# NPDES PERMIT NO. NM0030872
# FACT SHEET

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

**APPLICANT**

City of Las Cruces - East Mesa Water Reclamation Facility
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**ISSUING OFFICE**

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**DATE PREPARED**

July 16, 2013

**PERMIT ACTION**

Proposed reissuance of the current permit issued with an effective date of November 1, 2007 and an expiration date of October 31, 2012.

**RECEIVING WATER – BASIN**

South Folk Arroyo – Intermittent Waters.

## DOCUMENT ABBREVIATIONS

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

| | |
|---|---|
| 4Q3 | Lowest four-day average flow rate expected to occur once every three-years |
| BAT | Best available technology economically achievable |
| BCT | Best conventional pollutant control technology |
| BPT | Best practicable control technology currently available |
| BMP | Best management plan |
| BOD | Biochemical oxygen demand (five-day unless noted otherwise) |
| BPJ | Best professional judgment |
| CBOD | Carbonaceous biochemical oxygen demand (five-day unless noted otherwise) |
| CD | Critical dilution |
| CFR | Code of Federal Regulations |
| cfs | Cubic feet per second |
| COD | Chemical oxygen demand |
| COE | United States Corp of Engineers |
| CWA | Clean Water Act |
| DMR | Discharge monitoring report |
| 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 |
| mg/l | Milligrams per liter (one part per million) |
| ug/l | Micrograms per litter (one part per billion) |
| MGD | Million gallons per day |
| NMAC | New Mexico Administrative Code |
| NMED | New Mexico Environment Department |
| NMIP | New Mexico NPDES Permit Implementation Procedures |
| NMWQS | New Mexico State Standards for Interstate and Intrastate Surface Waters |
| NPDES | National Pollutant Discharge Elimination System |
| MQL | Minimum quantification level |
| O&G | Oil and grease |
| POTW | Publically owned treatment works |
| RP | Reasonable potential |
| SIC | Standard industrial classification |
| s.u. | Standard units (for parameter pH) |
| SWQB | Surface Water Quality Bureau |
| TDS | Total dissolved solids |
| TMDL | Total maximum daily load |
| TRC | Total residual chlorine |
| TSS | Total suspended solids |
| UAA | Use attainability analysis |
| USFWS | United States Fish & Wildlife Service |
| USGS | United States Geological Service |
| WLA | Wasteload allocation |
| WET | Whole effluent toxicity |
| WQCC | New Mexico Water Quality Control Commission |
| WQMP | Water Quality Management Plan |
| WWTP | Wastewater treatment plant |

## I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued September 28, 2007, with an effective date of November 1, 2007, and an expiration date of October 31, 2012, are:

A. Add effluent limitations and monitoring requirements for copper, thallium, and Bis (2-Ethylhexyl) Phthalate;

B. Add a 3-year compliance schedule for compliance of newly established water quality-based effluent limitations; and

C. Delete monitoring requirements for antimony, arsenic, nickel, selenium, zinc, aldrin, chlordane, dieldrin, hexachlorobenzene, tetrachloroethylene, benzo(a)pyrene, 4,4-DDT, 2,3,7,8-TCDD and PCBs.

## II. APPLICANT LOCATION AND ACTIVITY

The facility is located at 5150 E. Lohman Avenue, City of Las Cruces, Dona Ana County, New Mexico. The discharge is located at the following coordinates:

Latitude: 32° 19' 40" N
Longitude: 106° 43' 26" W

Under the Standard Industrial Classification (SIC) Code(s) 4952, the applicant's activities are domestic wastewater treatment operations. The facility has a 1.0 million gallon per day (MGD) design flow capacity. The treatment process includes primary treatment by auger/screens, secondary treatment, and tertiary treatment by cloth disk filter, followed by ultraviolet (UV) disinfection. As described in the application, the facility proposes to intermittently land apply treated effluent to Sonoma Ranch Golf Course, which is located in Las Cruces, NM. The facility will have a limited discharge occurring for 120 days during the months of November through February. In the event that utilization is prevented over an extended period of time, the facility will intercept less or no wastewater, allowing it instead to pass to the Jacob A. Hand Wastewater Treatment Facility (NM0023311). The facility will transport treated sludge to the Jacob A. Hands Wastewater Treatment Facility by tanker.

