



FACT SHEET

**The United States Environmental Protection Agency (EPA)
Proposes To Reissue
A National Pollutant Discharge Elimination System (NPDES) Permit to:**

**The City of New Meadows
PO Box 324
New Meadows, Idaho 83654**

NPDES Permit Number: ID-0023159

Public Notice Start Date: April 4, 2013
Public Notice Expiration Date: May 6, 2013

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The EPA Proposes To Reissue NPDES Permit

The EPA proposes to reissue the NPDES permit to the facility referenced above. The draft permit places 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 permit 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

State Certification for Facilities that Discharge to State Waters

The EPA will request that the Idaho Department of Environmental Quality (IDEQ) certify the NPDES permit for this facility, under Section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

Idaho Department of Environmental Quality
Boise Regional Office
1445 N. Orchard Street
Boise, Idaho 83706
ph: (208) 373-0550
fx: (208) 373-0287
toll-free: (888) 800-3480

Public Comment

Persons wishing to comment on, or request a Public Hearing for the draft permit for this facility 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 the EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires and all comments have been considered, the EPA Region 10's Director for the Office of Water and Watersheds 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, the EPA will address the comments and issue the permit. In such a case, the permit will become effective at least 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 permit and fact sheet are posted on the Region 10 website at <http://yosemite.epa.gov/r10/WATER.NSF/NPDES+Permits/DraftPermitsID>. Copies may also be requested by writing to the EPA at the Seattle address below, by e-mailing washington.audrey@epa.gov, or by calling Audrey Washington at 206-553-0523 or (800) 424-4372 ext 0523 (within Alaska, Idaho, Oregon, & Washington). Copies may also be inspected and copied at the offices below between 8:30 a.m. and 4:00 P.M., Monday through Friday, except federal holidays. In Seattle, visitors report to the 12th floor Public Information Center.

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For technical questions regarding the permit or fact sheet, contact John Drabek at the phone number or e-mail address at the top of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 and ask to be connected to the appropriate phone number. Persons with disabilities may request additional services by contacting John Drabek.

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I. APPLICANT

A. General Information

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

Facility Name: City of New Meadows Wastewater Treatment Plant

Mailing Address: P.O. Box 324, New Meadows, Idaho 83654

Facility Address: 100 W. McClean, New Meadows, Idaho 83654

Contact: Doug Buys, Public Works Director, (208) 469 – 9523

B. Permit History

The facility's previous permit became effective on May 1, 2004 and expired on April 30, 2009. The EPA received a complete application for permit reissuance on October June 17, 2008. Since the permit was not reissued before the expiration date of April 30, 2009 and since the City submitted a timely application, the permit was administratively extended pursuant to 40 CFR 122.6.

II. FACILITY INFORMATION

A. Treatment Plant Description

The City of New Meadows (City) owns, operates and has maintenance responsibility for a facility that treats domestic sewage that is primarily from local residents and commercial establishments through a separated sanitary sewer system. There are no significant industrial users.

The wastewater treatment plant consists of three lagoons in series, followed by chlorination. Primary treatment consists of screening. Secondary treatment is by aerated Pond No. 1, non-aerated Pond No. 2 and aerated Pond No. 3, in series. Disinfection is by chlorination in a contact pipe prior to discharge.

The facility serves a population of about 480 and has a design flow rate of 0.36 mgd.

The City estimates that inflow and infiltration are negligible.

B. Compliance History

A review of the Discharge Monitoring Reports (DMRs) from May 2004 to October 2011 found the following violations of effluent limits:

BOD₅

Violations of the monthly average concentration limit of 30 mg/L, at 39 in May 2007, and 32 in October 2011.

pH

Multiple violations of the instantaneous minimum of 6.5, with minima at 4.8 in November 2006 and in August 2004

Multiple violations of the instantaneous maximum of 9.0, with a maximum of 9.41 in April 2006

Total Suspended Solids

Multiple violations of the monthly average concentration limit of 45 mg/L, with a maximum of 77 in September 2010.

Multiple violations of the weekly average concentration limit of 65 mg/L, at 77 in September 2010.

Total Residual Chlorine

Multiple violations of the monthly average concentration limit of 0.5 mg/L, with a maximum of 0.8 in January 2007.

Violations of the weekly average concentration limit of 0.75 mg/L, at 0.85 in May 2004, and 0.8 in January 2007.

A violation of the monthly average loading limit of 1.5 lb/day, at 2.3 in March 2006

E. coli

A violation of the monthly geometric mean limit of 126 colonies/100 ml, at 147 in July 2011.

A violation of the instantaneous maximum limit of 406 colonies/100 ml, at 870 in March 2008

BOD₅, percent removal

Multiple violations of the average monthly limit of 85% minimum removal, with a minimum of at 40% in February 2005

Total Suspended Solids, percent removal

Multiple violations of the average monthly limit of 85% minimum removal, including 42% in May 2007 and 43% in November 2010

III. RECEIVING WATER

The treated effluent from the City of New Meadows wastewater treatment facility is discharged continuously to the Little Salmon River upstream of the confluence with the Salmon River, which lies within the Little Salmon Subbasin (HUC 17060210) S-7. The outfall is located at latitude 44° 58' 38" N and longitude 116° 17' 26" W.

A. Low Flow Conditions

The low flow conditions of a water body are used to assess the need for and develop water quality based effluent limits (see Appendix B of this fact sheet for additional information on flows). The 1Q10, 7Q10, 30B3, 30Q5, and harmonic mean flow rates of the Little Salmon River are 86.8 cfs, 104 cfs, 111cfs, 127 cfs and 28610 cfs, respectively. These calculations used flow data from the USGS station 133316500, Little Salmon River at Riggins, Idaho,

which is downstream of the City of New Meadows outfall, and just upstream of the confluence with the Salmon River. This is also the only USGS station on the Little Salmon River with current flow data. The period of record for these calculations was 1983 to 2011.

B. Water Quality Standards

Overview

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. Federal regulations at 40 CFR 122.4(d) require that the conditions in NPDES permits 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 that each water body is expected to achieve, such as drinking water supply, contact recreation, and aquatic life. The numeric and 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.

Designated Beneficial Uses

This facility discharges to the Little Salmon Subbasin, Little Salmon River - source to Round Valley Creek (IDAPA 58.01.02.130.12, S-7) HUC 17060210. At the point of discharge, the Little Salmon River is protected for the following designated uses (IDAPA 58.01.02.130.12):

- cold water aquatic life
- salmonid spawning
- primary contact recreation
- domestic water supply

In addition, the WQS state that all waters of the State of Idaho are protected for industrial and agricultural water supply (Section 100.03.b and c.), wildlife habitats (100.04) and aesthetics (100.05).

