ADEQ Arizona Department of Environmental Quality

Clean Air, Safe Water
Healthy Land for Everyone

DRAFT FACT SHEET

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning the reissuance of the AZPDES permit listed below. This facility is a wastewater treatment plant (WWTP) with a design capacity of 0.7 million gallons per day (MGD) and is considered to be minor facility under the AZPDES program. The effluent limitations contained in this permit will maintain the Water Quality Standards listed in Arizona Administrative Code (A.A.C.) R18-11-101 *et seq*. This permit is proposed to be issued for a period of 5 years.

I. PERMITTEE INFORMATION	
Permittee's Name:	Town of Gila Bend
Permittee's Mailing Address:	644 W. Pima Street PO Box A Gila Bend, AZ 85337
Facility Name:	Town of Gila Bend WWTP
Facility Address or Location:	1650 W. Watermelon Road Gila Bend, AZ 85337
County:	Maricopa
Contact Person(s): Phone/e-mail address	Kevin Larson, Remote Operator (928) 683-2255 kevinlarson@live.com
AZPDES Permit Number:	AZ0020231
Inventory Number:	513130
LTF Number:	105301

II. STATUS OF PERMIT(s)	
AZPDES permit applied for:	Renewal
Date application received:	September 13, 2024
Date application was determined administratively complete:	September 17, 2024
Previous permit number (if different):	N/A
Previous permit expiration date:	March 25, 2025

208 Consistency:

In accordance with A.A.C. R18-9-A903(6), a permit cannot be issued for any discharge inconsistent with a plan or plan amendment approved under section 208(b) of the Clean Water Act.

Based on review of the application, there are no changes to the facility that require a new determination of consistency with the Regional Water Quality Management Plan.

Town of Gila Bend has the following permits issued by ADEQ applicable to the Town of Gila Bend WWTP:

Type of Permit		
Aquifer Protection Permit (APP)	P100576	Regulates discharges to the local aquifer

III. GENERAL FACILITY INFORMATION	
Type of Facility:	Publicly owned treatment works (POTW)
Facility Location Description:	The Town of Gila Bend WWTP is located in the NW ½ of NW ¼ of NW ¼ of section 26 Township 5 S, Range 5 W of the Gila and Salt River Baseline and Meridian in Maricopa County, Arizona. The WWTP is situated approximately 2 miles NW of downtown Gila Bend, approximately 0.9 miles West of the intersection between Gila Bend Blvd and Watermelon Rd.
Proximity to Tribal Nations	The Gila Bend Reservation is located approximately 2.3 miles North of the WWTP, and less than 1 mile north of the Gila River. The Tohono Indian Reservation is approximately 16 miles east of the WWTP, and less than 2 miles south of the Gila River.
Permitted Design Flow:	0.7 MGD
Treatment Level (WWTP):	Primary / Secondary
Treatment Processes:	The facility consists of four treatment lagoons, of which two are stabilization ponds that operate in series with two smaller settling ponds used as wetlands. The facility includes influent wastewater and bar screen, aerators, chlorination contact chamber (CCC) and dechlorination, along with a dumping area for sanitary toilet collections. Effluent undergoes chlorination and dechlorination before discharge to Outfall 001.
Sludge Handling and Disposal:	N/A. The facultative lagoon system does not generate biosolids
Nature of Facility Discharge:	Domestic wastewater from residential, commercial sources, and one industrial source.
Total Number of Significant Industrial Users (SIUs):	One (1) categorical SIU (Royal Paper) Royal Paper processes tissue paper from wood pulp, producing dry wood pulp as a byproduct to be discharged.
Average Flow Per Discharge:	0.190 MGD
Service Area:	Town of Gila Bend, Arizona

Service Population:	Approximately 2,000 people
Reuse / Irrigation or other disposal method(s):	N/A
Continuous or Intermittent Discharge:	Continuous

On February 28, 2023, the Town of Gila Bend reissued an Industrial Wastewater Discharge Permit #12-01 to Royal Paper LLC. (formerly Royal Paper Converting LLC) for the maximum discharge of 250,000 gallons per day (gpd) of treated industrial process wastewater into the Town of Gila Bend sewer system. This permit will expire on March 1, 2028. Royal Paper LLC is a categorical Significant Industrial User (SIU), which manufactures paper products such as napkins and toilet tissue from wood pulp-cellulose. Per A.A.C. R 18-9-B204(B)(6)(b)(i), the Town of Gila Bend is required to regulate industrial sources of influent to the sewage treatment facility, monitor for pollutants and enforce the limits to reduce, eliminate, or alter the nature of a pollutant before release into the Town of Gila Bend sewer system.

IV. RECEIVING WATER

The State of Arizona has adopted water quality standards to protect the designated uses of its 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.

