ISLIP RESOURCE RECOVERY AGENCY 401 MAIN STREET, ISLIP, NEW YORK 11751 (631) 224-5644

April 16, 2019

Matthew Mashhadi
NYS Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A, Section B
625 Broadway, 11th Floor
Albany, New York 12233-7015

Re: Town of Islip
Blydenburgh Road Landfill 2018 2nd Half Semi-Annual Post Closure Monitoring and Maintenance Report

Dear Mr. Mashhadi:

Attached is the 2nd Semi Annual Blydenburgh Landfill Post Closure Monitoring and Maintenance Report. The Post Closure Groundwater Monitoring Program Quarterly Sampling Results will continue to be forwarded to the respective agencies.

Respectfully,

Anthony J. Varrichio, P.E.
Chief Engineer

AJV:vl

Enclosure

cc: Martin Bellew, President, IRRA
Greg Hancock, Deputy Commissioner
Robert Schneck, Region 1 Stony Brook, NYSDEC – w/encl.
Mark E. Dannenberg, USEPA, Region 2 – w/encl.
Eric Lenio, NYSDEC, Region 1, Stony Brook – w/encl.
File

MEMO

TO: Anthony J. Varrichio, P.E., and Chief Engineer

FROM: Fazil Rahaman, Acting Ground Water Treatment Plant Operator

DATE: April 9, 2019

RE: **Blydenburgh Rd. L.F. 2018 2nd Half Semi-Annual Post Closure Monitoring and Maintenance Report**

Attached is the 2018, 2nd Half Semi-Annual Post Closure Monitoring and Maintenance Report for the M.S.W. Landfill, Ash Monofill, and Groundwater Remediation Facility for your review and comments.

CC: Mike Portela, Sanitation Site Crew Leader

2018, 2nd Half

POST CLOSURE MONITORING AND MAINTENANCE REPORT
FOR THE BLYDENBURGH ROAD M.S.W. LANDFILL
FORMER ASH MONOFILL
AND GROUNDWATER REMEDIATION

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PART I

BLYDENBURGH ROAD M.S.W. LANDFILL

AND FORMER

ASH MONOFILL INSPECTION REPORT

TABLES

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

DATE: 1/8/19 **WEATHER:** Overcast.

INSPECTOR(S): Fazil Rahaman **INSPECTION (Check One):** QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER _____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 MSW AND ASH MONOFILL COVER	*See Notes 1 and 2*		
1.1 Muncipal Solid Waste (MSW) Landfill			
General Condition of Vegetated Cover	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Solar Farm Occupies 10 Acers As per D.E.C. Approval.
General Condition of Conc. Revetment	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Re: Item 1.2
Evidence of Rodents/Animal Burrows	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Evidence of Local Distressed Vegetation	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Winter Conditions.
Start of Woody Vegetation (Trees)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Side Slope`s.
General Condition of Roads on Cover	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Evidence of Local Settlement	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Evidence of Leachate Seeps	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
- breaks or cracks in cover	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Not inspected, Due to obvious reasons.
- excessive erosion	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
- odors	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
(Other – Describe to right)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
1.2 Revetment Mat on MSW Landfill			
Eastern Sideslope	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Movement all mat location`s, Will be addressed in closure of C&D
Southern Sideslope	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Movement all mat location`s, Same as above.
Western Sideslope	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Minimal Movement all mat location`s, Same as above.
1.3 Ash Monofill			
General Condition of Vegetated Cover	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Winter Conditions.Solar farm occupies approximately 15,000 sq. ft.
Evidence of Rodents/Animal Burrows	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Evidence of Distressed Vegetation	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Winter Conditions.

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 MSW AND ASH MONOFILL COVER (Cont'd)			
1.3 Ash Monofill (Cont'd)			
Start of Woody Vegetation (Trees)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Side Slope`s.
General Condition of Roads on Cover	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Evidence of Local Settlement	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Evidence of Leachate Seeps	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
- breaks or cracks in cover	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Not inspected, Due to obvious reasons.
- excessive erosion	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
- odors	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
(Other – Describe to right)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
2.0 OPEN CHANNELS	*See Note 3*		
2.1 Diversion Swales			
1-A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
1-B	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2-A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2-B	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2-C	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2-D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-B	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-C	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-E	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
3-F	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 OPEN CHANNELS (Cont'd)			
2.1 Diversion Swales (Cont'd)			
4-A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
4-B	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
4-C	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
4-D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
5-A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
5-B	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
AF-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
AR-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
AF-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
2.2 Down Chutes			
No. 1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Eriosion,Will be addressed in closure of C&D, 2 Photo att.
No. 2	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
No. 3	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
No. 4	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
No. 5	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
2.3 Perimeter Channels			
P-1	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
P-2	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
P-3	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
P-4	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement, Will be addressed in closure of C &D, Photo att.
P-5	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement,Will be addressed in closure of C &D, Photo att.
MR-1	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 CONTROL STRUCTURES	*See Note 4*		
3.1 Energy Dissipation Structure No. 1	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.2 Energy Dissipation Structure No. 2	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.3 Stilling Structure No. 1	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.4 Stilling Structure No. 2	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.5 Stilling Structure No. 3	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.0 CULVERTS (Above-grade inspection)	*See Note 5*		
4.1 81-in. x 59-in. CMP (Access Way)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.2 42-in. –dia. CMP (Access Way & MH)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.3 24-in.-dia. PE Pipe (Headwall)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.4 30-in.-dia. CMP @ Down Chute No. 5	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Back pitched -Will be addressed in closure of C&D.
5.0 RECHARGE BASINS AND APPURTENANCES	*See Note 6*		
5.1 Recharge Basin No. 1			
81-in. x 59-in. CMP Outfall	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Sheet Piles	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
18-in.-dia.CMP Outfall	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4-in.-dia. PVC Pipe Outfall	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Basin No. 1 Sideslopes	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Basin No. 1 Bottom	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	Under water.

Table 2
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 1 FOR
MSW LANDFILL/ ASH MONOFILL COVERS AND SURFACE WATER MANAGEMENT SYSTEM

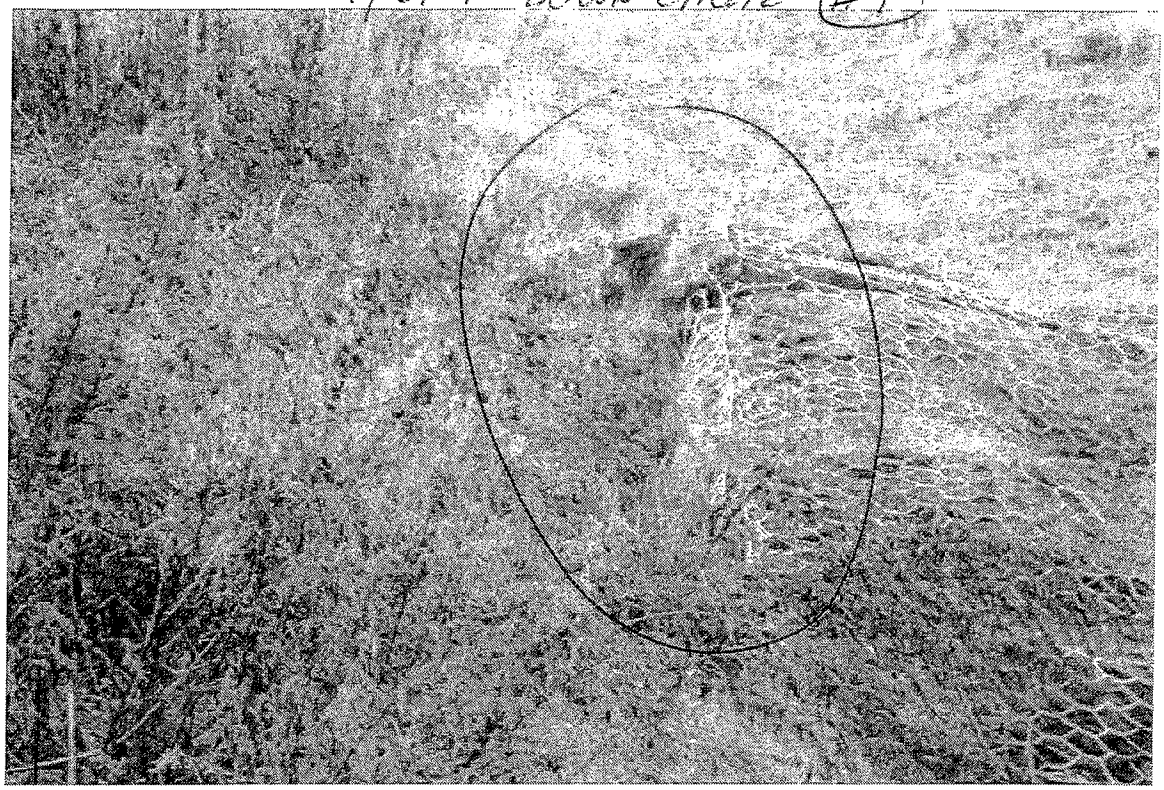
ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
5.0 RECHARGE BASINS AND APPURTENANCES (CONT'D)			
5.2 Recharge Basin No. 2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	----------
42-in.-dia CMP Outfall	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Diversion Swale AR-2 Outfall	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
Diversion Swale AF-3 Outfall	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Settlement/Subsidence.
Basin No. 2 Sideslopes	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Woody Vegetation.
Basin No. 2 Bottom	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Woody Vegetation.

COMMENTS:

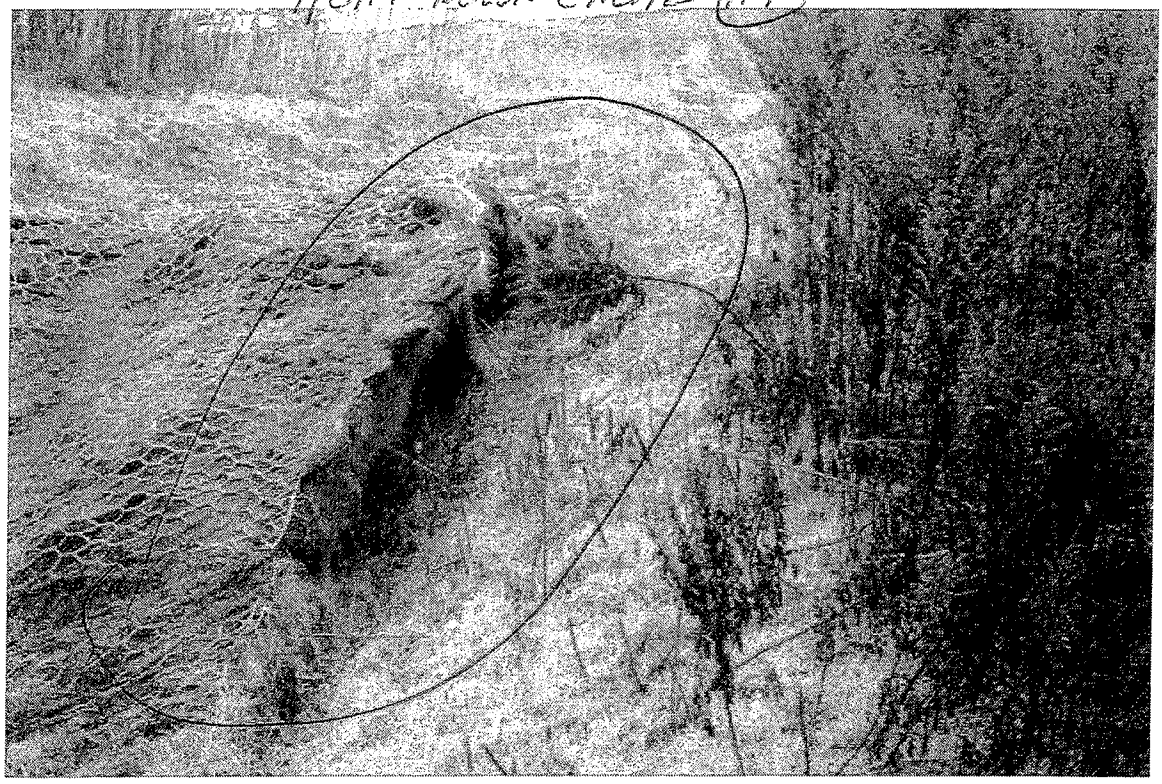
NOTES:

1) Use this inspection form along with Figure 4 – Landfill Cover and Surface Water Management System Plan by Golder Associates.
2) Relating to item 1.0 – Landfill and Monofill Covers, an example of local distressed vegetation is grass having a brown or black color, and characteristics typical of a leachate seep are a dark orangish/brown/black liquid or stain possibly with a strong odor.
3) Conditions/features to be alert for and possibly noted relating to Item 2.0 – Open Channels: general condition, flow capability, settlement/subsidence, erosion, blockages/debris, excess vegetation, animal burrowing, etc.
4) Conditions/features to be alert for and possibly noted relating to Item 3.0 – Control Structures: general condition, flow capability, settlement/subsidence, blockages/debris, structural integrity, cracking/spalling, etc.
5) Conditions/features to be alert for and possible noted relating to Item 4.0 – Culverts (Above-grade inspection): condition of exterior of access way/manhole structures, condition of culvert barrel at inlet and outlet, etc.
6) Conditions/features to be alert for and possibly noted relating to Item 5.0 – Recharge Basins and Appurtenances: general condition, storage capability, sliding/soughing of sideslopes, animal burrowing, sediment accumulation, integrity of outfall structures, undermining of culvert barrel, etc.

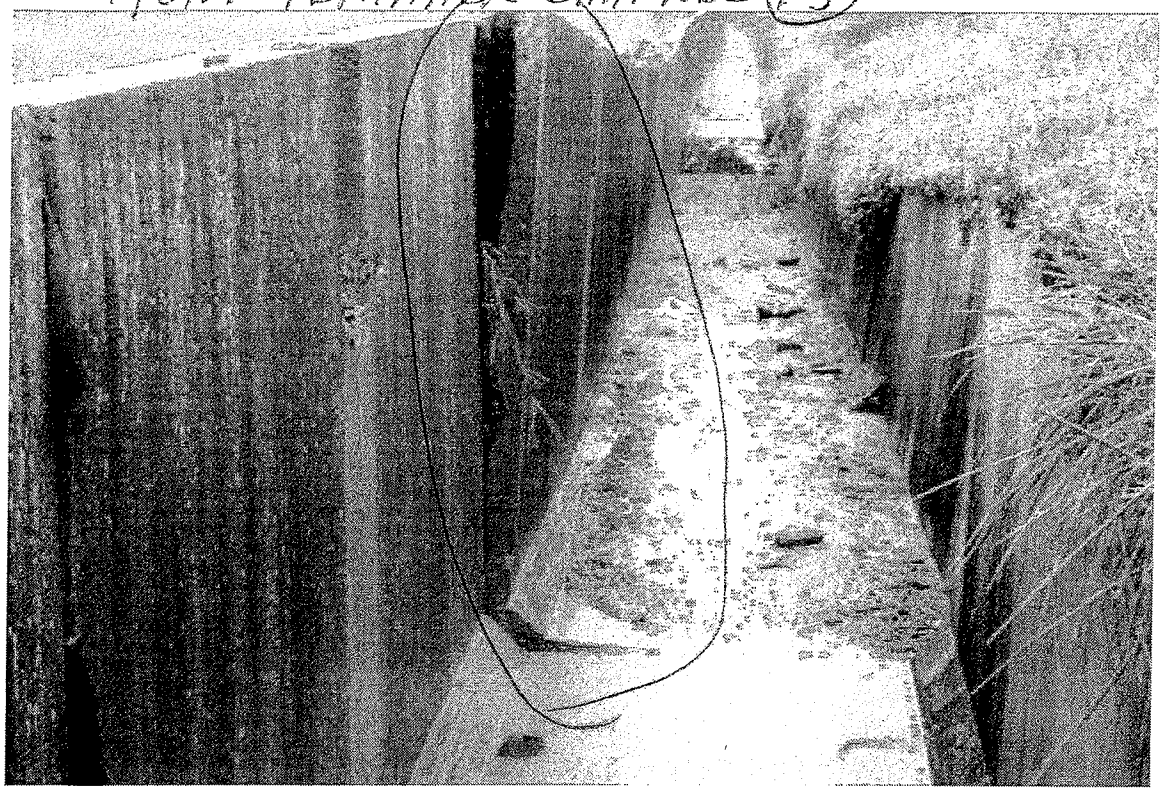
1/8/19 DOWN CHUTE #1



1/8/19 DOWN CHUTE #1



1/8/19 PERIMETER CHANNEL (P5)



1/8/19 PERIMETER CHANNEL (P4)

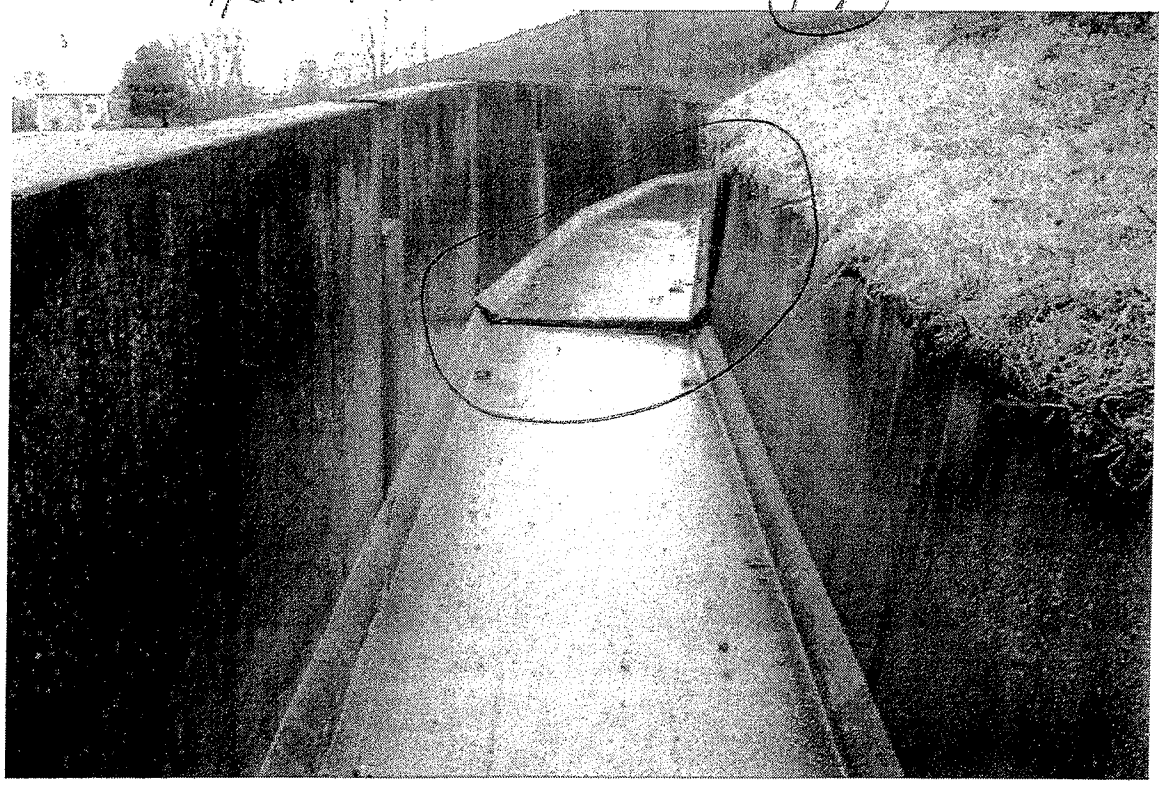


Table 3
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 2 FOR WEEKLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

DATE: 3/15/19 **WEATHER:** Sunny.

INSPECTOR(S): Fazil Rahaman **INSPECTION (Check One):** QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER _____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 SOUTHERN PUMP MANHOLE			
Air Receiver Pressure - PSIG	☐	☐	----------
Air Compressor Intake Filter Condition	☐	☐	----------
Air Compressor Coolant/ Oil Level	☐	☐	----------
Air Compressor Condensate Drainage	☐	☐	----------
Air Ejector Air Supply Filter Condition	☐	☐	----------
Air Ejector Air Supply Pressure – PSIG	☐	☐	----------
Air Ejector Pump Operation	☐	☐	----------
Comments			Based upon engineering consulting firm, investigation and report dated 6/30/03 Attached. The use of this system has been determined unnecessary.
2.0 LEACHATE STORAGE TANKS			
Leachate Storage Tank No. 1 Level/Condition	☒	☐	19 Feet.
Leachate Storage Tank No. 2 Level/Condition	☐	☒	19 Feet,Leak concerns on west side below blind flange. Photo att.
Leachate Storage Tank No. 3 Level/Condition	☒	☐	16 Feet.
Leachate Storage Tank No. 4 Level/Condition	☒	☐	16 Feet.
Cathodic Protection System Operation	☐	☐	Not inspected. Due to product containment.
Liquid Present in Containment Area	☐	☒	
Liquid Level in Sump Manhole	☒	☐	On going monitoring/pump out.
Liquid Level in Pump Station	☒	☐	On going monitoring/pump out.
Comments			Sump pump, pump`s to recharge basin when floor valve is switched to tank #3 position. NEEDS ATTENTION... Craig D., Landfill Personell Present for inspection.

Table 3
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 2 FOR WEEKLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 PUMP STATION MANHOLE NO. 1 – CONTROL PANEL			
Pump No. 1 Operating Hours	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	New Meter (1,448.7 hrs.), Previous Meter(11,955 hrs.).
Pump No. 1 Instantaneous Flow Rate - GPM	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	28%.
Pump No. 2 Operating Hours	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	12,122 hrs.
Pump No. 2 Instantaneous Flow Rate - GPM	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	28%.
Alarm Conditions	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Seal Leak Continuity Test	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Not Working.
Lamp Light Test	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Pump Served by Generator	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	Only Pump #2/lag Served by generator.
Flow Meter Totalizer Reading - Gallons	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	12,958,208 gal., See Comments.
Comments	Meter Reflects ERROR,Under Investigation.		
	Craig D., Landfill Personell Present for inspection.		
4.0 SUMP PUMP – CONTROL PANEL			
Pump Operating Hours	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	10,874 hrs.
Alarm Condition	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	
Seal Leak Continuity Test	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Not Working.
Lamp Light Test	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Comments	Sump pump pump`s to recharge basin when floor valve is switched		
	to pump to tank #3 position. NEEDS ATTENTION...		
	Craig D., Landfill Personell Present for inspection.		

