NPDES PERMIT NO. NM0024066

FACT SHEET

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

APPLICANT

Town of Taos Wastewater Treatment Facility
P.O. Box 250
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ISSUING OFFICE

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DATE PREPARED

March 6, 2025

PERMIT ACTION

Proposed reissuance of the current NPDES permit issued May 10, 2018, with an effective date of July 1, 2018, and an expiration date of June 30, 2023.

RECEIVING WATER – BASIN

Unnamed Arroyo - Rio Pueblo de Taos – 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
AU	Attainment Unit
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
ELG	Effluent limitations guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
mg/L	Milligrams per liter
µg/L	Micrograms per liter
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
PCB	Polychlorinated Biphenyl
POTW	Publicly 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
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

In this document, references to State WQS and/or rules shall collectively mean either or both the State of New Mexico and/or the Pueblo of Taos.

I. CHANGES FROM THE PREVIOUS PERMIT

This is a new permit. The EPA did not receive a complete application prior to the previous permit expiration date (June 30, 2023). This prevented the previous permit from being Administratively Continued under 5 U.S.C. 558(c).

II.APPLICATION LOCATION and ACTIVITY

As described in the application, the wastewater treatment plant is located at 182 Los Cordovas Road, Ranchos de Taos, Taos County, New Mexico 87557. The effluent from the treatment plant is discharged into Unnamed Arroyo (Rio Pueblo de Taos to Taos WWTP – AU ID No. NM-99A_005) that flows for approximately 2.8 miles and then drains into the reach of the Rio Pueblo de Taos (Arroyo del Alamo to R Grande del Rancho – AU ID No. NM-2119_30) in Waterbody Segment 20.6.4.122 NMAC. The discharge is located at latitude 36° 22' 24" N and longitude 105° 39' 21" W, in Taos County, New Mexico.

Under the SIC Code 4952, the discharge is from a publicly owned treatment works (POTW) with a design capacity of 2.0 MGD serving Town of Taos, Taos Pueblo, El Valle de Los Ranchos and El Prado, having a population of 10,377. The facility's treatment process is as follows:

The raw wastewater flows by gravity flow to the enclosed entrance works. The raw sewage is screened by parallel channels with grinders. There is no manual bypass channel for influent flow. The removed solids are compacted by the grinder and screening process and sent to a hopper for final disposal at the Taos Regional Landfill located at 24670 US Highway 64, Taos, Taos County, New Mexico 87571.

A station for septate haulers is located at the head works. To protect the WWTP process, septate haulers must test their loads for pH and other parameters before being allowed to dump the waste at the treatment plant. A log is kept of these loads.

Flow is then directed through a splitter box that sends the wastewater to either the East or West aeration basin. The basins from the old treatment plant have been reconfigured so that half of each basin has a series of fine bubble diffusers to create an aerated zone, and the other half of each basin has mixers only that constitute the anoxic zone. The water enters the basins in the anoxic zone and exits the basin past the aerobic zone.

The partially treated wastewater then enters the Membrane Biological Reactor (MBR) system. The MBR consists of four basins with filters and aerators. The basins are run simultaneously and in parallel. The MBR system can accommodate a much higher Mixed Liquor Suspended Solids (MLSS) than other activated sludge processes, from 7,000 mg/L to 13,000 mg/L. The processed water (called Permeate Water) is continuously sent to the Ultraviolet (UV) disinfection system prior to discharge.

The facility UV disinfection system consists of two banks of lights with 14 modules of 8 bulbs each that are kept submerged by a weighted check dam. Following in the treatment train is a 12-inch Parshall flume and staff gauge with a secondary Drexelbrook flow measurement device. A

portion of the flow is diverted to a golf course storage pond for reuse irrigation during the warm months of the year.

Return activated sludge is sent back to the splitter box past the grit removal basin. Wasting of solids is done every day at the facility for one to five hours depending on flow and MLSS. The sludge that consists of 2% - 5% solids is sent to the belt press for dewatering. A polymer coagulant is added to the solids. From the belt press solids are deposited into a large roll-off bin. When filled, the bin is taken to the mentioned landfill for final surface disposal.

III. RECEIVING STREAM STANDARDS

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC effective September 24, 2022). The facility discharges into Unnamed Arroyo (Rio Pueblo de Taos to Taos WWTP – AU ID No. NM-99A_005) in Waterbody Segment 20.6.4.98 thence to the Rio Pueblo de Taos (Arroyo del Alamo to R Grande del Rancho – AU ID No. NM-2119_30) in Waterbody Segment 20.6.4.122 of the Rio Grande Basin. The designated uses of the Rio Pueblo de Taos receiving water are coldwater aquatic life, fish culture, irrigation, wildlife habitat, livestock watering, and primary contact. The designated uses of Unnamed Arroyo include: Warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

The north bank of the Rio Pueblo de Taos, also known as the Rio Pueblo, is bordered by the Pueblo of Taos. The Pueblo of Taos WQS applies to the northern half of the river, while State WQS is applying to the southern half. The Pueblo of Taos WQS (effective March 8, 2019) establishes designated uses of the Rio Pueblo, below Los Cordovas as domestic water supply (including groundwater recharge), wildlife habitat, cold water fishery, irrigation, livestock watering & wildlife water, aquatic life (acute & chronic criteria), and primary human contact/ceremonial use.

IV. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A received on March 31, 2023, and in the supplemental information provided via email on July 12, 2023, and August 4, 2023, are presented below in Tables 1 and 2:

Table 1

Parameter	Maximum	Average
Flow	1.161 MGD	0.937 MGD
Temperature, winter	16 °C	15 °C
Temperature, summer	22.6 °C	21°C
pH, minimum	6.74s.u.	N/A
pH, maximum	8.56 s.u.	N/A
Biochemical Oxygen Demand, (BOD)	7 mg/L	4 mg/L
Fecal Coliform (bacteria/100 ml)	10	4
Total Suspended Solids (TSS)	6 mg/L	4 mg/L
Ammonia (as N)	1.0 mg/L	1.0 mg/L
Total Residual Chlorine	10 ug/l	3 ug/l
Total Kjeldahl Nitrogen (TKN)	5 mg/L	2 mg/L
Nitrate plus Nitrite Nitrogen	12 mg/L	8 mg/L

Parameter	Maximum	Average
Dissolved Oxygen (DO)	8.62 mg/L	7.45 mg/L
Phosphorus (Total)	7.0 mg/L	3 mg/L
Total Dissolved Solids (TDS)	504 mg/L	480 mg/L

Footnote:

T - Total metal form

The facility must sample and report all the priority pollutants identified in Part D, Expanded Effluent Testing Data of Form 2A. From that list, the pollutants in Table 2 below were either tested above MQLs or were tested at levels above EPA MQL and reported as being non detect. When a pollutant was tested at a detection level that was greater than the EPA MQL then for screening purposes that pollutant was assumed to have a concentration at that detection level. For toxics that were tested at the minimum quantification level (MQL) and reported as less than the MQL, those pollutants are not shown.

Table 2:

Parameter	Maximum	Average
Arsenic, total recoverable	1.4 ug/L	1.4 ug/L
Beryllium	2 ug/L(*)	2 ug/L(*)
Copper, total recoverable	3.6 ug/L	3 ug/L
Lead	0.68 ug/L	0.68 ug/L
Zinc, total recoverable	73 ug/L	71 ug/L
Hardness (as $CaCO_3$)	230 mg/L	198.88 mg/L
Chloroform	2.0 ug/L	1.687 ug/L
Dimethyl phthalate	2.03 ug/L	2.03 ug/L
Uranium	2.2 ug/L	2.2 ug/L
Flouride	0.590 mg/L	0.370 mg/L
Sulfate	54 mg/L	54 mg/L
Barium	0.068 mg/L	0.062 mg/L
Boron	0.2 mg/L	0.2 mg/L
Iron	0.041 mg/L	0.041 mg/L
Manganese	0.012 mg/L	0.01 mg/L
Magnesium	14 mg/L	11.92 mg/L
Bis(2-Ethylhexyl)phthalate	62.2 ug/L	8.96 ug/L
Aluminum	29 ug/L	14.26 ug/L
Toxaphene	1 ug/L (*)	1 ug/L (*)
2,4-D	0.538 ug/L	0.24 ug/L
Dicamba	0.634 ug/L	0.244 ug/L

Footnote:

* Pollutants were tested at levels above EPA MQL and reported as being non-detect.

A summary of the last 36 months of available pollutant data (i.e., January 2020 through January 2023) taken from DMRs indicates the facility experienced several exceedances of permit limits (shown in parenthesis) for Mercury (2), Ammonia (3), TSS percent removal (1), E. coli (1), and BOD_5 (1).

V. 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 existing NPDES permit initially issued May 10, 2018, with an effective date of July 1, 2018, and an expiration date of June 30, 2023. The facility was not able to submit a complete application to EPA by the permit expiration date. Therefore, the permit has been expired and cannot be administratively continued. A new permit is needed to be issued.

VI. 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 require that NPDES permit limits are developed that meet the more stringent of either technology-based ELGs, 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_5, and percent removal for both. Water quality-based effluent limitations are established in the proposed draft permit for fecal coliform bacteria, *E. coli* bacteria, TRC, and pH.

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. The facility is a POTW. POTWs have technology based ELGs 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 (su) 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 4 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 * 2.0 MGD
30-day average TSS loading = 500 lbs

7-day average TSS loading = 45 mg/l * 8.345 lbs/gal * 2.0 MGD
7-day average TSS loading = 751 lbs

30-day average BOD_5 loading = 30 mg/l * 8.345 lbs/gal * 2.0 MGD
30-day average BOD_5 loading = 500 lbs

7-day average BOD_5 loading = 45 mg/l * 8.345 lbs/gal * 2.0 MGD
7-day average BOD_5 loading = 751 lbs

Technology-Based Effluent Limits – 2.0 MGD design flow.

Table 4

EFFLUENT CHARACTERISTICS	**30-Day Avg.**	**7-Day Avg.**	**30-Day Avg.**	**7-Day Avg.**
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD_5	500 lbs/Day	751 lbs/Day	30 mg/L[*3]	45 mg/L[*3]
BOD_5, % removal, minimum [*1]	≥ 85%	---	---	---
TSS	500 lbs/Day	751 lbs/Day	30 mg/L	45 mg/L
TSS, % removal, minimum [*1]	≥ 85%	---	---	---
pH	N/A	N/A	6 - 9 standard units[*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 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.
*3 The BOD_5 concentrations based on stream segment specific WQS are more stringent than BOD_5 technology-based limits of 30 mg/L (30-day Average) and 45 mg/L (7-day Average). Mass loadings will be recalculated based on the more stringent concentrations. See Part C.4.c below.

The facility will be required to monitor BOD_5 and TSS influent on the frequency of once per week for use to determine the removal percentage. The facility shall diligently maintain a log. The BOD5 and TSS 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, state, or tribal WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with the State/Tribal 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 and Tribal Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC effective September 24, 2022). The facility discharges into Unnamed Arroyo (Rio Pueblo de Taos to Taos WWTP – AU ID No. NM-99A_005) in Waterbody Segment 20.6.4.98 thence to the Rio Pueblo de Taos (Arroyo del Alamo to R Grande del Rancho – AU ID No. NM-2119_30) in Waterbody Segment 20.6.4.122 of the Rio Grande Basin. The Unnamed Arroyo's designated uses include: Warmwater aquatic life, livestock watering, wildlife habitat and primary contact. The designated uses of Rio Pueblo de Taos are coldwater aquatic life, fish culture, irrigation, wildlife habitat, livestock watering, and primary contact.

The north bank of the Rio Pueblo de Taos, also known as the Rio Pueblo, is bordered by the Pueblo of Taos. The Pueblo of Taos WQS applies to the northern half of the river, while State WQS is applying to the southern half. The Pueblo of Taos WQS (effective March 8, 2019) establishes designed uses of the Rio Pueblo, below Los Cordovas as domestic water supply (including groundwater recharge), wildlife habitat, cold water fishery, irrigation, livestock watering & wildlife water, aquatic life (acute & chronic criteria), and primary human contact/ceremonial use.

In this document, references to State/Tribal WQS and/or rules shall mean collectively either or both the Pueblo of Taos and/or the State of New Mexico. Where different standards apply for a particular pollutant, the most stringent standard will be used to develop effluent limitations to protect for all applicable designated 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 ELGs (technology based). State/Tribal WQS that are more stringent than ELGs are as follows:

a. pH

The State of New Mexico WQS criteria applicable to cold-water aquatic life designated use and Pueblo of Taos WQS criteria for cold-water fishery designated use require pH to be between 6.6 s.u. and 8.8 s.u., which were in the previous permit. This is more restrictive than the mentioned technology-based limits. The EPA proposes limits of 6.6 to 8.8 s.u. for pH in the draft permit.

b. Bacteria

The State of New Mexico E. coli WQS (segment-specific) for Rio Pueblo de Taos in Waterbody Segment 20.6.4.122 of the Rio Grande Basin are 126 cfu/100 mL (monthly geometric mean) and 235 cfu/100 mL (single sample), and for Unnamed Arroyo in Waterbody Segment 20.6.4.98 are 206 cfu/100 mL (monthly geometric mean) and 940 cfu/100 mL (single sample). The Pueblo of Taos numeric criteria for the ceremonial use – primary human contact designated use also requires 126 cfu/100 mL (monthly geometric mean), 235 cfu/100 mL (single sample) for E. coli, which were in the previous permit. These criteria are more restrictive than the segment-specific criteria established for Unnamed Arroyo. The EPA proposes them in the draft permit.

