NPDES PERMIT NO. NM0020583
FACT SHEET

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

APPLICANT

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ISSUING OFFICE

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DATE PREPARED

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PERMIT ACTION

Proposed reissuance of the current National Pollutant Discharge Elimination System (NPDES) permit issued September 30, 2016, with an effective date of November 1, 2016, and an expiration date of October 31, 2021.

RECEIVING WATER – BASIN

San Juan River – San Juan Basin

DOCUMENT ABBREVIATIONS

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

4Q3	Lowest four-day average flow rate expected to occur once every three-years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
$CaCO_3$	Calcium carbonate
CD	Critical dilution
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CFU	Colony forming units
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DAF	Dissolved air flotation
DMR	Discharge monitoring report
DO	Dissolved oxygen
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
ug/L	Micrograms per litter (one part per billion)
mg/L	Milligrams per liter (one part per million)
MGD	Million gallons per day
MPN	Most probable number
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES Permit Implementation Procedures
NMWQS	New Mexico State Standards for Interstate and Intrastate Surface Waters
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
POTW	Publicly owned treatment works
RAS	Return activated sludge
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TBELs	Technology-based effluent limitations
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
UV	Ultraviolet Light

WET	Whole effluent toxicity
WLA	Waste-load Allocation
WQBELs	Water quality-based effluent limitations
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

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

I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued on September 30, 2016, with an effective date of November 1, 2016, and an expiration date of October 31, 2021, are as follow:

- Revised TDS net incremental increase limit and mass loading limit have been established;
- Changed WET monitoring frequency to once/quarter using Daphnia pulex and Pimephales promelas;
- Cadmium, 2,3,7,8-TCDD Dioxin, Pentachlorophenol, Aldrin, Chlordane and Toxaphene pollutants monitoring requirements have been added; and,
- Cyanide limits and compliance schedules have been established.

II. APPLICANT ACTIVITY

Under the Standard Industrial Classification Code 4952, the applicant operates a municipal wastewater treatment plant with a design capacity of 6.67 million gallons per day (MGD) serving a population of approximately 50,000.

As described in the application, treatment consists of pretreatment, primary sedimentation, biological treatment, trickling filter, activated sludge, followed by secondary clarification, disinfection and dechlorination.

Sludge is treated by Primary anaerobic digestion of raw primary sludge where it is heated and mixed, then sent to secondary digestion, which is not heated or mixed. The sludge is dewatered by a belt press, stockpiled in concrete drying beds and further air dried to 70 - 80% solids. The sludge is disposed of at the San Juan County Regional Landfill, 78 County Road 3140, Aztec, NM.

As described in the application, the wastewater treatment plant is located at 1395 South Lake Street, Farmington, San Juan County, New Mexico. The discharges are to the San Juan River, State of New Mexico Segment No. 20.6.4.401 of the San Juan Basin. The discharge from Outfall 001 is on that water at Latitude 36° 43' 02" North, Longitude 108° 13' 15" West.

III. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Forms 2A received on April 13, 2021, are presented in Table 1 below. The facility is required to 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 1 were either tested above the minimum quantification levels (MQLs) or were tested at detection levels above EPA MQL or not meeting Sufficiently Sensitive Test Method requirements at 40 CFR 136.1(c) and reported as being non-detect. When a pollutant was tested at a detection level that was greater than the EPA MQL or not meeting Sufficiently Sensitive Test method requirements, then for screening purposes that pollutant will be assumed to have a concentration at that detection level. For toxics that were tested at the

minimum quantification level and reported as less than the MQL, those pollutants are not shown in Table 1.

TABLE 1: Application Effluent Data

Parameter	Max	Avg
Flow, million gallons/day (MGD)	5.27 mgd	4.36 mgd
pH, minimum, standard units (su)	N/A	6.9 su
pH, maximum, standard units (su)	N/A	7.6 su
Temperature, winter, °C	23°C	16°C
Temperature, summer, °C	27°C	23°C
Biochemical Oxygen Demand, 5-day (BOD_5)	15 mg/L	5 mg/L
E. coli	200 MPN/100 mL	4 MPN/100 mL
Total Suspended Solids (TSS)	18 mg/L	5 mg/L
Ammonia (NH3)	8 mg/L	8 mg/L
Chlorine, Total Residual (TRC)	<10 ug/L	<4 ug/L
Dissolved Oxygen	5.84 mg/L	5.63 mg/L
Total Kjeldahl Nitrogen	9.6 mg/L	9.4 mg/L
Nitrate plus Nitrite Nitrogen	28 mg/L	20 mg/L
Phosphorus, T(1)	3.6 mg/L	2.9 mg/L
Total Dissolved Solids (TDS)	886 mg/L	745 mg/L
Arsenic, T(1)	1.5 ug/L	1.5 ug/L
Cadmium(2)	2 ug/L	2 ug/L
Beryllium(2)	2 ug/L	2 ug/L
Pentachlorophenol(2)	10 ug/L	10 ug/L
Aldrin(2)	0.05 ug/L	0.05 ug/L
Chlordane(2)	0.5 ug/L	0.5 ug/L
Toxaphene(2)	0.5 ug/L	0.5 ug/L
2,3,7,8 -TCDD Dioxin(2)	12.4 pg/L	12.4 pg/L
Copper, T(1)	18 ug/L	11.2 ug/L
Mercury, T(1)	5.04 ug/L	3.01ug/L
Nickel, T(1)	3.3 ug/L	2.04 ug/L
Selenium, T(1)	1.5ug/L	1.5 ug/L
Zinc, T(1)	55 ug/L	40.9 ug/L
Hardness (as $CaCO_3$)	404 mg/L	338 mg/L
Cyanide	21.1 ug/L	21.1 ug/L
Lead, T(1)	0.67 ug/L	0.60 ug/L
Silver(2)	5 ug/l	5 ug/l
Aluminum	180 ug/l	64.15 ug/l
Chloroform	2.3 ug/l	1.7 ug/l
Bis(2-Ethylhexyl) Phthalate	2.14 ug/l	1.19 ug/l
Total phenolic compounds	179 ug/L	179 ug/L
Phenol	2.11 ug/L	1.25 ug/L

Footnotes:
(1) Total recoverable form (T)
(2) Pollutants were not meeting Sufficiently Sensitive Test Method requirements and reported as being non-detect

A summary of the last 36 months of available pollutant data (i.e., January 2018 through January 2021) taken from DMRs indicates the facility experienced a number of exceedances of permit limits (shown in parenthesis) for TSS (2), Suspended Solids removal (1), pH (5), E. coli (6), and BOD (4).

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water"; more commonly known as the "swimmable, fishable" goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The previous permit will be expired on October 31, 2021. The permittee submitted their application to EPA on April 13, 2021. The existing permit is administratively continued until this permit is issued.

