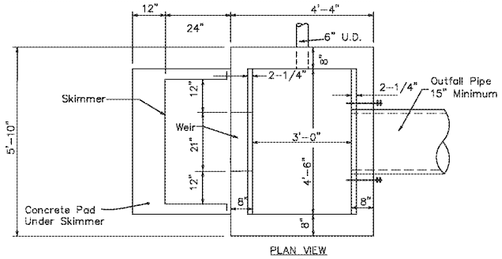
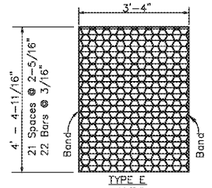
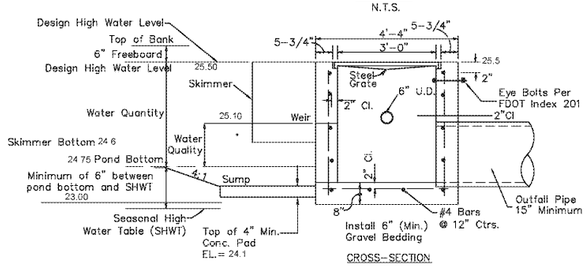


PLAN VIEW
N.T.S.



TYPE E
N.T.S.

Straight Bars 2" x 3/16"
Reticuline Bars 1-1/4" x 3/16"
Bands 1-1/2" x 1/4"
Approx. Weight 215 Lbs.



CROSS-SECTION
N.T.S.

NOTES
1. Fasten skimmer with 4 stainless steel bolts with lead anchors
2. Seal all edges of skimmer at 2. contact points with structure with waterproof caulking or approved equal
3. Top of underdrain shall be installed a minimum of 30" below existing grade.

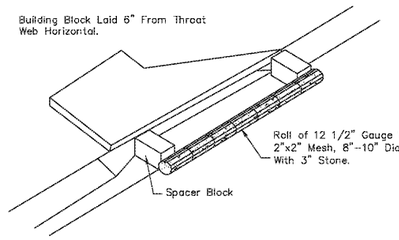
6/18/15	EDITED DRAWING	S.R.
DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STORM DETAILS

STORM SEWER OUTFALL CONTROL STRUCTURE
FDOT TYPE E INLET (MODIFIED)
WITH UNDERDRAIN (DRY POND)

INDEX NO.	PAGE NO.
215	1 OF 1
LATEST REVISION	2/22/2016

CONTRACTOR'S RESPONSIBILITY
Erosion and Sedimentation controls are performance based criteria. If the BMPs provided do not prevent soils from leaving a construction site, then the Contractor is required to employ additional procedures to provide clean runoff from a site.



N.T.S.

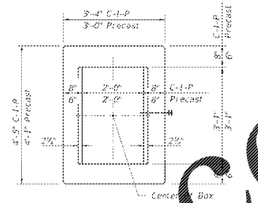
NOTES:
1. Fibrous filler material in front of block prevents gravel from washing into structure.
2. 2"x4" behind block and across throat helps keep block in place. Place in outer hole of spacer block.

5/18/15	CONTRACTOR NOTE ADDED	S.R.
DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
EROSION AND SILTATION CONTROL POLICY

TEMPORARY SEDIMENT TRAP AT CURB INLET

INDEX NO.	PAGE NO.
604	1 OF 1
LATEST REVISION	2/22/2016



SECTION

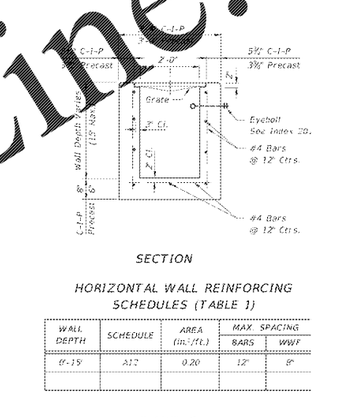
HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 1)

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING BARS	MAX. SPACING WWF
6'-1.5"	A22	0.20	12"	6"

TYPE C

Recommended Maximum Pipe Size:
2'-0" Wall - 18" Pipe
3'-1" Wall - 24" Pipe (18" where an 18" pipe enters a 2'-0" wall)

TYPE "C" INLET PER FDOT INDEX No.232

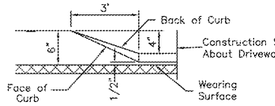


CONCRETE FLUME WITH DISSIPATERS & RIP-RAP
N.T.S.

