

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

**WASTE DISCHARGE PERMIT**

Department of Environmental Quality  
 Western Region – Salem Office  
 750 Front Street NE, Suite 120, Salem, OR 97301-1039  
 Telephone: (503) 378-8240

**ISSUED TO:** Issued pursuant to ORS 468B.050 and The Federal Clean Water Act  
**SOURCES COVERED BY THIS PERMIT:**

City of Salem		<b>Outfall</b>	<b>Outfall</b>
5915 Windsor Island Road N		<b>Number</b>	<b>Location</b>
Salem, OR 97303	Treated Municipal Wastewater		
	WLWPCF Multiport Diffuser	001A	RM 78.4 Willamette R
	WLWPCF Bank Outfall	001B	RM 78.4 Willamette R
	PEFTF Outfall	002A	RM 82.6 Willamette R
	Emergency Overflows:		
	North River Rd Overflow	3045 N. River Road	002B RM 82.6 Willamette R
	Union Street Overflow	445 Union Street NE	003 RM 84.0 Willamette R
	Claggett Creek Overflow	5450 River Road North	005 R.M. 4.0 Claggett Crk
	Airport Pump Station	Air Way Dr. at RR tracks	101 Pringle Creek
	Aldersgate Pump Station	Turner & Mill Creek Rd.	102 Mill Creek
	Battle Creek Pump Station	Battle Crk on S. Commercial	103 Battle Creek
	Birch Pump Station	Turner & Birch St.	104 Mill Creek
	Chemawa Pump Station	Indian School Rd. & Blossom	105 Claggett Creek
	Church Pump Station	Church & Bellevue	106 Pringle Creek
	Cordon Pump Station	5055 Macleay Rd. SE	107 Fruitland Creek
	Dearborn Pump Station	Dearborn & Shoreline	108 Willamette River
	Elizabeth Pump Station	Elizabeth & Shoreline	109 Willamette River
	Ferry Pump Station	Ferry at Front	110 Willamette River
	Greenbriar Pump Station	793 Finch Ct. NE	111 Fruitland Creek
	Hayesville Pump Station	Hayesville at Harlan	112 Little Pudding River
	Jade St. Pump Station	4900 Jade St. NE	113 Pudding Creek
	Joplin Pump Station	Joplin & Croisan Scenic Way	114 Croisan Creek
	Keizer Pump Station	Keizer and Ridge	115 Claggett Creek
	Labish Pump Station	Labish & York	116 Labish Ditch
	Larmer Pump Station	Broadway & Belmont	117 Mill Creek
	Mahrt Pump Station	Mahrt in the Drive-In Theater	118 Mill Creek
	Middlegrove Pump Station	5000 Silverton Rd. NE	119 Pudding Creek
	Mission Pump Station	West end of Mission St.	120 Willamette River
	Rivercrest Pump Station	Rivercrest & Dennis	121 Willamette River

	Sandra Lane Pump Station	Turner & Sandra Ln.	122	Mill Creek
	Satter Pump Station	Lancaster & Satter	123	Claggett Creek
	State Pump Station	State & Cougar Ct.	124	Fruitland Creek
	Stoneway Pump Station	Stoneway & Dallas Hwy.	125	Willamette River
	Sunset Meadows Pump Station	5350 Landon St. SE	126	Willamette River
	Turner Pump Station	Turner & 5 <sup>th</sup> St.	127	Mill Creek
	Wallace Pump Station	Wallace Rd. & Musgrave	128	Willamette River
	West Salem Pump Station	Wallace Rd. & Brush College	129	Glen Creek
	Windstone Pump Station	4974 Windstone Wy. NE	130	Fruitland Creek

**FACILITY TYPE AND LOCATION:**

**RECEIVING STREAM INFORMATION:**

Activated Sludge - Trickling Filter	Basin: Willamette
Willow Lake Wastewater Treatment Plant 5915 Windsor Island Road N	Sub-Basin: Middle Willamette Receiving Stream: Willamette River
Salem, Oregon	LLID: 1227618456580 - 78.4 - D
<b>Treatment System Class:</b> Level IV	County: Marion
<b>Collection System Class:</b> Level IV	

**EPA REFERENCE NO:** OR002640-9

Issued in response to Application No. 991640 received December 15, 1997. This permit is issued based on the land use findings in the permit record.

