



**Connecticut Department of
Energy & Environmental Protection**

CPPU USE ONLY	
App #:	_____
Doc #:	_____
Check #:	_____

Permit Application Transmittal Form

Please complete this transmittal form in accordance with the instructions in order to ensure the proper handling of your application(s) and the associated fee(s). Print legibly or type.

Part I: Applicant Information:

- **If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, applicant's name shall be stated exactly as it is registered with the Secretary of State.*
- *If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*

Applicant: Borough of Naugatuck		State: Ct		Zip Code: 06770	
Mailing Address: 229 Church street		ext.:			
City/Town: Naugatuck		Phone:		ext.	
Business Phone: 203-720-7071					
Contact Person:					
E-Mail:					
Applicant (check one): <input type="checkbox"/> individual <input type="checkbox"/> *business entity <input type="checkbox"/> federal agency <input type="checkbox"/> state agency <input checked="" type="checkbox"/> municipality <input type="checkbox"/> tribal					
*If a business entity, list type (e.g., corporation, limited partnership, etc.):					
<input type="checkbox"/> Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.					
Please provide the following information to be used for <i>billing purposes only</i> , if different:					
Company/Individual Name: Naugatuck Environmental Technologies, LLC					
Mailing Address: 500 Cherry Street Extension		State: Ct		Zip Code: 06770	
City/Town: Naugatuck		Phone: 203-723/1433 ext. 42018			
Contact Person: Christopher Makuch					

Part II: Project Information

Brief Description of Project: <i>(Example: Development of a 50 slip marina on Long Island Sound)</i> Municipal Wastewater treatment					
Location (City/Town): Naugatuck					
Other Project Related Permits (<i>not</i> included with this form):					
Permit Description	Issuing Authority	Submittal Date	Issuance Date	Denial Date	Permit #
SSI Operating Permit	State of Connecticut		5/7/2010		109-0081

Part III: Individual Permit Application and Fee Information

New, Mod. or Renew	Individual Permit Applications	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
	AIR EMISSIONS				
	New Source Review	\$940.00			1 + 0
	<input type="checkbox"/> Revision <input type="checkbox"/> minor mod				
	Title V Operating Permits	none			1 + 0
	<input type="checkbox"/> Revision <input type="checkbox"/> minor mod <input type="checkbox"/> non-minor mod				
	Title IV	none			1 + 0
	Clean Air Interstate Rule (CAIR)	none			1 + 0
	WATER DISCHARGES				
	To Groundwater	\$1300.00			1 + 1
	To Sanitary Sewer (POTW)	\$1300.00			1 + 1
XX	To Surface Water (NPDES)	\$1300.00	1	\$1,300	1 + 1
	WATER PLANNING AND MANAGEMENT				
	Dam Safety	none			1 + 2
	Domestic Sewage Treatment Works (For municipal and private sewage treatment facilities discharging to surface waters)	\$1300.00/ Mod = \$940			1 + 1
	Water Diversion (consumptive) and Registrations	★			1 + 5
	LAND AND WATER RESOURCES				
	Flood Management Certification	none			1 + 1
	Flood Management Certification Exemption	none			1 + 1
	Inland Wetlands and Watercourses (State Agencies Only)	none			1 + 5
	Inland 401 Water Quality Certification	none			1 + 5
	FERC- Hydropower Projects- 401 Water Quality Certification	none			
	Water Diversion (non-consumptive)	★			1 + 5
	Certificate of Permission	\$375.00			1 + 2
	Coastal 401 Water Quality Certification	none			1 + 2
	Structures and Dredging/and Fill/Tidal Wetlands	\$660.00			1 + 2
	WASTE MANAGEMENT				
	Aerial Pesticide Application	★			1 + 2
	Aquatic Pesticide Application	\$200.00			1 + 0
	CGS Section 22a-454 Waste Facilities				1 + 1
	Disruption of a Solid Waste Disposal Area	\$0			1 + 1
	Hazardous Waste Treatment, Storage and Disposal Facilities	★			1 + 1
	Marine Terminal License	\$100.00			1 + 0
	Stewardship	\$4000.00			1 + 1
	Solid Waste Facilities	★			1 + 1
	Waste Transportation	★			1 + 0
		Subtotal →	1	\$1,300.00	
	GENERAL PERMITS and AUTHORIZATIONS	Subtotals Page 3 & 4			
	Enter subtotals from Part IV, pages 3 - 6 of this form	Subtotals Page 5 →			
		Subtotals Page 6			
		TOTAL →	1	\$1,300.00	
	Indicate whether municipal discount or state waiver applies.			\$650.00	
	Less Applicable Discount			\$650.00	
		AMOUNT REMITTED →		\$650.00	
Check # →	<input type="text"/>	Check or money order should be made payable to: "Department of Energy and Environmental Protection"			

★ See fee schedule on individual application.

**Part IV: General Permit Registrations and Requests for Other Authorizations
Application and Fee Information**

✓	General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
AIR EMISSIONS					
<input type="checkbox"/>	Limit Potential to Emit from Major Stationary Sources of Air Pollution	\$2760.00			1 + 0
<input type="checkbox"/>	Diagnostic and Therapeutic X-Ray Devices (Medical X-Ray) Registration	\$190.00/Xray device			1 + 0
<input type="checkbox"/>	Radioactive Materials and Industrial Device Registration (Ionizing Radiation)	\$200.00			1 + 0
<input type="checkbox"/>	Emergency/Temporary Authorization	★★			★★
<input type="checkbox"/>	License Revocation Request	\$0			★★
<input type="checkbox"/>	Other, (please specify):				
WATER DISCHARGES					
<input type="checkbox"/>	Categorical Industry User to a POTW				
<input type="checkbox"/>	Discharges ≥ 10,000 gpd	\$6250.00			1 + 0
<input type="checkbox"/>	Discharges < 10,000 gpd	\$3125.00			
<input type="checkbox"/>	Comprehensive Discharges to Surface Water and Groundwater				
<input type="checkbox"/>	Registration Only	\$625.00			1 + 0
<input type="checkbox"/>	Approval of Registration by DEEP	\$1250.00			1 + 0
<input type="checkbox"/>	Domestic Sewage	\$625.00			
<input type="checkbox"/>	Food Service Establishment Wastewater			No Registration	
<input type="checkbox"/>	Groundwater Remediation Wastewater				
<input type="checkbox"/>	Registration Only	\$625.00			1 + 0
<input type="checkbox"/>	Approval of Registration by DEEP	\$1250.00			
<input type="checkbox"/>	Miscellaneous Discharges of Sewer Compatible Wastewater				
<input type="checkbox"/>	Registration Only	\$500.00			1 + 0
<input type="checkbox"/>	Approval of Registration by DEEP	\$1000.00			
<input type="checkbox"/>	Nitrogen Discharges			No Registration	
<input type="checkbox"/>	Point Source Discharges from Application of Pesticides	\$200.00			1 + 0
<input type="checkbox"/>	Stormwater Associated with Commercial Activities	\$300.00			1 + 0
<input type="checkbox"/>	Stormwater Associated with Industrial Activities				
<input type="checkbox"/>	No Exposure Certification	\$250.00			1 + 0
<input type="checkbox"/>	<50 employees—see general permit for additional requirements	\$500.00			
<input type="checkbox"/>	>50 employees—see general permit for additional requirements	\$1000.00			
<input type="checkbox"/>	Stormwater & Dewatering Wastewaters-Construction Activities	★			1 + 0
<input type="checkbox"/>	Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)	\$625.00			1 + 0
<input type="checkbox"/>	Stormwater from DOT Separate Storm Sewer Systems (DOT MS4)	\$0			1 + 0
<input type="checkbox"/>	Subsurface Sewage Disposal Systems Serving Existing Facilities	★★			1 + 0
<input type="checkbox"/>	Swimming Pool Wastewater - Public Pools and Contractors	\$500.00			1 + 0
<input type="checkbox"/>	Vehicle Maintenance Wastewater				
<input type="checkbox"/>	Registration Only	\$625.00			1 + 0
<input type="checkbox"/>	Approval of Registration by DEEP	\$1250.00			
<input type="checkbox"/>	Emergency/Temporary Authorization - Discharge to POTW	\$1500.00			1 + 0
<input type="checkbox"/>	Emergency/Temporary Authorization - Discharge to Surface Water	\$1500.00			1 + 0
<input type="checkbox"/>	Emergency/Temporary Authorization - Discharge to Groundwater	\$1500.00			1 + 0
<input type="checkbox"/>	Other, (please specify):				
Note: Carry subtotals over to Part III, page 2 of this form.		Subtotal			

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

✓ General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
AQUIFER PROTECTION PROGRAM				
<input type="checkbox"/> Registration for Regulated Activities	\$625.00			1 + 0
<input type="checkbox"/> Permit Application to Add a Regulated Activity	\$1250.00			1 + 0
<input type="checkbox"/> Exemption Application from Registration	\$1250.00			1 + 0
WATER PLANNING AND MANAGEMENT				
<input type="checkbox"/> Dam Safety Repair and Alteration: Non Filing			No Registration	1 + 0
<input type="checkbox"/> Dam Safety Repair and Alteration: Filing – No PE	\$100.00			1 + 0
<input type="checkbox"/> Dam Safety Repair and Alteration: Filing – PE	\$200.00			1 + 0
<input type="checkbox"/> Dam Safety Repair and Alteration: Approval of Filing	\$250.00			
<input type="checkbox"/> Diversion of Remediation Groundwater			No Registration	1 + 0
<input type="checkbox"/> Diversion of Water for Consumptive Use: Reauthorization Categories	\$2500.00			1 + 4
<input type="checkbox"/> Diversion of Water for Consumptive Use: Authorization Required	\$2500.00			1 + 1
<input type="checkbox"/> Diversion of Water for Consumptive Use: Filing Only	\$1500.00			1 + 0
<input type="checkbox"/> Water Resource Construction Activities	★			★★
<input type="checkbox"/> Emergency/Temporary Authorization	★★			1 + 0
<input type="checkbox"/> Notice of High Hazard Dam or a Significant Hazard Dam	\$0			
<input type="checkbox"/> Other, (please specify):				
LAND AND WATER RESOURCES				
<input type="checkbox"/> Minor Coastal Structures	\$700.00			1 + 1
<input type="checkbox"/> 4/40 Docks/Access Stairs			No Registration	
<input type="checkbox"/> Beach Grading			No Registration	
<input type="checkbox"/> Buoys or Markers			No Registration	
<input type="checkbox"/> Experimental Activities/Scientific Monitoring Devices			No Registration	
<input type="checkbox"/> Harbor Moorings			No Registration	
<input type="checkbox"/> Non-harbor Moorings	\$250.00			1 + 1
<input type="checkbox"/> Osprey Platforms and Perch Poles			No Registration	
<input type="checkbox"/> Pump-out Facilities			No Registration	
<input type="checkbox"/> Swim Floats			No Registration	
Coastal Maintenance				
<input type="checkbox"/> Backflow Prevention Structure			No Registration	
<input type="checkbox"/> Beach Grading/Raking			No Registration	
<input type="checkbox"/> Catch Basin Cleaning			No Registration	
<input type="checkbox"/> Coastal Remedial Activities Required by Order	\$700.00			1 + 1
<input type="checkbox"/> Coastal Restoration			No Registration	
<input type="checkbox"/> DEEP Boat Launch Infrastructures			No Registration	
<input type="checkbox"/> DOT Infrastructures			No Registration	
<input type="checkbox"/> Marina and Mooring Field Reconfiguration	\$700.00			1 + 1
<input type="checkbox"/> Minor Seawall Repair			No Registration	
<input type="checkbox"/> Placement of Cultch			No Registration	
<input type="checkbox"/> Reconstruction of Legally Existing Structure/Obstruction/Encroachment	\$300.00			1 + 1
<input type="checkbox"/> Removal of Derelict Structures			No Registration	
<input type="checkbox"/> Residential Flood Hazard Mitigation	\$100.00			1 + 1
<input type="checkbox"/> Temporary Access of Construction Vehicles/Equipment			No Registration	
<input type="checkbox"/> Programmatic General Permit	★			1 + 1
<input type="checkbox"/> Emergency/Temporary Authorization				
<input type="checkbox"/> Other, (please specify):				
Note: Carry subtotals over to Part III, page 2 of this form.		Subtotal		

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

<input checked="" type="checkbox"/> General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
WASTE MANAGEMENT				
<input type="checkbox"/> Addition of Grass Clippings at Registered Leaf Composting Facilities	\$500.00			1 + 0
<input type="checkbox"/> Beneficial Use Determination	★			1 + 0
<input type="checkbox"/> Collection and Storage of Post Consumer Paint	\$0			1 + 0
<input type="checkbox"/> Connecticut Solid Waste Demonstration Project	\$1000.00			1 + 0
Construct and Operate a Commercial Facility for the Management of Recyclable Materials and Certain Solid Wastes (Commercial GP)				
<input type="checkbox"/> Asbestos Containing Materials	\$1,250.00/\$ 625			1 + 0
<input type="checkbox"/> Ash Residue	\$1,250.00/\$ 625			1 + 0
<input type="checkbox"/> Clean Wood: Tier III	\$500.00/\$250			1 + 0
<input type="checkbox"/> Clean Wood: Tier II	\$250.00/\$125			1 + 0
<input type="checkbox"/> Construction and Demolition Waste: Tier III	\$1,250.00/\$625			1 + 0
<input type="checkbox"/> Construction and Demolition Waste: Tier II	\$500.00/\$250			1 + 0
<input type="checkbox"/> Non-RCRA Hazardous Waste/Compatible Solid Wastes	\$1,250.00/\$625			1 + 0
<input type="checkbox"/> Recyclables	\$500.00/\$250			1 + 0
<input type="checkbox"/> Universal Wastes/Compatible Solid Wastes	\$1,250.00/\$625			1 + 0
Contaminated Soil and/or Staging Management (Staging/Transfer)				
<input type="checkbox"/> New Registrations	\$250.00			1 + 0
<input type="checkbox"/> New Approval of Registrations	\$1500.00			1 + 0
<input type="checkbox"/> Renewal of Registrations	\$250.00			1 + 0
<input type="checkbox"/> Renewal of Approval of Registrations	\$750.00			1 + 0
<input type="checkbox"/> Disassembling Used Electronics	\$2000.00			1 + 0
<input type="checkbox"/> Leaf Composting Facility	\$0			1 + 1
<input type="checkbox"/> Municipal Transfer Station	\$800.00			1 + 1
<input type="checkbox"/> One Day Collection of Certain Wastes and Household Hazardous Waste	\$1000.00			1 + 0
<input type="checkbox"/> Sheet Leaf Composting Notification	\$0			★★
Special Waste Authorization				
<input type="checkbox"/> Landfill or RRF Disposal	\$660.00			1 + 0
<input type="checkbox"/> Asbestos Disposal	\$300.00			1 + 0
<input type="checkbox"/> homeowner	\$0			1 + 0
<input type="checkbox"/> Storage and Processing of Asphalt Roofing Shingle Waste	\$2500.00			1 + 0
<input type="checkbox"/> Storage and Processing of Scrap Tires for Beneficial Use	\$1250.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★★			★★
<input type="checkbox"/> Other, (please specify):				
REMEDIATION				
<input type="checkbox"/> In Situ Groundwater Remediation: Enhance Aerobic Biodegradation	★			1 + 2
<input type="checkbox"/> In Situ Groundwater Remediation: Chemical Oxidation	\$500.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★			★★
Note: Carry subtotals over to Part III, page 2 of this form.				
Subtotal				

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Affirmative Action, Equal Employment Opportunity and Americans with Disabilities

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act (ADA). Please contact us at (860) 418-5910 or deep.accommodations@ct.gov if you: have a disability and need a communication aid or service; have limited proficiency in English and may need information in another language; or if you wish to file an ADA or Title VI discrimination complaint.



**Connecticut Department of
Energy & Environmental Protection**
Bureau of Water Protection & Land Reuse
Planning & Standards Division

Permit Application for Wastewater Discharges from Domestic Sewage Treatment Works (to Surface Waters)

CPPU USE ONLY	
App #:	_____
Doc #:	_____
Check #:	_____
PROGRAM: Municipal NPDES Permits	

Please complete this form in accordance with CGS section 22a-430 and RCSA sections 22a-430-3, 4, 6 and 7 and the instructions (DEEP-WP&S-INST-300) to ensure the proper handling of your application. Print or type unless otherwise noted. You must submit the initial fee, a copy of the published notice of permit application and the completed Certification of Notice Form along with this form.

Part I: Application Type and Description

Check the appropriate box identifying the application type.

This application is for (check one): <input type="checkbox"/> A <i>new</i> permit <input checked="" type="checkbox"/> A <i>renewal</i> of an existing permit <input type="checkbox"/> A <i>modification</i> of an existing permit	For renewals or modifications: 1. Existing permit or authorization number: CT0100641 2. Expiration Date: 8/20/2019
Town where site is located: <u>Naugatuck</u>	
Facility Name: Naugatuck Wastewater Treatment Facility	

Part II: Fee Information

<p>1. The initial fee of \$1,300.00 [#1818] is to be submitted with <i>each</i> application for a new permit or a renewal of an existing permit. The initial fee of \$940.00 [#1815] is to be submitted with <i>each</i> application for a modification of an existing permit. The fee for municipalities is 50% of the above listed rate. The application will not be processed without the initial fee. An invoice will be sent for the remaining application processing fee as listed in RCSA section 22a-430-6. The fee shall be <i>non-refundable</i> and shall be paid by check or money order to the Department of Energy and Environmental Protection.</p> <p>2. The public notice of application must be published <i>prior</i> to submitting an application, as required in CGS section 22a-6g. A copy of the published notice of application and the completed Certification of Notice Form must be included as Attachment AA to this application. Your application will not be processed if Attachment AA is not included.</p> <p>Date of publication: <u>01/08/2019</u></p>

Part III: Applicant Information

- If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the applicant's name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)
- If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).
- If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change Company/Individual Information to the address indicated on the form. If there is a change in name of the entity holding a DEEP license or a change in ownership, contact the Office of Planning and Program Development (OPPD) at 860-424-3003. For further information concerning facility modifications, please contact WPLR at 860-424-3704.

1. Applicant Name: **Borough of Naugatuck**

Mailing Address: **229 Church St**

City/Town: **Naugatuck**

State: **Ct** Zip Code: **06770**

Business Phone: **203-720-7071**

ext.:

Contact Person: **Jim Stewart**

Phone: **203-720-7071** ext.

*E-mail: **jstewart@naugatuck-ct.gov**

*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.

a) Applicant Type (check one):

municipality federal agency state agency individual tribal

*business entity (*If a business entity complete i through iii):

i) check type: corporation limited liability company limited partnership

limited liability partnership statutory trust Other: _____

ii) provide Secretary of the State business ID #: _____ This information can be accessed at database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) Check here if your business is **NOT** registered with the Secretary of State's office.

b) Applicant's interest in property at which the proposed activity is to be located:

site owner option holder lessee

easement holder operator other (specify): _____

Check if any co-applicants. If so, attach additional sheet(s) with the required information as requested above.

2. Billing contact, if different than the applicant.

Name: **Naugatuck Environmental Technologies LLC**

Mailing Address: **500 Cherry Street Extension**

City/Town: **Naugatuck**

State: **Ct** Zip Code: **06770**

Business Phone: **203-723-1433**

ext.:

Contact Person: **Christopher Makuch**

Phone: **203-723-1433** ext. **42018**

E-mail: **christopher.makuch@veolia.com**

Part III: Applicant Information (continued)

3. Primary contact for departmental correspondence and inquiries, if different than the applicant.

Name: **Ronald Merancy**

Mailing Address: **229 Church Street**

City/Town: **Naugatuck**

State: **Ct** Zip Code: **06770**

Business Phone: **203-720-7071**

ext.:

Contact Person: **Same**

Phone: ext.

*E-mail:

*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.

4. List attorney or other representative, if applicable:

Firm Name:

Mailing Address:

City/Town:

State: Zip Code:

Business Phone:

ext.:

Attorney:

Phone: ext.

*E-mail:

5. Wastewater Treatment Contract Operator, if different than the applicant:

Name: **Naugatuck Environmental Technologies LLC**

Mailing Address: **500 Cherry St. Ext**

City/Town: **Naugatuck**

State: **Ct** Zip Code: **06770**

Business Phone: **203-723-1433**

ext.:

Contact Person: **Christopher Makuch**

Phone: **203-723-1433** ext. **2018**

E-mail: **christopher.makuch@veolia.com**

6. Property Owner, if different than the applicant:

Name:

Mailing Address:

City/Town:

State: Zip Code:

Business Phone:

ext.:

Contact Person:

Phone: ext.

E-mail:

Part III: Applicant Information (continued)

7. List any engineer(s) or other consultant(s) employed or retained to assist in preparing the application or in designing or constructing the facility.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Service Provided:

Check here if additional sheets are necessary. Label and attach the sheets to this page.

Part IV: Site Information

1. SITE NAME AND LOCATION

Name of Site : Naugatuck WWTF

Street Address or Location Description: 500 Cherry St. Ext.

