



**APPLICATION ACCEPTED:** March 25, 2008  
**APPLICATION AMENDED:** December 22, 2008  
**PLANNING COMMISSION:** February 4, 2009  
**BOARD OF SUPERVISORS:** Not Scheduled

# County of Fairfax, Virginia

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**JANUARY 21, 2009**

## **STAFF REPORT**

**APPLICATIONS RZ 2008-LE-002 & SEA 78-L-074-06**

### **LEE DISTRICT**

**APPLICANT:** Hilltop Sand and Gravel Company, Inc.

**PRESENT ZONING:** R-1 – 61.27 acres  
I-3 – 3.51 acres (area of RZ)  
Total – 64.78 acres (area of SEA)

**REQUEST:** Rezone 3.51 acres from I-3 to R-1 (RZ);  
Reduce Land Area for Debris Landfill  
and Allow Recreation Facilities in Future (SEA)

**PARCEL:** 100-1 ((1)) 9 pt.

**ACREAGE:** RZ – 3.51 acres  
SEA – 64.78 acres

**FLOOR AREA RATIO (FAR):** 0.003

**OPEN SPACE:** 94 percent of 43.4 acres upon construction of the  
recreation facilities

**PLAN MAP:** Private Recreation

**PROPOSAL:** The applicant seeks to rezone 3.51 acres from  
I-3 to R-1, to reduce the land area in the  
existing debris landfill from 64.78 acres to  
43.40 acres, and to approve the recreation  
uses to be implemented upon closure of the  
landfill.

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**Peter Braham/St. Clair Williams**

Department of Planning and Zoning  
Zoning Evaluation Division  
12055 Government Center Parkway, Suite 801  
Fairfax, Virginia 22035-5509  
Phone 703-324-1290 FAX 703-324-3924  
[www.fairfaxcounty.gov/dpz/](http://www.fairfaxcounty.gov/dpz/)



## STAFF RECOMMENDATIONS:

Staff recommends approval of RZ 2008-LE-002 subject to the execution of the draft proffers contained in Appendix 1.

Staff further recommends that SEA 74-L-078-06 be approved subject to the development conditions contained in Appendix 2.

Staff further recommends that the transitional screening yard and barrier requirements be waived along all boundaries of the landfill to that depicted on the GDP/SEA Plat.

Staff further recommends that the Board approve the construction of the proffered recreation facilities on the closed landfill sooner than twenty (20) years after the closure of the landfill pursuant to the provisions of Par. 9 of Sect. 9-205.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

The approval of this rezoning does not interfere with, abrogate or annul any easement, covenants, or other agreements between parties, as they may apply to the property subject to this application.

For information, contact the Zoning Evaluation Division, Department of Planning and Zoning, 12055 Government Center Parkway, Suite 801, Fairfax, Virginia 22035-5505, (703) 324-1290.

*O:\pbraha\WPDOCS\RZ\Hilltop Cases\Landfill Documents\Landfill cover.doc*



Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 7 days advance notice. For additional information on ADA call (703) 324-1334 or TTY 711 (Virginia Relay Center).

# Rezoning Application

**RZ 2008-LE-002**

Applicant: HILLTOP SAND AND GRAVEL COMPANY, INC.  
Accepted: 03/25/2008  
Proposed: TO PERMIT CONTINUATION OF EXISTING LANDFILL AND FUTURE RECREATION FACILITIES

Area: 3.51 AC OF LAND; DISTRICT - LEE

Zoning Dist Sect:

Located: NORTHEAST OF BEULAH STREET APPROXIMATELY 1,000 FEET NORTH OF ITS INTERSECTION WITH TELEGRAPH ROAD

Zoning: FROM I-3 TO R-1

Overlay Dist: NR

Map Ref Num: 100-1-/01/ /0009 pt.

# Special Exception Amendment

**SEA 78-L-074-06**

Applicant: HILLTOP SAND AND GRAVEL COMPANY, INC.  
Accepted: 03/25/2008  
Proposed: AMEND SE 78-L-074 PREVIOUSLY APPROVED FOR LANDFILL TO PERMIT SITE MODIFICATIONS, REDUCTION OF LAND AREA, CONTINUATION OF EXISTING LANDFILL, AND TO ESTABLISH QUASI-PUBLIC RECREATION FACILITIES IN FUTURE

Area: 64.78 AC OF LAND; DISTRICT - LEE

Zoning Dist Sect: 03-0104

Art 9 Group and Use: 3-08 2-03

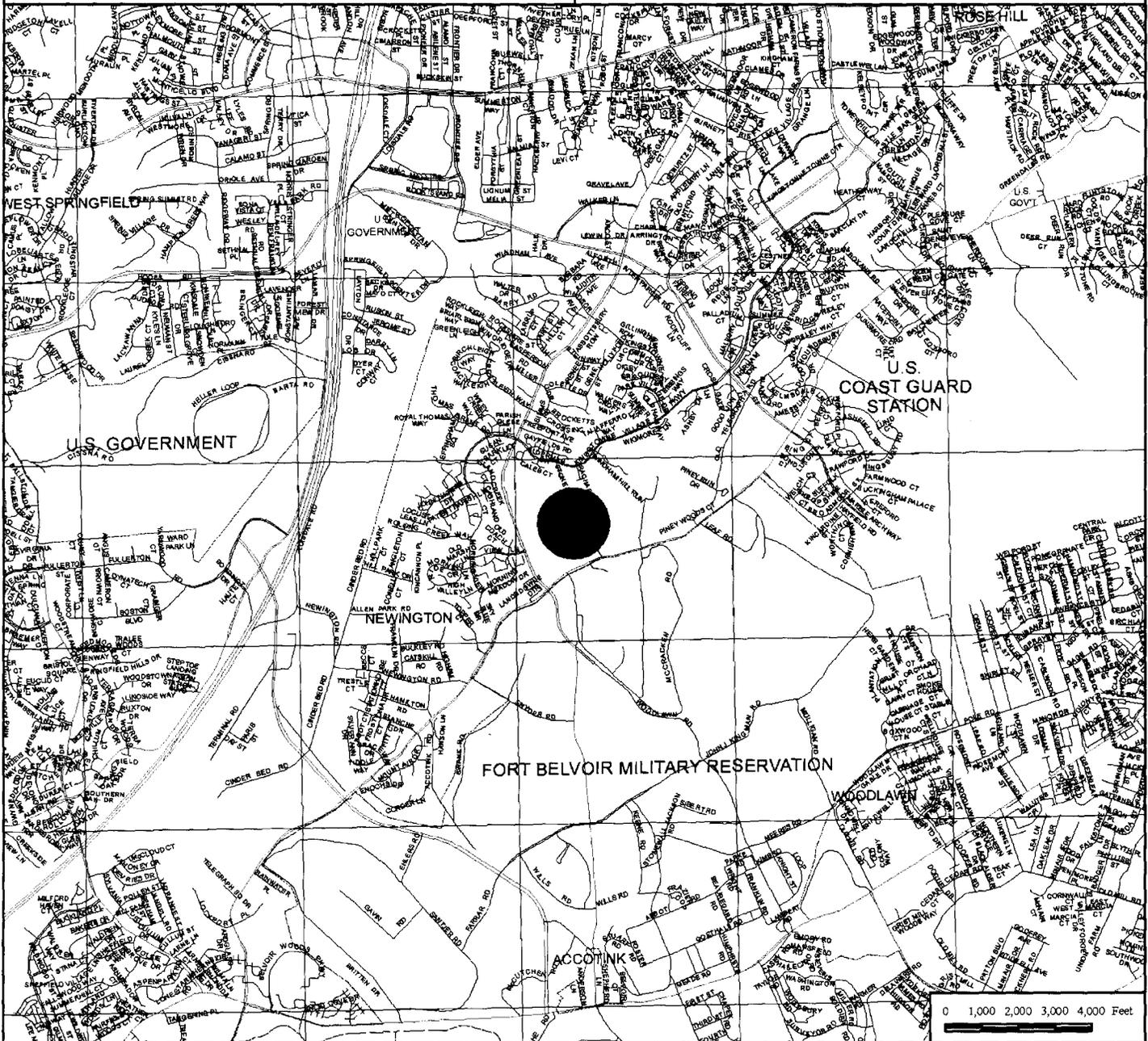
Located: EAST SIDE OF BEULAH STREET APPROXIMATELY 1,000 FEET NORTH OF ITS INTERSECTION WITH TELEGRAPH ROAD

Zoning: R-1

Plan Area: 4,

Overlay Dist: NR

Map Ref Num: 100-1-/01/ /0009 pt.



# Rezoning Application

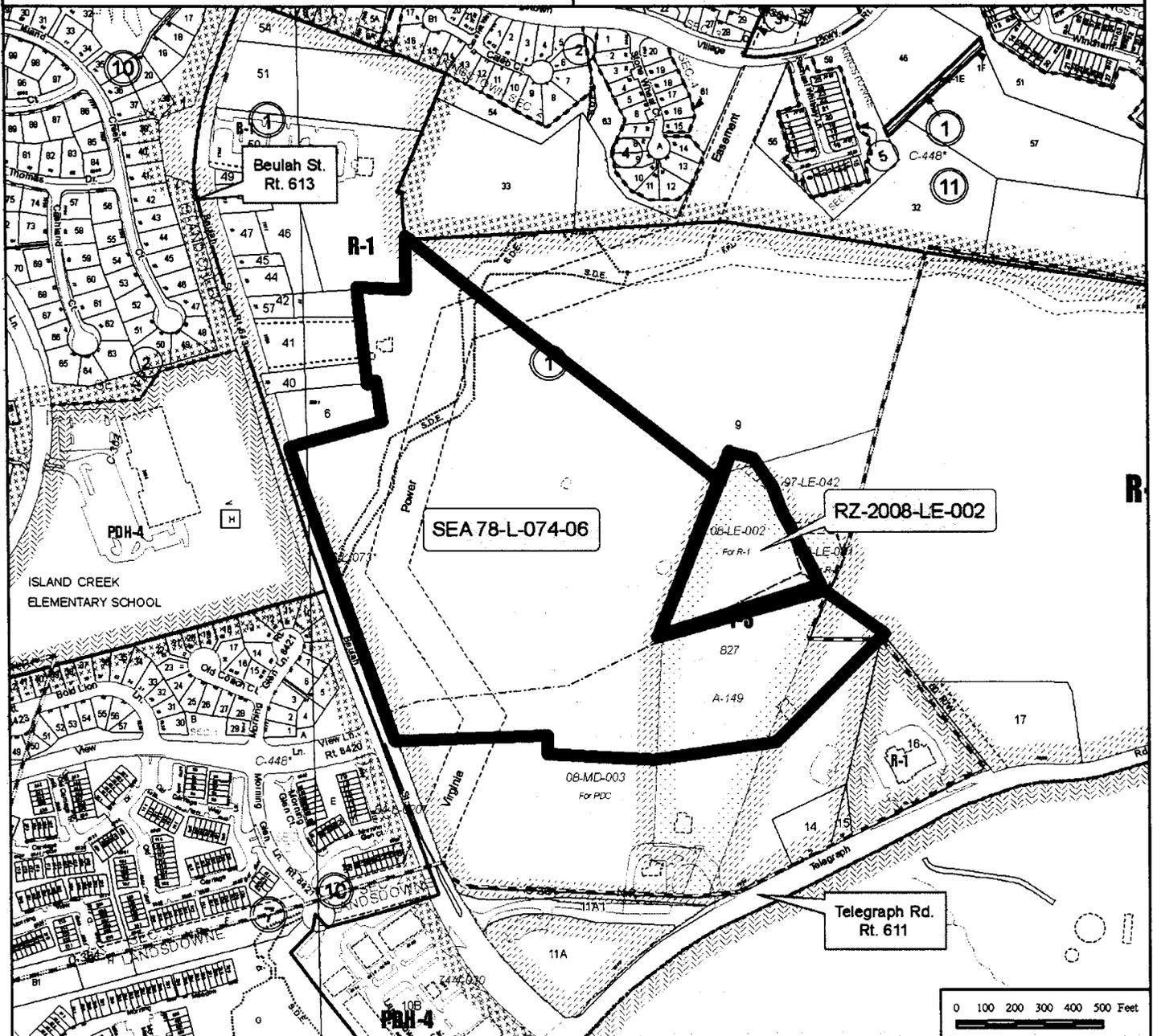
**RZ 2008-LE-002**

**Applicant:** HILLTOP SAND AND GRAVEL COMPANY, INC.  
**Accepted:** 03/25/2008  
**Proposed:** TO PERMIT CONTINUATION OF EXISTING LANDFILL AND FUTURE RECREATION FACILITIES  
**Area:** 3.51 AC OF LAND; DISTRICT - LEE  
**Zoning Dist Sect:**  
**Located:** NORTHEAST OF BEULAH STREET APPROXIMATELY 1,000 FEET NORTH OF ITS INTERSECTION WITH TELEGRAPH ROAD  
**Zoning:** FROM I- 3 TO R- 1  
**Overlay Dist:** NR  
**Map Ref Num:** 100-1- /01/ /0009 pt.

# Special Exception Amendment

**SEA 78-L-074-06**

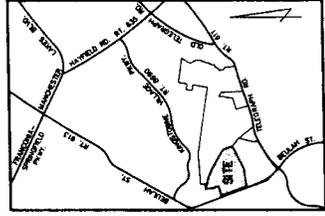
**Applicant:** HILLTOP SAND AND GRAVEL COMPANY, INC.  
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**Area:** 64.78 AC OF LAND; DISTRICT - LEE  
**Zoning Dist Sect:** 03-0104  
**Art 9 Group and Use:** 3-08 2-03  
**Located:** EAST SIDE OF BEULAH STREET APPROXIMATELY 1,000 FEET NORTH OF ITS INTERSECTION WITH TELEGRAPH ROAD  
**Zoning:** R- 1  
**Plan Area:** 4,  
**Overlay Dist:** NR  
**Map Ref Num:** 100-1- /01/ /0009 pt.



# HILLTOP CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL

Lee District Fairfax County, Virginia

## GENERALIZED DEVELOPMENT PLAN / SPECIAL EXCEPTION AMENDMENT



VICINITY MAP  
SCALE: 1" = 2,000'

**Applicant:**  
Hilltop Sand and Gravel Company, Inc.  
7950 Telegraph Road  
Alexandria, VA 22315

**Sheet Index**

- 1. COVER SHEET
- 2. GENERALIZED DEVELOPMENT PLAN / SPECIAL EXCEPTION AMENDMENT - PHASE I
- 3. GENERALIZED DEVELOPMENT PLAN / SPECIAL EXCEPTION AMENDMENT - PHASE II
- 4. NOTES AND TABULATION
- 5. STORMWATER MANAGEMENT - OUTFALL NARRATIVE
- 6. STORMWATER MANAGEMENT - NARRATIVES
- 7. STORMWATER MANAGEMENT

Hilltop Construction and Demolition Debris Landfill  
Generalized Development Plan /  
Special Exception Amendment

M-10694

Revision: 12.02.08  
Revision: 10.17.08  
February 12, 2008













SCALE

NO.	DATE	BY	DESCRIPTION
1	10/17/08	AW	NO CHANGE
2	12/02/08	DAC	

APPROVED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: February 12, 2008

**Hilltop Construction and Demolition Debris Landfill**  
 GOP / SEA  
 Stormwater Management

PROJECT NO.

Hilltop Sand & Gravel, SMI  
 USING RAINFALL DATA FROM EFX CO PFM AND WRCS TYPE II 24-HR STORM  
 FILENAME: EXISTING\_IH1

OUTPUT CONTROL VARIABLES  
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COMPUTATION INTERVAL: 0.1 HOURS  
 TOTAL TIME BASE: 26.63 HOURS

ENGLISH UNITS AREA: SQUARE FEET  
 PRECIPITATION DEPTH: INCHES  
 FLOW: CFS  
 SURFACE AREA: ACRES  
 TEMPERATURE: DEGREES FAHRENHEIT  
 MULTI-PLAN OPTION: 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION: 1 NUMBER OF PLANS  
 1.20 5.20 7.30

8 RK PREDSV

10 KO PREDSV

40 RK INFLOW

42 KO PREDSV

46 RK EXSMII

48 KO PREDSV

OPERATION STATUS AREA FLOW

HYDROGRAPH AT PREDDY .38 1 FLOW 244. 587. 893. 12.27 12.27 12.27

HYDROGRAPH AT INFLOW .38 1 FLOW 370. 785. 1168. 12.17 12.17 12.17

ROUTED TO EXSMII .38 1 FLOW 274. 604. 1038. 12.33 12.33 12.33

\*\* PEAK STAGES IN FEET \*\*  
 1 TIME: 12.33 12.30 12.27

PEAK FLOW AND STAGE (FEET OR FEET) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS  
 FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES  
 TIME TO PEAK IN HOURS

RATIOS APPLIED TO PRECIPITATION  
 PREDDY: 3.20 5.20 7.30

U.S. ARMY CORPS OF ENGINEERS  
 HYDROLOGIC ENGINEERING CENTER  
 DAVIS, CALIFORNIA 95616  
 (916) 756-1104

FLOOD HYDROGRAPH PACKAGE (REC-1)  
 JUN 1998  
 VERSION 4.1  
 RUN DATE 14JAN08 TIME 11:10:43

REC-1 INPUT

U.S. ARMY CORPS OF ENGINEERS  
 HYDROLOGIC ENGINEERING CENTER  
 DAVIS, CALIFORNIA 95616  
 (916) 756-1104

FLOOD HYDROGRAPH PACKAGE (REC-1)  
 JUN 1998  
 VERSION 4.1  
 RUN DATE 14JAN08 TIME 11:10:43

REC-1 INPUT

U.S. ARMY CORPS OF ENGINEERS  
 HYDROLOGIC ENGINEERING CENTER  
 DAVIS, CALIFORNIA 95616  
 (916) 756-1104

FLOOD HYDROGRAPH PACKAGE (REC-1)  
 JUN 1998  
 VERSION 4.1  
 RUN DATE 14JAN08 TIME 11:10:43

REC-1 INPUT

U.S. ARMY CORPS OF ENGINEERS  
 HYDROLOGIC ENGINEERING CENTER  
 DAVIS, CALIFORNIA 95616  
 (916) 756-1104

FLOOD HYDROGRAPH PACKAGE (REC-1)  
 JUN 1998  
 VERSION 4.1  
 RUN DATE 14JAN08 TIME 11:10:43

REC-1 INPUT

11000 DEWEY DRIVE  
DAVIS, CALIFORNIA 95616  
TEL: (916) 756-1104  
WWW.DDBERRY.COM

**HILLTOP  
DEMOLITION DEBRIS  
CONSTRUCTION AND  
GENERALIZED DEVELOPMENT PLAN /  
SPECIAL EXCEPTION AMENDMENT**



PLANNING  
SPECIAL EXCEPTION AMENDMENT  
HILLTOP  
DEMOLITION DEBRIS  
CONSTRUCTION AND  
GENERALIZED DEVELOPMENT PLAN /  
SPECIAL EXCEPTION AMENDMENT  
FAYATTS COUNTY, MONTANA  
LEE DORRICK

SCALE

NO.	DATE	BY	DESCRIPTION
1	10.17.08	ML	PRELIMINARY
2	12.02.08	DNC	OUTLET X-SECT
3	12.02.08	DNC	OUTLET X-SECT
4	12.02.08	DNC	OUTLET X-SECT
5	12.02.08	DNC	OUTLET X-SECT
6	12.02.08	DNC	OUTLET X-SECT
7	12.02.08	DNC	OUTLET X-SECT
8	12.02.08	DNC	OUTLET X-SECT
9	12.02.08	DNC	OUTLET X-SECT
10	12.02.08	DNC	OUTLET X-SECT

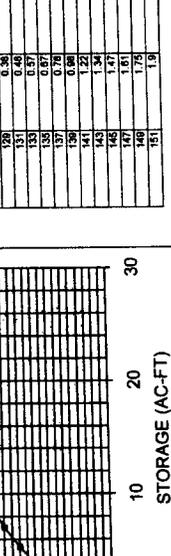
DESIGNED BY: ML  
CHECKED BY: ML  
DATE: February 13, 2008  
TITLE: Hilltop Construction and Demolition Debris Landfill GSP / SEA Stormwater Management PROJECT NO. 110000

**PEAK FLOW AND STAGE (RECURRING PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS  
CLOSED IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES**

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION		NOVA TYPE 14
				2-YEAR RATIO	10-YEAR RATIO	
HYDROGRAPH AT	BASIN1	.28	1	2.75	5.62	1.041
				12.17	12.17	12.17
ROUTED TO	ELSMH1	.28	1	20.33	45.31	1.275
				12.33	12.33	12.33
HYDROGRAPH AT	BASIN2	.10	1	16.03	30.8	1.189
				12.03	12.03	12.03
ROUTED TO	POND2	.10	1	4.0	12.0	1.140
				12.13	12.13	12.13
COMBINED AT	COWB12	.38	1	24.0	54.7	1.173
				12.27	12.27	12.27

OPERATION	STATION	AREA	PLAN	INITIAL VALUE	SPILLWAY RESET	TOP OF DAM	MAXIMUM OUTFLOW CFS	MAXIMUM STORAGE AC-FT	DURATION OVER TOP HOURS	TIME OF DESCENT HOURS
1	COWB12	.38	1	144.70	14.00	51.00	145.43	11.00	40.00	10.75
2	ELSMH1	.28	1	148.04	14.00	51.00	148.04	11.00	40.00	10.75
3	BASIN1	.28	1	149.79	14.00	51.00	149.79	11.00	40.00	10.75
4	BASIN2	.10	1	150.22	14.00	51.00	150.22	11.00	40.00	10.75

\*\*\* NORMAL END OF REC-1 \*\*\*  
NOTE: A DRAINAGE SHIFT IN THE POND ELEVATION OCCURRED, WHICH REQUIRES THE ELEVATIONS IN THE COMPUTATIONS TO BE REDUCED BY 3 FEET. THE SHAPE OF THE POND HAS BEEN MAINTAINED AND THE STAGE STORAGE CURVE HAS BEEN UPDATED.



ELEVATION (FEET)	AREA (ACRES)	INCREMENTAL VOLUME (ACRE-FEET)	TOTAL VOLUME (ACRE-FEET)
127	0.07	0.2259	0.2259
128	0.38	0.5244	0.7503
129	0.48	0.5871	1.3374
130	0.57	0.6500	2.0074
131	0.67	0.7130	2.7204
132	0.76	0.7761	3.4965
133	0.86	0.8393	4.3358
134	0.96	0.9025	5.2383
135	1.06	0.9657	6.2040
136	1.16	1.0289	7.2329
137	1.26	1.0921	8.3250
138	1.36	1.1553	9.4803
139	1.46	1.2185	10.6988
140	1.56	1.2817	11.9805
141	1.66	1.3449	13.3254
142	1.76	1.4081	14.7335
143	1.86	1.4713	16.2048
144	1.96	1.5345	17.7393
145	2.06	1.5977	19.3370
146	2.16	1.6609	21.0079
147	2.26	1.7241	22.7320
148	2.36	1.7873	24.5193
149	2.46	1.8505	26.3698
150	2.56	1.9137	28.2835



**U.S. ARMY CORPS OF ENGINEERS  
HYDROLOGIC ENGINEERING CENTER  
DAVIS, CALIFORNIA 95616  
(916) 756-1104**

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF REC-1 KNOWN AS REC1 (JAN 73), RECLOS, REC120, AND REC12H.  
THE DEFINITION OF VARIABLES -RTIME- AND -RTOR- HAVE CHANGED FROM THOSE USED IN THE ORIGINAL VERSION.  
THE DEFINITION OF -AMBR- ON -IN- HAS CHANGED FROM THOSE USED IN THE ORIGINAL VERSION.  
THE DEFINITION OF -SINGLE EVENT DAMAGE CALCULATION, DIS-EMIT DAMAGE CALCULATION, DIS-EMIT DAMAGE CALCULATION,  
DIS-READ TIME SERIES AT DESIRED CALCULATION INTERVAL, LOSS RATE-GREEN AND AMPT INFILTRATION  
ALGORITHMS HAVE BEEN REVISED TO USE THE FOLLOWING ALGORITHM.

LINE	ID	1	2	3	4	5	6	7	8	9	10
1	REC-1	1	2	3	4	5	6	7	8	9	10
2	REC-2	1	2	3	4	5	6	7	8	9	10
3	REC-3	1	2	3	4	5	6	7	8	9	10
4	REC-4	1	2	3	4	5	6	7	8	9	10
5	REC-5	1	2	3	4	5	6	7	8	9	10
6	REC-6	1	2	3	4	5	6	7	8	9	10
7	REC-7	1	2	3	4	5	6	7	8	9	10
8	REC-8	1	2	3	4	5	6	7	8	9	10
9	REC-9	1	2	3	4	5	6	7	8	9	10
10	REC-10	1	2	3	4	5	6	7	8	9	10
11	REC-11	1	2	3	4	5	6	7	8	9	10
12	REC-12	1	2	3	4	5	6	7	8	9	10
13	REC-13	1	2	3	4	5	6	7	8	9	10
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49	REC-49	1	2	3	4	5	6	7	8	9	10
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51	REC-51	1	2	3	4	5	6	7	8	9	10
52	REC-52	1	2	3	4	5	6	7	8	9	10
53	REC-53	1	2	3	4	5	6	7	8	9	10
54	REC-54	1	2	3	4	5	6	7	8	9	10
55	REC-55	1	2	3	4	5	6	7	8	9	10
56	REC-56	1	2	3	4	5	6	7	8	9	10
57	REC-57	1	2	3	4	5	6	7	8	9	10
58	REC-58	1	2	3	4	5	6	7	8	9	10
59	REC-59	1	2	3	4	5	6	7	8	9	10
60	REC-60	1	2	3	4	5	6	7	8	9	10
61	REC-61	1	2	3	4	5	6	7	8	9	10
62	REC-62	1	2	3	4	5	6	7	8	9	10
63	REC-63	1	2	3	4	5	6	7	8	9	10
64	REC-64	1	2	3	4	5	6	7	8	9	10
65	REC-65	1	2	3	4	5	6	7	8	9	10
66	REC-66	1	2	3	4	5	6	7	8	9	10
67	REC-67	1	2	3	4	5	6	7	8	9	10
68	REC-68	1	2	3	4	5	6	7	8	9	10
69	REC-69	1	2	3	4	5	6	7	8	9	10
70	REC-70	1	2	3	4	5	6	7	8	9	10
71	REC-71	1	2	3	4	5	6	7	8	9	10

LINE	ID	1	2	3	4	5	6	7	8	9	10
1	REC-1	1	2	3	4	5	6	7	8	9	10
2	REC-2	1	2	3	4	5	6	7	8	9	10
3	REC-3	1	2	3	4	5	6	7	8	9	10
4	REC-4	1	2	3	4	5	6	7	8	9	10
5	REC-5	1	2	3	4	5	6	7	8	9	10
6	REC-6	1	2	3	4	5	6	7	8	9	10
7	REC-7	1	2	3	4	5	6	7	8	9	10
8	REC-8	1	2	3	4	5	6	7	8	9	10

**A GLOSSARY OF TERMS FREQUENTLY  
USED IN STAFF REPORTS WILL BE  
FOUND AT THE BACK OF THIS REPORT**

**DESCRIPTION OF THE APPLICATION**

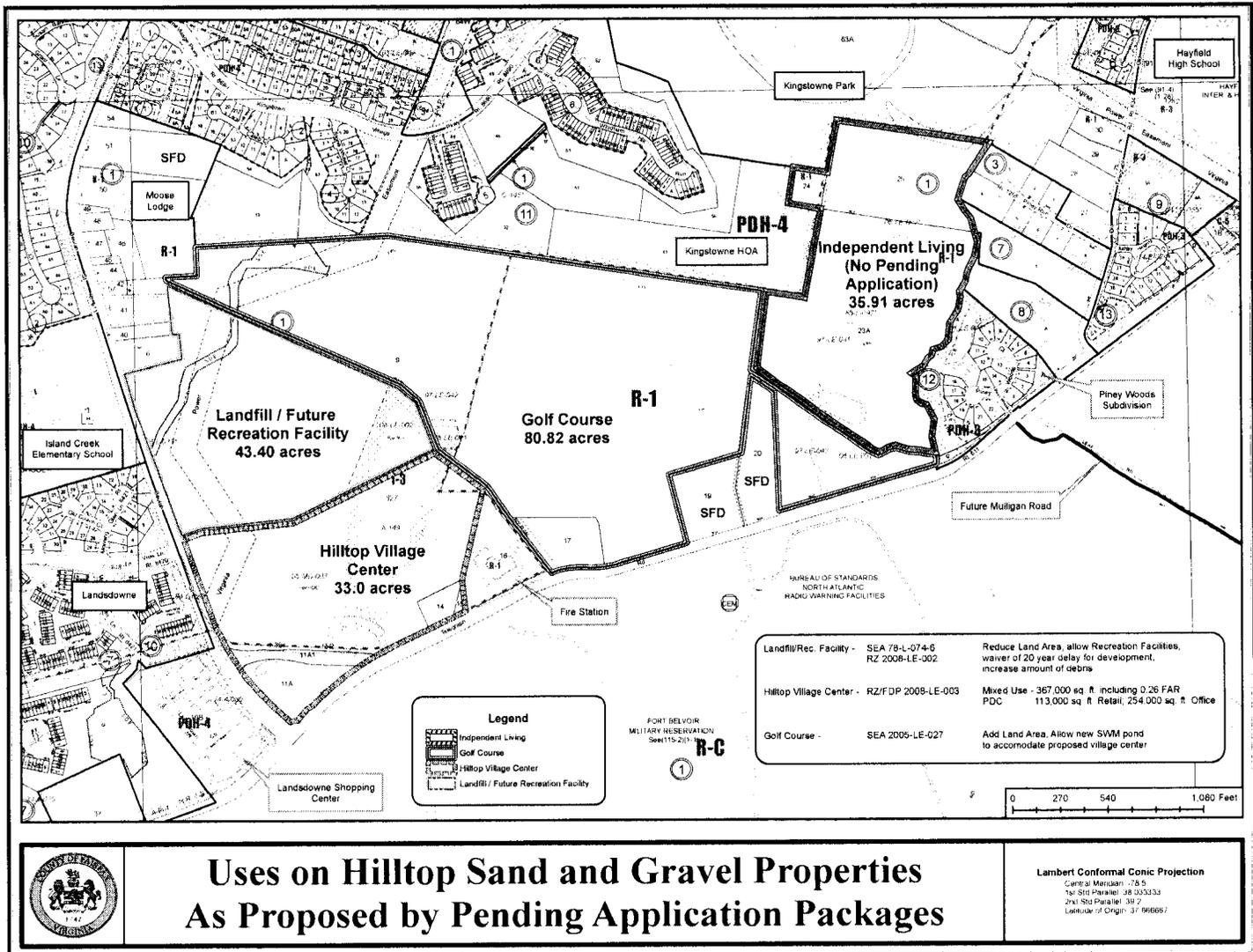
The applicant, Hilltop Sand & Gravel, Inc., has filed two applications related to the existing construction and demolition debris (CDD) landfill currently in operation. The first application is a proposal to amend SEA 78-L-074-5, the latest approval for the landfill operation in order: to reduce the land area from 64.78 acres to 35.88 acres; to increase the amount of fill permitted in the CDD landfill to 8.95 million cubic yards from 8.5 million cubic yards; and to gain approval of the recreation facilities that will be installed upon closure of the landfill operation. The proposed additional fill will allow the creation of a larger flat surface on top of the landfill (approximately 11.0 acres in size) to accommodate the proposed recreation facilities. The existing power line easement through the middle of the site will remain in place.

The submitted combined Generalized Development Plan/Special Exception Amendment Plat (GDP/SEA Plat) depicts development of two phases: the first phase illustrates the on-going landfill operations and the second phase illustrates the closed landfill with the proposed recreation facilities. There is an existing dwelling in the northwest corner of the site, which continues to be used as a residence. To implement the recreation facilities as soon as possible, the applicant is requesting a modification of the additional Special Exception standard that prohibits other uses from being built on the site for twenty (20) years after closure of a landfill (Par. 9, Sect. 9-205).

The rezoning application has been filed to rezone 3.51 acres within the bounds of the landfill from the I-3 District to the R-1 District; the remainder of the landfill property is in the R-1 District. There are no proffers associated with this rezoning. The applicant is also requesting that the previously granted transitional screening and barrier waivers be continued along Beulah Street and the western, northern and northwestern boundaries where the landfill abuts property not included in the holdings of Hilltop Sand & Gravel, Inc. The applicant is also requesting that the transitional screening yard and barrier requirements be modified along the new southern boundary of the landfill, where it will abut the proposed Hilltop Village Center.

These two applications have been filed in conjunction with three other applications (RZ/FDP 2008-LE-003 and SEA 2005-LE-027) affecting other portions of the land holdings of the applicant in this vicinity. The genesis for all of these applications is a proposal to develop a shopping center, known as Hilltop Village Center, on 33.0 acres of land located in the northeast quadrant of the intersection of Telegraph Road (Rt. 611) and Beulah Street (Rt. 613), pursuant to pending rezoning case, RZ/FDP 2008-LE-003. Most of the 33 acres proposed to rezone to the PDC District to allow the development of the shopping center are currently included in the special exception approval for the landfill; much of that land supports the landfill operation, (approximately 7.0 acres are part of the active landfill). The other two

applications have been filed on the 82.14 acres that have been developed with the Hilltop Golf Course, approved pursuant to SE 2005-LE-027, to accommodate a stormwater management/best management facility for the proposed shopping center. Filed concurrently with that application is RZ 2008-LE-001 to rezone 0.73 acres within the golf course from I-3 to R-1; the remainder of the land in the golf course is zoned



R-1. This report addresses the issues associated with the proposal for the landfill property only; the issues associated with the proposed shopping center and the proposed alterations to the Hilltop Golf Course are contained in separate reports for those respective applications.

A reduced copy of the proposed combined Generalized Development Plan/Special Exception Amendment Plat (GDP/SEA Plat) for the proposed changes to the landfill and the future recreation facilities is included in the front of this report. As noted earlier in this report, there are no proffers associated with RZ 2008-LE-002. The proposed development conditions for SEA 78-L-074-06 are included as Appendix 1. The applicant's affidavits are in Appendix 2 and the applicant's statements regarding the application are included as Appendix 3. The Clerk to the Board's letter regarding

the approval of SEA 78-L-074-5 is to be found in Appendix 4. Appendix 5 contains a reduced copy of the Special Exception Plat (SE Plat) approved in conjunction with SEA 78-L-074-5. Appendix 6 includes a copy of the locator map for RZ 2008-LE-003 and a reduction of the Conceptual/Final Development Plan (CDP/FDP) for that application. Appendix 7 includes a copy of the combined locator map for SEA 2005-LE-027 and RZ 2008-LE-001, which affect the golf course, along with a reduction of the GDP/SEA Plat. Appendix 8 includes information regarding the approval of an independent living facility along the eastern portion of the Hilltop Sand & Gravel properties pursuant to RZ-2006-LE-003 and SEA-2006-LE-028.

A landfill is a Category 2, Heavy Public Utility Use and requires approval of a special exception which is subject to the Additional Standards for Landfills contained in Sect. 9-205, the Standards for all Category 2 Uses contained in Sect. 9-204 and the General Standards found in Sect. 9-006. If operated by the Fairfax County Park Authority, the proposed recreation facilities are considered a public use; if privately operated, the proposed recreation facilities would be a Category 3, Quasi-public use, quasi-public parks, playgrounds, athletic fields and related facilities. The most relevant standards are contained in the Excerpts from the Zoning Ordinance found in Appendix 19.

**LOCATION AND CHARACTER**

<b>SURROUNDING AREA DESCRIPTION</b>			
<b>Direction</b>	<b>Use</b>	<b>Zoning</b>	<b>Plan Map</b>
<b>North</b>	Residential Open Space (Kingstowne)	PDH-4	3-4 du/ac
	Single Family Detached	R-1	1-2 du/ac
<b>South</b>	Fort Belvoir	R-C	Public Facilities, Government & Institutional
<b>East</b>	Recreation Facility (Hilltop Golf Course)	R-1	Private Recreation
<b>West</b>	Single Family Detached (Lansdowne)	PDH-4	3-4 du/ac

**BACKGROUND**

Construction and Demolition Debris (CCD) Landfill

The following information comes from [www.Howstuffworks.com](http://www.Howstuffworks.com) as written by Craig C. Freudenrich, Ph.D.

*"The purpose of a landfill is to bury trash in such a way that it will be isolated from groundwater, will be kept dry and will not be in contact with air. By doing this, trash will not decompose much. A landfill is not like a compost pile, where the purpose is to bury trash in such a way that it will decompose quickly."*

*During landfill operations, the waste collection vehicles are weighed upon arrival and their load is inspected for any unpermitted wastes. The waste collection vehicles then drive to the working front of the landfill where they unload their load of waste (the working front is constantly changing). After the loads are deposited, compactors or dozers are used to spread and compact the waste on the working face.*

*The basic parts of a landfill are described below:*

- *Bottom Liner System. The bottom liner prevents the trash (and any subsequent leachate) from coming in contact with the outside soil, particularly the groundwater.*
- *Cells. In order to ensure that as much waste as possible can be stored within a landfill, the waste is compacted into areas, called cells, which contain only one day's trash. Compression is done by heavy equipment (tractors, bulldozers, rollers and graders). Once the cell is made, it is covered with six inches of soil and compacted further. Cells are arranged in rows and layers of adjoining cells (also known as lifts).*
- *Stormwater Drainage System. It is important to keep the landfill as dry as possible to reduce the amount of leachate (water that percolates through a landfill and contains contaminating substances). To exclude rainwater, the landfill has a storm drainage system. Plastic drainage pipes and storm liners collect water from areas of the landfill and channel it to drainage ditches surrounding the landfill's base. The collected water is then tested for leachate chemicals. Once settling has occurred and the water has passed tests, it is then pumped or allowed to flow off-site.*
- *Leachate Collection System. No system to exclude water from the landfill is perfect and water does get into the landfill. The water percolates through the cells and soil in the landfill, it picks up contaminants from the waste (organic and inorganic chemicals, metals, biological waste products of decomposition). This water with the dissolved contaminants is called leachate and is typically acidic. To collect leachate, perforated pipes run throughout the landfill. These pipes then drain into a leachate pipe, which carries leachate to a leachate collection pond. Leachate can be pumped to the collection pond or flow to it by gravity. The leachate in the pond is tested for acceptable levels of various chemicals and allowed to settle. After testing, the leachate is then treated and released.*
- *Methane Collection System. The methane collection system collects methane gas that is formed during the breakdown of trash. Bacteria in the landfill break down the trash in the absence of oxygen because the landfill is airtight. A byproduct of this anaerobic breakdown is landfill gas, which contains approximately 50 percent methane and 50 percent carbon dioxide with small amounts of nitrogen and oxygen. Because methane can explode*

*and/or burn, the landfill gas must be removed. To do this, a series of pipes are embedded within the landfill to collect the gas. In some landfills, this gas is vented or burned.*

- *Cap. The cap seals off the top of the landfill. As mentioned above, each cell is covered daily in order to seal the compacted trash from the air and prevent vectors from getting into the trash. When a section of the landfill is finished, it is covered permanently with a polyethylene cap. The cap is then covered with a 2-foot layer of compacted soil. The soil is then planted with vegetation to prevent erosion of the soil by rainfall and wind. Generally, the vegetation consists of grasses. Trees, shrubs or plants with deep penetrating roots are generally not used because the plant roots could break through the cap, contact the underlying trash and allow leachate out of the landfill.*
- *Groundwater Monitoring. In order to sample and test groundwater for the presence of leachate chemicals, groundwater monitoring stations are located in several areas around the landfill. The temperature of the groundwater is measured. Because the temperature rises when solid waste decomposes, an increase in groundwater temperature could indicate that leachate is seeping into the groundwater. Also, if the pH of the groundwater becomes acidic, that could indicate seeping leachate."*

In Virginia, any owner or operator of a construction and demolition debris landfill must apply for a solid waste permit. This application is filed with the Virginia Department of Environmental Quality (VaDEQ) and reviewed for consistency and technical adequacy in accordance with the requirements of the Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-80-20, et. seq.). In addition, State law and regulation require owners or operators of permitted facilities to provide financial assurance to assure that funds are available to properly close the facility to protect human health and the environment. The purpose of this financial assurance is to ensure that should the owner or operator of the landfill walk away or file bankruptcy or for some other reason cannot close the facility or conduct post-closure, then VaDEQ will have the money to complete the necessary closure and post-closure care activities at the landfill.

VaDEQ defines closure as "the act of securing a facility once it ceases to accept waste." In general, this includes placing a final cover over the landfill, grading the landfill so as to prevent ponding and to provide a suitable vegetative cover over the final landfill cap. VaDEQ defines post-closure care as "the requirements placed upon the owner or operator after closure for a certain number of years." According to VaDEQ, post-closure care includes activities such as "maintaining the integrity and effectiveness of the final cover, maintaining and operating the leachate collection system, monitoring the groundwater and maintaining and operating the gas monitoring system." VaDEQ determines the amount of time that post-closure activities are required; that time period depends on the type of landfill involved. In the case of CDD landfills, post-closure activities generally last at least 10 years, while a sanitary landfill must conduct post-closure activities for at least 30 years. VaDEQ determines the amount of financial

assurance to be posted based upon the cost estimate for all aspects of closing and conducting post-closure care. VaDEQ permits financial assurance to be provided via a trust agreement, performance bond, letter of credit or certificate of deposit. Once VaDEQ has approved the facility's certification of completion of closure and post-closure activities, the financial assurance is returned to the operator/owner.

