RECEIVED
2018 MAY 23 PM 5:09

RECEIVED
2018 MAY 23 PM 5:09

EC WASTE

Peñuelas Valley Landfill, LLC.
PO Box 918
Punta Santiago, PR 00741-0918

May 18, 2018

Team Leader
Clean Water Act Team
Multimedia Permits and Compliance Branch
Caribbean Environmental Protection Division
US Environmental Protection Agency, Region 2
City View Plaza II, Suite 7000
Guaynabo, PR 00968-8069

Director, Water Quality Area
Environmental Quality Board
PO Box 11488
San Juan, PR 00910

Re: Administrative Compliance Order
Peñuelas Valley Landfill, LLC./EC Waste, LLC.
Docket Number CWA-02-2017-3103
NPDES Tracking Number PRR053203
Progress Report

Dear Team Leader:

The referenced order requires submittal of a progress report of corrective actions to be completed to reduce the total suspended solids (TSS) in the discharge. Peñuelas Valley Landfill (PVL) has continued to take measures to lower the TSS in the discharge. This report covers the months of January, February, March and April 2018. During the period there were sporadic rain events that did not generate a discharge that could be sampled. During the period the site registered 9.58 inches of precipitation. The sedimentation pond is designed to hold approximately five feet of water before there is a discharge. On March 23rd the site registered a rain event of 1.27 inches that generated a discharge that could be sampled. This sampling event was a follow-up to the sampling event of December 6th, 2017.

The discharge sample on December 6, 2017 had a TSS result of 100mg/l which is above the effluent limitation guideline but at the limit of the Benchmark Monitoring Concentration. The March 23rd, 2018, sample was analyzed for benchmark parameters and for the effluent limitation guidelines. The results for the effluent limitations guidelines were below the limits. The result for TSS on the benchmark parameters increased to 240 mg/l exceeding the limit of 100 mg/l.

The site has continued to perform maintenance of storm water channels and sediment control devices. The following activities have been performed or are in progress:

- Sediments have been removed from the energy dissipaters and other related areas. The energy dissipaters were completely removed and reinstalled once sediment was removed. The removed sediments were disposed in the landfill.
- The intermediate berm preceding the sedimentation pond was partially dredged and the protective rock layer over the overflow berm was adjusted and repositioned in order to retain the integrity of the berm.
- Approximately 2,000 feet of sediment control silt fences have been installed.
- Silt fences were installed downstream of the soil extraction area.
- The slopes of the active landfill cell were reshaped in preparation for the installation of silt fences.
- Vegetative growth on landfill slopes has remained undisturbed in order to protect the slopes from erosion and sedimentation. The landfill has discontinued the practice of mowing the outside slopes in order to promote vegetation.
- Storm water earthen channels that have developed vegetation have been left undisturbed.
- The site also continues to perform road spraying for the control of fugitive dust.
- Periodic road washing is being performed to prevent mud accumulation and potential discharge during heavy rain events.

There are other best management practices that are commonly used for reduction and control of TSS. One of these BMPs are infiltration trenches and infiltration ponds. This technique allows the suspended solids to infiltrate the ground and thus reducing the discharge of TSS in the storm water discharge. In the case of PVL the geology of the site is such that the presence of a clay formation does not provide for significant infiltration. The permeability of the clay soil in the site is extremely low and most of the water in the storm water channels is discharged since the clay properties cause the first few inches of the clay soil to become saturated quickly and thus preventing further infiltration. A literature search shows that the recommended permeability for infiltration trenches should be between 7 and 15 mm per hour. For infiltration ponds it should be no less than 60 mm per hour. Our measurements at the site show that lateral migration is less than 0.5 mm per hour. We can extrapolate that measurement to be similar to vertical infiltration.

Another technique used for TSS control is the installation of vegetative filter strips and vegetated swales and channels. The effectiveness of these techniques is also dependent on the slopes and the flow velocity. The vegetative filter strips consist of relatively flat sections of land with dense grass or other vegetation. In the case of PVL the topography of the site does not provide for effective use of this technique. The vegetation growth in the swales and channels has been used in PVL but its use is very limited because of the type of soil and the amount of rain that falls in a year. The site goes through extended periods of low to no rain that prevent the persistence of vegetation in the channels. Only native weeds and brush grow in the area because of the low precipitation. Seeding of areas for TSS control is impractical because of the lack of rain. The same applies to the growth of vegetation over the landfill slopes.