## III. EFFLUENT CHARACTERISTICS

The EPA Permit Application Form 2A was received November 26, 2012. A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A is presented below:

**POLLUTANT TABLE – 1**

| Parameter | Max | Avg |
|---|---|---|
| | (mg/l unless noted) | |
| Flow, million gallons/day (MGD) | 0.31 | 0.28 |
| Temperature, winter | 15.7°C | --- |

| | | |
|---|---|---|
| Temperature, summer | 27.5 | --- |
| pH, minimum, standard units (su) | 7.20 | --- |
| pH, maximum, standard units (su) | 7.60 | --- |
| E. coli (#bacteria/100 ml) | 1.0 | 1.0 |
| Biochemical Oxygen Demand (BOD) | 10.3 | 4.9 |
| Total Suspended Solids (TSS) | 5.67 | 2.61 |
| Ammonia ($NH_3$) | 0.32 | --- |
| Chlorine, Total Residual (TRC) | NA | NA |
| Dissolved Oxygen (DO) | --- | --- |
| Total Kjeldahl Nitrogen (TKN) | 2.50 | --- |
| Nitrate plus Nitrite Nitrogen | 2.60 | --- |
| Oil & Grease | 5.0 | --- |
| Phosphorus | 2.61 | --- |
| Total Dissolved Solids (TDS) | 1227 | -- |

Table-2 below shows pollutants have been detected in the effluent.

**POLLUTANT TABLE – 2 – Expanded Pollutant List**

| **Parameter (Pollutants Greater than MQL)** | **Max** (µg/l unless noted) |
|---|---|
| Hardness (As $CaCO_3$) | 291 mg/l |
| Copper | 95 |
| Nickel | 5 |
| Thallium | 10 |
| Zinc | 130 |
| Total Phenolic Compounds | 86 mg/l |
| Bis (2-Ethylhexyl) Phthalate | 37.2 |

## 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.

The current permit expired October 31, 2012. It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a).

## V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

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

Regulations contained in 40 CFR §122.44 requires that 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.

### B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits 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, 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.

Effluent Limitations: 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, TSS and pH. BOD limits of 30 mg/l for the 30-day average and 45 mg/l for the 7-day average are found at 40 CFR §133.102(a). TSS limits; also 30 mg/l for the 30-day average and 45 mg/l for the 7-day average, are 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. The City of Las Cruces' East Mesa Water Reclamation Facility has a design flow of 1.0 MGD. Mass limitations 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 BOD (or TSS) loading = 30 mg/l * 8.345 lb-l/MG-mg * 1.0 MGD
= 250 lbs

Effluent limitation of 85% or greater of percent removal of BOD and TSS are proposed in accordance with 40 CFR Part 133. As defined in 40 CFR §133.101, a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as

$$\{(\text{30-day Ave Conc})_{inf} - (\text{30-day Ave Conc})_{eff}\} \div (\text{30-day Ave Conc})_{inf} \times 100\%$$

Where inf = inflow
eff = effluent

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

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

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC amended through November 20, 2012). The facility discharges into the Southfork of the Las Cruces Arroyo in Waterbody Segment Code No. 20.6.4.98, intermittent waters. The reaches of intermittent stream (20.6.4.98) is that all non-perennial unclassified waters of the state, except those ephemeral waters included under 20.6.4.97 NMAC, and the designated uses for an intermittent stream are livestock watering, wildlife habitat, marginal warmwater aquatic life and primary contact.

4. Permit Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. BACTERIA

E. coli standards for primary contact at a 20.6.4.98 intermittent stream are 206 cfu/100 ml daily geometric mean and 940 cfu/100 ml daily maximum. These limitations are less stringent than those in the expired permit which were developed based on the standards for Segment No. 20.6.4.101. Because the downstream Segment 20.6.4.101 is impaired by E. coli, the more stringent E. coli limitations (126/410 cfu/100 ml) will be established in the final permit until a TMDL is developed for the facility and approved by EPA.

b. pH

The pH range, 6.6 - 9.0 su., for marginal warmwater aquatic life (20.6.4.900.H NMAC) is more stringent than the technology-based 6.0 – 9.0 limit range, so WQ-based pH limitations are established in the permit.

c. TOXICS

i. General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criteria, the permit must contain an effluent limit for that pollutant.

