

## ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

This document gives pertinent information concerning the reissuance of the AZPDES permit listed below. This permit is for the discharge of groundwater to the Salt River Project Canal System. Due to the nature of the discharge, this is considered a minor facility under the NPDES 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:	Salt River Valley Water Users Association, (Salt River Project (SRP))
Permittee's Mailing Address:	P.O. Box 52025
Facility Name:	SRP Groundwater (GW) Wells
Facility Address or Location:	Groundwater wells located throughout the Salt River Valley Water Users Associated Boundaries
County:	Maricopa County
Contact Person(s): Phone/e-mail address	Mike Ploughe, SRP Water Quality & Waste Management Services Phone: (602)236-5545 Email: mike.ploughe@srpnet.com
AZPDES Permit Number:	AZ0024341
Inventory Number:	104147
LTF Number:	87729

II. STATUS OF PERMIT(s)	
AZPDES permit applied for:	Renewal
Date application received:	1/27/2021
Date application was determined administratively complete:	3/19/2021
Previous permit number (if different):	n/a
Previous permit expiration date:	August 1, 2021
<b>208 Consistency:</b> 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 review is not required for a permit reissuance.	
SRP has the following permit(s) issued by ADEQ applicable to SRP GW Wells: N/A	

III. GENERAL FACILITY INFORMATION
-----------------------------------

SRP is a water and power utility operating in the State of Arizona. The facility is a water distribution system that provides surface and groundwater to a 248,200 acre area within metropolitan Phoenix for agricultural, urban, and municipal uses. SRP delivers water through its historic canals to city facilities where it is treated and delivered to homes and businesses for drinking water uses. SRP also delivers water directly to farms and urban irrigation users through an extensive distribution system of smaller open ditches and underground pipes called laterals. SRP also supplies water to supplement urban lakes.

Surface and groundwater supplies are delivered to users through a canal and lateral system over 135 miles in length within metropolitan Phoenix in Maricopa County. There are 155 groundwater wells that discharge above water treatment plants (WTP) and 37 wells that discharge to the canal system below WTP for a total of 192 wells contributing groundwater to protected surface waters (PSW) that are covered by this permit.

#### 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):	Phoenix Area Canals Tempe Town Lake Chaparral Park Lake El Dorado Park Lake Indian Bend Wash Lakes Kiwanis Park Lake McKellips Park Lake Papago Park Lakes
Receiving Water (State):	Alvord Park Lake Canal Park Lake Cortez Park Lake Encanto Park Lake
River Basin:	Middle Gila
Outfall Location(s):	See list of Points of Compliance (POC) below

<p>Designated uses for the receiving waters listed above:</p>	<p>The designated uses for Phoenix Area Canals above WTP:</p> <p>Domestic Water Source (DWS)</p> <p>Agricultural Irrigation (Agl)</p> <p>Agricultural Livestock watering (AgL)</p> <p>The designated uses for Phoenix area canals below WTP:</p> <p>Agricultural Irrigation (Agl)</p> <p>Agricultural Livestock (AgL)</p> <p>The designated uses for the urban lakes are (see table below for specific uses):</p> <p>Aquatic and Wildlife warm water (A&amp;Ww)</p> <p>Partial Body Contact (PBC)</p> <p>Full Body Contact (FBC)</p> <p>Agricultural Irrigation (Agl)</p> <p>Groundwater is discharged to canals which provide supplemental water to 11 urban lakes located in the Phoenix area. The applicable designated use for each urban lake is listed below.</p>
<p>Is the receiving water on the 303(d) list?</p>	<p>11 SRP specific wells ("SRP TMDL Groundwater Wells") can contribute boron and selenium to the Gila River segment covered by the Gila River-Centennial Wash to the Gillespie Dam, Total Maximum Daily Load (WBID 15070101-008). Therefore, daily maximum concentration limits are proposed for designated monitoring locations (TMDL Wells) in the permit for boron and selenium.</p>