The Pueblo of Taos, also, has Fecal coliform bacteria numeric criteria for the ceremonial use – primary human contact designated use. They require 200 cfu/100 mL (monthly geometric mean) and 400 cfu/100 mL (single sample), which were in the previous permit. The EPA proposes limits of 200 cfu/100 mL (monthly geometric mean) and 400 cfu/100 mL (single sample) for Fecal coliform bacteria in the draft permit.

c. Nutrients (Total Nitrogen and Total Phosphorous)

The "2022-2024 State of New Mexico Integrated Clean Water Act Section 303(d) / 305(b) Report lists Rio Pueblo de Taos (from Arroyo del Alamo to Rio Grande del Rancho) impaired for Plant Nutrients and Temperature. The NMED developed a TMDL for Aluminum, turbidity and plant nutrients for the Upper Rio Grande Watershed, which was approved by EPA on February 27, 2025. The TMDL established a 30-day average mass limit of 35.1 lbs/day at a target end-of-pipe concentration of 4 mg/l for Total Phosphorous concentration and a 30-day average mass limit of 96.6 lbs/day at a target end-of-pipe concentration of 11 mg/l for Total Nitrogen, which will be proposed in the draft permit.

d. Dissolved Oxygen (DO)

The facility discharges treated effluent into Unnamed Arroyo in Waterbody Segment 20.6.4.98 thence to the Rio Pueblo de Taos in Waterbody Segment 20.6.4.122 of the Rio Grande Basin.

For Unnamed Arroyo in Waterbody Segment 20.6.4.98, the State of New Mexico WQS criteria designate a use of the receiving stream as warmwater aquatic life. Warmwater aquatic life water quality criteria requires a DO minimum of at least 5 mg/L. Downstream of Unnamed Arroyo receiving stream is the Rio Pueblo de Taos. Both State of New Mexico and Pueblo of Taos WQS establishes one of the designed uses as coldwater aquatic life/coldwater fishery for it. The State of New Mexico and Taos Pueblo WQS criterion applicable to coldwater aquatic life/coldwater fishery designated use is at least 6 mg/L for dissolved oxygen, which is more restrictive than the warmwater aquatic life water quality criterion of 5 mg/L. The Unnamed Arroyo has 4Q3 flow of 0 cfs. When the 4Q3 flow of receiving water is zero, the discharge must meet end-of-pipe criteria. To protect downstream water quality, the discharge, in this case, must meet the DO criterion of 6 mg/L following final treatment and prior to discharge into the receiving water. Data submitted in Form 2A (see Section III above) show in the facility's effluent DO concentrations are well above 6 mg/L. No compliance schedule will be included in the draft permit since the effluent has met this newly established limit.

Like the previous permit, 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 derive permit limits for parameters (i.e., BOD_5, ammonia, etc.), which might have an effect on the receiving stream's DO concentrations.

Town of Taos Treatment Plant's design flow of 2 MGD (0.09 m^3/s), the receiving water critical flow of 3.379 MGD (0.148 m^3/s), and various BOD_5 factors including BOD_5 Secondary Treatment Standards were considered and simulated to achieve the State and tribal DO criterion (i.e., 6 mg/L). A complete characterization of Rio Pueblo de Taos waterbody (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.

- Town of Taos Treatment Plant's design flow is 2 MGD (0.09 m3/s) . The discharge location provided in the permit application is located at Latitude 36° 22' 24" North, and Longitude -105° 39' 21" West. Other effluent parameters provided in the permittee's NPDES application which were applied in the model include effluent DO (Avg: 7.45 mg/L), temperature (Avg: 21 ºC), Nitrate/nitrite (Avg: 8 mg/L) and Ammonia (as N) (Avg: 1 mg/L). Facility effluent E. coli bacteria of 60 MPN/100 ml obtained from the facility DMR was also used
- NMED provided the following information. The critical low flow of receiving stream is approximately 3.379 MGD (0.148 m3/s). Other parameters applied in the model include ambient E. Coli (Avg: 10.89 MPN/100mL), Nitrate plus Nitrite Nitrogen (Avg: 0.289 mg/L), temperature (Avg: 11.3 ºC), DO (Avg: 10.45 mg/L), and Phosphorous (Avg: 1.13 mg/L). Ambient BOD_5 (1 mg/l for 30-day average and 5 mg/l for 7-day average) were assumed since no data were available.
- The EPA used the State of New Mexico's OpenEnviroMap to estimate the average elevation of the study area, segment length and average width of Rio Pueblo de Taos. The average elevation is approximately 2124 meters. The average width of 5 meters (~16 feet) and depth of 1 meter (~3 feet) were assumed for Rio Pueblo de Taos at critical conditions, and the studied segment length is 8.6 kilometers.

The modeled output shows an excursion of the DO standard of 6 mg/L part of the receiving water when the TBEL BOD_5 limits of 30 mg/L for the 30-day average and 45 mg/L for the 7-day average ("30/45 mg/L BOD_5") were applied in the modeling (see graph with 30/45 mg/L BOD_5 in Appendix 4; other detail information is available upon request). Various BOD_5 factors were considered and simulated to achieve the DO criterion; the EPA believes the optimal levels of BOD_5 for protection of the DO WQS are 17/22 mg/L (see attached graph with 17/22 mg/L BOD_5 in Appendix 5). The previous permit BOD_5 limits of 17/21 mg/L is more restrictive than the resulted BOD5 levels of 17/22 mg/L. To meet the Clean Water Act, Section 402(o) and 40 CFR 122.44(l)(i)(A) anti-backsliding requirements, EPA proposes retaining the limits of 17 mg/L for the 30-day average and 21 mg/L for the 7-day average for BOD_5 in the draft permit.

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

e. 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 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 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.

The facility submitted to EPA a NPDES application (Forms 2A/2S) for permit renewal on March 31, 2023. The EPA, also, received supplemental pollutant data from permittee on July 12, 2023, and August 4, 2023. The pollutants were either tested above MQLs or were tested at levels above EPA MQL and reported as being non detect are listed in Table 2 in Part IV. Arsenic, Copper, Zinc, Chloroform, Dimethyl phthalate, Uranium, Barium, Boron, Bis(2-Ethylhexyl) phthalate, Flouride, Lead, Sulfate, Iron, Manganese, Aluminum, and Magnesium were found above minimum MQL. Meanwhile, Toxaphene and Beryllium were tested at levels above EPA MQL and reported as being non detect.

The EPA evaluated all these pollutants for reasonable potential (RP) to cause or contribute to State/Tribal WQS exceedances. If RP exists, the screen calculates the appropriate permit limit needed to be protective of such designated uses, as required by 40 CFR 122.44(d)(1)(iii).

Critical conditions are used to establish certain permit limitations and conditions. Both the state and tribal 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 NMED provided the 4Q3 of 0 cfs and 5.228 cfs, and the harmonic mean flow of 0 cfs and 10.079 cfs for Unnamed Arroyo and Rio Pueblo de Taos, respectively. When the 4Q3 of receiving water is zero, the discharge must meet end-of-pipe criteria, and the CD is 100%.

The EPA conducted two separate reasonable potential analyses. One of the RP analyses, EPA used a "0" 4Q3 and "0" harmonic mean for evaluation of the reasonable potential for discharges of pollutants from the Taos WWTP to cause or contribute to exceedances of all human health criteria and all other acute and chronic numeric criteria set forth in 20.6.4.900 NMAC for the warmwater aquatic life, livestock watering, wildlife habitat and primary contact designated uses of the 20.6.4.98 NMAC receiving stream.

For the other RP analysis, EPA used a "5.228 cfs" 4Q3 and "10.079 cfs" harmonic mean to calculate a reasonable potential for the Rio Pueblo de Taos for the designated uses of domestic supply, wildlife habitat, irrigation, livestock and wildlife watering, and aquatic life (acute and chronic criteria). This calculation utilizes the numeric criteria of the Taos Pueblo WQS. Both RP analyses were based on the NMIP as of March 15, 2012. The results of the State of New Mexico and Pueblo of Taos RP analyses, in Appendices 1 and 2, respectively, indicate the discharge has RP to cause or contribute to violations of State/Tribal WQS of the receiving water for Bis(2-Ethylhexyl) phthalate and Toxaphene. The EPA proposes Bis(2-Ethylhexyl) phthalate limits of 3.7 ug/L and 0.062 lbs/day (monthly geometric mean), and 3.702 ug/L and 0.062 lbs/day (daily maximum) with a monitoring frequency of 3 times per week using grab samples. The facility shall have a 3-year compliance schedule to achieve final limitations for Bis(2-Ethylhexyl) Phthalate pollutant. The permit will require compliance report schedule. For Toxaphene, because the permittee has not met the sufficient sensitive test requirement per 40 CFR 122.21(e)(3), EPA proposes facility to monitor the pollutant 3 times per week using grab samples in the draft permit. During the public comment period, permittee may submit results using EPA Method 608 for Toxaphene. The EPA may reconsider this monitoring requirement upon the results.

The DMR shows that a couple of exceedances of the Mercury permit effluent limits occurred during the last permit cycle. The EPA proposes Mercury to be sampled three times per week using grab samples. The EPA proposes previous permit Mercury limits of 0.027 ug/L and 0.00045 lbs/day (monthly geometric mean), and 0.041 ug/L and 0.00068 lbs/day (daily maximum) in the draft permit.

(ii) TRC

The facility uses UV disinfection, so chlorine is not normally added to the effluent. TRC limits are placed in the permit in the event chlorine is used as backup bacteria disinfection treatment and/or cleaning and disinfection of process equipment and/or used to control filamentosus algae. The State of New Mexico WQS establish acute end-of-pipe criteria of 19 µg/L and chronic in-stream criteria of 11 µg/L for TRC. Under the cold-water fishery designated use, Pueblo of Taos

criteria for TRC is 3 µg/L. The criterion of 3 µg/L is the most stringent limitation. The EPA proposes TRC limit of 3 µg/L, when chlorine is used. in the draft permit.

(iii) Ammonia

The "2022-2024 State of New Mexico Integrated Clean Water Act Section 303(d) / 305(b) Report lists Rio Pueblo de Taos (from Arroyo del Alamo to Rio Grande del Rancho) impaired for Plant Nutrients and Temperature. The DMR shows that several exceedances of the Ammonia permit effluent limits occurred during the last permit cycle. The EPA proposes Ammonia to be sampled three times per week using grab samples. The EPA, also, proposes previous permit Ammonia concentration limits of 3.75 mg/L (monthly geometric mean) and 5.62 mg/L (daily maximum), and the Ammonia mass limits of 63 lbs/day (monthly geometric mean) and 94 lbs/day (daily maximum) in the draft permit.

(iv) Per- and Polyfluoroalkyl Substances (PFAS)

EPA currently has no data indicating that PFAS is present in the Town of Taos WWTP effluent. 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, 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. The 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 5 lists Region 6 recommended PFAS monitoring frequencies for different facility types.

Table 5: Region 6 Recommended Monitoring Frequencies

Facility Type [1,2]	**Measurement 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. 303(d) List

The "2022-2024 State of New Mexico Integrated Clean Water Act Section 303(d) / 305(b) Report lists Rio Pueblo de Taos (from Arroyo del Alamo to Rio Grande del Rancho) impaired for Plant Nutrients and Temperature. A TMDL for temperature and stream bottom deposits for the Upper Rio Grande Watershed was developed and approved by EPA on December 17, 2004. No point source contributions were associated with this TMDL. NMED developed a TMDL for Aluminum, turbidity and plant nutrients for the Upper Rio Grande Watershed, which was approved by EPA on February 27, 2025. Permit conditions identified in Part VI above are based on the approved TMDLs to address these pollutants. No additional pollutants are listed for this waterbody. The standard reopener language in the permit allows additional permit conditions if warranted by future changes and/or new TMDLs.

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). Sample frequency is based on the table 9 (page 34 of the NMIP) with design flow between 1 and 5 MGD.

Parameter	**Frequency**	**Sample Type**
Flow	Daily	Totalized Meter
pH	Daily	Grab
BOD_5	1/week	6-Hour Composite
TSS	1/week	6-Hour Composite
% Removal	1/week	Calculation
TRC (if necessary)	Daily	Instantaneous Grab
E. coli Bacteria	1/week	Grab
Fecal Coliform Bacteria	1/week	Grab
Mercury	3/week	Grab
Bis(2-Ethylhexyl) phthalate	3/week	Grab
Ammonia Total	3/week	Grab
Total Phosphorous	1/month	6-Hour Composite
Total Nitrogen	1/month	6-Hour Composite

E. WHOLE EFFLUENT TOXICITY (WET) REQUIREMENTS

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. Analysis of the facility past WET data to determine RP was conducted and shown in the Appendix 3. The results show no reasonable potential. EPA concludes that based on the passed WET tests and the Reasonable Potential Analyzer, reasonable potential to cause toxicity does not exist. The draft permit will not propose any WET limits. However, continuation of WET monitoring is proposed in the draft permit. The WET test requirement in the previous permit will be continued in the draft permit. The permittee shall continue to conduct a 7-day chronic test using a once per quarter frequency for *Ceriodaphnia dubia* and a once per quarter frequency for the entire permit term for *Pimephales promelas*. If during the first year all four tests pass both the lethal and sub-lethal test endpoints, then the permit may allow a frequency reduction of once per six-months and once per year for *Ceriodaphnia dubia* and *Pimephales promelas,* respectively. Any failure shall re-establish all tests for the *Ceriodaphnia dubia* and *Pimephales promelas* test species to once per three-month for the remainder of the permit. The *Ceriodaphnia dubia* and *Pimephales promelas* test species shall resume monitoring at a once per quarter frequency on the last day of the permit.

