

**QUARTERLY PROGRESS REPORT  
DOVER MUNICIPAL LANDFILL SUPERFUND SITE  
DOVER, NEW HAMPSHIRE**

**TO:** Darryl Luce, USEPA  
Drew Hoffman, NHDES  
Warren Diesl, AECOM Environment

**FROM:** Work Settling Defendants (WSD)  
prepared by Mike Webster and Christene Binger, GeoInsight, Inc.

**DATE:** July 10, 2009

**RE:** Quarterly Progress Report

**REPORTING PERIOD**

- January to March – Due April 10th  
 April to June – Due July 10th  
 July to September – Due October 10th  
 October to December – Due January 10th

**I. PROGRESS REPORT OVERVIEW**

For these Quarterly Progress Reports, representatives of the United States Environmental Protection Agency (USEPA) and New Hampshire Department of Environmental Services (NHDES) will be collectively referred to as the “Agency(ies).” Pre-Design Investigation (PDI), Remedial Design (RD), and Remedial Action (RA) activities are being completed at the Dover Municipal Landfill Superfund Site by GeoInsight, Inc. (GeoInsight) and XDD, Inc. (XDD) at the request of the Executive Committee of the Work Settling Defendants (the “Group”). Dean Peschel, Environmental Projects Manager for the City of Dover, is the project coordinator on behalf of the Group.

As requested by Darryl Luce, USEPA Remedial Project Manager, the Quarterly Progress Report was developed to provide an overall summary of completed and ongoing activities. The First Quarterly Report that was submitted on January 10, 2009 included an overview of objectives and an overall summary of activities at the Dover Municipal Landfill. Going forward, Quarterly Progress Reports will only include updates for on-going PDIs, RD, and RA activities. Only electronic pdf copies of the progress reports will be distributed.

**II. OVERVIEW OF LANDFILL ACTIVITIES**

This progress report focuses upon activities completed from April to June 2009. During this reporting period, activities were conducted associated with:

- Southern Plume Management of Migration (MOM) (summary attached);

- Northwest Landfill Hot Spot Remedial Design and Remedial Action (summary attached);
- Ecotoxicity and Human Health Assessment of the Cocheco River PDI (summary attached); and
- Source Control remedy change (discussed in Section III).

During the last reporting period, a Groundwater Management Permit (GMP) Application was approved by the NHDES on March 19, 2009. The GMP establishes institutional controls for a Groundwater Management Zone (GMZ) surrounding the Landfill area and expires in March 2014. A neighborhood meeting associated with the GMP was held at the Dover DPW on June 25, 2009. During the next reporting period, a Notice of the GMP will be recorded with the Strafford County Registry of Deeds.

A master schedule of anticipated activities for 2009 was developed to provide the Agencies and the Group with a consolidated, site-wide summary of activities and likely implementation schedule. The master schedule will be updated each quarter and is included as an attachment.

### **III. STATUS OF SOURCE CONTROL ACTIVITIES**

On April 27, 2009, USEPA prepared a draft Explanation of Significant Difference (ESD) that presented a rationale for changing one component of the Source Control remedy approved in the 2004 AROD. USEPA issued the final ESD on June 30, 2009.

### **IV. COMMUNITY RELATIONS PLAN**

The following meetings were completed during the second quarter of 2009:

- Dean Peschel and representatives of GeoInsight and the Agencies participated in a public meeting on April 27, 2009 to present a summary of the ESD and request public comment over the subsequent 30-day period.; and
- Dean Peschel and representatives of GeoInsight and the Agencies participated in a neighborhood meeting on June 25, 2009 to present information about the GMP Application that was approved by the NHDES on March 19, 2009.

### **V. ATTACHMENTS**

The following information is attached to this Progress Report:

- Master Schedule of Anticipated Activities - Year 2009;
- Summary and Status of Activities for:
  - Northwest Landfill Hotspot Remedial Design and Remedial Action
  - Southern Plume – Management of Migration - Ground Water Extraction
  - Ecotoxicity and Human Health Assessment of the Cocheco River PDI

**MASTER SCHEDULE OF ANTICIPATED ACTIVITIES - YEAR 2009**  
**DOVER MUNICIPAL LANDFILL SUPERFUND SITE**  
**TOLEND ROAD**  
**DOVER, NEW HAMPSHIRE**