### Hilltop Sand & Gravel Landfill

A Construction and Demolition Debris Landfill accepts materials generated during the construction, renovation and demolition of buildings, roads and bridges, including concrete, wood, asphalt, gypsum, bricks, trees, stumps and rock. In this way, a CDD landfill is different from a sanitary or municipal solid waste (MSW) landfill, such as the County's I-95 Landfill Complex. Sanitary and MSW landfills accept a wide range of non-hazardous materials (usually household waste), including wastes high in organic material (such as food wastes) which leads to a high level of decomposition that takes place within sanitary and MSW landfills, producing methane generation, odor, settlement, groundwater and air pollution issues. However, because CDD landfills accept mostly inert materials, methane, odor and settlement issues are less of a concern. Finally, sanitary and MSW landfills are subject to Environmental Protection Agency (EPA) landfill criteria; CDD landfills are regulated by state and local governments (however, EPA regulations ban hazardous waste from being dumped in CDD landfills unless a landfill meets certain standards). The Hilltop Sand & Gravel landfill is being operated pursuant to Solid Waste Permit No. 326 issued by the Virginia Department of Environmental Quality (VaDEQ).

Portions of the original CDD landfill have been previously closed and converted to a nine (9) hole golf course. (See the portion of the zoning history below that addresses the golf course). The closure was undertaken pursuant to a closure plan approved for that portion of the landfill and approved by VaDEQ. A closure plan addresses issues associated with a closing a CDD landfill including, but not limited to: gas collection; settlement; the type and materials to be used in the cap; prevention of slides along the slopes of the closed landfill; on-going maintenance issues associated with the closed landfill, such as mowing to prevent woody vegetation from compromising the cap; the proper disposal of leachate, in this instance, into the sanitary sewer system; and, an on-going commitment to monitoring and maintenance, which is secured by a trust formed to provide assurance that funds will be available as necessary for closure or post-closure activities pursuant to the applicable state regulations.

The property owner has filed and received approval of a closure plan for the remaining area of the landfill operations. This is a two phased closure plan. The first phase addresses the closure of the portion of the active landfill that will be included in the proposed 33-acre Hilltop Village Center shopping center. The Hilltop Village Center proposal includes seven (7) acres that are currently part of the landfill and that will be redeveloped as parking areas and access roadways for Hilltop Village Center. The active landfill operations will then continue on the remaining 35.88 acres of land until such time as the fill limits are reached. At that time, this land will then be redeveloped with the proposed recreation facilities. A copy of the executive summary from the approved closure plan is included as Appendix 10 and a copy of the full closure plan is

on file with DPZ. A copy of the letter of approval from VaDEQ is included as Appendix 10.

### Hilltop Sand & Gravel Properties Zoning History

#### Summary of the History

The holdings of the Hilltop Sand & Gravel in this vicinity extend from Beulah Street on the west to Piney Run on the east and from Telegraph Road on the south to Kingstowne on the north. Much of the property was originally developed with a sand and gravel mining operation which then was converted to a construction and demolition debris landfill.

The easternmost portion of the property, adjacent to Piney Run, was not included in the mining or landfill operations and is currently developed with a golf driving range and a portion of the golf course. Pursuant to the approval of RZ 2006-LE-003 and SE 2005-LE-028 on July 10, 2006, the golf driving range and some vacant property to the north were approved for the development of a 376 unit independent living facility. Approximately seven acres of land located between the independent living facility and Telegraph Road were approved to be part of the golf course (including expanded parking areas and a clubhouse) pursuant to RZ 2006-LE-002 and SE 2005-LE-027. These records are on file with the Department of Planning and Zoning (DPZ).

The central portion of the overall Hilltop Sand & Gravel properties has been developed with a nine-hole golf course, which is located on a portion of the landfill which has been closed. The golf course was originally approved pursuant to special permit, SP 97-L-037, which upon amendment of the Zoning Ordinance to require approval of a special exception rather than a special permit for a golf course, was amended pursuant to SE 2005-LE-027. The property located closest to Beulah Street is currently part of the landfill operation. It also contains a private recreation facility - a little league ball field near the intersection of Beulah Street and Telegraph Road. See Appendices 5 and 6 for the records of approval for SEA 78-L-074-5.

The following provides a more detailed history of the various zoning cases affecting the property of the applicant, including those areas not included in the application property addressed in this staff report.

#### SE 78-L-074 et. seq.

Part of the debris landfill operated by the applicant, Hilltop Sand and Gravel Company, Inc., previously included the portion of the application property where holes two (2) through nine (9) of the golf course have been constructed. That part of the landfill has been closed; the landfill operation continues to the west between the golf course and Beulah Road. The debris landfill was originally granted zoning approval pursuant to SE 78-L-074 (approved December 18, 1978), which was subsequently amended to increase the size of the land area

and for other modifications. In 1998, SEA 78-L-074-5 was approved to reduce the land area included in the debris landfill from 135.97 acres to 64.78 acres and to allow, in conjunction with several other applications which are addressed below, construction of the golf course, the golf driving range and other as yet un-built commercial recreation facilities, including a miniature golf course. This application also included a request to allow construction upon a landfill prior to the twenty years after closure required by the special exception is additional standards for landfills in order to allow the golf course. The records for these approvals are on file with DPZ.

#### RZ 85-L-092 & RZ 1997-LE-041

Pursuant to RZ 85-L-092, Parcel 23A, located adjacent to Piney Run, was rezoned from the R-1 to the PDH-4 District to allow the development of fifty (50) single family detached dwelling units. Subsequently, on June 5, 1995, PCA 85-L-092 was approved to allow a reduction in the number of dwelling units and to allow a driving range as a secondary use in the PDH-4 District. The PDH-4 District was rezoned back to the R-1 District pursuant to RZ 1997-LE-041, which, in conjunction with other cases, allowed the development of the golf course and the associated facilities. These approvals were superseded by the approval of RZ 1997-LE-041, which was approved on July 27, 1998 to permit the construction of the golf driving range; this approval was subsequently superseded by the 2006 approval of RZ 2006-LE-003 and SE 2006-LE-028 to allow the construction of an independent living facility on 35.91 acres of land located adjacent to Piney Run (see below). The records with regard to RZ 85-L-092, PCA 85-L-092 and RZ 1997-LE-041 are on file with DPZ.

#### Golf Course and Driving Range

The existing golf course and driving range and the un-constructed miniature golf course were approved in 1998 pursuant to the approval of five (5) concurrent and associated zoning applications as follows:

- SEA 78-L-074-5: As noted above, this application reduced the size of the debris landfill to 64.78 acres and included a modification of the additional standard that there be no construction upon a landfill for twenty (20) years after closure for that portion of the landfill in order to allow this area of the landfill to be redeveloped as a golf course.
- RZ 1997-LE-041: This application rezoned the 25.64 acres of the area previously zoned to the PDH-4 District pursuant to RZ 85-L-092 and PCA 85-L-092 to the R-1 District in order to allow the this land to be part of the 106.19 acre golf course and golf driving range (as noted above, this zoning was superseded by RZ 2006-LE-003).
- RZ 1997-LE-042: This application rezoned 2.72 acres from the I-3 and NR (Natural Resources Overlay District) Districts to the R-1 District and the

NR District to allow this land to be included in the 106.19 acre golf course. (At that time, a golf course was not an allowed use in the I-3 District, however, the Zoning Ordinance was subsequently changed to permit a golf course as an allowed use in the I-3 District with the approval of a special exception). The proffers associated with this approval are not affected by the pending application, as this property is located within the portion of the golf course which is not being changed. This property is included within SE 2005-LE-027, which replaced the previous special permit approval for the golf course. The records for this approval are on file with DPZ and can be found in as an appendix of the staff report for the associated applications to amend the golf course, SEA 2005-LE-027 and RZ 2008-LE-002, which are scheduled to be heard on the same schedule as the applications addressed in this staff report. A copy of the locator map for the two pending applications and the submitted GDP/SEA Plat are included in Appendix 7 of this report.

- RZ 1997-LE-043: This application rezoned 6.63 acres located in the southern portion of Parcel 23A from the PDH-4 District to the C-6 District to allow the as yet un-constructed miniature golf course. This property was subsequently rezoned from the C-6 District to the R-1 District pursuant to application RZ 2006-LE-002. Concurrently, SE 2005-LE-027 was approved and the miniature golf course was deleted from the golf course approval in favor of additional parking and a new clubhouse for the golf course. The records with regard to RZ 1997-LE-043 are on file with DPZ.
- SP 97-L-037: When the golf course, golf driving range and miniature golf course were proposed in 1997, the golf course and the associated golf driving range were allowed pursuant to the approval of a special permit application. Subsequently, the Zoning Ordinance was amended to change this use to a special exception use. This approval was amended pursuant to the approval of SE 2005-LE-027: to reduce the land area of the golf course to 80.80 acres; to convert the previously approved miniature golf course to practice activities associated with the golf course; to allow the access road serving the proposed independent living facility to be located within the application property; to continue the approval to allow a clubhouse to be constructed for the golf course; and to accommodate minor changes to the layout of the access road and parking to reflect the changes associated with the proposed independent living facility. The land to be removed from the previously approved golf course and associated facilities is to be included, with additional property, in the independent living facility approved pursuant to RZ 2006-LE-003 and SE 2005-LE-028. The records for SP 97-L-037 are on file with DPZ.

Independent Living Facility (RZ 2006-LE-003 and SE 2005-LE-028)

As noted above, an independent living facility was approved on 35.91 acres of land, located adjacent to Piney Run and in the easternmost portion of the property held by the applicant. This facility is to be located generally where the golf driving range is currently located. The green for the first hole of the golf course will remain located on land included in the approvals for the independent living facility. The Locator Map for these previously approved concurrent applications is found in Appendix 8. Other records regarding this approval, which is not affected by the pending applications, are on file with DPZ.

## COMPREHENSIVE PLAN PROVISIONS

**Plan Area:** IV  
**Planning District:** Rose Hill Planning District  
**Planning Sector:** Lehigh Community Planning Sector (RH4)

The Comprehensive Plan provides the following guidance on the land use and the intensity/density for the property.

On page three (3) of the Rose Hill Planning District of the 2007 edition of the Area IV Plan, under the heading, "Major Objectives", the Plan states:

### MAJOR OBJECTIVES

Planning objectives in the Rose Hill Planning District include the following:

- Preserve stable residential neighborhoods with appropriate and compatible infill development;
- Achieve appropriate development in the Van Dorn Transit Station Area given access and environmental constraints;
- Manage pressure for commercial expansion along Franconia Road and other arterials;
- Achieve development which is sensitive to environmental constraints and opportunities, especially the need to plan, design and construct uses recognizing the presence of marine clays and slope failure areas;
- Protect Huntley Meadows Park;
- Determine future uses of Federal properties if they are declared surplus, and of the Hilltop Landfill when it ceases operation;
- Identify and preserve significant heritage resources;
- Develop trails and mass transportation resources to provide access to the Van Dorn Metro Station and the Joe Alexander Transportation Center; and
- Protect wetlands and Environmental Quality Corridors in the district.

Language of the Rose Hill Planning District of the 2007 edition of the Area IV Plan, was updated with the adoption of Amendment No. 2007-10 by the Board of Supervisors on December 8, 2008. Under the sub-heading "Rest of the Sector," the Plan states, in part:

**Rest of Sector**

Much of the rest of the sector is substantially developed in stable residential neighborhoods. Infill development in these neighborhoods should be of a compatible use, type and intensity and in accordance with the guidance provided by the Policy Plan under Land Use Objectives 8 and 14. The densities planned and approved for Kingstowne and Manchester Lakes are, in many cases, greater than those planned for the residential areas surrounding these developments. These two large developments were approved after extended study and careful consideration of their size and characteristics including the amenities and public improvements provided. Other areas adjacent to or near these developments are planned for lower densities.

Where substantial parcel consolidation is specified, it is intended that such consolidations will provide for projects that function in a well-designed, efficient manner and provide for the development of unconsolidated parcels in conformance with the Area Plan.

44. The parcels along the east side of Beulah Street, south of Kingstowne Village Parkway and north of the Hilltop landfill, are planned for residential use at 1-2 dwelling units per acre. As an option, development at 3-4 dwelling units per acre may be considered if development achieves substantial parcel consolidation and provides consolidated access, adequate internal circulation, and interparcel access if appropriate.
45. At such time as the Hilltop landfill ceases operation and is properly reclaimed, any alternative use of the site will require extensive review and significant engineering measures. The property is planned for private recreation; however, residential use at 2-3 dwelling units per acre may be considered on portions of the property if sufficient documentation can be provided to verify that the landfill site is suitable and safe for building. Consolidation with parcel 100-1((1)) 11A, which is planned for residential use at 3-4 du/ac, is encouraged. Restoration or re-use of any historic structures on the property should be explored. See recommendation 47 for an additional option.
46. Parcels 100-1((1)) 14, 15, 17, 19, 20, and 23A are planned for private recreation with an option for residential use at 2-3 dwelling units per acre. It is recommended that they be consolidated, with any private recreation development that takes place on the site of the Hilltop landfill. A commercial recreation facility may be appropriate on the southern part of parcel 23A with screening sufficient to minimize its off-site impacts. If parcels 19 & 20 are consolidated and develop independently of the recreational area, interparcel access to parcel 23A should be provided.
47. As an option to the guidance found in recommendations 45 and 46, retail and office use up to .30 FAR may be appropriate on a total site area of approximately 33 acres that includes approximately 29 acres of parcel

100-1((1)) 9pt, and parcels 100-1((1)) 11A, 11A1, 14, and 15, if all parcels are consolidated and the site design creates a cohesive and walkable environment. To achieve this goal, high-quality architecture should be provided. In addition, buildings should be oriented to streets and sidewalks, and sufficient open space should be interspersed with retail and office uses to provide usable public gathering areas. Also, the following conditions should be met:

- Taller structures should be located at a sufficient distance from Telegraph Road to avoid conflict with Fort Belvoir security standards. Coordination on any development in the affected area should be made with the Fort Belvoir Director of Plans, Training, Mobilization, and Security. Building tapering, vegetative buffering and screening should be provided as needed on the periphery to create a transition to the surrounding areas. Lighting and sound from any development should be designed so that it is not intrusive to adjacent residential development.
- Any freestanding office building(s) is encouraged to meet at least U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) silver standards or other comparable programs with third party certification. Retail users are encouraged to meet applicable U.S. Green Building Council's LEED standards, or other comparable programs, in design and construction to promote sustainable development. The impervious nature of hard surfaces should be offset through approaches such as providing vegetated planting strips in surface parking lots;
- A grocery store use is appropriate on the eastern portion of the property. An outdoor café or seating area is desirable as a technique to help integrate this use with the other retail uses proposed on the remainder of the site;
- Multi-story office buildings should include ground-floor retail use and other services where possible;
- Internal roadways, trails, sidewalks and street crossings should connect buildings and open spaces, and link the site to adjoining communities, Fort Belvoir and the Lansdowne Shopping Center. Streetscape treatments should include trees, landscaping, sidewalks, bicycle facilities, street furniture, and various paving textures, to the extent possible;
- If the existing ball field located at the corner of Beulah Street and Telegraph Road is removed as a result of the proposed development, new recreational facilities such as fields, tot lots and pavilions should be provided at some other location on the Hilltop Sand and Gravel property, or a commitment made to make improvements to nearby park/recreation facilities;
- Occupancy is phased to transportation improvements so that an Approach Level of Service D is maintained at relevant intersections. If such improvements are not possible, intensity should be reduced accordingly;
- The portion of Telegraph Road adjacent to the proposed development should be considered for additional right-of-way to accommodate turn lanes. A turning movement analysis should be conducted to ensure that queues do not spill back into the through lanes of Telegraph Road; and

- Bus transit stops and accompanying shelters should be provided along Telegraph Road and Beulah Street.”

The Comprehensive Plan Map shows this property to be planned for 3-4 du/ac and private recreation.

**ANALYSIS**

**Generalized Development Plan/Special Exception Plat** (Reduction at front of staff report)

Title of GDP/SEA Plat Development Plan: Hilltop Construction and Demolition Debris Landfill  
 Prepared By: Dewberry & Davis LLC  
 Original and Revision Dates: February 12, 2008 as revised through December 16, 2008

<b>GDP/SEA Plat (Hilltop Construction and Demolition Debris Landfill)</b>	
<b>Sheet #</b>	<b>Description of Sheet</b>
1 of 7	Cover Sheet including the Vicinity Map
2 of 7	Plan View of Phase I – Landfill Operations
3 of 7	Plan View of Phase II – Recreation Facilities after Landfill Closure, Notes and Tabulations
4-7 of 7	Stormwater Management Information

The following description will address each phase of these two applications separately. The first phase is the continuing landfill operation and the second phase includes closure of the landfill and the installation of recreation facilities on the upper level of the closed landfill.

- Phase I – Landfill Operations. The landfill operation is currently accessed from Telegraph Road. An existing single family house used as offices and other outbuildings supporting the landfill operation are located near Telegraph Road. With the development of the proposed Hilltop Village Center on 33.0 acres located at the intersection of Telegraph Road and Beulah Street (see report for RZ/FDP 2008-LE-003), the entrance to the landfill is proposed to be relocated to an existing and unused median break on Beulah Street located between its intersection with View Lane and its northernmost intersection with Morning View Lane. This existing median break will be widened by 40 feet. Sheet two (2) shows the details of the continuing landfill operation. Upon closure of the landfill, this access point will be retained, but will be utilized only for maintenance access. The administrative offices for the landfill will be located in a trailer within the

landfill property and will be relocated periodically as landfill operations proceed. The Phase I landfill plans show that the contours necessary to accommodate the future recreation facilities will be installed. The contours for the landfill also include a twenty (20) foot wide bench midway up the slope. The top of the landfill, including the soil cap to be installed as part of the closure activities, will be at an elevation of 290 to 296 feet above sea level. For reference, the elevation above sea level of Beulah Street at the new entrance is approximately 236 feet above sea level.

Along the western edge of the landfill, the landfill operation is screened by a combination of a six foot tall chain link fence, and approximately 120 feet of existing vegetation. This screening and the fence are to be retained. In the northwest corner, there is a wooded area between 100 feet and 300 feet in depth between the existing single family detached dwellings and the power line easement. Along the golf course, the toe of the slope of the landfill will go to the property line and neither transitional screening nor a barrier are proposed. It should be noted that this portion of the golf course was constructed on a previously closed portion of the landfill.

There is an existing single family detached dwelling unit located in the northwestern corner of the application property that is currently used as a residence. It is accessible from Beulah Street and not through the portion of the site involved in the landfill operations. The applicant intends to retain this building as a residence.

- Phase II – Closure of Landfill and Reuse with Recreation Facilities. Upon closure of the landfill operation, this 35.86 acre area will be maintained as required for a closed CDD landfill, such as: monitoring the site; maintenance activities, such as mowing; gas collection and other similar activities required for a closed landfill site. To accommodate these activities, a maintenance/storage structure is shown along with a gas collection facility. These buildings are to be located near the entrance roadway constructed to support the landfill activities noted above. The SEA Plat also shows the proposed drainage facilities that are part of the closure plan submitted to VaDEQ.

The level area to be created on top of the closed landfill, approximately 11 acres in size, is being established to allow reuse of the landfill area for recreation facilities. The applicant and the Fairfax County Park Authority are finalizing an agreement to allow these facilities to be utilized as part of the recreation facilities managed and scheduled by the FCPA. The facilities agreed to by the Park Authority include the youth baseball facility, adult soccer field, tot lot, playground, picnic pavilion and an open play and a warm up area of 30,000 sq. ft. Parking for 125 vehicles is shown. These facilities would be accessed via an access roadway extending from the proposed Hilltop Village Center, which would then provide access to both Beulah Street and Telegraph Road. The access road is shown to be twenty (20) feet wide with a separate six (6) foot wide bicycle lane along

the access road. A five (5) foot wide asphalt path is to be provided adjacent to the access road. The plan includes an alternative access road should Hilltop Village Center not be developed. Lighting is not proposed to be provided to allow the recreation facilities to operate outside of daylight hours.

The screening and barriers that are described above for the landfill operation will be retained upon closure of the 35.86 acres that will remain in the active landfill. Screening and a barrier are not proposed along the boundary with the future Hilltop Village Center; it should be noted that the northern seven acres of this future shopping center will be located on land that is currently part of the landfill and that will be reused as part of the access road and parking for the future shopping center.

### **Land Use Analysis (Appendix 11)**

The Comprehensive Plan text states that upon closure the Hilltop landfill is appropriate for use as private recreation. These applications are consistent with that recommendation. Further, the proposed recreation facilities on top of the closed landfill provide for a replacement of the existing private youth baseball field located within the Hilltop Sand & Gravel Incorporated property that will be displaced when proposed Hilltop Village Center is constructed, should RZ/FDP 2008-LE-003 be approved.

As noted at the beginning of this report, there are no proffers associated with RZ 2008-LE-002, which seeks to rezone 3.51 acres within the bounds of the landfill from the I-3 District to the R-1 District. This land is proposed to be added to the landfill via SEA 78-L-074-6. If this SEA application is approved, the 3.51 acres of land will then be governed by any development conditions approved in conjunction with SEA 78-L-074-6.

### **Environment (Appendix 11)**

#### **Issue: Preservation of Natural Environmental Resources and Consideration of Existing Topographic Conditions**

The property was formerly a sand and gravel mining operation and is currently being used as a landfill. These operations will result in the creation of new topographic and environmental conditions for this property. Upon closure, the sloped portions of the landfill area will be maintained in meadow like condition as trees are not permitted on the closed portion of the landfill. The upper portion of the landfill will be redeveloped with recreation facilities, as described above.

#### **Issue: Stormwater Management/Best Management Practice and Stormwater Outfalls**

As part of the landfill closure, a stormwater collection system will be installed that collects stormwater prior to it entering the landfill materials. The stormwater will be collected in stormwater basins and by a piping system located under the cap

installed on top of the landfill materials. The majority of this water will be conveyed to the proposed new pond (identified as "Pond 2" in the stormwater management information) to be located on the existing golf course and east of the proposed Hilltop Village Center. The stormwater that drains to the west and north from the closed landfill will drain to the existing pond (identified as Pond 1) on the golf course. The discharge from both of these ponds is conveyed to Piney Run via an existing drainage swale located to the east of Pond 1. The stormwater narrative states that Pond 2 will be sized to accommodate four (4) times the flow from the portion of this application property and proposed Hilltop Village Center that flow to it and will provide forty percent (40%) phosphorous removal. (See Appendix 9 for information regarding the closure plan.)

### **Issue: Transportation Generated Noise**

The relocated entrance to the landfill from Beulah Street will be opposite the site of the Island Creek Elementary School. The school does not have access to Beulah Street; its access is from Morning View Lane, a collector street providing access within the Landsdowne and Island Creek communities. Nevertheless, the relocated entrance will be closer to existing residential communities than the existing entrance to the landfill operations from Telegraph Road. To address the possible noise impacts on nearby residential communities, staff is proposing a development condition that limits the hours of operation of the landfill to the hours of 7:00 a. m. to 6:00 p. m., Monday through Saturday, so that noise from the landfill will not impact the evening or nighttime hours or Sunday. This condition is being carried forward from the previous approval.

### **Issue: Lighting**

The proposed recreation facilities are not proposed to be lighted for active recreation uses. Any other lighting, such as security lighting for both uses, is required to conform with the requirements of Part 9, Outdoor Lighting Standards, of Article 14, Performance Standards, of the Zoning Ordinance.

### **Tree Preservation**

The existing tree cover will be retained in the northwestern corner of the site and along Beulah Street – landfill activities are approximately 200 feet from the edge of the right-of-way for that road, with the exception of the access road, which is approximately 100 feet from Beulah Street. The closure plan does not allow for trees to be planted on the area covered by closed landfill, unless provisions are made to ensure that the tree roots do not penetrate into the landfill material, becoming a conduit for water, which would increase the amount of leachate from the site and the rate of decomposition of the landfill materials.

**Transportation** (Appendix 12)**Issue: Transportation Improvements**

Beulah Street has been improved in accordance with the recommendations of the Plan to a four lane divided section with a median. The street section includes an on-road bike lane along either side of the road. There is an existing six (6) foot wide trail along the site's frontage. Additional improvements are not requested at this time.

**Issue: Interconnection of the Street Network**

Access to the property will be different for each of the two phases. During continuing landfill operation (i.e Phase 1), the property will be accessed for those purposes from Beulah Street at an existing median break located at the northernmost portion of the site's frontage on Beulah Street. As part of the construction of the new entrance, the median break will be widened to accommodate the turning trucks.

Upon closure of the landfill, the recreation facilities that are proposed to be constructed as part of Phase 2 will be accessed from the future Hilltop Village Center internal road network. The CDP/FDP for Hilltop Village Center includes an access point from Beulah Street opposite Morning View Lane. A travel lane extends eastward from Beulah Street and the future recreation facilities would be accessed from that roadway approximately halfway along the northern boundary of the village center and this application property. In the event that Hilltop Village Center is not constructed, another access road would be constructed to the future intersection at Morning View Lane.

**Park Authority Analysis** (Appendix 13)

The Fairfax County Park Authority notes that a community park is needed in this area of the county and that the proposal by the applicant to construct recreation facilities on 11 acres on top of the closed landfill for public use will partially address these needs. The proposed development of Hilltop Village Center will displace an existing privately owned, scheduled and maintained youth baseball field that is primarily used by the Pioneer Baseball League. The Park Authority recommends that the following facilities be included:

- One youth diamond field to replace the existing youth baseball facility (it should be noted that the replacement field is envisioned to be scheduled through the county and in accordance with adopted policies regarding such scheduling);
- One full size rectangular field sized to accommodate multiple sport use including overrun areas and concrete pads for bleachers;
- A tot lot facility;
- A pavilion or other shaded area;
- An open play area for unscheduled play and warm-up areas for teams scheduled to use the fields;

- Fencing around the recreation area (due to the steep slopes surrounding the recreation area);
- Parking including ADA parking; and
- A pedestrian connection from the adjacent communities to the fields.

The GDP/SEA Plat submitted by the applicant includes these facilities. The proposed recreation facilities are not proposed to be lit.

As noted above, the Park Authority and the applicant are negotiating an agreement that would address the issues associated with recreation facilities on top of a closed landfill, such as, subsidence issues associated with the installation of the hardscape features, the monitoring of the site related to the closed landfill, safety issues and the installation of irrigation. In addition, issues related to maintenance of the recreation facilities have to be addressed. While it is not intended that the property be transferred to the county at this time, the proposed development conditions are written so as to not preclude that option, should the county wish to acquire the land in the future and the issues associated with the closed landfill are adequately addressed.

#### **Sanitary Sewer Analysis** (Appendix 14)

The property is located in the Dogue Creek (L) watershed and would be sewered into the Noman M. Cole, Jr. Pollution Control Plant. The existing eight (8)-inch line located in an easement on the property is adequate for the proposed use at this time. There appears to be adequate capacity for the proposed development at this time when existing uses and proposed development recommended by the Comprehensive Plan are taken into account.

A leachate pipe has been installed in the landfill. The leachate drains to a pump station and is pumped into a Fairfax County sanitary sewer line. Pumping is required only to meter the flow; in the event of pump failure, leachate will gravity flow into the sanitary sewer system.

#### **Fire and Rescue Department Analysis** (Appendix 15)

This property is serviced by Station 437, Kingstowne, which is located on Telegraph Road, adjacent to the site of the proposed Hilltop Village Center. This service currently meets fire protection guidelines.

#### **Water Service Analysis** (Appendix 16)

The property is located in the service area of the Fairfax County Water Authority. Adequate domestic water service is available from the existing 16-inch main located at the property. Depending on the configuration of the onsite water mains, additional water main extensions may be necessary.

#### **ZONING ORDINANCE PROVISIONS** (Appendix 17)

The existing landfill use is a Category 2 special exception use. The proposed use of the landfill upon closure is as public recreation facilities operated by the county through an as yet unexecuted agreement with the Fairfax County Park Authority, which satisfies the definition of public use in Article 20, Definitions, of the Zoning Ordinance.

**PUBLIC USE:** Any area, building or structure held, used or controlled exclusively for public purposes by any department or branch of the Federal Government, Commonwealth of Virginia, or the Fairfax County government under the direct authority of the Board of Supervisors, the Fairfax County School Board or Fairfax County Park Authority, without reference to the ownership of the building or structures or the realty upon which it is situated. For the purpose of this Ordinance, uses sponsored by the agencies such as the Fairfax County Water Authority, Social Services Board, Redevelopment and Housing Authority, Economic Development Authority, Juvenile Court and Fairfax-Falls Church Community Services Board shall not be deemed public uses and shall be subject to the applicable Zoning Ordinance provisions for the proposed use; provided, however, if such uses are implemented under the direct authority of the Fairfax County Board of Supervisors, they shall be deemed public uses.

A public use is a permitted use in the R-1 District. However, should the agreement with the Park Authority not be executed, the proposed recreation facilities may not be privately operated without subsequent zoning approval by the County. The type of zoning approval required to allow these or other recreation facilities to be privately operated in the R-1 District will depend upon the exact recreation facilities proposed and the manner in which they are operated. As noted above, the proposed recreation facilities could be privately operated as a Category 3 special exception, Quasi-public park, playground, athletic field and related facilities in the R-1 District.

The following bulk regulations are applicable to all of the proposed uses, unless otherwise specified in the Zoning Ordinance.

<b>Bulk Standards (R-1)</b>		
<b>Standard</b>	<b>Required</b>	<b>Provided</b>
Lot Size	36,000 sq. ft.	35.86 acres
Lot Width	150 feet	970 feet
Building Height	60 feet <sup>1</sup>	35 feet
Front Yard	50° ABP <sup>2</sup> ≥ 40 feet	76 feet <sup>3</sup>
Side Yard	45° ABP <sup>2</sup> ≥ 20 feet	152 feet <sup>3</sup>
Rear Yard	45° ABP <sup>2</sup> ≥ 25 feet	700 feet <sup>3</sup>
Floor Area Ratio (FAR)	0.15	0.003
Open Space	N/A	34.7 acres (90%)
Parking Spaces	Landfill – 1/emp. & 1/co. veh. Recreation Facilities – See Note <sup>3</sup>	See Note <sup>3</sup> 130 Spaces
Loading Spaces	N/A	N/A

<sup>1</sup> Maximum Height for structures other than single family detached dwelling units.

2. ABP – Angle of Bulk Plane
3. Upon closure, the buildings on-site will consist of the two structures associated with the landfill including, the gas collection building and storage shed addressed above. The only building constructed with the recreation facilities is the proposed pavilion structure to be located in the middle of the 11 acres devoted to recreational uses, which will meet the setback requirements of the R-1 District.
4. The specific location for the parking spaces for the ongoing landfill operation are not identified since the location of the trailer/office will be changed as the landfill is filled with material; the proposed development conditions require four parking spaces at all times during landfill operation. One parking space should be provided after closure in the vicinity of the storage structure. The FCPA staff recommended that 125 parking spaces be provided for the proposed recreation fields.

<b>Transitional Screening – Landfill (Phase 1)</b>			
<b>Direction</b>	<b>Use</b>	<b>Standard</b>	<b>Provided</b>
North (R-1)	Single Family Detached Golf Course	Yard 3 – 50 feet Yard 1 – 25 feet	Waiver requested
South (PDC)	Shopping Center (Hilltop Village Center)	Yard 1 – 25 feet	Waiver requested
Northeast (R-1)	Golf Course	Yard 1 – 25 feet	Waiver requested
West (R-1) & (PDH-4)	Single Family Detached Landsdowne	Yard 3 – 50 feet Yard 3 – 50 feet	Waiver requested

<b>Barrier – Landfill (Phase 1)</b>			
<b>Direction</b>	<b>Use</b>	<b>Standard</b>	<b>Provided</b>
North (R-1)	Single Family Detached Golf Course	Barrier D, E or F Barrier A, B or C	Waiver requested
South (PDC)	Shopping Center (Hilltop Village Center)	Barrier A, B or C	48" tall chain link fence <sup>2</sup>
Northeast (R-1)	Golf Course	Barrier A, B or C	Waiver requested
West (R-1) & (PDC)	Single Family Detached Landsdowne	Barrier D, E or F	Waiver requested

<sup>1</sup> Barrier A – 42-48 inch wall, brick or architectural block; Barrier B– 42 – 48 inch solid wood fence; Barrier C– evergreen hedge with ultimate height of 42-48 inches and planted size of 36 inches; Barrier D – 42-48 inch chain link fence; Barrier E – 6 foot wall of architectural block or brick; Barrier F– 6 foot tall solid wood fence.

<sup>2</sup> Required by the proposed development conditions.

<b>Transitional Screening – Recreation Facilities (Phase 2)</b>			
<b>Direction</b>	<b>Use</b>	<b>Standard</b>	<b>Provided</b>
North (R-1)	Single Family Detached ; Golf Course	Yard 2 – 35 feet; Not Required	Waiver requested
South (PDC)	Shopping Center (Hilltop Village Center)	Not Required	Not applicable
Northeast (R-1)	Golf Course	Not Required	Not applicable
West (R-1) & (PDH-4)	Single Family Detached; Single Family (Landsdowne)	Yard 2 – 35 feet; Yard 2 – 35 feet	Waiver requested

<b>Barrier – Recreation Facilities (Phase 2)</b>			
<b>Direction</b>	<b>Use</b>	<b>Standard</b>	<b>Provided</b>
North (R-1)	Single Family Detached	Barrier D, E or F <sup>1</sup>	Waiver requested
	Golf Course	Not Required	
South (PDC)	Shopping Center (Hilltop Village Center)	Not Required	Not applicable
	Golf Course	Not Required	
West (R-1) & (PDC)	Single Family Detached Landsdowne	Barrier D, E or F <sup>1</sup>	Waiver requested

<sup>1</sup>. Barrier D – 42-48 inch chain link fence; Barrier E – 6 foot wall of architectural block or brick; Barrier F – 6 foot tall solid wood fence.

### **Waivers/Modifications**

#### **Waivers of All Screening and Barrier Requirements**

The applicant is seeking a waiver of the required transitional screening and barrier requirements along all boundaries of the existing Hilltop Construction and Debris Landfill. The applicant notes that the active portion of the landfill is set back from the surrounding uses by at least 200 feet. This setback creates a visual separation between the uses, which is further enhanced by the change in topography and existing vegetation. As such, staff recommends that the transitional screening and barrier requirements be waived along all property lines to that depicted on the GDP/SEA Plat.

#### **Special Exception Standards**

These standards are applicable to the landfill use only, which is a special exception use in the R-1 District. The proposed recreation facilities are considered a public use which is a permitted use in the R-1 District.

Additional Standards for Landfills (Sect. 9-205)

Category 2 Standards (Sect. 9-205)

General Special Exception Standards (Sect. 9-006)

With regard to Sect. 9-205, Additional Standards for Landfills include:

- Par. 1 addresses VaDEQ approval to operate the landfill; as noted above the landfill is operating pursuant to a permit issued by that agency, which has also approved the closure plan for the area where the landfill operation will continue.

- Par. 2 states that any such special exception shall be deemed to include all other provisions of law related to such uses.
- Par. 3 requires that the applicant demonstrate that no unacceptable pollutants will be introduced into surface and groundwater. As noted above, the leachate from the existing landfill, including those portions that were previously closed are directed into the sanitary sewer system. The previously approved closure plans for the landfill include facilities to ensure that stormwater has limited opportunities to seep into the landfill and that water is directed to SWM/BMP facilities constructed on the property.
- Par. 4 allows the Board of Supervisors to include additional regulations with regard to the operation of the landfill and its closure to allow the site to be used in accordance with the recommendations of the Comprehensive Plan. This is an existing landfill operation and the proposed development conditions include the conditions previously adopted by the Board. The recreation facilities proposed as the post-closure use are consistent with the recommendations of the Comprehensive Plan, as noted above.
- Par. 5 allows the Board of Supervisors to establish the amount of a surety and bond adequate to guarantee the proposed restoration. The permit from the VaDEQ requires that adequate financial resources be set aside to ensure that funds are available closure and post-closure activities. To meet this requirement, a trust agreement has been executed by the applicant; a copy of this agreement is included with the closure plan approved by the VaDEQ.
- Par. 6 and 7 require that the landfill be inspected annually by the Director, DPWES and that the Director, may after a public hearing recommend additional restrictions and limitation to the landfill use.
- Par. 8 addresses similar authority with regard to ensuring the landfill at the property can be used after closure as recommended by the Plan and including providing authority for the Director to take appropriate action.
- Par. 9 states that no improvements be constructed on or in a landfill for twenty (20) years after the termination of the landfill without the approval of the Board of Supervisors. The applicants are requesting such approval to allow the new recreation facilities to be constructed sooner than 20 years from the closure of the landfill. Par. 9 includes two conditions that the applicant must demonstrate would be addressed by the closure plan to ensure that the new use would not be adversely affected by settlement or hazards resulting from the types of materials included in the landfill. Both of these concerns are adequately addressed by the closure plan approved by the VaDEQ. Staff recommends that the Board of Supervisors allow the construction of the proposed recreation facilities be constructed upon closure of the landfill because the landfill is a construction and demolition debris landfill, the cap that is proposed will limit water infiltration and the number of the size the structures proposed are neither extensive nor large. Finally, as noted above, the agreement to be executed between the FCPA and the applicant will address the applicant's responsibility for repair of the recreation facilities due to issues associated with the landfill.

With regard to Sect. 9-204, Standards for All Category 2 Uses:

- Par. 1 requires that Category 2 uses comply with the minimum lot size requirements of the zoning district; as illustrated in the Bulk Standards chart above, the application property exceeds the minimum lot size requirement of the R-1 District.
- Par. 2 requires that all structures associated with the proposed Category 2 use comply with the bulk requirements of the applicable zoning district; as illustrated in the Bulk Standards chart above, the proposed landfill operation is not applicable to this use.
- The property is not located in either the I-5 or I-6 Districts; therefore, outdoor storage, the maintenance or repair of vehicles or the parking of vehicles other than those used by the workers on site, satisfying the provisions of Par. 3 have been satisfied.
- Par. 4 addresses uses that are part of a utility system and is not applicable to this case.
- Par. 5 relates to the applicability of Article 17, Site Plans, to the use.

With regard to the provisions of Sect. 9-006, General Standards, which are applicable to all special exception uses:

- The Comprehensive Plan identifies this site for private recreation use subsequent to the closing of the active landfill, thereby satisfying the requirement of Par. 1 to be in harmony with the adopted Comprehensive Plan.
- As noted above, the proposed continuation of part of the existing landfill operation and the installation of recreation facilities after the landfill use has ceased is in harmony with the purpose and intent of the applicable zoning district regulations as required by Par. 2.
- Staff has concluded that the existing measures protecting the adjacent properties from the landfill use should be retained and with those measures the landfill would not adversely affect the relationship of the facility with the adjacent properties. Finally, the measures proposed by the applicant to address the transition to the proposed Hilltop Village Center are appropriate and would not result in the landfill adversely affecting the proposed shopping center, thereby satisfying Par. 3 with regard to the continuation of the landfill operation.
- The GDP/SEA Plat shows that the existing pedestrian path and bicycle lane on Beulah Street will be retained with the construction of the new entrance to the landfill operation. The new access point to the landfill will not be hazardous nor conflict with neighborhood traffic. Therefore, staff has concluded that the provisions of Par. 4 have been satisfied.
- The existing transitional screening and barriers existing around the landfill on the north, northwest and the west will be retained and have been adequate to

screen the landfill previously. The proposed landscaping and barrier along the future boundary between the landfill and the proposed Hilltop Village Center are appropriate screening between those two uses; therefore, Par. 5 has been satisfied.

- As noted in the Zoning Ordinance Provisions chart, there is not an open space requirement for non-residential uses in the R-1 District.
- Par. 7 addresses utilities and parking at the site. As discussed throughout this report, the utilities on site are adequate and no additional stormwater management facilities will be required due to the landfill operation. However, as discussed above, stormwater management will be provided as part of the closure activities for the landfill so that the stormwater on the landfill can be managed and not seep into the construction and demolition debris that has been placed in the landfill.
- Par. 8 addresses signage. It should be noted that all signage on the site would be required to conform to the provisions of Article 12, Signs.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Staff Conclusions**

The special exception amendment application, SEA 78-L-074-06, proposes to continue the existing construction and demolition debris landfill on a 35.86 portion of the 64.78 acres currently approved for the landfill. The SEA will also change the contours of the landfill to establish an 11.0 acre site on top of the closed landfill for reuse with recreation facilities. As proposed, the recreation facilities would be operated by the Fairfax County Park Authority, subject to an agreement to be executed between the applicant and the Park Authority. The recreation facilities would be a public use, which is a permitted use in the R-1 District. The rezoning application, RZ 2008-LE-002, covers 3.51 acres and is proposed to rezone this portion of the property to be consistent with the R-1 zoning on the rest of the property.

Staff has evaluated the proposed changes to the existing landfill operation and has concluded that those changes are in harmony with the recommendations of the Comprehensive Plan and satisfy the standards found in the Zoning Ordinance for a landfill. Staff has also evaluated the proposed construction of recreation facilities operated by the Park Authority on the landfill site upon closure and has concluded that the proposal is consistent with the recommendation of the Plan for private recreation and that, with the proposed proffers, the proposed recreation facilities satisfy the applicable provisions of the Zoning Ordinance.

## **Recommendations**

Staff recommends approval of RZ 2008-LE-002.

Staff further recommends that SEA 74-L-078-06 be approved subject to the development conditions contained in Appendix 1.

Staff further recommends that the transitional screening yard and barrier requirements be waived along all boundaries of the landfill to that depicted on the GDP/SEA Plat.

