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 0.6 million gallons per day (MGD) and is considered to be a 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:	Pinewood Sanitary District
Permittee's Mailing Address:	P.O. Box 18758 Munds Park, Arizona 86017
Facility Name:	Kay S. Blackman Wastewater Treatment Plant
Facility Address or Location:	18075 Fairway Drive Munds Park, AZ 86017
County:	Coconino
Contact Person(s): Phone/e-mail address	David Richardson (District Manager) 928-606-2872 / dave@pinewoodsanitary.com
AZPDES Permit Number:	AZ0025879
Inventory Number:	102887
LTF Number:	111053

II. STATUS OF PERMIT(s)	
AZPDES permit applied for:	Renewal
Date application received:	09/09/2025
Date application was determined administratively complete:	09/19/2025
Previous permit number (if different):	N/A
Previous permit expiration date:	March 08, 2026

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.

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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.		
Pinewood Sanitary District has the following permits issued by ADEQ applicable to the Kay S. Blackman WWTP:		
Type of Permit		
Aquifer Protection Permit (APP)	P-102887	Regulates discharges to the local aquifer
Reuse Permit	R-90491 R-104146	Regulates the practice of reusing treated wastewater for beneficial purposes

III. GENERAL FACILITY INFORMATION	
Type of Facility:	Privately owned wastewater treatment plant (WWTP)
Facility Location Description:	The facility is located along the east side of I-17 approximately 20 miles south of Flagstaff.
Proximity to Tribal Nations:	Kay S. Blackman WWTP is located approximately 20 miles downstream southwest of Hopi Trust Land, and approximately 27 miles southwest from the Navajo Nation.
Permitted Design Flow:	0.6 MGD
Treatment Level (WWTP):	Tertiary
Treatment Processes:	The treatment process consists of screen augers; a flow equalization basin; a flow splitter box; two anoxic tanks; four parallel aeration basins (each with three compartments for biological nitrogen reduction) with diffused air supplied by four mechanical blowers; two clarifier basins; two traveling bridge filters; chlorine gas injection and a chlorine contact basin for disinfection; sulfur dioxide injection for dechlorination; and ChargePac injection for phosphorus removal.
Sludge Handling and Disposal:	Sludge is dewatered using a belt press and hauled off-site for disposal at an approved landfill, in Joseph City, AZ.
Nature of Facility Discharge:	Domestic wastewater from residential and commercial sources in Munds Park. Occasionally, the Facility may receive flows from Munds RV Park.
Total Number of Significant Industrial Users (SIUs):	N/A
Average Flow Per Discharge:	0.216 MGD
Service Area:	Munds Park
Service Population:	Summer: 7,500 Winter: 1,600
Reuse / Irrigation or other disposal method(s):	Treated effluent from the Kay S. Blackman WWTP is reused seasonally as irrigation on the Pinewood Country Club.

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Continuous or Intermittent Discharge:	Intermittent
Discharge Pattern Summary:	Winter months (November 16 to April 14) – continuous discharge approximately 150 days per year. Summer months (April 15 to November 15) – discharge only allowed if the freeboard in the storage ponds fall below three (3) feet, such as during storm events.

Additional Facility Information:

Pinewood Sanitary District entered into a Consent Judgment with ADEQ (CV2024-027256) for collection system failures and bypasses that impacted Munds Creek. That Consent Judgement was effective on October 10, 2024. ADEQ determined the two Surface Water Notices of Violations (#218630 and #210104) would be closed, as outstanding compliance conditions were also contained within the Consent Judgment.

The facility has one open Notice of Violation (#217027) with a compliance condition for the development of a long-term total phosphorus exceedance prevention plan. On March 11, 2025, ADEQ determined that Pinewood WWTP is addressing ongoing collection system and any future exceedances are addressed through terms of the Consent Judgement.

