



Clean Air, Safe Water,
Healthy Land for Everyone



FY23

WATER QUALITY ASSURANCE REVOLVING FUND (WQARF)

ANNUAL REPORT



FOREWORD

The Water Quality Assurance Revolving Fund (WQARF) program identifies, assesses and mitigates contamination of groundwater and overlying soil at sites throughout Arizona. This program is essential to protect and remediate Arizona’s aquifers, which all are designated by state law as sources of drinking water. Many Arizona communities and families rely solely on groundwater as their drinking water source and look to Arizona Department of Environmental Quality (ADEQ) to safeguard it.

ADEQ carefully evaluates and lists new sites that require investigation and cleanup, working with affected communities to inform and engage them as WQARF sites are addressed throughout the cleanup and delisting process. WQARF funding also allows ADEQ to respond to emergencies that involve hazardous materials and evaluate the impacts of wildfires.

The dedicated team of experts at ADEQ who are responsible for implementing this program are making steady progress toward addressing sites listed on the WQARF Registry, working with partners in the private sector as well as fellow public agencies. The work is technically complex and requires long-term financial resources, but our team is committed to delivering results effectively and efficiently. To illustrate ADEQ’s pursuit of technical excellence and commitment to public health and environmental benefits, highlights of our team’s recent work at selected sites are included in this FY23 Annual Report. There is much more work to be done with new sites and additional regulated contaminants emerging.

I am grateful to all of our stakeholders for their steadfast support of this critical program. ADEQ redoubles its commitment to them and to all of the residents of our state. Our investment in WQARF helps to ensure Arizona’s long-term water security and sustainability, and to fulfill ADEQ’s mission to protect and enhance public health and the environment.

Karen Peters
Director



Our Mission and Vision

To protect and enhance public health and the environment in Arizona.

Through consistent, science-based environmental regulation; and clear, equitable engagement and communication;

With integrity, respect, and the highest standards of effectiveness and efficiency;

Because Arizonans treasure the unique environment of our state and its essential role in sustaining well-being and economic vitality, today and for future generations.

**Clean Air, Safe Water,
Healthy Land for Everyone**

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EXECUTIVE SUMMARY

This report has been prepared for the WQARF as required by Arizona Senate Bill 2862 (Laws 2022, Chapter 313) and meets the requirements for both the September 1, 2023 and October 1, 2023 deadlines.

Created under the Environmental Quality Act of 1986, the WQARF program, administered by ADEQ, is responsible for identifying, prioritizing, assessing and mitigating the public health and environmental threat of contaminants in groundwater and overlying soil at sites in the state. In 1997, the WQARF Program underwent significant legislative reform that included a change from joint and several to proportionate liability for the costs of site investigation and cleanup; mandated annual funding of \$18 million to pay for the orphan share created from the new proportionate liability; enhanced community involvement; provided flexibility of cleanup methods and goals; and provided guidance for site prioritization.

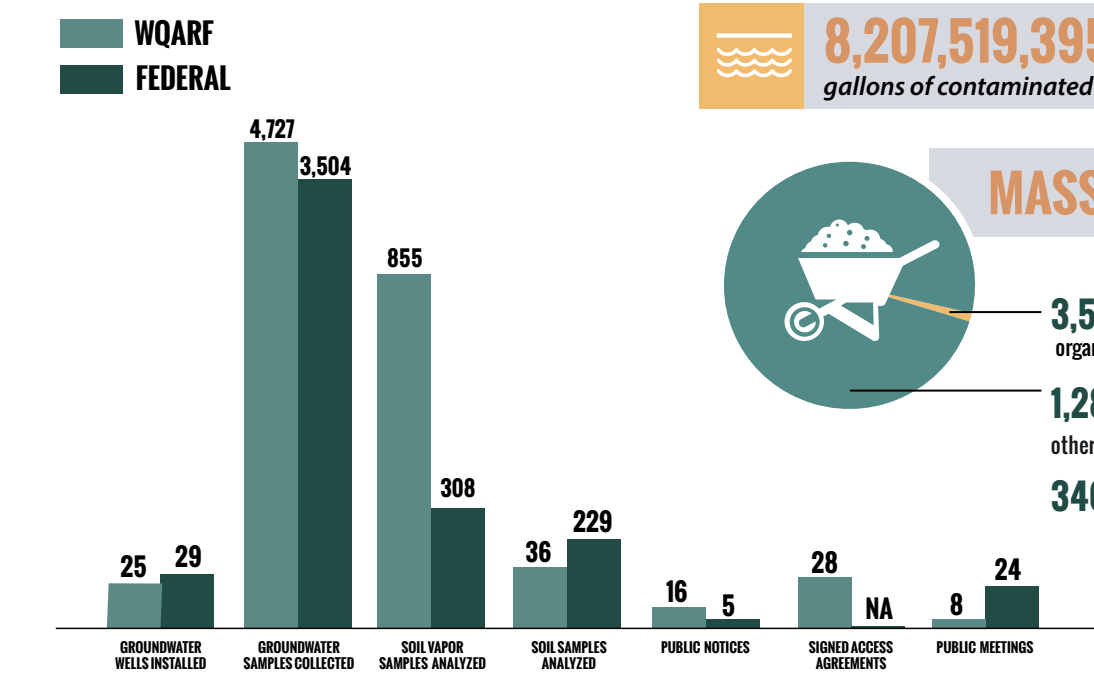
38

of the state's worst contaminated sites are being cleaned up through WQARF

21

additional sites are being monitored or evaluated for WQARF listing

FY23 SUPPORTING ACTIVITIES FOR STATE AND FEDERAL SITES



FY23 MILESTONES

- 2 | Feasibility Study Completed
- 2 | Early Response Action Completed

FY23 MISSION OUTCOMES (OVERALL TOTALS)

8,207,519,395 BILLION
gallons of contaminated groundwater treated

MASS REMOVED
3,512 pounds of volatile organic compounds
1,284,094 pounds of metals and other hazardous waste removed
346 tons of contaminated soil removed



PROJECT HIGHLIGHT

BAHAMA AVENUE AND BIMINI LANE FIRST REMEDY

The Bahama Avenue and Bimini Lane WQARF Site, located in Lake Havasu City, was discovered due to trichloroethene (TCE) and tetrachloroethene (PCE) being detected in groundwater. While looking for possible sources of the contamination, ADEQ staff identified an old subsurface waste oil clarifier at a former facility.

The waste oil clarifier had been historically used to reduce the amount of waste oils and solvents in wastewater coming from floor drains and other waste pipes in a nearby building. While the drains and pipes had been sealed off and the clarifier was no longer in use, residual sludge was found in the clarifier. Analysis of the sludge found the presence of both TCE and PCE.

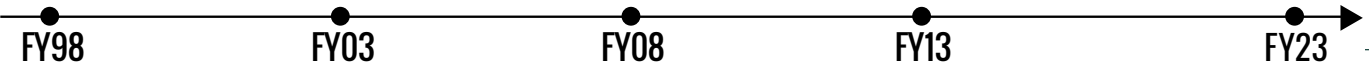
In December 2022, 1,300 gallons of residual sludge was vacuumed out of the clarifier. After that removal, the concrete walls of the clarifier were removed and soil samples collected in the side walls and bottom of the excavation. Results showed PCE was present in soils under and around the former clarifier at concentrations exceeding Groundwater Protection Levels and Soil Remediation Limits, thus requiring further excavation. In-field analysis was used to determine when the excavation was sufficient to remove all soil above regulatory levels.

Over 50 tons of contaminated soil were removed. The excavated area was lined with geotextile fabric, backfilled and compacted with imported clean soil, and resurfaced with concrete to match the area near the building. If left undetected and unremediated, PCE and TCE migrating from the 50 tons of contaminated soil had the potential to contaminate millions of gallons of groundwater, rendering it unsafe for drinking.

