From: "Lavin, Patrick" <patrick.lavin@honeywell.com>
To: Christopher O'neill <cxoneill@gw.dec.state.ny.us>
Date: 11/15/2012 12:09 PM
Subject: RE: Green Island / Former Bendix Closed Landfill, HW#401005

Chris,

Thank you! Enjoy the holidays.

Pat

Patrick Lavin
HSE Site Leader
Honeywell, Friction Materials
Green Island Plant
(518) 270-0322 phone
(518) 270-0419 fax
patrick.lavin@honeywell.com

-----Original Message-----
From: Christopher O'neill [mailto:cxoneill@gw.dec.state.ny.us]
Sent: Thursday, November 15, 2012 11:40 AM
To: Lavin, Patrick
Cc: Keith Goertz; slh09@health.state.ny.us; Kratz, Steven; Walsh, Tom (TS, FM, Green Island)
Subject: Re: Green Island / Former Bendix Closed Landfill, HW#401005

Thank you for the mowing and fence update.
The revised November 2012 'Long Term Monitoring and Maintenance Plan' satisfactorily reflects the most recent clarifications and modifications requested by NYSDEC/NYSDOH.

I can be reached at 518-357-2394 if there are any questions.

>>> "Lavin, Patrick" <patrick.lavin@honeywell.com> 11/8/2012 10:25 AM >>>
Good Morning Chris.

We have received and accepted the letter with requested clarifications / modifications from your office dated November 2, 2012. We have also updated the Long Term Monitoring and Maintenance Plan to reflect the changes - I have attached this file. In addition, we mowed and inspected the landfill on 11/6/12. We did notice that someone cut a hole in the fence on the far side and deer are coming and going - I'm not sure how long the hole has been there. So I have contacted the fence company to get it repaired. If we see another hole cut, we will contact the authorities. Otherwise the property was in good condition.

Sincerely,
Patrick Lavin
HSE Site Leader
Honeywell, Friction Materials
Green Island Plant
(518) 270-0322 phone
(518) 270-0419 fax
* patrick.lavin@honeywell.com<mailto:steve.kratz@honeywell.com>

Former Bendix Landfill
Long-Term Monitoring and Maintenance Plan

Honeywell Friction Materials Facility
Green Island, New York

NYSDEC Site No #401005

Prepared For:

HONEYWELL FRICTION MATERIALS
3 Tibbits Avenue
Green Island, New York 12183

Prepared By:

Amec Environment & Infrastructure, Inc.
9725 Cogdill Road
Knoxville, Tennessee 37932

September 2012
Revised November 2012

Amec Project No.: 3031122010

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Mark A. Peters
Principal Engineer

Jerry Archer
Principal Project Manager

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APPENDIX A LANDFILL INSPECTION CHECKLIST

1.0 INTRODUCTION

The Former Bendix Landfill was closed in 1982 and is currently maintained by Honeywell Friction Materials (Honeywell). The Landfill is located between Interstate 787 and industrial park buildings, across Cohoes Avenue from Honeywell's facility located at 3 Tibbits Avenue in Green Island, New York. On May 16, 2012, an inspection of the Landfill was conducted by representatives from the Albany County Health Department (ACHD), New York State Department of Health (NYSDOH) and New York State Department of Environmental Conservation (NYSDEC) along with Honeywell personnel. As a result of that inspection, NYSDEC issued a letter dated June 18, 2012 that outlined several maintenance issues identified at the Site during the inspection and included a requirement for preparation of a closed landfill report and work plan detailing proposed activities moving forward to maintain regulatory compliance for the Landfill. This Long-Term Monitoring and Maintenance Plan (or Post-Closure Plan) has been prepared to satisfy the conditions of this letter by providing appropriate monitoring and maintenance procedures for Honeywell's use in maintaining the Landfill.