Receiving Water (Federal):	The Water of the U.S. Protected Surface Water (WOTUS PSW) for the Town of Gila Bend WWTP is Unnamed Wash (EDW) from Gila Bend WWTP Outfall 001 to the confluence with the Gila River. This is a Protected Surface Water listed in A.A.C. R18-11 Appendix B.
River Basin:	Middle Gila River Basin
Outfall Location:	Outfall 001: Township 5S, Range 5W, Section 26 Latitude 32° 58’ 13” N, Longitude 112° 45’ 03” W
Designated uses for the receiving water listed above:	Aquatic and Wildlife effluent dependent water (A&Wedw) Partial Body Contact (PBC)
Is the receiving water on the 303(d) list?	No, and there are no TMDL issues associated.

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. There are two standards for the Aquatic and Wildlife uses, acute and chronic. In developing AZPDES permits, the standards for all applicable designated uses are compared and limits that will protect for all applicable designated uses are developed based on the standards.

V. DESCRIPTION OF DISCHARGE

Because the facility is in operation and discharges have occurred, effluent monitoring data are available. The following is the measured effluent quality reported in the application.

Parameters	**Units**	**Maximum Daily Discharge Concentration**
Biochemical Oxygen Demand (BOD)	mg/L	27

Total Suspended Solids (TSS)	mg/L	42
Total Kjeldahl Nitrogen (TKN)	mg/L	24.2
E. coli	cfu/100 mL	2,419 cfu
Facility Design Removal Rates:		BOD 65% TSS 65 %

VI. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT

Date of Most Recent Inspection:	09/06/2024; violations were noted as a result of this inspection.	
Discharge Monitoring Reports (DMR) Reviewed:	04/2020 through 01/2025	
Lab Reports Reviewed:	04/2020 through 01/2025	
DMR Exceedances:	**Parameter**	**DMR Reporting Month**
	5-day biochemical oxygen demand (BOD) 5-day (% removal) BOD	August 2021 and February 2023 August 2021, October 2021, March 2022, July 2022, and September 2024
	Ammonia Impact Ratio (AIR)	September 2020, October 2020, January 2021, February 2021, September 2021, March 2022, January 2023, October 2023, November 2023, December 2023, February 2024, March 2024, August 2024, September 2024, and January 2025
	Cyanide	January 2021 and January 2022
	Chromium VI (Dissolved)	January 2021
	Chromium (Total)	January 2021
	E. coli	August 2020, September 2020, October 2020, April 2021, February 2024, July 2024, and August 2024
	Hydrogen Sulfide	January 2021 and July 2021
	Iron	January 2021 and January 2022
	pH	June 2023
	Selenium	January 2020
	Sulfides	January 2021
	Total Suspended Solids (TSS)	March 2021, August 2021, May 2022, June 2022, July 2022, April 2023, June 2023, August 2023, and September 2024

	Total Suspended Solids (% removal)	August 2021, March 2022, June 2022, July 2022, January 2023, June 2023, August 2023, March 2024, and September 2024
	Total Residual Chloride (TRC)	April 2020, August 2020 and October 2020
	Whole Effluent Toxicity (WET) 7-Day Chronic *Pimephales promlas* and *Ceriodaphnia dubia*	January 2022
	No other exceedances were noted.	
Notice(s) of Violation (NOV) Issued:	08/05/2022 and 09/18/2024	
NOVs Closed:	9/19/2022 and 11/27/2024	
Formal Enforcement Action(s):	None	

VII. PROPOSED PERMIT CHANGES

The following table lists the major changes from the previous permit in this permit.

Parameter	**Existing Permit**	**Proposed Permit**	**Reason for Change**
Noncompliance Reporting Hotline	(602) 771-2330	Noncompliance resulting in imminent threat to human health or the environment must be reported to (602) 771-2330, while all other noncompliance must be reported to (602) 771-1440.	Routing emergency calls to the emergency hotline, but all other calls to a non-emergency number.
Reporting Location for Effluent Characterization Monitoring	Submit results through DMRs	Report results on the EC Monitoring Data Sheet Excel form provided by ADEQ and submit annually to azpdes_data@azdeq.gov by January 28th following each annual reporting period. See Part I.D.2 and Part II.B.3 of permit. Laboratory reports for EC monitoring shall be submitted through myDEQ with the last DMR of the calendar year. See Part II.B.3.b. of the permit.	ADEQ is implementing this new procedure to facilitate data analysis by ADEQ and reporting by permittees. Outcomes include expedited data processing and improved data quality review, per ADEQ Surface Water Protection Quality Assurance Program Plan (2022).