Table 3

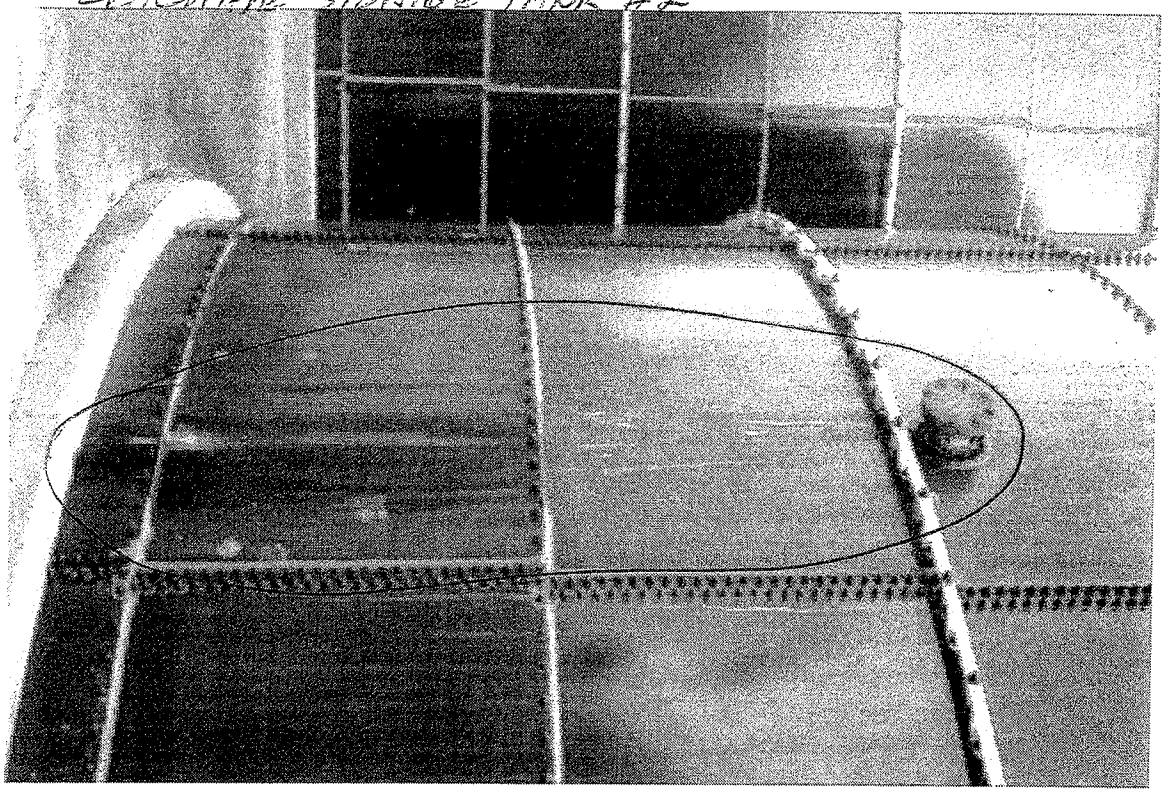
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

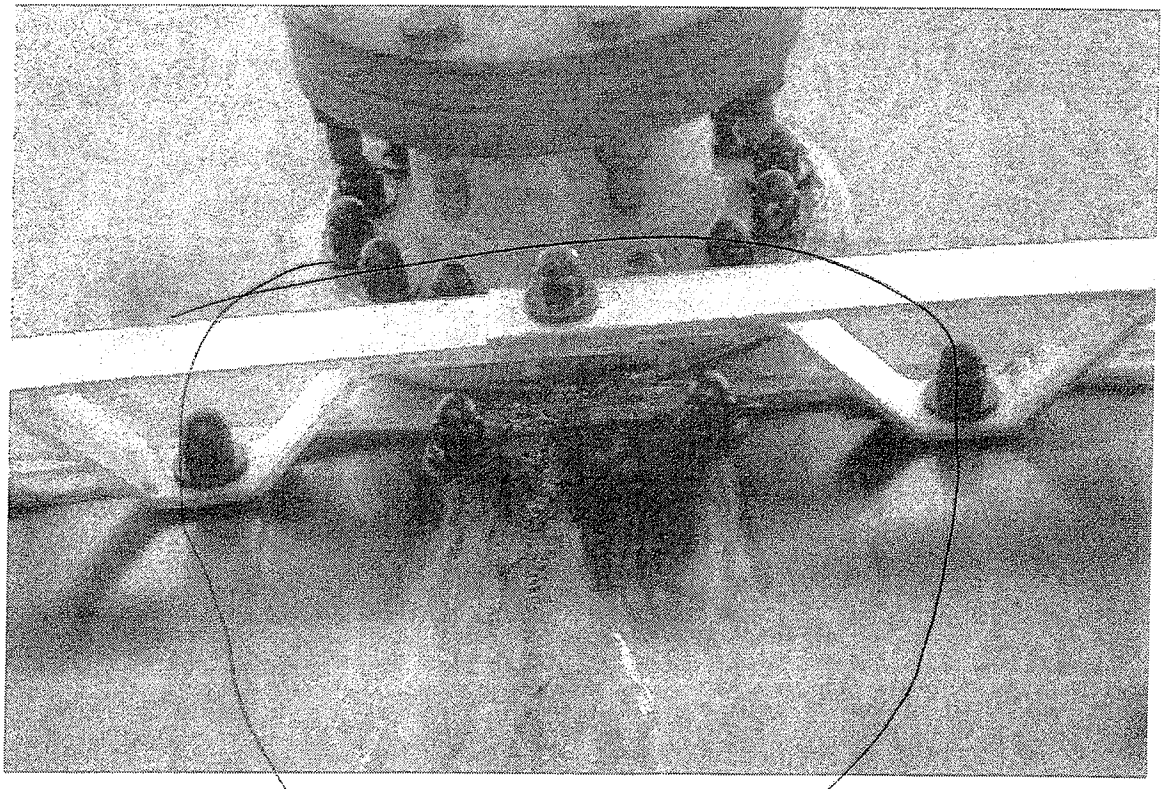
FIELD INSPECTION FORM NO. 2 FOR WEEKLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
5.0 EMERGENCY GENERATOR			
Generator Oil Level	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Generator Coolant Level	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Battery Charge	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Diesel Fuel Oil Level	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	1/4 full.
Operating Test Checks:	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	
Start-Up Performance	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Generator Oil Pressure	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	48 PSI.
Generator Motor Temperature	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	180 Degree Fahrenheit, (RAN FOR 1 HOUR).
Generator Voltage (underload)	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	240 Volts.
Generator Amperage (underload)	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	14 Amps.
Generator Hertz (underload)	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	59 1/2 Herts. Re: Table 3 Item 3.0
Comments	TRANSFER SWITCH INOPERABLE.		
	Craig D., Landfill Personell Present for inspection.		
6.0 ASH MONOFILL PUMP STATION			
Leachate Level	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	
Comments	ASH Collection Chamber Readings July through December 2018 Attached.		
	Prepared by Mike P, L..F. Site crew leaeder, being monitored/pumped .		

3/15/19

LEACHATE STORAGE TANK #2





1 OF 1

Dvirka and Bartilucci
CONSULTING ENGINEERS
330 Crossways Park Drive, Woodbury, New York, 11797-2015
516-364-9890 • 718-460-3634 • Fax: 516-364-9045
e-mail: db-eng@worldnet.att.net

June 30, 2003

Paul DiMaria, Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill Complex
MSW Section 2 Landfill
Leachate Chambers
D&B No. 1222-VII

Dear Mr. DiMaria:

This letter report is intended to document our findings and recommendations relative to our examination of three leachate chambers associated with the MSW Section 2 Landfill at the Blydenburgh Road Landfill Complex.

The MSW Section 2 Landfill area is a 16-acre portion of the overall MSW Landfill. The Section 2 area is located at the southern end of the MSW Landfill and abuts the northern edge of the Cleanfill Phase 1 Landfill area. The Section 2 area is a lined landfill and was constructed in the early to mid 1980s. The Section 2 area is reported to have been constructed with a PVC sideslope and two PVC bottom liners, as well as provisions for leachate collection (primary) and leachate detection (secondary) systems. The Section 2 area was constructed as an excavation on the order of 100 feet deep. The leachate collection and leachate detection systems are located at the base of the excavation.

Access to the leachate collection and detection systems is provided by way of precast concrete chimneys which were assembled in sections to keep pace with the landfilling of waste. There are three chimneys located on the southern slope of the capped Section 2 area. For the purpose of this report, the three structures will be referred to as the east structure, the middle structure and the west structure. The correlation between each of these structures and their relation to the leachate collection and/or leachate detection systems has not been fully established. The location of each structure is depicted on Figure 1 attached.

It appears that the Town utilized these structures at various times through the operating period of Section 2 to remove leachate. In February 1988, the Town performed a video examination of the east structure. The video camera was passed from the top of the structure to the bottom. This 1988 examination documented that horizontal misalignment of the precast rings was being experienced to a degree sufficient to impede the movement of the camera down the shaft. Images at the bottom of the shaft depicted the entrance of the leachate piping into the structure.

Following the capping/closure of the MSW Landfill in 1993, the Town made use of the east chimney to remove leachate. At that time, it was noted that the chimney was not straight and plumb and it was difficult to install pumping equipment to the bottom of the chimney to access the leachate system. In order to facilitate the installation of pumping equipment to the bottom of the chimney, the Town had a 6-inch diameter steel riser pipe installed in 1994. This riser pipe provided a conduit to facilitate the installation of a pneumatic bladder pump to the base of the chimney. This pumping system was utilized from March 1994 through early October 1994, after which its use was discontinued and the pump was removed.

In December 1997, the Town had high-density polyethylene (HDPE) geomembrane covers installed over the exposed tops of each chimney to mitigate the release of steam and odors from the chimney structures. These covers were fusion welded to the HDPE geomembrane landfill capping system.

Dvirka and Bartilucci Consulting Engineers (D&B) was requested to perform an examination of each of the three leachate structures and an assessment of the opportunity and/or the need for the Town to reinstitute leachate pumping from the capped and closed Section 2 area.

D&B retained the services of Pengat Technical Inspections to perform a video inspection of each of the three structures, as well as the 6-inch steel riser pipe located in the east structure. In order to access each structure, the HDPE liner covering was cut in select areas. The east and west structures were found to have openings in the top slab which would allow the video camera to be inserted into the structure. The east structure top slab has a 14-inch diameter opening which was covered by a loose piece of steel plate. The west structure top slab has a 24-inch square aluminum hatch. Each of the three structures has a 4-inch PVC vent pipe which penetrates the top slab and is connected to an odor control device. The middle structure did not have an opening in the top slab other than the vent pipe penetration. An 8-inch diameter penetration was core drilled into the side of the middle structure to provide access to the interior of the structure. After the inspection, the core dilled hole was sealed with an expanding plumber's plug.

The video inspection was performed by lowering the camera into the structure by its power/video cable. The location of the three structures in mid-slope, and the lack of an access road, prevented the support van from getting closer than approximately 200 feet to any of the structures.

Consequently, the video camera was raised and lowered by hand, with 200 feet of slack cable draped across the ground surface from the van. This arrangement compromised the accuracy of the counter used to measure the length of cable and the corresponding position of the camera. Therefore, the depth measurements depicted on the videotapes should be considered as gross approximations and may not be representative, especially at times when the camera is raised and lowered by hand without adjusting the slack in the cable from the van.

Enclosed are copies of the videotapes generated during the inspections conducted on October 10, 11, 15 and 24, 2002. In general, you will find that the visual image is somewhat poor due to the high moisture content in the structures which promotes condensation on the camera lens. Typically, the condensation problem is observed in the upper reaches of the structure. In addition, you will find that the images are difficult to decipher because there is no fixed point of reference. The camera utilized for these examinations made use of a pan and tilt head which allows the lens to scan left to right and up and down. Given that the camera is suspended from a cable, the camera assembly is free to rotate, which forfeits all opportunity to maintain a reference, such as north. The combination of these movements makes it difficult to establish the perspective of the viewed image. This is further complicated by the lack of an audio narration which was provided in the field but, for some reason, was not recorded on the tapes.

The video inspection of each structure was further complicated by the method utilized to construct each chimney or shaft. As noted, the height of each structure was advanced as the landfilling of MSW progressed around it. The precast concrete sections used to assemble the structures were fabricated with butt or flat ends so that the new section being placed would sit on the top of the lower section without any mechanical means to lock the sections in alignment. Over time, the natural settlement and shifting of the MSW waste mass would impose lateral forces on the assembly and cause the sections to shift at their intersections, resulting in a shaft which is neither straight or plumb. Given the limitations of the video inspection process, the magnitude of misalignment cannot be readily estimated but can be inferred by the observed movement of the camera across the cross section of the shaft. Individual joints can be observed in the video and the degree of shift can be visually estimated, however, the cumulative effect and the plane or direction of deflection is not as apparent.

The following shall serve to provide our interpretation of the condition of each of the structures based upon the enclosed videotapes, as well as our observations during the video inspection.

East Structure

The east structure is approximately 8 feet in diameter. The top slab of the structure is approximately 6 feet above the finished grade of the landfill capping system.

The east structure was first videotaped in February 1988, prior to the installation of the 6-inch steel "well shaft" within the structure. The 1988 inspection documented that the structure was not plumb or in true alignment as evidenced by the joint displacements and the migration of the camera across the width of the structure. The camera was advanced to the bottom (water level) of the structure at a reported depth of 147.5 feet (153.5 feet as shown on the tape less 6 feet to adjust for zero). The narrative states that a tape measure was used to sound the structure to approximately 180 feet, however, this statement should be suspect given the likelihood that a tape measure may adhere to the moist or wet walls of the structure and not give a true feel for the bottom of the structure. The inlet pipe was perceived to occur at a depth of 140 feet (146 feet less 6 feet). The depth of the liquid at the bottom of the structure was not determined. The 1988 examination was performed with a camera without pan and tilt, so the view is limited when the camera hugs the walls of the structure and the view is straight down.

The 1988 examination clearly documents that the structure had experienced shifting at a number of joints but access to the bottom of the structure with a flexible device was possible, though with difficulty.

The 1988 examination did not reveal any pumping equipment or other devices in the structure.

Following the capping/closure of the MSW landfill, the Town had a 6-inch steel pipe installed in the east structure to serve as a conduit or well shaft to facilitate the installation of pumping equipment to the bottom of the structure. The Town utilized this well shaft to install a pneumatic diaphragm pump which was operated from March 1994 through early October 1994. Records indicate that a total of 910,000 gallons of leachate was removed in this period. It is also reported that one precast ring was removed resulting in the top slab being lowered by approximately 8 feet.

The October 2002 examination of the east structure included both the interior of the 8-foot diameter structure and the 6-inch diameter steel "well shaft" within the structure.

The camera was inserted into the top of the steel pipe and was able to be advanced to the bottom of the pipe at a depth of approximately 139 feet. The "well shaft" is constructed with threaded and coupled sections of pipe and the bottom section is constructed with a wire wrapped screen. The interior of the pipe and screen shows significant signs of corrosion throughout the entire length and material is observed to flake off due to the action of the camera. There is no apparent failure of the pipe or screen and it appears capable of performing its intended function. The screened interval is estimated to be about 5 feet in length. The water level in the screened interval was found to be of nominal depth. The depth of liquid in the screened interval is consistent with the depth of liquid which was observed subsequently in the structure, therefore, the liquid in the "well shaft" is reflective of the liquid in the structure.

Following the video examination of the "well shaft," the interior of the east structure was inspected. The east structure was confirmed to being constructed of precast ring of a uniform diameter. As in 1988, the joints between rings were found to be shifted out of alignment by as much as the wall thickness of the rings.

The well shaft is readily visible throughout the depth of the structure and it is noted that the well shaft is not secured in any fashion to the precast concrete structure There was no obvious deformation of the well shaft (interior view or exterior view), yet the shaft is found to meander across the width of the structure. This condition serves to document the misalignment of the assembled precast structure. The well shaft was observed to have significant corrosion on the exterior of the steel pipe to the point where layers or laminations were noted to be peeling off. From the exterior (interior of the structure), the screened interval at the base of the steel "well shaft" is not recognizable as a screen section (the screen is recognizable from the inside of the pipe). The "well shaft" is seen to rest on the bottom slab of the structure.

The camera was able to be passed from the top of the structure to the base at a depth of approximately 130 feet (137 feet less 7 feet to adjust for zero). Given the constraints involved in the cable measurements, the depths suggested by the "well shaft" (139 feet) and the depth suggested by the structure (130 feet) are considered to be equal for the purpose of this discussion. Attempts were made to measure the depth of the structure with a tape measure while the camera was at the bottom of the structure to allow visual confirmation of when the tape was on the bottom. These attempts were not successful. The weighted tape measure was not able to reach the bottom, but instead became caught on the ledges created by the misaligned precast sections.

The camera experienced similar difficulties, often become lodged between the "well shaft" and the wall of the structure.

The interior of the eastern structure appears to be competent with no apparent structural failures. As noted above, the camera was advanced to the bottom of the structure where the bottom of the "well shaft" could be observed, as well as the inlet pipe to the structure.

There was no discernable flow of liquid into the east structure and the depth of liquid accumulated in the base of the structure was nominal. The minimal amount of liquid in the base of the structure would not warrant its removal and would not accommodate the operation of a pump, if so desired.

It had been reported that the Town discontinued the operation of the diaphragm pump and ultimately removed it because it was concluded that there was no leachate to be pumped. The October 2002 video inspection confirms this conclusion.

West Structure

The west structure is approximately 4 feet in diameter. The top slab of the structure is approximately 9 feet 6 inches above the finished grade of the capping system.

The west structure was video inspected on October 15, 2002, by lowering the camera through the 4-inch vent penetration of the top slab. The aluminum hatch was not operable at the time. Subsequent efforts were able to dislodge a piece of debris from the lock mechanism, allowing the hatch to be opened.

The inspection documented that the west structure is constructed of 4-foot diameter rings throughout the depth of the inspection and that misalignment of the rings has occurred. It should be noted that the text message on the video tape incorrectly identifies the structure as the "east" manhole with a diameter of 8 feet and a date of June 12, 1996.

The video inspection of the west structure reveals that this structure was utilized as a pumping structure at some time during the operation of Section 2, as evidenced by the myriad of cables (wire rope), wires, hoses and what appears to be a length of slotted PVC screen. The nature of these materials would suggest that a pump and its associated appurtenances were utilized at one time, are now abandoned in place and now constitute debris. The haphazard arrangement of this debris in the structure severely inhibited the ability to advance the camera. The debris was encountered in varying degrees from the very top of the structure down to a depth of approximately 71 feet, with more debris being present in the lower portions of the structure.

At a depth of 71 feet, it appears that there is an intermediate slab with a square opening and may include a hatch cover. Several cables and wires are present at this depth. Efforts to advance the camera through the slab opening were not successful due to debris and the misalignment of the structure above. Given these limiting conditions, the overall depth of the structure could not be ascertained. The limitations of positioning the camera prevented a direct view from above the slab opening to assess the remaining depth of the structure.

At first glance, the intermediate slab in the structure would suggest that the slab defines the top of a manhole section which would serve as a wet well. If this were the case, it could then be assumed that the remaining depth of the structure might be on the order of 10 to 15 feet, for an overall depth of 85 to 90 feet. However, records suggest that the structure should be more on the order of 150 feet deep. The inability to access the lower reaches of this structure precludes

gaining further insight into the function of the debris which has been abandoned in place or the overall depth of the structure.

In light of these conditions, the west structure does not offer the Town a useful option to leachate management, should there be any leachate present.

Middle Structure

The middle structure is approximately 8 feet in diameter and there was no existing penetration of the top slab other than the 4-inch vent penetration. On October 15, 2002, the first attempt to video inspect the structure was made by inserting the camera through the vent penetration of the top slab. A second attempt to video inspect the structure was performed on October 24, 2002, after an 8-inch hole was core drilled through the sidewall of the structure. The sidewall penetration provided the field personnel more flexibility in trying to adjust the position of the camera relative to the cross section of the structure. The tape of the October 24, 2002 inspection of the middle structure includes the narrative provided during the inspection.

The upper portions of the middle structure were found to consist of a series of rings 8 feet in diameter down to a depth of approximately 18 to 22 feet. The October 15, 2002 inspection tape suggests this depth is approximately 23 feet, given the difference in elevation between the top slab and the sidewall penetration. At this level, the structure reduces in size to a series of rings approximately 4 feet in diameter. The transition from 8 feet to 4 feet is abrupt and appears that the first 8-foot ring was set roughly concentric to the last 4-foot ring. A corrugated hose roughly 4 to 6 inches in diameter was found abandoned in place in the area of the transition.

The entrance to the 4-foot rings was found to be oriented at a dramatic angle off the vertical, as if the 4-foot stack had fallen over onto an incline or slope. It appears that the 8-foot rings were then set above the point where the 4-foot rings came to rest.

Given the offset angle of the 4-foot rings from the 8-foot rings, the camera was not able to enter the 4-foot stack, but merely cross through the mouth of the 4-foot stack. Visually, the degree of inclination in the 4-foot sections is not fully apparent until one realizes that the layer of soft, granular soil which covers the lower portion of the 4-foot barrel can only exist at an inclination closer to horizontal than vertical. The visual image is further confused by the presence of manhole rings in the 4-foot rings, which would normally describe a vertical axis. The lateral view of the camera into the mouth of the 4-foot stack suggests that these rings are joined by tongue and groove manhole joints and that at least three sections can be observed to maintain their relative alignment. However, given the circumstances, it is unlikely that there is continuity of the series of 4-foot rings or that they lead to their intended origin. It is assumed that the overall depth of the middle structure would be commensurate with the east structure and that

approximately 100 feet of structure could not be accessed or confirmed due to the existing conditions.

Conclusions and Recommendations

The examination of the three leachate structures reveals that the east structure and the associated 6-inch steel well shaft appear to be sufficiently competent to provide a means to install a leachate pump, should the need exist. The east structure was utilized in the past for this purpose and provided service up until the flow of leachate was perceived to cease. The video examination of the east structure confirms that there is no appreciable accumulation of leachate and, therefore, no opportunity to remove leachate by these means. The span of eight years from the last pumping operation to the current inspection offered more than ample time for leachate to accumulate in this structure. At this point in time, it can be assumed that, absent unforeseen circumstances, the future opportunities to remove leachate via the east structure will not change. Therefore, no remedial action to this structure is suggested.

The west structure was found to be compromised by the assorted debris which has been abandoned in place. This condition precluded a complete examination of the structure and leaves in question whether this structure could be used for the removal of leachate should any exist. Given that no leachate was found at the base of the east structure after a period of eight years, it is unlikely that materially different conditions would be found at the base of the west structure, assuming that it provides a second means of access to the same leachate collection system. Therefore, no remedial action is suggested for this structure.

The middle structure was found to be totally compromised, with no practical means of accessing the underlying leachate chamber for which the middle structure was assembled. Given these circumstances, no remedial action appears practical. The gross misalignment observed in this structure negates any possibility of locating the underlying structure.

In light of the various conditions of the three leachate structures, it appears that the overriding issue is that no leachate was found. Therefore, any attempts to reinstall a viable leachate pumping system in one of these structures would be without merit.

Given this no action alternative, the Town should make repairs to the high density polyethylene covers which were constructed and have suffered some damage due to the elements, in order to lessen the nuisance potential of these structures as a source of odors.

We trust these findings are sufficient for your needs.

Paul DiMaria, Chief Engineer
Islip Resource Recovery Agency
June 30, 2003

Should you have any questions or comments regarding this matter, please feel free to contact this office.

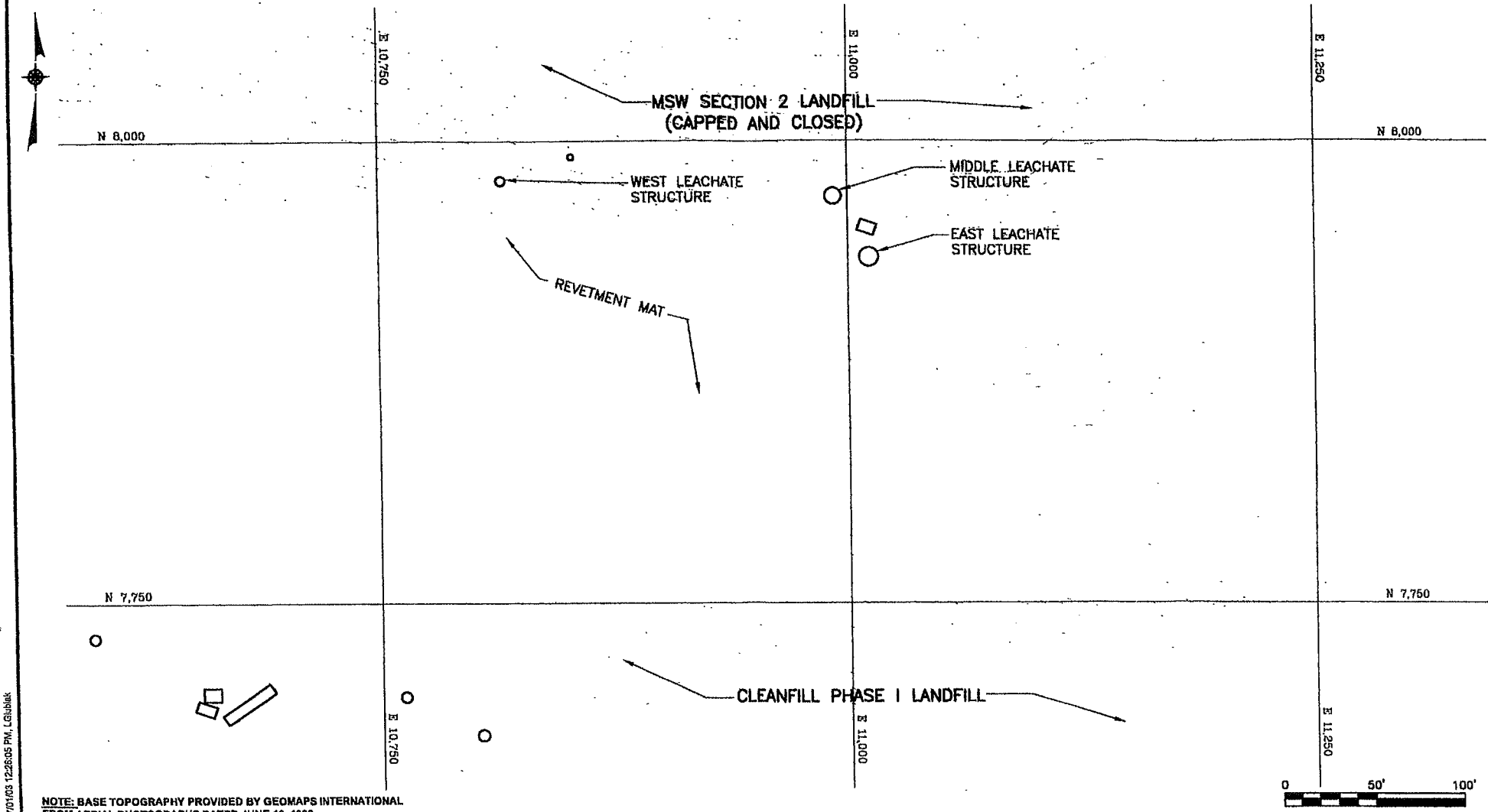
Very truly yours,

Edward J. Reilly

Edward J Reilly

EJR/abc
Enclosures
cc: W. Nagel
R. Burns
♦1222\EJR05143PD.DOC(R05)

7/8/03
Note : No action to be taken by operation personnel.
with landfill settlement the protruding ring
should be removed



