

# **Request for Modification to Solid Waste Management Facility Permit # 8-4699-00012/00001**

## **Leo Dickson & Sons Landspreading Sites and Farm**

April 15, 2022

Robert B Call  
NY Department of Environmental Conservation  
6274 East Avon-Lima Road  
Avon, NY 14414

Dear Robert,

In accordance with Part 361-2.3 Leo Dickson & Sons, Inc would like to submit the following modification request to Permit # 8-4699-00012/00001 effective October 1, 2019. The purpose of this modification is to add Class B biosolids produced at the Bay Park Water Pollution Control Plant as an approved stabilized biosolid for land application. This biosolid will be spread in all permitted fields listed in the original permit.

The Bay Park Water Pollution Control Plant, located at 2 Marjorie Lane in East Rockaway, NY began operation in 1950 with a treatment capacity of 27 million gallons per day (MGD). The plant has expanded twice since then for secondary treatment and capacity. Today the facility treats an average of 50 MGD. The sewage service area tributary to the plant is approximately 70 square miles in the western portion of the county. The service area, encompassing nearly half of the County's population, is the most heavily developed and most dense region of the county. The Bay Park WPCP currently serves approximately 530,000 residents. Most of the sanitary flow is from residential developments and commercial establishments. The facility receives relatively insignificant flow (1.5 percent) from industrial facilities and receives no landfill leachate. The facility discharges its treated effluent into Reynolds Channel via an 84-inch diameter outfall approximately 2.3 miles south of the plant and 0.25 miles north of Long Beach, NY.

The plant currently consists of headworks with screening and grit removal, primary settling, aeration, final settling, effluent screening, chlorination, de-chlorination, anaerobic digestion, and dewatering.

Influent received by Bay Park WPCP first goes through mechanical screens to remove any large

debris, such as rags, plastics, and other materials that would interfere with the treatment process. Grit and screenings are not comingled with dewatered sludge.

After the grit is removed, the wastewater is sent to the primary clarifier to remove suspended solids, oils, and grease before biological treatment. The settleable solids accumulate in the basin of the primary clarifier and are collected by a rake. Fats, Oils, and Grease (FOG) are skimmed and sent to digestion for processing where it mixes with primary and waste sludge. After settling in the primary clarifier, the flow is aerated to break down colloidal organic contaminants in the wastewater. Once aerated, the wastewater flows to the secondary clarifier where the biomass from microorganisms settles to the bottom in the form of activated sludge. Once settled, the wastewater with an abundant number of microorganisms is returned to the aeration tank with the cycle repeating until the effluent is clean before being sent for filtration and disinfection.

Sludge is sent to the gravity belt thickener where polymer is introduced to help in the digestion and dewatering stages. The sludge process through a series of 8 anaerobic digesters, a process by which microorganisms break down the sludge and other biodegradable material in the absence of oxygen. The methane produced by these digesters is in turn used to power the WPCP. Centrifuges dewater the material and additional polymer is used to aide in coagulation of the solids. The dewatered sludge cake is then loaded into end dump trailers and sent to a facility for disposal, incineration, or beneficial use.

