

	State of Washington Department of Ecology WASTEWATER TREATMENT PLANT COMPLIANCE INSPECTION REPORT		Northwest Regional Office 3190160 th Ave SE Bellevue, WA 98008 (425) 649-7000 ph (425) 649-7098 fax (last update 6-11-07)
	Section A: General Information		

Report Version <input checked="" type="checkbox"/> New <input type="checkbox"/> Changed <input type="checkbox"/> Deleted	PERMIT # WA-002928-9	mo/day/yr 10/04/07	Inspection Type C	Inspector Code S	Facility Type <input checked="" type="checkbox"/> 1 Municipal <input type="checkbox"/> Public <input type="checkbox"/> Private
Remarks					
Inspection work days 1.5	Facility Self-Monitoring 5	Photos Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Samples Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	BI N	QA N
Lead Ecology Inspector(s)					

Section B: Facility Data	
Name, Location, and Phone of Facility Inspected (1) City of Bremerton West Plant, 1600 Oyster Bay Road, Bremerton, WA 98312 Phone# 360-479-4646 (2) City of Bremerton East Plant, 2475 Stephenson Avenue, Bremerton, WA 98310	Entry Time 12:00 pm Exit Time 2:45 pm Ecology Staff On-Site Mike Dawda
Name(s)/Title(s) of On-Site Representative(s) Pat Coxon, Wastewater Division Manager John Bykonen, WWTP Operations	Permit Effective Date 10/01/06 Permit Expiration Date 09/28/11
Name, Address, Title, Phone, and Fax Number of Responsible Official Phil Williams, Director of Public Works and Utilities City of Bremerton, 3027 Olympus Drive, Bremerton, WA 98310-4799 Phone Number 360-473-5315 Fax Contacted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Other Facility Data West Plant Receiving Water: Sinclair Inlet East Plant Receiving Water: Port Washington Narrows

Section C: Areas Evaluated During Inspection (Check only those areas evaluated)			
<input checked="" type="checkbox"/> Permit	<input type="checkbox"/> Flow Measurement	<input checked="" type="checkbox"/> Operations & Maintenance	<input type="checkbox"/> CSO/SSO (Sewer Overflow)
<input type="checkbox"/> Records/Reports	<input checked="" type="checkbox"/> Effluent <input type="checkbox"/> Receiving Water	<input checked="" type="checkbox"/> Sludge Handling/Disposal	<input type="checkbox"/> Pollution Prevention
<input checked="" type="checkbox"/> Facility Site Review	<input type="checkbox"/> Compliance Schedules	<input type="checkbox"/> Pretreatment	<input type="checkbox"/> Multimedia
<input checked="" type="checkbox"/> Self-Monitoring Program	<input type="checkbox"/> Laboratory	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Other

Section D: Summary of Findings/Comments

I. INTRODUCTION

Class I inspections of the two Bremerton WWTPs were performed as routine compliance evaluation inspections. Mike Dawda from Ecology conducted the inspections with assistance from the City of Bremerton's WWTP staff Pat Coxon and John Bykonen. Mark Toy of the WA State Department of Health - Shellfish Division also joined in for the inspections. Mark's primary interest was to evaluate the East Plant (combined sewage treatment plant) as part of his evaluation of the certified shellfish beds in Dyes Inlet.

The City of Bremerton (City) owns and operates two wastewater treatment plants (WWTPs) - West Plant and East Plant. The West Plant provides secondary treatment and disinfection to the wastewater prior to discharging it to Sinclair Inlet. The East Plant provides advanced primary treatment and disinfection to the combined sewage from East Bremerton, prior to discharging it to Port Washington Narrows.

Both plants are regulated by National Pollutant Discharge Elimination System (NPDES) Permit No. WA-002928-9.

II. WEST PLANT

(i) Liquid Treatment:

The liquid treatment system at the West Plant consists of an activated sludge type secondary treatment system. The treatment system includes three bar screens (two mechanical and one manual), two aerated grit chambers, two primary clarifiers, an anaerobic selector, two aeration basins with fine bubble diffusion, two secondary clarifiers, two chlorine contact basins (for disinfection with sodium hypochlorite), and a dechlorination system using sodium bisulfite.

(ii) Solids Treatment and Disposal and Utilization:

The screenings and grit removed at the headworks are disposed of at the Olympic View Sanitary Landfill.

The sludge treatment and stabilization system consists of a dissolved air flotation thickener (DAFT), two anaerobic digesters, and a centrifuge. The primary sludge is pumped directly to the anaerobic digesters. The secondary sludge is thickened in the DAFT prior to anaerobic digestion. Digested sludge is dewatered in the centrifuge. The dewatered sludge (biosolids) with approximately 18% solids content is spread on permitted forest land owned by the City. The separated wastewater (from DAFT, digesters and centrifuge) is returned to the headworks for treatment.