Sufficiently Sensitive Test Methods and Limit of Quantitation (LOQ) Reporting Requirements	Limited explanation of analytical requirements for LOQ.	Analytical test sensitivity requirements are specified in the footnotes of Part I Tables 1-4 of the permit and associated definitions in Appendix A. Part B. The requirement to use sufficiently sensitive test methods is specified in Part II.A.5.	The Limit of Quantitation (LOQ) must be low enough to allow comparison of the results to the applicable water quality standards (WQS) to be protective of the receiving water designated uses. New language clarifies the requirement that parameters must be analyzed using sufficiently sensitive test methods in accordance with 40 CFR 136.1(c).
Pretreatment Conditions and Process Wastewater Characterization of Royal Paper LLC (formerly Doubletree Paper LLC)	Pretreatment Conditions specified in Special Conditions Part V. B. Process Wastewater Characterization Testing for the Doubletree Paper LLC listed in Table 5 Part I. E.	Pretreatment Conditions and Process Wastewater Characterization Testing requirements removed.	ADEQ has updated the pretreatment conditions for consistency with 40 CFR 403 and the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule.
Use of Metal Translators to Calculate Total Recoverable Permit Limits from Dissolved Criteria (Applicable to Cadmium, Chromium VI, Copper, Lead, Mercury, Nickel, Silver, and Zinc).	No metal translators were used. Assumed the ratio of dissolved to total recoverable is 1 to 1 for all metals with water quality criteria expressed as dissolved.	WQBELs and ALs were converted from dissolved to total recoverable using the process from the EPA's *The Metals Translator: Guidance for Calculating A Total Recoverable Permit Limit from A Dissolved Criterion.*	New procedure for ADEQ to incorporate default metal translators when calculating total recoverable WQBELs and ALs from dissolved criteria.
Whole Effluent Toxicity Data Evaluation and Reporting	Calculation of the no observed effect concentration (NOEC) and the 25% inhibition effect concentration (IC25). Report results on the DMR as Pass (0)/Fail (1) for acute tests and 100/NOEC result in toxicity units (TUc) for chronic tests. An exceedance was any one test result greater than 1.6 TUc or any calculated monthly median value greater than 1.0 TUc or a Fail.	Pass and Fail results are declared by comparing percent effect (PE) to the regulatory management decision (RMD) threshold established for the test. For acute tests, report results as Pass (0)/Fail (1) on the DMR. For chronic tests, report Pass (0)/Fail (1) and report the PE on the DMR.	The permit requirements are established in accordance with the Test for Significant Toxicity (TST) statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA-833-R-10-003, 2010) and National Pollutant Discharge Elimination

			System Test of Significant Toxicity Technical Document (EPA-833-R-10-004, 2010). This change is intended to decrease the occurrence of false positive and false negative results.
WET tests with a result of Fail	WET lab reports and any required additional attachments shall be submitted to ADEQ using the myDEQ electronic portal by the 28th day of the month following the end of the WET monitoring period, or upon request.	Certified laboratory reports with a Fail test result for either an Action Level or Limit shall be emailed to AZPDES@azdeq.gov within five days of receipt.	The updated submittal method of a WET test Failure ensures prompt initiation of the required accelerated monitoring.
TRE Work Plan	TRE plan developed following detection of effluent toxicity	TRE Work Plan submitted to AZPDES@azdeq.gov within 90 days of permit effective date. This is required for all permittees regardless of whether effluent toxicity has been detected or not. Use the template supplied by ADEQ (See Part IV of the permit)	Preparation of a Toxicity Reduction Evaluation (TRE) Work Plan allows a timely response when the TRE requirements are triggered. A TRE Work Plan ensures that the permittee understands the expectations prior to detection of toxicity and can respond in a timely manner to protect A&W designated uses.
Mercury	Assessment level	Limited	Reasonable potential (RP) exists for excursion of a water quality standard.
Silver	Limited	Limit Removed: Monitoring required for effluent characterization	No RP for an excursion of a water quality standard.
Zinc	Effluent Characterization	Limited	RP exists for an excursion of a water quality standard.
Whole Effluent Toxicity (WET) testing: *Pimephales promlas* (fathead minnow) and *Ceriodaphnia dubia* (Water Flea)	Action Level	Limited	Exists due to WET Test Failure

Anti-backsliding considerations — "Anti-backsliding" refers to statutory (Section 402(o) of the Clean Water Act) and regulatory (40 CFR 122.44(l)) requirements that prohibit the renewal, reissuance, or modification of an existing NPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the previous permit. The rules and statutes do identify exceptions to these circumstances where backsliding is acceptable. This permit has been reviewed and drafted with consideration of anti-backsliding concerns.

Limits for the following parameter have been removed from the permit because evaluation of current data allows the conclusion that no reasonable potential (RP) for an exceedance of a standard exists:

• Silver (Outfall 001)

This is considered allowable backsliding under 303(d)(4). The effluent limitations in the current permit for this parameter were based on state standards, the respective receiving waters are in attainment for these parameters, and the revisions are consistent with antidegradation requirements. See Section XII for information regarding antidegradation requirements.

Limits are retained in the permit for parameters where reasonable potential (RP) for an exceedance of a standard continues to exist or is indeterminate. In these cases, limits will be recalculated using the most current Arizona Water Quality Standards (WQS). If less stringent limits result due to a change in the WQS then backsliding is allowed in accordance with 303(d)(4) if the new limits are consistent with antidegradation requirements and the receiving water is in attainment of the new standard; see Section XII for information regarding antidegradation requirements.

No limits are less stringent due to a change in the WQS in this permit.

VIII. DETERMINATION OF EFFLUENT LIMITATIONS and ASSESSMENT LEVELS

When determining what parameters need monitoring and/or limits included in the 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 POTWs achieve specified treatment standards for BOD, TSS, and pH based on the type of treatment technology available. Therefore, technology-based effluent limitations (TBELs) have been established in the permit for these parameters. Additionally, oil & grease will be monitored with a TBEL based on best professional judgment (BPJ). The average monthly limit of 10 mg/L and daily maximum of 15 mg/L are commonly accepted values that can be achieved by properly operated and maintained WWTPs. This level is also considered protective of the narrative standard at A.A.C. R18-11-108(B).

