ADEQ Arizona Department of Environmental Quality

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ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning the reissuance of the AZPDES permit listed below. This facility is a groundwater pumping facility that discharges to an Urban Lake with a long-term average discharge rate of approximately 0.07 million gallons per day (mgd) and thus is considered to be a minor facility under the NPDES program. The discharge 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:	City of Tucson Parks and Recreation Department
Permittee's Mailing Address:	900 S. Randolph Way Tucson, Arizona 85716
Facility Name:	Lakeside Park Lake
Facility Address or Location:	8300 E. Stella Road Tucson, Arizona 85730
County:	Pima County
Contact Person(s): Phone/e-mail address	Ann Marie Jefferson, Parks Area Supervisor (520) 837-8013 / annmarie.jefferson@tucsonaz.gov
AZPDES Permit Number:	AZ0024201
Inventory Number:	105642
LTF Number:	97234

II. STATUS OF PERMIT(s)	
AZPDES permit applied for:	Renewal
Date application received:	December 19, 2022
Date application was determined administratively complete:	February 10, 2023
Previous permit number (if different):	N/A
Previous permit expiration date:	June 17, 2023

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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.

208 Plan consistency is not required for industrial facilities.

III. GENERAL FACILITY INFORMATION	
Type of Facility:	Groundwater pumped from on-site Well PK-009A is discharged directly to the Lakeside Park Lake at Outfall 001 to maintain an optimal water level in the Lake.
Facility Location Description:	Lakeside Park Lake (the Lake) is a 13-acre engineered impoundment located at Chuck Ford Lakeside Park in Tucson, Arizona. The Lake is within the natural drainage of Atturbury Wash. When water overtops the dam at the lake, it flows north in Atturbury Wash for about 0.5 miles before it meets Pantano Wash. The Lake is an urban fishing lake located within a municipal park that is owned and operated by the City of Tucson. As an urban fishery, it was added to the Arizona Game and Fish Department's urban fishing program in 1986. The Game and Fish Department stocks the lake with different varieties of fish, depending on the season.
Discharge Flow:	Applicant reports that a long-term average discharge rate of approximately 0.07 million gallons per day (mgd) of groundwater is discharged into the Lake.
Applicable Treatment Processes:	N/A
Nature of facility discharge:	Groundwater is pumped from nearby Well PK-009A in order to maintain a sufficient water level in the Lake.
Continuous or intermittent discharge:	Continuous discharge
Discharge pattern summary:	Typically discharge to the lake is continuous except for periods following heavy precipitation.
When Atturbury Wash is not flowing and no water is exiting over the spillway, the Lake has no outlet. The primary water source is groundwater from Well PK 009A. Well PK 009A has been the primary water source since 2005. Aluminum sulfate is used to reduce phosphorous loading within the lake, and remove oxygen-demanding substances from the water column. This is especially useful following turbid flow events via Atturbury Wash.	

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 facility/ outfall is Lakeside Lake

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River Basin:	Santa Cruz River Basin
Outfall Location(s):	Outfall 001: Township 14 S, Range 15 E, Section 28 Latitude 32˚ 11’ 15” N, Longitude 110˚ 48’ 57” W
The outfall discharges to, or the discharge may reach, a surface water listed in Appendix B of A. A. C. Title 18, chapter 11, Article 1.	
Designated uses for the receiving water listed above:	Aquatic and Wildlife warm water (A&Ww) Partial Body Contact (PBC) Fish Consumption (FC)
Is the receiving water on the 303(d) list?	Yes, the receiving water is listed as impaired for high pH, low dissolved oxygen (DO), ammonia-nitrogen, and narrative nutrient standards. A TMDL for Lakeside Lake was completed in 2005. For nutrients and associated parameters. This TMDL was developed when effluent from Rorer Road WWTP was discharged to the Lake. The discharge has since discontinued resulting in improved water quality measurements. To be protective of the narrative water quality standards (A.A.C. R 18-11-108(A) (6) will be applied to limit the growth of algae or aquatic plants.
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
Groundwater discharged from on-site Well PK 009A is pumped directly to the Lake at Outfall 001 to maintain an optimal water level. Groundwater flow is approximately 0.07 MGD, and is typically discharged to the Lake continuously. The permittee submitted data for some metals. A Whole Effluent Toxicity (WET) test was reviewed with no observed toxicity. Further details regarding these data are presented in sections that follow.