(iii) Effluent Discharge/Outfall:

Secondary treated and disinfected effluent from the plant is discharged 568 feet offshore into Sinclair Inlet, Puget Sound, at a location west of Puget Sound Naval Shipyard (PSNS), via a 36-inch diameter outfall equipped with a diffuser.

(iv) Odor Control:

An odor control system consisting of three packed tower chemical odor scrubbers is used at the plant to process odorous air generated from various treatment units - headworks, primary clarifiers, gravity thickener, DAFT, digester complex, centrifuge area, aeration basin headworks, return activated sludge (RAS) wet well, and primary and secondary scum boxes. The levels of hydrogen sulfide are reduced from about 50 ppm to less than 0.1 ppm through the odor scrubbers. The cost of odor reducing chemicals during summer months can be as high as \$400 per day.

(v) Flow Measurement/Reporting:

The primary influent flow (reported as plant flow) is measured by two Parshall flumes. The final effluent flow is also measured by a Parshall flume. Secondary treatment bypassed flow is measured over a weir with an ultrasonic meter. The effluent flow has occasionally exceeded the capacity of the effluent flow meter. Therefore, the plant staff records and reports the primary influent flow measurement as the total plant flow, as authorized under the plant's NPDES permit. Flow meters are calibrated quarterly or monthly by the plant staff.

(vi) Wet Weather Operation:

Due to combined sewage in the collection system, the plant receives high flows during winter months. The NPDES permit allows bypass of secondary treatment for flows higher than 22.8 MGD. However, the plant staff is generally able to provide secondary treatment to flows up to 32 MGD. Flows higher than 32 MGD are treated by the primary treatment system only, and then blended with the secondary treated effluent prior to chlorination, dechlorination, and discharge.

(vii) Operation and Maintenance:

Every summer, the plant staff performs major maintenance work on various equipment and treatment units. During the inspection, Pat and John discussed recent maintenance projects performed at the plant. These include (i) installing new Teflon flights in one grit chamber, (ii) concrete repair work and/or coating of corroded concrete walls of grit chamber outfall chamber and primary and secondary clarifiers, (iii) painting of primary effluent pumps and (iv) painting of secondary clarifier launder weirs.

The anaerobic selectors upstream of the aeration basins have helped with filamentous control and along with longer sludge age (4 to 4.5 days SRT), helped reduce ammonia concentrations in the effluent during the summer months.

The plant staff works diligently to maintain all of the plant equipment and operating units in good working condition. The plant appears to be operated and maintained very well.

The effluent looked clear at the time of inspection. The effluent has been consistently in compliance with the NPDES permit effluent limits.

For the past two years (2005 and 2006), the City has been awarded by Ecology, OUTSTANDING TREATMENT PLANT AWARD for outstanding performance of the West Plant.

III. EAST PLANT

The East Plant was constructed to achieve an average of one CSO event per year for each CSO site in East Bremerton to comply with the State CSO regulations. This is a combined sewage treatment plant and treats combined sewage from East Bremerton. The plant operates during wet weather periods only, and only when the volume of combined sewage exceeds the collection system capacity. At the time of inspection, excessive combined sewage was not present in the collection system and the plant was not operating.

(i) Liquid Treatment:

The liquid treatment system units at the plant include a 100,000-gallon storage tank, a Parshall flume for influent flow measurement, a high rate clarification (HRC) system and an ultraviolet (UV) light disinfection system.

The plant begins operation automatically when the in-line storage capacity has been exhausted and the 100,000 gallon storage tank is nearing full. The plant is remotely monitored from the West Plant and a staff person from the West Plant arrives at the East Plant before it begins to operate. The staff remains at this plant throughout the duration of its operation.

(ii) Solids Treatment:

Solids removed at this plant are stored in the storage tank. When capacity becomes available in the collection system, the solids are conveyed to the West Plant for removal, treatment and disposal or utilization.

(iii) Effluent Discharge/Outfall:

Treated and UV-disinfected effluent is discharged to Port Washington Narrows, Puget Sound, via a 480 foot long outfall pipe equipped with a diffuser.

Flow Measurement:



Influent flow is measured by a Parshall flume equipped with an ultrasonic meter.

(iv) Operation and Maintenance:

The HRC system at the plant consists of a Ballasted Sand Clarifier. Loss of sand in the effluent is approximately eight (8) pounds per million gallons of wastewater treated. The plant operates approximately eight to ten times per year. Since completion of its construction in 2002, the longest time the plant has continuously operated is 14 hours. The plant is operated weekly with clean water for maintenance and reliability.

IV. CONCLUSIONS

The plant staff works diligently to maintain all of the plant equipment and operating units in good working condition at both plants. Both plants appear to be operated and maintained very well. The effluent at the West Plant looked clear at the time of inspection.