	2009												2010
	Q1			Q2			Q3			Q4			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
<b>SOURCE CONTROL</b>													
<b>Source Control Focused Feasibility Study</b>													
Final Version with Response to Agency Comments		■											
<b>Explanation of Significant Difference</b>													
Draft presented at public meeting				■									
Final version issued by USEPA on June 30, 2009						■							
<b>Source Control Remedial Design</b>													
Work Plan for Remedial Design (60 days from approval)								■					
30 Percent Remedial Design (120 days from Work Plan approval)												■	
75 Percent Remedial Design (90 days from approval of 30 percent design)													■
100 Percent Remedial Design (60 days from approval of 75 percent design)													■
<b>Northwest Landfill Hotspot Remedial Action</b>													
Site Preparation Activities and Equipment Testing		■											
Baseline Sampling			■										
System Start Up						■							
Seasonal Operation							■						
Performance Monitoring								■					
System Shutdown												■	
Data submittals (with Quarterly Progress Reports)													■
<b>MANAGEMENT OF MIGRATION</b>													
<b>Southern Plume - Ground Water Extraction</b>													
Pre-start up system equipment procurement and configuration modifications		■											
Baseline Sampling													
System Start Up						■							
Seasonal Operation							■						
Performance Monitoring								■					
System Shutdown												■	
Data submittals (with Quarterly Progress Reports)													■
<b>OTHER RESPONSE ACTIONS</b>													
<b>Soil Vapor Intrusion - Indoor Air Pre-Design Investigation</b>													
Focused Monitoring during EMP Events													■
<b>Ecotoxicity and Human Health Assessment of the Cocheco River</b>													
Field Sampling Activities													■
<b>Environmental Monitoring Plan</b>													
Summary Report: Second Monitoring Event (Winter) Year 2008													■
First Monitoring Event (Summer) 2009													■
Second Monitoring Event (Winter) 2009													■
Summary Report: First Monitoring Event (Summer) Year 2009													■
Summary Report: Second Monitoring Event (Winter) Year 2009													■
EMP Program Proposed Modifications Summary													■

**SUMMARY AND STATUS OF ACTIVITIES – Q2 - JULY 10, 2009**  
**SOUTHERN PLUME MANAGEMENT OF MIGRATION**  
**DOVER MUNICIPAL LANDFILL SUPERFUND SITE**  
**DOVER, NEW HAMPSHIRE**

**1. Summary of Activities**

- The City of Dover POTW and NHDES approved the application for the discharge permit associated with the ground water extracted in the Southern Plume;
- baseline gauging was performed on April 16, 2009;
- accumulated silt in monitoring well SB-B2 and extraction wells SB-4D and MW-206I was removed between April 27 and 29, 2009;
- baseline ground water monitoring was performed between April 27 and 29, 2009;
- system startup was performed on April 29, 2009;
- roadways south of the Landfill were upgraded on May 1, 2009 using rip-rap stone;
- weekly system operation, monitoring, and maintenance activities;
- weekly and monthly sampling activities from wells and the frac tank, respectively; and
- discharge of extracted ground water was overseen weekly between May 5 and June 30, 2009.

**2. Deliverables and Correspondence**

The following deliverables were submitted or received by the agencies:

- no deliverables during this reporting period.

**3. Schedule for Next Quarter**

During the next quarter the following activities are anticipated to be performed:

- weekly system operation, monitoring, and maintenance activities;
- weekly and monthly sampling activities from wells and the frac tank, respectively;
- performance monitoring event during the week of July 13, 2009;
- on-going evaluation of system performance field data.

**4. Status of Activities**

Reporting Schedule - Information regarding the Southern Plume MOM will be included in two of the four annual Quarterly Progress Reports as specified in September 26, 2008 100 Percent Design Report, consistent with the following reporting schedule:

- April to July activities will be included in the October Report
- August to November activities will be included in January Report

Remedy Design:	Completed.
Remedy Construction:	100 Percent Complete.
Remedy Implementation:	First operating season completed. Second system operating season initiated on April 29, 2009.

**5. Modifications**

None.

**SUMMARY AND STATUS OF ACTIVITIES – Q2 – JULY 10, 2009**  
**ECOTOXICITY AND HUMAN HEALTH ASSESSMENT OF THE COCHECO RIVER**  
**PRE-DESIGN INVESTIGATION**  
**DOVER MUNICIPAL LANDFILL SUPERFUND SITE**  
**DOVER, NEW HAMPSHIRE**

**1. Summary of Activities**

From June 23 to 29, 2009, GeoInsight completed the supplementary ecotoxicity sediment sampling event on the Cochecho River. On July 8, 2009, the bulk sediment samples were delivered to EnviroSystems, Inc. (ESI) for compositing/homogenization and the preparation of split samples. On July 9, 2009, the split samples will be submitted to Katahdin Analytical Services, Inc. and Resource Laboratories on for arsenic analyses. Laboratory analytical results are expected during the first week of August 2009.

**2. Deliverables and Correspondence**

The following deliverables were submitted or received by the agencies:

- GeoInsight prepared and transmitted a revised Technical Memorandum to USEPA dated May 15, 2009 summarizing the supplementary ecotoxicity PDI sampling activities scheduled for June and July 2009.

**3. Schedule for Next Quarter**

GeoInsight will prepare a report describing the results of the supplementary ecotoxicity sediment sampling event.

**4. Status of Activities**

Field activities for the supplementary ecotoxicity sediment sampling event were completed in June 2009.

Reporting Schedule – The Group will prepare a summary of arsenic testing results as these data become available.

**5. Modifications**

None.

**SUMMARY AND STATUS OF ACTIVITIES – Q2 – JULY 10, 2009**  
**NORTHWEST LANDFILL HOTSPOT REMEDIAL DESIGN AND REMEDIAL ACTION**  
**DOVER MUNICIPAL LANDFILL SUPERFUND SITE**  
**DOVER, NEW HAMPSHIRE**

**1. Summary of Activities**

2009 Field Work

- baseline soil vapor, ground water, and air sampling were completed in September 2008 and again in April 2009. See Tables 1, 2, and 3 for a summary of the soil vapor, ground water, and ambient air baseline sampling results, respectively (Attachment A and Attachment B present the laboratory results for 2008 and 2009, respectively);
- soil vapor extraction and air sparging process piping connections to the equipment trailer were completed on April 3, 2009;
- electrical power source was connected during the week of May 11, 2009; and
- startup and shakedown of the system was performed between June 17 and 19, 2009.

