

# Lake Havasu Avenue and Holly Avenue

Water Quality Assurance Revolving Fund (WQARF) Site Lake Havasu City, Arizona

# **Community Involvement Plan**

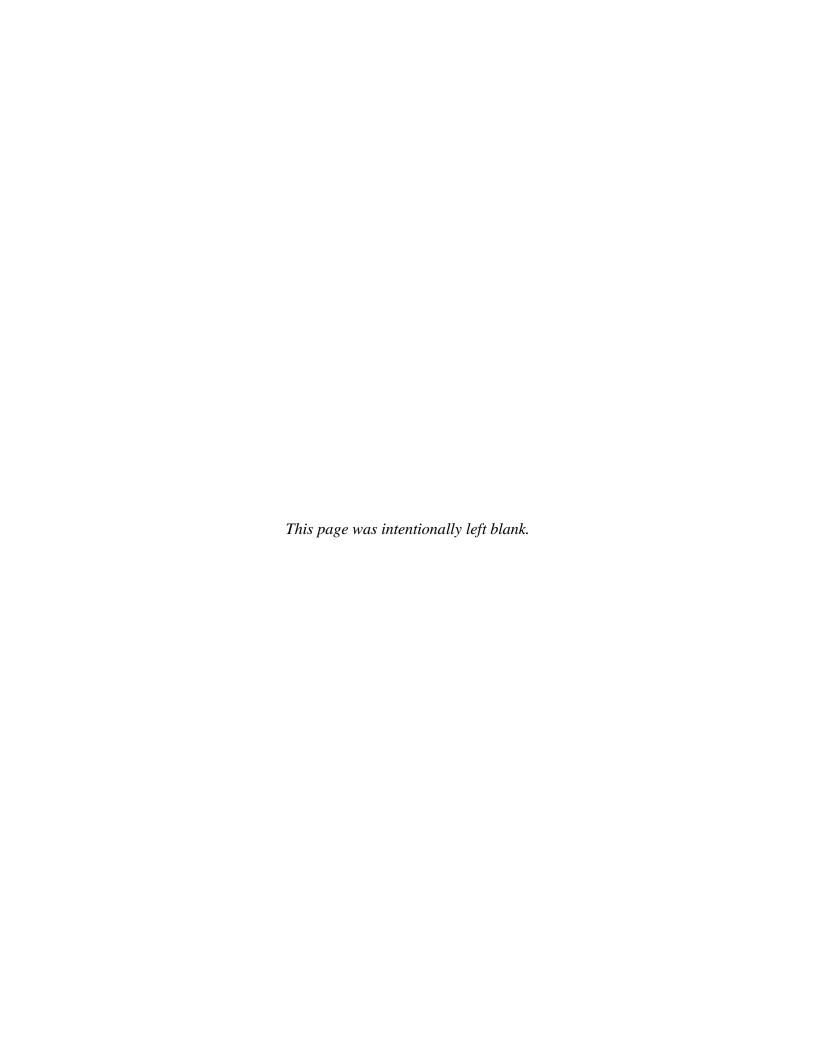


Lake Havasu Avenue and Holly Avenue WQARF Site

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**Disclaimer:** All telephone numbers, email addresses, and contact names are subject to change. Data in the community demographics section are based on the 2010 U.S. Census.



#### **Community Involvement Plan – Introduction**

The Arizona Department of Environmental Quality (ADEQ) is committed to involving citizens in the cleanup of contaminated sites in Arizona per the Water Quality Assurance Revolving Fund (WQARF) program. Created under the Environmental Quality Act of 1986 to support hazardous substance cleanup efforts in the state, WQARF receives funding from legislative appropriations, cost recovery from responsible parties, and special fees.

The WQARF program identifies sites that are in significant need of remediation. Sites added to the WQARF Registry receive primary consideration for the distribution of funds for investigation and cleanup efforts. WQARF sites receive an Eligibility and Evaluation (E&E) score based on several factors, such as the contaminants present, the location of the contaminants, and the number of people who may be affected by the contamination. The score helps determine relative risk at the site; however, scoring does not indicate a direct threat to human health or the environment.

Arizona Revised Statutes (A.R.S.) § 49-287.03(B) and § 49-289.03, as well as Arizona Administrative Code (A.A.C.) R18-16-404, specify that a community involvement plan (CIP) be developed for each site before beginning the Remedial Investigation. The purpose of the CIP is to provide a meaningful process for two-way communication between ADEQ and the public in order to keep the community informed about the progress of the site investigation and remediation. The CIP will accomplish this goal using the following steps:

- 1. Ensure timely public access to project information;
- 2. Identify a community involvement area (CIA) and opportunities for community members and other stakeholders to participate in the decision-making process associated with the environmental investigation and remediation of the site;
- 3. Establish a Community Advisory Board (CAB);
- 4. Designate an ADEQ spokesperson; and
- 5. Develop a plan for distributing site information to residents within the CIA.

