NPDES PERMIT NO. NM0030678
FACT SHEET

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

APPLICANT

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ISSUING OFFICE

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DATE PREPARED

December 24, 2009

PERMIT ACTION

Proposed reissuance of the current NPDES permit issued December 21, 2004, with an effective date of January 1, 2005, and an expiration date of October 31, 2009.

RECEIVING WATER – BASIN

Acoma Creek – Rio Grande Basin

DOCUMENT ABBREVIATIONS

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

4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
ug/l	Micrograms per litter (one part per billion)
mg/l	Milligrams per liter (one part per million)
MGD	Million gallons per day
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
POTW	Publically owned treatment works
RP	Reasonable potential
SIC	Standard industrial classification
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
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

As used in this document, references to State water quality standards and/or rules, regulations and/or management plans may mean the State of New Mexico and/or Tribal or both.

I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued December 21, 2004, with an effective date of January 1, 2005, and an expiration date of October 31, 2009, are:

A. E. coli bacteria limits have been established and FCB limits have been eliminated.
B. TRC limits have been established.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility is located on the Pueblo of Laguna Tribal land near the intersection of Interstate 40 and Indian Service Route #22, in Cibola County, New Mexico.

Under the Standard Industrial Classification Code 4952, the applicant operates a POTW with a design flow capacity of 0.19 MGD serving a transient population; Dancing Eagle Casino. The plant services the casino, restaurant, travel center and a small local residential area.

The treatment works are a Kubota ™ design Membrane Bioreactor (MBR) employing two MBR basins with 4 plate cartridges in each basin. The two basins operate simultaneously except during brief times when maintenance is being performed on one unit. The combined twin MBR design flow is 0.19 MGD with peak flow capability of 0.38 MGD.

Influent is pumped via two lift stations through an automated fine screen into a single anoxic tank under constant mixing. By gravity flow the wastewater then enters a single aerated tank continuing to the MBR basins. From the MBR basins the recycled mixed liquor suspended solid is pumped back to the anoxic tank and treated permeate is pumped through the storage tank with gravity to the outfall structure, with chlorine injection on the outlet side of the pump. Effluent metering is done on 2 discharge trains each of which takes care of a single MBR basin.

Waste sludge is drawn from the recycle line as required and placed in a lined aerated lagoon for extended treatment. All pumps and blowers are configured as duty with a standby and the entire facility has a backup generator configured to automatically run as required.

The discharge from the POTW is to Acoma Creek on Pueblo of Laguna Tribal land, thence to the Rio San Jose thence to the Rio Puerco thence to the Rio Grande through Outfall 001 at Latitude 35° 01' 39" North and Longitude 107° 28' 21" West. A map of the facility is provided in **Figure 1** below.

III. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A received October 6, 2009, are presented below:

POLLUTANT TABLE - 1

Parameter	Max	Avg
	(mg/l unless noted)	
Flow, million gallons/day (MGD)	0.07	0.06
Temperature, winter	10.0 °C	10.0 °C
Temperature, summer	20.0 °C	20.0 °C
pH, minimum, standard units (SU)	6.9 su	N/A
pH, maximum, standard units (SU)	7.3 su	N/A
Biochemical Oxygen Demand, (BOD)	8.5	5.0
Fecal Coliform (FCB) (bacteria/100 ml)	45	10
Total Suspended Solids (TSS)	14	6.5
Ammonia (NH3)	0.0	0.0
Chlorine, Total Residual (TRC)	3.7	2.8
Dissolved Oxygen	7.1	7.0
Total Kjeldahl Nitrogen (TKN)	1.7	1.17
Nitrate plus Nitrite Nitrogen	8.58	8.26
Oil and grease	24.4	8.13
Phosphorus, Total	5.31	4.62
Total Dissolved Solids (TDS)	1940	1930

A summary of the last 3-years of pollutant data taken from DMRs indicates no reported violations for limited parameters. The maximum and averages over the past two-years are as follows: BOD – 7.9 mg/l max, 3.2 mg/l avg, TSS – 12 mg/l max, 3.5 mg/l, FCB – 370 bacteria/100 ml max, 20 bacteria/100 ml avg, and pH – 7.6 su max, 7.0 su avg. In addition, TRC which was not limited in the previous permit, had 7 mg/l max, 3.2 mg/l avg.

IV. 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 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, 2009. The application was received on October 6, 2009. The existing permit is administratively continued until this permit is issued.

