

NPDES PERMIT NO. NM0020273 FACT SHEET

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

APPLICANT

City of Raton Wastewater Treatment/Reclamation Facility
P.O. Box 99
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ISSUING OFFICE

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DATE PREPARED

October 20, 2014

PERMIT ACTION

This is a renewal of a NPDES permit with an effective date of December 1, 2008, and an expiration date of November 30 2013.

RECEIVING WATER – BASIN

Doggett Creek (20.6.4.99 NMAC) thence to Raton Creek (NM-2305.A_253), thence to Chicorica Creek, thence to the Canadian River in the Canadian River 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
BOD5	five-day biochemical oxygen demand
BPJ	best professional judgment
CD	critical dilution
CFR	Code of Federal Regulations
cfs	cubic feet per second
cfu	colony forming units
CFR	Code of Federal Regulations
CIU	categorical industrial user
CWA	Clean Water Act
DMR	discharge monitoring report
ELG	effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
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
ML	million gallons per day
ML	million gallons per day
N	nitrogen
NAICS	North American Industry Classification System
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES permit implementation procedures
NPDES	national pollutant discharge elimination system
O&G	oil and grease
POTW	publically owned treatment works
SBR	sequencing batch reactor
SIC	standard industrial classification
SIU	significant industrial user
s.u.	standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TN	total nitrogen
TP	total phosphorus
TRC	total residual chlorine
TSS	total suspended solids
WET	whole effluent toxicity
WLA	Waste Load Allocations
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 November 30, 2013, are:

1. The receiving waterbody has changed from 20.6.4.97 NMAC to 20.6.4.99 NMAC since Doggett Creek is considered by NMED to be perennial (covered under 20.6.4.99 NMAC) below the discharge, and since a UAA has not been performed on the Doggett Creek to designate it as ephemeral (20.6.4.97 NMAC).
2. The pH for the proposed permit has changed from 6-9 to the proposed 6.6-9 to protect the primary contact and warmwater aquatic life uses.
3. The pH monitoring frequency has changed from twice (2) per week with a grab sample to five (5) times per week with instantaneous grab (field measurement) sampling.
4. BOD and TSS monitoring frequencies have changed from once (1) per week to three (3) times per month.
5. The E. coli limits have changed from 548 cfu/100mL 30 day average and 2507 cfu/100mL daily max to the proposed 206 cfu/100mL 30 day average and 940 cfu/100mL daily max limit to protect downstream uses in Raton Creek.
6. The E. coli monitoring frequency has changed from grab sampling at once per week to instantaneous grab sampling at three (3) times per month, due to the change in monitoring frequency in the NMIP.
7. A 30-day average percent removal for BOD₅ and TSS has been added to the proposed permit in accordance with the NMIP.
8. TRC has changed from once per day with grab sampling to five (5) times per week with instantaneous grab (field measurement) sampling. TRC limit has been changed from 19 ug/L to 11 ug/L to be protective of wildlife habitat.
9. Bacteria reporting units MUST be reported either as cfu/100 mL or as mpn

B. APPLICANT LOCATION and ACTIVITY

The facility is located at 420 East Hereford Avenue, Raton, Colfax County, New Mexico 87740

Under the NAICS code 221320 and SIC code 4952, the applicant operates a sewage treatment plant or facility, here after referred to as a POTW. The facility has a design flow capacity of 0.9 MGD serving a residential population of 6885.

The Raton Wastewater Treatment Plant (WWTP) consists of the headworks including a screw pump/auger and grit removal, SBR basins and UV disinfection, as well as a reuse system to irrigate the city's golf course. A splitter box and retention basin are located on site for this purpose, and the effluent is chlorinated in the line on the way out to the golf course.

Influent enters the headworks through a 9" Parshall flume. Grit and solids removal takes place after entry into the system, and the grit and rags from the influent are collected in a container that is later disposed in a landfill.

The flow then enters a splitter box where it is evenly divided between two basins of the SBR. These two units run in parallel. The water enters equalization chambers after leaving the splitter box. This gives the operator control of the wastewater levels in the reactor basins. In the first phase, the water fills the reactor chambers. The water entering the chambers mixes with the biomass that has settled from the last treatment phase. Once the chambers are full, in the second phase, air is added to the mixture through

fine bubble diffusers to facilitate biological growth and waste reduction/treatment of the wastewater. In the third phase, the air is turned off and the treated wastewater is allowed to settle. In the decant phase, the now clarified effluent is discharged from this part of the plant. The total cycle run time is 289 minutes and this cycle runs 5 times per day.