The critical condition is 100%. The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 1 dilution series. These additional effluent concentrations shall be 32%, 42%, 56%, 75%, and 100%. This test would also demonstrate that the downstream Rio Pueblo de Taos is also being protected from WET.

The permittee shall conduct separate whole effluent toxicity tests in accordance to Table 5.

Table 5

WHOLE EFFLUENT TOXICITY (7-day Static renewal) 1/	**NOEC**	**MEASUREMENT FREQUENCY**	**SAMPLE TYPE**
Pimephales promelas	Report	Once/Quarter	24-Hr Composite
Ceriodaphnia dubia	Report	Once/Quarter	24-Hr Composite

Footnote:

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. EFFLUENT TESTING FOR APPLICATION RENEWAL

In addition to the parameters identified in this fact sheet, EPA designated major POTW's are required to sample and report other parameters listed in tables of the EPA Form 2A and WET testing for its permit renewal. The minimum pollutant testing for NPDES permit renewals specified in Form 2A requires three samples for each of the parameters being tested. Current practice is to obtain the three samples over a short time frame, sometimes within two weeks during the permit renewal purposes, the draft permit shall require that the testing for Tables A.12, B.6, and Part D of EPA Form 2A, or its equivalent if modified in the future, during the second, third and fourth years after the permit effective date. This testing shall coincide with any

required WET testing event for that year. The permittee shall report the results as a separate attachment in tabular form sent to the NPDES Permitting and Wetlands Section Supervisor of the Water Division within 60 days of receipt of the lab analysis and shall also be reported on the NPDES permit renewal application Form 2A or its equivalent/replacement.

VII. FACILITY OPERATIONAL PRACTICES

A. SEWAGE SLUDGE PRACTICES

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 later 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 a sludge-only permit has been issued. Part IV of the draft permit contains sewage sludge permit requirements.

B. 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.

C. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The treatment plant has no non-categorical Significant Industrial User's and no Categorical Industrial User's. 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 Section307(b) of the CWA and 40 CFR Part 403.

D. OPERATION AND REPORTING

The applicant is required to always operate the treatment facility at maximum efficiency; to monitor the facility's discharge on a regular basis; and report the results monthly. 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.

VIII. ANTIDEGRADATION

Since the facility did not submit to EPA a complete permit renewal application prior to their previous permit expiration date (June 30, 2023), 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 Shelly Lemon, Bureau Chief, to Mr. Brent Larsen, Permitting Section Manager, and Mr. Francisco Espinoza, Director of Public Works, dated March 6, 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 Town of Taos 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) and the Pueblo of Taos (Section II of Pueblo of Taos WQS) both have 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 and Pueblo of Taos 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. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet anti-backsliding 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 requirements of the previous permit, including all final effluent limitations.

X. 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=35055, six species in Taos County are listed as endangered (E) or threatened (T). Six species include the Southwestern Willow Flycatcher *(Empidonax traillii extimus)* (E), the Yellow-billed Cuckoo *(Coccyzus americanus)* (T), the Mexican spotted owl (*Strix occidentalis lucida*) (T), Canada Lynx *(Lynx Canadensis)* (T), the black-footed ferret (*Mustela nigripes)* (E), and the New Mexico meadow jumping mouse *(Zapus hudsonius luteus)* (E)

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 May 10, 2018, EPA made a “no effect” determination for federally listed species mentioned above except for the New Mexico meadow jumping mouse. 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. New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*): The jumping mouse is a small, nocturnal, solitary mammal and an obligate riparian subspecies. Its historical distribution likely included riparian wetlands along streams in the Sangre de Cristo and San Juan Mountains from southern Colorado to central New Mexico, including the Jemez and Sacramento Mountains and the Rio Grande Valley from Española to Bosque del Apache National Wildlife Refuge, and into parts of the White Mountains in eastern Arizona. Ongoing and future habitat loss is expected to result in additional extirpations of more populations. Research indicates that the primary sources of past and future habitat losses are from grazing pressure (which removes the needed vegetation) and water management and use (which causes vegetation loss from mowing and drying of soils), lack of water due to drought (exacerbated by climate change), and wildfires (also exacerbated by climate change). Additional sources of habitat loss are likely to occur from scouring floods, loss of beaver ponds, highway reconstruction, coal-bed methane development, and unregulated recreation. The permit does not authorize activities that may cause destruction of the New Mexico Meadow Jumping Mouse habitat, and issuance of the permit will have no effect on this species.
3. The EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations.
4. The draft permit is consistent with the States WQS and does not increase pollutant loadings.
5. There is currently no information determining that the reissuance of this permit will have “effect” on the additional listed threatened and endangered species.

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 relevant portions of either State or Pueblo WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the State Water Quality Standards are either revised or promulgated. Should either the State or Pueblo of Taos adopt a new WQS, and/or develop or amend a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved standard and/or water

quality management plan, in accordance with 40 CFR 122.44(d). 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

The permit is in the process of certification by the State of New Mexico 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.

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 March 31, 2023.

Supplemental information provided via email on July 12, 2023, and August 4, 2023.

B. 40 CFR CITATIONS

Sections 122, 124, 125, 133, 136

C. STATE WATER QUALITY REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, effective September 24, 2022

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

Statewide Water Quality Management Plan, December 17, 2002.

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2022-2024.

EPA-Approved Total Maximum Daily Loads for The Upper Rio Grande Watershed, February 27, 2025

E. PUEBLO OF TAOS REFERENCES

Pueblo of Taos Water Quality Standards, effective March 8, 2019.

Appendix 1

		CALCULATIONS OF NEW MEXICO WATER QUALITY-BASED EFFLUENT LIMITATIONS			
NMAC 20.6.4.	**NMWQS as of 2023 (EPA Approved January 19, 2023)**				
Calculations Specifications:		Excel	**Revised (in red text) as of February 2023**		
Prepared By:	Quang Nguyen		27-Jul-23	4:08 PM	
STEP 1:	REFERENCE IMPLEMENTATION PROCEDURES		**APPENDIX 1**		
	INPUT FACILITY AND RECEIVING STREAM DATA		**of FACT SHEET**		
	LIST SOURCE OF DATA INPUT				
IMPLEMENTATION PROCEDURES					
The State of New Mexico Standards for Interstate and Intrastate Surface Waters are implemented in this spread sheet					
by using procedures established in the current "Procedures for Implementing NPDES Permits in New Mexico"					
FACILTY			DATA INPUT		
Permittee			Town of Taos		
NPDES Permit No.			NM0024066		
Outfall No.(s)			1		
Plant Effluent Flow (MGD)			2	For industrial and federal facility, use the highest monthly average flow	
Plant Effluent Flow (cfs)			3.1	for the past 24 months. For POTWs, use the design flow.	
RECEIVING STREAM			DATA INPUT		
Receiving Stream Name			Unnamed Arroyo		
Basin Name			Rio Grande Basin		
Waterbody Segment Code No.			20.6.4.98		
Is a publicly owned lake or reservoir (enter "1" if it's a lake, "0" if not)			0		
Are acute aquatic life criteria considered (1= yes, 0= no)			1		
Are chronic aquatic life criteria considered (1= yes, 0=no)			1		
Are domestic water supply criteria considered (1= yes, 0=no)			0		
Are irrigation water supply criteria considered (1= yes, 0=no)			1		
Livestock watering and wildlife habitat criteria applied to all streams					
USGS Flow Station			USGS		
WQ Monitoring Station No.			SJR		
Receiving Stream TSS (mg/l)			8.743	For intermittent stream, enter effluent TSS	
Receiving Stream Hardness (mg/l as CaCOs)		RANGE: 0 - 400	210.22	For intermittent stream, enter effluent Hardness (If no data, 20 mg/l is used)	
Receiving Stream Critical Low Flow (4Q3) (cfs)			0	Enter "0" for intermittent stream and lake.	
Receiving Stream Harmonic Mean Flow (cfs)			0.001	Enter harmonic mean or modified harmonic mean flow data or 0.001 if no data is available	
Avg. Receiving Water Temperature (C)			11.863		
pH (Avg), Receiving Stream			8.41		
Fraction of stream allowed for mixing (F)			1	Enter 1, if stream morphology data is not available or for intermittent streams.	
Fraction of Critical Low Flow			0		

STEP 2:	INPUT AMBIENT AND EFFLUENT DATA																
	CALCULATE IN-STREAM WASTE CONCENTRATIONS																
DATA INPUT			Input pollutant geometric mean concentration as micro-gram per liter (ug/l or ppb)														
			unless other unit is specified for the parameter.														
			Effluent value reported as "< detection level" (DL) but the DL is greater than MQL, input "1/2 DL" for calculation.														
			Effluent value reported as "< detection level" (DL) and the DL is smaller than MQL, no data is inputted.														
			If a less than MQL vakue is reported, input either the reported value or "0" for calculation.														
			The following formular is used to calculate the Instream Waste Concentration (Cd)														
			See the current "Procedures for Implementing NPDES Permits in New Mexico"														
			Cd = [(F*Qa*Ca) + (Qe*2.13*Ce)] / (F*Qa + Qe)														
			Where:														
			Cd = Instream Waste Concentration														
			F = Fraction of stream allowed for mixing (see "Procedures for Implementing NPDES Permits in New Mexico")														
			Ce = Reported concentration in effluent														
			Ca = Ambient stream concentration upstream of discharge														
			Qe = Plant effluent flow														
			Qa = Critical low flow of stream at discharge point expressed as the 4Q3 or harmonic mean flow for human health criteria														
The following formular convert metals reported in total form to dissolved form if criteria are in dissolved form																	
See the current "Procedures for Implementing NPDES Permits in New Mexico"																	
Kp = Kpo * (TSS**a)					Kp = Linear partition coefficient; Kpo and a can be found in table below												
C/Ct = 1/ (1 + Kp*TSS* 10^-6)					TSS = Total suspended solids concentration found in receiving stream (or in effluent for intermittent stream)												
Total Metal Criteria (Ct) = Cr / (C/Ct)					C/Ct = Fraction of metal dissolved; and Cr = Dissolved criteria value												
			Stream Linear Partition Coefficient							Lake Linear Partition Coefficient							
Total Metals	Total Value		Kpo	alpha (a)	Kp	C/Ct	Dissolved Value in Stream			Kpo	alpha (a)	Kp	C/Ct	Dissolved Value in Lake			
Arsenic	1.4		480000	-0.73	98589.14225	0.537067061	0.75189388			480000	-0.73	98589.14225	0.537067061	0.7518939			
Chromium III			3360000	-0.93	447296.0186	0.203636579	0			2170000	-0.27	1208401.915	0.086467358	0			
Copper	3.6		1040000	-0.74	209028.0578	0.353665278	1.273195			2850000	-0.9	404902.4732	0.220261294	0.7929407			
Lead	0.68		2800000	-0.8	494116.8324	0.187967682	0.12781802			2040000	-0.53	646472.5871	0.150328246	0.1022232			
Nickel			490000	-0.57	142380.2029	0.445468008	0			2210000	-0.76	425334.2054	0.211922912	0			
Silver			2390000	-1.03	256146.0177	0.308691077	0			2390000	-1.03	256146.0177	0.308691077	0			
Zinc	73		1250000	-0.7	273998.18	0.294501704	21.4986244			3340000	-0.68	764570.1553	0.130129766	9.4994729			
The following formular is used to calculate hardness dependent criteria										Dissolved							
(Please refer to State Water Quality Standards for details)										WQC (ug/l)							
Aluminum (T)			Acute			e(1.3695[ln(hardness)]+1.8308)				9462.555156		If Stream pH < 6.5, enter 750 in cell O114					
			Chronic			e(1.3695[ln(hardness)]+0.9161)				3791.047809		If Stream pH < 6.5, enter 87 in cell P114					
Cadmium (D)			Acute			e(0.8968[ln(hardness)]-3.5699)*CF1				3.111837969		CF1 = 1.136672 - 0.041838*ln(hardness)					
			Chronic			e(0.7647[ln(hardness)]-4.2180)*CF2				0.772231701		CF2 = 1.101672 - 0.041838*ln(hardness)					

