

# Hanover

Engineering Associates Inc



April 4, 2014

Mr. Jack Cahalan, Manager  
Lower Saucon Township  
3700 Old Philadelphia Pike  
Bethlehem, PA 18015

RE: Inspection Conducted on April 3, 2014 at  
IESI Bethlehem Landfill  
Hanover Project LS90-7

Dear Mr. Cahalan:

The purpose of this letter is to report the results of the above-referenced "mid-meeting" inspection, which was conducted by me along with Allen Schleyer, Compliance Manager for IESI. The following items were noted during the inspection:

1. The Bethlehem Renewable Energy (BRE) plant was running.
2. The landfill flare was running at a flow rate of 1,035 Standard Cubic Feet per Minute (SCFM) and a temperature of 1653 degrees Fahrenheit. This relatively low flow rate indicates that the BRE plant is taking the majority of the landfill gas. The new condensate drain line has been installed on the new blower unit.
3. The truck wash was not in use.
4. No mud, odors, or blowing litter were observed along Applebutter Road, the entrance driveway, or at the landfill office. Some dry sediment was observed on the entrance driveway and leading out onto Applebutter Road. Mr. Schleyer stated that he will have the street sweeper clean it.
5. No blowing litter was observed within the landfill. Some litter was observed on the north slope of the landfill. Pickers were observed working to remove it during this inspection. No litter was observed in the trees within the perimeter fence. Windscreens were not in use at the working face due to wind not being a factor (working face is shielded from wind). Wind direction varied during the inspection between north and west (blowing from), with an estimated speed of five to ten miles per hour (5-10 mph).
6. Garbage was being disposed of in newly activated Cell 4E Stage 2. They are still placing the "fluff layer" of eight feet (8') over liner. Two (2) spotters were observed stationed at the working face checking the loads; they will remove any prohibited items that could puncture the liner. One (1) truck was off-loading and no trucks were waiting. No truck tipper was in use or on site - trucks are being unloaded conventionally. A track hoe was observed removing the "soil plug" between the active cell 4E and the adjacent older cell 4D. Mr. Schleyer stated that this is necessary to achieve garbage-to-garbage contact between the cells (to facilitate flow of leachate to the collection system). This soil removal is done just ahead of the working face, so that old garbage does not sit exposed for a long time.
7. Soil for daily cover material was not stockpiled near the working face. Allen stated that cover soil was on its way from offsite. All cover soil currently being used is being imported. No Alternative Daily Cover material is being used. No excavation work was taking place at the north end of Cell 4E to generate cover material.

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## ROUTING

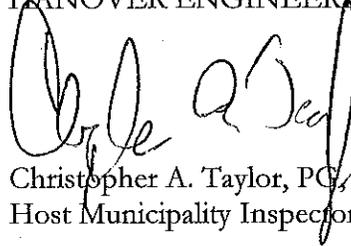
- Council
- Manager *eng*
- Asst. Mgr.
- Zoning
- Finance
- Police
- P. Works
- P/C
- P & R
- EAC
- Engineer
- Solicitor
- Planner
- Landfill
- EMC

8. In the area of new final capping on the south face, the ground surface is still slightly rilled. Mr. Schleyer states that he will have it "tracked over" and hydroseeded when conditions permit.
9. The west face of the landfill has been "retracked" to remove erosion rills.
10. The west high wall was observed and appears to be substantially unchanged since the last inspection. No major slope failures along the wall were observed. Mr. Schleyer stated that he knows that he still needs to clean out the stormwater rip-rap channel at the bottom of the wall.
11. A water truck was observed spraying the dirt approach road to the working face to suppress dust.
12. One (1) area of leachate seepage at the top of the south face had been discovered by Mr. Schleyer before my arrival. I observed the repair work being conducted on this seep during my inspection.
13. I observed work being conducted on the tie-in of one (1) of the new horizontal gas collectors at the bottom of the south face.
14. A slight garbage odor was observed on the access road at the bottom of the south face, directly below the work areas for the horizontal gas well and leachate seep repair. This odor was attributed to the excavation work being conducted in these two (2) areas. This odor was not being carried even as far as the office parking lot by the north wind.
15. The north slope road was open and passable.
16. Mr. Schleyer stated that no odor complaints were formally lodged at the landfill office since the March 20, 2014 committee meeting. However, he stated that he was made aware of a complaint via an email from Priscilla deLeon.
17. A patrol of Steel City was conducted before the landfill inspection, beginning at approximately 12:55PM. No landfill-related odors or sounds were observed.

If you have any comments or questions regarding any of the above, or find that you need additional information, please do not hesitate to call me immediately.

