

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**  
**PERMIT FACT SHEET**  
**June 2019**

Permittee Name: City of Mesa Water Resources Department

Mailing Address: 640 N. Mesa Drive  
P.O.Box 1466 Mail Stop 5010  
Mesa, Arizona 85211- 1466

Facility Location: 960 North Riverview  
Mesa, Arizona 85201

Contact Person(s): Jennifer Hetherington, Regulatory Compliance Program Manager

NPDES Permit No.: AZ0024627

**I. STATUS OF PERMIT**

The City of Mesa Water Resources Department has applied for a renewal of their existing National Pollutant Discharge Elimination System (NPDES) permit to allow for intermittent and/or emergency discharges of treated domestic, commercial and industrial wastewater from the Northwest Water Reclamation Plant (NWWRP) to an outfall located on Salt River Pima Maricopa Indian Community (SRPMIC) tribal land. The previous permit expired on July 31, 2018 and following a timely submittal of a completed application for renewal the permit has been administratively extended until issuance of the renewed permit. The NWWRP collects and treats wastewater from the northwest portion of the City of Mesa, Arizona. The City of Mesa currently has an AZPDES Permit (AZ0024031) issued by Arizona for discharge into the Salt River at locations under Arizona’s jurisdiction, an Aquifer Protection Permit (APP) No. P100369 and a Reuse Permit No. R100369

This permittee has been classified as a Major discharger.

**II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT**

Permit Condition	Previous Permit (2013 – 2018)	Re-issued permit (2018 – 2023)	Reason for change
Ammonia action level	The permittee had to monitor and report “floating” ammonia action levels based on temperature and pH at the time of the sampling	The ammonia action level will be determined using a ratio, called the ammonia impact ratio (“AIR”). The permittee also must continue to monitor and report ammonia values.	AIR provides more flexibility as it is easier than a “floating” ammonia value to determine whether further action (if AIR value exceeds 1.0) may be required.

Total phenolic compounds	The previous permit required to monitor total phenolic compounds under Table 3.b.	The current permit requires monitoring for various phenols under Table 3.d. but not total phenolic compounds.	The measurement of total phenolic compounds and various phenols is duplicative. Additionally, the method for measuring various phenols using GCMS EPA method 625 is much more precise than the total phenolic method EPA 420.4
Effluent Testing for VOCs	The previous permit required 24-hour Composite sampling for VOCs under Table 3.c.	The current permit requires Discrete sampling for VOCs under Table 3.c.	Compositing minimum of 4 samples as the previous permit listed allows for loss of VOCs resulting in a potentially inaccurate measurement. The ADEQ has changed sampling for VOCs to Discrete and making this change promotes consistency between the AZPDES and the NPDES permits for the permittee
Sulfide	Currently under Table 3.f. Sulfide requires 24-hour composite samples	The current permit to Discrete as sulfide is volatile	ADEQ has changed sulfide sampling to Discrete as it is volatile and making this change promotes consistency as above.
Asset Management Plan	This was not included	Included in Section V.C. of the permit.	EPA requires this provision to be included pursuant to 40 CFR 122.41(e).

### III. GENERAL DESCRIPTION OF FACILITY

The NWWRP facility is owned and operated by the City of Mesa, AZ, and is located at 960 North Riverview in Mesa, Arizona 85201, on the south side of the Salt River, adjacent to the Red Mountain Freeway between Price Road and Dobson Road in Township 1 North, Range 5 East, Section 18 North 1/2. The NWWRP collects and treats wastewater from the service area for northwest portion of the City of Mesa, constituting a population of approximately 120,000 persons. A pretreatment program is in operation for industrial contributors. The design flow the proposed permit is 18 MGD of municipal wastewater. The facility receives and treats domestic wastewater from the service area. The plant can receive wastewater from two Significant Industrial Users, however there is a diversion structure in place currently that delivers the wastewater from those two sites to the City of Phoenix 91<sup>st</sup> Avenue Treatment Plant. Treatment includes mechanical climber screens, grinding pump, primary clarification, nitrification and de-nitrification via activated sludge process, secondary clarification, filtration and disinfection. Water discharged to the Salt River will be disinfected by ultra-violet (UV) light or with chlorination as a back-up in case the UV system is not in operation. If chlorination is used, the effluent will be de-chlorinated before discharge into the river.

