



Region 10, NPDES Permits Unit  
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Seattle, WA 98101

# Revised Fact Sheet

Public Comment Start Date: October 27, 2008

Public Comment Expiration Date: November 26, 2008

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## **Proposed Issuance of a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA)**

### **City of Kuna Wastewater Treatment Plant**

#### **EPA Proposes To Issue NPDES Permit**

EPA is reopening the public comment period on the draft permit for the facility referenced above. The revised draft permit includes significant changes from the version that was issued for public comment on June 13, 2007, as described in this revised fact sheet.

EPA proposes to issue an 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 places limits on the types and amounts of pollutants that can be discharged from the facility.

This Fact Sheet includes:

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

#### **401 Certification**

EPA is requesting that the Idaho Department of Environmental Quality certify the NPDES permit for this facility, under section 401 of the Clean Water Act. Comments regarding the certification should be directed to:

Regional Administrator  
Idaho Department of Environmental Quality  
1445 North Orchard  
Boise, ID 83706

### **Public Comment**

Pursuant to 40 CFR 124.14(c), at this time, EPA is only accepting comments on aspects of the draft permit that are different from those in the draft permit that was issued for public comment on June 13, 2007. These are as follows:

- Mass (pounds per day) limits for TSS.
- Deletion of the phosphorus management plan requirements.
- Addition of receiving water monitoring requirements for flow rate.
- Change of discharge location to Indian Creek at Robinson Road (about one half mile West of the discharge location proposed in the June 13, 2007 draft permit, to the same receiving stream).
- Deletion of the compliance evaluation level for total residual chlorine.

Persons wishing to comment on, or request a Public Hearing for these aspects of 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 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 issuance. Comments were received on the draft permit issued for public comment on June 13, 2007. EPA will address those comments and any additional comments resulting from the reopening of the public comment period in a written response to comments document when the permit is issued (*See* 40 CFR 124.17). 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 permit 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 at the address below. The draft permits, fact sheet, and other information can also be found by visiting the Region 10 NPDES website at "<http://epa.gov/r10earth/waterpermits.htm>."

United States Environmental Protection Agency  
Region 10  
1200 Sixth Avenue Suite 900  
M/S OWW-130  
Seattle, Washington 98101  
(206) 553-6251 or

Toll Free 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

Idaho Department of Environmental Quality  
Boise Regional Office  
1445 North Orchard  
Boise, ID 83706  
(208) 373-0287

Kuna Library  
457 North Locust  
Kuna, ID 83634  
(208) 922-1025

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**Acronyms**

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
30B3	Biologically-based design flow intended to ensure an excursion frequency of once every three years, for a 30-day average flow rate.
AML	Average Monthly Limit
BOD <sub>5</sub>	Biochemical oxygen demand, five-day
°C	Degrees Celsius
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
IDEQ	Idaho Department of Environmental Quality
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
N	Nitrogen
NOAA	National Oceanic 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
RWC	Receiving Water Concentration
s.u.	Standard Units
TMDL	Total Maximum Daily Load
TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WWTP	Wastewater treatment plant

## I. Applicant

This fact sheet provides new information on the draft NPDES permit that resulted in the new proposed changes to the conditions set forth in the draft permit for the following entity:

City of Kuna  
NPDES Permit # ID-002835-5

Physical Location of Treatment Plant:  
On Ten Mile Road between Lake Hazel Road and Columbia Road near Kuna,  
Idaho

Mailing Address:  
City of Kuna  
P.O. Box 13  
Kuna, ID 83634

Contact: Gordon Law, P.E., City Engineer

## II. Scope of Public Comment Period

As stated in the public notice, EPA is only accepting comments on permit conditions that are different from those proposed in the original draft permit for this facility. The original draft permit was proposed for public comment on June 13, 2007. Since the end of the public comment period for the original draft permit, EPA has obtained new information that warrants significant changes to the conditions in the permit. Specifically, the Idaho Department of Environmental Quality (IDEQ) has revised the *Lower Boise River TMDL* such that a revision to the proposed effluent limits was necessary. In addition, EPA has also changed some other permit conditions as a result of comments received during the public comment period on the original draft permit. To allow the public an opportunity to comment on all of these changes, EPA has decided to reopen the public comment period to accept comments on these specific changes. The changed conditions are:

- Mass (pounds per day) limits for TSS.
- Deletion of the phosphorus management plan requirements.
- Seasonal applicability of the phosphorus no-net-increase provision (Part I.A.2).
- Addition of receiving water monitoring requirements for flow rate.
- Change of discharge location to Indian Creek at Robinson Road (about one half mile West of the discharge location proposed in the June 13, 2007 draft permit, to the same receiving stream).
- Deletion of the compliance evaluation level for total residual chlorine.