WQARF PROGRAM TIMELINE

REMOVED

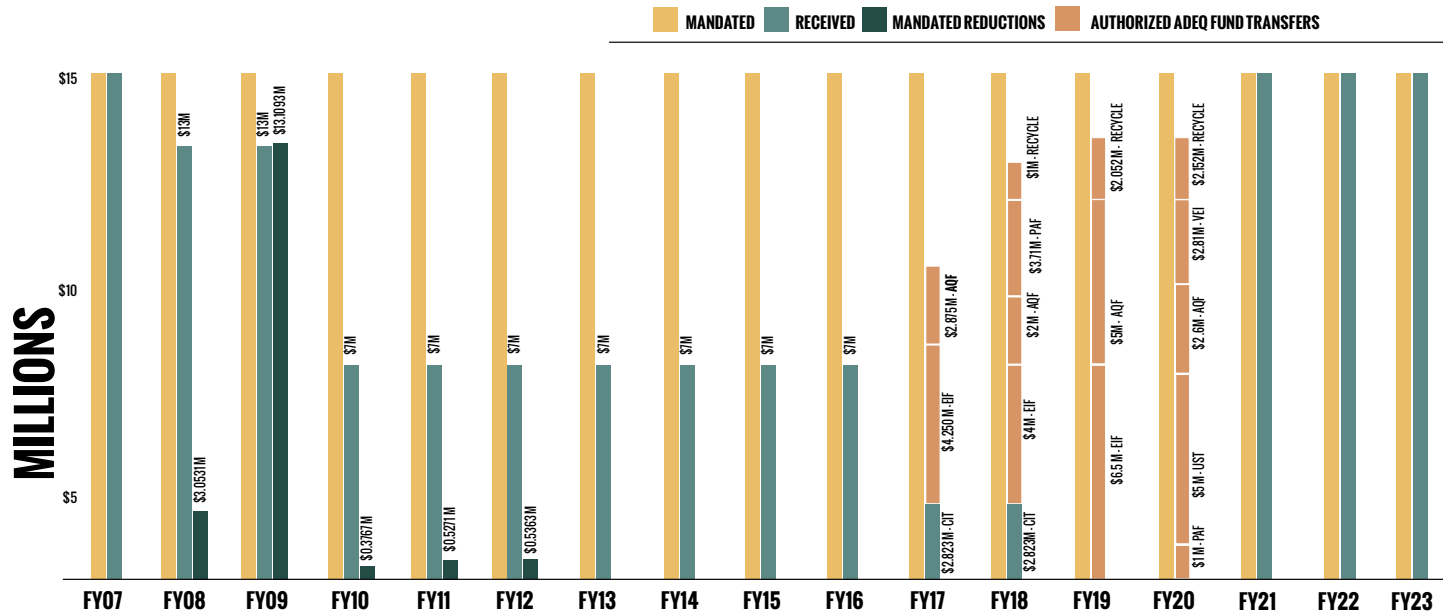
ACTIVE



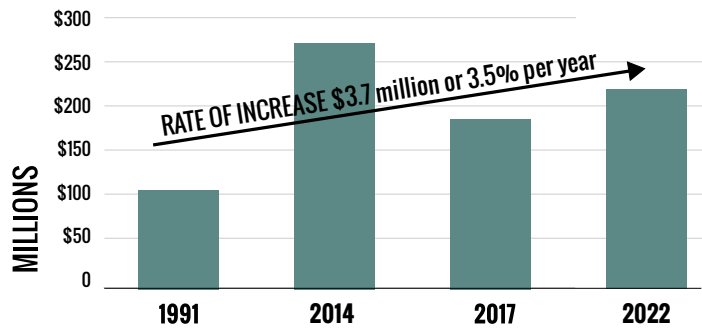
WQARF FUNDING

Arizona Revised Statutes (A.R.S) §49-282(B) specifies a cap of \$18 million annually with \$15 million of that coming from Corporate Income Tax (CIT) revenue. Since FY21, ADEQ has received the \$15 million that was statutorily mandated from the state’s general fund.

CORPORATE INCOME TAX REVENUE COMPARISON FY07 - FY23



ORPHAN SHARE ESTIMATE



An “orphan share” is the percentage of total assessment and cleanup costs for a WQARF site that cannot be attributed to any viable responsible party. As a result of the 1997 legislative reforms, the State is responsible for paying the orphan share using WQARF funds. WQARF’s orphan share liability estimate was modeled using Remedial Action Cost Engineering Requirements (RACER®) software, supported by AECOM Asset Management Division, an ADEQ contractor.

WQARF’s orphan share increased from 35 percent of the total liability in 1991 to 62.5 percent in 2014. In 2023, it was estimated at 69 percent. This means the State remains liable for over two-thirds of the costs of cleanup currently needed due to a lack of a viable third party in place to address the contamination. Current estimates indicate State liability at \$218 million.

FUNDS ARE USED FOR:

- **WQARF Registry** | Conducting remedial actions at sites currently in the WQARF program
- **3rd Party Work** | Oversight of privately funded cleanup efforts at WQARF Registry sites
- **Cross-Program Remedial Action** | Cleanup of selected sites and/or water quality data gathering for projects led by other programs within ADEQ
- **Emergency Response** | Immediate action to address confirmed contamination or threat of contamination that could impact public health and/or the environment
- **Agency Partners** | Work conducted by other State agencies
- **Federal Oversight** | Review and oversight of work done by the Environmental Protection Agency (EPA) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 104
- **Voluntary Remediation Program** | Oversight of voluntary cleanup funded by property owners and other interested parties

FY23 WQARF SITE MISSION OUTCOMES

REMEDIATION:

173 Tons Contaminated Soil Removed

51 | Bahama Avenue & Bimini Lane

122 | ECP 32nd Street & Indian School Road

45 Remediation Systems Operated

39 | Existing Systems Operated (Installed prior to FY23)

6 | Systems Installed in FY23

Volatile Organic Compounds (VOCs) Removed

Los Reales Landfill	2
Cooper Road & Commerce Avenue	7
Shannon Road & El Camino del Cerro	8
7th Street & Arizona Avenue	14
1st Avenue & Hopi Drive (PI Site)	14
Stone Avenue & Grant Road	24
Park-Euclid	25
WCP North Canal Plume	28
7th Street & Missouri Avenue	80
WCP North Plume	84
Central Avenue & Camelback Road	130
Silverbell Landfill	211
19th Avenue & Osborn Road (PI Site)	653

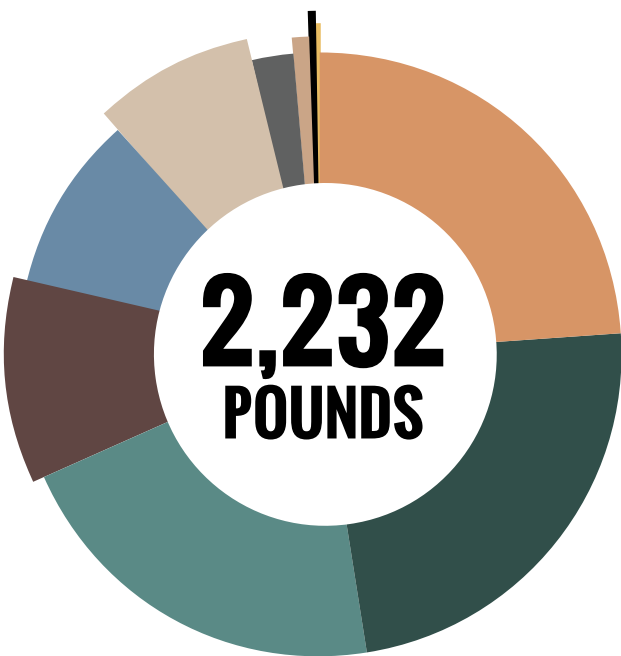
TOTAL POUNDS: 1,280

FY23 FEDERAL SITE MISSION OUTCOMES

REMEDIATION:

Volatile Organic Compounds (VOCs) Removed

PGA North	539
Motorola 52nd Street OU1	525
Hassayampa Landfill	464
North & South Indian Bend Wash	229
Motorola 52nd Street OU2	217
TARP	182
PGA South/Western Avenue	51
Tucson Airport Property	18
Kachina/Joray	6
Williams AFB	1