										Dissolved						
										WQC (ug/l)						
Chromium III (D)			Acute			0.316 e(0.819[ln(hardness)]+3.7256)				1047.043286						
			Chronic			0.860 e(0.819[ln(hardness)]+0.6848)				136.1988198						
Copper (D)			Acute			0.960 e(0.9422[ln(hardness)]-1.700)				27.06413097						
			Chronic			0.960 e(0.8545[ln(hardness)]-1.702)				16.89767625						
Lead (D)			Acute			e(1.273[ln(hardness)]-1.46)*CF3				143.532171		CF3 = 1.46203 - 0.145712*ln(hardness)				
			Chronic			e(1.273[ln(hardness)]-4.705)*CF4				5.593242642		CF4 = 1.46203 - 0.145712*ln(hardness)				
Manganese (D)			Acute			e(0.3331[ln(hardness)]+6.4676)				3824.068923						
			Chronic			e(0.3331[ln(hardness)]+5.8743)				2112.801979						
Nickel (D)			Acute			0.998 e(0.846[ln(hardness)]+2.255)				877.9035978						
			Chronic			0.997 e(0.846[ln(hardness)]+0.0584)				97.50798614						
Silver (D)			Acute			0.85 e(1.72[ln(hardness)]-6.59)				11.54562971						
Zinc (D)			Acute			0.978 e(0.9094[ln(hardness)]+0.9095)				314.4629256						
			Chronic			0.986 e(0.90947[ln(hardness)]+0.6235)				238.2658914						
						Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
POLLUTANTS				Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
				Conc.	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
		CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
Radioactivity, Nutrients, and Chlorine																
Aluminum, total		7429-90-5	2.5	34	29	61.77	61.77	61.77	61.7610448	1E+100	1E+100	1E+100	9462.555156	3791.0478	1E+100	N/A
Aluminum, dissolved		7429-90-5			0	0	0	0	0	1E+100	5000	1E+100	1E+100	1E+100	1E+100	N/A
Barium, dissolved		7440-39-3	100	0	68	144.84	144.84	144.84	144.793292	2000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Boron, dissolved		7440-42-8	100	0	200	426	426	426	425.862625	1E+100	750	5000	1E+100	1E+100	1E+100	N/A
Cobalt, dissolved		7440-48-4	50			0	0	0	0	1E+100	50	1000	1E+100	1E+100	1E+100	N/A
Uranium, dissolved		7440-61-1	0.1	1.617	2.2	4.686	4.686	4.686	4.68501032	30	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Vanadium, dissolved		7440-62-2	50			0	0	0	0	1E+100	100	100	1E+100	1E+100	1E+100	N/A
Ra-226 and Ra-228 (pCi/l)						0	0	0	0	5	1E+100	30	1E+100	1E+100	1E+100	N/A
Strontium (pCi/l)						0	0	0	0	8	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Tritium (pCi/l)						0	0	0	0	20000	1E+100	20000	1E+100	1E+100	1E+100	N/A
Gross Alpha (pCi/l)						0	0	0	0	15	1E+100	15	1E+100	1E+100	1E+100	N/A
Asbestos (fibers/l)						0	0	0	0	7000000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Total Residual Chlorine		7782-50-5	33			0	0	0	0	1E+100	1E+100	11	19	11	1E+100	N/A
Ammonia as N, total (mg/l)				0.206	1	2.13	2.13	2.13	2.12937955	1E+100	1E+100	1E+100	Criterion	Criterion	1E+100	N/A
Nitrate as N (mg/l)						0	0	0	0	10	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Nitrite + Nitrate (mg/l)				0.289	12	25.56	25.56	25.56	25.5518507	1E+100	1E+100	132	1E+100	1E+100	1E+100	N/A
METALS AND CYANIDE																
Antimony, dissolved (P)		7440-36-0	60			0	0	0	0	6	1E+100	1E+100	1E+100	1E+100	640	N/A
Arsenic, dissolved (P)		7440-38-2	0.5	0	0.751893885	1.601533975	1.60153397	1.60153397	1.60101752	10	100	200	340	150	9	N/A
Beryllium, dissolved		7440-41-7	0.5	0	2	4.26	4.26	4.26	4.25862625	4	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Cadmium, dissolved		7440-43-9	1			0	0	0	0	5	10	50	3.111837969	0.7722317	1E+100	N/A
Chromium (III), dissolved		16065-83-1	10		0	0	0	0	0	1E+100	1E+100	1E+100	1047.043286	136.19882	1E+100	N/A
Chromium (VI), dissolved		18540-29-9	10			0	0	0	0	1E+100	1E+100	1E+100	16	11	1E+100	N/A
Chromium, dissolved		7440-47-3				0	0	0	0	100	100	1000	1E+100	1E+100	1E+100	N/A
Copper, dissolved		7440-50-8	0.5	0	1.273195001	2.711905351	2.71190535	2.71190535	2.71103083	1300	200	500	27.06413097	16.897676	1E+100	N/A
Lead, dissolved		7439-92-1	0.5	0	0.127818024	0.272252391	0.27225239	0.27225239	0.2721646	15	5000	100	143.532171	5.5932426	1E+100	N/A
Manganese, dissolved		7439-96-5				0	0	0	0	1E+100	1E+100	1E+100	3824.068923	2112.802	1E+100	N/A

					Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
			Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
POLLUTANTS			Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
	CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
Mercury, dissolved	7439-97-6	0.005			0	0	0	0	1E+100	1E+100	1E+100	1.4	0.77	1E+100	N/A
Mercury, total	7439-97-6	0.005			0	0	0	0	2	1E+100	0.77	1E+100	1E+100	1E+100	N/A
Molybdenum, dissolved	7439-98-7				0	0	0	0	1E+100	1000	1E+100	1E+100	1E+100	1E+100	N/A
Molybdenum, total recoverable	7439-98-7				0	0	0	0	1E+100	1E+100	1E+100	7920	1895	1E+100	N/A
Nickel, dissolved (P)	7440-02-0	0.5		0	0	0	0	0	700	1E+100	1E+100	877.9035978	97.507986	4600	N/A
Selenium, dissolved (P)	7782-49-2	5			0	0	0	0	50	130	50	1E+100	1E+100	4200	N/A
Selenium, dis (SO4 >500 mg/l)		5			0	0	0	0	50	250	50	1E+100	1E+100	4200	N/A
Selenium, total recoverable	7782-49-2	5			0	0	0	0	1E+100	1E+100	5	20	5	1E+100	N/A
Silver, dissolved	7440-22-4	0.5		0	0	0	0	0	1E+100	1E+100	1E+100	11.54562971	1E+100	1E+100	N/A
Thalllium, dissolved (P)	7440-28-0	0.5			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	0.47	N/A
Zinc, dissolved	7440-66-6	20	0	21.49862441	45.79207	45.79207	45.79207	45.7773031	10500	2000	25000	314.4629256	238.26589	26000	N/A
Cyanide, total recoverable	57-12-5	10			0	0	0	0	200	1E+100	5.2	22	5.2	140	N/A
Dioxin	1746-01-6	0.00001			0	0	0	0	3.00E-05	1E+100	1E+100	1E+100	1E+100	5.1E-08	N/A
VOLATILE COMPOUNDS															
Acrolein	107-02-8	50			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	400	N/A
Acrylonitrile	107-13-0	20			0	0	0	0	0.65	1E+100	1E+100	1E+100	1E+100	70	N/A
Benzene	71-43-2	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	160	N/A
Bromoform	75-25-2	10			0	0	0	0	44	1E+100	1E+100	1E+100	1E+100	1200	N/A
Carbon Tetrachloride	56-23-5	2			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	50	N/A
Chlorobenzene	108-90-7	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	800	N/A
Clorodibromomethane	124-48-1	10			0	0	0	0	4.2	1E+100	1E+100	1E+100	1E+100	210	N/A
Chloroform	67-66-3	50	0	2	4.26	4.26	4.26	4.25862625	57	1E+100	1E+100	1E+100	1E+100	2000	N/A
Dichlorobromomethane	75-27-4	10			0	0	0	0	5.6	1E+100	1E+100	1E+100	1E+100	270	N/A
1,2-Dichloroethane	107-06-2	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	6500	N/A
1,1-Dichloroethylene	75-35-4	10			0	0	0	0	7	1E+100	1E+100	1E+100	1E+100	20000	N/A
1,2-Dichloropropane	78-87-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	310	N/A
1,3-Dichloropropylene	542-75-6	10			0	0	0	0	3.5	1E+100	1E+100	1E+100	1E+100	120	N/A
Ethylbenzene	100-41-4	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	130	N/A
Methyl Bromide	74-83-9	50			0	0	0	0	49	1E+100	1E+100	1E+100	1E+100	10000	N/A
Methylene Chloride	75-09-2	20			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	10000	N/A
1,2,4,5-Tetrachlorobenzene	95-94-3				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.03	N/A
1,1,2,2-Tetrachloroethane	79-34-5	10			0	0	0	0	1.8	1E+100	1E+100	1E+100	1E+100	30	N/A
Tetrachloroethylene	127-18-4	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	290	N/A
Tolune	108-88-3	10			0	0	0	0	1000	1E+100	1E+100	1E+100	1E+100	520	N/A
1,2-trans-Dichloroethylene	156-60-5	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	4000	N/A
1,1,1-Trichloroethane	71-55-6				0	0	0	0	200	1E+100	1E+100	1E+100	1E+100	200000	N/A
1,1,2-Trichloroethane	79-00-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	89	N/A
Trichloroethylene	79-01-6	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	70	N/A
Vinyl Chloride	75-01-4	10			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	16	N/A
ACID COMPOUNDS															
2-Chlorophenol	95-57-8	10			0	0	0	0	175	1E+100	1E+100	1E+100	1E+100	800	N/A
2,4-Dichlorophenol	120-83-2	10			0	0	0	0	105	1E+100	1E+100	1E+100	1E+100	60	N/A
2,4-Dimethylphenol	105-67-9	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	3000	N/A
3-Methyl-4-chlorophenol	59-50-7				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	2000	N/A
2-Methyl-4,6-dinitrophenol	534-52-1	50			0	0	0	0	14	1E+100	1E+100	1E+100	1E+100	30	N/A

					Instream Waste Concentration										
		Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Livestock& Wildlife	Acute Aquatic	Chronic Aquatic	Human Health	Need TMDL
POLLUTANTS		Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
	CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
2,4-Dinitrophenol	51-28-5	50			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	300	N/A
Pentachlorophenol	87-86-5	50			0	0	0	0	1	1E+100	1E+100	19	15	30	N/A
Phenol	108-95-2	10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	860000	N/A
2,4,5-Trichlorophenol	95-95-4				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	600	N/A
2,4,6-Trichlorophenol	88-06-2	10			0	0	0	0	32	1E+100	1E+100	1E+100	1E+100	28	N/A
2-(2,4,5Trichlorophenoxy)propionic acid (Silvex)					0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	400	N/A
BASE/NEUTRAL															
Acenaphthene	83-32-9	10			0	0	0	0	2100	1E+100	1E+100	1E+100	1E+100	90	N/A
Anthracene	120-12-7	10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	400	N/A
Benzidine	92-87-5	50			0	0	0	0	0.0015	1E+100	1E+100	1E+100	1E+100	0.11	N/A
Benzo(a)anthracene	56-55-3	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.013	N/A
Benzo(a)pyrene	50-32-8	5			0	0	0	0	0.2	1E+100	1E+100	1E+100	1E+100	0.0013	N/A
3,4-Benzofluoranthene	205-99-2	10			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.0013	N/A
Benzo(k)fluoranthene	207-08-9	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.13	N/A
Bis(2-chloroethyl)Ether	111-44-4	10			0	0	0	0	0.3	1E+100	1E+100	1E+100	1E+100	22	N/A
Bis(2-chloro-1-methylethyl) ethe	108-60-1	10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	4000	N/A
Bis(2-ethylhexyl)Phthalate	117-81-7	10	0	62.2	132.486	132.486	132.486	132.443276	6	1E+100	1E+100	1E+100	1E+100	3.7	N/A
Bis(chloromethyl) ether	542-88-1				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.17	N/A
Butyl Benzyl Phthalate	85-68-7	10			0	0	0	0	7000	1E+100	1E+100	1E+100	1E+100	1	N/A
2-Chloronapthalene	91-58-7	10			0	0	0	0	2800	1E+100	1E+100	1E+100	1E+100	1000	N/A
Chrysene	218-01-9	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	1.3	N/A
2,4-Dichlorophenoxyacetic acid	94-75-7				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	12000	N/A
Dibenzo(a,h)anthracene	53-70-3	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.0013	N/A
1,2-Dichlorobenzene	95-50-1	10			0	0	0	0	600	1E+100	1E+100	1E+100	1E+100	3000	N/A
1,3-Dichlorobenzene	541-73-1	10			0	0	0	0	469	1E+100	1E+100	1E+100	1E+100	10	N/A
1,4-Dichlorobenzene	106-46-7	10			0	0	0	0	75	1E+100	1E+100	1E+100	1E+100	900	N/A
3,3'-Dichlorobenzidine	91-94-1	5			0	0	0	0	0.78	1E+100	1E+100	1E+100	1E+100	1.5	N/A
Diethyl Phthalate	84-66-2	10			0	0	0	0	28000	1E+100	1E+100	1E+100	1E+100	600	N/A
Dimethyl Phthalate	131-11-3	10			0	0	0	0	350000	1E+100	1E+100	1E+100	1E+100	2000	N/A
Di-n-Butyl Phthalate	84-74-2	10			0	0	0	0	3500	1E+100	1E+100	1E+100	1E+100	30	N/A
2,4-Dinitrotoluene	121-14-2	10			0	0	0	0	1.1	1E+100	1E+100	1E+100	1E+100	17	N/A
1,2-Diphenylhydrazine	122-66-7	20			0	0	0	0	0.44	1E+100	1E+100	1E+100	1E+100	2	N/A
Fluoranthene	206-44-0	10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	20	N/A
Fluorene	86-73-7	10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	70	N/A
Hexachlorobenzene	118-74-1	5			0	0	0	0	1	1E+100	1E+100	1E+100	1E+100	0.00079	N/A
Hexachlorobutadiene	87-68-3	10			0	0	0	0	4.5	1E+100	1E+100	1E+100	1E+100	0.1	N/A
Hexachlorocyclohexane (HCH)-T	608-73-1				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.1	N/A
Hexachlorocyclopentadiene	77-47-4	10			0	0	0	0	50	1E+100	1E+100	1E+100	1E+100	4	N/A
Hexachloroethane	67-72-1	20			0	0	0	0	25	1E+100	1E+100	1E+100	1E+100	1	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.013	N/A
Isophorone	78-59-1	10			0	0	0	0	368	1E+100	1E+100	1E+100	1E+100	18000	N/A
Nitrobenzene	98-95-3	10			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	600	N/A
Nitrosamines	Various				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	12.4	N/A
Nitrosodibutylamine	924-16-3				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	2.2	N/A
Nitrosodiethylamine	55-18-5				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	12.4	N/A
n-Nitrosodimethylamine	62-75-9	50			0	0	0	0	0.0069	1E+100	1E+100	1E+100	1E+100	30	N/A
n-Nitrosodi-n-Propylamine	621-64-7	20			0	0	0	0	0.05	1E+100	1E+100	1E+100	1E+100	5.1	N/A
n-Nitrosodiphenylamine	86-30-6	20			0	0	0	0	71	1E+100	1E+100	1E+100	1E+100	60	N/A
N-Nitrosopyrrolidine	930-55-2				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	340	N/A
Nonylphenol	84852-15-3				0	0	0	0	1E+100	1E+100	1E+100	28	6.6	1E+100	N/A
Pentachlorobenzene	608-93-5				0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.1	N/A
Pyrene	129-00-0	10			0	0	0	0	1050	1E+100	1E+100	1E+100	1E+100	4000	N/A
1,2,4-Trichlorobenzene	120-82-1	10			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	0.76	N/A