**2. Deliverables and Correspondence**

The Operation, Maintenance, and Monitoring (OM&M) Plan was submitted on June 19, 2009, prior to operation of the system.

**3. Schedule for Next Quarter**

During the next quarter the following activities are anticipated to be performed:

- Startup and shakedown of the system will be performed in July of 2009; and
- Once startup and shakedown activities are completed, the system operation will be conducted according to the final Work Plan submitted to USEPA on October 24, 2008.

**4. Status of Activities**

Performance and regulatory monitoring data will be submitted with the Quarterly Progress Reports as these data become available.

Remedy Design:	Complete.
Remedy Construction:	Complete.
Remedy Implementation:	Active.

**5. Modifications**

None.

## **TABLES**

**Table 1**  
**SVE Soil Gas Static VOC Concentrations**

Dover Municipal Landfill Superfund Site, Dover, NH

Sample ID	Sample Date	PCE	TCE	1,1,1-TCA	1,1-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Benzene	Ethyl-benzene	Toluene	m&p-Xylenes	o-Xylene	Methylene chloride
(Concentrations are reported in ppbv)																	
SVE-05	9/3/2008	65	32 U	140	280	32 U	810	32 U	2,000	32 U	32 U	32 U	32 U	32 U	32 U	32 U	32 U
	4/1/2009	30 U	37	53	360	62	240	30 U	10,000	30 U	30 U	30 U	30 U	52	30 U	30 U	30 U
SVE-07	9/3/2008	530	1,100	7,300	7,800	88 U	5,700	88 U	6,000	100	92	400	1,300	17,000	2,100	650	230
	4/1/2009	46	35	430	1,300	15 U	760	16	2,000	120	120 J	90	610	5,400	1,400	480	40
SVE-09	9/3/2008	500	200 U	220	2,000	200 U	3,700	200 U	9,000	200 U	200 U	200 U	1,400	7,000	7,900	1,800	510
	4/1/2009	1,100	3,300	22,000	34,000	4,900	290,000	1,100	560,000	560 U	560 U	590	25,000	460,000	30,000	4,000	14,000
SVE-12	9/3/2008	1,600	850	3,000	13,000	380	42,000	320	120,000	210 U	210 U	340	210 U	3,600	350	210 U	210 U
	4/1/2009	300 U	300 U	1,100	6,700	300 U	16,000	300 U	150,000	300 U	300 U	300 U	300 U	16,000	570	300 U	300 U
SVE-12 (Duplicate)	9/3/2008	1,500	880	3,400	14,000	460	47,000	340	140,000	200 U	200 U	280	200 U	5,400	660	210	200 U
SVE-16	9/3/2008	1,000,000	520,000	84,000	120,000	18,000	2,600,000	20,000	920,000	4,000 U	4,000 U	4,000 U	20,000	540,000	45,000	10,000	1,300,000
	4/1/2009	120,000	54,000	5,400	46,000	11,000	2,300,000	9,000	550,000	2,700 U	2,700 U	2,700 U	7,900	290,000	15,000	2,900	350,000
SVE-16 (Duplicate)	4/1/2009	160,000	68,000	6,400	47,000	11,000	2,300,000	9,000	580,000	3,000 U	3,000 U	3,000 U	11,000	340,000	21,000	4,200	340,000
SVE-18	9/3/2008	750	1,100	140 U	910	170	52,000	140 U	34,000	140 U	140 U	1,400	16,000	140,000	35,000	9,600	890
	4/1/2009	310	340	110 U	490	110 U	20,000	110 U	21,000	170	160	710	9,200	58,000	21,000	6,000	380
SVE-26	9/3/2008	1,700	4,400	300 U	300 U	300 U	22,000	300 U	6,200	300 U	300 U	370	300 U	1,800	300 U	300 U	300 U
	4/1/2009	3	1 U	1 U	3	1 U	230	1 U	80	1 U	1 U	18	6	79	11	2	1

**Notes:**

SVE = soil vapor extraction  
VOC = volatile organic compound  
ppbv = parts per billion by volume  
U = compound was not detected at the indicated concentration  
PCE = Tetrachloroethene  
TCE = Trichloroethene  
1,1,1-TCA = 1,1,1-Trichloroethane  
1,1-DCA = 1,1-Dichloroethane  
1,1-DCE = 1,1-Dichloroethene  
cis-1,2-DCE = cis-1,2-Dichloroethene  
trans-1,2-DCE = trans-1,2-Dichloroethene