Points of Compliance (POC)					
Monitoring Locations	Location	Name	Latitude	Longitude	Designated Uses
001	CA5-14.0	Chandler	33.29162	-111.81084	DWS, AgI, AgL
002	CA4-9.0	Gilbert	33.36579	-111.73048	DWS, AgI, AgL
003	CA1-16.6	Glendale Cholla	33.59287	-112.16429	DWS, AgI, AgL
004	LT1-19-46	Glendale Oasis	33.55935	-112.20194	DWS, AgI, AgL
005	LT1-20-0	Peoria Greenway	33.62461	-112.21941	DWS, AgI, AgL
006	CA1-9.3	Phoenix 24th St.	33.52632	-112.03254	DWS, AgI, AgL
007	CA1-14.5	Phoenix Deer Valley	33.57019	-112.12494	DWS, AgI, AgL
008	CA3-1.4	Phoenix Mesa Val Vista	33.47377	-111.76001	DWS, AgI, AgL
009	CA1-1.6	Scottsdale Chaparral	33.53319	-111.90138	DWS, AgI, AgL
010	CA1-3.9	Tempe JGM	33.49048	-111.94249	DWS, AgI, AgL
011	CA6-9.1	Tempe South	33.35829	-111.89286	DWS, AgI, AgL
012	LT2-23-0	Goodyear	33.5228	-112.27188	DWS, AgI, AgL
013	CA5-19.4	Consolidated Tail	33.212	-111.838	AgI, AgL
014	CA4-14.2	Eastern Tail	33.28837	-111.7722	AgI, AgL
015	CA7-12.8	Western Tail	33.36339	-112.09744	AgI, AgL
016	7-13.4-15	Alvord Park Lake (1)	33.370299	-112.134963	A&Ww, PBC, FC
017	2-04.0-01	Canal Park Lake (1)	33.45008	-111.939489	A&Ww, PBC, FC
018	1-1.5-06.5	Chaparral Park Lake	33.512921	-111.900331	A&Ww, PBC, FC, AgI
019	1-14.5-01	Cortez Park Lake (1)	33.570052	-112.125599	A&Ww, PBC, FC, AgI
020	1-03.0-28	El Dorado Park Lake	33.48051	-111.917729	A&Ww, PBC, FC
021	2-12.0-09	Encanto Park Lake (1)	33.480479	-112.082851	A&Ww, PBC, FC, AgI
022	1-01.5-07	Indian Bend Wash Lakes (2)	33.509143	-111.900354	A&Ww, PBC, FC
023	7-03.8-01	Kiwanis Park Lake	33.374172	-111.941522	A&Ww, PBC, FC, AgI
024	1-03.0-28	McKellips Park Lake	33.48051	-111.917729	A&Ww, PBC, FC, AgI
025	2-03.6-01	Papago Park Lakes	33.454534	-111.94294	A&Ww, PBC, FC
026	2-04.6-02	Tempe Town Lake	33.438939	-111.944182	A&Ww, FBC, FC
027	00.0W-00.5N	Groundwater Well	33.45670	-112.30631	Total Maximum Daily Limit (TMDL) Waste Load Allocation (WLA)
028	00.4W-03.3N	Groundwater Well	33.42424	-112.31412	TMDL WLA
029	01.0E-06.0N	Groundwater Well	33.46429	-112.29011	TMDL WLA
030	02.0E-04.9N	Groundwater Well	33.44884	-112.27286	TMDL WLA
031	02.3E-01.3N	Groundwater Well	33.39600	-112.26758	TMDL WLA
032	04.0E-05.0N	Groundwater Well	33.45237	-112.23765	TMDL WLA
033	04.0E-04.2N	Groundwater Well	33.44071	-112.23799	TMDL WLA
034	03.0E-01.0N	Groundwater Well	33.39117	-112.25464	TMDL WLA
035	03.0E-04.0N	Groundwater Well	33.43597	-112.25491	TMDL WLA
036	03.0E-02.3N	Groundwater Well	33.41008	-112.25548	TMDL WLA

037	03.5E-06.0N	Groundwater Well	33.46504	-112.24601	TMDL WLA

(1) Non-WOTUS Protected Surface Waters

(2) Indian Bend Wash lakes include: Chaparral Park Lake (source for Camelback Park) and McKellips Park Lake

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.