Water Quality-Based Effluent Limitations:

Per 40 CFR 122.44(d)(1)(ii), (iii) and (iv), discharge limits must be 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. Numeric water quality standards are outlined in A.A.C. R18-11-109 and Appendix A. RP refers to an analysis, based on the statistical calculations using the data submitted or consideration of other factors, to determine whether the discharge may exceed the Water Quality Standards. The procedures used to determine RP are outlined in the *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001). In most cases, the highest reported value for a parameter is multiplied by a factor (determined from the variability of the data and number of samples) to determine a "highest estimated value." This value is then compared to the lowest applicable Water Quality Standard for the receiving water. If the value is greater than the standard, RP exists and a water quality-based effluent limitation (WQBEL) is required in the permit for that parameter. RP may also be determined from BPJ based on knowledge of the treatment facilities and other factors. The basis for the RP determination for each parameter with a WQBEL is shown in the table below.

Ammonia water quality criteria vary based on the effluent pH and temperature at the time of effluent sampling. As a result, no single ammonia concentration can be included as a permit limit. To overcome this, an Ammonia Impact Ratio

(AIR) of 1 for the monthly average and a value of 2 for the maximum daily limits has been established as the permit limits for ammonia. The AIR is calculated by dividing the ammonia concentration in the effluent by the applicable ammonia standard based on the effluent pH and temperature at the time of sampling. AIR values will be reported on DMRs and on the Ammonia Data Log which is included as Appendix B in the permit.

It is assumed that RP exists for exceedance of water quality criteria for the pollutants *E. coli* and, if chlorine or bromine is used in the treatment process, total residual chlorine (TRC). These parameters have been shown through extensive monitoring of WWTPs to fluctuate greatly and thus are not conducive to exclusion from limitation due to a lack of RP. Therefore, the permit contains WQBELs for *E. coli* and TRC.

The proposed permit limits were established using a methodology developed by EPA. 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 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 *TSD*. Limits based on A&W criteria were developed using the "two-value steady state wasteload allocation" described on page 99 of the *TSD*. When the limit is based on human health criteria, the monthly average was set at the level of the applicable standard and a daily maximum limit was determined as specified in Sections 5.4.4 and 5.5.3 of the *TSD*.

Mixing Zone

Arizona water quality rules require that water quality standards be achieved without mixing zones unless the permittee applies and is approved for a mixing zone. Since the receiving stream for this discharge is ephemeral prior to the discharge, no water is available for a mixing zone and all water quality criteria are applied at end-of pipe. This means that the effluent concentration must meet stream standards.

Assessment Levels (ALs)

There are no ALs listed in Part I.B of the permit. An AL differs from a discharge limit in that an exceedance of an AL is not a permit violation. Instead, ALs serve as triggers, alerting the permitting authority when there is cause for re-evaluation of RP for exceeding a water quality standard, which may result in new permit limitations. The AL numeric values also serve to advise the permittee of the analytical sensitivity needed for meaningful data collection. Trace substance monitoring is required when there is uncertain RP (based on non-detect values or limited datasets) or a need to collect additional data or monitor treatment efficacy on some minimal basis. A reopener clause is included in the permit should future monitoring data indicate water quality standards are being exceeded.

The following trace substances were not included as limits or assessment levels in the permit due to a lack of RP based on best professional judgment (BPJ): manganese. The numeric standards for this pollutant are well above what would be expected from a WWTP discharge.

Hardness

The permittee is required to sample hardness as $CaCO_3$ at the same time the trace metals are sampled because the water quality standards for some metals are calculated using the water hardness values. The hardness value of 214 mg/L (the average hardness of the effluent as supplied in the application) was used to calculate the applicable water quality standards and any assessment levels or limits for the hardness dependent metals (cadmium, chromium III, copper, lead, nickel, silver and zinc).

Whole Effluent Toxicity (WET)

WET testing is required in the permit (Parts I.C and IV) to evaluate the discharge according to the narrative toxic standard in A.A.C. R18-11-108(A)(5), as well as whether the discharge has RP for WET per 40 CFR 122.44(d)(iv).

WET testing for chronic toxicity is required. Completion of the chronic WET tests for *Ceriodaphnia dubia and Pimephales promelas* require the collection of three samples, preferably on days 1, 3, and 5 for daily solution renewal over seven consecutive calendar days during a monitoring period.

