NPDES PERMIT NO. NM0024163
FACT SHEET

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

APPLICANT

Village of Reserve
P.O. Box 587
Reserve, NM 87830

ISSUING OFFICE

U.S. Environmental Protection Agency
Region 6
1201 Elm Street
Dallas, Texas 75270

PREPARED BY

Quang Nguyen
Environmental Engineer
NPDES Permitting and Wetlands Section
Permitting & Water Quality Branch
Water Division
VOICE: 214-665-7238
FAX: 214-665-2191
EMAIL: Nguyen.Quang@epa.gov

DATE PREPARED

March 27, 2025

PERMIT ACTION

Renewal of a permit previously issued on February 28, 2019, with an effective date of April 1, 2019, and an expiration date of March 31, 2024.

RECEIVING WATER – BASIN

San Francisco River 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
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
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
DO	Dissolved oxygen
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FWS	United States Fish and Wildlife Service
mg/l	Milligrams per liter
ug/l	Micrograms per liter
lbs	Pounds
MG	Million gallons
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
PFAS	Per- and Polyfluoroalkyl Substances
POTW	Publically owned treatment works
RP	Reasonable potential
SS	Settleable solids
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
WLA	Waste Load allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

I. CHANGES FROM THE PREVIOUS PERMIT

The permittee moved their facility outfall to a new location in 2021. This change in discharge location triggered the need for an Antidegradation Review and determination by the New Mexico Environment Department (NMED), which was received March 7, 2025, in order to prepare a draft permit for reissuance.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility is located at 101 Plant Street, Village of Reserve, Catron County, New Mexico. The facility was discharging its effluent to an intermittent water/ arroyo thence to San Francisco River (20.6.4.601 NMAC). They relocated their outfall and have been directly discharging to San Francisco River (20.6.4.601 NMAC) since May 2021. The new outfall location is in the same assessment unit (AU ID: NM-2601_22). The facility's new outfall is located at the following coordinates:

Outfall 001: Latitude 33° 42' 2" N and Longitude 108° 45' 22" W.

Under the SIC code 4952, the applicant operates a publicly owned WWTP, which has a design flow of 0.075 MGD providing sanitary services for approximately 289 residents. The WWTP primarily consists of lift station, anoxic basin, aeration basin, clarifiers, UV disinfection system and sludge drying beds. Sludge is dried and stabilized before given away.

III. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA NPDES Permit Application Form 2A received on October 2, 2023, are presented below in Table 1:

Table 1: Effluent Characteristics

Parameter	**Maximum**	**Average**
Flow (MGD)	0.051	0.015
pH, minimum, standard units (s.u.)	7.2	N/A
pH, maximum, standard units (s.u.)	7.9	N/A
Biochemical Oxygen Demand, 5-day (BOD_5)	9.8 mg/L	2.18 mg/L
Total Suspended Solids (TSS)	17 mg/L	3.19 mg/L
Fecal coliform (cfu/100 ml)	178.5	6.57

A summary of the last 60 months of available pollutant data from January 2020 through January 2025, taken from DMRs indicates the facility experienced exceedances of permit limit (shown in parenthesis) for TSS, percent removal (6) and *E. coli* (1).

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 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.

The complete application was received on October 2, 2023. The EPA proposes that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a).

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 and BOD, and percent removal for each. Water quality-based effluent limitations are established in the proposed draft permit for *E. coli* bacteria and pH.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

2. Effluent Limitation Guidelines

Regulations promulgated at 40 CFR §122.44 a) require technology-based effluent limitations to be placed in NPDES permits. The facility is a POTW. POTWs have technology-based ELG's established at 40 CFR §133, Secondary Treatment Regulation. Pollutants with ELGs established in this Chapter are BOD_5, TSS and pH. BOD_5 limits of 30 mg/L for the 30-day average, 45 mg/L for the 7-day average, and 85% percent (minimum) removal are found at 40 CFR §133.102 (a). TSS limits of 30 mg/L for the 30-day average, 45 mg/L for the 7-day average, and 85% percent (minimum) removal are found at 40 CFR §133.102(b). ELGs for pH are between 6-9 standard units (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 POTWs or WWTPs, the plant's design flow is used to establish the mass load. Mass limits in Table 2 below 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 TSS loading = 30 mg/L * 8.345 lbs/gal * 0.075 MGD
30-day average TSS loading = 18.8 lbs/day

7-day average TSS loading = 45 mg/L * 8.345 lbs/gal * 0.075 MGD
7-day average TSS loading = 28.2 lbs/day

30-day average BOD5 loading = 30 mg/L * 8.345 lbs/gal * 0.075 MGD
30-day average BOD5 loading = 18.8 lbs/day

7-day average BOD5 loading = 45 mg/L * 8.345 lbs/gal * 0.075 MGD
7-day average BOD5 loading = 28.2 lbs/day

Technology-Based Effluent Limits – 0.075 MGD design flow.