Name(s) and Signatures of Inspector(s)	Agency/Office/Telephone	Date
Mike Dawda 	WA Dept. of Ecology, NWRO, (425)649-7027 3190 160th SE, Bellevue, WA 98008-5452	Oct. 5, 2007
Name and Signature of Management QA Reviewer	Agency/Office/Telephone	Date
Karen Burgess 	WA Dept. of Ecology, NWRO, (425)649-7207 3190 160th SE, Bellevue, WA 98008-5452	10/8/07

ANNOUNCED Inspection

INSTRUCTIONS

Section A: General Information

Report Version: N for 1st version, C for Changed or amended, or D for Delete

NPDES Permit No.: Enter the facility's NPDES or State permit number.

Inspection Date: Insert the date entry was made into the facility. Use the month/day/year format (e.g., 06/30/04 = June 30, 2004).

Inspection Type: Use one of the codes listed below to describe the type of inspection:

A Performance Audit	L Enforcement Case Support	2 IU Sampling Inspection
B Compliance Biomonitoring	M Multimedia	3 IU Non-Sampling Inspection
C Compliance Evaluation (non-sampling)	P Pretreatment Compliance Inspection	4 IU Toxics Inspection
D Diagnostic	R Reconnaissance	5 IU Sampling Inspection with Pretreatment
E Corps of Engineers Inspection	S Compliance Sampling	6 IU Non-Sampling Inspection with pretreatment
F Pretreatment Follow-up	U IU Inspection with Pretreatment Audit	7 IU Toxics with Pretreatment
G Pretreatment Audit	X Toxics Inspection	
I Industrial User (IU) Inspection	Z Sludge	

Inspector Code: Use one of the codes listed below to describe the *lead agency* in the inspection:

C - Contractor or Other Inspectors (Specify in Remarks Columns)	N - NEIC Inspectors
E - Corps of Engineers	R - EPA Regional Inspector
J - Joint EPA/State Inspectors - EPA Lead	S - State Inspector
	T - Joint State/EPA Inspectors - State Lead

Facility Type: Use one of the choices below to describe the facility.

- 1 - Municipal. Publicly Owned Treatment Works (POTWs) with 1987 Standard Industrial Code (SIC) 4952.
- 2 - Industrial. Other than municipal, agricultural, and Federal facilities.
- 3 - Agricultural. Facilities classified with 1987 SIC 0111 to 0971.
- 4 - Federal. Facilities identified as Federal by the EPA Regional Office

Remarks: These columns are reserved for remarks.

Inspection Work Days.: Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, travel time and preparation time. This estimate does not require detailed documentation.

Facility Evaluation Rating: Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Biomonitoring Information. Enter D for static testing. Enter F for flow through testing. Enter N for no biomonitoring.

Quality Assurance Data Inspection. Enter Q if the inspection was conducted as follow-up on quality assurance sample results. Enter N otherwise.

Photos Taken: Yes or No

Samples Taken: Yes or No

Lead Ecology Inspector: Enter lead inspector's name

Section B: Facility Data

This section is self-explanatory except for: "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, and other updates to the record), e-mail addresses...; and "Ecology Staff On-Site", which may include staff names, titles, phone numbers, or e-mail addresses.

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary.

Section D: Summary of Findings/Comments

Support the findings, as necessary, in a narrative report. Use the headings given on the report form (staffing, back-up power) as appropriate. Reference a list of attachments, such as completed checklists, photos, lab reports, etc. Use extra sheets as necessary.

LINKS AND INFORMATION:

"Informational Manual for Treatment Plant Operators"; February 2004; by the Department of Ecology
Publication Number 04-10-020:

<http://www.ecy.wa.gov/pubs/0410020.pdf>

The manual was prepared to help wastewater treatment plant operators complete and submit their Discharge Monitoring Reports (DMRs) and other annual reports to the Department of Ecology. The manual is available in hard copy. To request a copy, contact the Department of Ecology, Publications Distribution Center at P.O. Box 47600, Olympia, WA 98504-7600 or by Telephone: (360) 407-7472. Updates to the manual are included on the website version.

Ecology's Wastewater and Reuse website:

<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>

Ecology's Operator Certification website:

http://www.ecy.wa.gov/programs/wq/wastewater/op_cert/index.html

Ecology's Laboratory Accreditation website:

http://www.ecy.wa.gov/programs/eap/labs/labs_main.html

Ecology's Biosolids website:

<http://www.ecy.wa.gov/programs/swfa/biosolids/>

Ecology's Operator Outreach: Carl Jones (360) 407-6431; cjon461@ecy.wa.gov

Ecology's Municipal Compliance Specialist (Northwest Regional Office): Amy Jankowiak (425) 649-7195;

ajan461@ecy.wa.gov

Ecology's Wastewater Operator Certification Coordinator: Poppy Carre (360) 407-6449; 1-800-633-6193 (within the state)

poca461@ecy.wa.gov

Ecology's Biosolids Coordinator (Northwest Regional Office)" Marietta Sharp (425) 649-7258 mars461@ecy.wa.gov

Reporting Spills/Overflows/Upsets/Bypasses/Loss of Disinfection IMMEDIATELY:

Ecology's 24-hour number: (425) 649-7000 to report a spill

Department of Health – Shellfish Program 24-hour number: (360) 236-3330