The effluent is then sent through a UV treatment system. This is an enclosed UV system where the bulbs are fixed and are periodically cleaned, manually, with an internal scrubber, which is part of the unit. This system is housed below ground and has been enclosed within a building to protect it from the elements.

After disinfection by UV, the water proceeds to the outfall. It is measured by a 6" Parshall flume and totalizer meter.

Waste sludge from the SBR basins is decanted during an idle phase, if needed, and directed to a holding basin on site. This was one of the former aeration basins from the old plant footprint. Sludge is then injected at an adjacent plot of land.

The facility discharge is to Doggett Creek, thence to Raton Creek, thence to Chicorica Creek, thence to Canadian River. The Doggett Creek is an unclassified perennial water below the discharge point. The discharge is located at Latitude 36° 51' 35" N and Longitude 104° 25' 53" W, in Colfax County, New Mexico.

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 May 31, 2013, presented in Table 1 below:

Table 1

Parameter	Max	Avg	Number of Samples
Flow, MGD	0.69	0.35	365
Temperature, winter	20.3 C	13.95 C	26
Temperature, summer	24.5 C	20.67 C	26
pH, minimum, s.u.	7.29	N/A	No Data
pH, maximum, s.u.	7.63	N/A	No Data
BOD5 (mg/L)	6.8	3.19	52
E.Coli	1,229.70	45.54	52
TSS (mg/L)	15	5.77	52

Table 2

Pollutant	Max	Avg	Number of Samples
Ammonia (as N) (mg/l)	0.30	0.27	3
TRC (mg/l)	0.00	0.00	3
DO (mg/l)	6.70	6.57	3
TKN (mg/l)	3.30	2.53	3
Nitrate + Nitrite Nitrogen (mg/l)	6.70	6.33	3
Oil & Grease (mg/l)	n/a	n/a	n/a
TP (mg/l)	3.40	1.61	17
TDS (mg/l)	600.00	503.33	3

