



TRANSMITTAL SHEET
ENGINEERING & RESOURCE PROTECTION → STORMWATER

Project: Star Express / Stuckey's Redevel
 County Plan No. SP-83-10 Star Express / SP-21-09 Amend; SP-25-07 STUCKEYS REDEVEL
 Assigned BMP No.: WC 101

BMP Type: Manufactured BMP Unit.

RECEIVED ON
 APR 16 '13
 Stormwater Division

Information Enclosed:

- Record Drawings (Asbuilts)
- Construction Certification
- Computations

Other: Makeshift file for WC101. The actual asbuilts may be under WC-099 or WC-100.
A BMP ID # was created for the project it is on GIS + the MS Access database.
(Note: Main part of this file is the spill prevention plan which was needed for all SUP conditions. I wanted to ensure it's in our SWM program records.)

Name: Scott J. Thomas
 Date: 04-12-13
 Signature: [Handwritten Signature]

I did not find WC101 in the WC099 or WC100 files from

Note to File:

A BMP ID code # was assigned to the manufactured BMP unit which serves the fuel island at Stuckeys/Star Express, County Plan No. SP-21-09 amended, SP-25-07, SUP-18-06 and later amended for Star Express SP-63-10. It was identified as the owner was attempting to obtain CO that the SWPPP and SPCP plans as required to meet SUP conditions # 13 and # 14 that an BMP ID # of WC-101 was assigned but no file present in STW DIV under this BMP no.

The BMP ID code # is on GIS and there is an MS Access database field for the BMP. In order for consistency, the following materials were put together as a makeshift file for the manufactured BMP unit WC-101. It is BMP A, Contech Unit type PMIU20-15-5 servicing the fuel canopy area.

Spill containment and prevention plan and stormwater pollution prevention plan were required as part of SUP conditions.

The actual plan drawings and asbuilts may be in the files for WC-099 or WC-100.


Scott J. Thomas

CALL IF
ANY QUESTIONS.

Date Record Created: 4/12/2013

Created By: Scott Thomas

Watershed and BMP ID Combined Ex:
SC003
WC101

If BMP is active in ERP please check box

If BMP has been turned over to STW please check box

WATERSHED WC

BMP ID NO 101

PLAN NO SP-25-07

TAX PARCEL (4-4)(1-16)

PIN NO 0440100016

CONSTRUCTION DATE 1/1/2010

PROJECT NAME Stuckeys Redevelopment/Star Express

FACILITY LOCATION 9920 Old Stage Road

CITY-STATE

CURRENT OWNER North-South Construction Inc.

OWNER ADDRESS 12224 Wilfong Court

OWNER ADDRESS 2

CITY-STATE-ZIP CODE Midlothian, VA 23112

OWNER PHONE 804-595-1762

MAINT AGREEMENT Yes

EMERG ACTION PLAN No

MAINTENANCE PLAN

Yes

SITE AREA acre 6.27

LAND USE B1 - Business

old BMP TYP Manufactured BMP

JCC BMP CODE ZI Manuf BMP systems

POINT VALUE

SVC DRAIN AREA acres 0.1

SERVICE AREA DESCRI Fuel canopy

IMPERV AREA acres 0.10

RECV STREAM UT of Ware Creek

EXT DET-WQ-CTRL Yes

WTR QUAL VOL acre-ft

CHAN PROT CTRL No

CHAN PROT VOL acre-ft

SW/FLOOD CONTROL No

GEOTECH REPORT No

CTRL STRUC DESC

CTRL STRUC SIZE inches

OTLT BARRL DESC

OTLT BARRL SIZE inch

EMERG SPILLWAY No

DESIGN HW ELEV

PERM POOL ELE

2-YR OUTFLOW cfs 0.00

10-YR OUTFLOW cfs 0.00

REC DRAWING Yes

CONSTR CERTI Yes

LAST INSP DATE Inspected by:

INTERNAL RATING

MISC/COMMENTS

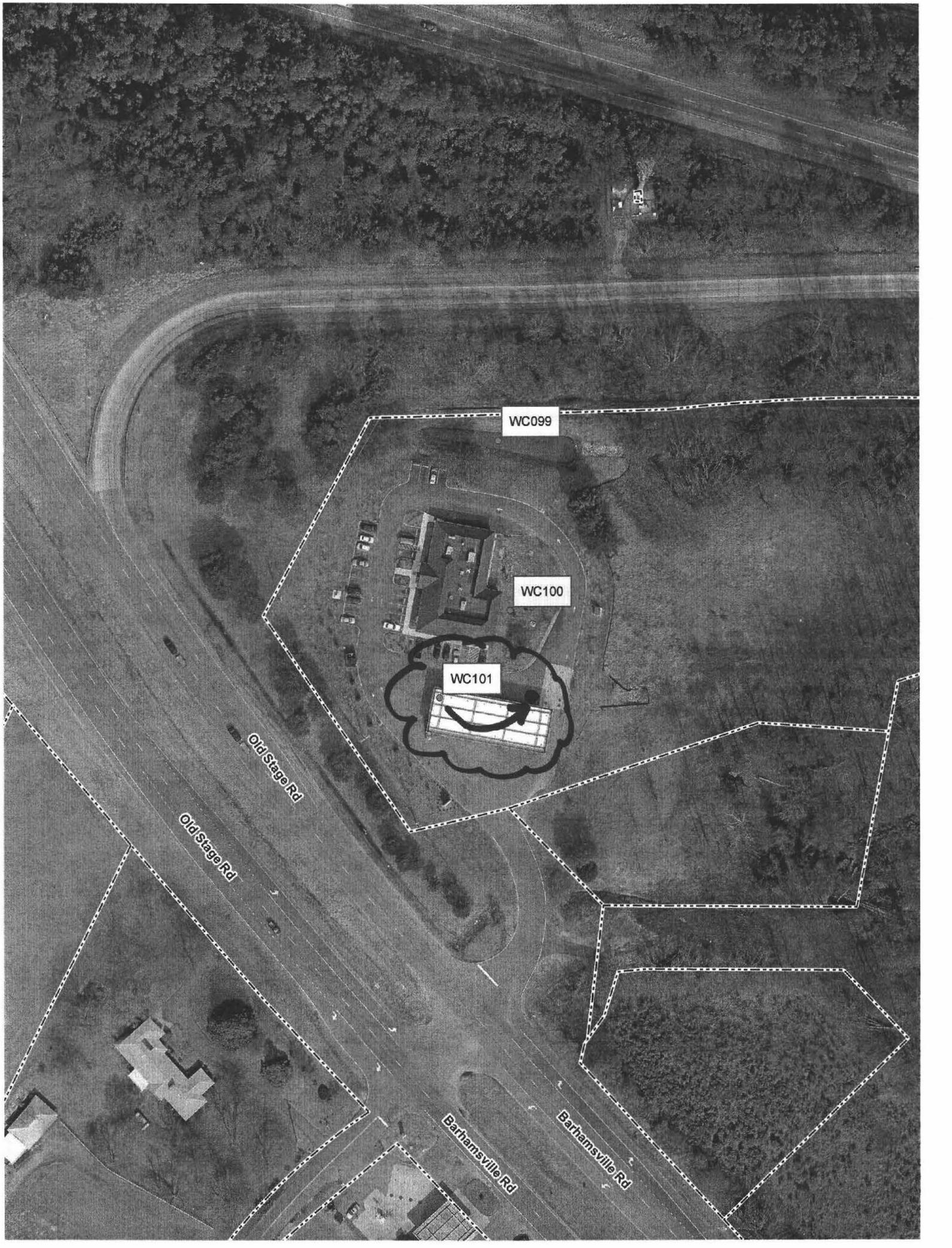
BMP A - Trench drain under fuel canopy to Contech CDS Unit type PMIU20-15-5 or equal

Get Last BMP No

Return to Menu

Additional Comments:

Spill prevention and control plan and stormwater pollution prevention plan were required per Conditions # 10 & # 11 of SUP-18-06. SPCP plan lists American DYNC Holdings Toana LLC 495 Sandesara Road, Prince George VA 23875 804-732-8555 as facility owner.



WC099

WC100

WC101

Old Stage Rd

Old Stage Rd

Barhamsville Rd

Barhamsville Rd

Project: STUCKEY'S REDEVELOPMENT - STAR EXPRESS CONVENIENCE STORE

PIN #:

Site Plan No: SP-021-09 Geo No:

E+S Fee: Yes Amt Paid: \$2,520

Date Paid: 7/26/2010

Released? Release Date: 11/21/2011

Planner/Engineers: LV/SJT

Inspector Area Num: 4 Notations

Comments:

PLAT-S-077-07 (SUP-019-08). Amend-SP-025-07. \$1920
 E&S pd 3/8/07. Amnded on SP-063-10 as Star Exprss for
 addtnl prkng. \$600 E&S pd 7/26/10
 Records box 5127 - file 1 and 2

LD Permit No: 09-61 Fiscal Year: 2009

Acres Disturbed: 3.2 DOC Required: Yes

LD Issue Date: 6/12/2009 Received:
 Recorded:

LD Expire Date:

Watershed Insp Code: WC-209 Treas Cert:

Comments: HUC Code: F26 VSMP:

11/17/10 LDP to be reinstated for SP-063-10
 Acres distrubed = .69
 CBE-07-127 granted 12/17/07
 RELEASED 10/11/11

Storm Water

Cert to Construct: Yes

Date: 6/19/2009

Inspection Fee: Yes

Amount: \$183.00

Number of BMPs:

Conveyance System Lengths

Storm Drain Length (Ft): 203

Open Channel Length (Ft):

Subdivisions/Public Improvement

Street Light Fee Amount: \$0.00

Agreement? No Date Paid:

Public Imp? No Agrmt Date:

Surety Type: Amount:

Notation: Surety Released?

Expiration Date:

Surety Number:

Surety/Principal:

Comments

Siltation

Agreemnt? Yes Agrmnt Date: 2/16/2011

Surety Type: Check Amount: \$5,000

Notation: Surety Released:

Expiration Date:

Surety Number:

Surety/Principal: /American Dync

Comments:

3/8/10 reduced from \$101K
 3/1/11 bnd 1889605 Hanover/NS Const relsd ck from
 American Dync
 11/2/11 Rel memo ck mailed 11/21

General Comments:

fee paid 6/19/09 Rec #1489

Delete Record

Undo

Last Permit No

Add

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CaseTrak

Scott Thomas

From: Scott Thomas
Sent: Friday, April 12, 2013 2:32 PM
To: Joe Buchite; Amy Parker
Subject: FW: Freedom Market SP-67-10; 5534 Centerville road
Attachments: SUP1709_conditions.pdf; SP2109_1.pdf; SP2109_2.pdf; SP2109_3.pdf; RE: 5534 Centerville Road, permit nos. B11-0983, B11-0984, B12-2589, B13-0049

FYI – they need to do these for the Freedom Park site to get CO.

From: Scott Thomas
Sent: Friday, April 12, 2013 2:30 PM
To: Tim Banks (tbanks@gaspump.net)
Cc: Christy Parrish; Luke Vinciguerra; Tom Coghill
Subject: RE: Freedom Market SP-67-10; 5534 Centerville road

Tim – Attached is the SWPPP and SPCP used for the Stuckeys/Star Express site to use as a template-example for the same needed for the Freedom Market site at the intersection of Longhill and Centerville Roads. You can modify as desired. The Freedom Market plan references are SP-67-10, C-35-09, Z-03-09 and SUP-17-09. Condition # 13 was for the stormwater pollution prevention plan and # 14 was for the spill pollution control plan. I attached the SUP conditions if needed.

The Stuckeys/Star Express references were SP-63-10 amend, SP-21-09 amend, SP-25-07 and SUP-18-06. The SWPPP and SPCP for Stuckeys/Star Express was approved under the SP-21-09 amendment.

I apologize for the delay in getting you these materials. As you know they were not available electronically and we had to pull the hard file from Richmond. I sent them as soon as I got them. Thanks.

Scott J. Thomas, P.E.
Director of Engineering and Resource Protection

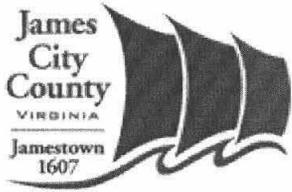


101-E Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6639
F: 757-259-4032
jamescitycountyva.gov

From: Scott Thomas
Sent: Friday, April 12, 2013 12:27 PM
To: 'Tim Banks'
Cc: TC Cantwell; Melanie Davis; Christy Parrish
Subject: RE: 5534 Centerville road

Tim – we were expecting the file to come in today. As of now, it had not come in yet. As soon as it does, I'll look for the information and if it is in there will .pdf and send.

Scott J. Thomas, P.E.
Director of Engineering and Resource Protection



101-E Mounts Bay Road
Williamsburg, VA 23185
P: 757-253-6639
F: 757-259-4032
jamescitycountyva.gov

From: Tim Banks [<mailto:tbanks@gaspump.net>]
Sent: Friday, April 12, 2013 11:04 AM
To: Scott Thomas
Subject: 5534 Centerville road

Scott,

Following up to see if you received the SPCC plans from the Star Express

Trying to get the new store finalized

Thanks

Tim

Tim Banks

Mid Atlantic Petroleum Services

(757) 424-9726 Work
tbanks@gaspump.net

814 Professional Place West
Chesapeake, Virginia 23320
www.gaspump.net



DATE: 3/7/09

JOB: _____



Construction, Inc.

