

NPDES PERMIT NO. NM0030686

STATEMENT OF BASIS

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

1. APPLICANT

Laguna Development Corporate-Rio Puerco Wastewater Treatment Plant
14500 Central Ave SW
Albuquerque, NM 87121

2. ISSUING OFFICE

U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

3. PREPARED BY

Isaac Chen
Environmental Engineer
NPDES Permits Branch (6WQ-PP)
Water Quality Protection Division
VOICE: 214-665-7364
FAX: 214-665-2191
EMAIL: chen.isaac@epa.gov

4. DATE PREPARED

December 7, 2009

5. PERMIT ACTION

Proposed reissuance of the current National Pollutant Discharge Elimination System (NPDES) permit issued December 21, 2004, with an effective date of January 1, 2005, and an expiration date of October 31, 2009.

Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed in Title 40, Code of Federal Regulations, revised as of October 2, 2009.

6. DISCHARGE LOCATION

As described in the application, the treatment plant is owned and operated by Laguna Development Corporation. The effluent from the treatment plant is discharged into an unnamed arroyo thence to the Rio Puerco which runs intermittently during significant rain events. The discharge is located in Albuquerque, Bernalillo County, on Pueblo of Laguna Indian Reservation and is about 28 miles upstream of the intersection of the Rio Puerco and the Rio Grande. The discharge is located on that water at:

Latitude - 35E 01' 30" North
 Longitude - 107E 56' 45" West

7. RECEIVING STREAM STANDARDS

The Pueblo of Laguna Indian does not have EPA approved water quality standards. Therefore, EPA may apply the general and specific stream standards in "New Mexico State Standards for Interstate and Intrastate Surface Waters," (NM WQS), 20.6.4 NMAC, as amended through August 1, 2007, to the discharge in order to protect the downstream state waters.

8. APPLICANT ACTIVITY

Under the Standard Industrial Classification (SIC) 4952, the applicant currently operates a sanitary treatment facility. The treatment facility composts of coarse screen, grit removal, fine screen, anoxic basin for nitrification/denitrification, pre-aeration, and membrane bio-reactor basin. The design treatment capacity is 0.375 million gallons per day (MGD).

9. EFFLUENT CHARACTERISTICS

The DMR from January 2007 to June 2009 indicate the following effluent characteristics.

<u>Parameter</u>	<u>Avg. Monthly (Min.) (Max.) (mg/l unless noted)</u>	
Flow, million gallons/day (MGD)	0.07	0.11
pH, minimum, standard units (su)	N/A	6.8 su
pH, maximum, standard units (SU)	N/A	7.6 su
Biochemical Oxygen Demand, 5-day (BOD ₍₅₎)	4.0	18.0
Fecal Coliform (FCB) (bacteria/100 ml)	0.0	330
Total Suspended Solids (TSS)	0.0	10.0
Total Residual Chlorine	0.0	4.0

10. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

The proposed effluent limitations for those pollutants proposed to be limited are based on regulations promulgated at 40 CFR 122.44. The draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR 122.44(a), on BPJ in the absence of

guidelines, State WQS and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

a. Reason For Permit Issuance

It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR 122.46(a). The permit renewal application was received on October 6, 2009.

b. Operation and Reporting

(1) Regulatory Basis

At a minimum, the facility will be required to meet the “secondary treatment” for domestic sewage, found at 40 CFR 133.102.

(2) 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.

(3) Sewage Sludge Practices

The sludge produced at the facility is discharged into a large lagoon for aerated treatment. The lagoon is designed for 10 years plus disposal.

(4) Waste Water Pollution Prevention Requirements

The permittee shall institute or continue programs directed towards pollution prevention. The facility shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility.

(5) Industrial Wastewater Contributions

Based on information provided by the applicant, the facility does not receive industrial wastewater. EPA has determined that the permittee will not be required to develop a full pretreatment program. However, general pretreatment provisions have been included in the permit.

c. Technology Based Effluent Limitations/Conditions

Regulations promulgated at 40 CFR 122.44(a) require that technology-based effluent limitations be placed in NPDES permits based on effluent limitations guidelines where applicable, on best professional judgment (BPJ) in the absence of guidelines, or on a combination of the two.

Limitations on 5-day biochemical oxygen demand, (BOD₅), or 5-day carbonaceous biochemical oxygen demand, (CBOD₅), and total suspended solids, (TSS), are in accordance with “secondary treatment requirements” established at 40 CFR 133.102 (a) and 133.102 (b). Limitations on maximum and minimum pH are in accordance with 40 CFR 133.102(c).

d. Technology-based Effluent Limitations

Technology-based effluent limitations are established in the proposed permit for the following pollutants:

	7-day Ave. (mg/l)	Monthly Ave. (mg/l)
BOD	30	45
TSS	30	45

7-day and monthly loading limitations are calculated based on the design flow as below:

$$\text{Load (lb/day)} = \text{Conc.} \times \text{MGD} \times 8.34 \text{ (conversion factor).}$$

pH range of 6.0 – 9.0 is established.

e. 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.

f. Reasonable Potential

All applicable facilities are required to fill out appropriate sections of the Form 2A, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to Publicly Owned Treatment Works (POTW's), but also to facilities that are similar to POTW's, but which do not meet the regulatory definition of "publicly owned treatment works" (like private domestics, 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 amount of information required for minor facilities was limited to specific sections of these forms, because they are unlikely to discharge toxic pollutants in amounts that would impact state water quality standards. Supporting information for this decision was published as "Evaluation of the Presence of Priority Pollutants in the Discharges of Minor POTW's", June 1996, and was sent to all state NPDES coordinators by EPA Headquarters. In this study, EPA collected and evaluated data on the types and quantities of toxic pollutants discharged by minor POTW's of varying sizes from less than 0.1 MGD to just under 1 MGD. The Study consisted of a query of the EPA Permit Compliance System

(PCS) database from 1990 to present, an evaluation of minor POTW data provided by the State agencies, and on-site monitoring for selected toxics at 86 minor facilities across the nation.