The storm water detention or sedimentation ponds are widely used for the reduction of TSS. The TSS is reduced by extending the retention time within the pond. The longer the retention time the more precipitation of TSS is achieved. In the case of PVL there is a wet retention pond that holds approximately five feet of water before a discharge occurs. The retention pond at PVL is preceded by a secondary berm that further increases the retention time. Even though the wet pond and intermediate berm are periodically maintained the presence of clay particles presents problems with TSS. The clay particles are extremely small and light and stay in suspension for extended period of times that could be several days. Because of the characteristics of the fine clay particles the discharge of TSS is always possible during a significant rain event. Even though the Peñuelas climate is relatively dry with low precipitation there are often rain events that produce over one inch of rain within very short periods of time. These rain events cause the discharge of storm water with elevated TSS.

PVL continues to evaluate other methods for the control of TSS in the storm water discharge. One possible option could be the installation of a sand filter system at the discharge point. The feasibility of such system must be evaluated since its installation could be very difficult and could be a very high maintenance operation because of the fine clay particles.

PVL will continue to collect TSS samples to monitor the effectiveness of corrective actions taken to date. A follow up sample will be collected during the next rain event that produces a discharge. The current water level in the pond is approximately two feet below the discharge level and therefore it could take weeks or months before there is a new discharge event.

Enclosed is a graph showing the TSS results for the last four samples collected. Also enclosed is the laboratory report for the sample collected March 23rd. In addition, we are including photographs of the different areas of the site.

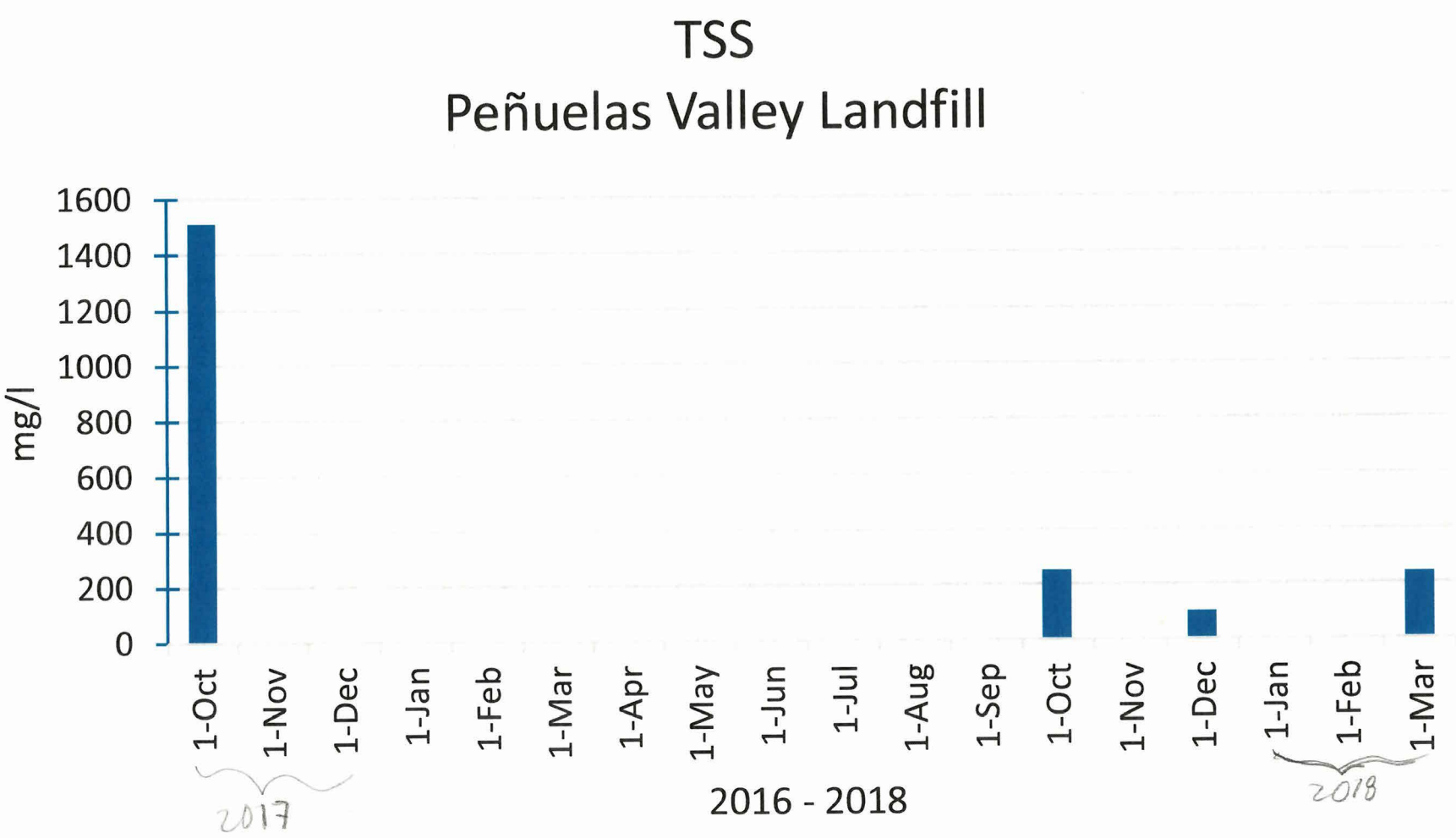
The statement below follows the requirements of the request for information. The questions and requested presented in the request for information are answered in the attached document.