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 Kay S. Blackman WWTP Outfall 001 is Munds Creek, which is a surface water that is not listed in A.A.C. R18-11 Appendix B, but is a tributary to Oak Creek, an Outstanding Arizona Water (OAW), which is a surface water listed in A.A.C. R18-11 Appendix B.
River Basin:	Verde River
Outfall Location(s):	Outfall 001: Township 18 N, Range 7 E, Section 22 Latitude 34º 56’ 06” N , Longitude 111º 38’ 53” W
Designated uses for the receiving water listed above:	The receiving water is not listed in A.A.C. R18-11 Appendix B. However, Munds Creek is a tributary to Oak Creek (below the confluence with unnamed tributary to confluence with Verde River). Therefore, the following designated uses will be applied to the receiving water according to A.A.C. R18-11-105: Aquatic and Wildlife warm water (A&Wc) Full Body Contact (FBC) Fish Consumption (FC) Agricultural Livestock watering (AgL) Domestic Water Supply (DWS)

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Designated uses for downstream receiving water:	Downstream Designated Uses (DUs) are applied in the permit to provide for the attainment and maintenance of the surface water quality standards (SWQS) of downstream surface waters in accordance with A.A.C. R18-11-104(F). The downstream surface water from Munds Creek listed above is Oak Creek (below confluence with unnamed tributary to confluence with Verde River). This is a surface water listed in A.A.C. R18-11 Appendix B and in R18-11-112 as an Outstanding Arizona Water (OAW), with the following DUs: Aquatic and Wildlife warm water (A&Ww) Full Body Contact (FBC) Fish Consumption (FC) Agricultural Irrigation (AgI) Agricultural Livestock water (AgL) Domestic Water Supply (DWS) Therefore, the DUs applied in the proposed permit will be a combination of the Munds Creek and the Oak Creek DUs. Where criteria differ, the more stringent DUs will be applied in accordance with A.A.C. R18-11-104(D). The resulting designated uses are: Aquatic and Wildlife cold water (A&Wc) Full Body Contact (FBC) Fish Consumption (FC) Agricultural Irrigation (AgI) Agricultural Livestock water (AgL) Domestic Water Supply (DWS)
Is the receiving water on the 303(d) list?	Yes, the receiving water is listed on the 303(d) list as impaired for *E. coli*. A Total Maximum Daily Load (TMDL) was approved in August 2010. The wasteload allocation (WLA) for the Kay S. Blackman WWTP was calculated using the permit limits based on the FBC designated use of 235 cfu/100 mL. A TMDL was completed in June 1999 for phosphorus and nitrogen. The total allowable Munds Creek nutrient load (at the confluence of Oak Creek) under the TMDL from the combined point and non-point sources is 51.61 kg/day Total N and 7.75 kg/day Total P. The Kay S. Blackman WWTP is the only point source discharge from Munds Creek to Oak Creek. Under this TMDL, the point source WLAs set in 1999 for this WWTP was 0.50 kg/day for Total N and 0.71 kg/day for Total P. Oak Creek was listed as impaired for nitrogen (N) and phosphorous (P) but has since been delisted.
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.	

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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	11
Total Suspended Solids (TSS)	mg/L	16
Total Kjeldahl Nitrogen (TKN)	mg/L	13.5
E. coli	cfu/100 mL	81.3
Facility Design Removal Rates:		BOD 98 % TSS 98 % N 88% P 75%

