



REGION 6  
1445 ROSS AVENUE  
DALLAS, TEXAS 75202-2733

NPDES Permit No NM0026395

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**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

City of Carlsbad  
P.O. Box 1569  
Carlsbad, NM 88221-1569

is authorized to discharge from the facility located at 45 Blackfoot Road in Eddy County, NM. The discharge from the facility is to receiving waters named Pecos River, in Segment No. 20.6.4.202 of the Pecos River Basin, in Eddy County, New Mexico.

The discharge is located on that water at the following coordinates:

Outfall 001: Latitude 32° 25' 30" North and Longitude 104° 10' 30" West

in accordance with this cover page and the effluent limitations, monitoring requirements, and other conditions set forth in Part I, Part II, Part III, and Part IV hereof.

This permit supersedes and replaces NPDES Permit No. NM0026395 issued December 14, 2006

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Issued on

Prepared by

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William K. Honker, P.E.  
Director  
Water Quality Protection Division (6WQ)

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Paul R. Juarez  
Environmental Scientist  
NPDES Oversight Section (6WQ-PO)

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**PART I – REQUIREMENTS FOR NPDES PERMITS**

**SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS**

1. Effluent Limits – 5 MGD Design Flow

Beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge treated municipal wastewater to receiving waters named Pecos River, in Segment No. 20.6.4.202 of the Pecos River Basin, from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.6	9.0	Daily	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/L, unless noted (*5)			
POLLUTANT	STORET CODE	30-DAY AVG	DAILY MAX	30-DAY AVG	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report MGD	Report MGD	N/A	N/A	Daily	Totalizing Meter
Biochemical Oxygen Demand, 5-day Effluent	00310	1252	1878	30	45	Once/Week (*1)	6-Hour Composite
Biochemical Oxygen Demand, 5-day Influent		Report MGD	Report MGD			Once/Week (*1)	6- Hour Composite
Percent Removal, minimum, BOD		≥85% (*6)				Once/Week	Calculate
Total Suspended Solids Effluent	00530	1252	1878	30	45	Once/Week (*1)	6-Hour Composite
Total Suspended Solids Influent		Report MGD	Report MGD			Once/Week (*1)	6-Hour Composite
Percent Removal, minimum TSS		≥85% (*6)				Once/Week	Calculate
Aluminum		Report	Report	Report	Report	1/Quarter	Grab
<i>E. coli</i> Bacteria	51040	N/A	N/A	126 (*2)	410 (*2)	Five/Week (*7)	Grab
Total Residual Chlorine	50060	N/A	N/A	N/A	11 µg/L	Daily	Instantaneous Grab (*4)

Effluent Characteristic	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
	30-DAY AVG MINIMUM	7 Day MINIMUM	FREQUENCY	TYPE
Whole Effluent Toxicity Limits (PCS 22414) (7-Day NOEC) 3*	57%			
Ceriodaphnia dubia	REPORT	REPORT	1/Quarter	24-Hr. Composite
Pimephales promelas	REPORT	REPORT	1/Quarter	24-Hr. Composite

## Footnotes:

- \*1 Sampling at least four days apart. Effluent and Influent monitoring shall be conducted simultaneously.
- \*2 Colony forming units (cfu) per 100 ml.
- \*3 Monitoring and reporting requirements begin on the effective date of this permit. See PART I and PART II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.
- \*4 The effluent limitation for TRC is the instantaneous grab and cannot be averaged for reporting purposes. Instantaneous grab is defined in 40 CFR Part 136 as being measured within 15 minutes of sampling.
- \*5 See Part II. Section A. Minimum Quantification Level (MQL) of permit.
- \*6 Percent removal is calculated using the following equation :  $\{[(\text{average monthly influent concentration} - \text{average monthly effluent concentration})] \div [\text{average monthly influent concentration}]\} \times 100$ .
- \*7 Samples shall not be taken on the same day.

**FLOATING SOLIDS, VISIBLE FOAM AND/OR OILS**

There shall be no discharge of floating solids or visible foam in other than trace amounts. There shall be no discharge of visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit prior to the receiving stream.

**B. SCHEDULE OF COMPLIANCE**

None.

**C. MONITORING AND REPORTING (MAJOR DISCHARGERS)**

Monitoring information shall be on Discharge Monitoring Report Form(s) EPA 3320-1 as specified in Part III.D.4 of this permit and shall be submitted monthly.

