



NPDES Permit #ID-002000-1
Fact Sheet

FACT SHEET

Public Comment Period Start Date: June 21, 2007
Public Comment Expiration Date: July 23, 2007

**The United States Environmental Protection Agency (EPA)
Plans To Reissue A National Pollutant Discharge Elimination System (NPDES) Permit
And
Notice of State Certification**

**The City of Salmon
Wastewater Treatment Plant
200 Main Street
Salmon, Idaho 83467**

Technical Contact:

Kai Shum
email: Shum.Kai@epa.gov
Phone: 206-553-0060
800-424-4372 (within Alaska, Idaho, Oregon, and Washington)

EPA Proposes To Reissue NPDES Permits

EPA proposes to reissue the NPDES permits to the facility referenced above. The draft permit place conditions on the discharge of pollutants from the wastewater treatment plant to waters of the United States. In order to ensure protection of water quality and human health, the permits place limits on the types and amounts of pollutants that can be discharged from each facility.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations, and other conditions for each facility
- a map and description of the discharge locations
- technical material supporting the conditions in the permit

401 Certification for Facilities that Discharge to State Waters

EPA is requesting that the Idaho Department of Environmental Quality (IDEQ) certify the NPDES permit for this facility, under Section 401 of the Clean Water Act. This Notice also serve as Public Notice of the intent of the State of Idaho to consider certifying that the subject

discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306, and 307 of the Clean Water Act. The NPDES permit will not be issued until the certification requirements of Section 401 have been met.

Public Comment

Persons wishing to comment on, or request a Public Hearing for the draft permit for any of these facilities may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, EPA's Regional Director for the Office of Water will make a final decision regarding permit reissuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If comments are received, EPA will address the comments and issue the permit. The permit will become effective 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days.

Documents are Available for Review.

The draft NPDES permits and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (see address below). The draft permits, fact sheet, and other information can also be found by visiting the Region 10 website at "www.epa.gov/r10earth/water.htm."

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OWW-130
Seattle, Washington 98101
(206) 553-2108 or
1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The fact sheet and draft permits are also available at:

EPA Idaho Operations Office
1435 North Orchard Street
Boise, Idaho 83706
(208) 378-5746

City of Salmon
200 Main Street
Salmon, Idaho 83467
(208) 756-3214
Attn: Harry Shanafelt
(208) 756-4162
Attn: Gary Van Huffel

IDEQ, Idaho Falls Regional Office
900 North Skyline, Suite B
Idaho Falls, Idaho 83402
(208) 528-2650
Attn: Troy Saffle

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ACRONYMS

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
AML	Average Monthly Limit
BOD ₅	Biochemical oxygen demand, five-day
BE	Biological evaluation
BURP	State of Idaho's Beneficial Use Reconnaissance Program
°C	Degrees Celsius
cfs	Cubic feet per second
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
E.coli	Escherichia coli bacteria
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
I/I	Inflow and Infiltration
lbs/day	Pounds per day
LTA	Long Term Average
mg/L	Milligrams per liter
ml	milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit
MPN	Most Probable Number
N	Nitrogen
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
OW	Office of Water
O&M	Operations and maintenance
POTW	Publicly owned treatment works
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
s.u.	Standard Units
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluation
TSD	Technical Support document (EPA, 1991)
TSS	Total suspended solids

USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UV	Ultraviolet radiation
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WWTP	Wastewater treatment plant

I. APPLICANT

This fact sheet provides information on the draft NPDES permits for the following entity:

City of Salmon
Wastewater Treatment Plant
43 Lemhi Hole Road
Salmon, Idaho 83467
NPDES Permit Number: ID-002000-1

Mailing Address:
City of Salmon
200 Main Street
Salmon, Idaho 83467

Facility Contact:
Harry Shanafelt
Waste Water Treatment Plant Operator
208-756-4162

II. FACILITY INFORMATION

The City of Salmon has a separate sanitary sewer collection system that uses a lagoon system with secondary treatment and utilizes ultraviolet disinfection. According to the city's Permit Application, the system serves a population of 3000, and has a Design Flow rate of 2.5 million gallons per day (mgd). The point of discharge involves one outfall into the Salmon River at the location: Latitude: 45° 11' 32.5" N; and, Longitude: 113° 53' 10.7" W. The outfall is equipped with a diffuser, is approximately 40 feet from shore, and approximately 5 feet below surface. Diagrams in the Permit Application indicate the facility has two ponds and the facility utilizes UV-disinfection. The Fact Sheet from the previous permit described the facility with a four-celled aerated lagoon system. After the 1988 upgrade, the facility currently operates two aerated lagoons.

The previous NPDES Permit for this facility was effective on April 2, 1987, and had expired on April 1, 1992. Permit conditions have been administratively extended since the expiration until a NPDES Permit is re-issued.

Based on information in its Permit Application, a cheese making facility was a former industrial user; however, the cheese-making facility is not currently operating. There are currently no industrial users that discharge into the City of Salmon Waste Water Treatment Plant.

Pursuant to the reissuance of the proposed NPDES Permit, EPA conducted a site visit to the facility on April 17, 2007. Two lagoons were observed at the facility. These two lagoons are labeled as "Pond I" and "Pond II" in Appendix A. The facility operator,

Harry Shanafelt, informed EPA that the lagoons are approximately 5 to 6 acres each, and 12 feet deep. Pond I was observed to have 10 aerators installed; Pond II was observed to have 5 aerators installed, with one additional designated aerator in the vicinity. Along the banks of the Salmon River near the point of discharge, EPA took GPS readings. According to the application, the outfall is submerged about 40 from the banks and 5 feet deep. Using the collected GPS readings, and a computerized positioning program, EPA estimated the coordinates of the submerged outfall as: Latitude: 45° 11' 32.5" N; and, Longitude: 113° 53' 10.7" W.

The previous permit included the following monitoring requirements and effluent limits:

Table 1: Effluent Limitations from the Previous Permit

Effluent Characteristics	Units	Monthly Average	Weekly Average	Daily Maximum
Biological Oxygen Demand, BOD₅	Mg/l (lbs/day)	30 (300)	45 (450)	---
Total Suspended Solids, TSS	Mg/l (lbs/day)	35 (350)	52 (525)	---
Fecal Coliform Bacteria	number/100 ml	100	200	---
pH	Shall not be less than 6.0, nor greater than 9.0			
Percent Removal for BOD₅ and TSS	For any month, the monthly average effluent load shall not exceed 35% of the monthly average influent load.			
Discharge	There shall be no discharge of floating solids or visible foam in other than trace amounts.			