Table 2: Technology-based limits for the facility

Parameter	**30-day Avg**	**7-day Max**	**30-day Avg**	**7-day Max**
BOD_5	18.8 lbs/day	28.2 lbs/day	30 mg/L	45 mg/L
BOD_5, % removal*1	≥ 85	---	---	---
TSS	18.8 lbs/day	28.2 lbs/day	30 mg/L	45 mg/L
TSS, % removal	≥ 85	---	---	---
pH	N/A	N/A	6.0 to 9.0 s.u.*2	

Footnotes:
*1 % removal is calculated using the following equation: [(average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration] * 100.
*2 The pH effluent limits based on stream segment specific WQS are more stringent than pH technology-based limits of 6.0-9.0 standard units. See C.4.a below.

The facility will be required to monitor the influent of BOD_5 and TSS on once per week frequency for use in determining the removal percentage. The facility shall diligently maintain a log. The influent data is not required to be reported in NetDMR but must be kept at the facility and made available to EPA or its agents upon request.

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

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC approved by EPA on April 10. 2025). The discharge is to San Francisco River of the San Francisco River Basin (20.6.4.601 NMAC). The designated uses of the receiving water are irrigation, livestock watering, wildlife habitat, marginal warmwater and marginal coldwater aquatic life and primary contact. The discharge into San Francisco River starts from the New Mexico State land and travels approximately 48 river miles to Arizona-New Mexico border. The facility has a design flow of 0.075 MGD. Based on the distance from facility outfall to the Arizona-New Mexico border along with the size of facility, EPA does not believe that the facility discharge potentially has an impact on the State of Arizona waters.

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. pH

For marginal warmwater and marginal cold-water aquatic life, criteria for pH are between 6.6 s.u. and 9.0 s.u. pursuant to 20.6.4.900.H.6 NMAC. The pH effluent limits of 6.6 s.u. to 9.0 s.u. in the previous permit will be continued in the draft permit.

b. Bacteria

The *E. coli* effluent limits of 126 cfu/100 mL for 30-day average, 410 cfu/100 mL for daily max and a WLA of 3.58×10^8 cfu/day in the previous permit, which were based on the EPA approved TMDL developed for Upper Gila, San Francisco Mimbres Watersheds, will be continued in the draft permit.

c. Floating Solids, visible foam and/or oils

For narrative protection for aesthetic standards, surface waters shall be maintained so that there shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no discharge of visible films of oil, globules of oil, grease or solids. The EPA proposed Oil and Grease limit of 10 mg/L monthly average. This limit is based on BPJ in accordance with 40 CFR 125.3(h)(1) and is consistent with other NPDES permits issued by other EPA Regions.

d. Dissolved Oxygen

The facility discharges to San Francisco River (20.6.4.601 NMAC) of the San Francisco River Basin. One of its designated uses is marginal coldwater aquatic life. The State of New Mexico WQS criterion applicable to the marginal coldwater aquatic life designated use is at least 6 mg/L for dissolved oxygen. As a part of the permitting process, EPA used the LA-QUAL water quality model, which is a steady-state one-dimensional model which assumes complete mixing within each modeled element, to develop

permit parameters for the protection of the State of New Mexico surface water WQS for DO (i.e., 6 mg/L). Primarily based on the Village of Reserve Wastewater Treatment Plant's design flow of 0.075 MGD (0.0039 m^3/s) and the receiving water critical flow of 0.8 MGD (0.0421 m^3/s), various BOD_5 factors including BOD_5 Secondary Treatment Standards were considered and simulated to achieve the DO criterion. A complete characterization of San Francisco River (i.e., water quality and hydrodynamic data) was not available. Assumptions were made when there was no data. The following is a summary of model inputs.