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. 1 am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Should you require additional information please contact Jaime Jaén on 787-391-0074 or René Rodríguez on 787-447-2717.

Cordially,

René R. Rodríguez
Director of EH&S Compliance


TSS
Peñuelas Valley Landfill
mg/l
1600
1400
1200
1000
800
600
400
200
0
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
2017
2018
2016 - 2018

ALCHEM
ALTOL CHEMICAL ENVIRONMENTAL LABORATORY INC.

SABANETAS INDUSTRIAL PARK · BLD. M-1380 · PONCE, PR 00731
P.O. BOX 359 · MERCEDITA, PR · 00715-0359
TELS. (787) 835-4242 · (787) 848-6050 · FAX (787) 848-6299 · (787) 835-2004
www.altolenterprises.com · info@altolenterprises.com

REPORT OF ANALYSIS

Certificate Number: CERT - 23952

April 23, 2018

Customer Name:	EC WASTE	**Custody Number:**	90570
Contact:	MARIA VIDAL	**Sampled Date:**	Friday, March 23, 2018
Customer Address:	P O BOX 918	**Sampled Time:**	1555 hrs.
	PUNTA SANTIAGO PR 00741-0918	**Received Date:**	Friday, March 23, 2018
Phone/Fax:	787-836-3700	**Received Time:**	1707 hrs.
Contact Email:	mvidal@ecwaste.com	**Sample Matrix:**	Liquid
Sampled By:	Maria Vidal	**Sample Type:**	Grab
Sample Received By:	S. Aponte	**Temp Rec at Lab:**	Room Temperature
Sample Delivered By:	Antonio Santiago	**Lab. Sample Number:**	AT-18-1894
Project and Sample Description:	Storm Water Punto de Monitoría		

Saira Vázquez Báez
Lic. #5471
QUIMICO ACREDITADO

Parameter	Units	Result	Method	Method Detection Limit	Analysis Date	Analysis Time	Analyst
Alpha Terpineol	mg/L	ND	EPA 625	---	April 20, 2018	0943	AR
Ammonia	mg/L	0.91	SM 4500 NH3-C	0.050	April 6, 2018	1630	MV
Benzoic Acid	mg/L	ND	EPA 625	---	April 20, 2018	0943	AR
Biochemical Oxygen Demand	mg/L	<2.0	SM 5210B	2.0	March 23, 2018	1615	JB
Iron	mg/L	0.207	EPA 200.7	0.013	March 28, 2018	1351	AR
p-Cresol	mg/L	ND	EPA 625	---	April 20, 2018	0943	AR
pH	S.U.	6.95	SM 4500 H-B	0.10	March 23, 2018	1555	PC
Phenol	mg/L	<0.010	EPA 420.1	0.010	April 5, 2018	1415	MV
Total Suspended Solids	mg/L	240	SM 2540D	4.0	March 28, 2018	1325	JB

CERTIFIED BY PUERTO RICO DEPARTMENT OF HEALTH FOR DRINKING WATER-CERTIFICATION NUMBER PR 00947
Test results in this report meet ISO 17025 requirements.
For ISO 17025 Scopes of Accreditation refer to www.altolenterprises.com

IAR ISO/IEC 17025:2005 ACCREDITED Laboratory

ALCHEM
ALTOL CHEMICAL ENVIRONMENTAL LABORATORY INC.