**Table 2**  
**Groundwater VOC Concentrations**  
Dover Municipal Landfill Superfund Site, Dover, NH

Monitoring Well	Sample Date	PCE	TCE	1,1,1-TCA	1,1-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Benzene	Ethyl-benzene	Toluene	m&p-Xylenes	o-Xylene	Methylene chloride	
(Concentrations are presented in ppb)																		
AS-01A	9/03/08 G	75	13	150	290	5 U	1,900	13	1,000	150	57	10 U	110	1,900	360	110	25 U	
AS-02E	9/03/08 G	100 U	100 U	100 U	100 U	50 U	390	100 U	210	100 U	100 U	100 U	100 U	100 U	100 U	100 U	250 U	
	4/01/09 S	100 U	100 U	100 U	100 U	50 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	250 U	
AS-04C	9/02/08 S	140,000	16,000	50,000	5,000	720	35,000	400 U	2,900	400 U	400 U	400 U	1,700	16,000	4,300	1,200	38,000	
	4/01/09 S	120,000	15,000	32,000	2,000	500 U	83,000	1,000 U	2,600	1,000 U	1,000 U	1,000 U	1,800	14,000	5,200	1,300	14,000	
AS-06C	3/31/09 S	40 U	40 U	88	470	20 U	8,200	66	5,600	550	210	40 U	400	9,700	1,300	400	100 U	
AS-07E	9/03/08 G	20 U	20 U	41	580	10 U	15,000	23	7,100	180	53	25	400	4,000	1,100	370	50 U	
	3/31/09 S	21	10 U	10 U	290	5 U	36	10 U	930	200	60	35	440	3,000	1,300	430	25 U	
AS-13B	9/03/08 G	200 U	200 U	220	1,600	100 U	4,200	200 U	890	250	200 U	200 U	300	9,100	810	280	500 U	
	4/01/09 G	40 U	40 U	40 U	97	20 U	40 U	40 U	40 U	220	61	40 U	300	7,800	770	280	100 U	
AS-14A	9/03/08 S	2,300	400 U	2,000	6,500	200 U	25,000	400 U	850	460	400 U	400 U	1,400	81,000	4,000	1,100	25,000	
	3/31/09 S	400 U	400 U	3,100	9,200	200 U	39,000	400 U	850	430	400 U	400 U	1,600	100,000	4,600	1,300	51,000	
AS-14A (Duplicate)	3/31/09 S	400 U	400 U	3,000	9,200	200 U	39,000	400 U	820	420	400 U	400 U	1,500	100,000	4,500	1,200	51,000	
AS-15A	9/03/08 G	1,700	660	1,900	4,200	100 U	35,000	200 U	1,200	200 U	200 U	200 U	300	17,000	880	290	38,000	
	4/01/09 G	200 U	200 U	2,600 B	7,200	100 U	40,000	200 U	1,300	200 U	200 U	200 U	310	28,000	910	300	61,000 B	
AS-15D	9/03/08 G	23,000	2,300	2,100	4,200	110	180,000	200 U	2,000	200 U	200 U	200 U	800	2,000	2,300	720	27,000	
	4/01/09 G	130,000	6,900	9,600	7,000	500 U	220,000	1,000 U	3,200	1,000 U	1,000 U	1,000 U	2,700	47,000	8,100	2,300	41,000	
AS-16A	3/31/09 S	54,000	5,500	2,000 U	7,600	1,000 U	230,000	2,000 U	3,100	2,000 U	2,000 U	2,000 U	2,800	64,000	9,200	2,700	34,000	
AS-16C	9/03/08 G	28,000	3,500	4,600	3,900	120	160,000	200 U	2,500	200 U	200 U	200 U	880	21,000	2,600	810	14,000	
	4/01/09 G	110,000	6,400	8,900	6,300	500 U	210,000	1,000 U	3,500	1,000 U	1,000 U	1,000 U	2,800	48,000	9,000	2,500	29,000	
AS-24A	9/03/08 S	570	370	7,400	6,500	160	55,000	200 U	980	390	200 U	200 U	860	44,000	2,200	760	52,000	