- The Village of Reserve Wastewater Treatment Plant's design flow is 0.075 MGD (0.0175 m^3/s). The discharge location provided in the permit application is located at Latitude 33° 42' 2" North, and Longitude -108° 45' 22" West. Facility effluent DO (Avg: 5 mg/L) was assumed since no data were available.

- NMED provided the following information. The critical low flow of San Francisco River receiving stream is approximately 0.8 MGD. Other parameters applied in the model include ambient *E. Coli* (Avg: 34.6 MPN/100mL), Salinity (Avg: 0.2) temperature (Avg: 19.5 ^oC), and DO (Avg: 7.69 mg/L).

- EPA used the State of New Mexico's OpenEnviroMap to estimate the average elevation of the study area, segment length and average width of San Francisco River. The average elevation is approximately 1753 meter (5750 feet). The average width and depth of San Francisco River at critical conditions were assumed approximately 1 meter (3 feet) and 0.3 meters (1 foot), respectively, and the studied segment length is approximately 3.8 kilometers (2.4 miles).

The model results show no excursion of the receiving stream DO standard of 6 mg/L when the BOD_5 limits of 30 mg/l for monthly average and 45 mg/l for 7-day average were applied (see graph with 30/45 mg/L BOD_5 in Appendix 1; other detail information is available upon request).

The model results are based on the assumptions and default values as explained and presented above. If these conditions change, the model shall be updated to provide a more accurate assessment of the water quality within the receiving water body.

e. Toxics

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 criterion, 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 like 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.

Since the facility is designated as a minor source, it is not required to fill out the expanded pollutant testing section Part D of Form 2A.

i) TRC

The facility uses UV disinfection, so chlorine is not added to the effluent. However, chlorine may be used for maintenance, or other purposes in the future. These usages may cause chlorine to be in the facility discharge. If chlorine may be used, there, however, will be a permit requirement that will limit its discharge during those times. This will be through a specific chemical limitation. The implementation to protect NMWQS from chlorine toxicity is to limit chlorine as "no measurable amount". Specifically, after de-chlorination and prior to final disposal, the effluent shall contain "NO MEASUREABLE" total residual chlorine at any time. "NO MEASUREABLE" will be defined as no detectable concentration of TRC as determined the minimum quantification level of TRC becomes less than 11 ug/L. The previous permit TRC limit of 11 µg/L when chlorine is used will be continued in the draft permit. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.

(ii) Per- and Polyfluoroalkyl Substances (PFAS)

The EPA currently has no data indicating that PFAS is present in the Village of Reserve WWTP discharge. There are no industrial users of the system expected to contribute PFAS into the collection system. As explained at https://www.epa.gov/pfas, PFAS are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations can be contributors of PFAS releases into the air, soil, and water. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Exposure to some PFAS above certain levels may increase risk of adverse health effects (EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan, EPA 823R18004, February 2019). The EPA is collecting information to evaluate the potential impacts that discharges of PFAS from wastewater treatment plants may have on downstream drinking water, recreational and aquatic life uses.

Although the New Mexico Water Quality Standards do not include numeric criteria for PFAS, the 2022 New Mexico Water Quality Standards narrative criterion supply guidance including:

20.6.4.7(E)(2) NMAC states: "**Emerging contaminants"** refer to water contaminants that may cause significant ecological or human health effects at low concentrations. Emerging contaminants are generally chemical compounds recognized as having deleterious effects at environmental concentrations whose negative impacts have not been fully quantified and may not have regulatory numeric criteria.

20.6.4.7(T)(2) NMAC states: **"Toxic pollutant"** means those pollutants, or combination of pollutants, including disease-causing agents, that after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will cause death, shortened life spans, disease, adverse behavioral changes, reproductive or physiological impairment or physical deformations in such organisms or their offspring.

Since PFAS chemicals are persistent in the environment and may lead to adverse human health and environmental effects, the draft permit requires that the facilities conduct influent, effluent, and sludge sampling for PFAS according to the frequency outlined in the permit. The purpose of this monitoring and reporting requirement is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the potential development of water quality-based effluent limits on a facility-specific basis. EPA is authorized to require this monitoring and reporting by CWA § 308(a), which states:

"SEC. 308. (a) Whenever required to carry out the objective of this Act, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this Act; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 305, 311, 402, 404 (relating to State permit programs), 405, and 504 of this Act—

> *(A) the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require;".*

The EPA notes that there is currently not an analytical method approved in 40 CFR Part 136 for PFAS. As stated in 40 CFR §122.44(i)(1)(iv)(B), in the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR Part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters. Therefore, the draft permit specifies that until there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Method 1633. The Adsorbable Organic Fluorine CWA wastewater method 1621 can be used in conjunction with Method 1633, if appropriate.