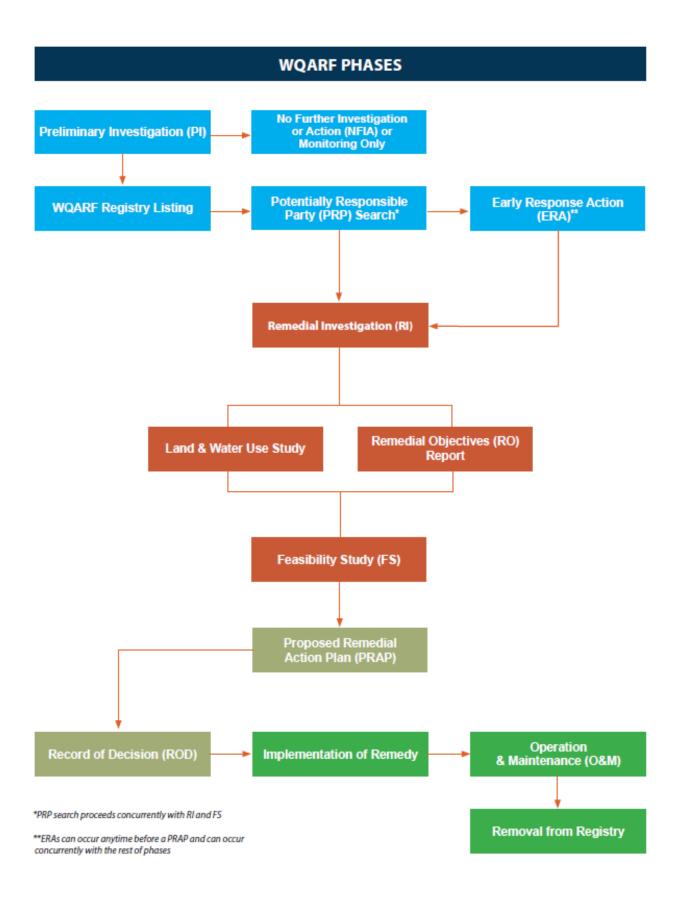
This CIP describes how ADEQ will implement these steps for the Lake Havasu Avenue and Holly Avenue WQARF site. ADEQ will update this plan yearly or as needed based on site developments, public health and environmental impacts, public comments, and community concerns.

#### A. WQARF Process

The goal of the WQARF process is to clean up sites with groundwater and/or soil contamination to protect human health and the environment. The WQARF process uses a step-by-step approach to thoroughly investigate contaminated sites and determine the best remedy for achieving site cleanup. The length of these processes and methods of cleanup vary for each WQARF site.

For sites with minimal risk to human health, cleanup may include restricting land and/or water use and allowing the contamination to dissipate naturally. For this method, ongoing groundwater or soil monitoring ensures that the contamination continues to dissipate. For contaminated sites that may pose a risk to human health, the cleanup method may involve restricting land and water use; actively treating or filtering the groundwater to remove contamination; digging up any contaminated soil and removing from the area; bioremediation/other in-situ methods; or a combination of these actions.

The following flow chart depicts each phase of the WQARF process. The WQARF process flow chart is color-coded and corresponds to the Community Involvement Action Summary table in Chapter 4. For detailed definitions of each WQARF phase, refer to the glossary at the end of this CIP.



#### **B.** Designated Spokesperson

A designated spokesperson will inform the public of upcoming events, ensure that the CIP is implemented according to schedule, and act as liaison between ADEQ and the community. Additionally, the spokesperson will determine methods for personal contact, arrange for translators at meetings as needed, and coordinate the recording of presentations, when applicable. Contact information for the designated spokesperson for the Lake Havasu Avenue and Holly Avenue WQARF site is below.

# Community Involvement Coordinator ADEQ

1110 West Washington Street, 6th Floor
Phoenix, AZ 85007
(602) 771-4410 Or
(800) 234-5677, Ext. 6027714410
Fax: (602) 771-4272
View Community Involvement Contacts Online:
<a href="https://azdeq.gov/WQARF">https://azdeq.gov/WQARF</a>

#### C. Information Repository and Website

An information repository of existing documents related to the Lake Havasu Avenue and Holly Avenue WQARF site is available for review online and in person. Documents found in the repository include the WQARF Site Registry Report; site map, RI Report, site factsheet, and public notices. Documents relating to future milestones in the WQARF process will be added to the repository as they are completed. The information repository for the Lake Havasu Avenue and Holly Avenue WQARF site is in the following table.

#### **Online**

http://www.azdeq.gov/node/3950

#### In Person

ADEQ Records Center
1110 West Washington Street
Phoenix, AZ 85007
(602) 771-4380
Or
(800) 234-5677, Ext. 6027714380
(Please call to make an appointment.)

To make alternative arrangements to review documents in person, contact the ADEQ Community Involvement Coordinator.

#### **Chapter 1 – Site Overview**

The Lake Havasu Avenue and Holly Avenue WQARF Site is located in Lake Havasu City, Arizona. The site was placed on the WQARF Registry on December 4, 2017, with an eligibility and evaluation (E&E) score of 50 out of a possible 120. The major factor leading to the score was the presence of chromium and volatile organic compounds (VOCs) in groundwater at levels exceeding Arizona Aquifer Water Quality Standards (AWQS).

The approximate boundaries of the contaminated groundwater plume are Centers Avenue to the north, Holly Avenue to the south, San Juan Drive to the east, and London Bridge Avenue to the west. The following map shows the plume boundaries based on the most recent groundwater monitoring data.

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#### .Lake Havasu Avenue and Holly Avenue WQARF Site – Lake Havasu City, Arizona

# LAKE HAVASU AVE AND HOLLY AVE







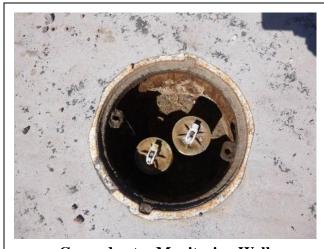


#### Publication Number: M 20-82 Plume Data Update: 1/1/2020

Plume boundaries depicted on the site map represent ADEO's interpretation of data available at the time the map was constructed. The map is intended to provide the public with basic information as to the estimated geographic extent of known contamination as of the date of map production. The actual extent of contamination may be different. Therefore, the plume for this site may change in the future as new information becomes available.



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**Groundwater Monitoring Well** 

The former McCulloch facility, located at 900 Lake Havasu, began manufacturing in the late 1960s. This facility assembled Singer sewing machine motors gyrocopters. The facility later manufactured gasoline-powered equipment. small McCulloch ceased operations in 1998 and vacated the property in 1999. Following bankruptcy, Shop Vac conducted investigative and remedial activities at the facility until 2008.

ADEQ completed the Preliminary Investigation (PI) in 2015. On December 4, 2017, ADEQ placed the site on the WQARF Registry with an eligibility and evaluation

(E&E) score of 50 out of 120. Groundwater contaminants of concern include tetrachloroethene (PCE), trichloroethene (TCE), nitrate, and chromium. For soil, the hexavalent chromium is the contaminant of concern.