**Table 2**  
**Groundwater VOC Concentrations**  
Dover Municipal Landfill Superfund Site, Dover, NH

Monitoring Well	Sample Date	PCE	TCE	1,1,1-TCA	1,1-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Benzene	Ethyl-benzene	Toluene	m&p-Xylenes	o-Xylene	Methylene chloride	
(Concentrations are presented in ppb)																		
AS-24C	9/02/08 G	2,500	250	450	2,300	150	160,000	240	7,400	890	260	100 U	2,700	20,000	7,800	2,500	1,800	
AS-25A	4/01/09 G	200 U	200 U	200 U	350	100 U	8,700	200 U	830	200 U	200 U	200 U	200 U	2,100	210	200 U	500 U	
AS-27B	9/03/08 S	820	120	100 U	1,300	55	88,000	100 U	6,900	370	120	100 U	950	11,000	2,700	860	250 U	
	3/31/09 S	400 U	400 U	400 U	1,500	200 U	83,000	400 U	4,500	400 U	400 U	400 U	870	14,000	2,600	850	1,000 U	
AS-28B	9/03/08 S	12,000	470	1,700	5,400	120	71,000	200 U	2,000	770	220	200 U	1,700	35,000	4,600	1,400	12,000	
AS-28B (Duplicate)	9/03/08 S	9,700	390	1,500	4,200	100 U	59,000	200 U	1,500	570	200 U	200 U	1,400	28,000	3,800	1,100	11,000	
GW-01	9/02/08 S	390	94	140	500	5 U	1,000	12	240	280	100	10 U	280	3,100	1,000	380	45	
	4/01/09 S	36	20 U	75 B	600	10 U	2,600	21	1,400	270	96	20 U	410	5,500	1,500	540	180 B	
GW-02	9/02/08 S	300	200 U	2,200	5,500	100 U	35,000	200 U	2,200	820	220	200 U	1,300	36,000	3,000	940	5,600	
	3/31/09 S	100 U	100 U	200	3,600	50 U	19,000	100 U	2,200	550	130	100 U	950	23,000	2,500	740	2,100	
GW-03	9/02/08 S	22,000	3,400	14,000	3,400	170	120,000	200 U	2,300	510	200 U	200 U	1,700	29,000	5,000	1,600	14,000	
	3/31/09 S	33,000	8,000	20,000	6,900	500 U	150,000	1,000 U	2,900	1,000 U	1,000 U	1,000 U	2,300	44,000	7,700	2,300	9,600	
GW-04	9/02/08 S	3,400	1,500	20 U	460	11	21,000	34	3,700	180	51	38	1,100	6,200	2,900	910	50 U	
	3/31/09 S	20 U	20 U	20 U	1,100	20	72,000	190	7,300	140	43	52	1,300	8,200	3,500	1,000	50 U	
Trip Blank	9/03/08	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U	
	4/01/09	2 U	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	5 U	

**Table 2**  
**Groundwater VOC Concentrations**  
Dover Municipal Landfill Superfund Site, Dover, NH

Monitoring Well	Sample Date	PCE	TCE	1,1,1-TCA	1,1-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Benzene	Ethyl-benzene	Toluene	m&p-Xylenes	o-Xylene	Methylene chloride
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(Concentrations are presented in ppb)

**Notes:**

VOC = volatile organic compound  
ppb = parts per billion  
U = compound was not detected at the indicated concentration  
J = estimated concentration  
PCE = Tetrachloroethene  
TCE = Trichloroethene  
1,1,1-TCA = 1,1,1-Trichloroethane  
1,1-DCA = 1,1-Dichloroethane  
1,1-DCE = 1,1-Dichloroethene  
cis-1,2-DCE = cis-1,2-Dichloroethene  
trans-1,2-DCE = trans-1,2-Dichloroethene  
G = grab sample was collected after attempting EPA low flow sampling procedures; the well was purged until dry and allowed to recharge before the sample was collected.  
S = sample collected via EPA low flow methodology

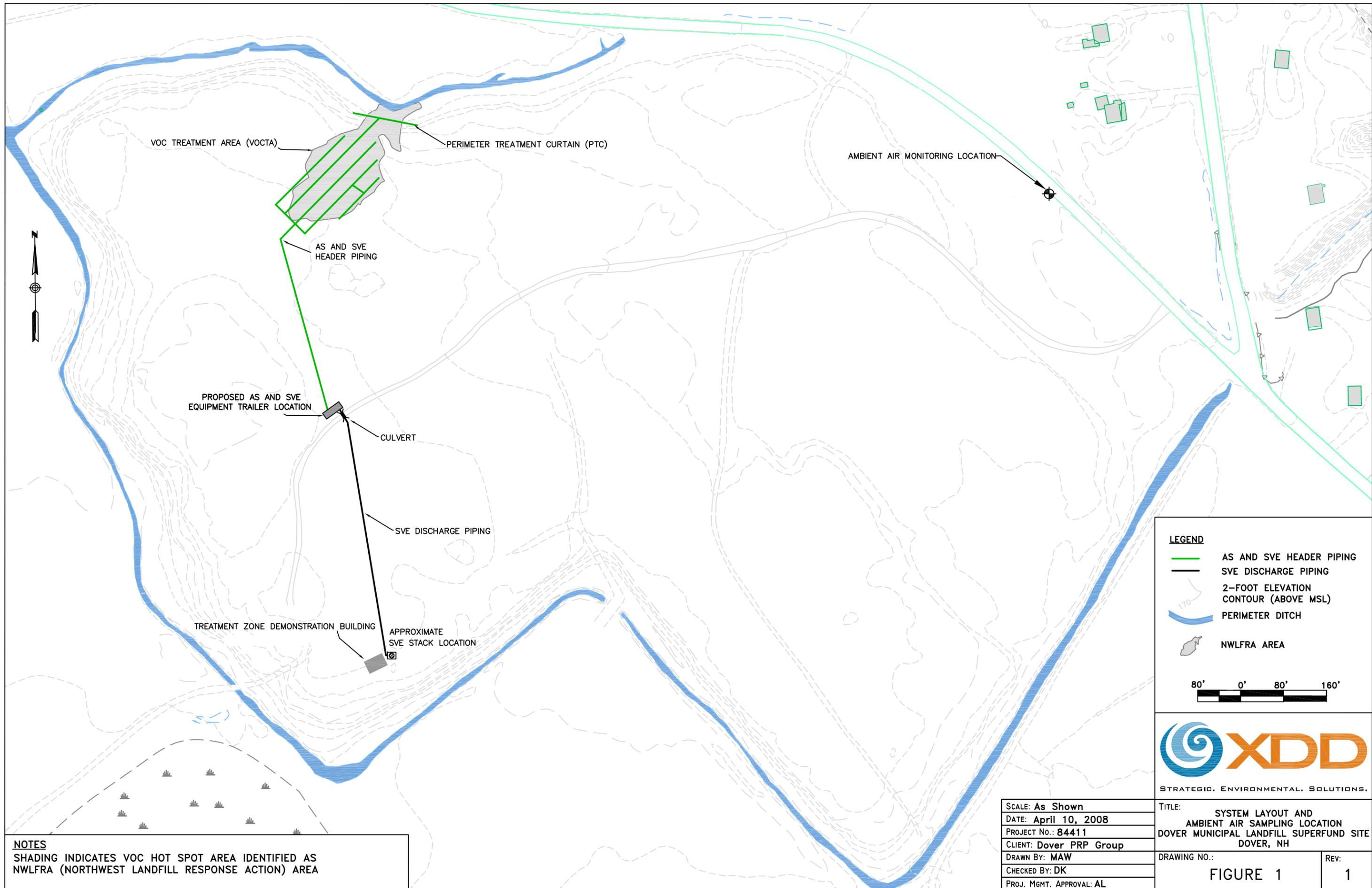
**Table 3**  
**Ambient Air Exposure Monitoring VOC Concentrations**