173 Tons Contaminated Soil Removed

5 | Kachina/Joray

168 | PGA South/Western Avenue

49,239

Pounds of Metal and Other Hazardous Substances Removed from Apache Powder

Gallons of Groundwater Treated

Pinal Creek	1,152,617,000
Silverbell Landfill	459,558,596
Shannon Road & El Camino del Cerro	81,200,000
Payson PCE	44,691,928
Los Reales Landfill	39,186,889
Walbash Street & Reno Avenue (PI Site)	18,709,000
Broadway-Pantano	11,350,051
Miracle Mile	6,936,976
Highway 260 & Main Street	4,885,078
56th Street & Earll Drive	1,495,000

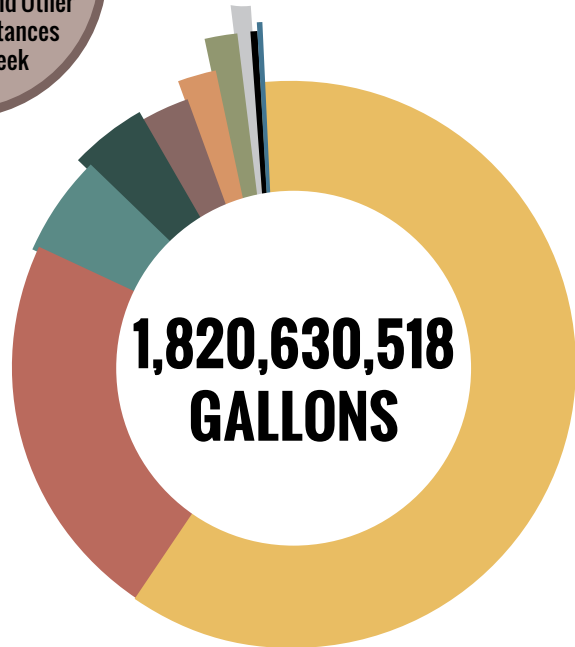
Gallons of Groundwater Treated

PGA North	2,698,000,000
TARP	1,529,308,000
North & South Indian Bend Wash	803,190,000
Motorola 52nd St. OU2	660,614,000
PGA South/Western Avenue	451,900,000
Central Tucson PFAS	92,200,000
Motorola 52nd St. OU1	77,909,000
Apache Powder	46,128,859
Tucson Airport Property	26,044,018
Hassayampa Landfill	1,595,000



1,234,855

Pounds of Metal and Other Hazardous Substances from Pinal Creek





PROJECT HIGHLIGHT

LAKE HAVASU AVENUE AND HOLLY AVENUE IN-SITU BIOREMEDIATION

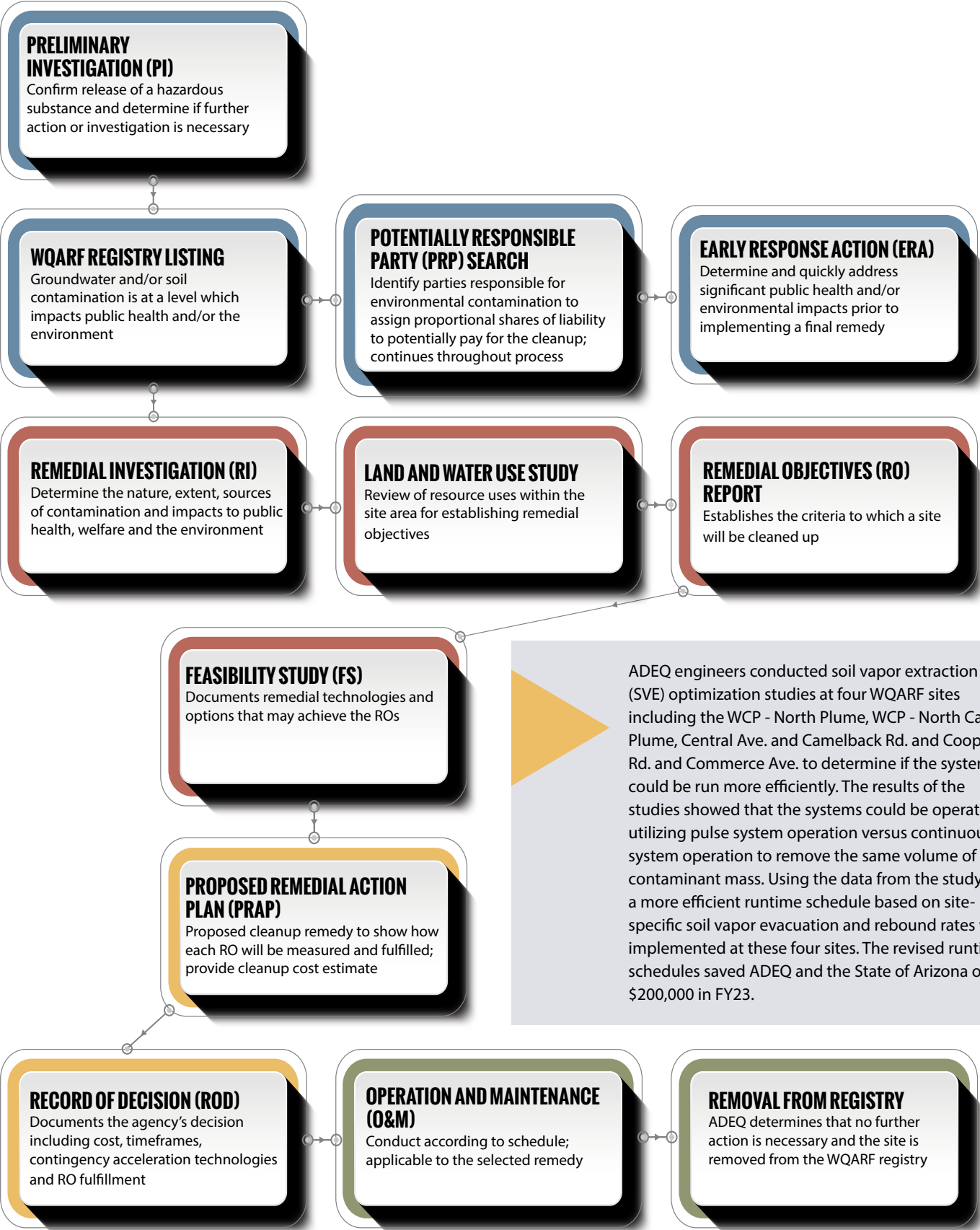
The Lake Havasu Avenue and Holly Avenue WQARF Site, located in Lake Havasu City, has groundwater contaminated with chromium, nitrate, and chlorinated volatile organic compounds (CVOCs). The site is less than a mile upgradient of Lake Havasu City drinking water supply wells.

When Lake Havasu City informed ADEQ that it would be increasing pumping from its wells, ADEQ implemented an in-situ early response action to treat the area of contamination closest to the wells, thus protecting them from potential contaminant impacts.

The “in-situ” remedial system works by injecting food-grade sugars and oils directly into the contaminated groundwater to increase the native microbial population, which remediates the contamination. The microbes reduce the chromium contamination to a non-toxic, non-soluble form. Nitrate is consumed as a nutrient by the microbes, while the CVOCs are also reduced by incidental processes.

As a result, concentrations of all contaminants in the injection area are now below safe drinking water levels. In addition, the plume moved further away from the Lake Havasu City wells and decreased in size by 75 percent. Due to this success, a second treatment system was installed in the former source area, and both systems are continuing into FY24.

WQARF PHASES AND TERMS



FY23 WQARF REMEDIATION

PDF version available at azdeq.gov/wqarf/2023wqarf_annualreport.pdf. Click each of the following sites to visit associated webpages.