The NWWRP effluent is or can be potentially discharged to four different outfalls, namely Outfalls #002, #003, #004 and #005. Outfalls #003 and #004 discharge to locations under the jurisdiction of the State of Arizona, and are regulated by the Arizona Pollutant Discharge Elimination System (AZPDES) permit No.

AZ0024031. Outfalls #002 and #005 discharge to locations on Salt River Pima Maricopa Indian Community (SRPMIC) land and are the subject of this federal permit being issued by the United States Environmental Protection Agency (USEPA). Outfall #004 and Outfall #002 are not currently constructed and are intended only to be used if Outfall #003 and Outfall #005 are not operational.

The treated effluent can either flow by gravity to the existing plant percolation basins or the existing Outfall #003. Or the effluent can flow to the effluent pump station and from there, the effluent can go to the new Granite Reef Underground Storage Project (GRUSP) Discharge Point (Outfall #005) to the Hennessey Drain located on Tribal land at  $33^{\circ} 29' 04.63''$  N ,  $111^{\circ} 44' 47.54''$  W. At this time Outfall #002 located on Tribal land at  $33^{\circ} 27' 25''$  N ,  $111^{\circ} 50' 25''$  is not expected to be a discharge point, except as a back-up, in case discharge to Outfall #005 is impracticable for some reason. During the previous permit cycle no discharge occurred from Outfall #002. Outfall #005 was operational but the plant did not discharge much of the past several years. The plant also provides reuse water to landscaping along the Rio Salado Pathway hiking trail north of the plant.

#### IV. DESCRIPTION OF RECEIVING WATER

The facility has four permitted effluent discharge locations, but the discharge locations that are the subject of this permit are Outfalls #005 and #002 which are located in a portion of the Salt River which is on SRPMIC tribal land. The State of Arizona has adopted water quality standards to protect the designated uses of surface waters. Streams have been divided into segments and designated uses assigned to these segments. The water quality standards vary by designated use depending on the level of protection required to maintain that use. This federal permit will apply these State of Arizona standards to protect beneficial uses and to maintain consistency of treatment requirements, as not only does the effluent discharged onto Tribal land have the potential to cross over Tribal boundaries and enter State waters, but also the two other discharge points of the NWWRP are to state lands and subject to the jurisdiction of the State of Arizona and its Department of Environmental Quality for permitting, and which has issued an AZPDES permit (AZ0024031) for those outfalls.

The receiving water for the treated domestic, commercial and industrial wastewater discharged from the NWWRP Outfall #002 and #005 is the Salt River in the Middle Gila watershed.

Outfall 002 is located at:                      Latitude  $33^{\circ} 27' 25''$  N , Longitude  $111^{\circ} 50' 25''$  W

Outfall 005 is located at:                      Latitude  $33^{\circ} 29' 05''$  N , Longitude  $111^{\circ} 44' 48''$  W

This receiving water is not on the 303(d) list and there are no TMDL issues associated. The discharge points are both on SRPMIC tribal land. The SRPMIC does have adopted water quality standards, but these have not yet been approved by the USEPA. Therefore, the USEPA is relying on standards in Arizona Water Quality Standards (18 A.A.C. Chapter 11, Article 1) for the segment of the Salt River which is included in Appendix B as a surface water in the Salt River Basin and which has designated uses of Aquatic & Wildlife (ephemeral water) (A&We), and Partial Body Contact, (PBC). Under A.A.C. R18-11-113 (D), the water

quality standards that apply to Effluent Dependent Waters (EDW) will be applied to derive discharge limitations for any point source discharge of water to an ephemeral water.

Based on the considerations above, the permit has been drafted to protect the following designated uses:

Aquatic and Wildlife effluent dependent (A&Wedw)  
Partial Body Contact (PBC)

Given the uses stated above, the applicable narrative water quality standards are described in A.A.C. R18-11-108 and the applicable numeric water quality standards are listed in A.A.C. R18-11-109, and in Appendix A thereof. The standards for all applicable designated uses are compared and the most stringent standard is applied, thus protecting for all applicable designated uses.

## V. DESCRIPTION OF DISCHARGE

The following table summarizes the characteristics of treated wastewater discharged from the NWWRP through its existing outfalls permitted by the State of Arizona.