Table 2

Date	DMR Effluent Data				pH		TSS				TRC	E. Coli Bacteria	
	30 Day Avg		7 Day Avg		Min	Max	30 Day Avg		7 Day Avg		Max	30 Day Avg	Daily Max
	lbs/day	mg/L	lbs/day	mg/L	s.u.	s.u.	lbs/day	mg/L	lbs/day	mg/L	mg/L	cfu/ 100 mL	cfu/ 100 mL
Limit	225	30	338	45	6.0	9.0	225	30	338	45	0.019	548	2507
7/2012	4.0	3.7	5.6	7.5	7.35	7.82	7.6	6.6	14.6	13.8	N/A ¹	44.9	151.5
8/2012	2.1	1.6	3.4	3.8	7.38	7.87	5.0	5.0	7.4	7.4	N/A ¹	4.05	6.3
9/2012	2.0	0.9	2.5	1.5	7.45	7.87	4.4	2.0	5.3	2.7	N/A ¹	57.3	6.9
10/2012	2.2	1.0	2.9	2.3	7.34	7.62	5.3	2.1	8.8	4.5	N/A ¹	8.5	2.9
11/2012	2.2	7.6	2.9	8.4	7.35	7.68	4.4	15.2	5.0	18.0	N/A ¹	6.0	115.3
12/2012	2.7	9.5	3.5	18.7	7.24	7.71	5.6	19.0	6.7	29.4	N/A ¹	100.8	488.4
1/2013	5.5	24.8	6.8	30.5	7.05	7.42	53.8	12.0	61.3	15.0	N/A ¹	95.4	313.0
2/2013	3.6	15.6	5.9	20.4	7.12	7.43	6.4	28.3	9.3	45.0	N/A ¹	181.6	1299.7
3/2013	4.3	16.2	6.8	28.9	7.2	7.44	3.2	12.2	3.8	16.2	N/A ¹	25.7	193.5
4/2013	3.0	11.7	3.4	12.1	7.3	7.7	4.3	16.5	5.8	21.6	N/A ¹	4.5	13.1
5/2013	3.8	5.5	4.8	20.8	7.37	7.75	7.2	11.4	8.4	44.8	N/A ¹	8.8	57.3
6/2013	2.6	0.8	3.7	1.2	7.43	7.89	7.7	2.2	12.6	4.2	N/A ¹	14.3	35.5
7/2013	2.4	3.9	3.1	7.7	7.06	7.56	6.9	13.3	10.0	36.6	N/A ¹	7.3	72.3
8/2013	1.9	2.8	2.0	7.7	7.37	7.65	11.1	15.2	15.1	43.8	N/A ¹	5.9	12.0
9/2013	2.6	8.7	3.4	12.8	7.27	7.68	36.2	10.6	73.1	13.7	N/A ¹	6.2	58.3
10/2013	2.9	10.8	3.5	12.6	7.25	7.61	30.2	8.6	64.2	17.9	N/A ¹	12.9	18.5
11/2013	3.5	12.1	5.5	16.6	7.25	7.69	4.3	16.2	5.1	20.4	N/A ¹	10.4	110.6
12/2013	2.9	11.5	5.5	20.2	7.03	7.58	4.1	15.8	7.5	27.5	N/A ¹	23.5	461.1
1/2014	2.3	10.3	2.5	13.8	6.86	7.33	4.0	17.7	4.7	25.9	N/A ¹	20.7	115.3
2/2014	3.1	10.2	4.3	11.0	7.0	7.19	4.6	16.1	5.4	24.8	N/A ¹	26.4	77.6
3/2014	3.1	10.1	4.0	14.3	7.1	7.43	4.1	13.0	4.8	14.0	N/A ¹	36.8	67.0
4/2014	3.6	11.1	4.0	20.4	7.03	7.33	6.2	17.5	8.2	20.1	N/A ¹	3.1	7.4
5/2014	5.1	11.0	5.6	17.3	7.01	7.43	30.2	15.7	53.6	19.2	N/A ¹	64.5	145.0
6/2014	3.1	4.0	3.8	8.4	7.14	7.62	7.9	13.1	11.7	28.7	N/A ¹	19.4	62.0

Footnotes for Table 2:

- (1) Non-detect
- (2) Violation of effluent 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 November 30, 2013. EPA received the NPDES application on May 31, 2013. 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 BOD5. Water quality-based effluent limitations are established in the proposed draft permit for *E. coli* bacteria, pH, total residual chlorine (TRC), total phosphorus (TP), and total nitrogen (TN).

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 BOD5, 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 publicly owned treatment plant (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 BOD5, TSS and pH. BOD5 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 6.0-9.0 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, except pH or other pollutants which cannot be appropriately expressed by mass. 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 BOD5/TSS loading = 30 mg/l * 8.345 lbs/gal * 0.9 MGD

30-day average BOD5/TSS loading = 225.3 lbs/day

7-day average BOD5/TSS loading = 45 mg/l * 8.345 lbs/gal * 0.9 MGD

7-day average BOD5/TSS loading = 338.0 lbs/day

A summary of the effluent limits for the facility is:

Table 1

PARAMETER	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass (lbs/ day, unless noted)		Concentration (mg/L, unless noted) (7)			Measurement Frequency	Sample Type (1)
	30 Day Avg	7 Day Avg	30 Day Avg	7 Day Avg	Daily Max		
Flow	Report MGD	Report MGD	N/A	N/A	N/A	Daily	Daily Totalized (meter required)
BOD5 (influent) (2)			Report	Report		3/month	3-hour composite
BOD5 (effluent) (2)	225	338	30	45		3/month	3-hour composite
TSS (influent) (2)			Report	Report		3/month	3-hour composite
TSS (effluent) (2)	225	338	30	45		3/month	3-hour composite
BOD5 Percent Removal (min)	≥85%					1/month	Calculation (3)
TSS Percent Removal (min)	≥85%					1/month	Calculation (3)
E. coli Bacteria (4)			126 cfu/100 mL		410 cfu/100 mL	3/month	Instantaneous Grab (5) (field measurement)
TRC (6)					11 ug/l	5/week	Instantaneous Grab (5) (field measurement)
TN			Report		Report	Once/Quarter	3-hour composite
TP			Report		Report	Once/Quarter	3-hour composite