DRAFT

## V. DESCRIPTION OF DISCHARGE

SRP's water conveyance system is unique with approximately 192 groundwater wells discharging groundwater into the receiving surface waters over several hundreds of miles of canals and laterals where blending of the groundwater with surface water occurs. The water quality in each of the wells varies due to geology and past local land uses. However, individual water quality for each well is stable, by nature, due to the Salt River Valley's hydrogeology. This blend of waters is transmitted over a hundred of miles of canals to 26 POCs (end-users) who utilize this water for domestic water supply, irrigation, livestock watering, and supplementing urban lakes throughout the Phoenix Metropolitan area.

Water quality data for each well was submitted with the application for the parameters listed in Tables 1, 2, and 3 of the Fact Sheet. These parameters were evaluated for each well and used to determine whether parameters may exceed or have reasonable potential (RP) to exceed any of the applicable water quality standards for its specific designated uses. Limits were established at the POC to be protective of the applicable designated uses of the end-users.

## VI. STATUS OF COMPLIANCE WITH THE EXISTING AZPDES PERMIT

Date of Most Recent Inspection:	June 15, 2018; no potential violations were noted as a result of this inspection.
Data Files Reviewed:	2020 Annual Report; Permit Renewal Data Package (NOTE: Data for the previous permit term was submitted in annual reports, not DMRs.)
Lab Reports Reviewed:	Electronic spreadsheets including sampling data from 2010 to 2021.
Exceedances:	In preparing this permit, annual reports and electronic data for the sampled groundwater wells were reviewed for exceedances between 2017 to 2021.
NOVs Issued:	None
NOVs Closed:	N/A
Compliance Orders:	None

## VII. PROPOSED PERMIT CHANGES

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

Parameter	Existing Permit	Proposed permit	Reason for change
Non-WOTUS protected surface water	None	Discharges to Alvord Park Lake, Canal Park Lake, Chaparral Park Lake, Cortez Park Lake, El Dorado Park Lake, Encanto Park Lake, Indian Bend Wash Lakes, Kiwanis Park Lake, McKellips Park Lake, and Papago Ponds w	Update to the State Program effective September 2021.
Monitoring and Reporting Requirements	Monitoring results conducted each calendar year submitted in annual report due by February 28 <sup>th</sup> of each year	DMRs and other reports to be submitted electronically through myDEQ portal	Language added to support the NPDES electronic DMR reporting rule that became effective on December 21, 2015.
Permit Limitations Methodology	Permit limitations were set at the 294 well outfalls	Points of Compliance (POC) <sup>1</sup> were established at 37 locations throughout the system to ensure that water deliveries meet the applicable designated uses.	Streamlined monitoring requirements will protect the designated uses for end-users of the water and also facilitate electronic reporting improving ADEQ's ability to monitor compliance with the permit requirements.
1,2-Dibromo-3-chloropropane (DBCP), arsenic, boron, chromium VI, lead, selenium, tetrachloroethene (PCE), and tetrachloroethylene (TCE) for well discharges to listed urban lakes	Assessment Levels	Limited at applicable POC	Data submitted indicated reasonable potential (RP) for an exceedance of a standard.

<sup>1</sup> For the purposes of this permit, "Point of Compliance" means the in-stream monitoring points throughout the canal system that pertain to the applicable designated uses and water quality standards.

Lead for well discharges above agricultural users	Not limited	Limited	Data submitted indicated reasonable potential (RP) for an exceedance of a standard.
Mixing Zones	Applicable	Not applicable	Establishing POC throughout the SRP canal systems that correlate with applicable designated uses will eliminate the need for mixing zones. The mixing zone methodology will be incorporated into best management practices.
Monitoring Frequencies / Discharge Limitations	2 times per year	Quarterly	Increased monitoring at POC monitoring locations to ensure water deliveries are meeting applicable designated uses.
Monitoring Frequencies	Quarterly for new well characterization  Semi-annual for routine discharge monitoring	Quarterly for new well characterization  Assessment monitoring 1/5yr for all discharged wells	New well characterization sampling is completed once per until 8 rounds are completed.  Assessment monitoring is reduced to 1/5y to facilitate permit renewals and BMP implementation
<p>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.</p> <p>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 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.</p>			

#### **VIII. DETERMINATION OF EFFLUENT LIMITATIONS and ASSESSMENT LEVELS**

When determining what parameters need monitoring and/or limits included in the permit, water quality-based criteria were applied. There are no applicable technology-based standards.