Table 2: Monitoring Requirements from the Previously Modified Permit

Parameter	Units	Sample Location	Sampling Frequency	Type of Sampling
Total Flow	mgd	Influent or Effluent	Continuous	Direct Measure
BOD₅	mg/l and lbs/day	Influent and Effluent	Monthly	Grab
TSS	mg/l and lbs/day	Influent and Effluent	Monthly	Grab
pH	s.u.	Effluent	5/week	Grab
Fecal Coliform Bacteria	Number/100ml	Effluent	1/week	Grab

In its NPDES Permit Application dated January 30, 2006, the facility reported the following information:

- The facility had a design flow rate of 2.5 mgd capacity.
- The facility is requesting to renew its NPDES permit for continuous discharge
- The annual average daily flow rate was 1.57 mgd in 2005 and 1.56 mgd in 2006.
- The maximum daily flow rate was 1.86 mgd in 2005 and 1.79 mgd in 2006.
- The facility's collection system is only from separate sanitary sewers. No contribution from a combined storm was indicated.
- The facility does not land-apply treated wastewater
- The facility does not discharge or transport treated or untreated wastewater to another treatment works.
- The facility uses ultraviolet disinfection to its effluent.
- Based on data from January 2005 through February 2006, the facility reported the following effluent testing information:
 Minimum pH: 6.6 s.u. (September and October 2005)
 Maximum pH: 8.90 s.u. (January 2005)
 Maximum daily flow rate: 2.48 mgd (from permit application)
 Average daily flow rate: 1.58 mgd (from permit application)
 Temperature of effluent - Maximum Daily value (Winter): 3.1° C (from permit application)

Temperature of effluent - Maximum Daily value (Summer): 22.1 ° C (from permit application)

Biochemical Oxygen Demand (BOD₅): maximum daily discharge, 17.0 mg/L;

BOD₅: average daily discharge, 8.0 mg/L.

Total Suspended Solids (TSS): maximum daily discharge, 25 mg/L;

TSS: average daily discharge, 11 mg/L.

- Inflow and Infiltration (I/I) rate: 848,000 gallons per day for 2001 summer months (from permit application). The facility states in its permit application that the city has “been replacing the leaking collection lines a few each year”.

Pursuant to the issuance of the draft NPDES Permit, on April 11, 2007, EPA requested a pre-certification of compliance with the State Water Quality Standards from the State of Idaho. In a letter dated May 23, 2007, IDEQ which provided the requested pre-certification with comments. By telephone conference on May 23rd with Troy Saffle of IDEQ, EPA discussed IDEQ’s comments. EPA addressed all comments, and also discussed a general comment provided by IDEQ concerning the possibility of incorporating a compliance schedule for the required percent removal limitation in the draft permit. As discussed with IDEQ, EPA does not have the discretion to incorporate a compliance schedule for the 85% minimum percent removal for BOD₅ and TSS because the 85% minimum percent removal requirements are federal secondary treatment standards which does not allow for a compliance schedule. Upon this discussion with IDEQ, there were no further comments, and EPA proceeded with the public comment process for issuance of the draft permit.

III. RECEIVING WATER

The Salmon River is the receiving water for the discharge of treated effluent; using Geographic Information System (GIS), the river is approximately 196 feet wide near the outfall. The Salmon River has been designated a Special Resource Water in the State’s Water Quality Standards and Wastewater Treatment Requirements [USB 20, 1-2130.01 (h)]. According to the Idaho Water Quality Standards, the location where the facility discharges into Salmon River is in segment S-41 (Pollard Creek to Carmen Creek, IDEQ assessment unit ID: ID1706023SL041_07). This segment of the Salmon River is protected for domestic water supply, agricultural water supply, cold-water biota, salmonid spawning, and primary contact recreation. This segment is 5.95 miles, and is part of the Salmon subwatershed in the Salmon River-Panther Creek Subbasin. The Salmon subwatershed is 48,100 acres (75.2miles), which includes the Salmon River from Carmen Creek to, and including, Perreau Creek. Included within this subwatershed are numerous small tributaries (Fenster, Moore, Jesse, Turner Gulch, Pollard Canyon, Chipps, Gorley, and Spring Creeks), the confluence with the Lemhi River subbasin, and the city of Salmon. The Salmon River-Panther Creek Subbasin (HUC #17060203) encompasses 1,810 square miles with 1,957.95 stream miles. The Middle Salmon River –

Panther Creek Subbasin Assessment and TMDL Report (IDEQ, 2001) states that “Information regarding pollution in the Salmon River is very sparse, and no known water quality problems were identified in this assessment. IDEQ classified the Panther Creek Subbasin as being in a “reference-type,” (i.e. good quality) condition during its large river Beneficial Use Reconnaissance Program (BURP). However, because the river plays a key role in the passage of anadromous and migratory resident salmonids, IDEQ indicates that it should continue to be monitored. The report did not recommend doing a TMDL for the Salmon River. However, the Salmon River was identified as an impaired water on the 2002 303(d) list because it did not support its cold water aquatic life use designation; however, the specific pollutant(s) causing the impairment was not identified.

The 7 day, 10 year low flow (7Q10) and the 1 day, 10 year low flow (1Q10) values for the Salmon River at Salmon, ID are calculated by performing Log-Pearson Type III distribution analysis of minimum daily flow from USGS gage 13302500 (Salmon River at Salmon ID). The 7Q10 measured for the Salmon River at Salmon is 528 cfs, while the 1Q10 is 463 cfs. At maximum design flows of approximately 2.5 mgd (3.87 cfs), the city of Salmon wastewater effluent should receive an approximate 136:1 dilution (7Q10 of 528 cfs/Salmon WWTP design flow of 3.87 cfs = 136).

A. Low Flow Conditions

Flow information from the United States Geological Survey (USGS) were used to determine the flow conditions for the receiving water. Data available from USGS gage 13302500 (Salmon River at Salmon ID, 45° 11'01" N [NAD83], I NE1/4 sec.6, T.21 N., R.22 E., Lemhi County, Salmon quad., Hydrologic Unit 1706203, on left bank 1,000 ft downstream from island, 0.4 mi upstream from Lemhi River 0.5 mi downstream from highway bridge at Salmon, and at mile 258.9) from 1913 – 2006 were used to calculate the 1Q10 and the 7Q10 for the facility. Low flow conditions are used to do reasonable potential analyses, and to calculate water quality based effluent limits (see Appendix C and Appendix D).

B. Water Quality Standards

Section 301(b)(1)(c) of the CWA requires the development of limitations in permits necessary to meet water quality standards. Federal regulations in 40 CFR 122.4(d) prohibit the issuance of an NPDES permit which does not ensure compliance with the water quality standards of all affected States.

A State’s water quality standards are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as cold water biota, contact recreation, etc.) that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary, by the State, to support the beneficial use classification of each water body. The anti-

degradation policy represents a three tiered approach to maintain and protect various levels of water quality and uses.

The Idaho Water Quality Standards (WQS) state, in Section 100, that all waters of the State of Idaho are protected for the uses of industrial and agricultural water supply (100.03.b. and c.), wildlife habitats (100.04.) and aesthetics (110.05.). The WQS state, in Sections 252.02, 252.03, and 253, that these uses are to be protected by narrative criteria which appear in Section 200. These narrative criteria state that all surface waters of the State shall be free from hazardous materials, toxic substances, deleterious materials, radioactive materials; floating, suspended, or submerged matter; excess nutrients; oxygen-demanding materials; and sediment concentrations which would impair beneficial uses. According to the Idaho WQS, Section 252.02, that the criteria from Water Quality Criteria 1972, also referred to as the “Blue Book” (EPA R3-73-033) can be used to determine numeric criteria for the protection of water supply use.

DMR monitoring data from May 2001 through February 2007 were reviewed to determine the facility’s compliance with its current effluent limits. The previous permit had effluent limits of 35 mg/L and 52 mg/L for monthly and weekly average TSS concentrations. The facility had one exceedance of its BOD limit (June, 2001); two exceedances of the TSS limit (June, 2001 and March, 2003); one exceedance of the TSS percent removal limit (November, 2006); two exceedances of its fecal coliform limit (June, 2005 and November, 2006); and, one DMR was not received (July, 2006). In the April 2006 DMR, the facility stated that it could not report the BOD percent removal rate because the influent sample was too weak.