VI. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT

Date of Most Recent Inspection:	03/05/2024; potential violations were noted as a result of this inspection.
Discharge Monitoring Reports (DMR) Reviewed:	03/2021 through 12/2025
Lab Reports Reviewed:	03/2021 through 10/2025
DMR Exceedances:	Total Nitrogen (April 2023, February 2025), Total Phosphorous (September 2021, October 2023, November 2023, December 2023, March 2024), Total Residual Chlorine (September 2024).
Notice(s) of Violation (NOV) Issued:	Case No. 218630 (02/03/2023), Closed on 11/12/2024 Case No. 217027 (12/12/2023), Closed on 5/22/2025 Case No. 210104 (03/10/2024), Closed on 11/12/2024 Case No. 220747 (06/10/2024), Closed on 08/20/2024
NOVs Closed:	Case No. 218630 → Closed on 11/12/2024 Case No. 217027 → Closed on 5/22/2025 Case No. 210104 → Closed on 11/12/2024 Case No. 220747 → Closed on 08/20/2024
Formal Enforcement Action(s):	Consent Judgement (AZ-CV2024-027256) Issued on 09/12/2024

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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 and sufficiently sensitive test methods.	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).
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.

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Reporting Location for Annual Biosolids/Sewage Sludge Report	Electronic copy submitted to biosolids@azdeq.gov and myDEQ.	Annual reports submitted to EPA's Central Data Exchange using the NPDES Electronic Reporting Tool (NeT – Biosolids) by February 19 of each year.	ADEQ has updated the annual reporting method for consistency with 40 CFR 403 and the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule.
Whole Effluent Toxicity (WET) 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.
Toxicity Reduction Evaluation (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 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.

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Suspended Sediment Concentration (SSC)	Monitoring not required.	Monitoring required for the effluent and the receiving water, downstream of the discharge.	ADEQ is requiring monitoring of the effluent and downstream receiving water to assess compliance with the numeric standard listed in R18-11-109(D).
Temperature	Monitoring required for the effluent or receiving water.	Monitoring required for the effluent. Monitoring required for the receiving water, both upstream and downstream of the discharge.	ADEQ is requiring monitoring of the effluent, the upstream receiving water upstream and downstream receiving water to assess compliance with the numeric standard listed in R18-11-109(C).
Narrative Surface Water Quality Standards	Narrative surface water quality standards applicable to the receiving water listed in Part I.E of the permit.	Other limitations for the effluent listed in Part I.E of the permit to ensure the discharge is protective of the narrative surface water quality standards of the receiving water.	ADEQ is clarifying all narrative permit requirements are applicable to the discharge rather than the "end result" in the receiving water in accordance with *City & County of San Francisco v. Environmental Protection Agency (EPA).*
Cadmium, Mercury, Thallium, Zinc, and Nitrates + Nitrites	Effluent Characterization	Limited	Data submitted indicated there is reasonable potential (RP) for an excursion of a water quality standard.
Bromodichloromethane, Chloroform, Total Trihalomethanes	No monitoring required	Limited	Data submitted indicated there is reasonable potential (RP) for an excursion of a water quality standard.
Barium, nitrates, nitrites, and manganese	No monitoring required	Monitoring required	Monitoring required for effluent characterization for receiving waters with drinking water supply (DWS) designated uses.
Mercury	Effluent Characterization	Limited. Special sampling technique necessary to meet lower surface water quality standards.	Data submitted indicated there is reasonable potential (RP) for an excursion of a water quality standard.

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.

No limits have been removed from the permit. 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

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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, OTHER 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. The Kay S. Blackman WWPT is a privately owned plant using the same technology for treatment of domestic sewage as a POTW. Therefore, technology-based effluent limitations (TBELs) have been established in the permit for these parameters based on Best Professional Judgment (BPJ). 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.

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 is described in Chapter 5 of the *TSD*, and considers water quality criteria, effluent variability, and the number of observations taken to determine compliance with prescribed limits. 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*.