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Michael H. Korten Hof, Western Region Water Quality Manager

November 18, 2004  
Date

**PERMITTED ACTIVITIES**

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached ~~schedules as follows:~~

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Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharge to an underground injection control system.

**SCHEDULE A**

**1. Waste Discharge Limitations not to be exceeded after permit issuance (see Note 1).**

a. Treated Effluent Outfall 001A, Outfall 001B and Outfall 002A (see Note 2)

(1) June 1 - October 31:

Parameter	Average Effluent Concentrations*		Monthly** Average lb/day	Weekly** Average lb/day	Daily** Maximum lbs
	Monthly	Weekly			
CBOD <sub>5</sub> (See Note 3)	32 mg/L	40 mg/L	9,300	12,000	14,000
TSS	37 mg/L	45 mg/L	11,000	13,000	15,000

(2) November 1 - May 31 (when monthly average flows are up to 90 MGD):

Parameter	Average Effluent Concentrations		Monthly*** Average lb/day	Weekly*** Average lb/day	Daily*** Maximum lbs
	Monthly	Weekly			
CBOD <sub>5</sub> (See Note 3)	25 mg/L	40 mg/L	13,000	19,000	26,000
TSS	30 mg/L	45 mg/L	16,000	23,000	31,000

(3) November 1 - May 31 (when monthly average flows are greater than or equal to 90 MGD and less than 110 MGD):

Parameter	Average Effluent Concentrations		Monthly**** Average lb/day	Weekly**** Average lb/day	Daily**** Maximum lbs
	Monthly	Weekly			
CBOD <sub>5</sub> (See Note 3)	25 mg/L	40 mg/L	19,000	28,000	38,000
TSS	30 mg/L	45 mg/L	23,000	34,000	45,000

(4) November 1 - May 31 (when monthly average flows are greater than or equal to 110 MGD and less than 140 MGD):

Parameter	Average Effluent Concentrations		Monthly**** Average lb/day	Weekly**** Average lb/day	Daily**** Maximum lbs
	Monthly	Weekly			
CBOD <sub>5</sub> (See Note 3)	25 mg/L	40 mg/L	23,000	34,000	46,000
TSS	30 mg/L	45 mg/L	28,000	41,000	55,000

(5) November 1 - May 31 (when monthly average flows are greater than or equal to 140 MGD):

Parameter	Average Effluent Concentrations		Monthly**** Average lb/day	Weekly**** Average lb/day	Daily**** Maximum lbs
	Monthly	Weekly			
CBOD <sub>5</sub> (See Note 3)	25 mg/L	40 mg/L	29,000	44,000	58,000
TSS	30 mg/L	45 mg/L	35,000	53,000	70,000

\* These concentration limits are less stringent than the minimum design criteria found in OAR 340-041-0345. Upgrading to the more stringent requirements will be deferred until it is necessary to expand or otherwise modify or replace the existing secondary treatment facilities.

\*\* The summer mass load limits are based on the average dry weather flow to the facility of 35 MGD. The daily mass load limit is suspended on any day when the flow to the treatment facility exceeds 70 MGD (twice the design average dry weather flow). The permittee shall operate the treatment facility at the highest and best practicable treatment and control.

\*\*\* The low flow winter mass load limits are based on the average wet weather flow to the facility of 62 MGD. The daily mass load limit is suspended on any day when the flow to the treatment facility

exceeds 70 MGD (twice the design average dry weather flow). The permittee shall operate the treatment facility at the highest and best practicable treatment and control.

\*\*\*\* The high flow winter period mass load limits are based on the minimum month average flow for the appropriate range and the concentration limit. The daily mass load limit is suspended on any day when the flow to the treatment facility exceeds 70 MGD (twice the design average dry weather flow). The permittee shall operate the treatment facility at the highest and best practicable treatment and control.

