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Please reply to: Concord Office

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DEPARTMENT OF ENVIRONMENTAL SERVICES,
WASTE MANAGEMENT DIVISION

February 22, 2013

Mr. Richard Hull
Remedial Project Manager
New Hampshire Superfund Section
US Environmental Protection Agency; Region I
One Congress Street
Boston, MA 02114-2023

**RE: Auburn Road Landfill, Administrative Order,
Docket Number I-90-1092, Londonderry, New Hampshire**

Dear Mr. Hull:

On behalf of the Town of Londonderry, New Hampshire, and pursuant to the above-captioned Administrative Order, enclosed please find a copy of the 2012 Source Control Operations and Maintenance Report submitted by the Town of Londonderry with respect to the Auburn Road Landfill Superfund Site.

Should you have any questions or concerns with respect to this report, please contact Mr. William Hart at the Town of Londonderry, Mr. Ronald G. St. Michel at Kleinfelder Consultants, or me.

Very truly yours,

A handwritten signature in cursive script that reads 'Sherry Young'.

Sherilyn Burnett Young

SBY/smw
Enclosure

cc: Mr. William Hart, Acting Town Manager, Town of Londonderry (w/o enclosure)
Mr. Thomas Andrews, New Hampshire DES (w/enclosure)
Mr. Ronald G. St. Michel, Kleinfelder (w/o enclosure)

National Impact. Uniquely New Hampshire.

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DEPARTMENT OF ENVIRONMENTAL SERVICES
WASTE MANAGEMENT DIVISION

**2012 SOURCE CONTROL
OPERATION & MAINTENANCE REPORT
AUBURN ROAD LANDFILL**

**FOR
TOWN OF LONDONDERRY, NEW HAMPSHIRE**

FEBRUARY 2013



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1. INTRODUCTION

On behalf of the Town of Londonderry, Kleinfelder has prepared this report pursuant to the post-closure Operation and Maintenance requirements for the Source Control Remedy of the site. This report presents a summary of operation and maintenance activities conducted in calendar year 2012 at the Auburn Road Landfill Superfund Site in Londonderry, New Hampshire. Based on the field observations and data collected during the site visits, this report provides recommendations for corrective actions.

1.1 Background

The Source Control Remedial Action undertaken by the Town for the Auburn Road Landfill consisted of two construction phases. The first phase of work, the Landfill Regrading and Drainage Improvement Remedial Action (LRDIRA) was completed in 1993, and consisted of constructing earthen and rip-rap drainage swales and installing concrete culvert structures. The second phase of work, the Landfill Capping Remedial Action (LCRA) was completed in 1994 and consisted of capping the three landfills (Town Dump, Tire Dump, and Solid Waste Landfill). The Town is responsible for implementing maintenance and monitoring activities for the Source Control Remedy for a thirty-year period following the completion of construction. Currently, the Town has completed its seventeenth year of maintenance and monitoring activities.

1.2 Operations and Maintenance Plan

In February of 1995, S E A Consultants, Inc. (S E A) prepared a Post-Closure Operation and Maintenance Report that described specific procedures and frequencies for post-closure activities, such as landfill site inspections, soil gas monitoring and settlement monitoring. On August 20, 1999, S E A submitted a letter to Rath, Young and Pignatelli, the Town's legal advisors, which proposed modifications to the Post-Closure Operation and Maintenance Report. Based on review comments received from the United States Environmental Protection Agency (USEPA) and from the State of New Hampshire Department of Environmental Services (NHDES), the Source Control Post-Closure Use Operations and Maintenance Plan, was revised as follows:

- Landfill site inspections shall be reduced to a semi-annual frequency (two times per year).
- Gas monitoring must continue, but shall be reduced to a semi-annual frequency (with one winter round).
- Visual inspections for settlement shall be performed during the landfill site inspections, and a platform survey shall be performed every three years. The next platform survey is scheduled to be performed in the fall of 2014.

2. MONITORING AND MAINTENANCE ACTIVITIES

2.1 Summary of Monitoring Activities

The monitoring activities for 2012 were completed in accordance with the Post-Closure Use Operations and Maintenance Plan, as revised in October 1999. The monitoring activities, which were completed by Kleinfelder personnel, included the following:

- Two landfill examinations (June 2012 and November 2012).
- Two rounds of soil gas monitoring (April 2012 and November 2012).

2.2 Summary of Monitoring Results

The following monitoring results are a summary of field observations and data collected during the most recent site visits. Appendix A and B contain a copy of the June 2012 and November 2012 site visits, respectively.

2.2.1 Landfill Inspection Observations

Results of the landfill inspections indicate that the LRDIRA and the LCRA were performing as designed.

Swales

All swales and culverts were observed to be operating as designed. Vegetation and sediment deposits have been observed in the invert of Swale F at the confluence of Swales E and H. If ponded water is observed, the Town should remove the sediment. Currently, the deposits do not prevent the swale from passing stormwater runoff.

Beaver Activity

The Town continues to periodically breach and/or remove beaver dams in order to allow water to flow through the site. However, beaver dams continue to present maintenance challenges. Despite the beaver dams, all swales continue to function properly. No new beaver activity was observed anywhere on site. The corrective actions completed are summarized in Section 2.3 and additional recommended corrective actions are provided in Section 3.1.

Landfill Surfaces

The Town Dump, Tire Dump and Solid Waste Landfill caps have maintained their integrity and were in good condition except for a few bare spots. The Town reseeded and fertilized the three landfill surfaces in fall of October 2011. New grass growth was observed on all three landfills; however, some bare spots remain. The Town will re-evaluate the landfill surfaces in the spring 2013. No signs of erosion on the landfill caps were observed. Vegetation was observed growing in the toe-of-slope rip rap at various locations at each landfill.

Landfill Gas Monitoring Wells and Landfill Gas Vents

The landfill gas monitoring wells and landfill gas vents on the landfills were observed to be intact and functioning properly based on landfill gas monitoring results.

Security Fencing

The security fences and gates around the landfills were in good condition. The Town has cleared vegetative growth from the fence line at the Tire Dump as recommended.

Access Roads

The site access roads consist of paved and gravel surfaces. The access roads were observed to be in good condition with no signs of erosion.

2.2.2 Soil Gas Monitoring

The soil gas monitoring program at the site consists of measuring soil gas parameters from three gas vents at each of the three landfills and at four boundary gas wells located along Auburn Road. The following parameters are measured at each of the ten locations:

- percentage of methane by volume of air;
- lower explosive limit (LEL) for methane;
- percentage of carbon dioxide by volume of air;
- percentage of oxygen by volume of air;
- concentration of hydrogen sulfide in parts per million (ppm); and
- concentration of volatile organic compounds (ppm).

Results of soil gas monitoring are consistent with those obtained from previous monitoring events. The results of the two soil-gas monitoring rounds (April and November 2012) indicate that the four wells located along Auburn Road are producing no recordable concentrations of hydrogen sulfide or methane. Consequently, the soil gas from the landfill does not appear to be migrating off-site and does not pose an

apparent risk to human health and the environment. Sampling results from the gas wells within the landfills indicate that the waste material continues to produce methane and hydrogen sulfide gases.

2.2.3 Settlement Survey

The latest settlement platform survey was performed in October 2011; the eighth survey since the completion of the LCRA (October 1994). The settlement surveys are comprised of measuring settlement at three platform locations on each of the three landfill areas. Based on the eight rounds of settlement survey information collected, the average settlement rate from 1994 to 1999 was approximately one inch of settlement per year. Since the 1999 survey event the settlement rate has slowed. The total settlement Post LCRA of the three landfills is summarized in the following table.

**Table 2.1
Summary of Settlement Data**

Location	Total Post Closure Settlement (feet)
Tire Dump	
SP-1	-0.39
SP-2	-0.47
SP-3	-0.88
Town Dump	
SP-4	-0.27
SP-5	-0.15
SP-6	-0.08
Solid Waste Landfill	
SP-7	-0.68
SP-8	-0.59
SP-9	-0.54
Average Settlement	-0.45

During the site inspections performed in 2012 there were no visual observations of settlement or indication of damage to the landfill cap at any of the three landfill sites.

2.3 Maintenance Activities Completed

The Town is responsible for implementing the maintenance and monitoring of the Source Control Remedy for a thirty-year period following the completion of construction. The Town has completed the following corrective actions since the 2012 Operations and Maintenance Report was written.

- Mowed the vegetative surfaces on the landfills.
- Cleared fallen trees in Swale B and the overgrown brush and trees from the adjacent chain link fence.