Due to the limited information required by the application and also because the discharge is unlikely to reach the water of the State of New Mexico, the Agency has determined that no reasonable potential exists for this discharge to violate applicable NM WQS for the protection of designated uses. But, because of the nature of the discharge, EPA proposes, based on the EPA approved NM WQS, to establish E. coli effluent limitations in place of the fecal coliform limitations in the expired permit. Chlorine is used in the process and concentration level as high as 4.0 mg/l was reported. A daily monitoring requirement for TRC is established in the permit.

g. Water Quality Based Limitations

	Monthly Ave	Daily Maximum
E. coli (cfu/100 ml)	548	2,507

h. Monitoring Frequency

Regulations require that permits 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)). The monitoring frequencies are based on EPA R6’s Implementation Procedure for NM, taking into account the nature of the facility and its design flow. A frequency of 1/month is established for pH, BOD, TSS, and E. coli.

i. Whole Effluent Toxicity (WET) Testing

Because of the small flow volume and low BOD and TSS concentrations reported in the discharge, EPA determines that the facility is under good operation performance so the discharge is unlikely to cause adverse impacts on aquatic life. A requirement for WET testing is not proposed.

j. Significant Changes from the Existing Permit

There are significant changes of permit conditions from the existing permit issued October 30, 2003, and expired October 31, 2009:

- (i) Replace effluent limitations and monitoring requirements for fecal coliform with E. coli.

11. 303(d) LIST

The receiving stream is not listed by NMED as impaired.

12. ANTIDegradation AND ANTI-BACKSLIDING POLICY

To renew the permit does not cause an increase of pollutants to the receiving stream nor will result in degradation of the receiving water quality..

The replacement of effluent limitations for fecal coliform with E. coli is based on new downstream State standards and therefore, the change is in compliance with Section 402(o) of the Act.

13. ENDANGERED SPECIES CONSIDERATIONS

Four species (black-footed ferret, southwestern willow flycatcher, Mexican spotted owl, and Rio Grande silvery minnow) in Bernalillo County are listed as Endangered or Threatened, according to the U.S. Fish & Wildlife Service's (USFWS) website, <http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm>.

Black-footed ferret is presumed extirpated in New Mexico and is not listed by the New Mexico Department of Game and Fish.

Southwestern Willow Flycatchers habitat occurs in riparian areas along streams, rivers, and other wetlands where dense willow, cottonwood, buttonbush and arrowweed are present. The primary reason for decline is the reduction, degradation and elimination of the riparian habitat. Other reasons include brood parasitism by the brown headed cowbird and stochastic events like fire and floods that destroy fragmented populations. The receiving water is an intermittent stream which runs only due to rain events, and does not provide suitable habitat for the species. The permit does not authorize activities that may cause destruction of the flycatcher habitat, and issuance of the permit will have no effect on this species.

Research of available material finds that the primary cause for the population decreases leading to threatened status for the Mexican Spotted Owl is destruction of habitat. No pollutants are identified which might affect species habitat or prey species and are not limited by the permit. Catastrophic fires and elimination of riparian habitat also were identified as threats to species habitat. The NPDES program regulates the discharge of pollutants and does not regulate forest management practices and agricultural practices, which contribute to catastrophic fires and elimination of riparian habitat, and thus, species habitat. The issuance of this permit is found to have no impact on the habitat of this species.

The Rio Grande silvery minnow is a schooling species with reproductive behavior similar to that of other plains river fishes. Numerous individuals congregate during spawning, and these events may continue over several days or possibly weeks. The Rio Grande silvery minnow occupies a variety of habitats in low-gradient, large streams with shifting sand or silty bottoms. During periods of zero flow it is suspected that they survive in areas where irrigation return flows re-enter the river, in the pools formed by water leaking through the gates of the diversion dams, and in the irrigation ditches and drains. Some minnows

probably survive in the reaches of streams above the diversions where their offspring can repopulate downstream reaches when conditions permit.

Threats to the species include dewatering, channelization and regulation of river flow to provide water for irrigation; diminished water quality caused by municipal, industrial, and agricultural discharges; and competition or predation by introduced non-native fish species.

The discharge is to an intermittent stream about 28 miles from the Rio Grande, and is unlikely to contribute pollutants to the Rio Grande. The proposed action does not modify Rio Grande's river flow. Therefore, no effect on the species is expected.

Based on the information available to EPA, that the reissuance of this permit will have *no effect* on these federally listed threatened or endangered species.

14. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites because no construction activities are planned in the reissuance.

15. CERTIFICATION

The Pueblo of Laguna has no EPA approval water quality standards, therefore, the Pueblo is not the certifying agency. A draft permit and draft public notice will be sent to the downstream state, 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. EPA is the certifying agency.

16. FINAL DETERMINATION

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

17. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

- a. EPA Application Form 2A received by EPA on October 6, 2009.