As part of the site's Remedial Investigation (RI), ADEQ conducted soil and soil-gas sampling and installed groundwater monitoring wells. In 2020, ADEQ completed the final RI Report, final Remedial Objectives (RO) report, and Feasibility Study (FS) Work Plan

For a complete history of the Lake Havasu Avenue and Holly Avenue WQARF Site, see Appendix A.

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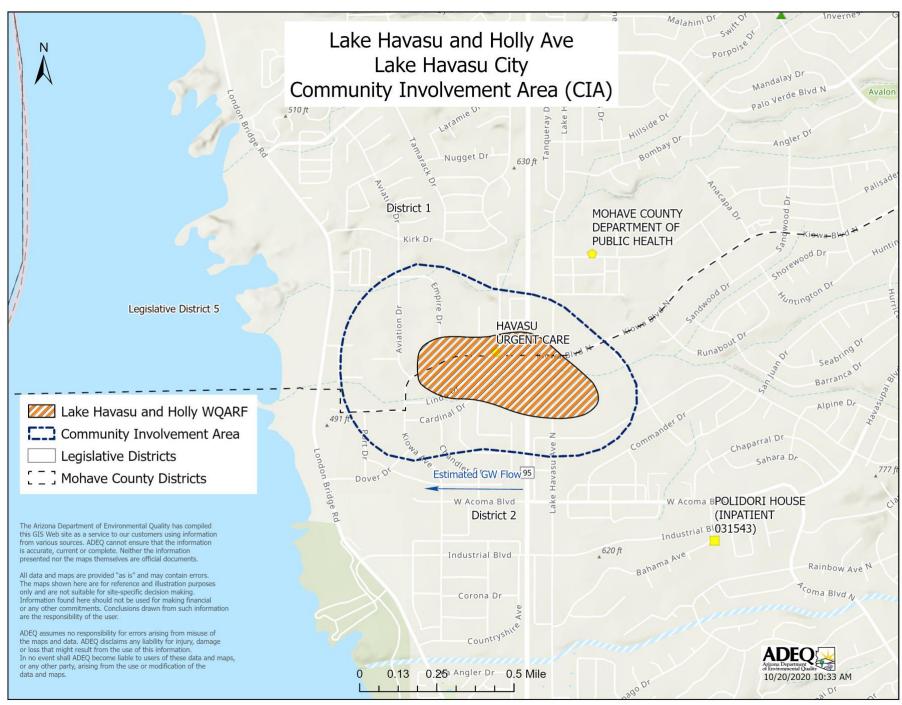
#### **Chapter 2 – Community Profile**

#### A. Community Involvement Area

ADEQ established a community involvement area (CIA) for the Lake Havasu Avenue and Holly Avenue WQARF site according to A.R.S. § 49-289.02(A) and (B). A CIA designates a geographic area to send site-related mailings. ADEQ determines the CIA boundaries based on site-specific characteristics, including the impacted media (e.g. soil, groundwater), exposure routes, proximity to residential areas and public facilities, and community interest. The CIA boundaries may change as ADEQ receives new information.

The following map shows the CIA for the Lake Havasu Avenue and Holly Avenue WQARF Site.

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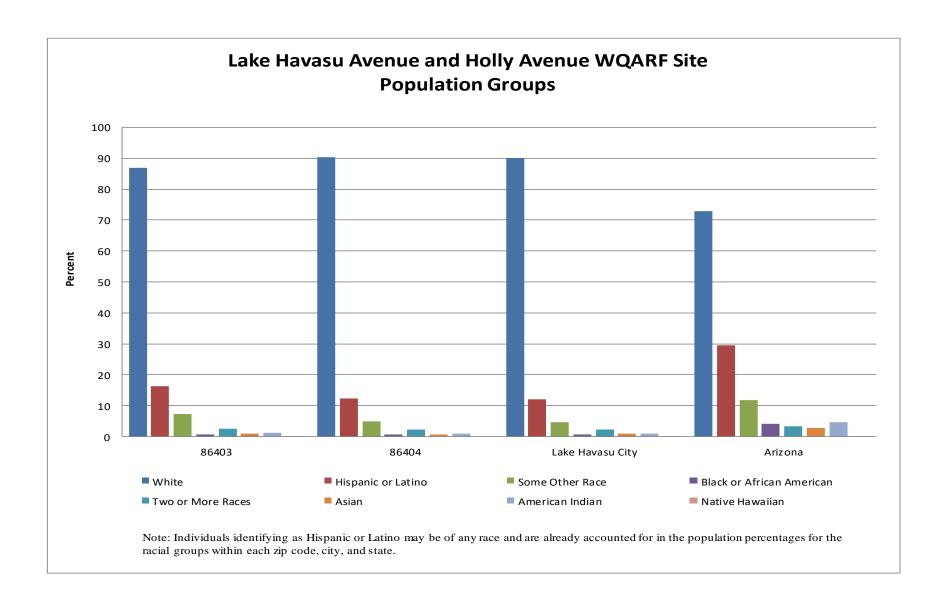
#### **B.** Community Demographics

The 2010 U.S. Census reported the population of Lake Havasu City was 52,527. The CIA boundary for the Lake Havasu Avenue and Holly Avenue WQARF site includes zip codes 86403 and 86404, containing 32,045 people and about 31,987 households. Residents of the area consist of more homeowners (68.7%) than renters (31.2%). The median resident age is 50.4, which is older than the median age for all Arizona residents (35.9).

Among residents in the CIA zip codes, approximately 88.6% identify themselves as White; 6.1% Some Other Race; 2.4% Two or More Races; 1.0% American Indian or Alaska Native; 0.8% Asian; 0.7% Black or African American;; and 0.1% Native Hawaiian. People of Hispanic or Latino origin comprised 14.2% of the population within the CIA zip codes. This was lower than Arizona's overall Hispanic and Latino population (29.6%) in 2010.