Surface Water Quality Criteria

The criteria are found in the following sections of the WQS:

- The narrative criteria applicable to all surface waters of the State are found at IDAPA 58.01.02.200 (General Surface Water Quality Criteria).
- The numeric criteria for toxic substances for the protection of aquatic life and primary contact recreation are found at IDAPA 58.01.02.210 (Numeric Criteria for Toxic Substances for Waters Designated for Aquatic Life, Recreation, or Domestic Water Supply Use).
- Additional numeric criteria necessary for the protection of aquatic life can be found at IDAPA 58.01.02.250 (Surface Water Quality Criteria for Aquatic Life Use Designations).

- Numeric criteria necessary for the protection of recreation uses can be found at IDAPA 58.01.02.251 (Surface Water Quality Criteria for Recreation Use Designations).
- Water quality criteria for agricultural water supply can be found in the EPA's *Water Quality Criteria 1972*, also referred to as the "Blue Book" (EPA R3-73-033) (See IDAPA 58.01.02.252.02)

Antidegradation

The EPA is required under Section 301(b)(1)(C) of the Clean Water Act (CWA) and implementing regulations (40 CFR 122.4(d) and 122.44(d)) to establish conditions in NPDES permits that ensure compliance with State water quality standards, including antidegradation requirements. IDEQ has provided the EPA with an antidegradation analysis that complies with the State's antidegradation implementation procedures in the State's 401 certification. Comments on the 401 certification including the antidegradation review can be submitted to the IDEQ as set forth above (see State Certification in Appendix C).

C. Water Quality Limited Segment

Any waterbody for which the water quality does not 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. A TMDL is a detailed analysis of the water body to determine its assimilative capacity. The assimilative capacity is the loading of a pollutant that a water body can assimilate without causing or contributing to a violation of water quality standards. Once the assimilative capacity of the water body has been determined, the TMDL will allocate that capacity among point and non-point pollutant sources, taking into account natural background levels and a margin of safety. Allocations for non-point sources are known as "load allocations" (LAs). The allocations for point sources, known as "waste load allocations" (WLAs), are implemented through effluent limitations in NPDES permits. Effluent limitations for point sources must be consistent with applicable TMDL allocations.

The State of Idaho's 2010 Integrated Water Quality Monitoring and Assessment Report (Integrated Report), designates the Little Salmon River on the 303(d) list as impaired for temperature, *E. coli*, and total phosphorus with EPA approved TMDLs. The Little Salmon flows into the Salmon River and the State's 303(d) list does not list the Salmon River as impaired for any parameter.

IV. EFFLUENT LIMITATIONS

A. Basis for Permit Effluent Limits

In general, the CWA requires that the 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 are

provided in Appendix B of this document.

B. Proposed Effluent Limitations

The following summarizes the proposed effluent limitations that are in the draft permit:

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.

Table 1 below presents the proposed effluent limits for 5-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), *Escherichia coli* (*E. coli*), pH, total phosphorus, temperature, and the minimum percent removal requirements for BOD₅ and TSS.

Table 1: Effluent Limitations				
Parameters	Average Monthly Limit	Average Weekly Limit	Minimum Percent Removal¹	Daily Maximum Limit
BOD ₅	30 mg/L	45 mg/L	85%	--
	90 lbs/day	135 lbs/day		--
TSS	45 mg/L	65 mg/L	65%	--
	135 lbs/day	195 lbs/day		--
<i>E. coli</i> Bacteria	126 colonies /100mL ²	--	--	406 colonies /100mL ³
Total Residual Chlorine	0.50 mg/L	0.75 mg/L	--	--
	1.5 lb/day	2.25 lb/day	--	--
Temperature ⁴	--	--	--	20.8 °C
Total Phosphorus June 21-September 22	6.6 lb/month ⁵	13.3 lb/week ⁶	--	--
pH	6.5 – 9.0 standard units			

1. Percent removal is calculated using the following equation: ((influent - effluent) / influent) x 100, this limit applies to the average monthly values.
2. The monthly average for *E. coli* is the geometric mean of all samples taken during the month, based on a minimum of five samples, taken every 3-7 days within a calendar month.
3. Instantaneous maximum limit, applicable to each grab sample without averaging. A violation must be reported within 24 hours.
4. Continuous effluent monitoring shall begin within six months of the effective date of the permit. The permittee shall use a temperature probe or a continuous monitoring thermister set at a **30 minute** sampling interval
5. Cumulative loading values are calculated by multiplying the average monthly concentration (mg/L) by the total flow for the month (mgd) and a conversion factor of 8.34
6. Cumulative loading values are calculated by multiplying the average weekly concentration (mg/L) by the total flow for the week (mgd) and a conversion factor of 8.34

The existing permit does not have effluent limitations for total phosphorus or temperature. The draft permit establishes effluent limitations for both total phosphorus and temperature.

V. MONITORING REQUIREMENTS

A. Basis for Effluent and Surface Water Monitoring Requirements

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 characterize the effluent to determine if additional effluent limitations are required and to monitor effluent impacts on receiving water quality.

The permit also requires the permittee to perform effluent monitoring required by the NPDES Form 2A application, so that these data will be available when the permittee applies for a renewal of its NPDES permit.

The permittee is responsible for conducting the monitoring and for reporting results on DMRs or on the application for renewal, as appropriate, to the 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 must be used for averaging if they are conducted using the EPA-approved test methods (generally found in 40 CFR 136) or as specified in the permit.

BOD₅, TSS, *E. coli*, Total Phosphorus, Temperature, Flow, pH and Total Residual Chlorine

The permit requires monitoring BOD₅, TSS, *E. coli*, total phosphorus, flow, pH and total residual chlorine to determine compliance with the effluent limits; it also requires monitoring of the influent for BOD₅ and TSS to calculate monthly removal rates.

Ammonia

Ammonia monitoring is necessary to generate data used in determining a reasonable potential for exceeding water quality standards. Ammonia effluent levels also provide an indication of the operational efficiency of the wastewater treatment plant. In the proposed permit, ammonia effluent sampling will once again be required once per month, but extended to the entire term of the permit. Appendix B indicates no reasonable potential to violate water quality standards for ammonia, so the proposed permit contains no effluent limits for ammonia.