Respectfully,

HANOVER ENGINEERING ASSOCIATES, INC.



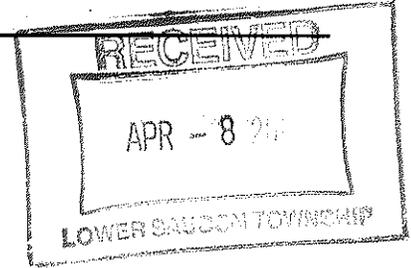
Christopher A. Taylor, P.C./HMI  
Host Municipality Inspector

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# Hanover

Engineering Associates Inc



April 7, 2014

Mr. Jack Cahalan, Manager  
Lower Saucon Township  
3700 Old Philadelphia Pike  
Bethlehem, PA 18015-5426

RE: IESI Bethlehem Landfill  
HMI Inspection Report  
Hanover Project LS90-7

Dear Mr. Cahalan:

Please find enclosed a copy of Hanover Engineering's "Inspection Checklist for Host Municipality Inspectors" for the inspection conducted on April 3, 2014 at the above-referenced facility.

If you have any questions, please do not hesitate to contact the undersigned.

Respectfully,

HANOVER ENGINEERING ASSOCIATES, INC.

Christopher A. Taylor, PG, HMI

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## ROUTING

- Council
- Manager
- Asst. Mgr.
- Zoning
- Finance
- Police
- P. Works
- P/C
- P & R
- EAC
- Engineer
- Solicitor
- Planner
- Landfill
- EMC
- Other *Web*

**Sample Inspection Checklist for Host Municipality Inspectors**  
**for**  
**MUNICIPAL WASTE LANDFILLS**

Inspector Name: Christopher A. Taylor

Inspection Date: 04-03-14

Start Time: 1:00PM

Finish Time: 2:45PM

Facility Name: IESI PA Bethlehem Landfill #100020

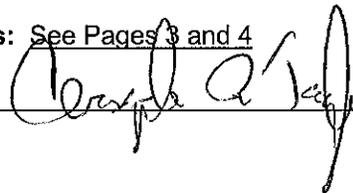
Facility Address: 2335 Applebutter Road, Bethlehem, PA

Facility Contact Person/Title/Phone Number: Mr. Samuel J. Donato, Jr., District Manager (610) 317-3200

DAILY OPERATION REQUIREMENTS	Yes	No	NA	ND	COMMENTS/NOTES
Trucks using designated roads/approved parking areas per permit	X				
Operations conducted during permitted operating hours	X				
Access controlled per plan	X				
Access road(s) maintained (erosion, dust, litter, mud etc.) per plan	X				See Comment 1
Waste measured according to approved plan	X				
Vehicles directed promptly to unloading area	X				
Vehicles promptly unloaded	X				See Comment 2
Inspection procedures implemented for prohibited wastes per plan	X				See Comment 3
No unapproved wastes				X	
Solid waste spread and compacted into layers per plan	X				
Procedures followed within 1 <sup>st</sup> 8 ft. to protect liner/protective cover	X				See Comment 4
No waste <25 ft. from edge of liner, 4 ft. berm, edge marked, etc.				X	
Procedures followed for special handling and residual wastes	X				See Comment 5
No open burning	X				
Fugitive dust emissions minimized and controlled per plan	X				See Comment 1
Vectors minimized and controlled per plan	X				
Odors minimized and controlled per plan		X			See Comment 6
Other nuisances minimized and controlled per plan	X				
Litter minimized and controlled per plan	X				See Comment 7
Daily waste acceptance < ave. 1375 and max. 1800 daily vol.				X	See Comment 8
Radiation monitoring system operational	X				
Radiation protection action plan followed as appropriate	X				
Approved daily cover used at end of day or within 24 hours	X				See Comment 9
Vegetation established and maintained per plan		X			
Surface and groundwater pollution discharges prevented/controlled	X				
Water treatment facilities operated and maintained			X		
Soil and erosion control BMPs are maintained per plan	X				See Comment 10
Sedimentation and discharge structures operated and maintained	X				
Flow from leachate collection system monitored daily	X				
Leachate treatment facilities operated and maintained			X		
Landfill gas controlled per plan	X				See Comment 11
Daily operational records being made and maintained (i.e. waste received, problems, violations, rejected loads, radioactive mat., overweight trucks, etc.)	X				
Cost effective recyclable materials are being salvaged			X		
Salvaged materials are stored in an approved area			X		
Recyclable materials collection center maintained	X				
No immediate threats to public health and safety	X				