ALTOL CHEMICAL ENVIRONMENTAL LABORATORY, INC.
SABANETAS INDUSTRIAL PARK, EDIFICIO M-1380, PONCE PR 00731
PO Box 359 Mercedita, PR 00715
TEL.787-848-6050 FAX: 787-848-6299

IAR International Accreditation Registry

CUSTODY # 90570

Customer Company Name & Address: EC Waste

Customer Contact (Print name & sign): María Vidal

Project Name: Stormwater / Punto Monitoría

Project Address: Peñuelas

Phone: (787) 836-3700

TURN AROUND TIME:	Rush	Days	Normal	Invoice to sample	Owner	Consultant

ANALYSIS TYPE		SAMPLE TYPE		SAMPLE MATRIX	# CONTAINERS
X Chemical	Microbiology	Source Water	Drinking Water	X Liquid	Sterile
ENVIRONMENTAL CONDITION		Waste Water	Food	Solid	X Plastic
Sunny	Cloudy	Ground Water	Solid Waste	Oil	X Glass
X Rainy	Windy	Soil	Composite HRS	Sludge	X Vials
Fugitive Dust	Other	Seawater	X Grab	Other	Other

LAB. SAMPLE # (LAB USE)	DATE	TIME	SAMPLE DESCRIPTION OR SAMPLING POINT NUMBER
	3/23/18	3:55pm	Stormwater Punto de monitoría

METALS		WET CHEMISTRY			CHROMATOGRAPHY
	Aluminum (A,C)		Acidity (A)		Phenol (A)		BTEX (A,E)
	Antimony (A,C)		Alkalinity (A)		P. Total (A, B)		BTEX (A)
	Arsenic (A,C)		Ammonia (A,B)		Res. Chlorine (A)		Chloroform as TTO (A) (E)
	Barium (A,C)		Asbestos (A)		Set. Solids mg/L (A)		Dioxin (A)
	Berrilium (A,C)		Bicarbonate (A)		Set. Solids ml/L (A)		MIBK(A)
	Bismuth (A,C)		BOD-5 (A)		Silica (A)		MTBE(A)
	Boron (A,C)		Bromide (A)		Solids Total (A)		PCB'S(A) 8082 608 (A)
	Cadmium (A,C)		CaO MgO (1)		Sulfate(A)		Pesticide - TTO (A)
	Calcium (A,C)		Carbonate (A)		Sulfide UND (D,H,A)		Phenols by GC (A)
	Chromium (A,C)		Chloride (A)		Sulfite (A)		TBA (A)
	Chromium VI (A,C)		COD (A,B)		Surfactant (A)		TPH D G O (A)
	Cobalt (A,C)		Color ADMI (A)	X	Suspended Solids (A)		TTO (A,E)
	Cooper (A,C)		Color Pt-Co (A)		TDS (A)		TTO Semi-Volatile (A)
	Gold (A)		Conductivity (A)		TKN (A,B)		VOC's - TTO (A)
	Hardness (A,C)		Cyanide (A,D,G)		TOC (A,B)		MICROBIOLOGY
X	Iron (A,C)		D.O (A)		Turbidity (A)		Total Coliform (A,F)
	Lead (A,C)		Fluoride (A)				Fecal Coliform (A,F)
	Lead (A)		Iodide (A)		RCRA		HPC (A,F)
	Lithium (A,C)		Iodine (A)		Reactivity (A)		Enterococcus (A,F)
	Magnesium (A,C)		MLVSS (A)		Corrosivity (A)		E. Coli 0157 MPN (A,F)
	Manganese (A,C)		Moisture (A)		Ignitability (A)		Mold & Yeast (A,F)
	Mercury (A,C)		Nitrate & Nitrite (A)		Metals - TCLP (A)		Salmonella (A,F)
	Molybdenum (A,C)		Nitrate (A)		Volatile - TCLP (A)		Campylobacter(A,F)
	Nickel (A,C)		Nitrite (A)		Semi-Volatile-TCLP (A)		Listeria (A,F)
	Potassium (A,C)		O&G Total (A,B)		Pesticide - TCLP (A)		FOOD ANALYSES
	Selenium (A,C)		O&G TPH (A,B)		Herbicide - TCLP (A)		% Collagen
	Silicon (A,C)		Ortho Phosphate (A,B)		TOX (A)		% FAT
	Silver (A,C)						% Protein
	Sodium (A,C)		O_2 mg/l				Water Activity - Aw
	Strontium (A,C)						
	Thallium (A,C)	X	pH su				
	Tin (A,C)						
	Titanium (A,C)		Temp °C				
	Vanadium (A,C)						
X	Zinc (A,C)		Cl_2 mg/l				

LEGEND PRESERVATION USED			
A	Ice (Cool, 4 °C)	E	HCL
B	H_2SO_4	F	Sodium Thiosfulfate
C	HNO_3	G	Ascorbic Acid
D	Na OH	H	Zinc Acetate
I	Other:		

Comments & Special Instructions: P. cresol, Alpha Terpineol, Benzoic Acid

CONDITIONS OF SAMPLES UPON RECEIPT	TEMPERATURE OF SAMPLE	CONDITION SAMPLE	LABORATORY ACTION
	X Room Temperature	X Sample Intact	X Sample Accepted
Thermometer Serial # DTA	Frozen	X Properly Preserved	Sample Rejected
	RECEIVED AT °C	Sample Compromised	

