SHUMAKER
Consulting Engineering & Land Surveying, P.C.

August 1, 2016

Mr. Payson Long
New York State Department of Environmental Conservation
Division of Environmental Remediation
525 Broadway
Albany, NY 12233

Re: Review of Landfill Operations – Calendar Year 2015/2016
Town of Conklin Landfill
Conklin, New York
SCE No. R09357.08

Dear Mr. Long:

Shumaker Consulting Engineering & Land Surveying, D.P.C. (SCE) has been contracted by the Town of Conklin (Town) to assist, monitor, and report on the ongoing Operations and Maintenance activities at the Town of Conklin Landfill site.

The current Site Management Plan (SMP) for the Landfill, dated September, 2015, was prepared by SCE. Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. The Annual Report will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage.
- An evaluation of the condition and continued effectiveness of ECs.
- General Site conditions at the time of the inspection.
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection.
- Compliance with permits and schedules included in the Operation and Maintenance Plan.
- Confirm that Site records are up to date.

This Annual Report has been prepared by SCE on behalf of the Town in support of the annual report commitment promulgated by the SMP. The data collected as part of this study is presented herein.

1.0 SITE HISTORY

Two (2) landfill areas originally existed at the "Conklin Dumps Site". The areas, referred to as the upper and lower landfills, operated during the 1960s and 1970s. The areas were studied extensively in the 1980s and were subsequently nominated to the National Priorities List (NPL). A remedial action plan was selected for the site. The plan ultimately called for excavating the lower landfill and placing it on top of the upper landfill. The combined landfill was then capped and a leachate collection system was installed.

Since the remedial activities at the landfill were completed in the mid-1990s, post-closure monitoring and maintenance has been conducted under the most recent SMP, which has been in effect since December 2012. To date, the SMP has received no authorized modifications.

2.0 ANNUAL STATEMENT OF INSTITUTIONAL CONTROLS

During the 2016 site inspection, all institutional controls at the Upper and Lower landfill sites appear to be in place. Specifically, the following was observed:

a. The landfill cap on the Upper landfill appears to remain in place and undisturbed.
b. No groundwater wells for drinking water have been installed on the Upper or Lower landfill sites.
c. The Upper and Lower landfill sites are not zoned to allow Residential use or Restricted-Residential use.

3.0 ANNUAL INSPECTION OF LANDFILL

A SCE technician performed a visual inspection of the site and the engineering controls (ECs) on May 19, 2016. The inspector coordinated with Mr. Thomas Delamarter, the Water and Parks Superintendent for the Town of Conklin. The completed Inspection Report is included as Attachment 1 herein.

The following items were inspected:

a. Perimeter fence and access roads.
b. Leachate collection system (trench manholes, pump station, storage tank, treatment building).
c. Landfill cover for areas of instability, subsidence, erosion, discoloration, etc.
d. Surface water drainage features for washouts, excessive sediment or debris in ditches, dislodged rip-rap, erosion, etc.
e. Gas venting system to determine if the vents have been damaged or disturbed.
f. Monitoring and leachate recovery wells.

Overall, the site appears to be in good condition. Mr. Delamarter reports that Town forces visually inspect the landfill monthly and make repairs as needed. However, a formal record of inspections and repair work performed is not maintained. Town forces mow the landfill area approximately twice a year; this mowing schedule is adequate for maintaining a short shallow-rooted vegetative cover – no trees were observed growing in or near the landfill cap. Access roads have been maintained and they are traversable. The site entrance is maintained and accessible. The security fence is in generally good condition. Surface drainage features appeared to be stable and in good condition. The landfill cover appeared to be in good condition.

Monitoring wells appeared to be in generally good repair. All well casings were rusting, but repainting is not necessary at this time. The well casing on MW-37 was dented; no remedial action is necessary.