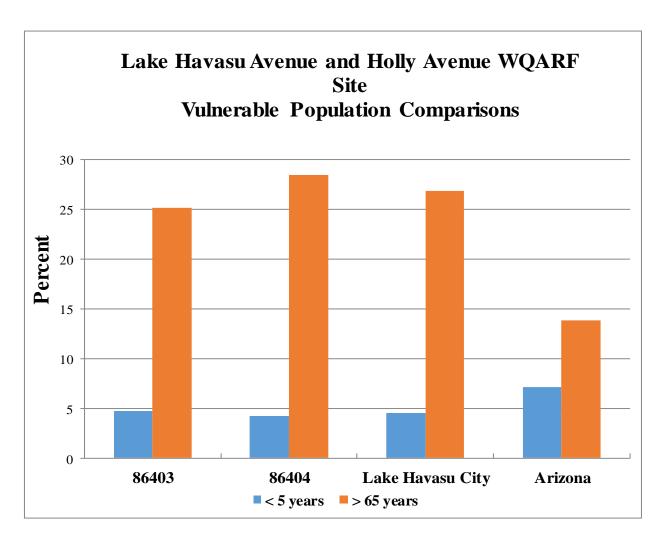
All percentages in this section are averages of the 2010 U.S. Census data for the zip codes within the Lake Havasu Avenue and Holly Avenue WQARF Site's CIA. ADEQ recognizes the limitations of U.S. Census data to establish community demographics and welcomes feedback on how it described the community.

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ADEQ looks at the community as a whole, with an emphasis on the proportion of residents under age five or above age 65. These populations are considered more vulnerable to the potential health effects associated with exposure to environmental contamination. The graph below, based on the 2010 U.S. Census, represents the proportion of vulnerable populations within the Lake Havasu Avenue and Holly Avenue WQARF Site's CIA.



For further information regarding the CIA, please refer to Appendix B for neighborhood associations, schools, and vulnerable population centers, and Appendix C for local and state elected officials.

#### **Chapter 3 – Community Issues and Concerns**

To understand the community and its concerns, ADEQ conducted telephone interviews with seven individuals who responded to the 2018 Fact Sheet mailing and lived or worked near the Lake Havasu Avenue and Holly Avenue WQARF Site. This section summarizes common concerns about the environment, human health, and ADEQ outreach activities.

#### A. Environmental and Health Concerns

Two of the interviewees had been aware of the site for at least 10 years. One person lived within one mile of the site. Interviewees mentioned several environmental concerns, including:

- What are the potential effects on drinking water?
- What progress has been made toward the site's cleanup goals?
- How will the contamination affect Lake Havasu?
- Why has it taken so long to clean up the site?

#### **B.** Outreach and Other Concerns

Interviewees provided the following feedback on current and future outreach related to the Lake Havasu Avenue and Holly Avenue WQARF Site:

- Three interviewees thought that the community did not know about the site; others believed the community was not concerned about the site.
- One interviewee suggested that the public might have a greater interest in the CAB if they knew more about the process.
- One interviewee who operates a water-distribution business within the CIA wants to be updated about the site so that his customers can stay informed.
- All interviewees thought that ADEQ had been effective at communicating information about the site and providing it in an understandable format. All interviewees cited the importance of public meetings for presenting and understanding information about the site.
- Some interviewees liked the idea of mail notifications; others preferred email. Most interviewees stated that TV and radio were not effective communication channels. Other interviewees said they would attend public meetings if available, but still preferred communication by mail or email. One interviewee thought that social media could be an effective way to communicate with the public.
- All interviewees stated that they did not know whom to contact at ADEQ for site questions.
- Most interviewees indicated that they were unaware of any specific populations that ADEQ had not contacted as part of its outreach.

• One interviewee thought that new people who recently moved to the neighborhood may not be aware of the site. Another interviewee indicated that the Lake Havasu area has a seasonal population who may not be aware of the site, due to living in the area only during select times of the year.

#### C. Response to Community Issues and Concerns

ADEQ uses the information gathered from community interviews, public meetings, and direct contact to ensure that future outreach activities and materials address community questions and concerns, as well as keep the community informed of site activities. Community feedback also informs ADEQ outreach practices and allows the communication techniques noted in Chapter 4, Section B to be tailored to the specific needs of the community.

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#### **Chapter 4 – Community Involvement Action Plan**

In addition to providing the framework for the state to investigate and clean up contaminated sites, the WQARF program also requires that ADEQ involve the community in the cleanup process. The following Community Involvement Action Summary table describes the required community involvement activities according to each WQARF phase and illustrates where the Lake Havasu Avenue and Holly Avenue WQARF Site is in the WQARF process. This summary is followed by a description of the communications methods and techniques available for use. Multiple techniques to communicate with and educate the public can be used throughout the WQARF process.

#### A. Community Involvement Action Summary – Required Activities

The following table describes the required community involvement actions for the Lake Havasu Avenue and Holly Avenue WQARF Site and notes which actions have been completed to date.