STRAIGHT CURB
N.T.S.

NOTE:
When used on high side of roadways, the cross slope of the gutter shall match the cross slope of the adjacent pavement and the thickness of the lip shall be 6", unless otherwise shown on plans.

TYPE I CURB
N.T.S.



3' TRANSITION AT DRIVES
N.T.S.

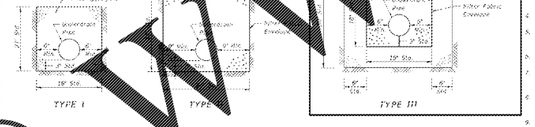
NOTES:
1. There shall be a 1/2" seal joint between back of curb and driveway.
2. Concrete in curbs shall be 3000 psi, with fiber mesh reinforcing.

2/27/17	SUBGRADE UPDATED	JWS
5/18/15	COMPACTION THICKNESS	S.R.
DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
STREET SECTIONS AND DETAILS

TYPICAL CURB CROSS SECTIONS

INDEX NO.	PAGE NO.
101	1 OF 2
LATEST REVISION	2/27/17



DESIGN NOTES

1. The type of underdrain should be selected on most project water removal rate and soil conditions. Caution is guaranteed on the use of these typical sections unless special designs may be required to satisfy project conditions.
2. Type I underdrain is intended for maximum water removal conditions.
3. Type II underdrain is intended for moderate water removal conditions. Where chemical clogging may create chemical clogging, the use of an inert material around perforations of the filter fabric may be necessary.
4. Type III underdrain is required for maximum water removal conditions. Filter fabric is required between the coarse aggregate or free aggregate including those described in general notes 2 and 3. Design note 3 applies for reactive conditions.
5. Type V underdrain is intended for use in detention basins and other conditions where possible a elevation stability. The standard free aggregate specified for Type V underdrains conforms to filtration gradation requirements of Chapter 62-25 FAC.
6. The designer should detail on the plans the location of (a) Type V underdrains (b) connections at locations of Type I, II, and III underdrain, (c) underdrain inspection boxes (d) connections for Type V underdrain outlet to pavement outlet pipes.
7. The designer should specify the finish line elevations at the beginning, ends, junctions and inlets of underdrains grass and vertical slopes.
8. The designer should evaluate whether an external filter fabric envelope is required around underdrain Types I and III when required fabric shall be specified in the plans.

LAST REVISION 07/01/16	DESCRIPTION:	

FDOT FY 2017-18 DESIGN STANDARDS

UNDERDRAIN

INDEX NO.	SHEET NO.
285	1 of 2

Order Plans @ WWW.DILine.com

THIS DRAWING IS THE PROPERTY OF AEC SERVICES INC. AND HAS BEEN PREPARED SPECIFICALLY FOR THE OWNER OF THIS PROJECT AT THIS SITE, IT MAY NOT BE USED FOR ANY OTHER PURPOSE, LOCATION, OR OWNER

CUSTOMER: GIANT OIL INC.
1806 N. FRANKLIN STREET
TAMPA, FLORIDA 33602

SITE ADDRESS: BP STATION
3009 GULF TO BAY BLVD.
CLEARWATER, FLORIDA 34619

ENGINEER OF RECORD:
AEC Services, Inc.
RON FAIR, P.E.
FL # 50738 License No. 9277 QB #0011445
1618 ALLISON WOODS LANE
TAMPA, FL 33619
(813)684-1234
(813)684-2660 (f)
www.aecservicesinc.com
RON FAIR, P.E.
FL #50738

PRINT COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND SHALL NOT BE RELIED UPON OR USED FOR CONSTRUCTION IF SIGNED OR SEALED IN ANY ELECTRONIC FORMAT

NO.	DESCRIPTION	DATE
1	CHECKED: GEP	APPROVAL: RAF
	DRAWN BY: PAZ	
	SCALE: N.T.S.	
	DATE: 7/8/18	
	XREF Name: NONE	
	DWG Name: CIVIL	
	JOB NO.: GO1617.12	

REVISIONS

DRAINING DETAILS

C-4.1