The EPA has included PFAS monitoring in the draft permit using analytical Method 1633 (see https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas for more information). Table 4 lists Region 6 recommended PFAS monitoring frequencies for different facility types.

Table 4: Region 6 Recommended Monitoring Frequencies

Facility Type [1,2]	**Frequency**
Minor (< 0.1 MGD)	Once/Term
Minor (0.1 ≤ 1.0 MGD) [2,3]	3/Term
Major (if NOT in an applicable category) [2]	Once/6 Months
Major (if IS in an applicable category) [2]	Quarterly
Major (with required pretreatment OR discharge is > 5 MGD)	Quarterly

Footnotes:

1. These recommended frequencies are only for facilities where an applicable ELG for PFAS does not apply. These frequencies may be altered if an industry category is known or suspected to discharge PFAS or based on the permit writer's BPJ.

2. More information on PFAS is available at https://www.epa.gov/pfas.
3. PFAS samples must be collected and analyzed in three separate calendar years

5. 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). Sample frequency shown in Table 5 below is based on Table 9 in the NMIP (page 34) for design flow of 0.1 MGD or less.

Table 5: Monitoring Frequency

Parameter	**Frequency**	**Sample Type**
Flow	Daily	Continuous
pH	1/month	Grab
BOD_5	1/month	Grab
TSS	1/month	Grab
% Removal	1/month	Calculation
TRC	1/month	Grab
E. coli Bacteria	1/month	Grab

D. WHOLE EFFLUENT TOXICITY

The State of New Mexico has established narrative criteria, which in part state that:

"...surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, concentrations or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms...." (NM WQS Section 20.6.4.13.F.)

Critical conditions 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 State establishes a critical low flow designated as 4Q3, as the minimum average four consecutive day flow that occurs with a frequency of once in three years. The NMED provided to EPA the 4Q3 of 1.24 cfs (0.8 MGD) for the San Francisco River (20.6.4.601 NMAC). The EPA used provided 4Q3 to determine the critical dilution of the effluent to the receiving stream for permitting purposes of certain parameters such as WET. The critical dilution, CD, is calculated as follow:

$$CD = Q_e / (F \cdot Q_a + Q_e)$$

where:

Q_e = facility design flow (0.075 MGD)
Q_a = critical low flow of the receiving waters (0.8 MGD)
F = fraction of stream allowed for mixing (1.0)

CD = (0.075 MGD / [(1.0)(0.8 MGD) + 0.075 MGD]) * 100
= 8.57%

The critical dilution (CD) is 8.57%.

Procedures for implementing WET terms and conditions in NPDES permits are contained in the NMIP. Table 11 (page 42) of the NMIP outlines the type of WET testing for different types of discharges. The facility did not report WET results in the DMR last 5 years. However, the permittee included WET test results in the application submitted on October 2, 2023. These show the facility effluent causes no toxicity or has reasonable potential to cause toxicity in the receiving stream. The permittee relocated their facility outfall in 2021, whose discharge goes directly to San Francisco River. The nature of the receiving water to which the facility is directly discharging is a perennial stream, which is different than the one used to establish WET monitoring requirements in the previous permit. The calculated critical dilution of the effluent to the receiving stream is now approximately 8.57%.

Since the critical dilution is equal to or less than 10%, the procedures in the letter from Marcy Leavitt, NMED, to Claudia Hosch, EPA, December 16, 2005, NMED provided Narrative Toxics Implementation Guidance – Whole Effluent Toxicity, (NTIG-WET) provide that in lieu of the more expensive 7-day chronic test, a 48-hour acute test may be run using a 10:1 acute to chronic ratio; 85.7% rounded to the nearest whole number 86%. The draft permit will not propose any WET limits. The facility shall conduct 48-hour acute tests using *Daphnia pulex* and *Pimephales promelas* at the previous permit frequency of once every two years.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations shall be 27%, 36%, 48%, 65% and 86 %. The low-flow effluent concentration (critical low-flow dilution) is defined as 86% effluent. The permittee shall limit and monitor discharge(s) as specified in Table 6 below:

Table 6: WET Monitoring Requirements

WHOLE EFFLUENT TOXICITY Testing (48-Hr Acute NOEC Freshwater) [1]	**Value**	**Measurement Frequency[2, 3]**	**Sample Type**
Daphnia Pulex	Report	Once/2 years	Grab
Pimephales promelas	Report	Once/2 years	Grab

Footnotes:
[1] Monitoring and reporting requirements begin on the effective date of this permit. See Part II of the permit, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.
[2] The test shall take place between November 1 and April 30 if possible. This permit does not establish requirements to automatically increase the WET testing frequency 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.
[3] First sample shall be taken in the 1st year of the permit. Second sample shall be taken in the 3rd year of the permit, etc.

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. Reporting requirements and the requirement of using EPA-approved test procedures (methods) for the analysis and quantification of pollutants or pollutant parameters are contained in 40 CFR 122.41(l) and 40 CFR 122.21 (e), respectively. As required by 40 CFR 127.16, all Discharge Monitoring Reports (DMRs) shall be electronically reported. The monitoring results will be available to the public.

VII. 303(d) LIST

The EPA approved 2024-2026 State of New Mexico Integrated Clean Water 303(d)/305(b) Report shows that San Francisco River (from Willow Springs Cyn to NM 12 at Reserve) in Segment 20.6.4.601 NMAC is not supporting marginal coldwater aquatic life and primary contact due to Temperature and *E. coli*, respectively. An EPA approved TMDL was developed for the San Francisco Watershed (from Willow Springs Cyn to NM 12) in September 2014. A WLA allocation of 3.58×10^8 cfu/day was assigned and has been incorporated into the permit. In addition a monthly geometric mean criterion of 126 cfu/100 mL and a single sample criterion of 410 cfu/100 mL is being incorporated into the permit as directed by the TMDL document.

No additional limitations are required to address 303(d) concerns. The permit has a standard reopener clause that would allow the permit to be changed if later additional requirements on new or revised TMDLs are completed.

VIII. ANTIDEGRADATION

Since the permittee relocated their facility outfall in 2021, whose discharge goes directly to San Francisco River, this requires the State of New Mexico to conduct an evaluation if an antidegradation

review is needed to ensure the discharge having no potential to adversely affect water quality or existing designated uses. The letter from the NMED Surface Water Quality Bureau, Bureau Chief, to Mr. Brent Larsen, Permitting Section Manager, and Mr. William Graham, Utility Supervisor, dated March 7, 2025, indicated that NMED has done an evaluation study. The study primarily focused on whether there were any changes in water quality standards since the last Village of Reserve WWTP permit renewal, if there were any changes in baseline water quality of the receiving stream or downstream waters, and if there were any changes in permit conditions since the last permit. Based on the study, NMED concludes no antidegradation review is needed since there are no new or increased water quality impacts resulting from the discharge.

The State of New Mexico (Section 20.6.4.8 of the NMAC) has antidegradation requirements to protect existing uses through implementation of their WQS. The limitations and monitoring requirements set forth in the proposed draft are developed from the appropriate the State of New Mexico 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, NMAC Section 20.6.4.8.A.2.

IX. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=35003, 13 species in Catron County are listed as endangered (E) or threatened (T). Fourteen species include the Gila topminnow (incl. Yaqui) (*Poeciliopsis occidentalis*) (E), Gila chub (*Gila intermedia*) (E), Alamosa springsnail (*Tryonia alamosae*) (E), New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) (E), Chiricahua leopard frog (*Rana chiricahuensis*) (T), Mexican spotted owl *(Strix occidentalis lucida*) (T), Northern Mexican gartersnake (*Thamnophis eques megalops*) (T), Yellow-billed Cuckoo (*Coccyzus americanus*) (T), Southwestern willow flycatcher (*Empidonax traillii extimus*)(E), Loach minnow (*Tiaroga cobitis*) (E), Zuni fleabane (*Erigeron rhizomatus*) (T), Spikedace (*Meda fulgida*) (E), Narrow-headed gartersnake (*Thamnophis rufipunctatus*) (T), and Gila trout (*Oncorhynchus gilae*) (T).