12224 Wilfong Court
Midlothian, VA 23112
Phone: 804-595-1762
Fax: 804-595-1766

TO: Planning Commission James City County
100 A Mounts Bay Road
Williamsburg, VA 23187

ATTN: Melanie Davis or TC
RE: Stuckey's Redevelopment
James City County, VA

WE ARE SENDING: Attached
 Under Separate cover, via Fed Ex the following

Copy of Letter Prints Specifications
 Shop Drawings Plans Change Order
 Samples Other Submittals

COPIES	DATE	NO.	DESCRIPTION
1			Land Disturbance Permit Application
1			Declaration of Covenants Inspections/Maintenance of Drainage System
1			Siltation Agreement
1			Erosion and Sedimentation Control Bond

THESE ARE TRANSMITTED AS CHECKED BELOW:

<input type="checkbox"/> As Requested	<input type="checkbox"/> Approved as Noted
<input checked="" type="checkbox"/> For Approval	<input type="checkbox"/> Approved as Submitted
<input type="checkbox"/> For Your Use	<input type="checkbox"/> Returned for Corrections
<input type="checkbox"/> For Review/Comment	<input type="checkbox"/> Return Corrected Prints
<input type="checkbox"/> FOR BIDS DUE:	<input type="checkbox"/> Resubmit Copies for Approval
	<input type="checkbox"/> Submit Copies for Distribution

REMARKS Melanie/TC - Thanks so much for your help.

COPY TO File _____

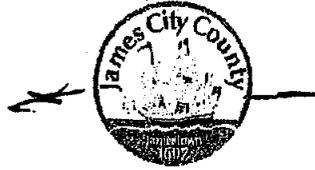
SIGNED: Jennifer Tedder

TRANSMITTAL LETTER

Virginia State Fire Marshall

NAFP 10

Spill Control



MEMORANDUM

75 fire pumps
(Fire extinguisher)

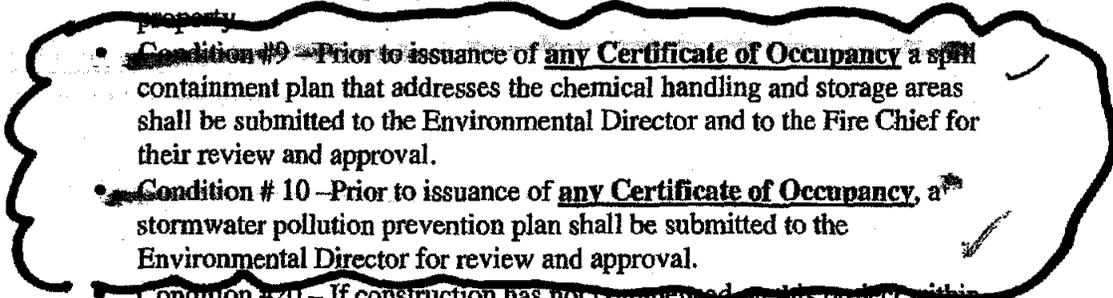
TO: Luke Vinciguerra, Planner
From: Christy Parrish, CZA, Proffer Administrator
Date: 3/20/2009
Re: SP-0021-2009, Stuckey's SP Amendment

2-A 20-13C
JBlack@James - City, Va. us
John Black
757-220-0626

I have reviewed SP-0021-2009 and offer the following comments:

1. Please refer to SUP-0019-2008 Former Stuckey's Site for conditions associated with this case.
2. The project must comply with all SUP conditions. Please take note of the following time sensitive conditions also listed on the site plan:
 - Condition # 3 - Prior to any removal or trimming of trees within the Virginia Department of Transportation ("VDOT") right-of-way, the Planning Director shall be notified 30 days in advance of the applicant's contacting VDOT and review and approve of any plan for the tree removal or trimming.
 - ~~Condition # 7 - Prior to the issuance of any Certificate of Occupancy,~~ the owner shall receive approval from the Department of Environmental Quality, obtain a County demolition permit, and remove the existing gasoline and diesel pumps, canopy, and underground fuel tanks from the property.
 - ~~Condition # 9 - Prior to issuance of any Certificate of Occupancy a spill~~ containment plan that addresses the chemical handling and storage areas shall be submitted to the Environmental Director and to the Fire Chief for their review and approval.
 - ~~Condition # 10 - Prior to issuance of any Certificate of Occupancy, a~~ stormwater pollution prevention plan shall be submitted to the Environmental Director for review and approval.
 - ~~Condition # 20 - If construction has not commenced on this project within 36 months from the issuance of a special use permit, the special use permit shall become void. Construction shall be defined as obtaining permits for building construction and footings and/or foundation has passed required inspections. (Expiration Date - February 10, 2012)~~

(KAWASCH)
(SCOTT WALTER)



(RECLAIM)

INVENTORY RECORDS - (BE CENTER LEAK)
(Call 911 Vehicle Fire)
CALLUS Fire Department

ICC 2006 Annual
Chapter 22 - Motor Vehicle
24 - Flammable
Emergency Cut Off Switch
operate fire extinguisher

KITTY LITTON (SPOUSE)
(CONTRACTOR)

**POOR
QUALITY**

**ORIGINAL(S)
FOLLOW**

**THIS IS THE BEST
COPY AVAILABLE**

VCE DOCUMENT CONVERSION

RESOLUTION

CASE NO. SUP-18-06. STUCKEY'S REDEVELOPMENT

WHEREAS, the Board of Supervisors of James City County has adopted by ordinance specific land uses that shall be subjected to a special use permit process; and

WHEREAS, Mr. Vernon Geddy, III has applied for a special use permit to redevelop an existing fuel and restaurant facility and allow the operation of a 40-seat restaurant, convenience store, an office/information center, and a motor vehicle fuel dispensing station on approximately 2.76 acres of land on a parcel zoned B-1, General Business; and

WHEREAS, the proposed redevelopment site is shown on a conceptual lay out entitled "6430 Assoc. LLC, Former Stuckey's Site" and dated June 2006; and

WHEREAS, the property is located at 9220 Old Stage Road on property more specifically identified as Parcel Number (1-16) on the James City County Real Estate Tax Map Number (4-4); and

WHEREAS, on October 2, 2006, the Planning Commission recommended approval of the application by a vote of 6-0; and

WHEREAS, the Board of Supervisors of James City County, Virginia finds this use to be consistent with the 2003 Comprehensive Plan Use Map designation for this site.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of James City County, Virginia, does hereby approve the issuance of SUP-18-06 as described herein with the following conditions:

1. Master Plan and Use: This Special Use Permit shall be valid for the "6430 Assoc. LLC Former Stuckey's Site" Master Plan, prepared by LandMark Design Group, and dated June 1, 2006, (the "Master Plan") and accessory uses thereto. The site shall only be used for a 40-seat restaurant, convenience store, an office/information center, and eight fueling islands as shown on Master Plan. The site shall not contain any shower or laundry facility, vehicle wash facilities or scales.
2. Landscaping: Prior to final site plan approval, a landscaping plan shall be approved by the Planning Director or his designee. The owner shall provide enhanced landscaping for the area along the property frontage on Old Stage and Barhamsville Roads, and along areas designated on the Master Plan for parking. Enhanced landscaping shall be defined as 125 percent of the Zoning Ordinance landscape size requirements. Should the applicant wish to pursue any removal or trimming of trees within VDOT right-of-way, the Planning Director shall be notified 30 days in advance of the applicant's contacting VDOT and at that time provide a plan for the tree removal or trimming.
3. Health Department Review: The applicant shall receive full approval from the Health Department for septic tank and drain field capacity prior to final site plan approval. A capacity analysis of existing water lines and septic facilities to the site shall be performed and the results of that analysis shall be submitted with the site plan

application. The Planning Director shall approve the study, and its recommendations shall be incorporated into the site plan prior to site plan approval.

4. Water Conservation: The owner shall be responsible for developing and enforcing water conservation standards to be submitted to and approved by the James City Service Authority prior to final development plan approval. The standards may include, but shall not be limited to such water conservation measures as limitations on the installation and use of irrigation systems and irrigation wells, the use of approved landscaping material including the use of drought tolerant plants where appropriate, and the use of water conserving fixtures and appliances to promote water conservation and minimize the use of public water resources.

5. Erosion and Sediment Control: An erosion and sediment control and runoff management plan shall be approved by the Environmental Director prior to final site plan approval.

6. Stormwater: The area beneath the fuel area canopy shall not drain directly into the infiltration BMPs for the facility. A spill containment structure such as an alternate BMP or a separation system to accept spills from any fueling area shall be shown on the site plan and shall be approved by the Environmental Director prior to final site plan approval.

7. Boundary Line Adjustment and Right-of-Way Vacation: Prior to final site plan approval, the variable width right-of-way for use by Parcels A, B, and C, located at the southern boundary of the parcel, shall be vacated, and adjustments made to the lot line such that the canopy and all fuel islands are located within the Building Setback Line. This condition excludes any structures granted a setback reduction by the Development Review Committee of the Planning Commission.

8. Existing Fueling Islands: Prior to obtaining any Certificate of Occupancy, the owner shall remove the existing gasoline and diesel pumps, canopy, and underground fuel tanks from the property.

9. Proposed Fueling Islands: There shall be no more than fourteen gasoline pumps and two low-pressure diesel pumps located on eight fueling islands on the property. The fueling islands shall be arranged in a configuration generally consistent with the "6430 Assoc. LLC Former Stuckey's Site" Master Plan, prepared by LandMark Design Group and dated June 1, 2006. None of the fueling pumps shall be of a design previously intended to refuel tractor trailers as determined by the Planning Director.

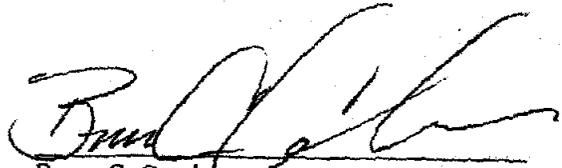
10. Spill Prevention and Control Plan: Prior to issuance of any Certificate of Occupancy, a spill containment plan which addresses the chemical handling and storage areas shall be submitted to the Environmental Director and Fire Department for review and approval.

11. Stormwater Pollution Prevention Plan: Prior to issuance of any Certificate of Occupancy, a stormwater pollution prevention plan shall be submitted to the Environmental Director for review and approval.

12. Architectural Review: All buildings on the site including outdoor covered areas such as the pump island canopy shall be architecturally integrated by the use of similar

materials, color and architectural detailing and shall be generally consistent with the rendering dated June 2, 2006, made by W.E.Bowman Construction, Inc. on file with the Planning Division ("the Rendering"). Prior to final site plan approval, the Planning Director shall review and approve the final architectural design, colors and materials of all structures on the site for consistency with the Rendering.

13. Fueling Island Canopies: The maximum height of the pump island canopy shall not exceed 20 feet from existing grade, as shown on the Master Plan. The clearance height of the canopy shall be clearly indicated on the structures.
14. Lighting: Any new exterior site or building lighting, including canopy lighting, shall have recessed fixtures with no bulb, lens, or globe extending below the casing. The casing shall be opaque and shall completely surround the entire light fixture and light source in such a manner that all light will be directed downward and the light source are not visible from the side. Fixtures which are horizontally mounted on poles shall not exceed 15 feet in height unless otherwise approved by the Planning Director. No glare defined as 0.1 foot-candle or higher shall extend outside the property lines.
15. Signage: No more than one sign shall be allowed on the canopy provided, however one gas-pricing sign may be allowed on a monument type sign in the parking area on the columns of one of the canopies.
16. Overnight Vehicular Parking: No overnight vehicular parking shall be allowed on the property or on its premises.
17. Off-site Vehicular Parking: Fencing or other features shall be provided along both sides of the road designated as the access road as indicated on the Master Plan to prevent parking of motor vehicles. The location and design of the fence or other features shall be approved by the Planning Director.
18. Dumpsters: The dumpster pad(s) and all heating, cooling, and electrical equipment shall be screened by fencing and landscaping in a manner approved by the Planning Director prior to final site plan approval.
19. Trash Removal: Trash cans shall be available for use by customers during all operating hours and the trash cans shall be emptied and cleaned on a daily basis.
20. Hours of Operation: Both the convenience store and gas station shall be allowed to operate 24 hours a day. The daily hours of operation for the restaurant shall be limited to the hours of 5:30 a.m. to 9:00 p.m.
21. Commencement of Construction: If construction has not commenced on this project within 36 months from the issuance of a special use permit, the special use permit shall become void. Construction shall be defined as obtaining permits for building construction.
22. Severance Clause: This special use permit is not severable. Invalidation of any word, phrase, clause, sentence, or paragraph shall invalidate the remainder.



