NPDES PERMIT NO. NM0030724
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

March 5, 2018

PERMIT ACTION

Renewal of a permit previously issued on April 18, 2013, with an effective date of June 1, 2013, and an expiration date of May 31, 2018.

RECEIVING WATER – BASIN

Unnamed ephemeral arroyo – Rio Grande Basin

DOCUMENT ABBREVIATIONS

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

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

I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued April 18, 2013, with an effective date of June 1, 2013, and an expiration date of May 31, 2018, are as follow:

- Minimum Quantification Level and Sufficiently Sensitive Methods requirements have been added, and;
- DMR electronic reporting requirements have been added;

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility (Latitude 35° 12' 23.26" N and Longitude 106° 19' 4.39" W) is located at 138 Paa-Ko Drive, in the City of Sandia Park, Bernalillo County, New Mexico.

Under the SIC code 4952, the applicant operates a privately owned wastewater treatment plant. The facility has a design flow capacity of 0.13 MGD providing sanitary services for approximately 850 residents.

The WWTP primarily consists of 22,000 gallon-tank for storing influent in case of emergency up to 12 hours, screening/grid, anoxic basin, membrane bioreactor (MBR), an ultraviolet (UV) disinfection unit, and an effluent lined pond. Wastewater leaving the MBR is disinfected by the UV system. The effluent flows to the lined pond for storage if necessary, or can be pumped directly to Paa-Ko Ridge golf course pond for irrigation purpose. Sludge is hauled to Albuquerque Water Reclamation Facility. When an overflow event occurs at the golf course pond, the discharge is to an unnamed ephemeral arroyo thence to San Pedro Creek, about 3,000 feet downstream, located in Bernalillo County, New Mexico. A map of the facility location is in Appendix 1.

III. EFFLUENT CHARACTERISTICS

According to DMR, there was no discharge. Permittee did not provide any actual data.

IV. REGULATORY AUTHORITY/PERMIT ACTION

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

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 has an expiration date of May 31, 2018. The permittee submitted an application on January 29, 2018. The permit is administratively continued until this draft 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, and percent removal for each. 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

1. General Comments

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, *E. coli* bacteria, 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.

2. Effluent Limitation Guidelines

The facility is a private domestic WWTP that has 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 and 85% percent (minimum) removal 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, average and 85% percent (minimum) removal 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 POTWs or similar, 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)(l)/(mg)(MG) * design flow in MGD

30-day average BOD/TSS loading = 30 mg/l * 8.345 (lbs)(l)/(mg)(MG) * 0.13 MGD = 32.55 lbs/day
7-day average BOD/TSS loading = 45 mg/l * 8.345 (lbs)(l)/(mg)(MG) * 0.13 MGD = 48.82 lbs/day

A summary of the technology-based limits for the facility is in Table 1.

Table 1:

Parameter	**30-day Avg**	**7-day Max**	**30-day Avg**	**7-day Max**
BOD	32.55 lbs/day	48.82 lbs/day	30 mg/l	45 mg/l
BOD, % removal[1]	≥ 85	---	---	---
TSS	32.55 lbs/day	48.82 lbs/day	30 mg/l	45 mg/l
TSS, % removal	≥ 85	---	---	---
pH	N/A	N/A	6 to 9 s.u.	

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

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

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

2. Implementation

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

3. State Water Quality Standards

The general and specific stream standards are provided in NMWQS (20.6.4 NMAC approved by EPA on June 8, 2017). The discharge is to receiving water to an unnamed arroyo and thence to the San Pedro Creek Segment No. 20.6.4.125 of the Rio Grande watershed. The unnamed arroyo is an ephemeral arroyo in NMAC Segment 20.6.4.97. The designated uses include: livestock watering, wildlife habitat, limited aquatic life and secondary contact. The designated uses of the San Pedro Creek Segment No. 20.6.4.125 are coldwater aquatic life, irrigation, livestock watering, wildlife habitat 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. pH