						Instream Waste Concentration										
				Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Livestock& Wildlife	Acute Aquatic	Chronic Aquatic	Human Health	Need TMDL
POLLUTANTS				Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
		CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
PESTICIDES AND PCBS																
Aldrin		309-00-2	0.01			0	0	0	0	0.021	1E+100	1E+100	3	1E+100	0.0000077	N/A
Alpha-BHC		319-84-6	0.05			0	0	0	0	0.056	1E+100	1E+100	1E+100	1E+100	0.0039	N/A
Beta-BHC		319-85-7	0.05			0	0	0	0	0.091	1E+100	1E+100	1E+100	1E+100	0.14	N/A
gamma-BHC (Lindane)		58-89-9	0.05			0	0	0	0	0.2	1E+100	1E+100	0.95	1E+100	4.4	N/A
Chlordane		57-74-9	0.2			0	0	0	0	2	1E+100	1E+100	2.4	0.0043	0.0032	N/A
Dichlorodiphenyldichloroethane (DDD)						0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.0012	N/A
Dichlorodiphenyldichloroethylene (DDE)						0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.00018	N/A
Dichlorodiphenyltrichloroethane (DDT)						0	0	0	0	1E+100	1E+100	1E+100	1E+100	1E+100	0.0003	N/A
4,4'-DDT and derivatives		50-29-3	0.02			0	0	0	0	1	1E+100	0.001	1.1	0.001	1E+100	N/A
Dieldrin		60-57-1	0.02			0	0	0	0	0.022	1E+100	1E+100	0.24	0.056	0.000012	N/A
Diazinon		333-41-5				0	0	0	0	1E+100	1E+100	1E+100	0.17	0.17	1E+100	N/A
Alpha-Endosulfan		959-98-8	0.01			0	0	0	0	62	1E+100	1E+100	0.22	0.056	30	N/A
Beta-Endosulfan		33213-65-9	0.02			0	0	0	0	62	1E+100	1E+100	0.22	0.056	40	N/A
Endosulfan sulfate		1031-7-8	0.1			0	0	0	0	62	1E+100	1E+100	1E+100	1E+100	40	N/A
Endrin		72-20-8	0.02			0	0	0	0	2	1E+100	1E+100	0.086	0.036	0.03	N/A
Endrin Aldehyde		7421-93-4	0.1			0	0	0	0	10.5	1E+100	1E+100	1E+100	1E+100	1	N/A
Heptachlor		76-44-8	0.01			0	0	0	0	0.4	1E+100	1E+100	0.52	0.0038	0.000059	N/A
Heptachlor Epoixde		1024-57-3	0.01			0	0	0	0	0.2	1E+100	1E+100	0.52	0.0038	0.00032	N/A
PCBs		336-36-3	0.2			0	0	0	0	0.5	1E+100	0.014	2	0.014	0.00064	N/A
Toxaphene		8001-35-2	0.3	0	1	2.13	2.13	2.13	2.12931312	3	1E+100	1E+100	0.73	0.0002	0.0071	N/A

STEP 3: SCAN POTENTIAL INSTREAM WASTE CONCENTRATIONS AGAINST WATER QUALITY CRITERIA AND ESTABLISH EFFLUENT LIMITATIONS FOR ALL APPLICABLE PARAMETERS

No limits are established if the receiving stream is not designated for the particular uses.

No limits are established if the potential instream waste concentrations are less than the chronic water quality criteria.

The most applicable stringent criteria are used to establish effluent limitations for a given parameter.

Water quality criteria apply at the end-of-pipe for acute aquatic life criteria and discharges to public lakes.

If background concentration exceeds the water quality criteria, water quality criteria apply. And "Need TMDL" shown to the next column of Avg. Mass

Monthly avg concentration = daily max. / 1.5.

APPLICABLE WATER QUALITY-BASED LIMITS

The following formular is used to calculate the allowable daily maximum effluent cincentration — See the current "Procedures for Implementing NPDES Permits in New Mexico"

Daily Max. Conc. = Cs + (Cs - Ca)(F*Qa/Qe) — Monthly Avg. Conc. = Daily Max. Conc. / 1.5

Where:

Cs = Applicable water quality standard

Ca = Ambient stream concentration

F = Fraction of stream allowed for mixing (1.0 is assigned to domestic water supply and human health uses)

Qe = Plant effluent flow

Qa = Criteria Low flow (4Q3) or Harmonic Mean flow for Human Health Criteria

POLLUTANTS	CAS No.	STORET		Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Monthly Avg Load lb/day
Radioactivity, Nutrients, and Chlorine, as Total															
Aluminum, Total	7429-90-5	01105		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aluminum, dissolved	7429-90-5			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Barium, Total	7440-39-3	01007		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Boron, Total	7440-42-8	01022		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cobalt, Total	7440-48-4	01037		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium, Total	7440-61-1	22706		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vanadium, Total	7440-62-2	01087		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ra-226 and Ra-228 (pCi/l)		11503		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Strontium (pCi/l)		13501		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tritium (pCi/l)		04124		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gross Alpha (pCi/l)		80029		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Asbestos (fibers/l)				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Residual Chlorine	7782-50-5	50060		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia as N, total (mg/l)				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate as N (mg/l)		00620		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrite + Nitrate (mg/l)		00630		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS AND CYANIDE, as Total															
Antimony, Total (P)	7440-36-0	01097		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic, Total (P)	7440-38-2	1002		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beryllium, Total	7440-41-7	01012		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium, Total	7440-43-9	01027		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (III), dissolved	16065-83-1	01033		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (VI), dissolved	18540-29-9	01034		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium, Total	7440-47-3	01034		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper, Total	7440-50-8	01042		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lead, Total	7439-92-1	01051		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese, dissovled	7439-96-5	01056		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury, Dissolved	7439-97-6	71900		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury, Total	7439-97-6	71900		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum, dissolved	7439-98-7	1060		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum, total recoverable	7439-98-7	01062		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nickel, Total (P)	7440-02-0	01067		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total (P)	7782-49-2	01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total (SO4 >500 mg/l)		01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total recoverable	7782-49-2	01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Silver, Total	7440-22-4	01077		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Thalllium, Total (P)	7440-28-0	01059		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Zinc, Total	7440-66-6	1092		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide, total recoverable	57-12-5	00720		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIOXIN															0
2,3,7,8-TCDD	1746-01-6	34675		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VOLATILE COMPOUNDS															
Acrolein	107-02-8	34210		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acrylonitrile	107-13-0	34215		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	71-43-2	34030		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bromoform	75-25-2	32104		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	56-23-5	32102		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

POLLUTANTS	CAS No.	STORET		Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Monthly Avg Load lb/day
Chlorobenzene	108-90-7	34301		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Clorodibromomethane	124-48-1	32105		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chloroform	67-66-3	32106		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorobromomethane	75-27-4	32101		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	107-06-2	34531		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethylene	75-35-4	34501		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloropropane	78-87-5	34541		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichloropropylene	542-75-6	34561		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	34371		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Bromide	74-83-9	34413		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methylene Chloride	75-09-2	34423		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	95-94-3			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2,2-Tetrachloroethane	79-34-5	34516		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloroethylene	127-18-4	34475		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tolune	108-88-3	34010		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-trans-Dichloroethylene	156-60-5	34546		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	71-55-6			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2-Trichloroethane	79-00-5	34511		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichloroethylene	79-01-6	39180		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	75-01-4	39175		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACID COMPOUNDS															
2-Chlorophenol	95-57-8	34586		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dichlorophenol	120-83-2	34601		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	105-67-9	34606		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Methyl-4-chlorophenol	59-50-7			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methyl-4,6-dinitrophenol	534-52-1	34657		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dinitrophenol	51-28-5	34616		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	87-86-5	39032		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	108-95-2	34694		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-Trichlorophenol	95-95-4			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-Trichlorophenol	88-06-2	34621		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-(2,4,5Trichlorophenoxy)propionic acid (Silvex)				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BASE/NEUTRAL															
Acenaphthene	83-32-9	34205		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	120-12-7	34220		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzidine	92-87-5	39120		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene	56-55-3	34526		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	50-32-8	34247		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,4-Benzofluoranthene	205-99-2	34230		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	207-08-9	34242		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-chloroethyl)Ether	111-44-4	34273		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-chloro-1-methylethyl) ethe	108-60-1	34283		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-ethylhexyl)Phthalate	117-81-7	39100		N/A	N/A	N/A	N/A	N/A	3.701193548	3.701193548	3.7	3.701193548	3.7	0.06173591	0.061716
Bis(chloromethyl) ether	542-88-1			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Butyl Benzyl Phthalate	85-68-7	34292		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Chloronapthalene	91-58-7	34581		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	218-01-9	34320		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dichlorophenoxyacetic acid	94-75-7			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzo(a,h)anthracene	53-70-3	34556		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	95-50-1	34536		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

POLLUTANTS	CAS No.	STORET		Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Daily Avg Load lb/day
1,3-Dichlorobenzene	541-73-1	34566		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	106-46-7	34571		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	91-94-1	34631		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diethyl Phthalate	84-66-2	34336		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dimethyl Phthalate	131-11-3	34341		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Di-n-Butyl Phthalate	84-74-2	39110		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dinitrotoluene	121-14-2	34611		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Diphenylhydrazine	122-66-7	34346		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	206-44-0	34376		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluorene	86-73-7	34381		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobenzene	118-74-1	39700		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobutadiene	87-68-3	34391		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorocyclohexane (HCH)-T	608-73-1			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorocyclopentadiene	77-47-4	34386		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	67-72-1	34396		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5	34403		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Isophorone	78-59-1	34408		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	98-95-3	34447		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrosamines	Various			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrosodibutylamine	924-16-3			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrosodiethylamine	55-18-5			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodimethylamine	62-75-9	34438		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodi-n-Propylamine	621-64-7	34428		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodiphenylamine	86-30-6	34433		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-Nitrosopyrrolidine	930-55-2			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonylphenol	84852-15-3			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorobenzene	608-93-5			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	129-00-0	34469		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	120-82-1	34551		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PESTICIDES AND PCBS															
Aldrin	309-00-2	39330		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-BHC	319-84-6	39337		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beta-BHC	319-85-7	39338		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gamma-BHC	58-89-9	39340		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlordane	57-74-9	39350		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorodiphenyldichloroethane (DDD)				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorodiphenyldichloroethylene (DDE)				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorodiphenyltrichloroethane (DDT)				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT and derivatives	50-29-3	39300		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	60-57-1	39380		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diazinon	333-41-5	39570		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-Endosulfan	959-98-8	34361		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beta-Endosulfan	33213-65-9	34356		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan sulfate	1031-7-8	34351		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin	72-20-8	39390		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin Aldehyde	7421-93-4	34366		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	76-44-8	39410		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor Epoixde	1024-57-3	39420		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs	336-36-3	39516		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	8001-35-2	39400		N/A	N/A	N/A	0.73	0.0002	0.00710229	0.0002	0.0002	0.0002	0.0002	3.336E-06	0.000003336