Footnotes for Factsheet Table 1:

1. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.
2. Effluent and Influent monitoring shall be conducted simultaneously.
3. Percent removal is calculated using the following equation: (average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration
4. Bacteria reporting units MUST be either cfu/100mL OR mpn
5. 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.
6. Chlorine shall be monitored when used for disinfection and/or when used in any treatment process at the facility

Table 2

Effluent Characteristics	Discharge Limitations		Monitoring Requirements (1)	
	Standard Units			
Pollutant	Min	Max	Measurement Frequency	Sample Type
pH	6.6	9.0	5/week	Instantaneous Grab (field measurement) (2)

Footnotes for Table 2:

1. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by t
2. Regulations at 40 CFR Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection.

Table 3 Monitoring No Limit

Effluent Characteristic	Discharge Monitoring		Monitoring Requirements	
	30-Day Avg Min	7-Day Min	Frequency	Sample Type
WET Testing (7-Day Static Freshwater) (*1)	Report	Report	1/ Permit Term	24-Hr. Composite
Pimephales promelas (fathead minnow)	Report	Report	1/ Permit Term	24-Hr. Composite
Ceriodaphnia dubia (freshwater flea)	Report	Report	1/ Permit Term	24-Hr. Composite

Footnotes for Table 3:

(*1) 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.

1. 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 comply 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 20.6.4.99 NMAC for Outfall 001, amended June 5, 2013. The discharge is to receiving water Doggett Creek, part of the Canadian River Basin. The designated uses of the receiving water(s) are livestock watering, wildlife habitat, warmwater aquatic life, and primary contact.

d. Permit Action - Water Quality-Based Limits

The Clean Water Act 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 criterion, the permit must contain an effluent limit for that pollutant. Regulations promulgated at [40 CFR 122.44(d)] require limits in addition to or more stringent than effluent limitation guidelines (technology based).

In accordance with 20.6.4.99 NMAC, the permit must be developed to allow for the maintenance and attainment of acute numerical criteria at the point of discharge to the receiving stream and for the maintenance and attainment of chronic numerical criteria at the edge of the mixing zone.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity will be documented in a full report, according to the appropriate test method publication. The full reports required by each test section do not need to be submitted unless requested. However, the full report is to be retained following the provisions of [40 CFR Part 122.41 (j) (2)]. The permit requires the submission of the toxicity testing information to be included on the DMR.

1) pH

The draft permit proposes a pH limit, specified in 20.6.4.900.D. NMAC, 6.6 to 9.0 s.u. to protect the primary contact and warmwater aquatic life uses.

2) Bacteria

Stream specific NMWQS for *E. coli* bacteria are 206 cfu/100 ml monthly geometric mean and 940 cfu/100 ml single sample maximum, as found in 20.6.4.99 NMAC.

3) Dissolved Oxygen

An evaluation of the permittee's impact on the receiving water dissolved oxygen was completed as part of the permitting process. A steady state model (LA-QUAL) was used to evaluate the biochemical oxygen demand of the discharge and associated constituents including ammonia. A complete characterization of the receiving water was not available. Certain parameters, including flow, were available and were utilized. However, the receiving water model also used default values to estimate the various unavailable hydrodynamic and water quality parameters. The discharge was modeled using data obtained from the application, permits limits and defaults were used for unavailable discharge characterization data.

The evaluation demonstrated that the discharge would not cause an excursion of the in-stream standard of 5 mg/L. The output file is attached as Appendix 1 and 2.

4) Nutrients

The previous permit required quarterly sampling and reporting of nutrient concentrations for TN and TP, due to the confirmed plant nutrients impairment in Raton Creek (Chicorica Creek to the headwaters) and prior to TMDL development.

NMED-SWQB is planning to monitor the Canadian Headwaters watershed and its surface waters, including Doggett and Raton creeks, in 2016. The SWQB collected TN and TP data from the effluent channel as part of the 2006 water quality survey. Below are the collected data from the SWQB in 2006 of the WWTP effluent and from the previous permit reporting requirements.