Sample Collected & Relinquished by (Print name & sign): María Vidal	Date: 3/23/18 Time: 3:55 PM	Received by (Print name & sign):	Date: Time:	Delivery to Lab. by (Print name & sign): Antonio Santiago	
Company: EC Waste	Collector ID#	Company:	Collector ID#	Date: 03/23/18	Time: 1707
Relinquished by (Print name & sign):	Date: Time:	Received by (Print name & sign):	Date: Time:	Received at Lab. by (Print name & sign): Louis Aponte	
Company:	Collector ID#	Company:	Collector ID#	Date: 03/23/18	Time: 1707

PROCEDURE NO: ALGAP008

All development of our analysis methods meet government regulatory agencies.

MONTHLY CLIMATOLOGICAL SUMMARY for JAN. 2018

NAME: PV1 CITY: STATE:
ELEV: 315 ft LAT: 18° 48' 00" N LONG: 66° 42' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	74.7	84.6	3:15p	66.2	1:30a	0.0	9.7	0.00	0.8	16.0	1:15p	ESE
2	72.8	83.9	3:30p	62.6	7:30a	0.2	8.0	0.00	0.7	11.0	1:30p	WNW
3	74.3	84.1	2:00p	65.8	5:00a	0.0	9.3	0.04	0.6	10.0	1:45p	WNW
4	76.6	85.8	1:15p	69.6	5:30a	0.0	11.6	0.01	0.7	13.0	12:00p	ESE
5	75.6	85.9	1:45p	65.4	7:30a	0.0	10.6	0.00	0.8	15.0	2:15p	WNW
6	77.8	86.0	2:30p	69.8	8:00a	0.0	12.8	0.00	0.8	15.0	12:30p	E
7	76.4	85.2	3:15p	71.3	5:30a	0.0	11.4	0.05	0.8	17.0	1:00p	E
8	76.5	84.6	4:00p	71.0	6:00a	0.0	11.5	0.05	0.9	14.0	11:45a	ESE
9	75.5	85.1	1:15p	67.9	9:30p	0.0	10.5	0.00	0.9	17.0	12:45p	E
10	76.9	85.4	2:45p	68.9	4:45a	0.0	11.9	0.00	1.0	15.0	1:15p	E
11	76.9	84.6	2:15p	72.7	1:00a	0.0	11.9	0.02	0.7	11.0	9:45a	E
12	77.5	85.8	1:30p	71.3	12:00m	0.0	12.5	0.00	0.8	16.0	12:30p	E
13	75.5	84.9	1:00p	68.2	1:15a	0.0	10.5	0.18	0.5	13.0	11:45a	E
14	74.9	85.0	2:15p	66.7	5:00a	0.0	9.9	0.00	0.9	14.0	1:30p	ESE
15	74.1	86.3	3:00p	64.8	5:00a	0.0	9.1	0.12	0.8	17.0	2:15p	ENE
16	75.6	84.9	12:45p	67.5	7:45a	0.0	10.6	0.01	1.1	15.0	2:15p	ESE
17	75.7	85.3	1:15p	67.7	3:45a	0.0	10.7	0.00	0.8	12.0	1:30p	ESE
18	73.9	86.6	2:30p	64.6	7:15a	0.0	8.9	0.00	0.7	11.0	12:30p	WNW
19	74.5	85.8	1:30p	65.2	6:30a	0.0	9.5	0.00	0.7	12.0	11:30a	WNW
20	75.3	84.6	2:15p	67.1	5:00a	0.0	10.3	0.00	1.0	14.0	2:15p	WNW
21	75.5	85.0	4:15p	66.0	2:45a	0.0	10.5	0.00	1.2	16.0	1:00p	E
22	75.4	84.4	11:45a	66.5	10:30p	0.0	10.4	0.02	0.8	16.0	1:30p	E
23	73.7	85.5	12:30p	62.0	7:30a	0.5	9.2	0.00	0.9	17.0	2:15p	WNW
24	74.9	83.8	3:15p	65.4	5:15a	0.0	9.9	0.00	1.1	16.0	3:45p	WNW
25	75.1	84.4	11:30a	66.5	12:00m	0.0	10.1	0.06	0.3	15.0	11:15a	E
26	73.7	87.0	1:45p	63.6	6:15a	0.1	8.8	0.00	0.4	14.0	4:15p	ENE
27	75.9	84.0	2:15p	67.4	7:15a	0.0	10.9	0.06	0.5	14.0	3:30p	E
28	76.1	84.8	3:00p	69.9	3:15a	0.0	11.1	0.00	1.0	15.0	12:15p	E
29	76.9	87.3	1:15p	70.5	7:00a	0.0	11.9	0.00	1.4	17.0	1:30p	E
30	76.0	84.9	2:45p	68.7	7:15a	0.0	11.0	0.00	0.8	12.0	4:30p	E
31	73.6	85.3	1:30p	64.2	8:00a	0.0	8.6	0.00	0.9	13.0	2:45p	E
	75.4	87.3	29	62.0	23	0.8	323.6	0.62	0.8	17.0	7	E