City/Town: Naugatuck

State: Ct

Zip Code: 06770

2. INDIAN LANDS: Is or will the facility be located on federally recognized Indian lands? Yes No

3. COASTAL BOUNDARY: Is this an application for a new permit or a modification of an existing permit where the physical footprint of the subject activity is modified? Yes No

If yes, and if the activity which is the subject of this application is located within the coastal boundary as delineated on DEEP approved coastal boundary maps, you must complete and submit a Coastal Consistency Review Form (DEEP-APP-004) with your application as Attachment E.

Information on the coastal boundary is available at www.cteco.uconn.edu/map_catalog.asp (Select the town and then select coastal boundary. If the town is not within the coastal boundary you will not be able to select the coastal boundary map.) or the local town hall or on the "Coastal Boundary Map" available at DEEP Maps and Publications (860-424-3555).

4. ENDANGERED OR THREATENED SPECIES: Is this an application for a new permit or a modification of an existing permit where the physical footprint of the subject activity is modified? Yes No

If yes, and if the project site is located within an area identified as a habitat for endangered, threatened or special concern species as identified on the "State and Federal Listed Species and Natural Communities Map", (Date of Map used to determine: _____), complete and submit a Request for NDDB State Listed Species Review Form (DEEP-APP-007) to the address specified on the form. **Please note NDDB review generally takes 4 to 6 weeks and may require additional documentation from the applicant.**

The CT NDDB response **must** be submitted with this completed application as Attachment F.

For more information visit the DEEP website at www.ct.gov/deep/nddbrequest or call the NDDB at 860-424-3011.

Part IV: Site Information (continued)

5. **AQUIFER PROTECTION AREAS:** Is the site located within a mapped Level A or Level B Aquifer Protection Area, as defined in CGS section 22a-354a through 22a-354bb?

Yes No If **yes**, check one: Level A or Level B

If **Level A**, are any of the regulated activities, as defined in RCSA section 22a-354i-1(34), conducted on this site? Yes No

If **yes**, and your business is **not** already registered with the Aquifer Protection Program, contact the local aquifer protection agent or DEEP to take appropriate actions.

For more information on the Aquifer Protection Area Program visit the DEEP website at www.ct.gov/deep/aquiferprotection or contact the program at 860-424-3020.

6. **CONSERVATION OR PRESERVATION RESTRICTION:** Is the property subject to a conservation or preservation restriction? Yes No

If Yes, proof of written notice of this application to the holder of such restriction or a letter from the holder of such restriction verifying that this application is in compliance with the terms of the restriction, must be submitted as Attachment G.

7. **ENVIRONMENTAL JUSTICE COMMUNITY:** Is this an application for a new or expanded permit for a sewage treatment plant with a design flow greater than 50 MGD? Yes No

If yes is answered for the question above **and** the sewage treatment plant is located within an Environmental Justice Community, as defined in the Environmental Justice Public Participation Guidelines at: www.ct.gov/deep/environmentaljustice, you must prepare an Environmental Justice Public Participation Plan (DEEP-EJ-PLAN-001) in accordance with the Guidelines and submit such plan **prior** to submitting this application. Once you have received written approval for your Environmental Justice Public Participation Plan from the DEEP, submit this completed application with a copy of the Plan approval as Attachment J.

Part V: Discharge Information

1. For discharges to a surface water only:

a. The discharge enters the surface water (check one):

directly

through a municipal storm sewer

through other drainage systems (e.g., swale) Please specify:

b. Name of surface water body the discharge first enters: Naugatuck River

c. Surface water classification of the above listed water body:

Present: X

Future:

2. For discharges to ground water only:

a. Groundwater classification of the site:

Present:

Future:

b. Name of surface water body in watershed area:

c. Surface water classification of the above listed water body:

Present:

Future:

3. Average Daily Flow (gpd): **4.7**

Maximum Daily Flow (gpd): **18.3**

Design Flow (gpd): **10,300,000**

Date discharge began or will begin:

4. Is the discharge continuous? Yes No

If yes, indicate:

- Average number of hours per day of the discharge: **24**
- Maximum number of hours per day of the discharge: **24**

5. For other than a continuous discharge (e.g., batch, intermittent, or seasonal discharges), indicate:

- Average number of hours per event of the discharge:
- Maximum number of hours per event of the discharge:
- The duration and frequency of the discharge:

Part V: Discharge Information (continued)

6. List the location of all discharges including any plant bypasses, pumping station bypasses, and collection system overflows and bypasses. Indicate clearly if any such bypasses and/or overflows are part of a separate or a combined sewage collection system.

N/A

Check here if additional sheets are necessary, please label and attach them to this sheet.

7. List the names of substances used in treating the wastewater, e.g., alum, chlorine

Sodium Hypochlorite	
Soda Ash	
Sodium Bisulfite	
Sodium Permanganate	
Mannich Polymer	
Sodium Hydroxide	
Emulsion Polymer	

Check here if additional sheets are necessary, please label and attach them to this sheet.

4. Inventory of toxic and hazardous substances and oil or petroleum liquids (continued)

Name of toxic or hazardous substance or oil	Use of Toxic or hazardous substance and maximum quantity used per day	If stored on-site, indicate maximum quantity of stored substance	TRI pollutant yes/no
Amalie 10W	Motor Oil, Used as needed	11 qrts	No
Mobile 1	Motor Oil, Used as needed	5 qrts	No
Tw cycle engine oil	Motor Oil, Used as needed	96 oz	No
Mobile Glygoyle HE 460	Motor Oil, Used as needed	10 gal	No
Compressor oil	Compressor oil, Used as needed	2 qrts	No
Multi Therm IG 4	Heat Transfer Fluid	660 gal	No
PTE Extra Heavy	Lubricant, Used as needed	55 gal	No
Mobil Extra Hecla Super	Lubricant, Used as needed	55 gal	No
636	Lubricant, Used as needed	10 gal	No
Gear 600 XP 220	Lubricant, Used as needed	165 gal	No
DTE 25	Lubricant, Used as needed	220 gal	No
DTE 26	Lubricant, Used as needed	220 gal	No
DTE Heavy	Lubricant, Used as needed	55 gal	No
XP320	Lubricant, Used as needed	165 gal	No
DTE Light	Lubricant, Used as needed	55 gal	No
XP150	Lubricant, Used as needed	55 gal	No
BB*	Lubricant, Used as needed	55 gal	No
Mobilube 80 w 90	Lubricant, Used as needed	75 gal	No
Mobile 68	Lubricant, Used as needed	5 gal	No

Part VII: Supporting Documents

Check the applicable box below for each attachment being submitted with this application form. When submitting any supporting documents, please label the documents as indicated in this part (e.g., Attachment A, etc.) and be sure to include the applicant's name as indicated on this application form.

- Attachment AA: a copy of the published notice of permit application, as described in the instructions, attached to a completed "Certification of Notice Form (DEEP-APP-005A)
- Attachment A: Executive Summary (DEEP-WPED-APP-101)
- Attachment B: Applicant Background Information Form (DEEP-APP-008); if applicable
- Attachment C: Applicant Compliance Information Form (DEEP-APP-002); if applicable
- Attachment D: A USGS Quadrangle Map indicating the exact location of the facility or site and Latitude and Longitude Form (DEEP-APP-003)
- Attachment E: Coastal Consistency Review Form (DEEP-APP-004); if applicable
- Attachment F: **Copy** of the completed Request for NDDB State Listed Species Review Form (DEEP-APP-007) and the NDDB response, if applicable.
- Attachment G: Conservation or Preservation Restriction Information; if applicable.
- Attachment H: Copy of the Written Environmental Justice Public Participation Plan Approval Letter, if applicable. (Also, a final report documenting the implementation of the Environmental Justice Public Participation Plan is to be prepared and submitted before the Department issues a Notice of Tentative Determination.)
- Attachment I-1: Site Plans
- Attachment I: Operation and Maintenance for Collection and Treatment Systems: General Description, Plan Checklist and Certification (DEEP-WPED-APP-103). For renewals, refer to Attachment X.
- Attachment M: Line Drawing and Process Flow Diagram
- Attachment N: Description and Plans and Specifications of Collection, Treatment and Disposal Systems (submit for new construction only). For renewals, refer to Attachment X.
- Attachment P: Sewage Sludge Information (DEEP-WPED-APP-108)
- Attachment W: For Renewal of an Existing Permit and Other Discharges Previously Licensed by DEEP, (DEEP-WPED-APP-102)
- Attachment X: Certification Regarding Submittal of Previously Approved Documents, (DEEP-WPED-APP-102A); if applicable

Part VIII: Applicant Certification

The applicant *and* the individual(s) responsible for actually preparing the application must sign this part. An application will be considered incomplete unless all required signatures are provided. If the applicant is the preparer, please mark N/A in the spaces provided for the preparer.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text.

I certify that I have complied with all notice requirements as listed in section 22a-6g of the General Statutes."

Signature of Applicant

Date

N. Warren Hess III

Mayor

Name of Applicant (print or type)

Title (if applicable)

Signature of Preparer (if different than above)

Date

Christopher Makuch

Plant Manager

Name of Preparer (print or type)

Title (if applicable)

Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet. You must include signatures of any person preparing any report or parts thereof required in this application (i.e., professional engineers, surveyors, soil scientists, consultants, etc.)

Note: Please submit this completed Application Form, Fee, and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
 DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
 79 ELM STREET
 HARTFORD, CT 06106-5127

Please remember to publish notice of the permit application **prior** to submitting your completed application to DEEP. Send a copy of the published notice to the chief elected official of the municipality in which the regulated activity is proposed, and provide DEEP with a copy of the published notice, as described in the instructions, attached to a completed Certification of Notice Form (DEEP-APP-005A) as Attachment AA to this application.



Connecticut Department of Energy & Environmental Protection

Certification of Notice Form - Notice of Application

DEEP USE ONLY
Division
Application No.

I, N. Warren Hess, certify that (Name of Applicant)

the attached notice represents a true copy of the notice that appeared in Waterbury Republican (Name of Newspaper)

on January 8, 2019 (Date)

I also certify that I have provided a copy of said notice to the chief elected municipal official listed below as required by section 22a-6g CGS.

Warren Hess Mayor

Name of Official Title of Official

229 Church Street

Address

Naugatuck Ct 06770

City/Town State Zip Code

Signature of Applicant Date

N. Warren Hess Mayor

Name of Applicant (print or type) Title (if applicable)

Notice of Permit Application

Notice is hereby given that the Borough of Naugatuck (the "applicant") of 229 Church Street will be submitting to the Department of Energy and Environmental Protection an application under Section 22a-430 of the Connecticut General Statutes for a permit to initiate, create, originate or maintain a discharge of water, substance or material to the waters of the state.

Specifically, the applicant proposes to renew the discharge permit associated with the discharge of the Borough of Naugatuck wastewater treatment plant. The activity takes place at 500 Cherry Street Extension. The activity will potentially affect the Naugatuck River.

Interested persons may obtain copies of the application from Christopher Makuch, 500 cherry Street Extension, Naugatuck, Ct 06770. Phone Number (203)723-1433.

The application is available for inspection at the Department of Energy and Environmental Protection, Bureau of Water Protection and Land Reuse, Planning and Standards Division, Municipal Facilities Group, 79 Elm Street, Hartford, Ct 06106-5127 (860) 424-3018 from 8:30 to 4:30, Monday through Friday. Please call in advance to schedule review of the application.

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R-A January 8, 2019

Attachment A: Executive Summary

Applicant Name: Borough Of Naugatuck
 (as indicated on the *Application Form*)

Location of Facility or Activity:

500 Cherry Street Extension, Naugatuck, Ct. 06770

Contact Person: **Christopher Makuch**

Phone: **203-723-1433**

For renewals or modifications of an existing permit, provide the Facility I.D. No.: **088-001**

In the table below list *each* discharge that is the subject of this application. For renewals of existing permits, label each discharge by the same discharge serial number stated in the previous permit and provide the existing permit number. For new permits, label each discharge to a surface water consecutively starting with serial number 101; for discharges to a POTW label each discharge consecutively starting with 201; and for discharges to ground water label each discharge consecutively starting with 301.

Discharge Serial Number/ Permit Number	Maximum Flow (gallons per day)	Category of Discharge Source	Name of discharge location (Name of POTW; Name of surface water; For groundwater, name of surface watershed area)	Geographical description of location of discharge point (e.g., 20 feet north from Bear Bridge)
CT0100641	10,300,000	Sanitary Sewage	Borough Of Naugatuck WPCF; Naugatuck River	4,200 Feet south of CT 63 Bridge

Attachment A: Executive Summary (continued)

Provide a brief general description of the nature of the business or activity and of each existing or proposed activity or process generating each discharge. For new discharges, provide a timeline for initiation of the discharges as well as a brief summary of the environmental impact of the proposed discharges.

Wastewater from the collection system (domestic and industrial contributions), hauled septage, industrial wastewater, grease, Fluidized Bed Incinerator scrubber water and ash lagoon overflow combine at the plant wet well. From the wet well the wastewater is pumped to one of two primary clarifiers. The discharge from the primary clarifiers flows by gravity to the biological treatment. The biological treatment consists of two separate trains containing 3 one million gallon tanks. The first tank in each train is anoxic and it also accepts the internal recycle flow from that train's third tank. The second tank of each train is divided by a curtain. The first part of the tank is aerated and the second part of the tank is anoxic. The third tank of each train is aerated and has the biological process effluent. The effluent from the biological treatment flows into a channel that feeds three parallel secondary clarifiers. Polymer is added to aid in the settling out of the solids. The solids are either wasted to the plant thickener or returned to the biological process. 75% of the effluent from the three clarifiers combine and flow through a fourth polishing clarifier. Plant water is also pulled from this clarifier for use on the Incinerator exhaust scrubber system. The effluent from this clarifier flows in a channel where it combines with the other 25% clarifier effluent and flows to the chlorine contact tank. From May 1st through September 31st sodium hypochlorite is added to the water stream to destroy disease causing bacteria. At the end of the contact tank sodium bisulfite is added to remove any residual chlorine. The flow then goes through the parshall flume where it is measured and sampled by an automatic sampler prior to discharge into the Naugatuck river. Primary sludge and wasted sludge and dewatering centrate are combined in the plant thickener. From there the solids are transferred to storage tanks where they combine with outside liquid sludge. The sludge is then dewatered by one of two belt presses or one of two centrifuges. The dewatered biosolids are then incinerated.

Check here if additional sheets are necessary, and label and attach them to this sheet.

Provide a table of contents of the application which includes the permit application form, and a list of titles of all plans, drawings, reports, studies, or other supporting documentation which are attached as part of the application, along with the corresponding attachment label and the number of pages (i.e., Executive Summary - Attachment A - 4 pages).

Permit Application Transmittal Form - 4 Pages

Permit Application for Wastewater Discharges from Domestic Sewage Treatment Works - 11 Pages

Certification Of Notice Form - 2 Pages

Executive Summary - Attachment A - 2 Pages

Latitude and Longitude Form and USGS Quadrangle Map - Attachment D - 2 Pages

General Description, Plan checklist and certification - Attachment I - 72 Pages

Process Flow Line Drawing - Attachments M - 1 Page

Discharge Information - Attachment O - 21 Pages

Sewage Sludge Information - Attachment P - 5 Pages

Renewal of an Existing Permit and Other Discharges Previously Licensed by DEEP - 3 Pages

Certification Regarding Submittal of Previously Approved Documents - X - 2 Pages



**Connecticut Department of
Energy & Environmental Protection**

Latitude and Longitude

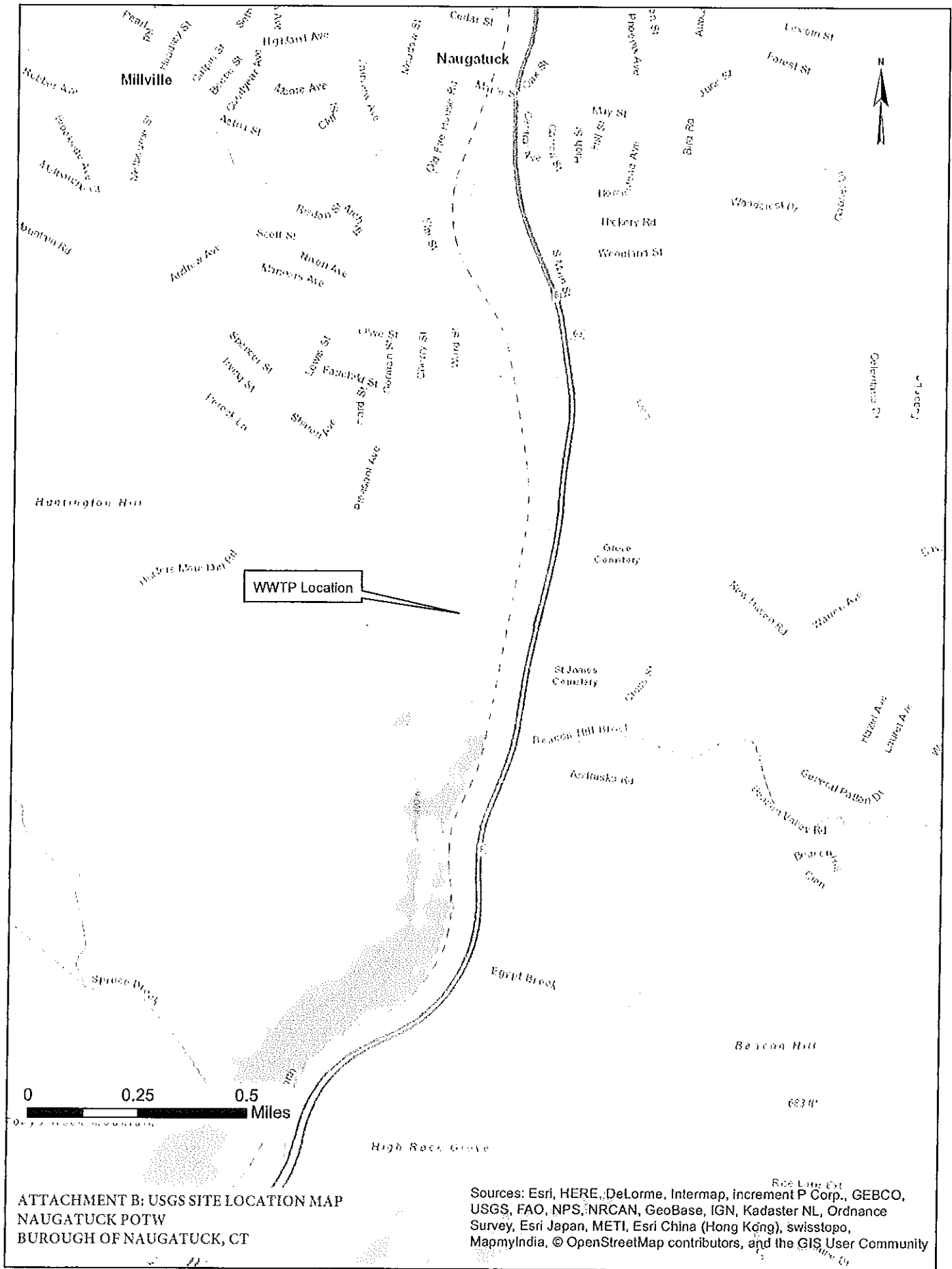
Applicant Name: Borough of Naugatuck

Method of latitude and longitude determination (check one):

- Global Positioning System (GPS)
 USGS Map
 Other (please specify)

In the table below, label each point for which latitude and longitude were measured, being consistent with identification numbers assigned throughout the application (e.g., 100, 101, etc.). For renewals or modifications of existing permits, please provide the existing permit number. Also provide: a brief description of the point (e.g., monitoring well, pipe outlet, air stack, etc.); latitude and longitude in degrees, minutes and seconds (e.g., 41E 16' 29"); and the name of the USGS quadrangle map(s) the points described are located on.

ID Number	Permit Number	Description	Latitude	Longitude	Quad Map Name	For DEEP Use Only: GIS ID
088-001	CT0100641	Naugatuck WPCF	41N 28' 20"	73W 3' 12"	Naugatuck	



ATTACHMENT B: USGS SITE LOCATION MAP
 NAUGATUCK POTW
 BOROUGH OF NAUGATUCK, CT

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Attachment I: Operation and Maintenance of the Collection and Treatment Systems General Description, Plan Checklist and Certification

Reproduce and complete this entire form for each permit that you are applying for.

Type of receiving water (check one): Surface Water POTW Ground Water

Part A: General Description

Please provide a general description of the methods and provisions for the operation and maintenance of the collection and treatment systems, specifically addressing Plan Elements No. 1, 6, and 9 outlined in Part B: Plan Checklist. Be sure to label this description by identifying it as "Attachment I - Part A" and attach the description to this Plan Checklist.

Part B: Plan Checklist

Review the following plan elements to ensure that each element is included and adequately addressed in your Operation and Maintenance Plan. A copy of this plan must be maintained on-site at all times. Certify that the plan is adequate with respect to each element by inserting your initials in the space provided. For elements which are determined to be not applicable to the collection and treatment systems, please indicate "N/A" next to the element and provide a brief explanation.

