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US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, UNITED STATES ARMY GARRISON  
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FORT GEORGE G. MEADE, MARYLAND 20755-5000

May 12, 2015

Environmental Division

Mr. Bob Stroud  
USEPA Environmental Science Center  
701 Mapes Rd  
Fort Meade, MD 20755

Dear Mr. Stroud:

This letter serves as notification that the *Draft 2014 Annual Maintenance Inspection Report for FGGM-007-R Inactive Landfill 2 (IAL2), Fort George G. Meade, Maryland* (Report) has been finalized. The U.S. Environmental Protection Agency, Maryland Department of the Environment, Department of the Interior, and Tipton Airport have approved the draft report without comment. A new final cover for the report is enclosed. Copies of the Report have been furnished to Francis Coulter (U.S. Army Environmental Command), Elisabeth Green (Maryland Department of the Environment), Brad Knudsen (Department of the Interior), Michael Wassel (Tipton Airport), and the Fort Meade Restoration Advisory Board.

If you have any questions, please feel free to contact Ms. Denise Tegtmeyer at (301) 677-9559 or me at (301) 677-7999.

Sincerely,

A handwritten signature in black ink, appearing to read "G. B. Knight".

George B. Knight, PG  
Program Manager, Installation Restoration Program  
Directorate of Public Works - Environmental  
Division

Enclosure

**FINAL 2014 Annual Maintenance Inspection Report  
INACTIVE LANDFILL No. 2 (FGGM-007-R)  
AT FORT GEORGE G. MEADE, MARYLAND**

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*Prepared By:*  
**Fort George G. Meade  
Directorate of Public Works - Environmental Division  
4216 Roberts Ave, Suite 5115  
Fort Meade, Maryland 20755-7068**

**February 2015**



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## List of Acronyms

BRAC	Base Realignment and Closure
DPW-ED	Directorate of Public Works – Environmental Division
FGGM	Fort George G. Meade
IAL2	Inactive Landfill No. 2
PA	Preliminary Assessment
PRR	Patuxent Research Refuge
U.S.	United States
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency



## 1 EXECUTIVE SUMMARY

This Report presents the results of the 2014 annual maintenance inspection of Inactive Landfill No. 2 (IAL2) at Fort George G. Meade (FGGM), Anne Arundel County, Maryland. The maintenance inspection was conducted on 10 September 2014 by FGGM Directorate of Public Works – Environmental Division. The annual maintenance inspection complies with the Record of Decision (United States [U.S.] Army, 1998) that requires the Army to perform maintenance inspections to ensure the site remedies continue to provide protection to human health and the environment and to confirm the continuing observance of the land use controls. The purpose of the IAL2 inspection is to confirm the integrity of the perimeter fence and signage.

The IAL2 perimeter fence is mostly intact, with the exception of approximately 10 feet of fence that has been damaged by fallen tree limbs. The security signs posted at the main gate and along Wildlife Loop Road are intact, although some are faded but legible. The four gates are secured with chains and locks in good condition.

At certain locations, vegetation is overgrown; and if not addressed, it could impact the integrity of the fence and impair future visual inspections. At the time of the inspection, low water levels were observed near the pond/wetland area along the northern boundary, resulting in a range of less than one foot to three feet gap between the surface and fence. During dry periods, the fence does not provide an adequate safety control.



## 2 INTRODUCTION AND SITE BACKGROUND

Fort George G. Meade (FGGM) is located in northwestern Anne Arundel County, Maryland, directly west of the city of Odenton and directly east of the city of Laurel, Baltimore Washington Parkway (United States [U.S.] Route 295), and Maryland Route 32. FGGM has been a permanent U.S. Army installation since 1917 and comprised 13,596 acres. In December 1988, the Secretary of Defense issued a Base Realignment and Closure (BRAC) report identifying approximately 9,000 acres for closure and realignment at FGGM. To date, 8,100 acres have been transferred to the Department of the Interior (DOI) Patuxent Research Refuge (PRR) for use as a wildlife refuge. The Army retained 900 acres of the BRAC parcel, which included the 366-acre Tipton Airfield. The Army began leasing the Tipton Airfield parcel to Anne Arundel County for use as a General Aviation Facility in 1998 and officially transferred the property to Anne Arundel County on November 1, 1999. Following the realignment, the installation covers approximately 5,100 acres, as shown on Figure 2-1 (FGGM, 2013).

