

NPDES PERMIT NO. NM0028479

FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

Jemez Valley Public Schools
Board of Education
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ISSUING OFFICE

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DATE PREPARED

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PERMIT ACTION

Proposed reissuance of the current NPDES permit issued September 22, 2006, with an effective date of November 1, 2006, and an expiration date of October 31, 2011.

RECEIVING WATER – BASIN

Jemez River (NM-2105_71) – Jemez Watershed (13020202 HUC) – Rio Grande Basin

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DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

4Q3	lowest four-day average flow rate expected once every three years
AU	assessment unit based on differing geological & hydrological properties
BAT	best available technology economically achievable
BCT	best conventional pollutant control technology
BPT	best practicable control technology currently available
BMP	best management plan
BOD5	five-day biochemical oxygen demand
BPJ	best professional judgment
CBOD5	five-day Carbonaceous Biochemical Oxygen Demand
CD	critical dilution
CFR	Code of Federal Regulations
cfs	cubic feet per second
cfu	colony forming units
CFR	Code of Federal Regulations
COD	chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	discharge monitoring report
EA	environmental assessment
ELG	effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
ft.	feet (measurement of distance)
FWS	United States Fish and Wildlife Service
lbs	pounds
ug/L	micrograms per liter (one part per billion)
mg/L	milligrams per liter (one part per million)
MGD	million gallons per day
NAICS	North American Industry Classification System
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES permit implementation procedures
NMWQS	New Mexico state standards for interstate and intrastate surface waters
NPDES	national pollutant discharge elimination system
MQL	minimum quantification level
O&G	oil and grease
PLC	programmable logic controller
POTW	publically owned treatment works
RP	reasonable potential
SBR	sequencing batch reactor
STORET	EPA Storage and Retrieval Database
s.u.	standard units (for parameter pH)
SWQB	Surface Water Quality Bureau

TDS	total dissolved solids
TMDL	total maximum daily load
TRC	total residual chlorine
TSS	total suspended solids
UAA	use attainability analysis
USGS	United States Geological Service
WET	whole effluent toxicity
WLA	Waste Load Allocations
WQCC	New Mexico Water Quality Control Commission
WQMP	water quality management plan
WQS	water quality standards
WWTP	wastewater treatment plant

A. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit with expiration date of October 31, 2011, are:

1. The addition of an 85% removal requirement of BOD and TSS with a monitoring requirement of once per month by grab sampling.
2. The addition of effluent discharge limitations that reflect the New Mexico surface water quality standards 20.6.4.107 NMAC, 20.6.4.900 NMAC, and 20.7.10 NMAC and the designated uses of coldwater aquatic life, primary contact, irrigation, livestock watering and wildlife habitat; and public water supply on Vallecito creek.
3. The incorporation of the USEPA Approved TMDL for the Jemez River Watershed that requires monitoring for arsenic and boron.
4. The monitoring requirement of TRC has changed from one (1) per month to five (5) per week as per NMIP for activated sludge system type of Municipal WWTP with a design capacity of 0.1MGD or less
5. The permit re-opener language has been modified to reflect the need to consider the impacts on the water quality of downstream Tribal Nations.

B. APPLICANT LOCATION and ACTIVITY

The facility is located at 8501 Hwy 4 Jemez Pueblo, New Mexico 87024, in Sandoval County, New Mexico.

Under the NAICS code 6111, the applicant operates a privately owned sanitary wastewater treatment facility that is equivalent to a privately owned facility publicly owned treatment works (similar to a publically owned treatment works and here after referred to as a POTW). The facility has a design flow capacity of 0.03 MGD (30,000 gallons per day) serving a transient population of 402. Due to the New Mexico's antidegradation policy the facility is currently limited to a effluent discharge of 0.01 MGD (10000 gallons per day).

The collection system serves the school and does not include any additional residences or businesses. The teacher housing units are on a septic system. In the collection system there is one lift station. From other points in the collection system and from the lift station, wastewater flows via gravity to the activated sludge package plant. The WWTP has five chambers: the influent enters the first chamber where solids are separated out and sent to the second chamber for sludge thickening.