VI. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT	
Date of Most Recent Inspection:	09/11/2020; no potential violations were noted as a result of this COVID Virtual inspection.
Discharge Monitoring Reports (DMR) Reviewed:	July 2019 through December 2022
Lab Reports Reviewed:	July 2019 through December 2022
DMR Exceedances:	None
Notice(s) of Violation (NOV) Issued:	None

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NOVs Closed:	N/A
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.
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 default metal translators 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.
Discharge Flow	0.08 mgd	0.07 mgd	Discharge flow rate for industrial facility is updated based on reported long term average.
Discharge Flow Monitoring	Estimated	Metered	Appropriate monitoring requirements for this type of discharges to have enough representative data that can be used in developing discharge limitations.
Lead and Mercury	Assessment Level	Discharge Characterization	Data submitted indicated no reasonable potential (RP) for an exceedance of a standard.
Cadmium	Limited	Discharge characterization	Data submitted indicated no reasonable potential

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			(RP) for an exceedance of a standard.
Selenium	Assessment Level	Limited	Data submitted indicated reasonable potential (RP) for an exceedance of a standard.
Antimony, Arsenic, Beryllium, Cadmium, Chromium, chromium VI, Copper, Iron, Nickel, Silver, and Thallium.	Monitoring not required	Monitoring required for Assessment Level	Appropriate monitoring requirements for this type of discharges to have enough representative data that can be used in developing discharge limitations.
Section VIII. Determination of Discharge Limitations and Assessment Levels: Urban Lake Monitoring - Deleted references to TMDL	Based on the TMDL	Based on the A.A.C. R 18-11-108 (A) (6)	Improved water quality has been observed at the lake because of the discontinued direct discharge of effluent (from Roger Road WWTP) to the lake.

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.

The limit for Cadmium has 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.

This is considered allowable backsliding under 303(d)(4). The effluent limitation in the current permit for this parameter was based on state standards, the respective receiving waters is in attainment for this parameter, and the revision is 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 DISCHARGE 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.

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

There are no applicable promulgated technology-based standards for the discharge of groundwater.

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.

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 Section 5.4.4 of the TSD.

Mixing Zone

The limits and ALs 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)

Assessment levels (ALs) are established in the draft permit for: Antimony, Arsenic, Beryllium, Cadmium, Chromium, chromium VI, Copper, Nickel, Selenium, Silver, and Thallium. 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.

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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).

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): ammonia, barium, cyanide, hydrogen sulfide and manganese. The numeric standards for barium and manganese are well above what would be expected to be present in discharges of groundwater, and ammonia, cyanide, and hydrogen sulfide are not expected to be present in the groundwater.

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 166 mg/L, the average hardness of the receiving water (the Lake) 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, copper, lead, nickel, silver and zinc).

Urban Lake Monitoring

The State of Arizona has adopted water quality standards in Appendix B of A.A.C. Title 18, chapter 11, Article 1 to protect the designated uses of urban lakes. Monitoring requirements for the Lake and assessment levels for groundwater discharges from Outfall 001 have been set in the permit in order to evaluate the impacts of the discharges on downstream uses. The Lake Management Plan (LMP) will describe how the lake will be managed (including additional monitoring) to assure compliance with permit conditions. Lake monitoring is required in order to meet the narrative water quality standards for nutrients as specified in A.A.C. R18-11-108(A)(6). The Lake shall be monitored for chlorophyll-a, dissolved oxygen, nitrate/nitrite, ammonia, total phosphorus, orthophosphate, and aluminum (dissolved and total). The permit contains limits for chlorophyll-a and dissolved oxygen in the lake. These limits are the thresholds given in A.A.C R18-11-108.03 (D).

Whole Effluent Toxicity (WET)

WET testing is required in the permit (Parts I.D 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 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 does not have a numeric standard for Whole Effluent Toxicity. However, ADEQ adopted the EPA recommended chronic toxicity benchmark of 1.0 Toxic Unit-Chronic (TUc) for a four day exposure period. Using this benchmark, the limitations and/or action levels for WET included in the permit were calculated in accordance with the methods specified in the *TSD*. The species chosen for WET testing are as recommended in the *TSD* and in *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*.

An exceedance of a limit or action level 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) and possibly a Toxicity Identification Evaluation (TIE) to identify the source of toxicity and

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reduce toxicity. These conditions are required to ensure that toxicants are not discharged in amounts that are toxic to organisms [A.A.C. R18-11-108(A)(5)]. A reopener clause is included in accordance with 40 CFR Parts 122 and 124 and A.A.C. R18-9-B906.

Three (3) discrete samples are required to complete one WET test. 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 the determination of the cause of toxicity if toxicity is detected. Additional procedural requirements for the WET test are included in the proposed 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 and submittal of the full WET lab report to ADEQ.

Discharge Characterization (DC)

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.b., *Discharge Characterization Testing,* as follows:

• Table 4.a.—General Chemistry and Microbiology: ammonia, dissolved oxygen, total Kjeldahl nitrogen (TKN), nitrate/nitrite, pH, phosphorus, orthophosphate, temperature, and total dissolved solids (TDS).
• Table 4.b. —Selected Metals, and Hardness.