## III. Facility Information

The City of Kuna is located in southwest Idaho, in Ada County. The City plans to construct a new wastewater treatment plant (WWTP) utilizing membrane bioreactors

(MBR) for treatment. This type of wastewater treatment plant, when properly operated and maintained, produces a high-quality effluent, with low concentrations of biochemical oxygen demand (BOD) and total suspended solids (TSS). The maximum monthly design flow of the planned facility will be 3.5 million gallons per day (mgd).

#### **IV. Receiving Water**

The City of Kuna intends to discharge to Indian Creek in Canyon County, Idaho. The treatment plant will be located in Ada County, Idaho. The original fact sheet and draft permit stated that the discharge location would be to Indian Creek between Robinson Road and South McDermott Road, at 43° 32' 49" North latitude and 116° 29' 17" West longitude (see Appendices A and B to the fact sheet dated June 13, 2007). The new discharge location is at Robinson Road, about one half mile to the West of the proposed discharge location in the original draft permit. See Appendix A for a map and photograph of the proposed discharge location. The receiving stream is the same as it was in the original draft permit, and the new discharge location is about half a mile from the original discharge location. Therefore, no changes are proposed to the permit conditions that result from the change in the discharge location.

Indian Creek passes beneath Robinson Road near the intersection with Cruse Lane. Indian Creek is a tributary to the Boise River, which flows through Idaho and is tributary to the Snake River, which forms part of the border between the States of Idaho and Oregon, and further downstream, part of the border between the States of Idaho and Washington.

##### **A. Low Flow Conditions and Water Quality Standards**

The low flow conditions and water quality standards of the receiving water are discussed in the fact sheet for the initial public comment period, dated June 13, 2007.

##### **B. Revised Water Quality-Limited Waters Discussion**

As explained in the fact sheet for the original draft permit, a water quality-limited segment is any waterbody, or definable portion of a waterbody, where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards. In accordance with section 303(d) of the Clean Water Act (Act or CWA), States must identify waters not achieving water quality standards in spite of the application of technology-based controls in National Pollutant Discharge Elimination System (NPDES) permits for point sources. Such waterbodies are known as water quality-limited segments (WQLSs), and the list of such waterbodies is called the "303(d) list." Once a water body is identified as a WQLS, the States are required under the Act to develop a total maximum daily load (TMDL). A TMDL is a determination of the amount of a pollutant from point, nonpoint, and natural background sources (including a margin of safety) that may be discharged to a water body without causing the water body to exceed the water quality criterion for that pollutant.

The proposed receiving water is a water quality-limited segment, and is tributary to a water quality-limited segment of the Boise River. Indian Creek and the Boise River are water quality-limited for nutrients. In addition, a TMDL for the Boise River drainage

(including Indian Creek) was completed for sediment and bacteria (*i.e.*, the *Lower Boise River TMDL*). See the Fact Sheet dated June 13, 2007 at Page 8, and the discussion below.

### ***Sediment***

In January of 2000, EPA approved the *Lower Boise River TMDL* (IDEQ, 1998, 1999), which included load (for nonpoint sources) and wasteload (for point sources) allocations for sediment and bacteria. Total suspended solids (TSS) was used as a surrogate for sediment in wasteload allocations (WLA) for point sources.

On February 22, 2008, the Idaho Department of Environmental Quality (IDEQ) offered for public comment an addendum to this TMDL which included WLAs for the City of Kuna for TSS and bacteria. The addendum to the *Lower Boise River TMDL* was finalized by IDEQ in April of 2008 and approved by EPA in June of 2008. The wasteload allocations for TSS are a monthly average of 876 lb/day and a weekly average of 1,314 lb/day. These wasteload allocations are identical to the technology-based effluent limits for TSS (40 CFR 133.102(b), 40 CFR 122.45(b)(1)), 40 CFR 122.45(f)). The TSS load allocated to the City of Kuna and to another new point source discharger was subtracted from the 3.62-ton-per-day reserve capacity identified in the original *Lower Boise River TMDL*, leaving 3.098 tons per day of reserve capacity remaining for additional new dischargers or existing dischargers that may expand. EPA is specifically accepting comments on the new proposed TSS effluent limits.

Given that the addendum to the TMDL includes a wasteload allocation that is identical to the technology-based effluent limits, it is not necessary to impose the more stringent water quality-based TSS limits proposed in the original draft permit (292 lb/day average monthly and 438 lb/day average weekly). Therefore, the revised draft permit contains TSS effluent limits that are identical to the wasteload allocation in the draft TMDL addendum, as well as the applicable technology-based effluent limits. These effluent limits are consistent with the amended TMDL, in compliance with 40 CFR 122.44(d)(1)(vii)(B).