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Total Maximum Daily Load (TMDL)

The discharge from the Kay S. Blackman WWTP is subject to the 1999 Oak Creek nitrogen and phosphorus TMDL. The nitrogen and phosphorus limits applied in the permit were derived based on WWTP performance data obtained in previous permit cycles. Under the previous permits, the Kay S. Blackman WWTP nutrient contributions reaching Oak Creek were calculated based on data from an in-stream monitoring program. The previous permits were written on the assumption that as long as the WLAs were not exceeded, the nutrient additions from Kay S. Blackman WWTP would comply with the 1999 Oak Creek nutrient TMDL. The in-stream monitoring data collected between 2001 and 2010 demonstrated the WLAs have not been exceeded. Therefore, the monthly mass limits of 13.6 kg/day for Total N and 1.14 kg/day for Total P set previously are continued in this permit. In addition, the previous permit did not contain daily maximum limits for total N and total P. As described in the TSD, the daily maximum limits in this permit were obtained by 99th percentile probability basis of the WWTP's effluent data.

Mixing Zone

The limits 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 or granted, all water quality criteria are applied at end-of-pipe.

Assessment Levels (ALs)

ALs are 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 requirement to monitor for these parameters is included in the permit according to A.A.C. R18-11-104(C) and Appendix A. ALs listed for each parameter were calculated in the same manner that a limit would have been calculated (see Water Quality-Based Effluent Limitations above).

Ammonia water quality criteria vary based on the upstream receiving water 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 upstream receiving water 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.

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 152.4 mg/L (the average hardness of the effluent or receiving water 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).

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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 and/or acute toxicity is required. The requirement to conduct chronic toxicity testing is contingent upon the frequency or duration of discharges. Since 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, these chronic tests are not required during any given monitoring period in which the discharge does not occur 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

WET testing for acute toxicity shall be conducted using the following two surrogate species:

- *Ceriodaphnia dubia* (water flea) – for evaluating toxicity to invertebrates
- *Pimephales promelas* (fathead minnow) – for evaluating toxicity to vertebrates

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 not have reasonable potential. This is because no toxicity test result is Fail (1) indicating unacceptable toxicity is not present in the effluent and no associated PE (Percent Effect) value is ≥ 10 indicating toxicity at a level higher than acceptable is not present in the effluent (see Table 1 of this fact sheet and section 1.4 and Appendix E in EPA's TST Technical Document). Thus, no toxicity WQBELs are required for the permitted discharge (40 CFR § 122.44(d)(1)). However, ADEQ has retained the requirement for monitoring and reporting 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.

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The permit requires 12-hour composite samples be collected for WET testing. A 12-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 4.a. through 4.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 4.a. and 4.b. are also listed in Tables 1 or 2. In this case, the data from monitoring under Tables 1 or 2 may be used to satisfy the requirements of Tables 4.a. and / or 4.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*.

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Table 1. Permit limitations and monitoring requirements.

Parameter	No. of Samples	Maximum Reported Concentration (1)	RP Multiplier (2)	Critical Concentration (Calculated)	Most Stringent Criterion	Most Stringent Criterion Basis (3)	Does Reasonable Potential Exist?	Proposed Monitoring Requirement/Rationale (4)
Flow	- - -	- - -	- - -	- - -	- - -		- - -	Discharge flow is to be monitored on a continual basis using a flow meter.
Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS)	BOD: 43 TSS:38	BOD: 11 mg/L TSS: 16 mg/L	- - -	N/A	30 mg/L 30-day average 45 mg/L 7-day average	Technology-based limits 40 CFR 133.102	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 85% 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)	137	595 µg/L	- - -	N/A	11 µg/L	A&W Chronic (Cold)	RP always expected when chlorine or bromine is used for disinfection.	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.
Dissolved Oxygen	38	20 mg/L	N/A	N/A	The percent saturation of dissolved oxygen is equal to or greater than 90 percent, or single sample **minimum** concentration of 7 mg/L	A&Wc	No RP	Monitoring is required for the effluent and the downstream receiving water with discrete samples for effluent characterization.
E. coli	137	81.3 cfu /100 mL	N/A	N/A	30-day geometric mean: 126 cfu /100 mL (4 sample minimum) Single sample maximum: 235 cfu /100 mL	Oak Creek TMDLs for Munds Creek apply (August 2010).	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.