- Removed the fallen tree in Swale E.
- Removed the fallen tree near the access gate to the Town Dump.
- Cleared the vegetation along the entire chain link fence at the Tire Dump.
- Removed the cut brush from the southern end of the Tire Dump.
- Installed a couple of new fence posts in the northeast corner of the Solid Waste Landfill.
- Managed the beavers and beaver dams in Swale D.

2.4 Other Activities

In September of 2012, the EPA completed the fifth Five-Year Review Report for the Auburn Road Landfill, which assesses the protectiveness of the remedy implemented at the site. The Five-Year Review Report notes that the “remedy implemented at the Auburn Road Landfill Superfund Site currently protects human health and the environment...However,...arsenic concentrations have not attained the interim cleanup level of 10 ppb” within the five (5) year cleanup time predicted after capping. Therefore the EPA recommends the following actions to occur:

- a. Schedule a meeting between the Agencies, ARPPPG, and the USGS to discuss the required follow-up actions necessary to expedite the time to reach groundwater cleanup levels, and further investigate groundwater interactions with nearby surface waters/sediments.
- b. Expand the institutional control (GMZ) boundary north of Auburn Road.
- c. Gather additional VOC data from the Site in order to reassess potential vapor intrusion pathway, and achievement of interim cleanup levels.

A complete summary of the findings and recommendations can be found in the Five-Year Review Report.

The Town continues to lease a small portion of the site to the New Hampshire Flying Tigers Radio Control Club for passive recreation activities. The recreation area is located on the eastern perimeter of the site, on the north side of the access road, outside the limits of the Solid Waste Landfill.

3. RECOMMENDATIONS

3.1 Summary of Recommendations

In response to observations made during the 2012 monitoring activities, the following recommendations are offered:

1. Continue mowing activities on each of the three landfills. As recommended in the Post-Closure Operations and Maintenance Plan (1995), the vegetative layer should be cut twice a year.
2. Saplings and vegetation growth in the rip rap swales surrounding the landfills should continue to be monitored and removed if necessary to provide proper drainage. Vegetation in the earthen swales should remain intact. Because swales D and E are part of the wetland replication area, care shall be taken to protect the wetland species.
3. Continue to clear vegetation from all culvert inlets and outlets, as needed.
4. Clear vegetation encroaching into the north side of the access road east of Swale B. Continue to control brush growth and maintain the access road in order to maintain vehicle access.
5. Clear isolated brush growth in the rip rap toe-of-slope around the Town Dump, Tire Dump and Solid Waste Landfill.
6. Continue to trap and remove the beaver(s) from Swale D. Monitor the two breached dams located on the southern and northern side of the access road in Swale D for new beaver activity. Monitor Swale B and other areas for new beaver activity. Continue to implement the beaver trapping and removal program.
7. Remove fallen tree on the western bank of Swale F approximately 150 feet from the access road.
8. Provide seed and fertilizer to the bare areas on the Town Dump, Tire Dump and the Solid Waste Landfill surface.

Appendix A
June 2012 Site Visit Report



June 7, 2012

Mr. David Caron
 Town Manager
 268B Mammoth Road
 Londonderry, New Hampshire 03053

RE: Auburn Road Landfill Superfund Site
 Site Inspection Number 35
 KLF/SEA Reference No.: 2010222.01-A

Dear Mr. Caron:

Enclosed please find the most recent site examination report for the Auburn Road Landfill, which was performed on Friday, June, 1, 2012. The purpose of the exam was to monitor the Operations and Maintenance (O&M) activities for the three landfills and the site in general. This O&M Report is being submitted in accordance with the Record of Decision (ROD) and applicable federal regulations.

Landfill gas monitoring was conducted on Tuesday, April 24, 2012. Ambient air, four perimeter soil gas monitoring wells (GV-1 through GV-4) along Auburn Road and six interior landfill gas sampling wells (GV-5 through GV-10) were monitored using a Landtec GEM-2000+ and a Photo-Ionization Detector (PID). The gas monitoring results indicate that presently there is no significant threat to the environment and/or human health due to landfill gas migration. The landfill gas monitoring results are summarized in greater detail in Item 8 of the attached report. The Town reseeded and fertilized the landfill surfaces in early October 2011 and they were found to be in good condition with the exception of a few bare areas on the surface of the Town Dump, the Tire Dump and the Solid Waste Landfill. These bare spots should be re-seeded and fertilized. The DPW has cleared all fallen trees and brush noted in the last inspection report.

Our observations of the site's swales are summarized in the following table.

Swale	Observations	Action to be Taken
A	New vegetative Growth.	None.
B	This swale is operating as designed.	None.
C	This swale appears to be operating as designed.	None.
D	Two (2) beaver dams were observed; one on the southern side of the access road and one on the northern side of the access road. Both dams have been recently breached to permit stream flow.	Continue to trap and remove the beaver(s) from the area and monitor the dams for new dam construction.
E	The swale appears to be operating as designed.	None.
F	Vegetative growth and minor sediment accumulation.	Monitor swale for flow restrictions and development of hearty vegetation.
H	Swale is clear of vegetation.	None.

Mr. David Carson
June 7, 2012
Page 2



The following attachments are provided to document our observations and the work performed:

Attachment A: Site Plan
Attachment B: Site Visit Report
Attachment C: Landfill Gas Monitoring Data
Attachment D: Inspection Photographs

Please feel free to call me at 603.227.2316 with any questions you may have regarding this O&M Report.

Respectfully yours,

KLEINFELDER/S E A CONSULTANTS

A handwritten signature in black ink, appearing to read "Ronald St. Michel", is written over the printed name.

Ronald St. Michel, P.E.
Principal Engineer

Enclosures

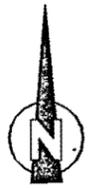
cc: Mr. John Trottier, P.E., Assistant Director of Public Works and Engineering
Mr. Stephen E. Wright, P.E., Kleinfelder/S E A Consultants
file

G:_clients\Londonderry NH\2010222 - Auburn Rd LF\Inspection Reports\Exam36_2012_06_01_cover letter.docx

ATTACHMENT A

SITE PLAN

PLOT DATE= 6/5/2012 9:51:12 AM USER= RON STICHEL FILENAME= G:\clients\landfill\NH2010222\LF\general\NSIT_36.dwg



LEGEND

- ⊙ 6" DIAMETER GAS MONITORING WELL
- 4" DIAMETER PVC GAS VENT
- ◆ 4" DIAMETER SETTLEMENT PLATFORM
- SILT FENCE
- CHAIN LINK FENCE
- ▨ LIMITS OF RIP RAP
- LIMITS OF AS-BUILT SURVEY
- ⊙# PHOTO LOCATIONS AND DIRECTION

