



## Idaho Department of Environmental Quality **FINAL §401 Water Quality Certification**

April 17, 2012

NPDES Permit Number: **ID-0024422** The Meadows LLC Wastewater Treatment Plant

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Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended, 33 USC Section 1341 (a)(1), the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollution Discharge Elimination System (NPDES) permits and issue a water quality certification decision.

DEQ has reviewed the NPDES permit and associated fact sheet for the above-referenced facility. Based upon its review and consideration of this information, DEQ certifies that if the permittee comply with the terms and conditions imposed by the above-referenced permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge(s) will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, including 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.

### **Wasteload Allocations for Total Phosphorus and Total Suspended Solids**

The current permit does not have wasteload allocations for total phosphorus (TP); instead monthly effluent monitoring included TP as a parameter. The Big Wood River TMDL (DEQ 2002) set TP as a wasteload allocation of 2.3 lb/day as an average monthly. The proposed permit contains limits that are consistent with the TMDL. An EPA analysis indicates that the facility can comply with these limits upon the effective date of this permit. (See Appendix C, EPA Fact Sheet.)

Additionally, the Big Wood River TMDL (DEQ 2002) set total suspended solids (TSS) at 0.6 ton/year (or 8.3 lb/day average monthly). This is a reduction from 25 lb/day average monthly in the current permit. The proposed permit contains limits that are consistent with the TMDL. An EPA analysis indicates that the facility can comply with these limits upon the effective date of this permit. (See Appendix C, EPA Fact Sheet.)

### **Mixing Zones**

Pursuant to IDAPA 58.01.02.060, the DEQ authorizes a mixing zone that utilizes 25% of the flow volumes of the Big Wood River for ammonia or nitrate + nitrite. Using a 25% mixing, EPA determined that the facility did not have a reasonable potential to cause or contribute to excursions of WQS for either pollutant. (See Appendix D of the Fact Sheet.)

## **Antidegradation**

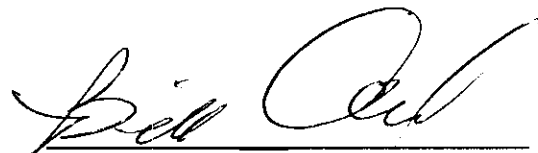
The Idaho water quality standards (WQS) provide that existing uses and the water quality necessary to protect the existing uses shall be maintained and protected (IDAPA 58.01.02.051.01). In addition, where water quality exceeds levels necessary to support uses, that quality shall be maintained and protected unless the Department finds, after intergovernmental coordination and public participation, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located (IDAPA 58.01.02.051.02). The Big Wood River is afforded tier 1 protection only, and therefore, existing uses must be maintained and protected.

The limits in the proposed new permit for The Meadows Wastewater Treatment Plant are set at levels which ensure the state's numeric and narrative criteria will be met. The numeric and narrative criteria are set at levels which protect and maintain applicable designated and existing uses. In addition, the permit is consistent with the approved Big Wood River TMDL. Therefore, in accordance with IDAPA 58.01.02.051.01, the limits in the proposed new permit protect and maintain designated and existing uses in the Big Wood River. (Please see attached Antidegradation Review for more detailed analysis.)

## **Additional Conditions**

This water quality 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 total maximum daily loads (TMDLs), wasteload allocations, site-specific criteria, variances, or other new information, shall first be provided to DEQ for review to determine compliance with state Water Quality Standards and to provide additional certification pursuant to Section 401. DEQ authorizes pollutant trading set out in the draft permit pursuant to IDAPA 58.01.02.054.06.

Questions regarding the actions taken in this certification should be directed to Dave Anderson or Balthasar Buhidar, DEQ (Twin Falls Regional Office) at (208) 736-2190 or by email at [balthasar.buhidar@deq.idaho.gov](mailto:balthasar.buhidar@deq.idaho.gov).