SWQB monitoring of NM0020273 City of Raton 2006 TN and TP effluent monitoring

Date	TP (mg/L)	TN (mg/L)
3/28/2006	2.0	11.1
4/25/2006	2.3	21.1
7/25/2006	2.8	23.1
9/27/2006	1.8	21.4
10/25/2006	2.0	19.4

NM0020273 City of Raton 2008-2013 TN and TP effluent quarterly monitoring data

Date	TP (mg/L)	TN (mg/L)
Dec 2008-Feb 2009	1.1	8.2
March-May 2009	0.88	5.2
June-August 2009	1.7	8.3
Sept-Nov 2009	1.2	8.5
Dec 2009-Feb 2010	2.0	7.7
March-May 2010	0.3	7.7
June-August 2010	1.7	8.8
Sept-Nov 2010	1.9	12.0
Dec 2010-Feb 2011	2.1	8.9
March-May 2011	n/a	n/a
June-August 2011	2.5	9.9
Sept-Nov 2011	3.2	13.0
Dec 2011-Feb 2012	1.5	9.3

5) 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 and to facilities that are similar to POTWs, but those facilities, which do not meet the regulatory definition of POTW (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.

This 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 facility no longer uses chlorine to control bacteria and has switched over to a UV system. Even when chlorine has been replaced by UV for bacteria treatment, chlorine usage may still

occur at POTWs for various purposes such as disinfection of process equipment and/or filamentaceous algae control. Consistent with other NPDES permits for POTWs in NM, continuation of TRC limits will be proposed in the draft permit in certain instances such as when chlorine is used as either a backup bacteria control chemical or when disinfection of plant treatment equipment is required. The effluent limitation for TRC is 11 ug/l. TRC reporting shall be the instantaneous maximum grab sample shall be taken during periods of chlorine use and cannot be averaged for reporting purposes. Regulations at 40 CFR §136 define "instantaneous grab" as analyzed within 15 minutes of collection.

The previous permit established water quality-based effluent limitations for TRC of 0.011 mg/L (11 ug/L). The proposed permit establishes a water quality-based effluent limitation for TRC of 11 ug/L in accordance with the wildlife habitat designated use of 20.6.4.99 and associated criterion in 20.6.4.900.J NMAC.

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 City of Raton at 0.3469 cfs (0.23 MGD).

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

$CD = Q_e / [(F)(Q_a) + Q_e]$, where:

Q_e = facility flow (0.9 MGD)

Q_a = critical low flow of the receiving waters (0.23 MGD)

F = fraction of stream allowed for mixing (1.0)

$$CD = (0.9 \text{ MGD} / [(1.0)(0.23 \text{ MGD}) + 0.9]) * 100 = 79.65\%$$

The critical dilution shall be 79.65% ~ 80%

C_D Dilution Series (percentage) = 25, 34, 45, 60, and 80

2. 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.

In the 2008 permit, the facility was given a monitoring frequency of one (1) time per week for BOD5, TSS, and E. coli monitoring. The proposed permit monitoring requirements for BOD5 and TSS will be decreased to three (3) times per month. The previous permit had a monitoring frequency of twice/week for pH, which has increased to five (5) times per week instantaneous grab, in accordance to the NMIP. The 2008 permit had a monitoring frequency of once a day for TRC with grab sampling, which will be changed to 5/week instantaneous grab, in accordance to the NMIP. The previous permit had a monitoring frequency of once per quarter for TN and TP, which has increased to three (3) times per month.

According to the NMIP, based on treatment technology and design flow, the monitoring frequency has changed as listed below. TSS concentration and mass limit averages for 7-day and 30-day are continued from the previous permit to reflect the regulation limit for treatment equivalent to secondary standard (40 CFR 133).

Monitoring must be conducted according to test procedures approved in 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.

3. WHOLE EFFLUENT TOXICITY

Based on the nature of the discharge; POTW, the design flow of 0.9 MGD, the nature of the receiving water (perennial), and the critical dilution of 80; the NMIP directs the WET test to be a 7-day chronic test using Ceriodaphnia dubia and Pimephales promelas (fathead minnow) with a frequency of once per annual quarter.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 23% 34%, 45%,60%, and 80% dilution series. 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 Doggett Creek. Discharges shall be limited and monitored by the permittee as specified below:

The EPA Reasonable Potential Analyzer (See Appendix 4) indicates that RP does not exist for the *Pimephales promelas* nor for the *Ceriodaphnia dubia* test species.

Final Effluent Limits - 0.9 MGD design flow.