The liquids flow to the third chamber then to the fourth chamber that serves as the two aeration basins. The aeration basins and the sludge thickener are feed by two blowers that alternate in a cycle of 6 hours on and 6 hours off, so each blower is rested for 14 hours a cycle. From the aeration basin, solids are pumped from the bottom of the chamber back to the sludge thickener. The liquids are decanted into the chlorine contact chamber for disinfection. Chlorine is added at the beginning of the chamber via a "dosing box" where tablets of Sodium Hypochlorite are fed. It is difficult to determine the detention time in the chlorine contact chamber. De-chlorination occurs past the chlorine contact chamber in the effluent line via a dispenser of Sodium Sulfite tablets. The flow continues approximately 30 feet to the Jemez River.

Solids are wasted from the secondary clarifier to the digester on a six hour cycle. Solids from the digester are removed by truck and hauled to the Albuquerque 2nd Street Reclamation facility for final

disposal. The scrapings from the influent bar screen are dried and disposed of at the Rio Rancho land fill.

The discharge is located 70 ft. from the Jemez River at Latitude 35° 39' 24" N and Longitude 106° 44' 19" W , in Sandoval County, New Mexico. A map of the facility is provided in Figure 1.

Figure 1



C. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A in section A.12. Effluent Testing Information. Received April 15, 2011, is presented in Table 1 below:

Table 1

Parameter	Max	Avg	Number of Samples
Flow, MGD	0.01	0.01	459
Temperature, winter	No Data	No Data	No Data
Temperature, summer	No Data	No Data	No Data
pH, minimum, s.u.	7.2	N/A	No Data
pH, maximum, s.u.	7.9	N/A	No Data
BOD (mg/L)	18.1	4.6	8
<i>E.Coli</i>	1553.1	152.88	26
TSS (mg/L)	26	7.5	8

Table 2 is a summary of the last 3-years compliance monitoring history for NPDES Permit NM0028749 are listed in Table 2. The dates in violation for limited parameters are as listed:

Table 2

Dates of Violation	Parameter	Value
3.31.2007	<i>E. coli</i> maximum	5172 > 410 cfu/100mL limit
3.31.2007	<i>E. coli</i> average	5172 > 126 cfu/100mL limit

11.28.2007	<i>E. coli</i> maximum	15531 > 410 cfu/100mL limit
11.28.2007	<i>E. coli</i> average	15531 > 126 cfu/100mL limit
10.31.2008	<i>E. coli</i> average	228.2 > 126 cfu/100mL limit
8.30.2008	<i>E. coli</i> maximum	1553.1 > 410 cfu/100mL limit
8.30.2008	<i>E. coli</i> average	1553.1 > 126 cfu/100mL limit
4.23.2009	<i>E. coli</i> maximum	1413.6 > 410 cfu/100mL limit
4.23.2009	<i>E. coli</i> average	707.3 > 126 cfu/100mL limit
12.31.2009	<i>E. coli</i> average	141.4 > 126 cfu/100mL limit
1.31.2010	<i>E. coli</i> maximum	1119.9 > 410 cfu/100mL limit
1.31.2010	<i>E. coli</i> average	571.5 > 126 cfu/100mL limit
4.30.2010	<i>E. coli</i> maximum	1553.1 > 410 cfu/100mL limit
4.30.2010	<i>E. coli</i> average	137.4 > 126 cfu/100mL limit
7.31.2011	<i>E. coli</i> maximum	920.8 > 410 cfu/100mL limit
7.31.2011	<i>E. coli</i> average	920.8 > 126 cfu/100mL limit
8.31.2011	<i>E. coli</i> maximum	648.8 > 410 cfu/100mL limit
8.31.2011	<i>E. coli</i> average	648.8 > 126 cfu/100mL limit
9.30.2011	<i>E. coli</i> average	228.2 > 126 cfu/100mL limit
9.18.2012	<i>E. coli</i> maximum	2419.6 > 410 cfu/100mL limit
2.29.2012	<i>E. coli</i> maximum	488.4 > 410 cfu/100mL limit
2.29.2012	<i>E. coli</i> average	406.95 > 126 cfu/100mL limit

D. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water”; more commonly known as the “swimmable, fishable” goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered the NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The previous permit expired October 31, 2011. EPA received the NPDES application on April 5, 2011. The existing permit is administratively continued until this permit is issued.

E. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

1. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

Technology-based effluent limitations are established in the proposed draft permit for TSS and BOD. Water quality-based effluent limitations are established in the proposed draft permit for *E. coli* bacteria, pH and TRC.

2. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, *E. coli* bacteria, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

The facility is a privately owned facility that treats sanitary wastewater that has technology-based ELG's established at 40 CFR Part 133, Secondary Treatment Regulation. Pollutants with ELG's established in this Chapter are BOD, TSS and pH. BOD limits of 30 mg/l for the 30-day average and 45 mg/l for the 7-day average and 85% percent (minimum) removal are found at 40 CFR §133.102(a). TSS limits; also 30 mg/l for the 30-day average and 45 mg/l for the 7-day average, average and 85% percent (minimum) removal are found at 40 CFR §133.102(b). ELG's for pH are between 6-9 s.u. and are found at 40 CFR §133.102(c). The pH limits in this permit are in compliance with the NMWQS for the Jemez River designated uses of pH of 6.6-8.8 s.u. Regulations at 40 CFR §122.45(f)(1) require all pollutants limited in permits to have limits expressed in terms of mass such as pounds per day. When determining mass limits for POTW's, the plant's design flow used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/l * 8.34 conversion factor * design flow in MGD

30-day average BOD & TSS loading = 30 mg/l * 8.34 conversion factor * 0.01 MGD

30-day average BOD & TSS loading = 2.502 lbs/day

7-day average BOD & TSS loading = 45 mg/l * 8.34 conversion factor * 0.01 MGD

7-day average BOD & TSS loading = 3.755 lbs/day

A summary of the technology-based limits for the facility is:

Table 3

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING FREQUENCIES
	lbs/Day			mg/L (unless noted)		
	Percent Removal ¹	30-Day Avg.	7-Day Avg.	30-Day Avg.	7-Day Avg.	
Flow		N/A	N/A	Measure MGD	Measure MGD	Daily ²
Dissolved Aresnic		0.014	--	0.058	0.058	2/Month ³
Dissolved Boron		0.158	--	0.632	0.632	2/Month ³
BOD	≥ 85%	2.502	3.755	30	45	1/Month ³
TSS	≥ 85%	2.502	3.755	30	45	1/Month ³
pH		N/A	N/A	6.6 – 8.8 standard units		5/Week ³

3. WATER QUALITY BASED LIMITATIONS

a. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

b. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

c. State Water Quality Standards

The general and specific stream standards are provided in 20.6.4.107 NMAC, 20.6.4.900 NMAC, and 20.7.10 NMAC for Outfall 001, amended January 14, 2011. The discharge is to receiving waters named Jemez River (waterbody ID: NM-2105_71) of the Jemez watershed (HUC: 13020202) in the Rio Grande Basin. The designated uses of the receiving water(s) are coldwater aquatic life, primary contact, irrigation, livestock watering and wildlife habitat; and public water supply on Vallecito creek

¹ To calculate the percent removal, use the following equation: (average monthly influent concentration minus average monthly effluent concentration) ÷ average monthly influent concentration.

² Instantaneous grab (field measurement). Regulations at 40 CFR Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. Samples should be analyzed within 14 days of collection

³ Regulations at 40 CFR Part 122(g)(7) define "grab" samples must be collected in glass containers having a total volume of at least 25 mL. Fill the sample bottle just to overflowing in such a manner that no air bubbles pass through the sample as the bottle is being filled. Seal the bottle so that no air bubbles are entrapped in it. If preservative has been added, shake vigorously for 1 min. Maintain the hermetic seal on the sample bottle until time of analysis. Samples should be analyzed within 14 days of collection.

d. Permit Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS may be more stringent than effluent limitation guidelines.