Dover Municipal Landfill Superfund Site, Dover, NH

Sample ID	Sample Date	PCE	TCE	1,1,1-TCA	1,1-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Benzene	Ethyl-benzene	Toluene	m&p-Xylenes	o-Xylene	Methylene chloride
(Concentrations are presented in ppbv)																	
Annual AAL Criteria		59.71	119.09	833.45	335.49	50.44	1984.20	1984.20	2.43	83.81	83.81	1.19	230.31	106.15	23.03	23.03	119.17
TR-Base																	
	9/3/2008	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
	4/1/2009	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**Notes:**

VOC = volatile organic compounds  
 ppbv = parts per billion by volume  
 AAL = New Hampshire Ambient Air Limit  
 U = compound was not detected at the indicated concentration  
 PCE = Tetrachloroethene  
 TCE = Trichloroethene  
 1,1,1-TCA = 1,1,1-Trichloroethane  
 1,1-DCA = 1,1-Dichloroethane  
 1,1-DCE = 1,1-Dichloroethene  
 cis-1,2-DCE = cis-1,2-Dichloroethene  
 trans-1,2-DCE = trans-1,2-Dichloroethene  
 Sample collected along Tolend Road, north of the soil vapor extraction discharge stack.



VOC TREATMENT AREA (VOCTA)

PERIMETER TREATMENT CURTAIN (PTC)

AMBIENT AIR MONITORING LOCATION

AS AND SVE  
HEADER PIPING

PROPOSED AS AND SVE  
EQUIPMENT TRAILER LOCATION

CULVERT

SVE DISCHARGE PIPING

TREATMENT ZONE DEMONSTRATION BUILDING

APPROXIMATE  
SVE STACK LOCATION

**LEGEND**

- AS AND SVE HEADER PIPING
- SVE DISCHARGE PIPING
- - - 2-FOOT ELEVATION CONTOUR (ABOVE MSL)
- PERIMETER DITCH
- NWLFA AREA



**NOTES**  
SHADING INDICATES VOC HOT SPOT AREA IDENTIFIED AS NWLFA (NORTHWEST LANDFILL RESPONSE ACTION) AREA

SCALE: As Shown  
DATE: April 10, 2008  
PROJECT No.: 84411  
CLIENT: Dover PRP Group  
DRAWN BY: MAW  
CHECKED BY: DK  
PROJ. MGMT. APPROVAL: AL

TITLE:  
SYSTEM LAYOUT AND  
AMBIENT AIR SAMPLING LOCATION  
DOVER MUNICIPAL LANDFILL SUPERFUND SITE  
DOVER, NH

DRAWING NO.:  
**FIGURE 1**  
REV:  
**1**



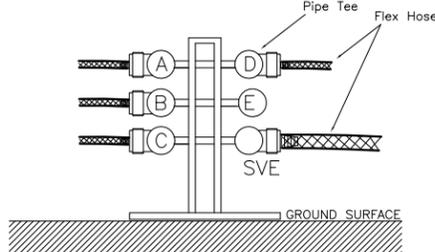
PERIMETER TREATMENT CURTAIN (PTC)

EXTENT OF LOW PERMEABILITY SURFACE COVER

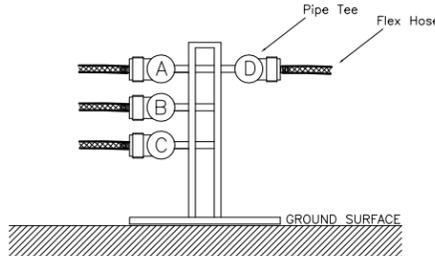
VOC TREATMENT AREA (VOCTA)