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 0.18 ON 01/13/18
Days of Rain: 9 (>.01 in) 2 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for FEB. 2018

NAME: PV1 CITY: STATE:
ELEV: 315 ft LAT: 18° 48' 00" N LONG: 66° 42' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	74.1	82.4	3:15p	64.2	12:00m	0.0	9.1	0.00	1.1	15.0	2:15p	ESE
2	73.9	85.6	12:15p	62.4	1:30a	0.2	9.0	0.00	1.1	15.0	4:15p	WNW
3	72.1	84.7	3:00p	63.3	11:00p	0.2	7.3	0.00	0.6	12.0	4:15p	E
4	71.7	81.2	12:15p	60.0	2:30a	0.4	7.0	0.03	0.1	9.0	6:30a	E
5	75.7	84.7	2:00p	66.2	4:00a	0.0	10.7	0.01	1.3	14.0	12:15p	WNW
6	75.6	85.5	2:30p	66.6	3:15a	0.0	10.6	0.00	0.9	16.0	12:30p	E
7	76.5	87.9	3:30p	67.9	11:45p	0.0	11.5	0.00	1.0	15.0	2:15p	E
8	76.1	85.5	1:30p	67.1	1:00a	0.0	11.1	0.00	1.0	15.0	2:45p	E
9	74.4	84.2	12:45p	64.6	3:30a	0.0	9.4	0.04	0.8	17.0	1:00p	ENE
10	76.9	87.3	3:00p	70.2	12:30a	0.0	11.9	0.00	1.1	16.0	3:15p	E
11	76.7	87.0	4:30p	69.3	2:45a	0.0	11.7	0.00	1.1	14.0	3:15p	E
12	75.9	86.0	1:00p	69.7	7:45p	0.0	10.9	0.09	1.3	18.0	12:30p	E
13	76.0	85.6	4:15p	68.5	6:45a	0.0	11.0	0.04	1.1	16.0	2:45p	E
14	74.7	84.3	5:15p	65.6	6:15a	0.0	9.7	0.00	0.9	16.0	2:30p	E
15	73.8	85.3	4:45p	62.8	7:45a	0.2	8.9	0.00	1.4	16.0	3:30p	ENE
16	75.5	84.5	12:00p	66.7	7:30a	0.0	10.5	0.00	1.2	14.0	12:00p	E
17	74.5	85.4	11:30a	64.1	12:00m	0.0	9.5	0.00	0.6	16.0	1:45p	E
18	73.2	84.3	2:45p	62.6	2:00a	0.2	8.5	0.00	1.3	16.0	1:45p	E
19	75.8	86.8	12:45p	65.4	5:30a	0.0	10.8	0.00	1.3	16.0	4:30p	E
20	76.8	87.6	2:30p	68.1	6:00a	0.0	11.8	0.00	1.1	20.0	3:45p	E
21	75.3	86.2	12:15p	69.7	12:00m	0.0	10.3	0.17	1.1	19.0	10:30a	E
22	75.1	87.4	2:45p	65.2	4:15a	0.0	10.1	0.00	1.0	15.0	2:00p	E
23	74.2	85.8	1:00p	64.4	12:00m	0.0	9.2	0.00	1.1	15.0	2:15p	E
24	72.7	84.8	3:30p	61.6	4:30a	0.6	8.3	0.00	1.1	15.0	4:00p	E
25	71.3	85.4	11:30a	61.2	5:30a	0.2	6.5	1.26	0.6	15.0	1:45p	E
26	71.4	83.6	3:45p	63.2	7:15a	0.2	6.6	0.08	0.8	13.0	11:15a	E
27	71.4	83.6	1:45p	60.7	7:15a	0.7	7.2	0.96	0.8	14.0	1:30p	WNW
28	70.3	80.8	11:45a	63.4	7:00a	0.2	5.5	1.04	0.3	10.0	1:30p	WNW
	74.3	87.9	7	60.0	4	3.1	264.6	3.72	1.0	20.0	20	E

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 1.26 ON 02/25/18
Days of Rain: 9 (>.01 in) 4 (>.1 in) 2 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for MAR. 2018