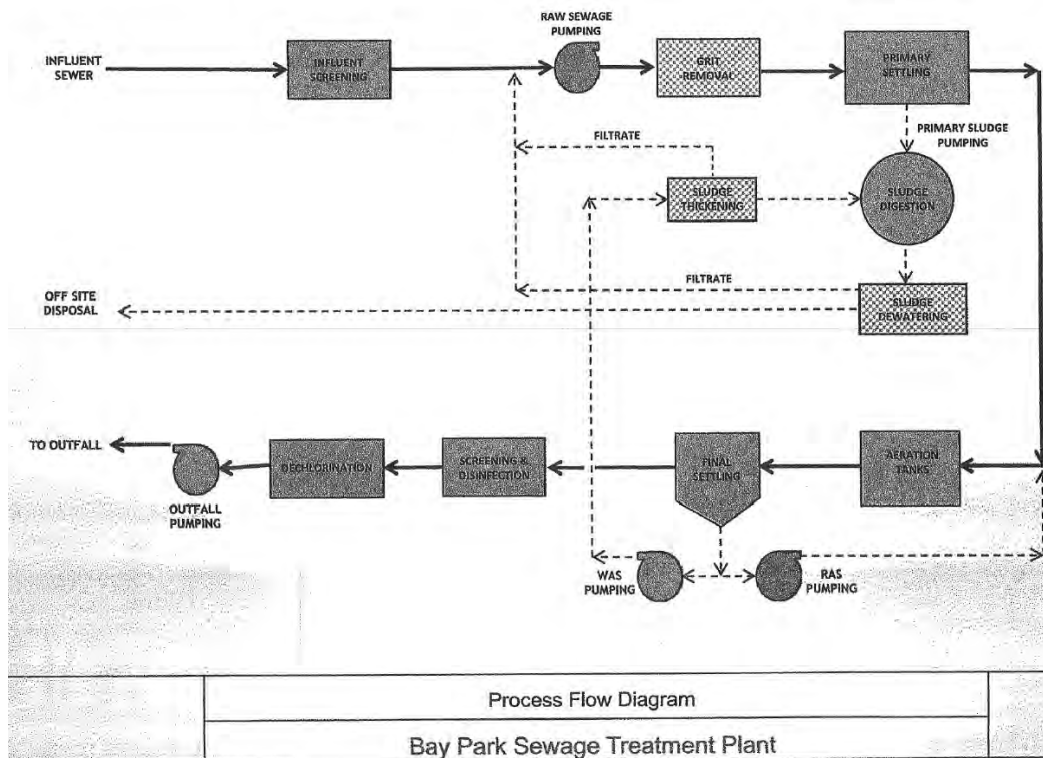


Image 1: Bay Park WPCP Process Flow Diagram

The Bay Park WPCP anaerobic digestion process meets the DEC Part 361-2.4 criteria to achieve Class B biosolids through Percent Total Volatile Solids Reduction at or greater than 38%, retention time of 15 days or greater at temperatures above 35 degrees C. Tables showing this data are compiled below, and full data sets are included as an appendix to this proposal.

	% Volatile Solids In	% Volatile Solids Out	% Volatile Solids Reduction
<b>Jun-21</b>	84.59	75.45	43.9
<b>Jul-21</b>	83.08	74.91	38.9
<b>Aug-21</b>	82.82	68.22	49.4
<b>Sep-21</b>	85.52	72.36	55.1
<b>Oct-21</b>	83.57	74.38	42.8
<b>Nov-21</b>	85.11	75.53	46.0

$$\text{Volatile Solids Reduction} = \frac{\text{Incoming VS} - \text{Outgoing VS}}{\text{Incoming VS} - (\text{Incoming VS} \times \text{Outgoing VS})} \times 100$$

*Image 2: Percent Volatile Solids Reduction through anaerobic digestion*

	Primary Flow (ft <sup>3</sup> )	TWAS Flow (ft <sup>3</sup> )	TWAS Calculation (ft <sup>3</sup> )	Digester Temperatures (°C)	Digester Retention Time (days)
<b>Jun-21</b>	13814	7010	13841	38.8	25
<b>Jul-21</b>	15645	10690	18869	39.4	23
<b>Aug-21</b>	15548	7026	15737	38.8	23
<b>Sep-21</b>	18562	2240	11551	39.4	37
<b>Oct-21</b>	16177	11532	15657	38.8	27
<b>Nov-21</b>	16692	9297	9919	39.4	32

*Image 3: Average monthly temperatures and Digester Retention Time. See Appendix for full data set.*

Parameter	6/9/2021	6/30/2021	7/14/2021	10/6/2021	1/26/2022	2/17/2022	Mean	Range
Ammonia	17600	14900	8500	52000	11100	9360	18910.0	43500
Nitrate	0.99	1			1	1	0.7	0.01
Nitrite							0.0	0
pH	8.3	8.4	9.1	6.8	8.3	8.5	8.2	2.3
Total Phosphorus	4750	1850	4840	4150	2670	2980	3540.0	2900
Total % Solids	22.6	23.9	22.6	22.2	23.5	21.5	22.7	2.4
TVS	75.3	77	73.3	74	82.2	81.9	77.3	0.7
TKN	1000	1430			2360	3650	1406.7	2220
Arsenic	0.95	0.85	0.98	1.3	0.87	0.68	0.9	0.62
							0.0	
Cadmium	0.67	0.58	0.56	0.54	0.6	1.2	0.7	0.66
Chromium	39.7	35.6	27.7	7.5	6.2	5.7	20.4	34
Copper	140	129	140	156	109	114	131.3	47
Lead	25	21.7	23.6	35.5	24.2	19.5	24.9	16
Mercury	0.12	0.13	0.24	0.34	0.19	0.04	0.2	0.3
Molybdenum	2.4	2.3		4.2	2.9	2	2.3	2.2
Nickel	7.3	7.3	7.1	6.7	5.1	6.9	6.7	1.4
Total Potassium	346	331		236	234	242	231.5	112
Selenium	1.7	1.3	2.2	2.5	1.8	1.9	1.9	1.2
Zinc	337	327	358	370	248	253	315.5	117
Values are below the Detection Limit; DL is used in mean calculations								

*Image 4: Biosolids Analyses Table for all parameters set in 361-3.9 Table 1 for the past six (6) months.*

All current permit conditions will be observed for land application of biosolids produced by Bay Park WPCP. Application rates will be determined at the time of spreading based on historical field data and crop nitrogen needs. Biosolids analyses and digester data are monitored monthly and any non-confirming biosolids will not be used for land application.