Staff further recommends that the Board approve the construction of the proffered recreation facilities on the closed landfill sooner than twenty (20) years after the closure of the landfill pursuant to the provisions of Par. 9 of Sect. 9-205.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendations of staff; it does not reflect the position of the Board of Supervisors.

The approval of this rezoning and special exception amendment does not interfere with, abrogate or annul any easement, covenants, or other agreements between parties, as they may apply to the property subject to this application.

## **APPENDICES**

1. Proposed Development Conditions for SEA 78-L-074-06
2. Affidavit
3. Applicant's Statements
4. Clerk to the Board's letter regarding the approval of SEA 78-L-074-5
5. Reduction of the SEA Plat for SEA 78-L-074-5
6. Locator Map and CDP/FDP for RZ 2008-LE-003, Hilltop Village Center
7. Locator Map and GDP/SEA Plat for RZ 2008-LE-001 & SEA 2005-LE-027, Hilltop Golf Course
8. Locator Map for RZ 2006-LE-002 and SE 2006-LE-028, Independent Living Facility

**APPENDICES (Continued)**

9. Executive Summary from Closure Plan for Construction and Demolition Debris Landfill
10. Letter of approval for Closure Plan from the Virginia Department of Environmental Quality
11. Plan Citations, Land Use Analysis and Environmental Analysis
12. Transportation Analysis
13. Park Authority Comments
14. Sanitary Sewer Analysis
15. Fire and Rescue Analysis
16. Stormwater Management Analysis
17. Selected Excerpts from the Zoning Ordinance
18. Glossary of Terms

**PROPOSED DEVELOPMENT CONDITIONS****SEA 78-L-074-6****January 21, 2008**

If it is the intent of the Board of Supervisors to approve SEA 78-L-074-6 located at Tax Map Parcel 100-1 ((1)) 9 (part) to amend a special exception previously approved for a landfill pursuant to Sect. 3-104 of the Fairfax County Zoning Ordinance in order to permit an increase in the fill level of the landfill and to permit a quasi-public park, staff recommends that the Board condition the approval by requiring conformance with the following development conditions. These development conditions incorporate and supersede all previous development conditions.

General Conditions

1. This Special Exception Amendment is granted for the location indicated in the application and is not transferable to other land.
2. This Special Exception Amendment (SEA) is granted for the location and uses outlined in the application as amended by these conditions.
3. This SEA is subject to the provisions of Article 17, Site Plans, as may be determined by the Director, Department of Public Works and Environmental Services (DPWES). Any plan submitted pursuant to this SEA shall be in conformance with the approved Special Exception Amendment Plat (the "SEA Plat") prepared by Dewberry & Davis, which is dated February 11, 2008, as revised through December 16, 2008, and these conditions. Minor modifications to the approved special exception amendment may be permitted pursuant to Par. 4 of Section 9-004 of the Zoning Ordinance.
4. The existing single family detached dwelling unit in the northwestern corner of the property may continue to be used as a residence. Upon such time as the residential use is ceased, the residential building, other building and man-made structures and improvements (such as, but not limited to, sheds, clothes lines, driveways, patios, etc.) shall be removed and the disturbed land stabilized in accordance with the recommendations of the Urban Forestry Division as determined at the time of the issuance of the building permit to allow the demolition of the structure.
5. Construction of recreational facilities as depicted on the SEA Plat shall not take place until:

- The Geotechnical Review Board (GRB) has determined that any residual post-construction settlement will not affect the appearance or structural integrity of the proposed improvements; and
- The Fire and Rescue Department and/or DPWES has determined that the nature and extent of the generation and escape of combustible gases and potential fire hazards of the constituent material, considering its state of decomposition, has been provided for adequately and will not create an unsafe or hazardous condition in or around any of said proposed improvements.
- The Approval of the Closure Certification by the Virginia Department of Environmental Quality (DEQ). A copy of the Closure Certification shall be provided to the Director, DPWES.

Conditions on the Operation of the Landfill

6. Until ceased as described herein, the landfill operations previously approved pursuant to SEA 78-L-074-05 may continue in full force and effect on reduced landfill area comprised of 35.86 acres.
7. A copy of the Closure Plan approved by DEQ shall be provided to the Department of Planning and Zoning (DPZ), the Division of Solid Waste Disposal and Resource Recovery (DSWDRR) of the DPWES and a copy of the approved Closure Plan shall be maintained on-site and made available. Amended versions of the Closure Plan shall be submitted to the above mentioned agencies as revisions occur and with any subsequent site plan submissions.
8. The applicant shall operate the landfill in conformance with all sections of Virginia Code (VAC) applicable to the proposed landfill operations. There shall be NO FUTURE EXPANSION of the landfill, beyond that outlined by the SEA Plat.
9. The fill volume of the landfill prior to the installation of final cover, vegetation, and "structures" as shown on the SEA Plat, shall not exceed the proposed final fill volume of 8.95 million cubic yards. The Applicant shall cease accepting construction and demolition debris when the final fill level is reached or prior to public occupancy of the proposed grocery store proposed on the CDP/FDP for RZ 2008-MD-003 or by April 1, 2013, whichever occurs first.
10. The landfill shall receive only construction/demolition debris materials, as defined in Section 104 of the County Code and as deemed permissible by Federal, State and County regulations. Unacceptable landfill

materials shall be prohibited on-site in accordance with the facility's Unauthorized Waste Control Plan as required by DEQ.

11. Waste materials shall not be burned nor allowed to be burned at the site.
12. A licensed operator of the landfill shall provide the Director of DPWES a copy of the Annual Groundwater Monitoring Report at the same time it is submitted to DEQ. The Director of DPWES shall be notified within thirty (30) days if the landfill exceeds any of the facility's approved Groundwater Protection Standards.
13. Elevation certifications signed and sealed by a Virginia licensed land surveyor or professional engineer shall be provided to the Director of DPWES annually by the licensed operator of the landfill. The certification shall include a statement verifying whether the landfill elevations are at or below the approved elevations approved pursuant to this special exception amendment.
14. Dredge soils may be deposited at the landfill so long as the dredge soils entering the site meet the DEQ definition of acceptable waste for Construction and Demolition Debris landfills.
15. The control of decomposition gases from the landfill shall be monitored through the implementation of a Gas Monitoring and Management Plan in accordance with Virginia's Solid Waste Management Regulations. A gas collection system shall be installed per the DEQ approved Closure Plan. All proposed recreational structures shall be open air, self-venting construction in order to prevent the buildup of landfill gases. Any closed structures shall be locked to prohibit public access.
16. The height of the landfill shall not exceed the elevations depicted by the proposed topography on the SEA Plat, except for (i) any temporary berms which may be required by the Director for visual screening or noise attenuation; (ii) to provide adequate drainage from the center of the landfill; and (iii) temporary soil stockpiles for accelerating landfill settlement prior to construction of the recreation improvements.
17. An Emergency Contingency Plan has been prepared and implemented in accordance with Virginia's Solid Waste Management Regulations and a list of the landfill's equipment operators and their telephone numbers shall be made available to the County's Emergency Operations Center and kept current by the landfill operator.
18. Prior to the implementation of condition Number 9, no construction and demolition debris shall be accepted except between the hours of 7:00 a.m. to 5:00 p.m. Monday through Friday and between 7:00 a.m. and

12:00 p.m. (noon) on Saturdays. In no case shall landfill operations begin until the commencement of the normal business hours listed above. With prior approval from the Director of DPWES, or his designated agent, the applicant may operate until 5:00 p.m. on Saturday on an emergency basis. This approval shall not be granted more than ten times per calendar year. In the event of a significant community emergency, as determined by the County Executive, the landfill may temporarily operate outside of normal business hours if so notified in writing.

19. Per Sect. 9-205 of the Zoning Ordinance, the site shall be made available to the Director of DPWES or his representatives in preparation for the annual report to the Board of Supervisors. As a result of the annual inspection, the Director of DPWES may recommend additional restrictions and limitations on the use to the Board.
20. A fee of fifty cents (\$0.50) per truck load will be collected from each truck carrying construction debris entering the Hilltop Landfill. This fund will be equally distributed for use in the development of Lee District Park and acquisition and restoration of Huntley Plantation. There will be no limitation on the amount collected for this fund. This fee shall be tied to a yearly escalator based on the Consumer Price Index.
21. Sound levels emanating from the site shall not exceed those applicable levels specified in Chapter 108, Noise, of the County Code.

#### Buffering, Landscaping and Screening Condition

22. Landscaping shall be provided as shown on the SEA Plat. All landscaping shall be maintained in good health by the applicant. Any landscaping materials that should die shall be replaced by the operator/applicant within six months (weather permitting as determined by Urban Forestry Management).
23. Final cover material shall be provided in accordance with DEQ design requirements as approved in the Closure Plan.

#### Transportation Conditions

24. Effective dust control measures shall be installed and maintained by the operator of the landfill. At a minimum, these measures shall include the full-time availability of a water tank truck and sweeper truck on-site.

#### Park Conditions

25. The proposed park is for active and passive recreation. All park improvements shall be provided by the applicant as depicted on the SEA Plat and shall be constructed to Fairfax County Park Authority (FCPA) standards in consultation with FCPA staff.
26. Public access easements shall be provided over all trails and those on-site park facilities intended for public access as depicted on the SEA Plat. A cooperative agreement shall be developed between FCPA and the applicant regarding liability.
27. A maintenance and liability agreement to govern park related uses shall be established between the applicant and FCPA prior to any portions of the property being made accessible to the public for park purposes.
28. Should the proposed recreation facilities be operated by the Fairfax County Park Authority and it is determined that 2232 approval is required, said approval shall be obtained by the Park Authority prior to the facilities being opened and operated by the Park Authority.
29. Subject to the review and approval of the Park Authority and FCDOT, bicycle racks that provide parking for 20 bicycles shall be included.
30. A four foot tall chain-link fence, vinyl coated, shall be provided along the boundary between the landfill and Hilltop Village Center prior to the issuance of the first Non-Residential Use Permit (Non-RUP) for that shopping center. This fence may be removed as part of the closure activities of the landfill.
31. Submission and approval of a site plan prepared in accordance with the provisions of Article 17, is required prior to the implementation of the recreational facilities. The site plan will be submitted upon submission of the landfill closure certification to DEQ. Any plan submitted pursuant to this SEA shall be in substantial conformance with the approved SEA Plat. Minor modifications to the approved Special Exception may be permitted pursuant to Par. 4 of Section 9-004 of the Zoning Ordinance.

The above proposed conditions are staff recommendations and do not reflect the position of the Board of Supervisors unless and until adopted by that Board. This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be himself responsible for obtaining the required Non-Residential Use Permit through established procedures, and this Special Exception shall not be valid until this has been accomplished. The approval of this special exception does not interfere with, abrogate or annul any easements, covenants, or other agreements between parties, as they may apply to the property subject to this application.

Pursuant to Section 9-015 of the Zoning Ordinance, this special exception shall automatically expire, without notice, thirty (30) months after the date of approval unless the landfill entrance has been relocated and an initial Non-RUP obtained for the relocated landfill office. The recreational uses shown on the SEA Plat shall be established or construction has commenced and been diligently prosecuted within five (5) years from the date of approval. The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the special exception. The request must specify the amount of additional time requested, the basis for the amount of time requested and an explanation of why additional time is required.

REZONING AFFIDAVIT

DATE: January 9, 2009
(enter date affidavit is notarized)

I, Lynne J. Strobel, attorney/agent, do hereby state that I am an
(enter name of applicant or authorized agent)

(check one) [ ] applicant
[✓] applicant's authorized agent listed in Par. 1(a) below 99525a

in Application No.(s): RZ 2008-LE-002
(enter County-assigned application number(s), e.g. RZ 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS, and LESSEES of the land described in the application,\* and, if any of the foregoing is a TRUSTEE,\*\* each BENEFICIARY of such trust, and all ATTORNEYS and REAL ESTATE BROKERS, and all AGENTS who have acted on behalf of any of the foregoing with respect to the application:

(NOTE: All relationships to the application listed above in BOLD print must be disclosed. Multiple relationships may be listed together, e.g., Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

Table with 3 columns: NAME, ADDRESS, RELATIONSHIP(S). Includes entries for Hilltop Sand & Gravel Company, Inc. and Dewberry & Davis LLC.

(check if applicable) [✓] There are more relationships to be listed and Par. 1(a) is continued on a "Rezoning Attachment to Par. 1(a)" form.

\* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.

\*\* List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

**Rezoning Attachment to Par. 1(a)**

DATE: January 9, 2009  
 (enter date affidavit is notarized)

for Application No. (s): RZ 2008-LE-002  
 (enter County-assigned application number (s))

99525a

**(NOTE):** All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.

NAME (enter first name, middle initial, and last name)	ADDRESS (enter number, street, city, state, and zip code)	RELATIONSHIP(S) (enter applicable relationships listed in <b>BOLD</b> above)
Rounds VanDuzer Architects, P.C. Agent: Mark E. McAfee	467A North Washington Street Falls Church, VA 22046	Architect/Agent
C&E Real Estate Services, LC Agent: J. Brent Clarke, III	10D Cardinal Park Drive, SE Leesburg, VA 20175	Developer/Agent for Applicant
Patton, Harris, Rust & Associates, Inc. f/k/a Patton Harris Rust & Associates, PC Agents: Douglas R. Kennedy Peter J. Steele	14532 Lee Road Chantilly, VA 20151	Traffic Consultant/Agent
Stearns, Conrad and Schmidt, Consulting Engineers, Inc. d/b/a SCS Engineers Agents: Robert H. Isenberg Paul A. Mandeville	11260 Roger Bacon Drive Reston, VA 20190	Soils Engineer/Agent
Culpeper Engineering, PC Agent: I. Wayne Stanton	3251 Germanna Highway Locust Grove, VA 22508	Engineer/Agent

(check if applicable)

There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

**Rezoning Attachment to Par. 1(a)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99525a

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number (s))

**(NOTE):** All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.	2200 Clarendon Boulevard 13th Floor Arlington, Virginia 22201	<b>Attorneys/Planners/Agent</b>
Agents: Martin D. Walsh Lynne J. Strobel Timothy S. Sampson M. Catharine Puskar Sara V. Mariska G. Evan Pritchard Elizabeth D. Baker Inda E. Stagg Kara M. Whisler Megan C. Shilling Elizabeth A. McKeeby		

(check if applicable)

There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

REZONING AFFIDAVIT

DATE: January 9, 2009
(enter date affidavit is notarized)

99525a

for Application No. (s): RZ 2008-LE-002
(enter County-assigned application number(s))

1(b). The following constitutes a listing\*\*\* of the SHAREHOLDERS of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders, and if the corporation is an owner of the subject land, all of the OFFICERS and DIRECTORS of such corporation:

(NOTE: Include SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES, and REAL ESTATE INVESTMENT TRUSTS herein.)

CORPORATION INFORMATION

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Hilltop Sand & Gravel Company, Inc.
7950 Telegraph Road
Alexandria, VA 22315

DESCRIPTION OF CORPORATION: (check one statement)

- [X] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF SHAREHOLDERS: (enter first name, middle initial, and last name)

C.S. Gailliot Sr. Trust Account for the benefit of Thomas H. Gailliot, Sr.; C.S. Gailliot Sr. Trust Account for the benefit of Clemens S. Gailliot, Jr.; Martin A. Gailliot, Sr. Trust for the benefit of Theresa A. Gailliot; Robert V. Gailliot Sr. Marital Trust for the benefit of Annette W. Gailliot; [shareholders continued on next page]

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name & title, e.g. President, Vice President, Secretary, Treasurer, etc.)

Clemens S. Gailliot, Jr., President; Michael C. Gailliot, VP; G. Michael Whitfield, VP; Elizabeth M. Gailliot, VP
Directors: Clemens S. Gailliot, Jr., William A. Fritz, Jr., Theresa A. Gailliot

(check if applicable) [X] There is more corporation information and Par. 1(b) is continued on a "Rezoning Attachment 1(b)" form.

\*\*\* All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed. Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

**Rezoning Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99525 a

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)  
Hilltop Sand & Gravel Company, Inc. [shareholders, continued]  
7950 Telegraph Road  
Alexandria, VA 22315

**DESCRIPTION OF CORPORATION:** (check one statement)  
 There are 10 or less shareholders, and all of the shareholders are listed below.  
 There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.  
 There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)  
Elizabeth M. Gailliot; Estate of Robert V. Gailliot, Jr. f/b/o Robert V. Gailliot, III and J.A. Gailliot; Ursula G. Koeze; Samuel Franklin Gailliot Trust f/b/o Samuel Franklin Gailliot; Annette Maria Gailliot Trust f/b/o Annette Maria Gailliot

=====

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

=====

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)  
C&E Real Estate Services, LC  
10D Cardinal Park Drive, SE  
Leesburg, VA 20175

**DESCRIPTION OF CORPORATION:** (check one statement)  
 There are 10 or less shareholders, and all of the shareholders are listed below.  
 There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.  
 There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)  
J. Brent Clarke, III

=====

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99525a

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Dewberry & Davis LLC  
8401 Arlington Boulevard  
Fairfax, Virginia 22031

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)

The Dewberry Companies LC, Member  
James L. Beight, Member  
Dennis M. Couture, Member

=====

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

=====

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

The Dewberry Companies LC  
8401 Arlington Boulevard  
Fairfax, Virginia 22031

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

Members: Sidney O. Dewberry, Barry K. Dewberry, Karen S. Grand Pre, Michael S. Dewberry, Thomas L. Dewberry

=====

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99525<sub>a</sub>

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Rounds VanDuzer Architects, P.C.  
467A North Washington Street  
Falls Church, VA 22046

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)

David P. VanDuzer  
Mark E. McAfee  
Stephen F. Kenney  
Jonathan A. Fritsch

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.  
2200 Clarendon Boulevard, 13th Floor  
Arlington, Virginia 22201

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

David J. Bomgardner, E. Andrew Burcher, Thomas J. Colucci, Peter M. Dolan, Jr., Jay du Von, Jerry K. Emrich, William A. Fogarty, John H. Foote, H. Mark Goetzman, Bryan H. Guidash, Michael D. Lubeley, J. Randall Minchew, M. Catharine Puskar, John E. Rinaldi, Lynne J. Strobel, Garth M. Wainman, Nan E. Walsh, Martin D. Walsh

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99525a

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)  
Patton, Harris, Rust & Associates, Inc. f/k/a Patton Harris Rust & Associates, PC  
14532 Lee Road  
Chantilly, Virginia 20151

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)  
Thomas D. Rust  
Jeffrey E. Frank

=====

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

=====

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)  
Stearns, Conrad and Schmidt, Consulting Engineers, Inc. d/b/a SCS Engineers  
11260 Roger Bacon Drive  
Reston, VA 20190

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

=====

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

**Rezoning Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99525a

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)  
Culpeper Engineering, PC  
3251 Germanna Highway  
Locust Grove, VA 22508

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDER:** (enter first name, middle initial, and last name)

Irwin W. Stanton  
Michael K. Tolliver  
Rebecca S. Tolliver

=====

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

=====

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

=====

**NAMES OF OFFICERS & DIRECTORS:** (enter first name, middle initial, last name, and title, e.g. President, Vice-President, Secretary, Treasurer, etc.)

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.

REZONING AFFIDAVIT

DATE: January 9, 2009  
(enter date affidavit is notarized)

99525 a

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number(s))

1(c). The following constitutes a listing\*\*\* of all of the **PARTNERS**, both **GENERAL** and **LIMITED**, in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

**PARTNERSHIP NAME & ADDRESS:** (enter complete name, number, street, city, state and zip code)  
None

(check if applicable)  The above-listed partnership has no limited partners.

**NAMES AND TITLE OF THE PARTNERS** (enter first name, middle initial, last name, and title, e.g. **General Partner, Limited Partner, or General and Limited Partner**)

(check if applicable)  There is more partnership information and Par. 1(c) is continued on a "Rezoning Attachment to Par. 1(c)" form.

\*\*\* All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. *In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER or LESSEE\* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.* Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

REZONING AFFIDAVIT

DATE: January 9, 2009  
(enter date affidavit is notarized)

99585a

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number(s))

1(d). One of the following boxes **must** be checked:

In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\*** of the land:

Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

**EXCEPT AS FOLLOWS:** (NOTE: If answer is none, enter "NONE" on the line below.)

None

(check if applicable)  There are more interests to be listed and Par. 2 is continued on a "Rezoning Attachment to Par. 2" form.

REZONING AFFIDAVIT

DATE: January 9, 2009  
(enter date affidavit is notarized)

99525a

for Application No. (s): RZ 2008-LE-002  
(enter County-assigned application number(s))

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than \$100, singularly or in the aggregate, with any of those listed in Par. 1 above.

**EXCEPT AS FOLLOWS:** (NOTE: If answer is none, enter "NONE" on line below.)

None

(NOTE: Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)

(check if applicable)  There are more disclosures to be listed and Par. 3 is continued on a "Rezoning Attachment to Par. 3" form.

4. That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.

WITNESS the following signature:

(check one)

Applicant *Lynne J. Strobel*  Applicant's Authorized Agent

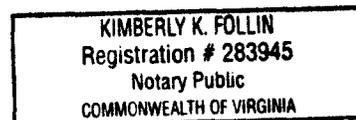
Lynne J. Strobel, attorney/agent

(type or print first name, middle initial, last name, and title of signee)

Subscribed and sworn to before me this 9 day of January, 2009, in the State/Comm. of Virginia, County/City of Arlington.

*Kimberly K. Follin*  
Notary Public

My commission expires: 11/30/2011



**SPECIAL EXCEPTION AFFIDAVIT**

DATE: January 9, 2009  
(enter date affidavit is notarized)

I, Lynne J. Strobel, attorney/agent, do hereby state that I am an  
(enter name of applicant or authorized agent)

(check one)       applicant  
                          applicant's authorized agent listed in Par. 1(a) below

99527a

in Application No.(s): SEA 78-L-074-06  
(enter County-assigned application number(s), e.g. SE 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all **APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS, and LESSEES** of the land described in the application,\* and, if any of the foregoing is a **TRUSTEE,\*\*** each **BENEFICIARY** of such trust, and all **ATTORNEYS** and **REAL ESTATE BROKERS**, and all **AGENTS** who have acted on behalf of any of the foregoing with respect to the application:

**(NOTE:** All relationships to the application listed above in **BOLD** print are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
Hilltop Sand & Gravel Company, Inc.  Agents: Clemens S. Gailliot, Jr. Michael C. Gailliot George M. Whitfield William A. Fritz, Jr.	7950 Telegraph Road Alexandria, VA 22315	Applicant/Title Owner of Tax Map 100-1 ((1)) 9 pt.
Dewberry & Davis LLC  Agents: Philip G. Yates Lawrence A. McDermott Timothy C. Culleiton Geoffrey L. Cowan Dennis M. Couture Cody A. Pennetti	8401 Arlington Boulevard Fairfax, Virginia 22031	Engineers/Planners/Agent

(check if applicable)       There are more relationships to be listed and Par. 1(a) is continued on a "Special Exception Attachment to Par. 1(a)" form.

\* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.  
\*\* List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

**Special Exception Attachment to Par. 1(a)**

DATE: January 9, 2009  
 (enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06  
 (enter County-assigned application number (s))

**(NOTE:** All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel (s) for each owner(s) in the Relationship column.)

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
Rounds VanDuzer Architects, P.C. Agent: Mark E. McAfee	467A North Washington Street Falls Church, VA 22046	Architect/Agent
C&E Real Estate Services, LC Agent: J. Brent Clarke, III	10D Cardinal Park Drive, SE Leesburg, VA 20175	Developer/Agent for Applicant
Patton, Harris, Rust & Associates, Inc. f/k/a Patton Harris Rust & Associates, PC Agents: Douglas R. Kennedy Peter J. Steele	14532 Lee Road Chantilly, VA 20151	Traffic Consultant/Agent
Stearns, Conrad and Schmidt, Consulting Engineers, Inc. d/b/a SCS Engineers Agents: Robert H. Isenberg Paul A. Mandeville	11260 Roger Bacon Drive Reston, VA 20190	Soils Engineer/Agent
Culpeper Engineering, PC Agent: I. Wayne Stanton	3251 Germanna Highway Locust Grove, VA 22508	Engineer/Agent

(check if applicable)

There are more relationships to be listed and Par. 1(a) is continued further on a "Special Exception Attachment to Par. 1(a)" form.

**Special Exception Attachment to Par. 1(a)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06  
(enter County-assigned application number (s))

**(NOTE:** All relationships to the application are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel (s) for each owner(s) in the Relationship column.)

<b>NAME</b> (enter first name, middle initial, and last name)	<b>ADDRESS</b> (enter number, street, city, state, and zip code)	<b>RELATIONSHIP(S)</b> (enter applicable relationships listed in <b>BOLD</b> above)
Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.	2200 Clarendon Boulevard 13th Floor Arlington, Virginia 22201	<b>Attorneys/Planners/Agent</b>
Agents: Martin D. Walsh Lynne J. Strobel Timothy S. Sampson M. Catharine Puskar Sara V. Mariska G. Evan Pritchard Elizabeth D. Baker Inda E. Stagg Kara M. Whisler Megan C. Shilling Elizabeth A. McKeeby		

(check if applicable)

There are more relationships to be listed and Par. 1(a) is continued further on a "Special Exception Attachment to Par. 1(a)" form.

SPECIAL EXCEPTION AFFIDAVIT

DATE: January 9, 2009  
(enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06  
(enter County-assigned application number(s))

1(b). The following constitutes a listing\*\*\* of the **SHAREHOLDERS** of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders:

(NOTE: Include **SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES, and REAL ESTATE INVESTMENT TRUSTS** herein.)

CORPORATION INFORMATION

**NAME & ADDRESS OF CORPORATION:** (enter complete name and number, street, city, state, and zip code) Hilltop Sand & Gravel Company, Inc.  
7950 Telegraph Road  
Alexandria, VA 22315

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF SHAREHOLDERS:** (enter first name, middle initial and last name)

C.S. Gailliot Sr. Trust Account for the benefit of Thomas H. Gailliot, Sr.; C.S. Gailliot Sr. Trust Account for the benefit of Clemens S. Gailliot, Jr.; Martin A. Gailliot, Sr. Trust for the benefit of Theresa A. Gailliot; Robert V. Gailliot Sr. Marital Trust for the benefit of Annette W. Gailliot;	Elizabeth M. Gailliot; Estate of Robert V. Gailliot, Jr. f/b/o Robert V. Gailliot, III and J.A. Gailliot; Ursula G. Koeze; Samuel Franklin Gailliot Trust f/b/o Samuel Franklin Gailliot; Annette Maria Gailliot Trust f/b/o Annette Maria Gailliot
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

(check if applicable)  There is more corporation information and Par. 1(b) is continued on a "Special Exception Affidavit Attachment 1(b)" form.

\*\*\* All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. *In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.* Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

**Special Exception Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

C&E Real Estate Services, LC  
10D Cardinal Park Drive, SE  
Leesburg, VA 20175

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

J. Brent Clarke, III

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Dewberry & Davis LLC  
8401 Arlington Boulevard  
Fairfax, Virginia 22031

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

The Dewberry Companies LC, Member  
James L. Beight, Member  
Dennis M. Couture, Member

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

**Special Exception Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

The Dewberry Companies LC  
8401 Arlington Boulevard  
Fairfax, Virginia 22031

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

Members: Sidney O. Dewberry, Barry K.  
Dewberry, Karen S. Grand Pre, Michael S.  
Dewberry, Thomas L. Dewberry

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Rounds VanDuzer Architects, P.C.  
467A North Washington Street  
Falls Church, VA 22046

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

David P. VanDuzer  
Mark E. McAfee  
Stephen F. Kenney  
Jonathan A. Fritsch

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

**Special Exception Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.  
2200 Clarendon Boulevard, 13th Floor  
Arlington, Virginia 22201

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

David J. Bomgardner, E. Andrew Burcher,	Michael D. Lubeley, J. Randall Minchew,
Thomas J. Colucci, Peter M. Dolan, Jr.,	M. Catharine Puskar, John E. Rinaldi,
Jay du Von, Jerry K. Emrich, William A.	Lynne J. Strobel, Garth M. Wainman,
Fogarty, John H. Foote, H. Mark Goetzman,	Nan E. Walsh, Martin D. Walsh
Bryan H Guidash,	

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Patton, Harris, Rust & Associates, Inc. f/k/a Patton Harris Rust & Associates, PC  
14532 Lee Road  
Chantilly, Virginia 20151

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

Thomas D. Rust  
Jeffrey E. Frank

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

**Special Exception Attachment to Par. 1(b)**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06  
(enter County-assigned application number (s))

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Stearns, Conrad and Schmidt, Consulting Engineers, Inc. d/b/a SCS Engineers  
11260 Roger Bacon Drive  
Reston, VA 20190

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)

Culpeper Engineering, PC  
3251 Germanna Highway  
Locust Grove, VA 22508

**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

**NAMES OF THE SHAREHOLDERS:** (enter first name, middle initial, and last name)

Irwin W. Stanton  
Michael K. Tolliver  
Rebecca S. Tolliver

(check if applicable)  There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

SPECIAL EXCEPTION AFFIDAVIT

DATE: January 9, 2009
(enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06
(enter County-assigned application number(s))

1(c). The following constitutes a listing\*\*\* of all of the PARTNERS, both GENERAL and LIMITED, in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

PARTNERSHIP NAME & ADDRESS: (enter complete name, and number, street, city, state, and zip code)
none

(check if applicable) [ ] The above-listed partnership has no limited partners.

NAMES AND TITLE OF THE PARTNERS (enter first name, middle initial, last name, and title, e.g. General Partner, Limited Partner, or General and Limited Partner)

(check if applicable) [ ] There is more partnership information and Par. 1(c) is continued on a "Special Exception Affidavit Attachment to Par. 1(c)" form.

\*\*\* All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed. Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

SPECIAL EXCEPTION AFFIDAVIT

DATE: January 9, 2009  
(enter date affidavit is notarized)

99527a

for Application No. (s): SEA 78-L-074-06  
(enter County-assigned application number(s))

1(d). One of the following boxes **must** be checked:

In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\*** of the land:

Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

**EXCEPT AS FOLLOWS:** (**NOTE:** If answer is none, enter "NONE" on the line below.)

None

(check if applicable)  There are more interests to be listed and Par. 2 is continued on a "Special Exception Attachment to Par. 2" form.

Application No.(s): SEA 78-L-074-06  
(county-assigned application number(s), to be entered by County Staff)

**SPECIAL EXCEPTION AFFIDAVIT**

DATE: January 9, 2009  
(enter date affidavit is notarized)

99527a

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than \$100, singularly or in the aggregate, with any of those listed in Par. 1 above.

**EXCEPT AS FOLLOWS:** (NOTE: If answer is none, enter "NONE" on line below.)

None

**NOTE:** Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)

(check if applicable) [ ] There are more disclosures to be listed and Par. 3 is continued on a "Special Exception Attachment to Par. 3" form.

4. That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.

WITNESS the following signature:

(check one)

[ ] Applicant

[x] Applicant's Authorized Agent

Lynne J. Strobel, attorney/agent

(type or print first name, middle initial, last name, and & title of signee)

Subscribed and sworn to before me this 9 day of January, 2009, in the State/Comm. of Virgini, County/City of Arlington.

Kenneth K. Folli  
Notary Public

My commission expires: 11/30/2011

**Hilltop Sand & Gravel Co., Inc.**  
**T/A Hilltop Sand & Gravel Landfill**

703 971-1300 • Fax 703 971-3169

**Mailing Address:**

P. O. Box 10316  
 Alexandria, VA 22310  
 22315

**Street Address:**

7950 Telegraph Rd.  
 Alexandria, VA

RECEIVED  
 Department of Planning & Zoning

MAR 19 2008

Zoning Evaluation Division

February 12, 2008

RECEIVED

Department of Planning & Zoning

FEB 13 2008

Zoning Evaluation Division

**Via Hand Delivery**

Regina C. Coyle, Director  
 Fairfax County Department of Planning & Zoning  
 Zoning Evaluation Division  
 12055 Government Center Parkway, Suite 801  
 Fairfax, Virginia 22035

Re: Proposed Rezoning and Special Exception Amendment  
 Applicant: Hilltop Sand and Gravel Company, Inc.

Dear Ms. Coyle:

Please accept the following as a statement of justification for a rezoning and special exception amendment on property identified among the Fairfax County tax map records as 100-1 ((1)) 9 (part) (the "Subject Property").

The Subject Property is located on the north side of Beulah Road near its intersection with Telegraph Road in the Lee District. The Subject Property is zoned to the R-1 and I-3 Districts. Hilltop Sand and Gravel Company, Inc. ("Hilltop") proposes to rezone approximately 3.51 acres of the Subject Property from the I-3 District to the R-1 District. Further, Hilltop proposes a special exception amendment to reduce the area of the construction and demolition debris landfill from approximately 43.40 acres to 35.86 acres, a reduction of 7.54 acres, increase the amount of fill permitted from 8.5 million cubic yards to 8.95 million cubic yards, and permit quasi-public athletic fields in the R-1 District.

The Subject Property contains approximately 43.40 acres and is zoned to the I-3 and R-1 Districts. A portion of the Subject Property currently operates as an active construction and demolition debris landfill, which was originally approved by the Board of Supervisors (the "Board") on December 18, 1978 pursuant to SE 78-L-074. The Board has approved various amendments to the original special exception. Most recently, on July 27, 1998, the Board approved SEA 78-L-074-5 to decrease the land area included in the debris landfill and to allow continued operation of the landfill on the remaining land area. This application was approved concurrently with a special permit for a nine hole golf course and related facilities. In a November 23, 2003 letter, Barbara A. Byron, Director of the Zoning Evaluation Division, determined that revisions to the grading contours for the landfill were in substantial conformance with SEA 78-L-074-5. The landfill was gradually transformed into the nine hole golf course as contours were brought up to grade.

Hilltop proposes a similar phased development program to allow the remaining landfill area to evolve into active recreation facilities. In the first phase, the volume of the landfill will be increased. An increase in volume is necessary to create a level plateau on which recreation facilities may be located. Upon reaching a volume of 8.95 million cubic yards, Hilltop will no longer accept debris, will cap the landfill, and proceed with closure of the landfill. In the second phase, upon closure of the landfill, Hilltop will construct two (2) little league baseball fields, two (2) soccer fields, a tot lot, and associated parking for the recreation facilities. The area of the quasi-public athletic fields will total approximately eleven (11) acres.

The Subject Property is located in the Rose Hill Planning District in Area IV of the Fairfax County Comprehensive Plan (the "Plan"). More specifically, the Subject Property is within the Lehigh Community Planning Sector (RH4). The Plan recommends private recreation with an option for residential development at a density of 2 to 3 dwelling units per acre. Hilltop's proposal for the ultimate development of the Subject Property with recreation facilities is consistent with the Plan recommendations.

In conjunction with this application, Hilltop is submitting three related applications that will be processed concurrently. Hilltop proposes a rezoning to construct a mixed-use development, including office, retail and residential uses, on approximately 33 adjacent acres located at the intersection of Beulah Street and Telegraph Road. In addition, adjacent property to the northeast will continue to be operated as a golf course with related facilities in accordance with a proposed special exception amendment and rezoning.

The proposed active recreation uses will be a valuable asset to the surrounding communities in the Lee and adjacent Mount Vernon Districts. A little league field will replace the existing Pioneer Little League field that is located at the intersection of Beulah Street and Telegraph Road. The additional three athletic fields will supplement existing fields in the Lee District. Presently, fields in the area are heavily utilized and Hilltop's proposal will create more recreational opportunities for Fairfax County residents. Moreover, the active recreation uses will complement the mixed use development proposed on 33 adjacent acres. The adjacent mixed use center, which will include office, residential, and retail uses, combined with the athletic fields and tot lot facilities, will create a true synergy of uses that allow people to live, work, and play in a single area. In addition, the location of the recreation area on an elevated plateau creates an appropriate spatial separation between the uses. Parking is provided in conjunction with the fields to serve patrons.

Please accept the following, as required by Sect. 9-011 of the Fairfax County Zoning Ordinance (the "Ordinance"), as a description of the first phase of Hilltop's proposal, which is an existing construction and demolition debris landfill:

- The type of operation is an active construction and demolition debris landfill that will receive volume up to 8.95 million cubic yards.
- The typical hours of the landfill operation will continue to be from 7:00 a.m. to 5:00 p.m., Monday through Friday, and 7:00 a.m. to 12:00 pm. on Saturday.
- The estimated number of patrons per day will average approximately 175.
- The proposed number of employees is a maximum of 19.

- The traffic generated by the existing use is distributed throughout the day. All of the vehicles utilizing the landfill are heavy trucks that are hauling debris. The peak trip generation in the morning is from 8:00 a.m. to 11:00 a.m. and in the afternoon from 1:00 p.m. to 4:00 p.m. During these hours of peak use, approximately 80-100 trucks arrive at the landfill site.
- The primary vicinity or general area to be served by the use is Northern Virginia.
- There will be no new buildings associated with the landfill operation. An existing metal maintenance building will be retained, and a 12 x 60 foot trailer on a 1,000 square foot pad will be used for the administration of the landfill and for the collection of fees.
- To the best of Hilltop's knowledge, there will be no hazardous waste or petroleum products generated, utilized, stored, treated, or disposed of on the Subject Property except for methane gas generated by the landfill. The methane gas will be regulated in accordance with the rules and policies of the Virginia Department of Environmental Quality and the Fairfax County Fire Marshall's Office. Hilltop utilizes above ground diesel fuel storage tanks to fuel the equipment used in the landfill operation.
- The proposed development conforms to provisions of all applicable ordinances, regulations, and adopted standards, except for a modification of the requirements of Section 9-205 of the Ordinance that restricts the construction of improvements on the landfill for a period of twenty (20) years. Hilltop proposes to install the trailer described above, but no structures, on land previously utilized as a landfill. Said installation will not affect the appearance or structural integrity of the proposed improvements nor create an unsafe or hazardous condition.

Please accept the following, as required by Sect. 9-011 of the Ordinance, as a description of the second phase of Hilltop's proposal, which will be implemented upon closure of the landfill:

- The type of operation proposed is two (2) little league baseball fields, two (2) soccer fields, a tot lot, and associated parking.
- The hours of operation for the recreation facilities will be from sunrise to dusk, seven days a week. The athletic fields will not include lighting.
- The estimated number of patrons per day is anticipated to be approximately 160 to 200 on weekdays and approximately 357 on Saturdays, though this number will vary throughout the year.
- The proposed number of employees will be a maximum of 8.
- Patrons will arrive at the Subject Property by private vehicle. The estimated amount of vehicle trips per day is approximately 220 during the week and 350 on Saturdays. Peak trip generation during the week is at 4:30 p.m., when approximately 60 vehicles will be arriving at the Subject Property. Peak trip generation on Saturdays is from 11:00 a.m. to 12:00 noon, when approximately 90 vehicles will be arriving at the Subject Property.
- The general area to be served by the proposed use is the Kingstowne Community, the Manchester Lakes Community, and numerous surrounding residential developments.



# FAIRFAX COUNTY

## APPENDIX 4

OFFICE OF THE CLERK  
BOARD OF SUPERVISORS  
12000 Government Center Parkway, Suite  
Fairfax, Virginia 22035-0

V I R G I N I A

Telephone: 703-324-3

FAX: 703-324-3

TTY: 703-324-3

August 19, 1998

Lynne J. Strobel, Esquire  
Walsh, Colucci, Stackhouse,  
Emrich and Lubeley  
2200 Clarendon Boulevard  
Thirteenth Floor  
Arlington, Virginia 22201-3359

RE: Special Exception Amendment  
Number SEA 78-L-074-05  
(Concurrent with RZ 1997-LE-041;  
RZ 1997-LE-042 and RZ 1997-043)

Dear Ms. Strobel:

At a regular meeting of the Board of Supervisors held on July 27, 1998, the Board approved Special Exception Amendment Number SEA 78-L-074-05 in the name of Hilltop Sand and Gravel Company, Incorporated, located at Tax Map 100-1 ((1)) 9, to amend SE 78-L-074 in order to permit a decrease in land area used for a landfill pursuant to Sections 3-104 and 5-303 of the Fairfax County Zoning Ordinance by requiring conformance with the following development conditions. Previously approved conditions, or those with minor revisions, are marked with an asterisk (\*).

1. This Special Exception Amendment is granted for and runs with the land indicated in this application and is not transferable to other land.
2. A copy of this Special Exception Amendment and the Non-Residential Use Permit **SHALL BE POSTED** in a conspicuous place on the property of the use and be made available to all departments of the County of Fairfax during the hours of operation of the permitted use.

August 19, 1998  
SEA 78-L-074-05

2.

3. This Special Exception Amendment is subject to the provisions of Article 17, Site Plans, as may be determined by the Director, Department of Public Works and Environmental Services (DPW&ES). Any plan submitted pursuant to this special permit shall be in conformance with the approved Special Exception plat **entitled Hilltop Driving Range/Golf Course - Phase II and prepared by Dewberry & Davis which is dated May 5, 1997 and revised through May 29, 1998** and these conditions.
4. \*These Special Exception Amendment conditions shall be in addition to the conditions approved with SE 78-L-074, SEA 78-L-074-1, and SEA 78-L-074-4. To the extent that these conditions conflict with those formerly approved pursuant to SE 78-L-074 and SEA 78-L-074-1, these conditions shall govern. Development conditions approved with SEA 78-L-074-2, and SEA 78-L-074-3 have been incorporated and superseded by these development conditions.
5. \*Erosion and sediment control shall be provided to achieve an 80% efficiency, around the perimeter and within the application property. The design and location of sediment traps and/or other devices shall be subject to review and approval by the Department of Public Works and Environmental Services (DPW&ES).
6. \*All fill shall consist of debris/inert material. No toxic materials, sludge, chemical waste or putrescible substances shall be allowed. A toxic waste control plan shall be prepared for approval by the DPW&ES. This plan shall specifically address the method of control used to prevent the dumping of toxic and hazardous waste in the landfill and be implemented as required by the DPW&ES.
7. \*In addition to the requirements of Article 2 of Chapter 104 of the County Code and Section 9-205 of the Zoning Ordinance, the following measures shall continue to be implemented:
  - a. \*A 50 foot firebreak located at the interior edge of the on-site tree line shall be provided around the perimeter of the landfill:
  - b. \*Erosion control, slope drainage, vegetative stabilization and maintenance shall be provided for the long slopes of the fill area through the use of slope benches to prevent erosion as determined appropriate by the Director, DPW&ES.