During June and July, 2011, the NMED used the approved Hydrological Protocol to document the hydrologic conditions of 18 unclassified, non-perennial stream segments listed at http://www.nmenv.state.nm.us/swqb/UAA/HP//index.html. These waters are associated with NPDES permitted facilities. In early 2013, EPA has determined that these 18 UAAs are technically approvable and that the uses and criteria described in Section 20.6.4.97 NMAC are appropriate for all regulatory purposes under the CWA. The 20.6.4.97 NMAC applies to the Paa-Ko Communities Sewer Association permit. The designated uses for 20.6.4.97 NMAC are as follows: livestock watering, wildlife habitat, limited aquatic life and secondary contact. The use specific criteria in 20.6.4.900 NMAC are applicable to the designated uses. The pH limits applicable to 20.6.4.97 NMAC receiving water are 6 – 9 s.u. The pH limits of 6-9 s.u. in the previous permit will be remained in the draft permit.

b. Bacteria

The E. coli bacteria limits applicable to 20.6.4.97 NMAC receiving water are 548 cfu/100 ml (monthly average), 2507 cfu/100 ml (daily maximum). The E. coli bacteria limits of 548 cfu/100 ml (monthly average), 2507 cfu/100 ml (daily maximum) in the previous permit will be remained in the draft permit.

c. Toxics

The CWA in Section 301(b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44(d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality 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 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 as a minor, and does not need to fill out the expanded pollutant testing section Part D of Form 2A. There are no toxics that need to be placed in the draft permit except for TRC described below.

d. TRC

The facility uses UV to treat bacteria. Consistent with all POTWs in the State of NM; however, TRC limitations are placed in permits to provide discharge limitations in the event chlorine is used as backup bacteria disinfection treatment and/or cleaning and disinfection of process equipment and/or used to control filamentaceous algae. The previous permit established water quality-based effluent limitations for TRC of 11 µg/l and that limit will be continued in the draft permit with the conditions above stated as to when the facility needs to provide monitoring for TRC. When the above conditions are not being used the permittee may report N/A with a note stating chlorine was not used in the manner stated in the permit footnote.

5. Monitoring Frequency for Limited Parameters

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). Sample frequency is determined from the table 9, page 34 of the NMIP, as shown in Table 2.

Table 2:

Parameter	Frequency	Sample Type
Flow	Daily	Totalized Meter
pH	5/week	Instantaneous Grab
BOD	2/month	Grab
TSS	2/month	Grab
% Removal	1/month	Calculation
TRC (if necessary)	5/week	Instantaneous Grab
E. coli Bacteria	2/month	Grab

D. WHOLE EFFLUENT TOXICITY

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. Based on the nature of the discharge, a privately owned sanitary wastewater treatment facility equivalent to a POTW, the design flow of 0.13 MGD, and the nature of the receiving water, ephemeral with the critical dilution of 100%, the NMIP directs the WET test to be a 48-hour acute test using *Daphnia pulex* at once per two years. First WET test shall be completed in the first year; second and third ones are in the third and fifth years, respectively. Since there was no discharge during the existing permit term, data is not available to determine RP. Therefore continued WET monitoring is continued in the draft permit.

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%. The low-flow effluent concentration (critical low-flow dilution) is defined as 100% effluent. Discharges shall be limited and monitored by the permittee as specified in Table 3.

Table 3:

Effluent Characteristic	**Discharge Limitations**		**Monitoring Requirements**	
WET Testing (48hr Static Renewal)[1]	30-day Avg Min	48hr Minimum	Frequency	Type
Daphnia pulex	Report	Report	Once per two years[2]	Grab

[1] Monitoring and reporting requirements begin on the effective date of this permit. See Part II of the permit, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.
[2] The test shall take place between November 1 and April 30. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple failures. However, upon failure of any WET test, the permittee must report the results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.

VI. FACILITY OPERATIONAL PRACTICES

A. SEWAGE SLUDGE

The sludge infrequently produced at the facility. It is hauled by the facility contractor to the Albuquerque Water Reclamation Facility 1-2 times per quarter.

B. WASTE WATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute or continue programs directed towards pollution prevention. The facility shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility.

C. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The treatment plant has no non-categorical Significant Industrial User's (SIU) and no Categorical Industrial User's (CIU). The EPA has tentatively determined that the permittee will not be required to develop a full pretreatment program.

D. OPERATION AND REPORTING

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge, if any, on a regular basis; and report the results quarterly. Reporting requirements and the requirement of using EPA-approved test procedures (methods) for the analysis and quantification of pollutants or pollutant parameters are contained in 40 CFR 122.41(l) and 40 CFR 122.21 (e), respectively. All Discharge Monitoring Reports (DMRs) shall be electronically reported. The monitoring results will be available to the public.

VII. TMDL REQUIREMENTS

San Pedro Creek to Rio Grande (20.6.4.125 NMAC) is in the 2014-2016 State of New Mexico Clean Water Act §303(d) list of impaired waters with no additional information/requirement on TMDL at this time. Designated use(s) of coldwater aquatic life is not being supported. The permit has a standard reopener clause that would allow the permit to be changed if at a later date additional requirements on new or revised TMDLs are completed.

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. This permit reissuance is for an existing discharger that is not expanding, so anti-degradation requirements do not apply.

IX. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, http://www.fws.gov/southwest/es/EndangeredSpecies/lists/, five species in Taos County are listed as endangered (E) or threatened (T). Three species are birds and include the Southwestern Willow Flycatcher (Empidonax traillii extimus) (E), the Yellow-billed Cuckoo (Coccyzus americanus) (T), and the Mexican spotted owl (Strix occidentalis lucida) (T). One mammalian specie includes New Mexico meadow jumping mouse (Zapus hudsonius luteus) (E). One aquatic specie includes Rio Grande silvery minnow (Hybognathus amarus) (E).

According to the list updated on January 15, 2013 for Bernalillo County, NM, the species are Mexican spotted owls (threatened), Southwestern willow flycatcher (endangered), and Rio Grande silvery minnow (endangered). The endangered and threatened species were mentioned in the previous permit and the candidate species have been added after the previous determination of "no effect".

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:

1. Two additions (i.e., the Yellow-billed Cuckoo and New Mexico meadow jumping mouse) have been made to the USFWS list of threatened and endangered species and critical habitat designation in the area of the discharge since prior issuance of the permit.

   The yellow-billed cuckoo has been listed as threatened. The primary cause of loss and degradation of Yellow-billed cuckoo is the loss and degradation of riparian breeding habitat,

which is believed to have caused the declines in the distribution and abundance of the species Conversion to agriculture and other land uses, urbanization, dams and river flow management, stream channelization and bank stabilization, and livestock grazing are the causes of riparian habitat losses. The permit does not authorize activities that may cause destruction of the yellow-billed cuckoo habitat, and issuance of the permit will have no effect on this species.
New Mexico meadow jumping mouse has been listed as endangered. Research indicates that the primary sources of past and future habitat losses are from grazing pressure (which removes the needed vegetation) and water management and use (which causes vegetation loss from mowing and drying of soils), lack of water due to drought (exacerbated by climate change), and wildfires (also exacerbated by climate change). Additional sources of habitat loss are likely to occur from scouring floods, loss of beaver ponds, highway reconstruction, coal-bed methane development, and unregulated recreation. The permit does not authorize activities that may cause destruction of New Mexico meadow jumping mouse habitat. The issuance of this permit is found to have no impact on the habitat of this species.

2. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations.

3. The draft permit is consistent with the State WQS. There are no changes in concentration limits or new parameters added.

4. EPA determines that Items 1, thru 3 result in no change to the environmental baseline established by the previous permit, therefore, EPA concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.

X. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

XI. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if NMWQS are promulgated or revised. In addition, if the State develops a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

XII. VARIANCE REQUESTS

None

XIII. CERTIFICATION

The permit is in the process of certification by the State Agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer of COE, to the Regional Director of FWS and to the National Marine Fisheries Service prior to the publication of that notice.

