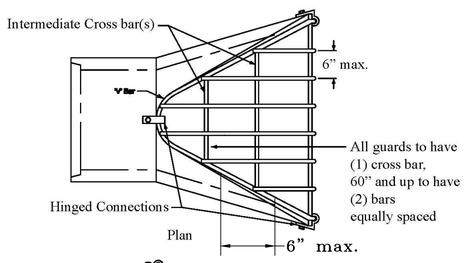
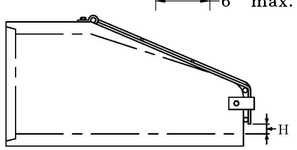
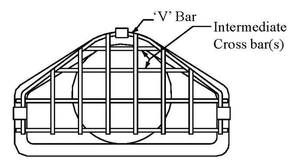
Trash Guard For Flared Ends



Round		Arch	
Pipe Size	H	Pipe Size	H
12"	2-1/2"	22"-29"	4"
15"	3"	36"-44"	5"
18"-24"	4"	51"-65"	6"
27"-36"	5"	73"-102"	7"
42"-54"	6"		
60"-72"	7"		
78"-90"	8"		



Profile



Front

Hot dip galvanized per MN/DOT 3392 or ASTM-A153

Bar Sizes

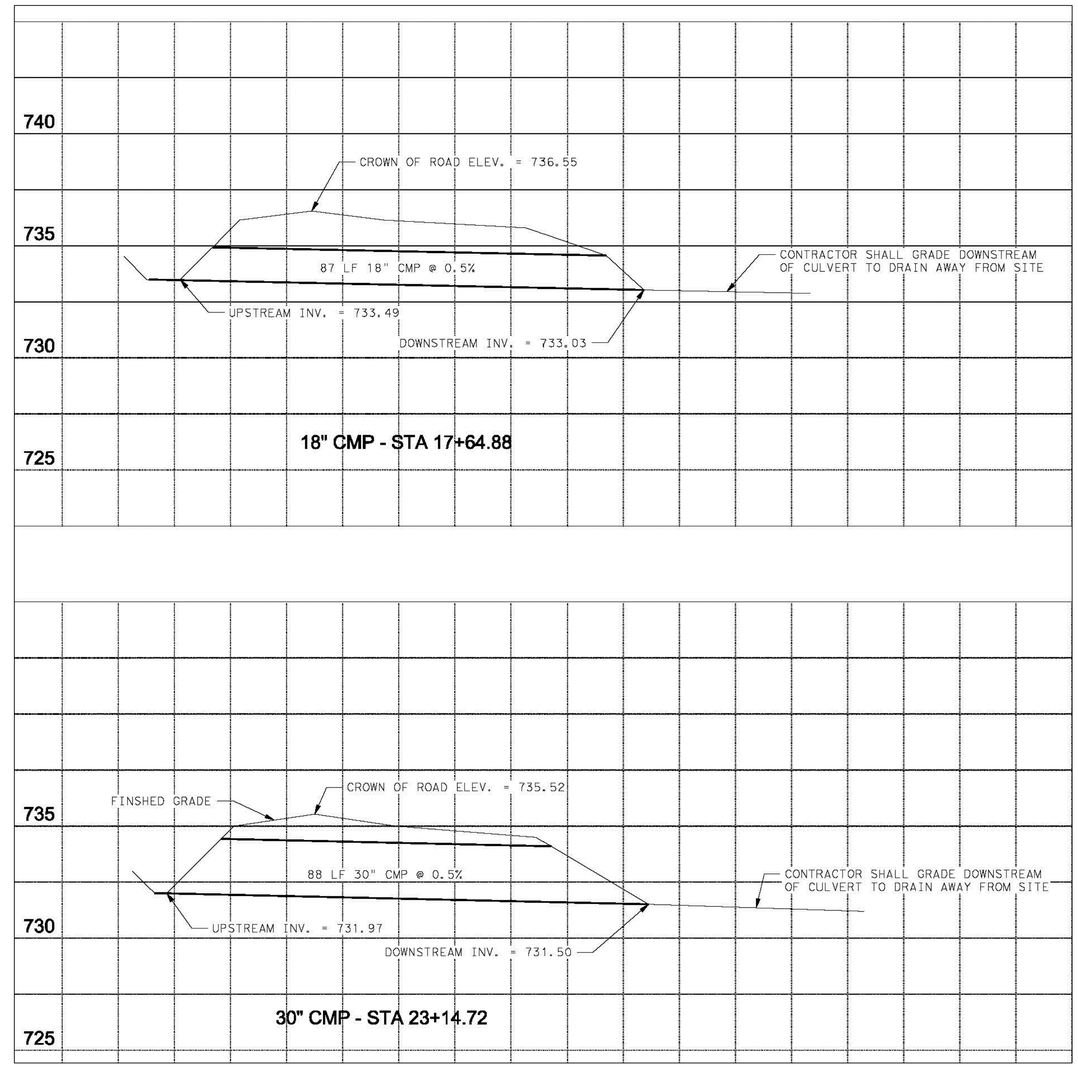
Standard Design					Heavy Design				
	Pipe Size	Hole Dia. Required	Bolt Dia.	Bar Size		Pipe Size	Hole Dia. Required	Bolt Dia.	Bar Size
Round	12"-24"	3/4"	5/8"	5/8"	Round	12"-24"	3/4"	5/8"	3/4"
	27"-48"	7/8"	3/4"	3/4"		27"-48"	7/8"	3/4"	1"
	54"-90"	1-1/8"	1"	1"		54"-90"	1-1/8"	1"	1-1/4"
Arch	22"-29"	3/4"	5/8"	5/8"	Arch	22"-29"	3/4"	5/8"	3/4"
	36"-59"	7/8"	3/4"	3/4"		36"-59"	7/8"	3/4"	1"
	65"-102"	1-1/8"	1"	1"		65"-102"	1-1/8"	1"	1-1/4"
Bolt Lg. = Pipewall Thk. + 2-1/2"					Elliptical	14"x23"	3/4"	5/8"	3/4"
						19"x30"	3/4"	5/8"	3/4"
						24"x38"	7/8"	3/4"	3/4"
						29"x45"	7/8"	3/4"	3/4"
						34"x53"	7/8"	3/4"	3/4"
						38"x60"	7/8"	3/4"	3/4"
						43"x68"	1-1/8"	1"	1"
						48"x76"	1-1/8"	1"	1"
						53"x83"	1-1/8"	1"	1"