The in-stream sediment concentrations that the *Lower Boise River TMDL* is intended to achieve are 50 mg/L as a 60-day average and 80 mg/L as a 14-day average. The TMDL analysis concluded that Idaho's narrative criteria for sediment would be attained if these concentrations and averaging periods were achieved in the Boise River. The technology-based concentration limits in the draft permit will limit the Kuna facility to significantly lower TSS concentrations than these (30 mg/L monthly average and 45 mg/L weekly average) at the end-of-pipe. Further, typical suspended solids from domestic wastewater treatment plants contain organic matter that will decompose or settle out in the environment, which will further decrease this facility's impact on sediment concentration in the Boise River. Therefore, the TSS effluent limits in the draft permit are adequately stringent to ensure compliance with water quality standards for sediment in the Boise River, and are consistent with the wasteload allocations in the Lower Boise River TMDL, and the draft addendum to that document. See Appendix B for additional information about TSS effluent limits.

***Bacteria***

As explained in the fact sheet for the original proposed permit, the *Lower Boise River TMDL* also included load and wasteload allocations for bacteria based on fecal coliform concentrations. The TMDL, however, stated that if E. Coli criteria were to be approved, “compliance with the load allocations in this TMDL could be demonstrated using E. Coli samples, rather than fecal coliform,” and that “[i]f E. Coli are used as the new Idaho criteria for contact recreation when the permits are re-issued, the new E. Coli criteria should be incorporated into the permits in place of fecal coliform requirements.” (Page 75).

In the addendum to the *Lower Boise River TMDL*, IDEQ has established a concentration-based E. coli WLA for Kuna of 126 CFU per 100 ml, based on a geometric mean of at least 5 samples collected within a 30-day period. The wasteload allocation is identical to the State water quality standard. Therefore, the wasteload allocation requires that the City of Kuna comply with the state water quality standard for bacteria at the end-of-pipe. This results in effluent limits for E. Coli that are identical to those proposed in the draft permit. As such, the effluent limits were not changed, despite the proposed change to the *Lower Boise River TMDL*.

***Temperature***

This discussion has not changed from the discussion set forth in the fact sheet dated June 13, 2007 for the original draft permit because the changes to the *Lower Boise River TMDL* do not affect the temperature discussion in the TMDL.

***Phosphorus***

The proposed phosphorus limits are identical to those in the original draft permit. See the fact sheet dated June 13, 2007 for an explanation of the phosphorus limits.

***Compliance with IDAPA 58.01.02.054.04 (i.e., Phosphorus No Net Increase Policy)***

The conditions in the draft permit imposed for compliance with IDAPA 58.01.054.04 are similar to those in the original draft permit. See the fact sheet dated June 13, 2007 for a general explanation of these conditions. The revised draft certification indicates that these requirements only apply on a seasonal basis, from May – September. The revised draft permit reflects this. EPA is specifically accepting comments on the seasonal applicability of the no-net increase provisions (Parts I.A.1 and I.A.2 of the draft permit).

**C. Restrictions on Permitting New Dischargers**

40 CFR 122.4(i) places restrictions on the issuance of NPDES permits to new sources or new dischargers. Specifically, 40 CFR 122.4(i) states that:

No permit may be issued:

....

(i) To a new source or a new discharger if the discharge from its ... operation will cause or contribute to the violation of water quality

standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards ... and for which the State ... has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, ... that (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and (2) The existing dischargers into the segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards (40 CFR 122.4(i)).

The City of Kuna is a new discharger as that term is defined in 40 CFR 122.2, and the City's permit is consistent with 40 CFR 122.4(i) for the reasons discussed below.

### ***Kuna's Discharge Will Not Cause or Contribute to the Violation of Water Quality Standards***

EPA determined that the proposed discharge has the reasonable potential to cause or contribute to violations of water quality standards for sediment, bacteria, ammonia, chlorine, phosphorus, and pH. Thus, the draft permit contains proposed water quality-based effluent limits for all of these pollutants, which will ensure that the level of water quality to be achieved by these effluent limits is derived from and complies with applicable water quality standards (40 CFR 122.44(d)(1)). The draft permit contains technology-based effluent limits for five-day biochemical oxygen demand (BOD<sub>5</sub>), as opposed to water quality-based limits, because EPA has determined that a discharge in compliance with the technology-based effluent limits for BOD<sub>5</sub> does not have the reasonable potential to cause or contribute to violations of Idaho's water quality standards for dissolved oxygen (IDAPA 58.01.02.250.02.a) or oxygen-demanding materials (IDAPA 58.01.02.200.07), as explained in Appendix B. When calculating effluent limits for bacteria and phosphorus, water quality criteria have been applied at the end-of-pipe. In addition, as described above, IDAPA 58.01.02.054.04 requires that the total loading of phosphorus in the watershed must remain the same or decrease, and the permit has been conditioned to ensure that the total phosphorus loading does not increase during the critical season of May through September as a result of the discharge.