Bruce C. Goodson
Chairman, Board of Supervisors

ATTEST:



Sanford B. Wanner
Clerk to the Board

SUPERVISOR	VOTE
HARRISON	AYE
ICENHOUR	AYE
MCCLENNON	AYE
BRADSHAW	AYE
GOODSON	AYE

Adopted by the Board of Supervisors of James City County, Virginia, this 14th day of November, 2006.

SUP-18-06.res

Note: This correspondence was put into file at time of signing plan amendment SP-63-10.

CARDWELL

printing & advertising

Amendment SP-63-10

SP-25-07 pledged 18% REDUCTION COMPARED TO PREDEV. SUP REDDED 12.8%. IF 10% OR MORE IS NOT ACHIEVED THEN SITE WOULD NOT MEET REDEV 10% I.C. REDUCTION.
SP-25-07

SP-21-09 SITE 6.27 AC
 EXIST IC = 1.37 AC. (22%) ✓
 PROP IC = 1.08 AC. (17%) ✓
 21% REDUCTION

SITE WAS 1.37 AC. PREDEV IMPERIAL, UNDER SP-25-07 + SP-21-09 AMEND PROPOSED WAS 1.08 AC IN 21% REDUCTION. NOW 1.31 AC WHICH IS 4.37% REDUCTION.

$$\frac{1.31}{6.271} = 20.89\%$$

was 21.17% reduce

1.08 AC. $\frac{1.31}{1.08} = 23$

now 17.38%

1.08
 1.31 = 0.23 AC.

GIVEN problems with circulation and parking relayed to staff will approve. Any further I.C. addition requires SWM.

Newport News 757-888-0674 • Gloucester 804-684-5130

www.cardwellprinting.com

34. **Redevelopment.** It appears this site falls under redevelopment criteria in accordance with 23-7(a)(2) and 23-9(b)(4), (5) and (8) of the County's Chesapeake Bay Preservation ordinance. Based on impervious cover tabulations as provided on the plan of development and associated stormwater management narrative, it appears the site achieves an 18 percent reduction of impervious area as compared to existing (predevelopment) conditions. This is in excess of the 12.8 percent pledged during the SUP process; therefore, redevelopment criteria is achieved for water quality purposes. *(Note: If at any time a 10 percent or more reduction in impervious cover is not achieved, onsite BMPs may be necessary to meet water quality criteria. Also, redevelopment criteria for water quality purposes only applies to Parcel A as indicated on concept plan exhibit Sheet EX-1. Parcels B and C, as indicated on the exhibit, would be subject to the County's 10-point system for water quality and stream channel protection (quantity control) requirements, if developed in the future.)*

35. **Stormwater Plan.** The approved Special Use Permit application SUP-18-06 proposed the use of two infiltration systems for the project. One was in the northeast corner of the site and the second was in the southeast corner of the site. At that time, comments were made by our Division that design of the infiltration systems would need to meet current County BMP manual criteria for Group C Infiltration facilities, including Appendix E (geotechnical) requirements and if subsurface conditions were not feasible for infiltration type facilities, then Group D Filtering systems may be used; however, channel adequacy and Minimum Standard # 19 would apply to the project. This was acknowledged by the applicant/plan preparer in a response letter dated August 23rd 2006 and further expanded upon by the applicant/plan preparer to further state that the preliminary geotechnical report indicated the presence of soils capable of infiltration at the proposed stormwater management facility locations.

Based on first review of the plan of development, the original intent of the concept stormwater management plan for this site has been altered. Infiltration basins, which were originally (at time of SUP) proposed for use, are now changed. The north basin was originally proposed as an infiltration basin and is now a County type D-1 bioretention basin facility. The infiltration area at the southeast corner of the site is now a manufactured BMP facility. The following comments pertain to this proposed changed scenario:

35a. A manufactured BMP at the drainage outfall to the northeast of the fuel station was never an approved option for the concept stormwater management plan, as presented at the time of the SUP application. It was however an option for stormwater spill prevention at the fuel canopy area.

35b. Use of a combined BMP structure to meet the requirements of SUP condition # 6 (spill containment structure) and site stormwater management (LID and/or quantity control) was never intended under the SUP.

35c. As site runoff is not being infiltrated at the two previous locations, channel adequacy, Minimum Standard # 19 and County stream channel protection requirements are now an issue. This is at two locations. One is at the bioretention basin overflow outlet and downstream of the outfall of the 15-inch storm drainage pipe to the northeast of the fuel station. It must be demonstrated that there are existing and adequate natural receiving channels at these locations (onsite or offsite). If not improved channels may be necessary as well as offsite drainage easements.

* Comment from 1st review under SP-25-07

SITE DEVELOPMENT PLAN AMENDMENT

STAR EXPRESS CONVENIENCE STORE

TOANO

JAMES CITY COUNTY, VIRGINIA

SP-0021-2009



JULY 21, 2010

DJG No. 2110140



Environmental Division

JUL 26 2010

RECEIVED

ENGINEERS • ARCHITECTS • PLANNERS

449 McLAWS CIRCLE • WILLIAMSBURG, VA • 23185

www.djginc.com

Star Express Convenience Store
Toano
James City County, VA
SP-0021-2009

1.0 Project Description

The site was recently redeveloped from a closed Stuckey's restaurant and gas station to its current use as a Star Express Convenience Store with restaurant facilities and a new fueling island. Included in that development plan were 32 customer/employee parking spaces and a stormwater infiltration basin to manage runoff from the 1.38 acre area around the main building and drive aisles.

The owner/operator of the facility has experienced significant difficulties with vehicles parking along the curb lines when all parking spaces are occupied which seriously impacts the flow of traffic. In addition, tractor trailer traffic at three turning points regularly results in the trailer rear wheels riding up over the curb and causing wheel ruts and other damage to adjacent landscaping. The owner wishes to rectify these conditions and that is the primary purpose of the current site plan amendment application.

2.0 Proposed Improvements

A total of 24 additional parking spaces are proposed around the perimeter of the existing drive aisles. In addition, the single dumpster pad has been relocated to the rear of the building, enlarged to handle two 8 cubic yard dumpsters and fully enclosed. Finally, turning radii have been enlarged at the three identified problem areas.

As a result of these improvements, total impervious area will increase by 0.13 acre and the stormwater infiltration basin will require modifications as will be discussed later. It should be noted that the following previously completed improvements are not affected in any way by the currently proposed improvements:

1. The fueling island and all appurtenances including the bioretention basin
2. The sanitary drain fields
3. Site lighting (no existing lights are being relocated)

3.0 Stormwater Management

The existing stormwater infiltration basin will be enlarged as part of the proposed improvements to account for the additional 0.13 acre of impervious area. In addition, deficiencies in the existing basin performance as reported to DJG by James City County staff will be addressed. A

a result of these two issues, the storage volume in the stormwater infiltration basin will be increased by 75% even though the site impervious area has been increased by only 20%. In addition, a 20 foot wide grassed pretreatment slope will be provided between the flow through parking spaces along the rear of the building and the basin. As shown by the enclosed computations, the 100 year storm will be retained within the basin with the required 1.0 foot of freeboard below the emergency spillway.

All additional impervious areas will drain to the enlarged infiltration basin. The existing basin retains the WQVreq at elevation 106.74. The enlarged infiltration basin will hold the existing WQVreq as well as the additional WQVreq at elevation 106.0. The enlarged infiltration basin will treat the additional runoff from the added impervious area.

4.0 Soil Types and Geotechnical Reports

All information regarding soil and subsurface conditions included in the earlier Site Development Plan report, dated September 13, 2007 by LandMark Design Group, are still applicable and are incorporated herein by reference.

Note: This correspondence was put into file at time of signing plan amendment SP-63-10.

CARDWELL

printing & advertising

Amendment SP-63-10

SP-25-07 pledged 18% REDUCTION COMPARED TO PREDEV. SUP PLEDGED 12.8%. IF 10% OR MORE IS NOT ACHIEVED THEN SITE WOULD NOT MEET REDEV 10% I.C. REDUCTION.

SP-25-07

SP-21-09 SITE 6.27 AC
EXIST IC = 1.37 AC. (22%) ✓
PROP IC = 1.08 AC. (17.5%) ✓
21% REDUCTION

SITE WAS 1.37 AC, PREDEV IMPERV, UNDER SP-25-07 + SP-21-09 AMEND PROPOSED WAS 1.08 AC IN 21% REDUCTION. NOW 1.31 AC WHICH IS 4.37% REDUCTION.

$$\frac{1.31}{6.271} = 20.89\%$$

was 21.17% reduce

$$\frac{1.08}{1.31} = 0.23$$

now 4.38%

$$\frac{1.08}{1.31} = 0.23 AC.$$

GIVEN problems with circulation and parking relayed to staff will approve. Any further I.C. addition requires SWM.

Newport News 757-888-0674

Gloucester 804-684-5130

www.cardwellprinting.com

34. **Redevelopment.** It appears this site falls under redevelopment criteria in accordance with 23-7(a)(2) and 23-9(b)(4), (5) and (8) of the County's Chesapeake Bay Preservation ordinance. Based on impervious cover tabulations as provided on the plan of development and associated stormwater management narrative, it appears the site achieves an 18 percent reduction of impervious area as compared to existing (predevelopment) conditions. This is in excess of the 12.8 percent pledged during the SUP process; therefore, redevelopment criteria is achieved for water quality purposes. *(Note: If at any time a 10 percent or more reduction in impervious cover is not achieved, onsite BMPs may be necessary to meet water quality criteria. Also, redevelopment criteria for water quality purposes only applies to Parcel A as indicated on concept plan exhibit Sheet EX-1. Parcels B and C, as indicated on the exhibit, would be subject to the County's 10-point system for water quality and stream channel protection (quantity control) requirements, if developed in the future.)*

*

35. **Stormwater Plan.** The approved Special Use Permit application SUP-18-06 proposed the use of two infiltration systems for the project. One was in the northeast corner of the site and the second was in the southeast corner of the site. At that time, comments were made by our Division that design of the infiltration systems would need to meet current County BMP manual criteria for Group C Infiltration facilities, including Appendix E (geotechnical) requirements and if subsurface conditions were not feasible for infiltration type facilities, then Group D Filtering systems may be used; however, channel adequacy and Minimum Standard # 19 would apply to the project. This was acknowledged by the applicant/plan preparer in a response letter dated August 23rd 2006 and further expanded upon by the applicant/plan preparer to further state that the preliminary geotechnical report indicated the presence of soils capable of infiltration at the proposed stormwater management facility locations.

Based on first review of the plan of development, the original intent of the concept stormwater management plan for this site has been altered. Infiltration basins, which were originally (at time of SUP) proposed for use, are now changed. The north basin was originally proposed as an infiltration basin and is now a County type D-1 bioretention basin facility. The infiltration area at the southeast corner of the site is now a manufactured BMP facility. The following comments pertain to this proposed changed scenario:

35a. A manufactured BMP at the drainage outfall to the northeast of the fuel station was never an approved option for the concept stormwater management plan, as presented at the time of the SUP application. It was however an option for stormwater spill prevention at the fuel canopy area.

35b. Use of a combined BMP structure to meet the requirements of SUP condition # 6 (spill containment structure) and site stormwater management (LID and/or quantity control) was never intended under the SUP.

35c. As site runoff is not being infiltrated at the two previous locations, channel adequacy, Minimum Standard # 19 and County stream channel protection requirements are now an issue. This is at two locations. One is at the bioretention basin overflow outlet and downstream of the outfall of the 15-inch storm drainage pipe to the northeast of the fuel station. It must be demonstrated that there are existing and adequate natural receiving channels at these locations (onsite or offsite). If not improved channels may be necessary as well as offsite drainage easements.

* Comment from 1st review under SP-25-07

SP-63-10 STAR EXPRESS

SP-21-09 STUCKEY'S
SP-25-07 REDEV
SVP-18-06



Construction, Inc.