Plan Elements	Initial/Not Applicable
<p>1. A detailed description of all wastewater treatment equipment on site including:</p> <p>a. A description of treatment unit sizes, their operating capacities, retention times, manufacturers and models.</p> <p>b. A functional description of each treatment system and subsystem including a discussion of how each item functions and variables that might affect performance.</p>	<p>Please see attached PCMP plan</p> <p>Please see attached PCMP plan</p>
<p>2. A detailed description of collection and treatment system operation, start-up, shut-down and power outage procedures, including the positions of all switches, valves, instrument settings and precautions. For batch systems, include operating instructions describing testing procedures to be performed for each batch, when different treatments are to be used and instructions for operating the different types of treatments.</p>	<p>Collection system is broken up into problem areas that are jetted twice a year. The rest of the system is completely jetted within a three year period. Pump stations are checked weekly, all pump stations have emergency generators.</p> <p>Treatment system operates 24/7 with constant flow. There is an emergency generator that operates critical equipment, ie: Raw sewage pumps, primary flights and pumps, all odor control systems, disinfection and dechlorination systems, SCADA and PLC communications for waterside.</p>
<p>3. A list of instrument calibration and alarm testing frequencies. This should include but not be limited to the frequency that the pH meters and alarms, flow meters, and level alarms are tested or calibrated.</p>	<p>Parshal flume flow meter - yearly</p> <p>pH probe calibrated daily</p> <p>Turbidity meter calibrated daily</p> <p>DO meter calibrated daily</p> <p>Oven, furnace, and refrigerator temperature checked daily</p> <p>Aeration tank DO probes calibrated weekly</p>

Plan Elements	Initial/Not Applicable
<p>4. An inventory of all spare parts and equipment kept at the facility for the wastewater treatment system.</p>	<p>Redundancy in raw sewage pumps, aeration blowers, return sludge pumps and waste activated sludge pumps.</p> <p>Spare internal recycle pump</p> <p>2 spare gearboxes for flights and cross collectors</p> <p>Rebuild kits and impellers for each RSP</p> <p>Redundant pumps for hypochlorite and bisulfite addition</p> <p>Spare mixing pump for sodium hypochlorite</p> <p>Spare motor for primary odor scrubber</p> <p>Spare chemical pumps for both odor scrubbers</p> <p>Spare parts for auto samplers</p> <p>Spare head and sensor for parshall flume flow meter</p> <p>Spare sample pumps</p> <p>Spare PLC's\</p> <p>Redundant SCADA computers</p>
<p>5. A list of all treatment chemicals, quantities stored at the facility and dosage rates.</p>	<p>Sodium hypochlorite-5,000 gallons. dosage rate to odor scrubbers: primary-13 gal/day, secondary-400 gal/day. Contact tanks during season:average 72 gallons/day</p> <p>Sodium hydroxide-4,000 gallons. Dosage rate to odor scrubbers: primary- 3 to 10 gal/day, seconday- 10 to 20 gal/day</p> <p>Sodium bisulfite for de-chlorination during season: average 45 gal/day</p> <p>Mannich polymer for secondary tanks: 245 gal/day</p>

Part B: Plan Checklist (continued)

Plan Elements	Initial/Not Applicable
<p>6. A maintenance plan for the collection and treatment system, both preventive and corrective, with proposed daily, weekly, monthly, semi-annual and annual inspections and procedures.</p>	<p>Collection system: Daily jetting, daily manhole inspections, camera work as needed, weekly pump station checks. Root control as needed. Contractor on call for any system line breaks.</p> <p>Treatment plant: OWAM program that covers all preventative maintenance including but not limited to greasing of equipment and thermal checks of wiring.</p> <p>Wetwell bubbler blow down daily</p> <p>Daily checks of rotation of all gears and chains in primary and secondary tanks</p>
<p>7. The number of full or part time waste water treatment system operators needed to properly run the system and a detailed description of any training the operators have had in the proper operation of the treatment system. For domestic sewage treatment facilities, the plan must include documentation of operator certification as required by RCSA Sections 22a-416-1 through 22a-416-10.</p>	<p>This facility operates an incinerator and is manned 24/7.</p> <p>All operators have completed sacramento courses to the level of their current State Certification.</p> <p>1 plant manager-Class IV</p> <p>1 Assistant plan manager-Class III</p> <p>1 Operations manager-Class IV</p> <p>2 Operator in training</p> <p>5 Operator I</p> <p>4 Operator II</p>
<p>8. A description of the log(s) to be kept near the treatment system, or readily accessible, for operational monitoring and inspections. All entries must show time, date and be initialed. These log books must be bound, pre-numbered and contain the following information, as applicable:</p> <p>a. for batch treatment systems:</p> <ul style="list-style-type: none"> (1) number of gallons of each batch discharged (2) treatment chemicals added to each batch (3) the results of any chemical analysis done on each batch (4) what the wastewater of each batch consisted of (what processes contributed to the batch) (5) the pH of each batch at time of discharge (6) when meters and probes were calibrated and/or replaced (7) any maintenance performed on the system (8) any observations the operator may have noticed about the discharge 	

(clarity, foam, etc.)	
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Part B: Plan Checklist (continued)

Plan Elements	Initial/Not Applicable
<p>8. b. for flow through systems:</p> <ul style="list-style-type: none"> (1) total daily/shift flow (2) treatment chemical dosage rates (3) daily/shift treatment chemical tank levels (4) the results of any chemical analysis performed on the discharge (5) the range of pH during the day/shift (6) when meters and probes were calibrated and/or replaced (7) any maintenance performed on the system (8) the reason for any upsets that may have occurred (9) any observations the operator may have noticed about the discharge (clarity, foam, etc.) 	<p>Bound book kept in control room with date, shift and time recorded. Any and all process changes or upsets recorded in this book. Flow rates and dosages are tracked by SCADA. Maintenance tracked by OWAM system. Laboratory has records kept for calibration and or replacement records</p>
<p>9. A description of any security measures to prevent vandalism of the collection and treatment systems.</p>	<p>Fenced in plant with Electronic locking gate plus cameras throughout plant with recording capabilities and live monitoring in control room.</p>
<p>10. A flow diagram of the treatment system generating the discharge. The diagram must show all incoming waste streams, treatment units and their sizes, treatment chemical additions, all pumps and valves, electrical equipment (pH sensors and controllers, high level sensors and alarms, etc.) and connections between electrical units. Average, maximum, and design flow rates of incoming waste streams between treatment units and from discharge points and pumps must be indicated.</p>	<p>Please see attached PCMP plan</p>

Applicant Certification of an Operation and Maintenance Plan Checklist

Applicant Name: **Borough of Nauagtuck**
(as indicated on the *Application Form*)

Application Number (if known):

Facility I.D. Number (renewals only): **088-001**

Permit Number (renewals only): **CT0100641**

I have personally examined and am familiar with the information contained in the Operation and Maintenance Plan required for this application, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for preparing the Operation and Maintenance Plan, such plan contains all applicable information listed in the Operation and Maintenance Plan Checklist. I further certify that I will submit this plan to the Department of Energy and Environmental Protection (DEEP) upon request.

Applicant Signature

Date

In the space below, please provide the names of the persons who prepared the Operation and Maintenance Plan and a brief description of the qualifications of each preparer, (i.e., professional certifications, education background, related work experience, etc.).

Christopher Makuch - Related work experience
Thomas Deller - Related work experience
Christian Hoan - Education and related work experience

PROCESS AREA: PRIMARY TREATMENT**CLARIFIER DESIGN DATA:**

	UNIT #1	UNIT #2	UNIT #3
Clarifier Dimensions	120.5'(L) x 29.5'(W) x 10.65' (H)	120.5'(L) x 29.5'(W) x 10.65' (H)	N/A
Volume Cubic Feet	37,860	37,860	N/A
Volume Gallons	283200	283200	N/A
Surface Area Square Feet	3555	3555	N/A
Side Water Depth	10.65'	10.65'	N/A
Weir Length Feet	93'	93'	N/A
Sludge Pump Capacity	.62mgd	.62mgd	N/A
Scum Pump Capacity	N/A	N/A	N/A
Internals and drive Type	Chains & Flights	Chains & Flights	N/A
Chemical/Polymer Addition	N/A	N/A	N/A

PROCESS OBJECTIVE:

Maintain proper flow rate and detention time to allow for 25–50% removal of Influent BOD and 40-60% removal of Suspended Solids prior to biological treatment.

GENERAL STRATEGY:

Operate one primary tank at normal flow rates (approx. 4.2mgd) allowing for detention time of 1.6 hours. Flights, cross collector and sludge pump are operated 24hrs/day. Primary Sludge is removed 24hrs/day at a rate of .62mgd to a Primary Thickener. Primary Sludge blankets are maintained at <2 feet.

SUGGESTED MINIMUM DATA BASE (w/ KEY CONTROL PARAMETERS IN BOLD) AND FLAGS. (Parameters that are marked “*” are required to be monitored unless BC TM determines and justifies otherwise):

PARAMETER	DESIGN VALUE	SITE SPECIFIC TARGET*	LAL	LWL	UWL	UAL	FREQUENCY
Total Average Flow Entering Clarifiers (mgd)	10.3mgd	6.9					1/day
Peak Hourly Flow Entering Clarifiers (mgd)							
Average Primary Surface Loading (gpd/ft²)	870	1800			2500	2800	1/day
Peak Primary Surface Loading (gpd/ft²)	2900	2900					
No. of Clarifiers in Operation*		1					
Primary Influent CBOD (mg/L)*		225					1/day
Primary Influent TSS (mg/L)*		250					1/day
Primary Sludge Concentration (% TS)	3-6%	@2%					
Cycle Time (On Time/Off Time)		1hr on/1hr off					
Primary Sludge Withdrawal Rate (gpd)		.31mgd					
Primary DOB *(ft)		<2 feet			4	5	3/day
Primary TSS Capture *(%)	40-60%	50%	15	20			1/day
Primary BOD Capture *(%)	25-50%	40%	10	15			1/day
Primary Effluent TSS* (mg/l)	---	120mg/l		85	155		1/day
Primary Effluent COD* (mg/l)	---	135mg/l					1/day
Primary Sludge (lbs/day)	---	517lbs/day					1/month
Clarifier Hydraulic Detention Time (hours)	1.5 – 3 hours	1.4hrs					
Sludge (%VS)*	>55%	70%					1/month
Primary Influent Percent TSS Due to Recycle (%)							
Primary Influent Percent BOD Due to Recycle (%)							

*** Site Specific Footnotes Table**

PROCESS TROUBLESHOOTING GUIDE**Surface Loading**

- If excessively high or low for an extended period, change the number of clarifiers in service. Typically will vary from wet to dry seasons.
- Verify flow meter accuracy.

Sludge Density

- If density is low and the blanket is not high, reduce pump rate to increase compaction of the sludge blanket.
- If density is low and the blanket is high, check:
 - Clarifier malfunction
 - Blanket expansion due to old sludge, septic conditions or recycle. This condition will require increased sludge pumping to return to a fresh, dense sludge. Sludge will appear black and thin.
- If density is high and the blanket is low, check :
 - recycle

Depth of Blanket

- Check for possible dump from industry
- Check primary sludge pumps and pumping rate.
- Check recycle TSS
- Check for clarifier malfunction

Removal Percent

- Check sampler location and operation
- Check recycle loading
- Check hydraulic loading

Primary Effluent TSS

- Check blanket level
- Check sludge pumping rates
- Check weir levels
- Check hydraulic loading

Primary Sludge Produced

- Check recycle loads
- Check industrial loads
- Check sludge pumps and rate

RECOMMENDED CONTINGENCY PLANS

- Below Normal Clarifier Captures – (High Industrial Load, Recycle Loads, Detention Time, etc.)
- Odor – (Iron Salt Feed, Odor Masking Agent, Excessive Detention Time, Increased Sludge Withdrawal, etc.)
- FOG load – (Caustic Use, Physical Removal, Industrial Regulation, Increased FOG Sampling, Tracking of Discharger, etc.)
- Clarifier Drive Failure – (Place Alternate Clarifier in Service, Drain and Inspect, Contact Outside Vendor for Repair, etc.)
- Sludge Withdrawal Failure – (Sludge Line Plugged, Sludge Pump Failure, Timer Activation/Failure, etc.)
- Power Failure

The following table provides a listing of First Response, Contingency Plans and SOP’s, which have been developed specific to this facility.

Plan Title	Plan Location

PROCESS AREA: ACTIVATED SLUDGE

AERATION / CLARIFIER DESIGN DATA:

	UNIT #1	UNIT #2A	UNIT #2B	UNIT #3	UNIT #4	UNIT #5A	UNIT #5B	UNIT #6
Aeration Basin Dimensions, (L x W x D)	100x100x16	100x50x16	100x50x16	100x100x16	100x100x16	100x50x16	100x50x16	100x100x16
Aeration Basin Volume, cu. Ft	160000	80000	80000	160000	160000	80000	80000	160000
Aeration Basin Volume, gallons	1.2mg	.6mg	.6mg	1.2mg	1.2mg	.6mg	.6mg	1.2mg
Number Diffusers/basin	N/A	365	N/A	140	N/A	365	N/A	140
CFM capacity/diffuser	N/A	2-5	2-5	2-5	N/A	2-5	2-5	2-5
Blower, HP	Pillar #1	Pillar #2	Spencer B	Spencer C	Spencer D			
	200HP	400HP	200HP	200HP	200HP			
Blower Capacity, CFM	4000CFM	10000CFM	4000CFM	4000CFM	4000CFM			
Mixer, HP	3	N/A	3	N/A	3	N/A	N/A	N/A
Mechanical Aerator, HP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mechanical Aerator Oxygen Transfer Capacity, #O ₂ /Hr./HP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Clarifier Dimensions, (L x W or Diameter), ft	UNIT #1	UNIT #2	UNIT #3	UNIT #4				
	150 x 40	150 x 40	150 x 40	150 x 40				
Clarifier Surface, sq.ft	6000	6000	6000	6000				
Clarifier Side Water Depth, ft	12	12	12	10				
Weir Length, ft	272	272	272	272				
RAS Pump Capacity, GPM								
RAS Pump, HP		#2 - 25	#3 - 713	#4 - 20				
WAS Pump Capacity, GPM			#3 - 7.5					
WAS Pump, HP								
Anoxic Zone Volume, Gallons	160000	N/A	N/A	N/A	160000	N/A	N/A	N/A
Anoxic Recycle Pump Capacity, gpm	N/A	N/A	N/A	2760	N/A	N/A	N/A	2760



UNIT PROCESS MANAGEMENT STRATEGY

ACTIVATED SLUDGE

PROCESS OBJECTIVE:

Operate system in order to meet conventional pollution limits. Operate to achieve complete nitrification to meet ammonia limits. Operate to meet progressively tighter denitrification goals set by State General Permit.

GENERAL STRATEGY:

Operate in Bardenpho 4 stage process

SUGGESTED MINIMUM DATA BASE (w/ KEY CONTROL PARAMETERS IN BOLD) AND FLAGS. (Parameters that are marked "*" are required to be monitored unless BC TM determines and justifies otherwise):

PARAMETER	TYPICAL DESIGN VALUE	SITE SPECIFIC TARGET*	LAL	LWL	UWL	UAL	FREQ. U-ENCY
Aeration Basins in Service, number							
Aeration Inf. BOD, mg/L							
Aeration Inf. TSS, mg/L							
Aeration Inf. NH ₃ , mg/L							
Aeration Inf. TKN, mg/L							
Aeration Inf. P, mg/L							
Aeration Inf. BOD, lbs/Day							
Aeration Inf. TSS, lbs/Day							
Aeration Inf. NH ₃ , lbs/Day							
Aeration Inf. P, lbs/Day							
Aeration Basin Average MLSS Temp., Degrees C		24	10	12			
Aeration Inf. pH, su							
Aeration pH, su							
Aeration Inf. Alkalinity, mg/L			60	80			
Anoxic Zone Effluent Alkalinity, mg/L			20	30			
#3 Aeration Basin MLSS, mg/L		4-5000					
#6 Aeration Basin MLSS, mg/L		4-5000					
Aeration Basin #3 MLVSS, fraction		80	60	65			
Aeration Basin #6 MLVSS, fraction		80	60	65			
AB123 MLSS, lbs under aeration							
AB456 MLSS, lbs under aeration							
AB123 Aeration Train #1 Hi DO			.8	1.00	2.50		
AB456 Aeration Train #2 Hi DO			.8	1.00	2.50		
AB123 Aeration Train #1 Lo DO		1.5	.8	1.00	2.50		
AB456 Aeration Train #2 Lo DO		1.5	.8	1.00	2.50		
#3 Aeration Tank SSV30, ml/L							
Aeration Basin #1 & 3 SVI		90-120	50	60	150	200	
#6 Aeration Tank SSV30, ml/L							
Aeration Basin #4 & 6 SVI		90-120	50	60	150	200	

Aeration Basin SVI Average	90-120	50	60	150	200
Food to Microorganism ratio	.08-.15			0.20	0.40
Aerobic SRT					
Number of Clarifiers in Service					
Clarifier Blanket #1	2-3			6	8
Clarifier Blanket #2	2-3			6	8
Clarifier Blanket #3	2-3			6	8
Return Meter Flow					
Return Flow %	200				
Return Solids Concentration #1&2					
Return Solids Concentration #3					
#1&2 WAS/RAS VSS (In-House)					
#3 WAS/RAS VSS (In-House)					
Daily Wasting all tanks - metered					
WAS lbs, metered					
Lbs WAS per Lbs CBOD removed					
Final Plant Effluent Alkalinity	80	60	70		
Final Plant Effluent Flow					
Final Plant Effluent TSS	<5			6.5	7.5
Final Plant Effluent CBOD	<4			5.0	5.5
Final Plant Effluent TKN					
Final Plant Effluent NH3N	<1			0.65	1.10
Final Plant Effluent Nitrate	<2			3.89	4.68
Effluent Total Nitrogen					
Final Plant Effluent Nitrogen Lbs	<246			197	221
Final Plant Effluent Ortho P					
Final Plant Effluent Total Phosphorus					



PROCESS TROUBLESHOOTING GUIDE**Aeration Tank D.O.**

- Adjust air rate to maintain the D.O. in the proper range, not high or low (investigate automation for same).
- Adjust diffuser header valves to balance air distribution and eliminate dead spots.
- Check and clean diffusers as a preventive maintenance procedure .
- Check SOUR
- Check recycle loadings.
- Check for industrial dump.
- Investigate effect on the activated sludge (effluent turbidity, SVI, microscopic examination, etc.)
- Consider effects of air temperature on blower output capacity when evaluating D.O. problems.

Sludge Volume Index-SVI

- Check aeration basin and clarifier D.O. levels
- Check for filamentous organisms. Compare a 30 minute SSV with a 50% diluted 30 minute SSV (if diluted settles = probable filament issue)
 - If filaments are present, identify as to type, either fungal or bacterial. (Don Paterson and John Oatley are in company Filament identifiers)
 - If fungal, check for industrial waste as source of problem.
 - If bacterial, check influent and side streams for source of filaments and make operational changes to eliminate.
 - Chlorinate RAS at 6 lbs/day CL2/1000 lbs MLVSS as directed by the Plant Manager, Assistant Plant Manager, or Operations Supervisor.
 - If filaments are not present, check organic loading and D.O. levels.
 - Temporarily increase RAS if solids carry over is a problem
 - Use settling aids until proper operating parameters are reached.
- Check F/M and adjust to proper range.
 - WAS should be adjusted by no more than 10% per day.
- Check blanket levels to prevent solids carry over.
- Increase process monitoring as directed until the proper operating parameters are achieved.
- Check for nutrient deficiencies. Proper nutrient ratios should be 100 parts BOD to 5 parts total nitrogen, to 1 part phosphorous, to 0.5 parts iron. (100:5:1:0.5)
- Check pH level.
- Check for over aeration causing dispersed or fragmented floc.
- Check for underloading as indicated by fine dispersed floc.

Mean Cell Residence Time-MCRT

- Check for inventory distribution; complete tank mixing, excessive blanket depth in clarifier.
- Check wasting rates, sampling and calculations.
- Check effluent TSS levels and include in calculations of solids wasted.

DOB

- Check SVI and SVI trends, plot SVI 5 day moving averages.
- Check for proper RAS rates and sludge concentration.
- Check hydraulic loading and solids loading to clarifier.
- Check clarifier sludge collection mechanism
- Check clarifier draft tubes
- Check for toxic discharges.
- Check for filamentous organism predominance

SOUR

- Review data and check for industrial dump. (a change from historical SOUR results)
- Check for unusual side stream loads.
- Check for nitrification.
- Review microscopic data.