WET testing for chronic toxicity shall be conducted using the following three surrogate species:

- *Ceriodaphnia dubia* (water flea) – for evaluating toxicity to invertebrates
- *Pimephales promelas* (fathead minnow) – for evaluating toxicity to vertebrates
- *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum or Raphidocelis subcapitata)* (a green alga) – for evaluating toxicity to plant life

ADEQ requires the permittee to analyze WET test data using the Test of Significant Toxicity (TST) statistical approach. This statistical approach is described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010; TST Implementation Document) and *National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document* (EPA 833-R-10-004, 2010; TST Technical Document). This statistical approach supports important choices made within a toxicity laboratory which favor quality data and ADEQ's intended levels for statistical power when true toxicity is statistically determined to be unacceptably high or acceptably low. For both acute and chronic WET test methods, the low-risk Regulatory Management Decision (RMD) threshold is set at a 10 percent mean effect at the Instream-Waste Concentration (IWC). For mean effect levels greater than 10 percent but less than the unacceptable toxicity RMD threshold (20 percent for acute and 25 percent for chronic WET tests), the TST approach will declare the IWC non-toxic depending on within-test variability. The TST maintains ADEQ's desired low false positive rate for WET methods—the probability of declaring toxicity when true toxicity is acceptably low ≤ 5%—when quality toxicity laboratories conduct toxicity tests (EPA 833-R-10-004, 2010).

ADEQ analyzed the available data and determined that the discharge does have reasonable potential (RP) for unacceptable levels of toxicity to *Pseudokirchneriella subcapitata* but does have RP for unacceptable levels of toxicity to *Pimephales promelas* and *Ceriodaphnia dubia*. This is because no toxicity test result for *Pseudokirchneriella subcapitata* is Fail (1) and no associated PE (Percent Effect) value is ≥ 10 (see Table 1 of this fact sheet and section 1.4 and Appendix E in TST Technical Document). However, at least one toxicity test result for *Pimephales promelas* and *Ceriodaphnia dubia* is Fail (1) or at least one associated PE value is ≥ 10 indicating unacceptable toxicity is present in the effluent. Therefore, a WQBEL(s) are set for WET monitoring and reporting for *Pimephales promelas* and *Ceriodaphnia dubia* (see Part I.C of the permit). ADEQ has retained the requirement to monitor and report toxicity with action levels, so that effluent toxicity can be assessed in relation to CWA requirements for the permitted discharge (see Part I.C of permit).

Any failed test during a monitoring period where discharge occurred will trigger follow-up testing to determine if effluent toxicity is persistent. If toxicity above a limit or action level is found in a follow-up test, the permittee will be required to conduct a Toxicity Reduction Evaluation (TRE) based on a TRE Work Plan submitted within 90 days of the permit effective date and possibly a Toxicity Identification Evaluation (TIE) to identify the source of toxicity and decrease toxicity. The conditions described in this paragraph are required to identify and rectify sources of toxicity in discharges [A.A.C. R18-11-108(A)(5)]. A reopener clause is included in accordance with 40 CFR Parts 122 and 124 and AAC R18-9-B906.

The permit requires 8-hour composite samples be collected for WET testing. An 8-hour composite sample type was chosen over the suggested 24-hour composite for WET testing in order to have consistency with the type of sample required for other parameters requiring monitoring in this permit. WET sampling must coincide with testing for all the parameters in Parts I.A and B of the permit when testing of those parameters is required to aid in determining the cause of toxicity if it is detected. Additional procedural requirements for the WET test are included in the permit.

The required WET monitoring frequency for this facility is consistent with the WET testing frequency required for facilities with a similar design flow. The permit requires WET test results to be reported on discharge monitoring reports (DMRs). WET laboratory reports for all WET tests performed must be attached to the corresponding DMR. When a WET limit is exceeded and the facility discharged during the monitoring period when the limit exceedance occurred, the result is subject to the Twenty-four hour Reporting of Noncompliance requirements, per Part II.C. All action level and limit exceedance results and lab reports shall be emailed to AZPDES@azdeq.gov within five days.

Effluent Characterization (EC)

In addition to monitoring for parameters assigned either a limit or an AL, sampling is required to assess the presence of pollutants in the discharge at certain minimum frequencies for additional suites of parameters, whether the facility is discharging or not. This monitoring is specified in Tables 3.a. through 3.e., *Effluent Characterization Testing,* as follows:

• Table 4.a. — General Chemistry and Microbiology: ammonia, BOD-5, *E. coli*, total residual chlorine (TRC), dissolved oxygen, total Kjeldahl nitrogen (TKN), nitrate/nitrite, oil and grease, pH, phosphorus, temperature, total dissolved solids (TDS), and total suspended solids (TSS)

• Table 4.b. — Selected Metals, Hardness, Cyanide, and WET

• Table 4.c. — Selected Volatile Organic Compounds

• Table 4.d. — Selected Acid-Extractable Compounds

• Table 4.e. — Selected Base-Neutral Compounds

NOTE: Some parameters listed in Tables 3.a. and 3.b. are also listed in Table 1. In this case, the data from monitoring under Table 1 may be used to satisfy the requirements of Tables 3.a. and / or 3.b., provided the specified sample types are the same. In the event the facility does not discharge to a Protected Surface Water during the life of the permit, EC monitoring of representative samples of the effluent is still required.

The purpose of EC monitoring is to characterize the effluent and determine if the parameters of concern are present in the discharge and at what levels. This monitoring will be used to assess RP per 40 CFR 122.44(d)(1)(iii)). EC monitoring is required in accordance with 40 CFR 122.43(a), 40 CFR 122.44(i), and 40 CFR 122.48(b) as well as A.R.S. §49-203(A)(7). If pollutants are noted at levels of concern during the permit term, this permit may also be reopened to add related limits or conditions.