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

There are no promulgated technology-based limits for a groundwater discharging system such as the one operated by SRP. No technology-based limits are applied.

**Numeric Water Quality Limitations:**

Limits at POCs in this permit are expressed under authority of 40 CFR 122.44(k)(3) and (4) as end-of-pipe numeric effluent limitations are infeasible and drafting the permit as such is reasonably necessary to carry out the purposes and intent of the CWA. Limits at POCs are calculated as outlined in A.A.C. R18-11-109 and Appendix A and per 40 CFR 122.44(d)(1)(ii), (iii) and (iv), where 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. RP refers to the possibility, 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 pollutants of concerns and other factors. The basis for the RP determination for each parameter with a WQBEL is shown in the table below. The number of wells and the number of parameters required some additional assumptions and BPJ to determine which WQBELs should remain or be established in the permit.

SRP’s water conveyance system is unique in that there are approximately 192 wells that are discharged to the canal and blended into the primary surface water source(s) throughout several hundreds of miles of SRP canals and laterals. The blend of groundwater and surface water is delivered to end-users that use the water for drinking water, agricultural purposes, livestock watering, and to supplement urban lakes in the Phoenix Metro area. End-of-pipe limits are not feasible because that would require SRP to monitor hundreds of wells quarterly and report them to ADEQ’s electronic Discharge Monitoring (DMR) system—logistically infeasible for SRP and administratively infeasible for ADEQ to create a DMR system with so many outfalls. Mixing of pollutants from wells is not possible to accurately model due to contributions to the canal system from groundwater wells and rivers that varies by the day or even hour. Establishing POCs at the point where Designated Uses (DU) are actual water uses (e.g. drinking water system intakes or agricultural irrigation) will protect those DUs, and is reasonably necessary to achieve compliance with State Surface Water Quality Standards at those DU locations. Such protections carry out the purposes and intent of the CWA.

Water quality data of the 37 POCs, and approximately 194 groundwater wells was reviewed to identify the pollutants of concerns and establish water quality-based effluent limitations for the 37 POCs (end-users) which are protective of the respective designated uses.

Monthly averages were not included in the permit due to the number of outfalls, varying pumping patterns, and limited variability expected in groundwater samples. The proposed permit limits and assessment levels were established using the lowest applicable standard as the daily maximum. This approach also provides additional protection of drinking water supply since the health-based standard is the daily maximum level instead of a monthly-average.

### **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. A mixing zone was applied for but was determined to be unnecessary based upon the point of compliance (POC) monitoring locations, all water quality criteria are at the designated points of compliance based upon end users designated uses.

### **Verde River Source Water Considerations**

SRP delivers surface water from the Verde and Salt River watershed located north and east of the Phoenix metropolitan area. SRP operates dams along the Verde and Salt River and releases water to generate power and regulate the distribution of surface water into the head of the canal system located at Granite Reef Dam. The Verde River water quality has highly variable turbidity and is characterized by higher levels of alkalinity and arsenic. Levels of arsenic in the Verde have ranged between 26.8 µg/L to 0.018 µg/L between 2002 and 2020.

Special considerations were given to monitoring and reporting of arsenic in the permit dependent on the source water. Three monitoring options are provided based upon the source water in the canals system. See Table 1.A. Footnote 3 for the specific monitoring and reporting options. Pursuant to 40 CFR 122.3(i) discharges from a water transfer do not require a National Pollutant Discharge Elimination System (NPDES) permit. For the purposes of this permit the transfer of the Verde River water through the Phoenix Canals systems are excluded from the permitting program, however the addition of the additional pollutants from the groundwater wells are subject to the permitting requirements.

### **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.

### **Hardness**

The permittee is required to sample hardness as CaCO<sub>3</sub> 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 average hardness value of 345 mg/L was used to calculate the applicable water quality standards and any assessment levels or limits for the hardness-dependent metals (cadmium, chromium III, copper, lead, nickel, silver, and zinc).

### **Whole Effluent Toxicity (WET)**

Although the narrative standard prohibiting the discharge of toxic pollutants applies to all discharges, the test species are not appropriate for these receiving waters and no alternative tests are readily available. Therefore, WET testing is not required for this permit.