1.1 MONITORING AND MAINTENANCE SCHEDULE

Regularly scheduled monitoring and maintenance of the Landfill will be conducted by qualified Honeywell personnel or by a qualified authorized representative or subcontractor. The general schedule for monitoring and maintenance is as follows:

- Regularly Scheduled Landfill Inspections: An annual inspection of the Landfill shall be conducted in the spring of each year.
- Supplemental Inspections: Additional inspections may be required, if circumstances warrant, after significant events such as severe weather or reported vandalism.
- Regularly Scheduled Mowing of Cover Vegetation: At least 2 times a year occurring in the spring/early summer and late summer/fall time periods. The regularly scheduled mowing will prevent rooted species (trees and shrubs) from becoming established on the cover system.
- Major Maintenance Issues: If Landfill inspections identify major maintenance issues, maintenance activities shall be scheduled and conducted to reflect NYSDEC/NYDOH notification and submission of a repair plan for submittal and approval in a timely manner. For a major maintenance issue, NYSDEC must be notified within 2 hours of occurrence or

discovery, or as required in applicable NYS Environmental Conservation Law, whichever is the shorter time frame. Examples of major maintenance issues may include severe cover system erosion, exposed waste, or large areas of subsidence and ponding. When a capital budgeting process may be required to get funds to completely address a major maintenance requirement, the condition will be temporarily stabilized until a permanent repair/replacement can be conducted.

- Minor Maintenance Issues: If Landfill inspections identify minor maintenance issues, maintenance activities shall be scheduled and conducted as soon as practical, but no in more than 90 days after occurrence or discovery, and in a time such that minor repairs do not develop into major issues. Examples of minor maintenance issues include minor fence damage or a few animal burrows.

1.2 MONITORING AND MAINTENANCE PROGRAM

This plan outlines the long term monitoring and maintenance program for the Landfill. The program detailed in Sections 2.0 Monitoring and 3.0 Maintenance, includes regularly scheduled monitoring and maintenances activities to be conducted at the Landfill to ensure satisfactory condition and performance and to maintain regulatory compliance.

2.0 MONITORING

Monitoring of the closed Landfill will be performed, at a minimum, on an annual basis to verify that the Landfill cover system and supporting infrastructure are performing as designed and continue to be protective of the environment. Monitoring will consist of regularly scheduled field inspections. Deficiencies will be reported for further monitoring or correction/maintenance. Further monitoring may include supplemental inspections to determine progression of changes, if any. Correction will require repair of existing systems/measures or construction of additional supplemental measures to improve performance.

2.1 FIELD INSPECTIONS

At a minimum, annual inspections of the Landfill will be performed to evaluate the condition and continued performance of the closed Landfill. The annual inspections will include visual observations of the condition of general site features (i.e. access roads, fencing, gates, etc.); landfill cover system (vegetation, erosion, burrow, etc.); stormwater management systems (erosion, debris/sediment buildup, riprap, etc.); and monitoring wells.

Field inspections will be conducted by qualified Honeywell personnel or by a qualified authorized representative or subcontractor. Observations will be recorded in writing on the Landfill Inspection Checklist provided in Appendix A as quantitatively as is practical, and supplemented with photographs, field notes and/or sketches if deemed appropriate by the inspector.

2.1.1 General Site Features

The access road; fences, gates, and locks; and general site features will be observed to assess their condition and function. Visual inspection of the general Site features will be performed to document:

- condition of access road including rutting, washouts, or other types of deterioration of gravel road surfaces
- security of gates and fences;
- presence of trash and litter; and
- evidence of unauthorized access.

2.1.2 Landfill Cover System

Visual inspection of the cover system will be performed to document:

- condition of landfill vegetation – inadequate coverage or stressed vegetation;
- evidence of regular mowing;
- erosion of the cover system;
- exposed waste material;
- differential settlement resulting in soil cracking or subsidence noted by depressions and/or ponded water,
- presence of animal burrows,
- presence of rooted species (trees and shrubs) on the cover system; and
- damage due to unauthorized access (i.e. ATVs).

The length, width, depth, and location of erosion channels, depressions, or seeps will be recorded. The location, size, and numbers of animal burrows will be noted. Vegetative stress will be described according to location, areal extent, and nature of distress. The presence and location of rooted species, such as trees and shrubs, will be noted.

2.1.3 Stormwater Management System

The stormwater management system will be inspected to ensure it is operating properly and is in good working order. The existing Landfill stormwater controls including drainage channels and spillways will be inspected. Visual inspections will be performed to identify evidence of:

- exceeded capacity as noted by indications of overtopping;
- inadequate stabilization lining (riprap or vegetation cover) noted by damage, erosion, or displacement;
- accumulated sediment or debris (organic matter including leaf litter and other debris);
- erosion to riprap channels, spillways, or slopes; and
- positive drainage in channels and spillways.

2.1.4 Monitoring Wells

The existing groundwater wells will be observed to assess their condition and function. Visual inspections will be performed to determine if well covers are in good condition and well caps are locked.