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WQARF Phase	Mandated ADEQ Community Involvement Activity  (see Chapter 4, Section B for a detailed description of applied communications techniques described herein)	Statute (A.R.S) and Rule (A.A.C) References	Activity to Date <sup>1</sup>	Complete
Preliminary Investigation	Provide owners and operators a copy of the Draft WQARF Site Registry Report for a 15-day comment period prior to publishing a notice in a newspaper announcing the availability of the Draft WQARF Site Registry Report for a 30-day public comment period.	A.R.S. § 49-287.01(C) A.R.S. § 49-289.03(A)(1)	Public notice, <i>Todays News Herald</i> , October 26, 2017 and November 2, 2017  Owner and operator 15-day notice	<b>√</b>
WQARF Registry Listing	<ul> <li>Following the listing of a site on the WQARF Registry, ADEQ will:</li> <li>Establish a preliminary community involvement area (see Chapter 2, Section A) within 90 days of site listing on the WQARF Registry.</li> <li>Provide written notice to the community on hazardous substance contamination in the area, the actual and potential risks and routes of exposure, possible health effects, and the opportunity to join the site mailing list.</li> <li>Identify ADEQ personnel to contact for further information.</li> </ul>	A.R.S. § 49-289.02	Community involvement area established December 4, 2017  Public notice published February 20, 2018  Fact Sheet sent to the community involvement area the week of February 19, 2018	
	Develop a CIP that establishes a CAB, designates a spokesperson, provides for newsletters with current information about the status of remedial actions at the site, establishes a public document repository location, and provides for schedules of CAB meetings and public meetings. Update the CIP at least every 2 years.	A.R.S. § 49-287.03(D) A.R.S. § 49-289.03(B) A.R.S. § 49-289.03(C) A.A.C. R18-16-404(C)(1)(i) A.A.C. R18-16-404(C)(1)(j) A.A.C. R18-16-404(C)(1)(k) A.A.C. R18-16-404(C)(1)(o)	Original Community Involvement Plan, Spring 2018  Community Involvement Plan updated November 2019, March 2021	
Early Response Action	A work plan shall be prepared for each Early Response Action that will include a description of work to be done, a description of known site conditions, and a plan for conducting the work; a description of community involvement activities for the Early Response Action under R18-16-404; and a schedule.  Community involvement activities may include development of a community involvement plan under A.A.C. R18-16-404(C) or conduct community involvement activities appropriate to the scope and schedule of the work performed such as a general public notice to those who may be impacted by fieldwork as indicated in A.A.C. R18-16-404(D)(2).  If immediate action is necessary to address a current risk to public health or the environment, to protect a source of water, or to provide a supply of water, the work plan and written rationale may be prepared and the community involvement activities may be conducted after commencement of the Early Response Action.	A.A.C. R18-16-404 A.A.C. R18-16-405(D)(2) A.A.C. R18-16-405(E) A.A.C. R18-16-405(G)		

<sup>&</sup>lt;sup>1</sup> Dates marked with an asterisk are approximate.

WQARF Phase	Mandated ADEQ Community Involvement Activity  (see Chapter 4, Section B for a detailed description of applied communications techniques described herein)	Statute (A.R.S) and Rule (A.A.C) References	Activity to Date <sup>1</sup>	Complete
Remedial Investigation <sup>2</sup>	Provide notice to interested parties announcing the availability of the Remedial Investigation Scope of Work or Work Plan, Fact Sheet, and CIP Outline for review and a 30-day public comment period. Provide notice indicating that any person by written agreement with ADEQ may develop and implement a work plan for the Remedial Investigation and Feasibility Study and solicit information regarding the current and future land and water uses at the site. <sup>3</sup> These notices shall also provide an opportunity to request a public meeting.	A.R.S. § 49-287.03 (B) A.R.S. § 49-287.03 (C) A.A.C. R18-16-403(F) A.A.C. R18-16-403(G) A.A.C. R18-16-404(C)(1)(a) A.A.C. R18-16-406(B) A.A.C. R18-16-406(D)	Notification letter and Fact Sheet sent February 21, 2018	<b>✓</b>
	Establish a selection committee to choose CAB members for the site. The selection committee shall consist of the following number of people from each organization:  • ADEQ: 1  • Potentially Responsible Party: 1  • Local Official: 1  • Local Community: 2	A.R.S. § 49-289.03(D)	N/A	N/A
	Establish a CAB of between 5 to 20 members that represent a diversified cross section of the community. Within 90-days of appointment by the CAB selection committee, the CAB shall elect co-chairpersons and develop a charter defining operating procedures, membership terms and obligations, goals for developing issues, concerns and opportunities related to quick cleanup of the site, and any other anticipated activities for identifying and improving the public's access and understanding of information regarding the remediation process at the site.	A.R.S. § 49-289.03(C) A.R.S. § 49-289.03(E) A.R.S. § 49-289.03(F)	Not established due to insufficient CAB member applications	
	Publish a combined <sup>4</sup> public notice announcing the availability of the Draft Remedial Investigation Report for review and a minimum 30-day public comment period, as well as hold a public meeting to solicit Remedial Objectives for the site. The public meeting shall be held not less than 45 calendar days and not more than 90 calendar days after release of the Draft Remedial Investigation Report, unless ADEQ sets a different date for good cause.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(b) A.A.C. R18-16-406(F) A.A.C. R18-16-406(I)(1) A.A.C. R18-16-406(I)(2)	Draft Remedial Investigation public notice:  • February 7, 2020  • March 31, 2020 (notice of comment period extension)  Public meeting (virtual), April 2, 2020	<b>√</b>

<sup>&</sup>lt;sup>2</sup> A potentially responsible party search is conducted concurrently with the Remedial Investigation and Feasibility Study, but does not have mandated community involvement activities.

<sup>3</sup> Data collected from land and water use studies will be incorporated into the Remedial Investigation and/or Remedial Objectives Report per A.A.C. R18-16-406(D)-(I).

<sup>&</sup>lt;sup>4</sup>If not combined, separate public notices will be provided for the Draft Remedial Investigation comment period and the Remedial Objectives solicitation and public meeting.