August 19, 1998  
SEA 78-L-074-05

3.

- c. \*A downslope drainage control plan as approved by DPW&ES shall be incorporated into the overall site drainage plan;
- d. \*Diversionary drainage shall be provided;
- e. Elevation certifications signed and sealed by a Virginia licensed land surveyor or professional engineer shall be provided to the Director, DPW&ES, annually by the licensed operator of the Hilltop Sand and Gravel Landfill. The certification shall include a statement verifying whether or not the landfill elevations are at or below the approved elevations under SEA 78-L-074-4. Prior to or upon reaching the approved elevations under SEA 78-L-074-4, the landfill shall cease operations to ensure that the final elevations after capping of the landfill are within approved elevations.
- f. A licensed operator of the landfill shall keep the Director, DPW&ES, appraised of the Virginia Department of Environmental Quality (DEQ) review of the ground and surface water monitoring results. Any evidence of contamination of ground or surface water shall be brought to the attention of the Director, DPW&ES. Similarly the Fire and Rescue Department must be notified of any detection of off-site migration of landfill gas or fire outbreaks.
- g. Additional information, as determined by DPW&ES shall be provided to the Director, DPW&ES, to demonstrate that the existing stormwater pond is adequate for control of stormwater runoff and sedimentation. Corrective measures, as determined appropriate by the Director, DPW&ES, shall be taken to correct any deficiencies.
- h. \*Adequate cover soil materials shall be available on the landfill site. Marine clay materials shall not be used as fill in areas where stability will be a problem or where revegetation is to be conducted.

\*The above listed measures shall be provided to the satisfaction of the Director, DPW&ES and shall be required as a part of the debris landfill permit.

8. \*The tributary to Piney Run shall be stabilized to minimize erosion, the finished slopes and areas around the stream shall be revegetated with trees and the stream valley returned to an environmental quality corridor (EQC). A stream valley creation/restoration plan shall be provided for review and approval by the Landfill Administrator and the Urban Forester, DPW&ES, as part of the restoration plan that is required prior to re-issuance of an amended landfill permit from the Director, DPW&ES.
9. \*The debris landfill permit previously approved for the operation shall be amended and resubmitted to the Director, DPW&ES. The permit application shall reflect how current and new requirements will be or have been met. No fill may occur beyond the depths and contours approved in conjunction with SE 78-L-074-4.
10. This Special Exception Amendment shall expire at such time as fill to the proposed contours has been completed; however, prior to such time, a closure/restoration plan shall be submitted for approval of the appropriate State Agencies and the review of the Director, DPW&ES. Upon approval, the closure/restoration plan shall immediately be implemented. The capping of the landfill shall be completed within one year of the expiration of this Special Exception Amendment.
11. \*Landscaping shall conform with the landscaping plan dated November 21, 1986, prepared by Dewberry and Davis and shall be provided along the landfill's entrance at Beulah Street within six (6) months from approval of this Special Exception Amendment application. The applicant shall maintain all existing vegetation within the one-hundred foot buffer required pursuant to the development conditions of SE 78-L-074 to provide screening from the landfill to adjacent residential structures.
12. Right-of-way up to fifty (50) feet from the design centerline of Telegraph Road, as shown on the VDOT Field Inspection Plan Number 0611-029-303, C502 as of December, 1989, shall be dedicated, plus all ancillary construction easements up to fifteen (15) feet outside of the right-of-way line. This right-of-way shall be dedicated and conveyed in fee simple to the Board of Supervisors at such time as the road project is funded, or upon demand from VDOT, whichever first occurs.

13. \*Upon the reconstruction of Beulah Street, or at the request of VDOT, the entrance to the landfill shall be relocated so as to provide all access to Telegraph Road. This access to Telegraph Road shall be located so as to align with a median break upon the reconstruction of Telegraph Road. At that time, both right and left turn lanes at the site entrance shall be constructed to VDOT standards. Design plans for the reconstruction of the site entrance, including turn lanes, shall be submitted to VDOT for review and approval at the time of VDOT approval of the Telegraph Road project.
14. \*The storage of equipment or materials, repair, servicing or parking of any vehicles within the boundaries of the landfill shall be limited to those vehicles used exclusively for the operation of the landfill facility.
- 15a. \*Truck arrivals from the Kingstowne development and Hunter Tract shall be monitored to ensure their direct access from Kingstowne Village Parkway and Beulah Street to the landfill. Access from Kingstowne to the subject site via Hayfield Road will be restricted with regulatory signs on the Hilltop property. The applicant will notify all contractors using the Hilltop landfill of such restrictions.
- 15b. \*All vehicles departing from the landfill shall be restricted from using Beulah Street as a return route except that vehicles depositing debris from Kingstowne and the Hunter Tract may use Beulah northbound to Kingstowne Village Parkway, or an alternative route not to include Beulah Street.
16. \*A fee of fifty cents (\$0.50) per truck load will be collected from each truck entering the Hilltop Landfill. This fund will be equally distributed for use in the development of Lee District Park and acquisition and restoration of Huntley Plantation. There will be no limitation on the amount collected for this fund. This increased fee shall become effective with the 1990 permit renewal process and shall be tied to a yearly escalator based on the Consumer Price Index.
17. \*The 1.5 million cubic yards of additional fill capacity approved with SEA 78-L-074-2 shall be used exclusively for debris/inert material generated by the Kingstowne Development and the Hunter Tract. If the total material generated by these two developments is less than 1.5 million cubic yards, then the additional fill capacity shall be limited to that amount of total material generated by the aforementioned sites. In no instance shall fill capacity exceed 8.5 million cubic yards.

18. The landfill operations previously approved pursuant to SEA 78-L-074-4 on approximately 135.97 acres may continue in full force and effect until such time as a landfill closure on the approximately 71.19 acres that is proposed to be deleted from the special exception pursuant to SEA 78-L-074-5 has been approved by the appropriate State agencies. When the landfill closure has been approved, SEA 78-L-074-5 may be implemented on the reduced land area of the landfill containing approximately 64.78 acres in accordance with approved Fairfax County Site Plan 3365-LF-01. The reduced landfill area subject to SEA 78-L-074-5 is shown on the Special Exception Amendment Plat. The 71.19 acres referred to herein and subject to SP 97-L-037 shall not be issued a non-residential use permit for a nine-hole golf course until the landfill closure has been approved by the appropriate State Agencies and implemented as required by that plan.

This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be himself responsible for obtaining any required Non-Residential Use Permit through established procedures, and this Special Exception Amendment shall not be valid until this has been accomplished.

Pursuant to Section 9-105 of the Zoning Ordinance, this Special Exception Amendment shall automatically expire, without notice, unless the use has been established or construction has commenced and been diligently prosecuted. The use shall be considered established when Development Condition 18 has been met and a new Non-RUP has been issued for SEA 78-L-074-5. The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the Special Exception Amendment. The request must specify the amount of additional time requested, the basis for the amount of time requested and an explanation of why additional time is required.

**The Board also:**

- **Waived the additional standard number nine for landfills, subject to the development conditions as modified by the Planning Commission; and**
- **Modified the transitional screening and waived the barrier requirements on the northern, eastern, and western peripheries of parcel 23A to that shown on the Generalized Development Plan (GDP)**

August 19, 1998  
SEA 78-L-074-05

7.

If you have questions regarding the expiration of this Special Exception Amendment or filing a request for additional time they should be directed to the Zoning Evaluation Division of the Department of Planning and Zoning at 703-324-1290. The mailing address for the Zoning Evaluation Division is Suite 801, 12055 Government Center Parkway, Fairfax, Virginia 22035.

Sincerely,



Patti M. Hicks  
Deputy Clerk to the Board of Supervisors

PMH/ns

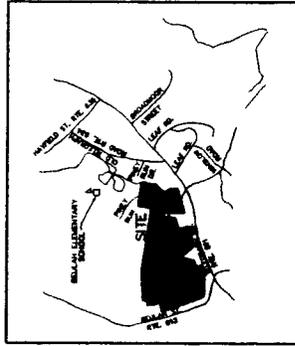
cc: Janet Coldsmith, Director, Real Estate Div., Dept. of Tax Administration  
Michael R. Congleton, Deputy Zoning Administrator  
Frank Jones, Assistant Chief, PPRB, DPZ  
Audrey Clark, Chief, Inspection Svcs., BPRB, DPW&ES  
Barbara A. Byron, Director, Zoning Evaluation Div., DPZ  
Robert Moore, Trnsprt'n. Planning Div., Dept. of Transportation  
Paul Eno, Project Planning Section, Dept. of Transportation  
Department of Public Works and Environmental Service, DPW&ES  
Department of Highways, VDOT  
Land Acq. & Planning Div., Park Authority  
Michael Neuhard, Battalion Chief, Hazardous Materials Branch, Fire & Rescue Dept.

**RECEIVED**  
DEPARTMENT OF PLANNING AND ZONING  
OCT 16 1998  
ZONING EVALUATION DIVISION

# HILLTOP DRIVING RANGE/ GOLF COURSE - PHASE II

LEE DISTRICT  
FAIRFAX COUNTY, VIRGINIA

GENERALIZED DEVELOPMENT PLAN/  
SPECIAL EXCEPTION AMENDMENT/  
SPECIAL PERMIT - PLAT



VICINITY MAP  
SCALE: 1" = 5000'

APPLICANT:

HILLTOP SAND AND GRAVEL  
7950 TELEGRAPH ROAD  
ALEXANDRIA, VIRGINIA 22310

### SHEET INDEX:

1. COVER SHEET
2. NOTES & TABULATIONS
3. 200 SCALE OVERALL DEVELOPMENT PLAN
4. 100 SCALE-SEA/SP/GDP
5. 100 SCALE-SEA/SP/GDP
6. C-16 AREA ENLARGEMENT
7. METES AND BOUNDS
8. REZONING GRAPHIC/APPLICATION IDENTIFICATION
9. CONCEPTUAL MINIATURE GOLF COURSE LAYOUT

MAY 5, 1997  
 REV. JULY 23, 1997  
 REV. NOV. 3, 1997  
 REV. JAN. 28, 1997  
 REV. FEB. 20, 1998  
 REV. MAY 20, 1998

LINDSAY ERVIN & ASSOCIATES, INC.  
 GOLF COURSE DESIGN - LAND PLANNING - LANDSCAPE ARCHITECTURE  
 1500 SHILOH DRIVE, SUITE 204  
 GAITHERSBURG, MARYLAND 20878  
 TEL. (301) 793-0310  
 FAX (301) 281-0448



HILLTOP DRIVING RANGE/  
 GOLF COURSE - PHASE II  
 LEE DISTRICT, VIRGINIA  
 GENERALIZED DEVELOPMENT PLAN/  
 SPECIAL EXCEPTION AMENDMENT/  
 SPECIAL PERMIT - PLAT

**Dowberry & Davis**  
 8401 Arlington Blvd., Fairfax, Va. 22031  
 TEL. (703) 848-0100 FAX (703) 848-0118



**Dewberry & Davis**  
 Architects  
 Engineers  
 Planners  
 Surveyors  
 8401 Arlington Blvd Fairfax VA 22031  
 (703) 441-0100 FAX (703) 449-6010

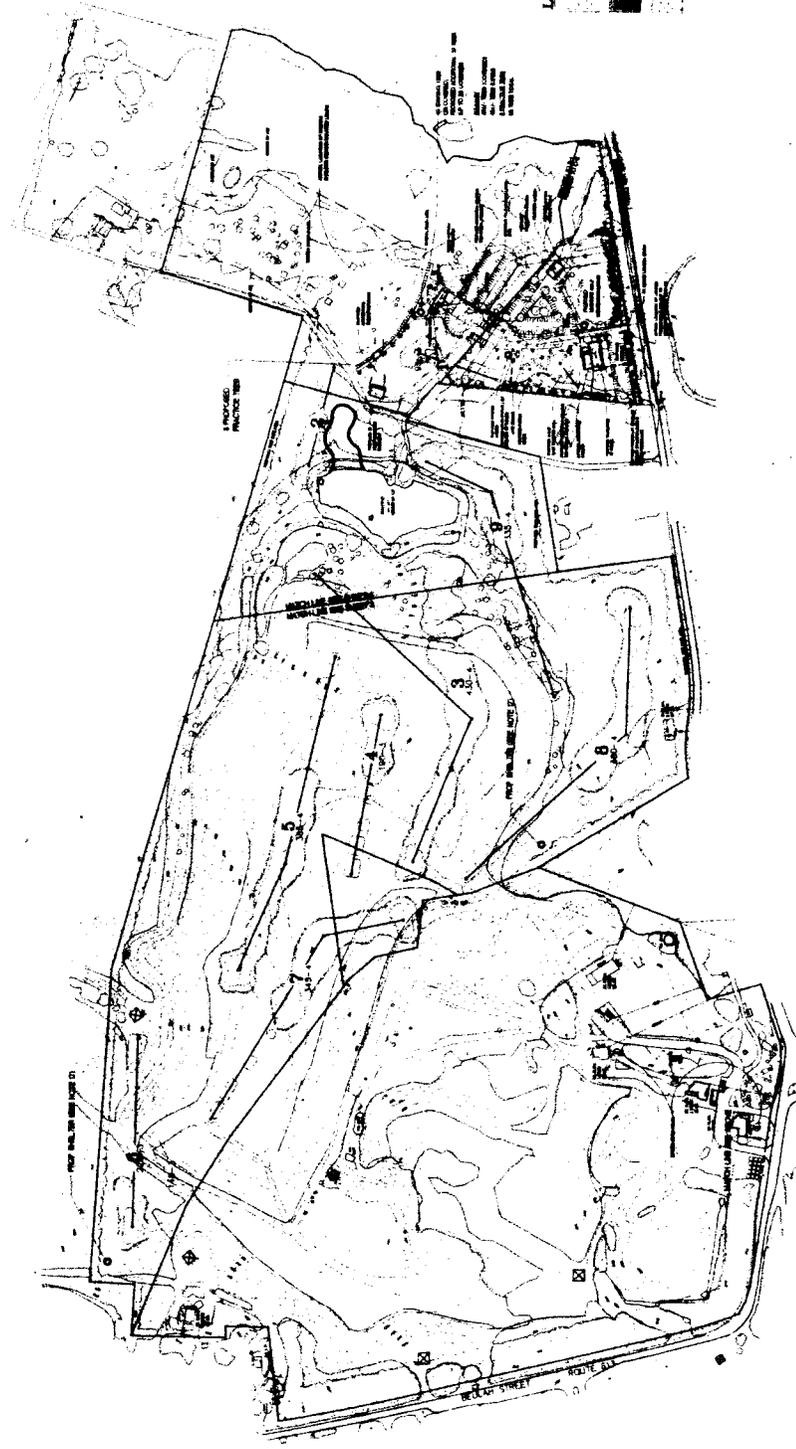
**Hilltop Driving Range/Golf Course-Phase II**  
 ORIGINAL PLAN

Drawn by: JPH  
 Checked by: MJB  
 Prepared by: LAM  
 Date: 10/10/06  
 Scale: 1" = 100'  
 Project No.: 06-001  
 Sheet No.: 1 of 10



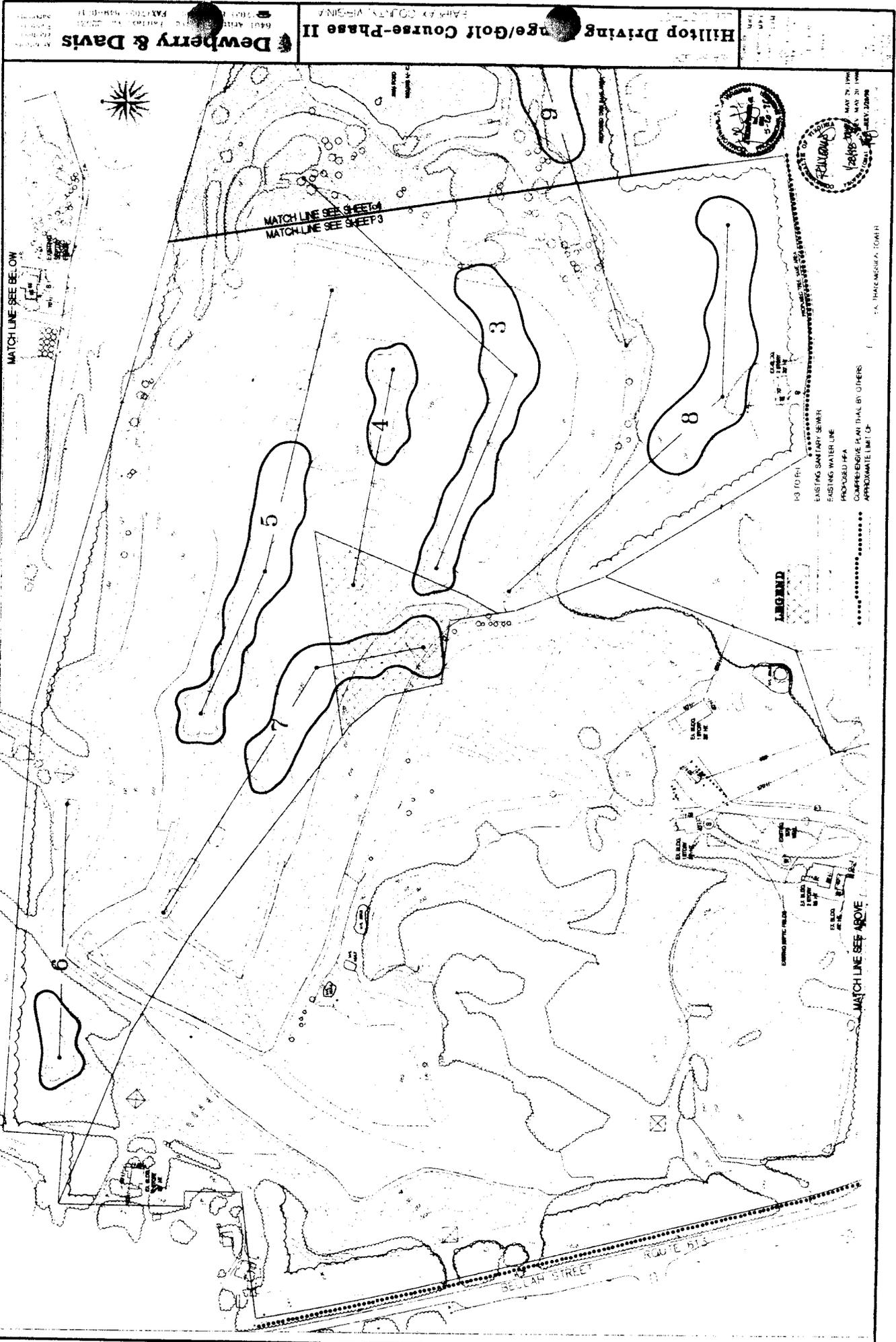
**LEGEND**

- PT-4 TO PT
- PA-4 TO CB
- IS TO PT
- EXISTING TRANSMISSION TOWER



AMOUNT OF BILLS PAID  
 \$100.00  
 \$200.00  
 \$300.00  
 \$400.00  
 \$500.00  
 \$600.00  
 \$700.00  
 \$800.00  
 \$900.00  
 \$1000.00



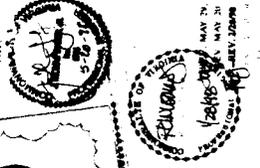


**Dewberry & Davis**

**Hilltop Driving Range/Golf Course-Phase II**

FAIRFAX COUNTY, VIRGINIA

DATE: 12/15/09  
 DRAWN BY: J. H. HARRIS  
 CHECKED BY: J. H. HARRIS  
 DATE: 12/15/09



MATCH LINE SEE SHEET 1  
 MATCH LINE SEE SHEET 3

MATCH LINE SEE BELOW

**LEGEND**

- 1/8" TO 1" = 1' 0" 0"
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- PROPOSED #4A
- COMPENSATION PLANT BY OTHERS
- APPROXIMATE LIMIT OF

MATCH LINE SEE ABOVE

BELLAH STREET ROUTE 613

1/4" TRUCK MESSIAH TOWER



**SUMMARY**  
 40+/- TEES (COVERED)  
 42+/- TEES (OPEN)  
 8 PRACTICE TEES  
 90 TEES TOTAL

**LIGHTING LEGEND**  
 EX 30 VDOT LIGHTS  
 EX 12 POLE MOUNTED PARKING LOT/STREET LIGHTS  
 EX 30 POLE MOUNTED LIGHTS TARGETED TO DRIVING RANGE  
 EX GROUND MOUNTED SHIELDED LIGHTS TARGETED TO DRIVING RANGE  
 PROPOSED PARKING LOT LIGHTS (TO MATCH EXISTING)  
 PROPOSED 20' LIGHTS SHIELDED TO TARGET GREENS  
 COUNTY WIDE TRAIL (FUNDS ESCROWED)  
 LARGE DECIDUOUS TREE  
 STREET TREE  
 2'-1 1/2' CAL.  
 2'-2 1/2' CAL.  
 ORNAMENTAL TREE  
 8'-10' HT  
 EVERGREEN TREE  
 6'-10' HT  
 EVERGREEN SHRUB  
 2'-3'-30" HT  
 100' YEAR FLOODPLAIN



APPROX LOCATION OF LIGHTED  
 FREESTANDING SIGN NOT TO  
 EXCEED 20' IN HEIGHT OR 80 SF  
 IN AREA

PROPOSED PARKING LOT LIGHTS (2'  
 SHIELDED TO MATCH LIGHTS IN  
 EXISTING PARKING LOT)

EX STREET LIGHTING (VDOT)

REZONED TO R-1  
 REZONED TO C-6

TELEGRAPH ROAD RTE 611

INFORMAL PICNIC AREA

EXISTING CHIPPING/  
 PUTTING GREEN

PROPOSED PEDESTRIAN CROSSING  
 WITH SPECIAL PAVEMENT

EXISTING 12' POLE MOUNTED LIGHTS  
 (TYP)

PROPOSED  
 MAINTENANCE BUILDING

PROPOSED GAZEBO  
 CAGE 30' HEIGHT

PROPOSED  
 MAINTENANCE  
 SHEDS/PUMPHOUSE

PROPOSED  
 MAINTENANCE  
 BUILDING

EX PARKING

PROPOSED  
 MAINTENANCE  
 BUILDING

PROPOSED GAZEBO  
 CAGE 30' HEIGHT

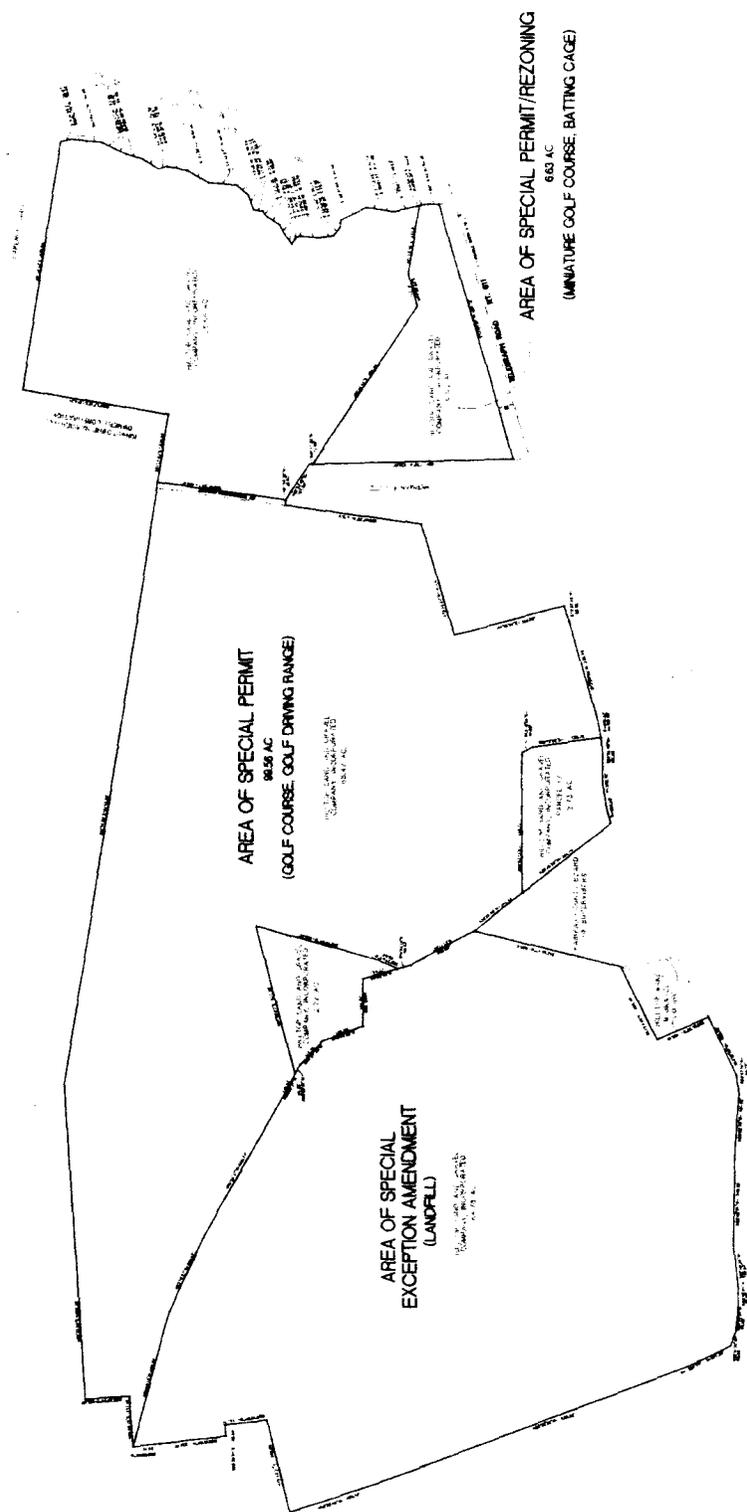
PROPOSED  
 MAINTENANCE  
 BUILDING

PROPOSED  
 MAINTENANCE  
 SHEDS/PUMPHOUSE

PROPOSED  
 MAINTENANCE  
 BUILDING

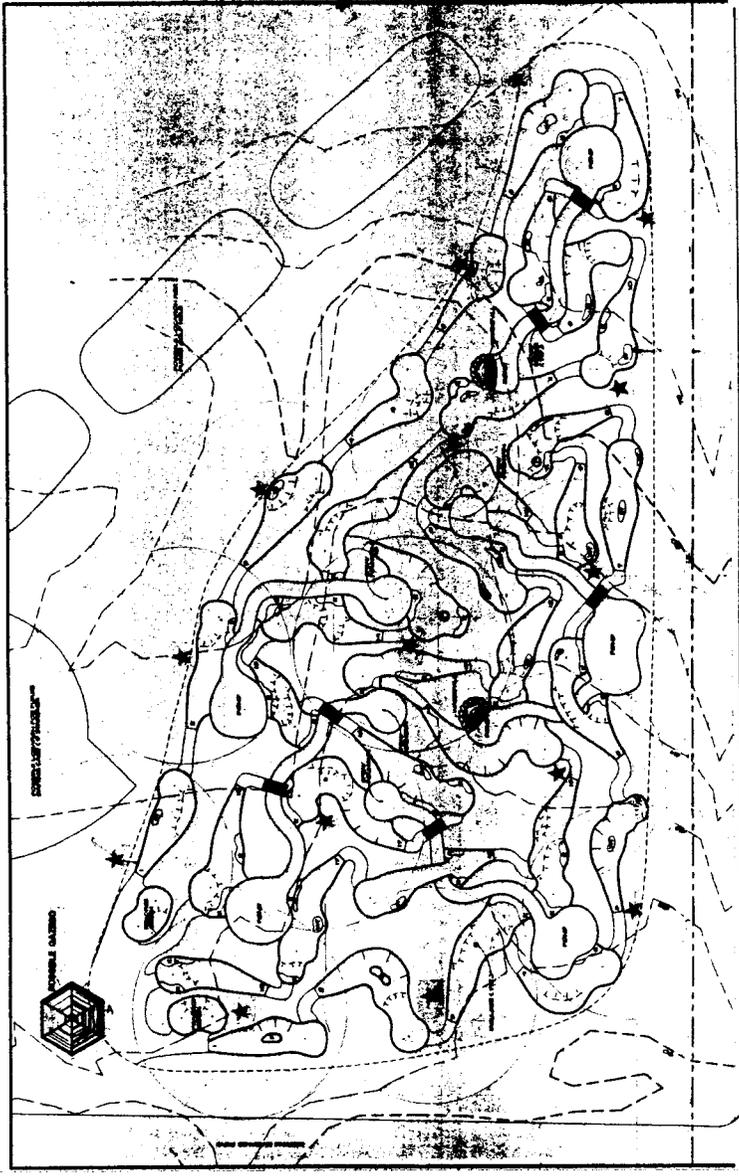
PROPOSED  
 MAINTENANCE  
 SHEDS/PUMPHOUSE

PROPOSED  
 MAINTENANCE  
 BUILDING



PLA





**LIGHTING LEGEND**

★ POSSIBLE LOCATION OF 12' LIGHT SHIELD TO MINIATURE GOLF PLAYING AREA

NOTE: LIGHT LOCATIONS ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE  
 WITH FINAL DESIGN AND INSTALLATION



**GRAPHIC KEY**

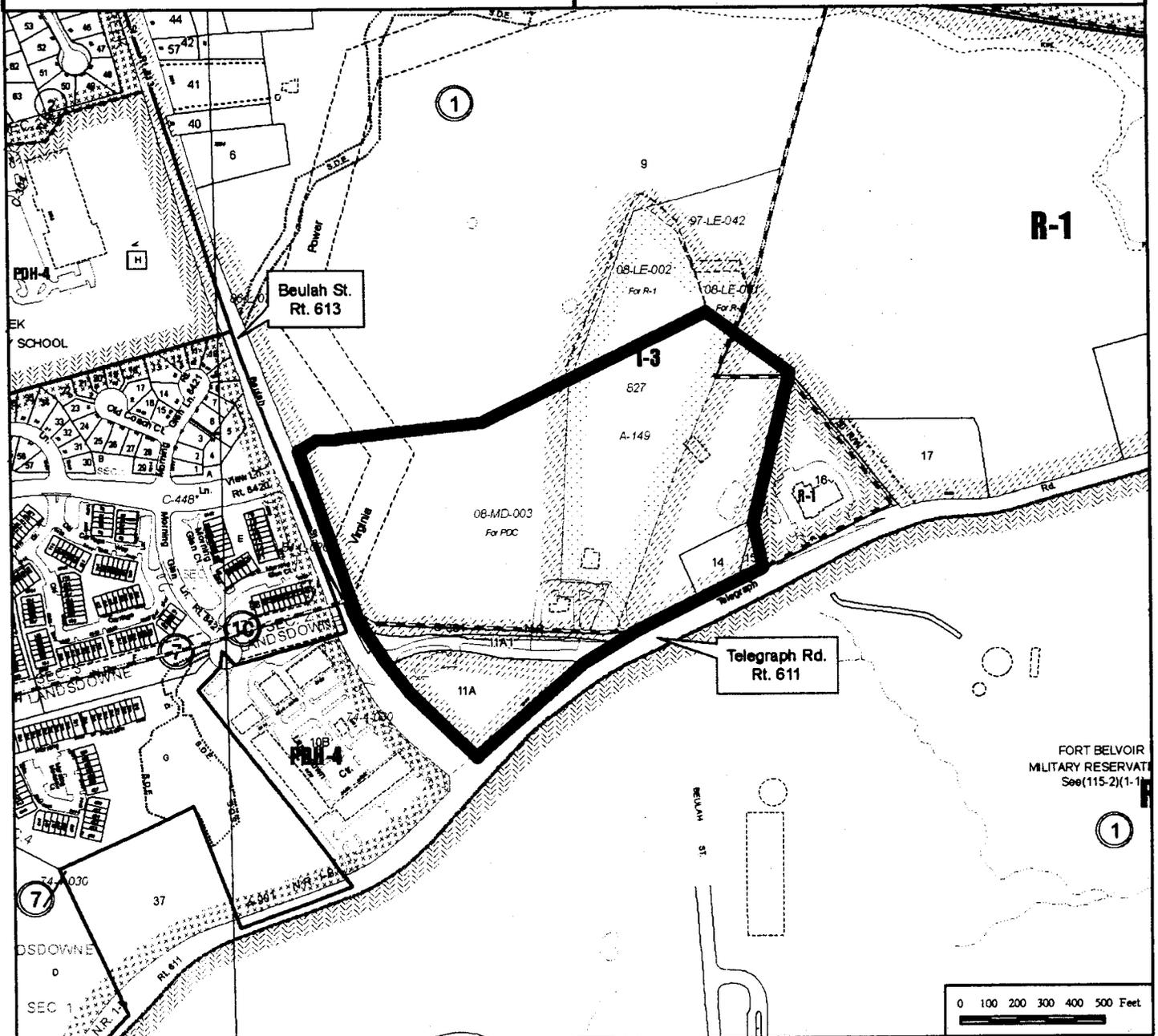
[Symbol]	ROUGH
[Symbol]	MOUND
[Symbol]	PLANTER
[Symbol]	SAND TRAP
[Symbol]	WATER TRAP
[Symbol]	OBSTACLE
[Symbol]	TEE
[Symbol]	HOLES
[Symbol]	PROPOSED NEW CHANGE



Revised by: JMK  
 Date: 11/20/08  
 Approved by: JMK  
 Date: 11/20/08  
 Checked by: JMK  
 Date: 11/20/08

TELEGRAPH ROAD

<b>Rezoning Application</b> RZ 2008-MD-003	<b>Final Development Plan</b> FDP 2008-MD-003
Applicant: HILLTOP SAND AND GRAVEL COMPANY, INC.	Applicant: HILLTOP SAND AND GRAVEL COMPANY, INC.
Accepted: 03/25/2008	Accepted: 03/25/2008
Proposed: MIXED USE DEVELOPMENT, OFFICE, RETAIL ESTABLISHMENT LARGE	Proposed: MIXED USE DEVELOPMENT TO PERMIT OFFICE, RETAIL ESTABLISHMENT LARGE, 2 DRIVE-IN BANKS
Area: 33 AC OF LAND; DISTRICT - LEE	Area: 33 AC OF LAND; DISTRICT - LEE
Zoning Dist Sect: NORTHEAST QUADRANT OF THE INTERSECTION OF BEULAH STREET AND TELEGRAPH ROAD	Zoning Dist Sect: NORTHEAST QUADRANT OF THE INTERSECTION OF BEULAH STREET AND TELEGRAPH ROAD
Located: FROM I- 3 AND R- 1 TO PDC	Located: PDC
Overlay Dist: NR	Overlay Dist: NR
Map Ref Num: 100-1- /01/ /0009 pt. /01/ /0011A /01/ /0011A1 /01/ /0014 /01/ /0015	Map Ref Num: 100-1- /01/ /0009 pt. /01/ /0011A /01/ /0011A1 /01/ /0014 /01/ /0015





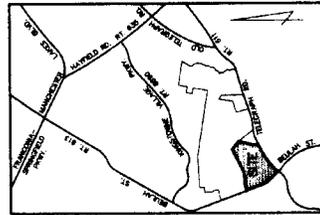
Revision 01.16.09  
Revision 12.02.08  
Revision 10.17.08  
February 12, 2008

M-10695

# HILLTOP VILLAGE CENTER

Lee & Mount Vernon Districts      Fairfax County, Virginia

## CONCEPTUAL DEVELOPMENT PLAN / FINAL DEVELOPMENT PLAN RZ 2008-MD-003



VICINITY MAP  
SCALE: 1" = 2,000'

### Applicant:

Hilltop Sand and Gravel Company, Inc.  
7950 Telegraph Road  
Alexandria, VA 22315

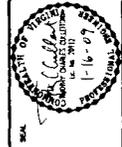
#### Sheet Index

1. COVER SHEET
2. CONCEPTUAL DEVELOPMENT PLAN / FINAL DEVELOPMENT PLAN
3. NOTES AND REGULATIONS
4. LANDSCAPE PLAN
5. PEDESTRIAN CIRCULATION & PERSPECTIVES
6. STORMWATER MANAGEMENT - OUTFALL NARRATIVE
7. STORMWATER MANAGEMENT - NARRATIVES
8. STORMWATER MANAGEMENT - NARRATIVES
9. STORMWATER MANAGEMENT
10. STORMWATER MANAGEMENT

RZ 2008-MD-003  
Hilltop Village Center  
Conceptual Development Plan /  
Final Development Plan

Dewberry & Davis, LLC  
 10000 Old Farm Road  
 Suite 200  
 Fairfax, VA 22031  
 Phone: 703.261.1200  
 Fax: 703.261.1201  
 www.dewberry.com

**HILLTOP VILLAGE CENTER**  
 CONCEPTUAL DEVELOPMENT PLAN /  
 FINAL DEVELOPMENT PLAN  
 LEAN AND MOUNT VERNON DISTRICTS  
 FAIRFAX COUNTY, VIRGINIA

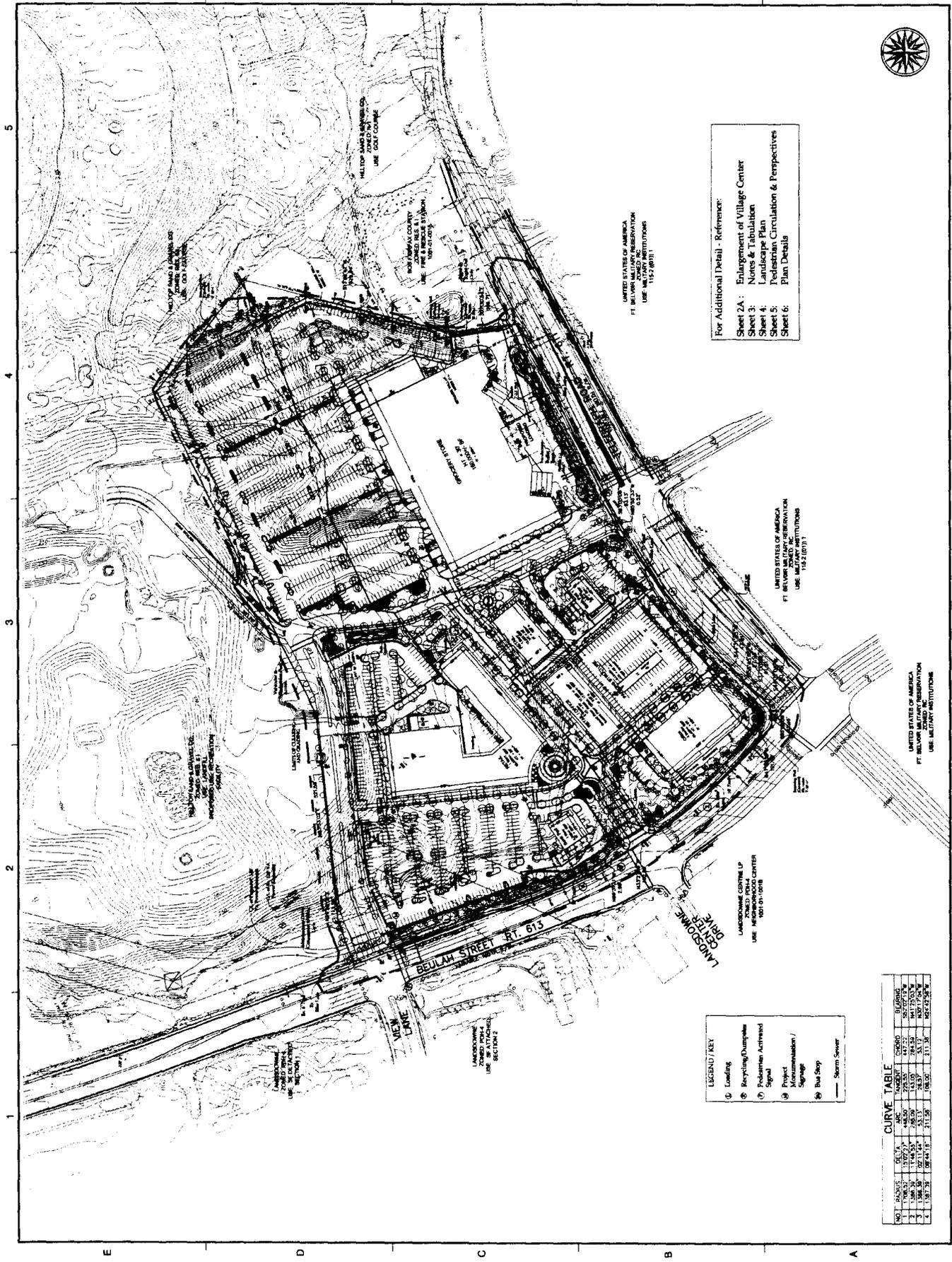


SCALE: 1" = 100' / 1" = 200'

NO.	DATE	BY	DESCRIPTION
1	11.15.08	LM	Per Landmark Center
2	11.15.08	LM	Per Landmark Center
3	01.15.09	LM	Per Landmark Center
4	01.15.09	LM	Per Landmark Center
5	01.15.09	LM	Per Landmark Center
6	01.15.09	LM	Per Landmark Center