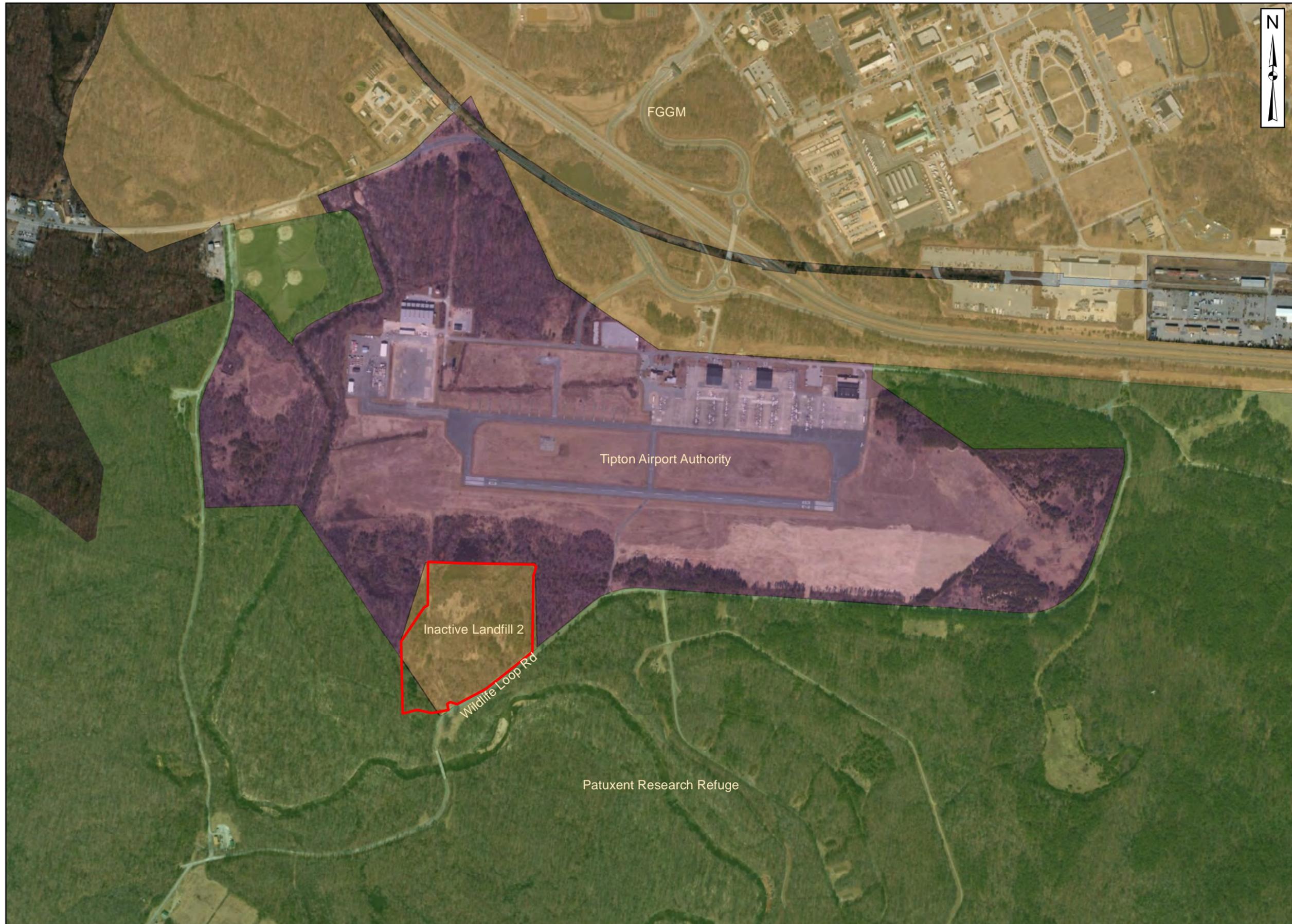
Inactive Landfill No. 2 (IAL2), approximately 10-acres, is located adjacent to the BRAC parcel and is owned by the Army (did not transfer), south of Tipton Airfield along Wildlife Loop (Figure 2-1).

### 2.1 SITE HISTORY

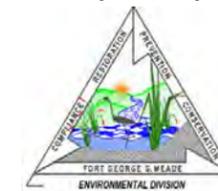
Historical aerial photographs of IAL2 compiled by the United States Environmental Protection Agency (USEPA) show that IAL2 was initially operated as a soil borrow area (USEPA cited in United States Army Corps of Engineers [USACE], 2001). Large active excavations are apparent in aerial photographs from 1938 and 1943. According to the Enhanced Preliminary Assessment (PA) Report (United States Environmental Command [USAEC], 1989), sometime after 1952 the area was operated as an unlined rubble disposal area that reached its maximum extent by 1963. IAL2 was used sparingly between the years 1963 and 1970 when aerial photographs show the area was being increasingly re-vegetated. A single north-northwest trending trench was reported visible along the east side of the access road in 1970 (USEPA cited in USACE, 2001). Continued disposal activity occurred after 1980 in the northern portion of IAL2 where graded and disturbed areas are visible in 1986. During the remedial investigation fieldwork, piles of rubble (brush, concrete, and asphalt debris) which appear to be of more recent origin were observed in a pond/wetland area on the north side of IAL2. No buildings or structures are present at the IAL2. At the time of the land transfer to the DOI, IAL2 was retained by the Army.



The Decision Document (U.S. Army, 1998) stated that an engineering control, a perimeter fence, be installed at the site; the fence encloses the 10-acre IAL2. The Decision Document (1998) also stated that fence will be inspected periodically and any damage will be repaired. Three gates provide access to the site: at the southwest corner of the fence a gate opens to Wildlife Loop Road and two gates in the north fence line—one at the northwest corner and the second near the groundwater monitoring wells (MW2-1 and MW2-2) open to the Tipton Airfield. Based on an examination of aerial photographs, the perimeter fence is approximately 4,100 feet long.