Food to Microorganism Ratio-F/M

- Check inventory distribution.
- Plot trends and check for changes on BOD loading, wasting rate (pounds, including effluent TSS) and sludge yield coefficient, make proper adjustments.
- Observe aeration basins
 - Stiff white foam indicates a too high F/M and MLVSS should be increased assuming D.O., nutrient levels, pH and inhibiting materials, etc. are all within acceptable ranges.
 - Excessive brown foam indicates a too low F/M and the MLVSS should be decreased again under the same assumptions as above.
- Check Influent and RAS flows and distribution in a multi tank plant as well as distribution for complete mix, step feed or plug flow configurations

Secondary Effluent TSS, BOD

- Check SVI

- Check F/M, MLSS, etc.
- Check DOB
- Check hydraulic and solids loading to clarifier
- Check aeration basin D.O.
- Equipment malfunction in settling tanks; Drain, Inspect, Replace and/or repair broken equipment.
- Check settling tank baffles and weir level
- Temperature currents in settling tanks; install baffles to stop short circuiting (energy dispersion in center or stamford type baffle around perimeter).
- Compare TBOD to CBOD to estimate TBOD contribution by nitrification

Waste Activated Sludge-WAS

- Check sampling procedures
- Check flow meters
- Calculate solids balance
- Include recycle loads in yield estimates

Return Activated Sludge-RAS

- Check pumps and pump settings
- Check flow meters
- Check flow signal/PLC for proper flow pacing

Mixed Liquor Volatile Suspended Solids

- Check for unusual loads (storm events, industrial discharges, etc.)
- Check for unusually long MCRT or low F:M

Filaments

- See SVI troubleshooting section
- Check for unusual loadings
- Initiate bulking control plan

Alkalinity

- Check ammonia loadings including side streams
- Check nitrification (7.14 mg/L alkalinity per mg/L ammonia nitrified)
- Initiate alkalinity plan (anoxic zone for denitrification, alkalinity supplement, etc.)

Ammonia

- Check effluent alkalinity (7.14 mg/L alkalinity required per mg/L ammonia nitrified)
- Check F/M, MCRT and MLSS
- Check basin D.O. levels
- Check for plant overload condition (septic tanks, etc.)
- Check for industrial waste.
- Check for recent increase in WAS

RECOMMENDED CONTINGENCY PLANS

- Solids Carry-Over; Polymer/Coagulant Feed
- Filamentous Bulking Control
- Alkalinity/pH Control (use of supplement to adjust pH/alkalinity, initiation of denitrification zone use, etc.)
- Storm/ High Flows
- Toxic Dump (identification through SOUR analysis-microscopic exam-chemical analysis, tracking of contributor, etc.)
- Clarifier Drive Failure – (Place Alternate Clarifier in Service, Drain and Inspect, Contact Outside Vendor for Repair, etc.)
- Clarifier Sludge Withdrawal Failure-- (Sludge Hopper Plugged, Sludge Scrapers Broken, Sludge Collection Orifices plugged, Sludge Line Plugged, Sludge Pump Failure, Timer Activation/Failure, etc.)
- Blower/Aerator Failure (Loss of Device and use of redundant unit, loss of automated control and need to use manual methods, Rental of supplemental aeration device, etc.)
- Power Failure

The following table provides a listing of First Response, Contingency Plans and SOP's, which have been developed specific to this facility.

Plan Title	Plan Location

TABLE 1

THRESHOLD CONCENTRATIONS OF INORGANIC POLLUTANTS THAT ARE INHIBITORY TO BIOLOGICAL TREATMENT PROCESSES

Pollutant	CONCENTRATION (mg/l)	
	Activated Sludge Process	Nitrification Processes
Ammonia	480	
Arsenic	0.1	0.34
Boron	0.05-100	
Cadmium	10-100	5.2
Calcium	2500	
Chloride		180
Chromium (Hexavalent)	1.0	0.25
Chromium (Trivalent)	10-50	
Copper	1.0	0.05-0.5
Cyanide	0.1-5	0.34
Iodine	10	
Iron	1000	
Lead	0.1	0.5
Manganese	10	
Magnesium		50
Mercury	0.1-1.0	
Nickel	1.0-2.5	0.25
Silver	0.25-5	
Sulfate		500
Sulfide	25-30	
Zinc	0.08-10	0.08-0.5

TABLE 2

**THRESHOLD CONCENTRATIONS OF ORGANIC POLLUTANTS
THAT ARE INHIBITORY TO BIOLOGICAL
TREATMENT PROCESSES**

Pollutant	CONCENTRATION (mg/l)	
	Activated Sludge Process	Nitrification Processes
Anthracene	500	
Benzene	100-500	
Chloroform		10
2-Chlorophenol	5	
1,2 Dichlorobenzene	5	
1,3 Dichlorobenzene	5	
1,4 Dichlorobenzene	5	
2,4 Dichlorophenol	64	64
2,4 Dimethylphenol	40-200	
2,4 Dinitrophenol		150
2,4 Dinitrotoluene	5	
1,2 Diphenylhydrazine	5	
Ethylbenzene	200	
Hexachlorobenzene	5	
Naphthalene	500	
Nitrobenzene	30-500	
Pentachlorophenol	0.95	
Phenathrene	500	
Phenol	50-200	4
Toluene	200	
2,4,6 Trichlorophenol	50-100	
Surfactants	100-500	

PROCESS AREA: GRAVITY THICKENING**GRAVITY THICKENER DESIGN DATA:**

	UNIT #1	UNIT #2	UNIT #3
Thickener Dimensions	40ft Dia x 10ft H	40ft Dia x 10ft H	N/A
Volume, CF	14148	14148	
Volume, gals	105827	105827	
Surface Area, ft ²	1256	1256	
Overflow Rate, gpd/ft ²	494*	494*	
Solids Loading Rate, #/d/ft ²	82.3	82.3	
Weir Loading Rate, gpd/ft	4936.3	4936.3	
Sludge Pump Capacity	430gpm	430gpm	

*One Primary Sludge pump running 24hrs/day

PROCESS OBJECTIVE:

To produce a consistent 4% sludge to be transferred to dewatering

Capture rate above 90%

Supernatant TSS < 1.00mg/L

GENERAL STRATEGY:

The plant wastes primary sludge 24/7 to the gravity thickener, which also receives the WAS & the dewatering centrate. Primary sludge pumps are on timers to be adjusted by operators to maintain a primary blanket of ~2ft. Gravity Thickener sludge is brought into the solids processing facility at variable rate determined by the plant operations.

SUGGESTED MINIMUM DATA BASE (W/ KEY CONTROL PARAMETERS IN BOLD) AND FLAGS. (Parameters that are marked “*” are required to be monitored unless BC TM determines and justifies otherwise):

PARAMETER	TYPICAL DESIGN VALUE	SITE SPECIFIC TARGET*	LAL	LWL	UWL	UAL	FREQUENCY
GTs in Service, #*	1	1					
GT Feed Flow, MGD*							
GT Wash Flow, MGD*							
GT Surface Loading, gal/day/ft2							
GT Feed TSS*, mg/l							
GT Feed Composition*, %WAS							
GT Solids Loading, lb/day/ft2							
GT Chemical Feed, lb/day							
GT Overflow, MGD							
GT Overflow TSS*, mg/l							
GT Overflow TSS*, lb/day							
GT % TSS Recycle (at point of return)							
GT Capture, %							
GT DOB, ft.					7.0	8.5	
GT Sludge Under Flow, gal/day							
GT under flow Sludge TS, %							
GT under flow Sludge VS*, %TS							
GT underflow Sludge VS, lb/day							
GT underflow Sludge TSS*, mg/L/							
GT underflow Sludge TSS, lb/day							

*** Site Specific Footnotes Table**

Unit Process Report made – data being gathered, Management Strategy Report will be updated once data becomes available. 1/8/18 - TD

PROCESS TROUBLESHOOTING GUIDE**Surface Loading**

- Vary amount of wash or recycle water.
- Adjust number of thickeners in service.
- Modify sludge pumping from supply processes.

Solids Loading

- Adjust number of thickeners in service.
- Consider chemical addition.
- Consider thickening alternatives.

Depth of Blanket

- Check for unusual solids productions.
- Increase/decrease number of downstream processes in service.
- Check Temperature of incoming sludge.
- Adjust number of thickeners in service.
- Consider chemical addition.

Solids Retention Time

- Same as Depth of Blanket, above.

Sludge TSS Concentration

- Increase DOB, Solids Retention Time (to about 1 day) as practicable.
- Check for changes in feeds.
- Check for short circuiting.
- Consider chemical addition.

Overflow TSS Concentration

- Control influent concentration between 0.5 and 1.0 percent as far as practicable.
- Lower sludge blanket.
- Increase number of thickeners in service.
- Consider chemical addition.
- Check for scum on thickener surface – a scum baffle may be necessary.
- Consider modified treatment for WAS, etc.
- Check for short circuiting – install baffles if necessary.

Capture

- Same as Overflow TSS Concentration, above.

% Recycle

- Adjust number of thickeners in service.
- Consider chemical addition.

RECOMMENDED CONTINGENCY PLANS

- For Odor
- Chemical/Polymer Addition
- Downstream Process Inefficiencies

The following table provides a listing of First Response, Contingency Plans and SOP's, which have been developed specific to this facility.

Plan Title	Plan Location

PROCESS AREA: BELT FILTER PRESS DEWATERING**BELT FILTER PRESS DESIGN DATA:**

	UNIT #1	UNIT #2	UNIT #3
Belt Width, meters	1.2	1.2	
Hydraulic Capacity, gpm	110	110	
Solids Loading Cap., lbs/hr	2201	2201	
Minimum Cake Solids, %	17	17	
Max Polymer Use, lbs/ton	160	160	
Max. Poly. Feedrate, gph	20	20	
Cake Production, ton/day	26	26	
Belt Speed(min-max), fpm			

PROCESS OBJECTIVE:

Dewater thickened sludge efficiently in preparation for incineration

GENERAL STRATEGY:

The Plant operates two 1.2 meter presses fitted with Rotary Screen Thickeners (RST). The sludge is contacted with polymer before entering the RST, which then presents the sludge to the gravity section of the press. The Press Room's available floor space in 1986 did not permit the use of wider or larger units. The BFP's are operated 24/7.

SUGGESTED MINIMUM DATA BASE (w/ KEY CONTROL PARAMETERS IN BOLD) AND FLAGS. (Parameters that are marked "*" are required to be monitored unless BC TM determines and justifies otherwise):

PARAMETER	TYPICAL DESIGN VALUE	SITE SPECIFIC TARGET*	LAL	LWL	UWL	UAL	FREQUENCY
BFPs in Service, count	2	2					
BFP Total Run Hours, hrs/d	24	24					
BFP Feed Flow, gpm	80-100	80-100					
BFP Hydraulic Load, % Cap.	73-91	73-91					
BFP Feed TS, %*		2.6					
BFP Feed Composition, %WAS							
BFP Feed Solids, lb/day							
BFP Loading, lb/hr/meter							
BFP Polymer Flow, gpm							
BFP Filtrate Flow, gpm							
BFP Filtrate TSS, mg/l*							
BFP Filtrate TSS, lb/day							
BFP Filtrate BOD, mg/l							
BFP Filtrate BOD, lb/day							
BFP % TSS Recycle, %(at point of return)							
BFP Cake TS, %	20	20.4	18.0	18.5			
BFP Cake, Wet, ton/day							
BFP Cake, Dry, ton/day							
BFP Capture, %							
BFP Polymer Efficiency, lb/ton dry cake							
BFP Belt Speed, feet/min							
BFP Drum Pressure, psi							

*** Site Specific Footnotes Table**

APPROXIMATE PERFORMANCE OF A BELT FILTER PRESS

ST	AND	AED	WAS	RP	RB
FS	3-5	1-2.5	0.5-1.3	4-6	3-5
HL	28-67	32-100	46-100	50-100	40-100
HL ^b	6.4-15	7.3-23	10.4-23	11.4-23	9.1-23
SL	700-1 000	400-700	300-600	1 500-2 500	1 000-1 500
SL ^c	318-454	181-318	136-272	681-1 134	454-681
CS	18-24	14-18	14-18	25-25	23-28
CAP	95	92-95	90-95	95	95
PC	20-30	20-30	20-30	8-15	10-15

^a ST = sludge type; AND = anaerobically digested (50% primary/50% waste activated sludge by weight); AED = aerobically digested waste activated sludge; WAS = waste activated sludge; RP = raw primary sludge; RB = raw blend (60% primary/40% WAS by weight); FS = feed solids concentration (% total solids [TS]); HL = hydraulic loading (gpm/m); SL = solids loading (lb/hr/m); CS = dewatered cake solids (% TS); CAP = percent solids retained in the process; PC = dewatering polymer cost (\$/dry ton); the above values reflect estimated performance; actual values will vary with specific sludge characteristics and operational preferences.

^b Denotes metric units, m³/h.

^c Denotes metric units, kg/h.

TYPICAL DOSAGES OF DRY POLYMER FOR A BELT FILTER PRESS

Type of sludge	Dry polymer, lb/ton dry solids ^a
Raw sludges	
Primary	2-9
Primary + trickling filter	3-15
Primary + waste activated	2-20
Waste activated	2-20
Aerobically digested	
Primary + waste activated	4-15
Anaerobically digested	
Primary	2-10
Primary + waste activated	3-15

^a 1 lb/ton = 0.5 kg/metric ton.

PROCESS TROUBLESHOOTING GUIDE**BFP Feed TS**

- Check thickening/conditioning operations.
- Evaluate composition of feed (%WAS, %PRI, %Digested, septicity, etc.)

BFP Solids Loading

- Check feed solids concentration or flow rate of the sludge feed.
- Increase or decrease hours of operation or number of units in operation, as necessary.

BFP Cake TS

- Check belts for plugging.
- Check chemical/polymer dose. Jar test if necessary.
- Check and evaluate belt speed and slow down if necessary.
- Check sludge feed rate and decrease if necessary.
- Check feed sludge composition/quality.

BFP Filtrate TSS

- Check sludge inventories.
- Check belt condition and speed.
- Check sludge feed rates.
- Consider additional units, if available.

BFP Polymer Use

- Check feed sludge composition/quality.
- Perform jar tests.
- Check condition of belts.

BFP Capture

- Check chemical/polymer dose. Jar test if necessary.
- Check to see if solids are running off belt.

BFP High Percent Recycle (to return point)

- Check filter press solids loading.
- Evaluate chemical/polymer in use.
- Check belt for holes or tears.

RECOMMENDED CONTINGENCY PLANS

- Belt Optimization (result of belt or poor filtrate/capture)
- Conditioning Chemical/Polymer Evaluation
- Alternative Solids Disposal

The following table provides a listing of First Response, Contingency Plans and SOP's, which have been developed specific to this facility.

Plan Title	Plan Location
[Plant to list site specific plans]	

PROCESS AREA: CENTRIFUGE DEWATERING

Design Data:

	Unit #1	Unit #2
Hydraulic Capacity, gpm	200	200
Solids Loading Cap., lbs/hr	2 dry tons	2 dry tons
Minimum Cake Solids, %	4	4
Max Polymer Use, lbs/ton	8	8
Max Poly. Feedrate, gph	24.7	24.7

PROCESS OBJECTIVE:

Prepare liquid sludge slurry for eventual incineration by concentrating the sludge solids.

GENERAL STRATEGY:

Continuous feed and dewatering liquid sludge while maintaining a reasonable centrate quality.

Suggested Minimum Data Base (w/ Key Control Parameters in Bold) and flags. Values of parameters depend on the type of residuals to be thickened. (Parameters that are marked "*" are required to be monitored unless BC TM determines and justifies otherwise)

PARAMETER	TYPICAL DESIGN VALUE	SITE SPECIFIC TARGET *	LAL	LWL	UWL	UAL	FREQUENCY
Centrifuge Total Runtime.hrs/day	21	24					
Centrifuge Feedrate, gpm	200	100-150					Cont.
Differential speed, rpm	3	7					Cont.
Control Pressure, bars	85	91					Cont.
Centrifuge Feed TS*, %	4	4					5/wk
Centrifuge Solids Feed, lb/day	97,076	53,000.00					
Centrifuge Feed %VS*		75					5/wk
Centrifuge centrate TSS mg/l	200	200-400					Visual
Centrifuge Cake TS, %	28	23					1/day
Centrifuge Dry Cake, ton/day	48	26					
Centrifuge Poly Use, lb/day	247	167					
Centrifuge Poly Efficiency lb/dTon	16	30					
Centrifuge Capture, %	90	90					

*** Site Specific Footnotes Table**

CENTRIFUGE DEWATERING IS LARGELY DEPENDANT ON THE VARIABLE SLUDGE
FEED STOCK WHICH IS CONSTANTLY CHANGING IN QUALITY AND QUANTITY.
THE CENTRIFUGES ARE MONITORED BY MICROPROCESSORS AND THE PRESS
ROOM OPERATOR. THEY ARE SHUT DOWN WELL BEFORE ANY IMPACT TO THE PLANT.
THE APPROPRIATE WARNING AND ACTION LEVEL ALARMS RESIDE IN THE
MICROPROCESSOR. CENTRIFUGE IS SHUT DOWN WHEN STORAGE TANK LEVEL
NEARS 3 FT. BELT FILTER PRESS IS ONLY USED IN DEWATERING WHEN TANK LEVELS
FALL TO 3 FT. OR LOWER.

Process Troubleshooting Guide

If cake stops coming out of the centrifuge:

- Check the differential speed.
- Stop sludge feed and start flush water
- Check the bowl and scroll for rotation.
- Check and verify polymer dosage.
- Check cake discharge valve actuator.

If centrate is dirty:

- Check polymer dosage and polymer system operation.
- Check differential speed.
- Stop feed and flush as necessary.

Centrifuge Feed TS is low:

- Check feed pump and grinder.

Centrifuge Cake TS:

- Check differential speed. Lowering differential speed will increase % TS and increase centrate TSS. Increasing the differential speed will do the opposite.
- Check polymer dosage.
- Check sludge feed rate.
- Check sludge feed concentration.

Centrifuge Polymer Use (continued):

- Check polymer feed system.
- Check polymer mixing and dilution ratios.
- Too much polymer is indicated by foaming in the centrate.
- Too little polymer is indicated by:
 1. Dark centrate
 2. Poor solids capture
 3. Low cake % solids

- Polymer mixing: the plant uses bulk liquid polymer.

Recommended Contingency Plans

- Centrifuge Optimization (result of wear or poor capture)
- Polymer Evaluation
- Alternative Solids Disposal

The following table provides a listing of First Response, Contingency Plans and SOP's, which have been developed specific to this facility.

Plan Title	Plan Location
Centrifuge auto start sequence	Control Room
Centrifuge auto shutdown sequence	Control Room
Centrifuge auto flush sequence	Control Room
Centrifuge manual flush	Control Room

PROCESS AREA: FLUID BED INCINERATOR

INCINERATOR - Design Data

	UNIT #1	UNIT#2	UNIT#3
Diameter of Bed, ft.	20		
Sand Level, ft.	5.5		
Fluid Air Volume, cubic feet	14,000		
Number of Over Fire Air Nozzles	10		
Number of Bed Water Guns	2		
Number of Bed Oil Guns	4		
Number of Roof Sprays	4		
Number of Sludge Feed Lines	2		
Feed Capacity	3.5 DT/hour		

PROCESS OBJECTIVE:

Sewer sludge incineration meeting all operation and emission parameters of the plant's NSR permit.

GENERAL STRATEGY:

Incinerator the plant's internally generated primary and secondary sludge along with merchant sludge received via truck transport into the facility. Operate the fluid bed furnace 24/7 in an economically and environmentally sound manner.

Minimum Data Base (w/ Key Control Parameters in Bold) and Flags:

PARAMETER	TYPICAL DESIGN VALUE	SITE SPECIFIC TARGET*	LAL	LWL	UWL	UAL	FREQUENCY
Percent Capacity	100	100					
Oil Used / Gallons a Day	240	240					M/total
Free Board Temperature	1650	1650					Cont.
Bed Temperature	1400	1440					Cont.
Abel Speed	Variable	> 60					Cont.
Incinerator Feed % Solids	23-27	23-25.5**					Cont.
Final TDU Temperature	150-190	> 200					Cont.
TDU Loading Weight	28,000	25,000					Cont.
Over Fire Air Setting	Variable	600 cfm					Cont.
Bed Height Differential	Variable	Variable					Cont.
Free Board static	- 5	- 5	- 8	- 7	0	+ 2	Cont.
Venturi DP	25	25	8	10			Cont.
Venturi Water, gpm	250	300	25	26			Cont.
Main Tray Water, gpm	500	600	200	300			Cont.
.th Tray Water, gpm	400	300	100	200			Cont.
Overall APC DP	40	40	20	25			Cont.

*Indicates Required Database unless BC TM approved otherwise.

**With Thermal Dryer

*** Site Specific Footnotes Table**

THE FB MICROPROCESSOR CONTROLLED AND FULLY ATTENDED. ALL WARNING AND ACTION LEVEL PARAMETERS RESIDE IN THE PROGRAMMING.

The following table provides a listing of First Response, Contingency Plans and SOP's, which have been developed specific to this facility.

Plan Title	Plan Location
Cold start up	Control Room
Hot start up	Control Room
Cold bottle	Control Room
Cold shut down	Control Room

PROCESS AREA: DISINFECTION – SODIUM HYPOCHLORITE**CHLORINATION SYSTEM DESIGN DATA:**

	UNIT #1	UNIT #2	UNIT #3
Chlorine Contact Tank Dimensions	87'x16'x10'	87'x16'x10'	
Volume Cubic Feet	13920ft ³	13920ft ³	
Volume Gallons	104122	104122	
Feed Capacity, gals/Day	240		
Bulk Tank Capacity, Gallons	8000		
Bulk Tank, gals/inch			
Water Supply ; Process Water Pump, gpm	3-5gpm	3-5gpm	
Water Supply; Process Water Pump (HP)			

PROCESS OBJECTIVE:

System used from May 1st to September 30th annually to provide disinfection needed to meet ECOLI requirements in the final effluent.