PARAMETER	UNITS	MAXIMUM DAILY VALUE	AVERAGE DAILY VALUE
pH (minimum)	s.u.	6.90	---
pH (maximum)	s.u.	8.02	---
Flow rate	MGD	10.70	7.91
Temperature (Oct.-Mar.)	°C	28.0	24.70
Temperature (Apr.-Sep.)	°C	35.0	31.0
BOD <sub>5</sub>	mg/L	13.6	0.79
Fecal Coliform (1)	cfu/100mL	69.7	0.07
TSS	mg/L	13.0	0.05
Ammonia (as N)	mg/L	1.72	0.18
Total Kjeldahl Nitrogen (TKN)	mg/L	3.88	1.14
Nitrogen plus Nitrite Nitrogen	mg/L	11.10	6.52

Oil & Grease	mg/L	7.0	0.35
Hardness (CaCO <sub>3</sub> )	mg/L	320	242
Chlorine (Total Residual Chlorine, TRC)	ug/L	<18	<18

(1) cfu is considered to be a 1:1 relationship to most probable number (MPN).

The application indicates that the removal rate for: BOD is 85%, TSS is 85%, and N is < 10mg/L.

The organics data that was submitted is extensive and is attached to the permit application. No permit violations were noted during the previous permit cycle. The organics are listed in the expanded effluent testing tables in the permit. The permit will require the permittee ensure that the laboratory use an analytical method that is lower than the effluent limitations when such levels are achievable.

## V. DETERMINATION OF EFFLUENT LIMITATIONS

When determining what parameters need monitoring and/or limits included in the draft NWWRP permit, both technology-based and water quality-based criteria were compared and the more stringent criteria applied.

**Technology-based Limitations:** As outlined in 40 CFR Part 133:

The regulations found at 40 CFR 133 require that publicly owned treatment works achieve specified treatment standards for BOD, TSS, and pH based on the type of treatment technology available.

**Numeric Water Quality Standards:** As outlined in A.A.C. R18-11-109 and Appendix A:

Per 40 CFR 122.44(d)(1)(ii), (iii) and (iv), limits have been included in the permit for parameters with >reasonable potential= (RP) , that is, those known to be or expected to be present in the effluent at a level that could potentially cause any applicable numeric water quality standard to be exceeded. The procedures used to determine reasonable potential are outlined in the *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001).

It is assumed that RP exists for exceedance of water quality criteria for *E. coli* and total residual chlorine (TRC) when chlorine is used for disinfection. When UV is used for disinfection then there is no RP for TRC.

DMR data was reviewed for purposes of developing the proposed permit. This data was used to calculate RP for applicable parameters, using appropriated statistical procedures.

The proposed permit limits and/or action levels were established using a methodology developed by EPA. Long Term Averages (LTAs) were calculated for each designated use and the lowest LTA was use to calculate the average monthly limit (AML) and maximum daily limit (MDL) necessary to protect all uses. This methodology takes into account criteria, effluent variability, and the number of observations taken to determine compliance with the limit and is described in Chapter 5 of the *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001).

The limits and Action Levels in this permit were determined without the use of a mixing zone. Arizona state water quality rules require that water quality standards be achieved without mixing zones unless the permittee applies for, and is approved for, a mixing zone. Since a mixing zone was not applied for and there is insufficient water for mixing, all water quality criteria are applied at end-of-pipe, which in this case means the UV or chlorination disinfection unit discharge point.

The DMR data reviewed indicated that values for the pollutants with Action levels were below such levels. Nevertheless, monitoring for these pollutants is required and Action Levels have been established to alert the permitting authority if the discharge may have the potential to exceed water quality criteria (An Action Level differs from other limits in that an exceedance on an Action Level is not a permit violation. Instead, Action Levels serve as triggers, alerting the permitting authority when there is cause for reevaluation of RP for exceeding a water quality standard, which may result in new permit limitations). In such case, the permit could be re-opened and modified to include limit(s) if the data obtained indicates RP.

### **Permit Limitations:**

The tables that follow summarize parameters limited in the permit, the regulatory justification for their inclusion, and the associated monitoring. Also included are some parameters that require monitoring without any limitations and some parameters that have not been included in the permit at all and the basis for that decision.