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. 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, BOD_5 and pH. Water quality-based effluent limitations are established in the proposed draft permit for E. coli bacteria and TRC.

B. 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, fecal coliform, 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 POTW treating sanitary wastewater. POTW's have 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 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, 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). 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 is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/l * 8.345 lbs/gal * design flow in MGD
30-day average BOD/TSS loading = 30 mg/l * 8.345 lbs/gal * 0.190 MGD

30-day average BOD/TSS loading = 47.5 lbs

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

Final Effluent Limits - 0.190 MGD design flow.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS			
	lbs/Day		mg/l (unless noted)	
Parameter	30-Day Avg.	7-Day Avg.	30-Day Avg.	7-Day Avg.
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD_5	47.5	71.3	30	45
TSS	47.5	71.3	30	45
pH	N/A	N/A	6.0 – 9.0 standard units	

C. WATER QUALITY BASED LIMITATIONS

1. 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.

2. 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.

3. State Water Quality Standards

Previously it was stated that the discharge is located on Pueblo of Laguna Tribal land. The discharge flows approximately 38 miles before it reaches the Rio Puerco on the western boundary of the Pueblo of Isleta. The discharge then travels an additional 5 miles further downstream before it reaches State of New Mexico waters. The Pueblo of Laguna does not have approved water quality standards but the Pueblo of Isleta does. The permit drafter believes that given the distance from the source and the Pueblo of Isleta and the low discharge volume, the impact of the effluent on the Pueblo of Isleta from the discharge is negligible and would only reach the Pueblo of Isleta waters under direct precipitation events. Permit limits for water quality pollutants will be based on national EPA guidance lacking and these standards will be

protective of Pueblo of Isleta WQS and supportive of regulations contained at 40 CFR §122.4(d); ensuring that permit conditions are applicable for all affected States.

The CWA §§ 101(a)(2) and 303(c) require water quality standards to provide, wherever attainable, water quality for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water, functions commonly referred to as "fishable/swimmable" uses. EPA's current water quality regulation effectively establishes a rebuttable presumption that "fishable/swimmable" uses are attainable and therefore should apply to a water body unless it can be demonstrated that such uses are not attainable. Until a UAA is submitted and approved by EPA to support a lesser aquatic life designation that does not meet the CWA §101(a)(2) objective as required by 40 CFR §131.10(j)(1) the permit conditions will be based on protecting fishable/swimmable uses.

4. 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 that are more stringent than effluent limitation guidelines are as follows:

a. BACTERIA

Both Acoma Creek and the Rio San Jose must be protective of the "fishable/swimmable" uses. Bacteria standards for states lacking WQS for the protection of full body contact are established in the document "Ambient Water Quality Criteria for Bacteria – 1986", EPA - Office of Water, January 1986, for the indicator parameter E. coli. These standards of 126 cfu/100 ml daily monthly geometric mean and 235 cfu/100 ml daily maximum for E. coli. These limits are different than the current permits FCB of 500 cfu/100 ml daily maximum and monthly geometric mean. Those limits were based on New Mexico WQS and are not appropriate for the conditions of this discharge. Since the previous limits are not appropriate for the conditions, they will be discontinued in the draft permit. Since the proposed E. coli limits are more restrictive, the removal of FCB does not constitute antibacksliding as described in 40 CFR §122.44(l).

b. 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, but also to facilities that are similar to POTWs, 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 facility is designated 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 report requirements for TRC. Analysis of TRC testing during the past 5-years shows measurable concentration levels of TRC. Chlorine standards for states lacking WQS for the protection of aquatic life are established in the document "Ambient Water Quality Criteria for Chlorine – 1984", EPA - Office of Water, January 1985, for TRC. The document presents that for the protection of toxicity to aquatic organisms from chlorine toxicity, either a TRC chronic concentration of 11 ug/l or a TRC acute criteria of 19 ug/l must be implemented. The determination of which is used is based on the critical dilution considerations of the receiving stream. The chronic criteria allow dilution while the acute criteria must meet end-of-pipe. Since Acoma Creek has no established low flow, i.e.; it has a zero low flow at times of the year, the critical dilution is 100%. The 11 ug/l chronic criteria is more stringent than the 19 ug/l acute one. Since the past 5-years of DMR history has demonstrated TRC concentrations well above these values, the draft permit will replace the report TRC requirement with the 11 ug/l numerical limit. To achieve this limit the facility will be required to install dechlorination equipment and the draft permit will grant a 6-month compliance period to achieve the limit. The 6-months compliance schedule is appropriate since the technology is widely available and does not involve any significant equipment alterations or construction activity.