DETAIL 4

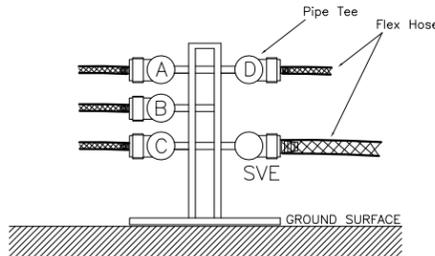
DETAIL 1



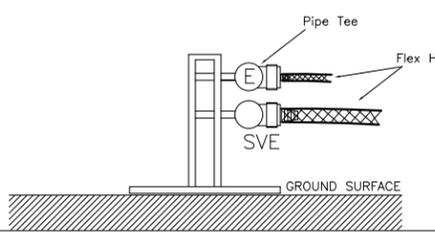
DETAIL 2



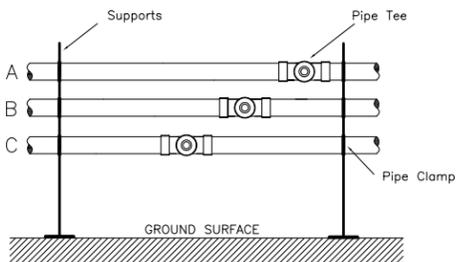
DETAIL 3



DETAIL 4



DETAIL 5 (SIDE-VIEW OF DETAIL 1)



NOTES  
AIR SPARGE AND GROUND WATER WELL LOCATIONS HAVE NOT BEEN SURVEYED. FINAL LOCATIONS ON MAP MAY CHANGE SLIGHTLY.

HEADER PIPING

DETAILS 1 AND 5

DETAIL 2

DETAIL 3

**LEGEND**

- AS AND SVE PIPING - VOCTA AND PTC
- AS PIPING - VOCTA
- AS AND SVE PIPING - VOCTA
- AS AND SVE PIPING - PTC
- 2-FOOT ELEVATION CONTOUR (ABOVE MSL)
- PERIMETER DITCH
- AIR SPARGING WELL LOCATION - PTC
- AIR SPARGING WELL LOCATION - VOCTA
- AIR SPARGE GROUND WATER SAMPLING LOCATIONS
- MONITORING WELL LOCATIONS

15' 0' 15' 30'

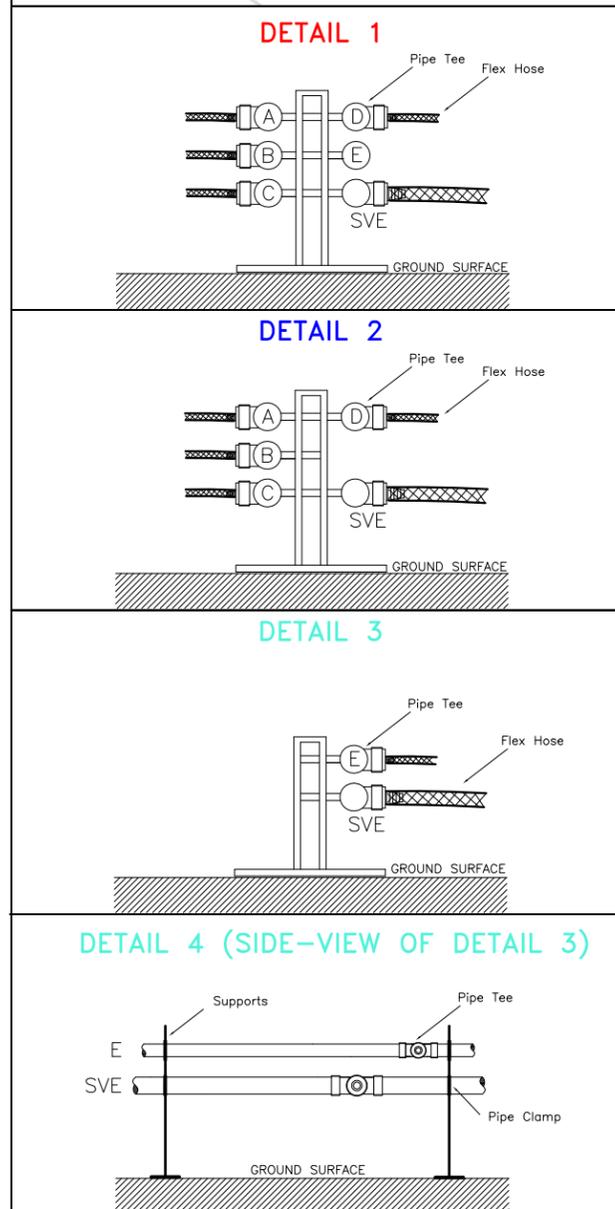


SCALE: As Shown	TITLE: AIR SPARGING WELL LOCATIONS AND PIPING LAYOUT	
DATE: October 13, 2008	PROJECT No.: 84411	
CLIENT: Dover PRP Group	DOVER MUNICIPAL LANDFILL SUPERFUND SITE DOVER, NH	
DRAWN BY: MAW	DRAWING NO.:	REV:
CHECKED BY: DK	FIGURE 2	1
PROJ. MGMT. APPROVAL: AL		