All applicable facilities are required to fill out appropriate sections of the Form 2A and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to Publicly Owned Treatment Works (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 EPA Application Form 2A as presented above in Part III of this Fact Sheet.

To determine if a pollutant has a reasonable potential (RP) to exceed a numeric criteria, the following steady state complete mixing zone model is used:

$$Cd = \{(FQa * Ca) + (Qe * Ce)\} / (FQa + Qe)$$

Where:

Cd = Instream waste concentration
F = Fraction of stream allowed for mixing, as applicable, F = 1.0
Ce = reported pollutant concentration
2.13 = Statistical multiplier, an estimate of the 95th percentile for either a single available effluent concentration, or a geometric mean of effluent data concentration
Ca = Ambient stream concentration, if available
Qe = Wastewater treatment design flow in MGD (municipal facilities) 1.0 MGD
Qa = Critical low flow, 4Q3, of receiving stream, 0.0 MGD
= Harmonic long term human health flow, 0.001 MGD (default 0.00155 cfs harmonic mean flow)

If the calculated Cd exceeds the applicable WQS, a RP exists. Then, a WQ-based effluent limitation will be established in the permit. The effluent hardness of 291 mg/l was used to calculate hardness-dependant standards, and average effluent TSS of 2.61 mg/l was used to convert total metals to dissolved metals. The following Table lists pollutants detected at the level above their MQLs.

| **Parameter (Pollutants Greater than MQL)** | **Max (metals in total)** | **Calculated Cd (metals in dissolved)** | **Most Stringent Applicable WQS** |
|---|---|---|---|
| | (ug/l unless noted) | | |
| Copper | 95 | 86.67 | 22.31 (AL) |
| Nickel | 5 | 6.12 | 128.4 (AL) |
| Thallium | 10 | 21.3 | 0.47 (HH) |
| Zinc | 130 | 103.8 | 320.3 (AL) |
| Total Phenolic Compounds | 86 mg/l | 183.0 | None |
| Bis (2-Ethylhexyl) Phthalate | 37.2 | 79.2 | 22 (HH) |

Effluent data have demonstrated RP for copper to exceed the chronic aquatic life standard, for thallium to exceed the persistent human health standard, and for bis(2-ethylhexyl)phthalate to exceed the human health standard. Because the discharge is to an intermittent stream with a zero 4Q3 flow, WQS established for these pollutants are used to propose both daily maximum and monthly average limitations to ensure that proposed effluent limitations will not be more stringent than the applicable WQS. EPA proposes a three (3)-year compliance schedule for the permittee to comply with the final WQ-based effluent limitations.

The NMWQS, section 20.6.4.900.J (f) states “the criteria listed under human health-organism only (HH-OO) are intended to protect human health when aquatic organisms are consumed from waters containing pollutants. These criteria do not protect the aquatic life itself; rather, they protect the health of humans who ingest fish or other aquatic organisms.” The HH-OO standards apply to the receiving stream, the Southfolk of Las Cruces Arroyo, but EPA has difficulty to evaluate the human health impact by the discharge because fish or other aquatic organism for human ingestion may not be present in the receiving stream. Pursuant to the NMWQS and NMIP, EPA has used the default non-zero harmonic mean flow (0.001 MGD) provided by NMED to conduct RP for HH-OO pollutants. If the permittee can provide non-zero stream flow data acceptable to NMED, EPA will conduct a RP based on modified harmonic mean flow as defined in the NMWQS, 20.6.4.11. B.