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. OVERVIEW OF TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

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

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require TBELs to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

The facility is a POTW treating sanitary wastewater. POTW's have technology based ELG's established at 40 CFR Part 133, Secondary Treatment Regulation. Pollutants with ELG's established in this Chapter are BOD_5, TSS and pH. BOD_5 limits of 30 mg/L for the 30-day average and 45 mg/L for the 7-day average and 85% percent (minimum) removal are found at 40 CFR §133.102(a). TSS limits, 30 mg/L for the 30-day average and 45 mg/L for the 7-day average, and 85% percent (minimum) removal, are, also, found at 40 CFR §133.102(b). ELG's for pH are between 6-9 s.u. and are found at 40 CFR §133.102(c). Regulations at 40 CFR §122.45(f)(1) require all pollutants limited in permits to have limits expressed in terms of mass such as pounds per day. When determining mass limits for POTW's, the plant's design flow is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/L * 8.345 lbs/gal * design flow in MGD

30-day average TSS loading = 30 mg/L * 8.345 lbs/gal * 6.67 MGD
30-day average TSS loading = 1,669 lbs

7-day average TSS loading = 45 mg/L * 8.345 lbs/gal * 6.67 MGD
7-day average TSS loading = 2,504 lbs

30-day average BOD_5 loading = 30 mg/L * 8.345 lbs/gal * 6.67 MGD
30-day average BOD_5 loading = 1,669 lbs

7-day average BOD_5 loading = 45 mg/L * 8.345 lbs/gal * 6.67 MGD
7-day average BOD_5 loading = 2,504 lbs

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

Final Effluent Limits 6.67 MGD design flow

Parameter	**30-Day Avg.**	**7-Day Avg.**	**30-Day Avg.**	**7-Day Avg.**
Flow	N/A	N/A	Measure MGD	Measure MGD
BOD_5	1669 lbs/Day	2504	30 mg/L	45 mg/L
BOD_5, % removal (1)	≥ 85	---	---	---
TSS	1669 lbs/Day	2504	30 mg/L	45 mg/L
TSS, % removal (1)	≥ 85	---	---	---
pH (2)	N/A	N/A	6.6 – 9.0 standard units	

(1) % removal is calculated using the following equation: [(average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration] * 100.

(2) Stream segment specific (20.6.4.401 NMAC) WQS, which are more restrictive than pH technology-based limits, 6-9 s.u.

I. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality-based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

The facility discharge point into the San Juan River is in State of New Mexico waters approximately two miles upstream of the Navajo Nation's boundary. Since 40 CFR §122.4(d) requires NPDES permits also be protective of a downstream state or tribe's water quality standards, the water quality standards of the Navajo Nation have been considered.

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 of New Mexico Water Quality Numerical Standards

The general and specific stream standards are provided in New Mexico State Standards for Interstate and Intrastate Surface Water (20.6.4 NMAC, effective September 12, 2018). The facility discharges into the San Juan River in segment number 20.6.4.401 of the San Juan Basin. The designated uses of the receiving waters are public and industrial water supply, irrigation, livestock watering, wildlife habitat, primary contact, marginal coldwater aquatic life and warmwater aquatic life.

4. Navajo Nation Water Quality Standards

The general and specific stream standards for the Navajo Nation (NN) are provided in Surface Water Quality Standards (NNWQS) passed by Navajo Nation Resources Committee on May 13, 2008, effective March 26, 2009. The Navajo Nation WQS and New Mexico WQS are very similar and protection to NMWQS at the point of discharge would also be protective of downstream Navajo Nation waters, except for some of the parameters as discussed below. The Navajo Nation designated uses of the San Juan River at the point it enters the Navajo Nation are domestic water supply, primary human contact, secondary human contact, agricultural water supply, fish consumption, aquatic & wildlife habitat and livestock watering.

5. Permit Action – Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). NM WQS that are more stringent than effluent limitation guideline and applicable for this discharge are based on 20.6.4 NMAC.

a. pH

Stream segment specific (20.6.4.401 NMAC) WQS for pH, 6.6 to 9.0 standard units (s.u.), are more restrictive than the technology-based limits presented earlier and downstream Navajo Nation segment specific WQS for pH (i.e., 5-9 s.u. for domestic water supply, 6.5-9 s.u. for agricultural water supply, etc.). The pH limits of 6.6 to 9.0 s.u. in the previous permit, which are protective of the downstream Navajo Nation standards, will be continued in the draft permit.

b. Bacteria

Primary contact currently is one of the designated uses of State of New Mexico Segment No. 20.6.4.401 of the San Juan basin. The State of New Mexico WQS criteria applicable to the primary contact designated use of the receiving stream are the monthly geometric mean of E. coli bacteria of 126 cfu/100 mL (or MPN/100 mL) and single sample of 410 cfu/100 mL (or MPN/100 mL). The results for E. coli may be reported as either colony forming units (CFU) or the most probable number (MPN) depending on the analytical method used.

The 2018-2020 State of New Mexico CWA §303(d) / §305(b) Integrated Report identifies the Segment is impaired due to E. coli. NMED developed an EPA approved TMDL for the San Juan River Watershed (Part One)-Navajo Nation Boundary at the Hogback to Navajo Dam (May 10, 2005). The E. coli daily mass loading limit of 3.19×10^{10} cfu/day in the TMDL was established based on the following:

Daily mass loading limit, cfu/day = C, cfu/100 mL * 1,000 mL/L * l/0.264 gallons * Q, flow, expressed in 1,000,000 gallons/day

Where:
C = state water quality standard criterion for bacteria, 126 cfu/100 mL
Q = stream flow in million gallons per day (mgd), 299 MGD

Downstream Navajo Nation segment specific WQS for E. coli bacteria are 126 cfu/100 mL monthly geometric mean for domestic water supply, and 235 cfu/100 mL to 575 cfu/100 mL single sample maximum for secondary human contact. The E. coli monthly geometric mean limit of 126 cfu/100 mL, daily maximum limit of 235 cfu/100 mL and daily maximum mass loading limit of 3.19×10^{10} cfu/day in the previous permit will be continued in the draft permit to be consistent with the New Mexico TMDL and protective of the more stringent NNWQS. The E. coli monitoring frequency requirement in the previous permit be also continued in the draft permit.

c. Dissolved Oxygen

The State of New Mexico and Navajo Nation WQS criteria applicable to the warm-water aquatic life designated use are at least 5 mg/L and 6 mg/L, respectively, for dissolved oxygen. As a part of the permitting process, EPA used the LA-QUAL water quality model, which is a steady-state one-dimensional model which assumes complete mixing within each modeled element, to develop permit parameters for the protection of the State of New Mexico surface water WQS for DO (i.e., 5 mg/L). Primarily based on the City of Farmington Wastewater Treatment Plant's design flow of 6.67 MGD (0.292 m^3/s)) and the receiving water critical flow of 431.3 cfs (278.6 MGD), various BOD_5 factors including BOD_5 Secondary Treatment Standards were considered and simulated to achieve the DO criterion. A complete characterization of San Juan River (i.e., water quality and hydrodynamic data) was not available. Where data were not available, estimates and assumptions are made. The following is a summary of model inputs.

- The City of Farmington Wastewater Treatment Plant's design flow is 0.292 m^3/sec (6.67 MGD). The discharge location provided in the permit application is located at Latitude 36° 43' 02" N (36.7172), and Longitude 108° 13' 15" W (-108.2208). Other effluent parameters provided in the permittee's application and applied in the model include Ammonia (Avg: 8 mg/L), DO (Avg: 5.63 mg/L), temperature (23 C), Nitrate plus Nitrite Nitrogen (Avg: 20 mg/L), T. Phosphorus (2.9 mg/L) and E. Coli (Avg: 4 MPN/100 mL).