Parameter	Basis	Proposed Monitoring Requirement (1)
<b>Flow</b>		It is proposed that flow be monitored on a continual basis using a flow meter.
<b>BOD &amp; Suspended Solids</b>	<p><b>Concentration Limits</b> The concentration limits for both effluent biochemical oxygen demand (BOD) and suspended solids are: 30-day average - 30 mg/l 7-day average - 45 mg/l 30-day average percent removal: minimum 85%</p> <p>These technology-based limits are included in the draft permit in accordance with Secondary Treatment Standards for an activated sludge POTW found in 40 CFR '133.102.</p> <p><b>Mass Limits</b> The mass limits for both BOD and suspended solids are: 30-day average – 2044 kg/day 7-day average - 3066 kg/day</p> <p>These limits are included in the draft permit per 40 CFR ' 122.45(d) &amp; (f) and were calculated based on the design flow as follows:</p> <p>Kilograms per day = 3.785 x design flow in MGD x concentration limit in mg/L. [3.785 is the weight of one gallon of water in kilograms.]</p> <p>30-day average = 3.785 * 18 MGD * 30 mg/L = 2044 kg/day 7-day average = 3.785 * 18 MGD * 45 mg/L = 3066 kg/day</p>	Monitoring for influent and effluent BOD and TSS to be conducted once per week using composite samples of the influent and the effluent. The sample type required was chosen to be representative of the discharge. The requirement to monitor influent BOD and suspended solids is included to assess compliance with the 85% removal requirement in this permit. At least one sample quarterly when discharging must coincide with WET testing to aid in the determination of the cause of toxicity if toxicity is detected.
<b>pH</b>	pH limits are included in the draft permit to protect for the designated uses of A&Wedw, PBC, FC, Agl and AgL, in accordance with A.A.C. R18-11-109(D). The proposed limits are:	pH is to be monitored five times per week using a discrete sample of the effluent. 40 CFR Part 136 specifies that discrete samples must be collected

Parameter	Basis	Proposed Monitoring Requirement (1)
	Minimum: 6.5 Maximum: 9.0 Maximum change due to discharge: 0.5	for pH. At least one sample quarterly when discharging must coincide with WET testing to aid in the determination of the cause of toxicity if toxicity is detected. pH sampling must also coincide with ammonia sampling when required.
<b>E. Coli (1)</b>	Limits for E. coli are included in the draft permit to protect for the designated use of PBC of the receiving water in accordance with A.A.C. R18-11-109(A). The proposed limits are:  30-day average: 126 cfu /100 mL (4 sample minimum) Single sample maximum: 235 cfu /100 mL	E. coli is to be monitored once per week using a discrete sample of the effluent. The specified monitoring frequency is the minimum required to ensure compliance with the 30-day mean water quality standards. 40 CFR Part 136 specifies that discrete samples must be collected for coliform bacteria. At least one sample quarterly when discharging must coincide with WET testing to aid in the determination of the cause of toxicity if toxicity is detected.
<b>Total Residual Chlorine (TRC)</b>	Ultra Violet Disinfection is currently used. If UV disinfection fails, alternative disinfection may be used. Long Term Averages (LTA) were calculated for each designated use and the lowest LTA was used to calculate the average monthly limit (AML) and maximum daily limit (MDL) necessary to protect both uses. This method of limit determination is outlined in Chapter 5 of the TSD. The Arizona water quality standards for TRC are located in A.A.C. R18-11-Appendix A. The TRC water quality standards for A&Wedw are 11 ug/L, chronic and 19 ug/L acute; The TRC standard for PBC is 140,000ug/L. The A&Wedw chronic standard resulted in the lowest LTA for permit limit development. The proposed TRC limits are:  Monthly average: 11 ug/L and 0.75 kg/d Daily maximum: 19 ug/L and 1.29 kg/d  Mass TRC limits are included in the draft permit in accordance with 40 CFR '122.45(d) & (f) and were calculated as follows:  Kilograms per day = 3.785 x design flow in MGD x concentration limit in mg/L. [3.785 is the weight of one gallon of water in kilograms].  Monthly average = 3.785 * 18.0 MGD * 0.011 mg/L = 0.75 kg/day Maximum Daily = 3.785 * 18.0 MGD * 0.019 mg/L = 1.29 kg/day	TRC is to be monitored five times per week as a grab sample when chlorine disinfection is used. 40 CFR Part 136 specifies that discrete samples must be collected for chlorine. At least one sample quarterly when discharging must coincide with WET testing to aid in the determination of the cause of toxicity if toxicity is detected.
<b>Chronic WET Test (C. dubia)</b>	Limit for Chronic WET for C. dubia was included in the ADEQ Permit issued to the City of Mesa (AZ 0024031). ADEQ established Reasonable Potential for toxicity to C. dubia. To be consistent with the ADEQ permit requirements, this limit has been established in this permit	The permit includes numeric effluent limits for WET for C. dubia to be monitored once every six months
<b>Chronic WET Test (P. promelas)</b>	Limit for Chronic WET for P. promelas was included in the ADEQ Permit issued to the City of Mesa (AZ 0024031). ADEQ established Reasonable Potential for toxicity to P. promelas. To be consistent with the ADEQ permit requirements, this limit has been established in this permit	The permit includes numeric effluent limits for WET for P. promelas to be monitored once every six months

(1) cfu is considered to be a 1:1 relationship to most probable number (MPN).