The concentration effluent limits for TSS (30 mg/L average monthly and 45 mg/L average weekly) are technology-based effluent limits (40 CFR 133.102(b)) that are more stringent than the in-stream sediment targets identified in the *Lower Boise River TMDL* (50 mg/L as a 60-day average and 80 mg/L as a 14-day average). These values represent a valid numeric interpretation of the State of Idaho's narrative water quality criterion for sediment (IDAPA 58.01.02.200.08). As discussed above, the mass limits for TSS are consistent with the draft addendum to the TMDL. Thus, the discharge, as authorized by the permit, will not cause or contribute to violations of Idaho's water quality standards for sediment.

Effluent limitations for ammonia, chlorine, and pH apply water quality criteria at the edge of a State-authorized mixing zone. The State of Idaho's mixing zone policy is part of Idaho's water quality standards (IDAPA 58.01.02.060). Therefore, the discharge, as authorized in the permit, will not cause or contribute to violations of Idaho's water quality standards, pursuant to 40 CFR 122.4(i).

### ***Remaining Load Allocations and Compliance Schedules***

In order to issue an NPDES permit to a new source or a new discharger that would discharge into a water segment that does not meet applicable water quality standards and for which the State has completed a TMDL for the pollutant to be discharged, it must be demonstrated that there are sufficient remaining load allocations to allow for the discharge (40 CFR 122.4(i)(1)), and that the existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards (40 CFR 122.4(i)(2)).

The City of Kuna is a new discharger that proposes to discharge TSS (a surrogate for sediment) and bacteria into a water segment for which a TMDL has been completed for sediment and bacteria. EPA believes that the draft NPDES permit for the City of Kuna is consistent with 40 CFR 122.4(i)(1) and 122.4(i)(2) for the following reasons.

#### **Sufficient Remaining Load Allocations (40 CFR 122.4(i)(1))**

For sediment, the addendum to the *Lower Boise River TMDL* clearly demonstrates that there is sufficient remaining load capacity to allow for new or increased discharges of sediment to the watershed. In fact, the original *Lower Boise River TMDL* identified a reserve capacity for sediment that was many times larger than the effluent limits for sediment in the draft permit for the City of Kuna. The addendum to the *Lower Boise River TMDL* allocated only a portion of that previously-identified reserve load capacity to the City of Kuna for its proposed discharge. Because a portion of the previously-identified reserve load capacity has now been allocated specifically to the City of Kuna and to another proposed point source, the amended TMDL now has a smaller reserve capacity for sediment discharges. The TMDL addendum did not change the total allocated loading capacity for sediment that was identified in the original Lower Boise River TMDL.

For bacteria, the addendum allocates a “loading” of bacteria from the City of Kuna equal to 126 CFU/100 ml. The addendum also states that new dischargers in general will be considered in compliance with the bacteria TMDL so long as the discharge meets Idaho water quality standards for E. coli, which is a geometric mean of 126 CFU/100 ml.

Because the TMDL addendum provides wasteload allocations to the City of Kuna for both bacteria and sediment, there are sufficient remaining load allocations to allow for the discharge.

#### **Compliance Schedules for Existing Point Source Dischargers**

All point sources identified and assigned wasteload allocations for bacteria and sediment in the original Lower Boise River TMDL have final effluent limits in their NPDES permits that are consistent with those wasteload allocations. Such point sources must comply with these effluent limits at this time and were not given a compliance schedule in their permits, which would have allowed delayed time for compliance.<sup>1</sup> See page 23 of the *Implementation Plan for the Lower Boise River Total Maximum Daily Load*,

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<sup>1</sup> Under 40 CFR 122.4(i)(2), NPDES permittees in compliance with their applicable WQBELs for the pollutant of concern are not required to have compliance schedules. If an existing permittee is already in compliance with its WQBEL based on the relevant WLA, no compliance schedule is necessary for that permittee because it already has permit limits “designed to bring the segment into compliance with applicable water quality standards.”

hereinafter referred to as the “Implementation Plan” (IDEQ 2003). The Lower Boise River TMDL’s loading analysis concluded that, provided that point and non-point source load and waste load allocations for sediment and bacteria are achieved, the Boise River will attain State water quality standards for sediment and bacteria.