(6) Other Parameters (year-round except as noted)

Parameter	Limitations
<i>E. coli</i> Bacteria	Shall not exceed 126 organisms per 100 mL monthly geometric mean. No single sample shall exceed 406 organisms per 100 mL. (See Note 4)
Total Residual Chlorine	Shall not exceed a monthly average concentration of 0.09 mg/L and a daily maximum concentration of 0.23 mg/L. (See Note 5)
pH	Shall be within the range of 6.0 - 9.0
CBOD <sub>5</sub> Removal Efficiency (on a monthly average concentration basis)	(1) Shall not be less than 85% when monthly average daily flow is 54 MGD or less (2) Shall not be less than 78% when monthly average daily flow is greater than 54 MGD
TSS Removal Efficiency (on a	(1) Shall not be less than 85% when monthly average

(7) Except as provided for in OAR 340-045-0080, no wastes shall be discharged and no activities shall be conducted which violate Water Quality Standards as adopted in OAR 340-041 except in the following defined mixing zone:

The allowable mixing zone for Outfall 001A is that portion of the Willamette River contained within a band extending out ten (10) feet from each side of the discharge diffuser and extending from a point ten (10) feet upstream of the diffuser to a point one hundred fifty (150) feet downstream from the diffuser. The Zone of Initial Dilution (ZID) shall be defined as that portion of the allowable mixing zone that is within fifteen (15) feet of the point of discharge.

The allowable mixing zone for Outfall 001B is that portion of the Willamette River contained within a band extending out twenty (20) feet from the east bank of the river and extending from a point ten (10) feet upstream of the discharge to a point one hundred fifty (150) feet downstream from the discharge. The Zone of Initial Dilution (ZID) shall be defined as that portion of the allowable mixing zone that is within fifteen (15) feet of the point of discharge.

b. Treated Effluent Outfall 002A Peak Excess Flow Treatment Facility (PEFTF) (see Note 2)  
These limitation become effective upon initiating operations of the PEFTF

(1) June 1 - October 31: No discharge to waters of the State

(2) November 1 - May 31 (when discharging):

Parameter	Average Effluent Concentrations		Monthly Average	Weekly Average	Daily Maximum
	Monthly	Weekly	lb/day	lb/day	lb/day
CBOD <sub>5</sub> (See Note 3)	25 mg/L	40 mg/L	10,000	16,000	21,000
TSS	30 mg/L	45 mg/L	13,000	19,000	25,000

(3) Other Parameters (November 1 - May 31 when discharging)

Parameter	Limitations
<i>E. coli</i> Bacteria	Shall not exceed 126 organisms per 100 mL monthly geometric mean. No single sample shall exceed 406 organisms per 100 mL. (See Note 4)
pH	Shall be within the range of 6.0 - 9.0

- (4) Except as provided for in OAR 340-045-0080, no wastes shall be discharged and no activities shall be conducted which violate Water Quality Standards as adopted in OAR 340-041 except in the following defined mixing zone:

The allowable mixing zone for Outfall 002A is that portion of the Willamette River contained within a band extending out twenty (20) feet on each side of the discharge and extending from a point ten (10) feet upstream of the discharge to a point one hundred fifty (150) feet downstream from the discharge. The Zone of Initial Dilution (ZID) shall be defined as that portion of the allowable mixing zone that is within fifteen (15) feet of the point of discharge.

- (5) Discharges from the PEFTF shall be limited to those periods when the secondary treatment capacity of the Willow Lake Wastewater Treatment Plant has been or is likely to be exceeded.

c. Emergency Overflow Outfalls 002B through 130

No wastes shall be discharged from these outfalls except as allowed Schedule F, Section B, Condition 6 of this permit.

- d. No activities shall be conducted that could cause an adverse impact on existing or potential beneficial uses of groundwater. All wastewater and process related residuals shall be managed and disposed in a manner that will prevent a violation of the Groundwater Quality Protection Rules (OAR 340-040).