Please feel free to reach out to me with any questions.

Thank you,



Brett Dickson  
 Authorized representative  
 Leo Dickson & Sons, Inc  
 607-725-1978



**10. NAME(S) OF ALL MUNICIPALITIES IN SERVICE AREA:**

Bay Park, NY

**11. SOLID WASTE ACCEPTED: Identify facility capacity and throughput of each waste type, as applicable**

Class B biosolids

**FOR MODIFICATION APPLICATION ONLY**

**12. DOES THE MODIFICATION APPLICATION INVOLVE (CHECK ALL APPLICABLE BOXES):**

New waste type  New equipment  Waste acceptance rate increase  Facility expansion (including landfill)

**SKIP QUESTION #13 AND #14 IF APPLYING FOR RENEWAL ONLY**

**13. APPLICATION DESCRIPTION**

*Include a brief description of new or modification request*

Include Bay Park, NY Water Pollution Control Plant as approved Class B biosolids generator for land application on agricultural fields.

**14. FACILITY SIZE**

a. Facility size proposed (acres) \_\_\_\_\_

b. Total site area (acres) 2696.39

**For modification application ONLY**

c. Associated facility size change (acres) 0

**For Landfill ONLY**

d. Facility size ultimately planned (acres) \_\_\_\_\_

e. Existing landfill area on this site and adjacent properties (acres) \_\_\_\_\_

f. Ultimate facility height above ground level (feet) \_\_\_\_\_

**15. IS A VARIANCE REQUESTED FROM ANY PROVISION OF 6 NYCRR PART 360 SERIES?**

Yes  No If yes, submit an application for variance and cite specific provision(s) here: \_\_\_\_\_

**16. REAL PROPERTY OWNER CERTIFICATION**

Corporation  Partnership  Sole Proprietorship  Municipality/other government entity  Other: \_\_\_\_\_

I hereby attest that I am the owner of the real property on which the facility is located or the proposed or modified facility will be located and am signing in my individual capacity.

Or if signing in a representative capacity: I hereby attest that I am the (indicate title or capacity) Partner, an authorized representative of the owner of the real property on which the facility is located or the proposed or modified facility will be located). I am duly authorized on behalf of said owner to sign make this certification on this application.

I grant permission for the applicant to apply for the permit, and construct and operate the facility described in the application in accordance with a final DEC permit or approval. I also grant permission for the department to access the above-described real property, including any adjacent areas, during all reasonable times (including but not limited to 7:00 am to 7:00 pm Monday through Friday, and additional facility hours of operation, and as appropriate during emergencies and similar exigent circumstances) without the property owner, applicant or other representative of the property owner or facility present. If the property is posted with "keep out" signs or fenced with an unlocked gate, department staff may still enter the property. Department staff may traverse the property, inspect the facility, take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the property, and conduct other activities necessary to evaluate the permit application or assess the facility's compliance with the permit and any other applicable statutory or regulatory requirements.

I am aware that any false statement made herein is punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Signature: [Signature] Print Name: Brett Dickson Date: 04/12/2022

Title or Representation if signing in a representative capacity: Partner

**17. APPLICANT CERTIFICATION**

Corporation  Partnership  Sole Proprietorship  Municipality/other government entity  Other: \_\_\_\_\_

I hereby attest that I am the (check one)  President/Vice President  General Partner  Sole Proprietor  Duly Authorized Municipal Representative of (APPLICANT) Leo Dickson and Son, Inc and the legally responsible party for this application as presented to NYSDEC. I affirm that the statements and information provided on this application and all attachments submitted herewith are true, accurate, and complete.

I am aware that any false statement made herein is punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. I accept full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agree to indemnify and hold harmless the State from any and all causes of action in law or equity, resulting from the said project.

Signature: [Signature] Print Name: Brett Dickson Date: 04/12/2022



ESTABLISHED 1975

Robert B Call  
NYS Department of Environmental Conservation  
6274 East Avon-Lima Road  
Avon, NY 14414

April 11, 2022

I have reviewed the included documents for the modification request to Permit #8-4699-00012/0001 to include the Bay Park NY Water Pollution Control Plant as an approved Class B biosolids generator for land application. This application is consistent with the regulatory requirements of 6NYCRR Part 361-2.5.

Sincerely,



Amy Davies, P.E.  
NY State PE # 104598  
Casella Waste Systems, Inc.  
518-907-0637