(Note: Because discharges from the facility only occur from November to February, the permittee may want to work with NMED to establish seasonal or monthly stream 4Q3 flow and modified harmonic mean flow as permitted by the NMWQS, NMAC 20.6.4.11.B.)

d. Other Pollutants of Concern

The facility uses UV for bacterial control. Because chlorine products may be used for treatment system cleaning or filamentous bacterial control, effluent limitations and monitoring requirements for total residual chlorine are established in the permit whenever a chlorine product is used.

## D. MONITORING FREQUENCY FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). Monitoring frequency is based on the NMIP except for thallium and bis(2-ethylhexyl)phthalate. Flow is proposed to be monitored daily by totalizing meter. Instantaneous grab samples shall be taken for pH and TRC analyses at a frequency of 5/week. Regulations at 40 CFR §136 define instantaneous grab as being analyzed within 15-minutes of collection. TRC monitoring is required only when a chlorine product is used. The E. coli bacteria shall be monitored 3/month by grab samples. BOD and TSS shall use 3-Hr composite samples at a frequency of 3/month. This permit renewal action proposes that samples taken for BOD or TSS shall be at least 7 days apart to ensure the system operates normally and smoothly during the month. The monitoring frequency for percent removal is 1/month.

Monitoring frequency for total copper is 2/week by grab sample as recommended in the NMIP. But, because discharges are to an intermittent stream which does not support a drinking water use and also is unlikely to provide adequate habitat for fish propagation or growth for human ingestion, discharges to this stream would be expected to have limited actual impacts on human health. EPA, on a case-by-case discretionary basis, proposes once per calendar month monitoring frequency during the first three years for thallium and bis(2-ethylhexyl)phthalate, to collect twelve effluent data. Then, EPA proposes to reduce the monitoring frequency to 1/year for the rest of permit term until next permit renewal. So, EPA will have more than 10 effluent data to conduct RP analysis when EPA renews the permit in five years.

## E. WHOLE EFFLUENT TOXICITY LIMITATIONS

Based on the plant design flow (1.0 MGD) and the stream critical low flow (0.0 MGD), the new critical dilution, CD, for the facility is 100%. Based on the nature of the discharge; POTW, the design flow; more than 1.0 MGD, the nature of the receiving water; intermittent, and the critical dilution; 100%, the NMIP directs the WET test to be a 7-day chronic test using *Ceriodaphnia dubia and Pimephales promelas* at a once per quarter frequency consistent with the NMIP. The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.75 dilution series. These additional effluent concentrations shall be 32%, 42%, 56%, 75%, and 100%.

If all WET tests pass during the first year, the monitoring frequency may be reduced for the following 2-5 years of the permit to once per six (6) months. If any tests fail during that time the frequency will revert back to the once per three months frequency for the remainder of the permit term. The test shall resume the once per three months frequency on the last day of the permit.

The expired permit established WET biomonitoring with CD = 100%. DMR reports reveal that all tests pass during the last three years, and the EPA Reasonable Potential Analyzer indicates that RP does not exist. 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.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 - the discharge to Southfolk of Las Cruces Arroyo at segment 20.6.4.98. Discharges shall be limited and monitored by the permittee as specified below:

| EFFLUENT CHARACTERISTIC | DISCHARGE MONITORING | | | |
|---|---|---|---|---|
| Whole Effluent Toxicity Testing (7-Day Static Renewal) | 30-DAY AVG MIN. | 7-DAY MIN. | FREQUENCY | TYPE |
| *Ceriodaphnia dubia* | REPORT | REPORT | 1/3 Months | 24-Hr Composite |
| *Pimephales promelas* | REPORT | REPORT | 1/3 Months | 24-Hr Composite |

## VI. FACILITY OPERATIONAL PRACTICES

### A. SEWAGE SLUDGE

Wasted bio-solids from the digester are transported using a 6,000 gallon truck to the Jacob A. Hands Wastewater Treatment Facility. The solids from the two WWTPs are combined for processing. This combined sludge is then sent to the City of Las Cruces West Mesa Compost facility. The compost is made available to area residents for use.

Requirements for facilities treating domestic sewage include, but are not limited to, treatment technologies, sludge requirements, operation, reporting requirements and waste water pollution prevention requirements.