12224 Wilfong Court
Midlothian, VA 23112
Phone: 804-595-1762
Fax: 804-595-1766

DATE: 12/7/09

JOB: _____

TO: James City County
101 - E Mounts Bay Road
Williamsburg, VA 23187-8784

ATTN: Barry Moses
RE: Star Express

WE ARE SENDING: Attached
 Under Separate cover, via Fed Ex the following

Copy of Letter Prints Specifications
 Shop Drawings Plans Change Order
 Samples Other Submittals

COPIES	DATE	NO.	DESCRIPTION
1			SWPPP Plan
1			Spill Prevention Plan
1			Demolition Permit
			<i>BMP WC 101</i>

THESE ARE TRANSMITTED AS CHECKED BELOW:

<input checked="" type="checkbox"/> As Requested	<input type="checkbox"/> Approved as Noted
<input checked="" type="checkbox"/> For Approval	<input type="checkbox"/> Approved as Submitted
<input checked="" type="checkbox"/> For Your Use	<input type="checkbox"/> Returned for Corrections
<input type="checkbox"/> For Review/Comment	<input type="checkbox"/> Return Corrected Prints
<input type="checkbox"/> FOR BIDS DUE:	<input type="checkbox"/> Resubmit Copies for Approval
	<input type="checkbox"/> Submit Copies for Distribution

REMARKS In Response to SP-0021-2009 Condition # 7,9 & 10 For Your Acceptance

COPY TO _____

SIGNED: Cathleen Lowery

TRANSMITTAL LETTER



DEC 8 2009

**SPILL PREVENTION PLAN
STAR EXPRESS
9200 OLD STAGE ROAD
TOANA, VA
SUP # SP-0021-2009**

STAFF PROCEDURES

1. An assessment of the situation will be made to identify safety concerns.
2. Use emergency shut off of dispensers if required (see attached location)
3. Emergency or other notification as specified for spill or vehicle fire.
 - a. Call 911
 - b. Call local fire department # 1
4. Application of safety gear such as orange safety vest, other protective safety equipment and traffic cones and barriers.
5. Never hose down the area of method of cleanup (spill containment kit to be utilized such as universal socks, and heavy weight pads, gloves, goggles and disposable bags (to be disposed at certified vender))
6. Fire extinguishes will be place with not less than 75 feet of travel from dispensers
7. A log will be kept on site to verify quantities of gas dispensed verses quantities of tank volume to track any leakage of tanks
8. Staff will be trained on the use of fire extinguishers
9. Spill containment materials will be housed in an exterior lock box located at rear of building. (see attached sketch)
10. Canopy spill containment is protected by a grease inceptor which will confine containment of storm sewer and encroachment of building (see attached operations and maintenance guide, inspection check list and maintenance log)

NOTE: All employees' will be trained for spill containment procedures and the use of spill kit , fire extinguishers and acknowledge the IC17 spill prevention and cleanup with regard to pollution prevention and best management practices with signed documentation kept in office file on site.

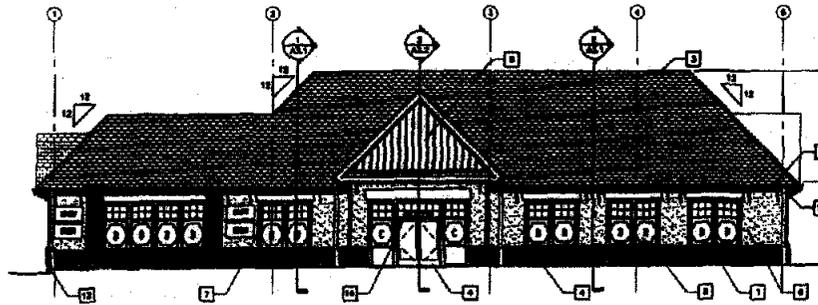
Attachments:

Building layout
Canopy layout with fire extinguishers
Location of spill containment supplies
Operations and maintenance for CDS (oil separator)
IC17. Spill Prevention and Cleanup

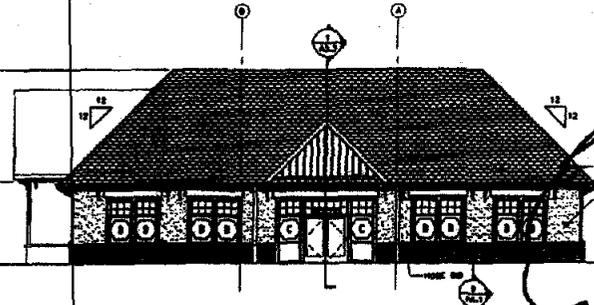
Environmental Division

DEC 8 2009

RECEIVED



WEST ELEVATION (FRONT)
SCALE: 1/8" = 1'-0"



SOUTH ELEVATION (RIGHT SIDE)
SCALE: 1/8" = 1'-0"

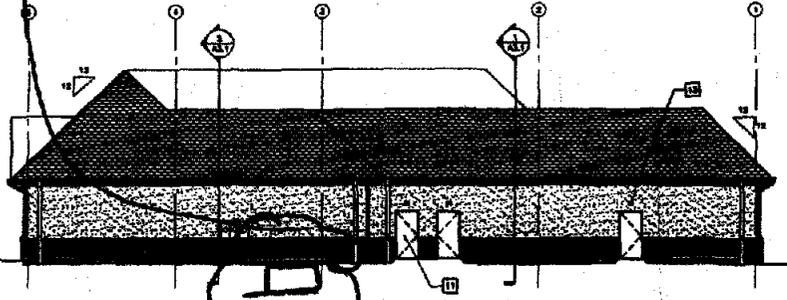
EMERGENCY GAS RAMP
SHUT OFF - CONN.
1/2" PLUM. BRASS
INSTALL

EMERGENCY
SHUT OFF

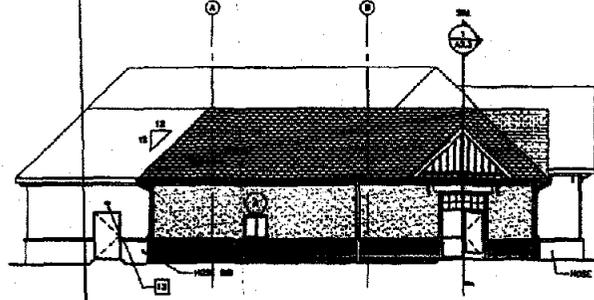
SPILL CONTAINMENT
SUPPLIES IN WEATHER
PROOF VAULT.

EXTERIOR MATERIALS & FINISHES					
NO.	DESCRIPTION	QTY	UNIT	SP/L	REMARKS
1	CONCRETE				
2	BRICK				
3	GLASS				
4	WOOD				
5	ROOFING				
6	PAINT				
7	INSULATION				
8	CEILING				
9	FLOORING				
10	MECHANICAL				
11	ELECTRICAL				
12	PLUMBING				
13	MECHANICAL				
14	ELECTRICAL				

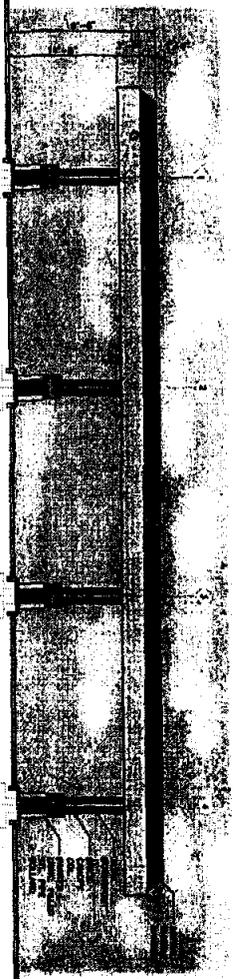
1: FROM ALL ELEVATIONS AND UTILITY CONNECTIONS REFER TO MATCH LINES



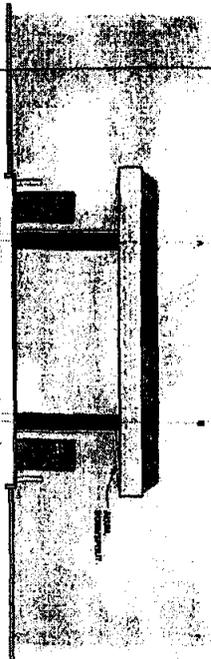
EAST ELEVATION (REAR)
SCALE: 1/8" = 1'-0"



NORTH ELEVATION (LEFT SIDE)
SCALE: 1/8" = 1'-0"

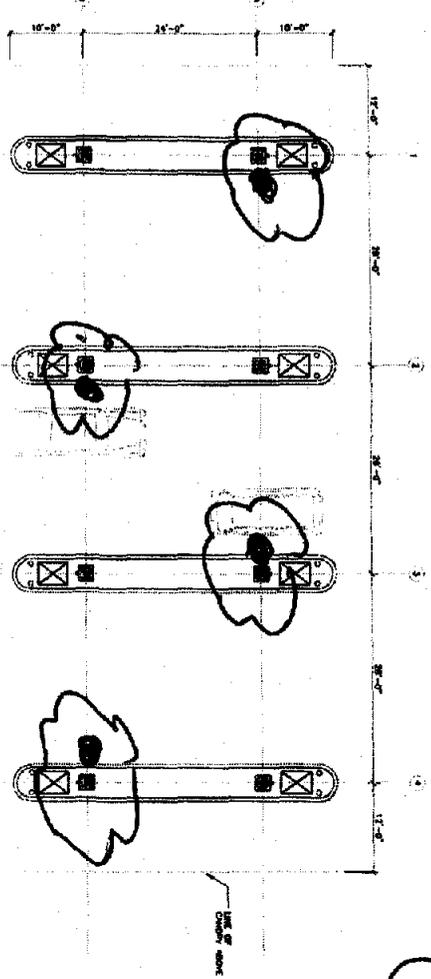


1.1 GAS CANOPY ELEVATION



1.1 GAS CANOPY ELEVATION

1.1 GAS CANOPY PLAN



Handwritten note in a cloud shape:
 - Flat EXTENSURE
 2-A 20-Bc

STAR EXPRESS
GAS STATION / CONVENIENCE STORE
CANOPY SCHEMATICS

645 STAGE ROAD @ I-44
 JAMES CITY COUNTY

PRELIMINARY
 NOT FOR CONSTRUCTION

100 Technology Park, C
 Suite 200
 Glen Allen, VA 22080
 804-433-1100
 FAX 804-433-1100



DESIGN BY: JMC
 PREPARED BY: JMC
 CHECKED BY: JMC
 DATE: 03-11-04
 SCALE:
 PROJECT NO.
 SHEET NO.
A1.1

JCF NO. 00000711.00

IC17. SPILL PREVENTION AND CLEANUP

Pollution Prevention

Consider pollution prevention measures at all times for improving pollution control. Implementation of pollution prevention measures may reduce or eliminate the need to implement other more costly or complicated procedures.

The following pollution prevention principles apply to most industries:

- Affirmative Procurement - Use alternative, safer, or recycled products.
- Redirect storm water flows away from areas of concern.
- Reduce use of water or use dry methods.
- Reduce storm water flow across facility site.
- Recycle and reuse waste products and waste flows.
- Move or cover potential pollution from storm water contact.
- Provide on-going employee training in pollution prevention.

Best Management Practices

Spill Prevention

1. **Develop procedures to prevent/mitigate spills to storm drain systems.**
Standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
2. **Post "No Dumping" signs with a phone number for reporting illegal dumping and disposal. Signs should also indicate fines and penalties applicable for illegal dumping.**
3. **Conduct routine cleaning, inspections, and maintenance.**
 - Sweep and clean storage areas consistently at a designated frequency (e.g. weekly, monthly). **DO NOT** hose down areas to storm drains.
 - Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Reuse, recycle, or properly dispose of any collected liquids or soiled absorbent materials.
 - Check tanks (and any containment sumps) frequently for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.
 - Check for external corrosion of material containers, structural failures, spills and overfills due to operator error, failure of piping system, etc.
 - Inspect tank foundations, connections, coatings, and tank walls and piping system.
4. **Properly store and handle chemical materials.**
 - Designate a secure material storage area that is paved with Portland cement concrete, free of cracks and gaps, and impervious in order to contain leaks and spills.

1. Develop procedures to prevent/mitigate spills to storm drain systems.
2. Post "No Dumping" signs with a phone number for reporting illegal dumping and disposal.
3. Conduct routine cleaning, inspections, and maintenance.
4. Properly store and handle chemical materials.
5. Utilize secondary containment systems for liquid materials.
6. Protect materials stored outside from stormwater runoff.
7. Secure drums stored in an area where unauthorized persons may gain access to prevent accidental spillage, pilferage, or any unauthorized use.
8. Identify key spill response personnel.
9. Adopt the Orange County Hazardous Materials Area Plan or an equivalent plan.
10. Clean up leaks and spills immediately.
11. Report and track spills.
12. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.

- Do not store chemicals, drums, or bagged materials directly on the ground. Place these items in secondary containers.
 - Keep chemicals in their original containers, if feasible.
 - Keep containers well labeled according to their contents (e.g., solvent, gasoline).
 - Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).
 - Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).
- 5. Utilize secondary containment systems for liquid materials.**
- Surround storage tanks with a berm or other secondary containment system.
 - Slope the area inside the berm to a drain.
 - Drain liquids to the sanitary sewer if available.
 - Pass accumulated stormwater in petroleum storage areas through an oil/water separator.
 - Use catch basin filtration inserts.
 - **DO NOT** discharge wash water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required.
 - If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collect runoff from the storage tank area.
- 6. Protect materials stored outside from stormwater runoff.** Construct a berm around the perimeter of the material storage area to prevent the runoff of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the material.
- 7. Secure drums stored in an area where unauthorized persons may gain access to prevent accidental spillage, pilferage, or any unauthorized use.**

Spill Control and Cleanup Activities

- 8. Identify key spill response personnel.**
- 9. Adopt the Orange County Hazardous Materials Area Plan or an equivalent plan, which includes a set of planned responses to hazardous materials emergencies addressing chain-of-command, public agency participation, and allocation of authority. The plan should include such items as:**
- Description of the facility, owner and address, activities and chemicals present
 - Facility map
 - Notification and evacuation procedures
 - Cleanup instructions
 - Identification of responsible departments
- 10. Clean up leaks and spills immediately.**
- Place a stockpile of spill cleanup materials where they will be readily accessible (e.g. near storage and maintenance areas).
 - Utilize dry cleaning methods to clean up spills to minimize the use of water. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous

waste. Physical methods for the cleanup of dry chemicals include the use brooms, shovels, sweepers, or plows.

- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Clean up chemical materials with absorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.

11. Reporting

- 1. Report spills that pose an immediate threat to human health or the environment to local agencies, such as the fire department, and the Regional Water Quality Control Board.**
- 2. Establish a system for tracking incidents. The system should be designed to identify the following:**
 - Types and quantities (in some cases) of wastes
 - Patterns in time of occurrence (time of day/night, month, or year)
 - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
 - Responsible parties
- 3. Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).**

12. Training

- 1. Educate employees about spill prevention and cleanup.**
 - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
 - Educate employees on aboveground storage tank requirements.
 - Train all employees upon hiring and conduct annual refresher training.
- 2. Train employees responsible for aboveground storage tanks and liquid transfers on the Spill Prevention Control and Countermeasure Plan.**

References

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.



OPERATIONS AND MAINTENANCE GUIDELINES FOR CDS UNITS (Continuous Deflective Separation Unit)

INTRODUCTION

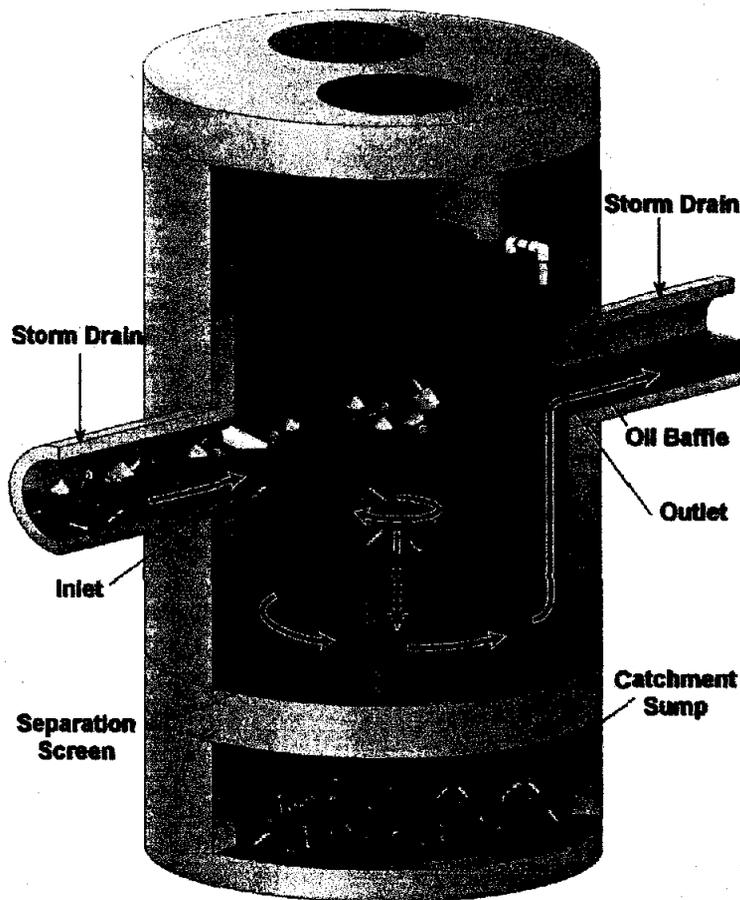
The CDS unit is an important and effective component of your storm water management program and proper operation and maintenance of the unit are essential to demonstrate your compliance with local, state and federal water pollution control requirements.

The CDS technology features a patented non-blocking, indirect screening technique developed in Australia to treat water runoff. The unit is highly effective in the capture of suspended solids, fine sands and larger particles. Because of its non-blocking screening capacity, the CDS unit is un-matched in its ability to capture and retain gross pollutants such as trash and debris. In short, CDS units capture a very wide range of organic and in-organic solids and pollutants that typically result in tons of captured solids each year such as: Total suspended solids (TSS) and other sedimentary materials, oil and greases, trash, and other debris (including floatables, neutrally buoyant, and negatively buoyant debris). These pollutants will be captured even under very high flow rate conditions.

CDS units are equipped with conventional oil baffles to capture and retain oil and grease. Laboratory evaluations show that the CDS units are capable of capturing up to 70% of the free oil and grease from storm water. CDS units can also accommodate the addition of oil sorbents within their separation chambers. The addition of the oil sorbents can ensure the permanent removal of 80% to 90% of the free oil and grease from the storm water runoff.

INSPECTION AND CLEANOUT OVERVIEW

Once pollutants are captured in CDS units, they will be retained until clean out. Floatable and neutrally buoyant contaminants are held within the separation chamber while negatively buoyant debris is stored in the sump. Frequency of cleanout depends on the nature of the drainage basin. Because of the high efficiency of pollutant removal, drainage basins discharging large amounts of pollutants will require more frequent cleanouts. Maintenance personnel may expect that floatable materials will require removal at least one to two times per year. Settled solids should be cleaned out at least one time per year.



The visual inspection should ascertain that the unit is functioning properly, and that there are no blockages or damage to the inlet, separation chamber or separation screen. The quantities of captured pollutants within the separation chamber and solids storage sump should be assessed.

The amount of solids in the sump may be estimated using a calibrated measuring rod or tape. If floatables accumulate more rapidly than the settleable solids, the floatables should be removed with a vacuum or skimming net.

During the rainfall season, the unit should be inspected at least once every 30 days. Floatable materials should be removed before the layer exceeds 12-inches thick. Settled solids should be removed when the sump is 85% full.

CDS cleanout procedures entail opening the access to the screening chamber / sump and removing the trapped pollutants. Visual verification that the cleanout is complete by the equipment operator is easily done due to the open nature of the CDS unit.

OPERATIONS

The CDS unit is a non-mechanical self-operating system and will function any time there is flow in the storm drainage system. The unit will continue to effectively capture pollutants in flows up to the design capacity even during extreme rainfall events when the design capacity may be exceeded. Pollutants captured in the CDS unit's separation chamber and sump will be retained even when the units design capacity is exceeded.

CDS UNIT CLEANOUT

The frequency of cleaning the CDS unit will depend upon the generation of trash and debris and sediments in your application. Cleanout and preventive maintenance schedules will be determined based on operating experience unless precise pollutant loadings have been determined. The unit should be periodically inspected to determine the amount of accumulated pollutants and to ensure that the cleanout frequency is adequate to handle the predicted pollutant load being processed by the CDS unit. The recommended cleanout of solids within the CDS unit's sump should occur at 75% of the sump capacity. However, the sump may be completely full with no impact to the CDS unit's performance.

Access to the CDS unit is typically achieved through two manhole access covers – one allows inspection and cleanout of the separation chamber (screen/cylinder) & sump and another

allows inspection and cleanout of sediment captured and retained behind the screen. The PSW & PSWC off-line models have an additional access cover over the weir of the diversion vault. For units possessing a sizable depth below grade (depth to pipe), a single manhole access point would allow both sump cleanout and access behind the screen.

CDS Technologies Recommends The Following:

NEW INSTALLATIONS – Check the condition of the unit after every runoff event for the first 30 days. The visual inspection should ascertain that the unit is functioning properly (no blockages or obstructions to inlet and/or separation screen), measuring the amount of solid materials that have accumulated in the sump, the amount of fine sediment accumulated behind the screen, and determining the amount of floating trash and debris in the separation chamber. This can be done with a calibrated “dip stick” so that the depth of deposition can be tracked. Refer to the “Cleanout Schematic” (**Appendix B**) for allowable deposition depths and critical distances. Schedules for inspections and cleanout should be based on storm events and pollutant accumulation.

ONGOING OPERATION – During the rainfall season, the unit should be inspected at least once every 30 days. The floatables should be removed and the sump cleaned when the sump is 75-85% full. If floatables accumulate more rapidly than the settleable solids, the floatables should be removed using a vactor truck or dip net before the layer thickness exceeds one to two feet.

Cleanout of the CDS unit at the end of a rainfall season is recommended because of the nature of pollutants collected and the potential for odor generation from the decomposition of material collected and retained. This end of season cleanout will assist in preventing the discharge of pore water from the CDS® unit during summer months.

USE OF SORBENTS – It should be emphasized that the addition of sorbents is not a requirement for CDS units to effectively capture oil and grease from storm water runoff. The CDS unit separation chamber effectively captures free oil and grease and CDS units are also equipped with a conventional oil baffle for the capture of gross quantities. However, the addition of sorbents is a unique capability of CDS units that enables enhanced oil and grease capture efficiencies beyond that obtainable by conventional oil baffle systems as well as permanent retention of captured oil and grease in solid form that prevents emulsification and conveyance.

Under normal operations, CDS units will provide effluent concentrations of oil and grease that are less than 15 parts per million (ppm) for all dry weather spills where the volume is less than or equal to the spill capture volume of the CDS unit. During wet weather flows, the oil baffle system can be expected to remove between 40 and 70% of the free oil and grease from the storm water runoff.

CDS Technologies only recommends the addition of sorbents to the separation chamber if there are specific land use activities in the catchment watershed that could produce exceptionally large concentrations of oil and grease in the runoff, or for large amounts that may be subjected to extended periods of inattention. If site evaluations merit an increased control of free oil and grease then oil sorbents can be added to the CDS unit to thoroughly address these particular pollutants of concern.

Recommended Oil Sorbents

Rubberizer® Particulate 8-4 mesh or OARS™ Particulate for Filtration, HPT4100 or equal. Rubberizer® is supplied by Haz-Mat Response Technologies, Inc. 4626 Santa Fe Street, San Diego, CA 92109 (800) 542-3036. OARS™ is supplied by AbTech Industries, 4110 N. Scottsdale Road, Suite 235, Scottsdale, AZ 85251 (800) 545-8999.

The amount of sorbent to be added to the CDS separation chamber can be determined if sufficient information is known about the concentration of oil and grease in the runoff.

Frequently the actual concentrations of oil and grease are too variable and the amount to be added and frequency of cleaning will be determined by periodic observation of the sorbent. As an initial application, CDS recommends that approximately 4 to 8 pounds of sorbent material be added to the separation chamber of the CDS units per acre of parking lot or road surface per year. Typically this amount of sorbent results in a ½ inch to one (1") inch depth of sorbent material on the liquid surface of the separation chamber. The oil and grease loading of the sorbent material should be observed after major storm events. Oil Sorbent material may also be furnished in pillow or boom configurations.

The sorbent material should be replaced when it is fully discolored by skimming the sorbent from the surface. The sorbent may require disposal as a special or hazardous waste, but will depend on local and state regulatory requirements.

CLEANOUT AND DISPOSAL

A vactor truck is recommended for cleanout of the CDS unit and can be easily accomplished in less than 30-40 minutes for most installations. Standard vactor operations should be employed in the cleanout of the CDS unit. Disposal of material from the CDS unit should be in accordance with the local municipality's requirements. Disposal of the decant material to a POTW is recommended. Field decanting to the storm drainage system is not recommended. Solids can be disposed of in a similar fashion as those materials collected from street sweeping operations and catch-basin cleanouts.

MAINTENANCE

The CDS unit should be pumped down at least once a year and a thorough inspection of the separation chamber (inlet/cylinder and separation screen) and oil baffle performed. The unit's internal components should not show any signs of damage or any loosening of the bolts used to fasten the various components to the manhole structure and to each other. Ideally, the screen should be power washed for the inspection. If any of the internal components is damaged or if any fasteners appear to be damaged or missing, please contact CDS Technologies to make arrangements to have the damaged items repaired or replaced:

CONTECH Construction Products
11835 NE Glenn Widing Dr.
Portland, OR 97220

Phone: (800) 548-4667
Fax: (800) 561-1271

The screen assembly is fabricated from Type 316 stainless steel and fastened with Type 316 stainless steel fasteners that are easily removed and/or replaced with conventional hand tools. The damaged screen assembly should be replaced with the new screen assembly placed in the same orientation as the one that was removed.

CONFINED SPACE

The CDS unit is a confined space environment and only properly trained personnel possessing the necessary safety equipment should enter the unit to perform particular maintenance and/or inspection activities beyond normal procedure. Inspections of the internal components can, in most cases, be accomplished by observations from the ground surface.

VECTOR CONTROL

Most CDS units do not readily facilitate vector infestation. However, for CDS units that may experience extended periods of non-operation (stagnant flow conditions for more than approximately one week) there may be the potential for vector infestation. In the event that

these conditions exist, the CDS unit may be designed to minimize potential vector habitation through the use of physical barriers (such as seals, plugs and/or netting) to seal out potential vectors. The CDS unit may also be configured to allow drain-down under favorable soil conditions where infiltration of storm water runoff is permissible. For standard CDS units that show evidence of mosquito infestation, the application of larvicide is one control strategy that is recommended. Typical larvicide applications are as follows:

SOLID B.t.i. LARVICIDE: ½ to 1 briquet (typically treats 50-100 sq. ft.) one time per month (30-days) or as directed by manufacturer.