1. The permittee shall effectively monitor the operations and efficiency of all treatment and control facilities and the quantity and quality of the treated discharge.
2. Monitoring results must be reported either using the electronic or paper Discharge Monitoring Report (DMR) approved formats to EPA. If using DMR forms, the report shall be also sent to NMED. See Part III, D.4 of the permit.
  - a. Reporting periods shall end on the last day of the month.
  - b. The permittee is required to submit regular monthly reports as described above postmarked no later than the 15th day of the month following each reporting period.
  - c. The annual sludge report required in Part IV of the permit is due on February 19 of each year and covers the previous calendar year from January 1 through December 31.
3. If any 30 day average, monthly average or daily maximum value exceeds the effluent limitations specified in Part I.A, the permittee shall report the excursion in accordance with the requirements of Part III.D.
4. Any 30-day average, monthly average, or daily maximum value reported in the required Discharge Monitoring Report which is in excess of the effluent limitation specified in Part I.A shall constitute evidence of violation of such effluent limitation and of this permit.

5. Other measurements of oxygen demand (e.g., TOC and COD) may be substituted for five-day Biochemical Oxygen Demand (BOD<sub>5</sub>) or for five-day Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>), as applicable, where the permittee can demonstrate long-term correlation of the method with BOD<sub>5</sub> or CBOD<sub>5</sub> values, as applicable. Details of the correlation procedures used must be submitted and prior approval granted by the permitting authority for this procedure to be acceptable. Data reported must also include evidence to show that the proper correlation continues to exist after approval.

6. The permittee shall report all overflows with the Discharge Monitoring Report submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of the overflow; observed environmental impacts from the overflow; actions taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary). Any noncompliance which may endanger health or the environment shall also be orally reported to the New Mexico Environment Department at (505) 827-0187, as soon as possible, but within 12 hours from the time the permittee becomes aware of the circumstance. A written report of overflows which endanger health or the environment shall be provided to EPA and New Mexico Environment Department within 5 days of the time the permittee becomes aware of the circumstance.

7. The permittee shall submit a copy of an annual summary of the data that results from whole effluent toxicity testing to:

Field Supervisor  
U.S. Fish and Wildlife Service  
New Mexico Ecological Services Field Office  
2105 Osuna NE  
Albuquerque, NM 87113

And

EPA:  
Compliance Assurance and Enforcement Division  
Water Enforcement Branch (6EN-W)  
U.S. Environmental Protection Agency, Region 6  
1445 Ross Avenue  
Dallas, TX 75202-2733

And

New Mexico:  
Program Manager  
Surface Water Quality Bureau  
New Mexico Environment Department  
P.O. Box 5469  
1190 Saint Francis Drive  
Santa Fe, NM 87502-5469

#### **D. OVERFLOW REPORTING**

The permittee shall report all overflows with the DMR submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: date, time, duration, location, estimated volume, and cause of the overflow. They shall also include observed environmental impacts from the overflow; actions taken to address the overflow; and, the ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary).

Overflows that endanger health or the environment shall be orally reported to EPA at (214) 665-6595 and NMED Surface Water Quality Bureau at (505) 827-0187, within 12 hours from the time the permittee becomes aware of the circumstance. A written report of overflows that endanger health or the environment shall be provided to EPA and NMED Surface Water Quality Bureau within 5 days of the time the permittee becomes aware of the circumstance.

#### **E. POLLUTION PREVENTION REQUIREMENTS**

The permittee shall institute a program within 12 months of the effective date of the permit (or continue an existing one) directed towards optimizing the efficiency and extending the useful life of the facility. The permittee shall consider the following items in the program:

- a. The influent loadings, flow and design capacity;
- b. The effluent quality and plant performance;
- c. The age and expected life of the wastewater treatment facility's equipment;
- d. Bypasses and overflows of the tributary sewerage system and treatment works;
- e. New developments at the facility;
- f. Operator certification and training plans and status;
- g. The financial status of the facility;
- h. Preventative maintenance programs and equipment conditions and;
- i. An overall evaluation of conditions at the facility.

## **PART II - OTHER CONDITIONS**

### **A. MINIMUM QUANTIFICATION LEVEL (MQL)**

See list of MQL's at Appendix A of Part II below. For pollutants listed on Appendix A of Part II below with MQL's, analyses must be performed to the listed MQL. If any individual analytical test result is less than the MQL listed, a value of zero (0) may be used for that pollutant result for the Discharge Monitoring Report (DMR) calculations and reporting requirements.

In addition, any additional pollutant sampling for purposes of this permit, including renewal applications or any other reporting, shall be tested to the MQL shown on the attached Appendix A of Part II. Results of analyses that are less than the listed MQL may be reported as "non detect" (ND).