WQARF Phase	Mandated ADEQ Community Involvement Activity  (see Chapter 4, Section B for a detailed description of applied communications techniques described herein)	Statute (A.R.S) and Rule (A.A.C) References	Activity to Date <sup>1</sup>	Complete
Remedial Investigation (continued)	Publish a public notice announcing the availability of the Proposed Remedial Objectives Report for a 30-day public comment period.  Publish a public notice of the availability of the Final Remedial Investigation Report, which shall contain the results of site characterization and the Final Remedial Objectives Report. The final Remedial Investigation report shall be accompanied by responsiveness summaries regarding comments, issues and concerns raised in the community involvement process and, if the report is prepared by a person other than ADEQ, copies of the comments received.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(c) A.A.C. R18-16-406(I)(5) A.A.C. R18-16-406(J)	Proposed Remedial Objectives Report public notice, May 8, 2020  Final Remedial Investigation and Remedial Objectives Report public notice, December 29, 2020	<b>√</b>
Feasibility Study	Provide notice to interested parties announcing the availability of the Feasibility Study Work Plan.  Although not mandated, ADEQ will also provide public notice upon completion of the Feasibility Study.	A.A.C. R18-16-404(C)(1)(d) A.A.C. R18-16-407(B)	Feasibility Study Work Plan public notice, December 29, 2020	1
Proposed Remedial Action Plan	Publish a public notice announcing the availability of the Proposed Remedial Action Plan for a 30-day public comment period. Mail the same notice to interested parties. The notice will describe the proposed remedy and its estimated cost and identify where the Proposed Remedial Action Plan, Remedial Investigation, and Feasibility Study Reports may be inspected.	A.R.S. § 49-287.04(B) A.R.S. § 49-289.03(A)(2) A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(e) A.A.C. R18-16-408(A)		
Record of Decision	Publish a public notice announcing the availability of the Record of Decision and Responsiveness Summary for review.	A.R.S. § 49-287.04(G) A.A.C. R18-16-404(C)(1)(f) A.A.C. R18-16-410		
Implementation of Remedy (Remedial	Publish a public notice announcing a request for ADEQ to approve remedial actions at the site. The notice will provide the opportunity for a 30-day public comment period.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(h) A.A.C. R18-16-413		
Actions)	Provide notice to the public and interested parties of a request for ADEQ to waive a regulatory requirement (permit) to complete remedial actions.	A.R.S. § 49-290 A.A.C. R18-16-404(C)(1)(I)		
	Provide notice to the public that field work conducted to remove contaminants of concern may result in noise, light, odor, dust or other adverse impacts.	A.A.C. R18-16-404(C)(1)(m)	Sent as needed	<b>✓</b>

WQARF Phase	Mandated ADEQ Community Involvement Activity (see Chapter 4, Section B for a detailed description of applied communications techniques described herein)	Statute (A.R.S) and Rule (A.A.C) References	Activity to Date <sup>1</sup>	Complete
Implementation of Remedy (Remedial Actions) (continued)	Provide notice to the public of a request for ADEQ to determine whether each of the Remedial Objectives for a site have been satisfied and will continue to be satisfied. The notice will provide the opportunity for a 30-day public comment period on the request.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(n) A.A.C. R18-16-416(B)		
Operation & Maintenance	Publish a public notice announcing the availability of the Operation & Maintenance Plan for review and a 30-day public comment period. Mail the same notice to interested parties.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(g) A.A.C. R18-16-411(E)		
Removal from Registry	Although not mandated by Arizona statute or administrative code, ADEQ may publish a public notice upon the removal of the site from the WQARF Registry.	Not applicable		
Any Phase	Publish a public notice announcing a request to ADEQ for a prospective purchaser agreement. The notice will provide the opportunity for a 30-day public comment period.	A.R.S. § 49-289.03(A)(3) A.A.C. R18-16-301(C)	Palo Verde Investments, L.L.C. February 6, 2002	<b>√</b>
	Publish a public notice announcing the intention of ADEQ to enter into a settlement agreement with a responsible party. The notice will provide the opportunity for a 30-day public comment period.	A.R.S. § 49-289.03(A)(4) A.A.C. R18-16-301(C)	No settlement agreement requests submitted to date.	

# **B.** Community Involvement Action Summary – Communication Techniques

As previously described in the Community Involvement Action Summary table, there are required communications activities for every phase of the WQARF process as previously described in the Community Involvement Action Summary table. This section describes the specific activities and resources that ADEQ uses and has available to communicate with, educate, and help the community and stakeholders become actively involved in the Lake Havasu Avenue and Holly Avenue WQARF Site.

ADEQ will continue to use the following resources to keep stakeholders informed throughout the process:

- 1. CAB Per A.R.S. § 49-289.03, the minimum number of people required to establish a CAB is five individuals. Based on community responses to the February 2018 ADEQ mailer and March 2018 interviews, there is insufficient interest in forming a CAB at this time. Although a CAB will not be formed, ADEQ will hold informational public meetings as needed to discuss the WQARF Site investigation and activities and will reevaluate interest in forming a CAB periodically.
- **2. Local Print Media** ADEQ will publish all WQARF milestone public notices in *Today's News Herald* (<a href="http://www.havasunews.com/">http://www.havasunews.com/</a>), which has a search function for public notices (<a href="http://www.publicnoticeads.com/az/">http://www.publicnoticeads.com/az/</a>). For a list of other media outlets, see Appendix E.
- 3. U.S. Mail and Email Lists ADEQ maintains U.S. Mail and email address lists for the Lake Havasu Avenue and Holly Avenue WQARF Site. These distribution lists include local elected and appointed officials, City of Lake Havasu City Public Information Office, schools, vulnerable population centers and other interested parties. Email addresses are gathered through the ADEQ website "subscribe" feature. Addresses are updated on an ongoing basis through CIP updates; return mailers from fact sheets; attendance lists from public meetings; and other individual requests.
- **4. ADEQ Website** ADEQ's website provides visitors with three areas of information related to WQARF sites:
  - Notices Page information regarding WQARF site public notices and comment periods (<a href="http://azdeq.gov/notices">http://azdeq.gov/notices</a>).
  - Events Page information regarding WQARF site public meetings (<a href="http://www.azdeq.gov/events">http://www.azdeq.gov/events</a>).
  - WQARF Site Information Pages detailed site information and document repository for each WQARF site (<a href="http://azdeq.gov/lake-havasu-holly">http://azdeq.gov/lake-havasu-holly</a>)
- **5. ADEQ Notice Boards** Notice boards are located in ADEQ's Phoenix and Tucson offices.

- **6. Public Meetings** Public meetings can be scheduled and conducted as needed and as determined by ADEQ and public interest (for example, meetings with neighborhood/homeowners associations, schools, or other community groups).
- **7. Site Tours** Tours of the sites can be requested by contacting the ADEQ Community Involvement Coordinator. ADEQ will consult with property owners and comply with current laws and regulations while arranging a requested tour.

The following table shows how these techniques have and will be used throughout the WQARF process for the Lake Havasu Avenue and Holly Avenue WQARF Site.