**Fort George G. Meade (FGGM)**



**Figure 2-1  
Inactive Landfill 2 (IAL2)  
Field Activities**

**Legend**

- IAL2 Land Use Control
- FGGM property
- Tipton Airport
- PRR



Data: FGGM, 2015  
ESRI Imagery, 2015

Date: 2015



## 3 PROJECT ACTIVITIES

### 3.1 SUMMARY OF ACTIVITIES

Per the 2013 Annual Inspection Report (FGGM, 2013) recommendations, a contractor was obtained to provide maintenance for the fence perimeter, including vegetation clearing and herbicide application, to ease annual site inspections. The following actions were completed in April and June 2014, and are documented in the Site Specific Maintenance and Repairs Report (EA, 2014):

- Section of damaged fence (40ft) along the western boundary was repaired,
- Various fallen trees and limbs were removed from the fence perimeter,
- Buffer (5ft) along the fence perimeter was cleared of vegetation including saplings and herbaceous growth,
- Vines were removed from the chain link fence using hand tools, and
- Swath (6in) of herbicide was applied to the fence perimeter, excluding wetlands.

As part of the maintenance repairs, the fence line was inspected on 8 April 2014 and 6 June 2014. The inspection on 8 April 2014 confirmed vegetation removal and fence repair. The inspection on 6 June 2014 confirmed herbicide application and revealed some herbaceous regrowth since the April cutting event.

On 10 September 2014 FGGM Directorate of Public Works – Environmental Division (DPW-ED) conducted the annual maintenance inspection of the fence at IAL2. The annual maintenance inspection of IAL2 focused on examining the fence as a land use control. The inspection examined the fence for damage, warning sign postings, and security measures (gates, locks, holes in fence). At several locations, vegetation had regrown significantly along the IAL2 fence line. Additionally, there was one location in which tree limbs damaged the fence line requiring repair (approximately 10 feet). There were no significant storm events to warrant additional inspections.

### 3.2 MAINTENANCE AND INSPECTION RESULTS AND RECOMMENDATIONS

The IAL2 inspection included a visual inspection of the fence, the gates, and the warning signs posted at the site. The entire fence was traversed. Figure 3-1 presents a site map identifying key features and photograph locations. Photographs of IAL2 features are included in Appendix A. USEPA Site Inspection Checklist is included in Appendix B.



Photo 1 shows the gate at the southwest corner of IAL2 including signage stating that **the property is "Off Limits To All Unauthorized Personnel."** Several signs stating **"Danger: U.S. Government Property, Keep Out"** are also posted along the fence perimeter. Some signs along Wildlife Loop Rd are partially faded but remain legible and were not replaced.

Conditions along the fence perimeter are shown in Photos 3 through 8 (western boundary), 9 through 13 (northern boundary), 14 and 15 (eastern boundary), and 1, 2, and 16 (southern boundary). Photo 4 shows the recent downed tree and associated fence damage along the western perimeter. Photo 8 shows evidence of small mammal burrows under the fence, as well as bending damage to the fence. Photos 5, 10, and 16 show significant vegetation regrowth since the spring maintenance event. Vegetation regrowth was observed on the fence and in the buffer area. Photos 10 through 13 show the wetland area along the northern perimeter. Given the low water levels in the pond/wetland, there is a gap between the fence and the ground surface at varying heights (Photo 12). The fence in this area is rusted but is intact.

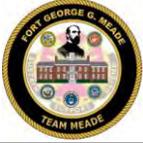
Three gates are installed in the IAL2 fence and are identified on Figure 3-1. The Wildlife Loop gate and the northwest gate are secured with chains and locks. The northeast gate is also secured with a chain and lock. Each lock was observed to be in working order at time of the inspection.

### ***3.2.1 Conclusions***

The fence is damaged but intact along the western boundary. Additionally, there is significant vegetation growth at various locations on the fence and in the buffer area. Continued vegetation growth may impair future visual site inspections.

### ***3.2.2 Recommendations***

- Remove the downed tree along the western boundary and repair or replace the respective damaged fence including the barbed wire and brace.
- Conduct future inspections during late fall, winter, or early spring when vegetation is low.
- Continue to monitor the northern section of fence spanning the pond that compromises the security perimeter (Photo 10 through 13), in order to determine frequency of dry periods and evaluate if the fence should be extended to the ground.
- The sun bleached signs along Wildlife Loop Rd should be replaced.
- Vegetation along portions of the fence line, especially in sunny areas, has overgrown since the spring maintenance event. More frequent, routine cutting of the vegetation



is recommended to ease future site inspections. Due to the proximity to the Patuxent Research Refuge and the herbaceous nature of the vegetation, more frequent vegetation clearing is recommended in lieu of additional herbicide applications.

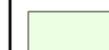
- Actions should be taken to reduce or remove vegetation re-growth in/on the fence to ensure the continued integrity of the fence as a land use control measure.
- Continue to inspect the fence line at IAL2 after significant storm events that cause damage on the installation and surrounding community.