**NOTES:**

- At the point of discharge, the Willamette River is water quality limited for temperature (summer), fecal coliform (fall, winter and spring), dissolved oxygen during the spawning season, iron and mercury year-round and biological criteria (due to skeletal deformities in juvenile Northern Pike Minnow). Just downstream from the discharge, the Willamette River is water quality limited for several toxic parameters (PCB, aldrin, dieldrin, DDT and DDE) year around. A Total Maximum Daily Load (TMDL) has not been issued for any of these parameters at the time of permit issuance. Upon EPA approval of a TMDL addressing any of these pollutants, this permit may be reopened to include any Waste Load Allocation (WLA), best management practice or any other condition required by the TMDL.
- The CBOD<sub>5</sub> and TSS concentration and removal efficiency limits and all other parameter limits in Schedule A, Condition 1.a. apply to the discharge from Outfalls 001A and 001B. All limits in Schedule A, Condition 1.b. apply to the discharge from Outfall 002A. The CBOD<sub>5</sub> and TSS mass load limits in Schedule A, Condition 1.a. apply to the combined discharge from Outfalls 001A, 001B and 002A.
- The CBOD<sub>5</sub> concentration limits are considered equivalent to the minimum design criteria for BOD<sub>5</sub> specified in Oregon Administrative Rules (OAR) 340-041. These limits and CBOD<sub>5</sub> mass limits may be adjusted (up or down) by permit modification if more accurate information regarding CBOD<sub>5</sub>/BOD<sub>5</sub> becomes available.
- If a single sample exceeds 406 organisms per 100 mL, then five consecutive re-samples may be taken at four-hour intervals beginning within 28 hours after the original sample was taken. If the log mean of

the five re-samples is less than or equal to 126 organisms per 100 mL, a violation shall not be triggered.

5. When the total residual chlorine limitation is lower than 0.10 mg/L, the Department will use 0.10 mg/L as the compliance evaluation level (i.e. daily maximum concentrations below 0.10 mg/L will be considered in compliance with the limitation).

**SCHEDULE B**

**1. Minimum Monitoring and Reporting Requirements to be met after permit issuance (unless otherwise approved in writing by the Department)**

The permittee shall monitor the parameters as specified below at the locations indicated. The laboratory used by the permittee to analyze samples shall have a quality assurance/quality control (QA/QC) program to verify the accuracy of sample analysis. If QA/QC requirements are not met for any analysis, the results shall be included in the report, but not used in calculations required by this permit. When possible, the permittee shall re-sample in a timely manner for parameters failing the QA/QC requirements, analyze the samples, and report the results.

a. Influent

The facility influent grab samples and measurements and composite samples are taken in the headworks just downstream of the bar screens. The composite sampler is located next to the barscreen building

Item or Parameter	Minimum Frequency	Type of Sample
Total Flow (MGD)	Daily	Measurement
Flow Meter Calibration	Quarterly	Verification
CBOD <sub>5</sub>	3/Week	Composite
TSS	3/Week	Composite
pH	Daily	Continuous
Toxics:		
Metals (Ag, As, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Se, Zn) & Cyanide, measured as total in mg/L (See Note 1)	Quarterly using 3 consecutive days between Monday and Friday, inclusive	24-hour daily composite (See Note 2)

b. Treated Effluent Outfall 001A and Outfall 001B

The facility effluent grab and composite samples and all measurements are taken from the 72-inch outfall just downstream from the final combined effluent flow control box except bacteria samples which are taken from the end of the chlorine contact basin. The composite sampler is located adjacent to the box.

Item or Parameter	Minimum Frequency	Type of Sample
Total Flow (MGD) Receiving Only Primary Treatment and Disinfection	Daily	Measurement
Flow Meter Calibration	Quarterly	Verification
CBOD <sub>5</sub>	3/Week (see Note 18)	Composite
Ammonia (NH <sub>3</sub> -N)	3/Week (see Note 18)	Composite
TSS	3/Week (see Notes 3 and 18)	Composite
Hardness (mg/L CaCO <sub>3</sub> )	See Notes 3 and 9	Grab
pH	Daily	Continuous
Dissolved Oxygen	3/Week (see Note 18)	Grab
<i>E. coli</i>	3/Week (see Note 18)	Grab (See Note 5)
Quantity Chlorine Used	Daily	Measurement
Chlorine Residual	Daily	Grab
Pounds Discharged (CBOD <sub>5</sub> and TSS)	3/Week	Calculation