NOTE: BASE TOPOGRAPHY PROVIDED BY GEOMAPS INTERNATIONAL FROM AERIAL PHOTOGRAPHS DATED JUNE 10, 1998

Dvirka and Bartilucci CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

ISLIP RESOURCE RECOVERY AGENCY
BLYDENBURGH ROAD LANDFILL COMPLEX

SITE LAYOUT

FIGURE 1

F:\11222-VR\11222-1.dwg, 07/01/03 12:26:05 PM, LGlubiak

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
July , 2018

July		Feet Measured	Action Taken	Comments
Sunday	1	na		
Monday	2	3'6"		
Tuesday	3	3'		
Wednesday	4	na		
Thursday	5	na		
Friday	6	3		
Saturday	7	na		
Sunday	8	na		
Monday	9	3'3"	pumped	
Tuesday	10	3'		
Wednesday	11	3'	pumped	
Thursday	12	3'6"		
Friday	13	3'10		
Saturday	14	na		
Sunday	15	na		
Monday	16	4'	pumped	
Tuesday	17	3'		
Wednesday	18	3'3"		
Thursday	19	3'6"	pumped	
Friday	20	2"11		
Saturday	21	na		
Sunday	22	na		
Monday	23	3'6"		
Tuesday	24	3'6"	pumped	
Wednesday	25	na		
Thursday	26	3'7"		
Friday	27	na		
Saturday	28	na		
Sunday	29	na		
Monday	30	3'7"		
Tuesday	31	3'7"		

MSW South Slope Pump Chamber

Date: *23-Jul-18*

Level: *40"*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
August , 2018

August		Feet Measured	Action Taken	Comments
Wednesday	1	na		
Thursday	2	4'	pumped	
Friday	3	na		
Saturday	4	na		
Sunday	5	na		
Monday	6	3'6"	pumped	
Tuesday	7	2'10"		
Wednesday	8	3'4"		
Thursday	9	3'6"		
Friday	10	3'4"		
Saturday	11	na		
Sunday	12	na		
Monday	13	3'6"		
Tuesday	14	3'7"		
Wednesday	15	3'6"	pumped	
Thursday	16	2'10"		
Friday	17	3'1"		
Saturday	18	na		
Sunday	19	na		
Monday	20	3'4"		
Tuesday	21	3'5"		
Wednesday	22	3'6"		
Thursday	23	3'6"		
Friday	24	3'6"		
Saturday	25	na		
Sunday	26	na		
Monday	27	3'7"		
Tuesday	28	3'7"		
Wednesday	29	3'7"		
Thursday	30	3'8"	pumped	
Friday	31	3'2"	pumped	

MSW South Slope Pump Chamber

Date: *31-Aug-18*

Level: *42"*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
Sepetmber , 2018

September		Feet Measured	Action Taken	Comments
Saturday	1	na		
Sunday	2	na		
Monday	3	na		
Tuesday	4	3'6"		
Wednesday	5	3'9"		
Thursday	6	3'9"		
Friday	7	3'7"		
Saturday	8	na		
Sunday	9	na		
Monday	10	na		
Tuesday	11	3'10"		
Wednesday	12	4'	pumped	
Thursday	13	2'3"		
Friday	14	na		
Saturday	15	na		
Sunday	16	na		
Monday	17	na		
Tuesday	18	3'6"		
Wednesday	19	3'6"		
Thursday	20	3'8"	pumped	
Friday	21	na		
Saturday	22	na		
Sunday	23	na		
Monday	24	4'		
Tuesday	25	4'1"		
Wednesday	26	3'10"		
Thursday	27	4'2"		
Friday	28	na		
Saturday	29	na		
Sunday	30	na		

MSW South Slope Pump Chamber

Date: *//2018*

Level: *NA*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
October , 2018

October		Feet Measured	Action Taken	Comments
Monday	1	na		
Tuesday	2	na		
Wednesday	3	na		
Thursday	4	na		
Friday	5	3'10"		
Saturday	6	na		
Sunday	7	na		
Monday	8	na		
Tuesday	9	4'		
Wednesday	10	na		
Thursday	11	na		
Friday	12	4'		
Saturday	13	na		
Sunday	14	na		
Monday	15	4'		
Tuesday	16	4'		
Wednesday	17	4'		
Thursday	18	4'		
Friday	19	4'3"		
Saturday	20	na		
Sunday	21	na		
Monday	22	4'1"		
Tuesday	23	4'		
Wednesday	24	4'		
Thursday	25	4'		
Friday	26	4		
Saturday	27	na		
Sunday	28	na		
Monday	29	na		
Tuesday	30	4'		
Wednesday	31	na		

MSW South Slope Pump Chamber

Date: *19-Oct-18*

Level: *53"*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
November , 2018

November		Feet Measured	Action Taken	Comments
Thursday	1	4'		
Friday	2	4'		
Saturday	3	na		
Sunday	4	na		
Monday	5	4'		
Tuesday	6	na		
Wednesday	7	4'		
Thursday	8	4'		
Friday	9	4'		
Saturday	10	na		
Sunday	11	na		
Monday	12	4'		
Tuesday	13	na		
Wednesday	14	4'		
Thursday	15	4'		
Friday	16	na		
Saturday	17	na		
Sunday	18	na		
Monday	19	4'2"		
Tuesday	20	4'2"		
Wednesday	21	4'2"		
Thursday	22	4'1"		
Friday	23	4'3		
Saturday	24	na		
Sunday	25	mn		
Monday	26	4'3"		
Tuesday	27	4'3"		
Wednesday	28	na		
Thursday	29	4'4"		
Friday	30	na		

MSW South Slope Pump Chamber

Date: *19-Nov-18*

Level: *54"*

Town of Islip
Hauppauge Cleanfill
Ash Mono Fill Collection Chamber Summay
December, 2018

December		Feet Measured	Action Taken	Comments
Saturday	1	na		
Sunday	2	na		
Monday	3	4'4"		
Tuesday	4	4'4"		
Wednesday	5	na		
Thursday	6	4'4"		
Friday	7	na		
Saturday	8	na		
Sunday	9	na		
Monday	10	4'6"		
Tuesday	11	na		
Wednesday	12	na		
Thursday	13	na		
Friday	14	na		
Saturday	15	na		
Sunday	16	na		
Monday	17	4'6"		
Tuesday	18	4'7"		
Wednesday	19	4'7"		
Thursday	20	na		
Friday	21	4'9"		
Saturday	22	na		
Sunday	23	na		
Monday	24	na		
Tuesday	25	na		
Wednesday	26	4'9"		
Thursday	27	na		
Friday	28	na		
Saturday	29	na		
Sunday	30	na		
Monday	31	4'9"		

MSW South Slope Pump Chamber

Date: *3-Dec-18*

Level: *44"*

Table 3A
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION OF CONDENSATE COLLECTION SYSTEM FOR GAS SYSTEMS

DATE: 3/20, 4/1/19 **WEATHER:** Sunnv, Sunnv.

INSPECTOR(S): Fazil Rahaman **INSPECTION (Check One):** QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER _____

ITEM	ADEQUATE (or YES)	REQUIRES MAINTENANCE	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 SYSTEM HARDWARD AND COMPONENTS			
North Valving Structure	ADEQUATE ☒ YES☐	REQUIRES MAINTENANCE ☐	
Condensate Drain Valves	ADEQUATE ☒ YES☐	REQUIRES MAINTENANCE ☐	
Condensate Piping	ADEQUATE ☒ YES☐	REQUIRES MAINTENANCE ☐	
Condensate Piping Manhole "A"	ADEQUATE ☐ YES☐	REQUIRES MAINTENANCE ☒	Precast around Condensate Piping in chamber, 2 Photo attached.
Condensate Piping Manhole "B"	ADEQUATE ☒ YES☐	REQUIRES MAINTENANCE ☐	
Comments	V-201 Combine Header Valve Inoperable, V-209 Valve Inoperable, V-203 Phase 111 Field Valve Inoperable,ALL REQUIRES MAINTENANCE. Craig D., Landfill Personell Present for inspection of N.V.Structure.		

3/20/19

MANHOLE "A"

CONDENSATE PIPING

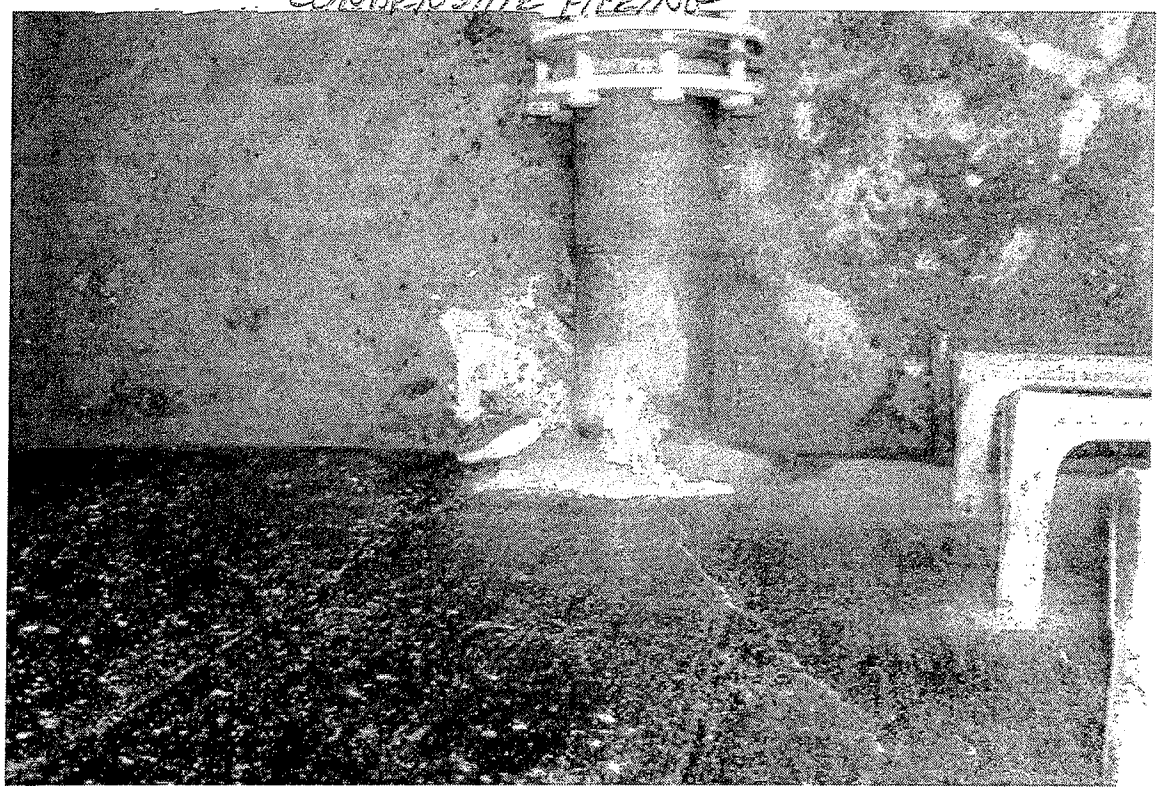


Table 4
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

DATE: 1/9, 3/19/19 WEATHER: Sunnv. Sunnv.

INSPECTOR(S): Fazil Rahaman INSPECTION (Check One): QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER _____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 MUNICIPAL SOLID WASTE LANDFILL			
1.1 Southern Pump Manhole/Air Ejector Pump			
Manhole Condition	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Re: Table 4 Item 1.2 Chamber readings July to December 2018
Air Hoses to Ejector Pump	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Item 1.0 (Attached to table 3)
Vent Hoses/ Bio-Filter	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Item 1.0
Air Ejector Pump Operation	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Item 1.0
Discharge Piping Connections	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Item 1.0
Air Compressor	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Item 1.0
Air Regulator/ Filter	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Item 1.0
Air Compressor Shed	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Item 1.0
Air Compressor Controls/Electrical Connection	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Item 1.0
1.2 Eastern and Western Leachate Detection Manhole			
Eastern Leachate Detection Manhole Condition	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Re: Engineering consulting firm examination report 9/20/2013 att.
Eastern Leachate Detection Vent Hoses/Bio-Filter	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Vent piping part of M.S.W. Gas collection system.
Western Leachate Detection Manhole Condition	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Re: Table 3 Item 1.0
Western Leachate Detection Vent Hoses/Bio-filter	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Vent piping part of M.S.W. Gas collection system.

Table 4
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 MUNICIPAL SOLID WASTE LANDFILL (Cont'd)			
1.3 Manholes and Piping (both primary and secondary systems)			
Manholes No. 2 Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Manholes No. 3 Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Manholes No. 4 Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Manholes No. 5 Condition	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Reconnect band & clamp. Photo att.
Manholes No. 6 Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Manholes No. 7 Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Manholes No. 8 Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
1.4 Pump Station – Manhole No. 1			
Manhole Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Inlet Piping (2 pipes)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Discharge Piping	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Sump Pump No. 1 and Wires	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Sump Pump No. 2 and Wires	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Level Floats (4) and Wires	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Slide Rail System	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Hoist, Pulley and Chain	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Electrical Disconnect Switches	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
1.5 Valve/Metering Vault			
Vault Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Piping and Valves	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flow Meter and Wires	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Meter Concerns, Re: Table 3 Item 3.0

Table 4
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 LEACHATE STORAGE AREA			
2.1 Leachate Storage Tanks			
Tank #1 and Assoc. Pipe/Fitting/Valves	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Valves exercised 1x per. wk. and lubed 2x per. month.
Tank #2 and Assoc. Pipe/Fitting/Valves	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Floor Valve(BINDING CONCERNS),
Tank #3 and Assoc. Pipe/Fitting/Valves	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Floor Valve(BINDING CONCERNS),
Tank #4 and Assoc. Pipe/Fitting/Valves	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Valves exercised 1x per. wk. and lubed 2x per. month.
Condition of Concrete Apron	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Inlet Grate over Sump in N.W. Corner	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Valve Access Pits in N.W. Corner	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Re: Table 3 Item 4.0
2.2 Containment Sump and Pump			
Sump Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Inlet Piping	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Re: Table 3 Item 4.0
Sump Pump and Wires	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Level Floats and Wires	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Slide Rail System	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Not equipped.

Table 4
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 EMERGENCY GENERATOR BUILDING			
3.1 Pump Station Manhole No. 1 Control Panel			
Panel Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Alarms and Lights	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Re: Table 3 Item 3.0
Wiring and Conduit	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.2 Sump Pump Control Panel			
Panel Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Alarms and Lights	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Re: Table 3 Item 4.0
Wiring and Conduit	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.3 Flow Meter			
Panel Condition	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Re: Table 3 Item 3.0
Alarms and Lights	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Re: Table 3 Item 3.0
Wiring and Conduit	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.4 Emergency Diesel Generator			
Generator Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Fuel Oil Tank	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Transfer Switch	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	INOPERABLE, Re: Table 3 Item 5.0
Exhaust Stack	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Wiring and Conduit	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.5 Miscallaneous			
Exhaust Fan	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Lighting/Exit Sign	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Building Heater	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Fuse Box	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Unloading Piping, Valves & Disconnects	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Fire Extinguisher	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Table 4

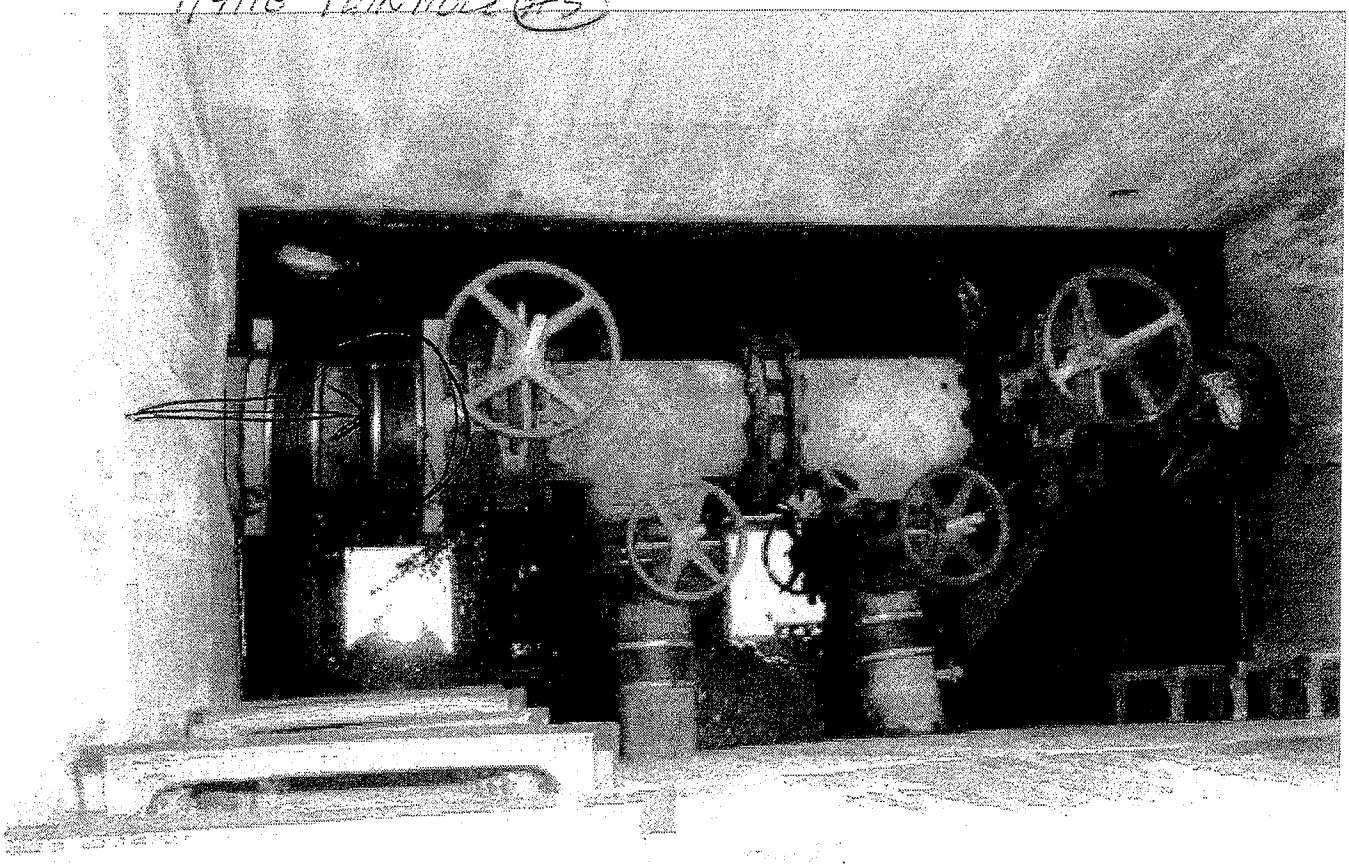
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 3 FOR QUARTERLY FIELD INSPECTION OF LEACHATE MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
4.0 ASH MONOFILL			
4.1 Ash Monofill Pump Station Manhole No. 9			
Manhole Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Inlet Piping	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Leachate Level	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Re: Table 3 Section 6.0
4.2 Ash Monofill Leachate Detection Manhole No. 10			
Manhole Condition	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Inlet Piping	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Liquid in Secondary Collection System	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
4.3 Manholes and Piping			
Manhole No. 11	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Manhole No. 12	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Vent Repair, Will be addressed in closure of C&D, Photo att.
Manhole No. 13	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Manhole No. 14	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Manhole No. 15	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

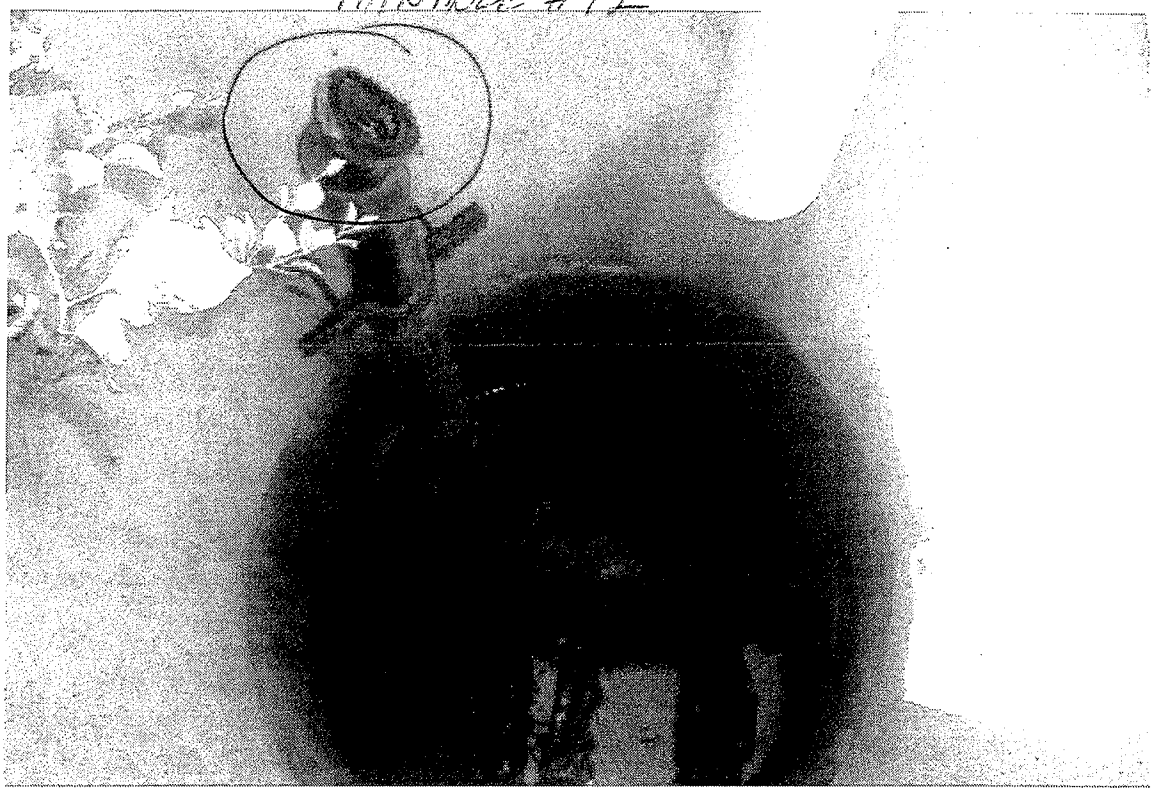
1) Use this inspection form along with Figure 5 – Leachate Management System Plan and Figure 6 – Leachate Storage Tank Flow Diagram by Golder Associates.
2) Inspection of items listed under 1.0 – Leachate Conveyance require the inspector to enter a confined space.
3) Conditions/features to inspect for related to the concrete apron listed under 2.0 – Leachate Management: collect debris, structural integrity, cracking/spalling, signs of leachate leakage, etc.

1/9/18 MANHOLES



1 OF 2

MANHOLE #12



2 OF 2

D&B ENGINEERS AND ARCHITECTS, P.C.
KNOWN AS DVIRKA AND BARTILUCCI CONSULTING ENGINEERS

330 Crossways Park Drive, Woodbury, New York 11797-2015
516-364-9890 • 718-460-3634 • Fax: 516-364-9045 • www.dvirkaandbartilucci.com

September 20, 2013

Anthony Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill
MSW Phase II Leachate Collection
D&B No. 3103

Dear Mr. Varrichio

On May 9, 2013, the Islip Resource Recovery Agency performed an examination of the East Leachate Structure associated with the Phase II area of the capped and closed MSW Landfill. The video examination was performed by Precision Industrial Maintenance, Inc. using a closed circuit camera. The examination was observed by representatives of the Islip Resource Recovery Agency (IRRA), the New York State Department of Environmental Conservation (NYSDEC) and Dvirka and Bartilucci (D&B).

The East Leachate Structure is an eight foot diameter precast concrete chimney that extends from the top of the capped landfill down to the base of the lined, Phase II landfill area. The structure is reported to be approximately 145 to 150 feet deep. The chimney was constructed in segments to keep pace with the filling of the landfill. The base section was installed in the early 1980's as part of the construction of the landfill bottom liner system and connects to an influent pipe which introduces liquid to the structure from the leachate collection system. The chimney, above the base, was constructed by stacking additional precast sections on top of the lower segments. The precast segments have butt ends (flat ends) that sit on the adjacent section rather than tongue and groove joints.

During the operation of the landfill, the IRRA utilized the leachate structure to access the base of the landfill and remove leachate from the leachate collection

system. Over time, the ability to lower a pump down the entire depth of the 8 foot diameter structure became more difficult. In an effort to address these concerns, the IRRA had a video inspection of the structure performed in February 1988 to assess the ability to continue lowering pumping equipment to the bottom of the structure. The video examination revealed that the chimney structure was still continuous but that the overall structure was not plumb and that some misalignment of the concrete segments was being experienced. The 1988 video examination confirmed that the conditions in the structure would make it more difficult to lower a pump assembly to the bottom of the structure without becoming hung up on the ledges created at the segment misalignments.

The 1988 video shows the entrance of the leachate influent pipe entering the lower portion of the structure. The influent pipe is positioned such that there is a sump or wet well volume located below the elevation of the influent pipe. The height of the influent pipe above the structure invert is difficult to quantify but appears to be on the order of several feet.

In order to preserve the continued function of the leachate structure, a length of 6 inch steel pipe was inserted into the structure for its full depth in 1994 to create a riser pipe. The lowest portion of the riser pipe was fitted with a screen section. The pipe sections are joined by threaded and coupled joints. The bottom of the pipe column rests on the floor slab of the leachate structure. The pipe column extends up through the height of the precast structure but is not fastened to the structure. The pipe column terminates near the underside of the top slab.