GENERAL STRATEGY:

A HACH CL-17 continuously monitors the plant effluent as it enters the Chlorine Contact tanks and provides data to the chemical addition pumps providing the Sodium Hypochlorite dose needed to meet our requirements. Chlorine residual target at the effluent end of the Contact Tanks is between .40 & .60mg/l.

SUGGESTED MINIMUM DATA BASE (w/ KEY CONTROL PARAMETERS IN BOLD) AND FLAGS. (Parameters that are marked “**” are required to be monitored unless BC TM determines and justifies otherwise):

PARAMETER	TYPICAL DESIGN VALUE	SITE SPECIFIC TARGET*	LAL	LWL	UWL	UAL	FREQUENCY
Cl ₂ Contact Tanks in Service, Number*							
Sodium hypochlorite Inventory, gals				1400	7500		
Sodium hypochlorite days inventory remaining, days							
Effluent Flow, MGD*							
Chemical Solution Water (Municipal or Process Water), psi							
Sodium hypochlorite Feed, gals/day*				75	275		
Sodium hypochlorite Feed, gals/MG							
Sodium hypochlorite Feed (mg/L)*							
Chlorine Contact Time (minutes)	15-30						
Pre Dechlorination Effluent Cl₂ Residual (mg/L)		.50	.15	.20	1.0	1.3	
Chlorine Demand (mg/L)							
Effluent Fecal Coli (#/100ml)*		<410					

* Site Specific Footnotes Table

PROCESS TROUBLESHOOTING GUIDE**Sodium hypochlorite (chlorine) Feed (lb/Day), (lb/MG)**

- Check scales for accuracy
- Check for a change in chlorine demand mg/L
- Check ammonia level prior to chlorination point
- Check nitrite level prior to chlorination
- Check feed equipment for proper operation, calibration, leaks, etc.
- Check suspended solids/turbidity level at chlorine feed point
- Adjust chlorine feed
- Clean Redox probe
- Clean/calibrate on-line CL2 analyzer
- Check flow proportional chemical feed controller/PLC programming/function

Chlorine Contact Time

- Check flowmeter
- Check for unusual peak flows
- Adjust number of contact tanks in service

Effluent Chlorine

- Check sample results
- Check analytical chemicals and titrants
- Check on-line instrumentation calibration including flowmeter feedback
- Check chlorine dose and demand
- Check sodium hypochlorite strength analytically

Effluent Fecal Coliforms

- Check effluent chlorine dose and residual mg/L
- Check distribution and mixing at feed point
- Check detention time and for short circuiting in contact tank
- Check for sludge accumulation in contact tank (clean weekly or when 2" of sludge accumulates)

RECOMMENDED CONTINGENCY PLANS

- High Chlorine Use – Implement upstream contingency plans; eg. Sludge Bulking, Manual chemical feed control, Nitrite/nitrification control, Tracking of industrial contribution, etc.
- Chemical Inventory Depleted (Use of Alternate Chlorine Source (gravity feed of calcium hypochlorite solution), Back-up Vendor, etc.)
- Power Failure
- Sodium hypochlorite spill

The following table provides a listing of First Response, Contingency Plans and SOP's, which have been developed specific to this facility.

Plan Title	Plan Location

PROCESS AREA: DECHLORINATION – Sodium Bisulfite

Dechlorination - Design Data:

	UNIT #1	UNIT #2	UNIT #3
Dechlorination Tank Dimensions	Outfall pipe to the flume		
Feed Pump Capacity gals/Day	192		
Bulk Tank Capacity Gallons	4000		
Bulk Tank gals/inch	31.28		

Process Objective:

Sodium bisulfite is added to the chlorine contact tank discharge to reduce final effluent daily average TRC below 0.06 mg/l.

Process Strategy:

Sodium Bisulfate feed is ratioid to the contact tank's bleach feed. It is introduced into a chlorovac submersible mixer which quickly broadcasts the chemical into the effluent stream prior to the flume. Contact time is less than 60 seconds.

Key Control Parameters and Flags:

PARAMETER	TYPICAL DESIGN VALUE	SITE SPECIFIC TARGET *	LAL	LWL	UWL	UAL	FREQ
Dechlorination Contact Tanks in Service (Number)	1	1					
Sodium bisulfite Inventory (gallons)	4000	No less than 500	300	500			
Sodium bisulfite days inventory remaining		No less than 5					
Effluent Flow (MGD)	10	5					
Sodium bisulfite Feed (gals/MG)	12	12	0				
Sodium bisulfite Feed (mg/L)	variable	Variable					
Effluent Cl ₂ Residual (mg/L)	Avg. < 0.06	Avg. < 0.06			0.08	0.10	6/day

*** Site Specific Footnotes Table**

SODIUM BISULFITE IS FLOW PACED TO THE SODIUM HYPOCHLORITE FEED PUMP. THE PLANT HAS USED CHLOROVAC SUBMERSIBLE MIXERS SINCE 1993
THE UNITS HAVE A PUMPING CAPACITY OF 500
GPM. THE CHEMICAL INJECTION INTO THIS FLOW QUICKLY AND EFFICIENTLY CONTACTS THE PASSING STREAM.

TROUBLESHOOTING GUIDE

Sodium bisulfite Feed (lb/Day), (lb/MG)

- Check the operation in the ratiotrol mode
- Check feed equipment for proper operation, calibration, suction leaks, etc.
- Adjust chlorine feed
- Adjust sodium bisulfite pump stroke setting if needed

Effluent Chlorine

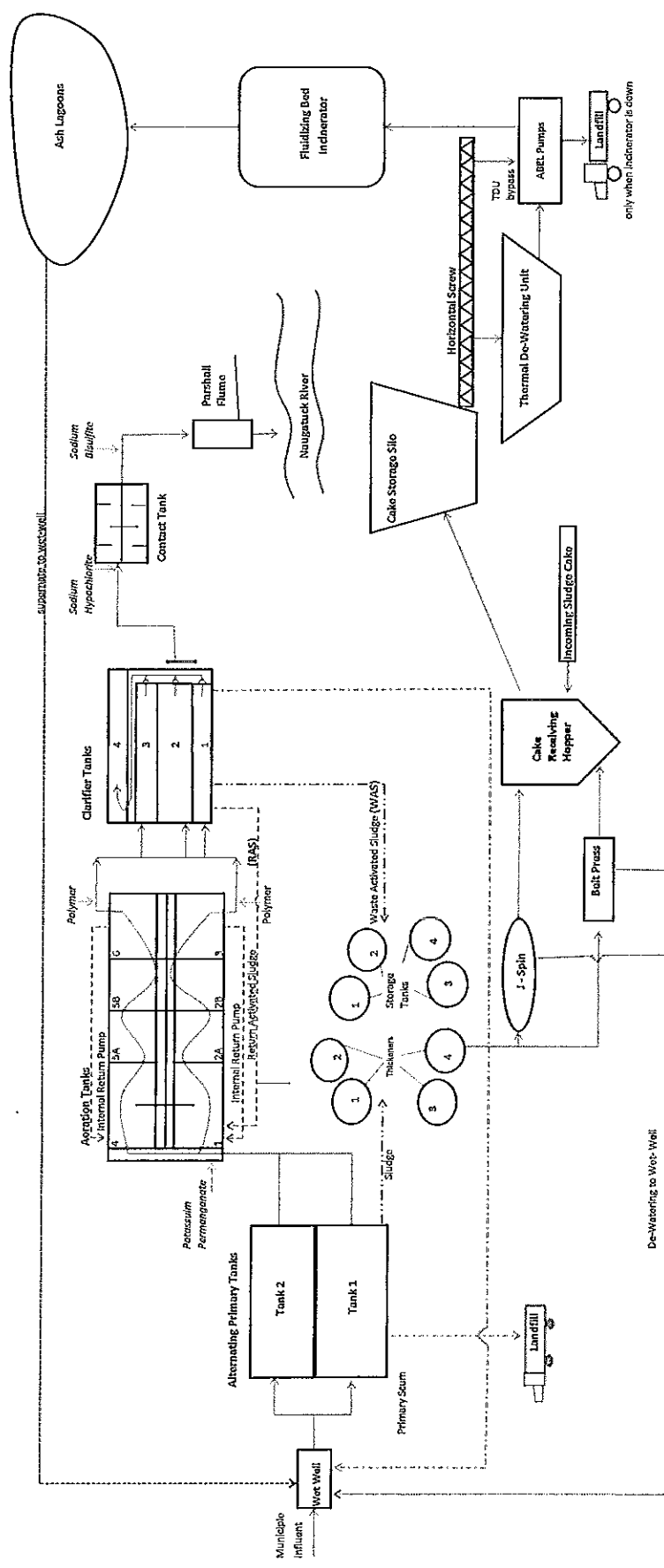
- Check sample results
- Check analytical glass ware
- Check distribution and mixing at feed point
- Check sodium bisulfite residual analytically

CONTINGENCY PLANS

- Chemical Inventory Depleted (Use of Alternate Chemical (gravity fed bisulfite, reducite, calcium thiosulfate, Back-up Vendor, etc.)
- Power Failure – disinfection is on the emergency generator
- Bisulfite Spill

The following table provides a listing of First Response, Contingency Plans and SOP's, which have been developed specific to this facility.

Plan Title	Plan Location
SPCC Plan	Administration building



only when inductor is down

	mg/L TSS	lbs/D	BOD5 mg/L	lbs/D	flow MGD
Influent	300	18,740	270	16,866	7.49
Primary	151	8,236	140	7,636	5.58
Aeration 1	4,146	242,735	480	28,103	0.4
Aeration 2A	4,511	364,105	470	27,517	0.122
Aeration 2B	9,322	546,359	760	44,496	0.173
Aeration 3	4,637	271,482	480	28,103	6.34
Aeration 4	5,007	293,144	570	33,372	7.02
Aeration 5A	5,100	304,443	790	46,252	0.0816
Aeration 5B	10,181	596,085	1,100	64,402	7.5
Aeration 6	5,249	307,812	510	29,859	
Return 1&2	12,154	384,252	xxxx	xxxx	
Return 3	8,583	271,354	xxxx	xxxx	
Secondary 3	2.13	116	< 4.0	< 218	
Contact	xxxx	xxxx	xxxx	xxxx	
Flume	2	93	< 4.0	< 136	
Lagoon	118	394	xxxx	xxxx	
concentrate GPD	sample size				
Belt press 1	103,700	500ml	1,704	1,474	R
J-spin 1	147,050	500ml	8,083	9,913	R

Belt press sludge going in
 sludge in - 122,000 GPD x 3% = 3,660 solids
 reduced to - 3,660 solids/20% = 18,300 GPD concentrate
 122,000 GPD - 18,300 GPD = 103,700 GPD concentrate
 0.1037 MGD x 1,704 mg/L TSS x 8.34 = 1,474 lb/D to wetwell =

J-Spin sludge going in
 sludge in - 173,000 GPD x 3% = 5,190 solids
 reduced to - 5,190 solids/20% = 25,950 GPD concentrate
 173,000 GPD - 25,950 GPD = 147,050 GPD concentrate
 0.14705 MGD x 8,083 mg/L TSS x 8.34 = 9,913 lb/D to wetwell =

* lb/D if de-watering equipment is run 24 hrs a day

103,700 x 8.34 = 864,858 lbs
 1,474 lbs / 864,858 lbs = 0.0017043

147,050 x 8.34 = 1,226,397 lbs
 9,913 lbs / 1,226,397 lbs = 0.008083

WAS pumps 2 pumps/85 GPM/8hrs/day
 RAS pumps 4 pumps/1,302 GPM/24hrs/day
 MGD 0.0816
 7.5

avg TSS across returns 10,369 mg/L

calculations MGD X TSS mg/L X 8.34 = lb/D
 MGD X BOD5 mg/L X 8.34 = lb/D

R = TSS₁ (TSS₂ - TSS₁) X 100
 TSS₂ (TSS₂ - TSS₁)

Where R = percent recovery

TSS₁ = total suspended solids concentration in thickened solids product, percent by weight

TSS₂ = total suspended solids concentration in feed, percent by weight

TSS_c = total suspended solids concentration in concentrate, percent by weight

Belt Press R = 0.0017043 / 0.0017043 = 100 R = 95.14%

J-Spin R = 0.008083 / 0.008083 = 100 R = 75.35%

Influent = 394 lb/D ash, lagoon
 11,387 lb/D concentrate
 6,859 lb/D municipal
 18,740 lb/D Total

Influent = 18,740 lb/D Total
 Primary Eff. = 8,236 lb/D
 Primary capt. = 10,504 lb/D sludge & scum

RAS - 4 pumps at 1,302 GPM 24/7
 1,440 min. x 1,302 x 4 = 7,500,00 MGD

RAS = (12,154 + 8,883/2) x 7.5 MGD x 8.34 = 648,581 lb/D

Primary Eff. = 8,236 lb/D
 RAS = 648,581 lb/D
 Aeration Inf. = 656,817 lb/D

half 6.54 MGD in-flow + 7.5 MGD from RAS to tank 3 & 6 so 7.02 MGD to each of

7.02 MGD x 4,637 x 8.34 (aeration tank 3)
 + 7.02 MGD x 5,249 x 8.34 (aeration tank 6)
 Aeration Eff. = 576,794 lb/D

entering secondary

WAS = 7,057 lb/D
 RAS = 648,581 lb/D
 secondary eff. = 116 lb/D

655,734 lb/D leaving secondary

within 11.7



Process Control – Alarm and Warning Limit Change Authorization Form

Index/Variable Number

Parameter Description/Name: _____

Report Description: _____

Date of Change: _____

Data Review Period: from _____ to _____

Data Review Average: _____

Data Review Maximum: _____

Data Review Minimum: _____

Data Review Std. Deviation: _____

Existing Upper Alarm Limit _____ New Upper Alarm Limit _____

Existing Upper Warning Limit _____ New Upper Warning Limit _____

Existing Lower Warning Limit _____ New Lower Warning Limit _____

Existing Lower Alarm Limit _____ New Lower Alarm Limit _____

Change Requested By: _____
Signature



Process Control Meeting Minutes

Project Name: _____ Date: ____/____/____

1. Attendance:

2. Were last week's goals met? Comments?

(a) _____

(b) _____

(c) _____

(d) _____

3. Review Plant Management and Unit Process Reports (and Trend Reports as necessary), equipment problems & related data. Summarize major concerns.

(a) _____

(b) _____

(c) _____

(d) _____

4. Goals, assignments, and action plans needed. Establish target completion dates for all actions.

(a) _____

(b) _____

(c) _____

(d) _____

5. General Comments

6. Review following week's monitoring requirements, assign responsibilities for sampling, and sign off (PM or APM). If there are laboratory QA/QC issues, refer to the VVNA's Laboratory Quality Assurance Program manual.

Signature: _____

Date: _____

Total Plant Management Report

Start Date 02/01/18
 End Date 02/28/18
 Forecast 20

Rpt Date: 03/30/18

#	Parameter	Units	Average	Min	Max	Trend	Flag	Forecast	Target	LAL	LWL	UWL	UAL	# Samples
3232	Primary Clarifiers Surface Overflow Rate	gpd/sqft	2,627.8	1,923.8	3,394.4	29	UWL	2,795.53				2500	2800	28
25	Average Primary Blanket Depth (North tank) 1 Ft		4.6	0.0	10.0	-2	UWL	-35.68				4.0	5.0	7
26	Average Primary Blanket depth (south tank) 2 Ft		2.1	0.0	10.0	0		2.34				4.0	5.0	21
3237	Primary CBOD Removal	%	24.7	-15.4	57.0	17		315.01						4
3235	Primary TSS Removal	%	46.6	-24.4	76.4	1		59.36						20
151	Aeration Basin 3 MLSS	mg/l	5,171.4	3,776.0	6,836.0	-74		4,463.58						20
158	Aeration basin 3 MLVSS Fraction	%	73.1	71.7	74.1	1		83.21						4
153	Aeration Basin 6 MLSS	mg/l	6,438.8	4,880.0	7,736.0	-59		5,872.42						20
160	Aeration basin 6 MLVSS Fraction	%	72.5	71.1	73.2	1		91.79						4
285	Aeration Train #1 Low D.O.	mg/l	0.6	0.2	1.3	-0		0.51						28
287	Aeration Train #2 Low D.O.	(mg/l)	0.9	0.3	1.3	-0		0.82						28
205	Aeration Basin 1 & 3 SVI	ml/g	89.7	71.0	102.9	-1		83.61						20
206	Aeration Basin 4 & 6 SVI	ml/g	110.2	94.8	124.4	-0		110.22						20
207	Aeration Basin SVI Average	ml/g	99.9	92.1	112.4	-0		96.91						20
319	Food to Microorganism Ratio	Number	0.1	0.0	0.1	-0		0.07						20
3244	Aerobic SRT	days	36.1	6.0	166.2	-5		8.41						28
17	Blanket Clarifier #1	ft	6.0	2.5	10.0	-0		5.63						28
18	Blanket Clarifier #2	ft	6.6	3.0	11.0	-0		6.49						28
19	Blanket Clarifier #3	ft	7.6	4.0	12.0	0		7.82						28
10	Return Flow %	%	80.3	54.5	103.6	-1		76.72						28
431	Final Plant Effluent Alkalinity	mg/l	71.0	50.0	100.0	-1		64.39						20
410	Final Plant Effluent TSS	mg/l	5.8	0.0	38.0	-1		-1.47						12
402	Final Plant Effluent CBOD	mg/l	0.0	0.0	0.0	0								12
417	Final Plant Effluent NH3N	mg/l	2.4	0.1	7.3	0		2.63						12
415	Final Plant Effluent Nitrate	mg/l	2.2	0.6	3.4	0		2.83						12
439	Final Plant Effluent Nitrogen lbs	lbs	353.3	199.7	528.4	7		449.36						12
						0								
						0								
						0								
						0								
						0								

Process Control Signature:

Date: / /

Naugatuck PCMP Area/Technical Managers Report

Start Date: 02/01/18
 End Date: 02/28/18
 Forecast: 31
 Rpt Date: 03/30/18

#	Parameter	Units	Average	Trend	Flag	Forecast	Target	LAL	LWL	UWL	UAL	# Samples
117	Primary Effluent Alkalinity	mg/l	138	-1		127		60	80			20
151	Aeration Basin 3 MLSS	mg/l	5,171	-74		3,653		2000	2500	6000	6500	20
153	Aeration Basin 6 MLSS	mg/l	6,439	-59	UWL	5,225		2000	2500	6000	6500	20
164	Aerobic MCRT	days	45.8	-2.8	UCL	-11		4	5	18	25	20
207	Aeration Basin SVI Average	ml/g	100	-0		93.51				200	250	20
402	Final Plant Effluent CBOD	mg/l	0	0					20	30		12
407	Final Plant Effluent D.O.	mg/l	7.5	0		7.5		5.0	5.5			20
408	Final Plant Effluent pH #1	SU	6.5	0		6.6		6.2	6.4	8.5	9.0	20
410	Final Plant Effluent TSS	mg/l	6	-1		-7				20	25	12
406	Final Plant Effluent Temperature	Deg C	18.4	-0		17.9						20
411	Final Plant Effluent TSS lbs	lbs	361	-39		-588						12
414	Final Plant Effluent Nitrite	mg/l	0.1	0		0.23			2.0	4.0		12
415	Final Plant Effluent Nitrate	mg/l	2.2	0		3.3			7.0	10.0		12
417	Final Plant Effluent NH3N	mg/l	2.4	0		2.84			1.5	3.0		12
437	FPE Total Recoverable Zinc kg/d	KG/Day	2.69	0		10.19		0.0	0.0	3.00	4.85	4
434	FPE Total Recoverable Copper kg/d	KG/Day	0.13	0				0.0	0.0	1.00	1.40	1
394	E. Coli	#/100mL		0						200	300	0
3262	E. Coli Monthly Geometric Mean	Col/100ml		0						75	100	0
868	Chlorine Residual Daily Average	mg/l		0						0.05	0.06	0
425	Final Plant Effluent Turbidity	ntu	3.0	0		3.8				5	10	20
426	Final Plant Effluent Settleable Solids	ML/L	0.1	0		0.00				10	25	20
427	Final Plant Effluent TSS % Removal	%	97	0				85	90			1
428	Final Plant Effluent CBOD % Removal	%	100	0				85	90			1
405	Final Plant Effluent UOD	mg/l	10.9	0		12.97				35.0	40.8	12
2011	FBI Free Board Temp from DAS	Deg F	1,650	-1		1,635				1675	1700	28
2012	FBI Bed Temperature From CEMS Reports	Deg F	1,425	-0		1,421		1250	1350	1500	1600	28
609	Incin Feed Cake %TS (Lab)	%	23.1	0		23.2		21	23			28
2001	Avg Incinerator Feed Rate (Abel %)	%	79.2	0	UWL	82.1		30	35	75	85	28
2006	FBI Feed Rate 30-Day Moving Average	DTPH	3.13	0		3.28		2.2	2.5	3.5	3.600	28

Comments/Notes:

Process Control Review Signature: _____

Date: / /

Plant Manager Review Signature: _____

Date: / /

PLANT STATUS CHECKLIST

DATE	SEPTAGE INSIDE	SEPTAGE TO W/W	#1 THK OVRFLW SOLIDS	PRI TK OVERFLW SOLIDS	PIN FLOC OBSERVED	NOTES
2/22/18	XX		XX	XX		
2/23/18	XX		XX	XX		
2/24/18	XX		XX	XX		
2/25/18	XX		XX	XX		
2/26/18	XX		XX	CLOUDY		
2/27/18	XX			CLOUDY	XX	
2/28/18	XX					
3/1/18	XX		XX	XX	XX	Bottom of #4 sec visible
3/2/18	XX		XX			
3/3/18	XX		XX			
3/4/18	XX					
3/5/18	XX				XX	
3/6/18	XX				XX	
3/7/18	XX					
3/8/18	XX					
3/9/18	XX					
3/10/18	XX					
3/11/18	XX					
3/12/18	XX					
3/13/18	XX				XX	
3/14/18		XX			XX	
3/15/18		XX	XX		XX	
3/16/18		XX			XX	
3/17/18		XX				
3/18/18		XX				
3/19/18	XX				XX	
3/20/18	XX				XX	
3/21/18	XX					
3/22/18	XX					
3/23/18		XX				
3/24/18	XX					
3/25/18	XX					

Unit Process Report - Activated Sludge

Start Date 01/01/18

End Date 01/31/18

Forecast 20

Rpt Date: 04/18/18

#	Parameter	Units	Average	Min	Max	Trend	Flag	Forecast	Target	LAL	LWL	UWL	UAL	# Samples
20	Raw Sewage Pumps Discharge	MGD	7.1	6	11	0		7						31
						0								
114	Combined Primary Effluent CBOD	mg/l	158	140	170	-5		73						5
193	Primary Effluent COD (in-house)	mg/L	534	315	947	-9		439						17
168	Primary Effluent TSS- inhouse	(mg/l)	167	42	550	4		208						22
127	CPE NH3N Nutrient Report	mg/l	26.2	26.2	26.2	0								1
118	Combined Primary Effluent TKN	mg/l	38.6	38.6	38.6	0								1
123	Combined Primary Effluent Nitrates	mg/l	0.33	0.33	0.33	0								1
121	Combined Primary Effluent Total P	mg/l				0								0
133	Primary Effluent Ortho-Phosphorus	(ug/L)	5.4	2.9	8.2	-1		-5.82						7
3239	Primary Effluent cBOD Load	lbs/d	9,128	7,825	10,948	164		11,921.39						5
3238	Primary Effluent TSS Load	lbs/d	10,433	2,554	38,647	305		13,549						22
3240	Primary Effluent Ammonia-N Load	lbs/d	1,064	803	1,358	2		1,092						23
3241	Primary Effluent TKN Load	lbs/d	1,943	1,943	1,943	0								1
3242	Primary Effluent orthoP Load	lbs/d	336.2	183.3	607.7	-35		-226.13						7
204	Aeration Basin Average MLSS Temp	Deg C	19.4	14.7	22.5	0		20.14		10	12			22
126	Combined Primary Effluent pH	SU	6.7	6.4	7.0	-0		6.55						22
117	Primary Effluent Alkalinity	mg/l	151	100	200	-0		148						22
151	Aeration Basin 3 MLSS	mg/l	4,777	2,532	6,616	17		4,853						22
157	Aeration Basin 3 MLVSS	mg/l	3,589	2,000	4,572	-117		1,292						5
158	Aeration basin 3 MLVSS Fraction	%	72.0	71.5	72.8	0		72.91		60	65			6
153	Aeration Basin 6 MLSS	mg/l	6,018	4,556	7,260	33		6,298						22
159	Aeration Basin 6 MLVSS	mg/l	4,200	3,300	4,656	-82		2,644						5
160	Aeration basin 6 MLVSS Fraction	%	71.7	71.3	72.2	-0		69.74		60	65			6
161	AB123 MLVSS lbs under aeration	lbs	51,642	27,504	71,262	188		52,524						22
162	AB456 MLVSS lbs under aeration	lbs	64,648	49,349	77,690	341		67,465						22
284	Aeration Train #1 Hi D.O.	mg/l	2.4	2.0	4.2	-0		2.37		0.80	1.00	2.50		31
285	Aeration Train #1 Low D.O.	mg/l	0.87	0.10	1.30	0	LWL	0.92		0.80	1.00	2.50		31
286	Aeration Train #2 Hi D.O.	mg/l	2.15	1.90	2.40	-0		2.14		0.80	1.00	2.50		31
286	Aeration Train #2 Low D.O.	(mg/l)	1.03	0.30	1.40	-0		0.98		0.80	1.00	2.50		31
202	Aeration Basin 3 SSV30	ML/L	391	200	610	-1		376						22
205	Aeration Basin 1 & 3 SVI	ml/g	81	44	98	-0		76		50	60	150	200	22
186	Aeration Basin 6 SSV30	ML/L	531	270	730	-3		508						22
206	Aeration Basin 4 & 6 SVI	ml/g	88.2	40.6	109.6	-1		80.42		50	60	150	200	22
207	Aeration Basin SVI Average	ml/g	84.6	51.9	101.0	-1		78.18		50	60	150	200	22
319	Food to Microorganism Ratio	Number	0.08	0.06	0.14	0		0.09				0.20	0.40	22
3244	Aerobic SRT	days	429.3	12.7	914.0	44		609.49						31
						0								
						0								
						0								
17	Blanket Clarifier #1	ft	4.1	2.0	7.0	0		7.82				7.0	8.5	14
18	Blanket Clarifier #2	ft	4.6	2.5	7.0	-0		4.37				7.0	8.5	26
19	Blanket Clarifier #3	ft	4.7	2.5	11.0	0		4.91				7.0	8.5	31
9	Return Meter Flow	MGD	5.6	4.4	7.3	0		5.89						31
10	Return Flow %	%	81	47	106	0		82						31
330	Return Solids Concentration #1	%	1.00	0.07	1.34	0		1.01						22
331	Return Solids Concentration #2	%	1.29	0.97	1.78	0		1.45						22
190	1 & 2 WAS/RAS VSS (in-house)	(mg/l)	8,049	7,752	8,388	184		11,248						4
3231	3 WAS/RAS VSS (in-house)	(mg/l)	8,356	7,292	9,324	-582		-2,217						4
195	Daily Wasting all tanks - metered	GPD	94,182	105	376,354	-4,573		74,413.48						31
3243	WAS Lbs (metered)	Lbs	8,856	10	35,154	-410		7,076.59						31
3245	Lbs WAS per Lbs of cBOD removed		1.11	0.26	1.72	-0.06		0.87						31
431	Final Plant Effluent Alkalinity	mg/l	85.9	40.0	110.0	0		89.45		60	70			22
5	Final Plant Effluent Flow	MGD	5.16	3.67	9.78	0		5.41						31
410	Final Plant Effluent TSS	mg/l	0.80	0.00	6.00	-0		-0.74				6.5	7.5	15
402	Final Plant Effluent CBOD	mg/l	0.28	0.00	4.20	0		1.36				5.0	5.5	15
413	Final Plant Effluent TKN	mg/l	3.17	1.25	8.34	0		3.99						15
417	Final Plant Effluent NH3N	mg/l	1.91	0.09	7.18	0	UAL	2.83				0.65	1.10	15
415	Final Plant Effluent Nitrate	mg/l	2.71	0.80	4.26	-0		1.00				3.89	4.88	15
	Effluent Total Nitrogen	mg/l	5.96	3.40	9.60	-0		5.06						15
	Final Plant Effluent Nitrogen lbs	lbs	256	137	512	2	UAL	280.90	<246			197	221	15
421	Final Plant Effluent Ortho P	mg/l	4.06	1.55	7.18	-0		-2.42						10
420	Final Plant Effluent Total Phosphorus	mg/l	4.10	1.59	7.22	-0		-2.28						10

Process Control Signature:

Date: / /

Dewatering Unit Process Report

Start Date 03/01/18
 End Date 03/31/18
 Forecast 20

Rpt Date: 04/18/18

#	Parameter	Units	Average	Min	Max	Trend	Flag	Forecast	Target	LAL	LWL	UWL	UAL	# Samples
1000	East BFP Run Time	hours	13.4	0.5	24.0	-0		8.14						
1005	East BFP Feed Rate	gpm	76.2	68.0	91.0	-1		64.46		70	75			19
1011	EAST BFP POLYMER SPEED	%	50.6	44.0	54.0	0		52.89				60	65	18
1018	East Belt Filter Press Cake	%	19.8	17.8	22.8	0		21.16		17	18			18
1001	West BFP Run Time	hours	13.9	0.5	24.0	-1		10.00						
1006	WEST BFP FEED RATE	gpm	80.9	68.0	91.0	-1		75.70		70	75			24
1012	WEST BFP POLYMER SPEED	%	73.0	50.0	90.0	0	UAL	75.94				60	65	23
1019	West Belt Filter Press Cake	%	20.6	17.9	23.4	0		21.36		17	18			23
1002	North Centrifuge Run Time	hours	13.3	5.0	20.0	0		14.64						
1007	NORTH CENTRIFUGE FEED RATE	gpm	79.9	72.0	91.0	-0		76.57						25
1013	North CENTRIFUGE POYMER SPEG	%	49.7	42.0	57.0	0		51.27						25
1020	North Centrifuge Cake	%	23.4	19.2	25.5	0		23.48		21	22			25
1003	South Centrifuge Run Time	hours	14.2	2.0	22.5	0		14.40						24
1008	SOUTH CENTRIFUGE FEED RATE	gpm	86.1	81.0	93.0	0		87.26						28
1014	South CENTRIFUGE POYMER SPEG	%	44.0	37.0	50.0	0		45.14						28
1021	South Centrifuge Cake	%	23.5	21.4	26.6	0		23.54		21	22			28
1016	DEWATERING FEED % SOLIDS	%	2.9	2.5	3.9	-0		2.87						22
3246	Dewatering Centrate	% Solids	0.2	0.2	0.2	-0		0.15			.60	.75		4
						0								
						0								
						0								
						0								
						0								
						0								
						0								
						0								

Process Control Signature: _____

Date: / /



CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Coolant: Yes No IPK ICE

Temp °C _____ Pg _____

Data Delivery: Fax # _____
 Email: rafal.gaciarz@veolia.com

Customer: Veolia Water, NA
 Address: 500 Cherry St Ext
 Naugatuck, Ct 06770
 Attn: Rafal Gaciarz

Project: Naugatuck
 Report to: Rafal Gaciarz
 Invoice to: 2017-11-1
 Phone #: 203-723-1433 ext 2015
 Fax #: 203-723-8539

Project P.O.: 2017-11 -1

This section MUST be completed with Bottle Quantities.

Sampler's Signature _____ Date: _____

Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
 OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
	Final Effluent	WW	11/5/2017	*24hr
	Influent	WW	11/5/2017	*24hr
	Primary	WW	11/5/2017	*24hr
	Primary Influent	WW	11/5/2017	*24hr

Analysis Request	CRD, TSS, NH3	NO2, NO3, TN, TON	Ortho Phos, Total Phos	Selenium, Zinc	Asenic, Copper, Nickel	WASTE PHTY ACID
Soil VOA Yest. [methanol] H2O	X	X	X	X	X	X
40 ml VOA Vial [As Is] HCl	X	X	X	X	X	X
GL Soil container () or	X	X	X	X	X	X
GL Amber 1000ml [As Is] H2SO4	X	X	X	X	X	X
PL As Is [250ml] [As Is] H2SO4	X	X	X	X	X	X
PL HNO3 250ml	X	X	X	X	X	X
Bacteria Bottle	X	X	X	X	X	X

Relinquished by: _____ Accepted by: _____

Date: _____ Time: _____

Turnaround:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

Comments, Special Requirements or Regulations:
 *Final Effluent Sample time - 11/5 ~ 12:18am to 11/6 ~ 12:35am
 *Influent Sample time - 11/5 ~ 12:15am to 11/6 ~ 12:25am
 *Primary Sample time - 11/5 ~ 12:30am to 11/6 ~ 12:40am

RI Direct Exposure (Residential)
 GW
 Other

CT RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 I/C DEC
 Other

MA MCP Certification
 GW-1
 GW-2
 GW-3
 S-1
 S-2
 S-3
 MWRA eSMART
 Other

Data Format
 Excel
 PDF
 GIS/Key
 EQUIS
 Other

Data Package
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

State where samples were collected: _____ CT _____

* SURCHARGE APPLIES

* SURCHARGE APPLIES



CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Cooler: Yes No
 Coolant: IPK ICE
 Temp °C Pg 10 of 10

Data Delivery:
 Fax #:
 Email: rafal.gaciarz@veolia.com

Project: Naugatuck
 Report to: Rafal Gaciarz
 Invoice to: 2017 - 11 - 3
 Phone #: 203-723-1433 ext.2015
 Fax #: 203-723-8539

Project P.O.: 2017 - 11 - 3
 Project: Naugatuck
 Report to: Rafal Gaciarz
 Invoice to: 2017 - 11 - 3
 Phone #: 203-723-1433 ext.2015
 Fax #: 203-723-8539

Customer: Veolia Water, NA
 Address: 500 Cherry St Ext
Naugatuck, Ct 06770
 Attn: Rafal Gaciarz

Sampler's Signature _____ Date: _____
 Client Sample - Information - Identification

Matrix Code:
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
 OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
	Final Effluent	WW	11/7/2017	24hr
	Influent	WW	11/7/2017	24hr

Analysis Request	GHG, TSS, NH3, TKN, TON		NO2, NO3, TN, TON		Soil VOC Vials (Tetrahal) / H2O		GL soil container () or		30 ml VOA Vial (AS is) / HCl		PL Amber 1000ml (AS is) / HCl		PL AS is (250ml (X) 500ml () 1000ml)		PL H2SO4 (X) 250ml () 500ml () 1000ml)		Bacteria Bottle	
	X	X																
	X	X																

This section MUST be completed with Bottle Quantities.

Relinquished by: _____ Accepted by: _____

Date: _____ Time: _____

Turnaround:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

* SURCHARGE APPLIES

Comments, Special Requirements or Regulations:
 *Final Effluent Sample time- 11/7/17 ~12:49am to 11/8/17 ~12:34am
 *Influent Sample time- 11/7/17 ~12:45am to 11/8/17 ~12:30am

State where samples were collected: CT

* SURCHARGE APPLIES

MA
 MCP Certification
 GW-1
 GW-2
 GW-3
 S-1
 S-2
 S-3
 MWRA eSMART
 Other

CT
 RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 I/C DEC
 Other

RI
 Direct Exposure (Residential)
 GW
 Other

Data Format
 Excel
 PDF
 GIS/Key
 EQUIS
 Other

Data Package
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

CHAIN OF CUSTODY RECORD



587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Coolant: IPK ICE No Yes

Temp °C _____ °F _____

Data Delivery: Fax # _____
 Email: rafal.gaciarz@veolia.com

Customer: Veolia Water, NA Project: Naugatuck Project P.O.: 2017-11-5
 Address: 500 Cherry St Ext Report to: Rafal Gaciarz
Naugatuck, Ct 06770 Invoice to: 2017-11-5
 Attn: Rafal Gaciarz Phone #: 203-723-1433 ext 2015
 Fax #: 203-723-8539

This section MUST be completed with Bottle Quantities.

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
	Final Effluent	WW	11/13/17	*24hr	GRD TSS NH3 TKN TON Ortho Phos Total Phos Ecol
	Influent	WW	11/13/17	*24hr	GRD TSS NH3 TKN TON Ortho Phos Total Phos Ecol
					Soil VOA Vials (Methanol) 1 H2O
					GL Soil container () oz
					40 ml VOA Vial (Asst HCl)
					GL Amber 100ml (Asst HCl)
					PL As Is (250ml) (X) 500ml 1500ml
					PL H2SO4 (X) 250ml 1500ml
					PL HNO3 250ml
					PL NaOH 250ml
					Bacteria Bottle

Relinquished by: _____ Accepted by: _____

Date: _____ Time: _____

Turnaround:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

Comments, Special Requirements or Regulations:
 *Final Effluent Sample time - 11/13 ~ 12:42am to 11/14 ~ 12:10pm
 *Influent Sample time - 11/13 ~ 12:38am to 11/14 ~ 12:05pm

RI Direct Exposure (Residential)
 GW
 Other

CT RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 I/C DEC
 Other

MA MCP Certification
 GW-1
 GW-2
 GW-3
 S-1
 S-2
 S-3
 MWRA eSMART
 Other

Data Format
 Excel
 PDF
 GIS/Key
 EQUIS
 Other

Data Package
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

State where samples were collected: _____ CT _____

* SURCHARGE APPLIES

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726



Customer: Veolia Water, NA
Address: 500 Cherry St Ext
 Naugatuck, Ct 06770
 Attn: Rafal Gaciarz

Project: Naugatuck
Report to: Rafal Gaciarz
Invoice to: 2017-10-8
Phone #: 203-723-1433 ext 2015
Fax #: 203-723-8539

Project P.O.: 2017-10-8

Coolant: IPK ICE No
 Temp °C _____ °F _____
 Cooler: Yes No

Data Delivery:
 Fax #:
 Email: rafal.gaciarz@veolia.com

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification
 Sampler's Signature _____ Date: _____

Matrix Codes:
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
 OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
	Final Effluent	WW	10/16/17	*24hr
	Influent	WW	10/16/17	*24hr

Analysis Request	GD0 TSS NH3	GD0 NO2, TKN, TON	GD0 Phos, Total Phos	EcCol	GI Soil container () or 40 ml VOA Vial ()	GI Soil container () or 40 ml VOA Vial ()	GL Amber 100ml () or PL As ts ()	PL H2SO4 (X) 250ml ()	PL HNO3 250ml ()	PL NaOH 250ml ()	Bacteria Bottle
	X	X	X					X			
	X	X						X			

Relinquished by: _____ **Accepted by:** _____

Date: _____ **Time:** _____

RI Direct Exposure (Residential) GW Other

CT RCP Cert GW Protection SW Protection GA Mobility GB Mobility Residential DEC I/C DEC Other

MA MCP Certification GW-1 GW-2 GW-3 S-1 S-2 S-3 MWRA eSMART Other

Data Format
 Excel PDF GIS/Key EQUiS Other

Data Package
 Tier II Checklist Full Data Package* Phoenix Std Report Other

Turnaround:
 1 Day* 2 Days* 3 Days* Standard Other

Comments, Special Requirements or Regulations:
 *Final Effluent Sample time - 10/16 ~ 12:39am to 10/17 ~ 12:49am
 *Influent Sample time - 10/16 ~ 12:35am to 10/17 ~ 12:45am

State where samples were collected: _____ **CT** _____

* SURCHARGE APPLIES



CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Cooler: Yes No
 Coolant: IPK ICE
 Temp °C Pg of

Data Delivery:
 Fax #:
 Email: rafal.gaciarz@veolia.com

Customer: Veolia Water, NA
 Address: 500 Cherry St Ext
 Naugatuck, Ct 06770
 Attn: Rafal Gaciarz

Project: Naugatuck
 Report to: Rafal Gaciarz
 Invoice to: 2017-10-9
 Phone #: 203-723-1433 ext 2015
 Fax #: 203-723-8539

Project P.O.: 2017-10-9

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
	Final Effluent	WW	10/17/17	*24hr	GRD TSS, NH3, NO2, NO3, TN, TON, EcCol
	Influent	WW	10/17/17	*24hr	GRD TSS, NH3, NO2, NO3, TN, TON, EcCol
					Soil VOA Vials 1 Methanol 1 H2O
					40 ml VOA Vial 1 As Is 1 HCl
					GL Soil container () oz
					GL Amber 1000ml 1 As Is 1 HCl
					PL Amber 1000ml 1 As Is 1 H2SO4
					PL HNO3 250ml
					PL H2SO4 250ml
					PL HNO3 250ml
					PL H2SO4 250ml
					PL Amber 1000ml 1 As Is 1 H2SO4
					Bacteria Bottle

Relinquished by: _____ Accepted by: _____

Date: _____ Time: _____

RI Direct Exposure (Residential)
 GW
 Other

CT RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 I/C DEC
 Other

MA MCP Certification
 GW-1
 GW-2
 GW-3
 S-1
 S-2
 S-3
 MWRA eSMART
 Other

Data Format
 Excel
 PDF
 GIS/Key
 EQUIS
 Other

Data Package
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

Turnaround:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

Comments, Special Requirements or Regulations:
 *Final Effluent Sample time - 10/17 ~ 12:49am ~ to 10/18 ~ 12:34am
 *Influent Sample time - 10/17 ~ 12:45am to 10/18 ~ 12:30am

State where samples were collected: CT

* SURCHARGE APPLIES

This section MUST be completed with Bottle Quantities.



CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Coolant: IPK ICE No Yes
 Temp °C Pg of

Data Delivery: Fax # _____
 Email: rafal.gaciarz@veolia.com

Customer: Veolia Water, NA
 Address: 500 Cherry St Ext
 Naugatuck, Ct 06770
 Attn: Rafal Gaciarz

Project: Naugatuck
 Report to: Rafal Gaciarz
 Invoice to: 2017-10-10(1)
 Phone #: 203-723-1433 ext 2015
 Fax #: 203-723-8539

Project P.O: 2017-10-10(1)

This section MUST be completed with Bottle Quantities.