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 DC monitoring is to characterize the discharge 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	Lowest Standard/Designated Use	Maximum Reported Daily Value	No. of Samples	Estimated Maximum Value	RP Determination	Proposed Monitoring Requirement/Rationale (1)
Flow (Outfall 001)	- - -	- - -	- - -	- - -	- - -	Discharge flow is to be monitored on a continual basis using a flow meter.
pH (Outfall and In-Lake)	Minimum: 6.5 Maximum: 9.0 A&Ww and PBC A.A.C. R18-11-109(B) & A.A.C. R18-11-108.03(D)	7.26 S.U.	Outfall 001: 111	N/A	WQBEL is always included	pH is to be monitored using a discrete sample of the discharge 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.
Temperature	No applicable numeric standard	22.61 °C	Numerous	N/A	N/A	Discharge temperature is to be monitored for discharge 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.
Ammonia	Standard varies with temperature and pH	N/A	N/A	N/A	No RP (BPJ)	Ammonia is to be monitored in the Lake. No limit is set. Ammonia is not expected to be present in the groundwater.
Nutrients (Total Nitrogen and Total Phosphorus) (In-Lake)	No applicable standards. Monitoring required for lake management. Total Nitrogen: Threshold Ranges of 1.7 – 1.9 mg/L / A&Ww Total Phosphorus: Threshold Ranges of 125 – 160 µg/L / A&Ww A.A.C. R18-11-108.03 (D).	N – 0.33 mg/L P – 0.091 mg/L	N – 5 P – 5	N/A	N/A	Lake monitoring is required, no limit is set.
Nitrate plus Nitrite (In Lake)	No applicable numeric standards	0.33 mg/L	5	N/A	N/A	Lake monitoring is required, no limit is set.
Chlorophyll- a (In-Lake)	Threshold Ranges of 30 – 50 µg/L / A&Ww	N/A	Numerous	N/A	N/A	Monitoring is required in the Lake and an in -lake limit is set associated with the Lake management Plan requirements.

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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)
Dissolved Oxygen (In-Lake)	In-Lake standard of ≥ 6 mg/L or % saturation ≥ 90% A.A.C. R18-11-109 (E) / A&Ww	N/A	Numerous	N/A	N/A	Monitoring is required in the Lake and in-Lake limit remains in the permit.
Aluminum (total and dissolved) (In-Lake)	No applicable numeric standards. Monitoring required for lake management.	Dissolved – 1.01 mg/L Total – 0.796 mg/L	Dissolved – 15 Total – 15	N/A	N/A	Lake monitoring is required, no limit is set.
Orthophosphate (In-Lake)	No applicable numeric standards. Monitoring required for lake management.	0.069 mg/L	15	N/A	N/A	Lake monitoring is required, no limit is set.
Antimony (Outfall 001)	30 µg/L / A&Ww chronic	No Data	0	N/A	RP Indeterminate (No Data)	Monitoring required and an assessment level is set in the permit.
Arsenic (Outfall 001)	80 µg/L / FC	No Data	0	N/A	RP Indeterminate (No Data)	Monitoring required and an assessment level is set in the permit.
Beryllium (Outfall 001)	5.3 µg/L A&Ww chronic	No Data	0	N/A	RP Indeterminate (No Data)	Monitoring required and an assessment level is set in the permit.
Cadmium (2) (Outfall 001)	3.3 µg/L / A&Ww chronic	< 1 µg/L	10	N/A	No RP	Monitoring required for discharge characterization.
Chromium (Total) (Outfall 001)	No applicable standard.	0.56 µg/L	1	N/A	N/A	Monitoring required as an indicator parameter for Chromium VI.
Chromium VI (Outfall 001)	11 µg/L / A&Ww chronic	6 µg/L	1	79 µg/L	RP Indeterminate (Limited Data)	Monitoring required and an assessment level is set in the permit.
Copper (2) (Outfall 001)	14 µg/L / A&Ww chronic	No Data	0	N/A	RP Indeterminate (No Data)	Monitoring required and an assessment level is set in the permit.
Hardness (In-Lake)	No applicable standard. Hardness is used to determine standards for specific metal parameters.	230 mg/L	5	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 receiving water hardness value of 166 mg/L. Monitoring for hardness is required whenever monitoring for hardness dependent metals is required.