Table 2 presents the effluent monitoring requirements for the permittee 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 2: Effluent Monitoring Requirements				
Parameter	Unit	Sample Location	Sample Frequency	Sample Type
Flow	mgd	Effluent	Continuous	Recording
BOD ₅	mg/L	Influent and Effluent ¹	1/week	8-hour composite

Table 2: Effluent Monitoring Requirements				
Parameter	Unit	Sample Location	Sample Frequency	Sample Type
	lbs/day	Influent and Effluent ¹	1/week	Calculation
	% Removal	---	1/month	Calculation
TSS	mg/L	Influent and Effluent ¹	1/week	8-hour composite
	lbs/day	Influent and Effluent ¹	1/week	Calculation
	% Removal	---	1/month	Calculation
pH	standard units	Effluent	1/week	Grab
<i>E.coli</i>	colonies/100 ml	Effluent	5/month	Grab
Total Residual Chlorine	mg/L	Effluent	1/week	Grab
Total Ammonia as N	mg/L	Effluent	1/month	Grab
Total Phosphorus June 21-September 22	mg/L	Effluent	1/week	8-hour composite
	lbs/day		1/week	Calculation
Total Phosphorus September 23-June 20	mg/L	Effluent	1/month	8-hour composite
	lbs/day		1/month	
Temperature ²	°C	Effluent	Continuous	Recorder
NPDES Application Form 2A Effluent Testing Data	mg/L	Effluent	3x/5 years	See footnote 3

1. Influent and effluent composite samples shall be collected during the same 8-hour period.
2. Continuous effluent monitoring shall begin within six months of the effective date of the permit. Temperature data must be recorded using micro-recording temperature devices known as thermistors with the recording device to record at one-hour intervals. Report the following temperature monitoring data on the DMR: monthly instantaneous maximum, maximum daily average seven-day running average of the daily instantaneous maximum.
3. For Effluent Testing Data, in accordance with instructions in NPDES Application Form 2A, Part B.6.

Monitoring Changes from the Previous Permit

New monitoring is established for temperature and total phosphorus. Monitoring for TSS and BOD₅ is increased to weekly from monthly to insure compliance with the weekly effluent limitations.

C. Surface Water Monitoring

The permittee provided limited surface water monitoring data to support the application for renewal and allow calculations to determine whether there was reasonable potential to exceed water quality standards; the information provided included only single data points for pH and temperature, which are necessary to determine water quality standards for ammonia.

Therefore, surface water monitoring data are required under the proposed permit, to be used

in reasonable potential determinations for the next permit cycle. Surface water monitoring data requirements will be incorporated into the prepared DMR sheets that EPA sends to the permittee.

1. Surface water monitoring must start 180 days after the effective date of the permit and continue until 12 quarterly samples are obtained and reported for each pollutant. The program must meet the following requirements:
2. Monitoring stations must be established in the Little Salmon River, above the influence of the facility's discharge.
3. The permittee must seek approval of the surface water monitoring stations from IDEQ.
4. A failure to obtain IDEQ approval of surface water monitoring stations does not relieve the permittee of the surface water monitoring requirements of this permit.
5. To the extent practicable, surface water sample collection must occur on the same day as effluent sample collection.
6. All ambient samples must be grab samples.
7. Samples must be analyzed for the parameters listed in Table 3, and must achieve minimum levels (MLs) that are equivalent to or less than those listed. The permittee may request different MLs. The request must be in writing and must be approved by the EPA.

Table 3: Surface Water Monitoring Requirements			
Parameter	Units	Upstream Sampling Frequency	ML
Temperature	°C	Grab	0.2
pH	Standard Units	Quarterly	0.1
Total Ammonia as N	mg/L	Quarterly	0.10
1. Quarterly monitoring must occur once during each of the following quarters: January – March, April – June, July – September, and October - December			

8. Quality assurance/quality control plans for all the monitoring must be documented in the Quality Assurance Plan required under Part II.B., "Quality Assurance Plan".
9. Surface water monitoring results must be reported on the DMR.

VI. SLUDGE (BIOSOLIDS) REQUIREMENTS

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

In the absence 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. Since the 40 CFR Part 503 regulations are self-implementing, the permittees must comply with them whether or not a permit has been

issued.

VII. OTHER PERMIT CONDITIONS

A. Quality Assurance Plan Implementation

The federal regulation at 40 CFR §122.41(e) requires the permittee to develop procedures to ensure that the monitoring data submitted to the EPA are accurate and to explain data anomalies if they occur. The permittee is required to develop or update and implement a Quality Assurance Plan within 90 days of the effective date of the final permit. The Quality Assurance Plan shall consist of standard operating procedures that the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis and data reporting. The plan shall be retained on site and be made available to the EPA and IDEQ upon request.

B. Operation and Maintenance Plan Implementation

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 its facility within 180 days of the effective date of the final permit. The plan shall be retained on site and made available to the EPA and IDEQ upon request.

C. Sanitary Sewer Overflows and Proper Operation and Maintenance

Untreated or partially treated discharges from separate sanitary sewer systems are referred to as sanitary sewer overflows (SSOs). SSOs may present serious risks of human exposure when released to certain areas, such as streets, private property, basements, and receiving waters used for drinking water, fishing and shellfishing, or contact recreation. Untreated sewage contains pathogens and other pollutants, which are toxic. SSOs are not authorized under this permit. Pursuant to the NPDES regulations, discharges from separate sanitary sewer systems authorized by NPDES permits must meet effluent limitations that are based upon secondary treatment. Further, discharges must meet any more stringent effluent limitations that are established to meet the EPA-approved state water quality standards.

The permit contains language to address SSO reporting and public notice and operation and maintenance of the collection system. The permit requires that the permittee identify SSO occurrences and their causes. In addition, the permit establishes reporting, record keeping and third party notification of SSOs. Finally, the permit requires proper operation and maintenance of the collection system. The following specific permit conditions apply:

Immediate Reporting – The permittee is required to notify the EPA of an SSO within 24 hours of the time the permittee becomes aware of the overflow. (See 40 CFR 122.41(1)(6))

Written Reports – The permittee is required to provide the EPA a written report within five days of the time it became aware of any overflow that is subject to the immediate reporting provision. (See 40 CFR 122.41(1)(6)(i)).

Third Party Notice – The permit requires that the permittee establish a process to notify specified third parties of SSOs that may endanger health due to likelihood of human exposure or of unanticipated bypasses and upsets that exceed any effluent limitation in the permit or that may endanger health due to a likelihood of human exposure. The permittee is required to

develop, in consultation with appropriate authorities at the local, county, and/or state level, a plan that describes how, under various overflow (and unanticipated bypass and upset) scenarios, the public, as well as other entities, would be notified of overflows that may endanger health. The plan should identify all overflows that would be reported, to whom, and the specific information that would be reported. The plan should include a description of lines of communication and the identities of responsible officials. (See 40 CFR 122.41(l)(6)).

Record Keeping – The permittee is required to keep records of SSOs. The permittee must retain the reports submitted to the EPA and other appropriate reports that could include work orders associated with investigation of system problems related to a SSO, that describes the steps taken or planned to reduce, eliminate and prevent reoccurrence of the SSO. (See 40 CFR 122.41(j)).