No tribe downstream from the Jemez Valley Public School Wastewater Facility NM0028479 discharge currently has EPA approved water quality standards. The Pueblo of Jemez is approximately 1 mile downstream from the Jemez Valley Public School Wastewater Facility NM0028479 discharge. The Pueblo of Zia is approximately 13 miles downstream from the Jemez Valley Public School Wastewater Facility NM0028479 discharge. The Pueblo of Santa Ana is approximately 18 miles downstream from the Jemez Valley Public School Wastewater Facility NM0028479 discharge.

The relevant water quality-based limits are as follows:

1) pH

The draft permit will propose a stream segment specific pH limit of 6.6 to 8.8 su from 20.6.4.900 B(1) NMAC, which is more restrictive than the technology-based limits presented earlier and those used in the previous permit.

2) Bacteria

Stream segment specific NMWQS for *E. coli* bacteria are 126 cfu/100 ml monthly geometric mean and 410 cfu/100 ml single sample maximum as found in 20.6.4.900 D.

3) Toxics

i. General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criteria, the permit must contain an effluent limit for that pollutant.

All applicable facilities are required to fill out appropriate sections of the Form 2A and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs, “publicly owned treatment works” but also to facilities that are similar to POTWs, but which do not meet the regulatory definition of (like privately owned sanitary wastewater treatment facility, or similar facilities on Federal property). The forms were designed and promulgated to “make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities,” per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

The facility is designated by EPA NPDES as a minor, and does not need to fill out the expanded pollutant testing section Part D of Form 2A. There are no toxics that need to be placed in the draft permit except for TRC described below.

ii. TRC

The previous permit established water quality-based effluent limitations for TRC of 19 ug/L. This requirement will be maintained in the draft permit.

iii. Critical Conditions

Critical dilutions are used to establish certain permit limitations and conditions. The State of New Mexico WQS allows a mixing zone for establishing pollutant limits in discharges. The mixing zones established by the State of New Mexico do not overlap with tribal/pueblo borders.

Both the NMWQS and NMIP establish a critical low flow designated as 4Q3, as the minimum average four consecutive day flow which occurs with a frequency of once in three years. The SWQB of the NMED provided EPA with the 4Q3 for the Juarez Valley Public School.

For permitting purposes of certain parameters such as WET, the critical dilution of the effluent to the receiving stream is determined. The critical dilution, C_D , is calculated as:

$C_D = Q_e / (F \cdot Q_a + Q_e)$, where:

Q_e = facility flow (0.03 MGD)

Q_a = critical low flow of the receiving waters (7.8010 MGD [= 12.09 cfs])

F = fraction of stream allowed for mixing (1.0)

$$\begin{aligned} C_D &= 0.03 \text{ MGD} / (1.0 \times 7.8010 + 0.03) \\ &= 0.0038 \\ &= 0.38\% \end{aligned}$$

According to the NMIP if it is determined that a facility is to receive chronic biomonitoring requirements at a critical dilution of 5% or less, then an acute to chronic ratio of 10:1 may be used in order to allow acute biomonitoring in lieu of chronic.

$$\text{Acute critical dilution} = 0.38\% \times 10 = 3.8\%$$

4. MONITORING FREQUENCY FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). Changes to sample frequencies have been made based on the NMIP in order to ensure consistency with similar sized facilities.

Technology based pollutants; BOD, TSS and E. coli are proposed to be monitored one time per month. Flow is proposed to be continuously monitored when discharging, identical to the existing permit. The TRC and pH are proposed to be monitored five times per week when discharging which is more frequent than the previous permit but is consistent with similar facilities based on treatment technology and design flow. Increased monitoring for TRC will also insure the chlorination system is checked for proper operation more frequently, reducing the likelihood of future bacteria limit violations. Sample type for BOD, TSS and pH are grab which is consistent with the previous permit. Regulations at 40 CFR §136 define instantaneous grab as being analyzed within 15-minutes of collection.