The proposed permit includes secondary treatment limits. These effluent limits in the draft permit are based on current water quality criteria or technology-based limits that have been shown to not cause or contribute to an exceedance of water quality standards, the discharges as authorized in the draft permits will not result in degradation of the receiving water.

C. Water Quality Limited Segment

Any waterbody for which the water quality does not, and/or is not expected to meet, applicable water quality standards is defined as a “water quality limited segment.”

Section 303(d) of the Clean Water Act (CWA) requires states to develop a Total Maximum Daily Load (TMDL) management plan for water bodies determined to be water quality limited segments. The TMDL documents the amount of a pollutant a water body can assimilate without violating a state’s water quality standards and allocates that load to known point sources and nonpoint sources.

Information on the Salmon River from the Idaho DEQ webpage (<http://mapserver.deq.idaho.gov/Website/deqwaters/viewer.htm>), indicates that Middle Salmon-Panther Subbasin, Unit S-41(Pollard Creek to Carmen Creek, IDEQ assessment unit ID: ID1706023SL041_07), to which the Salmon WWTP discharges, is listed on the Idaho 2002 303(d) integrated report as not supporting its cold water aquatic life designated use. However, no specific pollutants were identified as the cause of the River not supporting this designated use. According to the Idaho Water Quality Standards (IDAPA 58.01.02) for surface water criteria for cold water aquatic life use (IDAPA 58.01.02.250.02): “waters designated for cold water aquatic life are not to vary from characteristics due to human activities” which include:

- a. Dissolved Oxygen Concentrations exceeding six (6) mg/L at all times.
- b. Water temperatures of 22° C or less with a maximum daily average of no greater than 19° C.
- c. Ammonia. The standards include calculations for ammonia concentrations.
- d. Turbidity, below any applicable mixing zone set by the Department, shall not exceed background turbidity by more than 50 NTU instantaneously or more than 25 NTU for more than ten consecutive days.
- e. Salmonid spawning: waters designated for salmonid spawning are to exhibit the following characteristics during the spawning period and incubation for the particular species inhabiting those waters:
 - i. Dissolved Oxygen
 - (1) Intergravel Dissolved Oxygen.
 - (a) One day minimum of not less than 5 mg/L.
 - (b) Seven day average mean of not less than 6.0 mg/L.
 - (2) Water-Column Dissolved Oxygen.
 - (a) One day minimum of not less than 6.0 mg/L or 90% saturation, whichever is greater
 - ii. Water temperatures of 13°C or less with a maximum daily average no greater than 9°C.

Based on the above limits imposed by IDEQ for surface water quality for cold water aquatic life use designations, effluent and surface water monitoring has been proposed for dissolved oxygen, temperature and ammonia in the draft permit.

IV. EFFLUENT LIMITATIONS

A. Basis for Effluent Limits

In general, the CWA requires that the discharge limits for a particular pollutant be the more stringent of either: technology-based effluent limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards of a waterbody are being met and they may be more stringent than technology-based effluent limits. The basis for the proposed effluent limits in the draft permit is provided in Appendix B.

B. Proposed Effluent Limitations

The following summarizes the proposed effluent limitations that are in the draft permits.

1. Removal Requirements for BOD₅ and TSS: The monthly average effluent concentration must not exceed 15 percent of the monthly average influent concentration. Percent removal of BOD₅ and TSS must be reported on the Discharge Monitoring Reports (DMRs). For each parameter, the monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of the effluent values for that month. Influent and effluent samples must be taken over approximately the same time period
2. There must be no discharge of any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.
3. Table 3 below presents the proposed average monthly, average weekly, and instantaneous maximum effluent limits for 5-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), and Escherichia coli (E. coli), pH, and the percent removal requirements for BOD₅, and TSS.

Table 3: Proposed Effluent Discharge Limitations				
Parameters	Average Monthly Limit	Average Weekly Limit	Percent Removal⁴	Instantaneous Maximum Limit³
BOD ₅ Concentration	30 mg/l	45 mg/l	85% (Min.) ⁴	---
BOD ₅ Mass-Based Limits ¹	626 lbs/day ¹	938 lbs/day ¹		---
TSS Concentration	30 mg/l	45 mg/l	85% (Min.) ⁴	---
TSS Mass-Based Limits ¹	626 lbs/day ¹	938 lbs/day ¹		---
E. coli Bacteria ^{2,3} (colonies/100 ml)	126 ²	---	---	406 ³
pH	6.5 to 9.0			
Notes:				
1. Loading is calculated by multiplying the concentration in mg/L by the average daily flow for the day of sampling in mgd and a conversion factor of 8.34. If the concentration is measured in µg/L, the conversion factor is 0.00834. For more information on calculating, averaging, and reporting loads and concentrations see the NPDES Self-Monitoring System User Guide (EPA 833-B-85-100, March 1985).				
2. Average Monthly Limit for E. coli: The permittee must report the geometric mean for e-coli concentration. If any value used to calculate the geometric mean is less than 1, the permittee must round that value up to 1 for purposes of calculating the geometric mean. Based on a minimum of five (5) samples taken every three (3) to seven (7) days over a thirty (30) day period.				
3. Reporting is required within 24 hours of a maximum daily limit or instantaneous maximum limit violation.				
4. Percent removal is calculated using the following equation: (average monthly influent – average monthly effluent) ÷ average monthly influent				

V. MONITORING REQUIREMENTS

A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality. The permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports (DMRs) to the U.S. Environmental Protection Agency (EPA).

B. Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent

samples than are required under the permit. These samples can be used for averaging if they are conducted using EPA approved test methods (generally found in 40 CFR 136) and if the Method Detection Limits (MDLs) are less than the effluent limits.

Table 4 presents the effluent monitoring requirements in the draft permit. The sampling location must be after the last treatment unit and prior to discharge to the receiving water. If no discharge occurs during the reporting period, “no discharge” shall be reported on the DMR.

Table 4: Proposed Effluent Monitoring Requirements				
Parameter	Unit	Sample Location	Sample Frequency	Sample Type
Flow	Mgd	Effluent	Continuous	Recording
BOD ₅	mg/L	Influent and Effluent	1/week	24-hour composite
	lbs/day	---	1/week	Calculation ¹
	% Removal	--	–	Calculation ²
TSS	mg/L	Influent and Effluent	1/week	24-hour composite
	lbs/day	---	1/week	Calculation ¹
	% Removal	--	–	Calculation ²
E.coli ^{3,7}	colonies/100 ml	Effluent	5/month	Grab
Dissolved Oxygen	mg/L	Effluent	1/month	Grab
Temperature	°C	Effluent	1/week	Grab
Total Ammonia ⁸ as N	mg/L	Effluent	1/week	24-hour composite
Total Phosphorus ⁸ as P	mg/l	Effluent	1/month	24-hour composite
pH	s.u.	Effluent	5/week	Grab
Hardness	mg/L as CaCO ₃	Effluent	1/quarter	24-hour composite
Alkalinity	mg/L as CaCO ₃	Effluent	1/quarter	24-hour composite
NPDES Application Form 2A Effluent Testing Data	mg/l	Effluent	3x/5 years ⁴	See footnote 4
NPDES Application Form 2A Expanded Effluent Testing ⁵	---	Effluent	3x/5 years ⁵	See footnote 5