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Table 1. Permit limitations and monitoring requirements.

Parameter	No. of Samples	Maximum Reported Concentration (1)	RP Multiplier (2)	Critical Concentration (Calculated)	Most Stringent Criterion	Most Stringent Criterion Basis (3)	Does Reasonable Potential Exist?	Proposed Monitoring Requirement/Rationale (4)
pH	136	7.8	N/A	N/A	Minimum: 6.0 Maximum: 9.0	Technology-based limits 40 CFR 133.102	WQBEL or TBEL is always applicable to WWTPs.	pH is to be monitored using a discrete sample of the effluent and a WQBEL is set. 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 (4).
Temperature	109	22.1 ºC	N/A	N/A	R18-11-109C the discharge shall not cause an increase in the ambient water temperature. no more than 1°C	A&Wc:	N/A	Temperature of the effluent and the receiving water, both upstream and downstream of the discharge, 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 (5).
Suspended Sediment Concentration (6)	No Data	N/A	N/A	N/A	25 mg/L (13)	A&Wc	RP Indeterminate (No Data)	Monitoring of the effluent and downstream receiving water is required for effluent characterization. Samples shall not be collected within during or within 48 hours after a local storm event.
Total Dissolved Solids (TDS)	8	305 mg/L	N/A	N/A	No applicable standard	N/A	N/A	Monitoring required for effluent characterization.
Ammonia	40	2.65 mg/L AIR (4)	- - -	N/A	Standard varies with temperature and pH	A&Wc	RP Indeterminate (7)	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 (4). 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 Total Phosphorus	N: 136 P: 123	N: 36 mg/L P: 6.1 mg/L	N/A	N/A	Oak Creek TMDLs for Munds Creek apply (June 1999).	- - -	N/A	Monitoring required and a limit remains in the permit.

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Table 1. Permit limitations and monitoring requirements.

Parameter	No. of Samples	Maximum Reported Concentration (1)	RP Multiplier (2)	Critical Concentration (Calculated)	Most Stringent Criterion	Most Stringent Criterion Basis (3)	Does Reasonable Potential Exist?	Proposed Monitoring Requirement/Rationale (4)
Oil & Grease	22	0 mg/L	- - -	N/A	BPJ Technology-Based Level of 10 mg/L monthly average and 15 mg/L daily maximum	- - -	RP Indeterminate (7)	Monitoring required and a limit remains in the permit.
Hardness	42	170 mg/L	- - -	N/A	No applicable standard. Hardness is used to determine standards for specific metal parameters.	- - -	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 water hardness value of 152.4 mg/L. Monitoring for hardness is required whenever monitoring for hardness dependent metals is required.
Antimony	3	<0.5 ug/L	5.62	N/A	6 ug/L	DWS	No RP	Monitoring required for effluent characterization.
Arsenic	4	<5 ug/L	4.74	N/A	10 ug/L	DWS	No RP	Monitoring required for effluent characterization.
Barium	4	66 ug/L	4.74	312.6 ug/L	2000 ug/L	DWS	No RP	Monitoring required for effluent characterization.
Beryllium	4	<2 ug/L	4.74	N/A	4 ug/L	DWS	No RP	Monitoring required for effluent characterization.
Cadmium (8)	6	0.82 ug/L	3.82	3.1 ug/L	0.33 ug/L	A&W Chronic (Cold)	RP Exists	Monitoring is required and a WQBEL is set.
Chromium VI	N/A		- - -		100 µg/L	DWS	No RP (Based on total chromium data)	Monitoring required and an assessment level remains in the permit.
Chromium (Total)	5	8.7 ug/L	4.19	36.5 ug/L	100 ug/L	DWS	No RP	Monitoring required as an indicator parameter for Chromium VI.
Copper (8)	20	<10 ug/L	2.30	12.2 ug/L	12.8 ug/L	A&W Chronic (Cold)	No RP	Monitoring required for effluent characterization.
Cyanide	19	<10 ug/L	2.35	7.04 ug/L	5.2 ug/L	A&W Chronic (Cold)	RP Exists	Monitoring is required and a WQBEL is set.
Hydrogen sulfide	0	No Data	- - -	N/A	2 µg/L A&Wc chronic	- - -	RP Indeterminate (No Data)	Monitoring is required for sulfides as an indicator parameter for hydrogen sulfide. If sulfides are detected, monitoring for hydrogen sulfide is required for the remainder of the permit term.
Iron	3	<50 ug/L	5.62	N/A	1000 ug/L	A&W Chronic (Cold)	No RP	Monitoring required for effluent characterization.
Lead (8)	19	<5 ug/L	2.35	N/A	3.97 ug/L	A&W Chronic (Cold)	RP Indeterminate (Anti-backsliding)	Monitoring is required and a WQBEL remains in the permit.
Mercury	5	0.2 ug/L	4.19	0.84 ug/L	0.01 ug/L	A&W Chronic (Cold)	RP Exists	Monitoring is required and a WQBEL is set.