Communications Deliverables			Communications Recipients/Methods				
Type <sup>5</sup>	Why	When	CAB Members	Interested Parties List	ADEQ Website	Local Print Media	ADEQ Notice Board
Notice	Provide notice of availability of milestone documents, request comments, and solicit input.	Per mandate (see Community Involvement Action Summary table).	<b>√</b>	<b>√</b>	(Site and calendar pages)	√ (Today's News Herald)	✓
CAB or Public Meeting Notice/Agenda	Provide two-way communication about the status of site activities. The notice announces the meeting and provides the agenda.	Variable schedule based on level of site activity as scheduled by CAB and ADEQ, with the exception of the required public meeting for the solicitation of remedial objectives.	✓	<b>√</b>	(Site and calendar, and CAB History pages)	Not applicable	✓
Technical Presentation	Provide current information about site activity or related topics.	At CAB meetings or at specially requested public meetings.	✓		(Site and CAB History pages)	Not applicable	Not applicable
Technical Milestone Document	Provide current technical information about site investigation/remediation activities (e.g., Remedial Investigation, Feasibility Study, etc.).	According to the WQARF Process as documents are developed and become available.	<b>√</b>		✓ (Online information repository)	Not applicable	Not applicable
Site Fact Sheet/Newsletter	Provide current information about site activity.	Published at the start of the Remedial Investigation and at specific milestones or other times as deemed appropriate by ADEO and the CAB	<b>√</b>	<b>√</b>	✓ (Online information repository)	Not applicable	Not applicable

ADEQ and the CAB.

Per mandate (see Community

current property owners.

Involvement Action Summary table).

If requested, and with cooperation of

Investigation.

45–90 days after release of draft Remedial

**Communication Techniques** 

Contact ADEQ Community Involvement Coordinator.

(Site and calendar

pages)

(Today's News Herald)

Notice published in a

newspaper of general

circulation in the county

where the site is located.

Provide forum to solicit Remedial

Objectives. This meeting may be

meeting.

comments.

environment.

conducted in conjunction with a CAB

Provide walking or driving tour of the

the surrounding community and

site to observe current site conditions and

Provide notice of availability and request

Public Meeting to solicit

Announcing Request to

ADEQ for a Prospective

Purchaser Agreement

Remedial Objectives

Public Notice

Site Tour

<sup>&</sup>lt;sup>5</sup> Communications deliverables may be translated into Spanish if deemed necessary or requested.

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#### C. Other Resources and Contacts

In addition to the designated spokesperson and information repository identified at the beginning of this CIP, the appendices that follow provide additional resources and contact information for the public to use as desired.

- **Appendix A** provides a history of major activities by year at the Lake Havasu Avenue and Holly Avenue WQARF Site.
- **Appendix B** provides a list of targeted communities in the Lake Havasu Avenue and Holly Avenue WQARF Site community involvement area. These include neighborhood associations as well as community schools, and vulnerable population centers located in the community involvement area.
- **Appendix C** provides a table of local and state elected officials, by ward or district, who represent communities within the community involvement area. Note that some wards or districts may encompass more of the community involvement area than others.
- **Appendix D** provides a table of current Lake Havasu Avenue and Holly Avenue WQARF Site CAB members.
- **Appendix E** provides a list of media outlets in the area. All future public notices for the Lake Havasu Avenue and Holly Avenue WQARF Site can be found by searching the *Today's News Herald* publication (<a href="http://www.havasunews.com/">http://www.havasunews.com/</a>).
- Appendix F provides a list of other related state and local agencies that may be of interest to the public.
- **Appendix G** provides a list of parties that have prospective purchaser agreements with ADEQ for property in and around the Lake Havasu Avenue and Holly Avenue WQARF Site.

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#### **Appendix A – Site History**

The following presents a Site history in chronological order for the Arizona Department of Environmental Quality (ADEQ) Lake Havasu Avenue and Holly Avenue Water Quality Assurance Revolving Fund (WQARF) Site.

Late 1960s	Manufacturing began at the former McCulloch facility. This fa	acility i	initially	
	assembled Singer sewing machine motors and gyrocopters.			

McCulloch purchased the property. Facility expanded to include manufacturing of small gasoline powered equipment.

McCulloch became a division of Black & Decker.

Approximately 20,000 pounds of soil contaminated with chromic acid was excavated from under the floor of the plating building due to a leaking floor drain.



**Groundwater Monitoring Well Vault** 

1992 A leaking underground storage

tank was removed from the facility. An investigation detected chromium-contaminated soil up to depths of 15 feet below ground surface (bgs) beneath the plating shop. Total chromium concentrations ranged from 43 milligrams per kilogram (mg/kg) to 40,700 mg/kg, exceeding the non-residential soil remediation level of 65 mg/kg.

Groundwater sampling at the site detected VOCs, petroleum hydrocarbons (benzene, toluene, ethylbenzene, and xylene [also known as BTEX]), dissolved chromium, and hexavalent chromium. Chromium was detected in soil samples to depths of 165 feet bgs, the approximate depth to groundwater at that time.

Groundwater samples were collected in January, April and September. Multiple COCs were detected above the AWQS, including TCE (29 micrograms per liter [µg/L]), benzene (24,000 µg/L), and chromium (0.22 milligrams per liter [mg/L]). Hexavalent chromium concentrations exceeded the nonresidential soil remediation level (SRL) of 65 mg/kg in 12 out of 18 samples collected, with the highest detected concentration of 540 mg/kg collected 84.9 feet bgs.

Additional groundwater monitor wells MW-12 and MW-13 were installed to further characterize VOC and hexavalent chromium contamination.

1998-1999 McCulloch filed for bankruptcy in January 1998 and ceased operations. Shop Vac, McCulloch's parent company, continued investigative and remedial

activities at the site. A passive soil gas survey indicated detectable concentrations of PCE, TCE, 1,1,1-trichloroethane, and Freon-113. A soil gas survey detected PCE as high as 480,000 micrograms per cubic meter.