Table 4: Proposed Effluent Monitoring Requirements				
Parameter	Unit	Sample Location	Sample Frequency	Sample Type
NPDES Application Form 2A Whole Effluent Toxicity (WET) ⁶	Tuc	Effluent	4x/5 years ⁶	See footnote 6
<p>Notes:</p> <ol style="list-style-type: none"> 1. Loading is calculated by multiplying the concentration in mg/L by the average daily flow for the day of sampling in mgd and a conversion factor of 8.34. If the concentration is measured in µg/L, the conversion factor is 0.00834. For more information on calculating, averaging, and reporting loads and concentrations see the NPDES Self-Monitoring System User Guide (EPA 833-B-85-100, March 1985). 2. Percent removal is calculated using the following equation: (average monthly influent – average monthly effluent) ÷ average monthly influent. 3. Average Monthly Limit for E. coli: The permittee must report the geometric mean for e-coli concentration. If any value used to calculate the geometric mean is less than 1, the permittee must round that value up to 1 for purposes of calculating the geometric mean. Based on a minimum of five (5) samples taken every three (3) to seven (7) days over a thirty (30) day period. 4. For Effluent Testing Data, in accordance with instructions in NPDES Application Form 2A, Part B.6 and where each test is conducted in a separate permit year during the permitted discharge period for each of the first three years of the permit cycle. 5. For Expanded Effluent Testing, in accordance with instructions in NPDES Application Form 2A, Part D and where each test is conducted in a separate permit year during the permitted discharge period for each of the first three years of the permit cycle. 6. For WET testing, in accordance with instructions in NPDES Application Form 2A, Part E and where each test is conducted in a separate permit year during the permitted discharge period for each of the first four years of the permit cycle. 7. Reporting is required within 24 hours of a maximum daily limit or instantaneous maximum limit violation. 8. The maximum ML for Total Ammonia is 0.05 mg/l, and the maximum ML for Total Phosphorus is 0.01 mg/l. 				

C. Proposed Receiving Water Monitoring.

Table 5 presents the proposed receiving (surface) water monitoring requirements for the draft permit. The City of Salmon WWTP should conduct surface water monitoring at the Salmon River, at the locations indicated. The acceptable upstream sampling location must be outside the influence of the effluent stream; an acceptable downstream sampling location would be where the effluent stream is completely mixed with the receiving water. EPA proposed in the draft permit that acceptable surface water sampling locations must be reviewed by the IDEQ prior to initial sampling. Surface water monitoring results for the previous calendar year must be submitted with the January DMR.

Table 5 : Proposed Receiving Water Monitoring					
Parameter	Units	Sample Location	Sample Frequency	Sample Type	Minimum Level (ML)
Temperature	°C	Upstream	Quarterly	Grab	---
pH	s.u.	Upstream	Quarterly	Grab	---
Total Ammonia as N	mg/l	Upstream	Quarterly	Grab	0.05 mg/l
Hardness as CaCO ₃	mg/l	Upstream	Quarterly	Grab	---
Alkalinity as CaCO ₃	mg/l	Upstream	Quarterly	Grab	---
Dissolved Oxygen	mg/l	Upstream and Downstream	Quarterly	Grab	---
Total Phosphorus as P	mg/L	Upstream & Downstream	Quarterly	Grab	0.01 mg/l

VI. SLUDGE (BIOSOLIDS) REQUIREMENTS

EPA Region 10 separates wastewater and sludge permitting. Under the CWA, EPA has the authority to issue separate sludge-only permits for the purposes of regulating biosolids. EPA may issue a sludge-only permit to each facility at a later date, as appropriate.

Until future issuance of a sludge-only permit, sludge management and disposal activities at each facility continue to be subject to the national sewage sludge standards at 40 CFR Part 503 and any requirements of the State's biosolids program. The Part 503 regulations are self-implementing, which means that permittees must comply with them whether or not a permit has been issued.

VII. OTHER PERMIT CONDITIONS

A. Quality Assurance Plan

The federal regulation at 40 CFR 122.41(e) requires the permittee to develop procedures to ensure that the monitoring data submitted is accurate and to explain data anomalies if they occur. The permittee is required to develop and implement a Quality Assurance Plan within 180 days of the effective date of the final permit. The Quality Assurance Plan shall consist of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples,

laboratory analysis, and data reporting. The plan shall be retained on site and made available to EPA and IDEQ upon request.

B. Operation and Maintenance Plan

The permit requires the Permittee to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. The Permittee is required to develop and implement an operation and maintenance plan for their facility within 180 days of the effective date of the final permit. The plan shall be retained on site and made available to EPA and IDEQ upon request.

C. Standard Permit Provisions

Sections II, III, and IV of the draft permits contain standard regulatory language that must be included in all NPDES permits. Because they are regulations, they cannot be challenged in the context of an NPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

D. Pretreatment Requirements

The facility certified in its permit application that it does not receive Industrial User Discharges and RCRA/CERCLA Wastes; therefore, no pretreatment requirements are proposed in the draft permit. In addition, the design flow of the treatment plant is less than 5 mgd, therefore, EPA does not believe it is necessary to develop a pretreatment program for EPA's approval at this time. However, the permit contains conditions requiring that the facility monitor and control industrial users.

VIII. OTHER LEGAL REQUIREMENTS

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. A Biological Evaluation (BE) analyzing the effects of the discharge from the treatment facility on listed endangered and threatened species in the vicinity of the facilities was prepared. The BE is available upon request. The BE determined that issuance of this permit will not adversely affect any of the threatened or endangered species in the vicinity of the discharges. A brief summary of the BE is presented below:

Communication with the USFWS (November 29, 2006) and NOAA Fisheries (November 21, 2006) identified several federally-listed endangered and

threatened species in Lemhi County, Idaho where the City of Salmon discharges effluent from their WWTP under their NPDES permit:

Endangered Species:

- Gray wolf (*Canis lupus*)
- Sockeye salmon (*Oncorhynchus nerka*)

Threatened Species:

- Bald eagle (*Haliaeetus leucocephalus*)
- Canada lynx (*Lynx canadensis*)
- Bull trout (*Salvelinus confluentus*)
- Steelhead (*Oncorhynchus mykiss*)
- Spring/summer Chinook salmon (*Oncorhynchus tshawytscha*)

EPA has evaluated the discharges likely to result from compliance with the permit limits for the City of Salmon's WWTP discharge. The BOD limit in the City of Salmon's permit reissuance is 30 mg/L, standard for secondary treatment. The 95th percentile of the monthly average BOD in the actual discharge observed in the effluent between March 2001 and March 2007 is 17.6 mg/L, which is well below the permitted limit and should not be harmful to aquatic organisms.

The total suspended solids limit in the reissued permit is based on the concentration limit used in the previous permit. The permit also prohibits the discharge of any untreated wastewater or floating solids. EPA has determined that this limit and prohibition will control solids so that significant deposition in receiving streams will not occur. Therefore, EPA has determined that the discharge of TSS from the permitted facility is not likely to adversely affect listed fish species.

The water quality-based effluent limitation for *E. coli* will ensure that bacterial levels will be extremely low in the WWTP discharge and receiving water. The permit requires water quality criteria for *E. coli* to be met before the discharge enters the receiving waters. Therefore, EPA has concluded that the discharge from the City of Salmon will have no effect on listed fish species.

B. State Certification

Section 401 of the CWA requires EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards.

C. Permit Expiration

The permit will expire five years from the effective date of the permit.