Permit Limitations and Monitoring Requirements

Table 1 summarizes the parameters that are limited in the permit and the rationale for that decision. Also included are the parameters that require monitoring without any limitations or that have not been included in the permit at all and the basis for those decisions. The corresponding monitoring requirements are shown for each parameter. In general, the regulatory basis for monitoring requirements is per 40 CFR §122.44(i) *Monitoring requirements,* and 40 CFR §122.48(b), *Required monitoring*; all of which have been adopted by reference in A.A.C. R18-9-A905, *AZPDES Program Standards*.

Table 1. Permit limitations and monitoring requirements.

Parameter	Lowest Standard/Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/Rationale (1)
Flow	- - -	- - -	- - -	- - -	- - -	Discharge flow is to be monitored on a continual basis using a flow meter.
Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) (2)	45 mg/L 30-day average 65 mg/L 7-day average Technology-based limits 40 CFR 133.105	BOD: 27 mg/L TSS: 42 mg/L	BOD: 9 TSS: 9	N/A	TBELs for BOD and TSS are always applicable to WWTPs.	Monitoring for influent and effluent BOD and TSS to be conducted 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 65% removal requirement in this permit. At least one sample must coincide with WET testing to aid in the determination of the cause of toxicity, if toxicity is detected.
Chlorine, Total Residual (TRC)	11 µg/L A&Wedw chronic	7,580 µg/L	218	9,760 µg/L	RP Exists	TRC is to be monitored as a discrete sample and a WQBEL remains in the permit. 40 CFR Part 136 specifies that discrete samples must be collected for chlorine. At least one sample per month must coincide with WET testing to aid in the determination of the cause of toxicity, if toxicity is detected.
E. coli	30-day geometric mean: 126 cfu /100 mL (4 sample minimum) Single sample maximum: 575 cfu /100 mL/ PBC	2,419 cfu/100 mL	32	N/A	RP always expected for WWTPs. See explanation above.	*E. coli* is to be monitored as a discrete sample and a WQBEL remains in the permit.
pH (2)	Minimum: 6.5 Maximum: 9.0 A&Wedw and PBC A.A.C. R18-11-109(B) Minimum: 6.0 Maximum: 9.0 Technology-based limits 40 CFR 133.102	7.5	232	N/A	WQBEL or TBEL is always applicable to WWTPs.	pH is to be monitored using a discrete sample of the effluent and a WQBEL remains in the permit. 40 CFR Part 136 specifies that grab samples must be collected for pH. At least one sample 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 (2).
Temperature	R18-11-109C the discharge shall not cause an increase in the ambient water temperature. A&Wedw: no more than 3.0°C	19ºC	233	N/A	N/A	Effluent temperature is to be monitored for effluent characterization by discrete sample. 40 CFR Part 136 specifies that discrete samples must be collected for temperature. Temperature sampling must also coincide with ammonia sampling when required (2).

Table 1. Permit limitations and monitoring requirements.

Parameter	Lowest Standard/Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/Rationale (1)
Total Dissolved Solids (TDS)	No applicable standard	4,400 mg/L	18	N/A	N/A	Effluent TDS is to be monitored for effluent characterization using composite samples. At least one sample must coincide with WET testing to aid in the determination of the cause of toxicity, if toxicity is detected.
Ammonia	Standard varies with temperature and pH	27.8 mg/L (> WQS)	67	67.4	RP Indeterminate	Ammonia is to be monitored by discrete sample and a WQBEL in the form of an ammonia impact ratio (AIR) of 1 is set in the permit (2). An ammonia data log with concurrent pH and temperature monitoring is also required. One sample must coincide with WET sampling to aid in the determination of the cause of toxicity, if toxicity is detected.
Nutrients (Total Nitrogen and Total Phosphorus)	No applicable standards	N/A	N/A	N/A	N/A	Monitoring required for effluent characterization.
Oil & Grease	BPJ Technology-Based Level of 10 mg/L monthly average and 15 mg/L daily maximum	4.5	6	N/A	RP Indeterminate	Monitoring required and TBEL remains in the permit.
Antimony	600 µg/L A&Wedw chronic	1.3 µg/L	4	6 µg/L	No RP	Monitoring required for effluent characterization.
Arsenic	150 µg/L A&Wedw chronic	13 µg/L	4	62 µg/L	No RP	Monitoring required for effluent characterization.
Beryllium	5.3 µg/L A&Wedw chronic	<2 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.
Cadmium (4)	3.9 µg/L A&Wedw chronic	<0.2 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.
Chromium (Total)	No applicable standard.	25 µg/L	8	83 µg/L	No RP	Monitoring required as an indicator parameter for Chromium VI.
Chromium VI	11 µg/L A&Wedw chronic	<15 µg/L	8	N/A	RP Indeterminate (High LOQ)	Monitoring required and an WQBEL remains in the permit.
Copper (4)	17 µg/L A&Wedw chronic	50 µg/L	8	170 µg/L	RP Exists	Monitoring is required and a WQBEL remains in the permit.
Cyanide	9.7 µg/L A&Wedw chronic	12 µg/L	16	30 µg/L	RP Exists	Monitoring is required and a WQBEL remains in the permit.
Hardness	No applicable standard. Hardness is used to determine standards for specific metal parameters.	214 mg/L	16	N/A	N/A	A&W standards for cadmium, chromium III, copper, lead, nickel, silver and zinc used for RP determinations were based on the average effluent hardness value of 214 mg/L. Monitoring for hardness is required whenever monitoring for hardness dependent metals is required.
Hydrogen sulfide	2 µg/L A&Wedw chronic	<40 µg/L	8 (5)	70 µg/L	RP Exists	Monitoring is required for sulfides as an indicator parameter for hydrogen sulfide, and a WQBEL remains in the permit.