Table 3 Monitoring No Limit

Effluent Characteristic	Discharge Monitoring		Monitoring Requirements	
	30-Day Avg Min	7-Day Min	Frequency	Type
WET Testing (7-Day Chronic Freshwater) (*1)				
<u>Ceriodaphnia dubia</u>	Report	Report	1/ Permit Term	24-Hr. Composite
<u>Pimephales promelas</u>	Report	Report	1/ Permit Term	24-Hr. Composite

Footnotes for Table 3:

(*1) 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.

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. WASTEWATER 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 SIU and no 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 City of Raton Wastewater Treatment/Reclamation Facility that are 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.

A Final Draft TMDL for Raton Creek is pending for WQCC adoption and EPA approval. In the final draft TMDL, NMED states that 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 City of Raton WWTP (NM0020273) is a batch discharge to Raton Creek, has a proposed WLA of 4.30×10^9 lbs/day and 126 ml/day included in the Final Draft TMDL, and is a probable source of 13% impairment in to the Raton Creek (Chicorica Creek to headwaters) waterbody. Note that since the TMDL has not been finalized, the proposed permit does not include the limits based on the proposed WLA. However, the permit does contain an *E. coli* limit of 126 cfu 30 day monthly average and 410 max daily

Although Doggett Creek (20.6.4.99 NMAC) has not been identified as impaired in the "State of New Mexico CWA §303(d) List of Assessed Surface Waters," Raton Creek (Chicorica Creek to headwaters) has been identified as impaired due to plant nutrients and *E. coli* bacteria.

The SWQB collected TN and TP from the effluent channel as part of the 2006 water quality survey. The above nutrient section are the collected data from the SWQB in 2006 of the WWTP effluent and from the previous permit requirements.

SWQB monitoring of NM0020273 City of Raton 2006 TN and TP effluent monitoring

Date	TP (mg/L)	TN (mg/L)
3/28/2006	2.0	11.1
4/25/2006	2.3	21.1
7/25/2006	2.8	23.1
9/27/2006	1.8	21.4
10/25/2006	2.0	19.4

NM0020273 City of Raton 2008-2011 TN and TP effluent monitoring quarterly monitoring data

Date	TP (mg/L)	TN (mg/L)
Dec 2008-Feb 2009	1.1	8.2
March-May 2009	0.88	5.2
June-August 2009	1.7	8.3
Sept-Nov 2009	1.2	8.5
Dec 2009-Feb 2010	2.0	7.7
March-May 2010	0.3	7.7
June-August 2010	1.7	8.8
Sept-Nov 2010	1.9	12.0
Dec 2010-Feb 2011	2.1	8.9
March-May 2011	n/a	n/a
June-August 2011	2.5	9.9
Sept-Nov 2011	3.2	13.0
Dec 2011-Feb 2012	1.5	9.3

I. COMPLIANCE SCHEDULE

None

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 design flow rate of the facility has not changed. The proposed draft permit does not authorize a new or increased discharge. Therefore, the need for an Antidegradation Tier 2 Review was determined not necessary (was not conducted) by the State of New Mexico Environment Department. The draft permit is consistent with the NM WQMP. The City of Raton Wastewater Treatment/Reclamation Facility renewal application is for a permit to discharge into an impaired waterbody.

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 BOD5 and mass loading requirements for TSS.

J. ENDANGERED SPECIES CONSIDERATIONS

According to the official species list from the New Mexico Ecological Services Field Office, Appendix 3, five (5) species in Colfax County, NM are endangered or threatened. The Southwestern Willow flycatcher (*Empidonax traillii extimus*), black-footed ferret (*Mustela nigripes*), and the New Mexico meadow jumping mouse are endangered. The Mexican spotted owl (*Strix occidentalis lucida*), and the Piping Plover (*Charadrius melodus*) are threatened species. There is critical habitat for the Southwestern Willow flycatcher (*Empidonax traillii extimus*), Mexican spotted owl (*Strix occidentalis lucida*), and the Piping Plover (*Charadrius melodus*). Critical habitat has been proposed for the New Mexico meadow jumping mouse (*Zapus hudsonius luteus*).