Average Percent Removed (CBOD <sub>5</sub> and TSS)	Monthly	Calculation
Temperature:		
Effluent Temperature, Daily Maximum	Daily	Continuous (see Note 6)
Nutrients:		
TKN, NO <sub>2</sub> +NO <sub>3</sub> -N, Total Phosphorus	1/Week (May-Oct)	24-hour Composite

b. Treated Effluent Outfall 001A and Outfall 001B (continued)

Item or Parameter	Minimum Frequency	Type of Sample
Toxics:		
Metals (Ag, As, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Se, Zn) & Cyanide, measured as total in mg/l (See Notes 1, 3 and 4)	Quarterly using 3 consecutive days between Monday and Friday, inclusive	24-hour daily composite (See Note 2)
Iron	Monthly (see Note 7)	24-hour daily composite
Whole Effluent Toxicity	Annually (See Note 8)	Acute & chronic
Priority Pollutants	(See Note 9)	24-hour Composite

c. Treated Effluent Outfall 002A Peak Excess Flow Treatment Facility (PEFTF)

These monitoring requirements become effective upon initiating operations of the PEFTF

The facility effluent grab and composite samples and all measurements are taken downstream from the UV lamps. The composite sampler is located in the UV room downstream from the UV lamps.

Item or Parameter	Minimum Frequency	Type of Sample
Total Flow (MGD)	Daily	Measurement
Flow Meter Calibration	Quarterly	Verification
CBOD <sub>5</sub>	Daily (see Note 16)	Composite or Grab (see Note 19)
Ammonia (NH <sub>3</sub> -N)	Daily	Composite or Grab (see Note 19)
TSS	Daily (see Notes 3 and 16)	Composite or Grab (see Note 19)
Hardness (mg/L CaCO <sub>3</sub> )	See Note 9	Grab
pH	Daily	Continuous
<i>E. coli</i>	Daily	Grab (See Note 5)
UV Radiation Intensity	Daily	Reading (See Note 10)
Pounds Discharged (CBOD <sub>5</sub> and TSS)	Daily	Calculation
Toxics:		
Metals (measured as total in mg/L) and Cyanide	(see Note 20)	Composite or Grab (see Notes 1 and 20)
Organic Priority Pollutants	(see Notes 17 and 20)	Composite or Grab (see Note 20)
Iron	Monthly (during any month with a discharge event of 4 hours or longer) (see Note 7)	Composite or Grab (see Note 19)
Whole Effluent Toxicity	(see Note 20)	Acute

d. Biosolids Management (see Note 11)

Item or Parameter	Minimum Frequency	Type of Sample
Sludge analysis including: Total Solids (% dry wt.) Volatile solids (% dry wt.) Biosolids nitrogen for: NH <sub>3</sub> -N; NO <sub>3</sub> -N; & TKN (% dry wt.) Phosphorus (% dry wt.) Potassium (% dry wt.) pH (standard units)	Quarterly	Composite sample to be representative of the product prior to being sold or given away (See Note 12)

d. Biosolids Management (continued)

Item or Parameter	Minimum Frequency	Type of Sample
Sludge metals content for: Ag, As, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Se & Zn, measured as total in mg/kg	Quarterly	Composite sample to be representative of the product prior to being sold or given away (See Note 12)
Record of % volatile solids reduction accomplished through stabilization	Monthly	Calculation (See Note 13)
Record of digestion days (mean cell residence time)	Monthly	Calculation (See Note 14)
Daily Minimum Sludge Temperature	Daily	Record
Record of locations where Class B biosolids are applied on each DEQ approved site. (Site location maps to be maintained at treatment facility for review upon request by DEQ)	Each Occurrence	Record of date, volume & locations where biosolids were applied recorded on site location map.

e. Emergency Overflow Outfalls 002B through 130

Item or Parameter	Minimum Frequency	Type of Sample
Flow	Daily (during each occurrence)	Estimate duration and volume

f. Willamette River

Item or Parameter	Minimum Frequency	Type of Sample
Cadmium measured as total in mg/L	Semi-annually during one day of the 3 consecutive days of effluent monitoring (See Note 15)	Grab
TSS	See Note 15	Grab
Hardness (mg/L CaCO <sub>3</sub> )	See Note 15	Grab

2. **Reporting Procedures**

- a. Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the appropriate Department office by the 15th day of the

following month.