BARE SPOTS IN NEED OF SEED & FERTILIZER

VEGETATION AND SEDIMENT BUILD-UP LOCATED IN SWALE INVERT TO BE MONITORED

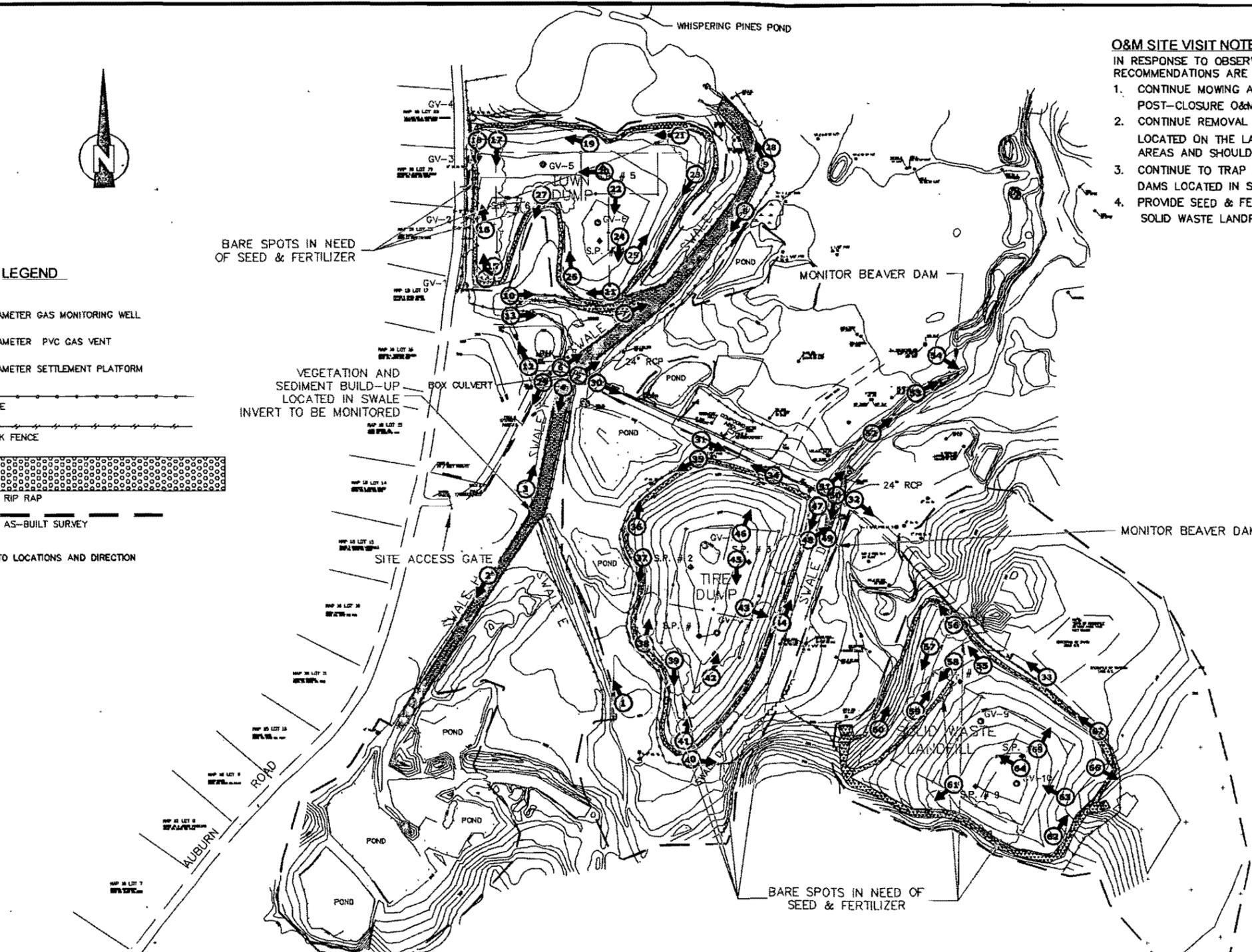
SITE ACCESS GATE

BARE SPOTS IN NEED OF SEED & FERTILIZER

O&M SITE VISIT NOTES

IN RESPONSE TO OBSERVATIONS MADE DURING THE RECENT SITE VISIT, THE FOLLOWING RECOMMENDATIONS ARE MADE:

1. CONTINUE MOWING ACTIVITIES ON EACH OF THE THREE LANDFILLS AS RECOMMENDED IN THE POST-CLOSURE O&M MANUAL.
2. CONTINUE REMOVAL OF VEGETATION AND SAPLINGS IN RIP RAP PROTECTION AREAS AND SWALES LOCATED ON THE LANDFILL CAP AS NEEDED. (NOTE SWALES D & E ARE WETLAND REPLICATION AREAS AND SHOULD NOT BE CLEARED).
3. CONTINUE TO TRAP AND REMOVE THE BEAVER(S) FROM SWALE D. MONITOR THE TWO BREACHED DAMS LOCATED IN SWALE D FOR NEW BEAVER ACTIVITY.
4. PROVIDE SEED & FERTILIZER ON THE BARE AREAS ON THE TOWN DUMP, TIRE DUMP AND THE SOLID WASTE LANDFILL.



OPERATION AND MAINTENANCE SITE PLAN



Scale	AS NOTED	Client	TOWN OF LONDONDERRY, NEW HAMPSHIRE
Date	JUNE 2012	Project	AUBURN ROAD LANDFILL OPERATIONS AND MAINTENANCE
Job No.	2010222	Drawing	FIGURE 1 - SITE VISIT NUMBER 36
Designed by	PGC		
Drawn by	MJZ		
Checked by	RSM		
Approved by	RSM		

ATTACHMENT B

SITE VISIT REPORT

**Auburn Road Landfill Superfund Site
Londonderry, New Hampshire
Operation and Maintenance Site Inspection 36**

GENERAL INFORMATION:

Project Name: Auburn Road Landfill Superfund Site

Project Location: Londonderry, New Hampshire

Facility Operator: Town of Londonderry

Previous O&M Site Inspection:

Number: 35

Date: November 9, 2011

Time: 8:00 a.m. to 11:30 a.m.

Current O&M Site Inspection:

Number: 36

Date: June 1, 2012

Time: 8:00 a.m. to 10:30 a.m.

On-Site Personnel:

Ron St. Michel, P.E. - Kleinfelder (6/1/12 Landfill Inspection)

Ryan Caisse - Kleinfelder (4/24/12 Landfill Gas Monitoring)

Weather:

April 24, 2012

The temperature was approximately 48°F, overcast and windy.

Barometric pressure was rising.

Last Precipitation was 1.23 inches on April 23, 2012.

November 9, 2011

The temperature was approximately 65°F and Sunny. Wind: Light

Kleinfelder Project Number: 2010222.02-A

Auburn Road Landfill Superfund Site Londonderry, New Hampshire Operation and Maintenance Site Inspection 36

SITE VISIT OBSERVATIONS:

The following table summarizes the observations made during the site visit. Refer to the site plan provided in Attachment A for a summary of recommendations based on recent site observations.

ITEM	SIGNIFICANT COMMENTS	CORRECTIVE ACTION REQUIRED?	
		YES	NO
(1.) General	The Remedial Action Construction (LRDIRA and LCRA) was performed in 1993 and 1994, respectively, and included the construction of three earthen swales (A, D, and E); four rip-rap swales (B, C, F, and H); two 24-inch concrete pipe culverts; one 3-foot by 8-foot concrete box culvert; the capping of three landfill areas (Town Dump, Tire Dump, and Solid Waste Landfill), and subsequent construction of nine wetland replication areas (R-1 through R-6, R-9, R-11, and R-12) in 1995.	N/A	N/A
(2.) Supervision	The operations and maintenance of the landfill is under the supervision of the Town of Londonderry. Currently, Mr. John Trottier, P.E., Assistant Director of Public Works and Engineering, is supervising operations and maintenance for the site.	N/A	N/A
(3.) Current Use	The Town is performing maintenance activities at the site, which consist of mowing the landfill areas, clearing vegetation from drainage swales, beaver control, repairing fences and gates and maintaining access roads. The Management of Migration Potentially Responsible Parties (MOM-PRPs) is continuing to perform surface and groundwater sampling on a periodic basis.	N/A	N/A
(4.) Ground Conditions	No earthen depressions were observed on the landfill surfaces.		√
(5.) Health and Safety	Activities at the site were performed in Level D personal protective equipment and in accordance with the provisions of the Site-Specific Health and Safety Plan.	N/A	N/A
(6.) LRDIRA	Comments on the LRDIRA are provided in items (6a) through (6h).		
(a.) Swale A (Town Dump)	This swale appears to be operating as designed. New vegetation observed.		√
(b.) Swale B (Town Dump)	This swale is operating as designed. The Town has cleared the felled trees and also cleared the overgrown brush and trees from the chain link fence. No new beaver activity was observed.		√
(c.) Swale C (Town Dump)	This swale appears to be operating as designed.		√
(d.) Swale D (Tire Dump)	Two (2) beaver dams were observed; one on the southern side of the access road and one on the northern side of the access road. Both dams have been breached to permit stream flow. Continue to trap and remove the beaver(s) from the area and then breach the beaver dams as necessary.		√
(e.) Swale E (Tire Dump)	The swale appears to be operating as designed. No standing water was observed during this site visit. The Town has removed the fallen tree.		√
(f.) Swale F	In general the swale appears to be operating as designed. In the invert of Swale F near the confluence of Swale E and H, a pocket of sediment and grass build up was found. No standing water was observed, however this		√