7TH STREET AND ARIZONA AVENUE

Continued operation of SVE system

7TH AVENUE AND BETHANY HOME ROAD



Continued MNA and ERD injections to groundwater

16TH STREET AND CAMELBACK ROAD



Continued MNA of the groundwater

20TH STREET AND FACTOR AVENUE

Continued ERD injections to groundwater; engineered CAP maintenance

7TH STREET AND MISSOURI AVENUE



Continued operation of an in-situ groundwater treatment system and operation of SVE system

51ST AVENUE AND CAMELBACK ROAD



Continued remedial investigation

56TH STREET AND EARLL DRIVE

Continued operation of groundwater pump and treat system

BAHAMA AVENUE AND BIMINI LANE



Continued remedial investigation; conducted soil excavation and clarifier removal in source areas as an Early Response Action

WQARF REMEDIATION CONTINUED

BROADWAY-PANTANO

Engineered cap maintenance; continued ISCO groundwater treatment system at Broadway North Landfill

CENTRAL AVENUE AND CAMELBACK ROAD



Continued operation of the SVE system including in-situ treatment of the soil; decommissioned groundwater extraction treatment system

COOPER ROAD AND COMMERCE AVENUE

Conducted MNA and optimization of SVE system

ECP - 24TH STREET AND GRAND CANAL



Continued operation of in-situ groundwater treatment system

ECP - 32ND STREET AND INDIAN SCHOOL ROAD

Continued operation of ERD groundwater treatment pilot study and soil excavation at the source area as Early Response Action

ECP - 38TH STREET AND INDIAN SCHOOL

Conducted additional characterization of the groundwater plume

ECP - 40TH STREET AND OSBORN ROAD

Continued groundwater monitoring and sampling of contaminant plume

ECP - 48TH STREET AND INDIAN SCHOOL ROAD

Continued groundwater monitoring and sampling of contaminant plume

ESTES LANDFILL

Continued MNA

HIGHWAY 260 AND JOHNSON LANE

Continued operation of 3 wellhead treatment systems

HIGHWAY 260 AND MAIN STREET



Continued operation of 12 wellhead treatment systems; installation of one additional wellhead treatment system in FY23; continued ERD groundwater treatment pilot test

KLONDYKE TAILINGS PROJECT

Maintenance of engineered repository

LAKE HAVASU AVENUE AND HOLLY AVENUE



Completed FS Report; expansion and continued operation of ERD groundwater treatment pilot test

WQARF REMEDIATION CONTINUED

LOS REALES LANDFILL

Continued operation of pump and treat system

MILLER VALLEY AND HILLSIDE AVENUE

Conducted in-situ groundwater treatment pilot study

MIRACLE MILE

Continued operation of two wellhead treatment systems

PARK-EUCLID

Continued operation of SVE system and groundwater and soil vapor MNA

PAYSON PCE

Continued operation of groundwater treatment system

PINAL CREEK



SHANNON ROAD/EL CAMINO DEL CERRO

Continued operation of a groundwater treatment system for Metro Water to supply drinking water to residents

SILVERBELL LANDFILL

Continued operation of groundwater extraction and treatment system

SOUTH MESA

Continued operation of in-situ chemical oxidation (ISCO) groundwater treatment pilot test

STONE AVENUE AND GRANT ROAD



VULTURE MILL



WCP - EAST GRAND AVENUE

Continued groundwater monitoring and sampling

WCP - NORTH CANAL PLUME

Continued operation of SVE system

WCP - NORTH PLUME



WCP - WEST OSBORN COMPLEX



WESTERN AVENUE PLUME

Continued operation of groundwater treatment system and MNA

WEST VAN BUREN

No significant activity



PROJECT HIGHLIGHT

THE EAST CENTRAL PHOENIX 24TH STREET AND GRAND CANAL WQARF SITE GROUNDWATER REMEDIATION

The East Central Phoenix 24th Street and Grand Canal WQARF Site consists of a contaminated groundwater plume containing (PCE) at concentrations that exceed safe drinking water standards. The source of the contamination is two former dry cleaners.

One of the remedial technologies proposed to remediate the PCE-impacted groundwater is ISCO. An ISCO ozone sparge pilot study was implemented at the source area property in 2020. ISCO ozone sparge technology is an innovative approach that includes injection of ozone microbubbles directly into the groundwater to degrade contamination to non-hazardous or less toxic compounds. As part of the pilot study, an ozone generating system and five new injection wells were installed. The treatment system delivered ozone directly into the five injection wells.

The ozone sparge system operated between April 2020 and June 2022, during which PCE concentrations in the source area decreased to below safe drinking water standards for PCE. March 2023 sampling results indicate that PCE concentrations remain below standards. Successful implementation of this technology provided source area remediation, effectively mitigating contaminant impact to groundwater without the need for additional system infrastructure. No further active source area treatment is required at this time and the ozone sparge system has since been decommissioned. Implementation of the ISCO ozone sparge technology versus using a more traditional technology reduced the clean-up time of the source area by approximately five years.

WQARF REMEDIATION CONTINUED

REMOVED FROM REGISTRY (SINCE 2014)

- 1. Harrison Road and Millmar Road Dross (Tucson) | FY20
- 2. WCP - West Grand Avenue (Phoenix) | FY17
- 3. ECP - 40th Street and Indian School Road (Phoenix) | FY17
- 4. Tyson Wash (Quartzite) | FY17
- 5. Tonto and Cherry (Payson) | FY14
- 6. East Washington Fluff (Phoenix) | FY13

REMEDATION ACRONYMS

- ERD** | Enhanced Reductive Dechlorination
- GAC** | Granulated Activated Carbon
- ISCO** | In-Situ Chemical Oxidation
- MNA** | Monitored Natural Attenuation
- SVE** | Soil Vapor Extraction

WQARF PROGRAM COMMUNITY INVOLVEMENT

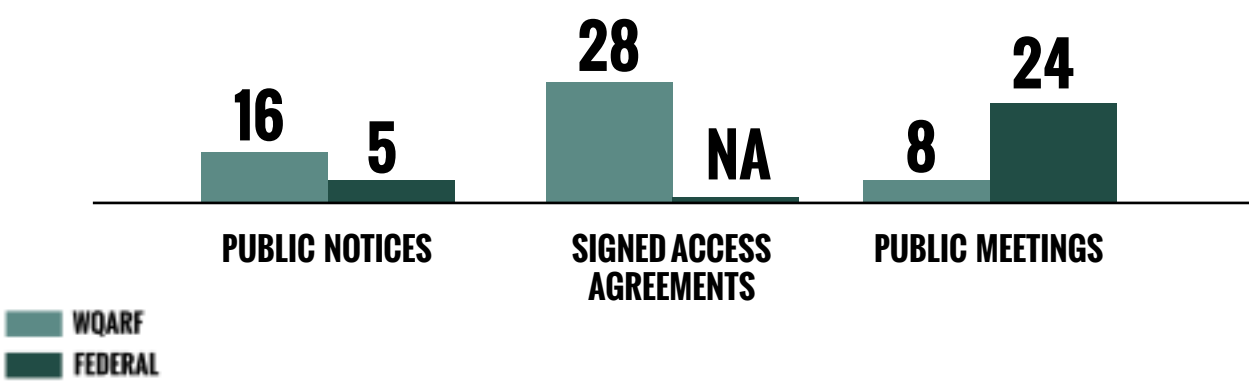
The WQARF program includes robust community involvement requirements. ADEQ staff recruit and manage Community Advisory Boards (CABs) for each site on the WQARF Registry, provide regular site updates via CAB meetings and the ADEQ website, maintain up-to-date Community Involvement Plans, interact with community members and elected officials, and seek opportunities to inform and engage stakeholders via presentations, public notices and fact sheets.

“I am very appreciative that ADEQ has worked so well with our community, ensuring that CAB members and the general public understand the cleanup process, and keeping us informed along the way.”

- Matt Patterson, Highway 260 & Johnson Lane Community Advisory Board member

“I am glad that our [West Central Phoenix] CAB meeting materials are now translated into Spanish. This makes it easier to share with my neighbors.”