DESIGNED BY: LM  
 CHECKED BY: LM  
 DATE: February 12, 2008  
 TITLE: Hilltop Village Center  
 CDP / FDP

PROJECT NO.:  
 SHEET NO.: **2**  
 OF 11



**For Additional Detail - Reference:**  
 Sheet 2A: Enlargement of Village Center  
 Sheet 3: Notes & Tabulation  
 Sheet 4: Landscape Plan  
 Sheet 5: Pedestrian Circulation & Perspectives  
 Sheet 6: Plan Details

UNITED STATES OF AMERICA  
 FT BELVOIR MILITARY RESERVATION  
 ZONED M-1  
 USE: MILITARY INSTITUTIONS  
 115.2 (M1)1

UNITED STATES OF AMERICA  
 FT BELVOIR MILITARY RESERVATION  
 USE: MILITARY INSTITUTIONS  
 115.2 (M1)1

UNITED STATES OF AMERICA  
 FT BELVOIR MILITARY RESERVATION  
 USE: MILITARY INSTITUTIONS

LANDMARK CENTER LP  
 USE: MEDIUM-DENSITY CENTER  
 1601 (D1-16)18

**LEGEND / KEY**

- ① Loading
- ② Recycling/Composting
- ③ Pedestrian Activated Signal
- ④ Project Signage
- ⑤ Street Signage
- ⑥ Bus Stop
- ⑦ Street Corner

**CURVE TABLE**

NO.	STATION	DELTA	ARC	TANGENT	CHORD	BLANGING
1	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
2	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
3	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
4	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
5	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
6	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
7	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
8	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
9	1+00.00	11.44	248.20	43.00	294.58	181°23'00"
10	1+00.00	11.44	248.20	43.00	294.58	181°23'00"



Dewberry & Davis, LLC  
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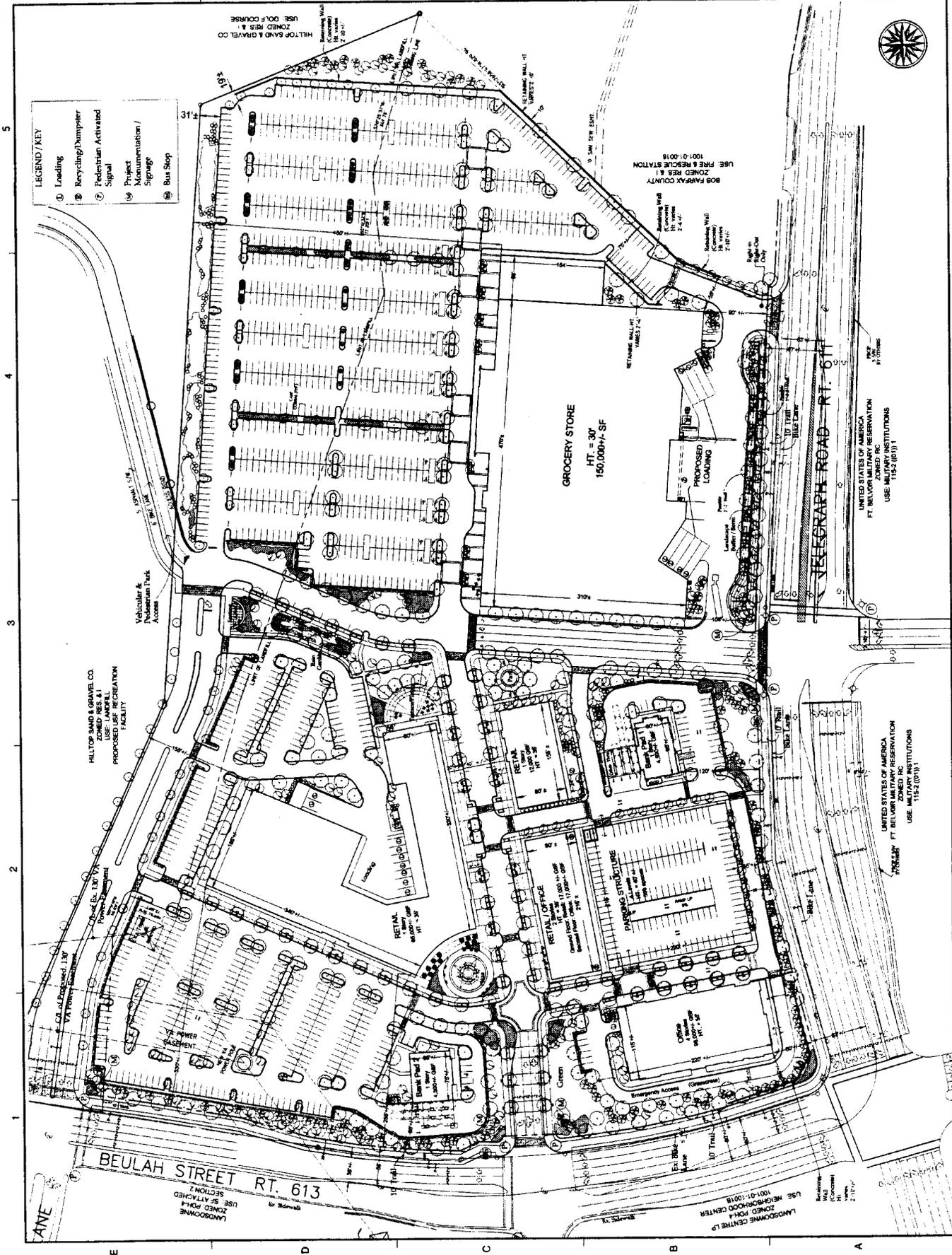
**HILLTOP VILLAGE CENTER**  
 CONCEPTUAL DEVELOPMENT PLAN  
 LES AND MOUNT VERNON DISTRICTS  
 FAIRFAX COUNTY, VIRGINIA



SCALE  
 0' 50' 100'

NO.	DATE	BY	DESCRIPTION
3	01/16/09	DMC	NEW SHEET
2	10/08/08	DMC	NEW SHEET
1	08/08/08	DMC	NEW SHEET

DATE: February 12, 2008  
 TITLE: Hilltop Village Center  
 CDP / FDP  
 60 Scale



- LEGEND / KEY**
- ① Loading
  - ② Recycling/Dumpster
  - ③ Pedestrian Activated Signal
  - ④ Project Monumentation / Signage
  - ⑤ Bus Stop









REV 1/10/10

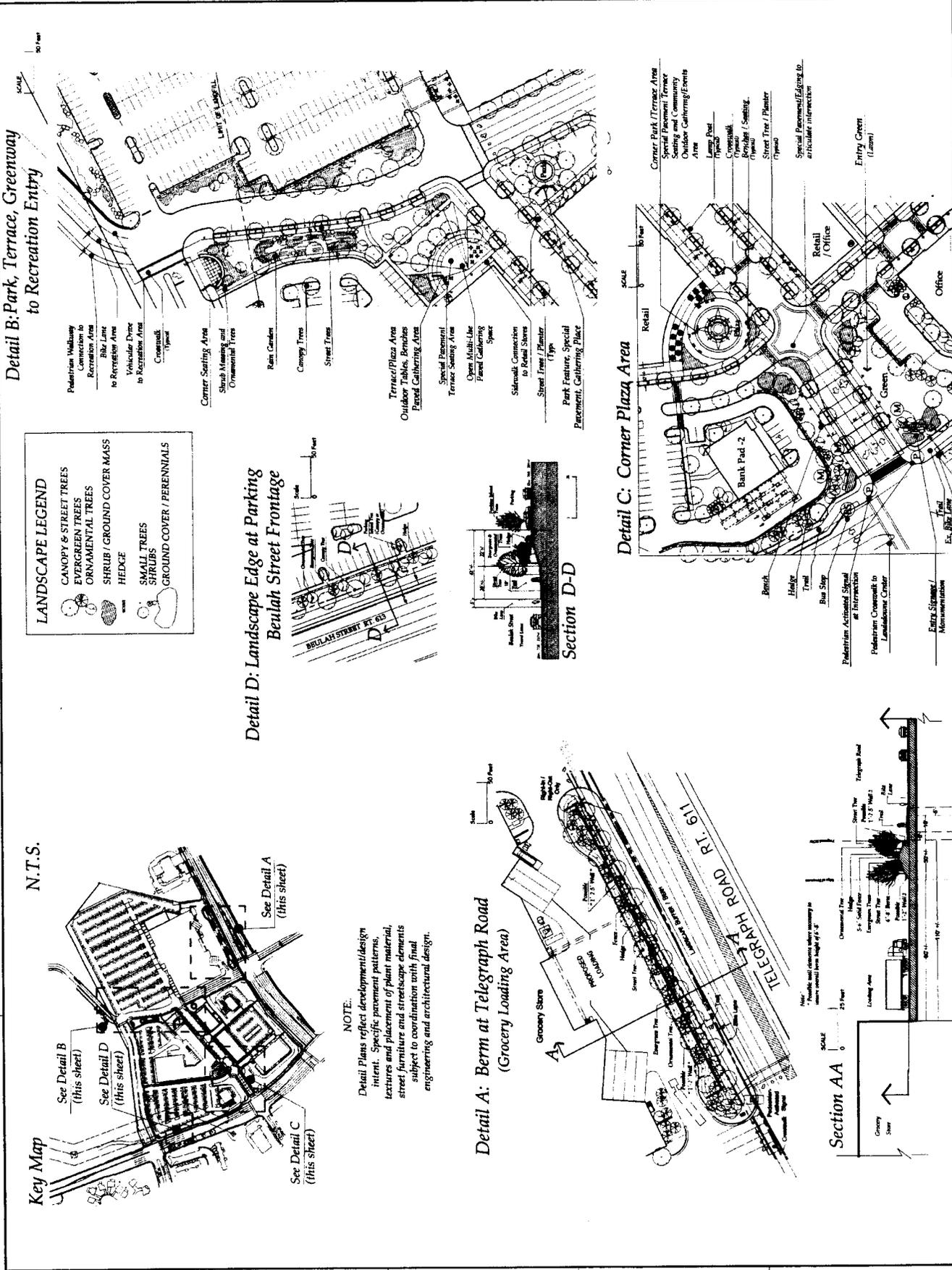
SCALE: SEE INDIVIDUAL SHEETS FOR SCALE

NO.	DATE	BY	DESCRIPTION
1	10/17/09	DMC	Issue Sheet
2	10/17/09	DMC	Revisions/Updates
3	01/06/10	DMC	Issue Sheet

DESIGNED BY: DMC  
APPROVED BY: DMC  
CHECKED BY: DMC  
DATE: February 13, 2010  
FILE: HILLTOP VILLAGE CENTER CDP / FDP Details

HILLTOP VILLAGE CENTER  
CDP / FDP  
Details

PROJECT NO: 0600000000





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 FAX: 802.253.1235  
 WWW.D&D.COM

HILLTOP VILLAGE CENTER  
 CONCEPTUAL DEVELOPMENT PLAN  
 FINAL DEVELOPMENT PLAN  
 LEE AND MOUNT VERNON DISTRICTS  
 FAIRFAX COUNTY, VIRGINIA

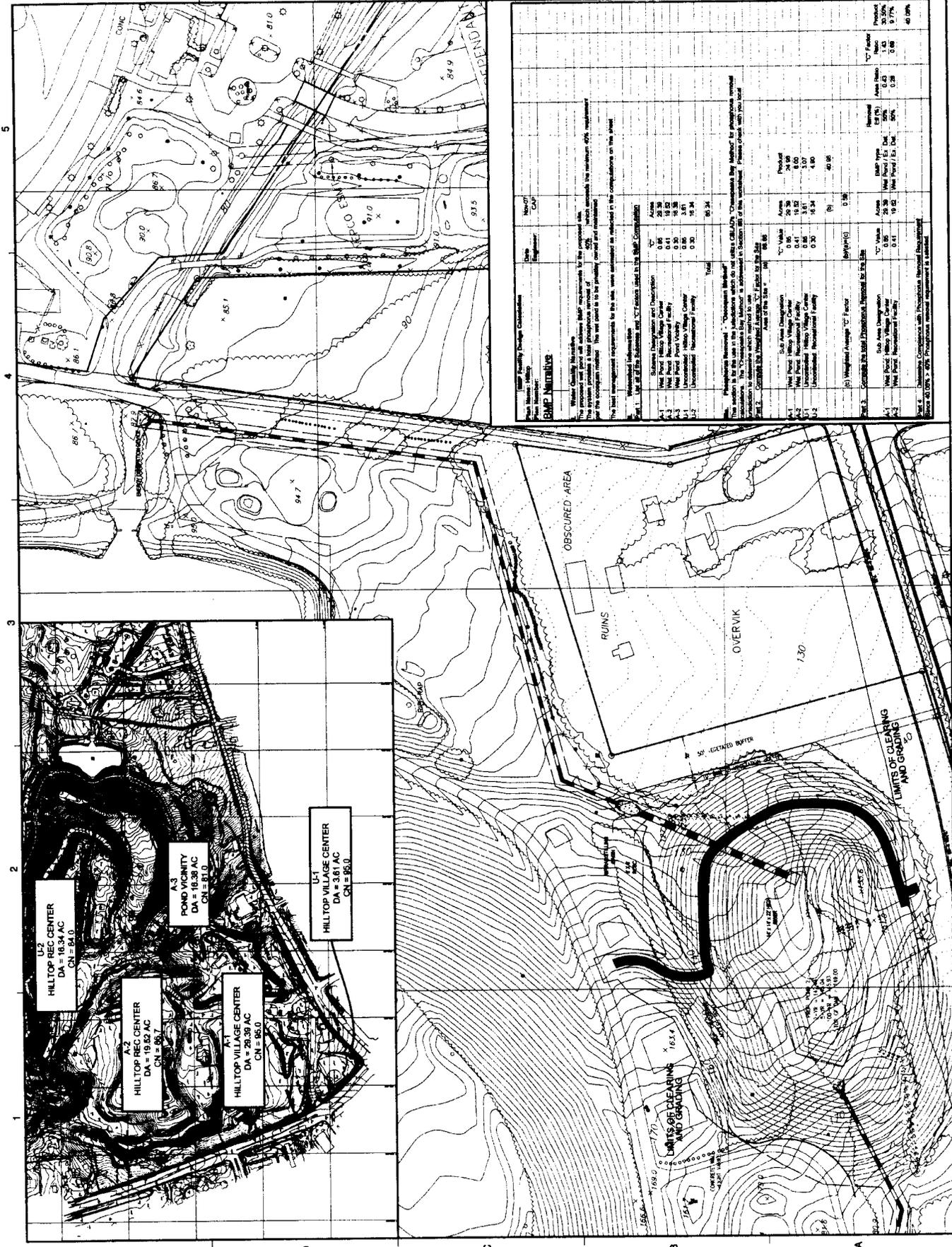


SEP PLAN

SCALE

DESIGNED BY	AWP
APPROVED BY	U.M.
CHECKED BY	U.M.
DATE	FEBRUARY 12, 2008
TITLE	Hilltop Village Center CDP / FDP Stormwater Narratives

PROJECT NO.  
 SHEET NO. 8 OF 11  
 M 10686



U-2  
 HILLTOP REC CENTER  
 DA = 16.34 AC  
 CN = 85.0

A-2  
 HILLTOP REC CENTER  
 DA = 19.52 AC  
 CN = 86.7

A-1  
 HILLTOP VILLAGE CENTER  
 DA = 29.39 AC  
 CN = 85.0

U-1  
 HILLTOP VILLAGE CENTER  
 DA = 3.61 AC  
 CN = 85.0

A-3  
 POND ACTIVITY  
 DA = 16.38 AC  
 CN = 81.0

**Stormwater Narratives**

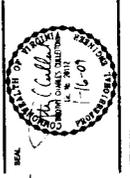
Water Quality Narrative  
 The proposed development will adhere to the stormwater management requirements of the Virginia Stormwater Management Act (VSMA) and the Fairfax County Stormwater Management Ordinance (SMO). The design will include a stormwater management system that meets the requirements of the VSMA and SMO. The design will include a stormwater management system that meets the requirements of the VSMA and SMO.

The best management practices (BMPs) to be used in the development are listed in the table below:

BMP	Area (Acres)	Volume (MG)	Retention Time (Days)	Efficiency (%)
1. Wet Pond	28.39	0.86	30	80
2. Wet Pond	19.52	0.61	30	80
3. Wet Pond	16.34	0.51	30	80
4. Wet Pond	3.61	0.11	30	80
5. Wet Pond	16.38	0.51	30	80
6. Wet Pond	16.34	0.51	30	80
7. Wet Pond	16.34	0.51	30	80
8. Wet Pond	16.34	0.51	30	80
9. Wet Pond	16.34	0.51	30	80
10. Wet Pond	16.34	0.51	30	80
11. Wet Pond	16.34	0.51	30	80
12. Wet Pond	16.34	0.51	30	80
13. Wet Pond	16.34	0.51	30	80
14. Wet Pond	16.34	0.51	30	80
15. Wet Pond	16.34	0.51	30	80
16. Wet Pond	16.34	0.51	30	80
17. Wet Pond	16.34	0.51	30	80
18. Wet Pond	16.34	0.51	30	80
19. Wet Pond	16.34	0.51	30	80
20. Wet Pond	16.34	0.51	30	80
21. Wet Pond	16.34	0.51	30	80
22. Wet Pond	16.34	0.51	30	80
23. Wet Pond	16.34	0.51	30	80
24. Wet Pond	16.34	0.51	30	80
25. Wet Pond	16.34	0.51	30	80
26. Wet Pond	16.34	0.51	30	80
27. Wet Pond	16.34	0.51	30	80
28. Wet Pond	16.34	0.51	30	80
29. Wet Pond	16.34	0.51	30	80
30. Wet Pond	16.34	0.51	30	80
31. Wet Pond	16.34	0.51	30	80
32. Wet Pond	16.34	0.51	30	80
33. Wet Pond	16.34	0.51	30	80
34. Wet Pond	16.34	0.51	30	80
35. Wet Pond	16.34	0.51	30	80
36. Wet Pond	16.34	0.51	30	80
37. Wet Pond	16.34	0.51	30	80
38. Wet Pond	16.34	0.51	30	80
39. Wet Pond	16.34	0.51	30	80
40. Wet Pond	16.34	0.51	30	80

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HILLTOP VILLAGE CENTER  
 CONCEPTUAL DEVELOPMENT PLAN  
 LEE AND MOUNT VERNON DRIVERS  
 FARMAC COUNTY, VIRGINIA



AS PLUM

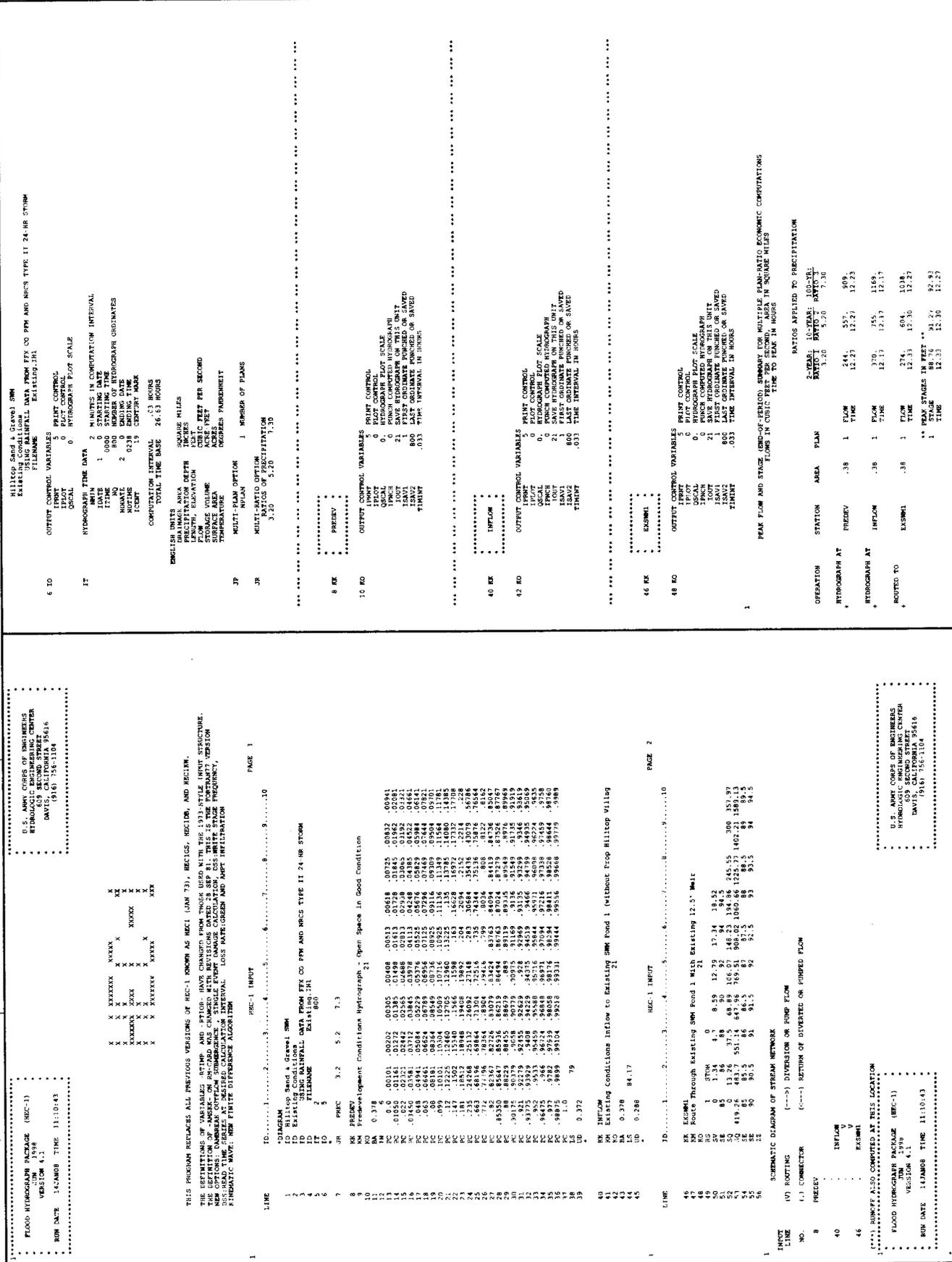
SCALE

NO.	DATE	BY	DESCRIPTION
1	01/16/07	DAW	As Change
2	12/12/06	DAW	As Change
3	10/17/06	DAW	As Change

DESIGNED BY: JLM  
 CHECKED BY: JLM  
 DATE: February 12, 2008

Hilltop Village Center  
 GDP / FDP  
 Stormwater Management

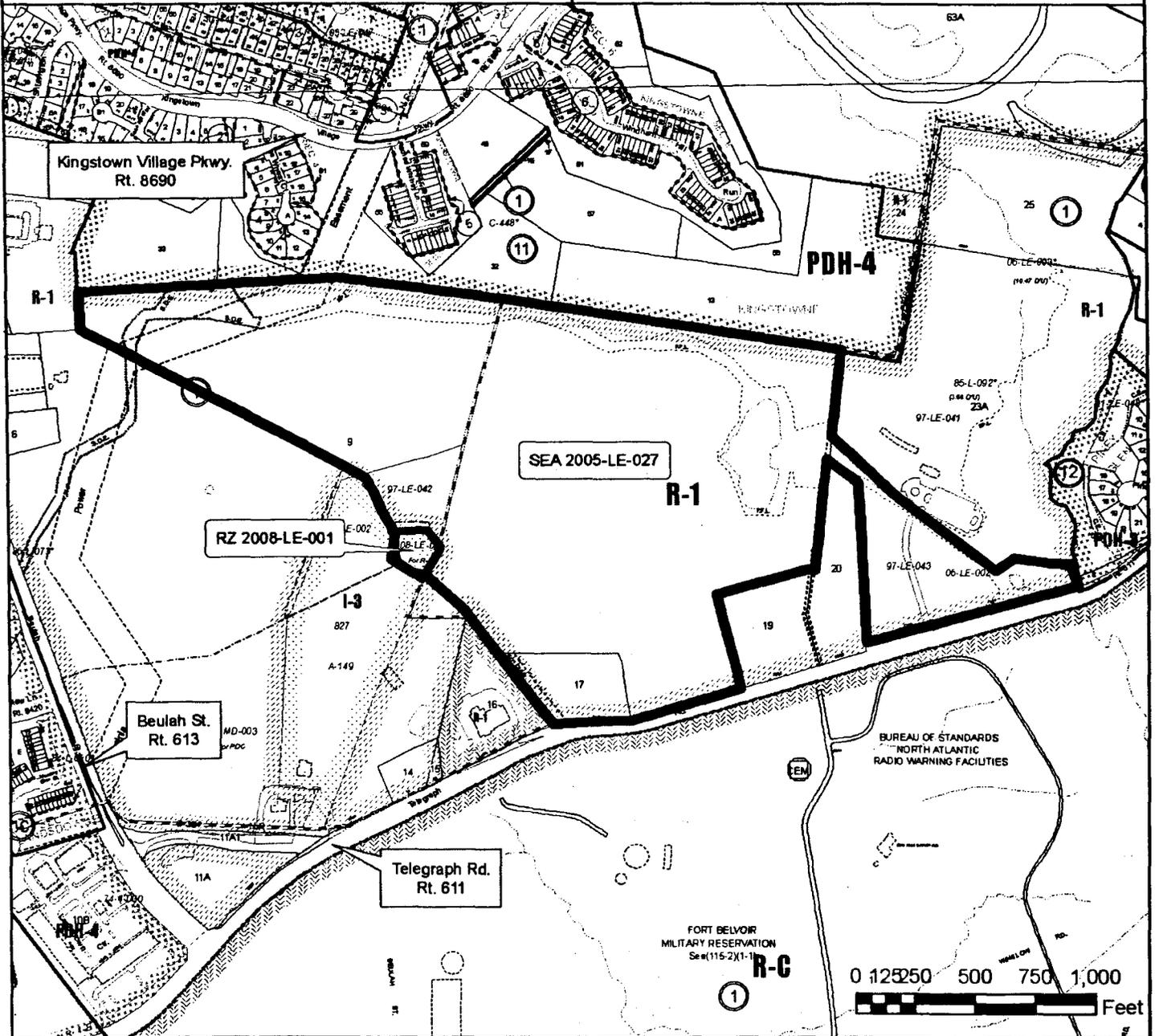
PROJECT NO.



U.S. ARMY CORPS OF ENGINEERS  
 HYDROLOGICAL ENGINEERING CENTER  
 DAVIS, CALIFORNIA 95616  
 (916) 756-1104



<b>Rezoning Application</b> <b>RZ 2008-LE-001</b>	<b>Special Exception Amendment</b> <b>SEA 2005-LE-027</b>
<p><b>Applicant:</b> HILLTOP SAND AND GRAVEL COMPANY, INC.  <b>Accepted:</b> 03/25/2008  <b>Proposed:</b> RESIDENTIAL  <b>Area:</b> 0.73 AC OF LAND; DISTRICT - LEE  <b>Zoning Dist Sect:</b>  <b>Located:</b> NORTHEAST QUADRANT OF THE INTERSECTION OF BEULAH STREET AND TELEGRAPH ROAD  <b>Zoning:</b> FROM I- 3 TO R- 1  <b>Overlay Dist:</b> NR  <b>Map Ref Num:</b> 100-1- /01/ /0009 pt.</p>	<p><b>Applicant:</b> HILLTOP SAND AND GRAVEL COMPANY, INC.  <b>Accepted:</b> 03/25/2008  <b>Proposed:</b> AMEND SE 2005-LE-027 PREVIOUSLY APPROVED FOR GOLF COURSE TO PERMIT INCREASE IN LAND AREA AND SITE MODIFICATIONS  <b>Area:</b> 82.87 AC OF LAND; DISTRICT - LEE  <b>Zoning Dist Sect:</b> 03-0104  <b>Art 9 Group and Use:</b> 5-38  <b>Located:</b> 7928, 7836 AND 7950 TELEGRAPH ROAD  <b>Zoning:</b> R- 1  <b>Plan Area:</b> 4,  <b>Overlay Dist:</b> NR  <b>Map Ref Num:</b> 100-1- /01/ /0009 pt. /01/ /0017 /01/ /0023A pt.</p>





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HILLTOP  
 GOLF COURSE  
 GENERALIZED DEVELOPMENT PLAN /  
 SPECIAL EXCEPTION AMENDMENT  
 LEE DISTRICT  
 FARMINGTON COUNTY, MICHIGAN

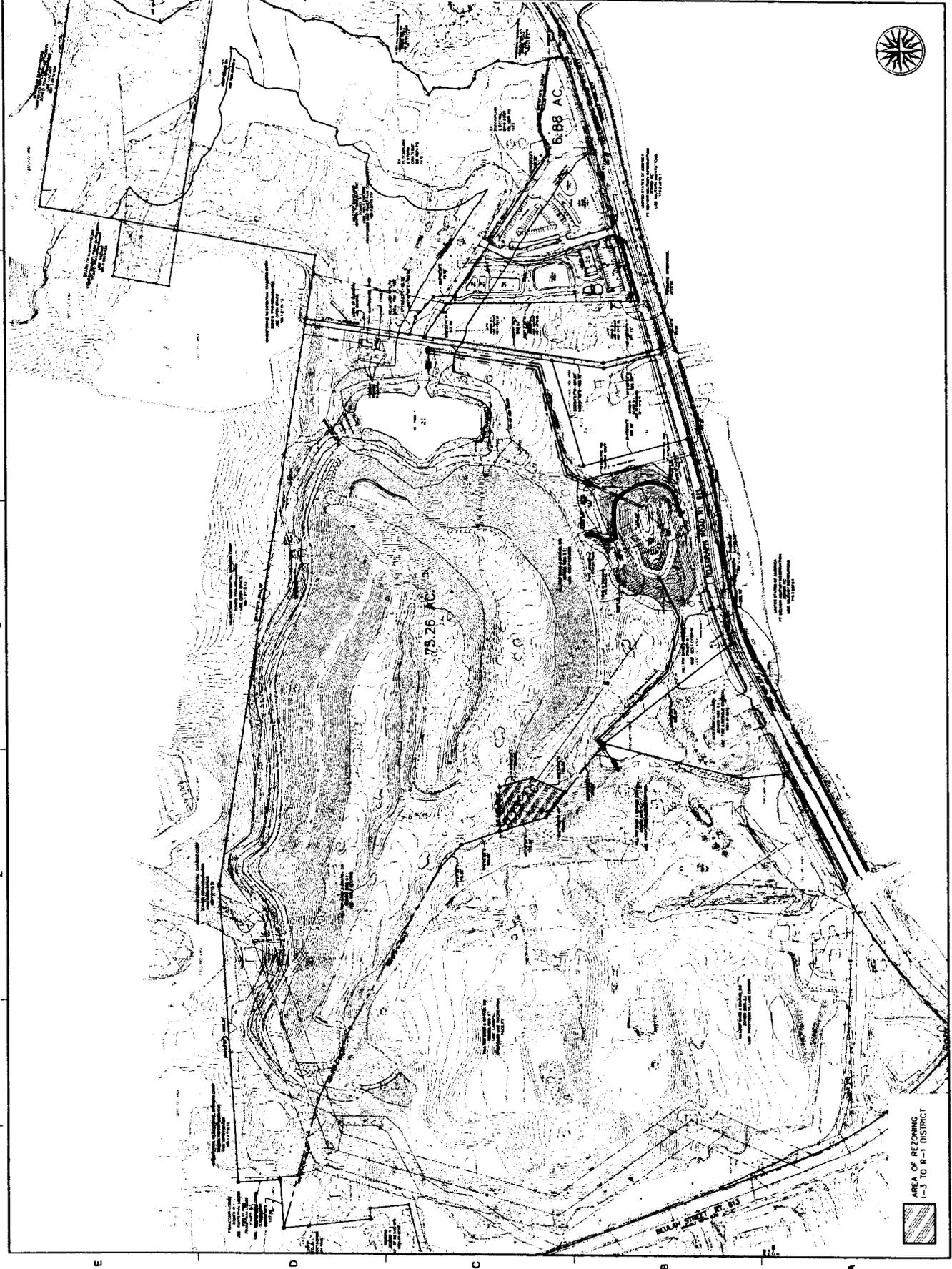


SCALE  
 0 100' 200'

NO.	DATE	DESCRIPTION
1	10/17/08	PRELIMINARY
2	12/2/08	REVISIONS / SEE DETAIL
3	01/17/09	NO. CHANGE
4	02/12/09	NO. CHANGE

DESIGNED BY: JMM  
 APPROVED BY: LM  
 CHECKED BY: LM  
 DATE: February 12, 2009  
 TITLE: Hilltop Golf Course  
 GDP / SEA  
 Overall Plan

PROJECT NO:



AREA OF REZONING  
 R-3 TO R-1 DISTRICT



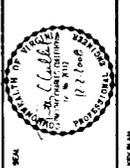






Dewberry & Davis LLP  
1000 California Street, Suite 1500  
San Francisco, CA 94108  
Tel: 415.774.2000  
Fax: 415.774.2001

HILLTOP GOLF COURSE  
GENERALIZED DEVELOPMENT PLAN  
SPECIAL EXCEPTION AMENDMENT  
LEE DISTRICT  
FAYATK COUNTY, WYOMING



SCALE

Table with 4 columns: No., DATE, BY, Description. Row 1: 7, 10/17/06, No Change, 10/17/06.

DESIGNED BY: LHM  
DATE: February, 12, 2008

Hilltop Golf Course  
GOP / SEA  
Stormwater Management

PROJECT NO.

7

SHEET NO. M-10683 7 of 8

Main data table with columns: LINE, STATION, AREA, PLAN, PEAK FLOW AND STAGE (CUBIC FEET PER SECOND), TIME TO PEAK IN HOURS, RATIOS APPLIED TO PRECIPITATION. Includes rows for HYDROGRAPH AT, HYDROGRAPH AT, and ROUTED TO.

6 IO USING RAINFALL DATA FROM ETX CO 7PM AND MWCS TYPE II 24-HR STORM FILLING...  
IT HYDROGRAPH TIME DATA 2 MINUTES IN COMPUTATION INTERVAL...  
JP MULTI-PLAN OPTION 1 NUMBER OF PLANS...  
JR MULTI-PLAN OPTION RATIOS OF PRECIPITATION 3.20 5.20 7.30

ENGLISH UNITS  
DRAINAGE AREA (SQFT) SQUARE FEET  
LENGTH (FEET) FEET  
FLOW RATE (GPM) GALLONS PER MINUTE  
SURFACE AREA (ACRES) ACRES  
TEMPERATURE DEGREES FAHRENHEIT

6 RK PRECIP...  
10 RO...  
46 RK...  
48 RO...  
66 RK...  
48 RO...  
1. PEAK FLOW AND STAGE (CUBIC FEET PER SECOND), AREA IN SQUARE FEET, TIME TO PEAK IN HOURS

OPERATION STATION AREA PLAN PEAK FLOW AND STAGE (CUBIC FEET PER SECOND), AREA IN SQUARE FEET, TIME TO PEAK IN HOURS  
HYDROGRAPH AT PRECIP 1 FLOW 744 557 809  
HYDROGRAPH AT INFLOW 38 1 FLOW 370 725 1169  
ROUTED TO EXTERNAL 38 1 FLOW 275 604 1018

U.S. ARMY CORPS OF ENGINEERS  
HYDROLOGIC ENGINEERING CENTER  
609 SECOND STREET  
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(916) 756-1104

Dewberry & Davis Inc.  
 10000 Wilshire Blvd.  
 Suite 1000  
 Los Angeles, CA 90024  
 Tel: (310) 206-1000  
 Fax: (310) 206-1001

HILLTOP  
 GOLF COURSE  
 SPECIAL EXCEPTION AMENDMENT  
 LEE COUNTY, VIRGINIA



SCALE

SCALE

NO.	DATE	BY	DESCRIPTION
1	10/17/06	AWP	Initial Plan
2	10/17/06	AWP	No Change

APPROVED BY: AWP  
 CHECKED BY: LA  
 DATE: February 12, 2008  
 TITLE: Hilltop Golf Course  
 GDP / SEA  
 Stormwater Management

PROJECT NO: 8  
 SHEET NO: 8 OF 8  
 M: 10688

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR WATERSHED PLAN RATIO ECONOMIC COMPUTATIONS  
 FLOW IN CUBIC FEET PER SECOND IN SQUARE FEET  
 TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION				NOVA RATIO 14
				2-YEAR RATIO 2	10-YEAR RATIO 3	100-YEAR RATIO 4	SWF RATIO 5	
HYDROGRAPH AT BASIN 1	.28	1	PEAK TIME	2.0	2.0	2.0	2.0	1.0
				12.37	12.17	12.17	12.17	12.37
ROUTED TO ELEM 1	.28	1	PEAK TIME	2.0	2.0	2.0	2.0	1.0
				12.33	12.33	12.33	12.33	12.33
HYDROGRAPH AT BASIN 2	.10	1	PEAK TIME	2.0	2.0	2.0	2.0	1.0
				12.33	12.33	12.33	12.33	12.33
ROUTED TO POND 1	.10	1	PEAK TIME	2.0	2.0	2.0	2.0	1.0
				12.33	12.33	12.33	12.33	12.33

2 COMBINED AT POND 1  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

3 COMBINED AT POND 2  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

4 COMBINED AT POND 3  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

5 COMBINED AT POND 4  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

6 COMBINED AT POND 5  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

7 COMBINED AT POND 6  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

8 COMBINED AT POND 7  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

9 COMBINED AT POND 8  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

10 COMBINED AT POND 9  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

11 COMBINED AT POND 10  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

12 COMBINED AT POND 11  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

13 COMBINED AT POND 12  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

14 COMBINED AT POND 13  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

15 COMBINED AT POND 14  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

16 COMBINED AT POND 15  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

17 COMBINED AT POND 16  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

18 COMBINED AT POND 17  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

19 COMBINED AT POND 18  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

20 COMBINED AT POND 19  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

21 COMBINED AT POND 20  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

22 COMBINED AT POND 21  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

23 COMBINED AT POND 22  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

24 COMBINED AT POND 23  
 1 INITIAL VALUE 142.00  
 1 MAXIMUM OVER DAM 145.43  
 1 RATIO PMP 3.20  
 1 TIME TO PEAK 12.37

1 FLOOD HYDROGRAPH PACKAGE (REC-1)  
 2 VERSION 4.11  
 3 RUN DATE 2/22/08 TIME 11:59:31

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF REC-1 (JAN '73), RECLOS, RECID, AND RECIDR.  
 THE DEFINITIONS OF VARIABLES STAGE, PMP, AND RETUR, HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.  
 THE INPUT STRUCTURE IS NOW IDENTICAL TO THAT OF THE PROGRAMS REC-2, REC-3, REC-4, REC-5, REC-6, REC-7, REC-8, REC-9, REC-10, REC-11, REC-12, REC-13, REC-14, REC-15, REC-16, REC-17, REC-18, REC-19, REC-20, REC-21, REC-22, REC-23, REC-24, REC-25, REC-26, REC-27, REC-28, REC-29, REC-30, REC-31, REC-32, REC-33, REC-34, REC-35, REC-36, REC-37, REC-38, REC-39, REC-40, REC-41, REC-42, REC-43, REC-44, REC-45, REC-46, REC-47, REC-48, REC-49, REC-50, REC-51, REC-52, REC-53, REC-54, REC-55, REC-56, REC-57, REC-58, REC-59, REC-60, REC-61, REC-62, REC-63, REC-64, REC-65, REC-66, REC-67, REC-68, REC-69, REC-70, REC-71, REC-72, REC-73, REC-74, REC-75, REC-76, REC-77, REC-78, REC-79, REC-80, REC-81, REC-82, REC-83, REC-84, REC-85, REC-86, REC-87, REC-88, REC-89, REC-90, REC-91, REC-92, REC-93, REC-94, REC-95, REC-96, REC-97, REC-98, REC-99, REC-100.