Influent BOD & TSS (for use in calculating percent removal shall be monitored once per year during April. This frequency avoids effectively doubling the BOD and TSS analytical costs for a small

discharge operated by a school system whose discharge influent would not be subject to the variability of a larger system with more varied system users

5. WHOLE EFFLUENT TOXICITY

In Section E.3.d.3) iii above; “Critical Conditions”, it was shown that the critical dilution, CD, for the facility is 3.8%. Based on the nature of the discharge; POTW, the design flow; less than 0.1 MGD, the nature of the receiving water; perennial, and the critical dilution; 3.8%, the NMIP directs the WET test to be a 48 hour acute test using *Daphnia pulex* and *Pimephales promelas* at a once per five year frequency. Based on the WET Recommendation shown in Appendix A, no WET limits will be established in the proposed permit.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.5 dilution series. These additional effluent concentrations shall be 1.7%, 2.3%, 3.0%, 4.0%, 5.3% and 7.1%. The low-flow effluent concentration (critical low-flow dilution) is defined as 3.8% effluent using a 10:1 acute to chronic ratio from the actual 0.38% critical dilution for chronic toxicity. An additional dilution series point was added “for better test resolution and more precise effect concentration estimates” as is consistent with EPA’s “Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136) (EPA 821-B-00-004, page 5-3). Since the permittee is a very low volume discharger, the permittee was authorized to use grab samples instead of 24 hour composite samples when testing for WET during the previous permit term. This shall be carried forward in the new proposed permit since the size or nature of the facility/discharge has not changed. Due to numerous Reportable non-compliance (RNC) instances for bacteria during the previous permit term (February 2009, March 2009, October 2011), EPA will require the permittee to continue biomonitoring in the next permit term.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 - the discharge to the a perennial that is 70 feet from the Jemez River in the Jemez watershed of the Rio Grande Basin. Discharges shall be limited and monitored by the permittee as specified below:

Final Effluent Limits - 0.03 MGD design flow.

Table 4

Effluent Characteristic	Discharge Monitoring	
WET Testing (48hr Static Renewal) ⁴	30-day Avg Min	48hr Minimum
<i>Daphnia pulex</i>	Report	Report
<i>Pimephales promelas</i>	Report	Report

Table 5

Effluent Characteristic	Monitoring Requirements	
WET Testing (48hr Static Renewal) ¹	Frequency	Type
<i>Daphnia pulex</i>	Once per term ⁵	Grab

⁴ *2 Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

⁵ Once per permit-term. The test shall take place between November 1 and April 30 during the first year of the permit term. This permit does not establish requirements to automatically increase the WET testing frequency

<i>Pimephales promelas</i>	Once per term ²	Grab
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F. FACILITY OPERATIONAL PRACTICES

1. SEWAGE SLUDGE

The permittee shall use only sewage sludge disposal or reuse practices that comply with the federal regulations established in 40 CFR Part 503 "Standards for the Use or Disposal of Sewage Sludge". EPA may at a later date issue a sludge-only permit. Until such future issuance of a sludge-only permit, sludge management and disposal at the facility will be subject to Part 503 sewage sludge requirements. Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a sludge-only permit has been issued. Part IV of the draft permit contains sewage sludge permit requirements.

2. WASTE WATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

3. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The treatment plant has no non-categorical Significant Industrial User's (SIU) and no Categorical Industrial User's (CIU). The EPA has tentatively determined that the permittee will not be required to develop a full pretreatment program. However, general pretreatment provisions have been required. The facility is required to report to EPA, in terms of character and volume of pollutants any significant indirect dischargers into the privately owned treatment works subject to pretreatment standards under §307(b) of the CWA and 40 CFR Part 403.

4. OPERATION AND REPORTING

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge on a regular basis; and report the results quarterly. The monitoring results will be available to the public.