The IRRA utilized the 6 inch riser pipe to facilitate the installation of a submersible pump at the bottom of the structure to allow the leachate to be pumped to grade for off-site disposal. In the period of March 1994 October 1994, a total of 910,000 gallons of leachate was removed from the structure. The operation of the pump was discontinued after a period of time where it was found that the structure was essentially dry and the pump could not encounter enough liquid to operate.

In October 2002, an examination of the east structure was performed as part of an effort to determine whether there was sufficient liquid in the structure to allow for the operation of a pumping system. The examination was performed using a closed circuit camera lowered into both the precast structure and the 6 inch riser pipe. The examination was performed by Pengat Construction and was observed by representatives from D&B.

The results of the October 2002 examination are presented in a letter report dated June 30, 2003. The October 2002 examination found the precast structure and the steel riser pipe to be competent and sufficient to allow pumping equipment to be lowered to the base of the structure. The examination also indicated that there was only a nominal accumulation of liquid in the base

of the structure and the depth of the liquid was confined to the limits of the sump area of the structure. The depth of liquid was not sufficient to allow for the operation of a submersible pump. This condition documented the site personnel's observations from 1994 that the submersible pump was no longer operational because there was no liquid available to be pumped.

The examination of the East Structure in May 2013 noted that there has been some shifting of the precast chimney since the October 2002 examination. In October 2002, the top of the 6 inch riser pipe was visible and accessible from a 16 inch diameter opening in the top slab of the structure. During the May 2013 examination, the top of the 6 inch riser pipe was not visible or accessible from the 16 inch diameter opening. In an effort to proceed with the work, the technicians were able to insert the camera into the top of the riser pipe by reaching through a smaller opening in the top slab and feeling for the top of the 6 inch pipe. However, this arrangement produced an S curve in the fiberglass push rod used to advance the camera. While the camera was able to be raised and lowered in the riser pipe, the flex in the push rod negated the accuracy and linearity of the distance counter on the camera assembly.

The camera was advanced down the 6 inch riser pipe for its entire length. The riser pipe shows signs of corrosion on the inside of the pipe as would be expected from a steel pipe in a moist environment. The degree of corrosion appears to be consistent with the corrosion observed in the October 2002 examination. The riser pipe appears to be in serviceable condition, with tight joints and no signs that would suggest that the integrity of the riser pipe is compromised. The camera was able to be advanced to the bottom of the riser pipe without difficulty.

Due to the nature of the camera equipment being pushed down the riser pipe on a flexible rod, it is difficult to assess if there is any slope or inclination to the riser pipe and whether the slope is consistent throughout the height of the riser pipe. However, as noted above, the camera was able to be advanced the length of the riser pipe without incident and would suggest that any pumping equipment required could also be installed without issue.

Using the distance counter associated with the camera, the riser pipe was found to be approximately 144 feet in length. The last, lowest section of the riser pipe is a screen section estimated to be approximately 5 feet in length. The liquid level was found to be at a depth of approximately 137 feet, suggesting a liquid depth of approximately 7 feet, however, the depth of liquid was difficult to judge due to the reduced control over the camera movements.

A second examination of the riser pipe (on the same day) found the length of the riser pipe to be approximately 148 feet with the liquid level encountered at approximately 141 feet. In both instances, the liquid level was found to suggest a depth of approximately 7 feet. Given the difficulties gaining access to the top of the pipe, the difference in the two overall length readings

was not considered significant. As noted, the depth of liquid was suggested to be on the order of 7 feet as indicated by the camera distance counter, but this suggested liquid depth appears to be inconsistent with the visual image provided by the camera. As viewed by the camera, the top of the screened interval was visible prior to the camera encountering the liquid surface. If the screen length is 5 feet, as previously reported, then the standing liquid depth must be less than 5 feet, rather than the 7 feet suggested by the camera distance counter.

Following the examination of the riser pipe, an attempt was made to examine the precast structure using the camera. The camera and its lighting were not as well suited for the increased size of the structure as compared to the riser pipe. The image was generally dark and impacted by condensation forming on the lens, rendering an image of limited value. Consequently, the camera served more as a probe or plumb bob rather than providing a visual examination of the precast structure. The camera was lowered to a depth of 127 feet but was not able to be advanced beyond that depth. It is assumed that the camera became hung up on a ledge formed between two precast sections. Given that the structure is not plumb and there are limited opportunities to access the structure through the top slab, the likelihood is high that a weight hanging plumb will encounter the wall of the structure. When the camera (weight) encounters a ledge, it is difficult to maneuver the camera to clear the obstruction.

The inability to reach the bottom of the precast structure is the specific concern that prompted the IRRA to install the 6 inch riser pipe in the first place. In light of the fact that the riser pipe is intact and serviceable, there is limited concern that the precast structure is not fully accessible.

As of this writing, the IRRA has had a new penetration core drilled through the top slab of the leachate structure in order to provide access to the top of the 6 inch riser pipe. The new opening allows for ready access to the top of the 6 inch riser pipe.

In contrast to the conditions experienced while using the camera to define the depth of the structure and the depth of the liquid, the new opening in the slab allows for direct readings to be taken. The overall depth of the 6 inch riser pipe has now been measured using a weighted tape and it has been determined that the depth from the bottom of the 6 inch riser pipe to the top of concrete of the top slab is 141 feet. Efforts to use a water level meter to measure the depth to the water surface were not definitive due the fact that the 6 inch riser pipe is not plumb and the tape has a tendency to adhere to the moist walls of the riser pipe.

Efforts to retrieve a water sample for the purpose of analysis were performed on August 14, 2013. The first baler had a minimal amount of liquid and it was discarded as a matter of routine. The second, third and fourth baler runs showed signs of sediment on the leading edge and provided no retrieved liquid, suggesting that the liquid depth was minimal. No sample could be obtained for the purpose of analysis.

The bubbler tubing was installed in the East Leachate Structure by landfill personnel on Thursday, August 15. D&B personnel were present at the site.

On August 15, a bubbler system was installed in the 6 inch riser pipe to allow the depth of liquid in the riser pipe and structure to be measured directly. The bubbler system consists of two bubbler tubes (3/8 inch O.D., ¼ inch I.D. polyethylene tubing) which were secured to the outside of a 1 inch diameter PVC, flush joint pipe. The depth of the 6 inch steel pipe was measured to be 141 feet from the bottom of the 6 inch pipe to the top of concrete on the top slab. The bubbler assembly is approximately 145 feet in length. The PVC pipe, bubbler tubes and a retrieval rope were installed in the 6 inch steel riser pipe and were confirmed to be resting on the bottom of the riser pipe (bottom of the structure).

The bubbler tubes were fastened to the PVC pipe with the tubing tip starting12 inches above (behind) the leading edge of the PVC pipe to keep the bubbler tubes above any sediment at the base of the 6 inch steel riser pipe. This 12 inch dimension will be added to any measurement obtained with the bubbler in order to provide a measure of the overall depth of liquid in the structure. The PVC pipe was set at the bottom of the 6 inch steel pipe by raising and lowering the bubbler assembly to ensure it was set at the bottom.

The bubbler was operated by Town and D&B personnel and was successfully used to measure a depth of submergence of 3 to 4 inches above the tip of the bubbler tube. This measurement indicates that the depth of liquid at the bottom of the structure is approximately 15 to 16 inches. This measurement should be considered as a reliable and repeatable measurement and should be used as reference for future readings.

The measured liquid depth of 15 to 16 inches is comparable to the depth of liquid that was observed in the October 2002 investigation of this chamber. At that time, the depth of liquid was estimated to be nominal, with insufficient depth to allow for pumping of the liquid. The current depth of liquid is also considered as nominal and it is clear that there is no source of inflow to the structure.

If it is assumed that the depth of liquid in the structure has increased by one foot over the duration of an 11 year period (October 2002 to August 2013) and one foot of depth in an 8 foot diameter structure is equivalent to a volume of 376 gallons, then liquid has been accumulating at a rate of approximately 34 gallons per year. Clearly, this rate of accumulation is not indicative of a landfill which is actively generating leachate. This nominal rate of accumulation should serve to document the adequacy of the existing landfill capping system.

The limited depth of leachate present in the East Leachate Structure (15 – 16 inches) will not allow for the pumping of the leachate with a pump suitable for the purpose. If the liquid depth

were found to be deeper, a pump such as a QED LDAP4+T would be appropriate for this service. The QED pump is pneumatically driven using compressed air, making it suitable for landfill/leachate applications. The pump is available in either a top loading or a bottom loading configuration. In either case, the pump is only capable of lowering the liquid level to a depth of approximately 28 inches. In this case, if the pump were installed in the 6 inch riser pipe, the operation of the pump would not be initiated since the liquid level is below the threshold depth.

In light of the fact that over a 10+ year period, the volume of accumulated liquid is not sufficient to allow for the operation of an application suitable pump, it should be concluded that pumping from the East Leachate Structure under the current conditions is not warranted.

The installed bubbler system is proposed to remain in place to allow for future measurements of the liquid depth. Going forward, it is recommended that the Town of Islip take measurements of the liquid depth in the East Leachate Structure on a quarterly basis. The depth of liquid should be measured in the units of inches of water. The reported value should include the addition of twelve inches to the measured value to present the overall depth of liquid in the structure. A chronological record should be maintained to track if any increases in depth occur which may warrant or allow for pumping to be performed.

We trust the above is sufficient for your needs. Should you have any questions or comments regarding this matter, please feel free to contact this office.

Very truly yours,

Edward J. Reilly
Associate

EJR/nc
cc: A. Sanchez (IRRA)
R. Walka (D&B)
T. Fox (D&B)
K. Robins (D&B)
♦3103\EJR092013_AV

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF LANDFILL GAS (LFG) MANAGEMENT SYSTEM

DATE: 3/13, 3/20, 3/27/19 **WEATHER:** Sunny, Sunny, Sunny.

INSPECTOR(S): Fazil Rahaman **INSPECTION (Check One):** QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER _____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 A-SYSTEM (Above-grade)	*See Notes 1 & 2*		
1.1 Extraction Well Head Assemblies			
Extraction Well A-01	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
Extraction Well A-02	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	and Well Condition Prepared by FPM Engineering Group, P.C.
Extraction Well A-03	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-04	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-05	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-06	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Tilted northeast (monitoring).
Extraction Well A-07	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-08	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-09	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-10	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-11	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-12	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-13	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-14	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Solar farm electric cable in relationto well head concerns.Photo att.
Extraction Well A-15	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Tilted east (monitoring).
Extraction Well A-16	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-17	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well A-18	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
1.2 Above-Grade Headers			
Network West of "A" and "B" Blowers	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF
LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 A-SYSTEM (Above-grade) cont.			
1.3 Blower Station			
Blower	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Silencer (s)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Replaced with straight pipe.
Knock-out Pot (Water Separator)	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	
Flame Arrester(s)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Not inspected,System used for venting only.
Condensate Tank	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Electrical / Mechanical	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	.
Shelter / Building	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	2 Exterior lights.
1.4 Flare			
Tube / Tip	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Shell / Baffle	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Flame Arrester	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Electrical / Mechanical	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
1.5 LFG Monitoring Wells			
MW-07 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
MW-08 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	and Well Condition Prepared by FPM Engineering Group, P.C.
MW-11 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-13 Single	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
2.0 B-SYSTEM (Above-grade)			
2.1 Extraction Well Head Assemblies			
Extraction Well B-01	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Abandoned.
Extraction Well B-02	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Abandoned.
Extraction Well B-03	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Abandoned.
Extraction Well B-04	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
Extraction Well B-05	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	and Well Condition Prepared by FPM Engineering Group, P.C.
Extraction Well B-06	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 B-SYSTEM (Above-grade)			
2.1 Extraction Well Head Assemblies (cont.)			
Extraction Well B-07	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-08	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-09	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-10	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-11	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-12	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-13	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-14	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well B-15	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
2.2 Above-Grade Headers			
6-in.-dia. At B-13 to B-15	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
8-in.-dia. At B-09 to B-13	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flexible Header near B-09	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flexible Header near B-14	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flexible Header at Network West of A and B Blower Stations	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
2.3 Blower Station			
Blower	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Silencer(s)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Flame Arrester(s)	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Not inspected,System used for venting only.
Knock-out Pot (Water Separator)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Condensate Tank	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Electrical / Mechanical	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Shelter / Building	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex
FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF
LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 B-SYSTEM (Above-grade) cont.			
2.4 Flare			
Tube / Tip	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Shell / Baffle	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Flame Arrester	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Electrical / Mechanical	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
2.5 LFG Monitoring Wells			
MW-01 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
MW-02 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	and Well Condition Prepared by FPM Engineering Group, P.C.
MW-25 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-26 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-27 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-28 Triplet	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Abandoned.
MW-29 Triplet	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Abandoned.
3.0 C-SYSTEM (Above-grade)			
3.1 Extraction Well Head Assemblies			
Extraction Well C-01	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part III, Landfill Gas, VOC Monitoring Results,
Extraction Well C-02	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	and Well Condition Prepared by FPM Engineering Group, P.C.
Extraction Well C-03	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-04	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-05	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-06	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-07	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-08	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-09	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-10	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-11	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-12	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 C-SYSTEM (Above-grade)			
3.1 Extraction Well Head Assemblies (cont.)			
Extraction Well C-13	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-14	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-15	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Extraction Well C-16	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.2 Above-Grade Headers			
NONE	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Not equipped.
3.3 Blower Station			
Blower	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Silencer(s)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Knock-out Pot (Water Separator)	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Condensate Tank	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Electrical / Mechanical	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Shelter / Building	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.4 Flare			
Tube / Tip	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Shell / Baffle	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Flame Arrester	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.
Electrical / Mechanical	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	System used for venting only.

Table 5
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 4 FOR QUARTERLY INSPECTION OF LANDFILL GAS (LFG) MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
3.0 C-SYSTEM (Above-grade) cont.			
3.5 LFG Monitoring Wells			
MW-19 Triplet	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
MW-23 Triplet	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	Cover bolts not secured due to daily inspection.
4.0 ADDITIONAL ITEMS			
4.1 Methane Detection at Red House	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Serviced 2/14/19.
4.2 Methane Detection at Scale House	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Serviced 2/14/19.
4.3 Leachate pumping and detection manholes and biofilters at south end of MSW landfill	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Re: Table 4 Item 1.2.
4.4 Passive Vents	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Abandoned.
4.5 Methane Detection @ A-System Building	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Serviced 2/14/19.

COMMENTS:

Craig D., Landfill personell peresent for inspection of, 1.0 A-SYSTEM Item 1.3, 1.4 , 2.0 B-SYSTEM Item 2.3, 2.4, and 3.0 C-SYSTEM Item 3.3, 3.4 .

NOTES:

1) Use this inspection form along with Figure OM-5 – Single Line Diagram of Landfill Gas Management System by Golder Associates.
2) Regarding inspection of well head assemblies, items/components to observe are extraction well casing, valve, lateral (flexible hose), etc.

3/13/19

EXTRACTION WELL A-14

Table 6
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 5 FOR GROUNDWATER MANAGEMENT SYSTEM

DATE: 11/9, 12/12/18 WEATHER: ?

INSPECTOR(S): Dirvika & Bartilucci. INSPECTION (Check One): QUARTERLY ☒ SEMI-ANNUAL ☐ OTHER _____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.1 Wells Designated for Quarterly Monitoring			
GM-1S	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part IV,Third quarter 2018 well condition report
GM-1I	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	for the Blydenburgh Road Landfill Complex.
GM-1D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	This report consists of Table 1, Which Presents a
GM-2S	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies along with
GM-2I	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	recommendations. Dated November 9, 2018.
GM-2D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-3D	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Third and Fourth quarter 2018 well condition report`s, for
GM-3I	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	the Phase 1 and Phase 2 Cleanfill Landfills
GM-4G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	and Leachate Impoundment Areas.
GM-4G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	This report consists of Table 1, Which Presents a
GM-4M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies
GM-4M-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	along with recommendations.
GM-5G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Dated November 9, and December 12, 2018.
GM-6G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by town consultants (D&B) Dvirka & Bartilucci.
GM-6G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-6G-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-6M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-7G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-7M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	

Table 6
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 5 FOR GROUNDWATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.1 Wells Designated for Quarterly Monitoring			
GM-8G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part IV,Third quarter 2018 well condition report
GM-8M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	for the Blydenburgh Road Landfill Complex.
GM-8M-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	This report consists of Table 1, Which Presents a
GM-9G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies along with
GM-9M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	recommendations.Dated November 9, 2018.
GM-10G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-10M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Third and Fourth quarter 2018 well condition report`s, for
GM-11G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	the Phase 1 and Phase 2 Cleanfill Landfills
GM-11G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	and Leachate Impoundment Areas.
GM-11M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	This report consists of Table 1, Which Presents a
GM-12G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies
GM-12M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	along with recommendations.
GM-13G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Dated November 9, and December 12, 2018.
GM-13M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by town consultants (D&B) Dvirka & Bartilucci.
GM-14G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-14G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-14G-1A	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-14M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-15G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-15M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-16G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-16M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-18G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-18G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	

Table 6
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 5 FOR GROUNDWATER MANAGEMENT SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.1 Wells Designated for Quarterly Monitoring			
GM-20G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-21G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-22M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
GM-23M-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
1.2 Wells Installed to Assess Phase II Cleanfill Expansion			
MW-24G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Attached to Part IV,Third quarter 2018 well condition report
MW-24G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	for the Blydenburgh Road Landfill Complex.
MW-24G-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	This report consists of Table 1, Which Presents a
MW-25G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies along with
MW-25G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	recommendations.Dated November 9, 2018.
MW-26G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	
MW-26G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Third and Fourth quarter 2018 well condition report`s, for
MW-26G-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	the Phase 1 and Phase 2 Cleanfill Landfills
MW-27G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	and Leachate Impoundment Areas.
MW-27G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	This report consists of Table 1, Which Presents a
MW-27G-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Summary of well status and deficiencies
MW-28G-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	along with recommendations.
MW-28G-2	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Dated November 9, and December 12, 2018.
MW-28G-3	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	Prepared by town consultants (D&B) Dvirka & Bartilucci.
MW-19GR-1	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☐	

Table 7
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 6 FOR INSPECTION OF THE PERIMETER SITE SECURITY SYSTEM

DATE: 1/8, 3/15, 3/19, 3/20, 3/27/19 **WEATHER:** Overcast, Sunny, Sunny, Sunny, Sunny .

INSPECTOR(S): Fazil Rahaman **INSPECTION (Check One):** QUARTERLY ☐ SEMI-ANNUAL ☒ OTHER _____

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
1.0 FENCE LINE	*See Notes 1 & 2*		
Eastern Perimeter	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Northern Perimeter	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Western Perimeter	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Ash monofill fence line, AwaitingQuote/Repairs.
Southern Perimeter	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☒NO☐	Ash monofill fence line, AwaitingQuote/Repairs.
2.0 PERIM. GATES, CHAINS, AND LOCKS	*See Note 3*		
Main Entrance	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
200 ft North of Main Entrance	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Gate no longer exists.

Table 7
Islip Resource Recovery Agency
Blydenburgh Road Landfill Complex

FIELD INSPECTION FORM NO. 6 FOR INSPECTION OF THE PERIMETER SITE SECURITY SYSTEM

ITEM	ADEQUATE (or YES)	NEEDS ATTENTION (or NO)	COMMENTS/ REMARKS (Note if repair/maintenance is recommended and describe its location/extent)
2.0 GATES, CHAINS, AND LOCKS (cont.)			
100 ft North of Scale House	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Gate no longer exists.
By Leachate Tank Farm	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
N.E. Property Corner, Off Blydenburgh Rd.	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Gate no longer exists.
Across from 416 Hoffman Lane	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.0 WARNING SIGNS	*See Note 4*		
3.1 Fence Line			
Eastern Perimeter	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Northern Perimeter	ADEQUATE ☐ YES☒	NEEDS ATTENTION ☐NO☐	
Western Perimeter	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
Southern Perimeter	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
3.2 Perimeter Access Gates			
Main Entrance	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
200 ft North of Main Entrance	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Gate no longer exists.
100 ft North of Scale House	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Gate no longer exists.
By Leachate Tank Farm	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	
N.E. Prop. Corner – Blydenburgh Rd.	ADEQUATE ☐ YES☐	NEEDS ATTENTION ☐NO☒	Gate no longer exists.
Across from 416 Hoffman Lane	ADEQUATE ☒ YES☐	NEEDS ATTENTION ☐NO☐	

NOTES:

1) Use this inspection form along with Figure 2 – General Site Plan by Golder Associates.
2) Inspect fence line for the condition of posts, rails, chain-link fabric, barbed wire, animal burrows/soil erosion at bottom of fence, etc.
3) Inspect gates for the condition of locks, chains and items mentioned in Note 2.
4) Inspect warning signs for their existence and then for readability and visibility.
5) This site security field inspection form pertains to perimeter fence and warning signs; it does not include the video surveillance equipment at on-site office.

PART II

GROUNDWATER REMEDIATION

FACILITY

RELATED DOCUMENTS

GROUNDWATER REMEDIATION - POST CLOSURE MONITORING AND MAINTENANCE REPORT
SEMI-ANNUAL REPORT ENDING DECEMBER 2018

DATE	TOTAL EFFLUENT (gals.)	DATE	TOTAL EFFLUENT (gals.)	TOTAL PROCESSED IN TIME FRAME	AVERAGE DAILY VOLUME PROCESSED FOR TIME FRAME
6/30/2018	2,546,600,598	7/31/2018	2,552,300,119	5,699,521	183,856
7/31/2018	2,552,300,119	8/31/2018	2,557,594,609	5,294,490	170,790
8/31/2018	2,557,594,609	9/30/2018	2,562,908,376	5,313,767	177,126
9/30/2018	2,562,908,376	10/31/2018	2,568,403,931	5,495,555	177,276
10/31/2018	2,568,403,931	11/30/2018	2,573,449,221	5,045,290	168,176
11/30/2018	2,573,449,221	12/31/2018	2,579,082,598	5,633,377	181,722

Note: 08/09/17 Extraction Well`s #5 out of service (AWAITING REPAIRS/UNDER INVESTIGATION).

ISLIP RESOURCE RECOVERY AGENCY
BLYDENBURGH LANDFILL
GROUNDWATER TREATMENT FACILITY
OPERATION AND MAINTENANCE MANUAL

FACILITY EQUIPMENT SERVICE RECORD

July through December 2018

DATE:	**WORK DONE**
7/2, 12/21/18	Blower Room Air Compressor; Oil Changed, Zerk Fittings Greased, Drive Belts Inspected.
7/16, 10/16/18	Filter`s Air Compressor; Oil Change.
7/30/18	Aeration Tank Blower #2; Oil Changed.
8/1, 8/17, 9/10, 9/20/18	Blower Room Air Compressor; Oil Changed **(due to humidity contamination concerns).**
8/7/18	Aeration Tank Blower #1; Zerk Fittings Greased.
8/14/18	Aeration Tank Blower #2; Zerk Fittings Greased.
8/14, 9/14, 10/9, 11/2, 11/26, 12/21/18	Aeration Tank Blower #3; Zerk Fittings Greased.
8/17/18	Chemical Pump #2; Oil Changed.
9/11/18	Filters #2 Flow Cells Assembly (**Entire Assembly**) Disassembled Cleaned & Reassembled.
9/17, 11/26/18	Aeration Tank Blower #3; Oil Changed.
9/18/18	Filters #1 Flow Cells Assembly (**Entire Assembly**) Disassembled Cleaned & Reassembled.
9/19/18	Chemical Pump #3; Oil Changed.
10/9/18	Aeration Tank Blower #2 Inlet Silencer Air Filter Replaced (**Maintenance**).
10/9/18	Aeration Tank Blower #3 Inlet Silencer Air Filter Replaced (**Maintenance**).
10/10/18	Annual Cleaning Of Backwash Wastewater Holding Tank #1, 2, & Wastewater Return Pumping Chamber, **(DONE IN HOUSE).** **Tanker Pumped Out And Trucked Off Site, Filter`s #1&3 Back Wash Waste Water, And Sludge Build Up As Well (Filter #3 Back Washed 2x).**
10/12/18	Filter Air Blower; Serviced, Change oil and lube Zerk Fittings.
11/2/18	Aeration Tank Blower #1 Inlet Silencer Air Filter Replaced (**Maintenance**).
11/26/18	Aeration Tanks Exhaust fan #1&2 Zerk Fittings Greased.

ISLIP RESOURCE RECOVERY AGENCY
BLYDENBURGH LANDFILL
GROUNDWATER TREATMENT FACILITY
OPERATION AND MAINTENANCE MANUAL

FACILITY EQUIPMENT REPAIR RECORD

July through December 2018

DATE:	**DESCRIPTION OF REPAIRS**
9/17/18	Aeration Tank Exhaust Fan #2 Drive Belt Replaced In House, (**WORN AND BROKEN OFF PULLY**).
10/16/18	Filter #3 CV-9 Valve, Burkert 4/2 Way Solenoid Valve Replaced with new **MALFUNCTIONING, (REPAIRS DONE IN HOUSE).**
10/30/18	MW-1D Leaking at Sampling and Metering pit **(REPAIRS DONE IN HOUSE).**

PART III

BLYDENBURGH ROAD M.S.W. LANDFILL

AND FORMER

ASH MONOFILL GAS MONITORING

REPORTS FROM

JULY 2018 THROUGH DECEMBER 2018

PREPARED BY F.P.M. GROUP

FPM group — Engineering and Environmental Science

An Olgoonik Company

CORPORATE HEADQUARTERS
909 Marconi Avenue
Ronkonkoma, NY 11779
631-737-6200
Fax 631-737-2410

August 1, 2018

Mr. Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, New York 11751

Re: **Blydenburgh Road Landfill**
July 2018 Landfill Gas and VOC Gas Monitoring Results
FPM File No. 631-18-36

Dear Mr. Varrichio:

On July 9, 16, and 26, 2018, FPM Group (FPM) performed landfill gas and volatile organic compound (VOC) gas monitoring at the above-referenced site. Monitoring of landfill gas was performed with a Landtec GEM 2000 Gas Analyzer. Monitoring for VOCs in ambient air was performed with a Photovac photoionization detector (PID), model 2020 Pro Plus. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter, including one location downwind from the flare system.