### **New Well Characterization and On-going Assessment**

In addition to monitoring for parameters assigned either a limit or an AL, sampling of new groundwater wells is required to assess the presence of pollutants in the discharge at quarterly frequency when discharged for additional suites of parameters. On-going assessment of existing wells is also required. This monitoring is specified in Tables 3.a. through 3.c., *Water Quality Assessment Monitoring*, as follows:

- Table 3.a.— Water Quality Assessment
- Table 3.b. — Water Quality Assessment Selected Volatile Organic Chemicals
- Table 3.c. — Water Quality Assessment Additional Parameters Based on Designated Uses (from Arizona Surface Water Quality Standards, Appendix A, Table 1)

The purpose of this is to characterize the groundwater wells and to 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**

Tables 1, 2, and 3 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, including those parameters that must be monitored for new well characterization and on-going assessment. In general, the regulatory basis for monitoring requirements is per 40 CFR §122.44(i) *Monitoring requirements*, and 40 CFR §122.48(b), *Required monitoring*; all of which have been adopted by reference in A.A.C. R18-9-A905, *AZPDES Program Standards*.

Table 1. Monitoring and Permit Limitations above Drinking Water Treatment Plants (POC IDs 001-012)

Parameter	Lowest Standard/Designated Use	RP Determination	Proposed Monitoring Requirement/Rationale (1)
Flow	---	---	No monitoring is required.
pH	Minimum: Maximum:	No RP	Monitoring required for new well characterization and on-going assessment.
1,2-Dibromo-3-chloropropane (DBCP)	Applicable standard of 0.2 µg/L DWS.	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Arsenic	10 µg/L DWS	RP exists	Monitoring is required and limits are established at points of compliance as specified in the permit.
Boron	1000 µg/L AgI	RP Exists	Monitoring is required and limits are for points of compliance locations, as specified in the permit. This is consistent with the TMDL
Chromium (Total)	100 µg/L DWS	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Chromium VI	21 µg/L DWS	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Copper	500 µg/L Ag/L	No RP	Monitoring required for new well characterization and on-going assessment.
Fluoride	4 µg/L DWS	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Lead	15 µg/L DWS	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Mercury	2 µg/L DWS	No RP	Monitoring required new well characterization and on-going assessment.
Nickel	140 µg/L DWS	No RP	Monitoring required new well characterization and on-going assessment.
Nitrate (NO <sub>3</sub> )	10 mg/L DWS	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit. Instream nitrate monitoring will also be conducted at Chandler, Gilbert, and Goodyear (2-23-0) WTP intakes.
Silver	35 µg/L DWS	No RP	Monitoring required for new well characterization and on-going assessment.
Selenium	20 µg/L AgI	No RP	Monitoring required for new well characterization and on-going assessment.
Tetrachloroethylene (PCE)	5 µg/L DWS	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Tetrachloroethene (TCE)	5 µg/L DWS	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Zinc	2100 µg/L DWS	No RP	Monitoring required for new well characterization and on-going assessment.

Footnotes:

1. The monitoring frequencies are as specified in the permit.

Table 2. Monitoring and Limitations below Drinking Water Treatment Plants (POC IDs 013 - 015)

Parameter	Lowest Standard/Designated Use	RP Determination	Proposed Monitoring Requirement/Rationale (1)
Flow	---	---	No monitoring is required.
pH	Minimum: Maximum:	No RP	Monitoring required for new well characterization and on-going assessment.
1,2-Dibromo-3-chloropropane (DBCP)	No applicable standard.	N/A	Monitoring required for new well characterization and on-going assessment.
Arsenic	200 µg/L AgL	No RP	Monitoring required for new well characterization and on-going assessment.
Boron	1000 µg/L Agl	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit. This is consistent with the TMDL.
Chromium (Total)	1000 µg/L Agl & AgL.	No RP	Monitoring required for new well characterization and on-going assessment.
Chromium VI	No applicable standard.	No RP	Monitoring required for new well characterization and on-going assessment.
Copper	500 µg/L AgL	No RP	Monitoring required for new well characterization and on-going assessment.
Fluoride	No applicable standard	N/A	Monitoring required for new well characterization and on-going assessment.
Lead	100 µg/L AgL	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Mercury	10 µg/L AgL	No RP	Monitoring required for new well characterization and on-going assessment.
Nickel	No applicable standard	N/A	Monitoring required for new well characterization and on-going assessment.
Nitrate (NO3)	No applicable standard	N/A	Monitoring required for new well characterization and on-going assessment.
Silver	No applicable standard	N/A	Monitoring required for new well characterization and on-going assessment.
Selenium	20 µg/L Agl	No RP	Monitoring required for new well characterization and on-going assessment.
Tetrachloroethylene (PCE)	No applicable standard	No RP	Monitoring required for well characterization.
Tetrachloroethene (TCE)	No applicable standard	No RP	Monitoring required for well characterization
Zinc	10,000 µg/L Agl	No RP	Monitoring required for new well characterization and on-going assessment.