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 discharge to the collection system, and the sewage sludge disposal or reuse practice utilized by the treatment works. Sludge testing information, that is required of handling or disposing of the sludge, will be retained on site for five years, as required in the record keeping requirements section of Part IV, in accordance with NPDES Permit No. NM0030872.

### B. INDUSTRIAL WASTEWATER CONTRIBUTIONS

According to the application, the facility receives industrial wastewater from Mountain View Medical Center. It has a continuous discharge of 0.044 MGD process wastewater and 0.22 MGD non-process wastewater into the collection system.

Pretreatment implementation language has been updated in this permit. The City of Las Cruces has an approved Pretreatment Program that is required to include all of the publicly owned treatment plants owned and operated by the city.

C. 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.

D. RE-APPLICATION

In order to obtain a meaningful snapshot of pollutant testing for permit renewal purposes, this permit proposes that the testing for Tables A.12, B.6, and Part D of EPA Form 2A, or its equivalent if modified in the future, shall be conducted during the second, third and fourth years after the permit effective date. In addition, one yearly test must be during the warm summer months; defined as the period from June 1 through August 31, and another yearly test shall be sampled during cold weather; defined as the period from December 1 through February 28. The remaining yearly test may be taken during any time in that year. This testing shall coincide with any required WET testing event for that year.

## VII. 303(d) LIST

The water segment reach 20.6.4.101 (between El Paso and Las Cruces) into which the East Mesa Water Reclamation Facility discharges to the Rio Grande Basin is listed on the "2012-2014 State of New Mexico Integrated Clean Water Act Section 303 (d) / 305 (b) Report." The 303(d) list indicates that primary contact is not supported in the stream segment. The probable cause of impairment is E. coli, which has a TMDL Schedule of 2007. Federal regulations found in 40 CFR Part 122.4 (i) prohibit the issuance of a permit if the discharge from the new facility will "cause or contribute to a violation of water quality standards." The facility will meet the published water quality standards for E. coli bacteria for this segment of 126 cfu/100 ml (30-day avg.) and 410 cfu/100 ml (daily max.) at the point-of-discharge to meet the requirements of 40 CFR Part 122.44 (d). Meeting the water quality standards at the end of pipe meets the regulatory requirement and does not "cause or contribute to a violation of water quality standards."

A permit reopener clause has been added to the permit that the permit may be reopened and modified during the life of the permit if relevant portions of the State WQS are revised or remanded. The permit may be reopened to include conditions of the completed TMDL. There are no additional permit requirements to be placed in the permit at this time.

## VIII. ANTIDEGRADATION

The NMAC, Section 20.6.4.8 "Antidegradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements and the limits are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2.

## IX. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(l)(i)(A), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. The proposed permit maintains the mass loading requirements of the previous permit for BOD and TSS, and the concentration limits for pH, E. coli, and TRC.

## X. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), http://www.fws.gov/southwest/es/NewMexico/SBC.cfm, four species in Dona Ana County are listed as endangered. Two of the species are avian and include the interior least tern and the southwestern willow flycatcher. One of species, Sneed pincushion cactus, is a plant, and another one, Rio Grande silvery minnow, is aquatic.

EPA does not consider this permit renewal action will have any effects on plants such as Sneed pincushion cactus. Sneed pincushion cactus declines are reportedly due to habitat loss from general urban growth and past highway construction. In the past, removal by commercial plant suppliers was also identified as to contribute to the severe decline in the natural populations. Issuance of this permit is found to have no impact on the habitat of the listed species, since no suitable habitat occurs within the proposed project area.

**Interior least tern**: Interior least terns usually arrive on their breeding grounds in early to mid-May and begin to establish feeding and nesting territories. During the breeding season, the terns' home range is generally limited to a two-mile stretch of river associated with the nesting colony. Least terns nesting at sandpits along rivers use the adjoining river as well as the sandpit lake itself for foraging. In New Mexico, they breed regularly only at Bitter Lake, and they occur occasionally elsewhere along the Pecos River valley. Non-breeding, transient individuals have been observed at the Holloman Wetlands in Years 2002-2005. Human development and use of tern nesting beaches for housing and recreation subsequently lead to another rapid population decline. In the interior United States, river channelization, irrigation diversions and the construction of dams contributed to the destruction of much of the terns' sandbar nesting habitat. Quality of New Mexico breeding habitat is potentially variable due to changing water levels. Colonies may become vulnerable to disturbance and predation if

water levels drop, and flows are required to maintain suitable nesting substrate.