- Rosa Pastrana, West Central Phoenix Community Advisory Board member



WQARF STATUS

SITE	ERA			RI			FS			PRAP			ROD			O&M		
	FY22	FY23	FY24	FY22	FY23	FY24	FY22	FY23	FY24	FY22	FY23	FY24	FY22	FY23	FY24	FY22	FY23	FY24
An 'X' indicates the WQARF phase the Site was in during the fiscal year displayed at the top of the column.																		
7th Avenue and Arizona Avenue													X	X	X	X	X	X
7th Street and Bethany Home Road													X	X	X	X	X	X
7th Street and Missouri Avenue										X				X	X	X	X	X
16th Street and Camelback Road													X	X	X	X	X	X
20th Street and Factor Avenue													X	X	X	X	X	X
51st Avenue and Camelback Road				X	X	X												
56th Street and Earll Drive	X	X	X				X				X	X						
Bahama Avenue and Bimini Lane		X	X	X	X	X												
Broadway-Pantano	X	X								X	X				X			
Central Avenue and Camelback Road	X	X								X	X				X			X
Cooper Road and Commerce Avenue													X	X	X	X	X	X
ECP – 24th Street and Grand Canal	X	X	X				X	X				X						
ECP – 32nd Street and Indian School Road	X	X	X				X	X				X						
ECP – 38nd Street and Indian School Road							X	X	X									
ECP – 40th Street and Osborn Road										X	X	X						
ECP – 48th Street and Indian School Road										X	X	X						
Estes Landfill													X	X	X	X	X	X
Highway 260 and Johnson Lane													X	X	X	X	X	X
Highway 260 and Main Street	X	X	X				X	X				X						
Klondyke Tailings Project													X	X	X	X	X	X
Lake Havasu Avenue and Holly Avenue	X	X	X				X	X			X	X						
Los Reales Landfill (Pre-1997 WQARF*)													X	X	X	X	X	X
Miller Valley and Hillside Avenue	X	X	X				X	X			X	X						
Miracle Mile	X	X								X	X				X			X
Park-Euclid													X	X	X	X	X	X
Payson PCE													X	X	X	X	X	X
Pinal Creek (Pre-1997 WQARF*)													X	X	X	X	X	X
Shannon Road/El Camino del Cerro	X	X	X							X	X	X						
Silverbell Landfill (Pre-1997 WQARF*)													X	X	X	X	X	X
South Mesa													X	X	X	X	X	X
Stone Avenue and Grant Road													X	X	X	X	X	X
Vulture Mill													X	X	X	X	X	X
WCP – East Grand Avenue										X	X				X			
WCP – North Canal Plume	X	X	X							X	X	X						
WCP – North Plume													X	X	X	X	X	X
WCP – West Osborn Complex	X	X	X							X	X	X						
Western Avenue Plume													X	X	X	X	X	X
West Van Buren							X	X	X									

* Under Pre-1997 WQARF, Remedial Action Plans (RAPs) are equivalent to RODs



FY23 WQARF PROGRESS



WQARF PHASES COMPLETED

PI



FS

- **Miller Valley and Hillside Avenue (Prescott)**
- **Lake Havasu Avenue and Holly Avenue (Lake Havasu)**

ERA

- **Bahama Avenue and Bimini Lane (Lake Havasu)**
- **ECP - 32nd Street and Indian School Road (Phoenix)**

THIRD-PARTY WORK

ADEQ also oversees WQARF site investigation and remedial activities that cooperating parties pay for and conduct. Costs ADEQ incurs for this oversight are recoverable.

Site	Third-Party	Terms of Activity
56th Street and Earll Drive	NXP USA, Inc. (formerly Freescale Semiconductor, Inc.)	Consent Order
Los Reales Landfill	City of Tucson	Remedial Action Plan
Pinal Creek	Freeport McMoRan Inc. as successors of interest under a Consent Decree; BHP and Pinal Creek Working Group	Consent Decree
Silverbell Landfill	City of Tucson	Remedial Action Plan
West Central Phoenix (WCP) - East Grand Avenue	Univar	Working Agreement

PROJECT HIGHLIGHT

PINAL CREEK WQARF SITE

Freeport-McMoRan Miami, Inc. (FMMI) provided a tour of the Pinal Creek WQARF Site to ADEQ staff on October 27, 2022. In 1999, FMMI constructed the Lower Pinal Creek (LPC) Groundwater Treatment Facility which began extracting and treating the leading edge of the acid-metals-laden contaminated groundwater plume emanating from source areas within the Pinal Creek WQARF Site. The LPC Groundwater Treatment Facility continues to operate today, has extracted over 73 billion gallons of groundwater, and removed approximately 118 million pounds of metals from the aquifer since operation began in 1989. During the tour, FMMI showed ADEQ staff the LPC Groundwater Treatment Facility as well as various contaminant source areas and remedial actions implemented. The tour provided ADEQ staff with an understanding of how a comprehensive environmental contamination investigation and remediation program can be implemented at a very large scale, and it aligned with ADEQ's vision of building technical excellence within the agency.



CROSS-PROGRAM REMEDIAL ACTION

WQARF funds can also be used to perform Remedial Actions pursuant to A.R.S. §49-281(12) and §49-282(E)(2)(a), as well as to fund cleanup of selected sites to protect public health and the environment from a release or threat of release of a hazardous substance or pollutant under authority of A.R.S. §49-282.02. Under this authority, the WQARF program conducted work at the following sites:

CENTRAL TUCSON PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) CHARACTERIZATION AND DEMONSTRATION TREATMENT PROJECT

Program monies were used to support characterization and treatment of PFAS in groundwater in central Tucson as well as operation of a wellhead treatment system to treat PFAS-impacted drinking water at Tucson Water Well C-007A.

MOUNTAIN VIEW ESTATES (GLOBE)

Performed operation and maintenance of a soil cap for this former Federal Superfund site.

FY23 SURFACE WATER QUALITY ASSESSMENT AND MANAGEMENT

The WQARF program also helped provide the ADEQ Surface Water Quality Improvement Section with data necessary to evaluate the quality of Arizona’s water bodies, develop watershed improvement plans, assess projects implemented, and improve water quality throughout Arizona.

- Internal staff and contractors collected and analyzed 617 samples from 148 stream sites.
- Volunteers collected and analyzed 793 samples from 122 stream sites.
- Internal staff and contractors collected and analyzed 30 samples from 10 lakes.
- Completed 29 Streamflow Duration Assessment Method sites in support of the new Waters of Arizona Program.
- WQARF funding enabled the Watershed Improvement Unit in completing remediation at two abandoned mine sites and began remediation at one abandoned mine site in FY23. The funding also provided resources to expand the team’s stream sampling post-remediation at six abandoned mine sites.

FY23 EMERGENCY RESPONSE UNIT (ERU) ACTIONS

WQARF funds are used for a wide array of critical remedial response actions taken by the ADEQ ERU to protect public health and the environment from a release or threat of release of a hazardous substance or pollutant through A.R.S. 49-282(E)(8).