G. 303(d) LIST

Section 303(d) of the Federal Clean Water Act requires states to develop a TMDL management plan for water bodies determined to be water quality limited. A TMDL documents the amount of a pollutant a water body can assimilate without violating a state's water quality standards. It also allocates a load capacity to known point sources and nonpoint sources at a given flow. EPA defines TMDLs in 40 CFR Part 130 as the sum of the individual WLAs for point sources and background conditions, and includes a margin of safety.

after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple failures. However, upon failure of any WET test, the permittee must report the results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.

The NPDES regulations at 40 CFR 122.44(d)(1)(vii)(B) require that NPDES permits include effluent limitations developed consistent with the assumptions and requirements of any WLA that has been assigned to the discharge as part of an approved TMDL. Permit writers might also choose to consider any pollutant associated with an impairment of the receiving water by a pollutant of concern, regardless of whether an approved TMDL has been developed for that pollutant, a WLA has been assigned to the permitted facility, or the permitted facility has demonstrated that the pollutant is present in its effluent. Permitting authorities might consider monitoring requirements to collect additional data related to the presence or absence of the impairing pollutant in a specific discharge to provide information for further analyses.

The Jemez River, sub-segment number NM-2105_71 from the Jemez Pueblo Boundary to the Rio Guadalupe, was assessed by the state of New Mexico and listed in 2008-2010 Integrated List for the Jemez River Watershed as impaired for aluminum, arsenic, biologic impairment (unknown), boron, and plant nutrients. The Jemez Valley Public Schools WWTP (NM0028479) discharges into the Jemez River into sub-segment number NM-2105_71.

In 2009, a TMDL was created by the SWQB and approved by the EPA to address impairment in the Jemez River watershed. The 2009 TMDL was based on a 2005 surface water quality survey (with follow-up data collections in 2006 and 2008) of the Jemez River watershed, with the 2008-2010 State of New Mexico Clean Water Act §303(d)/305(b) Integrated List. The TMDL for the Jemez River watershed addresses impairments for arsenic, boron, plant nutrients (nitrogen and phosphorus), temperature and sedimentation/siltation (stream bottom deposits). Natural conditions contribute to high aluminum concentrations throughout the Jemez Watershed and impacts to aquatic life are unclear; WQS criteria are under review to identify appropriate/attainable levels. The sampling station names, STORET station number and rationale of inclusion are listed in Table 6 below.

The designated uses of the Jemez River near Canon that were included in developing the 2009 TMDL are coldwater aquatic life, primary contact, irrigation, livestock watering, and wildlife habitat, and have a dissolved arsenic criteria are 9.0 µg/L for human health. In 2010 these designated uses were updated to include public water supply on Vallecito creek and have a dissolved arsenic criteria of 2.3 µg/L and a dissolved boron limit of for domestic water supply. The Jemez River currently has a dissolved arsenic criteria are 10.0 µg/L for drinking water supply and a dissolved boron limit 750 µg/L of for irrigation.

According to the USEPA-Approved TMDL for the Jemez River Watershed, the WLA for the NPDES Permitted Facility Jemez Valley Public Schools WWTP NM0028479 calculated for a design capacity of 0.03 MGD is 0.014 lbs/day for a 30 day average and a 30 day average of 0.0576 mg/L for dissolved arsenic. The USEPA-Approved TMDL for the Jemez River Watershed, the WLA for NPDES Permitted Facility Jemez Valley Public Schools WWTP NM0028479 is 0.158 lbs/day and a 30 day average of 0.632 mg/L for dissolved boron.

The Jemez Valley Public Schools WWTP contributes roughly 2% of the measured arsenic load and 1% of the measured boron load in the Jemez River and is well within the limits set by their respective TMDLs. The SWQB recommends no effluent limits for arsenic and boron in the NPDES permits at this time. However, SWQB recommends monitoring requirements for arsenic and boron should be outlined in the permit to ensure that current levels are not exceeded. Any variation from current levels that leads to excess arsenic and/or boron in the stream should result in numeric effluent limits when the NPDES permit is up for renewal.