**Auburn Road Landfill Superfund Site
Londonderry, New Hampshire
Operation and Maintenance Site Inspection 36**

ITEM	SIGNIFICANT COMMENTS	CORRECTIVE ACTION REQUIRED?	
		YES	NO
	area could pose as a restriction to flow from swale H. Sediment build up in this area should be monitored and removed if ponded water is observed in Swale H. The Town has removed the fallen tree.		
(g.) Swale H	The swale is functioning as designed. Sediment build up in the swale should be monitored and removed if ponded water is observed.		√
(h.) Concrete Culverts	The concrete culverts were observed to be in good condition.		√
(7.) LCRA	Comments on the LCRA are provided in items (7a) through (7c).		
(a.) Town Dump	The Town reseeded and fertilized the grass surface in early October 2011. New grass growth was observed on the majority of the landfill. The Town has removed the fallen tree at the access gate. The western lobe of the landfill and a few spot areas on the eastern lobe has yet to exhibit new grass growth. These areas should receive seed and fertilizer treatment. No depressions or obvious erosion channels were observed. The gas monitoring wells, and settlement platforms were intact. The security fence around the Town Dump appeared to be in good condition and the breach in the NE corner has been secured. There is no new evidence of beaver presence at the northwest corner and along the northern toe-of-slope.	√	
(b.) Tire Dump	The Town reseeded and fertilized the grass surface in early October 2011. The eastern slope of the landfill and a few spot areas on the western slope have yet to exhibit new grass growth. These areas should receive seed and fertilizer treatment. No depressions or obvious erosion channels were observed. The gas vents and settlement platforms were intact. The security fencing around the Tire Dump appeared to be in good condition. The Town has cleared the vegetation along the entire chain link fence. The Town has removed the cut brush from the area south of the landfill.	√	
(c.) Solid Waste Landfill	The Town reseeded and fertilized the grass surface in early October 2011. The eastern edge of the landfill and a few spot areas on the western surface have yet to exhibit new grass growth. These areas should receive seed and fertilizer treatment. No depressions or obvious erosion channels were observed. The gas vents and settlement platforms were intact. The security fence around the solid waste landfill appeared to be in good condition. The Town installed a couple of new fence posts in the NE corner to support the sagging fence.	√	
(8.) Landfill Gas Screening	Ambient air, four perimeter landfill gas monitoring wells (GV-1 through GV-4) and six interior landfill gas sampling wells (GV-5 through GV-10) were field-screened during the site visit using a Landtec GEM-2000+ and a Photo-Ionization Detector (PID). The gas monitoring results indicate no significant threat to the environment and/or human health due to landfill gas migration. The results are summarized below. Attachment C contains a table that summarizes the monitoring results. <ul style="list-style-type: none"> No methane was detected at any of the following monitoring locations: GV-1 through GV-5 located along Auburn Road. Methane was detected in monitoring locations GV-6 located on the Town Dump, 		√

**Auburn Road Landfill Superfund Site
Londonderry, New Hampshire
Operation and Maintenance Site Inspection 36**

ITEM	SIGNIFICANT COMMENTS	CORRECTIVE ACTION REQUIRED?	
		YES	NO
	<p>and GV-9 located on the Solid Waste Landfill.</p> <ul style="list-style-type: none"> • Hydrogen sulfide was not detected at any of the monitoring locations. • Volatile organic compounds (VOCs) were not detected at any of the monitoring locations. <p>There were no nuisance odors detected at the site.</p>		
(9.) Wetlands	Wetland species have developed within the wetland replication areas and earthen swales.		√
(10.) General			
(a.) Settlement	No settlement survey was conducted. The next settlement platform survey is due in November 2014.		√
(b.) Boundary Markers	Boundary markers exist around the perimeter of the site. Permanent elevation markers appear to be intact along the access road.		√
(c.) Access Roads	The main access road starting off Auburn Road is paved for a majority of the road leading into the site. The eastern end of the access road is gravel. Roadway appears to be in good condition.		√
(d.) Security	The gate on the main access road along Auburn Road was secure. Off-road vehicular traffic (dirt bikes) appears to be present in the areas east of the Town Dump to east of the Solid Waste Landfill. No damage was observed in the landfill areas.		√
(e.) Posting	Visible signage was posted at the main entrance to the site.		√
(f.) Leachate	Leachate was not observed seeping from any of the three landfills.		√

RECOMMENDATIONS FOR CORRECTIVE ACTIONS

In response to observations made during the recent site visit, the following recommendations are made:

1. Continue mowing activities on each of the three landfills as recommended in the post-closure O&M manual.
2. Continue removal of vegetation and saplings located in rip rap protection and swales located on the landfill cap, as needed. (Note Swales D & E are wetland replication areas and should not be cleared)
3. Continue to trap and remove the beaver(s) from Swale D. Monitor the two breached dams located on the southern and northern side of the access road in Swale D for new beaver activity.
4. Clear brush growing in the rip rap toe-of-slope along Auburn Road at the Town Dump.
5. Provide seed and fertilizer to the bare areas on the Town Dump, Tire Dump and the Solid Waste Landfill surfaces.

ATTACHMENT C

GAS MONITORING RESULTS

AUBURN ROAD LANDFILL
LONDONDERRY, NEW HAMPSHIRE
OPERATION AND MAINTENANCE
SOIL GAS MONITORING ROUND 38

April 24, 2012
SEA Project No. 2010222.02-A

MONITORING RESULTS										
Well ID		LOCATION	TIME	Pressure (in. Hg)	CH ₄ (%)	LEL (%)	CO ₂ (%)	O ₂ (%)	H ₂ S (ppm)	PID (ppm)
GV-1	pre	Auburn Road	8:07	29.00	0.0	0.0	0.7	20.0	0	0.0
	post		8:12	29.00	0.0	0.0	0.1	20.6	0	0.0
GV-2	pre	Auburn Road	8:15	29.00	0.0	0.0	2.4	19.4	0	0.0
	post		8:20	29.00	0.0	0.0	0.0	20.7	0	0.0
GV-3	pre	Auburn Road	8:23	29.00	0.0	0.0	1.9	19.5	0	0.0
	post		8:28	29.00	0.0	0.0	0.0	20.7	0	0.0
GV-4	pre	Auburn Road	8:33	29.00	0.0	0.0	1.3	19.9	0	0.0
	post		8:38	29.00	0.0	0.0	0.0	20.8	0	0.0
GV-5	pre	Town Dump	8:43	29.00	0.0	0.0	0.0	20.8	0	0.0
	post		8:48	29.00	0.0	0.0	0.0	20.9	0	0.0
GV-6	pre	Town Dump	8:59	29.00	0.1	2.0	0.2	20.7	0	0.0
	post		8:56	29.00	1.0	20.0	0.0	20.0	0	0.0
GV-7	pre	Tire Dump	9:42	29.01	0.0	0.0	0.0	21.0	0	0.0
	post		9:47	29.01	0.0	0.0	0.0	20.9	0	0.0
GV-8	pre	Tire Dump	9:33	29.01	0.0	0.0	0.0	21.0	0	0.0
	post		9:38	29.01	0.0	0.0	0.0	21.0	0	0.0
GV-9	pre	SWL	9:58	29.01	1.4	28.0	1.7	19.8	0	0.0
	post		10:03	29.01	0.0	0.0	0.0	21.1	0	0.0
GV-10	pre	SWL	10:06	29.01	0.0	0.0	0.3	21.1	0	0.0
	post		10:11	29.01	0.0	0.0	0.0	21.1	0	0.0
Background		Town Dump Gate	8:00	29.00	0.0	0.0	0.0	20.9	0	0.0

NOTES:

1. Weather: Overcast & Windy, 48°F; Last precipitation: 1.23 inches on 4/23/2012
2. Pressure Trend: Rising
3. Gas wells are purged two well volumes prior to sampling subsurface soil gases.
A pre-purge sample is collected from each well to identify gas build-up inside the well.
4. Bold values indicate methane detection.
5. Equipment: Landtec GEM-2000+; MiniRAE 2000 PID
6. Monitoring performed by Ryan Caisse

ATTACHMENT D

PHOTOGRAPHS

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 1: Swale E



Photo No. 2: Swale H

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 3: Swale F



Photo No. 4: Swale F

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 5: Swale B



Photo No. 6: Swale B

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 7: Swale C



Photo No. 8: Swale C

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 9: Swale C



Photo No. 10: Swale A

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 11: Swale A



Photo No. 12: Town Dump – Entrance Way

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 13: Town Dump – Fence at Entrance



Photo No. 14: Town Dump – Southwest Surface

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 15: Town Dump – Southwestern Surface



Photo No. 16: Town Dump Western Toe-of-Slope & Fence

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 17: Town Dump – Western Surface



Photo No. 18: Town Dump – Western Surface & Fence

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 19: Town Dump – Northern Toe of Slope



Photo No. 20: Town Dump – Northern Slope

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 21: Town Dump – Northern Toe of Slope



Photo No. 22: Town Dump – Eastern Surface

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 23: Town Dump – Eastern Toe-of-Slope



Photo No. 24: Town Dump – Eastern Surface

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 25: Town Dump – Eastern Toe-of-Slope