EXTENT OF LOW PERMEABILITY SURFACE COVER

DETAILS 3 AND 4

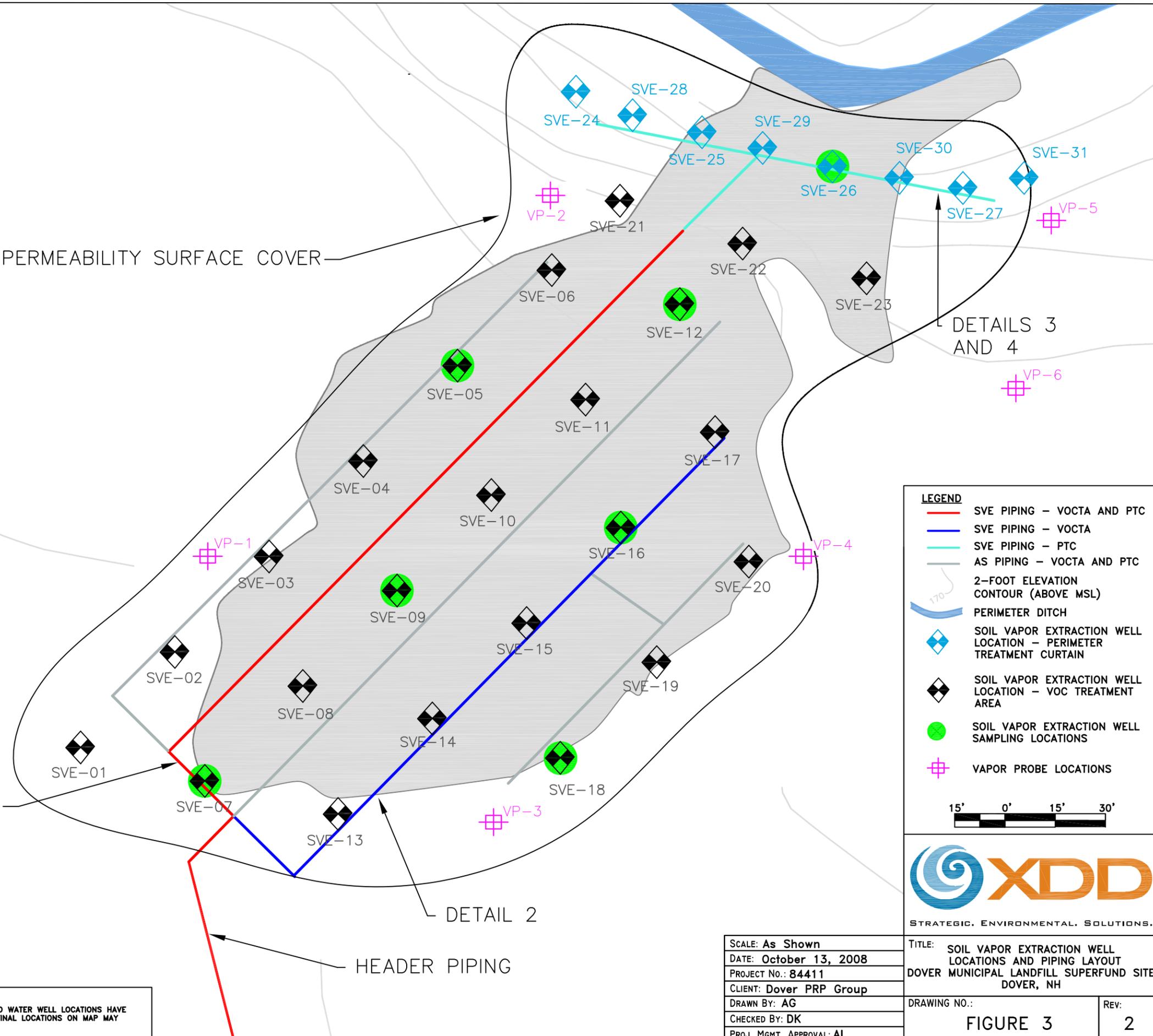


DETAIL 1

DETAIL 2

HEADER PIPING

**NOTES**  
AIR SPARGE AND GROUND WATER WELL LOCATIONS HAVE NOT BEEN SURVEYED. FINAL LOCATIONS ON MAP MAY CHANGE SLIGHTLY.



- LEGEND**
- SVE PIPING – VOCTA AND PTC
  - SVE PIPING – VOCTA
  - SVE PIPING – PTC
  - AS PIPING – VOCTA AND PTC
  - 170' 2-FOOT ELEVATION CONTOUR (ABOVE MSL)
  - PERIMETER DITCH
  - SOIL VAPOR EXTRACTION WELL LOCATION – PERIMETER TREATMENT CURTAIN
  - SOIL VAPOR EXTRACTION WELL LOCATION – VOC TREATMENT AREA
  - SOIL VAPOR EXTRACTION WELL SAMPLING LOCATIONS
  - VAPOR PROBE LOCATIONS



SCALE: As Shown	TITLE: SOIL VAPOR EXTRACTION WELL LOCATIONS AND PIPING LAYOUT	
DATE: October 13, 2008	DOVER MUNICIPAL LANDFILL SUPERFUND SITE	
PROJECT No.: 84411	DOVER, NH	
CLIENT: Dover PRP Group	DRAWING NO.:	REV:
DRAWN BY: AG	FIGURE 3	2
CHECKED BY: DK		
PROJ. MGMT. APPROVAL: AL		