Appendix A - Facility Information

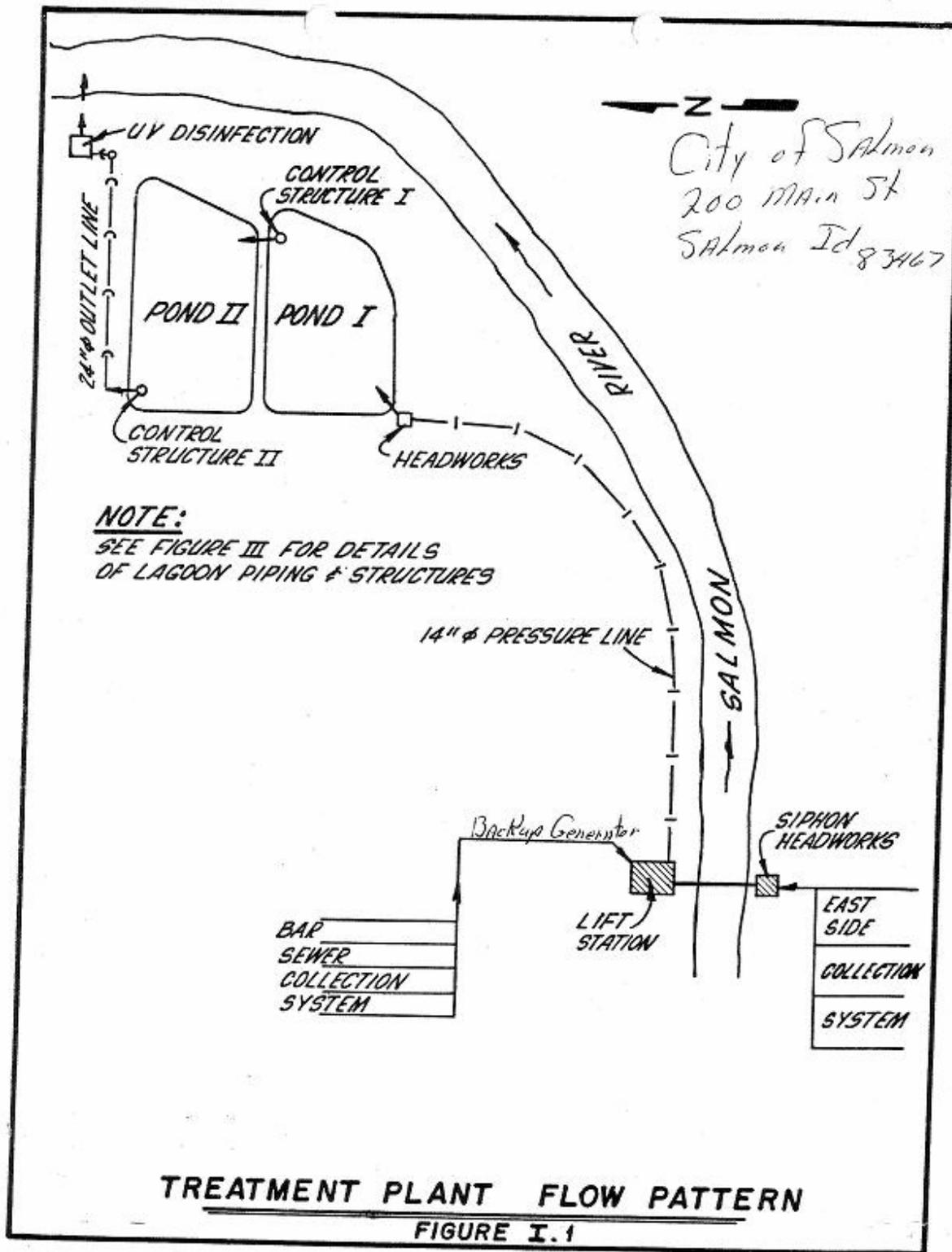
City of Salmon Waste Water Treatment Plant	
NPDES ID Number:	ID-00-2000-1
Mailing Address:	200 Main Street Salmon, Idaho 83467
Facility Background:	The facility's existing permit became effective April 2, 1987; this permit expired on April 1, 1992. The current permit application was received in June 26, 2006.
<u>Collection System Information</u>	
Service Area:	City of Salmon
Service Area Population:	Approx. 3000
Collection System Type:	100% Separated Sanitary Sewer
<u>Facility Information</u>	
Treatment Train:	Lagoon system with ultraviolet disinfection
Design Flow:	2.5 mgd (3.87 cfs)
Existing Flow:	1.37 mgd (2.12 cfs) (annual avg. daily flow from 2006 permit application)
Months when Discharge Occurs:	Continuous
Outfall Location:	45° 11' 32.5" N, 113° 53' 10.7" W City of Salmon, Idaho; Salmon River, 40 ft. from shore, 5 feet below surface.
<u>Receiving Water Information</u>	
Receiving Water:	Salmon River (approx 196 feet wide near outfall)
Subbasin:	Middle Salmon River-Panther Creek (HUC 17060203)
Beneficial Uses:	Cold water biota, secondary contact recreation, agricultural water supply, domestic water supply, and salmonid spawning.
Water Quality Limited Segment:	303(d) Listed Stream Segments: Salmon River; Assessment unit ID: ID17060203SLO41_07
Low Flow:	1Q10 is 463 cfs. 7Q10 is 528 cfs 7Q10 and 1Q10 values are calculated by performing Log-Pearson Type III distribution analysis of minimum daily flow, and 7-day flow values calculated from USGS gage 13302500 (Salmon River at Salmon ID).