Photo No. 26: Town Dump – Center Surface

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 27: Town Dump – Center

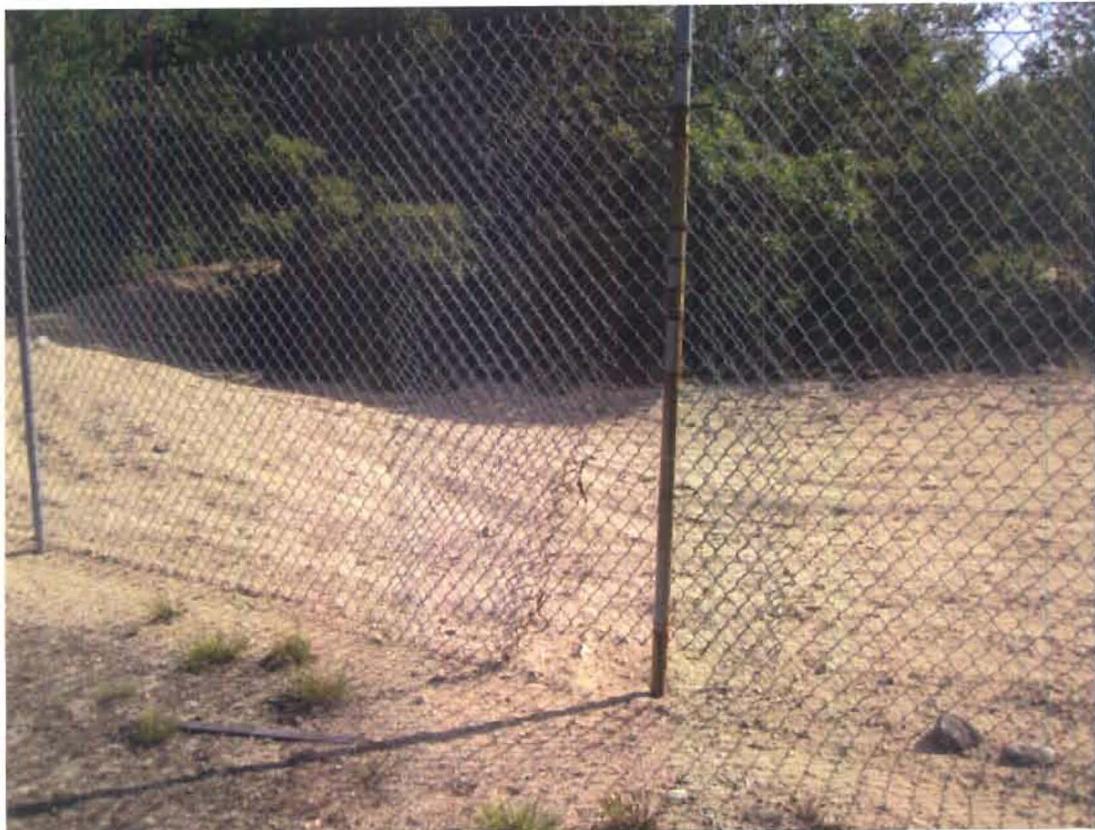


Photo No. 28: Town Dump – Fence Repair

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 29: Access Road



Photo No. 30: Access Road

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 31: Access Road



Photo No. 32: Access Road

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 33: Access Road



Photo No. 34: Tire Dump Northern Toe-of-Slope & Fence Line

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 35: Tire Dump Western Toe-of-Slope & Fence Line



Photo No. 36: Tire Dump – Western Toe-of-Slope & Fence Line

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 37: Tire Dump – Western Toe-of-Slope Fence Line



Photo No. 38: Tire Dump – Western Toe-of-Slope & Fence Line

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 39: Tire Dump – Western Toe-of-Slope & Fence Line



Photo No. 40: Tire Dump – Southern Fence Line

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 41: Tire Dump – Southern Surface



Photo No. 42: Tire Dump – Eastern Slope

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit '36**



Photo No. 43: Tire Dump – Eastern Surface



Photo No. 44: Tire Dump – Eastern Toe-of-Slope

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 45: Tire Dump – Surface



Photo No. 46: Tire Dump – Northern Surface

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 47: Tire Dump – Eastern Toe-of-Slope



Photo No. 48: Swale D (South) – Beaver Dam

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 49: Swale D (South) – Beaver Dam Breach



Photo No. 50: Swale D (South) – Culvert Inlet

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 51: Swale D (North)



Photo No. 52: Swale D (North)

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 53: Swale D (North)



Photo No. 54: Swale D (North) – Beaver Dam

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 55: SWLF – Northern Toe-of-Slope & Fence Line



Photo No. 56: SWLF – Northern Toe-of-Slope & Fence Line

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 57: SWLF Western Surface



Photo No. 58: SWLF – Mid-Slope Swale

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 59: SWLF – Mid-Slope Swale



Photo No. 60: SWLF – Western Toe-of-Slope

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 61: SWLF – Southern Surface



Photo No. 62: SWLF Eastern Toe-of-Slope

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 63: SWLF Surface



Photo No. 64: SWLF Surface

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 65: SWLF – Surface



Photo No. 66: SWLF) NE Fence Line

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 36**



Photo No. 67: SWLF – Northern Toe-of-Slope and Fence

Appendix B
November 2012 Site Visit Report



November 28, 2012

Mr. William Hart
 Acting Town Manager
 268B Mammoth Road
 Londonderry, New Hampshire 03053

RE: Auburn Road Landfill Superfund Site
 Site Inspection Number 37
 Kleinfelder Reference No.: 2010222.03-A

Dear Mr. Caron:

Enclosed please find the most recent site examination report for the Auburn Road Landfill, which was performed on Thursday, November, 1, 2012. The purpose of the exam was to monitor the Operations and Maintenance (O&M) activities for the three landfills and the site in general. This O&M Report is being submitted in accordance with the Record of Decision (ROD) and applicable federal regulations.

Landfill gas monitoring was conducted on Wednesday, November 14, 2012. Ambient air, four perimeter soil gas monitoring wells (GV-1 through GV-4) along Auburn Road and six interior landfill gas sampling wells (GV-5 through GV-10) were monitored using a Landtec GEM-2000+ and a Photo-Ionization Detector (PID). The gas monitoring results indicate that presently there is no significant threat to the environment and/or human health due to landfill gas migration. The landfill gas monitoring results are summarized in greater detail in Item 8 of the attached report. The Town reseeded and fertilized the landfill surfaces in early October 2011 and they were found to be in good condition with the exception of a few bare areas on the surface of the Town Dump, the Tire Dump and the Solid Waste Landfill. These bare spots should be re-seeded and fertilized. The DPW recently mowed the landfill surfaces.

Our observations of the site's swales are summarized in the following table.

Swale	Observations	Action to be Taken
A	New vegetative Growth.	None.
B	This swale is operating as designed.	None.
C	This swale appears to be operating as designed.	None.
D	Two (2) beaver dams were observed; one on the southern side of the access road and one on the northern side of the access road. Both dams have been recently breached to permit stream flow.	Continue to trap and remove the beaver(s) from the area and monitor the dams for new dam construction.
E	The swale appears to be operating as designed.	None.
F	Vegetative growth and minor sediment accumulation. One fallen tree on the western bank approximately 150 feet from the access road.	Monitor swale for flow restrictions and development of hearty vegetation. Remove fallen tree.

Mr. Will Hart
November 28, 2012
Page 2



Swale	Observations	Action to be Taken
H	Swale is clear of vegetation.	None.

The following attachments are provided to document our observations and the work performed:

- Attachment A: Site Plan
- Attachment B: Site Visit Report
- Attachment C: Landfill Gas Monitoring Data
- Attachment D: Inspection Photographs

Please feel free to call me at 603.227.2316 with any questions you may have regarding this O&M Report.

Respectfully yours,

KLEINFELDER

A handwritten signature in black ink, appearing to read "Ronald St. Michel". The signature is fluid and cursive.