- b. State monitoring reports shall identify the name, certificate classification and grade level of each principal operator designated by the permittee as responsible for supervising the wastewater collection and treatment systems during the reporting period. Monitoring reports shall also identify each system classification as found on page one of this permit.
- c. Monitoring reports shall also include a record of the quantity and method of use of all sludge removed from the treatment facility and a record of all applicable equipment breakdowns and bypassing.

### **3. Report Submittals**

- a. The permittee shall implement the Inflow Removal Plan required in Schedule D, Condition 1 and the Management, Operation and Maintenance Program specified in Schedule D, Condition 9 to identify and reduce inflow and infiltration into the sewage collection system. An annual report shall be submitted to the Department by September 1 each year, which demonstrates compliance with the above requirements. The report shall state those activities that have been done in the previous year and those activities planned for the following year. The report shall clearly indicate those activities conducted in accordance with the updated Inflow Removal Plan required by Schedule C, Condition 1. If any activities required by the Plan are not conducted, the report shall include a strategy for coming back into compliance with the Plan.
- b. For any year in which biosolids are land applied, a report shall be submitted to the Department by February 19 of the following year that describes solids handling activities for the previous year and includes, but is not limited to, the required information outlined in OAR 340-050-0035(6)(a)-(e).
- c. An annual report covering effluent temperature monitoring done in the calendar year is due by February 15<sup>th</sup> of the following year. The report shall also include results of any temperature monitoring conducted on the influent, sidestreams or the Willamette River. The report shall include calculations of the weekly averages of the daily maximum temperatures of the effluent. Effluent monitoring data may be submitted electronically to the Department.

### **NOTES:**

- 1. For influent and effluent cyanide samples, at least six (6) discrete grab samples shall be collected over the operating day. Each aliquot shall not be less than 100 mL and shall be collected and composited into a larger container, which has been preserved with sodium hydroxide for cyanide samples to insure sample integrity.
- 2. Daily 24-hour composite samples shall be analyzed and reported separately. Toxic monitoring results and toxics removal efficiency calculations shall be tabulated and submitted with the Pretreatment Program Annual Report as required in Schedule E. Submittal of toxic monitoring results with the monthly Discharge Monitoring Report is not required.
- 3. During the first two years after permit issuance, special monitoring for cadmium shall be conducted on the effluent during at least one of the three consecutive days of quarterly monitoring. TSS and hardness shall be monitored simultaneously. The special monitoring for cadmium shall be conducted using a “clean” sampling method, an “ultra-clean” sampling method, EPA method 1669 or any other test method approved by the Department. After the first two years, special monitoring of the effluent for cadmium may be eliminated unless otherwise notified in writing by the Department. For all tests, the method detection limit shall be reported along with the sample result.
- 4. During the first two years after permit issuance, special monitoring for mercury shall be conducted on the effluent at least semi-annually during at least one of the three consecutive days of quarterly

monitoring. The special monitoring for mercury shall be conducted in accordance with EPA Method 1631. At the permittee's option, the results of the special monitoring may be used for one or more of the three consecutive days monitoring that is required on a quarterly basis. After the first two years, special monitoring of the effluent for mercury may be eliminated unless otherwise notified in writing by the Department. For all tests, the method detection limit shall be reported along with the sample result.

5. *E. coli* monitoring must be conducted according to any of the following test procedures as specified in **Standard Methods for the Examination of Water and Wastewater, 19th Edition**, or according to any test procedure that has been authorized and approved in writing by the Director or an authorized representative:

Method	Reference	Page	Method Number
mTEC agar, MF	Standard Methods, 18th Edition	9-29	9213 D
NA-MUG, MF	Standard Methods, 19th Edition	9-63	9222 G
Chromogenic Substrate, MPN	Standard Methods, 19th Edition	9-65	9223 B
Colilert QT	Idexx Laboratories, Inc.		