Fort George G. Meade (FGGM)



Figure 3-1  
Inactive Landfill 2 (IAL2)  
Field Activities

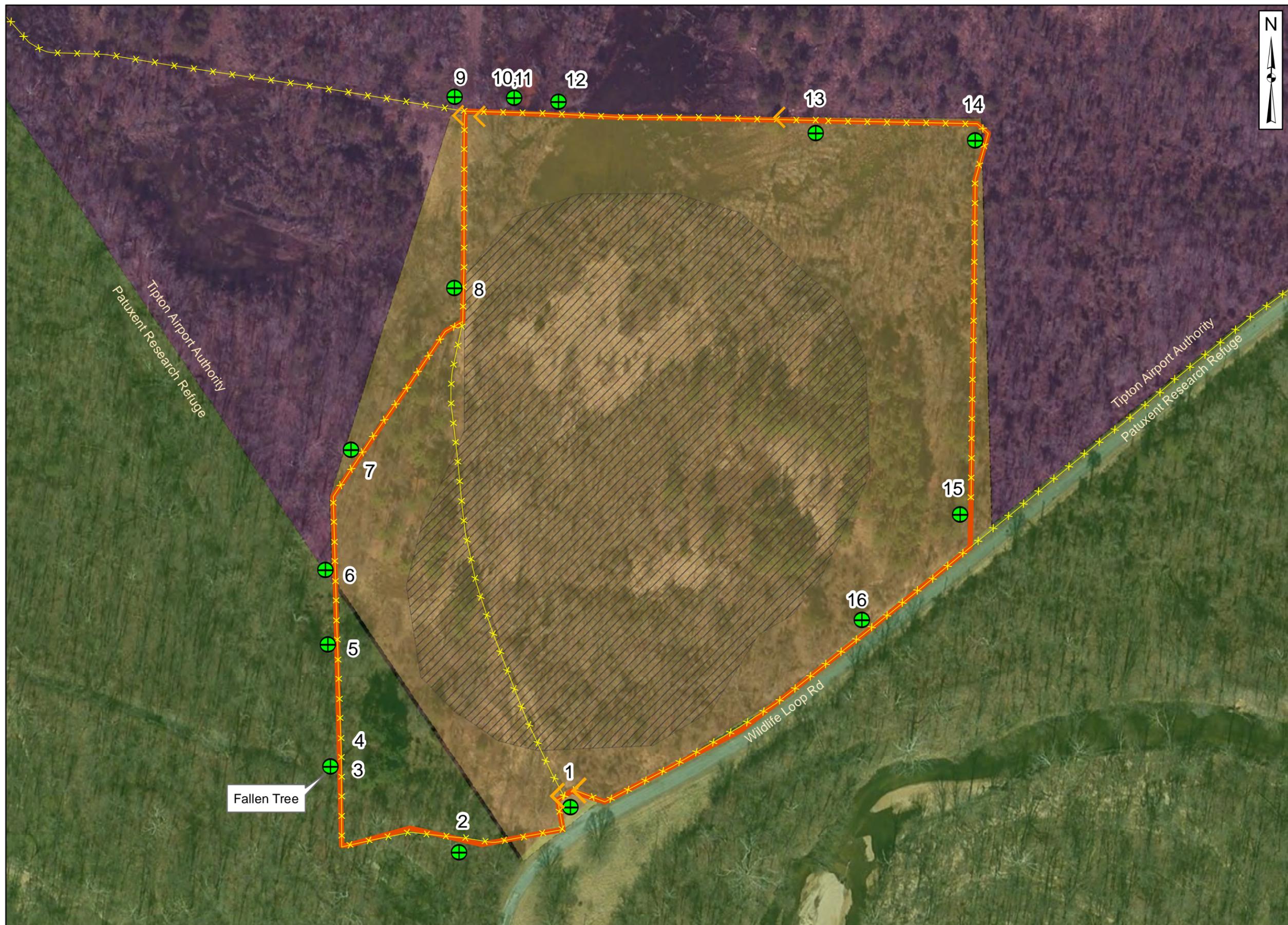
Legend

-  IAL2 Land Use Control
-  IAL2
-  FGGM property
-  Tipton Airport
-  PRR
-  Fence Line
-  Photograph Location
-  Gate Location

0 100 200  
Feet

Data: FGGM, 2015  
ESRI Imagery, 2015

Date: 2015





## 4 REFERENCES

- EA Engineering, Science, and Technology, Inc., 2014. Final FGGM-007-R Inactive Landfill No. 2 Site Specific Maintenance and Repairs Report, Fort George G. Meade, Maryland. September 2014.
- Fort Meade, 2013. FY2013 Fort George G. Meade, Army Defense Environmental Restoration Program, Installation Action Plan, November 2010.
- Fort Meade, 2013. Annual Maintenance Inspection Report for FGGM-007-R Inactive Landfill No. 2, Fort George G. Meade, Maryland. December 2013.
- U.S. Army Environmental Center (USAEC), 1989. Enhanced Preliminary Assessment Report: Fort George G. Meade, Maryland. Final. Environmental Research Division, Argonne, IL. October 1989.
- U.S. Army, 1998. Decision Document Safety Precautions to be taken at Tipton Airfield, Fort George G. Meade. U.S. Army Fort George G. Meade, July 9, 1998.
- USACE, 2001. Fort George G. Meade Long Term Monitoring Plan for Tipton Area, Draft, April 2001.



## **Appendix A**

Photographic Documentation of Inactive Landfill No. 2



Photo No.: 1	Date: 9/10/2014	
Direction Photo Taken: North		
Description: View north along the southern exterior boundary showing the locked main access gate to IAL2 and the "Off Limits" signage. This area is adjacent to Wildlife Loop Road.		

Photo No.: 2	Date: 9/10/2014	
Direction Photo Taken: Southeast		
Description: View southeast along the southern exterior fence. This area is adjacent to Wildlife Loop Road.		