Ronald St. Michel, P.E.
Principal Engineer

Enclosures

cc: Mr. John Trottier, P.E., Assistant Director of Public Works and Engineering
Mr. Stephen E. Wright, P.E., Kleinfelder
file

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ATTACHMENT A

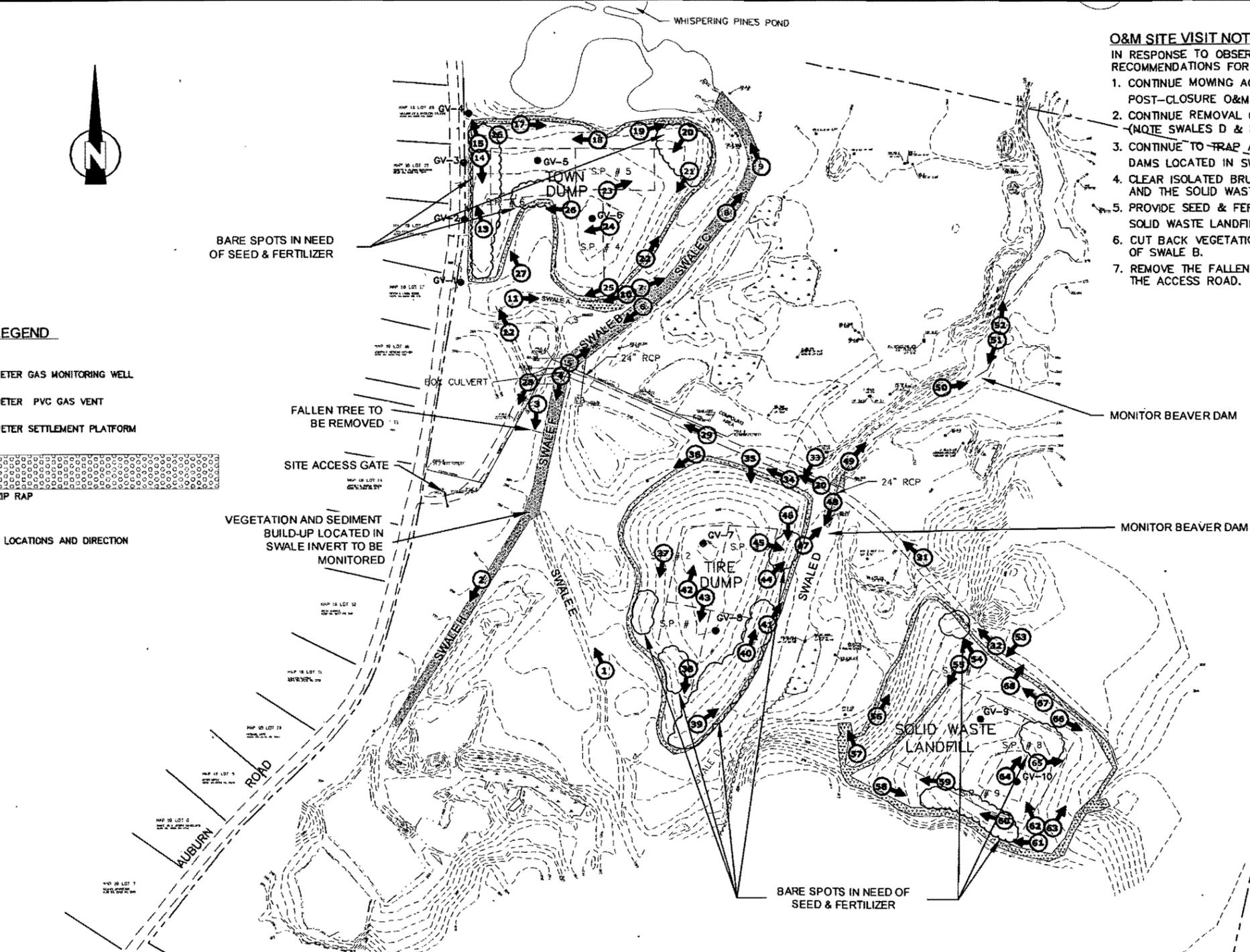
SITE PLAN

PLOT DATE: 11/27/2012 8:57:35 AM USER: RON STMICHEL FILENAME: G:\clients\londonderry NH\0010222 - Auburn Rd LPD\Drawings\6637.dwg



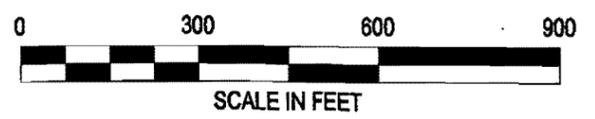
LEGEND

- ⊙ 8" DIAMETER GAS MONITORING WELL
- 4" DIAMETER PVC GAS VENT
- ⊕ 4" DIAMETER SETTLEMENT PLATFORM
- [Patterned Box] LIMITS OF RIP RAP
- ➔ PHOTO LOCATIONS AND DIRECTION



O&M SITE VISIT NOTES

- IN RESPONSE TO OBSERVATIONS MADE DURING THE RECENT SITE VISIT, THE FOLLOWING RECOMMENDATIONS FOR CORRECTIVE ACTIONS ARE MADE:
1. CONTINUE MOWING ACTIVITIES ON EACH OF THE THREE LANDFILLS AS RECOMMENDED IN THE POST-CLOSURE O&M MANUAL.
 2. CONTINUE REMOVAL OF VEGETATION AND SAPPLINGS IN AND ADJACENT TO SWALES AS NEEDED. (NOTE SWALES D & E ARE WETLAND REPLICATION AREAS AND SHOULD NOT BE CLEARED).
 3. CONTINUE TO TRAP AND REMOVE THE BEAVER(S) FROM SWALE D. MONITOR THE TWO BREACHED DAMS LOCATED IN SWALE B FOR NEW BEAVER ACTIVITY.
 4. CLEAR ISOLATED BRUSH GROWTH IN THE RIP RAP TOE-OF-SLOPE AT THE TOWN DUMP, TIRE DUMP, AND THE SOLID WASTE LANDFILL.
 5. PROVIDE SEED & FERTILIZER ON THE BARE AREAS ON THE TOWN DUMP, TIRE DUMP AND THE SOLID WASTE LANDFILL.
 6. CUT BACK VEGETATION THAT IS ENCRANCHING INTO THE NORTH SIDE OF THE ACCESS ROAD EAST OF SWALE B.
 7. REMOVE THE FALLEN TREE ON THE WESTERN BANK OF SWALE F APPROXIMATELY 150 FEET FROM THE ACCESS ROAD.



OPERATION AND MAINTENANCE SITE PLAN



Scale	AS NOTED	Client	TOWN OF LONDONDERRY, NEW HAMPSHIRE
Date	NOVEMBER 2012	Project	AUBURN ROAD LANDFILL OPERATIONS AND MAINTENANCE
Job No.	2010222	Drawing	FIGURE 1 - SITE VISIT NUMBER 37
Designed by	RSM		
Drawn by	RSM		
Checked by	SEW		
Approved by	SEW		

ATTACHMENT B

SITE VISIT REPORT

**Auburn Road Landfill Superfund Site
Londonderry, New Hampshire
Operation and Maintenance Site Inspection 37**

GENERAL INFORMATION:

Project Name: Auburn Road Landfill Superfund Site
Project Location: Londonderry, New Hampshire
Facility Operator: Town of Londonderry

Previous O&M Site Inspection:

Number: 36

Date: June 1, 2012

Time: 8:00 a.m. to 10:30 a.m.

Current O&M Site Inspection:

Number: 37

Date: November 1, 2012

Time: 8:00 a.m. to 11:00 a.m.

On-Site Personnel:

Ron St. Michel, P.E. - Kleinfelder (11/1/12 Landfill Inspection)

Will Weddig – Kleinfelder (11/14/12 Landfill Gas Monitoring)

Weather (for Manchester, NH from www.wunderground.com):

November 1, 2012

The temperature ranged between 44 and 48°F, mostly to partly cloudy and light winds ranging between 4 and 8 mph.

Barometric pressure was steady.

Last Precipitation was 0.53 inches on October 30, 2012.

November 14, 2011

The temperature ranged between 36 and 42°F, clear and wind speed at approximately 8 mph.

Barometric pressure was steady.

Last Precipitation was 0.20 inches on November 13, 2012.

Kleinfelder Project Number: 2010222.03-A

Auburn Road Landfill Superfund Site Londonderry, New Hampshire Operation and Maintenance Site Inspection 37

SITE VISIT OBSERVATIONS:

The following table summarizes the observations made during the site visit. Refer to the site plan provided in Attachment A for a summary of recommendations based on recent site observations.