Therefore, as required by 40 CFR 122.4(i)(2), the existing point source dischargers in the Lower Boise River drainage are either currently meeting relevant water quality-based effluent limits or subject to compliance schedules, where necessary, “designed to bring the river into compliance with water quality standards” for sediment and bacteria.

### **Non-Point Sources**

The schedule for implementation of the Lower Boise River TMDL is discussed in the chapter of the Implementation Plan titled “Watershed Implementation Schedule,” beginning on Page 53 of the plan. The implementation plan describes actions to be taken to control or abate discharges of bacteria and sediment to the lower Boise River by point and non-point sources.

Existing nonpoint sources in the Lower Boise River drainage are taking actions to comply with the TMDL, according to the schedule described in the TMDL Implementation Plan and as required by State law. For more information on these actions see the documents titled *Sediment and Bacteria Compliance Schedules for Existing Point Sources and Plans for Existing Non-point Sources in the Lower Boise River* (Nickel 2008) and *Compliance with the Urban/Suburban Implementation Plan of the Lower Boise TMDL for Sediment and Bacteria by Stakeholders in the Treasure Valley* (Vakoc 2008). These documents are part of the administrative record for this permit and are available from EPA Region 10 upon request.

### **Summary**

EPA believes that the issuance of this NPDES permit to the City of Kuna, which is a new discharger, complies with 40 CFR 122.4(i) for the reasons explained above. Although there is a TMDL in effect for sediment and bacteria in the Lower Boise River drainage, there are sufficient remaining load allocations for Kuna’s proposed discharges of those pollutants, as required by 40 CFR 122.4(i)(1). The existing point source dischargers in the watershed that may cause or contribute to a violation of water quality standards are regulated by NPDES permits that contain effluent limitations consistent with the wasteload allocations in the TMDL. Therefore, the existing point source dischargers of sediment and bacteria in the Lower Boise River drainage are either currently required to comply with effluent limits necessary to meet water quality standards or are subject to compliance schedules designed to bring the river into compliance with water quality standards for sediment and bacteria, as required by 40 CFR 122.4(i)(2). Furthermore, existing nonpoint sources in the Lower Boise River drainage are taking actions to comply with the TMDL, according to the schedule described in the TMDL Implementation Plan and as required by State law. Therefore, 40 CFR 122.4(i) allows the issuance of a new NPDES permit to the City of Kuna.

## V. Effluent Limitations

### A. Basis for Effluent Limitations

In general, the Clean Water Act (Act) requires that the effluent limits for a particular pollutant be the more stringent of either technology-based 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 may be more stringent than technology-based effluent limits.

The basis for the change to the TSS effluent limits is discussed above. The bases for all other effluent limits, which are identical to those proposed in the original draft permit, are discussed in the fact sheet dated June 13, 2007.

### B. Proposed Effluent Limitations

Below are the proposed effluent limits that are in the revised draft permit. The proposed effluent limits in the draft permit are identical to those in the original draft permit, except for mass (pounds per day) effluent limits for TSS.

1. Removal Requirements for BOD<sub>5</sub> and TSS: The monthly average effluent concentration must not exceed 15 percent of the monthly average influent concentration. Percent removal of BOD<sub>5</sub> 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. The permittee must not discharge floating, suspended or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses.

Table 2 (below) presents the proposed average monthly, average weekly, maximum daily, and instantaneous maximum effluent limits.

<b>Table 2: Proposed Effluent Limits</b>				
<b>Parameter</b>	<b>Units</b>	<b>Effluent Limits</b>		
		<b>Average Monthly Limit</b>	<b>Average Weekly Limit</b>	<b>Maximum Daily Limit</b>
<b>Five-Day Biochemical Oxygen Demand</b>	mg/L	30	45	—
	lb/day	876	1314	—
	% removal	85% (min.)	—	—
<b>Total Suspended Solids</b>	mg/L	30	45	—
	<b>lb/day</b>	<b>876</b>	<b>1314</b>	—
	% removal	85% (min.)	—	—
<b>pH</b>	s.u	6.3 to 9.0 at all times		
<b>Total Phosphorus as P</b> (May-September)	µg/L	70	105	—
	lb/day	2.0	3.1	—

Parameter	Units	Effluent Limits		
		Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit
<b>E. Coli Bacteria</b>	#/100 ml	126 <sup>1</sup>	—	576 <sup>2</sup>
<b>Total Residual Chlorine</b>	µg/L	16	—	31
	lb/day	0.46	—	0.92
<b>Total Ammonia as N</b>	mg/L	1.7	—	3.9
	lb/day	50	—	115

Notes:  
1. Geometric mean.  
2. No single sample may exceed 576 organisms per 100 ml (instantaneous maximum limit).