- NMED provided the following information. The critical low flow of San Juan River receiving stream is approximately 12.213 m^3/sec (431.3 ft^3/sec). Other parameters applied in the model include ambient temperature (11.38 C). Ammonia (Avg: 0.1 mg/L), DO (Avg: 9.8 mg/L), Nitrate plus Nitrite Nitrogen (Avg: 1 mg/L) and Ambient E. Coli of 18 cfu/100 mL, and the receiving stream average depth of 6 feet (2 meters) were assumed since no data available.

- EPA used the EPA's Environmental Justice Screening and Mapping Tool (Version 2019) to estimate the average elevation of the study area and average width of San Juan River. The average elevation is approximately 1603 meter (5260 feet). The average width of San Juan River are approximately 25 meters. And, the studied San Juan River segment length is approximately 36.2 kilometers (22.51 miles), which was obtained from the 2018-2020 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report.

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

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

d. Low Flow – 4Q3

The low flow or 4Q3 was taken from the previous permit and was provided by NMED. The 4Q3 is 431.3 cubic feet per second (cfs) and the harmonic mean low flow used for human health calculations is 1108 cfs. To convert 4Q3 expressed in cfs to 4Q3 expressed as MGD, the constant 1.548 cfs/MGD is used. The 4Q3 is 278.6 MGD and the harmonic mean low flow is 715.8 MGD.

e. Chlorine

The facility uses chlorine to control bacteria. The NMWQS for total residual chlorine (TRC) are 11 ug/l for chronic and 19 ug/l for acute conditions. The NNWQS for TRC are 4000 ug/L for domestic water supply, and primary/secondary human contact; 19 ug/L for aquatic & wildlife habitat-acute; and, 11 ug/L for aquatic & wildlife habitat-chronic and livestock watering.

Since acute conditions do not allow dilution; the limit must be met at end-of-pipe but chronic standards do allow dilution, the permit shall use the most stringent WQS for the permit limit. The following shows the calculations.

The critical dilution (CD) is calculated as follows:

$$CD = Qe \div [(FQa) + Qe]$$

where:
Qe = facility effluent or design flow; 6.67 MGD
Qa = 4Q3; 278.6 MGD
F = fraction of stream allowed for mixing; 1.0

$$CD = 6.67 \div [(1.0 \times 278.6) + 6.67]$$
$$CD = 0.0234 \text{ or } 2.34\%$$

The in-stream TRC concentration after allowing for dilution is; 11 ug/l ÷ 0.0234 = 470 ug/l. Since this value is greater than the 19 ug/l end-of-pipe acute standard, the 19 ug/l is more stringent and will be more protective. The draft permit maintains the 19 ug/l end-of-pipe acute limit since it is more stringent and will be more protective than the 11 ug/l dilution based chronic limit. In addition to the 19 ug/l chemical specific limitation, the draft permit also maintains the narrative limit for total residual chlorine shall be "No Measurable." TRC shall be limited as follows: "After dechlorination and prior to final disposal, the effluent shall contain NO MEASURABLE (TRC) at any time. NO MEASURABLE will be defined as no detectable concentration of TRC as determined by any approved method established in 40 CFR Part 136. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. The maximum dechlorinated TRC shall be monitored daily by grab sample. TRC shall be measured within fifteen (15) minutes of sampling.

v. Total Dissolved Solids

The Colorado River flows more than 1400 miles from it headwaters in the Rocky Mountains through portions of seven states and the Republic of Mexico before it discharges into the Gulf of California. The Colorado River Basin spans approximately 155 million acres of The United States, providing drinking water to 39 million people in both the US and Mexico and irrigation water to 5.5 million acres. Salinity impacts have been a major concern in the United States and Mexico. The salinity of the Colorado River increases as it flows downstream. The Colorado River has carried an average salt load of approximately 9 million tons annually past Hoover Dam, the uppermost location at which numeric criteria have been established. Many of the saline sediments of the Basin were deposited in prehistoric marine environments. Salts contained within the sedimentary rocks are easily eroded, dissolved, and transported into the river system. (Source: 2014 Review, Water Quality Standards for Salinity, Colorado River System - coloradoriversalinity.org).

In 1973, the Colorado River Basin States came together in 1973 and organized the Colorado River Basin Salinity Control Forum (Forum). In 1974, in coordination with the Department of the Interior and the U.S. State Department, the Forum worked with Congress in the passage of the Colorado River Basin Salinity Control Act (Act). Since implementation of the Program, measures have been put in place which now reduce the annual salt load of the Colorado River by more than 1.3 million tons. The salinity concentration at Imperial Dam has been reduced by about 90 mg/L. (Source: Colorado River Basin Salinity Control Forum-coloradoriversalinity.org)

According to the Forum-adopted NPDES permit program policies (for Municipal Discharges), in order for a permittee to be in compliance with the Forum's municipal discharges criteria, the incremental increase in salinity shall be 400 mg/L or less, which is considered to be a reasonable incremental increase above the flow weighted average salinity of the intake water supply. However, the permitting authority may permit a discharge in excess of the 400 mg/L incremental increase at the time of issuance or reissuance of a NPDES discharge permit, upon satisfactory demonstration by the permittee that it is not practicable to attain the 400 mg/L limit.

April 10, 2015, the facility demonstrated that it was economically impractical to attain the net 400 mg/L incremental increase limit at that time. Because of that demonstration, EPA allowed a temporary 30-day average TDS net incremental increase limit of 497 mg/L for the previous permit cycle, provided that the facility will diligently control and reduce TDS in their discharge (i.e., maintaining the formulated BMP activities, monitoring its effluent quality and quantity on a regular basis, and completing $14 million upgrades at the WWTP to improve overall effluent quality (i.e., reducing TDS in their discharges)).

The City of Farmington has constructed a new sampling station where water intake samplings have been conducted. EPA believes the TDS data collected during the past permit cycle are sufficient and representative of facility existing operation conditions and can be used to derive the final 30-day average net incremental increase limit. EPA cannot grant the permittee request of keeping the temporary 30-day average TDS net incremental increase limit of 497 mg/L in the draft permit. To protect and maintain existing water quality as required by 40 CFR §122(4)(d) and to prevent further degradation of water quality in the San Juan River in accordance with 40 CFR §131.12, Subsection A of 20.6.4.8 NMAC, the New Mexico Continuing Planning Process –

Anti-degradation Policy Implementation Procedures, and § 201 of Navajo Nation Clean Water Act – Anti-degradation Policy, EPA proposes a revision to the facility temporary 30-day average TDS net incremental increase limit of 497 mg/L to 449 mg/L. The proposed TDS permit limit, in accordance with 40 CFR §133.101(f), was based 95th percentile of the most recent three years (i.e., 2018-2020) of City's wastewater treatment plant effluent net TDS data. The proposed limits take effluent variability within control of the facility into account and, at same time, would not cause further degradation of the receiving water and its downstream. This approach is consistent with the one used in developing the temporary 30-day average TDS net incremental increase limit of 497 mg/L in the previous permit. The 30-day average mass loading limit is, also, revised to 24,992lbs/day from 27,664 lbs/day based on the proposed 30-day average TDS net incremental increase limit of 449 mg/L. The facility is required to continue maintaining the formulated BMP activities and monitoring its effluent quality and quantity on a regular basis with reporting results monthly.

vi. Toxics

1) Reasonable Potential – The State of New Mexico

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. All applicable facilities are required to fill out appropriate sections of the Form 2A and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs, but also to facilities that are similar to POTWs, but which do not meet the regulatory definition of "publicly owned treatment works" (like private domestics, or similar facilities on Federal property). The forms were designed and promulgated to "make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities," per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

The facility is designated a major POTW for permitting purposes and must supply the expanded pollutant testing list described in the EPA Application Form 2A. The City of Farmington WWTP is classified as a "major" discharger with a design flow more than 1.0 MGD. They completed Part D, "Expanded Effluent Testing Data" of form 2A and submitted to EPA as a part of their April 13, 2021 application. The facility also submitted additional data on May 24, 2021. The submitted data are presented in the Table 1 of Section III.
The EPA conducted a water quality screen which is based on the March 15, 2012 NMIP to determine if discharged pollutant concentrations demonstrate RP to exceed WQS for the various designated uses. If RP exists, the screen model will calculate the appropriate permit limit needed to be protective of such designated uses.