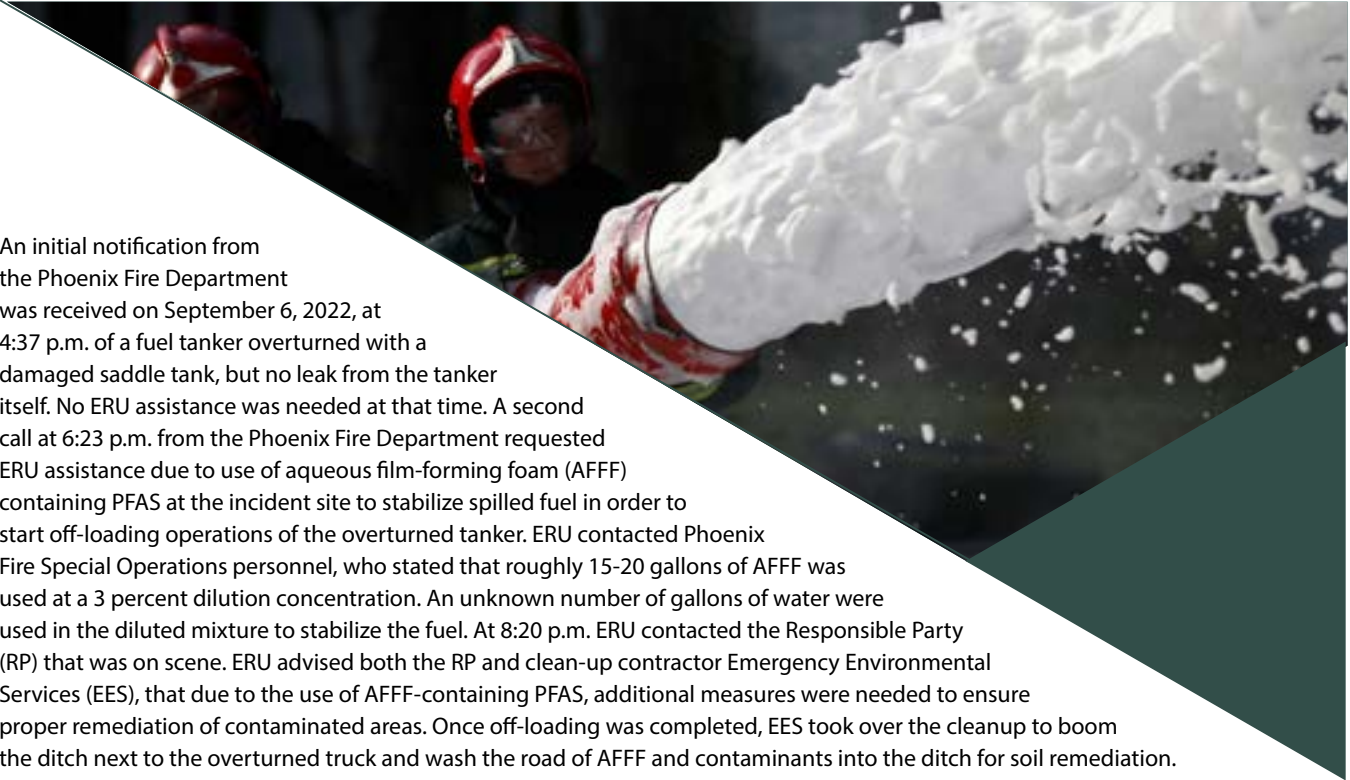
These actions included:

- Responding to chemical spills
- Coordinating statewide emergency response actions (e.g., wildfires)
- Serving on multi-agency taskforces to address potential statewide health risks
- Monitoring air quality during unplanned or emergency events (e.g., industrial facility fires)
- Detecting and identifying potentially harmful chemicals for fire departments and public safety personnel

PREPAREDNESS RESPONSE SUMMARY



EMERGENCY RESPONSE SPOTLIGHT



An initial notification from the Phoenix Fire Department was received on September 6, 2022, at 4:37 p.m. of a fuel tanker overturned with a damaged saddle tank, but no leak from the tanker itself. No ERU assistance was needed at that time. A second call at 6:23 p.m. from the Phoenix Fire Department requested ERU assistance due to use of aqueous film-forming foam (AFFF) containing PFAS at the incident site to stabilize spilled fuel in order to start off-loading operations of the overturned tanker. ERU contacted Phoenix Fire Special Operations personnel, who stated that roughly 15-20 gallons of AFFF was used at a 3 percent dilution concentration. An unknown number of gallons of water were used in the diluted mixture to stabilize the fuel. At 8:20 p.m. ERU contacted the Responsible Party (RP) that was on scene. ERU advised both the RP and clean-up contractor Emergency Environmental Services (EES), that due to the use of AFFF-containing PFAS, additional measures were needed to ensure proper remediation of contaminated areas. Once off-loading was completed, EES took over the cleanup to boom the ditch next to the overturned truck and wash the road of AFFF and contaminants into the ditch for soil remediation.

AIR QUALITY MONITORING SUPPORT FOR EMERGENCY RESPONSE

ADEQ ERU has partnered with Maricopa County Air Quality Department as the emergency response provider for incidents that occur after business hours. This initiative includes assisting public safety personnel with air quality monitoring during incidents with high impact to communities in metropolitan areas in Maricopa County.

In FY23, ADEQ ERU provided support for:

- Four incident responses for air quality monitoring in the Phoenix metropolitan area.

AGENCY PARTNERS

ARIZONA DEPARTMENT OF WATER RESOURCES (ADWR)

Program monies can be used to fund support services to WQARF by ADWR pursuant to A.R.S. §49-282(C) and §49-282(E)(12).

These services are part of the Arizona Water Quality Fund Program and include, but are not limited to:

- Performing technical review of well applications, such as Notices of Intent (NOIs) to Drill/Abandon/Deepen/Modify/Replace a Well, Applications to Drill and Operate a Non-Exempt Well, and Groundwater Withdrawal Permits* and consult with ADEQ regarding new wells, abandonments, modifications to wells near remedial action sites.
- Conducting well inventories to support the WQARF program, as requested.*
- Coordinating with ADEQ regarding database needs in support of the WQARF program.**
- Establishing a mechanism to exchange verified well locations and GPS measurements within ADWR’s Well Registry (WELLS55) database.*
- Performing other WQARF and water quality activities as required by statute, rule or Interagency Service Agreement (ISA).

**Recommended by Groundwater Cleanup Task Force*

*** Required by statute or law*

FY23 ARIZONA WATER QUALITY FUND PROGRAM ACCOMPLISHMENTS

3,618 *Reviews of NOIs to Drill/Abandon/Deepen/Modify/Replace wells for proximity to WQARF/CERCLA or other remedial action sites*

745 *Reviews of NOIs to Drill/Abandon/Deepen/Modify/Replace wells near or within WQARF/CERCLA or other remedial action sites for water quality concerns, potential contaminant plume migration and well construction*

115 *Reviews of permit applications to withdraw groundwater for proximity to WQARF/CERCLA or other remedial action sites*

8 *Technical reviews of well permit applications near or within WQARF/ CERCLA or other remedial action sites for water quality concerns, potential contaminant plume migration, well construction, and well impacts. These permits included Poor Quality Groundwater Withdrawal Permits for remediation projects.*

4 *Quarterly reports submitted to ADEQ as required by ISA*

1 *Annual FY23 report on ADWR WQARF activities submitted to the Governor and Legislature*

ARIZONA DEPARTMENT OF HEALTH SERVICES (ADHS)

WQARF funds can be used for assessment and evaluation of the effects to public health of hazardous substances releases or threatened releases by the ADHS pursuant to A.R.S. §49-282(E)(15).

ADHS declined funding in FY23.

FY23 WQARF FINANCIALS

FY23 WQARF COST RECOVERY ACTIVITY

Pursuant to A.R.S. § 49-282(E)(1), WQARF can be used to provide state matching funds or to meet other obligations as prescribed by §104 of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). WQARF funds are also used for oversight activities at state-lead CERCLA sites, which are reimbursed by the responsible parties. Cost reimbursement activities at WQARF and CERCLA sites supported by ADEQ are provided below.

Site Code	Site Name	Number of Cost Recovery Packages	Amount (in Dollars)
030016-99	Camp Navajo DEMA	5	\$4,347.09
040010-00	Pinal Creek	2	\$10,269.32
040042-00	Copper Cities Unit	2	\$13,143.09
040050-00	Miami Tailings Reprocessing	1	\$8,684.05
040098-00	Magma Copper Old Dominion Mine	1	\$2,541.67
400000-04	North Indian Bend Wash	1	\$20,083.13
509216-00	56th Street and Earll Drive	2	\$907.95
512051-00	Maroon Crater	5	\$5,857.09
512357-00	Honeywell 34th Street	4	\$17,605.97
512820-00	Kingman Range NDNODS	4	\$698.54
501146-00	WAPA	4	\$5,569.60
070241-01	Papago Park Military Reservation	2	\$81.79
030016-15	Camp Navajo	3	\$4,213.32
501170-00	Silverbell Army Heliport	3	\$1,356.84
513284-00	Fort Tuthill	5	\$6,446.56
Total Reimbursement Requested		44	\$101,806.01
Total Payments Received*			\$70,132.97

FY23 WQARF REVENUES AND EXPENDITURES

Note:
All figures expressed in thousands.