The leachate collection system was observed and tested during this field visit. Based on observation of the control panel, the pumps, level monitors, and controls appeared to be functioning normally. The breakers for the pumps in Recovery Wells 1 & 2 were tripped at the time of observation. A manual reset returned both pumps to normal functionality and no immediate cause for the breaker trips were identified; however, it is suspected that an electrical surge or lightning strike may have been responsible for the tripped condition. The system was tested in automatic and in manual, and system response was verified.

The leachate handling system was also inspected as part of this assessment. The exterior of the building that houses the leachate handling system was noted to be in good condition and no major structural or plumbing deficiencies were noted on the interior components. The secondary containment for the leachate tank has accumulated some stormwater due to the northern side of the rain skirt being missing. This section of the rain skirt should be replaced and the secondary containment drained.

Interior components within the leachate handling building were inspected, and no deficiencies were noted. A new heater was installed, which is evidence of the Town's regular inspection and maintenance. The tank level monitor is fully operational, and the sump pump was visually inspected.

Although no longer used for regular inspection, Well DC-1 was observed to be heaved out of the ground and the hinge of the well cap broken. It is recommended that this well be removed and capped during the next major landfill maintenance effort.

4.0 LEACHATE DISCHARGES

The Site is equipped with a leachate collection system that includes leachate recovery wells and trenches. Leachate is temporarily stored in a pump station prior to being transferred to a 30,000-gallon aboveground storage tank (AST). The leachate is stored in the tank until it is sampled and submitted for laboratory analysis. After analytical results are received, the leachate is discharged to the sewer system. As previously noted, the discharge of the leachate is regulated through an IWPP Permit with the Binghamton-Johnson City Joint Sewage Board (BJCJSB).

Leachate is generally discharged once a year. The Town has coordinated discharge of the leachate with the annual inspection of the facility conducted by the BJCJSB. The Town utilizes the analytical data gathered by the BJCJSB to determine if the leachate is within their permitted effluent limitations prior to discharging to the sewer system. The Town then reports to the BJCJSB when they discharge the leachate.

The BJCJSB completed an inspection of the Conklin Landfill Leachate Collection System and collected laboratory samples to document the leachate analytical parameters. Based on a telephone conversation with Mr. Tom Delamarter, leachate from the storage tank was discharged in November 2015.

At this time, the Town does not track the amount of leachate recovered from each of the three (3) recovery wells. However, the Town does regularly monitor the leachate level in the storage tank to ensure that the tank is not in danger of becoming overfilled. A tank level detector is installed as part of the tank level monitoring system.

5.0 POTENTIAL RE-USE EVALUATION

Currently, there is no guidance available at the NYSDEC for potential re-use scenarios for capped landfill sites. Many landfill sites are re-used for municipal solid waste facilities, equipment storage sites, cellular antennae sites, or for other municipal functions such as police department shooting ranges and training facilities. Following an objective evaluation of the very steep slopes on the Conklin landfill site, there are few reasonable re-use alternatives readily identified for the site. This is especially true because of the readily available Greenfield sites in the Town which make development options in the former landfill less desirable.

The topic of using the landfill as a solar panel farm was brought up by EPA during the 5-year inspection of the landfill conducted on August 30, 2012. Subsequent to this comment, Mr. Tom Delamarter of the Town of Conklin has initiated a feasibility assessment of using the site as a potential large-scale solar farm to defray the Town's electrical costs.

6.0 RECOMMENDATIONS

Based on the observations of the past year of landfill operations, SCE recommends the following:

a. The northernmost leachate collection trench pipe was observed to be broken and fallen over. This pipe should be righted and reattached.

b. The Town should perform a limited amount of tree and brush removal outside of the perimeter fence, in order to ensure the long-term performance of the security fence.

Very truly yours,

SHUMAKER CONSULTING ENGINEERING & LAND SURVEYING, D.P.C.