NAME: PV1 CITY: STATE:
ELEV: 315 ft LAT: 18° 48' 00" N LONG: 66° 42' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	71.2	83.3	2:45p	61.3	7:00a	0.6	6.7	0.88	0.5	13.0	1:45p	WNW
2	71.5	83.3	4:15p	60.2	7:00a	1.1	7.5	0.00	0.6	10.0	11:15a	WNW
3	72.9	83.2	5:30p	64.7	7:30a	0.0	7.9	0.01	0.7	14.0	2:45p	N
4	70.5	80.5	12:30p	63.8	10:45p	0.1	5.6	0.00	0.2	9.0	11:30a	ENE
5	73.1	85.9	1:30p	61.9	7:00a	0.2	8.3	0.00	0.4	10.0	1:00p	N
6	74.7	83.5	12:15p	66.2	12:15a	0.0	9.7	0.00	1.3	15.0	6:00a	E
7	73.1	83.8	3:00p	60.2	6:45a	0.7	8.8	0.00	0.9	13.0	5:00p	WNW
8	75.8	84.8	12:00p	66.9	4:15a	0.0	10.8	0.00	1.3	14.0	1:00p	E
9	77.1	84.7	4:00p	72.3	5:15a	0.0	12.1	0.00	1.2	19.0	1:45p	ESE
10	78.0	87.0	2:15p	71.4	4:00a	0.0	13.0	0.00	1.0	15.0	2:30p	E
11	78.1	85.4	3:15p	73.3	6:30a	0.0	13.1	0.00	1.2	21.0	12:00p	E
12	77.4	84.2	2:45p	72.6	3:45a	0.0	12.4	0.00	1.4	18.0	3:00p	ENE
13	77.1	86.0	3:15p	71.2	6:30a	0.0	12.1	0.00	0.8	14.0	12:00p	ENE
14	76.7	84.8	2:30p	71.2	5:30a	0.0	11.7	0.02	1.1	14.0	3:00p	WNW
15	76.1	84.2	1:30p	69.7	5:45a	0.0	11.1	0.00	1.1	14.0	2:30p	WNW
16	75.9	85.4	2:45p	66.4	6:45a	0.0	10.9	0.00	1.1	14.0	1:00p	WNW
17	75.9	85.1	12:45p	67.3	7:00a	0.0	10.9	0.00	0.9	12.0	1:45p	NW
18	74.3	83.6	1:15p	67.6	3:45a	0.0	9.3	0.00	0.6	13.0	12:30p	W
19	72.0	84.6	12:45p	64.9	6:00a	0.0	7.0	0.89	0.5	11.0	1:45p	WNW
20	74.6	84.3	3:00p	67.2	7:15a	0.0	9.6	0.01	0.9	12.0	4:45p	WNW
21	76.7	85.0	2:45p	68.6	2:45a	0.0	11.7	0.00	1.2	13.0	11:45a	ESE
22	77.8	86.0	2:30p	70.5	4:00a	0.0	12.8	0.00	0.9	13.0	3:15p	ESE
23	73.7	84.5	11:45a	68.0	7:00a	0.0	8.7	1.27	0.6	14.0	2:00p	ESE
24	72.4	81.7	11:15a	66.4	5:45a	0.0	7.4	0.01	0.3	9.0	10:30a	E
25	72.8	83.0	1:30p	66.2	2:00a	0.0	7.8	0.07	0.5	11.0	2:00p	WNW
26	74.4	85.1	3:45p	65.6	5:00a	0.0	9.4	0.01	0.8	13.0	1:00p	WNW
27	72.5	86.3	11:15a	64.1	6:15a	0.0	7.5	0.05	0.4	13.0	1:45p	E
28	73.7	85.6	10:45a	61.0	6:00a	0.4	9.1	0.17	0.7	13.0	2:00p	E
29	74.7	84.2	2:30p	63.9	6:15a	0.0	9.7	0.00	1.4	17.0	9:45p	E
30	73.6	83.3	2:00p	63.4	6:00a	0.0	8.6	0.00	1.0	13.0	1:30a	E
31	71.2	82.9	11:00a	61.1	6:00a	0.6	6.9	0.16	0.4	12.0	1:30p	W
	74.5	87.0	10	60.2	2	3.7	298.1	3.55	0.8	21.0	11	E

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 1.27 ON 03/23/18
Days of Rain: 8 (>.01 in) 5 (>.1 in) 1 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for APR. 2018