Additional Comments: See Pages 3 and 4

Inspector Signature: \_\_\_\_\_



Date: 4-7-14

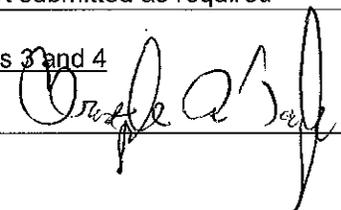
Facility Name: IESI PA Bethlehem Landfill #100020

Facility Address: 2335 Applebutter Road, Bethlehem, PA

<b>DESIGN and CONSTRUCTION REQUIREMENTS</b>	<b>Yes</b>	<b>No</b>	<b>NA</b>	<b>ND</b>	<b>COMMENTS/NOTES</b>
Proper signs posted (Identify facility and recycling drop-off center)	X				
Grid coordinate system and permit areas clearly marked	X				
Site perimeter clearly marked	X				
Perimeter fences and barriers in place and maintained	X				
Access roads properly designed and constructed per plan	X				See Comment 12
Scale conforms with Consolidated Weights and Measures Act	X				See Comment 13
Adequate equipment on-site and stand-by equipment available				X	
Fences or other barriers to control litter are constructed per plan	X				
Radiation monitoring system constructed per plan	X				
Daily and intermediate cover material conforms with plan	X				
Final cover conforms with plan	X				See Comment 14
Soil and erosion control BMPs implemented per plan	X				
Sedimentation ponds constructed per plan	X				
Discharge structures constructed per plan	X				
Subbase constructed according to regulations	X				See Comment 15
Secondary liner constructed per regulations and approved plan	X				"
Leachate detection system installed per regulations	X				"
Primary liner constructed per regulations and approved plans	X				"
Protective cover constructed per regulations	X				"
Leachate collection system installed according to regulations	X				"
Leachate storage impoundments constructed per regulations			X		
Leachate treatment system constructed per plans			X		
Wastewater treatment equipment constructed per <u>discharge</u> permit			X		
Groundwater monitoring wells installed per plan	X				
Landfill gas collection and destruction system constructed per plan	X				See Comment 11
Air pollution control equipment constructed per <u>air</u> permit				X	See Comment 16
Emergency equipment available per regulations and plan	X				See Comment 17
Recyclable materials collection center established per plan	X				
<b>MONITORING and RECORDKEEPING REQUIREMENTS</b>	<b>Yes</b>	<b>No</b>	<b>NA</b>	<b>ND</b>	<b>COMMENTS/NOTES</b>
Flow from leachate <u>detection</u> system monitored weekly	X				
Potential for offsite odors inspected on a regular and frequent basis	X				See Comment 6
Liquid from leachate detection system analyzed quarterly	X				
Liquid from leachate <u>collection</u> system analyzed quarterly	X				
Wastewater discharge analyzed per <u>discharge</u> permit (if applicable)			X		
Wastewater discharge complies with <u>discharge</u> permit limits			X		
Groundwater monitored and analyzed quarterly	X				
Landfill gas levels monitored quarterly	X				
Combustible gas levels not exceeded	X				
Recovered gas and condensate analyzed annually	X				
<b>REPORTING REQUIREMENTS</b>	<b>Yes</b>	<b>No</b>	<b>NA</b>	<b>ND</b>	<b>COMMENTS/NOTES</b>
Plan submitted if <u>detected</u> leachate > 100 gal/acre/day		X			
Remedial plan submitted if <u>detected</u> leachate could degrade GW	X				See Comment 18
Wastewater discharge reported as required by <u>discharge</u> permit			X		
Groundwater monitoring results reported quarterly	X				
Groundwater assessment plan submitted if groundwater degraded			X		See Comment 19
Abatement plan submitted if groundwater exceeds Act 2 standards			X		See Comment 20
Public notice on recyclable materials collection center provided 2/yr.	X				
Quarterly Operation report submitted as required	X				
Annual Operation report submitted as required	X				

Comments: See Pages 3 and 4

Inspector Signature: \_\_\_\_\_



Date: \_\_\_\_\_

4-7-14

Facility Name: IESI PA Bethlehem Landfill #100020

Facility Address: 2335 Applebutter Road, Bethlehem, PA

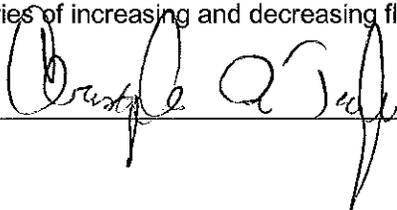
OPTIONAL QUESTIONS on CHANGES	Yes	No	NOTES/IMPACT on CONFORMANCE
Owners/operators			
Employees/personnel			
Contractors/subcontractors			
Customers/waste generators			
Transporters/transfer stations			
Special or residual wastes			
Site volume/capacity			
Average or maximum daily volume			
Permitted acreage			
Access roads			
Cells/construction	X		See Comment 21
Operating equipment			
Leachate collection and treatment method			
Water pollution control equipment			
Gas monitoring or management plan	X		See Comment 22
Air pollution control equipment			
>10% increase in leachate/wastewater volume	X		See Comment 23
>10% increase in leachate/wastewater contaminants			
Newly closed cells			
Post closure land use			