REC-1 INPUT  
 1 HILLTOP VILLAGE CENTER AND RECREATIONAL CENTER  
 2 PROPOSED CONDITIONS FROM FPK FPM AND BRCS TYPE II 24-HR STORM  
 3 FLOODING: 0.75, 0.75, 0.75

4 REC-1 INPUT  
 5 HILLTOP VILLAGE CENTER AND RECREATIONAL CENTER  
 6 PROPOSED CONDITIONS FROM FPK FPM AND BRCS TYPE II 24-HR STORM  
 7 FLOODING: 0.75, 0.75, 0.75

8 REC-1 INPUT  
 9 HILLTOP VILLAGE CENTER AND RECREATIONAL CENTER  
 10 PROPOSED CONDITIONS FROM FPK FPM AND BRCS TYPE II 24-HR STORM  
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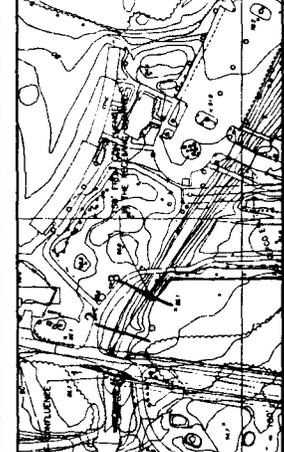
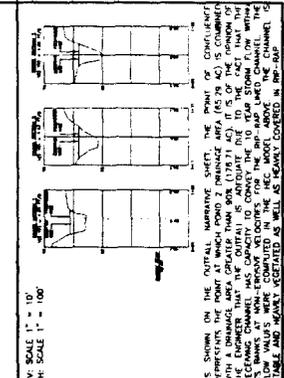
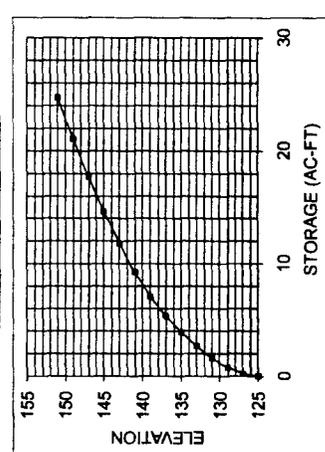
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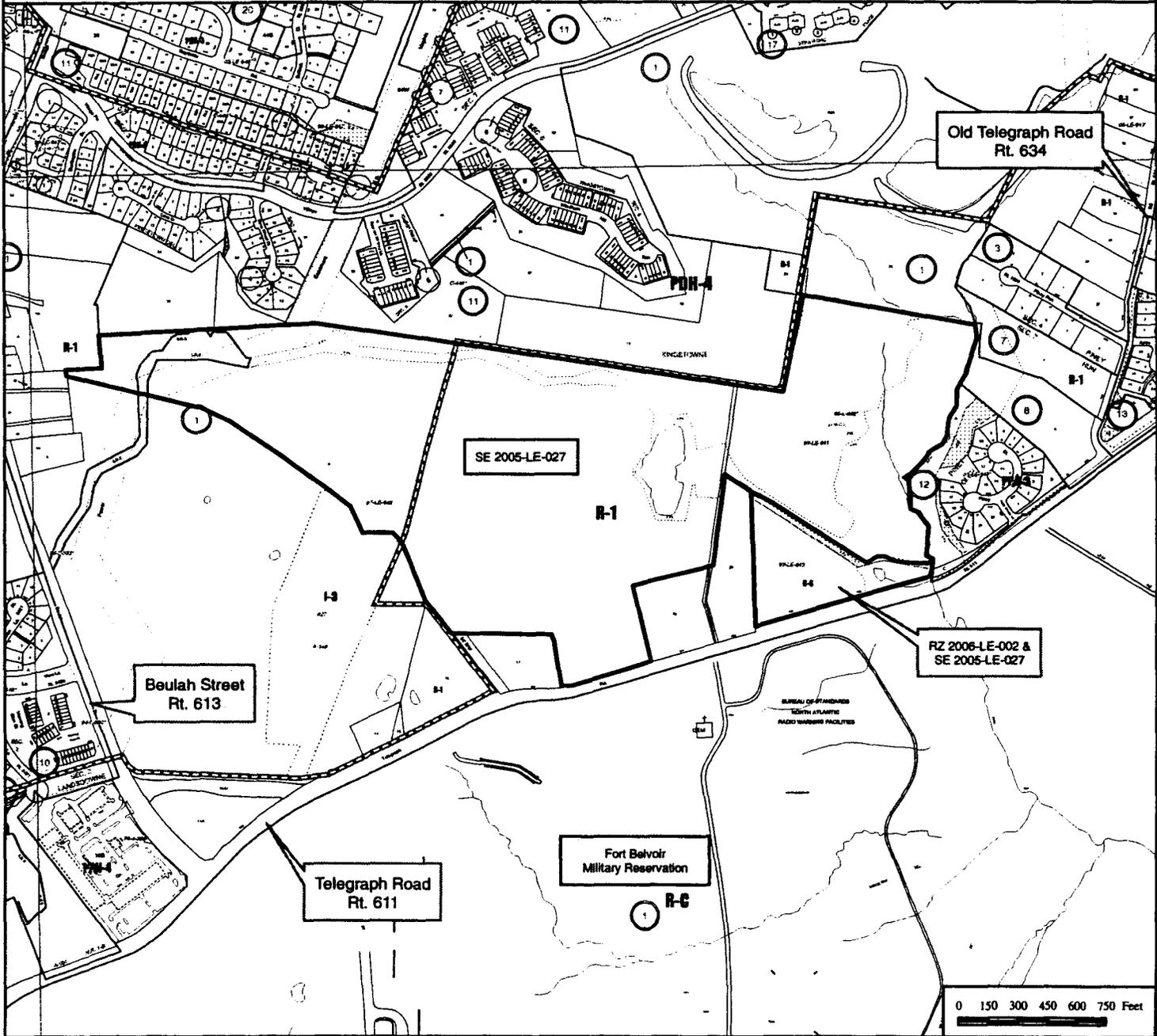
STAGE VS. STORAGE USING CONIC METHOD

ELEVATION (FEET)	AREA (ACRES)	INCREMENTAL VOLUME (ACRE FEET)	TOTAL VOLUME (ACRE FEET)
125	0.07	0.0000	0.0000
127	0.16	0.2729	0.2729
128	0.36	0.5244	0.7973
130	0.57	1.0467	1.8440
131	0.67	1.2787	3.1227
132	0.76	1.4291	4.5518
133	0.86	1.7353	6.2871
134	0.96	2.1056	8.3927
135	1.06	2.4900	10.8827
136	1.16	2.8800	13.7627
137	1.26	3.2760	17.0387
138	1.36	3.6780	20.7167
139	1.46	4.0860	24.8027
140	1.56	4.4940	29.2967
141	1.66	4.9020	34.1987
142	1.76	5.3100	39.5087
143	1.86	5.7180	45.2267
144	1.96	6.1260	51.3527
145	2.06	6.5340	57.8867
146	2.16	6.9420	64.8287
147	2.26	7.3500	72.1787
148	2.36	7.7580	79.9367
149	2.46	8.1660	88.1027
150	2.56	8.5740	96.6767
151	2.66	8.9820	105.6587
152	2.76	9.3900	115.0487
153	2.86	9.7980	124.8467
154	2.96	10.2060	135.0527
155	3.06	10.6140	145.6667



AS SHOWN ON THE OUTLINE MARKING SHEET, THE POINT OF CONCERN REPRESENTS THE POINT AT WHICH POND 2 (RAINAGE AREA 165.79 AC) IS COMBINED WITH POND 1 (RAINAGE AREA 179.21 AC) IN THE CHANNEL OF THE HILLTOP VILLAGE CENTER. THIS POINT IS THE POINT OF CONCERN FOR THE 10 YEAR STORM FLOW WITHIN THE CHANNEL. THE CHANNEL WAS CAPACITY TO COMPLY WITH THE 10 YEAR STORM FLOW WITHIN THE CHANNEL. THE CHANNEL WAS CAPACITY TO COMPLY WITH THE 10 YEAR STORM FLOW WITHIN THE CHANNEL. THE CHANNEL WAS CAPACITY TO COMPLY WITH THE 10 YEAR STORM FLOW WITHIN THE CHANNEL. THE CHANNEL

<b>Rezoning Application</b> RZ 2006-LE-002	<b>Special Exception</b> SE 2005-LE-027
<b>Applicant:</b> HILLTOP SAND AND GRAVEL COMPANY, INC. <b>Accepted:</b> 01/17/2006 <b>Proposed:</b> GOLF COURSE <b>Area:</b> 6.88 AC OF LAND; DISTRICT - LEE <b>Zoning Dist Sect:</b> <b>Located:</b> NORTH SIDE OF TELEGRAPH ROAD APPROXIMATELY 800 FEET WEST OF ITS INTERSECTION WITH OLD TELEGRAPH ROAD  <b>Zoning:</b> FROM R- 1 AND C- 6 TO R- 1 <b>Overlay Dist:</b> <b>Map Ref Num:</b> 100-1- /01/ /0023A Pt.	<b>Applicant:</b> HILLTOP SAND AND GRAVEL COMPANY, INC. <b>Accepted:</b> 01/17/2006- AMENDED 09/22/2005 <b>Proposed:</b> GOLF COURSE <b>Area:</b> 106.19 AC OF LAND; DISTRICT - LEE <b>Zoning Dist Sect:</b> 03-0104 <b>Art 9 Group and Use:</b> 5-38 <b>Located:</b> 7928, 7836, 7950 TELEGRAPH ROAD <b>Zoning:</b> R- 1 <b>Plan Area:</b> 4, <b>Overlay Dist:</b> NR <b>Map Ref Num:</b> 100-1- /01/ /0009 Pt. /01/ /0017 /01/ /0023A



## Closure and Post-Closure Care Plan

Presented to:

The Commonwealth of Virginia



**Department of Environmental Quality**  
Northern Regional Office  
13901 Crown Court  
Woodbridge, Virginia 22193

Prepared by:

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11260 Roger Bacon Drive  
Suite 300  
Reston, Virginia 20190

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C	Construction Quality Assurance Plan
D	Technical Specifications
E	Stability, Settlement and Soil Loss
F	Gas Monitoring and Management Plan
G	Post-Closure Inspection Form
H	Financial Assurance Information

## 1.0 INTRODUCTION TO CLOSURE AND POST CLOSURE CARE PLAN

This report presents the pertinent information for closure and post closure care of the Hilltop Sand and Gravel Landfill (Permit No. 326). It is formatted per Submission Instruction Number 6 and meets the requirements of the Commonwealth of Virginia, Department of Environmental Quality (VDEQ) Solid Waste Management Regulations 9VAC 20-80. Closure and post-closure care activities and performance evaluations are presented in Sections 2 and 8.

This Closure and Post-Closure Care Plan revises the previous Plans prepared by Culpeper Engineering, P.C. in June 2001, revised in November 2002, and incorporates comments received in February 2008 from the VDEQ on the November 2002 Plan. Copies of prior Closure and Post Closure Plan submission transmittal letters and the VDEQ comment letters are provided in Appendix A. This Closure plan describes the design, performance, and construction of Phases II and III final cap of the landfill, and which will occur in two phases.

### 1.1 SITE DESCRIPTION AND HISTORY

The Hilltop Landfill is an active CDD Landfill located in Fairfax County, Virginia near the intersection of Telegraph Road and Beulah Street. The facility operates under Permit #326 issued by the Commonwealth in 1981 and under a Special Exemption (SE 74-L-078) and subsequent special exception amendments issued by Fairfax County. The site was formerly a sand and gravel surface mine until 1979 before landfilling to reclaim the property was approved by Fairfax County as a desirable use for this site. Grading, drainage and landfilling plans were originally approved by the County in 1979. These plans were the basis for Virginia Permit #326.

The Hilltop Landfill is divided into three phases, Phases I, II, and III. The 50-acre Phase I was capped in 2000 with a geomembrane cap system and a portion has been converted to part of a nine hole golf course. Phases II and III, which this closure plan covers, will be capped at separate times with Phase II being approximately 13 acres in area and Phase III approximately 22 acres<sup>1</sup>. Portions of the capped Phase II area will be converted to an access road and a parking lot for a future adjacent retail development. Portions of the capped Phase III footprint are proposed to be converted to active end uses to include baseball and soccer fields and associated parking.

<sup>1</sup>The acreage being capped includes only area within the waste boundary and does not include buffer and set back areas included in the Fairfax County Special Exemption SE 74-L-078.

## 2.0 CLOSURE ACTIVITIES

### 2.1 CLOSURE PLAN TIMEFRAMES

This section discusses the time frame for final cover construction on the completed portions of the landfill. As noted above, Phase I, a 50-acre area of the landfill, has been capped and closure construction is complete. Phases II/III closure will be constructed in two phases; Phase II will be capped first with portions used for paved roadway and parking infrastructure associated with the retail development outside the waste limits.

Anticipated time frames for phased construction and closure activities are presented in Table 1 – Preliminary Closure Schedule below. At the opening of the proposed adjacent retail business in about 2012, Hilltop Landfill will cease operations of debris acceptance. Upon final closure of Phase III, the area may be developed into athletic fields and a parking area.

**Table 1. Preliminary Closure Schedule**

<b>TASK</b>	<b>Phase II</b>	<b>Phase III</b>
Submit Closure Plan to VDEQ	August 2008	August 2008
Begin Closure Activities	February 2009	May 2012
Complete Closure Activities	December 2009	May 2013
Prepare PE Certification Report	January 2010	June 2013
VDEQ Report Review & Inspection	February/March 2010	July/August 2013
Record Survey/Deed Notation	April 2010	September 2013

Because Hilltop Landfill will complete final closure of Phase II/III at separate times as final waste heights are achieved, closure can not be completed within six months. Furthermore, capping of each phase will require more than six months to complete. However, Hilltop will continually take all steps necessary to eliminate any significant threat to humans and the environment from any unclosed but inactive areas of the landfill.

The final grading plan, and phase footprints are shown on the drawings provided in Appendix B.

### 2.2 CLOSURE PERFORMANCE STANDARDS

The final cover system described in Section 2.4. - Landfill Closure, exceeds the minimum requirements of the Virginia Solid Waste Management Regulations (VSWMR) for a construction/demolition/debris (CDD) landfill. The VSWMR requires an earthen cap system consisting of 18 inches of  $1 \times 10^{-5}$  cm/sec permeability material placed over the landfill waste, which is overlain with 6 inches of topsoil. However, the proposed Phase II final cover will consist of a geomembrane cap system that significantly outperforms the minimum required cover and is similar to the cap system installed over Phase I. The geomembrane cap system will minimize infiltration through the closed disposal areas into the waste and the potential for migration of waste or waste decomposition products. Phase III is designed for either a geomembrane cap system or an earthen cap system pending final end use plans.

Deep rooted plants such as trees and shrubs shall not be planted on the landfill unless the root system is containerized so as to prevent root penetration into the drainage layer and membrane cap. As required by regulation and good practice, the final landfill grades will be sloped and configured to promote surface water runoff, via ditches and piping. The maximum side slope will not exceed 3(H):1(V). The top of the landfill capping system, proposed to be developed into athletic fields and parking areas, will be sloped a minimum of two and one half (2½) percent so that a minimum of two (2) percent is maintained after allowance for settlement. A paved access road, with an approximate 10 percent grade, will be constructed across the southeast sideslope to the athletic fields parking area.

## 2.3 INVENTORY REMOVAL AND DISPOSAL

Space will be made available in the landfill for disposal of solid waste, waste residuals or construction debris resulting from closure activities. Equipment shall be cleaned of mud and litter by scraping of the tracks and wheels. Since the landfill is a CDD landfill and does not accept hazardous waste, the operation equipment used will not require decontamination.

## 2.4 CLOSURE

### 2.4.1 Landfill Closure

Closure will consist of constructing the cap and drainage features in accordance with performance requirements of § 9VAC20-80-260-E.1.a of the VSWMR and the closure plan drawings.

Closure activities will include the following major items:

- Rough grading of the final surface prior to capping to achieve base grades
- Construction of a multi-layered geosynthetic cap system;
- Installation of drainage system controls;
- Construction of soil erosion layer;
- Establishment of vegetation on the cap.

The Construction Quality Assurance Plan and Technical Specifications for the cap construction are presented in Appendix C and Appendix D, respectively.

#### 2.4.1.1 Plan Sheets

Plan sheets including final grading plans, phasing plans, details, cross-sections, and storm profiles are included in the Closure Plan drawings. The drawings are incorporated herein included in Appendix B.

#### 2.4.1.2 Cap Description

The cover design, as noted in Section 2.2, exceeds the minimum regulatory requirements for a cap system for an unlined CDD landfill. As noted in Section 2.2, an earthen cap system consisting of 18 inches of low permeability soil (infiltration barrier layer) with a maximum hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec overlain with 6 inches of topsoil (erosion layer) is all

that is required by regulation. However, a more impervious geomembrane cap system, with a thickened erosion/vegetative support layer, will be installed in Phase II due to planned development activities and may be installed in Phase III pending final end use plans. Details of both cap sections are provided on the Closure Plan drawings and are described below.

**Description of Geomembrane Cap System.** The geomembrane cap section layers will be as follows (top to bottom):

- 6-inches topsoil (erosion layer)
- 42-inch thick vegetative support layer on developed areas, minimum 18 inches on 3H:1V sideslopes
- Geocomposite drainage net (GDN)
- 40-mil textured geomembrane
- Geotextile (if needed for cushioning purposes or on sideslopes only to improve veneer stability)
- 12-inches of intermediate cover/bedding layer over the waste

The GDN was included in the geomembrane cap for two reasons: to drain stormwater, minimizing the potential for cover soil saturation to improve veneer instability of the cap system; and, to provide a protective barrier for the geomembrane during placement of cover soil or in the event of overlying soil erosion.

**Description of Earthen Cap System.** The earthen cap system will include the following layers (top to bottom):

- 6-inches topsoil (erosion layer)
- 18 inches of infiltration layer (maximum hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec)
- 12-inches of intermediate cover/bedding layer over the waste

Material types and installation requirements will be in accordance with the provisions of the Construction Quality Assurance (CQA) Plan and the applicable Technical Specifications provided in Appendices B and C, respectively.

**Description of Protective Materials.** The vegetative support layer will protect the integrity of the landfill barrier layer (geomembrane or earthen cap). Additionally, the barrier layer will be protected from exposure by the GDN located immediately above the geomembrane. The intermediate cover materials will be used for geomembrane bedding, and will be screened to remove rocks that could puncture or penetrate the geomembrane, or will be covered with a geotextile. Specifications for the protective soil components are provided in the Technical Specifications.

Protection will also be provided through the control of stormwater. A system of swales and pipe downchutes will be used to convey stormwater off the landfill. A minimum of 2 foot separation will be maintained between the geomembrane cap and storm and ballfield irrigation piping components.

**Soil Cap Construction Plan.** Prior to closure, the landfill surface (intermediate cover) will be graded and compacted. A final cover, in accordance with this plan will then be constructed. The installation and properties of other soils within the cap are also provided in the Technical Specifications. Sampling and testing of the soil materials, permeability, and compaction will be in accordance with the Technical Specifications and Construction Quality Assurance Plan provided in the appendices to this Plan.

**Drainage Layer Construction Plan.** The final cover system includes a GDN as its drainage layer. The installation and properties of the GDN within the final cover system are provided in the Technical Specifications. Sampling and testing of the net materials as well as additional placement procedures are provided in the Construction Quality Assurance Plan provided in the appendices to this Plan.

The GDN is designed to discharge to gravel toe drains at the toe of the landfill sideslopes. A detail of the gravel toe drains are presented on the Closure Plan drawings.

**Topsoil Layer.** A topsoil layer is included in the final cover system to establish vegetation on the landfill. The topsoil will be placed in accordance with the Technical Specifications. Seeding requirements are presented in the Landscaping Section of the Technical Specifications.

It is proposed that for development of the closed landfill areas for construction of roadway, parking and athletic fields, a 42 inch vegetative support layer and 6 inch topsoil layer will be provided over the cap system to protect its integrity. In these areas, the total soil depth over the cap system will be a minimum of four feet to protect the integrity of the established landfill cap.

#### 2.4.1.3 Final Slopes

The landfill is designed for maximum slopes of 33.3 percent [3H:1V] on the sideslopes. A minimum of 2 percent slopes are to be maintained after allowance for settlement on the top plateau. Settlement calculations are provided in Appendix E and are discussed in Section 3.2 of this Plan.

The final veneer slope stability was analyzed using Koerner and Soong (1998) equations (ref.: R.M. Koerner and T-Y. Soong, 1998. "Analysis and Design of Veneer Cover Soils." Proceeding of 6<sup>th</sup> International Conference on Geosynthetics, Vol. 1, pp. 1-23. Atlanta, Georgia, USA). The final cover system stability addresses the potential slope failure along critical slippage planes between the cap and the underlying foundation soil or between the overlying cover layers. This analysis is critical for evaluating veneer stability of cover systems that employ flexible geomembrane on sideslopes.

The modeling of the final slope was performed assuming all cap components were in-place instantaneously and that the failure mass moved along the critical failure surface in one whole mass. Based on the final grading plan, potential critical slope sections were identified and were evaluated. These critical slope sections selected were located on the north, south and west sides of the Phase II/III closure area. These sections include some of the steepest and longest landfill sideslopes, with a maximum slope of 3(H):1(V) and 177 feet in length between benches, respectively. The maximum slope length used in the analysis is located on the north slope, approximately 95 feet east of Section AA'. All sideslope lengths used in the analysis presented

in Appendix E were measured between benches. A copy of the final grading plan and section locations is provided in Appendix E.

The following assumptions were made in the veneer slope stability analysis:

- The prepared bedding layer below the geomembrane is assumed to be unsaturated.
- The friction angle of a geosynthetic/soil or geosynthetic/geosynthetic interface is assumed to be in a range of 22 to 25 degrees, based on our past experience and literature search. The corresponding adhesion value is assumed to be in a range from 50 to 75 pounds per square foot (psf). The critical interface is most likely to be along the geocomposite drainage net and the textured geomembrane. A friction angle of 24 degrees and a conservative adhesion value of 20 psf were used in the analysis.
- The shear strength of the vegetative support/topsoil layers is assumed to have at least 28 degrees friction and zero cohesion, to be conservative. The unit weight of the vegetative cover soil is assumed to be 110 pounds per cubic foot (pcf), based on a reasonable compaction effort by the construction equipment on soil cover material.
- The unit weight of the waste was assumed to be in a range from 81 to 92 pcf. Since the potential failure surface will be located within the interfaces of the final cover soil system above the waste, the unit weight of the waste does not affect the veneer stability of the final cover system.
- Based on the Algermissen's USGS seismic impact zone map (1990), a maximum horizontal ground acceleration of 0.12g was assumed and used in the seismic veneer slope stability analysis.

The results of the veneer slope stability analysis are summarized in Table 2 below. It should be noted that the factor of safety values on Table 2 are based on interfacial friction values consistent with use of a geomembrane cap system described above and graphically shown on the drawings. Should an earthen cap system be constructed, the factor of safety values will be somewhat higher than those indicated on Table 2, as soil components would have higher interfacial friction values compared to a geomembrane cap and the sideslopes would prove to be at least as stable.

Veneer stability calculations result in static factors of safety of 1.56 and 1.79 for the longest (north slope, lower section) and shortest (south slope, upper section) slopes considered, respectively. The static factor of safety is greater than 1.5, which is acceptable by VDEQ. These factor of safety are higher than those obtained using the infinite slope equation, which is the ratio of the tangent of the interface friction angle (24 degrees), between the geocomposite and the protective soil cover, and the tangent of the slope angle (18.4 degrees) giving a factor of safety of 1.34. The calculated factor of safety using Koerner and Soong's equations is a better representative of the site conditions than those computed from the infinite slope equation because Koerner and Soong's equations have considered the presence of the passive resistance or the toe buttressing effect at the toe of the slope section.

When considering the seepage forces within the drainage layer, the above reported factors of safety is reduced to 1.42 and 1.61 for the respective scenarios. These values are acceptable because the analysis was performed without considering the adhesion value and also for a storm event or condition that is relatively short.

Under seismic loading of 0.12g, the factors of safety for the longest slope and shortest slope are 1.11 and 1.23, respectively. These values are acceptable because under seismic conditions and at factor of safety of greater than 1.0, the slope section evaluated is considered stable.

The above minimum factors of safety were calculated conservatively with a final cover thickness of 4 feet. On sideslopes where 2 feet of final cover is used, and using the worst case scenario as presented in Table 2, the factor of safety for the static and seismic veneer analysis is increased to 1.67 (north slope, lower section) and 1.18, respectively. The factor of safety for the static with seepage forces with a 2 foot cover soil is reduced from 1.42 to 1.37.

**Table 2. Veneer Slope Stability Analysis\*\***

SECTION LOCATION	ANALYSIS	COVER THICKNESS (FT.)	SLOPE LENGTH (FT.)	FACTOR OF SAFETY**
<b>NORTH SLOPE (ALONG SECTION AA')</b>				
LOWER	Static	4	139	1.59
	Static with seepage forces*	4		1.44
	Seismic (0.12g)	4		1.12
MIDDLE	Static	4	101	1.63
	Static with seepage forces*	4		1.48
	Seismic (0.12g)	4		1.14
UPPER	Static	4	110	1.62
	Static with seepage forces*	4		1.47
	Seismic (0.12g)	4		1.14
<b>NORTH SLOPE (95' EAST OF SECTION AA') - MAX SLOPE LENGTH</b>				
LOWER	Static	4	177	1.56
	Static with seepage forces*	4		1.42
	Seismic (0.12g)	4		1.11
	Static	2	177	1.67
	Static with seepage forces*	2		1.37
	Seismic (0.12g)	2		1.18
<b>SOUTH SLOPE (ALONG SECTION AA')</b>				
LOWER	Static	4	102	1.63
	Static with seepage forces*	4		1.48
	Seismic (0.12g)	4		1.14
UPPER	Static	4	57	1.79
	Static with seepage forces*	4		1.61
	Seismic (0.12g)	4		1.23
<b>WEST SLOPE (ALONG SECTION BB')</b>				
LOWER	Static	4	139	1.59
	Static with seepage forces*	4		1.44
	Seismic (0.12g)	4		1.12
UPPER	Static	4	105	1.63
	Static with seepage forces*	4		1.47
	Seismic (0.12g)	4		1.14

\* No adhesion value is used for the critical interface.

\*\*Based on interfacial friction values for a geomembrane cap

Printouts of the above stability calculations are provided in Appendix E.

For the cap construction, the bedding layer will be compacted to 90% of Standard Proctor Density with moisture content ranging from -2% to +4% of optimum and will be a firm base upon which the remainder of the cap will be constructed. The drainage system (GDN, swales, and pipes), and a 42-inch thick vegetative support layer will overlay the geomembrane layer.

Details concerning testing, permeability requirements, strength, lift thickness, and placement methods for the various elements of the cap system are provided in the Technical Specifications.

For the cap construction, the intermediate cover will be compacted to 90% of Standard Proctor Density and will be a firm base upon which the remainder of the cap will be constructed. The drainage system (geocomposite with lateral pipes), and a 42-inch thick vegetative support layer will overlay the geomembrane layer. Details concerning testing, permeability requirements, strength, lift thickness, and placement methods for the various elements of the cap system are provided in the Technical Specifications.

#### **2.4.1.4 Maintenance Needs**

The cap design, which incorporates a compacted intermediate cover/bedding layer, low permeability geomembrane cap, drainage layer, vegetative support layer, and topsoil for proposed post-closure use, together with minimum top slopes of 2% and maximum side slopes of 33%, will allow water to run off the landfill even if some differential settlement occurs. Routine maintenance will involve periodic mowing of the vegetation, removal of unwanted vegetation such as trees, and removal of silt from drainage structures.

It is anticipated that maximum soil loss, under the worst-case conditions, will be approximately 1.95 tons/acre/year, which is less than the allowable 2 tons/acre/year. The revised universal soil loss equation (RUSLE) was used for the estimate (see Appendix E for calculations). The estimate was based on the worst-case scenario of 177-ft slope length on a 3:1 slope. In most areas, the sideslope slope lengths are much less.

#### **2.4.1.5 Construction Quality Assurance Plan**

The Construction Quality Assurance Plan, which also addresses quality control (QC) requirements, for closure construction is provided in Appendix C.

#### **2.4.1.6 Alternate Caps**

As previously noted, Phase II is designed for the geomembrane cap system described above and as depicted on the Closure Plan Drawings. Phase III will receive the same geomembrane cap system, or an earthen cap system also as described above and shown on the Closure Plan Drawings, pending final end use plans.

## **2.5 SCHEDULE FOR CLOSURE**

Table 1, provided above, summarizes the anticipated closure schedule and regulatory milestones. As noted in Section 2.1, more than six months will be required to begin and complete closure construction because two construction phases are planned and because the work required, particularly for Phase III, will take more than six months to complete. Closure construction for each phase will begin within thirty days after receipt of the final waste as required by the VSWMR, thus no threat to human health and the environment will occur.

## 2.6 POSTING

A sign will be posted at the landfill entrance at least 90 days before closure, stating the last day that waste will be accepted.

When the landfill stops accepting waste, a gate will be placed across the access road to the existing landfill and a sign will be posted stating that the site no longer accepts waste.

## 2.7 NOTIFICATION

Within 90 days after closure is completed, Hilltop Landfill shall submit to the local land recording authority a survey plat prepared by a professional land surveyor registered by the Commonwealth or a person qualified in accordance with Title 54 of the Code of Virginia indicating the location and dimensions of landfill disposal areas. Monitoring well locations shall be included and identified by number on the survey plat. The plat filed with the local land recording authority shall contain a note stating the owner's future obligation to restrict disturbance of the site within the waste limits as follows:

“The area denoted has been used for landfilling of construction, demolition, and debris waste. The landfilled area has a permanent capping system, gas and leachate collection systems, and monitoring wells which may be subject to local, state, and federal regulations. Use or disturbance of the landfilled area is restricted by state and county regulations.”

The owner of the Hilltop Landfill property shall record a notation on the deed to the property, or on some other instrument which is normally examined during a title search, notifying any potential purchaser of the property that the land has been used for deposition of construction/demolition/debris solid waste (CDD).

A copy of the deed notation citing recordation location shall be filed in the landfill operating file and with the VDEQ.

## 2.8 CERTIFICATION

Upon completion of the closure, a Certification of Closure signed and sealed by a Professional Engineer registered in the Commonwealth of Virginia will be forwarded to the VDEQ. This Certification will state, that to the best of the engineer's knowledge, the site was closed in accordance with the Closure Plan documents (drawings, specifications, CQA Plan, etc.) and the requirements of the VSWMR. The Certification will be accompanied by the submittal information required in the Construction Quality Assurance Plan and Technical Specifications for the Landfill, including recordation of the survey plat and deed with appropriate information and notations.

## 3.0 CLOSURE CALCULATIONS

### 3.1 FINAL COVER SYSTEM STABILITY AND LIQUIDS MANAGEMENT

The proposed cover system is stable as noted in Section 2.4.1.3, Final Slopes, above.

As noted above, a system will be installed to control stormwater on the landfill. The drainage system is shown on the Closure Plan Drawings (Appendix B). Calculations for the stormwater design system were prepared by Dewberry and Davis and also are presented on the Appendix B Closure Plan drawings.

### 3.2 SETTLEMENT, SUBSIDENCE, AND DISPLACEMENT

Post closure settlement of the existing rubble/construction debris waste mass was analyzed to confirm that positive drainage will be maintained on the final cap after closure and that the geosynthetic liner components will not undergo excessive elongation due to tension. Two approaches were taken to estimating settlement including: (1) using results from settlement monitoring at six (6) field test pads built on the existing rubble fill surface and (2) empirical methods derived from G.F. Sowers, (Moscow, 1973) that account for load-related compression and for long-term waste decomposition.

#### 3.2.1 Load Related Settlement (Short Term)

As part of the site investigation, six (6) settlement test load pads were constructed across the landfill surface in September 2007 and have been monitored for settlement on five occasions, with the latest reading taken on June 6, 2008. The test pad results were used to make predictions of settlement that will result from placing a conventional final cover, with or without an athletic field turf, over the waste areas.

Test pads 1 through 4 were constructed of crushed concrete on top of the active landfill; test pads 5 and 6 were constructed of soil on closed Phase 1. Each test load pad measured approximately 24 feet by 24 feet in plan dimension, with a maximum height of 7 to 8 feet in the middle, and was monitored with three settlement plates with vertical riser pipes. The test pad mound of soil simulates a physical loading of approximately 600 to 700 psf over the waste, which is equivalent to a soil cover thickness averaging 5 to 6 feet. Settlement pad results are provided on charts included in Appendix E and are summarized below in Table 3.

**Table 3. Summary of Settlement Pad Results**

Settlement Pad No.	Average Top Elevation	Total Settlement Over 9 months (inches)*	Average Settlement Rate (inches/month)
1	253.59	1.9	0.21
2	279.08	5.0	0.56
3	251.93	1.9**	0.48
4	242.59	3.0	0.33
5	218.10	1.3	0.14
6	201.28	1.9	0.12

\*Average of the three settlement plates per each test pad.

\*\*SP#3 in place for 4 months; removed in January 2008 due to nearby filling operations.

As indicated on the site plan, settlement pads SP-1, 2 and 3 were located in areas of recently placed waste; in fact, SP-3 needed to be removed early to avoid damage from filling activities. SP-4 was located in an area of older waste, while SP-5 and 6 were both located on the finished golf course, which overlies existing waste.

The average settlement of all six test pads for 9 months is about 2.5 inches, with settlement continuing but at a declining rate each month. During the last two sets of readings taken 7 weeks apart, there was little or no change in the plate measurements. For the last 7 weeks, settlement rates ranged from slightly less than zero (probably due to survey accuracy) to approximately 0.14 inches per month.

A best fit logarithmic trend line/equation was applied to each settlement pad area as indicated on Table 4 to predict long term settlement of each pad. The equations, along with predictions for 1 year, 10 years and 20 years are provided below:

**Table 4. Projected Long Term Settlement of Test Pads**

Settlement Pad No.	Trendline Equation	Projected Settlement (inches)		
		1 year	10 years	20 years
1	= 0.027*LN(x)-0.030	1.5	2.3	2.5
2	= 0.075*LN(x)-0.054	4.6	6.7	7.3
3	= 0.038*LN(x)-0.028	2.35	3.4	3.72
4	= 0.040*LN(x)-0.019	2.8	3.9	4.3
5	= 0.017*LN(x)-0.028	1.2	1.7	1.8
6	= 0.027*LN(x)-0.033	1.9	2.7	2.9
Average Values		2.39	3.45	3.75

These projections indicate that the maximum settlement of a test pad area over a period of 20 years would be slightly more than 7 inches for the current waste thickness. A conservative assumption would be that the long term settlements would be proportionally larger for deeper

waste. For example, if the waste beneath settlement pad #2 were doubled, the settlement in 20 years after completion of filling would approach 14.6 inches, more or less.

The conclusion derived from settlement pad testing is that loads from a final soil cap, similar in thickness to the test pads will exhibit an initial (short term) settlement from about 1 inch to just under 5 inches the first year, but that the long-term settlement (after the first year) will decline to rates less than 0.1 to 0.2 inches per year for the first 10 years, and declining to a fraction of an inch from 10 to 20 years.

Should a thicker final cap section or more soil fill be placed over the final lift of waste surface settlements will be somewhat higher due to the greater magnitude and depth of influence of induced stresses. Similarly, as the waste depth increases, the long term component of settlement will increase proportionally with the additional waste thickness. For design purposes, differential settlements between two points may be assumed to be one-half of total settlement values.

### 3.2.2 Comparison to Empirical Settlement Model

The field settlement test pad results were then compared to an empirical model proposed by G.F.Sowers, "Settlement of Waste Disposal Fills," (1973).

$$S = H * (C_c / (1 + e_0)) * \log[(P_0 + \Delta P) / (P_0)]$$

Where,

- S = short term settlement due to new loading  $\Delta P$
- H = initial waste thickness
- $e_0$  = initial void ratio
- C<sub>c</sub> = compression coefficient (from Sowers)
  - = 0.15 \*  $e_0$  for low organic, less compressible waste
  - = 0.55 \*  $e_0$  for higher organic, more compressible waste
- P<sub>0</sub> = initial stress within middle of underlying compressible layer
- $\Delta P$  = change in stress due to loading (at middle of compressible layer from new soil cover or other load)

The key waste compression coefficient, C<sub>c</sub>, is a function of initial void ratio ( $e_0$ ) which Sowers estimated based on empirical information. The lower range for C<sub>c</sub> = 0.15 \*  $e_0$  represents waste with low organic matter, such as the construction debris waste at Hilltop, or is otherwise less compressible (due to heavy compaction equipment or methods, waste composition, etc.); the higher range of C<sub>c</sub> = 0.55 \*  $e_0$  represents waste with high organic content and/or is otherwise more highly compressible, such as municipal solid waste.

The following assumptions were used for the comparison:

- 600 psf load (building, soil fill, etc.)
- 15' x 15' loaded area (square)
- Waste void ratio between 1.0 and 1.5 (based on CD waste density of 75 pcf)
- Waste compression coefficient, C<sub>c</sub> = 0.20, which relates to a low organic waste

Using Sowers' model, we calculated a total short term settlement of 3.7 inches for a loading condition similar to the test pads. This value is about 50 percent higher than the average settlement of the test pads measured over the first nine months of loading. Likely, over time, the test pads would continue to settle (though at a decreasing rate) and the final values would approach the calculated value more closely. Given the variability of waste material properties, composition and other unknown factors, this is an acceptable result and indicates the model is useful for future estimates. However, a slightly lower compression coefficient,  $C_c$ , value, or slightly higher void ratio,  $e_0$ , would be justifiable.

### 3.2.3 Long Term Settlement

The waste at Hilltop is primarily inert construction debris waste that received good compaction, with negligible organic matter, and minimal long term settlement is expected from the combination of self-weight of the waste itself plus decomposition or degradation.

The settlement pad results provide an indication that long term waste settlement will be quite low and potentially difficult to measure with conventional surveying methods over a short period of time. Sowers' indicated that long term settlement was analogous to consolidation theory and could be evaluated using a compression analogy similar to the load-related model, but based on time factors noted below:

$$S = H * (C_s/1+e_0)*\log[t_2/t_1]$$

Where,

- S = long term settlement between time period  $t_1$  and time  $t_2$
- H = initial waste thickness
- $e_0$  = initial void ratio
- $C_s$  = compression coefficient (from Sowers)
  - =  $0.03 * e_0$  for conditions unfavorable to decay
  - =  $0.09 * e_0$  for conditions favorable to decay

For this case,  $t_1$  is taken as the time from the mid-point of filling to some time period, such as closure, and  $t_2$  some time beyond closure. For the calculation, we assumed 30 years for the median fill age and used 50 years for  $t_2$ , which is based on 20 years following closure. We also assumed a  $C_c = 0.0375$ , void ratio of 1.25 and calculated long term settlements as follows:

**Table 5. Predicted Long Term Settlement**

Waste Thickness, H (feet)	Long Term Settlement (~20 years following closure) (inches)
50	3.0
75	4.4
100	5.9

These values represent approximately 0.6% of the waste thickness value (H), which is slightly more than the trend equations predict. Thus, it can be concluded that Sowers' relationship are relatively close to the average values. However, to be conservative, it is recommended that long term settlement estimates assume a value two times higher than the extrapolated data, which

would be about 1% of waste thickness; differential settlement may be assumed at one-half of the total settlement. Table 6 is a tabulation of long term settlement for varying waste thicknesses.

**Table 6. Long Term Settlement for Varying Waste Thicknesses**

Waste Thickness, H (feet)	Estimated Long Term Settlement Based on Waste Thickness (inches)	Estimated Long Term Differential Settlement @ 0.5% (inches)
	$S = 1\% * H$	0.5%
60	7.2	3.6
80	9.6	4.8
90	10.8	5.4
100	12.0	6.0

As noted previously, the majority of settlement due to increased waste loads or due to installation of the landfill cap system will occur during the initial year, after which settlement should diminish to a minimum. Hilltop may employ fill sequencing and cap construction techniques to accelerate settlement prior to placement of the landfill cap system (e.g. soil or waste surcharging). Some areas of the landfill have effectively already been surcharged, particularly in Phase 2 where waste will be excavated to achieve roadway or parking lot base grades associated with the redevelopment activities. Surcharging or early placement of fill prior to capping will also minimize differential settlement.

**3.2.4 Potential Grade Changes**

Considering Profiles A and B, the waste thicknesses under the plateau area vary from about 70 to 110 feet. Assuming a conservative situation where waste thickness changes from by 40 feet (i.e., from 100 feet depth to 60 feet depth) over a distance of about 100 feet horizontally, the maximum differential settlement at the surface would be slightly less than about 5 inches. This is a relatively small value and would change the surface grade over a 100 feet length by less than 0.4 percent and should not result in closed depression or flow reversals for any location across the final landfill surface.

**3.2.5 Final Cover Geosynthetics Elongation**

Since the final cover system will include geosynthetic components, including a flexible geomembrane, it is necessary to estimate the potential differential settlement of the cover system and resulting potential for elongation (tension) in the liner.

Assuming a conservative case where the geomembrane experiences a differential settlement of 10 inches over 100 feet (twice that predicted by the test pad or empirical information), the liner elongation would be computed as follows:

$$\text{Elongation} = (L_1 - L_0) / L_0$$

$$L_1 = \text{elongated liner after settlement} = ((1200)^2 + (10)^2)^{0.5} = 1200.042 \text{ inches}$$

$$L_0 = \text{original liner length (time of construction)} = 100 \text{ feet} = 1200 \text{ inches}$$

Elongation =  $(0.042/1200)*100 = 0.004\%$ , which is negligible compared to the yield elongation value for industry accepted standard for a 40 mil HDPE or LLDPE geomembrane of 12% (per GRI- GM13).

A more conservative differential settlement case would be due to a localized settlement. Assuming a 10 inch settlement over an arbitrary short distance of 10 feet, simulating a highly localized depression, the liner elongation would be as follows:

$$L_1 = ((120)^2 + (10)^2)^{0.5} = 120.42 \text{ inches}$$

$$L_0 = \text{original liner length (time of construction)} = 10 \text{ feet} = 120 \text{ inches}$$

Elongation =  $(0.42/120)*100 = 0.35\%$ , which is negligible for a geomembrane and acceptable.

In conclusion, settlement from long term waste degradation and light loadings associated with a final cover system will not result in significant elongation of the liner and will not result in grade changes at the surface that would negatively impact drainage.

### 3.3 FREEZE AND THAW EFFECTS

It is anticipated that freeze and thaw effects will not be detrimental to the cap systems. The depth of frost penetration for the immediate area is 18 inches. As previously described, a two to four foot thick topsoil and vegetative support layer will be placed about the geomembrane cap, so the landfill cap should not be affected by freezing and thawing cycles. Furthermore, polyethylene geomembrane has been tested and not experienced any failures even at a low temperature brittleness of  $-103^{\circ}\text{F}$ . Consequently, brittle failure at low temperatures is not anticipated in this temperate region. Thawing could produce saturated conditions in the cap systems however; the slopes have been modeled for stability, including the saturated condition, and were determined to be stable.

## 4.0 CONSTRUCTION SPECIFICATIONS

Construction specifications (i.e., Technical Specifications) for the landfill are provided in Appendix D of this Plan. For reference, the specifications are listed below in Table 7 with a corresponding note on which section contains information on the various cap components. Other specifications provided are ancillary to the cap construction.