Appendix 2

	CALCULATIONS OF PUEBLO OF TAOS WATER QUALITY-BASED EFFLUENT LIMITATIONS		
NMAC 20.6.4.	(EPA approved site-specific criteria for aluminum, cadmium, and zinc on April 30, 2012)		
Calculations Specifications:	Excel **Revised as of July 10, 2012**		
Prepared By:	Quang Nguyen		
STEP 1:	REFERENCE IMPLEMENTATION PROCEDURES	**Appendix 2**	
	INPUT FACILITY AND RECEIVING STREAM DATA		
	LIST SOURCE OF DATA INPUT		
IMPLEMENTATION PROCEDURES			
The State of New Mexico Standards for Interstate and Intrastate Surface Waters are implemented in this spread sheet			
by using procedures established in the current "Procedures for Implementing NPDES Permits in New Mexico"			
FACILTY		DATA INPUT	
Permittee		Town of Taos	
NPDES Permit No.		NM0024066	
Outfall No.(s)		1	
Plant Effluent Flow (MGD)		2	For industrial and federal facility, use the highest monthly average flow
Plant Effluent Flow (cfs)		3.1	for the past 24 months. For POTWs, use the design flow.
RECEIVING STREAM		DATA INPUT	
Receiving Stream Name		Rio Pueblo De Taos	
Basin Name		Rio Grande Basin	
Waterbody Segment Code No.		Rio Pueblo, below Los Crodovas (20.6.4.122)	
Is a publicly owned lake or reservoir (enter "1" if it's a lake, "0" if not)		0	
Are acute aquatic life criteria considered (1= yes, 0= no)	(MUST enter "1" for 2005 Standards)	1	
Are chronic aquatic life criteria considered (1= yes, 0=no)		1	
Are domestic water supply criteria considered (1= yes, 0=no)		1	
Are irrigation water supply criteria considered (1= yes, 0=no)		1	
Livestock watering and wildlife habitat criteria applied to all streams			
USGS Flow Station		USGS	
WQ Monitoring Station No.		SJR	
Receiving Stream TSS (mg/l)		22.8	For intermittent stream, enter effluent TSS
Receiving Stream Hardness (mg/l as CaCOs)	RANGE: 0 - 400	120.46	For intermittent stream, enter effluent Hardness (If no data, 20 mg/l is used)
Receiving Stream Critical Low Flow (4Q3) (cfs)		5.228	Enter "0" for intermittent stream and lake.
Receiving Stream Harmonic Mean Flow (cfs)		10.079	Enter harmonic mean or modified harmonic mean flow data or 0.001 if no data is available
Avg. Receiving Water Temperature (C)		11.863	
pH (Avg), Receiving Stream		8.41	
Fraction of stream allowed for mixing (F)		1	Enter 1, if stream morphology data is not available or for intermittent streams.
Fraction of Critical Low Flow		5.228	

STEP 2: INPUT AMBIENT AND EFFLUENT DATA

CALCULATE IN-STREAM WASTE CONCENTRATIONS

DATA INPUT

Input pollutant geometric mean concentration as micro-gram per liter (ug/l or ppb)

unless other unit is specified for the parameter.

Effluent value reported as "< detection level" (DL) but the DL is greater than MQL, input "1/2 DL" for calculation.

Effluent value reported as "< detection level" (DL) and the DL is smaller than MQL, no data is inputted.

If a less than MQL vakue is reported, input either the reported value or "0" for calculation.

The following formular is used to calculate the Instream Waste Concentration (Cd)

See the current "Procedures for Implementing NPDES Permits in New Mexico"

Cd = [(F*Qa*Ca) + (Qe*2.13*Ce)] / (F*Qa + Qe)

Where:

Cd = Instream Waste Concentration

F = Fraction of stream allowed for mixing (see "Procedures for Implementing NPDES Permits in New Mexico")

Ce = Reported concentration in effluent

Ca = Ambient stream concentration upstream of discharge

Qe = Plant effluent flow

Qa = Critical low flow of stream at discharge point expressed as the 4Q3 or harmonic mean flow for human health criteria

The following formular convert metals reported in total form to dissolved form if criteria are in dissolved form

See the current "Procedures for Implementing NPDES Permits in New Mexico"

Kp = Kpo * (TSS**a)

Kp = Linear partition coefficient; Kpo and a can be found in table below

C/Ct = 1/ (1 + Kp*TSS* 10^-6)

TSS = Total suspended solids concentration found in receiving stream (or in effluent for intermittent stream)

Total Metal Criteria (Ct) = Cr / (C/Ct)

C/Ct = Fraction of metal dissolved; and Cr = Dissolved criteria value

		Stream Linear Partition Coefficient					Lake Linear Partition Coefficient				
Total Metals	Total Value	Kpo	alpha (a)	Kp	C/Ct	Dissolved Value in Stream	Kpo	alpha (a)	Kp	C/Ct	Dissolved Value in Lake
Arsenic	1.4	480000	-0.73	48972.10805	0.472463847	0.66144939	480000	-0.73	48972.10805	0.472463847	0.6614494
Chromium III	0	3360000	-0.93	183425.5668	0.192971852	0	2170000	-0.27	932861.8338	0.04490497	0
Copper	3.6	1040000	-0.74	102839.8779	0.298976077	1.07631388	2850000	-0.9	170884.8249	0.204241107	0.735268
Lead	0.68	2800000	-0.8	229514.5136	0.160438165	0.10909795	2040000	-0.53	388977.6951	0.101330557	0.0689048
Nickel	0	490000	-0.57	82446.68859	0.347248206	0	2210000	-0.76	205287.1616	0.176039376	0
Silver	0	2390000	-1.03	95438.80845	0.314860982	0	2390000	-1.03	95438.80845	0.314860982	0
Zinc	73	1250000	-0.7	140073.3838	0.238454444	17.4071744	3340000	-0.68	398428.8435	0.09916525	7.2390633

The following formular is used to calculate hardness dependent criteria

(Please refer to State Water Quality Standards for details)

			Dissolved WQC (ug/l)	
Aluminum (T)	Acute	e(1.3695[ln(hardness)]+1.8308)	4413.881126	If Stream pH < 6.5, enter 750 in cell O113
	Chronic	e(1.3695[ln(hardness)]+0.9161)	1768.363206	If Stream pH < 6.5, enter 87 in cell P113
Cadmium (D)	Acute	e(1.128[ln(hardness)]-3.6867)*CF1	1.93680814	CF1 = 1.136672 - 0.041838*ln(hardness)
	Chronic	e(0.7852[ln(hardness)]-2.715)*CF2	0.517837842	CF2 = 1.101672 - 0.041838*ln(hardness)

										Dissolved						
										WQC (ug/l)						
Chromium III (D)			Acute			e(0.819[ln(hardness)]+2.5736)				663.5977515						
			Chronic			e(0.819[ln(hardness)]+0.534)				86.32043373						
Copper (D)			Acute			e(0.9422[ln(hardness)]-1.7408)				16.01550935						
			Chronic			e(0.8545[ln(hardness)]-1.7428)				10.49982952						
Lead (D)			Acute			e(1.273[ln(hardness)]-1.46)*CF3				79.04360488		CF3 = 1.46203 - 0.145712*ln(hardness)				
			Chronic			e(1.273[ln(hardness)]-4.705)*CF4				3.080215804		CF4 = 1.46203 - 0.145712*ln(hardness)				
Manganese (D)			Acute			e(0.3331[ln(hardness)]+6.4676)				3176.667409						
			Chronic			e(0.3331[ln(hardness)]+5.8743)				1755.111983						
Nickel (D)			Acute			e(0.846[ln(hardness)]+2.253)				548.0972923						
			Chronic			e(0.846[ln(hardness)]+0.0554)				60.87668773						
Silver (D)			Acute			e(1.72[ln(hardness)]-6.6825)				4.430655743						
Zinc (D)			Acute			e(0.8473[ln(hardness)]+0.8618)				189.5170039						
			Chronic			e(0.8473[ln(hardness)]+0.8699)				143.5898293						
						Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
POLLUTANTS				Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
				Conc.	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
		CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
Radioactivity, Nutrients, and Chlorine																
Aluminum, total		7429-90-5	2.5	34	29	61.77	44.3370557	44.3370557	40.5321345	1E+100	5000	5000	4413.881126	1768.3632	1E+100	N/A
Barium, dissolved		7440-39-3	100	0	68	144.84	53.9149856	53.9149856	34.0696563	2000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Boron, dissolved		7440-42-8	100	0	200	426	158.573487	158.573487	100.204871	1E+100	750	5000	1E+100	1E+100	1E+100	N/A
Cobalt, dissolved		7440-48-4	50			0	0	0	0	1E+100	50	1000	1E+100	1E+100	1E+100	N/A
Uranium, dissolved		7440-61-1	0.1	1.617	2.2	4.686	2.75939914	2.75939914	2.33889847	20	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Vanadium, dissolved		7440-62-2	50			0	0	0	0	1E+100	100	100	1E+100	1E+100	1E+100	N/A
Ra-226 and Ra-228 (pCi/l)						0	0	0	0	5	1E+100	30	1E+100	1E+100	1E+100	N/A
Strontium (pCi/l)				0	0	0	0	0	0	8	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Tritium (pCi/l)						0	0	0	0	20000	1E+100	20000	1E+100	1E+100	1E+100	N/A
Gross Alpha (pCi/l)						0	0	0	0	15	1E+100	15	1E+100	1E+100	1E+100	N/A
Asbestos (fibers/l)						0	0	0	0	7000000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Total Residual Chlorine		7782-50-5	33			0	0	0	0	1E+100	1E+100	11	19	11	1E+100	N/A
Nitrate as N (mg/l)						0	0	0	0	10	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Nitrite + Nitrate (mg/l)				0.289	12	25.56	9.69583237	9.69583237	6.23331292	1E+100	1E+100	132	1E+100	1E+100	1E+100	N/A
METALS AND CYANIDE																
Antimony, dissolved (P)		7440-36-0	60			0	0	0	0	6	1E+100	1E+100	1E+100	1E+100	640	N/A
Arsenic, dissolved (P)		7440-38-2	0.5	0	0.661449386	1.408887192	0.52444168	0.52444168	0.33140225	10	100	200	340	150	9	N/A
Beryllium, dissolved		7440-41-7	0.5	0	2	4.26	1.58573487	1.58573487	1.00204871	4	1E+100	1E+100	130	1E+100	1E+100	N/A
Cadmium, dissolved		7440-43-9	1	0	0	0	0	0	0	5	10	50	1.93680814	0.5178378	1E+100	N/A
Chromium (III), dissolved		16065-83-1	10	0	0	0	0	0	0	1E+100	1E+100	1E+100	663.5977515	86.320434	1E+100	N/A
Chromium (VI), dissolved		18540-29-9	10			0	0	0	0	1E+100	1E+100	1E+100	16	11	1E+100	N/A
Chromium, dissolved		7440-47-3				0	0	0	0	100	100	1000	1E+100	1E+100	1E+100	N/A
Copper, dissolved		7440-50-8	0.5	0	1.076313878	2.29254856	0.85337422	0.85337422	0.53925947	1300	200	500	16.01550935	10.49983	1E+100	N/A
Lead, dissolved		7439-92-1	0.5	0	0.109097952	0.232378639	0.08650021	0.08650021	0.05466073	50	5000	100	79.04360488	3.0802158	1E+100	N/A
Manganese, dissolved		7439-96-5				0	0	0	0	1E+100	1E+100	1E+100	3176.667409	1755.112	1E+100	N/A

					Instream Waste Concentration				Livestock&	Acute	Chronic	Human	Need		
			Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
POLLUTANTS			Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
	CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
Mercury, dissolved	7439-97-6	0.005			0	0	0	0	1E+100	1E+100	1E+100	1.4	0.77	1E+100	N/A
Mercury, total	7439-97-6	0.005	0	0	0	0	0	0	2	1E+100	0.77	2.4	1E+100	1E+100	N/A
Molybdenum, dissolved	7439-98-7				0	0	0	0	1E+100	1000	1E+100	1E+100	1E+100	1E+100	N/A
Molybdenum, total recoverable	7439-98-7				0	0	0	0	1E+100	1E+100	1E+100	7920	1895	1E+100	N/A
Nickel, dissolved (P)	7440-02-0	0.5	0	0	0	0	0	0	100	1E+100	1E+100	548.0972923	60.876688	4600	N/A
Selenium, dissolved (P)	7782-49-2	5	0	0	0	0	0	0	50	130	50	1E+100	1E+100	4200	N/A
Selenium, dis (SO4 >500 mg/l)		5			0	0	0	0	50	250	50	1E+100	1E+100	4200	N/A
Selenium, total recoverable	7782-49-2	5			0	0	0	0	1E+100	1E+100	2	20	5	1E+100	N/A
Silver, dissolved	7440-22-4	0.5	0	0	0	0	0	0	1E+100	1E+100	1E+100	4.430655743	1E+100	1E+100	N/A
Thalllium, dissolved (P)	7440-28-0	0.5	0	0	0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	0.47	N/A
Zinc, dissolved	7440-66-6	20	0	17.40717442	37.07728152	13.8015817	13.8015817	8.72141837	5000	2000	25000	189.5170039	143.58983	26000	N/A
Cyanide, total recoverable	57-12-5	10	0	0	0	0	0	0	200	1E+100	5.2	22	5.2	140	N/A
Dioxin	1764-01-6	0.00001			0	0	0	0	3.00E-05	1E+100	1E+100	1E+100	1E+100	5.1E-08	N/A
VOLATILE COMPOUNDS															
Acrolein	107-02-8	50			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	9	N/A
Acrylonitrile	107-13-0	20			0	0	0	0	0.65	1E+100	1E+100	1E+100	1E+100	2.5	N/A
Benzene	71-43-2	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	510	N/A
Bromoform	75-25-2	10			0	0	0	0	44	1E+100	1E+100	1E+100	1E+100	1400	N/A
Carbon Tetrachloride	56-23-5	2			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	16	N/A
Chlorobenzene	108-90-7	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	1600	N/A
Clorodibromomethane	124-48-1	10			0	0	0	0	4.2	1E+100	1E+100	1E+100	1E+100	130	N/A
Chloroform	67-66-3	50	0	2	4.26	1.58573487	1.58573487	1.00204871	57	1E+100	1E+100	1E+100	1E+100	4700	N/A
Dichlorobromomethane	75-27-4	10		0	0	0	0	0	5.6	1E+100	1E+100	1E+100	1E+100	170	N/A
1,2-Dichloroethane	107-06-2	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	370	N/A
1,1-Dichloroethylene	75-35-4	10			0	0	0	0	7	1E+100	1E+100	1E+100	1E+100	7100	N/A
1,2-Dichloropropane	78-87-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	150	N/A
1,3-Dichloropropylene	542-75-6	10			0	0	0	0	3.5	1E+100	1E+100	1E+100	1E+100	210	N/A
Ethylbenzene	100-41-4	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	2100	N/A
Methyl Bromide	74-83-9	50			0	0	0	0	49	1E+100	1E+100	1E+100	1E+100	1500	N/A
Methylene Chloride	75-09-2	20			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	5900	N/A
1,1,2,2-Tetrachloroethane	79-34-5	10			0	0	0	0	1.8	1E+100	1E+100	1E+100	1E+100	40	N/A
Tetrachloroethylene	127-18-4	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	33	N/A
Tolune	108-88-3	10			0	0	0	0	1000	1E+100	1E+100	1E+100	1E+100	15000	N/A
1,2-trans-Dichloroethylene	156-60-5	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	10000	N/A
1,1,1-Trichloroethane	71-55-6				0	0	0	0	200	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
1,1,2-Trichloroethane	79-00-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	160	N/A
Trichloroethylene	79-01-6	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	300	N/A
Vinyl Chloride	75-01-4	10			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	24	N/A
ACID COMPOUNDS															
2-Chlorophenol	95-57-8	10			0	0	0	0	175	1E+100	1E+100	1E+100	1E+100	150	N/A
2,4-Dichlorophenol	120-83-2	10			0	0	0	0	105	1E+100	1E+100	1E+100	1E+100	290	N/A
2,4-Dimethylphenol	105-67-9	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	850	N/A
4,6-Dinitro-o-Cresol	534-52-1	50			0	0	0	0	14	1E+100	1E+100	1E+100	1E+100	280	N/A

					Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
		Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
POLLUTANTS		Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
	CAS No. MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
2,4-Dinitrophenol	51-28-5 50			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	5300	N/A
Pentachlorophenol	87-86-5 50			0	0	0	0	1	1E+100	1E+100	19	15	30	N/A
Phenol	108-95-2 10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	860000	N/A
2,4,6-Trichlorophenol	88-06-2 10		0	0	0	0	0	32	1E+100	1E+100	1E+100	1E+100	24	N/A
BASE/NEUTRAL														
Acenaphthene	83-32-9 10			0	0	0	0	2100	1E+100	1E+100	1E+100	1E+100	990	N/A
Anthracene	120-12-7 10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	40000	N/A
Benzidine	92-87-5 50			0	0	0	0	0.0015	1E+100	1E+100	1E+100	1E+100	0.002	N/A
Benzo(a)anthracene	56-55-3 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Benzo(a)pyrene	50-32-8 5			0	0	0	0	0.2	1E+100	1E+100	1E+100	1E+100	0.18	N/A
3,4-Benzofluoranthene	205-99-2 10			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Benzo(k)fluoranthene	207-08-9 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Bis(2-chloroethyl)Ether	111-44-4 10			0	0	0	0	0.3	1E+100	1E+100	1E+100	1E+100	5.3	N/A
Bis(2-chloroisopropyl)Ether	108-60-1 10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	65000	N/A
Bis(2-ethylhexyl)Phthalate	117-81-7 10	0	62.2	132.486	49.3163545	49.3163545	31.163715	6	1E+100	1E+100	1E+100	1E+100	22	N/A
Butyl Benzyl Phthalate	85-68-7 10			0	0	0	0	7000	1E+100	1E+100	1E+100	1E+100	1900	N/A
2-Chloronapthalene	91-58-7 10		0	0	0	0	0	2800	1E+100	1E+100	1E+100	1E+100	1600	N/A
Chrysene	218-01-9 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Dibenzo(a,h)anthracene	53-70-3 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
1,2-Dichlorobenzene	95-50-1 10			0	0	0	0	600	1E+100	1E+100	1E+100	1E+100	1300	N/A
1,3-Dichlorobenzene	541-73-1 10			0	0	0	0	469	1E+100	1E+100	1E+100	1E+100	960	N/A
1,4-Dichlorobenzene	106-46-7 10			0	0	0	0	75	1E+100	1E+100	1E+100	1E+100	190	N/A
3,3'-Dichlorobenzidine	91-94-1 5			0	0	0	0	0.78	1E+100	1E+100	1E+100	1E+100	0.28	N/A
Diethyl Phthalate	84-66-2 10			0	0	0	0	28000	1E+100	1E+100	1E+100	1E+100	44000	N/A
Dimethyl Phthalate	131-11-3 10			0	0	0	0	350000	1E+100	1E+100	1E+100	1E+100	1100000	N/A
Di-n-Butyl Phthalate	84-74-2 10			0	0	0	0	3500	1E+100	1E+100	1E+100	1E+100	4500	N/A
2,4-Dinitrotoluene	121-14-2 10			0	0	0	0	1.1	1E+100	1E+100	1E+100	1E+100	34	N/A
1,2-Diphenylhydrazine	122-66-7 20			0	0	0	0	0.44	1E+100	1E+100	1E+100	1E+100	2	N/A
Fluoranthene	206-44-0 10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	140	N/A
Fluorene	86-73-7 10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	5300	N/A
Hexachlorobenzene	118-74-1 5			0	0	0	0	1	1E+100	1E+100	1E+100	1E+100	0.0029	N/A
Hexachlorobutadiene	87-68-3 10			0	0	0	0	4.5	1E+100	1E+100	1E+100	1E+100	180	N/A
Hexachlorocyclopentadiene	77-47-4 10			0	0	0	0	50	1E+100	1E+100	1E+100	1E+100	1100	N/A
Hexachloroethane	67-72-1 20			0	0	0	0	25	1E+100	1E+100	1E+100	1E+100	33	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5 5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Isophorone	78-59-1 10			0	0	0	0	368	1E+100	1E+100	1E+100	1E+100	9600	N/A
Nitrobenzene	98-95-3 10			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	690	N/A
n-Nitrosodimethylamine	62-75-9 50			0	0	0	0	0.0069	1E+100	1E+100	1E+100	1E+100	30	N/A
n-Nitrosodi-n-Propylamine	621-64-7 20			0	0	0	0	0.05	1E+100	1E+100	1E+100	1E+100	5.1	N/A
n-Nitrosodiphenylamine	86-30-6 20			0	0	0	0	71	1E+100	1E+100	1E+100	1E+100	60	N/A
Nonylphenol	84852-15-3			0	0	0	0	1E+100	1E+100	1E+100	28	6.6	1E+100	N/A
Pyrene	129-00-0 10			0	0	0	0	1050	1E+100	1E+100	1E+100	1E+100	4000	N/A
1,2,4-Trichlorobenzene	120-82-1 10			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	70	N/A

						Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
				Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	Health	TMDL
POLLUTANTS				Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	Criteria	
		CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
PESTICIDES AND PCBS																
Aldrin		309-00-2	0.01			0	0	0	0	0.021	1E+100	1E+100	3	1E+100	0.0005	N/A
Alpha-BHC		319-84-6	0.05			0	0	0	0	0.056	1E+100	1E+100	1E+100	1E+100	0.049	N/A
Beta-BHC		319-85-7	0.05			0	0	0	0	0.091	1E+100	1E+100	1E+100	1E+100	0.17	N/A
Gamma-BHC		58-89-9	0.05			0	0	0	0	0.2	1E+100	1E+100	0.95	1E+100	1.8	N/A
Chlordane		57-74-9	0.2			0	0	0	0	2	1E+100	1E+100	2.4	0.0043	0.0081	N/A
4,4'-DDT and derivatives		50-29-3	0.02			0	0	0	0	1	1E+100	0.001	1.1	0.001	0.0022	N/A
Dieldrin		60-57-1	0.02			0	0	0	0	0.022	1E+100	1E+100	0.24	0.056	0.00054	N/A
Diazinon		333-41-5				0	0	0	0	1E+100	1E+100	1E+100	0.17	0.17	1E+100	N/A
Alpha-Endosulfan		959-98-8	0.01			0	0	0	0	62	1E+100	1E+100	0.22	0.056	89	N/A
Beta-Endosulfan		33213-65-9	0.02			0	0	0	0	62	1E+100	1E+100	0.22	0.056	89	N/A
Endosulfan sulfate		1031-7-8	0.1			0	0	0	0	62	1E+100	1E+100	1E+100	1E+100	89	N/A
Endrin		72-20-8	0.02			0	0	0	0	2	1E+100	1E+100	0.086	0.036	0.06	N/A
Endrin Aldehyde		7421-93-4	0.1			0	0	0	0	10.5	1E+100	1E+100	1E+100	1E+100	0.3	N/A
Heptachlor		76-44-8	0.01			0	0	0	0	0.4	1E+100	1E+100	0.52	0.0038	0.00079	N/A
Heptachlor Epoixde		1024-57-3	0.01			0	0	0	0	0.2	1E+100	1E+100	0.52	0.0038	0.00039	N/A
PCBs		1336-36-3	0.2			0	0	0	0	0.5	1E+100	0.014	2	0.014	0.00064	N/A
Toxaphene		8001-35-2	0.3	0	1	2.13	0.79286744	0.79286744	0.50102436	3	1E+100	1E+100	0.73	0.0002	0.0028	N/A

STEP 3: SCAN POTENTIAL INSTREAM WASTE CONCENTRATIONS AGAINST WATER QUALITY CRITERIA
AND ESTABLISH EFFLUENT LIMITATIONS FOR ALL APPLICABLE PARAMETERS

No limits are established if the receiving stream is not designated for the particular uses.

No limits are established if the potential instream waste concentrations are less than the chronic water quality criteria.

The most applicable stringent criteria are used to establish effluent limitations for a given parameter.

Water quality criteria apply at the end-of-pipe for acute aquatic life criteria and discharges to public lakes.

If background concentration exceeds the water quality criteria, water quality criteria apply. And "Need TMDL" shown to the next column of Avg. Mass

Monthly avg concentration = daily max. / 1.5.

APPLICABLE WATER QUALITY-BASED LIMITS

The following formular is used to calculate the allowable daily maximum effluent cincentration — See the current "Procedures for Implementing NPDES Permits in New Mexico"

Daily Max. Conc. = Cs + (Cs - Ca)(F*Qa/Qe) — Monthly Avg. Conc. = Daily Max. Conc. / 1.5

Where:
Cs = Applicable water quality standard
Ca = Ambient stream concentration
F = Fraction of stream allowed for mixing (1.0 is assigned to domestic water supply and human health uses)
Qe = Plant effluent flow
Qa = Criteria Low flow (4Q3) or Harmonic Mean flow for Human Health Criteria

POLLUTANTS	CAS No.	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Monthly Avg Load lb/day
Radioactivity, Nutrients, and Chlorine, as Total														
Aluminum, Total	7429-90-5	01105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Barium, Total	7440-39-3	01007	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Boron, Total	7440-42-8	01022	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cobalt, Total	7440-48-4	01037	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uranium, Total	7440-61-1	22706	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vanadium, Total	7440-62-2	01087	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ra-226 and Ra-228 (pCi/l)		11503	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Strontium (pCi/l)		13501	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tritium (pCi/l)		04124	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gross Alpha (pCi/l)		80029	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Asbestos (fibers/l)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Residual Chlorine	7782-50-5	50060	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrate as N (mg/l)		00620	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrite + Nitrate (mg/l)		00630	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS AND CYANIDE, as Total														
Antimony, Total (P)	7440-36-0	01097	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic, Total (P)	7440-38-2	1002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beryllium, Total	7440-41-7	01012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium, Total	7440-43-9	01027	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (III), dissolved	16065-83-1	01033	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (VI), dissolved	18540-29-9	01034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium, Total	7440-47-3	01034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper, Total	7440-50-8	01042	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lead, Total	7439-92-1	01051	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese, dissovled	7439-96-5	01056	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury, Total	7439-97-6	71900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury, Total	7439-97-6	71900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum, dissolved	7439-98-7	1060	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum, total recoverable	7439-98-7	01062	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nickel, Total (P)	7440-02-0	01067	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total (P)	7782-49-2	01147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total (SO4 >500 mg/l)		01147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total recoverable	7782-49-2	01147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Silver, Total	7440-22-4	01077	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Thalllium, Total (P)	7440-28-0	01059	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Zinc, Total	7440-66-6	1092	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide, total recoverable	57-12-5	00720	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIOXIN														0
2,3,7,8-TCDD	1764-01-6	34675	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VOLATILE COMPOUNDS														
Acrolein	107-02-8	34210	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acrylonitrile	107-13-0	34215	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	71-43-2	34030	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bromoform	75-25-2	32104	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	56-23-5	32102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