Footnotes:

1. The monitoring frequencies are as specified in the permit.

Table 3. Monitoring and Permit Limitations for Urban Lakes (POC IDs 016 – 026)

Parameter	Lowest Standard/Designated Use	RP Determination	Proposed Monitoring Requirement/Rationale (1)
Flow	---	---	No monitoring is required.
pH	Minimum: Maximum:	N/A	Monitoring required for new well characterization and on-going assessment.
1,2-Dibromo-3-chloropropane (DBCP)	No applicable standard	N/A	Monitoring required for new well characterization and on-going assessment.
Arsenic	30 µg/L FBC (Tempe Town Lake) 80 µg/L FC	RP exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Boron	1000 µg/L AgI	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit. This is consistent with the TMDL.
Chromium (Total)	1000 µg/L AgI & AgL.	No RP	Monitoring required for new well characterization and on-going assessment.
Chromium VI	11 µg/L A&Ww	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Copper (2)	26 µg/L A&Ww	No RP	Monitoring required for new well characterization and on-going assessment.
Fluoride	No applicable standard.	N/A	Monitoring required for new well characterization and on-going assessment.
Lead (2)	9.40 µg/L A&Ww	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Mercury	0.01 µg/L A&Ww	RP Indeterminate for A&Ww (High LOQ)	Assessment monitoring is required for well characterization.
Nickel (2)	148 µg/L A&Ww	No RP	Monitoring required for new well characterization and on-going assessment.
Nitrate (NO3)	No applicable standard	N/A	Monitoring required for new well characterization and on-going assessment.
Silver (2)	27 µg/L A&Ww	No RP	Monitoring required for new well characterization and on-going assessment.
Selenium	2 µg/L A&Ww	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit. This is consistent with the TMDL.
Tetrachloroethylene (PCE)	261 µg/L FC	No RP	Monitoring required for new well characterization and on-going assessment.
Tetrachloroethene (TCE)	29 µg/L FC	RP Exists	Monitoring is required and limits are established for points of compliance as specified in the permit.
Zinc (2)	335 µg/L A&Ww	No RP	Monitoring required for new well characterization and on-going assessment.

**Footnotes:**

1. The monitoring frequencies are as specified in the permit.
2. Hardness-dependent metal - the standard for this parameter is based on the average hardness value of the effluent or receiving water as indicated above.

Table 4. Monitoring and Permit Limitations for Total Maximum Daily Load (TMDL Wells) (POC IDs 027 – 037)

Parameter	Lowest Standard/Designated Use	RP Determination	Proposed Monitoring Requirement/Rationale (1)
Boron	1000 µg/L TMDL	RP Exists	Monitoring is required and limits are established in the permit based on the TMDL waste load allocation.
Selenium	10 µg/L TMDL	RP Exists	Monitoring is required and limits are established in the permit based on the TMDL waste load allocation.

### 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 D 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.

For those discharges to non-WOTUS protected surface waters, if the parameter includes an analysis for total metals, the permittee can substitute the dissolved fraction for that parameter, as long as there is a SWQS in the non-WOTUS protected surface water for that parameter that is expressed as dissolved. The metals that are subject to the dissolved fraction and may have a SWQS in a non-WOTUS protected surface water include: cadmium, chromium III, copper, lead, nickel, silver and zinc.

Monitoring locations are specified in the permit (Part I.A and Part II.A.1 and Appendices B, and C) 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).