**MONITORING FOR EFFLUENT CHARACTERIZATION AND OR POTENTIAL FOR EXCEEDANCES**

Parameters with no RP or with indeterminate RP are included in the permit as Action Levels to protect for the designated uses of PBC and A&Wedw. For each parameter, Long Term Averages (LTAs) were calculated for each designated use and the lowest LTA was used to calculate the average monthly limit (AML) and maximum daily limit (MDL) necessary to protect both uses. (Average monthly limits were not calculated when the lowest LTA was based on human health or agricultural standards because the numeric standards to protect these uses are not to be exceeded at the outfalls. Only daily maximum limits are used in these cases.) Monitoring for these parameters is included pursuant to 40 CFR 122.44(d)(1)(iii). The method of limit determination takes into account criteria, effluent variability, and the number of observations taken, and is outlined in Chapter 5 of the TSD (*Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001)). The Arizona water quality standards for these parameters are located in A.A.C. R18-11-Appendix A.

Parameter	ACTION LEVELS				Basis	Proposed Monitoring Requirement
	Mass		Concentration			
	Monthly Avg (kg/day)	Daily Max (kg/day)	Monthly Avg (µg/L)	Daily Max (µg/L)		
Copper	1.11	1.89	16.4	27.7	A&Wedw	Metals will be monitored quarterly using composite samples. The sample type was chosen to be representative of the discharge. Also, at least one sample per quarter must coincide with WET testing to aid in the determination of the cause of toxicity if toxicity is detected.
Ammonia	—	—	REPORT	REPORT	A&Wedw	Ammonia is a newly applied standard for the A&Wedw designated use. Even though the discharge is to waters designates as ephemeral, A.A.C R18-11-113(D) requires effluent dependent standards to be used
Temperature	----	----	REPORT	REPORT	NA	<b>Effluent monitoring without assessment level is required to coincide with effluent sampling for ammonia.</b>
Hardness	----	----	REPORT	REPORT	NA	<b>Effluent monitoring without assessment levels is required to coincide with effluent sampling for Copper.</b>



The permittee is required to sample effluent hardness as CaCO<sub>3</sub> at the same time as copper sampled because the water quality standards for copper is calculated using the effluent hardness values. For the above list of parameters, the hardness value of 238.9 mg/L (the hardness of the effluent as determined from data supplied by the permit applicant) was used to calculate the action level for copper. The action level for ammonia is now pH and temperature dependent. The permittee shall monitor for temperature and pH at the same time as it monitors for Ammonia.

The permittee shall monitor the effluent for the parameters listed in Tables 3.a. – 3.f., whether discharging or not. No limits or action levels are established, but the reporting level must be low enough to allow comparison of the results to the applicable water quality standards (WQS). Parameters to be monitored and reported are consistent with those found in the existing AZPDES Permit for this facility with Permit No. AZ0024031.

### **Permit Renewal/Re-application Requirements:**

Samples required to be reported in a reapplication for continued discharge after the expiration date of this permit have been included in the permit. A list of required pollutants to be sampled, sample type, how many samples must be taken, and the required time frame for taking these samples is provided in Tables 3.a. through 3.f. in the permit. This information is included in the permit to help ensure that the application requirements in 40 CFR Part 122 are met and will be used in future RP determination efforts.

### **Whole Effluent Toxicity:**

Permit levels of 1.6 chronic toxicity units daily maximum and 1.0 chronic toxicity units monthly median are included for two test species *C. dubia* and *P. promelas* as reasonable potential to exceed permit limits was observed in the data from the previous permit cycle. Action Levels of 1.6 chronic toxicity units daily maximum and 1.0 chronic toxicity units monthly median was included for *R. subcapitata* in the proposed permit in accordance with ADEQ's *Interim Whole Effluent Toxicity Implementation Guidelines For Arizona*. Since the Mesa NWWRP is designed to discharge up to 18.0 MGD, this facility is defined by federal NPDES regulations as a major discharger. All major facilities are required to report the results of whole effluent toxicity (WET) testing on their permit application. Pursuant to the requirements of 40 CFR 122.21(j)(5), the results reported on the application must include, at a minimum, quarterly testing for the year preceding the application, using multiple species, or the results from four tests performed at least annually in the 4.5 years prior to the application, if available.