Proper Operation and Maintenance – The permit requires proper operation and maintenance of the collection system. (See 40 CFR 122.41(d) and (e)). SSOs may be indicative of improper operation and maintenance of the collection system. The permittee may consider the development and implementation of a capacity, management, operation and maintenance (CMOM) program.

The permittee may refer to Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (EPA 305-B-05-002). This guide identifies some of the criteria used by the EPA inspectors to evaluate a collection system's management, operation and maintenance program activities. Owners/operators can review their own systems against the checklist (Chapter 3) to reduce the occurrence of sewer overflows and improve or maintain compliance.

D. Electronic Submission of Discharge Monitoring Reports

The draft permit includes new provisions to allow the permittee the option to submit Discharge Monitoring Report (DMR) data electronically using NetDMR. NetDMR is a national web-based tool that allows DMR data to be submitted electronically via a secure Internet application. NetDMR allows participants to discontinue mailing in paper forms under 40 CFR § 122.41 and § 403.12. The permittee may use NetDMR after requesting and receiving permission from EPA Region 10.

Under NetDMR, all reports required under the permit are submitted to EPA as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it is no longer required to submit paper copies of DMRs or other reports to EPA and IDEQ.

EPA encourages permittees to sign up for NetDMR, and currently conducts free training on the use of NetDMR. Further information about NetDMR, including upcoming trainings and contacts, is provided on the following website: <http://www.epa.gov/netdmr>.

E. Additional Permit Provisions

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

VIII. OTHER LEGAL REQUIREMENTS

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with National Oceanic and Atmospheric Administration Fisheries (NOAA) and the U.S. Fish and Wildlife Service (FWS) if their actions could adversely affect any threatened or endangered species. The NOAA National Marine Fisheries Service, Northwest Regional Office, designates steelhead a threatened species in the Snake River Basin, which includes the Lower Salmon Subbasin.

Based on the USFW website, Adams County, the location of the City of New Meadows WWTP discharge, contains the threatened fish species Bull Trout. The effluent limits are the more stringent of technology-based or water-quality based values, and the design flow of the New Meadows WWTP is 0.36 mgd, compared to typical river flows of 1000 mgd or more in the Salmon River, into which the Little Salmon River flows. Dilution factors in the Little Salmon River are high at 40 to 1. Therefore, the EPA determines the discharges from the City's WWTP will have no effect on listed species.

B. Essential Fish Habitat

Essential fish habitat (EFH) includes the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires the EPA to consult with NOAA National Marine Fisheries Service when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH. The EFH regulations define an adverse effect as any impact which reduces quality or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

NOAA National Marine Fisheries Services, Northwest Regional Office, has designated EFH for salmon in HUC 17060210, the Lower Salmon Subbasin. However, for the same reasons described in Section VIII.A above, the EPA concludes that issuance of this permit will have no effect on EFH.

C. State Certification

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

D. Permit Expiration

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

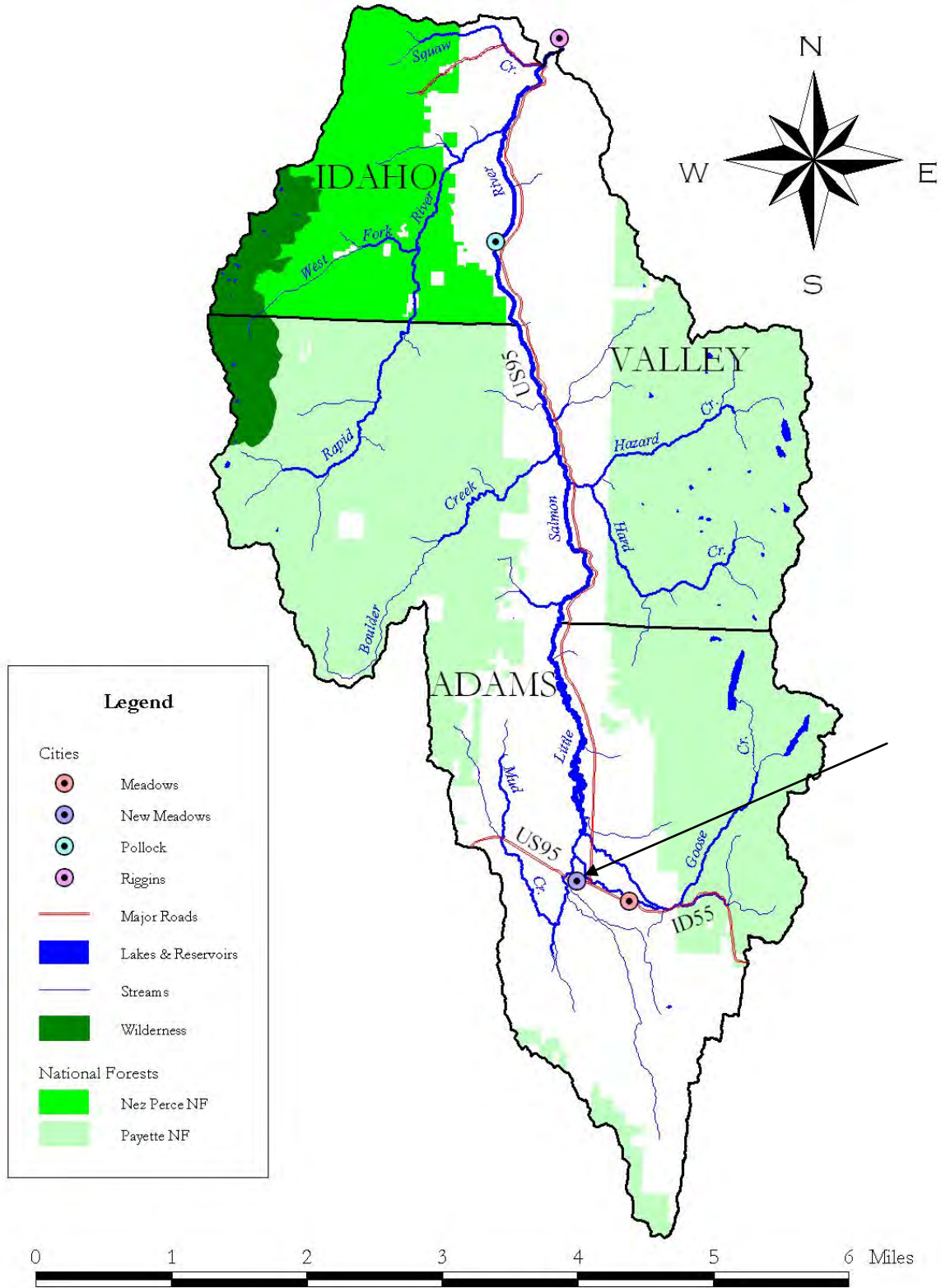
IX. DEFINITIONS AND ACRONYMS

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
°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
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
lbs/day	Pounds per day
LTA	Long Term Average
mg/L	Milligrams per liter
ml	milliliters
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit (depending on the context)
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OWW	Office of Water and Watersheds
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

X. REFERENCES

1. City of New Meadows, ID, NPDES permit, effective May 1, 2004 to April 30, 2009.
2. U.S. EPA, 1973. *Water Quality Criteria 1972* (EPA R3-73-033).
3. EPA. 1991. Technical Support Document for Water Quality-based Toxics Control. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001.
4. EPA, 2010. U.S. EPA NPDES Permit Writer's Manual, US Environmental Protection Agency, Office of Wastewater Management, EPA-833-K-10-001.