The result of the preliminary RP analysis (see Appendix 2) indicates that Cyanide has RP to violate WQS consistent with the designated uses for the receiving waterbody. The draft permit will propose a daily maximum and monthly average limits of 22 ug/L and 14.67 ug/L,

respectively, for it. The facility shall have a 1-year compliance schedule to achieve final limitations for Cyanide pollutant. The permit will require compliance schedule reports.

The preliminary toxic analysis, also, shows potential for RP to exist, based on insufficiently sensitive test methods used, for Cadmium, 2,3,7,8-TCDD Dioxin, Pentachlorophenol, Aldrin, Chlordane and Toxaphene pollutants. Because the permittee has not met the sufficient sensitive test requirement per 40 CFR 122.21(e)(3), EPA proposes monitoring for these parameters quarterly n the draft permit. During the public comment period, the permittee may submit the analysis results using EPA approved methods with SSM complied MDL (shown in parenthesis) for Cadmium (0.05 ug/L, EPA 200.9) , 2,3,7,8-TCDD Dioxin (1.0E-5 ug/L, EPA 1613B), Pentachlorophenol (7.4 ug/L, EPA 604), Aldrin (0.004 ug/L, EPA 608), Chlordane (0.014 ug/L, EPA 608), and Toxaphene (0.24 ug/L, EPA 608)). EPA would reconsider this monitoring requirement for the final permit if the result(s) indicate no reasonable potential exists.

2) Reasonable Potential – The Navajo Nation

The Navajo Nation is a downstream state and the permit limits developed for this permit must ensure that its WQS are protected. See 40 CFR 122.4(d). Pollutants that have the Navajo Nation WQS reported above MQL are Aluminum, Arsenic, Copper, Total Mercury, Nickel, Selenium, Zinc, Bis(2-ethylhexyl)Phthalate, Chloroform, Phenol, Cyanide and Arsenic.

Criteria for several of the pollutants (i.e., Zinc, Copper, Nickel, and Silver) are expressed as a function of hardness according to the following mathematical relationships, and their results are as follows:

Copper – Acute	0.960 e (0.9422[ln (hardness)] – 1.700)	(Eqn. 1)
Copper – Chronic	0.960 e (0.8545[ln (hardness)] – 1.702)	(Eqn. 2)
Nickel – Acute	0.998 e (0.8460[ln (hardness)] + 2.255)	(Eqn. 3)
Nickel – Chronic	0.997 e (0.8460[ln (hardness)] + 0.0584)	(Eqn. 4)
Silver – Acute	0.85 e (1.72[ln (hardness)] - 6.59)	(Eqn. 5)
Silver – Chronic	(Silver has no chronic criteria)	
Zinc – Acute	0.978 e (0.8473[ln (hardness)] + 0.884)	(Eqn. 6)
Zinc – Chronic	0.986 e (0.8473[ln (hardness)] + 0.884)	(Eqn. 7)

For the analysis, EPA used the San Juan River geometric mean hardness of 132 mg/l (expressed as $CaCO_3$) provided by NMED. The results of Navajo Nation RP screening (see Appendix 3) show Cyanide pollutant demonstrates RP to exceed the Navajo Nation water quality standards consistent with the designated uses for the receiving water. As indicated, the draft permit will propose a daily maximum and monthly average limits of 22 ug/L and 14.67 ug/L, respectively, for Cyanide. The facility shall have a 1-year compliance schedule to achieve final limitations for Cyanide pollutant. The permit will require compliance schedule reports.

5. Monitoring Frequency for Limited Parameters

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity (40 CFR §122.48(b)) and to assure compliance with permit limitations (40 CFR §122.44(i)(1)). Technology based pollutants; BOD_5 and TSS, are proposed to be monitored five times per week, with sampling on at least five different days. Flow is proposed to be monitored continuously using a totalizing meter. Sample type for BOD_5 and TSS is 12-Hr composite. These frequencies and sample types are the same as the current permit. The monitoring frequencies of daily for TRC and five times per week for E. coli, pH and flow are consistent with the previous permit. Report requirements of once per week for TDS is also consistent with the previous permit.

6. Whole Effluent Toxicity 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 4. 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. Previously it was shown that the CD was 2.34%. When the critical dilution is equal to or less than 10%, in lieu of the 7-day chronic test, a 48-hour acute test may be run using a 10:1 acute to chronic ratio; 23.4% rounded to the nearest whole number 23%. The facility shall conduct a 48-hour acute test using Daphnia pulex once per quarter, and a 48-hour acute test using Pimephales promelas once per quarter. After the first four quarters without failures, the permittee may apply for a frequency reduction. Any failure afterwards shall re-establish all tests for both species to once per quarter for the remainder of the permit. The test series will be 10%, 13%, 17%, 23% and 31%.

The permittee shall conduct separate whole effluent toxicity tests in accordance with Table 2:

TABLE 2:

WHOLE EFFLUENT TOXICITY TESTING (48-Hr Acute Static Renewal/ NOEC) *1	VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Daphnia pulex	Report	Once/Quarter	24-Hr Composite
Pimephales promelas	Report	Once/Quarter	24-Hr Composite

Footnotes:

(*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.

E. 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". The specific requirements in the permit apply as a result of the design flow of the facility, the type of waste discharged to the collection system, and the sewage sludge disposal or reuse practice utilized by the treatment works. The permittee shall submit an Annual Sludge Status report in accordance with NPDES Permit NM0020583, Part I and Part IV.

F. 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.

G. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The treatment plant currently has two permitted industrial users. They are ALSCO and San Juan County Adult Detention Center. The facility has a pretreatment program in place and will be continued with this draft permit.

Due to TDS concerns, the facility will be required to maintain the formulated best management practice (BMP) plan for TDS control from these sources.

Discharger	**Processes**	**Discharge Volume**
ALSCO, Inc.	Industrial Laundry	0.04 MGD
San Juan County Adult Detention Center	Laundry & Kitchen	0.066 MGD

H. OPERATION AND REPORTING

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge on a regular basis; and report the results 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 via EPA's Enforcement and Compliance History Online (ECHO) web site at https://echo.epa.gov.