6. When continuous monitors are used, indicate the time interval between temperature readings, and results are to be tabulated and submitted in an annual report. Continuous temperature monitors must be audited in June and December, following procedures described in DEQ Procedural Guidance for Water Temperature Monitoring. Continuous temperature monitors are to be checked visually monthly to insure that the devices are still in place and submerged.
7. During the first year after permit issuance, monitoring for iron shall be conducted on Outfalls 001A and 001B at the frequency specified. During the first year after start up, monitoring for iron shall be conducted on Outfall 002A at the frequency specified. The method detection limit must be lower than 0.3 mg/L. After the first year of iron monitoring, iron monitoring of the effluent may be eliminated unless otherwise notified in writing by the Department. For all tests, the method detection limit shall be reported along with the sample result.
8. Beginning no later than calendar year 2005, the permittee shall conduct Whole Effluent Toxicity testing for a period of four (4) years in accordance with the frequency specified above. If the Whole Effluent Toxicity tests show that the effluent samples are not toxic at the dilutions determined to occur at the Zone of Immediate Dilution and the Mixing Zone, no further Whole Effluent Toxicity testing will be required during this permit cycle. Note that four Whole Effluent Toxicity test results will be required along with the next NPDES permit renewal application.
9. The permittee shall perform all testing required in Part D of EPA Form 2A. The testing includes all metals (total recoverable), cyanide, phenols, hardness and the 85 pollutants included under volatile organic, acid extractable and base-neutral compounds. In addition, the permittee shall monitor for the pesticide pollutants listed in Table II of Appendix D of 40 CFR Part 122. Three scans are required during the 4 ½ years after permit issuance. Two of the three scans must be performed no fewer than 4 months and no more than 8 months apart. The effluent samples shall be 24-hour daily composites, except where sampling volatile compounds. In this case, six (6) discrete samples (not less than 40 mL) collected over the operating day are acceptable. The permittee shall take special precautions in compositing the individual grab samples for the volatile organics to insure sample integrity (i.e. no exposure to the outside air). Alternately, the discrete samples collected for volatiles may be analyzed separately and averaged.
10. The intensity of UV radiation passing through the water column will affect the systems ability to kill organisms. To track the reduction in intensity, the UV disinfection system must include a UV intensity meter with a sensor located in the water column at a specified distance from the UV bulbs. This meter will measure the intensity of UV radiation in mWatts-seconds/cm<sup>2</sup>. The daily UV radiation intensity shall

be determined by reading the meter each day. If more than one meter is used, the daily recording will be an average of all meter readings each day.

11. If alternative methods of demonstrating compliance with federal pathogen reduction and/or vector attraction reduction requirements are used, the monitoring and sampling frequency shall be based on 40 CFR Part 503 and shall conform to the approved Biosolids Management Plan.
12. Composite samples from the digester withdrawal line shall consist of at least 4 aliquots of equal volume collected over an 8 hour period and combined.

Inorganic pollutant monitoring must be conducted according to Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Second Edition (1982) with Updates I and II and third Edition (1986) with Revision I.