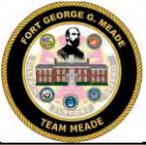


Photo No.: 3	Date: 9/10/2014	
Direction Photo Taken: South		
Description: View south along the western exterior fence toward southwestern corner, showing low vegetation, recently repaired fence, and the <b>"Danger Keep Out"</b> signage.		

Photo No.: 4	Date: 9/10/2014	
Direction Photo Taken: North		
Description: View north along the western exterior fence line showing tree branches damaging the fence. Tree recommended for removal and barb wire and brace recommended for repair.		



Photo No.: 5  
Date: 9/10/2014

Direction Photo Taken: North

Description: View north along the western fence boundary showing significant vine regrowth.



Photo No.: 6  
Date: 9/10/2014

Direction Photo Taken: North

Description: View north along the western fence line showing tree limb caught in the fence and some residual vines. The limb was removed during the annual inspection.





Photo No.: 7	Date: 9/10/2014	
Direction Photo Taken: north		
Description: View north along the western fence line showing low vegetation and <b>6" herbicide</b> swath.		

Photo No.: 8	Date: 9/10/2014	
Direction Photo Taken: North		
Description: View north showing western fence damage. Bottom of fence is bent, possibly due to recent flooding. Also, there is evidence of animals burrowing.		

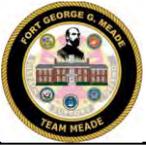


Photo No.: 9  
Date: 9/10/2014

Direction Photo Taken:  
East

Description:  
View east showing  
northwestern corner gate  
and vegetation growth  
along the northern  
exterior boundary of  
IAL2. Vegetation is  
approximately 3 feet tall.  
Gate locked.



Photo No.: 10  
Date: 9/10/2014

Direction Photo Taken:  
East

Description:  
View east along the  
northern exterior  
boundary showing heavy  
vegetation near the  
pond/wetland area.





Photo No.: 11	Date: 9/10/2014	
Direction Photo Taken: North		
Description: Standing water in the pond/wetland area.		

Photo No.: 12	Date: 9/10/2014	
Direction Photo Taken: East		
Description: View east along the northern exterior boundary showing the pond/wetland area. This shows the approximately 2 foot gap between the fence and ground surface. In addition, rust is visible from the previous water line.		



Photo No.: 13	Date: 9/10/2014	
Direction Photo Taken: East		
Description: View east showing the vegetation growth along the northern boundary interior (approximately 3 feet tall).		

Photo No.: 14	Date: 9/10/2014	
Direction Photo Taken: North		
Description: View north along the eastern interior boundary showing low vegetation in the northeastern corner.		



Photo No.: 15	Date: 9/10/2014	
Direction Photo Taken: North		
Description: View north along the eastern interior boundary showing low vegetation and vine regrowth near southeastern corner.		

Photo No.: 16	Date: 9/10/2014	
Direction Photo Taken: West		
Description: View west along the southern interior boundary showing thick vegetation regrowth. The vegetation is approximately 5 feet tall. This area is adjacent to Wildlife Loop Road.		



## **Appendix B**

### USEPA Site Inspection Checklist

## Site Inspection Checklist

<b>I. SITE INFORMATION</b>													
<b>Site name:</b> Inactive Landfill 2 (IAL2)	<b>Date of inspection:</b> 10 September 2014												
<b>Location and Region:</b> Fort Meade, MD (Region 3)	<b>EPA ID:</b> MD0910020567												
<b>Agency, office, or company leading the five-year review:</b> Fort Meade Environmental Division	<b>Weather/temperature:</b> overcast, 72 °F												
<b>Remedy Includes:</b> (Check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Landfill cover/containment  <input checked="" type="checkbox"/> Access controls  <input checked="" type="checkbox"/> Institutional controls  <input type="checkbox"/> Groundwater pump and treatment  <input type="checkbox"/> Surface water collection and treatment  <input type="checkbox"/> Other:             </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Monitored natural attenuation  <input type="checkbox"/> Groundwater containment  <input type="checkbox"/> Vertical barrier walls             </td> </tr> </table>		<input type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input type="checkbox"/> Other:	<input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls										
<input type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input type="checkbox"/> Other:	<input type="checkbox"/> Monitored natural attenuation <input type="checkbox"/> Groundwater containment <input type="checkbox"/> Vertical barrier walls												
<b>Attachments:</b> <input type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached													
<b>II. INTERVIEWS</b> (Check all that apply)													
<b>1. O&amp;M Site Manager :</b> <u>n/a</u> _____ <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 40%; text-align: center;">Name</td> <td style="width: 30%; text-align: center;">Title</td> <td style="width: 30%; text-align: center;">Date</td> </tr> <tr> <td colspan="3">Interviewed <input type="checkbox"/> at site   <input type="checkbox"/> at office   <input type="checkbox"/> by phone   Phone no. _____</td> </tr> <tr> <td colspan="3">Problems, suggestions; <input type="checkbox"/> Report attached _____</td> </tr> <tr> <td colspan="3">_____</td> </tr> </table>		Name	Title	Date	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone   Phone no. _____			Problems, suggestions; <input type="checkbox"/> Report attached _____			_____		
Name	Title	Date											
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone   Phone no. _____													
Problems, suggestions; <input type="checkbox"/> Report attached _____													
_____													
<b>2. O&amp;M staff</b> <u>n/a</u> _____ <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 40%; text-align: center;">Name</td> <td style="width: 30%; text-align: center;">Title</td> <td style="width: 30%; text-align: center;">Date</td> </tr> <tr> <td colspan="3">Interviewed <input type="checkbox"/> at site   <input type="checkbox"/> at office   <input type="checkbox"/> by phone   Phone no. _____</td> </tr> <tr> <td colspan="3">Problems, suggestions; <input type="checkbox"/> Report attached _____</td> </tr> <tr> <td colspan="3">_____</td> </tr> </table>		Name	Title	Date	Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone   Phone no. _____			Problems, suggestions; <input type="checkbox"/> Report attached _____			_____		
Name	Title	Date											
Interviewed <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone   Phone no. _____													
Problems, suggestions; <input type="checkbox"/> Report attached _____													
_____													