BALANCE	FY22 ACTUAL	FY23 PROJECTION	FY23 ACTUAL
Beginning Fund Balance - WQARF & Priority Sites	\$4,810.8	\$8,288.1	\$8,288.1
Beginning Fund Balance - Site-Specific Account	\$339.0	\$967.5	\$967.5
Subtotal: Funds Available	\$5,149.8	\$9,255.6	\$9,255.6
Prior Year Corporate Income Tax Reversion	\$0.0	\$0.0	\$0.0
Total Balance from Prior Year	\$5,149.8	\$9,255.6	\$9,255.6

REVENUE SUBJECT TO 18M CAP	FY22 ACTUAL	FY23 PROJECTION	FY23 ACTUAL
Corporate Income Tax (CIT)	\$15,000.0	\$15,000.0	\$15,000.0
Emissions Inspection Fund	\$0.0	\$0.0	\$0.0
Air Quality Fund	\$0.0	\$0.0	\$0.0
Underground Storage Tank Fund	\$0.0	\$0.0	\$0.0
Permit Administration Fund	\$0.0	\$0.0	\$0.0
Recycling Fund	\$0.0	\$0.0	\$0.0
FEES:			
Municipal Water (A.R.S. 42-5302) (4199)	\$750.2	\$627.5	\$607.3
Fertilizer Registration (A.R.S. 3-272)	\$36.0	\$63.7	\$78.0
HW Facility Registration Fee (A.R.S. 49-929/49-930)	\$185.3	185.3	\$166.6
HW Manifest Re-submittal Fee (A.R.S. 49-922.01)	\$0.0	\$0.0	\$0.0
Industrial Discharge Permit Fee (A.R.S. 49-209)	\$29.4	\$30.4	\$27.6
Pesticide Registration (A.R.S. 3-351)	\$992.8	\$1,017.6	\$1,067.6
Quality Assurance Fee (A.R.S. 45-616)	\$0.0	\$0.0	\$0.0
Subtotal: Fees	\$1,993.7	\$1,924.5	\$1,947.1
Total Revenue Subject to 18M Cap	\$16,993.7	\$16,924.5	\$16,947.1

REVENUE NOT SUBJECT TO 18M CAP	FY22 ACTUAL	FY23 PROJECTION	FY23 ACTUAL
Consent Decrees	\$4,469.2	\$0.0	\$263.1
Cost Recovery (A.R.S. 49-282)*	\$183.1	\$0.0	\$122.3
Responsible Parties	\$4,652.3	\$0.0	\$385.4
*Includes revenue from prior year packets			
Prospective Purchaser Agreement (A.R.S. 49-285.01)	\$33.0	\$0.0	\$14.7
Interest (A.R.S. 49-282)	\$57.3	\$33.0	\$33.0
Other Income	\$0.0	\$57.3	\$57.3
Other Revenue	\$90.3	\$90.3	\$105.0
Total: Revenue Not Subject to 18M Cap	\$4,742.6	\$90.3	\$490.4

Beginning Balance and Revenue	\$26,886.1	\$26,270.4	\$26,693.1
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EXPENDITURES	FY22 ACTUAL	FY23 PROJECTION	FY23 ACTUAL
Non-Site Expenditures	\$8,175.2	\$7,973.4	\$7,831.5
Site Expenditures	\$9,045.3	\$10,460.0	\$9,774.5
Transfers Out	\$140.0	\$140.0	\$140.0
General Fund Sweep	\$0.0	\$0.0	\$0.0
Total Expenditures	\$17,360.5	\$18,573.4	\$17,746.0

FY23 WQARF EXPENDITURE STATEMENT

Note:
All figures expressed in thousands.

CORE EXPENDITURES	FY24 SPENDING PLAN
WQARF Professional & Support Staff	\$5,701.8
Professional & Outside - Remedial Projects	\$173.5
Hydrologic Support & Assessment	\$1,630.2
Professional & Outside Hydrologic Support & Assessment	\$300.0
Emergency Response	\$233.1
Attorney General's Office	\$400.0
PRP Identification/Liability	\$150.0
Litigation	\$0.0
Appeals	\$0.0
Rule Development	\$0.0
Community Involvement/General WQARF	\$0.0
Core Expenditures	\$8,588.6

REGISTRY SITES AND PRELIMINARY INVESTIGATIONS (PI)	FY24 SPENDING PLAN
RI/FS - Site-Specific WQARF	\$1,910.0
Clean up - Site-Specific WQARF	\$3,145.0
ERA	\$4,150.0
O&M	\$575.0
Community Involvement	\$20.0
Preliminary Investigations (PI)	\$720.0
Registry Sites & PI	\$10,520.0

Subtotal: WQARF Program	\$19,108.6
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TRANSFERS AND DISBURSEMENTS	FY24 SPENDING PLAN
Department of Health Services - Risk Assessment	\$0.0
Department of Water Resources - Appropriation Transfer Out	\$140.0
Aid to Municipalities	\$0.0
Voluntary Program	\$0.0
Subtotal: Transfers & Disbursements	\$140.0

Total Disbursements	\$19,248.6
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FY24 WQARF SITE BUDGET