**Table 7. Specifications**

<b>Section Number</b>	<b>Section Name</b>	<b>Cap Component Featured</b>
01050	Surveying	-
02110	Clearing, Grubbing, and Stripping	-
02225	Earthwork	Vegetative support and bedding layers
02233	Aggregates	
02270	Erosion and Sediment Control	
02272	Geotextile	For cushioning and slope reinforcement
02670	LFG Extraction Wells and Wellheads	-
02680	LFG Horizontal Collection Trenches	-
02900	Landscaping	Topsoil
02922	Textured Geomembrane	FML (low permeability layer)
02930	Geocomposite Drainage Net	Drainage layer
15050	LFG Pipe and Pipe Fittings	

## 5.0 GROUNDWATER MONITORING SYSTEM

There are five groundwater monitoring wells at the Hilltop Landfill (one upgradient and four downgradient). These monitoring wells are sampled routinely for groundwater quality monitoring and static water level surface elevations. The test parameters, test frequency, sampling protocol, and reporting requirements are set forth in the latest Groundwater Monitoring Plan of Record in the Landfill files.

The groundwater reports are submitted to the VDEQ annually on or before March 1 as required by the VSWMR. The groundwater monitoring shall continue through the time of final closure of all phases and will continue during the 10 year post-closure care period. The owner shall keep records of the analyses and reports throughout the post-closure care period.

Groundwater monitoring requirements may be modified by changes in regulations or through negotiation with the VDEQ. Hilltop is currently negotiating a Permit to include Groundwater Protection Standards (GPS).

The current Groundwater Monitoring Plan (1991) is incorporated into the Closure/Post-Closure Plan by reference. Permit issuance for inclusion of GPS will include the latest approved Groundwater Monitoring Plan to supersede the current Plan of record.

## 6.0 LEACHATE COLLECTION SYSTEM

A leachate drain pipe has been installed in the landfill. Leachate drains to a duplex pump lift station and is pumped to a Fairfax County sanitary sewer line. Pumping is required only to meter flow. Leachate will flow by gravity into the sanitary sewer line in the event of pump failure.

## 7.0 GAS COLLECTION SYSTEM

The landfill gas collection system for the landfill is presented in “Gas Monitoring and Management Plan” prepared by SCS and dated August 27, 2008. It is provided in Appendix F to this report. Refer to this document for sampling, monitoring frequency, and other requirements of the gas collection system.

## 8.0 POST-CLOSURE ACTIVITIES

### 8.1 POST-CLOSURE CONTACT

The post-closure care contact for Hilltop Landfill is:

Michael Gailliot, P.G.  
 Hilltop Sand & Gravel Co. Inc.  
 7950 Telegraph Road  
 Alexandria, VA 22315  
 Phone: (703) 971-1300

Hilltop shall notify the VDEQ immediately if the post-closure contact name, address, or phone number should change.

### 8.2 SECURITY

As noted in Section 2.6, Posting, the access road will be secured by a locked gate.

### 8.3 INSPECTION PLAN

As part of the post-closure procedure, Hilltop landfill will conduct formal inspection and evaluation of the closed landfill. The Closure Inspection Form to be used is provided in Appendix G. The type and frequency of inspections is presented in Table 8 below.

**Table 8. Inspection Schedule**

Inspection Category	Specific Items to Check	Types of Problems to Observe	Inspection Frequency
Final cover	Vegetation	Bare or dead areas and trees	Quarterly
	Integrity	Erosion, burrows, settlement	Quarterly
	Stormwater pipes and channels	Erosion/scour, ponding, flow obstructions	Quarterly
	Sediment basins	Sediment level, flow obstructions	Quarterly
Monitoring wells (LFG and GW)	Locks, foundation, well pipe/casing	tampering, rust, cracking, deterioration of materials	During monitoring events
Security devices	Gates/Fences	Corrosion, tampering, other damage	Quarterly
	Locks	Corrosion, tampering	Quarterly
	Signs	Missing or damaged	Quarterly
Leachate system	Meters, pumps, and valves	Damage, working order, leaks	Quarterly
General site	NA	Litter, illegal dumping, tree growth on cap	Quarterly

## 8.4 MAINTENANCE PLAN

During the post-closure care period, the landfill will receive routine maintenance to meet post-closure care requirements. The following items will receive maintenance as needed:

### 8.4.1 Security Control Devices

Gates and fences found to be damaged to the point where they cannot impede access to the site will be repaired in accordance with manufacturer's recommendation.

### 8.4.2 Erosion Damaged Areas

Areas of the cap that have been eroded will be backfilled or otherwise repaired according to the cap constructed during closure. The areas will be seeded, then mulched or protected with erosion control matting to deter new erosion.

Other areas that have been eroded will be graded to allow positive drainage, seeded, and mulched or protected with erosion control matting to deter new erosion.

### 8.4.3 Correction of Settlement, Subsidence, and Displacement

Any minor settlement, subsidence, or displacement will be corrected by grading to promote positive surface drainage. Suspected geomembrane or geocomposite damage will be inspected and repairs made as needed. Major settlement, subsidence, or displacement may require an engineering evaluation of the cause; the remedy for any major damage will be based on addressing the cause of the damage.

### 8.4.4 Run-on and Run-off Control Structures

Eroded channels and pipe entrance/exits will be returned to design conditions as soon as possible. Clogs will be removed from pipes and basin riser structures to allow the free flow of water. If problems with underground pipes are suspected (e.g., joints coming apart, low spots in alignment, and crushed pipe), the pipes will be video surveyed, visually surveyed (as allowable per applicable regulations), or excavated to confirm damage and ascertain the appropriate corrective action.

### 8.4.5 Leachate Collection System and Seepage

A geomembrane final cap should prevent leachate seeps from occurring along the sideslopes. However, in the unusual event that leachate seeps are observed on the sideslopes, the area will be investigated via careful excavation of the immediate area to determine the source of the leachate. Repairs will be performed as necessary to include patching of geomembrane and covering of the landfill cap system with adequate cover soil.

### 8.4.6 Gas Collection System

The active gas wells and monitoring probes will be repaired to their design condition as soon as possible. Active gas wells and monitoring probes will be labeled with indelible marker on the

outside of the probe or well casing. Casings will be remarked as needed during quarterly inspections. Bollards or visual aids may be placed around probes and vents that have been damaged by vehicle traffic/mowing equipment.

#### **8.4.7 Groundwater Wells**

Repairs to groundwater wells will be made in accordance with the Groundwater Monitoring Plan. Groundwater wells will be labeled with indelible marker on the outside of the well casing. Casings will be remarked as needed during quarterly inspections.

#### **8.4.8 Mowing**

The landfill will be mowed periodically to deter the growth of woody vegetation, deter habitation by vectors, and to allow inspection and access to the landfill cap features and landfill related structures (e.g., wells, stormwater channels, and manholes). Mowing will be more frequent and as needed in active ballfield areas.

#### **8.4.9 Seeding and Fertilization**

Bare areas will be seeded and fertilized as needed to deter erosion.

Erosion along the side slopes will be minimized and regulated by the criteria outlined in the Virginia Erosion and Sediment Control Handbook. Erosion will not be a significant concern on grass slopes of 3H:1V or less. Slopes within the limits of waste will be maintained between the range of 2% and 33% as shown on the final grading drawings. Temporary and permanent seeding of the disposal area shall be performed as described in the technical specifications.

### **8.5 MONITORING PLAN**

Monitoring of landfill related systems is discussed below.

#### **8.5.1 Groundwater Monitoring**

Groundwater monitoring will be conducted in accordance with the Groundwater Monitoring Plan referenced above.

#### **8.5.2 Leachate Collection and Disposal**

The leachate collection system will be inspected periodically. Operation of valves, pumps and meters will be checked.

#### **8.5.3 Gas Collection and Venting**

Gas monitoring will be conducted in accordance with the Gas Monitoring and Management Plan provided in the appendix to this Plan.

#### **8.5.4 Leak Detection Between Liners**

The landfill does not have a leak detection system.

### 8.5.5 Dewatering

The groundwater table is not being dewatered at the facility.

## 8.6 POST-CLOSURE USES

The Phase II area will be developed for construction of a new paved roadway and surface parking lot for the retail structure which shall be conveyed to an affiliate of Hilltop Sand and Gravel. The top section of Phase III will be developed into athletic fields with surface parking.

The only authorized access to the closed landfill area would be through the new paved roadway for vehicle traffic to the retail business area and the athletic fields.

As previously noted in this Plan, the integrity of the landfill cover will be protected from the planned post-closure uses of the site with the inclusion of a 4 foot thick vegetative support/topsoil layer over the geomembrane cap system. The integrity of the cap system will be inspected in accordance with Table 8.

Following closure, Hilltop shall conduct post-closure care of the facility for a period of 10 years. The length of the post-closure care period may be decreased by DEQ if Hilltop demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by DEQ; or increased by the DEQ if DEQ determines that the lengthened period is necessary to complete the corrective measures or to protect human health and the environment. If the post-closure period is increased, Hilltop shall submit a revised post-closure plan for review and approval, and continue post-closure monitoring and maintenance in accordance with the approved plan.

## 8.7 TRAINING

Hilltop will retain personnel already involved with monitoring and site inspection for the post-closure period, or have the existing personnel provide guidance to new employees. Any future employee or contractor/subcontractor will be trained in the excavation restrictions on the closed landfill to maintain the integrity of the landfill cap system. Additionally, Hilltop may request additional guidance from VDEQ and/or a consultant familiar with landfill inspections.

## 9.0 CLOSURE AND POST-CLOSURE CARE COST ESTIMATE

### 9.1 CLOSURE COST

The Closure Cost Estimate for the Hilltop Landfill is updated each August for the remaining approximate 35 acres to be capped. The estimate reflects the cost of closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive (entire 35 acres). The updated estimate is submitted to the VDEQ each August; the August 2007 is currently on file with the VDEQ and will be updated as required in August 2008.

### 9.2 POST-CLOSURE CARE COST

The Post-Closure cost estimate for the Hilltop Landfill is updated each August. The estimate includes anticipated annual and other periodic costs associated with post-closure care, such as monitoring and general maintenance. The updated estimate is submitted to the VDEQ each August; the August 2008 is currently on file with the VDEQ.

## 10.0 FINANCIAL ASSURANCE

The latest financial assurance trust document for the facility's closure and post-closure care is provided in Appendix H.



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY  
NORTHERN REGIONAL OFFICE

L. Preston Bryant, Jr.  
Secretary of Natural Resources

13901 Crown Court, Woodbridge, Virginia 22193  
(703) 583-3800 Fax (703) 583-3821  
www.deq.virginia.gov

David K. Paylor  
Director

November 10, 2008

Mr. Michael C. Gailliot, P.G.  
Hilltop Sand & Gravel Co., Inc.  
T/A Hilltop Construction Debris Landfill  
P.O. Box 10316  
Alexandria, Virginia 22315

**RE: Hilltop Construction Debris Landfill, Permit No. 326  
Closure and Post-Closure Care Plan for Phases II and III  
Approval of Minor Permit Amendment**

Dear Mr. Gailliot:

This letter is in response to the correspondence dated October 14, 2008, submitted on your behalf by SCS Engineers, which transmitted a revised Closure and Post-Closure Care Plan for Phases II and III of the Hilltop Construction Debris Landfill, Permit No. 326. The revised plan included design details for an alternate cap system to be constructed for Phases II and III of the landfill. The plan also included a Construction Quality Assurance Plan, Technical Specifications, Closure Design Calculations, and Gas Monitoring and Management Plan as attachments. In accordance with 9 VAC 20-80-620 F.1.a. of the Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-80-10 et seq.), this action is classified as a minor permit amendment. This amendment is hereby approved.

In order to document this approval, please incorporate a copy of this letter, its attachments, and the revised Closure and Post-Closure Care Plan dated October 14, 2008, into each copy of Permit No. 326.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director  
Virginia Department of Environmental Quality  
Office of Solid Waste  
P.O. Box 1105  
Richmond, Virginia 23218

November 10, 2008

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Please be advised that, in accordance with 9 VAC 20-80-620.F.1.b.(2), the permittee must send a notice of this modification to the local governing body (Fairfax County) within 90 days of the date of approval of this change. It is also the responsibility of the applicant to obtain any other permits or authorizations that may be necessary.

If there are any questions, please contact Kathryn Perszyk, Solid Waste Permit Writer, at (703) 583-3856 or [kiperszyk@deq.virginia.gov](mailto:kiperszyk@deq.virginia.gov).

Respectfully,



Richard Doucette  
Waste Program Manager

Enc: Permit Intro and Module I

cc: Paul A. Mandeville, P.E., SCS Engineers Vice President  
Robert Isenberg, P.E., C.P.G., SCS Engineers Vice President  
Kathryn Perszyk, DEQ-NRO Solid Waste Permit Writer  
Jason Williams, DEQ-TRO Waste Permit Coordinator  
DEQ-NRO Administrative File



# COMMONWEALTH of VIRGINIA

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L. Preston Bryant, Jr.  
Secretary of Natural Resources

David K. Paylor  
Director

## SOLID WASTE FACILITY PERMIT

### PERMIT NUMBER 326

**Facility Name:** Hilltop Sand & Gravel Company, Inc.

**Facility Type:** Construction/Demolition/Debris Landfill

**Latitude:** 38° 44' 32" N

**Site Location:** Fairfax County, Virginia

**Longitude:** 77° 9' 42" W

**Location Description:** The facility is located in southeastern Fairfax County at the intersection of State Route 613 (Beulah Street) and State Route 611 (Telegraph Road).

**Permit Limits:** The total facility acreage is approximately 137 acres, with a waste disposal area of approximately 85 acres. The total waste capacity for the site is approximately 8.5 million cubic yards. There is approximately 684,000 cubic yards of remaining landfill capacity, effective January 2008. The estimated remaining site life is 5 years.

**Background:** The facility is privately owned by Hilltop Sand & Gravel Company, Inc. The site was operated as a sand and gravel mine until 1979, at which point it received approval from the County to operate a landfill as a means to reclaim the property. On June 23, 1981, the Commonwealth issued Permit No. 326 allowing the facility to landfill construction, demolition, and debris wastes within and outside the State of Virginia. The wastes accepted conform to those wastes identified in Permit Attachment II-1.

**Permit Highlights:** This permit is based on the modular concept to assure completeness and consistency of the documents. It includes several permit modules which specify general permit conditions and facility requirements and provide for appropriate design, operation, maintenance, closure, post-closure, and monitoring of the solid waste management facility permitted herein below. Various attachments further describe the approved plans for the design and operation of the facility.

The landfill area has been divided into three phases (Phases I, II, and III) for planning of closure activity. All phases were constructed without bottom liners. Phase I, an approximately 50-acre area, was certified closed on August 9, 2001, thus beginning the 10-year post-closure care period. The cap system consisted of, from top to bottom, a 6-inch vegetative support layer; an

additional final cover layer of variable thickness; storm drain piping (within the additional final cover layer); a 2-foot final/protective cover layer; a cap drain system (piping); a geocomposite drainage layer (geotextile/geonet composite); a 40-mil very flexible polyethylene (VFLDPE) geomembrane, a 12-ounce/square yard non-woven polypropylene geotextile cushion layer, and a 12-inch intermediate soil cover layer. The additional final cover layer was installed to support the 9-hole golf course constructed over Phase I.

Landfilling activities continue in Phase II, an approximately 13-acre area, and Phase III, an approximately 22-acre area. These phases are scheduled to be closed as waste heights reach final grades, starting in February 2009 and finishing in May 2013. The facility intends to close each Phase with either an alternate cap system or the required earthen cap system as described in VSWMR 9 VAC 20-80-260.E.1.b. The alternate cap system (also referred to as the geomembrane cap system) consists of, from top down, a 6-inch thick erosion layer (topsoil), a 42-inch thick vegetative support layer on developed areas (a minimum 18-inch thick layer on side slopes), a geocomposite drainage net, a 40-mil textured geomembrane, a geotextile (on side slopes only to improve veneer stability and if needed for cushioning purposes), and a 12-inch thick intermediate cover/bedding layer over the waste. The earthen cap system consists of, from top down, a 6-inch thick erosion layer (topsoil), an 18-inch thick infiltration layer with maximum hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec, and a 12-inch thick intermediate cover/bedding layer over the waste.

Portions of the capped Phase II area will be converted to an access road and parking lot for a future adjacent retail development, while portions of the capped Phase III area will be converted to active end uses to include baseball and soccer fields and associated parking.

The permit contains four permit modules: Module I includes general permit conditions; Module II consists of permit attachments describing the facility's operations; and Modules XII and XIII contain closure and post-closure care requirements of the facility. All permit attachments are prepared based on information submitted in the permit application.

**Permit Amendment:** This amendment is the second to Permit No. 326, which was originally issued on June 23, 1981. This amendment incorporates a revised Closure and Post-Closure Care Plan along with a Construction Quality Assurance Plan, Technical Specifications, Closure Design Calculations, and Gas Monitoring and Management Plan for Phases II and III of the landfill.

**THIS IS TO CERTIFY THAT:**

Hilltop Sand & Gravel Company, Inc.  
7950 Telegraph Road  
Alexandria, Virginia 22315

is hereby granted a permit to construct, operate, and maintain the facility as described in the attached Permit Modules and the Permit Attachments cited in these Modules. These Permit Modules and Permit Attachments are as referenced hereinafter and are incorporated into and become a part of this permit.

The herein described activity is to be established, modified, constructed, installed, operated, used, maintained, and closed in accordance with the terms and conditions of this permit and the plans, specifications, and reports submitted and cited in the permit. The facility shall comply with all regulations of the Virginia Waste Management Board. In accordance with Chapter 14, 10.1 - 1408.1(D) of the Code of Virginia, prior to issuing this permit, any comments by the local government and general public have been investigated and evaluated and it has been determined that the facility poses no substantial present or potential danger to human health or the environment. The permit contains such conditions and requirements as are deemed necessary to comply with the requirements of the Virginia Code, the regulations of the Board, and to prevent substantial or present danger to human health or the environment.

Failure to comply with the terms and conditions of this permit shall constitute grounds for the revocation or suspension of this permit and for the initiation of necessary enforcement actions. The permit is issued in accordance with the provisions of 10.1-1408.1.A, Chapter 14, Title 10.1, Code of Virginia (1950) as amended. Variances that have been approved for this facility are included as Permit Attachment I-1.

Issued: June 23, 1981

Amendment 1: April 28, 2005

**APPROVED:**



Thomas A. Faha  
Regional Director

DATE: 11-10-08  
Amendment 2

## PERMIT MODULES AND PERMIT ATTACHMENTS<sup>1</sup>

### REFERENCE LIST

#### PERMIT MODULE I – GENERAL PERMIT CONDITIONS

PERMIT ATTACHMENT I-1 – PERMIT RELATED APPROVAL LETTERS

#### PERMIT MODULE II<sup>2</sup> – OPERATIONS

PERMIT ATTACHMENT II-1, OPERATIONS PLAN

PERMIT ATTACHMENT II-2, UNAUTHORIZED WASTE CONTROL/SCREENING PROGRAM

PERMIT ATTACHMENT II-3, SPILL PREVENTION CONTROL & COUNTERMEASURES PLAN

#### PERMIT MODULES XII<sup>2</sup> AND XIII<sup>2</sup>—CLOSURE AND POST-CLOSURE CARE

PERMIT ATTACHMENT XII-1, CLOSURE AND POST-CLOSURE CARE PLAN, PHASES II AND III

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#### NOTES:

1. Should information contained in any permit module that consists of documents submitted by the permittee, conflict with any requirement or condition contained in Permit Modules I, II, XII, XIII, or 9 VAC 20-80 et seq., the regulatory/permit module requirement or condition shall prevail (unless an appropriate variance has been granted). The Department is not responsible for spelling, typographical, or syntax errors in modules based on information submitted by the permittee.
2. The Emergency/Contingency Plan (contained in Permit Attachment II-1), or the Closure and Post-Closure Care Plan (Permit Attachment XII-1), may be revised with Department approval.

## PERMIT MODULE I

### GENERAL PERMIT CONDITIONS

#### I.A. EFFECT OF PERMIT

The permittee is allowed to dispose solid waste on-site in accordance with the conditions of this permit. Any disposal of solid waste not authorized by this permit is prohibited. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 10.1-1402(18), 10.1-1402(19), or 10.1-1402(21) of the Virginia Waste Management Act (Chapter 14, Title 10.1, Code of Virginia (1950), as amended); or any other law or regulation for protection of public health or the environment. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. For purposes of this permit, terms used herein shall have the same meaning as those in the Virginia Waste Management Act, and Part I and other pertinent parts of the Virginia Solid Waste Management Regulations (VSWMR, 9 VAC 20-80, et seq.), unless this permit specifically provides otherwise; where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be defined by the generally accepted scientific or industrial meaning of the term or a standard dictionary reference. "Director" means the Director of the Department of Environmental Quality, or his designated or authorized representative.

#### I.B. DUTIES AND REQUIREMENTS

The permittee shall comply with all conditions of this permit and 9 VAC 20-80-10, et seq. The effect of this permit is detailed in 9 VAC 20-80-550, and it shall be the duty of the permittee to insure the applicable requirements are met. Additionally, the permittee is subject to the recording and reporting requirements detailed in 9 VAC 20-80-570. The facility will be operated and maintained per Permit Module II, and closed and maintained in post-closure per Permit Modules XII and XIII. In addition to these requirements, the following additional conditions are invoked per 9 VAC 20-80-490, and shall be complied with:

- I.B.1. Noncompliance may be authorized by a schedule of compliance [9 VAC 20-80-550.C and 9 VAC 20-80-550.G]. Any other permit noncompliance constitutes a violation of Virginia Waste Management Act and is grounds for enforcement action, or for permit revocation, revocation and reissuance, or modification [9 VAC 20-80-600 and 9 VAC 20-80-620].
- I.B.2 The permittee shall comply with the requirements of this permit and any provisions of RCRA Subtitle D (Title 40, Code of Federal Regulations, Section

258) requirements as they become applicable upon their effective date. This permit may not act as a shield against compliance with any part of RCRA or any other applicable federal regulation, state regulation or state law.

- I.B.3. In an enforcement action, it shall not be a defense for the permittee that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- I.B.4. In the event of noncompliance with this permit, the permittee shall take all reasonable steps to minimize releases of solid wastes or waste constituents to the environment and shall carry out measures to prevent substantial adverse impacts on human health or the environment.
- I.B.5. The permittee shall at all times properly operate and maintain all units (and related appurtenances) which are installed or used by the permittee to achieve compliance with the operations manual and the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing, and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary equipment only when necessary to achieve compliance with the conditions of this permit.
- I.B.6. The permittee shall furnish to the Director, within a reasonable time, any relevant information that the Director may request to determine compliance with this permit, regulations or the Act. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit by the date specified in the request.
- I.B.7. The permittee shall allow the Director, or an authorized representative, upon the presentation of appropriate credentials, to:
  - I.B.7.a. Enter at reasonable times upon the permitted facility where a regulated unit or activity is located or conducted, or where records must be kept under the conditions of this permit;
  - I.B.7.b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - I.B.7.c. Inspect at reasonable times any unit, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  - I.B.7.d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by Virginia Waste Management Act, any substances or parameters at any location within his control.

- I.B.8. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample to be analyzed must be the appropriate method from the latest edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846.
- I.B.9. This permit is not transferable to any person, unless approved by the Director. The Director may require modification or revocation and reissuance of the permit pursuant to 9 VAC 20-80-550.F. Before transferring ownership or operation of the facility during its operational life, the permittee shall notify the new owner or operator in writing of the requirements of Parts V and VII, of the Virginia Solid Waste Management Regulations, the Financial Assurance Regulations, 9 VAC 20-70-10 et seq., and this permit.
- I.B.10 In accordance with § 10.1-1408.2, all facilities must have a Certified Operator as required by the Board of Waste Management Facility Operators – Licensing Regulations, 18 VAC 155-20-10 et seq.
- I.B.11 Specifications for all drainage media should specify that the material shall contain no greater than 15% calcium carbonate equivalent. Department literature regarding research on leachate collection media indicates that weight loss greater than 15% results in an unacceptable loss of performance. If a greater percentage is specified or allowed, a demonstration that performance is not adversely affected must be provided to the Department for review and approval.
- I.B.12 Recirculation of collected leachate shall not be allowed, in accordance with 9 VAC 20-80-290.D.3, except when the area to be irrigated is underlain by a composite liner system. Furthermore, in accordance with 9 VAC 20-80-280.E.2.c, decomposition gas condensate may be recirculated into the landfill provided the facility complies with the composite liner requirement and the leachate control system requirements of Part V of VSWMR. A composite liner system is a system designed to meet the requirements of 9 VAC 20-80-250.B.9.
- I.B.13. The closure cost estimate must reflect the maximum cost of closure at all times. The owner has the responsibility to maintain the closure and post closure cost estimate and associated financial assurance funding as conditions change.

I.C. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The permittee shall maintain the following documents at the facility, or readily accessible to Department representatives, until post-closure is complete and certified by a professional engineer, and shall maintain amendments, revisions, and modification to these documents:

- I.C.1. Design Plans.
- I.C.2. Operations Manual.
- I.C.3. Closure and Post-Closure Plan.
- I.C.4. Groundwater Monitoring Plan.
- I.C.5. Gas Monitoring and Management Plan.
- I.C.6. Detailed, written estimate, in current dollars, of the cost of closing the facility, post-closure care and corrective action measures.
- I.C.7. All other documents/records required and applicable from the following:
  - I.C.7.a. Monitoring records from leachate, gas, and groundwater monitoring.
  - I.C.7.b. Inspection records as required from construction/installation, operation, closure, and post-closure inspection requirements.
  - I.C.7.c. Personnel training records.
  - I.C.7.d. Daily operational records (i.e., solid waste received and processed, fill area records, records of special wastes accepted, a logbook which is a daily narrative account of the activities at the landfill).
  - I.C.7.e. Construction quality assurance reports, record drawings and engineers certifications for all new liner and/or final cover construction.
- I.C.8. Documentation of the authorization to discharge leachate into the publicly owned treatment works, leachate volumes sent to the POTW, and periodic leachate sampling analytical results.

I.D. DOCUMENTS TO BE SUBMITTED

In addition to the documents/records/reports to be submitted per the requirements of this permit or 9 VAC 20-80-10 et seq., the permittee shall also submit the following documents to the Director according to indicated schedules:

- I.D.1. The as-built plans of all new groundwater monitoring wells shall be submitted as these wells are installed. Information to be included on the as-built plans shall include, but is not limited to, the total depth of the well, the surveyed elevations of the top of casing and ground surface (or apron), and the length and location of the screened interval and annular space seal. All dimensions are to be shown on well construction schematics.

I.D.2. Following construction of the final cover system for each phase, certification, signed by a registered professional engineer, shall be submitted that closure has been completed in accordance with the approved Closure and Post-Closure Care Plan (Permit Attachment XII-1). This certification shall include the results of the CQA/QC requirements under 9 VAC 20-80-260.B.17.a.(2)(e).

I.D.2.a. The certification shall include verification that closure has been completed in accordance with the requirements of 9 VAC 20-80-260.E.4.c.(1) through c.(3), which require posting a sign at the facility entrance and erecting suitable barriers to prevent access; submitting a survey plan to the local land reporting authority; and recording a notation on the deed to the facility property.

I.D.3. After completion of the post-closure period, the permittee shall submit certification, signed by a registered professional engineer, to the Director verifying that post-closure care was performed in accordance with the Closure and Post-Closure Care Plan (Permit Attachment XII-1). The certificate shall be accompanied by an evaluation, prepared by a professional engineer licensed in Virginia and signed by the permittee, assessing and evaluating the landfill's potential for harm to human health and the environment in the event that post-closure monitoring and maintenance are discontinued.

I.E. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE DIRECTOR

All reports, notifications, or other submissions which are required by this permit to be sent or given to the Director should be sent to:

Director  
Virginia Department of Environmental Quality  
Office of Solid Waste  
P.O. Box 1105  
Richmond, VA 22318

With a copy to:

Virginia Department of Environmental Quality  
Solid Waste Permitting/Compliance  
Northern Regional Office  
13901 Crown Court  
Woodbridge, Virginia 22193

I.F. SITE SPECIFIC CONDITIONS

The final permit is based on permit application submittals (drawings and reports) that contain the word "proposed" and similarly tentative language. The documents that are incorporated into Permit No. 326, and the amendments thereof, have been evaluated for administrative and technical adequacy and have been approved as proposed. Therefore, any reference to a design, construction, operation monitoring or closure criteria are to be considered to be approved as proposed.

I.G. PERMIT AMENDMENTS

I.G.1. The permit was amended per a minor amendment on April 28, 2005, to incorporate a variance approval allowing the use of alternate concentration limits for Cobalt, Nickel, Silver, Tin, and Zinc in lieu of background data or maximum concentration levels (MCLs) in establishing groundwater protection standards.

**END OF MODULE I**

## PERMIT MODULE XII

### CLOSURE & POST-CLOSURE CARE

#### XII.A. LANDFILL CLOSURE REQUIREMENTS

- XII.A.1. The owner or operator shall begin closure activities of each unit no later than 30 days after the date on which the unit receives the known final receipt of wastes or, if the unit has remaining capacity and there is a reasonable likelihood that the unit will receive additional wastes, no later than one year after the most recent receipt of wastes.
- XII.A.2. The owner or operator shall complete closure activities within the time frames specified in the Closure and Post-Closure Care Plan (Permit Module XII-1).
- XII.A.3. The owner or operator shall install a final cover system that is designed to achieve the performance requirements of 9 VAC 20-80-260.E.1.b. or approved alternate final cover design in accordance with 9 VAC 20-80-260.E.1.b.(3).
- XII.A.3.a. The earthen cap system consists of, from top down, a 6-inch thick erosion layer (topsoil), an 18-inch thick infiltration layer with maximum hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec, and a 12-inch thick intermediate cover/bedding layer over the waste.
- XII.A.3.b. The alternate cap system (or geomembrane cap system) consists of, from top down, a 6-inch thick erosion layer (topsoil), a 42-inch thick vegetative support layer on developed areas (a minimum 18-inch thick layer on side slopes), a geocomposite drainage net, a 40-mil textured geomembrane, a geotextile (on side slopes only to improve veneer stability and if needed for cushioning purposes), and a 12-inch thick intermediate cover/bedding layer over the waste
- XII.A.4. Following the closure of all phases, the owner or operator shall:
- XII.A.4.a. Post one sign at the entrance of the facility notifying all persons of the closing, and the prohibition against further receipt of waste materials. This sign shall remain throughout the post-closure care period.
- XII.A.4.b. Within 90 days submit to the local land recording authority a survey plat prepared by a professional land surveyor registered by the Commonwealth indicating the location and dimensions of landfill disposal areas. Monitoring well locations should be included and identified by the number on the survey plat. The plat filed with the local land recording authority shall contain a note which states the

owner's or operator's future obligation to restrict disturbance of the site as specified.

XII.A.4.c. Record a notation on the deed to the facility property, or on some other instrument which is normally examined during title searches, notifying any potential purchaser of the property that the land has been used to manage solid waste and is restricted under 9 VAC 20-80-260.F.3.c. A copy of the deed notation as recorded shall be filed with the Department.

XII.A.5. Following closure of all phases, the owner or operator shall conduct post-closure care of the facility. The post-closure care period will begin on the date of the certification signed by a registered professional engineer as required by 9 VAC 20-80-260.E.4.c.(4). However, the beginning of the post-closure care period will be postponed if any provisions of 9 VAC 20-80-260.E.4 have not been completed or if the Department's inspection as required by 9 VAC 20-80-260.E.5 reveals that the facility has not been properly closed in accordance with the regulations. In this case the post-closure care period will begin on the date that the Department acknowledges proper closure has been completed. The post-closure care period shall continue for a period of 10-years in accordance with 9 VAC 20-80-260.F.1.

## XII.B. LANDFILL POST-CLOSURE CARE REQUIREMENTS

XII.B.1. Post-closure care shall consist of the following:

XII.B.1.a. Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;

XII.B.1.b. Maintaining and operating the leachate collection system in accordance with the requirements in 9VAC20-80-290 and 9VAC20-80-300;

XII.B.1.c. Monitoring the ground water in accordance with the requirements of 9 VAC 20-80-260.D and maintaining the ground water monitoring system; and

XII.B.1.d. Maintaining and operating the gas monitoring system in accordance with the requirements of 9VAC20-80-280.

XII.B.2. Phase I of the landfill shall be maintained as a golf course during the post-closure period. Portions of the capped Phase II area shall be converted to an



# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** December 19, 2008

**TO:** Regina Coyle, Director  
Zoning Evaluation Division, DPZ

**FROM:** Pamela G. Nee, Chief *PAN*  
Environment and Development Review Branch, DPZ

**SUBJECT:** **Land Use Analysis & Environmental Assessment:** RZ 2008-LE-001;  
RZ 2008-LE-002; RZ/FDP 2008-LE-003; SEA 78-L-074-06;  
SEA 2005-LE-027 - Hilltop Sand and Gravel Company, Inc.

The memorandum, prepared by John Bell, includes citations from the Comprehensive Plan that provide guidance for the evaluation of the development plan dated February 7, 2007, as revised through December 2, 2008. The extent to which the application conforms to the applicable guidance contained in the Comprehensive Plan is noted. Possible solutions to remedy identified issues are suggested. Other solutions may be acceptable, provided that they achieve the desired degree of mitigation and are also compatible with Plan policies.

### DESCRIPTION OF THE APPLICATION

The approximately 33-acre subject property is located at the northeast corner of the intersection of Beulah Road and Telegraph Road. The applicant proposes to rezone land from the R-1 and I-3 Districts to the PDC District to allow for the development of 253,000 square feet of retail use and 113,000 square feet of office uses at an overall floor area ratio (FAR) of .25. The proposed development consists of seven buildings:

- 150,000 square foot grocery store;
- 4-story, 96,000 square foot office building;
- 34,000 square foot building with ground floor retail and second floor office;
- one-story 65,000 square foot retail building;
- one-story 12,000 square foot retail building; and
- two pad sites with drive-thru lanes for 4,500 square feet of retail use for each pad site with one being identified as a bank.

A total of 1,855 structured and surface parking spaces are proposed. The applicants are seeking waivers of the loading space requirements as well as a waiver of transitional screening

**Department of Planning and Zoning**

Planning Division  
12055 Government Center Parkway, Suite 730  
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[www.fairfaxcounty.gov/dpz/](http://www.fairfaxcounty.gov/dpz/)

and barrier requirements between the different uses on the subject property. The concurrent special amendment application proposes modifications to the existing nine-hole golf course.

## **LOCATION AND CHARACTER OF THE AREA**

The subject property is located in the RH-4 Lehigh Community Planning Sector of the Rose Hill Planning District. The recently adopted Comprehensive Plan Amendment for the site provides an option for retail and office uses up to .30 FAR subject to meeting conditions on site design, consolidation, recreational facilities, and transportation improvements. The majority of this land area has been in use as a debris landfill for over thirty years. The Fort Belvoir military installation is located to the east of the subject property. A portion of the Hilltop Golf course is located immediately north and west of the proposed development, while a commercial shopping center and a portion of the Landsdowne residential development lie immediately west and south of the subject property.

## **COMPREHENSIVE PLAN CITATIONS**

### **Land Use**

In the Fairfax County Comprehensive Plan, Area IV, 2007 edition, Rose Hill Planning District, as amended through December 8, 2008, RH-4 Lehigh Community Planning Sector, page 69, the Plan states:

- “45. At such time as the Hilltop landfill ceases operation and is properly reclaimed, any alternative use of the site will require extensive review and significant engineering measures. The property is planned for private recreation; however, residential use at 2-3 dwelling units per acre may be considered on portions of the property if sufficient documentation can be provided to verify that the landfill site is suitable and safe for building. Consolidation with parcel 100-1((1)) 11A, which is planned for residential use at 3-4 du/ac, is encouraged. Restoration or re-use of any historic structures on the property should be explored. See recommendation 47 for an additional option.
46. Parcels 100-1((1)) 17, 19, 20, and 23A are planned for private recreation with an option for residential use at 2-3 dwelling units per acre. It is recommended that they be consolidated, with any private recreation development that takes place on the site of the Hilltop landfill. A commercial recreation facility may be appropriate on the southern part of parcel 23A with screening sufficient to minimize its off-site impacts. If parcels 19 & 20 are consolidated and develop independently of the recreational area, interparcel access to parcel 23A should be provided.
47. As an option to the guidance found in recommendations 45 and 46, retail and office use up to .30 FAR may be appropriate on a total site area of approximately 33 acres that includes approximately 29 acres of parcel 100-1((1))9pt, and parcels 100-1((1))11A,

11A1, 14, and 15, if all parcels are consolidated and the site design creates a cohesive and walkable environment. To achieve this goal, high-quality architecture should be sufficient open space should be interspersed with retail and office uses to provide usable provided. In addition, buildings should be oriented to streets and sidewalks, and public gathering areas. Also, the following conditions should be met:

- Taller structures should be located at a sufficient distance from Telegraph Road to avoid conflict with Fort Belvoir security standards. Coordination on any development in the affected area should be made with the Fort Belvoir Director of Plans, Training, Mobilization, and Security. Building tapering, vegetative buffering and screening should be provided as needed on the periphery to create a transition to the surrounding areas. Lighting and sound from any development should be designed so that it is not intrusive to adjacent residential development.
- Any freestanding office building(s) is encouraged to meet at least U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) silver standards or other comparable programs with third party certification. Retail users are encouraged to meet applicable U.S. Green Building Council's LEED standards, or other comparable programs, in design and construction to promote sustainable development. The impervious nature of hard surfaces should be offset through approaches such as providing vegetated planting strips in surface parking lots;
- A grocery store use is appropriate on the eastern portion of the property. An outdoor café or seating area is desirable as a technique to help integrate this use with the other retail uses proposed on the remainder of the site;
- Multi-story office buildings should include ground-floor retail use and other services where possible;
- Internal roadways, trails, sidewalks and street crossings should connect buildings and open spaces, and link the site to adjoining communities, Fort Belvoir and the Lansdowne Shopping Center. Streetscape treatments should include trees, landscaping, sidewalks, bicycle facilities, street furniture, and various paving textures, to the extent possible;
- If the existing ball field located at the corner of Beulah Street and Telegraph Road is removed as a result of the proposed development, new recreational facilities such as fields, tot lots and pavilions should be provided at some other location on the Hilltop Sand and Gravel property, or a commitment made to make improvements to nearby park/recreation facilities;

- Occupancy is phased to transportation improvements so that an Approach Level of Service D is maintained at relevant intersections. If such improvements are not possible, intensity should be reduced accordingly;
- The portion of Telegraph Road adjacent to the proposed development should be considered for additional right-of-way to accommodate turn lanes. A turning movement analysis should be conducted to ensure that queues do not spill back into the through lanes of Telegraph Road; and
- Bus transit stops and accompanying shelters should be provided along Telegraph Road and Beulah Street.”

### **Environment**

In the Fairfax County Comprehensive Plan, Policy Plan, 2007 Edition, Environment section as amended through February 25, 2008, on page 7 through 9, the Plan states:

**“Objective 2: Prevent and reduce pollution of surface and groundwater resources. Protect and restore the ecological integrity of streams in Fairfax County. . . .**

Policy k. For new development and redevelopment, apply better site design and low impact development (LID) techniques.

Development proposals should implement best management practices to reduce runoff pollution and other impacts. Preferred practices include: those which recharge groundwater when such recharge will not degrade groundwater quality; those which preserve as much undisturbed open space as possible; and, those which contribute to ecological diversity by the creation of wetlands or other habitat enhancing BMPs, consistent with State guidelines and regulations. . . .

Programs to improve water quality in the Potomac River/Estuary, and Chesapeake Bay will continue to have significant impacts on planning and development in Fairfax County. There is abundant evidence that water quality and the marine environment in the Bay are deteriorating, and that this deterioration is the result of land use activities throughout the watershed. . . .

In order to protect the Chesapeake Bay and other waters of Virginia from degradation resulting from runoff pollution, the Commonwealth has enacted regulations requiring localities within Tidewater Virginia (including Fairfax County) to designate “Chesapeake Bay Preservation Areas”. Within which land uses are either restricted or water quality measures must be provided. Fairfax County has adopted a Chesapeake Bay Preservation Ordinance pursuant to these regulations.”

In the Fairfax County Comprehensive Plan, 2007 Edition, Policy Plan, Environment, as amended through February 25, 2008, page 17, the Plan states:

**“Objective 13: Design and construct buildings and associated landscapes to use energy and water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants.**

Policy a. Consistent with other Policy Plan objectives, encourage the application of energy conservation, water conservation and other green building practices in the design and construction of new development and redevelopment projects. These practices can include, but are not limited to:

- Environmentally-sensitive siting and construction of development.
- Application of low impact development practices, including minimization of impervious cover (See Policy k under Objective 2 of this section of the *Policy Plan*).
- Optimization of energy performance of structures/energy-efficient design.
- Use of renewable energy resources.
- Use of energy efficient appliances, heating/cooling systems, lighting and/or other products.
- Application of water conservation techniques such as water efficient landscaping and innovative wastewater technologies.
- Reuse of existing building materials for redevelopment projects.
- Recycling/salvage of non-hazardous construction, demolition, and land clearing debris.
- Use of recycled and rapidly renewable building materials.
- Use of building materials and products that originate from nearby sources.
- Reduction of potential indoor air quality problems through measures such as increased ventilation, indoor air testing and use of low-

emitting adhesives, sealants, paints/coatings, carpeting and other building materials.