**III. ON-SITE DOCUMENTS & RECORDS VERIFIED** (Check all that apply)

1.	<b>O&amp;M Documents</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> O&M manual	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> As-built drawings	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Maintenance logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
2.	<b>Site-Specific Health and Safety Plan</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Contingency plan/emergency response plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
3.	<b>O&amp;M and OSHA Training Records</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
4.	<b>Permits and Service Agreements</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Other permits _____	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
5.	<b>Gas Generation Records</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
6.	<b>Settlement Monument Records</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
7.	<b>Groundwater Monitoring Records</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
8.	<b>Leachate Extraction Records</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
9.	<b>Discharge Compliance Records</b>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Air	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Water (effluent)	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
	Remarks _____			
	_____			
10.	<b>Daily Access/Security Logs</b>	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
	Remarks <u>This information is kept at the Patuxent Research Refuge (PRR) Visitor Center</u>			
	_____			



<b>C. Institutional Controls (ICs)</b>			
1.	<b>Implementation and enforcement</b>		
	Site conditions imply ICs not properly implemented	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Site conditions imply ICs not being fully enforced	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Type of monitoring ( <i>e.g.</i> , self-reporting, drive by) <u>self-reporting</u>		
	Frequency <u>Annual</u>		
	Responsible party/agency <u>Fort Meade Environmental Division</u>		
	Contact <u>George Knight</u>	<u>IRP Manager</u>	<u>301-677-7999</u>
	Name	Title	Phone no.
	Reporting is up-to-date	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Reports are verified by the lead agency	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Specific requirements in deed or decision documents have been met	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
	Violations have been reported	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
	Other problems or suggestions: <input type="checkbox"/> Report attached		
	_____		
	_____		
2.	<b>Adequacy</b>	<input checked="" type="checkbox"/> ICs are adequate	<input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A
	Remarks _____		
	_____		
	_____		
<b>D. General</b>			
1.	<b>Vandalism/trespassing</b>	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No vandalism evident
	Remarks _____		
	_____		
2.	<b>Land use changes on site</b>	<input checked="" type="checkbox"/> N/A	
	Remarks _____		
	_____		
3.	<b>Land use changes off site</b>	<input checked="" type="checkbox"/> N/A	
	Remarks _____		
	_____		
<b>VI. GENERAL SITE CONDITIONS</b>			
<b>A. Roads</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	<b>Roads damaged</b>	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Roads adequate <input checked="" type="checkbox"/> N/A
	Remarks _____		
	_____		

<b>B. Other Site Conditions</b>		
Remarks <u>n/a</u> _____ _____ _____		
<b>VII. LANDFILL COVERS</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
<b>A. Landfill Surface</b>		
1.	<b>Settlement</b> (Low spots) Areal extent _____ Depth _____ Remarks _____ _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Settlement not evident
2.	<b>Cracks</b> Lengths _____    Widths _____    Depths _____ Remarks _____ _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Cracking not evident
3.	<b>Erosion</b> Areal extent _____ Depth _____ Remarks _____ _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident
4.	<b>Holes</b> Areal extent _____ Depth _____ Remarks _____ _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Holes not evident
5.	<b>Vegetative Cover</b> <input type="checkbox"/> Grass <input type="checkbox"/> Cover properly established <input type="checkbox"/> No signs of stress <input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram) Remarks _____ _____	
6.	<b>Alternative Cover (armored rock, concrete, etc.)</b> <input type="checkbox"/> N/A Remarks _____ _____	
7.	<b>Bulges</b> Areal extent _____ Height _____ Remarks _____ _____	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Bulges not evident
8.	<b>Wet Areas/Water Damage</b> <input type="checkbox"/> Wet areas <input type="checkbox"/> Location shown on site map    Areal extent _____ <input type="checkbox"/> Ponding <input type="checkbox"/> Location shown on site map    Areal extent _____ <input type="checkbox"/> Seeps <input type="checkbox"/> Location shown on site map    Areal extent _____ <input type="checkbox"/> Soft subgrade <input type="checkbox"/> Location shown on site map    Areal extent _____ Remarks _____ _____	