XII. 303(d) LIST

The EPA approved 2018-2020 State of New Mexico CWA §303(d) / §305(b) Integrated Report identifies the receiving stream segment no, 20.6.4.401(San Juan River (Navajo Nation boundary at Hogback to Animas River) is impaired for turbidity sedimentation/siltation and E. coli bacteria. NMED developed an EPA approved TMDL for the San Juan River Watershed (Part One)-Navajo Nation Boundary at the Hogback to Navajo Dam (May 10, 2005). The draft permit proposes E. coli limits consistently with the approved TMDL. The standard reopener language in the permit allows additional permit conditions if warranted by future changes and/or new TMDLs.

XIII. ANTIDEGRADATION

New Mexico and the Navajo Nation both have antidegradation requirements to protect existing uses through implementation of their respective states WQS. The limitations and monitoring requirements set forth in the proposed draft are developed from the appropriate State WQS and are protective of those designated uses. Furthermore, the policy's set forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The 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.

XIV. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(l)(i)(A), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. The proposed permit is slightly more restrictive than the previous permit since the Cyanide limits have been established in the draft permit. In addition, the 30-day average TDS net incremental increase and loading limits have been revised downward to 449 mg/L (from 497 mg/L) and to 24,992 lbs/day (from 27,664 lbs/day), respectively, in the draft permit. For other pollutants (i.e., BOD_5, TSS, pH, E. coli, and TRC), their limits are kept the same.

XV. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, http://ecos.fws.gov/tess_public/reports/species-by-current-range-county?fips=35045, ten species in San Juan County are listed as endangered (E), threatened (T)

or candidate (C). Three aquatic species include Colorado pike minnow (*Ptychocheilus lucius*), E, Zuni bluehead sucker (*Catostomus discobolus yarrow*), E, and Razorback sucker (*Xyrauchen texanus*), E. Two of the species which are avian include Yellow-billed Cuckoo (*Coccyzus americanus*), T, and Southwestern willow flycatcher (*Empidonax traillii extimus*), E. Three plant species are Knowlton cactus (*Pediocactus knowltonii*), E, Mancos milk-vetch (*Astragalus humillimus*), E, and Mesa Verde cactus (*Sclerocactus mesae-verdae*), T. Two mammal species are Cana Lynx (*Lynx Canadensis*), T, and New Mexico meadow jumping mouse (*Zapus hudsonius luteus*), E.

New Mexico meadow jumping mouse was not in the previous permit. In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, EPA has determined that the reissuance of this permit will have "*no effect*" on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

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 issuance of this permit is found to have no impact on the habitat of this species.

The proposed permit does not authorize constructions and land development, nor will cause release of toxic pesticides or spread of disease. Based on the information available to EPA, that the reissuance of this permit will have no effect on these federally listed threatened or endangered species.

XVI. 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.

XVII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of "New Mexico's Water Quality Standards for Interstate and Intrastate Streams" are revised or remanded by the New Mexico Water Quality Control Commission or if changes are made to the

"Water Quality Standards for Salinity - Colorado River System" by the Colorado River Basin Salinity Control Forum. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the Water Quality Standards are either revised or promulgated by the New Mexico Environment Department. Should the State adopt a State water quality standard, 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 State 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.

XVIII. VARIANCE REQUESTS

No variance requests have been received.

XIX. CERTIFICATION

The permit is in the process of certification by the State agency following regulations promulgated at 40 CFR §124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XX. FINAL DETERMINATION

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

XXI. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2A was received on April 13, 2021.

B. 40 CFR CITATIONS

§§ 122, 124, 125, 127, 131, 133, 136

C. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, effective September 12, 2018.

EPA approved TMDL for the San Juan River Watershed (Part One)-Navajo Nation Boundary at the HogBack to Navajo Dam, May 10, 2005.

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, 2018 -2020.

D. MISCELLANEOUS REFERENCES

EPA Region 6 "Policy for Post Third Round NPDES Permitting" and "Post Third Round NPDES Permit Implementation Strategy," October 1, 1992.

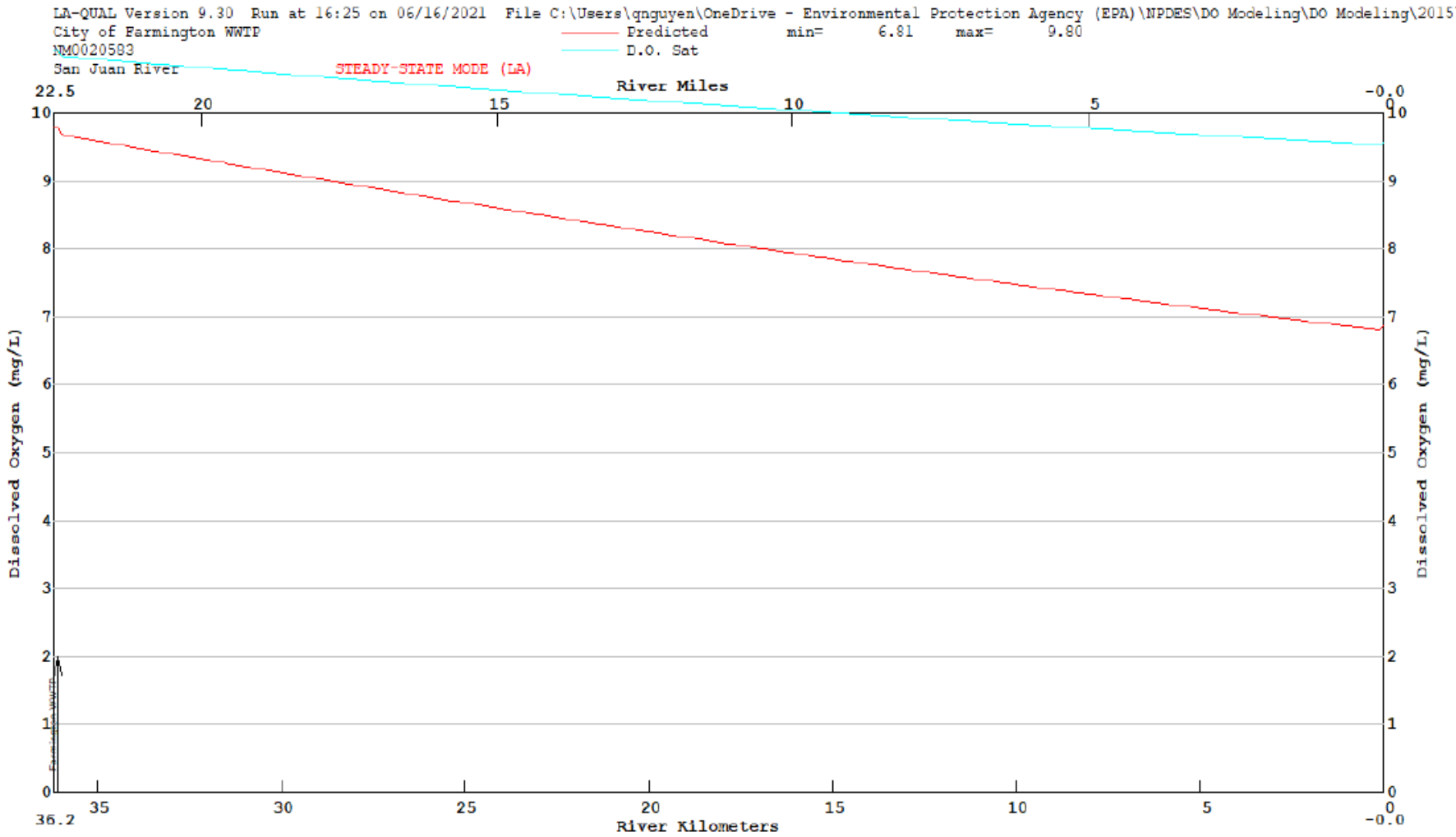
2014 Review Water Quality Standards for Salinity - Colorado River System, Colorado River Basin Salinity Control Forum - October 2014.