For the Landtec GEM 2000 Gas Analyzer, oxygen (O_2) gas and methane (CH_4) gas were zeroed according to the manufacturer's specifications. The gas analyzer was calibrated with 15 percent (%) CH_4 and 15% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling. The Photovac PID was zeroed with ambient air prior to arrival at the landfill property, and calibrated with 100 parts per million (ppm) isobutylene prior to sampling in accordance with the manufacturer's recommendations.

The landfill gas monitoring results are provided in Tables 1 through 11 and the ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. An elevated level of O_2 was detected in wells MSW-04, MSW-10, MSW-11, MSW-17, and MSW-18. This issue is being addressed.

The next landfill gas monitoring event will begin on August 6, 2018. Jim Jahnke will be notified several days in advance of the sampling event.

Should you have any questions, please do not hesitate to call me at (631) 737-6200, ext. 242.

Sincerely,

Chris Linkletter
Hydrogeologist

CL:cl
Attachments

cc: Jim Jahnke (via email)
Fazil Rahaman (via email)

S:\Islip RRA\Reports\2018-Ltrs\July Blydenburgh.Docx

TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	7/9/2018 11:33	0.00	0.50	16.60	29.9	-0.38
A-02	OK	7/9/2018 11:36	0.00	1.00	16.10	29.9	-0.88
A-03	OK	7/9/2018 11:39	0.00	0.70	16.50	29.9	-0.96
A-04	OK	7/9/2018 11:44	0.00	0.40	16.90	29.9	-0.54
A-05	OK	7/9/2018 11:47	0.00	0.00	17.30	29.9	-0.54
A-06	OK	7/9/2018 11:51	0.50	1.80	15.60	29.9	-2.15
A-07	OK	7/9/2018 11:54	0.00	0.00	17.30	30.0	-0.42
A-08	OK	7/9/2018 11:58	0.00	0.40	16.80	29.9	-1.60
A-09	OK	7/9/2018 12:01	0.00	0.00	17.30	29.9	-1.55
A-10	OK	7/9/2018 12:05	0.00	0.70	16.80	29.9	-0.83
A-11	OK	7/9/2018 12:12	0.00	0.00	17.30	29.9	-6.02
A-12	OK	7/9/2018 12:18	0.00	0.00	17.30	29.9	-0.65
A-13	OK	7/9/2018 12:22	0.00	0.00	17.30	29.9	-0.63
A-14	OK	7/9/2018 12:25	0.00	1.70	15.60	29.9	-0.48
A-15	OK	7/9/2018 12:29	0.00	1.60	15.60	29.9	-0.37
A-16	OK	7/9/2018 12:35	0.00	0.10	17.00	29.9	-0.77
A-17	OK	7/9/2018 12:38	0.00	0.00	17.20	30.0	-0.83
A-18	OK	7/9/2018 12:40	0.00	0.00	17.20	30.0	-2.36
BLOWER A	N/A	7/9/2018 12:51	0.00	0.00	17.20	30.0	-0.01
BLOWER B	N/A	7/9/2018 12:53	0.20	1.90	15.50	30.0	8.98

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Clear, 88°F

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	7/9/2018 13:27	0.00	0.00	17.30	29.9	-0.10
MW-07/40	OK	7/9/2018 13:28	0.00	0.00	17.30	29.9	-16.06
MW-07/60	OK	7/9/2018 13:30	0.00	0.00	17.30	29.9	-0.16
MW-08/20	OK	7/9/2018 13:33	0.00	0.00	17.40	29.9	-0.05
MW-08/40	OK	7/9/2018 13:35	0.00	0.00	17.40	29.9	-0.11
MW-08/60	OK	7/9/2018 13:38	0.00	0.00	17.40	29.9	-0.11
MW-11/20	OK	7/9/2018 13:19	0.00	0.00	17.00	29.9	-0.10
MW-11/40	OK	7/9/2018 13:21	0.00	0.00	16.90	29.9	-0.12
MW-11/60	OK	7/9/2018 13:24	0.00	0.00	17.00	29.9	-0.09
MW-13/20	OK	7/9/2018 13:41	0.00	0.00	17.50	29.9	-0.12

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Clear, 88°F

FPM

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	7/26/2018 10:27	0.00	0.10	16.50	29.6	-0.90
B-05	OK	7/26/2018 10:30	0.00	0.10	16.60	29.6	-1.30
B-06	OK	7/26/2018 10:32	0.00	0.10	16.60	29.6	-1.21
B-07	OK	7/26/2018 10:35	0.00	0.10	16.60	29.6	-4.23
B-08	OK	7/26/2018 10:40	0.00	0.10	16.70	29.6	-1.34
B-09	OK	7/26/2018 10:49	0.00	0.40	16.60	29.7	-3.99
B-10	OK	7/26/2018 10:51	0.00	0.20	16.70	29.7	-0.70
B-11	OK	7/26/2018 10:54	0.00	0.40	16.60	29.7	-1.32
B-12	OK	7/26/2018 10:57	0.00	0.10	16.90	29.7	-6.28
B-13	OK	7/26/2018 11:02	0.00	0.10	16.90	29.7	-25.62
B-14	OK	7/26/2018 11:05	0.00	1.40	15.70	29.7	-2.90
B-15	OK	7/26/2018 11:08	0.00	0.10	17.00	29.7	-6.66
BLOWER B	N/A	7/26/2018 10:47	0.10	2.50	14.80	29.6	9.01
BLOWER C	N/A	7/26/2018 11:50	0.50	3.60	14.00	29.7	5.39

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Scattered Clouds, 83°F

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	7/9/2018 11:17	0.00	0.00	16.90	29.9	-0.15
MW-01/40	OK	7/9/2018 11:19	0.00	0.00	17.00	29.9	-0.14
MW-01/60	OK	7/9/2018 11:21	0.00	0.00	16.90	29.9	-0.18
MW-02/20	OK	7/9/2018 11:24	0.00	0.00	17.00	29.9	-0.19
MW-02/40	OK	7/9/2018 11:27	0.00	0.00	17.10	29.9	-0.24
MW-02/60	OK	7/9/2018 11:29	0.00	0.00	17.10	29.9	-0.26
MW-25/20	OK	7/26/2018 11:33	0.00	0.50	16.80	29.7	-0.13
MW-25/40	OK	7/26/2018 11:35	0.00	0.10	17.10	29.7	-0.20
MW-25/60	OK	7/26/2018 11:37	0.00	0.40	16.80	29.7	-0.44
MW-26/20	OK	7/26/2018 11:24	0.00	0.10	17.00	29.7	-0.13
MW-26/40	OK	7/26/2018 11:26	0.00	0.10	17.00	29.7	-0.27
MW-26/60	OK	7/26/2018 11:28	0.00	0.10	17.00	29.7	-0.41
MW-27/20	OK	7/26/2018 11:15	0.00	0.10	17.00	29.7	-0.04
MW-27/40	OK	7/26/2018 11:17	0.00	0.20	16.90	29.7	-0.20
MW-27/60	OK	7/26/2018 11:19	0.00	0.10	17.00	29.7	-0.16

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 7/9/2018 - Clear, 88°F 7/26/2018 - Scattered Clouds, 83°F

FPM

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	7/26/2018 13:20	0.00	0.00	17.20	29.6	-4.85
C-02	OK	7/26/2018 13:16	0.00	1.10	16.10	29.6	-2.31
C-03	OK	7/26/2018 13:11	0.00	0.00	17.30	29.7	-4.01
C-04	OK	7/26/2018 13:09	0.00	0.00	17.30	29.7	-4.70
C-05	OK	7/26/2018 13:03	0.00	0.00	17.30	29.7	-2.85
C-06	OK	7/26/2018 13:00	0.00	0.00	17.20	29.7	-2.72
C-07	OK	7/26/2018 12:56	0.00	1.20	16.20	29.7	-2.87
C-08	OK	7/26/2018 12:52	0.00	0.00	17.10	29.7	-3.78
C-09	OK	7/26/2018 12:48	0.00	0.60	16.60	29.7	-5.25
C-10	OK	7/26/2018 12:45	0.00	0.00	17.00	29.7	-6.73
C-11	OK	7/26/2018 12:42	0.00	2.40	14.90	29.7	-5.91
C-12	OK	7/26/2018 12:39	0.00	0.00	16.90	29.7	-4.85
C-13	OK	7/26/2018 12:36	0.00	0.00	16.90	29.7	-5.45
C-14	OK	7/26/2018 12:33	0.00	0.00	16.90	29.7	-1.96
C-15	OK	7/26/2018 12:28	0.00	0.00	16.90	29.7	-2.70
C-16	OK	7/26/2018 12:26	0.00	0.00	16.80	29.7	-1.74
C-17	OK	7/26/2018 13:22	0.00	4.20	13.90	29.6	-4.82
BLOWER C	N/A	7/26/2018 11:50	0.50	3.60	14.00	29.7	5.39

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Scattered Clouds, 83°F

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	7/26/2018 14:00	0.00	0.20	17.20	29.7	-0.65
MW-19/40	OK	7/26/2018 14:02	0.00	0.50	16.80	29.7	-0.18
MW-19/60	OK	7/26/2018 14:04	0.00	0.40	16.90	29.7	-0.10
MW-23/20	OK	7/26/2018 13:48	0.00	0.00	17.30	29.6	-0.02
MW-23/40	OK	7/26/2018 13:50	0.00	0.10	17.30	29.6	-0.03
MW-23/60	OK	7/26/2018 13:52	0.00	0.10	17.30	29.6	-0.19

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Scattered Clouds, 83°F

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	7/26/2018 10:36	0.00	0.10	16.60	29.6	-0.19
MW-51	OK	7/9/2018 13:19	0.00	0.00	17.10	30.0	-0.09
MW-52	OK	7/9/2018 12:07	0.00	0.00	17.30	29.9	-0.02
MW-53	OK	7/9/2018 12:44	0.00	0.00	17.10	30.0	-0.08
MW-54	OK	7/9/2018 12:46	0.00	0.00	17.20	30.0	-0.03
MW-56	OK	7/26/2018 12:21	0.00	0.10	16.70	29.7	-0.05
MW-57	OK	7/26/2018 12:24	0.00	0.00	16.80	29.7	-0.14
MW-58	OK	7/26/2018 14:16	0.00	0.00	17.10	29.7	-0.06
MW-59	OK	7/26/2018 12:30	0.00	0.00	16.90	29.7	-0.08
MW-60	OK	7/26/2018 12:34	0.00	0.00	16.90	29.7	-0.33
MW-61	OK	7/26/2018 12:40	0.00	0.00	17.00	29.7	-0.90
MW-62	OK	7/26/2018 14:10	0.00	0.10	17.10	29.7	-0.08
MW-63	OK	7/26/2018 14:08	0.00	0.10	17.10	29.7	-0.01
MW-64	OK	7/26/2018 13:05	0.00	0.00	17.30	29.7	-0.61
MW-65	OK	7/26/2018 13:15	0.00	0.00	17.20	29.6	-0.40

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 7/9/2018 - Clear, 88°F 7/26/2018 - Scattered Clouds, 83°F

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	7/16/2018 11:07	27.10	35.20	0.50	29.7	-0.46	-3.72
MSW-04	OK	7/16/2018 11:14	10.40	22.30	3.30	29.7	-3.27	-3.87
MSW-05	OK	7/16/2018 12:06	37.70	46.20	0.50	29.7	-1.89	-2.64
MSW-06	OK	7/16/2018 11:18	23.30	34.80	0.40	29.7	-1.59	-2.41
MSW-07	OK	7/16/2018 11:21	17.70	18.10	1.60	29.7	-1.29	-2.44
MSW-09	OK	7/16/2018 11:25	15.80	30.30	1.20	29.7	-1.48	-2.15
MSW-10	OK	7/16/2018 11:29	13.40	13.40	11.00	29.7	-1.09	-
MSW-11	OK	7/16/2018 11:32	9.20	13.90	9.10	29.7	-2.11	-2.32
MSW-12	OK	7/16/2018 11:36	22.90	36.70	0.40	29.7	-1.97	-2.34
MSW-13	OK	7/16/2018 11:42	30.20	42.30	0.70	29.7	-2.01	-
MSW-14	OK	7/16/2018 11:44	45.70	53.40	0.70	29.7	-1.58	-
MSW-15	OK	7/16/2018 11:47	30.20	40.80	1.30	29.7	-1.30	-2.76
MSW-16	OK	7/16/2018 11:50	14.10	29.70	0.50	29.7	-2.40	-2.69
MSW-17	OK	7/16/2018 11:12	17.70	28.10	4.80	29.7	-0.77	-
MSW-18	OK	7/16/2018 11:53	34.80	37.60	4.20	29.7	-1.25	-
MSW-19	OK	7/16/2018 11:58	45.80	52.50	1.60	29.7	-1.24	-1.26

Notes:

- = No well head vacuum sample port present.
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled
Weather - Clear, 90°F

***MSW-01 - Well under repair**

FPM

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

CLOSED MSW LANDFILL

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200	7/26/2018	10:00	4.40	12.40	8.00	90	-1.83	29.7	1/2 open
V-203		10:03	4.50	12.70	7.80	92	-2.00	29.7	1/4 open
Dog House									
Phase IV Vertical	7/26/2018	10:07	24.90	34.20	2.10	90	-4.21	29.7	open
Phase II Horizontal		10:09	0.70	15.20	10.90	92	-0.12	29.6	closed
Small Dog House	7/26/2018								
Phase II Horizontal		10:11	8.00	19.70	4.40	90	-4.05	29.6	1/2 open
Phase II Valve Pit									
E-Horizontal	7/26/2018	10:15	37.60	49.60	0.50	90	-5.48	29.6	1/2 open
W-Horizontal		10:17	26.10	41.00	0.40	88	-5.13	29.6	1/2 open
CF Phase II-Vertical**									NS
Flare Compound									
*MP-01 Gas Analyzer	7/26/2018	10:20	1.60	3.10	15.00	88	-8.44	29.6	N/A
CF Phase I**		NS	NS	NS	NS	NS	NS	NS	NS

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Temperature measured in degrees Farenheit.
Blower status - On
Weather - Scattered Clouds, 83°F
* = Analyzer combined
** = Offline
N/A = Not Applicable
NS = Not Sampled

TABLE 12
AMBIENT VOLATILE ORGANIC COMPOUND (VOC) GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	7/26/2018	Northern portion of landfill property, just south of MW-26/40	0.0
AMBIENT 2	7/26/2018	Southern portion of landfill property, just north of MW-D4/40	0.0
AMBIENT 3	7/26/2018	Western portion of landfill property, just east of B-04	0.0
AMBIENT 4	7/26/2018	Eastern portion of landfill property, just west of C-04	0.0

Notes:

VOCs reported as parts per million, as measured by a calibrated photoionization detector.
Weather - Scattered Clouds, 83°F

FPM group — Engineering and Environmental Science

An Olgoonik Company

CORPORATE HEADQUARTERS
909 Marconi Avenue
Ronkonkoma, NY 11779
631-737-6200
Fax 631-737-2410

September 4, 2018

Mr. Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, New York 11751

Re: **Blydenburgh Road Landfill**
August 2018 Landfill Gas and VOC Gas Monitoring Results
FPM File No. 631-18-36

Dear Mr. Varrichio:

On August 6, 15, and 27, 2018, FPM Group (FPM) performed landfill gas and volatile organic compound (VOC) gas monitoring at the above-referenced site. Monitoring of landfill gas was performed with a Landtec GEM 2000 Gas Analyzer. Monitoring for VOCs in ambient air was performed with a Photovac photoionization detector (PID), model 2020 Pro Plus. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter, including one location downwind from the flare system.

For the Landtec GEM 2000 Gas Analyzer, oxygen (O_2) gas and methane (CH_4) gas were zeroed according to the manufacturer's specifications. The gas analyzer was calibrated with 15 percent (%) CH_4 and 15% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling. The Photovac PID was zeroed with ambient air prior to arrival at the landfill property, and calibrated with 100 parts per million (ppm) isobutylene prior to sampling in accordance with the manufacturer's recommendations.

The landfill gas monitoring results are provided in Tables 1 through 11 and the ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. An elevated level of O_2 was detected in wells MSW-04, MSW-10, and MSW-11. This issue is being addressed.

The next landfill gas monitoring event will begin on September 11, 2018. Jim Jahnke will be notified several days in advance of the sampling event.

Should you have any questions, please do not hesitate to call me at (631) 737-6200, ext. 242.

Sincerely,

Chris Linkletter
Hydrogeologist

CL:cl
Attachments

cc: Jim Jahnke (via email)
Fazil Rahaman (via email)

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TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	8/6/2018 11:35	0.00	0.60	16.60	29.8	-0.44
A-02	OK	8/6/2018 11:38	0.00	1.20	16.00	29.8	-0.93
A-03	OK	8/6/2018 11:42	0.00	0.70	16.50	29.8	-0.96
A-04	OK	8/6/2018 11:45	0.00	0.50	16.80	29.8	-0.55
A-05	OK	8/6/2018 11:48	0.00	0.00	17.20	29.8	-0.50
A-06	OK	8/6/2018 11:52	0.00	0.00	17.20	29.8	-2.03
A-07	OK	8/6/2018 11:54	0.00	0.00	17.20	29.8	-0.58
A-08	OK	8/6/2018 11:57	0.00	0.90	16.10	29.8	-1.38
A-09	OK	8/6/2018 12:04	0.00	0.70	16.50	29.8	-1.24
A-10	OK	8/6/2018 12:08	0.00	0.90	16.60	29.8	-0.85
A-11	OK	8/6/2018 12:13	0.00	0.00	17.30	29.8	-5.73
A-12	OK	8/6/2018 12:18	0.00	0.00	17.20	29.8	-0.64
A-13	OK	8/6/2018 12:22	0.00	0.00	17.30	29.8	-0.68
A-14	OK	8/6/2018 12:26	0.00	0.00	17.20	29.8	-0.47
A-15	OK	8/6/2018 12:32	0.00	1.90	15.30	29.8	-0.34
A-16	OK	8/6/2018 12:39	0.00	0.00	17.20	29.8	-0.93
A-17	OK	8/6/2018 12:41	0.00	0.00	17.20	29.9	-0.75
A-18	OK	8/6/2018 12:43	0.00	0.00	17.20	29.9	-2.10
BLOWER A	N/A	8/6/2018 13:00	0.00	0.00	17.10	29.9	-0.02
BLOWER B	N/A	8/6/2018 13:02	0.20	2.10	15.40	29.9	8.71

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Clear, 90°F

FPM

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	8/6/2018 13:29	0.00	0.00	17.20	29.8	-0.11
MW-07/40	OK	8/6/2018 13:31	0.00	0.00	17.20	29.8	-0.19
MW-07/60	OK	8/6/2018 13:33	0.00	0.00	17.20	29.8	-0.21
MW-08/20	OK	8/6/2018 13:35	0.00	0.00	17.20	29.8	-0.08
MW-08/40	OK	8/6/2018 13:37	0.00	0.00	17.30	29.8	-0.13
MW-08/60	OK	8/6/2018 13:39	0.00	0.00	17.30	29.8	-0.01
MW-11/20	OK	8/6/2018 13:21	0.00	0.00	17.20	29.8	-0.08
MW-11/40	OK	8/6/2018 13:22	0.00	0.00	17.10	29.8	-0.12
MW-11/60	OK	8/6/2018 13:25	0.00	0.00	17.10	29.8	-0.14
MW-13/20	OK	8/6/2018 13:45	0.00	0.00	17.30	29.8	0.07

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Clear, 90°F

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	8/27/2018 10:30	0.00	0.00	16.80	29.8	-0.22
B-05	OK	8/27/2018 10:32	0.00	0.00	16.90	29.8	-1.46
B-06	OK	8/27/2018 10:35	0.00	0.00	16.90	29.9	-1.16
B-07	OK	8/27/2018 10:39	0.00	0.00	17.00	29.8	-4.19
B-08	OK	8/27/2018 10:44	0.00	0.00	17.10	29.9	-1.43
B-09	OK	8/27/2018 10:53	0.00	0.00	17.20	29.9	-3.60
B-10	OK	8/27/2018 10:55	0.00	0.30	17.00	29.9	-0.70
B-11	OK	8/27/2018 10:57	0.00	0.40	16.80	29.9	-1.24
B-12	OK	8/27/2018 10:58	0.00	0.00	17.20	29.9	-6.29
B-13	OK	8/27/2018 11:05	0.00	0.00	17.30	29.9	-25.59
B-14	OK	8/27/2018 11:09	0.00	0.40	17.10	29.9	-2.61
B-15	OK	8/27/2018 11:14	0.00	0.00	17.40	29.9	-6.59
BLOWER B	N/A	8/27/2018 10:51	0.10	2.40	15.00	29.9	8.57
BLOWER C	N/A	8/27/2018 12:03	0.40	3.30	14.40	29.9	5.30

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Clear, 92°F

FPM

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	8/6/2018 11:15	0.00	0.00	16.90	29.8	-0.26
MW-01/40	OK	8/6/2018 11:17	0.00	0.00	16.90	29.8	-0.22
MW-01/60	OK	8/6/2018 11:19	0.00	0.00	16.90	29.8	-0.30
MW-02/20	OK	8/6/2018 11:24	0.00	0.00	17.00	29.8	-0.23
MW-02/40	OK	8/6/2018 11:26	0.00	0.00	17.00	29.8	-0.23
MW-02/60	OK	8/6/2018 11:28	0.00	0.00	17.10	29.8	-0.23
MW-25/20	OK	8/27/2018 11:35	0.00	0.50	17.10	29.9	-0.11
MW-25/40	OK	8/27/2018 11:37	0.00	0.00	17.20	29.9	-0.14
MW-25/60	OK	8/27/2018 11:39	0.00	0.50	16.80	29.9	-0.38
MW-26/20	OK	8/27/2018 11:25	0.00	0.00	17.40	29.9	-0.01
MW-26/40	OK	8/27/2018 11:27	0.00	0.20	17.20	29.9	-0.17
MW-26/60	OK	8/27/2018 11:29	0.00	0.10	17.30	29.9	-0.33
MW-27/20	OK	8/27/2018 11:17	0.00	0.00	17.40	29.9	-0.05
MW-27/40	OK	8/27/2018 11:19	0.00	0.10	17.20	29.9	-0.16
MW-27/60	OK	8/27/2018 11:21	0.00	0.00	17.30	29.9	-0.19

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 8/6/2018 - Clear, 90°F 8/27/2018 - Clear, 92°F

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TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	8/27/2018 13:17	0.00	0.00	17.10	29.9	-4.59
C-02	OK	8/27/2018 13:13	0.00	1.30	15.90	29.9	-2.12
C-03	OK	8/27/2018 13:09	0.00	0.00	17.10	29.9	-3.67
C-04	OK	8/27/2018 13:04	0.00	0.00	17.20	29.9	-4.15
C-05	OK	8/27/2018 12:59	0.00	0.00	17.10	29.9	-2.75
C-06	OK	8/27/2018 12:55	0.00	0.00	17.10	29.9	-2.60
C-07	OK	8/27/2018 12:50	0.00	0.00	17.10	29.9	-2.66
C-08	OK	8/27/2018 12:47	0.00	0.20	16.90	29.9	-3.67
C-09	OK	8/27/2018 12:43	0.00	0.90	16.40	29.9	-4.97
C-10	OK	8/27/2018 12:40	0.00	0.00	17.10	29.9	-5.83
C-11	OK	8/27/2018 12:37	0.00	0.50	16.60	29.9	-5.61
C-12	OK	8/27/2018 12:33	0.00	0.00	17.10	29.9	-4.50
C-13	OK	8/27/2018 12:30	0.00	0.00	17.10	29.9	-4.99
C-14	OK	8/27/2018 12:26	0.00	0.00	17.10	29.9	-1.61
C-15	OK	8/27/2018 12:22	0.00	0.00	17.10	30.0	-2.70
C-16	OK	8/27/2018 12:20	0.00	0.00	17.10	29.9	-1.50
C-17	OK	8/27/2018 13:27	0.00	3.10	14.50	29.9	-4.56
BLOWER C	N/A	8/27/2018 12:03	0.40	3.30	14.40	29.9	5.30

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Clear, 92°F

FPM

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	8/27/2018 13:47	0.00	0.00	17.20	29.9	-0.53
MW-19/40	OK	8/27/2018 13:49	0.00	0.30	16.90	29.9	-0.15
MW-19/60	OK	8/27/2018 13:51	0.00	0.10	17.10	29.9	-0.09
MW-23/20	OK	8/27/2018 13:39	0.00	0.30	16.90	29.9	-0.02
MW-23/40	OK	8/27/2018 13:40	0.00	0.20	17.00	29.9	-0.06
MW-23/60	OK	8/27/2018 13:42	0.00	0.00	17.10	29.9	-0.09