Encourage commitments to implementation of green building practices through certification under established green building rating systems (e.g., the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED<sup>®</sup>) program or other comparable programs with third party certification). Encourage commitments to the attainment of the ENERGY STAR<sup>®</sup> rating where applicable and to ENERGY STAR qualification for homes. Encourage the inclusion of professionals with green building accreditation on development teams. Encourage commitments to the provision of information to owners of buildings with green building/energy efficiency measures that identifies both the benefits of these measures and their associated maintenance needs. . . .

- Policy d. Promote implementation of green building practices by encouraging commitments to monetary contributions in support of the county's environmental initiatives, with such contributions to be refunded upon demonstration of attainment of certification under the applicable LEED rating system or equivalent rating system.
- Policy e. Encourage energy conservation through the provision of measures which support nonmotorized transportation, such as the provision of showers and lockers for employees and the provision of bicycle parking facilities for employment, retail and multifamily residential uses.

**COMPREHENSIVE PLAN MAP:** Private recreation and residential use at 3-4 dwelling units per acre

## LAND USE ANALYSIS

The subject property is currently in use as a privately operated debris landfill. The applicant is seeking to redevelop the property with office, retail, and recreational uses. The proposed uses and intensity are consistent with those recommended under the new Comprehensive Plan option for the site. The proposed development at .25 FAR is below the maximum .30 FAR recommended by the Comprehensive Plan. The adopted Comprehensive Plan guidance identifies several site specific conditions which should be provided as part of the proposed development, including, the location of taller structures away from Telegraph Road to avoid potential conflicts with existing uses at Fort Belvoir. The Comprehensive Plan recognizes that the proposed grocery store is an appropriate use at this location. In accordance with site-specific Comprehensive Plan guidance, ground-level retail uses is being proposed in an

office/retail building. A ballfield design is being proposed within an area of the existing landfill subject to the satisfactory completion of closure requirements for the landfill. The control of the ballfields may ultimately fall under the control of the Fairfax County Park Authority (FCPA), subject to an agreement with the property owners and final approval from the FCPA Board. Both the development plans and proffered commitments appear to meet the intent of the Comprehensive Plan for both internal and external connections to the property as well as provisions for lighting, street furniture, landscaping, and pavers. While it appears that the applicants have provided transportation improvements consistent with those recommended in the Comprehensive Plan, any final determination regarding those facilities should be made by the Fairfax County Department of Transportation. Staff concludes that the proposal is in general conformance with the land use recommendations of the Comprehensive Plan.

## **ENVIRONMENTAL ANALYSIS**

This section characterizes the environmental concerns raised by an evaluation of this site and the proposed development. Solutions are suggested to remedy the concerns that have been identified by staff. There may be other acceptable solutions. Particular emphasis is given to opportunities provided by this application to conserve the county's remaining natural amenities.

### **Water Quality**

#### **Issue:**

The development plan depicts a detention pond located adjacent to existing residential development. The proposed pond is depicted with an embankment greater than thirty-five feet in height immediately adjacent to the property boundary. This location and proposed design not only effectively eliminates screening plantings for the adjoining property but may also create a hazard for the adjacent property. The location and height of the embankment are cause for some concern both in terms of aesthetics and offsite safety. Staff has encouraged the applicants to consider an alternative design and or location for the proposed detention facility. Staff also encourages the use of low impact development (LID) practices as a means of enhancing the proposed water quality control measures.

#### **Resolution:**

Staff feels that the measures being proposed should satisfy staff concerns regarding water quality controls for the proposed development. The application of LID measures has generally met staff expectations for the proposed development. While the development plans themselves only specify a commitment for a single rain garden in the north-central portion of the site, the proffers provide an additional commitment for LID measures, such as, bioretention, vegetated swales, filter strips, permeable pavers, rain barrels, and tree box filters. Ultimately any final

determination regarding stormwater management and water quality controls will be made by staff within the Department of Public Works and Environmental Services.

### **Green Building Practices**

#### **Issue:**

The applicant is seeking to develop office and retail use at .25 FAR under the new option in the adopted Comprehensive Plan. Under this Comprehensive Plan option, the applicant is encouraged to incorporate “green” building measures so that any free-standing office building meets at least the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) silver standards or other comparable programs with third party certification. The applicant is also encouraged to meet applicable U.S. Green Building Council’s LEED certification standards or other comparable programs in the design and construction of retail buildings. Proffers for the proposed development should clearly reflect a commitment to specific green building standards.

#### **Resolution:**

The applicant has proffered to achieve LEED certification for the 4-story office building. Should the applicant fail to achieve LEED certification for this office building, the applicant has proffered to forfeit a green building escrow. In light of the site specific Comprehensive Plan guidance on green buildings for this site, staff continues to encourage the applicant to commit to LEED silver standards for the office building and LEED certification for the retail buildings.

### **Landfill Closure**

#### **Issue:**

A portion of the proposed development is located in an area which is currently in use as a debris landfill. The applicants have submitted and received approval from both the Virginia Department of Environmental Quality (DEQ) and the Fairfax County Division of Solid Waste, Department of Public Works and Environmental Services for the closure plan of the landfill. The review of this closure plan included consideration of the proposed future uses for portions of the landfill noted as part of the land use applications under consideration. The construction of travel aisles, surface parking areas, outdoor recreation facilities and other non-structural improvements to this portion of the proposed land area were all taken into consideration and deemed to be in conformance with applicable state and local standards for the redevelopment of landfill areas. Prior to the evaluation of the closure plan by both DEQ and the Solid Waste Division, staff had expressed some concerns regarding the proposed uses located on the landfill area. It should be noted that none of the proposed retail or office buildings will be constructed on any portion of the landfill area.

**Resolution:**

Given the considerable coordination of the review of the landfill closure plan with state and local officials and the measures noted by the applicants to ensure the avoidance of potential issues, such as, gas leaks, gas monitoring, settling, groundwater monitoring and geotechnical evaluations of the proposed development, staff feels that the applicants have fully addressed concerns which were initially raised regarding the redevelopment of the landfill area. It should be noted that any agreement regarding the development of the ballfield area on the closed landfill area will be subject to final approval by the Fairfax County Park Authority.

PGN: JRB



# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** January 8, 2009

**TO:** Regina Coyle, Director  
Zoning Evaluation Division

**FROM:** Angela Kadar Rodeheaver, Chief  
Site Analysis Section  
Department of Transportation 

**SUBJECT:** Transportation Impact

**FILE:** 3-4 (RZ 2008-LE-002) (SE-78-L-074)

**REFERENCE:** RZ 2008-LE-002, SEA 78-L-074-6; Hilltop Sand and Gravel Inc.  
Traffic Zone: 1488  
Land Identification: 100-1 ((1)) Part of 9

The following comments reflect the position of the Department of Transportation and are based on the Generalized Development Plan/Special Exception Plat revised to December 2, 2008.

The applicant is seeking approval to remove a portion of the area currently designated for debris land fill and rezone a small internal parcel from I-3 to R-1. The change will also permit recreational use atop the land fill area once the fill ceases operation. These applications are part of a larger development concept to utilize a portion of the land fill for retail and office development.

The site has frontage on Beulah Road, but the roadway was recently reconstructed to a four lane divided section in accordance with the adopted Comprehensive Plan. A bike lane and trail were included in the reconstruction. As such, no additional improvements are recommended.

This Department would not object to approval of the applicant's request.

AKR/CAA

Michelle Brickner, Director, Office of Site Development Services, DPW&ES



FAIRFAX COUNTY PARK AUTHORITY  
.....  
M E M O R A N D U M



APPENDIX 13

**TO:** Regina M. Coyle, Director  
Zoning Evaluation Division  
Department of Planning and Zoning

**FROM:** Sandy Stallman, Branch Manager,  
Planning and Development Division 

**DATE:** January 15, 2009  
REVISED

**SUBJECT:** RZ/FDP 2008-MD-003 Hilltop Sand & Gravel Company  
SEA 78-L-074-06 / RZ 2008-LE-002  
SEA 2005-LE-027 / RZ 2008-LE-001  
Tax Map Numbers: 100-1 ((1)) 9, 11A, 11A1, 14, 15

The Park Authority staff has reviewed the proposed Development Plans dated February 12, 2008 and proffers dated December 15, 2008 for the above referenced applications and provide the following comments. These replace the previous comments provided on 9/16/08.

The Development Plan for RZ 2008-MD-003 proposes a mixed use development including 253,000 square feet of retail use and 113,000 square feet of office use. The application proposes rezoning approximately 33 acres from R-1 and I-3 to PDC with proffers.

SEA 78-L-074-06 would allow for modifications to the existing construction and demolition debris landfill which would reduce the size of the landfill area by 7.5 acres, increase the fill permitted by 450,000 cubic yards, and permit quasi-public athletic fields and associated parking on top of the landfill in the R-1 district. RZ 2008-LE-002 is for an associated rezoning of approximately 3.5 acres from I-3 to R-1. This area would support the active recreation fields identified in SEA 78-L-074-06.

**COMPREHENSIVE PLAN CITATIONS**

**1. Park and Recreation District-Wide Recommendations (Area IV, Springfield Planning District, P 14)**

“...anticipated changes in land use will generate increased needs for both active recreation opportunities and preservation of open space.

“Expansion of five parks ... and the acquisition and development of two new Community park sites are recommended to address current and future recreation needs.”

**4. Land Use Recommendation 45 & 47, RH4-Lehigh Community Planning Sector, (Area IV, Rose Hill Planning District, Page 69)**

“45. At such time as the Hilltop landfill ceases operation and is properly reclaimed, any alternative use of the site will require extensive review and significant engineering measures. The property is planned for private recreation; however, residential use at 2-3 dwelling units per acre may be considered on portions of the property if sufficient documentation can be provided to verify that the landfill site is suitable and safe for building.”

“47. If the existing ball field located at the corner of Beulah Street and Telegraph Road is removed as a result of the proposed development, new recreational facilities such as fields, tot lots and pavilions should be provided at some other location on the Hilltop Sand and Gravel property, or a commitment made to make improvements to nearby park/recreation facilities.”

**5. Park and Recreation District-Wide Recommendations, Newington Community Planning Sector (S6) (Area IV, Springfield Planning District, Figure 35)**

“NEIGHBORHOOD PARKS – Neighborhood park facilities should be provided in conjunction with new residential development”

“COMMUNITY PARKS - Identify a Community Park site where land can be dedicated singularly, or in combination with other development, to meet the aggregate needs of the service area.”

**RECOMMENDATION**

There is a need for all types of parkland and recreational facilities in this area. Existing nearby parks (Kingstowne, Island Creek, Levelle W. Dupell) meet only a small portion of the demand for parkland generated by residential development in this area. The RZ 2008-MD-003 application area currently includes a 60' diamond athletic field, which would be removed from private use through the proposed development. Replacement of this field within with the Hilltop Sand and Gravel property is directed by the Comprehensive Plan, and is proposed within SEA 79-L-074-06.

The SEA 2005-LE-027 and associated RZ 2008-LE-002 applications have no impact to Park Authority land or resources.

The SEA 79-L-074-06, and associated RZ 2008-LE-001, application proposes to create an 11-acre park atop the closed portion of the landfill to include two youth diamond fields, two youth rectangular fields, a tot-lot and associated parking. These recreational facilities would create a

community park which would serve proposed residential development and potentially additional surrounding residential developments.

While a community park is needed in this area of the county and will meet and exceed the Comprehensive Plan recommendations for providing recreation within the application area. The Park Authority is currently working with the applicant to address park operation issues.

The applicant has worked with the Park Authority to provide a Local-serving park on top of the closed landfill. This facility will improve and expand the recreational opportunities to employees within the proposed development and existing residents of Lee District.

The facilities requested by the Park Authority and depicted within the development plans and proffers include;

- One youth diamond field. This would replace the private field currently in use on the property that will be removed by the proposed development.  
Youth diamond field standards include a 200' outfield with 60' baselines, backstop, two covered player bench areas, concrete bleacher pad and two bleachers.
- One full size rectangular field. This size field would maximize the number of uses by allowing multiple sport use.  
A full size rectangular field has dimensions of 225'x 360', with a 30' overrun at each end and 25' overrun on each side, resulting in a total area of 275' x 420'. A concrete bleacher pad and two bleachers are provided to serve as support facilities.
- One tot-lot facility. This would serve the residential community as well as support the field users by providing activities for family members not participating in scheduled activities.  
The tot-lot will include appropriate equipment for children ages 1-6, has a minimum size of 1,000 square feet and includes two benches.
- A shaded area or pavilion. Due to the location on top of the landfill, natural shade areas will not be available to integrate into the park design. A shaded area providing sun relief is included.
- An open play area which provides space for unscheduled play. In addition, these areas provide warm up locations and staging areas for teams when the fields are in use.
- Fencing around the recreation area should be included due to the steep slopes surrounding the proposed recreation area.
- The parking area is slightly "oversized" in order to accommodate stacking and/or overflow parking. Due to the location and nature of the access to the park, overflow parking areas will not be available, therefore the onsite parking must be able to bear overflow parking needs.  
Typical park facility parking standards for the proposed features are: 50 spaces for each athletic field; 10 spaces for open play area; 5 spaces for tot-lot; and 10 spaces for shaded area or pavilion.

Given the proposed park's location, elevation above the surrounding community, previous landfill use, and relative isolation from residential uses the proposed uses are the most appropriate for this site. The site is best used for outdoor recreational activities and not

community based program activities such as an amphitheater or off-leash dog park. These issues also currently make the proposed facilities unsuitable for athletic field lighting.

The Park Authority is working with the applicant on a lease agreement, under separate cover. The general agreement is for the Park Authority to maintain and operate the facilities for public use. The applicants will remain the land owner and have maintenance responsibility and liability for the underlying closed landfill and any facility damage caused by the previous landfill use.

FCPA Reviewer: Scott Sizer  
DPZ Coordinator: Cathy Lewis

Copy: Cindy Walsh, Acting Director, Resource Management Division  
Liz Crowell, Manager, Cultural Resource Management & Protection Section  
Chron Binder  
File Copy

MEMORANDUM

TO: Staff Coordinator DATE: May 12, 2008  
 Zoning Evaluation Division, OCP

FROM: Gilbert Osei-Kwadwo (Tel: 324-5025) *gok*  
 System Engineering & Monitoring Division  
 Office of Waste Management, DPW&ES

SUBJECT: Sanitary Sewer Analysis Report

REFERENCE: Application. SEA78-L-074-06  
 TaxMap No. 100-1-((01)) 0009

The following information is submitted in response to your request for a sanitary sewer analysis for above referenced application:

1. The application property is located in the DOGUE CREEK (L) watershed. It would be sewered into the Noman M. Cole, Jr. Pollution Control Plant.
2. Based upon current and committed flow, there is excess capacity in the Lower Potomac Pollution Control Plant at this time. For purposes of this report, committed flow shall be deemed that for which fees have been paid, building permits have been issued, or priority reservations have been established by the Board of Supervisors. No commitment can be made, however, as to the availability of treatment capacity for the development of the subject property. Availability of treatment capacity will depend upon the current rate of construction and the timing for development of this site.
3. An existing 8 inch line located in AN EASEMENT and ON the property is adequate for the proposed use at this time.
4. The following table indicates the condition of all related sewer facilities and the total effect of this application.

<u>Sewer Network</u>	<u>Existing Use + Application</u>		<u>Existing Use + Application Previous Rezoning</u>		<u>Existing Use + Application + Comp Plan</u>	
	<u>Adeq.</u>	<u>Inadeq.</u>	<u>Adeq.</u>	<u>Inadeq.</u>	<u>Adeq.</u>	<u>Inadeq.</u>
Collector	<u>X</u>		<u>X</u>		<u>X</u>	
Submain	<u>X</u>		<u>X</u>		<u>X</u>	
Main/Trunk	<u>X</u>		<u>X</u>		<u>X</u>	
Interceptor						
Outfall						

5. Other pertinent information or comments:



**MEMORANDUM**

**DATE:** April 16, 2008

**TO:** Regina Coyle, Director  
Zoning Evaluation Division  
Office of Comprehensive Planning

**FROM:** Ralph Dulaney (246-3868)  
Information Technology Section  
Fire and Rescue Department

**SUBJECT:** Fire and Rescue Department Preliminary Analysis of Rezoning Application RZ 2008-LE-001 concurrent with SEA 2005-LE-027, SEA 78-L-074-06, RZ 2008-LE-002 and RZ/FDP 2008-MD-003

The following information is submitted in response to your request for a preliminary Fire and Rescue Department analysis for the subject:

1. The application property is serviced by the Fairfax County Fire and Rescue Department Station #437, **Kingstowne**.
2. After construction programmed \_\_\_\_\_ this property will be serviced by the fire station \_\_\_\_\_
3. In summary, the Fire and Rescue Department considers that the subject rezoning application property:

a. currently meets fire protection guidelines.

b. will meet fire protection guidelines when a proposed fire station becomes fully operational.

c. does not meet current fire protection guidelines without an additional facility; however, a future station is projected for this area.

d. does not meet current fire protection guidelines without an additional facility. The application property is \_\_\_\_\_ of a mile outside the fire protection guidelines. No new facility is currently planned for this area.





# County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

NOV - 6 2008

**DATE:**

**TO:** Peter Braham, Staff Coordinator  
Zoning Evaluation Division  
Department of Planning and Zoning

**FROM:** Qayyum Khan, Senior Stormwater Engineer   
Stormwater and Geotechnical Section  
Environmental and Site Review Division  
Department of Public Works and Environmental Services

**SUBJECT:** Rezoning and Special Exception Amendment Application, RZ 2008-LE-002, SEA 78-L-074-06 (The Landfill); Hilltop Sand and Gravel Company, Inc., Plan dated October 17, 2008, LDS Project #3365-ZONA-002-2, Tax Map #100-1-01-0009 (part), Lee District, Dogue Creek Watershed

**REFERENCE:**

We have reviewed the subject application and offer the following comments related to Stormwater Management (SWM):

Chesapeake Bay Preservation Ordinance

There is no Resource Protection Area on this parcel. The applicant proffers to provide facilities to meet BMP requirements.

Floodplain

There is no floodplain on this parcel.

SWM

The applicant proposed to provide stormwater detention and Best Management Practices by two wet ponds. Pond 1 is an existing facility north east of site and Pond 2 will be constructed east of the project site. Some of the feasible LID are recommended for implementation to reduce the runoff leaving the site. A dam breach analysis showing the flow path for Pond 2 will be required. The SWM facilities shall be maintained by the owners and they will be required to enter into a Stormwater Management Agreement.

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Peter Braham, Staff Coordinator  
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Site Outfall

The applicant needs to provide computational analysis of the outfall sections/sewers with velocities at the site plan submission.

If further assistance is desired, please contact me at 703-324-1720.

QK/tg

cc: Craig Carinci, Director, Stormwater Planning Division, DPWES  
Zoning Application Files

# SELECTED EXCERPTS FROM THE ZONING ORDINANCE

## ARTICLE 9

### SPECIAL EXCEPTIONS

#### PART 0 9-000 GENERAL PROVISIONS

##### 9-001 Purpose and Intent

There are certain uses, like those regulated by special permit, which by their nature or design can have an undue impact upon or be incompatible with other uses of land. In addition, there are times when standards and regulations specified for certain uses allowed within a given district should be allowed to be modified, within limitations, in the interest of sound development. These uses or modifications as described may be allowed to locate within given designated zoning districts under the controls, limitations, and regulations of a special exception.

The Board of Supervisors may approve a special exception under the provisions of this Article when it is concluded that the proposed use complies with all specified standards and that such use will be compatible with existing or planned development in the general area. In addition, in approving a special exception, the Board may stipulate such conditions and restrictions, including but not limited to those specifically contained herein, to ensure that the use will be compatible with the neighborhood in which it is proposed to be located. Where such cannot be accomplished or it is determined that the use is not in accordance with all applicable standards of this Ordinance, the Board shall deny the special exception.

##### 9-006 General Standards

In addition to the specific standards set forth hereinafter with regard to particular special exception uses, all such uses shall satisfy the following general standards:

1. The proposed use at the specified location shall be in harmony with the adopted comprehensive plan.
2. The proposed use shall be in harmony with the general purpose and intent of the applicable zoning district regulations.
3. The proposed use shall be such that it will be harmonious with and will not adversely affect the use or development of neighboring properties in accordance with the applicable zoning district regulations and the adopted comprehensive plan. The location, size and height of buildings, structures, walls and fences, and the nature and extent of screening, buffering and landscaping shall be such that the use will not hinder or discourage the

appropriate development and use of adjacent or nearby land and/or buildings or impair the value thereof.

4. The proposed use shall be such that pedestrian and vehicular traffic associated with such use will not be hazardous or conflict with the existing and anticipated traffic in the neighborhood.
5. In addition to the standards which may be set forth in this Article for a particular category or use, the Board shall require landscaping and screening in accordance with the provisions of Article 13.
6. Open space shall be provided in an amount equivalent to that specified for the zoning district in which the proposed use is located.
7. Adequate utility, drainage, parking, loading and other necessary facilities to serve the proposed use shall be provided. Parking and loading requirements shall be in accordance with the provisions of Article 11.
8. Signs shall be regulated by the provisions of Article 12; however, the Board may impose more strict requirements for a given use than those set forth in this Ordinance.

**9-204 Standards for all Category 2 Uses**

In addition to the general standards set forth in Sect. 006 above, all Category 2 special exception uses shall satisfy the following standards:

1. All uses shall comply with the lot size requirements of the zoning district in which located.
2. All buildings and structures, except below-ground facilities, shall comply with the bulk regulations of the zoning district in which located.
3. No land or building in any district other than the I-5 or I-6 District shall be used for the storage of materials or equipment, or for the repair or servicing of vehicles or equipment, or for the parking of vehicles except those needed by employees connected with the operation of the immediate facility.
4. It shall be conclusively established that the proposed location of the special exception use shall be necessary for the rendering of efficient utility service to consumers within the immediate area of the location.
5. Before establishment, all uses, including modifications or alterations to existing uses, shall be subject to the provisions of Article 17, Site Plans.

**9-205 Additional Standards for Landfills**

The following standards shall apply to all landfills that are not owned and/or operated by a public agency.

1. No special exception for a landfill shall be valid unless the Virginia Department of Environmental Quality approves the site for landfill use.
2. Every special exception for a landfill shall be deemed to incorporate as specific conditions all other provisions of law related to such use.
3. No special exception shall be granted unless the applicant demonstrates conclusively through comprehensive soil and groundwater investigations and subsequent design methods that no unacceptable pollutants will be introduced into surface or groundwater or otherwise cause a potential health hazard.
4. Every landfill shall be subject to such additional regulations as may be adopted by the Board of Supervisors. The Board may limit the type of debris and materials to be deposited and may require a degree of soil compaction adequate to support ultimate use of the property in accordance with the adopted comprehensive plan.
5. The Board shall establish the amount, per acre and total, of surety and bond adequate to guarantee the planned restoration.
6. The Director shall make an annual inspection of each landfill and shall make a report of the findings to the Board. Such report shall include the following:
  - A. A statement of whether or not the operation is in compliance with all of the requirements of the special exception.
  - B. A statement of changes which have occurred in the vicinity since the granting of the application, such as new development in the area.
  - C. A statement on the condition of roads in the area which might indicate the spillage of materials from trucks.
7. As a result of the annual inspection, the Director may find it necessary, for the health, safety and welfare of the general public, to recommend additional restrictions and limitations on such use. In such event, the Director shall transmit the findings to the Board which shall hold a public hearing, following notice in accordance with the provisions of Sect. 18-110.
8. Upon completion of operations, the land shall be left in a safe condition and in such a state that it can be used for development of the property in accordance with the adopted comprehensive plan. Further, sufficient drainage improvements shall be provided so as to prevent water pockets or erosion, and such improvements shall be designed in accordance with plans and specifications approved by the Director in conformance with the provisions of the Public Facilities Manual. Where restoration has not been accomplished, or where the restoration done was not in conformance with the approved restoration plan, the Director shall take appropriate action, including demand for performance or payment by the surety on the bond.

9. No improvements shall be constructed in or upon any landfill for a period of twenty (20) years after the termination of the landfill operation without the approval of the Board of Supervisors. No such approval shall be granted unless the applicant demonstrates that:
  - A. Any residual post-construction settlement will not affect the appearance or structural integrity of the proposed improvement.
  - B. The nature and extent of corrosion-producing properties, the generation and escape of combustible gases and potential fire hazards of the constituent material, considering its state of decomposition, has been provided for adequately and will not create an unsafe or hazardous condition in or around any of said proposed improvements.

**GLOSSARY**

This Glossary is provided to assist the public in understanding the staff evaluation and analysis of development proposals. It should not be construed as representing legal definitions. Refer to the Fairfax County Zoning Ordinance, Comprehensive Plan or Public Facilities Manual for additional information.

**ABANDONMENT:** Refers to road or street abandonment, an action taken by the Board of Supervisors, usually through the public hearing process, to abolish the public's right-of-passage over a road or road right-of-way. Upon abandonment, the right-of-way automatically reverts to the underlying fee owners. If the fee to the owner is unknown, Virginia law presumes that fee to the roadbed rests with the adjacent property owners if there is no evidence to the contrary.

**ACCESSORY DWELLING UNIT (OR APARTMENT):** A secondary dwelling unit established in conjunction with and clearly subordinate to a single family detached dwelling unit. An accessory dwelling unit may be allowed if a special permit is granted by the Board of Zoning Appeals (BZA). Refer to Sect. 8-918 of the Zoning Ordinance.

**AFFORDABLE DWELLING UNIT (ADU) DEVELOPMENT:** Residential development to assist in the provision of affordable housing for persons of low and moderate income in accordance with the affordable dwelling unit program and in accordance with Zoning Ordinance regulations. Residential development which provides affordable dwelling units may result in a density bonus (see below) permitting the construction of additional housing units. See Part 8 of Article 2 of the Zoning Ordinance.

**AGRICULTURAL AND FORESTAL DISTRICTS:** A land use classification created under Chapter 114 or 115 of the Fairfax County Code for the purpose of qualifying landowners who wish to retain their property for agricultural or forestal use for use/value taxation pursuant to Chapter 58 of the Fairfax County Code.

**BARRIER:** A wall, fence, earthen berm, or plant materials which may be used to provide a physical separation between land uses. Refer to Article 13 of the Zoning Ordinance for specific barrier requirements.

**BEST MANAGEMENT PRACTICES (BMPs):** Stormwater management techniques or land use practices that are determined to be the most effective, practicable means of preventing and/or reducing the amount of pollution generated by nonpoint sources in order to improve water quality.

**BUFFER:** Graduated mix of land uses, building heights or intensities designed to mitigate potential conflicts between different types or intensities of land uses; may also provide for a transition between uses. A landscaped buffer may be an area of open, undeveloped land and may include a combination of fences, walls, berms, open space and/or landscape plantings. A buffer is not necessarily coincident with transitional screening.

**CHESAPEAKE BAY PRESERVATION ORDINANCE:** Regulations which the State has mandated must be adopted to protect the Chesapeake Bay and its tributaries. These regulations must be incorporated into the comprehensive plans, zoning ordinances and subdivision ordinances of the affected localities. Refer to Chesapeake Bay Preservation Act, Va. Code Section 10.1-2100 et seq and VR 173-02-01, Chesapeake Bay Preservation Area Designation and Management Regulations.

**CLUSTER DEVELOPMENT:** Residential development in which the lots are clustered on a portion of a site so that significant environmental/historical/cultural resources may be preserved or recreational amenities provided. While smaller lot sizes are permitted in a cluster subdivision to preserve open space, the overall density cannot exceed that permitted by the applicable zoning district. See Sect. 2-421 and Sect. 9-615 of the Zoning Ordinance.

**COUNTY 2232 REVIEW PROCESS:** A public hearing process pursuant to Sect. 15.2-2232 (Formerly Sect. 15.1-456) of the Virginia Code which is used to determine if a proposed public facility not shown on the adopted Comprehensive Plan is in substantial accord with the plan. Specifically, this process is used to determine if the general or approximate location, character and extent of a proposed facility is in substantial accord with the Plan.

**dBa:** The momentary magnitude of sound weighted to approximate the sensitivity of the human ear to certain frequencies; the dBA value describes a sound at a given instant, a maximum sound level or a steady state value. See also Ldn.

**DENSITY:** Number of dwelling units (du) divided by the gross acreage (ac) of a site being developed in residential use; or, the number of dwelling units per acre (du/ac) except in the PRC District when density refers to the number of persons per acre.

**DENSITY BONUS:** An increase in the density otherwise allowed in a given zoning district which may be granted under specific provisions of the Zoning Ordinance when a developer provides excess open space, recreation facilities, or affordable dwelling units (ADUs), etc.

**DEVELOPMENT CONDITIONS:** Terms or conditions imposed on a development by the Board of Supervisors (BOS) or the Board of Zoning Appeals (BZA) in connection with approval of a special exception, special permit or variance application or rezoning application in a "P" district. Conditions may be imposed to mitigate adverse impacts associated with a development as well as secure compliance with the Zoning Ordinance and/or conformance with the Comprehensive Plan. For example, development conditions may regulate hours of operation, number of employees, height of buildings, and intensity of development.

**DEVELOPMENT PLAN:** A graphic representation which depicts the nature and character of the development proposed for a specific land area: information such as topography, location and size of proposed structures, location of streets trails, utilities, and storm drainage are generally included on a development plan. A development plan is a submission requirement for rezoning to the PRC District. A GENERALIZED DEVELOPMENT PLAN (GDP) is a submission requirement for a rezoning application for all conventional zoning districts other than a P District. A development plan submitted in connection with a special exception (SE) or special permit (SP) is generally referred to as an SE or SP plat. A CONCEPTUAL DEVELOPMENT PLAN (CDP) is a submission requirement when filing a rezoning application for a P District other than the PRC District; a CDP characterizes in a general way the planned development of the site. A FINAL DEVELOPMENT PLAN (FDP) is a submission requirement following the approval of a conceptual development plan and rezoning application for a P District other than the PRC District; an FDP further details the planned development of the site. See Article 16 of the Zoning Ordinance.

**EASEMENT:** A right to or interest in property owned by another for a specific and limited purpose. Examples: access easement, utility easement, construction easement, etc. Easements may be for public or private purposes.

**ENVIRONMENTAL QUALITY CORRIDORS (EQCs):** An open space system designed to link and preserve natural resource areas, provide passive recreation and protect wildlife habitat. The system includes stream valleys, steep slopes and wetlands. For a complete definition of EQCs, refer to the Environmental section of the Policy Plan for Fairfax County contained in Vol. 1 of the Comprehensive Plan.

**ERODIBLE SOILS:** Soils that wash away easily, especially under conditions where stormwater runoff is inadequately controlled. Silt and sediment are washed into nearby streams, thereby degrading water quality.

**FLOODPLAIN:** Those land areas in and adjacent to streams and watercourses subject to periodic flooding; usually associated with environmental quality corridors. The 100 year floodplain drains 70 acres or more of land and has a one percent chance of flood occurrence in any given year.

**FLOOR AREA RATIO (FAR):** An expression of the amount of development intensity (typically, non-residential uses) on a specific parcel of land. FAR is determined by dividing the total square footage of gross floor area of buildings on a site by the total square footage of the site itself.

**FUNCTIONAL CLASSIFICATION:** A system for classifying roads in terms of the character of service that individual facilities are providing or are intended to provide, ranging from travel mobility to land access. Roadway system functional classification elements include Freeways or Expressways which are limited access highways, Other Principal (or Major) Arterials, Minor Arterials, Collector Streets, and Local Streets. Principal arterials are designed to accommodate travel; access to adjacent properties is discouraged. Minor arterials are designed to serve both through traffic and local trips. Collector roads and streets link local streets and properties with the arterial network. Local streets provide access to adjacent properties.

**GEOTECHNICAL REVIEW:** An engineering study of the geology and soils of a site which is submitted to determine the suitability of a site for development and recommends construction techniques designed to overcome development on problem soils, e.g., marine clay soils.

**HYDROCARBON RUNOFF:** Petroleum products, such as motor oil, gasoline or transmission fluid deposited by motor vehicles which are carried into the local storm sewer system with the stormwater runoff, and ultimately, into receiving streams; a major source of non-point source pollution. An oil-grit separator is a common hydrocarbon runoff reduction method.

**IMPERVIOUS SURFACE:** Any land area covered by buildings or paved with a hard surface such that water cannot seep through the surface into the ground.

**INFILL:** Development on vacant or underutilized sites within an area which is already mostly developed in an established development pattern or neighborhood.

**INTENSITY:** The magnitude of development usually measured in such terms as density, floor area ratio, building height, percentage of impervious surface, traffic generation, etc. Intensity is also based on a comparison of the development proposal against environmental constraints or other conditions which determine the carrying capacity of a specific land area to accommodate development without adverse impacts.

**Ldn:** Day night average sound level. It is the twenty-four hour average sound level expressed in A-weighted decibels; the measurement assigns a "penalty" to night time noise to account for night time sensitivity. Ldn represents the total noise environment which varies over time and correlates with the effects of noise on the public health, safety and welfare.

**LEVEL OF SERVICE (LOS):** An estimate of the effectiveness of a roadway to carry traffic, usually under anticipated peak traffic conditions. Level of Service efficiency is generally characterized by the letters A through F, with LOS-A describing free flow traffic conditions and LOS-F describing jammed or grid-lock conditions.

**MARINE CLAY SOILS:** Soils that occur in widespread areas of the County generally east of Interstate 95. Because of the abundance of shrink-swell clays in these soils, they tend to be highly unstable. Many areas of slope failure are evident on natural slopes. Construction on these soils may initiate or accelerate slope movement or slope failure. The shrink-swell soils can cause movement in structures, even in areas of flat topography, from dry to wet seasons resulting in cracked foundations, etc. Also known as slippage soils.

**OPEN SPACE:** That portion of a site which generally is not covered by buildings, streets, or parking areas. Open space is intended to provide light and air; open space may function as a buffer between land uses or for scenic, environmental, or recreational purposes.

**OPEN SPACE EASEMENT:** An easement usually granted to the Board of Supervisors which preserves a tract of land in open space for some public benefit in perpetuity or for a specified period of time. Open space easements may be accepted by the Board of Supervisors, upon request of the land owner, after evaluation under criteria established by the Board. See Open Space Land Act, Code of Virginia, Sections 10.1-1700, et seq.

**P DISTRICT:** A "P" district refers to land that is planned and/or developed as a Planned Development Housing (PDH) District, a Planned Development Commercial (PDC) District or a Planned Residential Community (PRC) District. The PDH, PDC and PRC Zoning Districts are established to encourage innovative and creative design for land development; to provide ample and efficient use of open space; to promote a balance in the mix of land uses, housing types, and intensity of development; and to allow maximum flexibility in order to achieve excellence in physical, social and economic planning and development of a site. Refer to Articles 6 and 16 of the Zoning Ordinance.

**PROFFER:** A written condition, which, when offered voluntarily by a property owner and accepted by the Board of Supervisors in a rezoning action, becomes a legally binding condition which is in addition to the zoning district regulations applicable to a specific property. Proffers are submitted and signed by an owner prior to the Board of Supervisors public hearing on a rezoning application and run with the land. Once accepted by the Board, proffers may be modified only by a proffered condition amendment (PCA) application or other zoning action of the Board and the hearing process required for a rezoning application applies. See Sect. 15.2-2303 (formerly 15.1-491) of the Code of Virginia.

**PUBLIC FACILITIES MANUAL (PFM):** A technical text approved by the Board of Supervisors containing guidelines and standards which govern the design and construction of site improvements incorporating applicable Federal, State and County Codes, specific standards of the Virginia Department of Transportation and the County's Department of Public Works and Environmental Services.

**RESOURCE MANAGEMENT AREA (RMA):** That component of the Chesapeake Bay Preservation Area comprised of lands that, if improperly used or developed, have a potential for causing significant water quality degradation or for diminishing the functional value of the Resource Protection Area. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

**RESOURCE PROTECTION AREA (RPA):** That component of the Chesapeake Bay Preservation Area comprised of lands at or near the shoreline or water's edge that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction or assimilation of sediments from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. New development is generally discouraged in an RPA. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

**SITE PLAN:** A detailed engineering plan, to scale, depicting the development of a parcel of land and containing all information required by Article 17 of the Zoning Ordinance. Generally, submission of a site plan to DPWES for review and approval is required for all residential, commercial and industrial development except for development of single family detached dwellings. The site plan is required to assure that development complies with the Zoning Ordinance.

**SPECIAL EXCEPTION (SE) / SPECIAL PERMIT (SP):** Uses, which by their nature, can have an undue impact upon or can be incompatible with other land uses and therefore need a site specific review. After review, such uses may be allowed to locate within given designated zoning districts if appropriate and only under special controls, limitations, and regulations. A special exception is subject to public hearings by the Planning Commission and Board of Supervisors with approval by the Board of Supervisors; a special permit requires a public hearing and approval by the Board of Zoning Appeals. Unlike proffers which are voluntary, the Board of Supervisors or BZA may impose reasonable conditions to assure, for example, compatibility and safety. See Article 8, Special Permits and Article 9, Special Exceptions, of the Zoning Ordinance.

**STORMWATER MANAGEMENT:** Engineering practices that are incorporated into the design of a development in order to mitigate or abate adverse water quantity and water quality impacts resulting from development. Stormwater management systems are designed to slow down or retain runoff to re-create, as nearly as possible, the pre-development flow conditions.

**SUBDIVISION PLAT:** The engineering plan for a subdivision of land submitted to DPWES for review and approved pursuant to Chapter 101 of the County Code.

**TRANSPORTATION DEMAND MANAGEMENT (TDM):** Actions taken to reduce single occupant vehicle automobile trips or actions taken to manage or reduce overall transportation demand in a particular area.

**TRANSPORTATION SYSTEM MANAGEMENT (TSM) PROGRAMS:** This term is used to describe a full spectrum of actions that may be applied to improve the overall efficiency of the transportation network. TSM programs usually consist of low-cost alternatives to major capital expenditures, and may include parking management measures, ridesharing programs, flexible or staggered work hours, transit promotion or operational improvements to the existing roadway system. TSM includes Transportation Demand Management (TDM) measures as well as H.O.V. use and other strategies associated with the operation of the street and transit systems.

**URBAN DESIGN:** An aspect of urban or suburban planning that focuses on creating a desirable environment in which to live, work and play. A well-designed urban or suburban environment demonstrates the four generally accepted principles of design: clearly identifiable function for the area; easily understood order; distinctive identity; and visual appeal.

**VACATION:** Refers to vacation of street or road as an action taken by the Board of Supervisors in order to abolish the public's right-of-passage over a road or road right-of-way dedicated by a plat of subdivision. Upon vacation, title to the road right-of-way transfers by operation of law to the owner(s) of the adjacent properties within the subdivision from whence the road/road right-of-way originated.

**VARIANCE:** An application to the Board of Zoning Appeals which seeks relief from a specific zoning regulation such as lot width, building height, or minimum yard requirements, among others. A variance may only be granted by the Board of Zoning Appeals through the public hearing process and upon a finding by the BZA that the variance application meets the required Standards for a Variance set forth in Sect. 18-404 of the Zoning Ordinance.

**WETLANDS:** Land characterized by wetness for a portion of the growing season. Wetlands are generally delineated on the basis of physical characteristics such as soil properties indicative of wetness, the presence of vegetation with an affinity for water, and the presence or evidence of surface wetness or soil saturation. Wetland environments provide water quality improvement benefits and are ecologically valuable. Development activity in wetlands is subject to permitting processes administered by the U.S. Army Corps of Engineers

**TIDAL WETLANDS:** Vegetated and nonvegetated wetlands as defined in Chapter 116 Wetlands Ordinance of the Fairfax County Code: includes tidal shores and tidally influenced embayments, creeks, and tributaries to the Occoquan and Potomac Rivers. Development activity in tidal wetlands may require approval from the Fairfax County Wetlands Board.

#### Abbreviations Commonly Used in Staff Reports

A&F	Agricultural & Forestal District	PDH	Planned Development Housing
ADU	Affordable Dwelling Unit	PFM	Public Facilities Manual
ARB	Architectural Review Board	PRC	Planned Residential Community
BMP	Best Management Practices	RC	Residential-Conservation
BOS	Board of Supervisors	RE	Residential Estate
BZA	Board of Zoning Appeals	RMA	Resource Management Area
COG	Council of Governments	RPA	Resource Protection Area
CBC	Community Business Center	RUP	Residential Use Permit
CDP	Conceptual Development Plan	RZ	Rezoning
CRD	Commercial Revitalization District	SE	Special Exception
DOT	Department of Transportation	SEA	Special Exception Amendment
DP	Development Plan	SP	Special Permit
DPWES	Department of Public Works and Environmental Services	TDM	Transportation Demand Management
DPZ	Department of Planning and Zoning	TMA	Transportation Management Association
DU/AC	Dwelling Units Per Acre	TSA	Transit Station Area
EQC	Environmental Quality Corridor	TSM	Transportation System Management
FAR	Floor Area Ratio	UP & DD	Utilities Planning and Design Division, DPWES
FDP	Final Development Plan	VC	Variance
GDP	Generalized Development Plan	VDOT	Virginia Dept. of Transportation
GFA	Gross Floor Area	VPD	Vehicles Per Day
HC	Highway Corridor Overlay District	VPH	Vehicles per Hour
HCD	Housing and Community Development	WMATA	Washington Metropolitan Area Transit Authority
LOS	Level of Service	WS	Water Supply Protection Overlay District
Non-RUP	Non-Residential Use Permit	ZAD	Zoning Administration Division, DPZ
OSDS	Office of Site Development Services, DPWES	ZED	Zoning Evaluation Division, DPZ
PCA	Proffered Condition Amendment	ZPRB	Zoning Permit Review Branch
PD	Planning Division		
PDC	Planned Development Commercial		