Appendix B – Basis for Effluent Limitations

The following discussion explains in more detail the statutory and regulatory basis for the technology and water quality-based effluent limits in the draft permit. Part A discusses technology-based effluent limits, Part B discusses water quality-based effluent limits in general and Part C discusses facility specific water quality-based effluent limits.

A. Technology-Based Effluent Limits

The CWA requires POTWs to meet requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as “secondary treatment,” which all POTWs were required to meet by July 1, 1977. The EPA has developed and promulgated “secondary treatment” effluent limitations, which are found in 40 CFR 133.102. These technology-based effluent limits apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by application of secondary treatment in terms of BOD₅, TSS and pH. Monitoring data show that the City of New Meadows can meet secondary treatment concentration limits for BOD₅, with only two exceptions during May 2004 to October 2011. Therefore, secondary treatment limits for BOD₅ will continue to be required for this facility. The federally promulgated secondary treatment effluent limits are listed in Table B-1.

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.

In addition, federal regulations include special considerations to allow “treatment equivalent to secondary,” for treatment facilities with waste stabilization ponds (lagoons) and trickling filters. These provisions allow alternative limits for BOD₅ and TSS for such facilities, provided the following requirements are met (40 CFR 133.101(g) and 40 CFR 133.105(d)):

- The BOD₅ and TSS effluent concentrations consistently achievable through proper operation and maintenance of the treatment works exceed the minimum level of the effluent quality described above (Secondary Treatment Effluent Limits).
- A trickling filter or waste stabilization pond is used as the principal treatment process.
- The treatment works provide significant biological treatment of municipal wastewater

(i.e., a minimum of 65% reduction of TSS is consistently attained.)

Based on monitoring data from 2004 to 2011, the 95th percentile value for the City of New Meadows, average monthly limit for TSS discharges was 65 mg/L. Therefore, the City of New Meadows cannot meet secondary treatment limits for TSS, and the proposed permit continues to require Treatment Equivalent to Secondary for TSS. These values are a monthly average limit of 45 mg/L, a weekly average limit of 65 mg/L and a minimum removal of 65% (40 CFR 133.105).

Mass-based Limits

The federal regulations at 40 CFR §122.45(b) and (f) require that POTW limitations to be expressed as mass-based limits using the design flow of the facility. The mass-based limits, expressed in lbs/day, are calculated as follows based on the design flow:

$$\text{Mass-based limit (lbs/day)} = \text{concentration limit (mg/L)} \times \text{design flow (mgd)} \times 8.34$$

The mass limits for BOD₅ are calculated as follows:

$$\text{Average Monthly Limit} = 30 \text{ mg/L} \times 0.36 \text{ mgd} \times 8.34 = 90 \text{ lbs/day}$$

$$\text{Average Weekly Limit} = 45 \text{ mg/L} \times 0.36 \text{ mgd} \times 8.34 = 135 \text{ lbs/day}$$

The mass limits for TSS are calculated as follows:

$$\text{Average Monthly Limit} = 45 \text{ mg/L} \times 0.36 \text{ mgd} \times 8.34 = 135 \text{ lbs/day}$$

$$\text{Average Weekly Limit} = 65 \text{ mg/L} \times 0.36 \text{ mgd} \times 8.34 = 195 \text{ lbs/day}$$

Chlorine

Chlorine is often used to disinfect municipal wastewater existing to discharge. The Water Pollution Control Federation's *Chlorination of Wastewater* (1976) states that a properly designed and maintained wastewater treatment facility can achieve adequate disinfection if a 0.5 mg/L chlorine residual is maintained after 15 minutes of contact time. A treatment plant that provides adequate chlorination contact time can meet the 0.5 mg/L limit on a monthly average basis. The average weekly limit is expressed as 1.5 times the average monthly limit or in this case 0.75 mg/L. The technology based limits for total residual chlorine are 0.5 mg/L average monthly and 0.75 mg/l average weekly.

Finally, since the federal regulation at 40 CFR 122.45 (f) requires limitations to be expressed as mass based limits using the design flow of the facility, mass based limits are calculated as follows:

$$\text{Monthly average Limit} = 0.5 \text{ mg/L} \times 0.36 \text{ mgd} \times 8.34 = 1.5 \text{ lbs/day}$$

$$\text{Weekly average Limit} = 0.75 \text{ mg/L} \times 0.36 \text{ mgd} \times 8.34 = 2.25 \text{ lbs/day}$$

B. Water Quality-Based Effluent Limits

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. Discharges to State or Tribal waters must also comply with limitations imposed by the State or Tribe as part of its certification of NPDES permits under section 401 of the CWA. Federal regulations at 40 CFR 122.4(d) prohibits the issuance of an NPDES permit that does not ensure compliance with the water quality standards of all affected States.

The NPDES regulation (40 CFR 122.44(d)(1)) implementing Section 301(b)(1)(C) of the CWA requires 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 or Tribal water quality standard. This narrative includes criteria for water quality, and that the level of water quality to be achieved by limits on point sources, which is derived from and complies with all applicable water quality standards.

The regulations require the permitting authority to make this evaluation 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.

Reasonable Potential Analysis

The evaluation of the effluent to determine if any pollutant parameters may cause, have the reasonable potential to cause, or contribute to an excursion above any State/Tribal water quality criterion, the EPA projects the receiving water concentration downstream of where the effluent enters the receiving water for each pollutant of concern. The EPA uses the concentration of the pollutant in the effluent and receiving water and, if appropriate, the dilution available from the receiving water, to project the receiving water concentration. If the projected concentration of the pollutant in the receiving water exceeds the numeric criterion for that specific pollutant, then the discharge has the reasonable potential to cause or contribute to an excursion above the applicable water quality standard, and a water quality-based effluent limit is required.