This permitting action does not authorize any action which may contribute to the destruction of least terns' nesting substrate. The receiving stream, South Folk of the Las Cruces Arroyo, is a dry arroyo, and does not provide suitable habitat for least terns. Therefore, EPA determines that this permit renewal action has no adverse effect to the least terns.

**Southwestern willow flycatcher**: The Southwestern willow flycatcher is an insectivore. It forages within and above dense riparian vegetation taking insects on the wing and gleaning them from the foliage. It also forages along water edges, backwaters, and sandbars, adjacent to nest sites.

Several factors have caused the decline in Southwestern willow flycatcher populations. Extensive areas of suitable riparian habitat have been lost due to river flow-regulation and channelization, agricultural and urban development, mining, road construction, and overgrazing. As a result of habitat fragmentation, cowbird parasitism has increased. The invasion of the exotic salt cedar has also altered the riparian ecosystem in the Southwest. EPA determines that this permit renewal action does not cause effect to the species based on the following analyses:

Direct Effect: Direct effects are not expected to result from the action because issuance of the permit does not authorize construction activities which might disturb currently occupied or potentially available habitat.

Indirect Effect: The potential indirect effects of the permitted discharge to the Southwestern willow flycatcher include the loss of suitable habitat for future use; and, adverse impacts to either the quantity or quality of willow flycatcher's food or water supply. EPA's reissuance of the NPDES permit neither authorizes nor requires construction activities which might adversely affect suitable habitat to the extent that it could not be occupied by Southwestern willow flycatchers. As to whether the permitted discharge will adversely affect the future availability of an adequate food supply, EPA notes that the receiving stream, South Folk of the Las Cruces Arroyo, does not provide suitable habitat for the Southwestern willow flycatcher, and the permit effluent limits are protective of aquatic life species. EPA believes effluent limits which protect both vertebrate and invertebrate aquatic organisms will be protective of the aquatic and riparian insects on which the flycatcher subsists.

Accumulate Effect: Many non-federal activities provide impetus to increased growth of municipalities, increased recreational use, land conversion to agriculture, or grazing. Local land use restrictions which could mitigate such adverse effects are beyond the scope of the NPDES Program and are outside EPA's authority.

**Rio Grande silvery minnow**: Segment 20.6.4.101 of the Rio Grande is not within the critical habitat of the Rio Grande silvery minnow and this species has been determined to be extirpated in Dona Ana County. Therefore, the issuance of this permit will have no adverse effect on the Rio Grande silvery minnow.

In a Finding of No Significant Impact (FONSI) determination dated May 1, 2007, EPA determined that the described action will have no effect on Federally-Listed or proposed species or their habitats.

Based on information available to EPA, EPA determined that this permitting action does not have effect on federally listed endangered or threatened species.

## XI. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The State of New Mexico Historic Preservation Office indicated in a letter dated September 11, 2006, to the City that there are no historical and/or archeological sites within the action area.

## XII. PERMIT REOPENER

The permit may be reopened and modified if new information which is not available to EPA prior to the final decision of the permit becomes available during the life of the permit. New information may include, but is not limited to, revised/new State Water Quality Standards, amended/new EPA approved TMDL, information/conditions obtained during government-to-government consultations, e.g., consultation pursuant to the ESA, and substantial changes of treatment process. Modification of the permit is subject to the provisions of 40 CFR §124.5.

## XIII. VARIANCE REQUESTS

No variance requests have been received.

## XIV. CERTIFICATION

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

## XV. FINAL DETERMINATION

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

## XVI. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2A received by EPA on November 26, 2012.

B. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended through November 20, 2012.

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

State of New Mexico 303(d) List for Assessed Stream and River Reaches, 2012 - 2014.