SOLID METHOPRENE LARVICIDE (not recommended for some locations): ½ to 1 briquet (typically treats 50-100 sq. ft.) one time per month (30-days) to once every 4-½ to 5-months (150-days) or as directed by manufacturer.

RECORDS OF OPERATION AND MAINTENANCE

CDS Technologies recommends that the owner maintain annual records of the operation and maintenance of the CDS unit to document the effective maintenance of this important component of your storm water management program. The attached **Annual Record of Operations and Maintenance** form (see **Appendix A**) is suggested and should be retained for a minimum period of three years.

CDS UNIT RECORD OF OPERATION & MAINTENANCE

OWNER _____
 ADDRESS _____
 OWNER REPRESENTATIVE _____ PHONE _____

CDS INSTALLATION:

MODEL DESIGNATION _____ DATE _____
 SITE LOCATION _____
 DEPTH FROM COVER TO BOTTOM OF SUMP (SUMP INVERT) _____
 VOLUME OF SUMP _____ CU YD VOLUME/INCH DEPTH _____ CU FT
 VOLUME/FOOT DEPTH _____ CU YD

INSPECTIONS:

DATE/INSPEC TOR	SCREEN/INLET INTEGRITY	FLOATABLES DEPTH	DEPTH TO SEDIMENT (inches)	SEDIMENT VOLUME* (CUYDS)	SORBENT DISCOLORATION

Calculate Sediment Volume = (Depth to Sump Invert - Depth to Sediment)(Volume/inch)

OBSERVATIONS OF FUNCTION: _____

CLEANOUT:

DATE	VOLUME FLOATABLES	VOLUME SEDIMENTS	METHOD OF DISPOSAL OF FLOATABLES, SEDIMENTS, DECANT AND SORBENTS

OBSERVATIONS: _____

SCREEN MAINTENANCE:

DATE OF POWER WASHING, INSPECTION AND OBSERVATIONS:

CERTIFICATION: _____ TITLE: _____ DATE: _____

Date _____

INSPECTION CHECKLIST

COMPLETED

- 1. During the initial rainfall season, inspect and check condition of unit once every 30 days (as needed, thereafter)
- 2. Ascertain that the unit is functioning properly (no blockages or obstructions to inlet and/or separation screen)
- 3. Measure amount of solid materials that have accumulated in the sump (Unit should be cleaned when the sump is 75-85% full)
- 4. Measure amount of fine sediment accumulated behind the screen
- 5. Measure amount of floating trash and debris in the separation chamber

MAINTENANCE CHECKLIST

- 1. Cleanout unit at the beginning and end of the rainfall season
- 2. Pump down unit (at least once a year) and thoroughly inspect separation chamber, separation screen and oil baffle
- 3. No visible signs of damage or loosening of bolts to internal components observed *

* If there is any damage to the internal components or if any fasteners are damaged or missing please contact CDS Technologies.

Environmental Division

DEC 8 2009

RECEIVED

Stormwater Pollution Prevention Plan

For:

**Star Express
9220 Old Stage Road
Toana, VA 23168**

SWPPP Contact:

**Star Express
Mr. Shiv Patel
4595 Sandesara Road
Prince George, VA 23875
(804)-732-8555**

SWPPP Preparation Date

12/7/09

Facility Description and Contact Information

Facility Information:

Star Express Convenience Store
9220 Old Stage Road
Toana, VA 23168
James City County
VSMP Permit # DCR01-07-102403

6 acre site with 3.14 being disturbed

Receiving Waters: receiving channel is an un-named tributary to Bird Swamp & Bird Swamp is a tributary of ware creek.

Contact Information / Responsible Parties:

Shiv Patel
4595 Sandesara Road
Prince George, VA 23875
804-732-8555

Facility Owner:

American DYNC Holdings Toana LLC
4595 Sandesara Road
Prince George, VA 23875
804-732-8555

Stormwater Pollution Prevention Team

Day to day employee's with onsite store manager in charge
(See attached spill prevention plan)

Activities at the facility:

Gas and convenience store

General Location Map:

See attachment A

Site Map:

See attachment B

Potential Pollutant Sources

Industrial Activity:

Vehicle Fueling

Spills and Leaks:

Gas overflow from fuel dispensers at canopy (see attached C)
Septic and grease trap may overflow into bio-pond (see attached E).
Oil drips from cars in the parking lot

Storm water control Measures:

See attached Spill Prevention Plan

Monitoring and Inspections:

Parking lot: Daily walkthrough of the parking lot looking for oil spots and looking into drop inlets for debris. Drop inlets to be cleaned monthly. Oil spots to be evaluated to determine the size and what action will be taken, most likely absorbent material will be applied.

BMP: Weekly visuals of the pond to identify if any debris is in pond, the stabilization of the grass on the banks and the outfall is clear of any obstructions. Water levels to be monitored after heavy rain fall

Bio-Pond: See attached Attachment F

Septic and Grease Trap: Weekly inspections to see if areas around tanks are soft or water seeping at ground level and flowing into bio-pond.



James City County, Virginia
Professional Engineer
No. 10000
Date: 1/1/88

LANDMARK
DESIGN GROUP
10000
10000

NO.	DATE	DESCRIPTION
1	1/1/88	PRELIMINARY PLAN
2	1/1/88	FINAL PLAN

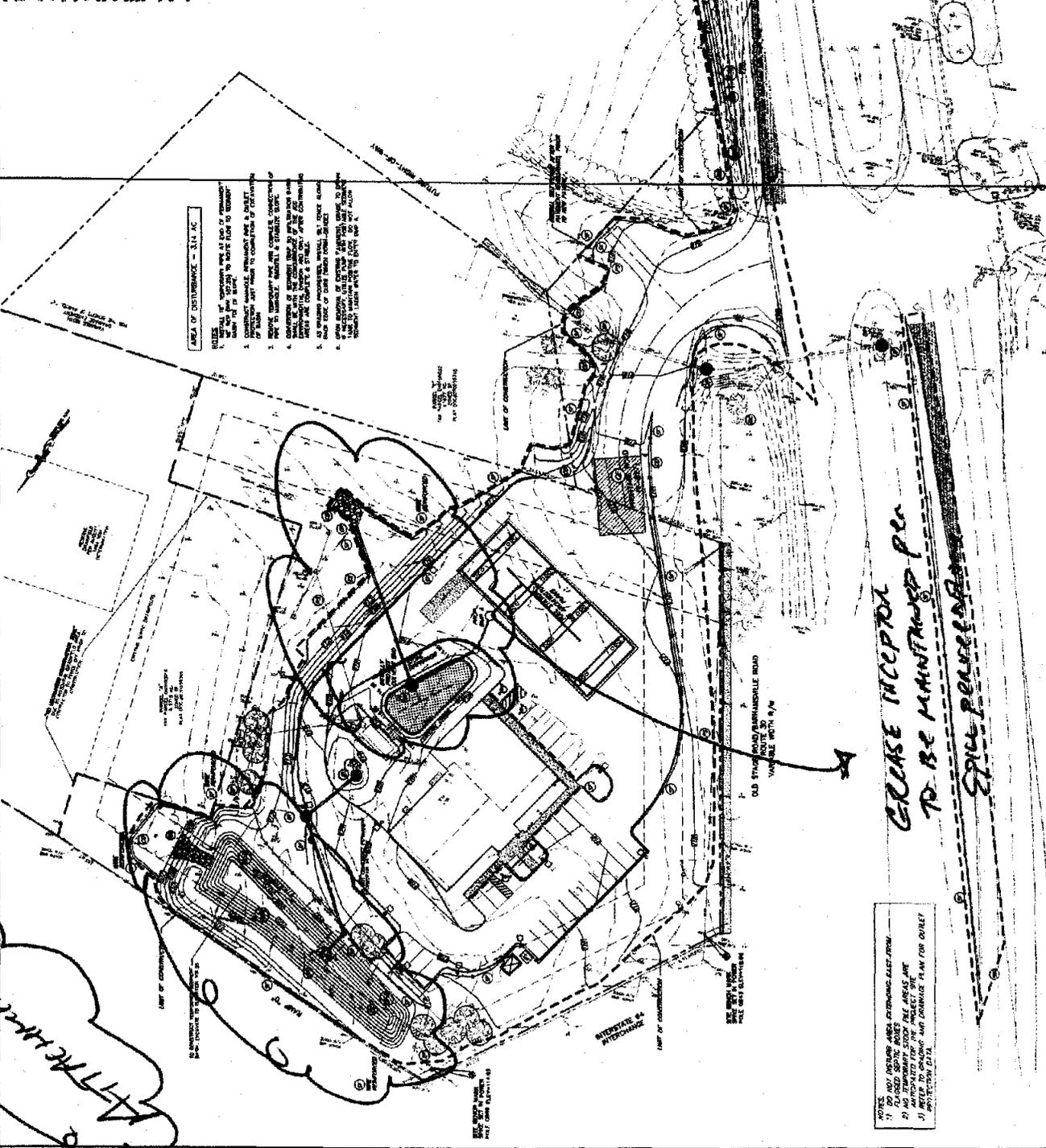
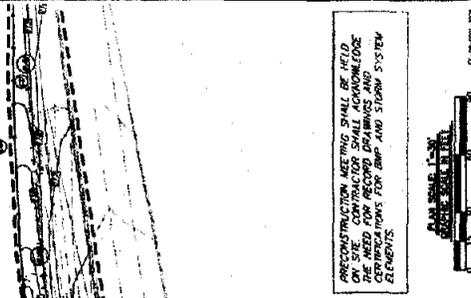
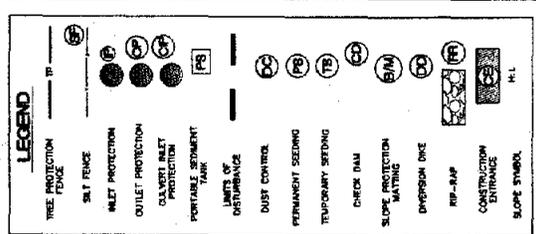
EROSION & SEDIMENT CONTROL PLAN
SITE DEVELOPMENT PLAN
FORMER STUCKEY'S SITE
PARCEL # 9228 OLD STAGE ROAD
JAMES CITY COUNTY, VIRGINIA
STUCKEY'S INDUSTRIAL DISTRICT

DATE	1/1/88
BY	JAMES W. HARRIS
CHECKED BY	JAMES W. HARRIS
SCALE	AS SHOWN
PROJECT NO.	9228
DATE OF PREP.	1/1/88
DATE OF REV.	
PROJECT NAME	EROSION & SEDIMENT CONTROL PLAN
PROJECT LOCATION	FORMER STUCKEY'S SITE
PROJECT OWNER	
PROJECT ENGINEER	JAMES W. HARRIS

C-4

LEGEND

- THREE PROTECTION FENCE
- SILT FENCE
- OUTLET PROTECTION
- OUTLET BULLET PROTECTION
- PORTABLE SEDIMENT TANK
- LIMITS OF DISTURBANCE
- DUST CONTROL
- PERMANENT SEEDING
- TEMPORARY SEEDING
- CHECK DAM
- SLOPE PROTECTION MATING
- DIVERSION DIRT
- RE-GRASS
- CONSTRUCTION ENTRANCE
- SLOPE SYMBOL



GRASS INTERIOR PER TO BE MAINTAINED PER SPEC PERMISSIBLE

NOTES:
1) DO NOT REMOVE ANY EXISTING BUILT-UP
2) ALL TEMPORARY STOCKPILE AREAS ARE
3) INDICATED FOR THE PROJECT SITE
4) PROTECTION DETAILED

ATTACHMENT F

MAINTENANCE SCHEDULE FOR BIORETENTION FACILITY			
Description	Method	Frequency	Time of Year
Soils Inspect and Repair Erosion	Visual	Monthly	Monthly
Organic Layer Inspect for Voids	Visual	Monthly	Monthly
Remulch Any Void Areas Remove Existing Mulch Layer Prior to Applying New Mulch Layer (Optional)	By Hand	As Needed	As Needed
Replenish Mulch Layer (Optional)	By Hand	Annually	Spring
Plants Inspect Trees and Shrubs	Visual	Bi-Annually	Spring/Fall
Treat all Diseased Trees and Shrubs	Mechanical or By Hand		Varies, Depends Insect Infestation or Disease
Remove Dead and Diseased Vegetation Considered to be Beyond Treatment	See Planting Specs.	Bi-Annually	3-15 to 4-30 and 10-1 to 11-30
Initial Watering-After Completion of Planting	By Hand	Daily* 14 Days	*
Maintenance Watering-Until Established After Initial Period	By Hand	Weekly* 2 Months	*
Replace Stakes After One Year	By Hand	Annually	Spring
Remove and Replace Any Deficient Stakes or Wires	By Hand	N/A	As Needed