WET testing is required in the permit to implement the narrative toxic standard in A.A.C. R18-11-108(A)(5) and to satisfy the requirement for all major POTWS to report WET test results on their permit applications. The permit requires WET test results to be submitted with the discharge monitoring reports that are due following receipt of each WET test result.

**Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) Processes:**

Requirements for follow-up testing if an action level is exceeded in WET testing, and the development of a TRE and/or TIE to identify, control or eliminate the cause of toxicity within an approved time-frame are included in the permit. These special conditions are required to ensure that toxicants are not discharged in amounts that are toxic to organisms [A.A.C. R18-11-108(A)(5)]. A re-opener clause is included in accordance with 40 CFR Parts 122 and 124.

Parameter	Proposed Monitoring Requirement
Whole Effluent Toxicity (WET)	WET testing for chronic toxicity shall be conducted semi-annually for <i>C. dubia</i> and <i>P.Promelas</i> and annually for <i>R. subcapitata</i> . Three composite samples are required to complete one WET test. WET sampling must coincide with testing for all of the parameters in Tables 1 and 2. of the permit to aid in the determination of the cause of toxicity if toxicity is detected. Additional procedural requirements for the WET test are included in the proposed permit.

**VII. NARRATIVE WATER QUALITY STANDARDS**

All applicable narrative limitations in A.A.C. R-11-108 are included in the permit.

**VIII. ANTI-BACKSLIDING**

Section 402(o) of the CWA prohibits the renewal, reissuance, or modification of an NPDES permit which contains effluent limits less stringent than those established in the previous permit, except as provided in the statute. This permit has been reviewed and drafted with consideration of anti-backsliding concerns. All limits are at least as stringent as in the previous permit or fall under an appropriate rationale for less stringent limits under the CWA.

**IX. ANTI-DEGRADATION**

EPA's antidegradation policy at 40 CFR 131.12 and Arizona's regulations at A.A.C.R 18-11-107 require that existing water uses ad the level of water quality necessary to protect the existing uses be maintained.

Since the issuance of the 2007 NPDES permit, the discharger has not changed the design capacity of the plant. However, since the issuance of the 2007 NPDES permit, Arizona has revised its water quality standards and pursuant to A.A.C.R. at 18-11-113 D. water quality standards that apply to an effluent-dependent water shall be used to derive water quality-based effluent limits for a point source discharge of wastewater to an ephemeral water. Thus, even though the receiving segment of the Salt River is classified in Appendix B. of the A.A.C.R. as an ephemeral water, the standards now applicable to

discharges from this permit are the effluent-dependant water quality standards which are more protective than in the previous permit.

As described in this permit and fact sheet, the permittee is permitted to discharge wastewater that meets effluent limits and is required to comply with monitoring requirements that ensure that all applicable water quality standards are met. The permit does not include a mixing zone; therefore, these limits will apply at the end of pipe without consideration of dilution in the receiving water. Water quality standards are written to protect all designated uses of the waterbody, in this case the Salt River. Since the permittee is expected to comply with all limits in the permit, the effluent should not have a negative, degrading effect on the receiving waterbody. Priority pollutant scans have and will continue to be conducted, demonstrating and ensuring that pollutants will be discharged below limits and in the majority of cases, below detection levels. Due to these factors, it is expected the quality of the effluent will match or exceed the current water quality and that the discharge will have no negative, or de minimis negative effect on the receiving waterbody.

## **X. MONITORING.**

Section 308 of the Clean Water Act and 40 CFR Part 122.44(i) require that monitoring be included in permits to determine compliance with effluent limitations. Additionally, monitoring may be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality. Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. The permittee is responsible for conducting and reporting results to EPA Region 9 and on DMRs or as otherwise specified in the permit.