According to the 2010 Waterbody Report for the Jemez River, from the Jemez Pueblo Boundary to the Rio Guadalupe, a TMDL is needed to address the aluminum, DO and turbidity as causes of impairment

in the Jemez River. A TMDL is developed by the State of New Mexico and then approved by the EPA. The standard reopener language in the permit allows for additional permit conditions if warranted by future changes, including EPA approved tribal water quality standards.

Due to the review of the TMDL water quality monitoring data (shown in Table 7 and 8 below), EPA has determined that the NPDES Permitted Facility Jemez Valley Public Schools WWTP NM0028479 will monitor the effluent at discharge from the WWTP. This determination is in compliance with the TMDL.

Table 6

Station Name	STORET Number	Rationale
Jemez River above Rio Guadalupe	31JemezR049.2	Above Jemez Valley Public School and Jemez Pueblo Land
Jemez River below Rio Guadalupe	31JemezR048.7	Upstream from School
Jemez River near Canon, below Municipal School	31JemezR046.6	Below Municipal School

Table 7 Sample Data for Arsenic

	31JemezR049.2	31JEMEZR048.7	31JEMEZR046.6
2/22/2005	0.045 mg/L	0.042 mg/L	Not recorded
3/29/2005	0.04 mg/L	0.037 mg/L	Not recorded
4/18/2005	0.005 mg/L	0.004 mg/L	0.003 mg/L
5/24/2005	0.043 mg/L	0.007 mg/L	0.006 mg/L
6/27/2005	0.1 mg/L	0.048 mg/L	0.041 mg/L
7/18/2005	0.11 mg/L	0.06 mg/L	0.056 mg/L
8/16/2005	0.64 mg/L	0.059 mg/L	0.048 mg/L
9/19/2005	0.12 mg/L	0.093 mg/L	0.054 mg/L
10/18/2005	0.087 mg/L	0.077 mg/L	0.049 mg/L

Table 8 Sample Data for Boron

	31JemezR049.2	31JEMEZR048.7	31JEMEZR046.6
2/22/2005	0.5 mg/L	0.4 mg/L	Not recorded
3/29/2005	0.5 mg/L	0.5 mg/L	Not recorded
4/18/2005	Not recorded	0.1 mg/L	0.1 mg/L
5/23/2005	0.5 mg/L	0.1 mg/L	Not recorded
6/27/2005	1.1 mg/L	0.6 mg/L	0.5 mg/L
7/18/2005	1.3 mg/L	0.7 mg/L	0.7 mg/L
8/16/2005	0.7 mg/L	0.6 mg/L	0.5 mg/L
9/19/2005	1.4 mg/L	1.1 mg/L	0.8 mg/L
10/18/2005	1.0 mg/L	1.0 mg/L	0.6 mg/L

H. ANTIDegradation

The State of New Mexico has antidegradation requirements to protect existing uses through implementation of NMWQS. The limitations and monitoring requirements set forth in the proposed draft are developed from the appropriate State WQS and are protective of those designated uses. Furthermore, the policy's set forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements and the limits are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water.

I. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(l)(i)(A), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. The proposed permit maintains the mass loading requirements of the previous permit for BOD and TSS.

J. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at FWS website, <http://www.fws.gov/angered/>, three species in Sandoval County, NM are listed as endangered or threatened. The southwestern willow flycatcher (*Empidonax traillii extimus*), and Rio Grande silvery minnow (*Hybognathus amarus*) are listed as endangered. The Mexican spotted owl (*Strix occidentalis lucida*) is listed as threatened. The Jemez Mountains salamander (*Plethodon neomexicanus*), the Yellow-billed Cuckoo (*Coccyzus americanus*), the Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*) and the New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) are listed as candidate species. Two species have been delisted as threatened or endangered, the bald eagle (*Haliaeetus leucocephalus*) and the black footed ferret (*Mustela nigripes*). Based on the following discussion, EPA has determined that the issuance of this permit will have no effect on these federally listed threatened or endangered species or their critical habitat based on the previous permit call of 'no effect' and that the facility has not made major changes to their effluent discharge and that no change in the endangered or threatened species listing status.