### **B. PERMIT MODIFICATION AND REOPENER**

In accordance with 40 CFR Part 122.44(d), the permit may be reopened and modified during the life of the permit if relevant portions of the New Mexico's Water Quality Standards for Interstate and Intrastate Streams are revised, or new State of New Mexico water quality standards are established and/or remanded.

In accordance with 40 CFR Part 122.62(s)(2), the permit may be reopened and modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR Part 124.5.

### **C. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS**

a. The following pollutants may not be introduced into the treatment facility:

- (1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;
- (2) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;
- (3) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;

- (4) Any pollutant, including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;
  - (5) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;
  - (6) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
  - (7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and
  - (8) Any trucked or hauled pollutants, except at discharge points designated by the POTW.
- b. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Act, including any requirements established under 40 CFR Part 403.
- c. The permittee shall provide adequate notice of the following:
- (1) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act if it were directly discharging those pollutants; and
  - (2) Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

Any notice shall include information on (i) the quality and quantity of effluent to be introduced into the treatment works, and (ii) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

**D. WHOLE EFFLUENT TOXICITY LIMITS (7-DAY CHRONIC NOEC FRESHWATER)**

*It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a*

toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority.

1. SCOPE AND METHODOLOGY

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S):	001
REPORTED ON DMR AS FINAL OUTFALL:	001
CRITICAL DILUTION (%):	57%
EFFLUENT DILUTION SERIES (%):	24%, 32%, 43%, 57%, 76%
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 136

*Ceriodaphnia dubia* chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

*Pimephales promelas* (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution

c. The conditions of this item are effective beginning with the effective date of the WET limit. When the testing frequency stated above is less than monthly and the effluent fails the lethal or sub-lethal endpoint at or below the critical dilution, the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly

until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in PART I of this permit. During the period the permittee is out of compliance, test results shall be reported on the DMR for that reporting period. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

d. This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

## 2. REQUIRED TOXICITY TESTING CONDITIONS

### a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

- i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- iii. 60% of the surviving control females must produce three broods.
- iv. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
- v. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test, the growth and survival of the Fathead minnow test.
- vi. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints in the Fathead minnow test.
- vii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for *Ceriodaphnia dubia* reproduction;

viii. A PMSD range of 12 - 30 for Fathead minnow growth.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

b. Statistical Interpretation

i. For the *Ceriodaphnia dubia* survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA-821-R-02-013 or the most recent update thereof.

ii. For the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-013, or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 2.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 3 below.

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water where the receiving stream is classified as intermittent or where the receiving stream has no flow due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 2.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 2.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 3.a below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above.

ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

iii. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.

iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3 of this section.

v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item 1.a above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

3. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA-821-R-02-013, or the

most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.3 of this permit. The permittee shall submit full reports upon the specific request of the Agency. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. The permittee shall report the Whole Effluent Toxicity values for the 30-Day Average Minimum and the 7-Day Minimum under Parameter No. 22414 on the DMR for that reporting period in accordance with PART III.D.4 of this permit.

If more than one valid test for a species was performed during the reporting period, the test NOECs will be averaged arithmetically and reported as the DAILY AVERAGE MINIMUM NOEC for that reporting period.

If more than one species is tested during the reporting period, the permittee shall report the lowest 30-Day Average Minimum NOEC and the lowest 7-Day Minimum NOEC for Whole Effluent Toxicity.

A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. Only ONE set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for EPA review.

c. The permittee shall submit the results of the valid toxicity test on the DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. *Pimephales promelas* (Fathead Minnow)

A. If the No Observed Effect Concentration (NOEC) for lethal effects is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP6C

B. Report the NOEC value for survival, Parameter No. TOP6C

C. Report the Lowest Observed Effect Concentration (LOEC) value for survival, Parameter No. TXP6C

D. Report the NOEC value for growth, Parameter No. TPP6C

- E. Report the LOEC value for growth, Parameter No. TYP6C
- F. If the No Observed Effect Concentration (NOEC) for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C
- G. Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6C
- ii. *Ceriodaphnia dubia*
- A. If the NOEC for lethal effects is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP3B
- B. Report the NOEC value for survival, Parameter No. TOP3B
- C. Report the LOEC value for survival, Parameter No. TXP3B
- D. Report the NOEC value for reproduction, Parameter No. TPP3B
- E. Report the LOEC value for reproduction, Parameter No. TYP3B
- F. If the No Observed Effect Concentration (NOEC) for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B
- G. Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B