Table 1. Permit limitations and monitoring requirements.

Parameter	Lowest Standard/Designated Use		Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/Rationale (1)
Iron	1,000 ug/L A&Wedw chronic		930 µg/L	8	3,000 µg/L	RP Exists	Monitoring required and a WQBEL remains in the permit.
Lead (4)	5.7 µg/L A&Wedw chronic		<2 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.
Mercury	0.01 µg/L A&Wedw chronic		<0.2 µg/L	9	0.32 µg/L	RP Exists	Monitoring required and a WQBEL is set.
Nickel (4)	99 µg/L A&Wedw chronic		<20 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.
Selenium	2 µg/L A&Wedw chronic		<5 µg/L	8	3 µg/L	RP Exists	Monitoring required and a WQBEL remains in the permit.
Silver (4)	12 µg/L A&Wedw acute		<0.5 µg/L	8	0.83 µg/L	No RP	Monitoring required for effluent characterization.
Sulfides	No applicable standard		<400 µg/L	16	N/A	N/A	Indicator parameter for hydrogen sulfide. Monitoring required. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.
Thallium	75 µg/L PBC		<1 µg/L	4	N/A	No RP	Monitoring required for effluent characterization.
Zinc (4)	223 µg/L A&Wedw chronic		210 µg/L	8	699 µg/L	RP Exists	Monitoring required and a WQBEL is set.
Whole Effluent Toxicity (WET)	No toxicity (A.A.C. R18-11-108(A) (6)	*Pseudo-kirchneriella subcapitata (6)*	Pass (0) PE= -7.2%	3	N/A	RP Indeterminate (3)	Monitoring required for Action Level.
		Pimephales promelas	Fail (1) PE= 24.6%	3	N/A	RP Exists	Monitoring required and a WQBEL is set.
		Ceriodaphnia dubia	Fail (1) PE= 96.9%	3	N/A	RP Exists	Monitoring required and a WQBEL is set.

Footnotes:

1. The monitoring frequencies are as specified in the permit.
2. An AIR will be calculated by dividing effluent ammonia concentration by the applicable standard using the receiving water pH and temperature.
3. Monitoring with ALs or Action Levels always required for WWTPs for these parameters unless RP exists and limits are set.
4. Hardness-dependent metal - the standard for this parameter is based on the average hardness value of the effluent or receiving water as indicated above.
5. The limit of quantitation (LOQ) exceeded the lowest applicable WQS for the receiving water designated uses.
6. Formerly known as *Selenastrum capricornutum or Raphidocelis subcapitata.*

VIII. NARRATIVE WATER QUALITY STANDARDS

All narrative limitations in A.A.C. R18-11-108 that are applicable to the receiving water are included in Part I, Section E of the permit.

IX. MONITORING AND REPORTING REQUIREMENTS (Part II of Permit)

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. Monitoring frequencies for some parameters may be reduced in subsequent permits if all monitoring requirements have been met and the limits or ALs for those parameters have not been exceeded during the first permit term.

For the purposes of this permit, an "8-hour composite" sample has been defined as a flow-proportioned mixture of two or more discrete samples (aliquots) obtained at equal time intervals over an 8-hour period (if only two samples are collected, they should be taken approximately 8 hours apart). The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling.

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.

Discrete (i.e., grab) samples are specified in the permit for parameters that for varying reasons are not amenable to compositing.

Monitoring locations are specified in the permit (Part I.A) in order to ensure that representative samples of the influent and effluent are consistently obtained.

The requirements in the permit pertaining to Part II, Monitoring and Reporting, are included to ensure that the monitoring data submitted under this permit is accurate in accordance with 40 CFR 122.41(j). The permittee has the responsibility to determine that all data collected for purposes of this permit meet the requirements specified in this permit and is collected, analyzed, and properly reported to ADEQ.

The permit (Part II.A.3) requires the permittee to keep a Quality Assurance (QA) manual at the facility, describing sample collection and analysis processes; the required elements of the QA manual are outlined.

Reporting requirements for monitoring results are detailed in Part II, Section B of the permit, including completion and submittal of Discharge Monitoring Reports (DMRs), Ammonia Data Logs, and AZPDES Discharge Flow Record Forms.