* Watering Dependent on Time of Year, Rainfall Rate and Daily Temperatures

WITH

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NOI

**SPILL PREVENTION PLAN
STAR EXPRESS
9200 OLD STAGE ROAD
TOANA, VA
SUP # SP-0021-2009**

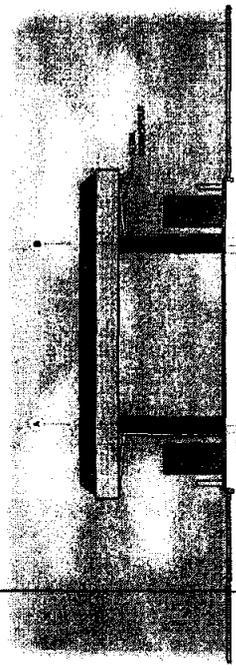
STAFF PROCEDURES

1. An assessment of the situation will be made to identify safety concerns.
2. Use emergency shut off of dispensers if required (see attached location)
3. Emergency or other notification as specified for spill or vehicle fire.
 - a. Call 911
 - b. Call local fire department # 1
4. Application of safety gear such as orange safety vest, other protective safety equipment and traffic cones and barriers.
5. Never hose down the area of method of cleanup (spill containment kit to be utilized such as universal socks, and heavy weight pads, gloves, goggles and disposable bags (to be disposed at certified vender))
6. Fire extinguishes will be place with not less than 75 feet of travel from dispensers
7. A log will be kept on site to verify quantities of gas dispensed verses quantities of tank volume to track any leakage of tanks
8. Staff will be trained on the use of fire extinguishers
9. Spill containment materials will be housed in an exterior lock box located at rear of building. (see attached sketch)
10. Canopy spill containment is protected by a grease inceptor which will confine containment of storm sewer and encroachment of building (see attached operations and maintenance guide, inspection check list and maintenance log)

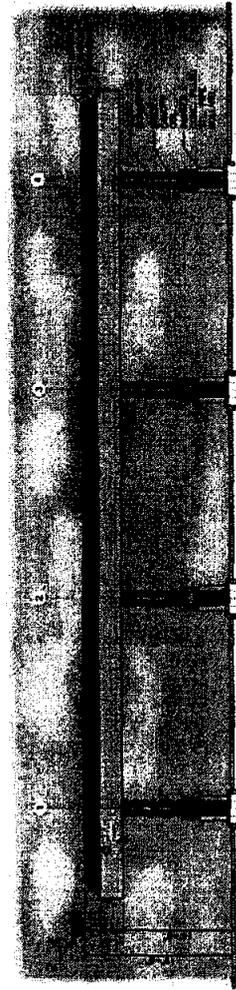
NOTE: All employees' will be trained for spill containment procedures and the use of spill kit , fire extinguishers and acknowledge the IC17 spill prevention and cleanup with regard to pollution prevention and best management practices with signed documentation kept in office file on site.

Attachments:

Building layout
Canopy layout with fire extinguishers
Location of spill containment supplies
Operations and maintenance for CDS (oil separator)
IC17. Spill Prevention and Cleanup

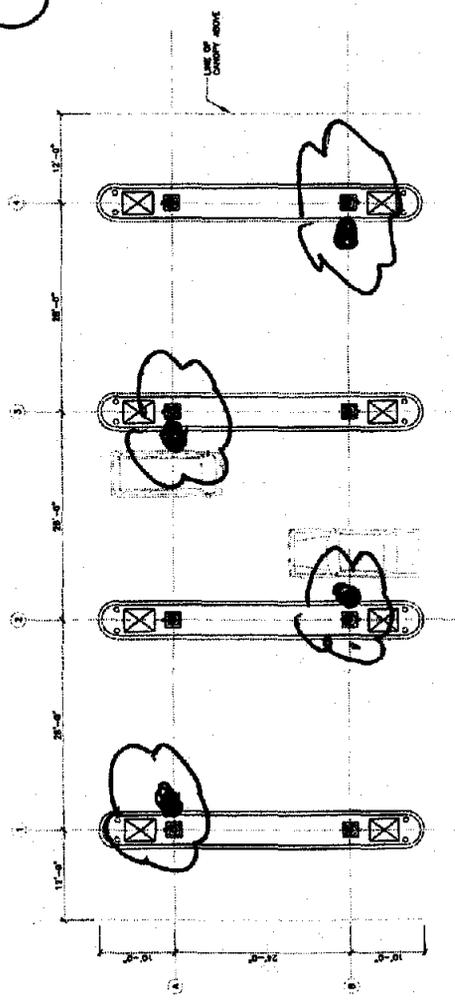


GAS CANOPY ELEVATION
SCALE: 1/4" = 1'-0"



GAS CANOPY ELEVATION
SCALE: 1/4" = 1'-0"

*FACE EXTINGUISHER
 2-A 20-BC*



GAS CANOPY PLAN
SCALE: 1/4" = 1'-0"

IC17. SPILL PREVENTION AND CLEANUP

Pollution Prevention

Consider pollution prevention measures at all times for improving pollution control. Implementation of pollution prevention measures may reduce or eliminate the need to implement other more costly or complicated procedures.

The following pollution prevention principles apply to most industries:

- Affirmative Procurement - Use alternative, safer, or recycled products.
- Redirect storm water flows away from areas of concern.
- Reduce use of water or use dry methods.
- Reduce storm water flow across facility site.
- Recycle and reuse waste products and waste flows.
- Move or cover potential pollution from storm water contact.
- Provide on-going employee training in pollution prevention.

Best Management Practices

Spill Prevention

1. **Develop procedures to prevent/mitigate spills to storm drain systems.**
Standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
2. **Post "No Dumping" signs with a phone number for reporting illegal dumping and disposal. Signs should also indicate fines and penalties applicable for illegal dumping.**
3. **Conduct routine cleaning, inspections, and maintenance.**
 - Sweep and clean storage areas consistently at a designated frequency (e.g. weekly, monthly). **DO NOT** hose down areas to storm drains.
 - Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Reuse, recycle, or properly dispose of any collected liquids or soiled absorbent materials.
 - Check tanks (and any containment sumps) frequently for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.
 - Check for external corrosion of material containers, structural failures, spills and overfills due to operator error, failure of piping system, etc.
 - Inspect tank foundations, connections, coatings, and tank walls and piping system.
4. **Properly store and handle chemical materials.**
 - Designate a secure material storage area that is paved with Portland cement concrete, free of cracks and gaps, and impervious in order to contain leaks and spills.

1. Develop procedures to prevent/mitigate spills to storm drain systems.
2. Post "No Dumping" signs with a phone number for reporting illegal dumping and disposal.
3. Conduct routine cleaning, inspections, and maintenance.
4. Properly store and handle chemical materials.
5. Utilize secondary containment systems for liquid materials.
6. Protect materials stored outside from stormwater runoff.
7. Secure drums stored in an area where unauthorized persons may gain access to prevent accidental spillage, pilferage, or any unauthorized use.
8. Identify key spill response personnel.
9. Adopt the Orange County Hazardous Materials Area Plan or an equivalent plan.
10. Clean up leaks and spills immediately.
11. Report and track spills.
12. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.

- Do not store chemicals, drums, or bagged materials directly on the ground. Place these items in secondary containers.
 - Keep chemicals in their original containers, if feasible.
 - Keep containers well labeled according to their contents (e.g., solvent, gasoline).
 - Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).
 - Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).
5. **Utilize secondary containment systems for liquid materials.**
- Surround storage tanks with a berm or other secondary containment system.
 - Slope the area inside the berm to a drain.
 - Drain liquids to the sanitary sewer if available.
 - Pass accumulated stormwater in petroleum storage areas through an oil/water separator.
 - Use catch basin filtration inserts.
 - **DO NOT** discharge wash water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required.
 - If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collect runoff from the storage tank area.
6. **Protect materials stored outside from stormwater runoff.** Construct a berm around the perimeter of the material storage area to prevent the runoff of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the material.
7. **Secure drums stored in an area where unauthorized persons may gain access to prevent accidental spillage, pilferage, or any unauthorized use.**

Spill Control and Cleanup Activities

8. **Identify key spill response personnel.**
9. **Adopt the Orange County Hazardous Materials Area Plan or an equivalent plan, which includes a set of planned responses to hazardous materials emergencies addressing chain-of-command, public agency participation, and allocation of authority. The plan should include such items as:**
- Description of the facility, owner and address, activities and chemicals present
 - Facility map
 - Notification and evacuation procedures
 - Cleanup instructions
 - Identification of responsible departments
10. **Clean up leaks and spills immediately.**
- Place a stockpile of spill cleanup materials where they will be readily accessible (e.g. near storage and maintenance areas).
 - Utilize dry cleaning methods to clean up spills to minimize the use of water. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous

waste. Physical methods for the cleanup of dry chemicals include the use brooms, shovels, sweepers, or plows.

- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Clean up chemical materials with absorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.

11. Reporting

1. **Report spills that pose an immediate threat to human health or the environment to local agencies, such as the fire department, and the Regional Water Quality Control Board.**
2. **Establish a system for tracking incidents. The system should be designed to identify the following:**
 - Types and quantities (in some cases) of wastes
 - Patterns in time of occurrence (time of day/night, month, or year)
 - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
 - Responsible parties
3. **Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).**

12. Training

1. **Educate employees about spill prevention and cleanup.**
 - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
 - ~~Educate employees on aboveground storage tank requirements.~~
 - Train all employees upon hiring and conduct annual refresher training.
2. **Train employees responsible for aboveground storage tanks and liquid transfers on the Spill Prevention Control and Countermeasure Plan.**

References

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

COVER SHEET
 EXISTING CONDITIONS
 DEMOLITION PLAN
 EROSION AND SEDIMENT CONTROL PLAN
 SITE LAYOUT
 TRAFFIC CONTROL PLAN
 GRADING AND DRAINAGE PLAN
 BMP PLAN AND DETAILS
 DETAILS AND NOTES
 ENVIRONMENTAL INVENTORY
 GENERAL NOTES AND DETAILS
 VDOT NOTES AND DETAILS
 PLANTING PLAN
 PLANTING NOTES AND DETAILS
 LIGHTING PLAN

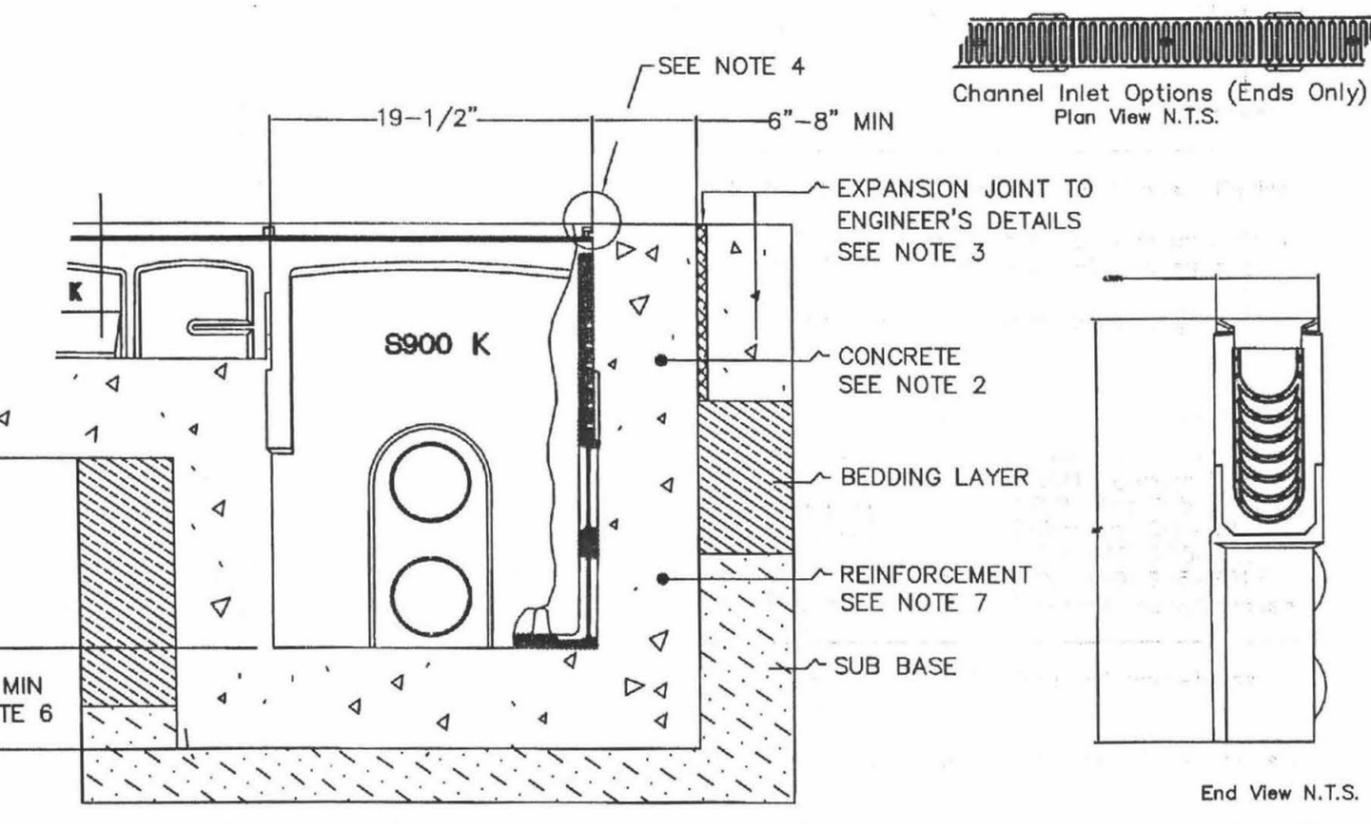
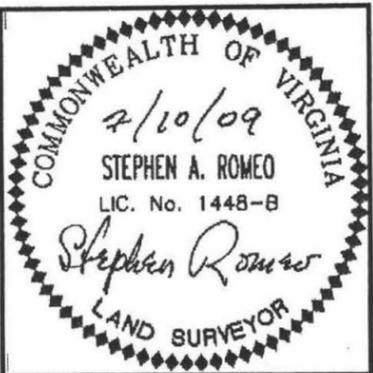
STATISTICAL DATA