### **C. Deletion of Total Residual Chlorine Compliance Evaluation Level**

The original draft permit contained a compliance evaluation of 100 µg/L (0.1 mg/L) total residual chlorine. This compliance evaluation level was based on the minimum level (ML) of analytical methods for chlorine that are no longer approved for use in NPDES permitting. Therefore, the compliance evaluation level has been deleted. EPA is specifically accepting comments on the deletion of the compliance evaluation level.

### **D. Schedules of Compliance**

The Federal regulation 40 CFR 122.47(a)(2) prohibits schedules of compliance for new dischargers in most cases. The City must comply with all effluent limitations starting on the effective date of the final permit.

## **VI. 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) or on the application for renewal, as appropriate, to the U.S. Environmental Protection Agency (EPA).

### **B. Effluent Monitoring**

The effluent monitoring requirements in the revised draft permit are identical to those in the original draft permit dated June 13, 2007. See the fact sheet dated June 13, 2007 for a complete discussion of the basis for the effluent monitoring requirements

### **C. Surface Water Monitoring**

Table 3 presents the proposed surface water monitoring requirements for the draft permit. Surface water flow monitoring was not proposed in the draft permit offered for public

comment on June 13, 2007. As such, EPA is accepting comments on the new surface water flow monitoring provision. The flow monitoring requirement was added because the closest USGS gauging station on Indian Creek is located seven miles below the outfall. The flow data collected as required by this permit will be used to determine if the receiving stream flows from the USGS station, which were used to develop the water quality-based effluent limits in the draft permit, are representative of the flows at the point of discharge.

<b>Table 3: Surface Water Monitoring Requirements</b>			
<b>Parameter (units)</b>	<b>Sample Locations</b>	<b>Sample Frequency</b>	<b>Sample Type</b>
Flow (CFS)	Upstream	monthly	Measure
Total Ammonia as N (mg/L)	Upstream	monthly	Grab
pH (s.u)	Upstream	monthly	Grab
Temperature <sup>1</sup> (°C)	Upstream	monthly <sup>1</sup>	Grab
Notes:			
1. Receiving water monitoring for temperature must be performed at least once during the calendar months of April, May, June, July, August, September and October.			

## **VII. Sludge (Biosolids) Requirements**

As stated in the fact sheet dated June 13, 2007, 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 facilities must comply with them whether or not a permit has been issued.

## **VIII. Other Permit Conditions**

### **A. Phosphorus Management Plan**

During the initial (June – July 2007) public comment period, the City of Boise, the Association of Idaho Cities (AIC), the City of Nampa, and the City of Kuna commented on the phosphorus management plan requirements in the draft permit and requested that the phosphorus management plan requirements be removed.

Given that the permit includes numeric water quality-based effluent limits for phosphorus, and requires compliance with IDAPA 58.01.02.054.04 by requiring the permittee to develop and implement a plan which will ensure that the authorized discharge will not increase the loading of phosphorus to the Indian Creek or Boise River watersheds, EPA agrees that the BMP requirements of the phosphorus management plan are not necessary in this case. Therefore, the phosphorus management plan requirements have been deleted from the permit.

Other permit conditions such as the quality assurance plan, operation and maintenance plan, oversight of industrial users, and the conditions in Sections III, IV, and V of the draft permit, are discussed in the fact sheet dated June 13, 2007.

## **IX. Other Legal Requirements**

Other legal requirements such as the Endangered Species Act of 1973, essential fish habitat, and State certification are discussed in the fact sheet dated June 13, 2007.

## **X. References**

EPA. 2005. *Fact Sheet for Sorrento Lactalis, Inc. NPDES Permit*. US Environmental Protection Agency. Region 10.

IDEQ. 1998, 1999. *Lower Boise River TMDL: Subbasin Assessment, Total Maximum Daily Loads*. December 18, 1998. Revised September 29, 1999. Idaho Department of Environmental Quality.