13. Calculation of the % volatile solids reduction is to be based on comparison of a representative grab sample of total and volatile solids entering each digester (a weighted blend of the primary and secondary clarifier solids) and a representative composite sample of solids exiting each digester withdrawal line (as defined in note 11 above).
14. The days of digestion shall be calculated by dividing the effective digester volume by the average daily volume of sludge production.
15. During the first two years after permit issuance, the Willamette River shall be monitored for cadmium, TSS and hardness when special monitoring of effluent cadmium is conducted (see Note 3). The Willamette River monitoring for cadmium shall be conducted using a "clean" sampling method, an "ultra-clean" sampling method, EPA method 1669 or any other test method approved by the Department. After the first two years, Willamette River monitoring may be eliminated. For all tests, the method detection limit shall be reported along with the sample result. The Willamette River shall be sampled for hardness and TSS at the same time the river is sampled for metals.
16. It is anticipated that the Peak Excess Flow Treatment Facility (PEFTF) will discharge to Outfall 002A on an intermittent basis as necessary to prevent sanitary sewer overflows. The weekly average effluent concentration limits shall be reported for all discharges from the PEFTF having a duration of 7 days or less continuous discharge. Compliance with the monthly average effluent concentration limits shall be determined for all discharges from the PEFTF when the total number of days of PEFTF operation during the month exceeds 7 days. One or more periods of discharge that occur during a single 24 hour period (or less) shall be considered one day of operation.
17. The permittee shall perform all testing required in Part D of EPA Form 2A. The testing includes all metals (total recoverable), cyanide, phenols, hardness and the 85 pollutants included under volatile organic, acid extractable and base-neutral compounds. In addition, the permittee shall monitor for the pesticide pollutants listed in Table II of Appendix D of 40 CFR Part 122. Scans are required twice during each winter operational season after facility start up if the PEFTF discharges for longer than 4 hours. The effluent samples shall be 24-hour daily composites (except where sampling volatile compounds) or the operating day, whichever is shorter. In the case of volatile compounds, one or more discrete samples (not less than 40 mL) collected every four hours over the operating day are acceptable. The permittee shall take special precautions in compositing the individual grab samples for the volatile organics to insure sample integrity (i.e. no exposure to the outside air). Alternately, the discrete samples collected for volatiles may be analyzed separately and averaged. During the first two years after start up, monitoring for mercury shall be conducted in accordance with EPA Method 1631.
18. The monitoring frequencies for these parameters shall be daily on any day that only primary treatment and disinfection is provided to any portion of the wastewater flow.

19. The permittee shall initiate effluent monitoring within one hour of initiation of discharge from the PEFTF facility. The initial sample shall be a grab sample of sufficient size to conduct all necessary analyses. Additional aliquots shall be taken at least every hour until the end of the calendar day or the facility ceases operation, whichever comes first. All aliquots taken during one 24-hour period of discharge(s) shall be combined into one composite sample on a flow-weighted basis (see Note 16). Monitoring for all parameters shall be conducted on the initial grab sample unless there is an adequate volume of composite sample to conduct the analyses.
  
20. The permittee shall conduct monitoring for metals, cyanide, organic priority pollutants and acute Whole Effluent Toxicity testing twice during each winter operational season after facility start up if the PEFTF discharges for longer than 4 hours. Monitoring may be conducted on either a grab or composite sample (as appropriate and depending upon the duration of the discharge event). To the extent possible, monitoring should be performed on samples obtained between Monday and Friday, inclusive.

## SCHEDULE C

### Compliance Schedules and Conditions

1. Within 180 days of permit issuance, the permittee shall submit to the Department for review and approval a proposed updated program and time schedule for identifying and reducing inflow. Within 60 days of receiving written Department comments, the permittee shall submit a final approvable program and time schedule. The program shall consist of the following:
  - a. Identification of all overflow points and verification that sewer system overflows are not occurring up to a 24-hour, 5-year storm event or equivalent;
  - b. Monitoring of all pump station overflow points;
  - c. A program for identifying and removing all inflow sources into the permittee's sewer system over which the permittee has legal control; and
  - d. If the permittee does not have the necessary legal authority for all portions of the sewer system or treatment facility, a program and schedule for gaining legal authority to require inflow reduction and a program and schedule for removing inflow sources.
2. Within two (2) years of initiating operations at the Peak Excess Flow Treatment Facility (PEFTF), the permittee shall submit the results of a mixing zone study that indicates the dilutions available during periods when the facility might be in operation.
3. The permittee is expected to meet the compliance dates which have been established in this schedule. Either prior to or no later than 14 days following any lapsed compliance date, the permittee shall submit to the Department a notice of compliance or noncompliance with the established schedule. The Director may revise a schedule of compliance if he/she determines good and valid cause resulting from events over which the permittee has little or no control.