Bill Allred  
Regional Administrator  
DEQ Twin Falls Regional Office

## **ANTIDEGRADATION REVIEW**

### **NPDES Permit # ID-0020281 "The Meadows" Wastewater Treatment Facility**

Idaho Department of Environmental Quality

#### **Antidegradation**

In March 2011, Idaho incorporated new provisions addressing antidegradation implementation in the Idaho Code. The new antidegradation provisions are in Idaho Code § 39-3603. At the same time, Idaho adopted antidegradation implementation procedures in the Idaho water quality standards (WQS). The Idaho Department of Environmental Quality (DEQ) submitted the antidegradation implementation procedures to the US Environmental Protection Agency (EPA) for approval on April 15, 2011. On August 18, 2011, EPA approved the implementation procedures.

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051). 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 the existing uses will be maintained and protected (Tier 1 protection) (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 58.01.02.052.05). 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 (Tier 2 protection) (IDAPA 58.01.02.051.02; 58.01.02.052.06). The third level of protection applies to water bodies that have been designated outstanding resource waters and requires activities to not cause a lowering of water quality (Tier 3 protection) (IDAPA 58.01.02.051.03; 58.01.02.052.07).

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 (Idaho Code § 39-3603(2)(b)(i)). 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 (Idaho Code § 39-3603(2)(b)(iii)). The most recent federally approved Integrated Report (IR) and supporting data are used to determine support status and the tier of protection (Idaho Code § 39-3603(2)(b)).

#### *Pollutants of Concern*

The Meadows Wastewater Treatment Facility ("The Meadows" LLC) is a wastewater treatment facility that treats domestic wastewater from approximately 250 local residents. The facility receives no commercial or industrial waste. The Meadows discharges the following pollutants of concern: temperature, biological oxygen demand (BOD), total suspended solids (TSS), *E. coli*, pH, ammonia, phosphorus, nitrogen, alkalinity, dissolved oxygen, nitrite plus nitrate, oil and grease, and total dissolved solids. Effluent limits have been developed for BOD, TSS, *E. coli*, pH, and total phosphorus. Effluent limits were not developed for the following pollutants: temperature, alkalinity, dissolved oxygen, total ammonia, nitrite plus nitrate, oil and grease, total dissolved solids and total Kjeldahl nitrogen; however, additional monitoring is necessary to determine the necessity to develop limits in future permits.

### *Receiving Water Body Level of Protection*

The Meadows discharges to the Big Wood River assessment units (AUs) ID17040219SK007\_05 and ID17040219SK004\_05. The original Big Wood River TMDL (DEQ 2002) showed segment-of-concern of the Big Wood River to be from Trail Creek to the Glendale Diversion. The 2010 Integrated Report indicates the segment to be from North Fork Big Wood River to Seamans Creek. Therefore, these two AUs must be considered in terms of the level of protection for the receiving water. The Big Wood River has been designated for the following beneficial uses: cold water aquatic life; salmonid spawning; primary contact recreation; domestic, industrial, and agricultural water supply; wildlife habitats; and aesthetics. There is no other information indicating the presence of existing beneficial uses beyond those uses already designated. According to the federally-approved 2010 Integrated Report, the Big Wood River is not meeting its cold water aquatic life and salmonid spawning use designations as a result of flow alterations, sedimentation/siltation, and total phosphorus. Therefore, the Big Wood River will receive Tier 1 protection only for those uses.

While recreational uses of this AU have not been assessed, *E. coli* data have been collected. The data show that the Big Wood River has elevated levels of *E. coli*. Therefore, DEQ will provide Tier 1 protection for all designated and existing beneficial uses of the Big Wood River (Idaho Code §39-3603(2)(b)(i)).

### *Protection and Maintenance of Existing Uses*

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 CWA, and requires a showing 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 the Idaho WQS, which contain narrative and numeric criteria as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a watershed management plan, also known as a total maximum daily load (TMDL), must be prepared for any water quality limited water body. 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 comply with the approved TMDL.

The EPA-approved *Big Wood River Watershed Management Plan* (DEQ 2002) addresses phosphorus, *E. coli* and sediment for the Big Wood River. The proposed permit for The Meadows contains effluent limits for *E. coli*, total phosphorus and sediment (TSS) that are consistent with the TMDL (Table 1). The phosphorus effluent limits have wasteload limits that are consistent with the TMDL. The sediment effluent limits have been reduced; but a review of the facility's DMRs indicates they can easily meet this limit. DEQ does not develop TMDLs for flow alteration because it is not a pollutant.