PARCEL NO. 0440100016
B1 GENERAL BUSINESS
9220 OLD STAGE ROAD
6.27 ACRE (273,121 SF)
50' -FRONT
20' -SIDE
20' -REAR
RESTAURANT-3,754 SF
CONVENIENT STORE-2,622 SF
BUILDING TOTAL-6,416 SF
20' ABOVE GRADE (MAX.)
3.14 ACRES
2.21 ACRES
0.93 ACRES
1.37 ACRES
22%
1.08 ACRES
17% (THIS REPRESENTS A 21% REDUCTION
IN IMPERVIOUS AREA)
26 SPACES
24 SPACES
2 SPACE (1 VAN ACCESSIBLE)
31 SPACES
28 SPACES
3 SPACES (2 VAN ACCESSIBLE)
510201 0010B - DATED: 2-06-1991
ZONE X AREA DETERMINED TO BE OUTSIDE
500 YEAR FLOOD-PLAIN
OWNER / DEVELOPER:
AMERICAN DYNC HOLDINGS OF TOANO, LLC
NORTH SOUTH CONSTRUCTION, INC.
12224 WILFONG CT.
MIDLOTHIAN, VA 23112
TELEPHONE:(804) 595-1762
FAX:(804)595-1762
Attn: Rick LaMere

RESIDENTIAL DISTURBER:
RESIDENTIAL DISTURBER FOR THE PLAN APPROVAL PHASE
PROJECT WILLE STEPHEN A. ROMEO, LS NO. 1448-B, OF
AMERICAN DYNC HOLDINGS OF TOANO, LLC

Project Number: 2004224-000.00	Dwg. File No.: 17747W
Drawing Number C-1	

SP-21-09



ecessary to ensure the minimum dimensions shown are suitable for the existing ground conditions. Engineering y be required.
 num concrete strength of 3000 PSI is recommended. The concrete should be vibrated to eliminate air pockets.
 on and crack control joints are recommended to protect the catch basin and the concrete surround.
 g advice may be required.
 ished level of the concrete surround must be approx. 1/8" above the top of the catch basin edge.
 o ACO'S latest installation instructions for complete details.
 te base thickness should match the slab thickness.
 or steel mesh reinforcement may be required. Engineering advice may be required.

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel. (757) 473-2600
Fax (757) 497-7933
Email: img@landmarkdg.com

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel. (757) 253-2975
Fax (757) 229-0049
Email: img@landmarkdg.com

LANDMARK DESIGN GROUP
 Engineers • Planners • Surveyors
 Landscape Architects • Environmental Scientists

basin shall be ACO Drain S900K series made from polymer concrete with a ductile iron rail cast-in as ed by ACO Polymer Products, Inc., Chardon, Oh.

series catch basin will be used in conjunction with 4" ACO DRAIN trench drain model type S100K and shall ich drain in ends as shown above.

basin shall be 19.69 in. nominal inside length with a 4 in. nominal inside width.
 h basin depth is 25 in.

ite catch basin and trench drainage system shall be by ACO Polymer Products, Inc. Any deviation or em design and/or improper installation will void any and all warranties provided by ACO Polymer Products, Inc.

as catch basin shall withstand loading to Load Class E (DIN 19 580).
 nel and grate shall be independently certified to meet the specified DIN 19580 load class.

crete shall have material properties of: compressive strength range between 14,000-14,500 psi; flexural tween 3600-4500 psi; tensile strength of 1500 psi. The material water absorption rate shall not exceed ght and shall be resistant to prolonged salt exposure, repetitive frost cycles and chemically resistant to and alkalis.

shall be installed in accordance with the manufacturer's instructions and recommendations.

REVISIONS:		
No.	Date	Comment
1	4/27/09	REVISED PER JCC COMMENTS
2	7/6/09	REVISED PER JCC COMMENTS

DRAWING STATUS	
Interface Review	By LFV
Client for Review	By LFV
Pre Approval Bidding	
COUNTY APPROVAL	
1st Submittal	
2nd Submittal	4/28/09
3rd Submittal	7/7/09
Approved	

NOTES

PLAN

YS SITE

STAGE ROAD

ES CITY COUNTY, VIRGINIA

SP-21-09

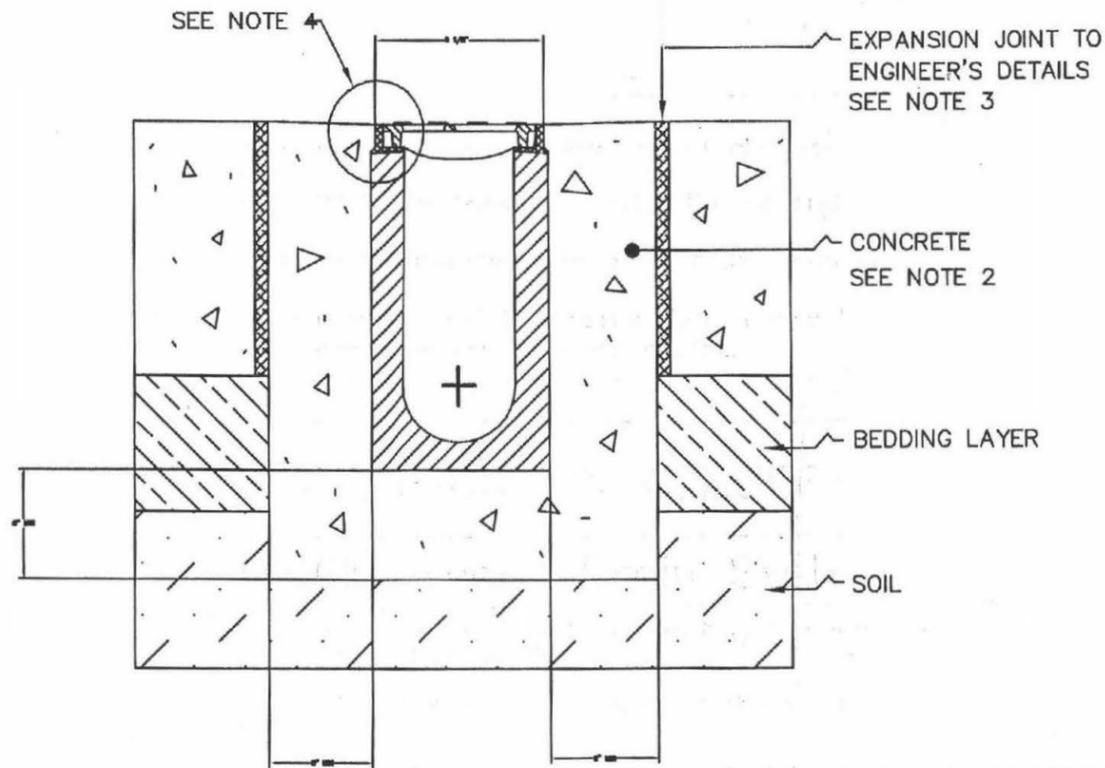


INSTALLATION DRAWING

ACO Polymer Products Inc.
 P.O. Box 245
 Chardon, OH 44024
 PH: 440-285-7000
 FX: 440-285-8517
 e-mail: sales@acousa.com

DRWG# 1248 Date: 1.04.01
 WWW.ACOUSA.COM

S100K: Load Class E : Concrete Finish



NOTES:

1. It is necessary to ensure the minimum dimensions shown are suitable for the existing ground conditions. Engineering advice may be required.
2. A minimum concrete strength of 3000 PSI is recommended. The concrete should be vibrated to eliminate air pockets.
3. Expansion and crack control joints are recommended to protect the channel and the concrete surround. Engineering advice may be required.
4. The finished level of the concrete surround must be approx. 1/8" above the top of the channel edge.
5. Refer to ACO'S latest installation instructions for complete details.



SPECIFICATION CLAUSE

ACO Polymer Products Inc.
 P.O. Box 245
 Chardon, OH 44024
 PH: 440-285-7000
 FX: 440-285-8517
 e-mail: sales@acousa.com

DRWG# 1248 Date: 1.04.01
 WWW.ACOUSA.COM

S100K Trench Drain System

The surface drainage system shall be polymer concrete S100K channel system with ductile iron rail and grate as manufactured by ACO Polymer Products, Inc., Chardon, Oh.

Channels will be manufactured from polyester resin polymer concrete with an integrally cast in ductile iron rail and supplied with ductile iron grates.

The system shall be 4 inches nominal inside width with a 6.3 in. overall width and a built-in slope of 0.6%. All channels shall be interlocking with a male/female joint. Each channel shall have a 4.5 in. schedule 40 round and 6 in. oval drill-out on the bottom for vertical connection with underground piping.

The complete drainage system shall be by ACO Polymer Products, Inc. Any deviation or partial system design and/or improper installation will void any and all warranties provided by ACO Polymer Products, Inc.

The channel system shall be independently certified to withstand loadings to load class E (DIN19580). Grates shall be secured using 'Powerlok' Boltless locking system. Grate and Locking system shall be fully removable from channel.

Polymer Concrete shall have material properties of: compressive strength range between 14,000-14,500 psi; flexural strength between 3600-4500 psi; tensile strength of 1500 psi. The material water absorption rate shall not exceed 0.1% by weight and shall be resistant to prolonged salt exposure, repetitive frost cycles and chemically resistant to dilute acids and alkalis.

The system shall be installed in accordance with the manufacturer's instructions and recommendations.

SP-21-09

SP-21-09

TRENCH DRAIN SEGMENTS

ACO DRAIN POWERDRAIN S100K OR APPROVED EQUAL

LENGTH 52.49' 21 UNITS:
UNIT SK15 INVERT 115.86
THROUGH TO
UNIT SK30 INVERT 115.54

LENGTH 13.12' 4 UNITS:
UNIT SK30 INVERT 115.54
THROUGH TO
SK27 INVERT 115.62

INLET

ACO DRAIN SK900 LOAD CLASS E OR APPROVED EQUAL
WITH SERIES 900 PLASTIC TRASH BUCKET
INVERT 114.50

DETAILS AND NOTES	DRAWING ST	Interoffice	
	Client for	Pre Appro	
SITE DEVELOPMENT PLAN FORMER STUCKEY'S SITE PARCEL "A" 9220 OLD STAGE ROAD STONEHOUSE MAGISTERIAL DISTRICT JAMES CITY COUNTY, VIRGINIA	COUNTY APP	1st Subm	
		2nd Subm	
		3rd Subm	
		Approved	
Designed:	CBN	Date:	2/26/09
Checked:	SAR	Scale:	AS NOTED
File Mgr./Drawn:	LFV	CADD File name:	C-6B_DETAILS
Project Number:	2004224-000.00	Dwg. File No.:	17741BW
Drawing Number		C-6B	

Cleaning & Inspection Schedule (4 times/year)

- September/October - Pre-Rainy Season Inspection
- November/April - Inspect and Clean out
(After first several rainfall events with intensities equal to or greater than 0.5" per hour)
- May/June - Post-Rainy Season Inspect, Clean out, Power Wash And Inspect Screen

**CDS TECHNOLOGIES
ANNUAL RECORD
OF
OPERATION AND MAINTENANCE**

OWNER _____
 ADDRESS _____
 OWNER REPRESENTATIVE _____ PHONE _____

CDS INSTALLATION:
 MODEL DESIGNATION _____ DATE _____
 SITE LOCATION _____
 DEPTH FROM COVER TO BOTTOM OF SUMP _____
 VOLUME OF SUMP _____ CUYD VOLUME/INCH DEPTH _____ CUYD

INSPECTIONS:

DATE/INSPECTOR	SCREEN INTEGRITY	FLOATABLES DEPTH	SEDIMENT VOLUME	SORBENT DISCOLORATION

OBSERVATIONS OF FUNCTION: _____

CLEANOUT:

DATE	VOLUME FLOATABLES	VOLUME SEDIMENTS	METHOD OF DISPOSAL OF FLOATABLES, SEDIMENTS, DECANT AND SORBENTS

OBSERVATIONS: _____

SCREEN MAINTENANCE:
 DATE OF POWER WASHING, INSPECTION AND OBSERVATIONS: _____

CERTIFICATION: _____ TITLE: _____
 DATE: _____

SP-21-09