Sometimes it may be appropriate to allow a small area of the 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 will decrease treatment requirements. Mixing zones can be used only when there is adequate receiving water flow volume and the concentration of the pollutant in the receiving water is less than the criterion necessary to protect the designated uses of the water body.

The *Technical Support Document for Water Quality-Based Toxics Control* (hereafter referred to as the TSD) (EPA, 1991) and the WQS recommend the flow conditions for use in calculating water quality-based effluent limits (WQBELs) using steady-state modeling. The TSD and the WQS state that WQBELs intended to protect aquatic life uses should be based on the lowest seven-day average flow rate expected to occur once every ten years (7Q10) for chronic criteria and the lowest one-day average flow rate expected to occur once every ten years (1Q10) for acute criteria. See Section III Part A for low flow values.

Because the chronic criterion for ammonia is a 30-day average concentration not to be exceeded more than once every three years, EPA has used the 30B3 for the chronic ammonia criterion instead of the 7Q10. The 30B3 is a biologically-based flow rate designed to ensure an excursion frequency of no more than once every three years for a 30-day average flow rate. For human health criteria the WQS recommend the 30Q5 flow rate for non-carcinogens, and the harmonic mean flow rate for carcinogens. Mixing zones must be authorized by the State. IDEQ's draft certification proposes to authorize a mixing zone of 25 percent of the receiving water for total residual chlorine and ammonia resulting in an acute dilution ratio of 40.0 to 1, a chronic dilution ratio of 47.7, and a chronic dilution ratio for ammonia of 50.8 to 1 as follows using the following formula below:

$$\text{Dilution} = \frac{Q_e + Q_u \times (\% \text{ Mixing Zone})}{Q_e}$$

$$Q_e = \text{maximum effluent flow} = 0.36 \text{ mgd} = 0.557 \text{ CFS}$$

$$Q_u = 1Q10 = \text{upstream low flow} = 86.8 \text{ CFS}$$

$$\text{Acute dilution ratio} = \frac{0.557 + 86.8(0.25)}{0.557} = 40.0$$

$$Q_u = 7Q10 = \text{upstream low flow} = 104 \text{ CFS}$$

$$\text{Chronic dilution ratio} = \frac{0.557 + 104(0.25)}{0.557} = 47.7$$

For ammonia

$$Q_u = 30B3 = 111 \text{ CFS}$$

$$\text{Chronic dilution ratio} = \frac{0.557 + 111(0.25)}{0.557} = 50.8$$

As shown in the Reasonable Potential for Aquatic Life table at the end of the fact sheet ammonia and total residual chlorine do not have a reasonable potential to violate the water quality standards.

Procedure for Deriving Water Quality-based Effluent Limits

The first step in developing a water quality-based effluent 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. Wasteload allocations are determined in one of the following ways:

1. TMDL-Based Wasteload Allocation

Where the receiving water quality does not meet water quality standards, the wasteload allocation is generally based on a TMDL developed by the State. A TMDL is a determination of the amount of a pollutant from point, non-point and natural background sources that may be discharged to a water body without causing the water body to exceed

the criterion for that pollutant. Any loading above this capacity risks violating water quality standards.

To ensure that these waters will come into compliance with water quality standards Section 303(d) of the CWA requires States to develop TMDLs for those water bodies that will not meet water quality standards even after the imposition of technology-based effluent limitations. The first step in establishing a TMDL is to determine the assimilative capacity (the loading of pollutant that a water body can assimilate without exceeding water quality standards). The next step is to divide the assimilative capacity into allocations for non-point sources (load allocations), point sources (wasteload allocations), natural background loadings and a margin of safety to account for any uncertainties. Permit limitations are then developed for point sources that are consistent with the wasteload allocation for the point source.

The State of Idaho developed the *Little Salmon River Subbasin Assessment and TMDL (IDEQ)*, February 2006 (TMDL). This assessment reported that the Little Salmon River from Big Creek to Round Valley Creek, the area where the New Meadows WWTP discharges, was impaired by temperature, nutrients and bacteria, and established waste load allocations for each pollutant. EPA approved this TMDL in March 2006. The TMDL provided WLAs for temperature, total phosphorus and *E. coli* to the New Meadows WWTP.

2. Mixing zone based WLA

When the State authorizes a mixing zone for the discharge, the WLA is calculated by using a simple mass balance equation. The equation takes into account the available dilution provided by the mixing zone, and the background concentrations of the pollutant. The WLAs for New Meadows were derived using a mixing zone.

3. Criterion as the Wasteload Allocation

In some cases a mixing zone cannot be authorized, either because the receiving water is already at, or exceeds, the criterion, the receiving water flow is too low to provide dilution, or the facility can achieve the effluent limit without a mixing zone. In such cases, the criterion becomes the wasteload allocation. Establishing the criterion as the wasteload allocation ensures that the effluent discharge will not contribute to an exceedance of the criteria.

Once the wasteload allocation has been developed, the EPA applies the statistical permit limit derivation approach described in Chapter 5 of the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001, March 1991, hereafter referred to as the TSD) to obtain monthly average, and weekly average or daily maximum permit limits. This approach takes into account effluent variability, sampling frequency and water quality standards.

Temperature

The TMDL provides a 20.8°C allocation to New Meadows. Pursuant to 40 CFR Part 122.44(d)(1)(vii)(B) the maximum daily effluent limit for temperature is established at 20.8°C.

Total Phosphorus

The TMDL WLA for the New Meadows WWTP was established at 3 kg (6.6 lb)/month, cumulatively over the month, during the summer only. The TMDL defines summer as June 21 through September 22 with a maximum design capacity flow of 0.055 cfs, and a target of 0.075 mg/L total phosphorus in the Little Salmon River. The New Meadows plant operator reported that at full capacity, the WWTP would be unlikely to discharge during summer. If the City determines the WWTP may have to discharge more frequently in summer, or if the WWTP requires an upgraded or is expanded, then a new wasteload allocation will be developed in consultation with the Little Salmon River Watershed Advisory Group and subject to EPA approval.

The monthly effluent limit will therefore be set at 6.6 lbs/month from June 21 through September 22.

Calculating the Average Weekly Limit

The AWL is calculated from the following relationship with the AML (from Table 5-3 of the TSD):

$$AWL = \frac{\exp[z_m\sigma - 0.5\sigma^2]}{\exp[z_a\sigma_4 - 0.5\sigma_4^2]} \times AML$$

Where CV = 0.6

$$\sigma^2 = \ln(CV^2 + 1) = \ln(0.6^2 + 1) = 0.307$$

$$\sigma = 0.555$$

$$\sigma_4^2 = \ln((CV^2/n)+1) = \ln((0.6^2/4) + 1) = 0.0862$$

$$\sigma_4 = 0.294$$

$$z_m = \text{percentile exceedance probability for AWL (99\%)} = 2.326$$

$$z_a = \text{percentile exceedance probability for AML (95\%)} = 1.645$$

$$AWL = \frac{\exp[(2.326 \times 0.555) - (0.5 \times 0.307)]}{\exp[(1.645 \times 0.294) - (0.5 \times 0.0862)]} \times 6.6 \text{ lb/day}$$

$$AWL = 13.3 \text{ lb/day}$$

The AWL applies from June 21 through September 22.