D. 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). Technology based pollutants; BOD and TSS are proposed to be monitored two times per month. Flow is proposed to be continuously monitored when discharging, identical to the existing permit. The pollutant pH is proposed to be monitored daily when discharging which is more frequent than the previous permit but is consistent with similar facilities based on treatment technology and design flow. Sample type for BOD, TSS and pH are grab which is consistent with the previous permit.

Water quality-based pollutant monitoring frequency for E. coli shall be 2 times per month by grab sample which is also more frequent than the previous permit but consistent with similar facilities. TRC shall also be sampled daily using instantaneous grab samples. Regulations at 40 CFR §136 define instantaneous grab as being analyzed within 15-minutes of collection. This frequency is greater than the previous permit but is consistent with similar sized facilities.

E. WHOLE EFFLUENT TOXICITY LIMITATIONS

The facility does not pose a significant source of toxics that would be expected to be present in toxic amounts and based on that the imposition of WET testing does not appear to be necessary at this time.

VI. FACILITY OPERATIONAL PRACTICES

A. SEWAGE SLUDGE

The permittee shall use only those 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.

B. 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.

C. 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 POTW subject to pretreatment standards under §307(b) of the CWA and 40 CFR Part 403.

D. 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.

VII. 303(d) LIST

Acoma Creek is not listed as an impaired waterbody and no additional permit requirements are needed at this time. The standard reopener language in the permit allows additional permit conditions if warranted by future changes.

VIII. ANTIDEGRADATION

The Pueblo of Laguna does not have approved WQS nor an antidegradation policy. The draft permit is protective of the receiving water and further downstream waters and states. There is no evidence based on available information that the discharge from the facility degrades existing uses.

IX. 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_5 and TSS. Bacteria, pH and TRC limits have been made more restrictive than the previous permit.

X. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, http://www.fws.gov/southwest/es/EndangeredSpecies/lists/, five species in Cibola County are listed as endangered (E) or threatened (T). The Black-footed ferret and Southwestern willow flycatcher are listed as endangered; and the Mexican spotted owl, Pecos sunflower, and Zuni fleabane are listed as threatened. There are no aquatic species listed in the county. The American bald eagle (*Haliaeetus leucocephalus*) was previously listed in Cibola County; however, the USFWS, removed the American bald eagle in the lower 48 states from the Federal List of Endangered and Threatened Wildlife Federal Register, July 9, 2007, (Volume 72, Number 130).

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 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:

1. EPA has reviewed the available information regarding impacts of this action on listed species and designated critical habitat. EPA has determined that the issuance of this permit will have "*no effect*" on listed threatened and endangered species nor will it destroy nor adversely modify designated critical habitat. EPA makes this determination by relying upon the United States Department of the Interior "Finding of No Significant Impact" dated November 10, 1998, for the environmental assessment of the Casa Blanca Commercial Development project. Operation of the wastewater treatment plant and discharges were considered as part of the project by the EA.

2. No additions have been made to the US Fish and Wildlife list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit.

3. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations.

4. The draft permit has been made more restrictive from the previous permit.

5. EPA determines that Items 1, 2, 3, and 4 result in no change to the environmental baseline established by the previous permit, therefore, EPA concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.

XI. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

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

XII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if State/Tribal Water Quality Standards are promulgated or revised. In addition, if either the State and/or Tribe 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.

XIII. VARIANCE REQUESTS

No variance requests have been received.

XIV. CERTIFICATION

EPA has drafted the permit in accordance with downstream state Pueblo of Isleta WQS. However, the origin of the discharge is on Pueblo of Laguna Tribal land and they do not have EPA approved WQS. EPA has drafted the permit and will provide copies for inspection to all affected downstream States/Tribes for comments and a draft permit and draft public notice will also 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. EPA is acting as the certifying authority for the permit consistent with 40 CFR §124.53.

XV. FINAL DETERMINATION

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

XVI. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2A received October 6, 2009.

B. 40 CFR CITATIONS

Citations to 40 CFR are as of December 11, 2009.
Sections 122, 124, 125, 133, 136

C. MISCELLANEOUS

Ambient Water Quality Criteria for Chlorine – 1984, EPA - Office of Water, January 1985

Ambient Water Quality Criteria for Bacteria – 1986, EPA - Office of Water, January 1986

FIGURE 1 - Site