NOTE:
1. CONTRACTOR TO UTILIZE THIS END TREATMENT OR APPROVED EQUAL

HAALA INDUSTRIES INC

1201 Hwy 4 South
Sleepy Eye, MN 56085
Ph: 507-794-5821
Fax: 507-794-5823
www.haala.com

Contact: Scott Haala
scott@haala.com
Ph: 507-794-5821 ext. 115
Cell: 507-920-9182



PIPE PROFILES

RS&H

RS&H, Inc.
13750 SAN PEDRO AVE, SUITE 300
SAN ANTONIO, TX 78232
(210) 224-2800 FAX (210) 545-3103
WWW.RSANDH.COM
REGISTERED FIRM NO: F-3401

SAN ANTONIO INTERNATIONAL AIRPORT
SAN ANTONIO, TEXAS

PERIMETER ROAD RECONSTRUCTION - PACKAGE 1

CONSULTANTS

ATKINS
15900 La Cantera Parkway, Suite 26200
San Antonio, TX 78256
Phone: 210.828.9494

STATE OF TEXAS
STEVEN D. TEMPLER
88556
LICENSED PROFESSIONAL ENGINEER
6-15-2016

REVISIONS

NO.	DESCRIPTION	DATE
4	SHEET ADDED	6/17/16
5	SHEET REISSUED	6/21/16

DATE ISSUED: 06-17-16
REVIEWED BY:
DRAWN BY:
DESIGNED BY:

AEP PROJECT NUMBER
000-0000-000

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SHEET TITLE

DRAINAGE DETAILS - SHEET 7

SHEET NUMBER

C507

100% BID SET