ITEM	SIGNIFICANT COMMENTS	CORRECTIVE ACTION REQUIRED?	
		YES	NO
(1.) General	The Remedial Action Construction (LRDIRA and LCRA) was performed in 1993 and 1994, respectively, and included the construction of three earthen swales (A, D, and E); four rip-rap swales (B, C, F, and H); two 24-inch concrete pipe culverts; one 3-foot by 8-foot concrete box culvert; the capping of three landfill areas (Town Dump, Tire Dump, and Solid Waste Landfill), and subsequent construction of nine wetland replication areas (R-1 through R-6, R-9, R-11, and R-12) in 1995.	N/A	N/A
(2.) Supervision	The operations and maintenance of the landfill is under the supervision of the Town of Londonderry. Currently, Mr. John Trottier, P.E., Assistant Director of Public Works and Engineering, is supervising operations and maintenance for the site.	N/A	N/A
(3.) Current Use	The Town is performing maintenance activities at the site, which consist of mowing the landfill areas, clearing vegetation from drainage swales, beaver control, repairing fences and gates and maintaining access roads. The Management of Migration Potentially Responsible Parties (MOM-PRPs) is continuing to perform surface and groundwater sampling on a periodic basis.	N/A	N/A
(4.) Ground Conditions	No earthen depressions were observed on the landfill surfaces.		√
(5.) Health and Safety	Activities at the site were performed in Level D personal protective equipment and in accordance with the provisions of the Site-Specific Health and Safety Plan.	N/A	N/A
(6.) LRDIRA	Comments on the LRDIRA are provided in items (6a) through (6h).		
(a.) Swale A (Town Dump)	This swale appears to be operating as designed.		√
(b.) Swale B (Town Dump)	This swale is operating as designed. New brush growth observed between swale and fence line to approximately the height of the chain link fence. The new growth is not affecting the chain link fence at this time; however, the Town may want to trim this brush before spring 2013.		√
(c.) Swale C (Town Dump)	This swale appears to be operating as designed.		√
(d.) Swale D (Tire Dump)	Two (2) beaver dams were observed; one on the southern side of the access road and one on the northern side of the access road. Both dams have been breached to permit stream flow. Continue to trap and remove the beaver(s) from the area and then breach the beaver dams as necessary.		√
(e.) Swale E (Tire Dump)	The swale appears to be operating as designed. No standing water was observed during this site visit.		√
(f.) Swale F	In general the swale appears to be operating as designed. In the invert of Swale F near the confluence of Swale E and H, a pocket of sediment and	√	

**Auburn Road Landfill Superfund Site
Londonderry, New Hampshire
Operation and Maintenance Site Inspection 37**

ITEM	SIGNIFICANT COMMENTS	CORRECTIVE ACTION REQUIRED?	
		YES	NO
	grass build up was found. No standing water was observed, however this area could pose as a restriction to flow from swale H. Sediment build up in this area should be monitored and removed if ponded water is observed in Swale H. A fallen tree was observed approximate 150 feet from the access road on the western bank that should be removed.		
(g.) Swale H	The swale is functioning as designed. Sediment build up in the swale should be monitored and removed if ponded water is observed.		√
(h.) Concrete Culverts	The concrete culverts were observed to be in good condition.		√
(7.) LCRA	Comments on the LCRA are provided in items (7a) through (7c).		
(a.) Town Dump	The Town reseeded and fertilized the grass surface in early October 2011. The western lobe of the landfill and a few spot areas on the eastern lobe has yet to exhibit new grass growth. These areas should receive seed and fertilizer treatment. No depressions or obvious erosion channels were observed. The gas monitoring wells, and settlement platforms were intact. The security fence around the Town Dump appeared to be in good condition. There is no new evidence of beaver presence at the northwest corner and along the northern toe-of-slope. Isolated brush growth in the toe-of-slope rip rap should be removed.	√	
(b.) Tire Dump	The Town reseeded and fertilized the grass surface in early October 2011. The eastern slope of the landfill and a few spot areas on the western slope have yet to exhibit new grass growth. These areas should receive seed and fertilizer treatment. No depressions or obvious erosion channels were observed. The gas vents and settlement platforms were intact. The security fencing around the Tire Dump appeared to be in good condition. Isolated brush growth in the toe-of-slope rip rap should be removed.	√	
(c.) Solid Waste Landfill	The Town reseeded and fertilized the grass surface in early October 2011. The southern edge of the landfill and a few spot areas on the northern surface have yet to exhibit new grass growth. These areas should receive seed and fertilizer treatment. No depressions or obvious erosion channels were observed. The gas vents and settlement platforms were intact. The security fence around the solid waste landfill appeared to be in good condition. Isolated brush growth in the toe-of-slope rip rap should be removed.	√	
(8.) Landfill Gas Screening	Ambient air, four perimeter landfill gas monitoring wells (GV-1 through GV-4) and six interior landfill gas sampling wells (GV-5 through GV-10) were field-screened during the site visit using a Landtec GEM-2000+ and a Photo-Ionization Detector (PID). The gas monitoring results indicate no significant threat to the environment and/or human health due to landfill gas migration. The results are summarized below. Attachment C contains a table that summarizes the monitoring results. <ul style="list-style-type: none"> • No methane was detected at any of the following monitoring locations: GV-1 through GV-4 located along Auburn Road and in GV-10 on the Solid Waste Landfill. Methane was detected in monitoring locations GV-5 and GV-6 located on the Town Dump, GV-7 and GV-8 located 		√

**Auburn Road Landfill Superfund Site
Londonderry, New Hampshire
Operation and Maintenance Site Inspection 37**

ITEM	SIGNIFICANT COMMENTS	CORRECTIVE ACTION REQUIRED?	
		YES	NO
	<p>on the Tire Dump and GV-9 located on the Solid Waste Landfill.</p> <ul style="list-style-type: none"> • Hydrogen sulfide was detected at monitoring wells GV-6 and GV-9. • Volatile organic compounds (VOCs) were detected at monitoring wells GV-6, GV-7 and GV-9. <p>There were no nuisance odors detected at the site.</p>		
(9.) Wetlands	Wetland species have developed within the wetland replication areas and earthen swales.		√
(10.) General			
(a.) Settlement	No settlement survey was conducted. The next settlement platform survey is due in November 2014.		√
(b.) Boundary Markers	Boundary markers exist around the perimeter of the site. Permanent elevation markers appear to be intact along the access road.		√
(c.) Access Roads	The main access road starting off Auburn Road is paved for a majority of the road leading into the site. The eastern end of the access road is gravel. Roadway appears to be in good condition. Vegetation on the northern side of the access road east of Swale B was observed encroaching into the roadway. This vegetation should be cut back.	√	
(d.) Security	The gate on the main access road along Auburn Road was secure. Off-road vehicular traffic (dirt bikes) appears to be present in the areas east of the Town Dump and the to east of the Solid Waste Landfill. No damage was observed in the landfill areas.		√
(e.) Posting	Visible signage was posted at the main entrance to the site.		√
(f.) Leachate	Leachate was not observed seeping from any of the three landfills.		√

RECOMMENDATIONS FOR CORRECTIVE ACTIONS

In response to observations made during the recent site visit, the following recommendations are made:

1. Continue mowing activities on each of the three landfills as recommended in the post-closure O&M manual.
2. Continue removal of vegetation and saplings located in and adjacent to swales as needed. (Note Swales D & E are wetland replication areas and should not be cleared)
3. Continue to trap and remove the beaver(s) from Swale D. Monitor the two breached dams located on the southern and northern side of the access road in Swale D for new beaver activity.
4. Clear isolated brush growth in the rip rap toe-of-slope around the Town Dump, Tire Dump and SWLF.
5. Provide seed and fertilizer to the bare areas on the Town Dump, Tire Dump and the Solid Waste Landfill surfaces.
6. Cut back vegetation encroaching into the north side of the access road east of Swale B.
7. Remove the fallen tree on the western bank of Swale F approximately 150 feet from the access road.

ATTACHMENT C

GAS MONITORING RESULTS

AUBURN ROAD LANDFILL
LONDONDERRY, NEW HAMPSHIRE
OPERATION AND MAINTENANCE
SOIL GAS MONITORING ROUND 39

November 14, 2012
Kleinfelder Project No. 2010222.03-A

MONITORING RESULTS										
Well ID		LOCATION	TIME	Pressure (in Hg)	CH ₄ (%)	LEL (%)	CO ₂ (%)	O ₂ (%)	H ₂ S (ppm)	PID (ppm)
GV-1	pre	Auburn Road	8:20	30.15	0.0	0.0	0.5	20.1	0	0.0
	post		8:25	30.15	0.0	0.0	0.0	20.7	0	0.0
GV-2	pre	Auburn Road	8:30	30.15	0.0	0.0	0.1	20.8	0	0.0
	post		8:35	30.15	0.0	0.0	0.0	20.7	0	0.0
GV-3	pre	Auburn Road	8:40	30.15	0.0	0.0	4.3	18.1	0	0.0
	post		8:45	30.15	0.0	0.0	0.1	20.8	0	0.0
GV-4	pre	Auburn Road	8:50	30.15	0.0	0.0	1.4	20.1	0	0.0
	post		8:55	30.15	0.0	0.0	0.3	20.6	0	0.0
GV-5	pre	Town Dump	9:00	30.15	5.6	>100%	5.7	2.4	0	0.1
	post		9:05	30.15	1.3	26.0	3.2	11.1	0	0.0
GV-6	pre	Town Dump	9:10	30.15	60.3	>100%	30.3	0.4	11	0.3
	post		9:15	30.15	60.2	>100%	30.4	0.5	12	0.3
GV-7	pre	Tire Dump	10:15	30.13	31.1	>100%	32.0	0.7	0	2.6
	post		10:20	30.13	31.8	>100%	32.4	0.0	0	2.6
GV-8	pre	Tire Dump	10:25	30.13	41.7	>100%	35.4	0.7	0	0.0
	post		10:30	30.13	42.3	>100%	36.0	0.0	0	0.0
GV-9	pre	SWL	9:40	30.13	60.8	>100%	36.2	0.5	15	1.0
	post		9:45	30.13	60.8	>100%	36.2	0.2	16	0.8
GV-10	pre	SWL	9:50	30.13	0.0	0.0	0.1	20.8	0	0.0
	post		9:55	30.13	0.0	0.0	0.0	20.9	0	0.0
Background		Town Dump Gate	8:15	30.15	0.0	0.0	0.0	20.8	0	0.0