Sampler's Signature _____ Date: _____

Matrix Code:
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
 OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
	Final Effluent	WW	10/29/17	*24hr
	Influent	WW	10/29/17	*24hr
	Primary	WW	10/29/17	*24hr
	Primary Influent	WW	10/29/17	*24hr

Client Sample - Information - Identification

Analysis Request	GHG TSS	NH3, NO2, NO3 TN, TON	Arsenic, Nickel, Selenium, Zinc	Volatile Fatty Acids	Soil VOA Vial [methanol] [H2O]	40 ml VOA Vial [methanol] [H2O]	GI Soil container ()oz	GI Amber 1000ml [As] [HCl]	PL As [As] [250ml] [X] 500ml [] 1000ml	PL H2SO4 [X] 250ml [] 500ml [] 1000ml	Bacteria Bottle
	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X

Refrigerated by: _____ Accepted by: _____

Date: _____ Time: _____

Turnaround:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

Comments, Special Requirements or Regulations:
 *Final Effluent Sample time - 10/29 ~ 12:05am to 10/30 ~ 12:30am
 *Influent Sample time - 10/29~ 12:00am to 10/30 ~ 12:40am
 *Primary Sample time - 10/29 ~ 12:30am to 10/30 ~ 1:00am

RI Direct Exposure (Residential)
 GW
 Other

CT RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 I/C DEC
 Other

MA MCP Certification
 GW-1
 GW-2
 GW-3
 S-1
 S-2
 S-3
 MWRA eSMART
 Other

Data Format
 Excel
 PDF
 GIS/Key
 EquiS
 Other

Data Package
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

* SURCHARGE APPLIES

State where samples were collected: CT

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726



Customer: Veolia Water, NA
 Address: 500 Cherry St Ext
Naugatuck, Ct 06770
Attn: Rafal Gaciarz

Project: Naugatuck
 Report to: Rafal Gaciarz
 Invoice to: 2017-10-11(1)
 Phone #: 203-723-1433 ext 2015
 Fax #: 203-723-8539

Project P.O.: 2017-10-11(1)

Coolant: IPK ICE No Yes
 Temp: _____ °C _____ °F
 Pg _____ of _____

Data Delivery:
 Fax #:
 Email: rafal.gaciarz@veolia.com

This section MUST be completed with Bottle Quantities.

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
	Final Effluent	WW	10/30/17	*24hr	NO2, TSS, NH3 COD, TSS, NH3 Ortho Phos, Total Phos Ecoli
	Influent	WW	10/30/17	*24hr	NO2, TSS, NH3 COD, TSS, NH3 Ortho Phos, Total Phos Ecoli
					SOIL VOA Vials [Methanol] H2O
					GL Soil container () oz
					40 ml VOA Vial [As Is] [HCl]
					GL Amber 100ml [As Is] [HCl]
					PL As Is [250ml [X] 500ml [1500ml
					PL H2SO4 [X] 250ml [1500ml
					PL HNO3 250ml
					Bacteria Bottle

Relinquished by: _____ Accepted by: _____

Date: _____ Time: _____

RI Direct Exposure (Residential)
 GW
 Other

CI RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 I/C DEC
 Other

MA MCP Certification
 GW-1
 GW-2
 GW-3
 S-1
 S-2
 S-3
 MWRA eSMART
 Other

Data Format
 Excel
 PDF
 GIS/Key
 EQUIS
 Other

Data Package
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

Turnaround:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

* SURCHARGE APPLIES

State where samples were collected: _____ CT _____

* SURCHARGE APPLIES

Comments, Special Requirements or Regulations:
 *Final Effluent Sample time - 10/30 ~ 12:30am to 10/31 ~ 1:49am
 *Influent Sample time - 10/30 ~ 12:40am to 10/31 ~ 1:45am



CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Coolant: Yes No
 IPK ICE of
 Temp °C Pg

Data Delivery:
 Fax #
 Email: rafal.gaciarz@veolia.com

Customer: Veolia Water, NA
 Address: 500 Cherry St Ext
Naugatuck, Ct 06770
 Attn: Rafal Gaciarz

Project: Naugatuck
 Report to: Rafal Gaciarz
 Invoice to: 2017-10 -12(1)
 Phone #: 203-723-1433 ext 2015
 Fax #: 203-723-8539

Project P.O.: 2017-10-12(1)

This section MUST be completed with Bottle Quantities.

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
	Final Effluent	WW	10/31/17	*24hr	GRD TSS, NH3, TN, TP, NO2, NO3, TN, TON, ESOL
	Influent	WW	10/31/17	*24hr	GRD TSS, NH3, TN, TP, NO2, NO3, TN, TON, ESOL
					Soil VOA Vials [Methanol] H2O
					GL Soil container () oz
					40 ml VOA Vial [Asite] HCl
					GL Amber 1000ml [Asite] HCl
					PL ASite [250ml] [Asite] H2SO4
					PL HNO3 [X] 250ml [1500ml]
					PL HNO3 250ml
					Bacteria Bottle

Relinquished by: _____ Accepted by: _____

Date: _____ Time: _____

RI: Direct Exposure (Residential) GW Other

CT: RCP Cert GW Protection SW Protection GA Mobility GB Mobility Residential DEC I/C DEC Other

MA: MCP Certification GW-1 GW-2 GW-3 S-1 S-2 S-3 MWRA eSMART Other

Data Format: Excel PDF GIS/Key EQUIS Other

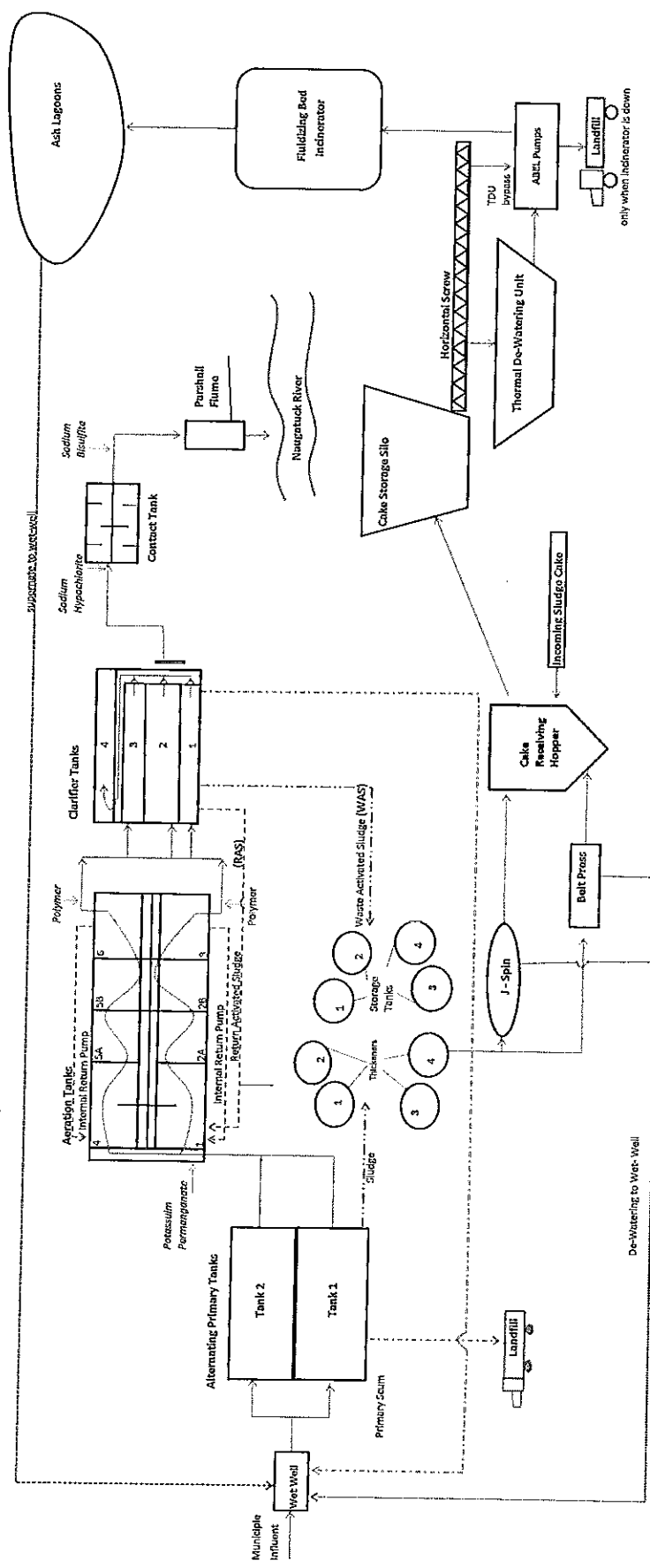
Data Package: Tier II Checklist Full Data Package* Phoenix Std Report Other

Turnaround: 1 Day* 2 Days* 3 Days* Standard Other

*SURCHARGE APPLIES

State where samples were collected: CT

*SURCHARGE APPLIES



only when Indicator is down

De-Watering to Wet-Well

Part A: General Discharge Information (continued)

Discharge Serial Number:

4. Average Daily Flow (gpd): 4,700,00 Maximum Daily Flow (gpd): 18,300,000

Design Flow (gpd): 10,300,000

Date discharge began or will begin:

5. Is the discharge continuous? Yes No
If yes, indicate:

Average number of hours per day of the discharge: 24

Maximum number of hours per day of the discharge: 24

6. For other than a continuous discharge (e.g., batch, intermittent, or seasonal discharges), indicate:

Average number of hours per event of the discharge:

Maximum number of hours per event of the discharge:

The duration and frequency of the discharge:

7. Description of each specific activity or each process generating the discharge and identification of all types of waste generated by each process.

Discharge of water which has been treated through primary treatment, secondary treatment (aeration and nitrification/de-nitrification), and chlorination/de-chlorination (May 1st to September 31st). Solids generated from treatment process plus sludge hauled to facility is incinerated in a fluid bed incinerator. The ash remaining from the incineration process is hauled to a permitted landfill.

Check here if additional sheets are necessary, please label and attach them to this sheet.

Part A: General Discharge Information (continued)

8. Process and/or Treatment Substances		Discharge Serial Number:088-001
Name of substances used in generating the wastewater	List of toxic or hazardous substances contained in process and/or treatment substance	List any available aquatic toxicity test results for process and/or treatment substance
Treated domestic and industrial wastewater	Not applicable	Not applicable
Treatment Chemicals	Sodium Hypochlorite Sodium Hydroxide Polymers (mannich and emulsion) Soda Ash Sodium Bisulfite Sodium Permanganate	

Part A: General Discharge Information (continued)

Effluent Limitations and Conditions

Discharge Serial Number: 088-001

9a. Is this discharge described by any discharge categories listed in Appendix A, "Primary Industry Categories" of RCSA sections 22a-430-3 and 4?

Yes No

9b. Are there any treatment requirements established in RCSA section 22a-430-4(s)?

Yes No

10a. Is there an effluent limitation, standard, guideline, or categorical pretreatment standard established for this type of discharge in 40 CFR Parts 400-471 or elsewhere pursuant to 301, 306, 307, 318, 405 of the Clean Water Act?

Yes No

If you answered yes to question 10a, or 10b, or 11a, please complete the following table by providing the name of the discharge category and the specific citation to the regulation, if applicable, that establishes the limitation or condition.

Name of discharge category and appropriate citation from state and/or federal regulations.	Effluent limitation or condition: yes or no	Name of subpart and appropriate subpart citation
<i>Example:</i> Iron and Steel Manufacturing; 40 CFR Part 420, RCSA section 22a-430-4(s)	yes	Acid Pickling; 40 CFR Part 420: subpart I

Attachment O: Discharge Information (continued)

Part B: Discharge Analysis

All applicants must complete Part B, Tables 1 through 4 for each discharge. Be sure to review the instructions; specifically, "Testing Requirements for All Discharge Categories", Schedule A in the instructions under Attachment O before completing this part. In addition, please note that for existing discharges previously licensed by DEEP, identify the substances that were monitored in the existing permit by placing "PP" in the "Daily Composite or Grab Sample Results" column by the substance. For such substances, you need not repeat the analytical results in Tables 1 through 4, as long as such results are provided in Attachment W of the application.

Please indicate whether the discharge analysis was based on (check one):

Projection Actual wastewater Wastewater from other similar discharge

All applicants must provide analysis results in column 1 for <i>all</i> the substances listed in Table 1 and other information needed to complete columns 2 and 3, for each discharge except the following: For discharges of non-contact cooling water, heat pump wastewaters and blowdown from heating and cooling equipment, provide analysis results for substances numbered in Table 1 as 3, 5, 6, and 11 through 16 only.			
Table 1			
Date Sampled: 8/17/2018		Discharge Serial Number:	
GENERAL	1 Daily Composite or Grab Sample* Results	2 Number of Analyses	3 EPA** Method
1. Biochemical Oxygen Demand (5Day)	<4.0 mg/L	1	
2. Chemical Oxygen Demand	No		
3. Oil and Grease, Total*	No		
4. Oil and Grease, Hydrocarbon Fraction*	No		
5. Total Suspended Solids	<5.0 mg/L	1	
6. Ammonia (as Nitrogen)	0.13 mg/L	1	350.1
7. Phosphorus (Total)	0.354 mg/L	1	
8. Nitrate	2.87 mg/L	1	353.2
9. Nitrite	<0.010 mg/L	1	353.2
10. Total Kjeldahl Nitrogen	PP		
11. Total Residual Chlorine*	0.05 mg/L	1	
12. Temperature (Winter and Summer)*	PP		
13. pH (minimum and maximum)*	PP		
14. Copper, Total	<0.006 mg/L	1	
15. Lead, Total	<0.001 mg/L	1	
16. Zinc, Total	0.035 mg/L	1	

* Check the instructions under this part for the required method of sample collection.

** For surface water discharges only, check the instructions for *required* EPA methods of analyses.

Part B: Discharge Analysis (continued)

All applicants must complete Table 2 for each discharge by placing an "X" in column 1, if applicable *and* by placing an "X" in column 2 or 3. If column 1 or 2 is marked for any substance, you *must* provide analysis results in column 4 for that substance and other information needed to complete columns 5 and 6 for that substance.

Table 2						
Date Sampled: 8/13/18		Discharge Serial Number:				
TOXIC METALS, CYANIDES, PHENOLS	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
1. Antimony, Total	No					
2. Arsenic, Total	yes		X	<0.002 mg/L	1	200.7
3. Beryllium, Total	yes		X	<0.001 mg/L	1	200.7
4. Cadmium, Total	yes		X	<0.0001 mg/L	1	
5. Chromium, Total	yes		X	<0.001 mg/L	1	200.7
6. Chromium,	yes		X	<0.01 mg/L	1	
7. Mercury, Total	yes		X	<0.0002 mg/L	1	245.1
8. Nickel, Total	yes		X	0.008 mg/L	1	200.7
9. Selenium, Total	yes		X	0.003 mg/L	1	
10. Silver, Total	yes		X	<0.001 mg/L	1	200.7
11. Thallium, Total	yes		X	<0.001 mg/L	1	
12. Cyanide, Total*	Yes		X	<0.010 mg/L	1	335.4
13. Cyanide,	yes		X	<0.010 mg/L	1	
14. Phenols, Total*	no					

Part B: Discharge Analysis (continued)

Table 2 (continued)						
Date Sampled:		Discharge Serial Number:				
VOLATILES*	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
1. Acrolein	No					
2. Acrylonitrile	No					
3. Benzene	No					
4. Bromoform	No					
5. Carbon Tetrachloride	No					
6. Chlorobenzene	No					
7. Chlorodibromomethane	No					
8. Chloroethane	No					
9. 2-Chloroethylvinyl Ether	No					
10. Chloroform	No					
11. Dichlorobromomethane	No					
12. 1, 1-Dichloroethane	No					
13. 1, 2-Dichloroethane	No					
14. 1, 1-Dichloroethylene	No					
15. 1, 2-Dichloropropane	No					
16. 1, 3-Dichloropropylene	No					
17. Ethylbenzene	No					
18. Methylbromide	No					
19. Methylchloride	No					
20. Methylene Chloride	No					
21. 1, 1, 2, 2,-Tetrachloroethane	No					
22. Tetrachloroethylene	No					
23. Toluene	No					
24. 1, 2-Trans-Dichloroethylene	No					

Part B: Discharge Analysis (continued)

Table 2 (continued)						
Date Sampled:	Discharge Serial Number:					
VOLATILES*	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
25. 1, 1, 1-Trichloroethane	No					
26. 1, 1, 2- Trichloroethane	No					
27. Trichloroethylene	No					
28. Vinyl Chloride	No					
GC/MS FRACTION ACID COMPOUNDS						
1. 2-Chlorophenol	No					
2. 2, 4-Dichlorophenol	No					
3. 2, 4-Dimethylphenol	No					
4. 4, 6-Dinitro-O-Cresol	No					
5. 2, 4-Dinitrophenol	No					
6. 2-Nitrophenol	No					
7. 4-Nitrophenol	No					
8. P-Chloro-M-Cresol	No					
9. Pentachlorophenol	No					
10. Phenol	No					
11. 2, 4, 6- Trichlorophenol	No					
BASE NEUTRAL COMPOUNDS						
1. Acenaphthene	No					
2. Acenaphthylene	No					
3. Anthracene	No					
4. Benzidine	No					
5. Benzo(a)anthracene	No					
6. Benzo(a)pyrene	No					
7. 3, 4-Benzo-fluoranthene	No					

Part B: Discharge Analysis (continued)

Table 2 (continued)						
Date Sampled:		Discharge Serial Number:				
BASE NEUTRAL COMPOUNDS	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
8. Benzo(ghi)perylene	No					
9. Benzo(k) fluoranthene	No					
10. Bis(2-Chloroethoxy) Methane	No					
11. Bis(2-Chloroethyl) Ether	No					
12. Bis(2-Chloroisopropyl) Ether	No					
13. Bis(2-Ethylhexyl) Phthalate	No					
14. 4-Bromophenylphenyl Ether	No					
15. Butylbenzyl Phthalate	No					
16. 2-Chloronaphthalene	No					
17. 4-Chlorophenylphenyl Ether	No					
18. Chrysene	No					
19. Dibenzo(a, H)anthracene	No					
20. 1, 2-Dichlorobenzene	No					
21. 1, 3-Dichlorobenzene	No					
22. 1, 4-Dichlorobenzene	No					
23. 3, 3-Dichlorobenzidine	No					
24. Diethyl phthalate	No					
25. Dimethyl phthalate	No					
26. Di-n-butyl phthalate	No					
27. 2, 4-Dinitrotoluene	No					
28. 2, 6-Dinitrotoluene	No					
29. Di-n-octyl phthalate	No					
30. 1, 2-Diphenylhydrazine (as Azobenzene)	No					
31. Fluoranthene	No					

Part B: Discharge Analysis (continued)

Table 2 (continued)

Date Sampled:

Discharge Serial Number:

BASE NEUTRAL COMPOUNDS	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
32. Fluorene	No					
33. Hexachlorobenzene	No					
34. Hexachlorobutadiene	No					
35. Hexachlorocyclopentadiene	No					
36. Hexachloroethane	No					
37. Indeno(1,2,3-cd) Pyrene	No					
38. Isophorone	No					
39. Naphthalene	No					
40. Nitrobenzene	No					
41. N-nitroso dimethylamine	No					
42. N-Nitrosodi-n-Propylamine	No					
43. N-Nitrosodiphenylamine	No					
44. Phenanthrene	No					
45. Pyrene	No					
46. 1, 2,4-Trichlorobenzene	No					
PESTICIDES						
1. Aldrin	No					
2. Alpha - BHC	No					
3. Beta - BHC	No					
4. Gamma-BHC	No					
5. Delta-BHC	No					
6. Chlordane	No					
7. 4, 4-DDT	No					
8. 4, 4-DDE	No					

Part B: Discharge Analysis (continued)

Table 2 (continued)						
Date Sampled:		Discharge Serial Number:				
PESTICIDES	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
9. 4, 4-DDD	No					
10. Dieldrin	No					
11. Alpha-Endosulfan	No					
12. Beta-Endosulfan	No					
13. Endosulfan Sulfate	No					
14. Endrin	No					
15. Endrin Aldehyde	No					
16. Heptachlor	No					
17. Heptachlor Epoxide	No					
18. PCB-1242	No					
19. PCB-1254	No					
20. PCB-1221	No					
21. PCB-1232	No					
22. PCB-1248	No					
23. PCB-1260	No					
24. PCB-1016	No					
25. Toxaphene	No					

Part B: Discharge Analysis (continued)

All applicants must complete Table 3 for each discharge by placing an "X" in either column 1 or 2. If column 1 is marked for any substance, you *must* provide analysis results for that substance in column 3 and other information needed to complete columns 4 and 5 for that substance.