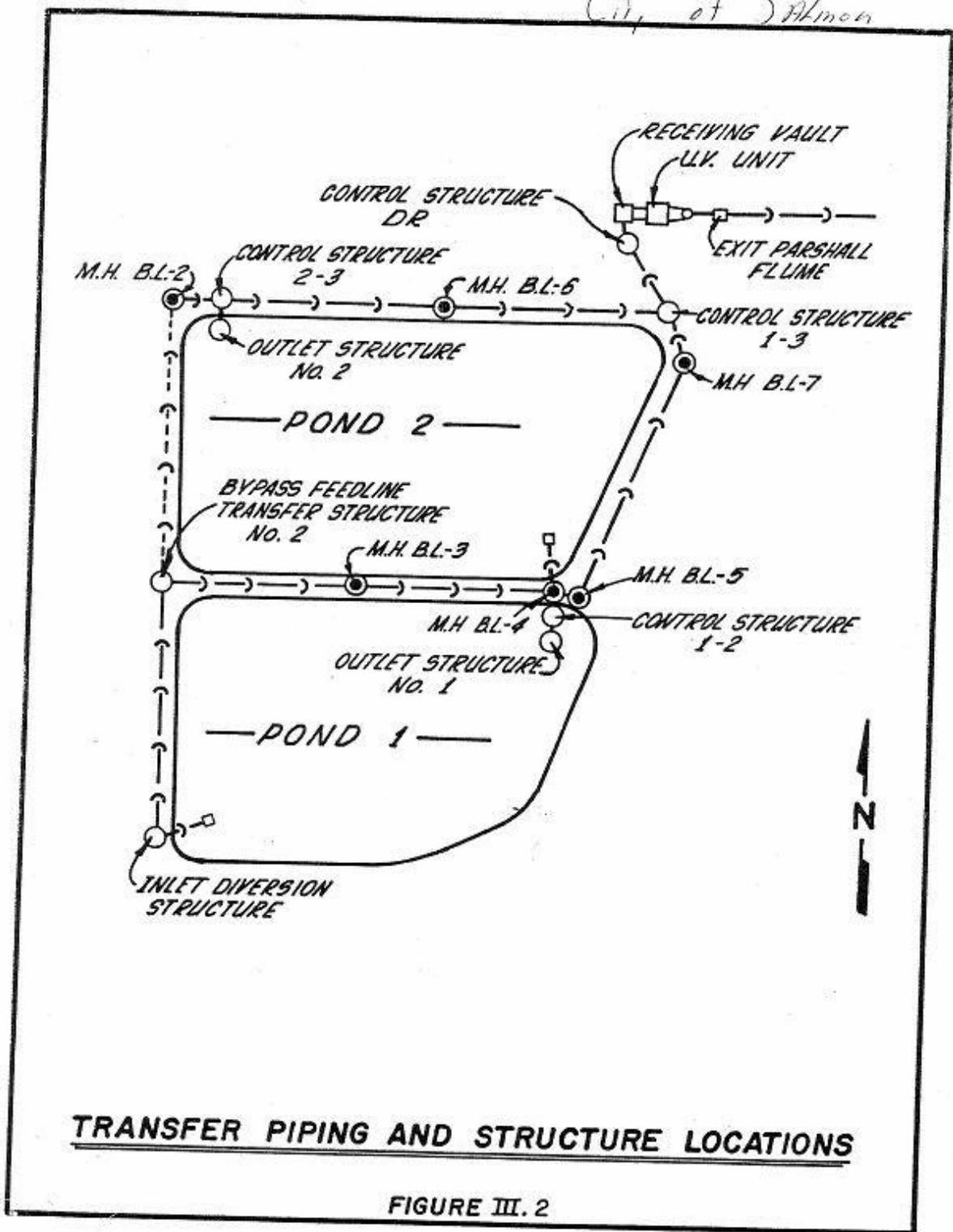
The U.S. Environmental Protection Agency (EPA) has compiled this computer representation from data or information sources that may not have been verified by the EPA. This data is offered here as a general representation only, and is not to be re-used without verification by an independent professional qualified to verify such data or information. The EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.

City of Salmon, Idaho WWTP





City of Salmon



TRANSFER PIPING AND STRUCTURE LOCATIONS

FIGURE III. 2

Appendix B – Basis for Effluent Limitations

The Clean Water Act (CWA) requires Publicly Owned Treatment Works (POTW) to meet effluent limits based on available wastewater treatment technology. These types of effluent limits are called secondary treatment effluent limits. EPA may find, by analyzing the effect of an effluent discharge on the receiving water, that secondary treatment effluent limits are not sufficiently stringent to meet water quality standards. In such cases, EPA is required to develop more stringent water quality-based effluent limits, which are designed to ensure that the water quality standards of the receiving water are met.

The technology based effluent standards in the Federal Secondary Treatment Standards for POTWs are: five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), the minimum removal rates for BOD₅ and TSS, and pH. In addition, effluent from a POTW may contain other pollutants such as bacteria, chlorine, ammonia, or metals depending on the type of treatment system used and the service area of the POTW (i.e., industrial facilities as well as residential areas discharge into the POTW). When technology based effluent limits do not exist for a particular pollutant expected to be in the effluent, EPA must determine if the pollutant may cause or contribute to an exceedance of the water quality standards for the water body. If a pollutant causes or contributes to an exceedance of a water quality standard, water quality-based effluent limits for the pollutant must be incorporated into the permit.

The following discussion explains in more detail the derivation of technology based effluent limits, and water quality based effluent limits. Part A discusses technology based effluent limits, Part B discusses water quality based effluent limits, and Part C discusses facility specific limits.

A. Technology Based Effluent Limits

1. BOD₅, TSS and pH

Secondary Treatment:

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as “secondary treatment,” that all POTWs were required to meet by July 1, 1977. EPA developed “secondary treatment” regulations, which are specified in 40 CFR 133. These technology-based effluent limits apply to all municipal wastewater treatment plants, and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD₅, TSS, and pH.

Table B-1 below illustrates the technology based effluent limits for “Secondary Treatment” effluent limits:

Table B-1: Secondary Treatment Effluent Limits (40 CFR 133.102)			
Parameter	Average Monthly Limit	Average Weekly Limit	Range
BOD ₅	30 mg/l	45 mg/l	---
TSS	30 mg/l	45 mg/l	---
Removal Rates for BOD ₅ and TSS	85% (minimum)	---	---
pH	---	---	6.0 - 9.0 s.u.

EPA has evaluated the facility’s DMR data and, based on available information to determine if the facility is eligible for “treatment equivalent to Secondary Treatment.”

Facilities can be eligible to treat to “treatment equivalent to secondary treatment,” if they meet the criteria in 40 CFR 133.101(g). The “treatment equivalent to secondary” requirements are described below:

Treatment Equivalent to Secondary:

The regulations include special considerations, referred to as “treatment equivalent to secondary” for waste stabilization ponds and trickling filters. The regulations allow alternative limits for BOD₅ and TSS for facilities using trickling filters or waste stabilization ponds provided the following requirements are met (40 CFR 133.101(g), and 40 CFR 133.105(d)):

- 1) The BOD₅ and TSS effluent concentrations consistently achievable through proper operation and maintenance of the treatment works exceed the minimum level of effluent quality required by the secondary treatment limits (i.e., the 95th percentile monthly averages both BOD₅ and TSS effluent quality must be greater than 30 mg/l; and, the concentration equal to 1.5 times the 95th percentile monthly averages must be greater than 45 mg/l).
- 2) A trickling filter or waste stabilization pond is used as the principal treatment process.
- 3) The treatment works provide significant biological treatment of municipal wastewater (i.e., per 40 CFR 133.101(k), a minimum 30-day average of 65% removal of BOD₅ is consistently attained).

Evaluation of the Treatment Equivalent to Secondary Treatment criteria:

To be eligible for “treatment equivalent to secondary treatment,” the facility must meet all three criterion in 40 CFR 133.101(g). The City of Salmon Wastewater Treatment Plant meets conditions (2) and (3), but it does not meet condition (1) of the regulations. The facility therefore is not eligible for consideration of the Treatment Equivalent to Secondary treatment standards since not all conditions are met.

Rationale for not meeting condition (1):

The City of Salmon Wastewater Treatment Plant does not meet this criterion because the 95th percentile of the facility’s BOD₅ Monthly Average is 17.6 mg/l when to meet the condition this must be greater than 30 mg/l (see Table B-2). In addition, 1.5 times the 95th percentile of the BOD₅ Monthly Average is 26.4 mg/l when to meet the condition this must be greater than 45 mg/l. Therefore, the facility’s data does not exceed the minimum level of effluent quality set forth in 40 CFR Section 133.102(a), secondary treatment for BOD₅.

Rationale for meeting condition (2):

The City of Salmon Wastewater Treatment Plant meets this criterion because the facility does utilize waste stabilization ponds as the principle process of treating wastewater.

Rationale for meeting condition (3):

The facility meets this criterion because the facility has demonstrated by its previously submitted DMRs that it could consistently achieve the percent removal rates for the Federal Equivalent to Secondary Treatment Limits for BOD₅. This is demonstrated in that for DMRs from March 2001 to March 2007 (See Table B-2) on file at EPA, the 5th percentile of BOD₅ removal rates is 65.8%, which is greater than the 65% removal rate required by Treatment Equivalent to Secondary standard.