**Comments:**

- Comment 1: Roads are occasionally muddy or dusty. IESI employs a water truck to suppress dust and a street sweeper to remove sediment.
- Comment 2: In general, unloading has been prompt during the 1<sup>st</sup> quarter. Unloading was slow when Cell 4E Stage 2 was first opened at the beginning of March due to a restricted access area.
- Comment 3: Radiation monitors check every incoming load; manifests are checked by office personnel; personnel at working face inspect loads for prohibited wastes (drums, tires, etc.).
- Comment 4: Disposal is currently taking place in the first 8 foot "fluff zone" above the protective cover of Cell 4E Stage 2. Procedures are being followed to protect liner, including only disposing of acceptable waste and stationing spotters at working face to check for prohibited items.
- Comment 5: For example, for asbestos disposal, a hole in the garbage is excavated out for the asbestos, which is then placed in the hole and covered with garbage so it is not directly run over with equipment.
- Comment 6: Numerous odor complaints have been received at the end of the 4<sup>th</sup> quarter and in the 1<sup>st</sup> quarter. IESI continues to document and investigate complaints, but has been unable to determine the exact cause of odors or to mitigate these odors.
- Comment 7: Windblown litter within the landfill has occurred in the first quarter due to disposal area being on top of the landfill and numerous very windy days. IESI has employed multiple "pickers" on numerous occasions to remove litter from the landfill surface.
- Comment 8: Compliance Manager states that daily volumes are in compliance; records not checked by this inspector.
- Comment 9: IESI began importing soil for daily cover during the 1<sup>st</sup> quarter. Stockpiles of material for daily cover were usually observed staged at working face during the quarter. Excavation work in the north end of Cell 4E to generate cover material has ceased during the 1<sup>st</sup> quarter.
- Comment 10: Silt fencing and rock filter outlets are inspected and maintained along the northern property line.

- Comment 11: BRE Plant was in operation during the 1<sup>st</sup> quarter as the primary gas control system. The landfill flare has been operating in conjunction with the BRE plant and serves as a backup to the BRE plant. Nine (9) new gas wells (seven (7) horizontal and two (2) vertical) were constructed during the 1<sup>st</sup> quarter, in compliance with the existing gas management plan.
- Comment 12: PADEP has inspected and accepted the conditions of all access roads on site.
- Comment 13: Scale is currently inspected every six (6) months by private company (Mettler Toledo) at IESI's expense. PADEP conducted an inspection of the scale in the 4th quarter of 2012 at the request of the Landfill Committee, and has stated their acceptance of the inspection results from Mettler Toledo.
- Comment 14: Landfill placed final capping on approximately one (1) acre on the southern face in the 4th quarter of 2013.
- Comment 15: Cell 4E Stage 2 was activated during the 1<sup>st</sup> quarter. Construction of this cell was conducted in the 3<sup>rd</sup> and 4<sup>th</sup> quarter of 2013. Work was inspected and certified by landfill's consulting engineer.
- Comment 16: Facility has received a renewal of their Title V air permit.
- Comment 17: This inspector confirmed the presence of all emergency equipment listed in the landfill's PPC Plan during the 4<sup>th</sup> quarter of 2012.
- Comment 18: Compliance Manager states that landfill has a pump and treat system in place (the Abatement Well system).
- Comment 19: The Groundwater Trend Analysis addresses and monitors groundwater quality.
- Comment 20: Compliance Manager states that test results show that groundwater quality is well below Act 2 thresholds.
- Comment 21: Cell 4E Stage 2 is fully completed and is the current disposal area.
- Comment 22: Gas management plan remains the same. IESI completed the installation of a third, larger blower for their flare. IESI constructed nine (9) new gas wells (see Comment 11).
- Comment 23: Measured secondary flows in LMC 8 increased >10% for several weeks versus the previous weeks in a series of increasing and decreasing flow readings.

Inspector Signature: \_\_\_\_\_



Date: \_\_\_\_\_

4-7-14