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Table 1. Permit limitations and monitoring requirements.

Parameter	No. of Samples	Maximum Reported Concentration (1)	RP Multiplier (2)	Critical Concentration (Calculated)	Most Stringent Criterion	Most Stringent Criterion Basis (3)	Does Reasonable Potential Exist?	Proposed Monitoring Requirement/Rationale (4)
Nickel (8)	5	20 ug/L	4.19	83.8 ug/L	74.3 ug/L	A&W Chronic (Cold)	No RP	Monitoring required for effluent characterization.
Selenium	20	8 ug/L	2.30	18.4 ug/L	2 ug/L	A&W Chronic (Cold)	RP Exists	Monitoring required and a WQBEL remains in the permit.
Silver (8)	3	<0.1 ug/L	5.62	N/A	6.6 ug/L	A&W Acute (Cold)	No RP	Monitoring required for effluent characterization.
Sulfides	20	60 ug/L	2.30	138.2 ug/L	No Criteria	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	7	2 ug/L	3.54	7.09 ug/L	2 ug/L	DWS	RP Exists	Monitoring is required and a WQBEL is set.
Total Dissolved Solids	7	310 mg/L	3.54	1098.4 mg/L	No Criteria	N/A	N/A	Monitoring required for effluent characterization.
Zinc (8)	4	46 ug/L	4.74	217.9 ug/L	167.5 ug/L	A&W Chronic (Cold)	RP Exists	Monitoring is required and a WQBEL is set.
Nitrate plus Nitrite	131	15.1mg/L	1.47	22.1 mg/L	10 mg/L	DWS	RP Exists	Monitoring is required and a WQBEL is set.
Bromodichloro-methane	4	7.1 ug/L	4.74	33.4ug/L	17 ug/L	FC	RP Exists	Monitoring is required and a WQBEL is set.
Chloroform	4	42 ug/L	4.74	199.9 ug/L	80 ug/L	DWS	RP Exists	Monitoring is required and a WQBEL is set.
Total Trihalomethanes	4	49.3 ug/L	4.7	233.5 ug/L	80 ug/L	DWS	RP Exists	Monitoring is required and a WQBEL is set.
Whole Effluent Toxicity (WET):								
Ceriodaphnia dubia (Water flea)	3	Pass 1.0 TUc	N/A	N/A	No toxicity (A.A.C. R18-11-108(A) (6)	A&Wc	RP Indeterminate (7)	Monitoring required and an action level is set.
Pimephales promelas (Fathead minnow)	3	Pass 1.0 TUc	N/A	N/A	No toxicity (A.A.C. R18-11-108(A) (6)	A&Wc	RP Indeterminate (7)	Monitoring required and an action level is set.
Pseudo-kirchneriella subcapitata (Green Alga) (9)	3	Pass 1.0 TUc		N/A	No toxicity (A.A.C. R18-11-108(A) (6)	A&Wc	RP Indeterminate (7)	Monitoring required and an action level is set.