Due to the fact that not all conditions in 40 CFR 133.101(g) are met, the facility is not eligible for the “Treatment Equivalent to Secondary” standards found in 40 CFR 133.105.

An additional rule potentially applicable to the City of Salmon Wastewater Treatment Plant is the Reduced Percent Removal Requirements for Less Concentrated Influent Wastewater rule. This is discussed below.

Evaluation of Reduced Percent Removal Requirements for Less Concentrated Influent Wastewater:

In accordance with 40 CFR § 133.103 (d), treatment works that receive less concentrated wastes from separate sewer systems can qualify to have their percent

removal limits reduced provided that all of the following conditions are met:

1. The facility can consistently meet, or will consistently meet its permit effluent concentration limits but cannot meet its percent removal limits because of less concentrated influent water;
2. The facility would have been required to meet significantly more stringent limitations than would otherwise be required by the concentration-based standards; and
3. The less concentrated influent is not the result of excessive inflow/infiltration (I/I).

The City of Salmon WWTP does not meet all three conditions in 40 CFR 133.103(d) for a treatment works that receive less concentrated wastes as described above.

For the first criteria, EPA analyzed the facility's Discharge Monitoring Reports, and concluded that at the 95th percentile of previous records, the facility could not meet the Secondary Treatment limits for the Monthly Average for TSS (the facility's 95th percentile is 30.55 mg/l for monthly average; compared to the monthly average limit of 30mg/l). Therefore, the facility's data could not meet the first criteria.

For the second criteria, EPA believes that the facility's data would support its ability of meet the second criteria described above. EPA anticipates that to meet the minimum 85% removal for BOD₅ and TSS, and achieve a monthly and weekly effluent limits of 30 mg/l and 45 mg/l respectively, the facility must have influent concentration greater than 200 mg/l monthly average (30mg/l divided by 0.15 = 200 mg/l), and the facility must have influent concentration greater than weekly average of 300 mg/l (45mg/l divided by 0.15 = 300mg/l). If the influent at the facility is more dilute than typically anticipated (i.e., for example, if the monthly average BOD₅ influent is less than 200 mg/l), then the calculated limits based on 85% removal would result in more stringent effluent limits than the technology based standards from the federal secondary treatment standards. Analysis of available DMR data for monthly average influent of only the BOD₅ data at the 95th percentile is 127 mg/l, which is significantly less than 200mg/l. Had this information been used to calculate monthly average effluent limit for BOD₅, it would have resulted in an effluent limit of 19.05 mg/l (127 mg/l x 0.15 = 19.05 mg/l). This calculation shows that the facility would have to meet significantly more stringent effluent limits. In this example, for BOD₅ monthly average would have been 19.05 mg/l, instead of the federal secondary treatment limit of 30 mg/l. Therefore, the facility's data would meet the second criteria.

For the third criteria, the facility data did not support the eligibility in particular because EPA has reviewed the regulations in 40 CFR 133.103(d), and 40 CFR 35.2005(b)(16), and believes that the less concentrated effluent is likely the result of excessive infiltration and inflow. The rationale is that The City of Salmon

Wastewater Treatment Plant exceeded the 275 gallons per person/day criteria described in 40 CFR 133.103(d) for the population served. Specifically, the calculated volume of 596 gallons per capita/day (derived from the maximum daily flow rate of 1.79 mgd as reported in the permit application, divided by the City of Salmon population of 3,000). This volume is 2.2 times the 275 gallons per capita/day criteria.

This analysis concludes that the facility does not meet all the conditions for eligibility in 40 CFR 133.103(d), “Less concentrated influent wastewater for separate sewers;” therefore, the facility is not eligible for a lower percent removal requirement than those set-forth in 40 CFR 133.102- Secondary Treatment and, 40 CFR 133.105- Treatment Equivalent to Secondary Treatment. Since it has already been established above in this fact sheet that the facility is not eligible for “Treatment Equivalent to Secondary Treatment,” the appropriate technology-based effluent limit for consideration in this case is the Secondary Treatment Standards found in 40 CFR 133.102.

Draft Permit Limits:

The past years of monitoring data for the facility was examined to determine if any considerations were necessary in designating effluent limits for BOD₅ and TSS (such as treatment equivalent to secondary limits or reduced percent removal requirements).

The March 2001- March 2007 DMR data review indicated that the facility could not meet the requirements to be eligible for the Treatment Equivalent to Secondary Treatment standard; and the facility does not meet the requirements eligibility for Reduced Percent Removal Requirements for Less Concentrated Influent Wastewater (see discussion above). Therefore, the new permit includes secondary treatment limits for BOD and TSS.

Table B-2: Data from DMR Submitted

DATE	BOD Mo. Avg.(mg/l)	BOD Wk. Avg.(mg/l)	TSS Mo. Avg. (mg/l)	TSS Wk. Avg. (mg/l)	BOD % removal Mo. Avg.
3/31/2001	18	18	5	5	83
4/30/2001	21	21	18	18	91
05/31/2001	11	17	13	20	95
06/30/2001	16	24	17	26	54
07/31/2001	7	11	14	21	93
08/31/2001	9	14	8	12	86
09/30/2001	15	23	12	18	71
10/31/2001	2	3	2	3	95
11/30/2001	16	24	8	12	83
12/31/2001	6	9	10	15	89
01/31/2002	7	10.5	5	8	90
02/28/2002	10	15	7	11	81
03/31/2002	5	8	9	14	92
04/30/2002	10	15	30	45	87
05/31/2002	11	17	7	11	71
06/30/2002	12	18	10	15	59
07/31/2002	4	6	1	2	94
08/31/2002	6	9	18	27	86
09/30/2002	6	9	16	24	92
10/31/2002	17	26	15	23	70
11/30/2002	13	20	4	6	78
01/31/2003	13	20	12	18	83
02/28/2003	13	20	17	26	86
03/31/2003	21	32	48	72	74
04/30/2003	19	29	8	12	81
05/31/2003	8	12	5	8	80
06/30/2003	8	12	14	21	77
07/31/2003	7	11	13	20	86
09/30/2003	16	24	14	21	56
10/31/2003	9	14	22	33	88
11/30/2003	8	12	18	27	87
12/30/2003	9	14	17	26	63
01/30/2004	11	17	14	21	87
02/29/2004	11	17	14	21	89
03/31/2004	15	23	31	47	81