9.	<b>Slope Instability</b>	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of slope instability	
	Areal extent _____		
	Remarks _____		
<hr/>			
<b>B. Benches</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)			
<hr/>			
1.	<b>Flows Bypass Bench</b>	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay	
	Remarks _____		
<hr/>			
2.	<b>Bench Breached</b>	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay	
	Remarks _____		
<hr/>			
3.	<b>Bench Overtopped</b>	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> N/A or okay	
	Remarks _____		
<hr/>			
<b>C. Letdown Channels</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)			
<hr/>			
1.	<b>Settlement</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of settlement	
	Areal extent _____            Depth _____		
	Remarks _____		
<hr/>			
2.	<b>Material Degradation</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of degradation	
	Material type _____            Areal extent _____		
	Remarks _____		
<hr/>			
3.	<b>Erosion</b>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of erosion	
	Areal extent _____            Depth _____		
	Remarks: _____		
	_____		

4.	<b>Undercutting</b>	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> No evidence of undercutting
	Areal extent _____	Depth _____	
	Remarks _____		
<hr/>			
5.	<b>Obstructions</b>	Type _____	<input type="checkbox"/> No obstructions
	<input type="checkbox"/> Location shown on site map	Areal extent _____	Size _____
	Remarks _____		
<hr/>			
6.	<b>Excessive Vegetative Growth</b>	Type <u>Lespedeza, vines, wild rose, and black locust</u>	
	<input type="checkbox"/> No evidence of excessive growth		
	<input type="checkbox"/> Vegetation in channels does not obstruct flow		
	<input type="checkbox"/> Location shown on site map	Areal extent _____	
	Remarks _____		
<hr/>			
<b>D. Cover Penetrations</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1.	<b>Gas Vents</b>	<input type="checkbox"/> Active	<input type="checkbox"/> Passive
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> Good condition
	Remarks _____		
<hr/>			
2.	<b>Gas Monitoring Probes</b>	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition
	<input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> N/A	
	Remarks _____		
<hr/>			
3.	<b>Monitoring Wells</b> (within surface area of landfill)		
	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> Good condition
	Remarks _____		
<hr/>			
4.	<b>Leachate Extraction Wells</b>	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning
	<input type="checkbox"/> Evidence of leakage at penetration	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition
	<input type="checkbox"/> Needs Maintenance	<input type="checkbox"/> N/A	
	Remarks _____		
<hr/>			
5.	<b>Settlement Monuments</b>	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed
	Remarks _____		
<hr/>			

<b>E. Gas Collection and Treatment</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Gas Treatment Facilities</b> <input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____	
2.	<b>Gas Collection Wells, Manifolds and Piping</b> <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____	
3.	<b>Gas Monitoring Facilities</b> ( <i>e.g.</i> , gas monitoring of adjacent homes or buildings) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____	
<b>F. Cover Drainage Layer</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Outlet Pipes Inspected</b> <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	
2.	<b>Outlet Rock Inspected</b> <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	
<b>G. Detention/Sedimentation Ponds</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Siltation</b> Areal extent _____      Depth _____ <input type="checkbox"/> N/A <input type="checkbox"/> Siltation not evident Remarks _____ _____	
2.	<b>Erosion</b> Areal extent _____      Depth _____ <input type="checkbox"/> Erosion not evident Remarks _____ _____	
3.	<b>Outlet Works</b> <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	
4.	<b>Dam</b> <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	

<b>H. Retaining Walls</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Deformations</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Deformation not evident Horizontal displacement _____                      Vertical displacement _____ Rotational displacement _____ Remarks _____ _____	
2.	<b>Degradation</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Degradation not evident Remarks _____ _____	
<b>I. Perimeter Ditches/Off-Site Discharge</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Siltation</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Siltation not evident Areal extent _____                      Depth _____ Remarks _____ _____	
2.	<b>Vegetative Growth</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A <input type="checkbox"/> Vegetation does not impede flow Areal extent _____                      Type _____ Remarks _____ _____	
3.	<b>Erosion</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Erosion not evident Areal extent _____                      Depth _____ Remarks _____ _____	
4.	<b>Discharge Structure</b> <input type="checkbox"/> Functioning <input type="checkbox"/> N/A Remarks _____ _____	
<b>VIII. VERTICAL BARRIER WALLS</b> <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
1.	<b>Settlement</b> <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Settlement not evident Areal extent _____                      Depth _____ Remarks _____ _____	
2.	<b>Performance Monitoring</b> Type of monitoring _____ <input type="checkbox"/> Performance not monitored Frequency _____ <input type="checkbox"/> Evidence of breaching Head differential _____ Remarks _____ _____	

<b>C. Treatment System</b>		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	<b>Treatment Train</b> (Check components that apply) <input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation <input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters _____ <input type="checkbox"/> Additive ( <i>e.g.</i> , chelation agent, flocculent) _____ <input type="checkbox"/> Others _____ <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> Sampling ports properly marked and functional <input type="checkbox"/> Sampling/maintenance log displayed and up to date <input type="checkbox"/> Equipment properly identified <input type="checkbox"/> Quantity of groundwater treated annually _____ <input type="checkbox"/> Quantity of surface water treated annually _____ Remarks _____ _____		
2.	<b>Electrical Enclosures and Panels</b> (properly rated and functional) <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____		
3.	<b>Tanks, Vaults, Storage Vessels</b> <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs Maintenance Remarks _____ _____		
4.	<b>Discharge Structure and Appurtenances</b> <input type="checkbox"/> N/A <input type="checkbox"/> Good condition <input type="checkbox"/> Needs Maintenance Remarks _____ _____		
5.	<b>Treatment Building(s)</b> <input type="checkbox"/> N/A <input type="checkbox"/> Good condition ( <i>esp.</i> roof and doorways) <input type="checkbox"/> Needs repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks _____ _____		
6.	<b>Monitoring Wells</b> (pump and treatment remedy) <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> All required wells located <input type="checkbox"/> Needs Maintenance <input type="checkbox"/> N/A Remarks _____ _____		
<b>D. Monitoring Data</b>		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1.	Monitoring Data <input type="checkbox"/> Is routinely submitted on time <input type="checkbox"/> Is of acceptable quality		
2.	Monitoring data suggests: <input type="checkbox"/> Groundwater plume is effectively contained <input type="checkbox"/> Contaminant concentrations are declining		