Bureau of Reclamation. 2013. Quality of Water – Colorado River Basin Progress Report No. 24. Upper Colorado Region, Salt Lake City, UT

Navajo Nation Surface Water Quality Standards 2007, passed by Navajo Nation Resources Committee on May 13, 2008 (Effective March 26, 2009)

Pimentel, R. and R. V. Bulkley. 1983. Concentrations of total dissolved solids preferred or avoided by endangered Colorado River fishes. Transactions of the American Fisheries Society 112:595-600.

Appendix 1 – DO Modeling Results



CALCULATIONS OF NEW MEXICO 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
INPUT FACILITY AND RECEIVING STREAM DATA
LIST SOURCE OF DATA INPUT

Appendix 2 of Fact Sheet

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		City of Farmington WWTP	
NPDES Permit No.		NM0020583	
Outfall No.(s)		1	
Plant Effluent Flow (MGD)		6.67	For industrial and federal facility, use the highest monthly average flow
Plant Effluent Flow (cfs)		10.3385	for the past 24 months. For POTWs, use the design flow.
RECEIVING STREAM		**DATA INPUT**	
Receiving Stream Name		San Juan River	
Basin Name		San Juan	
Waterbody Segment Code No.		20.6.4.401	
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		1	
USGS Flow Station		USGS	
WQ Monitoring Station No.			
Receiving Stream TSS (mg/l)		44.81	For intermittent stream, enter effluent TSS
Receiving Stream Hardness (mg/l as CaCOs)	RANGE: 0 - 400	132	For intermittent stream, enter effluent Hardness (If no data, 20 mg/l is used)
Receiving Stream Critical Low Flow (4Q3) (cfs)		431.3	Enter "0" for intermittent stream and lake.
Receiving Stream Harmonic Mean Flow (cfs)		1108	Enter harmonic mean or modified harmonic mean flow data or 0.001 if no data is available
Avg. Receiving Water Temperature (C)		13.11	
pH (Avg), Receiving Stream		7.99	
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		431.3	

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	1.5	480000	-0.73	29904.56768	0.427346103	0.64101915	480000	-0.73	29904.56768	0.427346103	0.6410192
Chromium III		3360000	-0.93	97849.94357	0.185712886	0	2170000	-0.27	777299.698	0.02790895	0
Copper	18	1040000	-0.74	62375.76439	0.263500584	4.74301051	2850000	-0.9	93026.65615	0.193478817	3.4826187
Lead	0.67	2800000	-0.8	133677.4265	0.143059767	0.09585004	2040000	-0.53	271895.1414	0.075851693	0.0508206
Nickel	3.3	490000	-0.57	56093.47714	0.284612533	0.93922136	2210000	-0.76	122842.1238	0.153738405	0.5073367
Silver	5	2390000	-1.03	47586.27485	0.319250046	1.59625023	2390000	-1.03	47586.27485	0.319250046	1.5962502
Zinc	55	1250000	-0.7	87286.595	0.203611567	11.1986362	3340000	-0.68	251658.4428	0.081454352	4.4799894

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)	5003.02112	If Stream pH < 6.5, enter 750 in cell O113
	Chronic	e(1.3695[ln(hardness)]+0.9161)	2004.394367	If Stream pH < 6.5, enter 87 in cell P113
Cadmium (D)	Acute	e(0.8968[ln(hardness)]-3.5699)*CF1	2.093814793	CF1 = 1.136672 - 0.041838*ln(hardness)
	Chronic	e(0.7647[ln(hardness)]-4.2180)*CF2	0.553003306	CF2 = 1.101672 - 0.041838*ln(hardness)

			Dissolved WQC (ug/l)	
Chromium III (D)	Acute	0.316 e(0.819[ln(hardness)]+3.7256)	715.2282405	
	Chronic	0.860 e(0.819[ln(hardness)]+0.6848)	93.03649959	
Copper (D)	Acute	0.960 e(0.9422[ln(hardness)]-1.700)	17.45723153	
	Chronic	0.960 e(0.8545[ln(hardness)]-1.702)	11.35357019	
Lead (D)	Acute	e(1.273[ln(hardness)]-1.46)*CF3	87.25667514	CF3 = 1.46203 - 0.145712*ln(hardness)
	Chronic	e(1.273[ln(hardness)]-4.705)*CF4	3.400267361	CF4 = 1.46203 - 0.145712*ln(hardness)
Manganese (D)	Acute	e(0.3331[ln(hardness)]+6.4676)	3274.961265	
	Chronic	e(0.3331[ln(hardness)]+5.8743)	1809.419438	
Nickel (D)	Acute	0.998 e(0.846[ln(hardness)]+2.255)	592.2023736	
	Chronic	0.997 e(0.846[ln(hardness)]+0.0584)	65.77540061	
Silver (D)	Acute	0.85 e(1.72[ln(hardness)]-6.59)	5.185676872	
Zinc (D)	Acute	0.978 e(0.9094[ln(hardness)]+0.9095)	205.9584521	
	Chronic	0.986 e(0.90947[ln(hardness)]+0.6235)	156.0478889	

					Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
POLLUTANTS			Ambient Conc.	Effluent Conc.	Acute Aquatic	Domestic Supply	Chronic Aquatic	Human Health	Domestic Criteria	Irrigation Criteria	Wildlife Criteria	Aquatic Criteria	Aquatic Criteria	Health Criteria	TMDL
	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	95	180	383.4	101.751276	101.751276	97.6661189	1E+100	5000	1E+100	5003.02112	2004.3944	1E+100	N/A
Barium, dissolved	7440-39-3	100			0	0	0	0	2000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Boron, dissolved	7440-42-8	100			0	0	0	0	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			0	0	0	0	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	1.00E+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)			0.334	28	59.64	1.72231891	1.72231891	0.88225536	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		0.641019155	1.3653708	0.03196253	0.03196253	0.01262219	10	100	200	340	150	9	N/A
Beryllium, dissolved	7440-41-7	0.5		2	4.26	0.09972412	0.09972412	0.03938165	4	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Cadmium, dissolved	7440-43-9	1		2	4.26	0.09972412	0.09972412	0.03938165	5	10	50	2.093814793	0.5530033	1E+100	N/A
Chromium (III), dissolved	16065-83-1	10			0	0	0	0	1E+100	1E+100	1E+100	715.2282405	93.0365	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		4.743010512	10.10261239	0.23649627	0.23649627	0.09339378	1300	200	500	17.45723153	11.35357	1E+100	N/A
Lead, dissolved	7439-92-1	0.5		0.095850044	0.204160593	0.00477928	0.00477928	0.00188737	15	5000	100	87.25667514	3.4002674	1E+100	N/A
Manganese, dissolved	7439-96-5				0	0	0	0	1E+100	1E+100	1E+100	3274.961265	1809.4194	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		5.04	10.7352	0.25130478	0.25130478	0.09924175	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		0.93922136	2.000541498	0.04683151	0.04683151	0.01849404	700	1E+100	1E+100	592.2023736	65.775401	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		1.5	3.195	0.07479309	0.07479309	0.02953623	1E+100	1E+100	5	20	5	1E+100	N/A
Silver, dissolved	7440-22-4	0.5		1.596250229	3.400012987	0.07959232	0.07959232	0.03143148	1E+100	1E+100	1E+100	5.185676872	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		11.19863621	23.85309512	0.55838706	0.55838706	0.22051036	10500	2000	25000	205.9584521	156.04789	26000	N/A
Cyanide, total recoverable	57-12-5	10		21.1	44.943	1.05208945	1.05208945	0.41547636	200	1E+100	5.2	22	5.2	140	N/A
Dioxin	1764-01-6	0.00001		0.0000124	0.000026412	6.1829E-07	6.1829E-07	2.4417E-07	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		2.3	4.899	0.11468274	0.11468274	0.04528889	57	1E+100	1E+100	1E+100	1E+100	4700	N/A
Dichlorobromomethane	75-27-4	10			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		10	21.3	0.49862059	0.49862059	0.19690823	1	1E+100	1E+100	19	15	30	N/A
Phenol	108-95-2	10		2.11	4.4943	0.10520894	0.10520894	0.04154764	10500	1E+100	1E+100	1E+100	1E+100	860000	N/A
2,4,6-Trichlorophenol	88-06-2	10			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		2.14	4.5582	0.10670481	0.10670481	0.04213836	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	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		0.05	0.1065	0.0024931	0.0024931	0.00098454	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		0.5	1.065	0.02493103	0.02493103	0.00984541	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		0.5	1.065	0.02493103	0.02493103	0.00984541	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	2.09381479	N/A	N/A	2.093814793	1.395876529	2.093814793	1.3958765	0.11647431	0.07764954
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	22	N/A	N/A	22	14.66666667	22	14.666667	1.2238116	0.8158744
DIOXIN														0
2,3,7,8-TCDD	1764-01-6	34675	N/A	N/A	N/A	N/A	N/A	5.51678E-06	5.51678E-06	3.67786E-06	5.51678E-06	3.678E-06	3.0689E-07	2.04591E-07
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	19	N/A	N/A	19	12.66666667	19	12.666667	1.0569282	0.7046188
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	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
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	0.05408611	0.05408611	0.036057407	0.05408611	0.0360574	0.00300869	0.002005794
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	0.18368676	0.876194985	0.183686758	0.122457839	0.183686758	0.1224578	0.01021809	0.00681206
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	0.00854357	0.302882217	0.00854357	0.005695713	0.00854357	0.0056957	0.00047526	0.00031684

CALCULATIONS OF NAVAJO NATION 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 3 of Fact Sheet**

INPUT FACILITY AND RECEIVING STREAM DATA

LIST SOURCE OF DATA INPUT

IMPLEMENTATION PROCEDURES

The Navajo Nation Standards for 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		City of Farmington WWTP	
NPDES Permit No.		NM0020583	
Outfall No.(s)		1	
Plant Effluent Flow (MGD)		6.67	For industrial and federal facility, use the highest monthly average flow
Plant Effluent Flow (cfs)		10.3385	for the past 24 months. For POTWs, use the design flow.
RECEIVING STREAM		**DATA INPUT**	
Receiving Stream Name		San Juan River	
Basin Name		San Juan	
Waterbody Segment Code No.		20.6.4.401	
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		1	
USGS Flow Station		USGS	
WQ Monitoring Station No.			
Receiving Stream TSS (mg/l)		44.81	For intermittent stream, enter effluent TSS
Receiving Stream Hardness (mg/l as CaCOs)	RANGE: 0 - 400	132	For intermittent stream, enter effluent Hardness (If no data, 20 mg/l is used)
Receiving Stream Critical Low Flow (4Q3) (cfs)		431.3	Enter "0" for intermittent stream and lake.
Receiving Stream Harmonic Mean Flow (cfs)		1108	Enter harmonic mean or modified harmonic mean flow data or 0.001 if no data is available
Avg. Receiving Water Temperature (C)		13.11	
pH (Avg), Receiving Stream		7.99	
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		431.3	

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 allow ed 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	1.5	480000	-0.73	29904.56768	0.427346103	0.64101915	480000	-0.73	29904.56768	0.427346103	0.6410192
Chromium III		3360000	-0.93	97849.94357	0.185712886	0	2170000	-0.27	777299.698	0.02790895	0
Copper	18	1040000	-0.74	62375.76439	0.263500584	4.74301051	2850000	-0.9	93026.65615	0.193478817	3.4826187
Lead	0.67	2800000	-0.8	133677.4265	0.143059767	0.09585004	2040000	-0.53	271895.1414	0.075851693	0.0508206
Nickel	3.3	490000	-0.57	56093.47714	0.284612533	0.93922136	2210000	-0.76	122842.1238	0.153738405	0.5073367
Silver	5	2390000	-1.03	47586.27485	0.319250046	1.59625023	2390000	-1.03	47586.27485	0.319250046	1.5962502
Zinc	55	1250000	-0.7	87286.595	0.203611567	11.1986362	3340000	-0.68	251658.4428	0.081454352	4.4799894

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)	5003.02112	If Stream pH < 6.5, enter 750 in cell O113
	Chronic	e(1.3695[ln(hardness)]+0.9161)	2004.394367	If Stream pH < 6.5, enter 87 in cell P113
Cadmium (D)	Acute	e(1.0166[ln(hardness)]-3.924)*CF1	2.637541761	CF1 = 1.136672 - 0.041838*ln(hardness)
	Chronic	e(0.7409[ln(hardness)]-4.719)*CF2	0.29831599	CF2 = 1.101672 - 0.041838*ln(hardness)

			Dissolved WQC (ug/l)	
Chromium III (D)	Acute	0.316 e(0.819[ln(hardness)]+3.7256)	715.2282405	
	Chronic	0.860 e(0.819[ln(hardness)]+0.6848)	93.03649959	
Copper (D)	Acute	0.960 e(0.9422[ln(hardness)]-1.700)	17.45723153	
	Chronic	0.960 e(0.8545[ln(hardness)]-1.702)	11.35357019	
Lead (D)	Acute	e(1.273[ln(hardness)]-1.46)*CF3	87.25667514	CF3 = 1.46203 - 0.145712*ln(hardness)
	Chronic	e(1.273[ln(hardness)]-4.705)*CF4	3.400267361	CF4 = 1.46203 - 0.145712*ln(hardness)
Manganese (D)	Acute	e(0.3331[ln(hardness)]+6.4676)	3274.961265	
	Chronic	e(0.3331[ln(hardness)]+5.8743)	1809.419438	
Nickel (D)	Acute	0.998 e(0.846[ln(hardness)]+2.255)	592.2023736	
	Chronic	0.997 e(0.846[ln(hardness)]+0.0584)	65.77540061	
Silver (D)	Acute	0.85 e(1.72[ln(hardness)]-6.59)	5.185676872	
Zinc (D)	Acute	0.978 e(0.9094[ln(hardness)]+0.9095)	205.9584521	
	Chronic	0.986 e(0.90947[ln(hardness)]+0.6235)	156.0478889	

