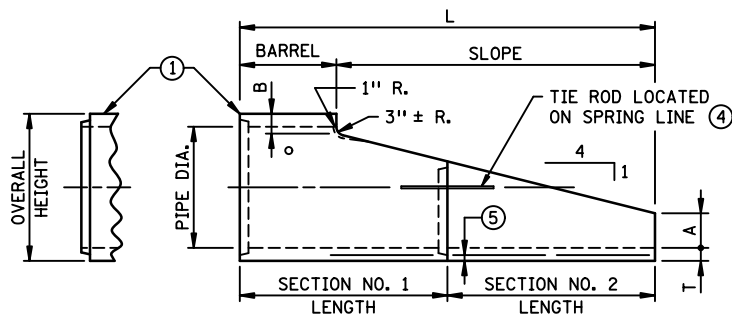
STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE SAFETY APRON
 (DESIGN OPTION NO. 2)

SPECIFICATION REFERENCE
 2501

REVISED
 3-22-2013 M.J.E.

STANDARD PLATE NO.
3022C
 2 OF 3

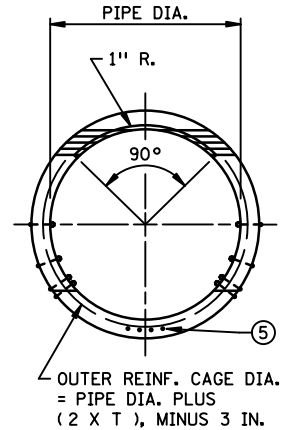
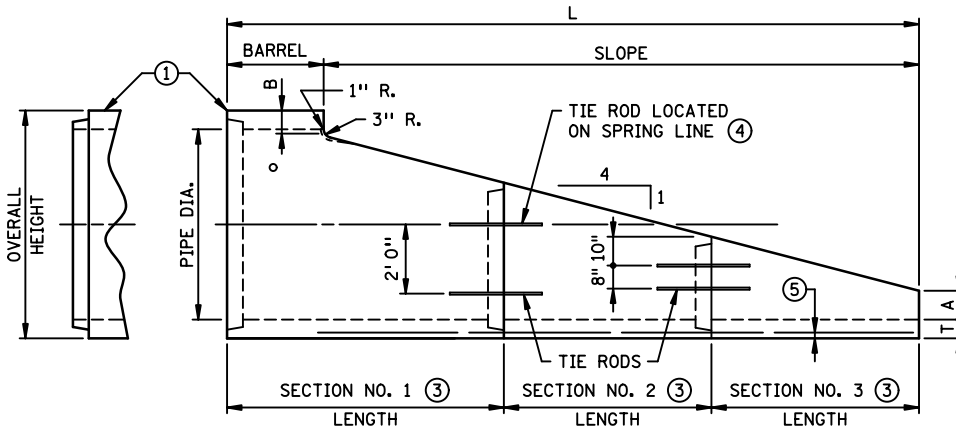


SIDE VIEW

END VIEW

PIPE DIA.	OVERALL HEIGHT	T	A	B	SLOPE	BARREL	L	SECT. 1 LENGTH	SECT. 2 LENGTH	NO. OF BARS (5)	BAR SPACING (5)	APPROXIMATE WEIGHT LBS.
30"	37"	3-1/2"	7-1/2"	5-7/8"	7' 6"	1' 0"	8' 6"	8' 6"	NONE	3	4"	2075
30"	37"	3-1/2"	9-5/8"	5-7/8"	6' 0"	2' 0"	8' 0"	8' 0"	NONE	3	4"	2170
36"	44"	4"	12"	6-1/4"	7' 3"	1' 3"	8' 6"	8' 6"	NONE	3	4"	2950
42"	51"	4-1/2"	12"	6-7/8"	9' 2-1/2"	2' 9-1/2"	12' 0"	6' 0"	6' 0"	3	4"	NO.1-3800 NO.2-2100
48"	58"	5"	12"	7-3/8"	11' 2-1/2"	2' 9-1/2"	14' 0"	8' 0"	6' 0"	4	4"	NO.1-6080 NO.2-2330
54"	65"	5-1/2"	12"	7-7/8"	13' 2-1/2"	2' 9-1/2"	16' 0"	8' 0"	8' 0"	4	4"	NO.1-7680 NO.2-4380

SLOPED END SECTION
30" - 54" DIA. PIPE



SIDE VIEW

END VIEW

PIPE DIA.	OVERALL HEIGHT	T	A	B	SLOPE	BARREL	L	SECT. 1 LENGTH	SECT. 2 LENGTH	SECT. 3 LENGTH	NO. OF BARS (5)	BAR SPACING (5)	APPROXIMATE WEIGHT LBS.
60"	72"	6"	12"	8-3/8"	15' 2-1/2"	2' 9-1/2"	18' 0"	6' 0"	6' 0"	6' 0"	4	4"	NO.1-7400 NO.2-5170 NO.3-2800
72"	86"	7"	12"	9-3/8"	19' 2-1/2"	2' 9-1/2"	22' 0"	8' 0"	8' 0"	6' 0"	4	4"	NO.1-12130 NO.2-8000 NO.3-4050

THREE PIECE SLOPED END SECTION
60" & 72" DIA. PIPE

NOTES:

REINFORCING STEEL AND CONCRETE PER AASHTO M170.
 REINFORCEMENT SHALL CONFORM TO STANDARD REINFORCED CONCRETE PIPE CLASS II.
 JOINTS IN END SECTION PER STANDARD PLATE 3000, OR APPROVED EQUAL.
 JOINTS SHALL BE SEALED PER SPEC. 2503.3C.
 INNER CAGE NOT REQUIRED IN SLOPE AREA.

- ① SEE PLANS FOR TYPE OF END REQUIRED.
- ② NO TIE RODS OR ADDITIONAL JOINTS REQUIRED.
- ③ SECTION LENGTHS MAY VARY, TOTAL LENGTH TO EQUAL L.
- ④ SEE STANDARD PLATE 3145 FOR DETAILS.
- ⑤ NO. 4 BARS, MIN. LENGTH = SLOPE. 1" CLEAR ALL SIZES.
- ⑥ DESIGN USED IS CONTRACTOR'S OPTION.

APPROVED SEPT. 19, 2000
Delbert W. Jordan
 STATE DESIGN ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
PRECAST CONCRETE SAFETY APRON
 (1:4 SLOPE)

SPECIFICATION REFERENCE
 2501
 REVISED
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STANDARD PLATE NO.
3022C
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