Footnotes:

1. Maximum quantified result or maximum reporting limit, whichever is highest. A maximum reporting limit is indicated with less than "<" sign.
2. Reasonable potential (RP) multiplier is a factor applied to the limited dataset reported to ADEQ by the permittee over the current permit term. This factor is a function of the sample count and coefficient of variation for the dataset that is used to approximate the 99th percentile value at a 99% confidence level based on a lognormal distribution.
3. This refers to the applicable designated use that determines the lowest (most protective) water quality standard for each pollutant. Designated use abbreviations are defined in A.A.C. R18-11-101.
4. The monitoring frequencies are as specified in the permit.

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5. An AIR will be calculated by dividing effluent ammonia concentration by the applicable standard using the receiving water pH and temperature.
6. The SSC standard is expressed as a median value determined from a minimum of four samples collected at least seven days apart. The results of a suspended sediment concentration sample collected during or within 48 hours after a local storm event shall not be used determine the median.
7. Monitoring with ALs or Action Levels always required for WWTPs for these parameters unless RP exists and limits are set.
8. Hardness-dependent metal - the standard for this parameter is based on the average hardness value of the effluent or receiving water as indicated above.
9. Formerly known as *Selenastrum capricornutum or Raphidocelis subcapitata*

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VIII. NARRATIVE WATER QUALITY STANDARDS

Narrative standards applicable to the receiving water are listed in A.A.C. R18-11-108. Part I of the permit contains effluent limitations, other limitations, and monitoring requirements to ensure the discharge is protective of the receiving water, including the narrative standards.

The applicable narrative standards follow below in italics. How ADEQ implements the standard in the permit follows the standard.

A surface water shall not contain pollutants in amounts or combinations that:

Settle to form bottom deposits that inhibit or prohibit the habitation, growth, or propagation of aquatic life;

- The permit requires monitoring for Suspended Sediment Concentration (SSC) and monitoring with an effluent limitation for Total Suspended Solids (TSS). The effluent limit for TSS ensures the discharge does not cause bottom deposits. ADEQ will continue to analyze SSC results and include an effluent limitation for SSC where reasonable potential exists.

Cause objectionable odor in the area in which the surface water is located; and Cause off-taste or odor in drinking water;

- The permit contains a narrative requirement that the discharge must not contain objectionable odor.

Cause off-flavor in aquatic organisms; and Are toxic to humans, animals, plants, or other organisms;

- This permit contains requirements for Whole Effluent Toxicity (WET) Testing to ensure the discharge is free from toxicity. The permit also contains effluent characterization monitoring to assess the quality of the effluent and determine what parameters of concern are present in the discharge and at what levels. The permit includes applicable technology-based limitations (TBELs) and water quality based effluent limitations (WQBELs), where reasonable potential exists, to ensure the discharge is non-toxic and safe for aquatic organisms, wildlife, and human health.

Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic life or that impair recreational uses;

- The permit contains monitoring requirements for ammonia, nitrate-nitrite, Total Kjeldahl Nitrogen (TKN), total nitrogen, and total phosphorus to assess the amount of nutrients present in the discharge. Where reasonable potential exists for these parameters, ADEQ includes effluent limitations for these parameters to prevent the growth of algae and other aquatic plants that may inhibit or prohibit the habitation, growth, or propagation of other aquatic life or impair recreational uses.

Change the color of the surface water from natural background levels of color.

- The permit contains a narrative requirement that the discharge must not contain unnatural color.

A surface water shall not contain oil, grease, or any other pollutant that floats as debris, foam, or scum; or that causes a film or iridescent appearance on the surface of the water; or that causes a deposit on a shoreline, bank, or aquatic vegetation.