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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 (Outfall 001)	1,000 ug/L / A&Ww chronic		No Data	0	N/A	RP Indeterminate (No Data)	Monitoring required and an assessment level is set in the permit.
Lead (2) (Outfall 001)	4.47 µg/L / A&Ww chronic		0.61 µg/L	7	2.2 µg/L	No RP	Monitoring required for discharge characterization.
Mercury (Outfall 001)	0.01 µg/L / A&Ww chronic		0.0019 µg/L	4	0.01 µg/L	No RP	Monitoring required for discharge characterization.
Nickel (2) (Outfall 001)	79.8 µg/L / A&Ww chronic		No Data	0	N/A	RP Indeterminate (No Data)	Monitoring required and an assessment level is set in the permit.
Selenium (Outfall 001)	2 µg/L / A&Ww chronic & acute		5.3 µg/L	7	18.8 µg/L	RP Exists	Monitoring required and a WQBEL is set in the permit.
Silver (2) (Outfall 001)	7.7 µg/L / A&Wedw acute		2 µg/L	1	26.4 µg/L	RP Indeterminate (Limited Data)	Monitoring required and an assessment level is set in the permit.
Thallium (Outfall 001)	7.2 µg/L FC		4.8 µg/L	1	63.4 µg/L	RP Indeterminate (Limited Data)	Monitoring required and an assessment level is set in the permit.
Zinc (2) (Outfall 001)	180 µg/L / A&Ww acute and chronic		92 µg/L	10	704 µg/L	RP Exists	Monitoring required and WQBEL remains in the permit.
Whole Effluent Toxicity (WET)	No toxicity (A.A.C. R18-11-108(A) (6)	*Pseudo-kirchneriella subcapitata (3)*	1.0 TUc	1	N/A	RP Indeterminate (4)	Monitoring required and an action level is set.
		Pimephales promelas	1.0 TUc	1	N/A	RP Indeterminate (4)	Monitoring required and an action level is set.
		Ceriodaphnia dubia	1.0 TUc	1	N/A	RP Indeterminate (4)	Monitoring required and an action level is set.

Footnotes:

1. The monitoring frequencies are as specified in the permit.
2. Hardness-dependent metal - the standard is for this parameter is based on the average hardness value of the receiving water (166 mg/L) as indicated above.
3. Formerly known as *Selenastrum capricornutum or Raphidocelis subcapitata.*
4. Monitoring with ALs or Action Levels always required for WWTPs for these parameters unless RP exists and limits are set

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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 F 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.

Discrete (i.e., grab) samples are specified in the permit for all parameters. The quality of the discharge is not expected to be highly variable.

Monitoring locations are specified in the permit (Part II.A and Appendix B) 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(e). 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), and Ammonia Data Logs. The permittee is responsible for conducting all required monitoring and reporting the results to ADEQ on DMRs or as otherwise specified in the permit.

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.3). 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.

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Requirements for retention of monitoring records are detailed in Part II.C.3 of the permit.

X. BIOSOLIDS REQUIREMENTS (Part III in Permit)

Not Applicable.

XI. SPECIAL CONDITIONS (Part V in Permit)

Urban Lake Monitoring

The regulations under 40 CFR 122.43(a) state that:

"(a) In addition to conditions required in all permits (122.41 and 122.42), the Director shall establish conditions, as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of CWA and regulations."

The Lake Management Plan (LMP) will describe how the lake will be managed (including additional monitoring) to assure compliance with permit conditions. Lake monitoring is required in order to meet the narrative water quality standards for nutrients as specified in A.A.C. R18-11-108(A)(6). The Lake shall be monitored for chlorophyll-a, dissolved oxygen, nitrate/nitrite, ammonia, total phosphorus, orthophosphate, and aluminum (dissolved and total). The permit contains limits for chlorophyll-a and dissolved oxygen in the lake. These limits are the thresholds given in A.A.C R18-11-108.03 (D).

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.

Lakeside Lake is located in what was once an ephemeral wash and is intended to be filled with stormwater. However, to maintain the water elevations groundwater is added to the Lake between rainfall event. The Lake will have different water quality depending on time since the last significant rainfall event and also on the amount of groundwater added to the Lake. The Lake does not have a uniform baseline water quality. Discharge 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.

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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: Swathi Kasanneni
1110 West Washington Street
Phoenix, Arizona 85007

Or by contacting Swathi Kasanneni at (602) 771 – 4577 or by e-mail at kasanneni.swathi@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 Forms 1 and 2C, received December 19, 2022, 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 7, 2023 and March 27, 2023.

3. ADEQ files on Lakeside Lake Park.

4. ADEQ Geographic Information System (GIS) Web site.

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5. Arizona Administrative Code (AAC) Title 18, Chapter 11, Article 1, *Water Quality Standards for Surface Waters,* adopted December 31, 2016.

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

7. 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*.
8. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.

9. *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*, US EPA, May 31, 1996.

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

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

12. The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion, US EPA, June 1996.

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