Table 3					
Date Sampled: 8/17/2018		Discharge Serial Number:			
OTHER SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
1. Bromide		X			
2. Color		X			
3. Fecal Coliform*	X		PP		
4. Fluoride		X			
5. Nitrogen, Total Organic	X		PP		
6. Radioactivity		X			
a. Alpha, Total		X			
b. Beta, Total		X			
c. Radium, Total		X			
d. Radium, 226 Total		X			
7. Sulfate		X			
8. Sulfide*		X			
9. Sulfite		X			
10. Surfactants		X			
11. Aluminum, Total	X		0.068 mg/L	1	200.7
12. Barium, Total		X			
13. Boron, Total		X			
14. Cobalt, Total		X			
15. Iron, Total	X		0.048 mg/L		200.7
16. Magnesium, Total		X			

Part B: Discharge Analysis (continued)

Table 3 (continued)					
Date Sampled:		Discharge Serial Number:			
OTHER SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
17. Molybdenum, Total		X			
18. Manganese, Total		X			
19. Tin, Total		X			
20. Titanium, Total		X			
OTHER TOXIC AND HAZARDOUS SUBSTANCES					
1. Asbestos		X			
2. Acetaldehyde		X			
3. Allyl alcohol		X			
4. Allyl chloride		X			
5. Amyl acetate		X			
6. Aniline		X			
7. Benzonitrile		X			
8. Benzyl chloride		X			
9. Butyl acetate		X			
10. Butylamine		X			
11. Captan		X			
12. Carbaryl		X			
13. Carbofuran		X			
14. Carbon disulfide		X			
15. Chlorpyrifos		X			
16. Coumaphos		X			
17. Cresol		X			
18. Crotonaldehyde		X			
19. Cyclohexane		X			

Part B: Discharge Analysis (continued)

Table 3 (continued)					
Date Sampled:		Discharge Serial Number:			
OTHER TOXIC AND HAZARDOUS SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
20. 2,4-Dichlorophenoxy (acetic acid)		X			
21. Diazinon		X			
22. Dicamba		X			
23. Dichlobenil		X			
24. Dichlone		X			
25. 2,2-Dichloropropionic acid		X			
26. Dichlorvos		X			
27. Diethyl amine		X			
28. Dimethyl amine		X			
29. Dinitrobenzene		X			
30. Diquat		X			
31. Disulfoton		X			
32. Diuron		X			
33. Epichlorohydrin		X			
34. Ethanolamine		X			
35. Ethion		X			
36. Ethylene diamine		X			
37. Ethylene dibromide		X			
38. Formaldehyde		X			
39. Furfural		X			
40. Guthion		X			
41. Isoprene		X			
42. Isopropanolamine		X			
43. Kelthane		X			

Part B: Discharge Analysis (continued)

Table 3 (continued)					
Date Sampled:		Discharge Serial Number:			
OTHER TOXIC AND HAZARDOUS SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
44. Kepone		X			
45. Malathion		X			
46. Mercaptodimethur		X			
47. Methoxychlor		X			
48. Methyl mercaptan		X			
49. Methyl methacrylate		X			
50. Methyl parathion		X			
51. Mevinphos		X			
52. Mexacarbate		X			
53. Monoethyl amine		X			
54. Monomethyl amine		X			
55. Naled		X			
56. Napthenic acid		X			
57. Nitrotoluene		X			
58. Parathion		X			
59. Phenolsulfanate		X			
60. Phosgene		X			
61. Propargite		X			
62. Propylene oxide		X			
63. Pyrethrins		X			
64. Quinoline		X			
65. Resorcinol		X			
66. Strontium		X			
67. Strychnine		X			

Part B: Discharge Analysis (continued)

Table 3 (continued)					
Date Sampled:	Discharge Serial Number:				
OTHER TOXIC AND HAZARDOUS SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
68. Styrene		X			
69. 2, 4, 5-T (2, 4, 5-Trichlorophenoxy acetic acid)		X			
70. TDE (Tetrachlorodiphenylethane)		X			
71. 2, 4, 5-TP[2-(2, 4, 5-Trichlorophenoxy) propanoic acid]		X			
72. Trichlorofan		X			
73. Triethylamine		X			
74. Trimethylamine		X			
75. Uranium		X			
76. Vanadium		X			
77. Vinyl acetate		X			
78. Xylene		X			
79. Xylenol		X			
80. Zirconium		X			

Part B: Discharge Analysis (continued)

All applicants must complete Table 4 for each discharge, by placing an "X" in either column 1 or 2 for the substances numbered 1-6. If column 1 is marked for any substance, you *must* provide analysis results for that substance and any other information needed to complete columns 3 through 5 for that substance.

Table 4		Discharge Serial Number:			
Date Sampled:	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Daily Number of Analyses	5 EPA** Method
SUBSTANCES					
1. 2, 4,5-trichlorophenoxy acetic acid (2, 4, 5,-T)		X			
2. 2-(2, 4, 5-trichlorophenoxy) propanoic acid (Silvex, 2, 4, 5,-TP)		X			
3. 2-(2, 4,5-trichlorophenoxy) ethyl, 2, 2-dichloropropionate (Erbon)		X			
4. 0, 0-dimethyl-0-(2, 4, 5-trichlorophenyl) phosphorothioate (Ronnell)		X			
5. 2, 4, 5-trichlorophenol (TCP)		X			
6. hexachlorophene (HCP)		X			

In addition, *if*:

- 1) your facility uses or manufactures one of the substances listed above as items 1-6 or knows or has reason to believe or can reasonably ascertain that one of those substances may be present in the discharge; or
- 2) your facility has a discharge resulting from a process regulated under 40 CFR Part 430 - Pulp, Paper, and Paperboard Point Source Category; or
- 3) you know or have reason to believe or can reasonably ascertain that 2,3,7,8 - Tetrachlorodibenzo-p-dioxin (TCDD) may be present in the discharge;

you must also provide the analysis results for the dioxin and furan substances numbered 7 through 27, on the following page, using "EPA Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS".

Part B: Discharge Analysis (continued)

Table 4 (continued)			
Date Sampled:	Discharge Serial Number:		
SUBSTANCES	1 Daily Composite Sample Results*	2 Number of Analyses	3 EPA** Method
7. 2,3,7,8-TCDD (Tetrachlorodibenzo-p-dioxin)			
8. Total - TCDD			
9. 2,3,7,8-TCDF (Tetrachlorodibenzofuran)			
10. Total - TCDF			
11. 1,2,3,7,8-PeCDD (Pentachlorodibenzo-p-dioxin)			
12. Total - PeCDD			
13. 1,2,3,7,8-PeCDF (Pentachlorodibenzofuran)			
14. 2,3,4,7,8-PeCDF			
15. Total - PeCDF			
16. 1,2,3,4,7,8-HxCDD (Hexachlorodibenzo-p-dioxin)			
17. 1,2,3,6,7,8-HxCDD			
18. 1,2,3,7,8,9-HxCDD			
19. Total - HxCDD			
20. 1,2,3,6,7,8-HxCDF (Hexachlorodibenzofuran)			
21. 1,2,3,7,8,9-HxCDF			
22. Total - HxCDF			
23. 1,2,3,4,6,7,8-HpCDF (Heptachlorodibenzofuran)			
24. 1,2,3,4,7,8,9-HpCDF			
25. Total - HpCDF			
26. OCDD (Octachlorodibenzo-p-dioxin)			
27. OCDF (Hexachlorodibenzofuran)			

Part B: Discharge Analysis (continued)

Table 6: Discharge Toxicity Evaluation	All Discharges
<p>1. Except as provided below, all applicants for permits to discharge to a surface waterbody (i.e., for new and existing discharges) must perform a Discharge Toxicity Evaluation (DTE) in accordance with RCSA section 22a-430-4(c)(21)(B) and submit the results of the DTE as Attachment O, Table 6.</p> <p>2. Exceptions: A DTE need not be performed or submitted with this application <i>if</i>:</p> <ul style="list-style-type: none"> a. this application for a permit is to discharge sewage from a POTW; or b. a DTE covering all discharges to surface waters at the site has been previously approved by DEEP; or c. the applicant has been specifically exempted from submission of a DTE for the discharge(s), in writing by DEEP, in accordance with RCSA section 22a-430-4(c)(21)(C), prior to submittal of this application. (see instructions) <p>3. For discharges to a POTW, a DTE may be required depending on the nature of the discharge. In this case, you will be notified by DEEP after submitting your application.</p>	

If any of the analyses reported in Tables 1 through 6 of this application were performed by a contract laboratory or consulting firm, list the name, address and telephone number of the laboratory or firm and the type of analyses performed.

Table 7: Contract Laboratory Identification			All Discharges
Name	Address	Telephone (Area Code & No.)	Substances Analyzed (List)
Phoenix Environmental Labs	587 East Middle Turnpike Manchester, Ct		All tests performed

Attachment P: Sewage Sludge Information

Applicant Name: **Borough of Naugatuck**
(as indicated on the main application form)

Existing Permit Number (if applicable): **CT0100641**

Treatment Facility Information

Facility Name (if different than the applicant):

Nauagtuck WPCF

Provide a brief description of the treatment and collection systems:

114 miles of municipal sanitary sewer lines that connect to a main gravity flow trunk line that directs wastewater to the treatment facilities wetwell. Primary, secondary and tertiary treatment is performed on the wastewater prior to discharge into the Naugatuck river. Biosolids are incinerated.

Septage Information

1. Does the facility accept septage? Yes No
If yes, does the facility have a septage receiving facility? Yes No
- If yes, is the septage receiving facility located within the wastewater treatment plant site?
 Yes No
 - If no, explain how septage is accepted at the facility:
2. Is access to the septage discharge point restricted or otherwise monitored? Yes No

Sewage Sludge Information

- For discharges previously authorized by DEEP, provide the average mass (dry tons) of sludge generated by the facility annually: **1,460**
- For all applications, estimate the mass (dry tons) of sludge expected to be generated by the facility during the next five years: **7,300**
- Provide a brief description of existing sludge disposal/utilization practices at the facility (including ash disposal if appropriate):
Sludge is incinerated on-site and the ash is disposed of in approved landfills.
- Provide a brief description of the proposed measures to be taken to dispose of sludge in the event the existing sludge disposal/utilization practice becomes unavailable due to unforeseen circumstances:
Approvals in place for various landfills

Sewage Sludge Information (continued)

The following analyses must be performed on a grab sample of sludge within one year preceding the date this application is submitted and the results of such analyses must be submitted with this application as part of Attachment P.

Sludge Analysis

1. For POTWs with a design flow of equal to or greater than 1 MGD, attach the results of a Priority Pollutants Scan. The Priority Pollutant Scan shall include the following:

PCBs and the following Heavy Metals:

Arsenic	(As)	Mercury	(Hg)
Beryllium	(Be)	Nickel	(Ni)
Cadmium	(Cd)	Zinc	(Zn)
Chromium, Total	(Cr)		
Copper	(Cu)		
Lead	(Pb)		

2. For POTWs with a design flow of less than 1 MGD, attach the results of a heavy metals analysis on a dry weight basis. This analysis shall include the following heavy metals:

Copper	(Cu)	Lead	(Pb)
Cadmium	(Cd)	Nickel	(Ni)
Chromium	(Cr)	Zinc	(Zn)

The percent (%) solids of the sample should also be submitted.



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 15, 2019

FOR: Attn: Rafal Gaciarz
 Veolia Water, Naugatuck Plant
 500 Cherry Street
 Naugatuck, CT 06770

Sample Information

Matrix: SLUDGE
 Location Code: VEOLIANA
 Rush Request: Standard
 P.O.#: JANUARY 2019

Custody Information

Collected by: BF
 Received by: LB
 Analyzed by: see "By" below

Date Time
 01/08/19 7:00
 01/08/19 14:16

Laboratory Data

SDG ID: GCC24665
 Phoenix ID: CC24665

Project ID: NAUGATUCK
 Client ID: SLUDGE

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	8.6	1.1	mg/Kg	1	01/11/19	TH	SW6010D
Beryllium	< 0.56	0.56	mg/Kg	1	01/11/19	TH	SW6010D
Cadmium	1.50	0.56	mg/Kg	1	01/11/19	TH	SW6010D
Chromium	27.2	0.56	mg/Kg	1	01/11/19	TH	SW6010D
Copper	579	5.6	mg/Kg	10	01/11/19	TH	SW6010D
Mercury	0.42	0.31	mg/kg	1	01/09/19	RS	SW7471B
Sodium	868	1.1	mg/Kg	1	01/11/19	TH	SW6010D
Nickel	20.5	0.56	mg/Kg	1	01/11/19	TH	SW6010D
Lead	33.0	0.56	mg/Kg	1	01/11/19	TH	SW6010D
Selenium	5.5	2.8	mg/Kg	1	01/11/19	TH	SW6010D
Zinc	637	5.6	mg/Kg	10	01/11/19	TH	SW6010D
Percent Solid	20.2	1	%		01/08/19		SW846-%Solid
Total Solids @ 104C	20.2	0.1	%	1	01/08/19	AP/DA	SM2540B-11
Fixed Solids @ 500C	19.9	0.1	%	1	01/08/19	AP/DA	SM2540E MOD-11
Ammonia as Nitrogen	6770	474	mg/Kg	1	01/09/19	KDB	E350.1
Nitrite as N	14.0	0.50	mg/kg	10	01/08/19	BS/GD	SW9056A
Nitrate as N	< 2.48	2.48	mg/kg	10	01/08/19	BS/GD	SW9056A
Organic Nitrogen	38100	190	mg/Kg	1	01/09/19	KDB	E350.1/E350.2
pH - Sludge	6.15	1.00	pH Units	1	01/08/19 19:28	O	SW9045
Total Nitrogen	44900	0.05	mg/Kg	1	01/09/19	KDB	SM4500NH3/E300.0-97
Volatile Solids @ 500C	80.1	0.1	%	1	01/08/19	AP/DA	SM2540E MOD-11
Mercury Digestion	Completed				01/09/19	I/I	SW7471B
Paint Filter Test	Passed		PASS/FAIL		01/08/19	J	SW9095B
Sludge Ext. for PCB	Completed				01/08/19	P/V	SW3550C
Total Metals Digest	Completed				01/08/19	S/AG	SW3050B

Polychlorinated Biphenyls

PCB-1016 ND 250 ug/Kg 1 01/11/19 SC SW8082A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1221	ND	250	ug/Kg	1	01/11/19	SC	SW8082A
PCB-1232	ND	250	ug/Kg	1	01/11/19	SC	SW8082A
PCB-1242	ND	250	ug/Kg	1	01/11/19	SC	SW8082A
PCB-1248	ND	250	ug/Kg	1	01/11/19	SC	SW8082A
PCB-1254	ND	250	ug/Kg	1	01/11/19	SC	SW8082A
PCB-1260	ND	250	ug/Kg	1	01/11/19	SC	SW8082A
PCB-1262	ND	250	ug/Kg	1	01/11/19	SC	SW8082A
PCB-1268	ND	250	ug/Kg	1	01/11/19	SC	SW8082A
QA/QC Surrogates							
% DCBP	73		%	1	01/11/19	SC	30 - 150 %
% TCMX	58		%	1	01/11/19	SC	30 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

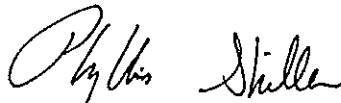
Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

January 15, 2019

Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Sewage Sludge Information (continued)

**Summary Sheet of Industrial and Commercial Non-Hazardous Waste
Hauled to Water Pollution Control Facilities**

Please complete this form by providing the information requested for the previous five years.

POTW Name: **Naugatuck WPCF**

Name of Person Completing Form: **Christopher Makuch**

Date: **1/17/2019**

Name of Facility Generating Waste	Location Address of Generating Facility	Nature of Waste	Volume and Frequency of Waste Received
Aquarion Water Company	82 Reservoir Road Lakeville, Ct	Water Treatment Wastewater	30,500 gal/year
Aquarion Water Company	153 Wangum Road Falls Village, Ct	Water Treatment Wastewater	30,500 gal/year
Fairfield Transfer Station	Richard White Way Fairfield, Ct	Transfer station wastewater	6000 gal/year
Trumbull Transfer Station	101 Spring Hill Road Trumbull, Ct	Transfer station wastewater	6000 gal/year
Westport Transfer Station	Sherwood Island connector Westport, Ct	Transfer station wastewater	6000 gal/year
Simoniz	201 Boston Turnpike Bolton, Ct	Misc. Wastewater	235,000 gal/year
Southbury Car Wash	53 Bullet Hill Road Southbury, Ct	Misc. Wastewater	19,400 gal/year
Sherman Town Garage	CT-39 Sherman, Ct	Misc. Wastewater	14,500 gal/year
American Styrenics	1761 CT-12 Gales Ferry, Ct	Misc. Wastewater	30,000 gal/year
American Styrenics	1761 CT-12 Gales Ferry, Ct	Storm Water	256,000 gal/year
Woodbury Brewing	738 Main Street Woodbury, Ct	Misc. Wastewater	5,400 gal/year

Check here if additional sheets are necessary, please label and attach them to this sheet.

Attachment W: For Renewal of an Existing Permit and Other Discharges Previously Licensed by the Department of Energy and Environmental Protection

Applicant Name: **Borough of Naugatuck**
 (as indicated on the permit application form)

- Complete the following table with a summary of discharge quality data from the previous two years. To complete the table for renewals, refer to your existing permit; for other discharges previously licensed by DEEP, refer to your previous authorization or permit. See instructions for further guidance on how to fill in this table. Reproduce this sheet for each discharge serial number. Use the same discharge serial numbers as indicated on your previous permit and provide the existing permit number. Reproduce and complete this form for each permit that you are proposing to renew.

Summary of Discharge Analyses					
Discharge Serial Number: 088-001					
Permit Number: CT0100641					
Name of Permit Parameter	Average Concentration	Maximum Concentration	Number of Analyses	Number of Exceedances	CV (NPDES only)
Alkalinity (mg/L)	81.0	350.0	506	N/A	
Arsenal (mg/L)	0.004	0.01	113	N/A	
CBOD (mg/L)	2.32	32.0	312	0	
Chlorine Residual	0.017	0.05	1967	0	
Copper (mg/L)	0.0095	0.01	24	0	
E. Coli	21.0	435	70	1	
Effluent Flow (MGD)	4.91	12.36	730	N/A	
Nickel (kg/D)	0.25	1.45	53	0	
Ammonia (mg/L)	2.72	67	320	1	
Nitrate (NO3) (mg/L)	2.51	6.32	312	N/A	
Nitrite (NO2) (mg/L)	0.06	2.17	312	N/A	
TKN (mg/L)	4.19	71.70	312	N/A	
Total Nitrogen (mg/L)	1.4	7.50	312	N/A	
Total Nitrogen (lb/day)	273.52	2253.0	312	N/A	
Oxygen, Dissolved	7.0	9.6	507	0	

Permit Number:

2. Provide a brief narrative describing any changes in the processes or activities generating or treating the discharge(s) which are proposed and/or have occurred since the date of the last permit application. For example, such information should include the addition, substitution, or elimination of processes, modifications of treatment systems or chemicals added to treat the discharge, pollution prevention measures; and any other changes which may affect the quality or quantity of the discharge(s).

All dewatering centrate and filtrate go to a capture tank and are pumped to the plant thickener. PAC is added to this stream.

PAC is being added to the aeration trains effluent channel. Currently installing a bubbler system in these channels to rapid mix the PAC and sludge at the addition point.

Have the capability to add fermented sludge from thickener to the RAS lines for biological PAC removal.

plans are in place to possibly modify internal recycle line to create a true anerobic zone in the first tanks of each biological treatment trains.

3. If in the table in question 1, you indicated that any permit parameter was exceeded, and any exceedances were by more than twice the permit limit or occurred more than three times, describe the steps taken to correct the problem.

Attachment X: Certification Regarding Submittal of Previously Approved Documents

1. If your application concerns a discharge previously licensed by DEEP, you may incorporate any of the documents listed below by reference into your application. To incorporate a document by reference, the document must have been submitted to DEEP previously and you must complete the following certification indicating that such documents accurately represent the facility and its operations as of the date of this application. You are not required to resubmit such documents unless requested by DEEP. However, please provide a general description of all collection and treatment facilities previously approved on the back of this sheet. Please check the appropriate box(es) to indicate which documents you are incorporating by reference.

I have examined the documents identified by checking the applicable box(es) below, which were previously submitted for permit issuance to the Department of Energy and Environmental Protection for the discharge(s) which are the subject of this application, and certify that to the best of my knowledge and belief, such documents accurately represent the facility and its operations as of the date of this application.

I further certify that I will submit such documents to the Department of Energy and Environmental Protection upon request.

Please check the appropriate boxes indicating which documents you are proposing to incorporate into this application by reference. *Please provide each document's final revision date.*

- Site Plan Revision Date:
- Floor Plan Revision Date:

Pollution Prevention Plans

- Operation and Maintenance Plan Revision Date:
- Solvent Management Plan Revision Date:
- Spill Prevention and Control Plan Revision Date:
- Resource Conservation Strategies Revision Date:
- Collection, Treatment and Disposal System Plans and Specifications Revision Date:

Signature of Applicant _____ Date _____

N Warren Hess III _____ **Mayor**

Name of Applicant (print or type) _____ Title (if applicable)

Permit Number: CT0100641

**Attachment X: Certification Regarding Submittal of Previously Approved Documents
(continued)**

Permit Number: CT0100641

2. Provide a brief general description of all systems to collect and treat the discharge(s) which are the subject of this application and for which plans and specifications have been previously approved by DEEP.