The species listed as threatened in the previous permit were the Arkansas River shiner, the Piping Plover (*Charadrius melodus*), the Mexican spotted owl, and the Southwestern Willow flycatcher (*Empidonax traillii extimus*),. The black footed ferret was listed as endangered in the previous permit.

Changes from the listed species and critical habitat from the previous permit include the Southwestern Willow flycatcher (*Empidonax traillii extimus*), which has increased in listing

protection from threatened to endangered, and the addition of the endangered New Mexico jumping mouse (*Zapus hudsonius luteus*). The critical habitat for the New Mexico jumping mouse (*Zapus hudsonius luteus*) has been proposed since the previous permit issued in 2008.

The Southwestern Willow flycatcher (*Empidonax traillii extimus*) requires dense riparian habitats (cottonwood/willow and tamarisk vegetation) with microclimatic conditions dictated by the local surroundings. Saturated soils, standing water, or nearby streams, pools, or cienegas are a component of nesting habitat that also influences the microclimate and density vegetation component. Habitat not suitable for nesting may be used for migration and foraging. Recurrent flooding and a natural hydrograph are important to withstand invading exotic species (tamarisk). Loss and degradation of dense riparian habitats are the primary habitat threat to the flycatcher. Historically, water developments that altered flows in the rivers and streams were the primary threat. Now, with riparian areas limited and re-growth difficult due to changes in flows, fire is a significant risk to remaining habitats. Human disturbances at nesting sites may result in nest abandonment

The reissuance of the City of Raton WWTP permit NM0020273 with a discharge that is constant with the previous permit, with added monitoring frequency, and permit limits designed to maintain or improve water quality in the downstream waterbodies the EPA Region 6 determines that the reissuance of the above will not negatively impact the Southwestern Willow flycatcher (*Empidonax traillii extimus*).

The New Mexico jumping mouse (*Zapus hudsonius luteus*) nests in dry soils, but uses moist, streamside, dense riparian/wetland vegetation. The jumping mouse appears to only utilize two riparian community types: 1) persistent emergent herbaceous wetlands (i.e., beaked sedge and reed canarygrass alliances); and 2) scrub-shrub wetlands (i.e., riparian areas along perennial streams that are composed of willows and alders). It especially uses microhabitats of patches or stringers of tall dense sedges on moist soil along the edge of permanent water. The jumping mouse is generally nocturnal, but occasionally diurnal. It is active only during the growing season of the grasses and forbs on which it depends.

The New Mexico meadow jumping mouse has seen a significant population decline. This decline is mainly due to habitat loss and fragmentation across its range. Given that a majority of the remaining mouse habitat is on federal land, the USFWS has been working closely with the USDA Forest Service Southwestern Region (USFS).

The reissuance of the City of Raton WWTP permit NM0020273 with a discharge that is constant with the previous permit, with added monitoring frequency, and with permit limits designed to maintain or improve water quality in the downstream waterbodies, the EPA Region 6 determines that the reissuance of the above permit will not negatively impact the New Mexico jumping mouse (*Zapus hudsonius luteus*) or the proposed critical habitat.

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. EPA has determined that the issuance of this permit will have no effect on the federally listed threatened or endangered species and their critical habitat based on the previous

permit determination of 'no effect,' the facility has not made significant changes to their effluent discharge amount and increased monitoring of effluent discharge.

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 water quality standards are promulgated or revised. In addition, if the State 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 May 5, 2013.

2. 40 CFR CITATIONS

Citations to 40 CFR are as of August 14, 2014
Sections 122, 124, 125, 130, 133, 136, 261, 403

3. STATE OF NEW MEXICO REFERENCES

2012-2014 State of New Mexico Clean Water Act 303(d)/305(6) Integrated Report – Appendix A – List of Assessed Surface Waters USEPA – Approved May 8, 2012.

2012-2014 State of New Mexico Clean Water Act §303(d)/305(b) Integrated List.

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, NMIP. March 15, 2012.

Statewide Water Quality Management Plan, June 5, 2013.

State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4.98 and 20.6.4.900 NMAC, as amended through June 5, 2013.

Final Draft Total Maximum Daily Load (TMDL) for Raton Creek (Chicorica Creek to Headwaters) March 28, 2012.

4. MISCELLANEOUS

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.

POTW Sludge Sampling and Analysis Guidance Document – 1989, EPA 833-B-89-100 – Office of Water, August 1989.

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