- The permit contains a narrative requirement that the discharge shall be free from oil, grease and other pollutants that float as debris, foam, or scum; and a film or iridescent appearance.

A surface water shall not contain a discharge of suspended solids in quantities or concentrations that interfere with the treatment processes at the nearest downstream potable water treatment plant or substantially increase the cost of handling solids produced at the nearest downstream potable water treatment plan.

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- The permit contains a monitoring with an effluent limitation for Total Suspended Solids (TSS). The effluent limit for TSS will ensure the discharge does not contain suspended solids in quantities or concentrations that would interfere with or increase the cost to the nearest downstream potable water treatment plant.

A surface water shall not contain solid waste such as refuse, rubbish, demolition or construction debris, trash, garbage, motor vehicles, appliances, or tires.

- The permit contains a narrative requirement that the discharge must not contain refuse, rubbish, demolition or construction debris, trash, or garbage. Motor vehicles, appliances, or tires are not expected to be present in the discharge.

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, a "12-hour composite" sample has been defined as a flow-proportioned mixture of two discrete samples (aliquots) collected between 7:00 a.m. and 7:00 p.m., and obtained at a time interval of at least 8-hours. The volume of each aliquot shall be directly proportional to the discharge flow rate over the compositing period, provided that each sample is at least 100 mL in volume.

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 and Part II.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 Flow Record forms.

The permittee is responsible for conducting all required monitoring and reporting the results to ADEQ on DMRs or as otherwise specified in the permit.

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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)

Standard requirements for the monitoring, reporting, record keeping, and handling of biosolids, as well as minimum treatment requirements for biosolids according to 40 CFR Part 503 are incorporated in the permit.

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.

Emergency Discharge Provisions

This permit condition requires the permittee to contact ADEQ if intent to discharge between April 15 and November 14 (inclusive). Between the dates of April 15 and November 14, inclusive, the permittee shall not discharge to Munds Creek without prior notification to ADEQ of the intent to discharge. The permittee shall maintain freeboard of greater than three (3) feet in the effluent holding ponds. A daily log of the effluent holding pond freeboard levels during authorized discharge events shall be maintained and made available to ADEQ during inspection.

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)].

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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 Kay S. Blackman WWTP will be to an intermittent water with Tier 1 antidegradation protection. This is a renewal permit for an existing facility with no new or expanded discharge, and the existing uses have been maintained. Therefore, an antidegradation review is not required at this time.

However, discharges from the Kay S. Blackman WWTP also have the potential to reach Oak Creek, which is an Outstanding Arizona Water (OAW), under A.A.C. R18-11-112(G). A.A.C. R18-11-107(D) indicates that OAWs fall in the Tier 3 category. The Tier 3 category states that existing water quality shall be maintained and protected in surface water listed under A.A.C. R18-11-112. Ambient monitoring (in-stream monitoring data) during the previous permit terms has shown no evidence that the water quality of Munds Creek has been degraded by the discharge. 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 on ADEQ's website or 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 on ADEQ's website or 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.

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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
1110 West Washington Street
Phoenix, Arizona 85007

Or by contacting Juliana Lewis at (520) 628 – 1765 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 and 2S received September 09, 2025, 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 March 02, 2026.
3. ADEQ files on Kay S. Blackman WWTP.
4. 208 Consistency Review Form dated 05/07/2015.
5. ADEQ Geographic Information System (GIS) Website
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).

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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).
18. Arizona Department of Environmental Quality. *Oak Creek and Spring Creek Verde River Watershed Total Maximum Daily Loads for Escherichia coliform.* Open File Report 10-01, ADEQ, 24 May 2010.
19. Arizona Department of Environmental Quality. *Total Maximum Daily Loads (TMDLs) for Total Phosphorous and Total Nitrogen in the Oak Creek Basin, Arizona (Including Munds Creek)*. Open File Report 09-05, ADEQ, June 1999.

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