NAME: PV1 CITY: STATE:
ELEV: 315 ft LAT: 18° 48' 00" N LONG: 66° 42' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	73.3	83.9	3:30p	62.3	5:45a	0.4	8.7	0.01	0.7	11.0	1:45p	WNW
2	73.5	84.2	2:30p	63.8	7:00a	0.1	8.6	0.00	0.7	11.0	11:30a	WNW
3	74.8	84.1	1:30p	65.1	4:15a	0.0	9.8	0.00	0.5	10.0	2:00p	WNW
4	75.2	85.9	1:30p	65.4	6:00a	0.0	10.2	0.00	0.8	12.0	1:45p	WNW
5	74.7	85.6	2:00p	65.7	5:15a	0.0	9.7	0.58	0.8	13.0	1:45p	E
6	75.0	84.6	2:00p	66.5	6:00a	0.0	10.0	0.01	0.9	13.0	12:45p	WNW
7	76.2	85.7	12:15p	67.2	2:30a	0.0	11.2	0.02	0.8	15.0	2:00p	W
8	77.4	86.5	1:30p	69.0	3:15a	0.0	12.4	0.01	0.9	12.0	2:30p	WNW
9	76.5	85.9	2:00p	67.8	12:00m	0.0	11.5	0.00	1.2	16.0	2:45p	WNW
10	76.0	84.9	10:30a	67.1	1:00a	0.0	11.0	0.21	1.0	14.0	3:00p	ENE
11	77.0	85.5	1:45p	71.2	3:00a	0.0	12.0	0.00	1.2	16.0	1:45p	E
12	75.5	84.8	11:00a	66.6	5:00a	0.0	10.5	0.00	1.1	15.0	11:15a	E
13	76.3	84.6	4:00p	68.1	12:45a	0.0	11.3	0.04	1.3	19.0	4:00p	E
14	77.5	85.9	11:15a	70.5	7:00a	0.0	12.5	0.00	1.7	19.0	3:30p	E
15	78.0	85.8	11:30a	72.2	12:45a	0.0	13.0	0.00	1.7	17.0	4:15p	ESE
16	76.6	84.8	2:45p	69.0	3:00a	0.0	11.6	0.00	1.3	16.0	12:00p	WNW
17	77.4	86.0	12:15p	68.5	4:15a	0.0	12.4	0.00	1.2	15.0	11:30a	WNW
18	78.3	86.1	12:45p	71.8	4:00a	0.0	13.3	0.13	1.1	13.0	3:30p	E
19	76.4	85.6	2:30p	69.9	7:45a	0.0	11.4	0.68	0.8	16.0	1:30p	E
20	77.0	85.6	1:45p	68.2	6:15a	0.0	12.0	0.00	1.2	18.0	1:15p	E
21	77.7	85.7	2:30p	68.4	2:45a	0.0	12.7	0.00	1.7	17.0	1:15p	WNW
22	77.5	86.5	11:45a	71.3	7:15a	0.0	12.5	0.00	1.2	16.0	2:45p	E
23	77.4	86.7	2:15p	68.9	4:15a	0.0	12.4	0.00	1.0	13.0	12:15p	WNW
24	78.7	87.0	1:15p	72.7	12:00m	0.0	13.7	0.00	1.4	16.0	12:45p	WNW
25	76.1	86.4	1:00p	64.6	5:30a	0.0	11.1	0.00	1.0	13.0	11:45a	WNW
26	77.4	86.3	2:30p	70.3	4:00a	0.0	12.4	0.00	1.1	13.0	10:15a	WNW
27	79.2	86.2	11:15a	73.5	2:15a	0.0	14.2	0.00	1.5	15.0	11:30a	WNW
28	78.2	85.5	1:00p	70.8	11:45p	0.0	13.2	0.00	1.4	17.0	11:45a	WNW
29	77.4	86.5	2:15p	67.7	6:15a	0.0	12.4	0.00	1.6	15.0	11:00a	WNW
30	72.5	75.8	7:45a	70.8	2:15a	0.0	2.4	0.00	0.0	3.0	7:45a	ESE
	76.5	87.0	24	62.3	1	0.5	340.1	1.69	1.1	19.0	13	WNW

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 0
Min <= 0.0: 0
Max Rain: 0.68 ON 04/19/18
Days of Rain: 6 (>.01 in) 4 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

Overall view of the landfill showing native vegetation growth on side slopes.

Silt Fences installed downslope of landfill cell.

Silt Fences installed downslope of soil extraction area and landfill cell.

Silt Fences installed downslope of soil extraction area and landfill cell.

Energy dissipaters along drainage channels.

Check dam constructed before intermediate berm that discharges to retention pond..

Intermediate berm, retention pond and vegetated slopes surrounding retention pond.

Retention pond overflow discharge pipes. Level on 5-18-18 is approximately 2 feet below discharge outlet.