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 no information determining that the reissuance of this permit will have "effect" on the listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

1. In the previous permit issued February 28, 2019, EPA made a "no effect" determination for federally listed species mentioned above except for the Gila topminnow (incl. Yaqui) (*Poeciliopsis occidentalis*) (E), Gila chub (*Gila intermedia*) (E), and Alamosa springsnail (*Tryonia alamosae*) (E). The EPA has received no additional information since then which would lead to a revision of that "no effect" determination. The EPA determines that this reissuance will not change the environmental baseline established by the previous permit, and

therefore, EPA concludes that reissuance of this permit will have "no effect" on the listed species and designated critical habitat.

2. Gila topminnow (incl. Yaqui) (*Poeciliopsis occidentalis*)- The Gila topminnow is native to the Gila River Basin of the United States and Mexico, and the Ríos de la Concepción and Sonora of northern Mexico (Minckley et al. 1991). It was considered one of the most common fishes in the southern part of the Colorado River basin prior to 1940 (Hubbs and Miller 1941). Gila topminnows occupy a variety of habitats: springs, cienegas, permanent and interrupted streams, and margins of large rivers. Habitat alteration and destruction, and introduction of predaceous nonnative fish, principally western mosquitofish, Gambusia affinis, is the main reason for decline of the Gila topminnow. The permit does not authorize activities that may cause destruction of the Gila topminnow habitat, and issuance of the permit will have no effect on this species.

3. Gila chub (*Gila intermedia*) - Gila chub is currently found in Arizona and New Mexico in the United States, and in northern Mexico. Gila chub is considered a habitat generalist (Schultz and Bonar 2006), and commonly inhabits pools in smaller (higher order) streams and cienegas throughout its range in the Gila River basin, at elevations between 609 and 1,676 meters (m) (2,000–5,500 feet [ft]) (Miller 1946, Minckley 1973, Rinne 1976, Weedman et al. 1996). Gila chub is a highly secretive species, remaining near cover, including undercut banks, terrestrial vegetation, boulders, root wads, fallen logs, and thick overhanging or aquatic vegetation in deeper waters, especially pools (Minckley and Rinne 1991, Nelson 1993, Weedman et al. 1996). It was also estimated that 90 percent of the currently occupied habitat is degraded, due to the presence of nonnative fishes and land management actions. The few remaining small, isolated populations are vulnerable to environmental conditions such as drought, flood events, and wildfire. Primary threats to Gila chub, such as nonnative fish predation and competition, and secondary threats identified as habitat alteration, destruction, and fragmentation, are all factors identified in the final rule that contribute to the consideration that Gila chub is likely to become extinct throughout all or a significant portion of its range (USFWS 2005). The permit does not authorize activities that may cause destruction of the Gila chub habitat, and issuance of the permit will have no effect on this species.

4. Alamosa springsnail (*Tryonia alamosae*)- The Alamosa springsnail is endemic to central New Mexico. The species is known only from a thermal spring complex in Socorro County, New Mexico Alamosa springsnail survives in five individual thermal spring heads, and associated spring runs that flow together and discharge into Alamosa Creek. These five spring heads are all located within1/2 mile of each other and may receive water from the same underground source. Alamosa springsnail requires fresh, flowing, thermally heated water with a temperature of 17 to 28 degrees centigrade to survive. Any activity that would interrupt the flow of water from these springs, lessen the quantity of both the aquatic and terrestrial habitat, or degrade the water quality of the habitats inhabited by these species could threaten their existence.

5. Reissuance of this permit will not result in the destruction or adverse modification of habitat, as no construction activities are planned.

6. The draft permit is consistent with the States WQS and does not increase pollutant loadings.

EPA determines that Items 1 thru 6 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.

X. 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.

XI. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if NMWQS are promulgated or revised. In addition, if the State develops or revises 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.

XII. VARIANCE REQUESTS

None

XIII. 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 of COE, to the Regional Director of FWS and to the National Marine Fisheries Service prior to the publication of that notice.

XIV. FINAL DETERMINATION

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

XV. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

A complete application including EPA Application Forms 2A & 2S was received on October 2, 2023.