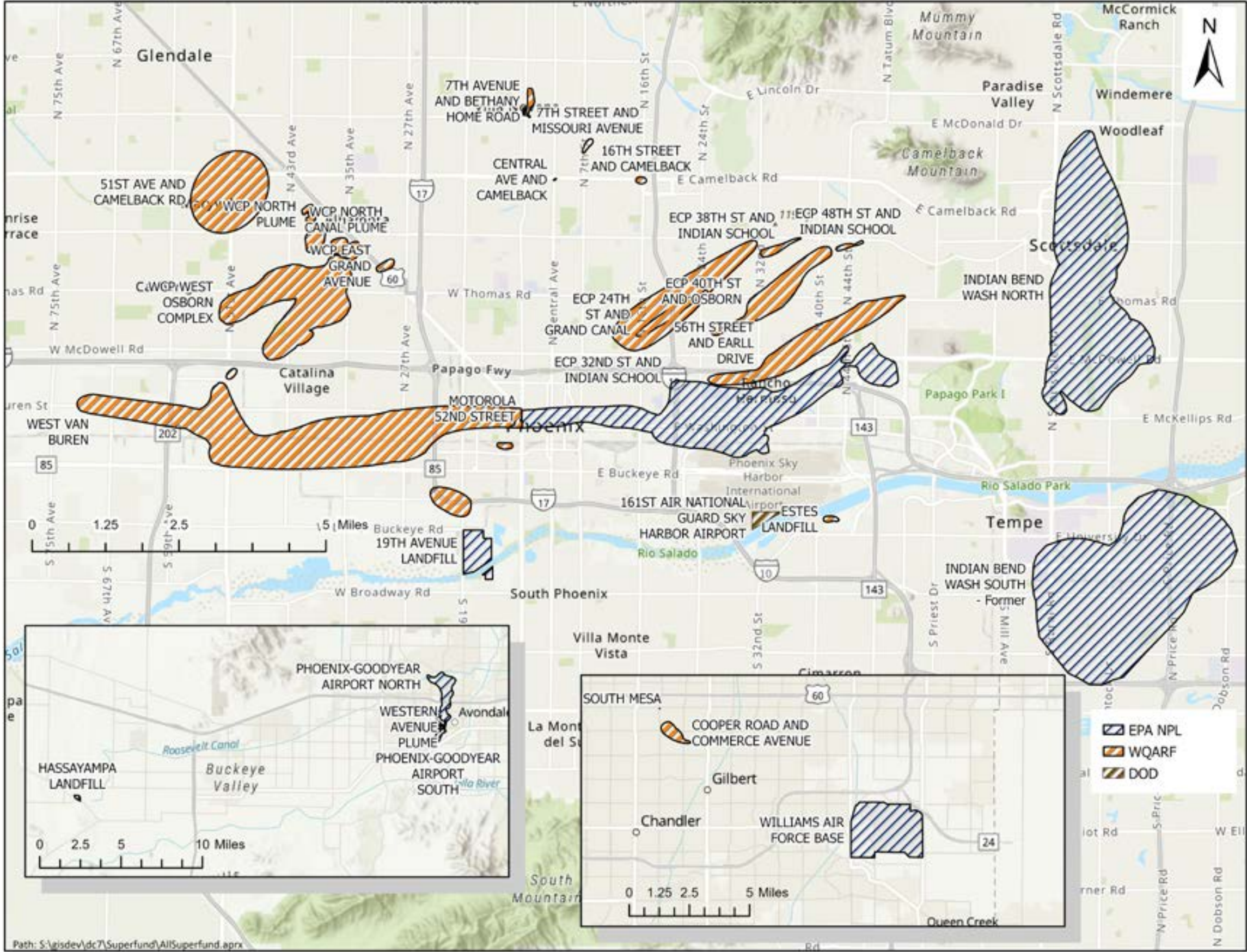
SITE	FY24 PROJECTED BUDGET
16TH STREET & CAMELBACK RD	\$25,000.00
19TH STREET & OSBORN ROAD (PI SITE)	\$200,000.00
1ST AVENUE & HOPI DRIVE (PI SITE)	\$60,000.00
20TH STREET & FACTOR AVENUE	\$540,000.00
27TH AVENUE & GLENDALE AVENUE (PI SITE)	\$120,000.00
51ST AVENUE & CAMELBACK ROAD	\$860,000.00
56TH STREET & EARLL DRIVE	\$0.00
7TH AVE & BETHANY HOME RD	\$430,000.00
7TH AVE & OSBORN ROAD (PI SITE)	\$165,000.00
7TH STREET & ARIZONA AVE	\$200,000.00
7TH STREET & MISSOURI AVE	\$460,000.00
BAHAMA & BIMINI	\$750,000.00
BROADWAY-PANTANO	\$200,000.00
CENTRAL AVENUE & CAMELBACK ROAD	\$270,000.00
COOPER ROAD & COMMERCE AVENUE	\$60,000.00
ECP - 24TH & GRAND CANAL	\$55,000.00
ECP - 32ND & INDIAN SCHOOL RD	\$50,000.00
ECP - 38TH & INDIAN SCHOOL RD	\$100,000.00
ECP - 40TH & OSBORN RD	\$55,000.00
ECP - 48TH & INDIAN SCHOOL RD	\$45,000.00
ESTES LANDFILL	\$30,000.00
HIGHWAY 260 & JOHNSON LANE	\$150,000.00
HIGHWAY 260 & MAIN STREET	\$375,000.00
KLONDYKE MINE TAILINGS	\$10,000.00
LAKE HAVASU & HOLLY AVE	\$700,000.00
METRO WATER	\$175,000.00
LOS REALES LANDFILL (pre-1997 WQARF)	\$0.00
MILLER VALLEY RD & HILLSIDE AVE	\$700,000.00
MIRACLE MILE	\$395,000.00
PARK-EUCLID	\$300,000.00
PAYSON PCE (Town of Payson)	\$80,000.00
PINAL CREEK (pre-1997 WQARF)	\$0.00
SHANNON RD/EL CAMINO DEL CERRO	\$920,000.00
SILVERBELL LANDFILL	\$0.00
SOUTH MESA	\$30,000.00
STONE AVE & DRACHMAN ROAD (PI SITE)	\$320,000.00
STONE AVE & GRANT RD	\$270,000.00
VULTURE MILL	\$45,000.00
WALBASH STREET & RENO AVENUE (PI SITE)	\$300,000.00
WCP - EAST GRAND AVENUE	\$25,000.00
WCP - NORTH CANAL PLUME	\$120,000.00
WCP - NORTH PLUME	\$440,000.00
WCP - WEST OSBORN COMPLEX	\$70,000.00
WEST VAN BUREN	\$200,000.00
WESTERN AVENUE	\$50,000.00
VARIOUS PRELIMINARY INVESTIGATIONS	\$150,000.00
WQARF SITE BUDGETS FY 2024	\$10,500,000



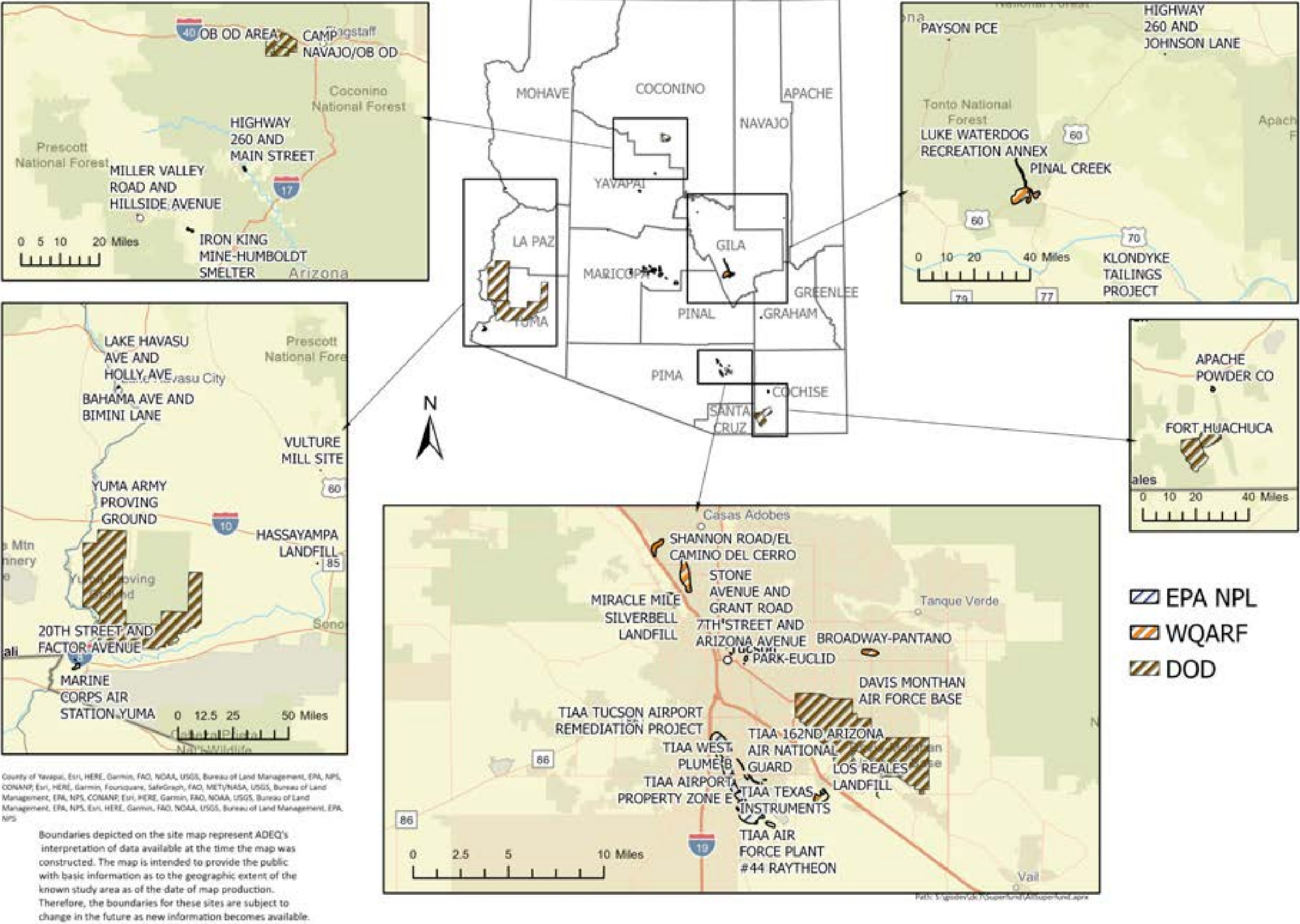
FY23 FIGURES



METROPOLITAN PHOENIX SITES



STATEWIDE SITES





Clean Air, Safe Water,
Healthy Land for Everyone

WATER QUALITY ASSURANCE REVOLVING FUND FY23 ANNUAL REPORT

Sept. 1, 2023

EQR-23-07

Cover photo:

Lower Pinal Creek Groundwater Treatment Facility - Pinal Creek WQARF Site.