Calculation of the cumulative monthly total phosphorus loading is by the following equation:

$$\text{Total flow for the month (MGD)} \times \text{average monthly TP concentration (mg/L)} \times 8.34 = \text{cumulative monthly TP}$$

Calculation of the cumulative weekly total phosphorus loading is by the following equation:

$$\text{Total flow for the week} \times \text{average weekly TP concentration} \times 8.34 = \text{cumulative weekly TP}$$

E. coli

The WLA for the New Meadows WWTP is established at the level of the applicable water quality criteria for *E. coli* which is a monthly geometric mean limit of 126 cfu/100 ml.

Summary - Water Quality-based Effluent Limits

The water quality based effluent limits in the draft permit are summarized below.

Floating, Suspended or Submerged Matter/Oil and Grease

The WQS (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 permit that states there must be no discharge of floating solids or visible foam or oil and grease other than trace amounts.

pH

The WQS (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. It is anticipated that mixing zones will not be authorized for the water quality-based criterion for pH. Therefore, this criterion must be met when the effluent is discharged to the receiving water. The technology-based effluent limits for pH are 6.0 - 9.0 standard units. To ensure that both water quality-based requirements and technology-based requirements are met, the draft permit incorporates the more stringent lower limit of the water quality standards (6.5 standard units) and the more stringent upper limit of the technology-based limits (9.0 standard units).

Ammonia, Total (as Nitrogen)

The WQS contain criteria for the protection of aquatic life from the toxic effects of ammonia (IDAPA 58.01.02.250.01.d.). The water quality standards apply the criteria for early life stages to water bodies (IDAPA 58.01.02.250.01.d.(3)). The criteria are dependent on pH and temperature, because the fraction of ammonia present as the toxic, un-ionized form increases with increasing pH and temperature. Therefore, the criteria become more stringent as pH and temperature increase. Fresh water ammonia criteria are calculated according to the equations in Table B-2.

Table B-2 Water Quality Criteria for Ammonia	
Acute Criterion	Chronic Criterion
$\frac{0.275}{1 + 10^{7.204 - \text{pH}}} + \frac{39}{1 + 10^{\text{pH} - 7.204}}$	$\left(\frac{0.0577}{1 + 10^{7.688 - \text{pH}}} + \frac{2.487}{1 + 10^{\text{pH} - 7.688}} \right) \times \text{MIN} \left(2.85, 1.45 \times 10^{0.028 \times (25 - T)} \right)$

The acute and chronic criteria are derived from the 95th percentiles of pH and temperature. The permittee reported effluent data for ammonia for 7 months during the year 2006. The permittee submitted some surface water monitoring data with the application for renewal, but reported only one data point each for upstream temperature and pH, 19° C (in July) and 7.6, respectively. However, USGS Station 13316500, Little Salmon River at Riggins ID, which is downstream of the City of New Meadows outfall, reported some temperature monitoring data during 1998 to 2005, generally during the months April through September. The 95th percentile value of the

station's maximum temperature data was 20.3 °C. With these limited data sets, the reasonable potential analysis is conservative (i.e., more protective of water quality standards) because it is downstream of the New Meadow's ammonia discharges.

95 th Percentile (maximum) Ambient pH	7.6
95 th Percentile Ambient Temperature °C	20.3
Highest Background Ammonia mg/L	0.06
Highest Discharge Ammonia mg/L	10.4
Coefficient of Variation	0.77

The ammonia acute standard is 11.4 mg/L and the chronic standard is 2.74 mg/L (see table below). The reasonable potential analysis shows the facility's discharge does not have the potential to cause or contribute to an exceedance of the acute or chronic criteria, therefore no effluent limits for ammonia are required.

Escherichia coli (E. coli) Bacteria

The Little Salmon River at the point of discharge is designated for primary contact recreation. Waters of the State of Idaho that are designated for recreation are not to contain *E. coli* bacteria in concentrations exceeding 126 organisms per 100 ml as a geometric mean based on a minimum of five samples taken every three to seven days over a thirty day period (IDAPA 58.01.02.251.01.a).

Therefore, the proposed compliance monitoring contains a monthly geometric mean effluent limit for *E. coli* of 126 organisms per 100 ml and a minimum sampling frequency of 5 grab samples per calendar month. The WQS also state that for primary contact recreation a single water sample that exceeds 406 organisms/100 ml indicates a likely exceedance of the geometric mean criterion, although it is not, in and of itself, a violation of water quality standards. (IDAPA § 58.01.02.251.01.b.ii).

The goal of a water quality-based effluent limit is to ensure a low probability that water quality standards will be exceeded in the receiving water as a result of a discharge, while considering the variability of the pollutant in the effluent (EPA, 1991). Any single sample value that exceeds 406 organisms/100 ml may indicate an exceedance of the geometric mean criterion. The EPA has therefore included an instantaneous (single grab sample) maximum effluent limit for *E. coli* of 406 organisms/100 ml, in addition, to a monthly geometric mean limit of 126 organisms/100 ml, which directly implements the water quality criterion for *E. coli*. This will ensure that the discharge will have a low probability of exceeding the geometric mean criterion for *E. coli* and provide warning of and opportunity to avoid possible non-compliance with the geometric mean criterion.

REASONABLE POTENTIAL FOR AQUATIC LIFE

Parameter	Ambient Conc.	State Water Quality Standard		Max concentration at edge of...		LIMIT REQ'D?	Effluent percentile value	Footnote A <i>Pn</i>	Max effluent conc. measure <i>mg/L</i>	Coeff Variation <i>CV</i>	# of samples <i>n</i>	Multiplier	Acute Dil'n Factor	Chronic Dil'n Factor
		Acute <i>mg/L</i>	Chronic <i>mg/L</i>	Acute Mixing Zone <i>mg/L</i>	Chronic Mixing Zone <i>mg/L</i>									
Ammonia	0.06	11.4	2.8	1.31	1.04	NO	0.99	0.518	10.4	0.77	7	4.8	40.0	50.8
Total Residual Chlorine	0.00	0.019	0.011	0.0027	0.0023	NO	0.99	0.935	0.850	0.289	69	1.26	40.0	47.7

A: The percentile represented by the highest reported concentration $p_n = (1 - \text{effluent confidence level})^{(1/n)}$

Appendix C – IDEQ Draft 401 Certification



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 North Orchard • Boise, Idaho 83706 • (208) 373-0550

C.L. "Butch" Otter, Governor
Curt Fransen, Director

March 1, 2013

Mr. Michael J. Lidgard
NPDES Permits Unit Manager
EPA Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Subject: Draft 401 Certification for the City of New Meadows Wastewater Treatment Plant; NPDES Permit No. ID-002315-9

Dear Mr. Lidgard:

On February 4, 2013, EPA provided DEQ with a preliminary draft of the above-referenced permit and requested DEQ provide a draft §401 certification of the permit pursuant to section 401 of the Clean Water Act. Upon review of the preliminary draft permit DEQ prepared and now submits the enclosed draft §401 certification for the permit.