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Clear, 92°F

FPM

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	8/27/2018 10:40	0.00	0.00	17.00	29.9	-0.24
MW-51	OK	8/6/2018 13:20	0.00	0.00	17.10	29.9	-0.22
MW-52	OK	8/6/2018 12:10	0.00	0.00	17.30	29.8	-0.02
MW-53	OK	8/6/2018 12:46	0.00	0.00	17.20	29.9	-0.02
MW-54	OK	8/6/2018 12:48	0.00	0.60	16.60	29.9	-0.08
MW-56	OK	8/27/2018 12:12	0.00	0.00	17.20	29.9	-0.05
MW-57	OK	8/27/2018 12:17	0.00	0.00	17.10	29.9	-0.13
MW-58	OK	8/27/2018 14:03	0.00	0.10	17.30	29.9	-0.05
MW-59	OK	8/27/2018 12:24	0.00	0.00	17.10	30.0	-0.06
MW-60	OK	8/27/2018 12:28	0.00	0.00	17.10	29.9	-0.35
MW-61	OK	8/27/2018 12:34	0.00	0.00	17.10	29.9	-0.88
MW-62	OK	8/27/2018 13:58	0.00	0.10	17.30	29.9	-0.02
MW-63	OK	8/27/2018 13:56	0.00	0.10	17.20	29.9	-0.01
MW-64	OK	8/27/2018 13:02	0.00	0.00	17.10	29.9	-0.55
MW-65	OK	8/27/2018 13:11	0.00	0.00	17.10	29.9	-0.35

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 8/6/2018 - Clear, 90°F 8/27/2018 - Clear, 92°F

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TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	8/15/2018 10:35	25.90	35.00	0.50	29.7	-0.52	-4.04
MSW-04	OK	8/15/2018 10:40	10.60	22.90	3.60	29.6	-3.54	-4.22
MSW-05	OK	8/15/2018 10:43	37.80	48.30	0.30	29.6	-2.32	-3.16
MSW-06	OK	8/15/2018 10:46	23.70	35.70	0.30	29.6	-2.00	-2.81
MSW-07	OK	8/15/2018 10:49	19.00	19.30	1.70	29.6	-1.64	-2.89
MSW-09	OK	8/15/2018 10:54	16.20	31.80	1.00	29.6	-1.88	-2.55
MSW-10	OK	8/15/2018 10:58	24.50	24.90	8.60	29.6	-1.45	-
MSW-11	OK	8/27/2018 10:13	10.70	15.20	9.80	29.6	-2.52	-2.69
MSW-12	OK	8/15/2018 11:05	23.60	38.60	0.40	29.6	-2.33	-2.63
MSW-13	OK	8/15/2018 11:09	30.60	44.40	0.60	29.6	-2.29	-
MSW-14	OK	8/27/2018 10:16	42.50	56.70	0.70	29.6	-2.76	-
MSW-15	OK	8/15/2018 11:15	31.50	44.40	0.50	29.6	-1.55	-3.03
MSW-16	OK	8/15/2018 11:18	14.40	31.00	0.30	29.6	-2.72	-3.01
MSW-17	OK	8/15/2018 11:24	21.00	33.70	2.60	29.6	-1.01	-
MSW-18	OK	8/27/2018 10:20	45.70	54.00	0.70	29.6	-1.49	-
MSW-19	OK	8/15/2018 11:36	42.60	54.40	1.70	29.6	-1.53	-1.51

Notes:

- = No well head vacuum sample port present.
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled
Weather: 8/15/2018 - Partly Cloudy, 87°F 8/27/2018 - Clear, 92°F

***MSW-01 - Well under repair**

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TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

CLOSED MSW LANDFILL

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200	7/26/2018	9:26	7.50	13.90	7.40	90	-2.25	29.9	1/2 open
V-203		9:29	4.40	12.60	7.70	90	-2.80	29.9	1/4 open
Dog House									
Phase IV Vertical	7/26/2018	9:34	23.90	34.60	1.70	98	-5.13	29.9	open
Phase II Horizontal		9:36	1.00	17.50	10.20	98	-0.33	29.9	closed
Small Dog House	7/26/2018								
Phase II Horizontal		9:39	7.90	19.40	4.50	96	-4.87	29.9	1/2 open
Phase II Valve Pit									
E-Horizontal	7/26/2018	9:42	38.10	51.40	0.50	98	-6.47	29.9	1/2 open
W-Horizontal		9:44	27.90	42.60	0.50	90	-6.78	29.9	1/2 open
CF Phase II-Vertical**									NS
Flare Compound									
*MP-01 Gas Analyzer	7/26/2018	9:48	0.10	0.10	16.40	86	-9.39	29.9	N/A
CF Phase I**		NS	NS	NS	NS	NS	NS	NS	NS

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Temperature measured in degrees Farenheit.
Blower status - On
Weather - Clear, 92°F
* = Analyzer combined
** = Offline
N/A = Not Applicable
NS = Not Sampled

FPM

TABLE 12
AMBIENT VOLATILE ORGANIC COMPOUND (VOC) GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	8/27/2018	Northeastern portion of landfill property, just west of well C-13	0.0
AMBIENT 2	8/27/2018	Southeastern portion of landfill property, just west of well MW-D10	0.0
AMBIENT 3	8/27/2018	Northwestern portion of landfill property, just southeast of well A-17	0.0
AMBIENT 4	8/27/2018	Southwestern portion of landfill property, just east of well MW-2C	0.0

Notes:

VOCs reported as parts per million, as measured by a calibrated photoionization detector.
Weather - Clear, 92°F

FPM group — Engineering and Environmental Science

An Olgoonik Company

CORPORATE HEADQUARTERS
909 Marconi Avenue
Ronkonkoma, NY 11779
631-737-6200
Fax 631-737-2410

September 28, 2018

Mr. Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, New York 11751

Re: **Blydenburgh Road Landfill**
September 2018 Landfill Gas and VOC Gas Monitoring Results
FPM File No. 631-18-36

Dear Mr. Varrichio:

On September 7, 12, and 14, 2018, FPM Group (FPM) performed landfill gas and volatile organic compound (VOC) gas monitoring at the above-referenced site. Monitoring of landfill gas was performed with a Landtec GEM 2000 Gas Analyzer. Monitoring for VOCs in ambient air was performed with a Photovac photoionization detector (PID), model 2020 Pro Plus. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter, including one location downwind from the flare system.

For the Landtec GEM 2000 Gas Analyzer, oxygen (O_2) gas and methane (CH_4) gas were zeroed according to the manufacturer's specifications. The gas analyzer was calibrated with 15 percent (%) CH_4 and 15% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling. The Photovac PID was zeroed with ambient air prior to arrival at the landfill property, and calibrated with 100 parts per million (ppm) isobutylene prior to sampling in accordance with the manufacturer's recommendations.

The landfill gas monitoring results are provided in Tables 1 through 11 and the ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. An elevated level of O_2 was detected in well MSW-04. This issue is being addressed.

The next landfill gas monitoring event will begin on October 5, 2018. Jim Jahnke will be notified several days in advance of the sampling event.

Should you have any questions, please do not hesitate to call me at (631) 737-6200, ext. 242.

Sincerely,

Chris Linkletter
Hydrogeologist

CL:cl
Attachments

cc: Jim Jahnke (via email)
Fazil Rahaman (via email)

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TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	9/7/2018 11:25	0.00	0.80	16.80	29.9	-0.50
A-02	OK	9/7/2018 11:29	0.00	1.40	16.40	29.9	-1.01
A-03	OK	9/7/2018 11:33	0.00	0.70	16.90	29.9	-1.04
A-04	OK	9/7/2018 11:38	0.00	0.60	17.00	29.9	-0.56
A-05	OK	9/7/2018 11:42	0.00	0.10	17.20	29.9	-0.53
A-06	OK	9/7/2018 11:48	2.60	8.90	10.70	29.9	-1.90
A-07	OK	9/7/2018 11:50	0.00	0.10	17.10	29.9	-0.56
A-08	OK	9/7/2018 11:53	0.00	1.90	15.40	29.9	-1.15
A-09	OK	9/7/2018 11:56	0.00	1.30	16.00	29.9	-1.18
A-10	OK	9/7/2018 12:00	0.00	0.80	16.80	29.9	-0.84
A-11	OK	9/7/2018 12:05	0.00	0.10	17.20	29.9	-5.94
A-12	OK	9/7/2018 12:09	0.00	0.10	17.20	29.9	-0.58
A-13	OK	9/7/2018 12:12	0.00	0.10	17.20	29.9	-0.66
A-14	OK	9/7/2018 12:17	0.00	2.10	15.60	29.9	-0.45
A-15	OK	9/7/2018 12:21	0.00	1.70	15.90	29.9	-0.35
A-16	OK	9/7/2018 12:43	0.00	0.10	17.30	29.9	-0.83
A-17	OK	9/7/2018 12:45	0.00	0.10	17.40	29.9	-0.69
A-18	OK	9/7/2018 12:47	0.00	0.10	17.30	29.9	-1.95
BLOWER A	N/A	9/7/2018 12:56	0.00	0.10	17.30	29.9	-0.01
BLOWER B	N/A	9/7/2018 12:58	0.20	2.40	15.40	30.0	8.47

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Overcast, 74°F

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	9/7/2018 13:25	0.00	0.10	17.00	29.9	-0.14
MW-07/40	OK	9/7/2018 13:27	0.00	0.10	17.00	29.9	-0.18
MW-07/60	OK	9/7/2018 13:29	0.00	0.10	17.00	29.9	-0.22
MW-08/20	OK	9/7/2018 13:32	0.00	0.10	17.00	29.9	-0.08
MW-08/40	OK	9/7/2018 13:34	0.00	0.10	17.00	29.9	-0.14
MW-08/60	OK	9/7/2018 13:36	0.00	0.30	16.80	29.9	-0.01
MW-11/20	OK	9/7/2018 13:17	0.00	0.10	17.20	29.9	-0.06
MW-11/40	OK	9/7/2018 13:19	0.00	0.10	17.20	29.9	-0.09
MW-11/60	OK	9/7/2018 13:21	0.00	0.10	17.10	29.9	-0.10
MW-13/20	OK	9/7/2018 13:40	0.00	0.10	16.90	29.9	-0.02

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Overcast, 74°F

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	9/14/2018 10:07	0.00	0.10	17.00	30.0	-0.95
B-05	OK	9/14/2018 10:10	0.00	0.10	17.20	30.0	-1.40
B-06	OK	9/14/2018 10:14	0.00	0.10	17.20	30.0	-1.14
B-07	OK	9/14/2018 10:18	0.00	0.10	17.20	30.0	-4.21
B-08	OK	9/14/2018 10:24	0.00	0.10	17.20	30.0	-1.40
B-09	OK	9/14/2018 10:36	0.00	0.70	16.80	30.1	-3.24
B-10	OK	9/14/2018 10:39	0.00	0.20	17.10	30.1	-0.69
B-11	OK	9/14/2018 10:45	0.00	0.40	16.90	30.1	-1.19
B-12	OK	9/14/2018 10:47	0.00	0.10	17.10	30.1	-6.17
B-13	OK	9/14/2018 10:54	0.00	0.10	17.10	30.1	-25.38
B-14	OK	9/14/2018 10:56	0.00	0.10	17.00	30.1	-2.53
B-15	OK	9/14/2018 11:00	0.00	0.10	17.20	30.1	-6.59
BLOWER B	N/A	9/14/2018 10:34	0.20	2.50	15.30	30.0	8.46
BLOWER C	N/A	9/14/2018 11:58	0.60	3.40	14.40	30.1	5.44

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Overcast, 75°F

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	9/7/2018 11:02	0.00	0.10	17.10	29.9	-0.35
MW-01/40	OK	9/7/2018 11:04	0.00	0.10	17.10	29.9	-0.20
MW-01/60	OK	9/7/2018 11:06	0.00	0.10	17.10	29.9	-0.29
MW-02/20	OK	9/7/2018 11:10	0.00	0.10	17.10	29.9	-0.30
MW-02/40	OK	9/7/2018 11:12	0.00	0.10	17.20	29.9	-0.40
MW-02/60	OK	9/7/2018 11:14	0.00	0.10	17.20	29.9	-0.43
MW-25/20	OK	9/14/2018 11:26	0.00	0.30	16.90	30.1	-0.10
MW-25/40	OK	9/14/2018 11:28	0.00	0.10	17.00	30.1	-0.11
MW-25/60	OK	9/14/2018 11:30	0.00	0.30	16.80	30.1	-0.36
MW-26/20	OK	9/14/2018 11:16	0.00	0.10	17.00	30.1	-0.16
MW-26/40	OK	9/14/2018 11:18	0.00	0.10	17.10	30.1	-0.26
MW-26/60	OK	9/14/2018 11:20	0.00	0.10	17.10	30.1	-0.33
MW-27/20	OK	9/14/2018 11:08	0.00	0.10	17.10	30.1	-0.06
MW-27/40	OK	9/14/2018 11:10	0.00	0.10	17.10	30.1	-0.24
MW-27/60	OK	9/14/2018 11:12	0.00	0.10	17.10	30.1	-0.19

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 9/7/2018 - Overcast, 74°F 9/14/2018 - Overcast, 75°F

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	9/14/2018 13:14	0.00	0.00	17.20	30.0	-4.49
C-02	OK	9/14/2018 13:10	0.00	1.00	16.30	30.0	-2.09
C-03	OK	9/14/2018 13:06	0.00	0.00	17.10	30.0	-3.60
C-04	OK	9/14/2018 13:02	0.00	0.00	17.10	30.0	-4.19
C-05	OK	9/14/2018 12:58	0.00	0.00	17.10	30.0	-2.75
C-06	OK	9/14/2018 12:55	0.00	0.00	17.10	30.0	-2.48
C-07	OK	9/14/2018 12:52	0.00	0.00	17.10	30.1	-2.60
C-08	OK	9/14/2018 12:49	0.00	0.00	17.10	30.1	-3.57
C-09	OK	9/14/2018 12:46	0.00	1.40	16.10	30.1	-4.95
C-10	OK	9/14/2018 12:41	0.00	0.00	17.00	30.1	-5.73
C-11	OK	9/14/2018 12:38	0.00	0.00	17.00	30.1	-5.53
C-12	OK	9/14/2018 12:34	0.00	0.00	17.00	30.1	-4.39
C-13	OK	9/14/2018 12:31	0.00	0.00	17.00	30.1	-5.09
C-14	OK	9/14/2018 12:27	0.00	0.00	17.10	30.1	-1.52
C-15	OK	9/14/2018 12:22	0.00	0.10	17.00	30.1	-2.57
C-16	OK	9/14/2018 12:20	0.00	0.10	17.00	30.1	-1.43
C-17	OK	9/14/2018 13:22	0.00	3.00	15.00	30.0	-4.45
BLOWER C	N/A	9/14/2018 11:58	0.60	3.40	14.40	30.1	5.44

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Overcast, 75°F

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	9/14/2018 13:49	0.00	0.00	17.20	30.0	-0.50
MW-19/40	OK	9/14/2018 13:51	0.00	0.30	16.90	30.0	-0.15
MW-19/60	OK	9/14/2018 13:54	0.00	0.50	16.80	30.0	-0.08
MW-23/20	OK	9/14/2018 13:39	0.00	0.20	17.10	30.0	-0.02
MW-23/40	OK	9/14/2018 13:41	0.00	0.30	16.90	30.0	-0.05
MW-23/60	OK	9/14/2018 13:43	0.00	0.10	17.10	30.0	-0.06

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Overcast, 74°F

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TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	9/14/2018 10:19	0.00	0.10	17.30	30.0	-0.19
MW-51	OK	9/7/2018 13:15	0.00	0.10	17.20	30.0	-0.19
MW-52	OK	9/7/2018 12:01	0.00	0.10	17.20	29.9	-0.05
MW-53	OK	9/7/2018 12:50	0.00	0.20	17.20	30.0	-0.05
MW-54	OK	9/7/2018 12:52	0.00	0.30	17.10	29.9	-0.04
MW-56	OK	9/14/2018 12:08	0.00	0.10	17.00	30.1	-0.05
MW-57	OK	9/14/2018 12:10	0.00	0.10	17.00	30.1	-0.11
MW-58	OK	9/14/2018 14:14	0.00	0.50	16.50	30.1	-0.03
MW-59	OK	9/14/2018 12:25	0.00	0.10	17.00	30.1	-0.03
MW-60	OK	9/14/2018 12:29	0.00	0.00	17.00	30.1	-0.33
MW-61	OK	9/14/2018 12:35	0.00	0.00	17.00	30.1	-0.79
MW-62	OK	9/14/2018 14:01	0.00	0.00	16.90	30.0	-0.19
MW-63	OK	9/14/2018 13:59	0.00	0.00	17.00	30.0	-0.49
MW-64	OK	9/14/2018 13:00	0.00	0.00	17.10	30.0	-0.59
MW-65	OK	9/14/2018 13:08	0.00	0.00	17.20	30.0	-0.39

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 9/7/2018 - Overcast, 74°F 9/14/2018 - Overcast, 75°F

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	9/12/2018 9:02	23.50	33.70	0.50	29.9	-0.32	-4.36
MSW-04	OK	9/12/2018 9:23	10.80	22.60	3.70	29.9	-3.55	-2.36
MSW-05	OK	9/12/2018 9:08	38.40	48.60	0.30	29.9	-2.33	-2.53
MSW-06	OK	9/12/2018 9:11	25.70	37.20	0.50	29.9	-1.85	-2.33
MSW-07	OK	9/12/2018 9:14	19.90	19.50	1.70	29.9	-1.64	-3.02
MSW-09	OK	9/12/2018 9:28	17.70	33.60	0.90	29.9	-1.65	-2.40
MSW-10	OK	9/12/2018 9:32	44.70	53.80	1.30	29.9	-1.37	-
MSW-11	OK	9/12/2018 9:35	25.80	41.40	2.40	29.6	-2.52	-2.74
MSW-12	OK	9/12/2018 9:38	23.70	39.10	0.40	29.9	-2.41	-2.71
MSW-13	OK	9/12/2018 9:46	27.20	45.40	0.60	29.9	-2.21	-
MSW-14	OK	9/12/2018 9:48	42.00	57.40	0.50	29.9	-1.63	-
MSW-15	OK	9/12/2018 9:54	27.50	44.10	0.60	29.9	-1.62	-3.11
MSW-16	OK	9/12/2018 9:59	11.70	32.40	0.40	29.9	-2.82	-3.13
MSW-17	OK	9/12/2018 10:04	16.50	34.20	2.70	29.9	-1.10	-
MSW-18	OK	9/12/2018 10:06	42.70	54.60	0.70	29.9	-1.59	-
MSW-19	OK	9/12/2018 10:09	41.20	57.30	1.40	29.9	-1.60	-1.59

Notes:

- = No well head vacuum sample port present.
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled
Weather: Overcast, 75°F

***MSW-01 - Well under repair**

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TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

CLOSED MSW LANDFILL

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200	9/14/2018	9:35	3.80	12.30	8.40	76	-1.40	30.1	1/2 open
V-203		9:38	3.90	11.80	8.10	78	-1.43	30.1	1/4 open
Dog House									
Phase IV Vertical	9/14/2018	9:43	25.70	35.20	2.40	78	-1.74	30.1	open
Phase II Horizontal		9:45	1.10	18.70	9.70	80	-0.13	30.0	closed
Small Dog House	9/14/2018								
Phase II Horizontal		9:47	9.50	25.10	1.80	80	-1.69	30.0	1/2 open
Phase II Valve Pit									
E-Horizontal	9/14/2018	9:50	38.60	51.30	0.50	80	-2.05	30.0	1/2 open
W-Horizontal		9:53	27.30	42.80	0.40	80	-2.04	30.0	1/2 open
CF Phase II-Vertical**									NS
Flare Compound									
*MP-01 Gas Analyzer	9/14/2018	9:56	6.70	10.10	11.80	80	-2.4	30.0	N/A
CF Phase I**		NS	NS	NS	NS	NS	NS	NS	NS

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Temperature measured in degrees Farenheit.
Blower status - On
Weather - Overcast, 75°F
* = Analyzer combined
** = Offline
N/A = Not Applicable
NS = Not Sampled

TABLE 12
AMBIENT VOLATILE ORGANIC COMPOUND (VOC) GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	9/14/2018	Northern portion of landfill property, just south of MW-26/40	0.0
AMBIENT 2	9/14/2018	Southern portion of landfill property, just north of MW-D4/40	0.0
AMBIENT 3	9/14/2018	Western portion of landfill property, just east of B-04	0.0
AMBIENT 4	9/14/2018	Eastern portion of landfill property, just west of C-04	0.0

Notes:

VOCs reported as parts per million, as measured by a calibrated photoionization detector.
Weather - Overcast, 75°F

FPM group — Engineering and Environmental Science

An Olgoonik Company

CORPORATE HEADQUARTERS
909 Marconi Avenue
Ronkonkoma, NY 11779
631-737-6200
Fax 631-737-2410

November 5, 2018

Mr. Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, New York 11751

Re: **Blydenburgh Road Landfill**
October 2018 Landfill Gas and VOC Gas Monitoring Results
FPM File No. 631-18-36

Dear Mr. Varrichio:

On October 5, 12, and 22, 2018, FPM Group (FPM) performed landfill gas and volatile organic compound (VOC) gas monitoring at the above-referenced site. Monitoring of landfill gas was performed with a Landtec GEM 2000 Gas Analyzer. Monitoring for VOCs in ambient air was performed with a Photovac photoionization detector (PID), model 2020 Pro Plus. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter, including one location downwind from the flare system.

For the Landtec GEM 2000 Gas Analyzer, oxygen (O_2) gas and methane (CH_4) gas were zeroed according to the manufacturer's specifications. The gas analyzer was calibrated with 15 percent (%) CH_4 and 15% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling. The Photovac PID was zeroed with ambient air prior to arrival at the landfill property, and calibrated with 100 parts per million (ppm) isobutylene prior to sampling in accordance with the manufacturer's recommendations.

The landfill gas monitoring results are provided in Tables 1 through 11 and the ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. An elevated level of O_2 was detected in well MSW-04. This issue is being addressed.

The next landfill gas monitoring event will begin on November 9, 2018. Jim Jahnke will be notified several days in advance of the sampling event.

Should you have any questions, please do not hesitate to call me at (631) 737-6200, ext. 242.