Electronic reporting

The US EPA has published a final regulation that requires electronic reporting and sharing of Clean Water Act National Pollutant Discharge Elimination System (NPDES) program information instead of the current paper-based reporting (Federal Register, Vol. 80, No. 204, October 22, 2015). Beginning December 21, 2016 (one year after the effective date of the regulation), the Federal rule required permittees to make electronic submittals of any monitoring reports and forms called for in their permits. ADEQ has created an online portal called myDEQ that allows users to submit their discharge monitoring reports and other applicable reports required in the permit.

The permit also requires annual submittal of an Ammonia Data Log that records the results for temperature, pH, and ammonia samples and date of sampling (Part II.B.5). Because the ammonia standards in 18 A.A.C. 11, Article 1, Appendix A are contingent upon the pH and temperature at the time of sampling for ammonia, the permittee must

determine the applicable ammonia standard using the ammonia criteria table(s) and calculate the Ammonia Impact Ratio for that ammonia sample result. The AIR is recorded on the DMR.

Requirements for retention of monitoring records are detailed in Part II.D.1 of the permit.

X. BIOSOLIDS REQUIREMENTS (Part III in Permit)

NOT APPLICABLE

XI. SPECIAL CONDITIONS (Part V in Permit)

Operation

This permit condition requires the permittee to ensure that the WWTP has an operator who is certified at the appropriate level for the facility, in accordance with A.A.C. R18-5-104 through -114. The required certification level for the WWTP operator is based on the class (Wastewater Treatment Plant) and grade of the facility, which is determined by population served, level of treatment, and other factors.

Permit Reopener

This permit may be modified 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; or to re-evaluate reasonable potential (RP), if assessment levels in this permit are exceeded [A.A.C. R18-9-B906 and 40 CFR Part 122.62 (a) and (b)].

XII. ANTIDEGRADATION

Antidegradation rules have been established under A.A.C. R18-11-107 to ensure that existing surface water quality is maintained and protected. The discharge from the Gila Bend WWTP will be to an effluent-dependent water. Except for flows resulting from rain events, the only water in the wash will be the effluent. Therefore, the discharge and the receiving water will normally be one and the same. Effluent quality limitations and monitoring requirements have been established under the proposed permit to ensure that the discharge will meet the applicable water quality standards. As long as the permittee maintains consistent compliance with these provisions, the designated uses of the receiving water will be presumed protected, and the facility will be deemed to meet currently applicable antidegradation requirements under A.A.C. R18-11-107.

XIII. STANDARD CONDITIONS

Conditions applicable to all NPDES permits in accordance with 40 CFR, Part 122 are attached as an appendix to this permit.

XIV. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-A907)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft AZPDES permit or other significant action with respect to an AZPDES 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 will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

Public Comment Period (A.A.C. R18-9-A908)

Rules require that permits be public noticed in a 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 ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C R18-9-A908(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

EPA Review (A.A.C. R18-9-A908(C))

A copy of this permit and any revisions made to this draft as a result of public comments received will be sent to EPA Region 9 for review. If EPA objects to a provision of the draft, ADEQ will not issue the permit until the objection is resolved.

XV. ADDITIONAL INFORMATION

Additional information relating to this proposed permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division – Surface Water Permits Unit
Attn: Juliana Lewis
400 W. Congress St., Ste.433
Tucson, AZ 85701

Or by contacting Juliana Lewis at (520) 628 – 6715 or by e-mail at lewis.juliana@azdeq.gov.

XVI. INFORMATION SOURCES

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

1. AZPDES Permit Application Form(s) 2A/2S received September 13, 2024, along with supporting data, facility diagram, and maps submitted by the applicant with the application forms.
2. Supplemental information to the application received by ADEQ on February 28, 2025.
3. ADEQ files on Gila Bend WWTP.
4. ADEQ Geographic Information System (GIS) Website
5. Information provided to ADEQ staff during a site visit to the future facility location on March 26, 2013.
6. Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters,* adopted December 31, 2016.

7. A.A.C. Title 18, Chapter 9, Article 9. *Arizona Pollutant Discharge Elimination System* rules.

8. Code of Federal Regulations (CFR) Title 40:

   Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System.*

   Part 124, *Procedures for Decision Making*.

   Part 133. *Secondary Treatment Regulation.*

   Part 503. *Standards for the Use or Disposal of Sewage Sludge*.

9. EPA Technical Support Document for Water Quality-based Toxics Control (EPA-505-2-90-001, 1991).

10. U.S. EPA NPDES Permit Writers' Manual, September 2010.

11. The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion, US EPA (EPA-823-B-96-007, 1996).

12. National Pollutant Discharge Elimination System Whole Effluent Toxicity Permit Writers' Manual, U.S. EPA (EPA-833-B-24-001).

13. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA-821-R-02-012, 2002).

14. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, 2002).

15. National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document, U.S. EPA (EPA-833-R-10-003, 2010).

16. *Method Guidance and recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)* (EPA-821-B-00-004, 2000).

17. National Pollutant Discharge Elimination System Test of Significant Toxicity Technical Document, U.S. EPA (EPA-833-R-10-004, 2010).