If you have questions or need further information please contact Lauri Monnot at (208) 373-0461 or by email at Lauri.Monnot@deq.idaho.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Pete Wagner", written over a light blue circular stamp.

Pete Wagner
Regional Administrator
Boise Regional Office

Enclosure: DEQ Draft 401 Certification for NPDES Permit No. ID-002315-9

C: Miranda Adams, DEQ 401 Program Coordinator
Lance Holloway, DEQ Boise Regional Water Quality Manager



Idaho Department of Environmental Quality Draft §401 Water Quality Certification

March 1, 2013

NPDES Permit Number(s): ID-002315-9, City of New Meadows Wastewater Treatment Plant

Receiving Water Body: Little Salmon River

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon its review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- **Tier 1 Protection.** The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- **Tier 2 Protection.** The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- **Tier 3 Protection.** The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

The City of New Meadows Wastewater Treatment Plant discharges the following pollutants of concern: BOD₅, TSS, *E. coli* bacteria, pH, total phosphorus, temperature, chlorine and ammonia. Effluent limits have been developed for BOD₅, TSS, *E. coli* bacteria, pH, total phosphorus, temperature, and chlorine. No effluent limits are proposed for ammonia, but monitoring will be required.

Receiving Water Body Level of Protection

The City of New Meadows Wastewater Treatment Plant discharges to the Little Salmon River within the assessment unit (AU) 17060210SL007_04 (Little Salmon River – 4th order). This AU has the following designated beneficial uses: cold water aquatic life, salmonid spawning, primary contact recreation and domestic water supply. Additionally, Idaho WQS provide that all waters of the state be protected for agricultural and industrial water supply, wildlife habitat and aesthetics.

The cold water aquatic life use in the Little Salmon River AU is not fully supported due to excess water temperature (2010 Integrated Report) and total phosphorus. DEQ's Integrated Report and Assessment Database (ADB) only show that the cold water aquatic life use is impaired by temperature; however, this AU was assessed in 2004 to complete the Little Salmon River TMDL (DEQ 2006), which determined that temperature and nutrients (phosphorus) were causing the impairment. The error in the database will be corrected in the next Integrated Report. Support status of the primary contact recreation beneficial use has not yet been assessed (2010 Integrated Report). Water bodies identified as unassessed are to be provided an appropriate level of protection on a case-by-case basis using information available at the time of a proposal for a reissued permit or license (Idaho Code §39-3603(2)(b)(ii)). *E. coli* samples were collected in 2004, the data was not collected at a proper frequency to calculate a true geometric mean comparable to Idaho WQS; however, the sample results ranged from 730 to 2,400 *E. coli* organisms per 100 mL of water, which is well over Idaho's criteria developed to protect human health and strongly suggests an impairment of the contact recreation beneficial use. This data was used to formulate a bacteria TMDL for the AU which was approved by EPA in 2006. Past and current land use in the watershed supports the expectation that bacteria monitoring, during the recreation season, would produce similar results. As such, DEQ will provide Tier 1 protection only for the aquatic life and recreation beneficial use (IDAPA 58.01.02.051.01).

Protection and Maintenance of Existing Uses (Tier 1 Protection)

As noted above, a Tier 1 review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of designated beneficial uses. The effluent limitations and associated requirements contained in the City of New Meadows Wastewater Treatment Plant permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limitations that are consistent with wasteload allocations in the approved TMDL.

The EPA-approved *Little Salmon River TMDL* (DEQ 2006) establishes wasteload allocations for temperature, *E. coli* bacteria, and total phosphorus. These wasteload allocations are designed to ensure the Little Salmon River will achieve the water quality necessary to support its existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria. The effluent limitations and associated requirements contained in the City of New Meadows Wastewater Treatment Plant permit are set at levels that are more stringent than the current permit and comply with these wasteload allocations (Table 1).

In sum, the effluent limitations and associated requirements contained in the City of New Meadows Wastewater Treatment Plant permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the *Little Salmon River TMDL*. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the Little Salmon River in compliance with the Tier 1 provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

Mixing Zones

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes 25% of the critical flow volumes of Little Salmon River for total residual chlorine and ammonia.

Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Table 1. Comparison of current and proposed permit limits for pollutants of concern.

Pollutant	Units	Current Permit			Proposed Permit			Change ^a
		Average Monthly Limit	Average Weekly Limit	Single Sample Limit	Average Monthly Limit	Average Weekly Limit	Single Sample Limit	
Pollutants with limits in both the current and proposed permit								
Five-Day BOD	mg/L	30	45	—	30	45	—	NC
	lb/day	90	135	—	90	135	—	
	% removal	≥85%	—	—	≥85%	—	—	
TSS	mg/L	45	65	—	45	65	—	NC
	lb/day	135	195	—	135	195	—	
	% removal	≥65%	—	—	≥65%	—	—	
pH	standard units	6.5–9.0 all times			6.5–9.0 all times			NC
<i>E. coli</i>	no./100 mL	126	—	406	126	—	406	NC
Total Residual Chlorine (final)	mg/L	0.5	0.75	—	0.5	0.75	—	NC
	lb/day	1.5	2.3	—	1.5	2.25	—	
Pollutants with new limits in the proposed permit								
Total Phosphorus	lb/day (June 21–Sept 22)	—	—	Report	6.6	13.3	—	New, TMDL
Total Phosphorus	(September 23–June 20)	—	—	—	—	—	Report	—
Temperature	°C	—	—	—	72	—	23	New, TMDL
Pollutants with no limits in both the current and proposed permit								
Total Ammonia	mg/L	—	—	Report	—	—	Report	NC

^a NC = no change, New TMDL – new effluent limit.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the “Rules of Administrative Procedure before the Board of Environmental Quality” (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to Lauri Monnot, Boise Regional Office, (208) 373-0461, Lauri.Monnot@deq.idaho.gov.

DRAFT

Pete Wagner
Regional Administrator
Boise Regional Office