For purposes of this permit, each 24-hour composite sample shall require a minimum of four samples taken six hours apart over a 24-hour period. The four samples taken over 24 hours shall be of equal volumes of not less than 100 mL each. (The contracted analytical laboratory may specify larger volumes.) These criteria for composite sampling are included in order to obtain samples that are representative of the discharge given the potential variability in the duration, frequency and magnitude of discharges from this facility. Grab samples are specified in the permit for parameters that for varying reasons are not amenable to compositing. Monitoring under this permit is authorized to be performed immediately past the UV or chlorine disinfection unit or at the point of discharge for outfall #002 or #005, provided effluent quality is the same at both outfalls.

## **XI. PRETREATMENT AND SEWAGE SLUDGE REQUIREMENTS**

Sewage sludge use or disposal practices, generator's responsibilities and annual reporting requirements are incorporated in the permit. With an 18 MGD discharge, this permittee is required to have a pretreatment program. The permittee already has an approved pretreatment program, which will be updated or modified as per the requirements which are incorporated in the permit.

## **XII. SPECIAL CONDITIONS**

### **Biosolids**

Standard requirements for the monitoring, reporting, recordkeeping, and handling of biosolids in accordance with 40 CFR Part 503 are incorporated into the permit. The permit also includes, for dischargers who are required to submit biosolids annual reports, which include major POTWs that prepare sewage sludge and other facilities designated as “Class 1 sludge management facilities”, electronic reporting requirements, Permittees shall submit biosolids annual reports using EPA’s NPDES Electronic Reporting Tool (“NeT”) by February 19<sup>th</sup> of the following year.

### **Pretreatment**

EPA has established pretreatment standards to prevent the introduction of pollutants into POTWs which will interfere with or pass through the treatment works, and to improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges (Section 307 of the CWA). EPA requires any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 MGD and receiving from nondomestic sources of pollutants which may pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards to establish a pretreatment program. As this is the case for this facility such language is included in the permit.

### **Asset Management**

40 CFR 122.41(e) requires permittees to properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Asset management planning provides a framework for setting and operating quality assurance procedures and ensuring the permittee has sufficient financial and technical resources to continually maintain a targeted level of service. Asset management requirements have been established in the permit to ensure compliance with the provisions of 40 CFR 122.41 (e).

## **XIII. OTHER CONSIDERATIONS UNDER FEDERAL LAW**

### **Environmental Justice**

EPA conducted a screening level evaluation of vulnerabilities in the community posed to local residents in the vicinity of the permitted POTW using EPA’s EJSCREEN tool. The purpose of the screening is to identify areas disproportionately burdened by pollutant loadings and to consider demographic characteristics of the population living in the vicinity of the discharge when drafting permit conditions.

In October 2018, EPA conducted an EJSCREEN analysis of the community near the vicinity of the outfall. Of the 11 environmental indicators screened through EJSCREEN, the evaluation determined elevated indicator scores for the following factors:

- Ozone
- Hazardous Waste Proximity
- Wastewater Discharge Indicator

EPA is aware that the location of the outfall is on Tribal land and has conducted outreach by providing formal opportunity for the Salt River Pima Maricopa Indian Community (SRPMIC) to consult on the reissuance of this permit. During the public comment period following public notice of the proposed reissuance of this permit, EPA specifically sought input from the SRPMIC by forwarding a copy of the draft final permit and factsheet to the community.

EPA is aware of the potential for cumulative burden of the permitted discharge and will issue this permit with consideration of SRPMIC concerns and consistent with the Clean Water Act, which is protective of all beneficial uses of the receiving water, including human health.

### **Endangered Species Act**

The Endangered Species Act (ESA) allocates authority to and administers requirements upon Federal agencies regarding threatened or endangered species of fish, wildlife, or plants and habitat of such species that have been designated as critical. Its implementing regulations [50 CFR Part 402] require Federal agencies such as the U.S. Environmental Protection Agency (EPA) to ensure, in consultation with the U.S. Fish and Wildlife Service (USFWS), that any action authorized, funded or carried out by EPA is not likely to jeopardize the continued existence of any Federally-listed threatened or endangered species or adversely affect critical habitat of such species. [40 CFR 122.49( c)]. Since the issuance of NPDES permits by EPA is a Federal action, consideration of a permitted discharge and its effect on any listed species is appropriate.