XIV. FINAL DETERMINATION

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

XV. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Form 2A received January 29, 2018

B. 40 CFR CITATIONS

Sections 122, 124, 125, 133, 136

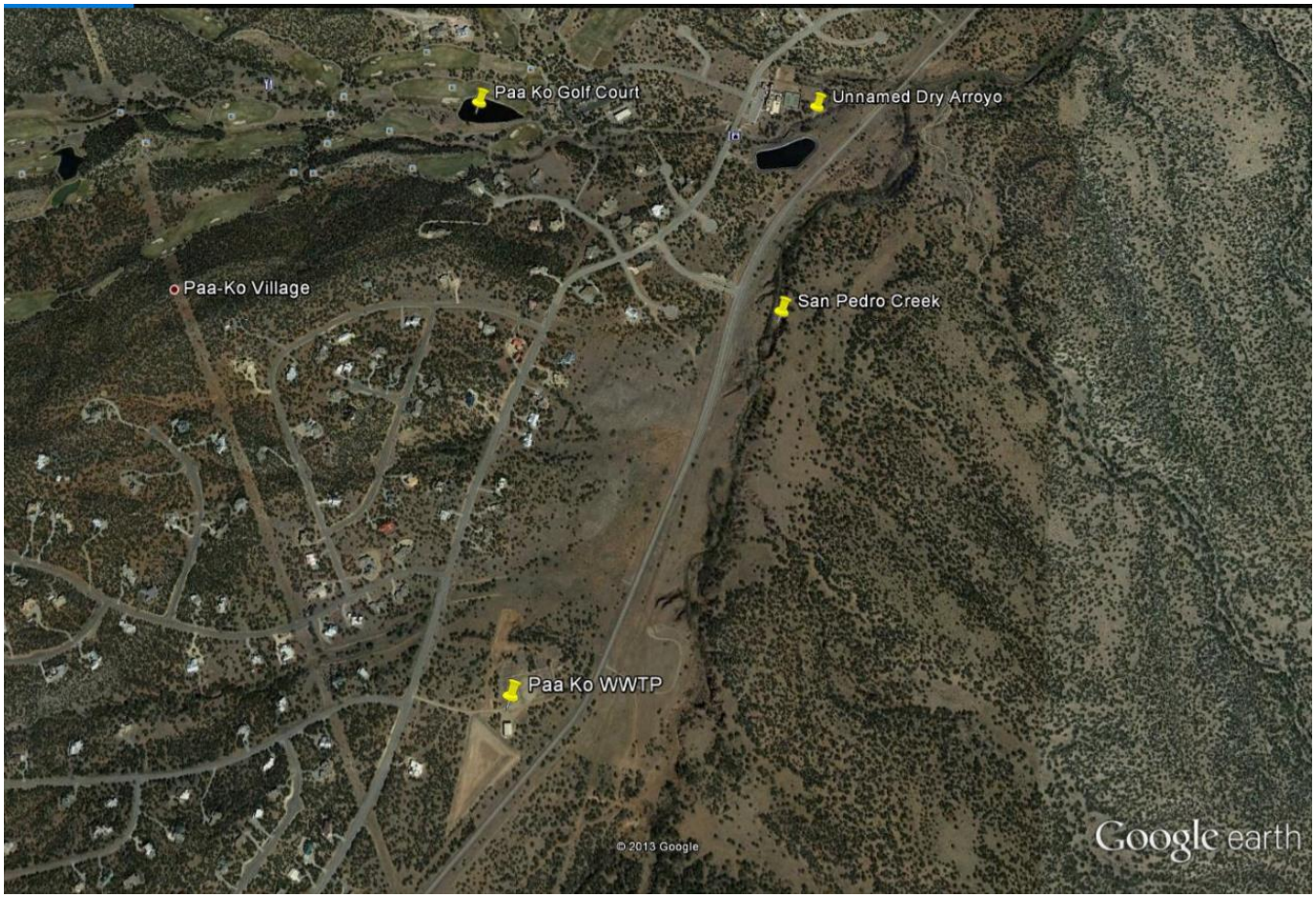
C. STATE OF NEW MEXICO REFERENCES

New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC approved by EPA on June 8, 2017.

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, 2014-2016.

Appendix 1


Paa Ko Golf Court
Unnamed Dry Arroyo
Paa-Ko Village
San Pedro Creek
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