NOTES:

1. Weather: Clear, 39°F; Last precipitation: 0.20 inches on 11/13/2012 Source: www.wunderground.com
2. Pressure Trend: Falling in A.M. / Steady in P.M. (based on recorded weather data from www.wunderground.com; pressure listed in above table is as recorded by the LandGEM 2000)
3. Gas wells are purged two well volumes prior to sampling subsurface soil gases.
A pre-purge sample is collected from each well to identify gas build-up inside the well.
4. Bold values indicate methane detection.
5. Equipment: Landtec GEM-2000+; MiniRAE 2000 PID
6. Monitoring performed by Will Weddig

ATTACHMENT D

PHOTOGRAPHS

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 37 – November 1, 2012**



Photo No. 1: Swale E



Photo No. 2: Swale H

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 37 – November 1, 2012**



Photo No. 3: Swale F



Photo No. 4: Swale F

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 37 – November 1, 2012**



Photo No. 5: Swale B



Photo No. 6: Swale B

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 37 – November 1, 2012**



Photo No. 7: Swale C



Photo No. 8: Swale C

**Auburn Road Landfill Superfund Site
Operation and Maintenance Site Visit 37 – November 1, 2012**



Photo No. 9: Swale C



Photo No. 10: Swale A

**Auburn Road Landfill Superfund Site
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Photo No. 11: Swale A



Photo No. 12: Town Dump Entrance Gate

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Photo No. 13: Town Dump – Western Toe-of-Slope & Fence



Photo No. 14: Town Dump – Southwestern Surface

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Photo No. 15: Town Dump – Northwest Corner Surface



Photo No. 16: Town Dump – Northwestern Surface

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Photo No. 17: Town Dump Northern Toe-of-Slope



Photo No. 18: Town Dump – Northern Surface

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Photo No. 19: Town Dump – Northern Toe-of-Slope



Photo No. 20: Town Dump – Eastern Surface

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Photo No. 21: Town Dump – Eastern Toe-of-Slope



Photo No. 22: Town Dump – Eastern Toe of Slope

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Photo No. 23: Town Dump – Eastern Surface



Photo No. 24: Town Dump – Central Surface and Toe-of-Slope

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Photo No. 25: Town Dump – Southern Toe-of-Slope



Photo No. 26: Town Dump – Central Toe-of-Slope

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Photo No. 27: Town Dump – Central Toe-of-Slope



Photo No. 28: Access Road

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Photo No. 29: Access Road



Photo No. 30: Access Road

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Photo No. 31: Access Road



Photo No. 32: Access Road

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Photo No. 33: Tire Dump Entrance Gate



Photo No. 34: Tire Dump Northern Toe-of-Slope & Fence Line

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Photo No. 35: Tire Dump – Northern Toe-of-Slope



Photo No. 36: Tire Dump – Western Toe-of-Slope Fence Line

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Photo No. 37: Tire Dump – Western Surface



Photo No. 38: Tire Dump – Western Toe-of-Slope & Fence Line

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Photo No. 39: Tire Dump – Eastern Toe-of-Slope



Photo No. 40: Tire Dump – Eastern Surface

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Photo No. 41: Tire Dump – Eastern Toe-of-Slope



Photo No. 42: Tire Dump – Northern Surface

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Photo No. 43: Tire Dump – Southern Surface



Photo No. 44: Tire Dump – Eastern Toe-of-Slope

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Photo No. 45: Tire Dump – Eastern Surface



Photo No. 46: Tire Dump – Eastern Surface

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Photo No. 47: Swale D (South) – Beaver Dam



Photo No. 48: Swale D (South) – Inlet Culvert

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Photo No. 49: Swale D (North)



Photo No. 50: Swale D (North) – Beaver Dam

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Photo.No. 51: Swale D (North) – Beaver Dam



Photo No. 52: Swale D (North)

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Photo No. 53: SWLF – Entrance Gate



Photo No. 54: SWLF – Northern Toe-of-Slope & Fence Line

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Photo No. 55: SWLF Mid-Slope Swale & Surface



Photo No. 56: SWLF – Western Slope

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Photo No. 57: SWLF – Western Drainage Basin



Photo No. 58: SWLF – Southern Toe-of-Slope

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Photo No. 59: SWLF – Southwestern Surface



Photo No. 60: SWLF Southern Surface

**Auburn Road Landfill Superfund Site
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Photo No. 61: SWLF Southern Toe-of-Slope



Photo No. 62: SWLF Southeastern Surface

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Photo No. 63: SWLF – Eastern Slope



Photo No. 64: SWLF – Northern Surface

**Auburn Road Landfill Superfund Site
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Photo No. 65: SWLF – Northeastern Surface



Photo No. 66: SWLF – Northeastern Toe-of-Slope and Fence

**Auburn Road Landfill Superfund Site
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Photo No. 67: SWLF – Northern Toe-of-Slope and Fence

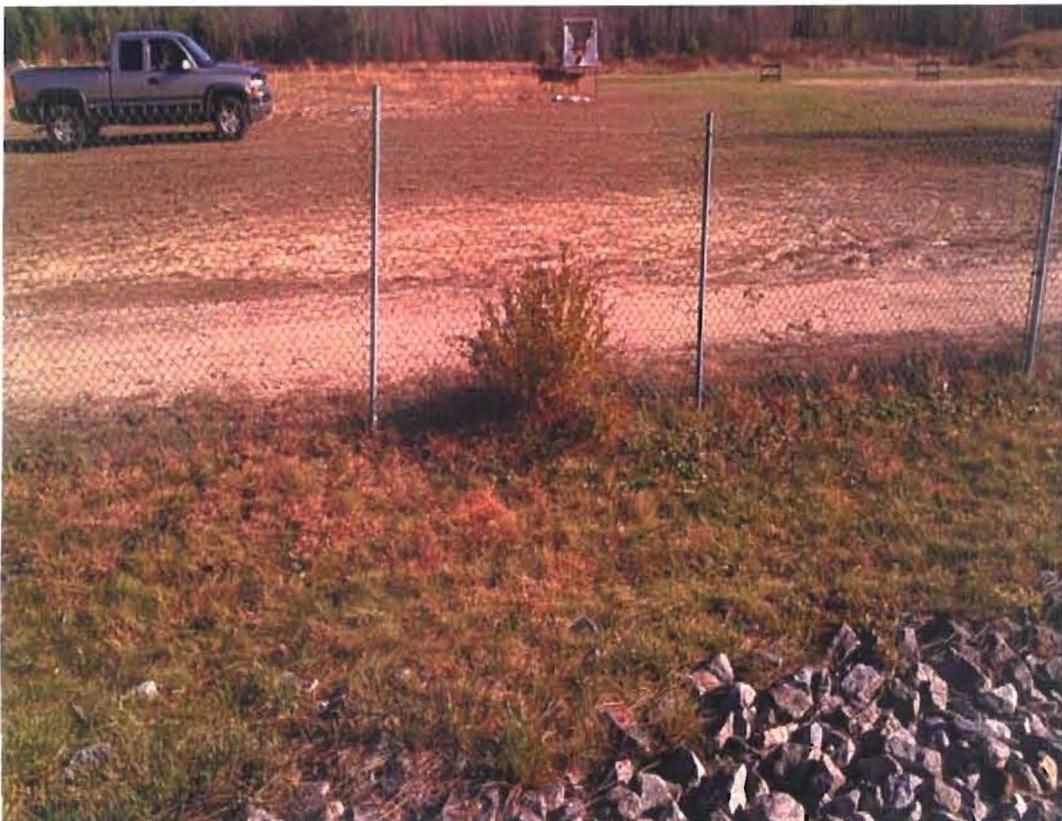


Photo No. 68: SWLF – Northern Fence