					Instream Waste Concentration						Livestock&	Acute	Chronic	Human	Need
POLLUTANTS			Ambient Conc.	Effluent Conc.	Acute Aquatic	Domestic Supply	Chronic Aquatic	Human Health	Domestic Criteria	Irrigation Criteria	Wildlife Criteria	Aquatic Criteria	Aquatic Criteria	Health Criteria	TMDL
	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	95	180	383.4	101.751276	101.751276	97.6661189	1E+100	5000	1E+100	750	87	1E+100	Need TMDL
Barium, dissolved	7440-39-3	100			0	0	0	0	2000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Boron, dissolved	7440-42-8	100			0	0	0	0	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			0	0	0	0	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	4000	N/A	11	19	11	4000	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)			0.334	28	59.64	1.72231891	1.72231891	0.88225536	N/A	N/A	132	N/A	N/A	N/A	N/A
METALS AND CYANIDE															
Antimony, dissolved (P)	7440-36-0	60			0	0	0	0	5.6	N/A	88 and 30	88	30	370	N/A
Arsenic, dissolved (P)	7440-38-2	0.5		0.641019155	1.3653708	0.03196253	0.03196253	0.01262219	10 and 200	2000	340 and 150	340	150	30	N/A
Beryllium, dissolved	7440-41-7	0.5		2	4.26	0.09972412	0.09972412	0.03938165	4	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Cadmium, dissolved	7440-43-9	1		2	4.26	0.09972412	0.09972412	0.03938165	5	10	50	2.637541761	0.298316	1E+100	N/A
Chromium (III), dissolved	16065-83-1	10			0	0	0	0	1E+100	1E+100	1E+100	715.2282405	93.0365	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		4.743010512	10.10261239	0.23649627	0.23649627	0.09339378	1300 and 500	200	20.4 and 13.1	17.45723153	11.35357	9330	N/A
Lead, dissolved	7439-92-1	0.5		0.095850044	0.204160593	0.00477928	0.00477928	0.00188737	15	5000	100	87.25667514	3.4002674	1E+100	N/A
Manganese, dissolved	7439-96-5				0	0	0	0	1E+100	1E+100	1E+100	3274.961265	1809.4194	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	2	N/A	2.4 and 0.001	2.4	0.001	280	N/A
Mercury, total	7439-97-6	0.005		5.04	10.7352	0.25130478	0.25130478	0.09924175	2	1E+100	0.77	1E+100	1E+100	1E+100	N/A
Molybdenum, dissolved	7439-98-7				0	0	0	0	N/A	1000	N/A	N/A	N/A	N/A	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		0.93922136	2.000541498	0.04683151	0.04683151	0.01849404	610	N/A	682.1 and 75.8	592.2023736	65.775401	18670	N/A
Selenium, dissolved (P)	7782-49-2	5			0	0	0	0	50	20	33 and 2	33	2	4670	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		1.5	3.195	0.07479309	0.07479309	0.02953623	1E+100	1E+100	5	20	5	1E+100	N/A
Silver, dissolved	7440-22-4	0.5		1.596250229	3.400012987	0.07959232	0.07959232	0.03143148	35	N/A	6.911822858	5.185676872	N/A	4670	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		11.19863621	23.85309512	0.55838706	0.55838706	0.22051036	2100	10000	239.7 and 181.(	205.9584521	156.04789	280000	N/A
Cyanide, total recoverable	57-12-5	10		21.1	44.943	1.05208945	1.05208945	0.41547636	200	1E+100	5.2	22	5.2	140	N/A
Dioxin	1764-01-6	0.00001		0.0000124	0.000026412	6.1829E-07	6.1829E-07	2.4417E-07	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		2.3	4.899	0.11468274	0.11468274	0.04528889	5.7	N/A	14000 and 900	14000	900	9330	N/A
Dichlorobromomethane	75-27-4	10			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	5		10	21.3	0.49862059	0.49862059	0.19690823	1	1E+100	1E+100	19	15	30	N/A
Phenol	108-95-2	10		2.11	4.4943	0.10520894	0.10520894	0.04154764	10500	1E+100	1E+100	1E+100	1E+100	860000	N/A
2,4,6-Trichlorophenol	88-06-2	10			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		2.14	4.5582	0.10670481	0.10670481	0.04213836	1.2	N/A	N/A	400	360	330	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	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

POLLUTANTS	CAS No.	MQL	Ambient Conc Ca (ug/l)	Effluent Conc. Ce (ug/l)	Instream Waste Concentration: Acute Aquatic 2.13*Ce	Domestic Supply Cd,dom (ug/l)	Chronic Aquatic Cd (ug/l)	Human Health Cd,hh (ug/l)	Domestic Criteria ug/l	Irrigation Criteria ug/l	Livestock& Wildlife Criteria ug/l	Acute Aquatic Criteria ug/l	Chronic Aquatic Criteria ug/l	Human Health Criteria ug/l	Need TMDL
PESTICIDES AND PCBS															
Aldrin	309-00-2	0.01		0.05	0.1065	0.0024931	0.0024931	0.00098454	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		0.5	1.065	0.02493103	0.02493103	0.00984541	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		0.5	1.065	0.02493103	0.02493103	0.00984541	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	87	N/A	87	87	87	87	4.8396186	4.8396186
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	2.63754176	N/A	N/A	2.637541761	1.758361174	2.637541761	1.7583612	0.14672065	0.097813764
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	22	N/A	N/A	22	14.66666667	22	14.666667	1.2238116	0.8158744
DIOXIN														0
2,3,7,8-TCDD	1764-01-6	34675	N/A	N/A	N/A	N/A	N/A	5.51678E-06	5.51678E-06	3.67786E-06	5.51678E-06	3.678E-06	3.0689E-07	2.04591E-07
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	19	N/A	N/A	19	12.66666667	19	12.666667	1.0569282	0.7046188
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	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
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	0.05408611	0.05408611	0.036057407	0.05408611	0.0360574	0.00300869	0.002005794
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	0.18368676	0.876194985	0.183686758	0.122457839	0.183686758	0.1224578	0.01021809	0.00681206
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	0.00854357	0.302882217	0.00854357	0.005695713	0.00854357	0.0056957	0.00047526	0.00031684

Appendix 4

Facility Name: City of Farmington
NPDES Permit Number: NM0020583 Outfall Number: 001
Proposed Critical Dilution*: 2.34

***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
Apr-17					32		3.13	
Oct-17	32		3.13		32		3.13	
Apr-18					31		3.23	
Oct-18	31		3.23		31		3.23	
Apr-19					31		3.23	
Oct-19	31		3.23		31		3.23	
Apr-20					31		3.23	
Oct-20	31		3.23		31		3.23	
	31	100	3.23	1.00	31	100	3.23	1.00
Count			72	68			8	68
Mean			1.122	1.000			3.201	1.000
Std. Dev.			0.508	0.000			0.047	0.000
CV			0.5	0			0.6	0
RPMF			1.3	#N/A			1.9	#N/A

	42.735	Reasonable Potential Acceptance Criteria
Vertebrate Lethal		
Vertebrate Sublethal		No Reasonable Potential exists. Permit requires WET monitoring, but no WET limit.
Invertebrate Lethal	0.143	No Reasonable Potential exists. Permit requires WET monitoring, but no WET limit.
Invertebrate Sublethal		No Reasonable Potential exists. Permit requires WET monitoring, but no WET limit.

EPA concludes that this effluent does not cause or contribute to an exceedance of the State water quality standards. Therefore WET limits will not be established in the proposed permit.