2.2 REPORTING

Results of the visual observations made during the field inspection will be documented with a completed Landfill Inspection Checklist (Appendix A) and any additional field notes and/or sketches prepared during or immediately following the inspection. All findings of damage, poor performance, limited functionality, and/or compromised integrity shall be noted with recommended corrective/maintenance activities. The Landfill Inspection Checklists and attached photographs, field notes and/or sketches will become part of the Landfill recordkeeping and documentation system.

In addition to noting the observed Landfill condition, the Landfill Inspection Checklist should include a summary of observations and recommendations that includes:

- identified deferred or inadequate maintenance;
- recommended repairs to improve performance or functionality;
- recommended increased monitoring of systems/conditions that are suspect but require additional assessment; and
- required corrective action due to potential environmental impacts.

The annual inspection reports including the completed Landfill Inspection Checklist along with any additional field notes and/or sketches prepared as part of the inspection will be submitted to NYSDEC and NYSDOH every two years starting in July 2013 (every odd numbered years).

In addition, in accordance with Section 1.1, if Landfill inspections identify major maintenance issues, NYSDEC must be notified within 2 hours of occurrence or discovery, or as required in applicable NYS Environmental Conservation Law, whichever is the shorter time frame.

3.0 MAINTENANCE

The Landfill will require both routine and periodic maintenance to sustain the systems/conditions in good working order. Routine maintenance will occur with regular frequency throughout the post-closure monitoring period while periodic maintenance will be required to remedy repairs or deficiencies. Repairs required to address deficiencies that could potentially impact the environment should be completed as soon as possible to minimize the risk.

3.1 GENERAL SITE MAINTENANCE

Periodic maintenance of the access roads may be necessary including regrading and/or placement of additional aggregate materials. Road-side drainage channels will be kept free draining. Substantial deterioration due to rutting or erosion of the road bed and road-side drainage channels will be repaired to the grades and slopes of the surrounding areas.

Routine maintenance to fencing and gates will include oiling gate hinges and replacing locks, as necessary. Evidence of unauthorized access through broken or unlocked gates or deteriorated fence sections shall be addressed. Identified holes in the fence or collapsed sections will be repaired or replaced as needed. Minor erosion rills or animal burrows beneath the fence will be identified and filled as necessary. The perimeter fencing shall be repaired with the bottom of the fence secured to prevent animals from entering landfill limits.

Periodic cleanup of the Site to remove trash or litter may be required. Collected trash or litter will be properly disposed offsite.

3.2 COVER SYSTEM MAINTENANCE

The vegetative cover will be mowed on a regular schedule to prevent the growth of deep rooted, woody species, and to encourage the development of good grass growth. Mowing will occur at least two times per year (spring and fall seasons). A reduced frequency can be requested for approval by NYSDEC/NYSDOH based on seasonal growth, cover maintenance capability, or other factors. If trees or shrubs are present within the limits of the landfill, they shall be cut flush to the ground surface with the routine mowing conducted to prevent additional tree or shrub growth.

Areas noted during inspections to have poor vegetative growth will be reseeded, and mulched. Large scale areas on steep slope sections may require the installation of a temporary erosion control blanket in place of mulch. The seed mixture for reseeding of bare areas will be consistent with the mixture specified in the Landfill closure construction documents consisting of:

15% Creeping Red Fescue
45% Perennial Ryegrass
10% White Clover
30% Crown vetch

The seed mix shall be applied at a rate of 3.5 pounds per 1000 square feet.

Animal burrows within the vegetative soil layer will be filled and seeded with suitable materials. Burrows which penetrate the 2-foot compacted clay soil layer will require repair with compacted clay material. The clayey soil shall be placed in eight inch maximum lifts and compacted to a firm unyielding surface. The 4-inch vegetative soil layer will then be reconstructed and the disturbed area re-vegetated. Elimination of animal problems shall be accomplished, in accordance with applicable local, state, and federal statutes and regulations, through trapping and relocating or extermination if there is recurring damage.