Sincerely,

Chris Linkletter

Chris Linkletter
Hydrogeologist

CL:cl
Attachments

cc: Jim Jahnke (via email)
Fazil Rahaman (via email)

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TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	10/5/2018 11:26	0.00	0.70	16.60	29.9	-0.62
A-02	OK	10/5/2018 11:31	0.00	1.20	16.40	29.9	-1.11
A-03	OK	10/5/2018 11:36	0.00	0.40	16.80	29.9	-1.16
A-04	OK	10/5/2018 11:38	0.00	0.50	16.80	29.9	-0.64
A-05	OK	10/5/2018 11:41	0.00	0.10	17.20	29.9	-0.60
A-06	OK	10/5/2018 11:43	0.00	0.10	17.30	29.9	-2.06
A-07	OK	10/5/2018 11:46	0.00	0.00	17.30	29.9	-0.59
A-08	OK	10/5/2018 11:50	0.00	1.40	16.10	29.9	-1.28
A-09	OK	10/5/2018 11:53	0.00	0.60	16.90	29.9	-1.26
A-10	OK	10/5/2018 11:55	0.00	1.00	16.80	29.9	-0.88
A-11	OK	10/5/2018 12:00	0.00	0.10	17.50	30.0	-6.62
A-12	OK	10/5/2018 12:05	0.00	0.10	17.50	29.9	-0.73
A-13	OK	10/5/2018 12:08	0.00	0.50	17.10	29.9	-0.69
A-14	OK	10/5/2018 12:12	0.00	2.10	15.60	29.9	-0.48
A-15	OK	10/5/2018 12:17	0.00	1.50	16.10	29.9	-0.36
A-16	OK	10/5/2018 12:23	0.00	0.10	17.30	29.9	-0.84
A-17	OK	10/5/2018 12:28	0.00	0.10	17.20	29.9	-0.74
A-18	OK	10/5/2018 12:31	0.00	0.00	17.20	30.0	-2.14
BLOWER A	N/A	10/5/2018 12:49	0.00	0.10	17.30	29.9	-0.01
BLOWER B	N/A	10/5/2018 12:51	0.20	2.40	15.30	30.0	9.59

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Partly Cloudy, 69°F

FPM

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	10/5/2018 13:24	0.00	0.10	17.30	29.9	-0.02
MW-07/40	OK	10/5/2018 13:26	0.00	0.10	17.30	29.9	-0.20
MW-07/60	OK	10/5/2018 13:28	0.00	0.10	17.40	29.9	-0.23
MW-08/20	OK	10/5/2018 13:30	0.00	0.10	17.40	29.9	-0.11
MW-08/40	OK	10/5/2018 13:32	0.00	0.10	17.30	29.9	-0.09
MW-08/60	OK	10/5/2018 13:34	0.00	0.10	17.30	29.9	-0.17
MW-11/20	OK	10/5/2018 13:13	0.00	0.00	17.30	29.9	-0.09
MW-11/40	OK	10/5/2018 13:15	0.00	0.00	17.20	29.9	-0.14
MW-11/60	OK	10/5/2018 13:17	0.00	0.10	17.20	29.9	-0.15
MW-13/20	OK	10/5/2018 13:38	0.00	0.10	17.30	29.9	-0.04

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Partly Cloudy, 69°F

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	10/22/2018 10:07	0.00	0.10	17.10	30.0	-1.14
B-05	OK	10/22/2018 10:12	0.00	0.10	17.00	30.0	-1.31
B-06	OK	10/22/2018 10:15	0.00	0.10	17.00	30.0	-0.29
B-07	OK	10/22/2018 10:20	0.00	0.10	16.90	30.0	-4.47
B-08	OK	10/22/2018 10:26	0.00	0.10	17.10	30.0	-1.33
B-09	OK	10/22/2018 10:36	0.00	0.10	17.10	30.1	-4.02
B-10	OK	10/22/2018 10:39	0.00	0.20	17.10	30.1	-0.82
B-11	OK	10/22/2018 10:42	0.00	0.50	16.90	30.1	-1.42
B-12	OK	10/22/2018 10:43	0.00	0.10	17.10	30.1	-6.94
B-13	OK	10/22/2018 10:49	0.00	0.10	17.30	30.1	-34.43
B-14	OK	10/22/2018 10:54	0.00	0.10	17.30	30.1	-3.03
B-15	OK	10/22/2018 11:00	0.00	0.10	17.20	30.1	-9.06
BLOWER B	N/A	10/22/2018 10:34	0.00	3.10	14.90	30.0	9.71
BLOWER C	N/A	10/22/2018 11:47	0.10	3.40	14.10	30.1	4.57

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Partly Cloudy, 54°F

FPM

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	10/5/2018 11:00	0.00	0.10	16.70	29.9	-0.42
MW-01/40	OK	10/5/2018 11:02	0.00	0.10	16.80	29.9	-0.42
MW-01/60	OK	10/5/2018 11:04	0.00	0.10	16.90	29.9	-0.35
MW-02/20	OK	10/5/2018 11:10	0.00	0.10	17.00	29.9	-0.37
MW-02/40	OK	10/5/2018 11:12	0.00	0.10	17.00	29.9	-0.46
MW-02/60	OK	10/5/2018 11:14	0.00	0.10	17.00	29.9	-0.50
MW-25/20	OK	10/22/2018 11:25	0.00	0.30	16.80	30.1	-0.12
MW-25/40	OK	10/22/2018 11:28	0.00	0.10	16.80	30.1	-0.11
MW-25/60	OK	10/22/2018 11:31	0.00	0.30	16.80	30.1	-0.44
MW-26/20	OK	10/22/2018 11:15	0.00	0.20	16.90	30.1	-0.05
MW-26/40	OK	10/22/2018 11:17	0.00	0.10	17.00	30.1	-0.25
MW-26/60	OK	10/22/2018 11:19	0.00	0.10	17.00	30.1	-0.37
MW-27/20	OK	10/22/2018 11:04	0.00	0.10	17.00	30.1	-0.06
MW-27/40	OK	10/22/2018 11:06	0.00	0.10	17.00	30.1	-0.20
MW-27/60	OK	10/22/2018 11:09	0.00	0.10	17.00	30.1	-0.18

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 10/5/2018 - Partly Cloudy, 69°F 10/22/2018 - Partly Cloudy, 54°F

FPM

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	10/22/2018 13:25	0.00	0.10	17.40	30.0	-3.85
C-02	OK	10/22/2018 13:21	0.00	1.20	16.70	30.0	-1.80
C-03	OK	10/22/2018 13:15	0.00	0.10	17.40	30.0	-2.63
C-04	OK	10/22/2018 13:12	0.00	0.10	17.30	30.0	-3.33
C-05	OK	10/22/2018 13:08	0.00	0.10	17.30	30.0	-2.28
C-06	OK	10/22/2018 13:05	0.00	0.10	17.30	30.0	-2.07
C-07	OK	10/22/2018 13:01	0.00	0.10	17.40	30.0	-2.05
C-08	OK	10/22/2018 12:57	0.00	0.10	17.40	30.0	-2.78
C-09	OK	10/22/2018 12:53	0.00	0.30	17.20	30.0	-4.80
C-10	OK	10/22/2018 12:50	0.00	0.10	17.40	30.1	-5.42
C-11	OK	10/22/2018 12:47	0.00	0.10	17.30	30.1	-2.95
C-12	OK	10/22/2018 12:42	0.00	0.10	17.30	30.1	-3.54
C-13	OK	10/22/2018 12:37	0.00	0.10	17.20	30.1	-5.05
C-14	OK	10/22/2018 12:34	0.00	0.10	17.10	30.1	-2.09
C-15	OK	10/22/2018 12:29	0.00	0.10	16.90	30.1	-2.57
C-16	OK	10/22/2018 12:26	0.00	0.10	16.80	30.1	-1.53
C-17	OK	10/22/2018 13:33	0.00	4.10	15.00	30.0	-3.79
BLOWER C	N/A	10/22/2018 11:47	0.10	3.40	14.10	30.1	4.57

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Partly Cloudy, 54°F

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	10/22/2018 13:56	0.00	0.10	17.50	30.0	-0.01
MW-19/40	OK	10/22/2018 13:58	0.00	0.20	17.30	30.1	-0.13
MW-19/60	OK	10/22/2018 14:00	0.00	0.40	17.20	30.1	-0.11
MW-23/20	OK	10/22/2018 13:44	0.00	0.10	17.60	30.0	-0.01
MW-23/40	OK	10/22/2018 13:45	0.00	0.10	17.70	30.0	-0.01
MW-23/60	OK	10/22/2018 13:47	0.00	0.10	17.60	30.0	0.02

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Partly Cloudy, 54°F

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	10/22/2018 10:21	0.00	0.10	17.00	30.0	-0.16
MW-51	OK	10/5/2018 13:11	0.00	0.10	17.20	30.0	-0.23
MW-52	OK	10/5/2018 11:57	0.00	0.80	16.90	29.9	-0.09
MW-53	OK	10/5/2018 12:38	0.00	0.10	17.20	30.0	-0.07
MW-54	OK	10/5/2018 12:41	0.00	0.00	17.30	30.0	-0.04
MW-56	OK	10/22/2018 12:22	0.00	0.10	16.60	30.1	-0.04
MW-57	OK	10/22/2018 12:26	0.00	0.10	16.80	30.1	-0.10
MW-58	OK	10/22/2018 14:12	0.00	0.20	16.90	30.1	-0.02
MW-59	OK	10/22/2018 12:31	0.00	0.10	17.00	30.1	0.00
MW-60	OK	10/22/2018 12:35	0.00	0.10	17.10	30.1	-0.27
MW-61	OK	10/22/2018 12:44	0.00	0.10	17.30	30.1	-0.62
MW-62	OK	10/22/2018 14:07	0.00	0.10	17.00	30.1	-0.06
MW-63	OK	10/22/2018 14:04	0.00	0.30	17.10	30.1	-0.01
MW-64	OK	10/22/2018 13:09	0.00	0.10	17.30	30.0	-0.39
MW-65	OK	10/22/2018 13:18	0.00	0.10	17.30	30.0	-0.23

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 10/5/2018 - Partly Cloudy, 69°F 10/22/2018 - Partly Cloudy, 54°F

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	10/12/2018 11:12	29.10	35.80	0.80	29.3	-1.16	-5.32
MSW-04	OK	10/12/2018 11:21	11.70	24.10	3.10	29.3	-4.80	-5.56
MSW-05	OK	10/12/2018 11:25	41.40	50.00	0.40	29.3	-3.29	-4.35
MSW-06	OK	10/12/2018 11:28	27.10	37.80	0.60	29.3	-2.80	-3.79
MSW-07	OK	10/12/2018 11:32	23.50	21.40	1.60	29.3	-2.51	-3.75
MSW-09	OK	10/12/2018 11:36	20.80	34.70	0.80	29.3	-2.75	-3.47
MSW-10	OK	10/12/2018 11:42	43.00	54.80	2.00	29.3	-2.29	-
MSW-11	OK	10/12/2018 11:50	21.30	38.90	0.70	29.3	-3.38	-3.68
MSW-12	OK	10/12/2018 11:45	26.40	41.20	0.50	29.3	-3.34	-3.74
MSW-13	OK	10/12/2018 11:53	35.40	47.30	0.80	29.3	-3.32	-
MSW-14	OK	10/12/2018 12:00	39.10	21.70	1.90	29.3	-2.18	-
MSW-15	OK	10/12/2018 12:05	40.20	50.60	1.20	29.3	-2.38	-4.24
MSW-16	OK	10/12/2018 12:09	16.70	33.10	0.80	29.3	-3.67	-4.03
MSW-17	OK	10/12/2018 11:18	30.20	44.20	0.60	29.3	-1.94	-
MSW-18	OK	10/12/2018 12:18	42.60	56.60	0.70	29.3	-2.28	-
MSW-19	OK	10/12/2018 12:14	45.20	53.20	1.50	29.3	-2.22	-2.21

Notes:

- = No well head vacuum sample port present.
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled
Weather: Overcast, 73°F

***MSW-01 - Well under repair**

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

CLOSED MSW LANDFILL

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure	10/22/2018								
V-200		9:30	17.10	19.80	6.50	50	-2.54	30.1	1/2 open
V-203		9:33	3.50	12.00	8.10	50	-2.61	30.1	1/4 open
Dog House	10/22/2018								
Phase IV Vertical		9:37	25.10	35.30	2.80	52	-4.71	30.1	open
Phase II Horizontal		9:39	1.20	20.30	9.80	54	-0.02	30.0	closed
Small Dog House	10/22/2018								
Phase II Horizontal		9:41	8.50	18.90	6.60	56	-4.47	30.0	1/2 open
Phase II Valve Pit	10/22/2018								
E-Horizontal		9:45	41.20	52.20	1.20	52	-5.52	30.0	1/2 open
W-Horizontal		9:48	30.80	45.90	0.80	52	-5.40	30.0	1/2 open
CF Phase II-Vertical**									NS
Flare Compound	10/22/2018								
*MP-01 Gas Analyzer		9:53	0.00	0.20	17.30	58	-8.17	30.0	N/A
CF Phase I**		NS	NS	NS	NS	NS	NS	NS	NS

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Temperature measured in degrees Farenheit.
Blower status - On
Weather - Partly Cloudy, 54°F
* = Analyzer combined
** = Offline
N/A = Not Applicable
NS = Not Sampled

TABLE 12
AMBIENT VOLATILE ORGANIC COMPOUND (VOC) GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	10/22/2018	Northeastern portion of landfill property, just west of well C-13	0.0
AMBIENT 2	10/22/2018	Southeastern portion of landfill property, just west of well MW-D10	0.0
AMBIENT 3	10/22/2018	Northwestern portion of landfill property, just southeast of well A-17	0.0
AMBIENT 4	10/22/2018	Southwestern portion of landfill property, just east of well MW-2C	0.0

Notes:

VOCs reported as parts per million, as measured by a calibrated photoionization detector.
Weather - Partly Cloudy, 54°F

FPM group — Engineering and Environmental Science

An Olgoonik Company

CORPORATE HEADQUARTERS
909 Marconi Avenue
Ronkonkoma, NY 11779
631-737-6200
Fax 631-737-2410

December 6, 2018

Mr. Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, New York 11751

Re: **Blydenburgh Road Landfill**
November 2018 Landfill Gas and VOC Gas Monitoring Results
FPM File No. 631-18-36

Dear Mr. Varrichio:

On November 11 and 14, 2018, FPM Group (FPM) performed landfill gas and volatile organic compound (VOC) gas monitoring at the above-referenced site. Monitoring of landfill gas was performed with a Landtec GEM 2000 Gas Analyzer. Monitoring for VOCs in ambient air was performed with a Photovac photoionization detector (PID), model 2020 Pro Plus. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter, including one location downwind from the flare system.

For the Landtec GEM 2000 Gas Analyzer, oxygen (O_2) gas and methane (CH_4) gas were zeroed according to the manufacturer's specifications. The gas analyzer was calibrated with 15 percent (%) CH_4 and 15% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling. The Photovac PID was zeroed with ambient air prior to arrival at the landfill property, and calibrated with 100 parts per million (ppm) isobutylene prior to sampling in accordance with the manufacturer's recommendations.

The landfill gas monitoring results are provided in Tables 1 through 11 and the ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. Elevated levels of O_2 were not detected in any MSW wells.

The next landfill gas monitoring event will begin on December 7, 2018. Jim Jahnke will be notified several days in advance of the sampling event.

Should you have any questions, please do not hesitate to call me at (631) 737-6200, ext. 242.

Sincerely,

Chris Linkletter
Hydrogeologist

CL:cl
Attachments

cc: Jim Jahnke (via email)
Fazil Rahaman (via email)

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TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	11/14/2018 11:48	0.00	0.70	16.60	30.1	-0.68
A-02	OK	11/14/2018 11:52	0.00	1.20	16.30	30.1	-1.21
A-03	OK	11/14/2018 11:58	0.00	0.50	16.70	30.1	-1.31
A-04	OK	11/14/2018 12:02	0.00	0.50	16.80	30.1	-0.69
A-05	OK	11/14/2018 12:08	0.00	0.10	17.00	30.1	-0.61
A-06	OK	11/14/2018 12:13	0.00	0.10	17.20	30.1	-2.43
A-07	OK	11/14/2018 12:17	0.00	0.10	17.20	30.1	-5.00
A-08	OK	11/14/2018 12:22	0.00	1.10	16.80	30.1	-1.50
A-09	OK	11/14/2018 12:26	0.00	0.10	17.30	30.1	-1.41
A-10	OK	11/14/2018 12:32	0.00	0.50	17.20	30.1	-1.07
A-11	OK	11/14/2018 12:38	0.00	0.10	17.60	30.1	-6.99
A-12	OK	11/14/2018 12:42	0.00	0.10	17.60	30.1	-0.88
A-13	OK	11/14/2018 12:46	0.00	0.10	17.60	30.1	-0.72
A-14	OK	11/14/2018 12:49	0.00	1.80	16.40	30.1	-0.56
A-15	OK	11/14/2018 12:55	0.00	1.10	17.00	30.1	-0.41
A-16	OK	11/14/2018 13:03	0.00	0.10	17.50	30.1	-0.96
A-17	OK	11/14/2018 13:05	0.00	0.10	17.50	30.1	-0.78
A-18	OK	11/14/2018 13:07	0.00	0.10	17.50	30.2	-2.40
BLOWER A	N/A	11/14/2018 13:24	0.00	0.10	17.20	30.2	-0.02
BLOWER B	N/A	11/14/2018 13:26	0.20	2.50	15.50	30.2	9.66

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Clear, 43°F

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	11/14/2018 14:04	0.00	0.10	17.50	30.1	-0.29
MW-07/40	OK	11/14/2018 14:06	0.00	0.10	17.60	30.1	-0.41
MW-07/60	OK	11/14/2018 14:08	0.00	0.10	17.80	30.1	-0.45
MW-08/20	OK	11/14/2018 14:11	0.00	0.10	17.80	30.1	-0.29
MW-08/40	OK	11/14/2018 14:13	0.00	0.10	17.90	30.2	-0.25
MW-08/60	OK	11/14/2018 14:15	0.00	0.30	17.70	30.2	-0.26
MW-11/20	OK	11/14/2018 13:56	0.00	0.10	17.10	30.2	-0.17
MW-11/40	OK	11/14/2018 13:58	0.00	0.10	17.20	30.1	-0.21
MW-11/60	OK	11/14/2018 14:00	0.00	0.10	17.30	30.1	-0.25
MW-13/20	OK	11/14/2018 14:20	0.00	0.50	17.50	30.2	-0.10

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Clear, 43°F

FPM

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	11/19/2018 10:11	0.00	0.20	17.40	29.8	-0.91
B-05	OK	11/19/2018 10:14	0.00	0.10	17.50	29.8	-1.32
B-06	OK	11/19/2018 10:17	0.00	0.10	17.40	29.8	-0.45
B-07	OK	11/19/2018 10:19	0.00	0.10	17.30	29.8	-4.58
B-08	OK	11/19/2018 10:24	0.00	0.10	17.20	29.8	-1.41
B-09	OK	11/19/2018 10:34	0.00	0.20	16.90	29.9	-5.26
B-10	OK	11/19/2018 10:36	0.00	0.10	17.00	29.9	-1.00
B-11	OK	11/19/2018 10:38	0.00	0.40	16.90	29.9	-1.91
B-12	OK	11/19/2018 10:40	0.00	0.10	17.00	29.9	-6.41
B-13	OK	11/19/2018 10:46	0.00	0.10	17.00	29.9	-47.58
B-14	OK	11/19/2018 10:50	0.00	0.10	17.00	29.9	-3.83
B-15	OK	11/19/2018 10:54	0.00	0.10	17.00	29.9	-12.01
BLOWER B	N/A	11/19/2018 10:30	0.00	3.00	15.20	29.8	9.60
BLOWER C	N/A	11/19/2018 12:09	0.30	3.20	14.20	29.9	2.57

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Partly Cloudy, 56°F

FPM

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	11/14/2018 11:01	0.00	0.10	17.50	30.1	-0.52
MW-01/40	OK	11/14/2018 11:03	0.00	0.10	17.40	30.1	-0.47
MW-01/60	OK	11/14/2018 11:05	0.00	0.10	17.40	30.1	-0.58
MW-02/20	OK	11/14/2018 11:11	0.00	0.10	17.20	30.1	-0.61
MW-02/40	OK	11/14/2018 11:13	0.00	0.10	17.20	30.1	-0.58
MW-02/60	OK	11/14/2018 11:15	0.00	0.10	17.10	30.1	-0.61
MW-25/20	OK	11/19/2018 11:29	0.00	0.20	16.90	29.9	-0.24
MW-25/40	OK	11/19/2018 11:31	0.00	0.10	16.80	29.9	-0.15
MW-25/60	OK	11/19/2018 11:33	0.00	0.20	16.70	29.9	-0.51
MW-26/20	OK	11/19/2018 11:21	0.00	0.10	16.90	29.9	-0.22
MW-26/40	OK	11/19/2018 11:23	0.00	0.10	17.00	29.9	-0.31
MW-26/60	OK	11/19/2018 11:25	0.00	0.10	17.00	29.9	-0.29
MW-27/20	OK	11/19/2018 11:11	0.00	0.10	16.80	29.9	-0.13
MW-27/40	OK	11/19/2018 11:13	0.00	0.20	16.80	29.9	-0.26
MW-27/60	OK	11/19/2018 11:16	0.00	0.10	16.80	29.9	-0.24

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 11/14/2018 - Clear, 43°F 11/19/2018 - Partly Cloudy, 56°F

TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	11/19/2018 13:21	0.00	0.10	16.90	29.8	-1.19
C-02	OK	11/19/2018 13:17	0.00	2.80	14.70	29.8	-1.07
C-03	OK	11/19/2018 13:14	0.00	0.10	17.00	29.8	-1.46
C-04	OK	11/19/2018 13:10	0.00	0.10	17.00	29.8	-1.55
C-05	OK	11/19/2018 13:04	0.00	0.10	17.00	29.8	-0.92
C-06	OK	11/19/2018 13:01	0.00	0.10	17.00	29.8	-1.08
C-07	OK	11/19/2018 12:57	0.00	0.80	16.40	29.9	-0.89
C-08	OK	11/19/2018 12:54	0.00	0.60	16.70	29.9	-1.56
C-09	OK	11/19/2018 12:51	0.00	0.60	16.70	29.9	-2.00
C-10	OK	11/19/2018 12:47	0.00	0.30	16.80	29.9	-2.62
C-11	OK	11/19/2018 12:42	0.00	0.70	16.40	29.9	-2.25
C-12	OK	11/19/2018 12:39	0.00	1.30	15.40	29.9	-1.66
C-13	OK	11/19/2018 12:36	0.00	0.20	16.80	29.9	-2.61
C-14	OK	11/19/2018 12:33	0.00	0.30	16.60	29.9	-0.97
C-15	OK	11/19/2018 12:29	0.00	0.10	16.70	29.9	-0.82
C-16	OK	11/19/2018 12:27	0.00	0.20	16.60	29.9	-0.58
C-17	OK	11/19/2018 13:31	0.00	5.00	13.40	29.8	-1.84
BLOWER C	N/A	11/19/2018 12:09	0.30	3.20	14.20	29.9	2.57

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Partly Cloudy, 56°F

FPM

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	11/19/2018 13:52	0.00	0.60	16.70	29.8	-0.13
MW-19/40	OK	11/19/2018 13:54	0.00	0.80	16.60	29.8	-0.04
MW-19/60	OK	11/19/2018 13:56	0.00	0.40	16.80	29.8	-0.03
MW-23/20	OK	11/19/2018 13:42	0.00	4.60	12.80	29.8	-0.01
MW-23/40	OK	11/19/2018 13:44	0.00	0.20	16.90	29.8	-0.01
MW-23/60	OK	11/19/2018 13:46	0.00	0.10	17.00	29.8	-0.01

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Partly Cloudy, 56°F

FPM

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	11/19/2018 10:21	0.00	0.10	17.40	29.8	-0.09
MW-51	OK	11/14/2018 13:54	0.00	0.10	17.10	30.2	-0.37
MW-52	OK	11/14/2018 12:33	0.00	0.20	17.40	30.1	-0.12
MW-53	OK	11/14/2018 13:11	0.00	0.30	17.50	30.2	-0.01
MW-54	OK	11/14/2018 13:14	0.00	0.30	17.50	30.2	-0.02
MW-56	OK	11/14/2018 13:31	0.00	0.10	17.10	30.2	-0.15
MW-57	OK	11/14/2018 13:33	0.00	0.10	17.20	30.2	-0.19
MW-58	OK	11/19/2018 14:19	0.00	0.10	17.00	29.9	-0.01
MW-59	OK	11/14/2018 13:41	0.00	0.10	17.20	30.2	-0.05
MW-60	OK	11/19/2018 12:33	0.00	0.10	16.80	29.9	-0.03
MW-61	OK	11/19/2018 12:41	0.00	0.10	16.90	29.9	-0.13
MW-62	OK	11/19/2018 14:06	0.00	1.60	15.70	29.8	0.01
MW-63	OK	11/19/2018 14:04	0.00	0.10	17.00	29.8	-0.06
MW-64	OK	11/19/2018 13:07	0.00	0.10	17.00	29.8	-0.07
MW-65	OK	11/19/2018 13:15	0.00	0.10	17.00	29.8	-0.03

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 11/14/2018 - Clear, 43°F 11/19/2018 - Partly Cloudy, 56°F

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	11/19/2018 9:01	29.50	35.20	1.10	29.8	0.48	-3.07
MSW-04	OK	11/19/2018 9:13	14.00	24.40	3.00	29.8	-2.49	-3.17
MSW-05	OK	11/19/2018 9:17	43.50	50.70	0.70	29.8	-1.26	-2.10
MSW-06	OK	11/19/2018 9:20	29.50	40.40	0.50	29.8	-1.26	-1.97
MSW-07	OK	11/19/2018 9:05	23.20	21.70	0.90	29.8	-0.81	-2.02
MSW-09	OK	11/19/2018 9:29	25.50	38.80	0.70	29.8	-1.06	-1.75
MSW-10	OK	11/19/2018 9:32	42.20	58.00	1.20	29.8	-0.71	-
MSW-11	OK	11/19/2018 9:40	31.20	44.10	0.60	29.8	-1.65	-1.92
MSW-12	OK	11/19/2018 9:45	31.00	44.40	0.70	29.8	-1.55	-1.88
MSW-13	OK	11/19/2018 9:49	33.60	47.10	0.80	29.8	-1.51	-
MSW-14	OK	11/19/2018 9:51	40.70	57.30	1.80	29.8	-1.75	-
MSW-15	OK	11/19/2018 9:55	43.20	54.30	1.50	29.8	-0.85	-2.11
MSW-16	OK	11/19/2018 9:58	15.40	34.70	0.70	29.8	-1.83	-2.06
MSW-17	OK	11/19/2018 9:10	18.80	12.30	1.90	29.8	-0.28	-
MSW-18	OK	11/19/2018 10:07	42.50	56.00	1.30	29.8	-0.79	-
MSW-19	OK	11/19/2018 10:03	41.30	57.10	1.50	29.8	-0.81	-0.79

Notes:

- = No well head vacuum sample port present.
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled
Weather: Partly Cloudy, 56°F

***MSW-01 - Well under repair**

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TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

CLOSED MSW LANDFILL

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200	11/19/2018	8:28	19.50	25.60	4.70	58	-1.93	29.9	1/2 open
V-203		8:31	12.80	23.00	4.90	54	-2.15	29.9	1/4 open
Dog House									
Phase IV Vertical	11/19/2018	8:34	28.90	37.00	2.30	58	-4.16	29.9	open
Phase II Horizontal		8:36	1.10	19.30	9.80	54	-0.02	29.9	closed
Small Dog House									
Phase II Horizontal	11/19/2018	8:38	11.70	22.00	5.30	54	-3.80	29.9	1/2 open
Phase II Valve Pit									
E-Horizontal	11/19/2018	8:42	41.90	52.40	0.50	58	-5.32	29.9	1/2 open
W-Horizontal		8:45	31.30	46.30	0.90	56	-5.30	29.9	1/2 open
CF Phase II-Vertical**									NS
Flare Compound									
*MP-01 Gas Analyzer	11/19/2018	8:48	0.10	0.20	17.20	54	-7.71	29.9	N/A
CF Phase I**		NS	NS	NS	NS	NS	NS	NS	NS

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Temperature measured in degrees Farenheit.
Blower status - On
Weather - Partly Cloudy, 56°F
* = Analyzer combined
** = Offline
N/A = Not Applicable
NS = Not Sampled

FPM

TABLE 12
AMBIENT VOLATILE ORGANIC COMPOUND (VOC) GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	11/14/2018	Northern portion of landfill property, just south of MW-26/40	0.0
AMBIENT 2	11/14/2018	Southern portion of landfill property, just north of MW-D4/40	0.0
AMBIENT 3	11/14/2018	Western portion of landfill property, just east of B-04	0.0
AMBIENT 4	11/14/2018	Eastern portion of landfill property, just west of C-04	0.0

Notes:

VOCs reported as parts per million, as measured by a calibrated photoionization detector.
Weather - Clear, 43°F

FPM group — Engineering and Environmental Science

An Olgoonik Company

CORPORATE HEADQUARTERS
909 Marconi Avenue
Ronkonkoma, NY 11779
631-737-6200
Fax 631-737-2410

December 28, 2018

Mr. Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, New York 11751

Re: **Blydenburgh Road Landfill**
December 2018 Landfill Gas and VOC Gas Monitoring Results
FPM File No. 631-18-36

Dear Mr. Varrichio:

On December 7, 18 and 27, 2018, FPM Group (FPM) performed landfill gas and volatile organic compound (VOC) gas monitoring at the above-referenced site. Monitoring of landfill gas was performed with a Landtec GEM 2000 Gas Analyzer. Monitoring for VOCs in ambient air was performed with a Photovac photoionization detector (PID), model 2020 Pro Plus. Ambient air VOC monitoring was conducted to address the provision for this measure in the Record of Decision (ROD) for this facility and was performed at four locations near the landfill perimeter, including one location downwind from the flare system.