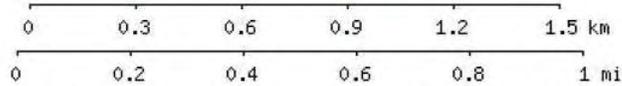
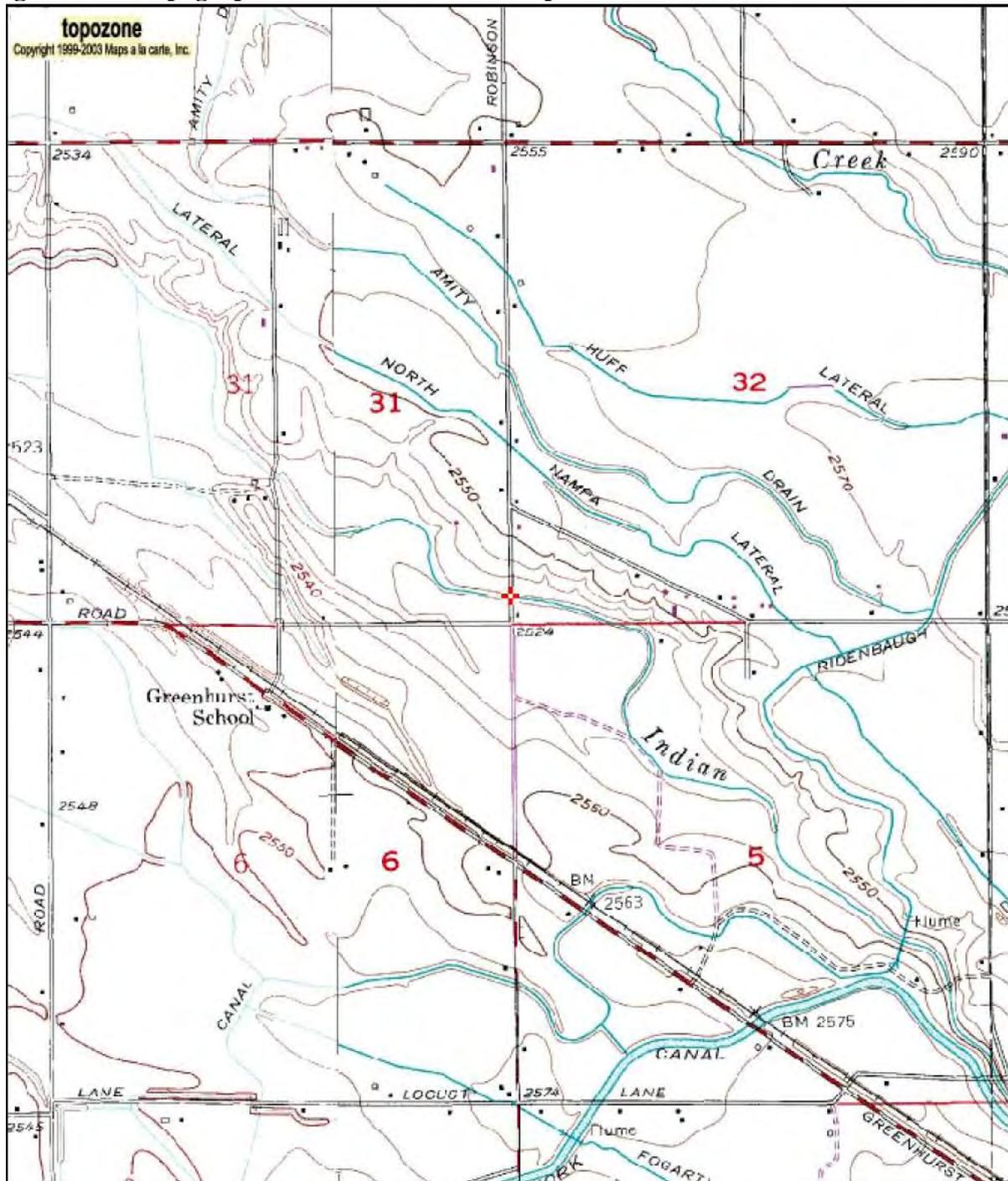
IDEQ. December 2003. *Implementation Plan for the Lower Boise River Total Maximum Daily Load*. Idaho Department of Environmental Quality.

Nickel, Brian. 2008. *Sediment and Bacteria Compliance Schedules for Non-point Sources in the Lower Boise River*. Draft. August 2008. US EPA Region 10. Office of Water and Watersheds.

Vakoc, Misha. 2008. *Compliance with the Urban/Suburban Implementation Plan of the Lower Boise TMDL for Sediment and Bacteria by Stakeholders in the Treasure Valley*. Draft. August 2008. US EPA Region 10. Office of Water and Watersheds.

### Appendix A: Facility Map

Figure A-1: Topographical Outfall Location Map



43° 32' 51"N, 116° 29' 37"W (NAD83/WGS84)  
**USGS Meridian (ID) Quadrangle**  
Projection is UTM Zone 11 NAD83 Datum



**Figure A-2: Photograph of outfall location (at Robinson Road, facing East)**



## Appendix B: Basis for Effluent Limits

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

#### *Federal Secondary Treatment Effluent Limits*

In sections 301(b)(1)(B) and 304(d)(1), the Act established a performance level, referred to as “secondary treatment,” which all POTWs are required to meet. EPA developed and promulgated “secondary treatment” regulations that are found 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 BOD<sub>5</sub>, TSS, and pH. The federally promulgated secondary treatment effluent limits are listed in Table B-1.