The existing permit contains effluent limitations for fecal coliform as well as *E. coli*. The *E. coli* limits were in the permit to reflect the bacteria criterion that DEQ adopted to protect the contact recreation beneficial use (IDAPA 58.01.02.251.01). The fecal coliform limit was in the current permit because at the time the permit was issued, IDAPA 58.01.02.420.05 established a disinfection requirement for sewage wastewater treatment plant effluent. This requirement specified fecal coliform concentrations not exceed a geometric mean of 200/100 mL fecal based on a minimum of five samples in one week. This section of Idaho WQS was revised in 2002 to reflect an earlier change in the bacteria criterion from fecal coliform to *E. coli*. As such, the proposed reissuance permit for The Meadows removes the fecal coliform limits. The *E. coli* limits are as or more protective of water quality than the old fecal coliform limits. In 1986, EPA updated its criteria to protect recreational use of water recommending an *E. coli* criterion as a better indicator of bacteria levels that may cause gastro-intestinal distress in swimmers than fecal coliform. DEQ changed its bacteria criterion from fecal coliform to *E. coli*, which as indicated earlier, is reflected in the current permit for The Meadows. The proposed permit contains *E. coli* effluent limitations that comply with numeric criteria at the “end-of-pipe;” therefore, DEQ believes this discharge will not cause or contribute to a violation of the bacteria criteria in the Big Wood River. All other effluent limitations and associated requirements contained in the permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS.

**Table 1.** Comparison of proposed permit limits with current permit limits for “The Meadows”.

Parameter	Units	Proposed Permit			Current Permit		
		Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit
Temperature	°C	Report	-	Report	Report	-	-
Five-Day BOD	mg/L	30	45	-	30	45	-
	lb/day	25	38	-	25	38	-
	removal	85%	-	-	85%	-	-
TSS	mg/L	30	45	-	30	45	-
	lb/day	8.3	12.5	-	25	38	-
	removal	85%	-	-	85%	-	-
pH	s.u.	6.5 – 9.0 all times			6.5 – 9.0 all times		
Alkalinity, Total	mg/L as CaCO <sub>3</sub>	Report	-	Report	-	-	-
Dissolved Oxygen	mg/L	Report	-	Report	-	-	-
<i>E. coli</i>	#/100 mL	126 (geometric mean)	-	406 (instantaneous maximum)	50 cfu/100 mL FC <sup>1</sup>	200 cfu/100 mL FC <sup>1</sup>	500 cfu/100 mL FC <sup>1</sup>
					200 cfu/100 mL FC <sup>1</sup>	200 cfu/100 mL FC <sup>1</sup>	800 cfu/100 mL FC <sup>1</sup>
	CFU/day	0.48 x 10 <sup>9</sup> (geometric mean)	-	-	-	-	-
Total Ammonia	mg/L	Report	-	Report	Report	-	-
Total Phosphorus (final)	mg/L	Report	-	Report	---	---	-
	lb/day	2.3	-	3.8	-	-	-

Nitrate + Nitrite	mg/L	Report	-	Report	Report <sup>2</sup>	-	-
Total Kjeldahl Nitrogen	mg/L	Report	Report	-	Report	Report	-
Oil & Grease	mg/L	Report	-	Report	-	-	-
Total Dissolved Solids	mg/L	Report	-	Report	-	-	-
<p>1. FC = Fecal coliform. The 50, 200 and 500 cfu/100 mL is associated with the period from May to September. The 200, 200 and 800 cfu/100 mL is associated with the period from October to April.</p> <p>2. Nitrate + Nitrite was reported in the current permit as Nitrate as N and Nitrite as N.</p>							

In sum, the effluent limitations and associated requirements contained in the Meadows permit are set at levels that ensure compliance with the numeric and narrative criteria in the WQS, and are also consistent with the wasteload allocations in the Big Wood River TMDL. Therefore, DEQ has determined the permit will protect and maintain existing and designated uses in the Big Wood River.