Erosion of the soil cover will be repaired as needed and in a manner that provides a long-term solution to such damage. The activities required to repair erosion of the cover system will depend on the extent of damage. In general, an eroded area will be excavated to the vertical and lateral extent of the lowest affected cover component. Reconstruction of each cover layer (2-foot clay layer and 4-inch topsoil) will be in a manner similar to filling of animal burrows and in accordance with the original construction specifications. Areas requiring repair larger than 100 square feet will required conducting in-place compaction testing of the repaired clay layer during placement. The clay layer shall be compacted to 90% of the maximum density (modified proctor per ASTM D 1557) with 2 density tests conducted per 100 square feet per lift.

For burrow or erosion areas where waste has been exposed and/or removed, the waste material shall be collected and placed and compacted back in the hole or erosion feature prior to the cover system repair.

The grades and slopes of the closed landfill are expected to provide positive drainage even after minor differential settlement. If significant differential settling of the cover system or ponding of surface

water does occur, repair of the area will be performed in the following manner:

1. remove vegetative soil layer;
2. fill with additional compacted clay soil to an installed grade of five percent minimum;
3. during clay soil placement, conducted in place density testing for areas larger than 100 square feet as previously described above;
4. replace the vegetative soil layer; and
5. seed, fertilize as required, and mulch.

3.3 STORMWATER MANAGEMENT SYSTEM MAINTENANCE

If maintenance of Site stormwater controls is required, as identified during Landfill inspections, repairs will be conducted such that the final grades of all repaired areas conform to the grades and slopes of the surrounding areas; comply with the limits of design grades and slopes; and the protective flow properties of the channel or spillway are restored.

Accumulated sediment will be removed from the bottom of stormwater channels or spillways when the height begins to impact positive drainage and flow capacity. Channel or spillway linings shall be repaired to provided suitable stability and prevent erosion.

3.4 MONITORING WELL MAINTENANCE

The existing groundwater wells will be maintained in good condition. Damaged well covers will be repaired or replaced as determined by the inspection. Well caps shall be kept locked with clasp and padlock. Secure Site perimeter fencing will limit unauthorized access to the wells.

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APPENDIX A

LANDFILL INSPECTION CHECKLIST

FACILITY: **Former Bendix Landfill)**	NYSDEC SITE NO. **401005**
FACILITY OWNER: **Honeywell Friction Materials**	

LANDFILL INSPECTION CHECKLIST

INSPECTION BY:	DATE: ARRIVAL: DEPARTUE:
SIGNATURE:	FIRM:
WEATHER:	DATE OF LAST INSPECTION:

Item No.	Item Description	Condition			Maintenance Required?			Comments
		Yes	No	NA	No	Yes		
						Minor	Major	
GENERAL SITE FEATURES								
1	Is Site access road in good condition?							
2	Is Site access gate locked?							
3	Is Site access gate in good condition?							
4	Is Site perimeter fence secure/in good condition?							
5	Is Site clean and free of trash and litter?							
6	Is the Site posted with signs?							
7	Is there evidence of unauthorized access – i.e. ATVs?							
LANDFILL COVER SYSTEM								
8	Is the overall landfill vegetation in good condition?							
9	Evidence that mowing of landfill cover is regularly conducted?							Date of last mowing: _____
10	Any areas on the cover where vegetation is not present or stressed?							

Item No.	Item Description	Condition			Maintenance Required?			Comments
		Yes	No	NA	No	Yes		
						Minor	Major	
11	Any evidence of exposed waste materials?							
12	Are trees or shrubs (woody growth) present within the landfill cover?							
13	Are landfill sides slopes stable and in good condition?							
14	Is there evidence of erosion?							
15	Is there evidence of damage due to burrowing animals?							
16	Is there evidence of damage due to unauthorized access- i.e. ATVs?							
17	Any depressions observed on the surface of the cover?							
18	Any ponding or standing water on the cover?							
STORMWATER MANAGEMENT SYSTEMS								
19	Any erosion to drainage channels/spillways?							
20	Any obstructions or sediment accumulation in drainage channels/spillways?							
21	Do all drainage channels/spillways have positive drainage?							
22	Any erosion to riprap channels, spillways, or slopes?							
MONITORING WELLS								
23	Are all well covers in good condition?							
24	Are well caps locked?							
SUMMARY OF OBSERVATIONS AND RECOMENDATIONS								

Item No.	Item Description	Condition			Maintenance Required?			Comments
		Yes	No	NA	No	Yes		
						Minor	Major	

ATTACHMENTS

Site Inspection Photographs: _____ Yes _____ No

Additional Field Notes: _____ Yes _____ No

Sketches: _____ Yes _____ No