For the Landtec GEM 2000 Gas Analyzer, oxygen (O_2) gas and methane (CH_4) gas were zeroed according to the manufacturer's specifications. The gas analyzer was calibrated with 15 percent (%) CH_4 and 15% carbon dioxide (CO_2) with the balance nitrogen (N_2) gas, and 4% O_2 with the balance N_2 gas according to the manufacturer's recommendation prior to sampling. The Photovac PID was zeroed with ambient air prior to arrival at the landfill property, and calibrated with 100 parts per million (ppm) isobutylene prior to sampling in accordance with the manufacturer's recommendations.

The landfill gas monitoring results are provided in Tables 1 through 11 and the ambient air VOC monitoring results are provided in Table 12. CH_4 was not detected in any of the landfill monitoring wells this month and VOCs were not detected in the ambient air. Elevated levels of O_2 were detected in wells MSW-15 and MSW-17. This issue is being addressed.

Should you have any questions, please do not hesitate to call me at (631) 737-6200, ext. 242.

Sincerely,

Chris Linkletter
Hydrogeologist

CL:cl
Attachments

cc: Jim Jahnke (via email)
Fazil Rahaman (via email)

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TABLE 1
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
A-01	OK	12/7/2018 11:30	0.00	0.70	17.00	30.0	-0.48
A-02	OK	12/7/2018 11:33	0.00	1.10	16.80	30.0	-0.86
A-03	OK	12/7/2018 11:37	0.00	0.70	16.80	30.0	-0.90
A-04	OK	12/7/2018 11:41	0.00	0.50	16.90	30.0	-0.50
A-05	OK	12/7/2018 11:45	0.00	0.10	17.00	30.1	-0.37
A-06	OK	12/7/2018 11:50	0.00	0.10	17.00	30.0	-1.79
A-07	OK	12/7/2018 11:52	0.00	0.10	17.00	30.1	-3.38
A-08	OK	12/7/2018 11:54	0.00	0.30	16.90	30.1	-1.37
A-09	OK	12/7/2018 11:58	0.00	0.10	17.20	30.1	-1.13
A-10	OK	12/7/2018 12:01	0.00	0.70	17.30	30.0	-0.82
A-11	OK	12/7/2018 12:05	0.00	0.10	17.50	30.0	-4.20
A-12	OK	12/7/2018 12:10	0.00	0.10	17.50	30.0	-0.55
A-13	OK	12/7/2018 12:14	0.00	0.10	17.40	30.0	-0.47
A-14	OK	12/7/2018 12:19	0.00	2.00	16.60	30.0	-0.47
A-15	OK	12/7/2018 12:22	0.00	1.00	16.80	30.1	-0.30
A-16	OK	12/7/2018 12:39	0.00	0.10	17.10	30.0	-0.78
A-17	OK	12/7/2018 12:41	0.00	0.10	17.10	30.1	-0.67
A-18	OK	12/7/2018 12:43	0.00	0.10	17.20	30.1	-1.86
BLOWER A	N/A	12/7/2018 12:58	0.20	2.50	15.30	30.1	27.48
BLOWER B	N/A	12/7/2018 13:00	0.00	0.10	17.00	30.1	-0.04

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Clear, 40°F

FPM

TABLE 2
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System A

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-07/20	OK	12/18/2018 12:58	0.00	0.10	17.20	29.8	-0.17
MW-07/40	OK	12/18/2018 13:00	0.00	0.10	17.40	29.7	-0.23
MW-07/60	OK	12/18/2018 13:02	0.00	0.10	17.60	29.7	-0.26
MW-08/20	OK	12/18/2018 13:04	0.00	0.10	17.70	29.7	-0.14
MW-08/40	OK	12/18/2018 13:06	0.00	0.10	17.80	29.7	-0.17
MW-08/60	OK	12/18/2018 13:08	0.00	0.10	17.90	29.7	-0.20
MW-11/20	OK	12/18/2018 12:50	0.00	0.10	16.70	29.8	-0.13
MW-11/40	OK	12/18/2018 12:52	0.00	0.10	16.80	29.8	-0.15
MW-11/60	OK	12/18/2018 12:54	0.00	0.10	16.90	29.8	-0.19
MW-13/20	OK	12/18/2018 13:12	0.00	0.30	18.00	29.8	-0.05

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Clear, 40°F

TABLE 3
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
B-04	OK	12/27/2018 9:39	0.00	1.60	15.90	30.4	-1.37
B-05	OK	12/27/2018 9:42	0.00	1.30	16.40	30.4	-1.41
B-06	OK	12/27/2018 9:45	0.00	2.60	15.90	30.4	-1.29
B-07	OK	12/27/2018 9:48	0.00	0.20	17.00	30.4	-0.70
B-08	OK	12/27/2018 9:55	0.00	0.90	16.70	30.4	-1.52
B-09	OK	12/27/2018 10:08	0.00	0.50	16.90	30.4	-5.88
B-10	OK	12/27/2018 10:10	0.00	0.30	17.00	30.4	-1.59
B-11	OK	12/27/2018 10:14	0.00	0.30	17.10	30.4	-2.05
B-12	OK	12/27/2018 10:16	0.00	0.10	16.60	30.4	-9.32
B-13	OK	12/27/2018 10:23	0.00	1.10	16.90	30.4	-51.62
B-14	OK	12/27/2018 10:29	0.00	0.10	17.20	30.4	-2.34
B-15	OK	12/27/2018 10:34	0.00	2.50	15.60	30.4	-13.42
BLOWER B	N/A	12/27/2018 10:00	0.00	0.10	17.20	30.4	-0.03
BLOWER C	N/A	12/27/2018 11:32	0.40	3.00	14.60	30.4	3.23

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Partly Cloudy, 43°F

TABLE 4
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System B

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-01/20	OK	12/7/2018 11:14	0.00	0.10	17.40	30.0	-0.38
MW-01/40	OK	12/7/2018 11:15	0.00	0.10	17.50	30.0	-0.28
MW-01/60	OK	12/7/2018 11:16	0.00	0.10	17.50	30.0	-0.29
MW-02/20	OK	12/7/2018 11:21	0.00	0.10	17.40	30.0	-0.32
MW-02/40	OK	12/7/2018 11:23	0.00	0.10	17.40	30.0	-0.37
MW-02/60	OK	12/7/2018 11:25	0.00	0.10	17.30	30.0	-0.43
MW-25/20	OK	12/27/2018 11:04	0.00	0.10	17.00	30.4	-0.16
MW-25/40	OK	12/27/2018 11:06	0.00	0.10	17.00	30.4	-0.16
MW-25/60	OK	12/27/2018 11:08	0.00	0.10	17.00	30.4	-0.57
MW-26/20	OK	12/27/2018 10:55	0.00	0.10	16.90	30.5	-0.27
MW-26/40	OK	12/27/2018 10:57	0.00	0.10	16.90	30.4	-0.43
MW-26/60	OK	12/27/2018 10:59	0.00	0.10	16.90	30.4	-0.52
MW-27/20	OK	12/27/2018 10:44	0.00	0.10	16.80	30.4	-0.11
MW-27/40	OK	12/27/2018 10:46	0.00	0.10	17.00	30.4	-0.32
MW-27/60	OK	12/27/2018 10:48	0.00	0.10	16.90	30.4	-0.29

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 12/7/2018 - Clear, 40°F 12/27/2018 - Partly Cloudy,43°F

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TABLE 5
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
C-01	OK	12/27/2018 13:24	0.00	2.70	14.80	30.4	-1.65
C-02	OK	12/27/2018 13:21	0.00	0.10	17.20	30.4	-1.09
C-03	OK	12/27/2018 13:15	0.00	3.80	14.00	30.4	-2.50
C-04	OK	12/27/2018 13:10	0.00	1.00	16.50	30.4	-2.26
C-05	OK	12/27/2018 13:05	6.60	18.80	5.70	30.4	-1.72
C-06	OK	12/27/2018 13:00	0.90	6.70	12.50	30.4	-1.23
C-07	OK	12/27/2018 12:56	0.00	2.30	15.80	30.4	-1.37
C-08	OK	12/27/2018 12:50	0.00	1.50	16.40	30.4	-1.48
C-09	OK	12/27/2018 12:46	0.00	0.20	17.10	30.4	-1.97
C-10	OK	12/27/2018 12:42	0.00	2.30	15.70	30.4	-3.55
C-11	OK	12/27/2018 12:38	0.00	2.70	15.20	30.4	-2.72
C-12	OK	12/27/2018 12:33	0.00	4.80	13.90	30.4	-2.37
C-13	OK	12/27/2018 12:29	0.00	1.10	16.70	30.4	-2.77
C-14	OK	12/27/2018 12:26	0.00	2.30	15.70	30.4	-1.27
C-15	OK	12/27/2018 12:21	0.00	1.60	15.80	30.4	-1.51
C-16	OK	12/27/2018 12:19	0.00	1.00	16.20	30.4	-1.21
C-17	OK	12/27/2018 13:28	0.00	3.90	14.90	30.3	-2.64
BLOWER C	N/A	12/27/2018 11:32	0.40	3.00	14.60	30.4	3.23

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
N/A - Not Applicable
Weather - Partly Cloudy, 43°F

TABLE 6
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells - System C

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-19/20	OK	12/27/2018 13:57	0.00	0.70	16.80	30.4	-0.29
MW-19/40	OK	12/27/2018 13:59	0.00	0.80	16.70	30.4	-0.09
MW-19/60	OK	12/27/2018 14:01	0.00	0.30	16.90	30.4	-0.05
MW-23/20	OK	12/27/2018 13:47	0.00	0.10	17.30	30.3	-0.01
MW-23/40	OK	12/27/2018 13:49	0.00	0.10	17.30	30.4	-0.03
MW-23/60	OK	12/27/2018 13:51	0.00	0.20	17.20	30.4	-0.13

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather - Partly Cloudy, 43°F

FPM

TABLE 9
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Monitoring Wells

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure
MW-50	OK	12/27/2018 9:50	0.00	0.10	17.10	30.4	-0.34
MW-51	OK	12/18/2018 12:49	0.00	0.20	16.60	29.8	-0.26
MW-52	OK	12/7/2018 11:57	0.00	0.40	17.00	30.0	-0.06
MW-53	OK	12/7/2018 12:53	0.00	0.30	17.20	30.1	-0.02
MW-54	OK	12/7/2018 12:53	0.00	0.30	17.20	30.1	-0.04
MW-56	OK	12/27/2018 12:11	0.00	0.10	16.70	30.4	-0.05
MW-57	OK	12/27/2018 12:15	0.00	0.10	16.70	30.4	0.00
MW-58	OK	12/27/2018 14:14	0.00	0.30	16.90	30.4	-0.04
MW-59	OK	12/27/2018 12:24	0.00	0.10	17.00	30.4	-0.01
MW-60	OK	12/27/2018 12:27	0.00	0.10	17.20	30.4	-0.02
MW-61	OK	12/27/2018 12:35	0.00	0.10	17.30	30.4	-0.29
MW-62	OK	12/27/2018 14:07	0.00	0.50	16.80	30.4	-0.02
MW-63	OK	12/27/2018 14:04	0.00	0.20	17.00	30.4	-0.02
MW-64	OK	12/27/2018 13:06	0.00	0.10	17.20	30.4	-0.10
MW-65	OK	12/27/2018 13:18	0.00	0.10	17.20	30.4	-0.09

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
Weather: 12/7/2018 - Clear, 40°F 12/18/2018 - Clear, 40°F 12/27/2018 - Partly Cloudy,43°F

TABLE 10
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Extraction Wells - Closed MSW Landfill

Location ID	Well Condition	Time & Date	CH_4	CO_2	O_2	Atmospheric Pressure	Relative Pressure	Well Head Vacuum
MSW-01	*	NS	NS	NS	NS	NS	NS	NS
MSW-03	OK	12/18/2018 10:30	30.90	35.50	0.60	29.6	-0.63	-3.70
MSW-04	OK	12/18/2018 10:43	12.30	25.40	2.90	29.7	-3.36	-4.08
MSW-05	OK	12/18/2018 10:48	38.20	50.30	0.60	29.6	-2.42	-3.01
MSW-06	OK	12/18/2018 10:52	23.10	38.50	0.80	29.6	-2.30	-2.97
MSW-07	OK	12/18/2018 10:34	19.00	22.70	2.20	29.7	-1.72	-2.83
MSW-09	OK	12/18/2018 10:57	18.40	36.40	0.70	29.6	-1.86	-2.69
MSW-10	OK	12/18/2018 10:59	40.10	58.40	1.40	29.7	-1.61	-
MSW-11	OK	12/18/2018 11:02	20.80	40.00	0.60	29.7	-2.64	-2.80
MSW-12	OK	12/18/2018 11:05	22.90	41.40	0.60	29.7	-2.57	-2.86
MSW-13	OK	12/18/2018 11:14	27.10	44.80	1.00	29.7	-2.51	-
MSW-14	OK	12/18/2018 11:18	42.60	55.80	1.30	29.7	-2.77	-
MSW-15	OK	12/18/2018 11:24	35.30	45.10	4.50	29.7	-1.53	-2.92
MSW-16	OK	12/18/2018 11:28	13.40	33.50	0.70	29.7	-2.66	-3.16
MSW-17	OK	12/18/2018 10:40	21.90	37.00	3.10	29.7	-1.27	-
MSW-18	OK	12/18/2018 11:39	42.40	56.70	0.80	29.7	-1.63	-
MSW-19	OK	12/18/2018 11:33	40.20	58.00	1.70	29.7	-1.58	-1.59

Notes:

- = No well head vacuum sample port present.
CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Blower status - On
NS - Not Sampled
Weather: Clear, 40°F

***MSW-01 - Well under repair**

FPM

TABLE 11
LANDFILL GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

CLOSED MSW LANDFILL

Location ID	Date	Time	CH_4	CO_2	O_2	Temp.	Well Head Pressure	Atmospheric Pressure	Valve Position
N. Valve Structure									
V-200	12/18/2018	9:34	7.40	13.00	8.90	44	-2.75	29.8	1/2 open
V-203		9:39	4.80	12.10	9.00	46	-2.88	29.8	1/4 open
Dog House									
Phase IV Vertical	12/18/2018	9:45	25.40	33.80	2.90	46	-4.97	29.8	open
Phase II Horizontal		9:47	1.30	19.40	10.10	44	-0.40	29.7	closed
Small Dog House	12/18/2018								
Phase II Horizontal		9:50	9.10	18.40	6.90	46	-4.96	29.7	1/2 open
Phase II Valve Pit									
E-Horizontal	12/18/2018	9:53	39.30	50.90	0.60	42	-6.58	29.7	1/2 open
W-Horizontal		9:56	32.70	47.90	0.60	44	-6.48	29.7	1/2 open
CF Phase II-Vertical**									NS
Flare Compound									
*MP-01 Gas Analyzer	12/18/2018	10:00	0.00	0.20	17.70	44	-9.00	29.7	N/A
CF Phase I**		NS	NS	NS	NS	NS	NS	NS	NS

Notes:

CH_4, CO_2, and O_2 are reported in percent gas.
Relative well head pressure is reported in inches of water.
Atmospheric pressure is reported in inches of mercury.
Temperature measured in degrees Farenheit.
Blower status - On
Weather - Clear, 40°F
* = Analyzer combined
** = Offline
N/A = Not Applicable
NS = Not Sampled

TABLE 12
AMBIENT VOLATILE ORGANIC COMPOUND (VOC) GAS MONITORING RESULTS
BLYDENBURGH ROAD LANDFILL
ISLIP, NEW YORK

Location ID	Date	Location Description	VOCs
AMBIENT 1	12/18/2018	Northeastern portion of landfill property, just west of well C-13	0.0
AMBIENT 2	12/18/2018	Southeastern portion of landfill property, just west of well MW-D10	0.0
AMBIENT 3	12/18/2018	Northwestern portion of landfill property, just southeast of well A-17	0.0
AMBIENT 4	12/18/2018	Southwestern portion of landfill property, just east of well MW-2C	0.0

Notes:

VOCs reported as parts per million, as measured by a calibrated photoionization detector.
Weather - Clear, 40°F

PART IV

BLYDENBURGH ROAD LANDFILL COMPLEX

GROUNDWATER MONITORING REPORT SUMMARIES NOVEMBER 9th, and DECEMBER 12th, 2018

PREPARED BY

DVIRKA & BARTILUCCI

TOWN CONSULTANTS

D&B ENGINEERS AND ARCHITECTS, P.C.

330 Crossways Park Drive, Woodbury, New York 11797
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November 9, 2018

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill Complex
Post-Closure Groundwater Monitoring Program
Well Condition Report
D&B No. 3763-13B

Dear Mr. Varrichio:

Enclosed please find the Third Quarter 2018 Well Condition Report for the Blydenburgh Road Landfill Complex. This report consists of Table 1, which presents a summary of monitoring well status and deficiencies along with recommendations. In addition, individual monitoring well inspection checklists are included.

If you have any questions or require additional information, please contact me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith S. Robins

Keith S. Robins, P.G.
Project Manager

KSR/nc
Enclosure
♦3763\KSR18_Ltr-02

Table 1

BLYDENBURGH ROAD LANDFILL COMPLEX
POST CLOSURE GROUNDWATER MONITORING PROGRAM
SUMMARY OF MONITORING WELL STATUS AND DEFICIENCIES
THIRD QUARTER 2018 SAMPLING EVENT

Well Designation	Surface Concrete Pad			Ponding of Water Around Concrete Seal	Protective Flush-Mounted Cover/Standpipe Cover and Lock		Well Casing Alignment	Survey Measuring Point Clearly Marked	Well Clearly Labeled	Well is Protected	Remarks and Recommendations
	Intact	Cracked	Missing		Cover/Pipe - Intact	Lock - In Place					
GM-1S			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-1I	Yes			No	Well inside vault	Yes	Straight	Yes	Yes	Yes	No action required.
GM-1D	Yes			No	Well inside vault	Yes	Straight	Yes	Yes	Yes	No action required.
GM-2S			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-2I			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-2D			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-3S			Not Visible	No	Yes	No	Straight	Yes	Yes	Yes	Well not locked. No action required. This well is not owned by the IRRA.
GM-3I			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
GM-3D			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
4G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
4G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
4M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
4M-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
5G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
6G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
6G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
6G-3		Yes		No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
6M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
7G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
7M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
8G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
8M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.

Table 1 (continued)

BLYDENBURGH ROAD LANDFILL COMPLEX
POST CLOSURE GROUNDWATER MONITORING PROGRAM
SUMMARY OF MONITORING WELL STATUS AND DEFICIENCIES
THIRD QUARTER 2018 SAMPLING EVENT

Well Designation	Surface Concrete Pad			Ponding of Water Around Concrete Seal	Protective Flush-Mounted Cover/Standpipe Cover and Lock		Well Casing Alignment	Survey Measuring Point Clearly Marked	Well Clearly Labeled	Well is Protected	Remarks and Recommendations
	Intact	Cracked	Missing		Cover/Pipe - Intact	Lock - In Place					
8M-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
9G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
9M-1			Not visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
10G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
10M-1	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
11G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
11G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
11M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
12G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
12M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
13G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
13M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
14G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
14G-1A	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
14G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
14M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
15G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
15M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
16G-1			Not Visible	Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
16M-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
18G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
18G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
22M-1	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
23M-1	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.

D&B ENGINEERS AND ARCHITECTS, P.C.

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November 9, 2018

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill Complex
Phase 1 and Phase 2 Cleanfill Landfills and
Leachate Impoundment Area
Well Condition Report
D&B No. 3339-33B

Dear Mr. Varrichio:

Enclosed please find the Third Quarter 2018 Well Condition Report for the Phase 1 and Phase 2 Cleanfill Landfills and Leachate Impoundment Area. This report consists of Table 1, which presents a summary of monitoring well status and deficiencies along with recommendations. In addition, individual monitoring well inspection checklists are included.

If you have any questions or require additional information, please contact me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith S. Robins

Keith S. Robins, P.G.
Project Manager

KSR/nc
Enclosure
•3339\KSR18_Ltr-03

Table 1

BLYDENBURGH ROAD LANDFILL COMPLEX
PHASE 1 AND PHASE 2 CLEANFILL LANDFILLS AND LEACHATE IMPOUNDMENT AREA
SUMMARY OF MONITORING WELL STATUS AND DEFICIENCIES
THIRD QUARTER 2018 SAMPLING EVENT

Well Designation	Surface Concrete Pad			Ponding Water Around Concrete Seal	Protective Flush-Mounted Cover/Standpipe Cover and Lock		Well Casing Alignment	Survey Measuring Point Marked	Well Labeled	Well Protected	Remarks and Recommendations
	Intact	Cracked	Missing		Cover/Pipe - Intact	Lock - In Place					
MW-4G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-4G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-11G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-11G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-14G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-14G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-14M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-14G-1A	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-18G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-18G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-19GR-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-20G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-21G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-24G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-24G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-24G-3			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-25G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-25G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-26G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-26G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-26G-3	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-27G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-27G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-27G-3	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-28G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-28G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-28G-3	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.

D&B ENGINEERS AND ARCHITECTS, P.C.

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December 12, 2018

Anthony J. Varrichio, P.E.
Chief Engineer
Islip Resource Recovery Agency
401 Main Street
Islip, NY 11751

Re: Blydenburgh Road Landfill Complex
Phase 1 and Phase 2 Cleanfill Landfills and
Leachate Impoundment Area
Well Condition Report
D&B No. 3339-34B

Dear Mr. Varrichio:

Enclosed please find the Fourth Quarter 2018 Well Condition Report for the Phase 1 and Phase 2 Cleanfill Landfills and Leachate Impoundment Area. This report consists of Table 1, which presents a summary of monitoring well status and deficiencies along with recommendations. In addition, individual monitoring well inspection checklists are included.

If you have any questions or require additional information, please contact me at (516) 364-9890, Ext. 3058.

Very truly yours,

Keith S. Robins

Keith S. Robins, P.G.
Project Manager

KSR/nc
Enclosure
•3339\KSR18_Ltr-04

Table 1

BLYDENBURGH ROAD LANDFILL COMPLEX
PHASE 1 AND PHASE 2 CLEANFILL LANDFILLS AND LEACHATE IMPOUNDMENT AREA
SUMMARY OF MONITORING WELL STATUS AND DEFICIENCIES
FOURTH QUARTER 2018 SAMPLING EVENT

Well Designation	Surface Concrete Pad			Ponding Water Around Concrete Seal	Protective Flush-Mounted Cover/Standpipe Cover and Lock		Well Casing Aligument	Survey Measuring Point Marked	Well Labeled	Well Protected	Remarks and Recommendations
	Intact	Cracked	Missing		Cover/Pipe - Intact	Lock - In Place					
MW-4G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-4G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-11G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-11G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-14G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-14G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-14M-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-14G-1A	Yes			Yes	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-18G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-18G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-19GR-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-20G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-21G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-24G-1			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-24G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-24G-3			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-25G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-25G-2			Not Visible	No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-26G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-26G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-26G-3	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-27G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-27G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-27G-3	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-28G-1	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-28G-2	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.
MW-28G-3	Yes			No	Yes	Yes	Straight	Yes	Yes	Yes	No action required.