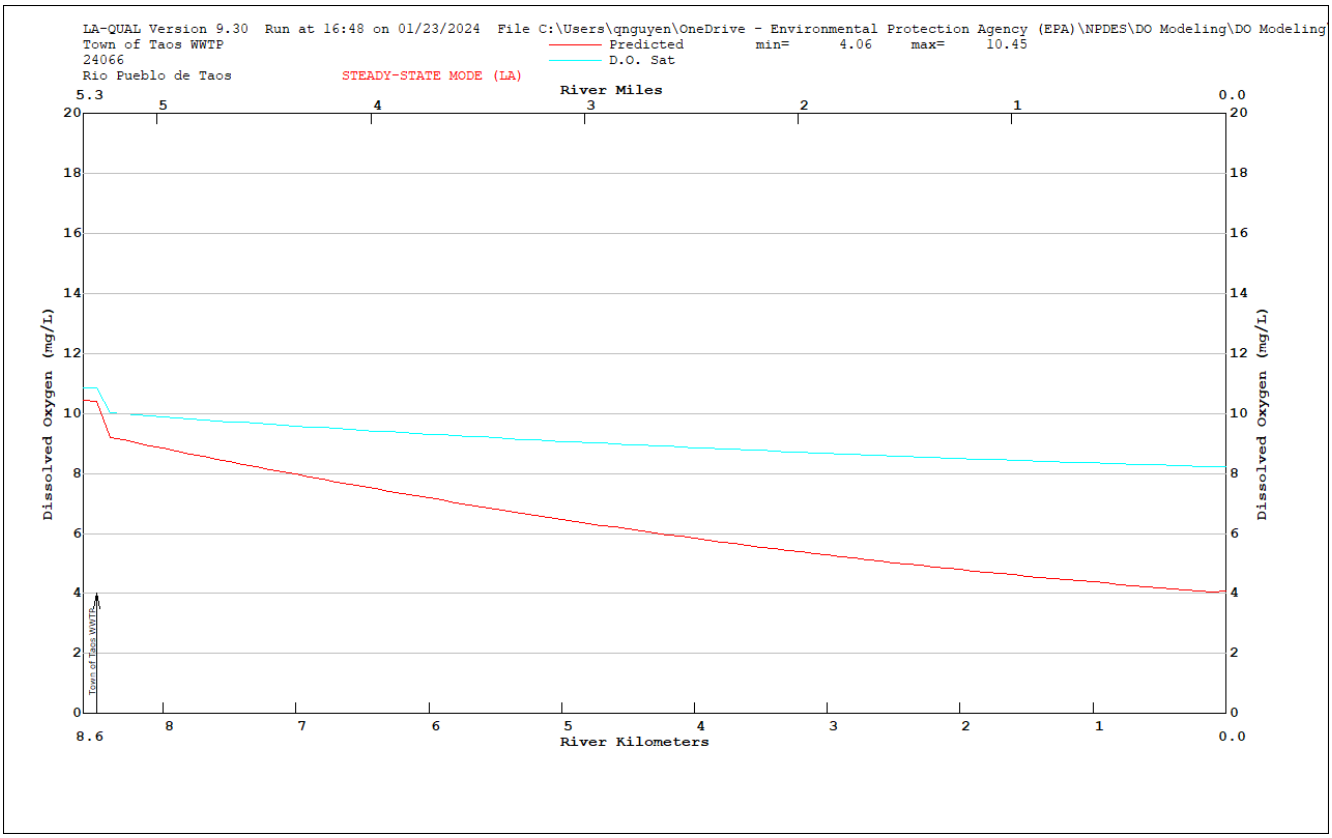
POLLUTANTS	CAS No.	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Monthly Avg Load lb/day
Chlorobenzene	108-90-7	34301	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Clorodibromomethane	124-48-1	32105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chloroform	67-66-3	32106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorobromomethane	75-27-4	32101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	107-06-2	34531	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethylene	75-35-4	34501	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloropropane	78-87-5	34541	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichloropropylene	542-75-6	34561	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	34371	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Bromide	74-83-9	34413	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methylene Chloride	75-09-2	34423	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2,2-Tetrachloroethane	79-34-5	34516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloroethylene	127-18-4	34475	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tolune	108-88-3	34010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-trans-Dichloroethylene	156-60-5	34546	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	71-55-6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2-Trichloroethane	79-00-5	34511	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichloroethylene	79-01-6	39180	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	75-01-4	39175	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACID COMPOUNDS														
2-Chlorophenol	95-57-8	34586	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dichlorophenol	120-83-2	34601	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	105-67-9	34606	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-Dinitro-o-Cresol	534-52-1	34657	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dinitrophenol	51-28-5	34616	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	87-86-5	39032	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	108-95-2	34694	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-Trichlorophenol	88-06-2	34621	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BASE/NEUTRAL														
Acenaphthene	83-32-9	34205	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	120-12-7	34220	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzidine	92-87-5	39120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene	56-55-3	34526	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	50-32-8	34247	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,4-Benzofluoranthene	205-99-2	34230	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	207-08-9	34242	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-chloroethyl)Ether	111-44-4	34273	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-chloroisopropyl)Ether	108-60-1	34283	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-ethylhexyl)Phthalate	117-81-7	39100	16.11870968	N/A	N/A	N/A	N/A	93.5283871	16.11870968	10.74580645	16.11870968	10.745806	0.26886008	0.179240052
Butyl Benzyl Phthalate	85-68-7	34292	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Chloronapthalene	91-58-7	34581	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	218-01-9	34320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzo(a,h)anthracene	53-70-3	34556	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	95-50-1	34536	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

POLLUTANTS	CAS No.	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Daily Avg Load lb/day
1,3-Dichlorobenzene	541-73-1	34566	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	106-46-7	34571	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	91-94-1	34631	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diethyl Phthalate	84-66-2	34336	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dimethyl Phthalate	131-11-3	34341	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Di-n-Butyl Phthalate	84-74-2	39110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dinitrotoluene	121-14-2	34611	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Diphenylhydrazine	122-66-7	34346	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	206-44-0	34376	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluorene	86-73-7	34381	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobenzene	118-74-1	39700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobutadiene	87-68-3	34391	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorocyclopentadiene	77-47-4	34386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	67-72-1	34396	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5	34403	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Isophorone	78-59-1	34408	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	98-95-3	34447	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodimethylamine	62-75-9	34438	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodi-n-Propylamine	621-64-7	34428	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodiphenylamine	86-30-6	34433	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonylphenol	84852-15-3		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	129-00-0	34469	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	120-82-1	34551	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PESTICIDES AND PCBS														
Aldrin	309-00-2	39330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-BHC	319-84-6	39337	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beta-BHC	319-85-7	39338	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gamma-BHC	58-89-9	39340	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlordane	57-74-9	39350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT and derivatives	50-29-3	39300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	60-57-1	39380	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diazinon	333-41-5	39570	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-Endosulfan	959-98-8	34361	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beta-Endosulfan	33213-65-9	34356	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan sulfate	1031-7-8	34351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin	72-20-8	39390	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin Aldehyde	7421-93-4	34366	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	76-44-8	39410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor Epoixde	1024-57-3	39420	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs	1336-36-3	39516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	8001-35-2	39400	N/A	N/A	N/A	0.73	0.00053729	0.011903613	0.00053729	0.000358194	0.00053729	0.0003582	8.962E-06	5.97467E-06

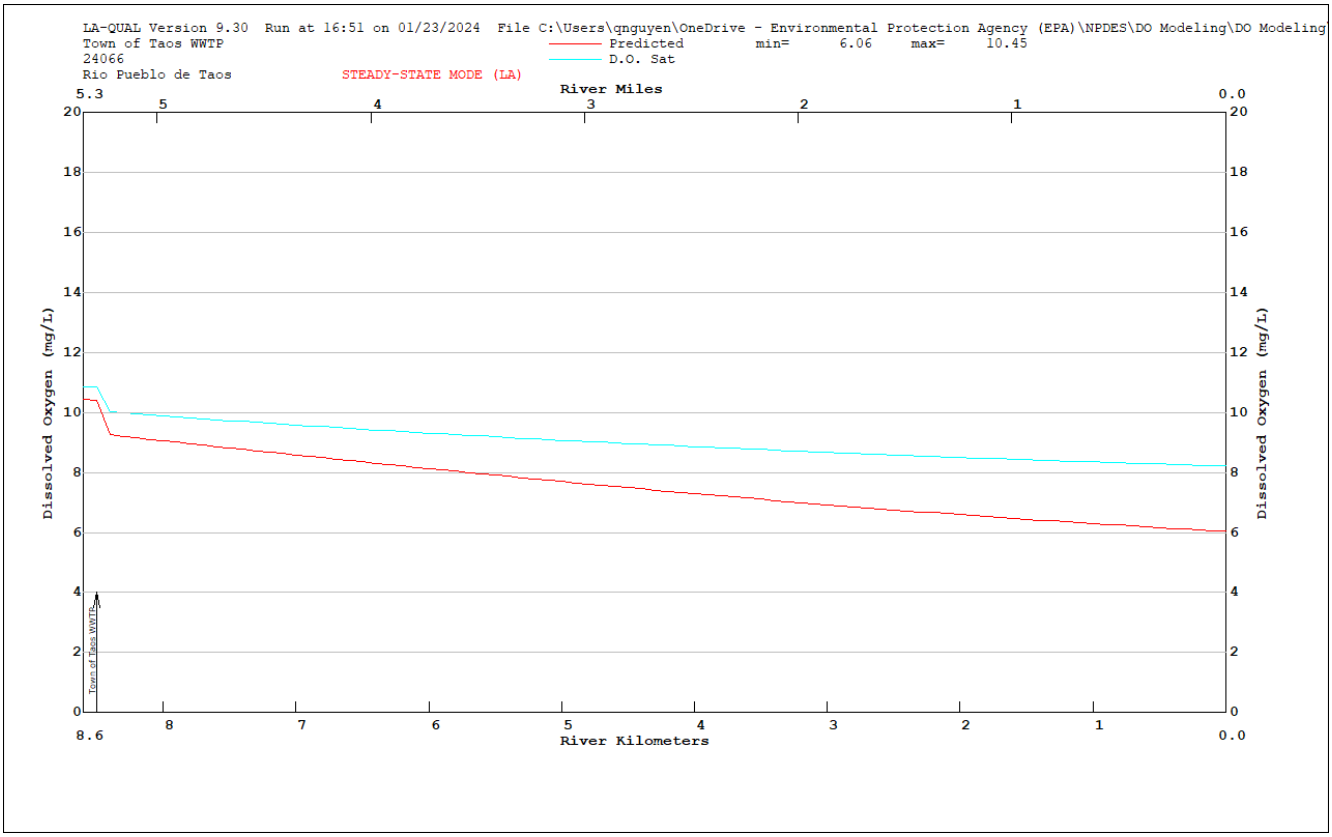
Appendix 3

Facility Name		Town of Taos						
NPDES Permit Number		NM0024066				Outfall Number	001	
Proposed Critical Dilution*		100						
			*Critical Dilution in draft permit, do not use % sign.					
			Enter data in yellow shaded cells only. Fifty percent should be entered as 50, not 50%.					
Test Data								
		VERTEBRATE				INVERTEBRATE		
Date (mm/yyyy)	Lethal NOEC	Sublethal NOEC	Lethal TU	Sublethal TU	Lethal NOEC	Sublethal NOEC	Lethal TU	Sublethal TU
Mar-20	100	100	1.00	1.00	100	100	1.00	1.00
Jun-20	100	100	1.00	1.00	100	100	1.00	1.00
Sep-20	100	100	1.00	1.00	100	100	1.00	1.00
Dec-20	100	100	1.00	1.00	100	100	1.00	1.00
Mar-21	100	100	1.00	1.00	100	100	1.00	1.00
Jun-21	100	100	1.00	1.00	100	100	1.00	1.00
Sep-21	100	100	1.00	1.00	100	100	1.00	1.00
Dec-21	100	100	1.00	1.00	100	100	1.00	1.00
Mar-22	100	100	1.00	1.00	100	100	1.00	1.00
Jun-22	100	100	1.00	1.00	100	100	1.00	1.00
Sep-22	100	100	1.00	1.00	100	100	1.00	1.00
Dec-22	100	100	1.00	1.00	100	100	1.00	1.00
	100	100	1.00	1.00	100	100	1.00	1.00
Count			12	12			12	12
Mean			1.000	1.000			1.000	1.000
Std. Dev.			0.000	0.000			0.000	0.000
CV			0.0	0			0	0
RPMF			#N/A	#N/A			#N/A	#N/A
		1	Reasonable Potential Acceptance Criteria					
Vertebrate Lethal		#N/A	#N/A					
			No Reasonable Potential exists. Permit requires WET monitoring, but no WET li					
Vertebrate Sublethal		#N/A	#N/A					
			No Reasonable Potential exists. Permit requires WET monitoring, but no WET li					
Invertebrate Lethal		#N/A	#N/A					
			No Reasonable Potential exists. Permit requires WET monitoring, but no WET li					
Invertebrate Sublethal		#N/A	#N/A					
			No Reasonable Potential exists. Permit requires WET monitoring, but no WET li					

Appendix 4


LA-QUAL Version 9.30 Run at 16:48 on 01/23/2024 File C:\Users\qnguyen\OneDrive - Environmental Protection Agency (EPA)\NPDES\DO Modeling\DO Modeling
Town of Taos WWTP
24066
Rio Pueblo de Taos
STEADY-STATE MODE (LA)
Predicted min= 4.06 max= 10.45
D.O. Sat
River Miles
River Kilometers
Dissolved Oxygen (mg/L)
Dissolved Oxygen (mg/L)
Town of Taos WWTP

Appendix 5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Town of Taos WWTP
24066
Rio Pueblo de Taos
STEADY-STATE MODE (LA)
Predicted min= 6.06 max= 10.45
D.O. Sat
River Miles
5.3
0.0
Dissolved Oxygen (mg/L)
Town of Taos WWTP
8.6
River Kilometers
0.0