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, EPA has determined that the environmental baseline has not been changed and, based on the information available to the EPA at the present time, the reissuance of this permit will have "no effect" on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

In the previous permit issued September 22, 2006, EPA made a "no effect" determination for federally listed species the Rio Grande silvery minnow, the Mexican spotted owl, the southwestern willow flycatcher, the bald eagle and the black footed ferret). EPA has consulted with the USFWS Critical Habitat Mapper at <http://www.criticalhabitat.fws.gov> to determine if critical habitat exists within the area and no critical habitat was at the discharge location or downstream of the discharge until the Jemez River flows into the Rio Grande, which is listed as critical habitat for the Rio Grande silvery minnow (*Hybognathus amarus*). EPA has received no additional information that would lead to a revision of the "no effect" determination. EPA determines that this reissuance will not change the environmental baseline established by the 2006 permit, and therefore, EPA concludes that reissuance of this permit will have "no effect" on the listed species and designated critical habitat.

No additions have been made to the FWS list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit. Four (4) species, the Jemez Mountains salamander (*Plethodon neomexicanus*), the Yellow-billed Cuckoo (*Coccyzus americanus*), the Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*), and the New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) have been listed as candidate species after the previous permit was issued.

K. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should not have an impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

L. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if State or downstream Tribal water quality standards are promulgated or revised. In addition, if the State or downstream Tribes develops a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

M. VARIANCE REQUESTS

No variance requests have been received.

N. CERTIFICATION

The permit is in the process of certification by the State Agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

O. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

P. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

1. APPLICATION(s)

EPA Application Form 2A received April 5, 2011.

2. 40 CFR CITATIONS

Citations to 40 CFR are as of June 20, 2011
Sections 122, 124, 125, 130, 133, 136, 261, 403

3. STATE OF NEW MEXICO REFERENCES

2008-2010 State of New Mexico Clean Water Act §303(d)/305(b) Integrated List.
<http://www.nmenv.state.nm.us/swqb/303d-305b/2008-2010/documents/AppendixA.pdf>

2010 – 2012 State of New Mexico Clean Water Act 303(d)/305(b) Integrated Report.
<ftp://ftp.nmenv.state.nm.us/www/swqb/303d-305b/2010/USEPA-Approved303dList.pdf>

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, NMIP. May 3, 2011.

http://www.epa.gov/region6/water/npdes/newmexico/newmexico_ip_05032011.pdf

Statewide Water Quality Management Plan, May 13, 2003.

State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4.107 and 20.6.4.900 NMAC, as amended through January 14, 2011.

<ftp://ftp.nmenv.state.nm.us/www/swqb/Standards/2011/20.6.4NMAC-IntegratedStandards-CWASstatus2011-04-18.pdf>

4. MISCELLANEOUS

Ambient Water Quality Criteria for Chlorine. 1984, EPA - Office of Water, January 1985. EPA Report Number 44054030.

http://water.epa.gov/scitech/swguidance/standards/upload/2001_10_12_criteria_ambientwqc_chlorine1984.pdf

Ambient Water Quality Criteria for Bacteria – 1986, EPA - Office of Water, January 1986. EPA Report Number 440584002.

http://water.epa.gov/action/advisories/drinking/upload/2009_04_13_beaches_1986crit.pdf

Handbook for Sampling and Sample Preservation of Water & Wastewater. September 1982. EPA Report Number EPA-600/4-82-029.

Part 503 Implementation Guidance – 1995, EPA 833-R-95-001 – Office of Water, October 1995.

www.epa.gov/npdes/pubs/owm0237.pdf

POTW Sludge Sampling And Analysis Guidance Document – 1989, EPA 833-B-89-100 – Office of Water, August 1989. <http://www.epa.gov/npdes/pubs/owm012.pdf>

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico - NMIP. EPA Region 6 NPDES Permits Section in Consultation with the Surface Water Quality Bureau New Mexico Environmental Department. 2012.

http://epa.gov/region6/water/npdes/docs/ip_nm_edit_v4_11-30-09.pdf

Technical Support Document for Water Quality based Toxics Control (EPA/505/2 90 001), page 47.