Implementing regulations for the ESA establish a process by which Federal agencies consult with one another to ensure that the concerns of both the USWFS and the National Marine Fisheries Service (NMFS) (collectively “Services”) are addressed. EPA requested and obtained information regarding threatened and endangered species found in Maricopa County from the USFWS, and requested input on its proposed permit from the Service and others as part of the public notification and comment process. The USFWS indicated that there are three Threatened and Endangered bird species likely to be found in the Project Area. These are the California Least Tern (*Sterna antillarum browni*), the Yellow-billed Cuckoo (*Coccyzus americanus*), and the Yuma Clapper Rail (*Rallus longirostris yunanensis*). There was no Critical Habitat within the Project Area under the USFWS’ jurisdiction.

The NPDES permit authorizes the discharge of treated wastewater in conformance with federal treatment regulations and contains provisions for monitoring conventional, toxic chemicals, and non-conventional pollutants in compliance with the Federal and Arizona State water quality standards, to ensure an appropriate level of quality of water discharged by the facility. These standards are applied in the permit as both numeric and narrative limits.

Since the standards themselves are designed to protect aquatic species, including threatened and endangered species, any discharge in compliance with these standards should not adversely impact any threatened and endangered species. Therefore, EPA believes that discharge in compliance with this permit will have no effect on threatened or endangered species. EPA may decide that changes to the permit may be warranted based on receipt of new information and EPA will initiate consultation should new information reveal impacts not previously considered, or should the activities affect a newly-listed species. Re-opener clauses have been included in the permit should new information become available to indicate that the requirements of the permit need to be changed.

### **National Historic Preservation Act**

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. This action is the renewal of a previously issued NPDES permit and does not involve the disturbance of any land or any new construction. Pursuant to NHPA and 36 CFR Section 800.3(a)(1), EPA made a determination that issuing this NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on this permit issuance.

### **Water Quality Certification Requirements**

Pursuant to 40 CFR 124.53 and 124.54 For States, Territories, or Tribes with EPA approved water quality standards, EPA or the discharger is required to seek certification (including paying applicable fees) from the affected State, Territory, or Tribe that the proposed permit will meet all applicable water quality standards.

However, this permit is being issued by EPA for discharge to outfalls located on SRPMIC tribal land. The SRPMIC do not yet have EPA approved water quality standards, so EPA using its best professional judgment is applying downstream State water quality standards as the applicable water quality standards. Therefore, EPA is both the permit issuing and certifying authority and will be deemed to have waived certification prior to the final issuance of the permit.

#### **XIV. PERMIT REOPENERS**

This permit may be modified per the provisions of 40 CFR Part 122.62 This permit may be re-opened based on newly available information; to add conditions, or limits to address demonstrated effluent toxicity; to implement any EPA-approved new Arizona water quality standard (as downstream State water quality standards); or to re-evaluate reasonable potential (RP), if Action Levels in this permit are exceeded.

#### **XV. STANDARD CONDITIONS**

Conditions applicable to all NPDES permits are included in accordance with 40 CFR, Part 122.

#### **XVI. ADMINISTRATIVE INFORMATION**

##### **Public Notice** (40 CFR Part 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit was public noticed in a local newspaper.

##### **Public Comment Period** (40 CFR Part 124.10)

Regulations require that NPDES permits be public noticed in a daily or weekly newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA responded to all significant comments at the time a final permit decision was reached and the final permit is issued.

#### **XV. ADDITIONAL INFORMATION**

Additional information relating to this permit may be obtained from:

USEPA Region IX  
Water Division- NPDES Permits Office  
Attn: Gary Sheth  
75 Hawthorne Street  
San Francisco, CA 94105

Or, by contacting Gary Sheth at (415) 972-3516

## **XVIII. INFORMATION SOURCES**

While developing effluent limitations, monitoring requirements and special conditions for the permit, the following information sources were used:

1. NPDES Permit Application Forms 1 and 2A, received October 20, 2011, along with supporting data, facility diagram and maps submitted by the applicant with the application forms.
2. List of Threatened and Endangered Species from USFWS Website at [www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm](http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm)
3. ADEQ files on Northwest Mesa Water Reclamation Plant and the permit and fact sheet for AZ0024031
4. Arizona WQS for Surface Waters, Title 18, Chapter 11, Article 1. March 2, 2002
5. Title 18, Chapter 9, Article. Arizona Pollutant Discharge Elimination System rules.
6. 40 CFR Parts 122, 124 and 133.
7. 40 CFR, Part 503, Sludge Regulations.
8. EPA TSD for Water Quality-based Toxics Control. March 1991.
9. U.S.G.S. National Mapping Information Website.
10. U.S. EPA NPDES Permit Writers' Manual, September 2010.