The draft permit contains the technology-based limits for BOD<sub>5</sub> and TSS. As explained on Page 9 of this fact sheet, the wasteload allocation for TSS in the *Sediment and Bacteria Allocations for the City of Kuna, Idaho Addendum to the Lower Boise River TMDL* is identical to the technology-based effluent limit.

For BOD<sub>5</sub>, EPA performed a Streeter-Phelps dissolved oxygen sag calculation and determined that a discharge of BOD<sub>5</sub> at the technology-based limit would not cause or contribute to excursions below the State of Idaho’s water quality standards for dissolved oxygen. Under critical conditions, the calculation showed that the dissolved oxygen downstream of the discharge will be greater than 6.0 mg/L, which is the applicable State water quality standard (IDAPA 58.01.02.250.02.a). The fact that the discharge of BOD<sub>5</sub> would not result in dissolved oxygen concentrations less than the State water quality standard also means that the technology-based effluent limits ensure that the discharge will not result in receiving water concentrations of oxygen-demanding materials that would result in an anaerobic water condition. Thus, the technology-based effluent limits will also ensure compliance with Idaho’s narrative water quality criterion for oxygen-demanding materials (IDAPA 58.01.02.200.07). Therefore, water quality-based effluent limits for BOD<sub>5</sub> are not necessary.

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

### B. Water Quality-based Effluent 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) prohibit 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 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 or Tribal water quality standard, including narrative criteria for water quality. 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.

### C. Facility-Specific Water Quality-based Effluent Limits

#### *E. Coli*

The draft addendum to the Lower Boise River TMDL states that the City of Kuna's wasteload allocation for *E. coli* is 126 CFU/100 ml, which is identical to the State of Idaho's water quality criterion for *E. coli* (IDAPA 58.01.02.251.01.a.).

The Idaho water quality standards also state that a water sample that exceeds certain "single sample maximum" values indicates a likely exceedance of the geometric mean criterion, although it is not, in and of itself, a violation of water quality standards. For waters designated for secondary contact recreation, the "single sample maximum" value is 576 organisms per 100 ml (IDAPA 58.01.02.251.01.b.i.).

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 (See *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001 at Section 5.3.1). Because a single sample value exceeding 576 organisms per 100 ml indicates a likely exceedance of the geometric mean criterion, EPA has imposed an instantaneous (single grab sample) maximum effluent limit for *E. coli* of 576 organisms per 100 ml, in addition to a monthly geometric mean limit of 126 organisms per 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 water quality standards for *E. coli*.

Regulations at 40 CFR 122.45(d)(2) require that effluent limitations for continuous discharges from POTWs be expressed as average monthly and average weekly limits, unless impracticable. The terms "average monthly limit" and "average weekly limit" are defined in 40 CFR 122.2 as being arithmetic (as opposed to geometric) averages. It is impracticable to properly implement a 30-day geometric mean criterion in a permit using monthly and weekly arithmetic average limits. The geometric mean of a given data set is equal to the arithmetic mean of that data set if and only if all of the values in that data set are equal. Otherwise, the geometric mean is always less than the arithmetic mean. In order to ensure that the effluent limits are "derived from and comply with" the geometric mean water quality criterion, as required by 40 CFR 122.44(d)(1)(vii)(A), it is necessary to express the effluent limits as a monthly geometric mean and an instantaneous maximum limit.

Segments of Indian Creek and the Boise River downstream of the discharge are designated for primary contact recreation. The geometric mean water quality criterion is identical for waters designated for primary and secondary contact recreation. Because the geometric mean criterion is being applied to the discharge as a “criteria end of pipe” effluent limitation, the effluent limits are also derived from and comply with water quality standards for E. coli in downstream waters designated for primary contact recreation.

***Total Suspended Solids***

The draft addendum to the Lower Boise River TMDL would establish wasteload allocations for TSS for the City of Kuna facility that are identical to the technology-based effluent limits. Therefore, a more-stringent water quality-based effluent limit for TSS is not necessary.

***Total Ammonia as N, Total Residual Chlorine, Total Phosphorus as P, and pH***

Water quality-based effluent limits for these pollutants are identical to those in the draft permit offered for public review and comment on June 13, 2007. The bases for these water quality-based effluent limits are explained in the fact sheet dated June 13, 2007.