#### **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.

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

## **XI. SPECIAL CONDITIONS (Part III. of the Permit)**

### **Best Management Practices**

Best management practices are retained in the permit for managing discharges from the groundwater wells and to ensure compliance with the permit limits established in Part I. of the Permit. These best management practices include:

- Instream nitrate monitoring to manage discharges from groundwater wells with elevated nitrate levels. Nitrate monitoring locations were determined during the original permit negotiations in the 1990's and subsequent renewals based upon factors including canal operations, groundwater production, travel times and point of compliance locations;
- Response Actions and Countermeasures to respond to elevated levels of nitrate at drinking water intakes;
- Procedures to manage wells containing elevated levels of TCE and PCE;
- Implementing and maintaining a "Blending Model" to manage the water quality within the canal system to ensure that the applicable designated uses are met at the POCs.

### **De Minimis Discharges**

Requirements have been established for discharges that do not meet the minimum discharge requirement for the purposes of well characterization and on-going assessment monitoring, e.g. do not discharge a minimum of 100 cumulative hours per year for new wells and 500 cumulative hours per calendar year for existing wells, including well purging, shall be considered a De Minimis Discharge and are subject to the requirements of this Section.

### **Discharges from Wells Containing TCE or PCE and Wells of Unknown Water Quality**

Well water discharged into canals upstream of water treatment plants shall not exceed the corresponding domestic water source (DWS) water quality standard or if the water quality is unknown. Discharges in excess of the DWS standards or unknown quality are allowable for purposes of well testing, water quality testing, or capacity testing, and shall be managed as a De Minimis Discharge.

### **Inclusion of New Wells**

The permit allows for inclusion of new wells that are added to the SRP water system during the permit term. The permittee shall submit a notification to ADEQ including water quality data for the parameters listed in Table 3.a.-c. of the Permit. The permit requires continued monitoring of the discharge until 8 data points are obtained while ADEQ is determining whether a permit modification is required.

### **Permit Reopener**

This permit may be modified based on newly available information; to add conditions or limits to address demonstrated effluent toxicity; to implement any EPA-approved new Arizona water quality standard; or to re-evaluate reasonable potential (RP), if assessment levels in this permit are exceeded [A.A.C. R18-9-B906 and 40 CFR Part 122.62 (a) and (b)].

## **XII. ANTIDEGRADATION**

Antidegradation rules have been established under A.A.C. R18-11-107 to ensure that existing surface water quality is maintained and protected. The receiving waters for the discharges are SRP canals. The SRP canals and laterals are man-made conveyances for the transportation of water for drinking water and agricultural uses. The canals are subject to Tier 1 antidegradation protection. The quality of the water in the canals and laterals is variable and dependent on the water supplied by SRP which could be comprised of groundwater, Central Arizona Project Water, or Salt or Verde River water. Permit limitations and monitoring requirements have been established under the proposed permit to ensure that the discharge will meet the applicable water quality standards. As long as the permittee maintains consistent compliance with these provisions, the designated uses of the receiving water will be presumed protected, and the facility will be deemed to meet currently applicable antidegradation requirements under A.A.C. R18-11-107.

## **XIII. STANDARD CONDITIONS**

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

## **XIV. ADMINISTRATIVE INFORMATION**

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

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft AZPDES permit or other significant action with respect to an AZPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

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

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

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

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

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

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

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

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

Arizona Department of Environmental Quality  
Water Quality Division – Surface Water Permits Unit  
Attn: Mindi Cross  
1110 West Washington Street  
Phoenix, Arizona 85007

Or by contacting Ms. Cross at (602) 771 – 2209 or by e-mail at [cross.mindi@azdeq.gov](mailto:cross.mindi@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) 1 and 2C received January 25, 2021, 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 January 5, 2022, January 11, 2022, January 19, 2022, and February 4, 2022.
3. ADEQ files on Salt River Project Groundwater Wells.
4. ADEQ Geographic Information System (GIS) Web site
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*.
  - Part 133. *Secondary Treatment Regulation*.
  - Part 503. *Standards for the Use or Disposal of Sewage Sludge*.
8. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
9. U.S. EPA NPDES Permit Writers' Manual, September 2010.