DATE	BOD Mo. Avg.(mg/l)	BOD Wk. Avg.(mg/l)	TSS Mo. Avg. (mg/l)	TSS Wk. Avg. (mg/l)	BOD % removal. Mo. Avg.
04/30/2004	9	14	5	8	93
05/31/2004	8	12	5	8	86
06/30/2004	5	8	12	18	88
07/31/2004	6	9	4	6	85
08/31/2004	7	11	2	3	89
09/30/2004	8	12	6	9	88
10/31/2004	6	9	19	29	92
11/30/2004	7	11	20	30	94
12/31/2004	7	11	13	20	95
01/31/2005	9	14	19	29	93
02/28/2005	6	9	12	18	93
03/31/2005	17	26	22	33	87
04/30/2005	9	14	6	9	90
05/31/2005	8	12	6	9	87
06/30/2005	5	8	5	8	78
07/31/2005	10	15	10	15	79
08/31/2005	8	12	3	5	87
09/30/2005	5	8	11	17	94
10/31/2005	6	9	3	5	88
11/30/2005	5	8	9	14	93
12/31/2005	5	8	25	38	87
01/31/2006	7	11	10	15	87
02/28/2006	10	15	13	20	89
3/31/2006	12	12	30	30	79
4/30/2006	12	12	22	22	Not Reported
5/31/2006	3	3	14	14	95
6/30/2006	11	11	3	3	91
8/31/2006	9	9	6	6	80
9/30/2006	6	6	3	3	88
10/30/2006	12	12	7	7	81
11/30/2006	7	7	31	31	92
12/31/2006	4	4	34	34	97
1/31/2007	6	6	16	16	92
2/28/2007	6	6	12	12	93
3/31/07	6	6	16	16	92
Calculation	95th percentile = 17.6 mg/l	95th percentile = 25.1 mg/l	95th percentile = 30.6 mg/l	95th percentile = 36.2 mg/l	5th percentile = 65.8%
To meet Treatment Equivalent to Secondary Criteria (1) and (3)	Be greater than 30 mg/l	1.5 times the monthly calculation (17.6 mg/l x 1.5 = 26.4 mg/l) must be greater than 45 mg/l	Be greater than 30 mg/l	1.5 times the monthly calculation (30.6 mg/l x 1.5 = 46 mg/l) must be greater than 45 mg/l	Be greater than 65%
Does Data meet Criteria (1) and (3)	NO	NO	YES	YES	YES

2. Mass-based Limits

The federal regulation at 40 CFR § 122.45 (f) require BOD₅ and TSS limitations to be expressed as mass based limits using the design flow of the facility. The mass based limits are expressed in lbs/day and are calculated as follows:

Mass based limit (lbs/day) = concentration limit (mg/L) x design flow (mgd) x 8.34
For BOD₅ and TSS:

Average Monthly Limit = 30 mg/l x 2.5 mgd x 8.34 = 625.5 lbs/day

Average Weekly Limit = 45 mg/l x 2.5 mgd x 8.34 = 938.25 lbs/day

B. Water Quality-Based Effluent Limits

The following discussion is divided into four sections. Section 1 discusses the statutory basis for including water quality based effluent limits in NPDES permits, section 2 discusses the procedures used to determine if water quality based effluent limits are needed in an NPDES permit, section 3 discusses the procedures used to develop water quality based effluent limits, and section 4 discusses the specific water quality based limits.

The City of Salmon WWTP has only technology-based limits for BOD, TSS, and bacteria. It has no limits for any pollutants that might require water quality-based effluent limits. Therefore, no reasonable potential analyses were conducted for the Salmon WWTP. However, this section of the fact sheet is included for completeness.

1. Statutory Basis for Water Quality-Based Limits

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977. Discharges to state/tribal waters must also comply with limitations imposed by the state/tribe as part of its certification of NPDES permits under section 401 of the CWA.

The NPDES regulation (40 CFR 122.44(d)(1)) implementing section 301 (b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state/tribal water quality standard, including state/tribal narrative criteria for water quality.

The regulations require that this evaluation be made using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

2. Reasonable Potential Analysis

When evaluating the effluent to determine if water quality-based effluent limits are needed based on chemical specific numeric criteria, a projection of the receiving water concentration (downstream of where the effluent enters the receiving water) for each pollutant of concern is made. The chemical specific concentration of the effluent and receiving water and, if appropriate, the dilution available from the receiving water are factors used to project the receiving water concentration. If the projected concentration of the receiving water exceeds the numeric criterion for a specific chemical, then there is a reasonable potential that the discharge may cause or contribute to an excursion above the applicable water quality standard, and a water quality-based effluent limit is required.

Sometimes it is appropriate to allow a small area of receiving water to provide dilution of the effluent, these areas are called mixing zones. Mixing zone allowances will increase the mass loadings of the pollutant to the water body, and decrease treatment requirements. Mixing zones can be used only when there is adequate receiving water flow volume and the receiving water is below the chemical specific numeric criterion necessary to protect the designated uses of the water body. Mixing zones must be authorized by the IDEQ.

3. Procedure for Deriving Water Quality-Based Effluent Limits

The first step in developing a water quality based permit limit is to develop a wasteload allocation (WLA) for the pollutant. A wasteload allocation is the concentration or loading of a pollutant that the permittee may discharge without causing or contributing to an exceedance of water quality standards in the receiving water.

In cases where a mixing zone is not authorized, either because the receiving water already exceeds the criterion, the receiving water flow is too low to provide dilution, or the state/tribe does not authorize one, the criterion becomes the WLA. Establishing the criterion as the wasteload allocation ensures that the permittee will not contribute to an exceedance of the criterion. The wasteload allocations have been determined for pH and E. coli bacteria in this way because the State does not generally authorize mixing zones for these pollutants. For these particular parameters, the wasteload allocation translates directly into the effluent limit without any statistical conversion.

4. Specific Water Quality-Based Effluent Limits

(a) Toxic Substances

The Idaho Water Quality Standards (IDAPA 58.01.02.200.02) require surface waters of the state to be free from toxic substances in

concentrations that impair designated uses. Because there are no significant industrial discharges to the facilities, and concentrations of priority pollutants from cities without a significant industrial component are low, it is anticipated that toxicity will not be a problem in the facility discharges. Therefore, water quality-based effluent limits have not been proposed for the draft permits.

(b) Floating, Suspended or Submerged Matter/Oil and Grease

The Idaho Water Quality Standards (IDAPA 58.01.02.200.05) require surface waters of the state to be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated beneficial uses. A narrative condition is proposed for the draft permits that states there must be no discharge of floating solids or visible foam or oil and grease other than trace amounts.

(c) Sediment/Total Suspended Solids (TSS)

The draft permits include technology-based limits for TSS. If a facility discharges to a receiving water listed as water quality limited for sediment, the sediment wasteload allocation from the TMDL (if approved by the EPA) is incorporated into the draft permit limits.

(d) pH

The Idaho Water Quality Standards (IDAPA 58.01.02.250.01.a) require surface waters of the state to have a pH value within the range of 6.5 - 9.5 standard units. The federal Secondary Treatment technology-based effluent limits for pH are 6.0 - 9.0 standard units. These limits must be met before the effluent is discharged to the receiving water. To ensure that both water quality-based requirements and technology-based requirements are met, the draft permits incorporate the Idaho Water Quality Standards with the range from 6.5 standard units to 9.0 standard units.

(e) Dissolved Oxygen (D.O.)

The Idaho water quality standards require the level of D.O. in a receiving water to exceed 5 mg/L at all times when the water body is protected for aquatic life use.

Dissolved Oxygen was not listed on the State's Section 303(d) list; however, effluent and surface water monitoring has been proposed for this parameter so that data can be generated for further evaluation during the next permit cycle.

(f) Temperature

This segment of the Salmon River, designated for cold water aquatic life, should maintain water temperature of twenty-two (22) degrees C (instantaneous maximum) or less, with a maximum daily average of no greater than nineteen (19) degrees C. Currently, this segment of the Salmon River is meeting the standard. IDEQ is in the process of re-evaluating its temperature standards; therefore, effluent and surface water monitoring is appropriate.

(g) Escherichia coli (E. coli) Bacteria

Due to the reason that the facility discharges to waters designated as primary contact recreation water, the proposed water quality-based effluent limits in the draft permit comply with Idaho WQS, which include an average monthly limit of 126 organisms/100 ml and an instantaneous maximum limit of 406 organisms/100 ml.