B. 40 CFR CITATIONS

Sections 122, 124, 125, 133, 136

C. STATE OF NEW MEXICO REFERENCES

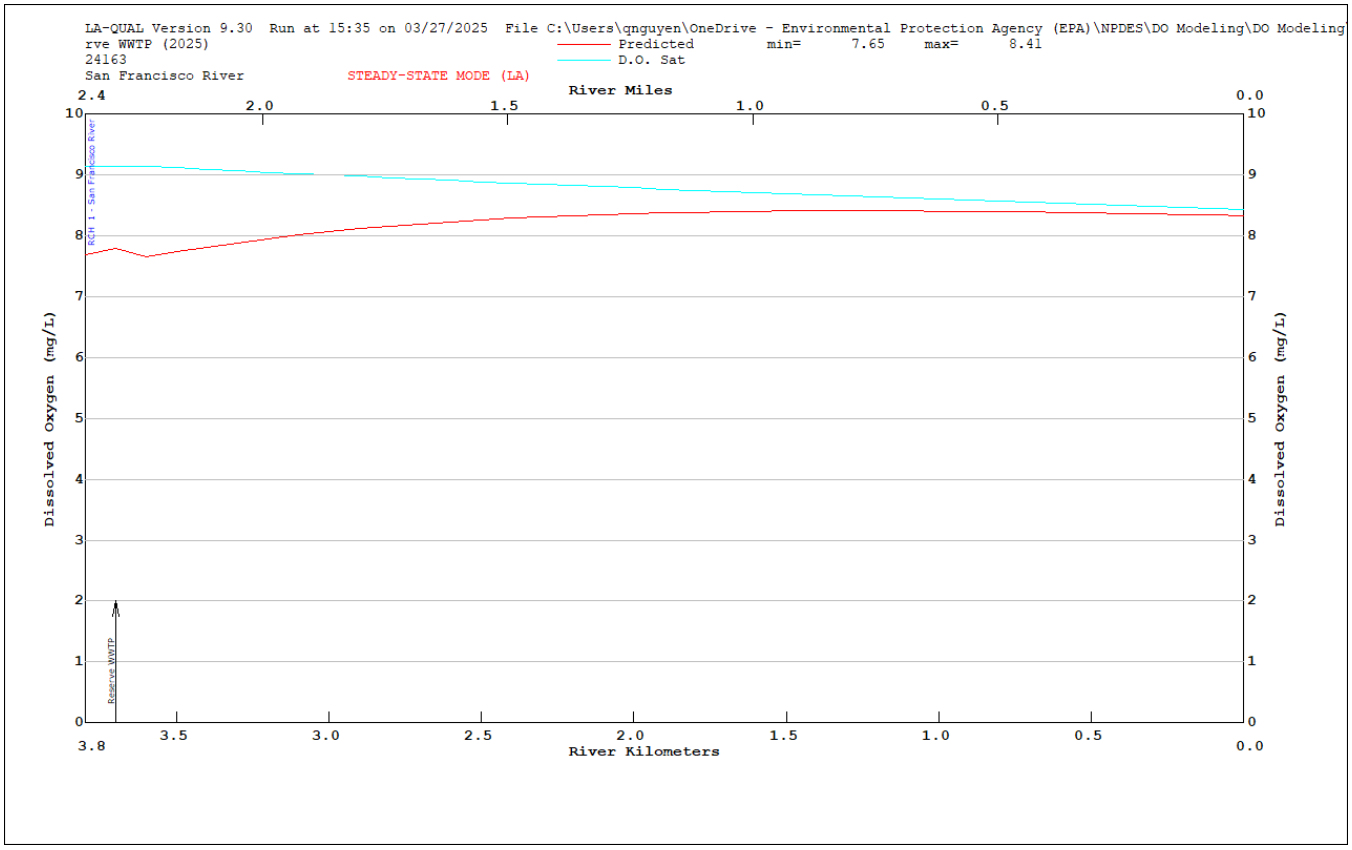
New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, approved by EPA on April 10, 2025.

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

State of New Mexico Clean Water Act 303(d)/305(b) Integrated Report and List, 2024-2026, approved by EPA on May 17, 2024.

U.S. EPA-Approved Total Maximum Daily Load For the Upper Gila, San Francisco, and Mimbres Watersheds, September 11, 2014.

Appendix 1


LA-QUAL Version 9.30 Run at 15:35 on 03/27/2025 File C:\Users\qnguyen\OneDrive - Environmental Protection Agency (EPA)\NPDES\DO Modeling\DO Modeling
rve WWTP (2025)
24163
San Francisco River
STEADY-STATE MODE (LA)
Predicted min= 7.65 max= 8.41
D.O. Sat
River Miles
2.4
2.0
1.5
1.0
0.5
0.0
Dissolved Oxygen (mg/L)
Rch 1 San Francisco River
Reserve WWTP
3.8
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
River Kilometers