W. Curtis Nichols, P.E., LEED-AP
Managing Engineer

WCN/vma

Enclosures

cc: George Jacob, USEPA
Tom Delamarter, Town of Conklin
James Finch, Town of Conklin

ATTACHMENT 1

SITE INSPECTION RECORD FORM

This summary inspection checklist is to be completed during each site inspection at least once per month. Note all items which require repair or maintenance. Use the last page to annotate any additional comments, unusual events or information observed during this inspection.

Name of inspector(s): W.C. Nichols, M. Smith

Date of Inspection: 5/19/16

Arrival Time: 11:00 a Departure Time: 2:30 p

Weather Conditions: Sunny Temperature 60's

Reason for Visit: Annual Inspection

General Inspection (Monthly)

	OK:	Comments:
Site Entrance	✓	
Access Roads	✓	
Overall Appearance (litter/trash)	✓	
Treatment Building Exterior	✓	Some flaking paint
Building Interior	✓	Some flaking paint, mold, rode droppi.
Heater	✓	new
Heat Tracing	✓	
Exhaust Ventilation	—	N/A - removed
Lighting	✓	
Building Sump	✓	
Bar Grating	✓	
Perimeter Fence and Gates	✓	

Leachate Storage System Inspection (Monthly)

	OK:	Comments:
Storage Tank and Pipe Venting	✓	
Secondary Containment Dike	✓	
Rain Skirt		Missing from rear (north) side
Level Control System	✓	
Treatment Building Sump Pump	✓	
Transfer Pump		N/A
Exterior/Interior Paint		flaking

Secondary containment discharge valve is cracked, still function

Leachate Collection System Inspection (Monthly)

	OK:	Comments:
Pump Station (Structure)	✓	
Leachate Collection Trench Manholes	✓	
Leachate Collection Trench Piping	✓	Northern-most standpipe tipped over
Pump Station Pump		N/A
Recovery Wells		
Well Pumps	✓	
Well Casing	✓	
Monitoring Wells (casings)	✓	All- same rust MW-37- dent
Recovery Well Metering Pit		
Flow Meters		N/A
Meter Control Panel		N/A — No longer in use.
Meter Pit (Structure)		N/A
Pump Control Panel	✓	Pumps 1 & 2 tripped. Reset. Working normally.

Inspection Data Measurements

Leachate Depth: 4.1

Leachate Volume: Ony not working

Leachate Collection System Operational Check (Monthly)

Open the control panel near the entrance gate and check to see if any low level lights are on. For each Pump Record the well/sump level (feet). Then switch the pump control from auto to hand. Observe the level decreasing. If it does not decrease then the pump or control panel may not be functioning properly. Turn switch back to auto and record the new level (or the same level if no change occurred). Additionally Record the Pump Run time (hour).

	OK	Initial Level	Final Level	Run Time
Recovery Well No. 1	tripped. reset.		4.0	181.31
Recovery Well No. 2	tripped. reset.		4.0	127.67
Recovery Well No. 3			4.0	24.00
Pump Station			7.5	11,949.77

Landfill Cover Inspection (Monthly)

	OK:	Comments:
Final Cover	✓	
Landfill Slope	✓	
Gas Vents	✓	
Vegetative Cover	✓	
Drainage Down Chute	✓	
Perimeter Drainage	✓	Perimeter fence is leaning near drainage outfall.

Well Level Measurements (Quarterly)

	Top of Casing Elev. (ft)	- Depth to Water (ft)	=	Water Level Elev. (ft)	
MW-1	946.69	- 26.08	=	920.61	
MW-2	925.73	- ———	=	———	Blockage 19'
MW-3	892.40	- 4.22	=	888.18	
MW-4	897.18	- 9.94	=	887.24	
MW-12	901.08	- 12.43	=	888.65	
MW-37	908.71	- 8.46	=	900.25	
MW-38S	890.13	- 5.43	=	884.70	
MW-38D	888.34	- 5.92	=	884.42	
LW-14	926.24	- 32.42	=	893.82	

Notes/Explanations:
(Please indicate additional information on those items which require attention indicated above)

Well DC-1 heaved out of ground. Hinge on well cap broken.