**D. Monitored Natural Attenuation**  Applicable  N/A

1. **Monitoring Wells** (natural attenuation remedy)
- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Properly secured/locked    | <input type="checkbox"/> Functioning       | <input type="checkbox"/> Routinely sampled | <input type="checkbox"/> Good condition |
| <input type="checkbox"/> All required wells located | <input type="checkbox"/> Needs Maintenance |  | <input type="checkbox"/> N/A            |
- Remarks: \_\_\_\_\_

**X. OTHER REMEDIES**

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

**XI. OVERALL OBSERVATIONS**

**A. Implementation of the Remedy**

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The IAL2 perimeter fence is intact, with the exception of approximately 10 feet of fence that was damaged by fallen tree limbs. The security signs posted at the main gate and along Wildlife Loop Road are intact; one of the signs along Wildlife Loop is partially faded. The three gates are secured with chain and locks; all locks were in working order at the time of the inspection.

Portions of the fence line have overgrown vegetation, and if not addressed, it could impact the integrity of the fence and impair future visual inspections. At the time of the inspection, the area near the pond/wetland was mostly dry, resulting in a range of less than one foot to three foot gap between the ground and fence. During dry periods, the fence does not provide an adequate safety control. Recommend evaluating frequency of dry periods to determine if the current fence provides adequate protection.

**B. Adequacy of O&M**

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

The fence line at IA L2 should continue to be inspected after a significant storm event that causes damage on the installation and in the surrounding community.

**C. Early Indicators of Potential Remedy Problems**

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

Assure cost is included for maintenance of the fence. If the fence is damaged as a result of a storm event, there needs to be funds to cover the cost of the fence repair.

**D. Opportunities for Optimization**

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

The following items are recommended: conduct future inspections during late fall, winter, or early spring when vegetation is low, and recommend routine cutting of the vegetation to reduce and manage the growth rate of the vegetation.



## **Appendix C**

### Regulatory Acceptance Letters



## MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230

410-537-3000 • 1-800-633-6101 • [www.mde.maryland.gov](http://www.mde.maryland.gov)

Lawrence J. Hogan, Jr.  
Governor

Boyd K. Rutherford  
Lieutenant Governor

Ben Grumbles  
Acting Secretary

February 13, 2015

George Knight  
Installation Restoration Manager  
U.S. Army Garrison Fort George G. Meade  
Directorate of Public Works – Environmental Division  
4215 Roberts Ave., Room 320  
Fort Meade, Maryland 20755-7068

RE: Draft 2014 Annual Maintenance Inspection Report, Inactive Landfill No. 2 (FGGM-007-R) at Fort George G. Meade, Maryland – February 2015

Dear Mr. Knight:

The Federal Facilities Division (FFD) of the Maryland Department of the Environment's Land Restoration Program has completed its review of the above document. The FFD has no comment on this document, and looks forward to receipt of the final version for incorporation into our site file.

If you have any questions, please contact me at (410) 537-3346.

Sincerely,

Elisabeth Green, Ph.D.  
Remedial Project Manager  
Federal Facilities Division

EG:eg

cc: Mr. Bob Stroud  
Mr. Horacio Tablada  
Mr. James Carroll



**Mckinley, Erin L CTR USARMY (US)**

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-----Original Message-----

From: Stroud, Robert [mailto:Stroud.Robert@epa.gov]

Sent: Thursday, April 23, 2015 11:32 AM

To: Mckinley, Erin L CTR USARMY (US)

Cc: Tegtmeier, Denise A CTR USARMY USAG (US); Knight, George B CIV USARMY IMCOM ATLANTIC (US)

Subject: Re: FGGM comment extension: Inactive Landfill 2 Annual Maintenance Inspection Report

Erin, EPA has reviewed the IAL2 Annual MIR and concurs with the recommendations in the report. Please let me know if you have any questions.

Thanks,

Bob

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**Mckinley, Erin L CTR USARMY (US)**

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**Subject:** FW: FGGM: Inactive Landfill 2 Annual Maintenance Inspection Report status

-----Original Message-----

From: Knudsen, Brad [mailto:brad\_knudsen@fws.gov]

Sent: Friday, April 10, 2015 12:53 PM

To: Mckinley, Erin L CTR USARMY (US)

Cc: Dionne\_Briggs@fws.gov; Tegtmeyer, Denise A CTR USARMY USAG (US); Knight, George B CIV USARMY IMCOM ATLANTIC (US)

Subject: Re: FGGM: Inactive Landfill 2 Annual Maintenance Inspection Report status

Erin - FWS has no comments on this report. Brad

Brad Knudsen, Refuge Manager

301497 5582 or 240 882 9077