- A soil-vapor extraction and air sparge system was operated at the site to remediate VOCs and hydrocarbon-related soil and groundwater contamination as part of a leaking underground storage tank (LUST). Groundwater sampling detected concentrations of chromium, nitrate, and TCE above their corresponding AWQSs.
- Palo Verde Investments, LLC purchased the McCulloch facility, leasing the property to small businesses.
- In-situ calcium polysulfide remediation for hexavalent chromium was conducted in source area for Shop Vac.
- 2003–2007 Shop Vac installed additional monitoring wells.
- Shop Vac conducted soil and groundwater sampling.
- 2014 A groundwater monitoring and sampling report documented the highest concentrations of PCE 60  $\mu$ g/L and TCE as 31  $\mu$ g/L, exceeding the corresponding AWQS.
- 2017–2018 ADEQ continued work on the remedial investigation.
- ADEQ released the Draft RI report in February. After soliciting remedial objectives (RO) from the public, ADEQ released the draft RO report in May. The final RI/RO report and Feasibility Study (FS) Work Plan were released in December.

## **Appendix B – Targeted Communities**

#### Α. **Neighborhood Associations**

The following neighborhood association is near the Lake Havasu Avenue and Holly Avenue WOARF Site community involvement area (CIA):

## **Tamarack Neighborhood Block Watch**

(503) 449-5132

tamarackneighborhoodwatch@gmail.com

#### В. **Schools**

The following schools are near the Lake Havasu Avenue and Holly Avenue WQARF Site CIA:

### Mohave Community College Lake Havasu City Campus

(928) 855-7812

1977 W. Acoma Boulevard, Lake Havasu City, AZ 86403

#### **Bethany Christian School**

(928) 866-2661

1200 Park Terrace Avenue, Lake Havasu City, AZ 86404

#### **Nautilus Elementary School**

(928) 505-6060

1425 Patrician Drive, Lake Havasu City, AZ 86404

#### C. **Vulnerable Population Centers**

The following list presents the vulnerable population centers, such as assisted living facilities, within or near the Lake Havasu Avenue and Holly Avenue WQARF Site CIA:

Lake Havasu Urgent Care	
1799 S N Kiowa Boulevard, Suite 104, Lake Havasu City, AZ 86403	

(928) 505-1030

#### **Polidori House**

1970 Bahama Avenue	, Lake Havasu	City, AZ 86403
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(928) 453-2111

#### **Sunset Park Mobile Home Park (55+ Community)**

1510 Sunrise Dr, Lake Havasu City, AZ 86404

(928) 453-1103

# Appendix C – Local and State Elected Officials

As of the publication of this community involvement plan, the community involvement area for the Lake Havasu Avenue and Holly Avenue Water Quality Assurance Revolving Fund Site falls under Mohave County Supervisorial Districts 3 and 5, and Arizona Legislature District 5.

CITY Officials	COUNTY Supervisors	STATE Representatives	STATE Senators
Lake Havasu City Hall 2330 McCulloch Blvd. N. Lake Havasu City, AZ 86403 (928) 453-4146	Mohave County 700 W. Beale St. Kingman, AZ 86401 (928) 753-9141	Arizona House of Representatives Capitol Complex 1700 W. Washington St. Phoenix, AZ 85007 (602) 926-4221	Arizona State Senate Capitol Complex 1700 W. Washington St. Phoenix, AZ 85007 (602) 926-3559
Mayor Cal Sheehy  (928) 453-4152 sheehyc@lhcaz.gov  Vice Mayor David Lane	County Supervisor District 3 Buster D. Johnson 2001 College Dr. Ste. 90 Lake Havasu City, AZ 86403	Representative District 5 Regina E. Cobb  Room # 302 (602) 926-3126 rcobb@azleg.gov	Senator District 5 Sonny Borrelli  Room # 212 (602) 926-5051 sborrelli@azleg.gov
laned@lhcaz.gov	(928) 453-0724 buster.johnson@mohaveco unty.us		
Council Members (928) 453-4152	County Supervisor District 5 Ron Gould	Representative District 5 Leo Biasiucci	
Nancy Campbell campbellc@lhcaz.gov  Jeni Coke	2156 McCulloch Blvd. Unit 10 Lake Havasu City, AZ 86403	Room # 341 (602) 926-3018 pmosely@azleg.gov	
cokej@lhcaz.gov  Jim Dolan  dolanj@lhcaz.gov	(928) 453-0735 ron.gould@mohavecounty. us		
Michele Lin linm@lhcaz.gov			
Cameron Moses mosesc@lhcaz.org			

# Appendix D – Community Advisory Board Members

A Community Advisory Board (CAB) for the Lake Havasu Avenue and Holly Avenue WQARF Site has not been established. According to Arizona Revised Statutes § 49-289.03, the minimum number of people required to establish a CAB is five individuals. At this time, an insufficient number of individuals has applied to participate in a CAB.

# Appendix E – Media Outlets

The following list presents Lake Havasu City media outlets that may be used by the public to promote information on the Lake Havasu Avenue and Holly Avenue Water Quality Assurance Revolving Fund Site. *Today's News Herald* is the external media outlets that the Arizona Department of Environmental Quality will use to publish all public notices related to the Site.

# A. Newspapers and Magazines

Today's News Herald 2225 West Acoma Boulevard, Lake Havasu City, AZ 86403	(928) 453-4237
Mohave Valley Daily News (News West Publishing, Inc.) 2435 Miracle Mile, Bullhead City, AZ 86442	(928) 296-8455
B. Radio	
Classic Rock (KMUR) 2068 McCulloch Boulevard, Lake Havasu City, AZ 86403	(928) 855-1501
Christian Radio (K222AV-FM 92.3) 510 North Acoma Boulevard, Lake Havasu City, AZ 86403	(928) 453-8825
Jack (KPKR) 2250 N. McCulloch Boulevard, Ste. J, Lake Havasu City, AZ 86403	(928) 855-5225
Lucky 98 FM (KLUK) 2156 McCulloch Boulevard, Ste. 1, Lake Havasu City, AZ 86403	(928) 854-9305
KNTR Talk (KNTR) 1845 McCulloch Blvd Ste A-14, Lake Havasu City, AZ 86403	(928) 855-9336
KDMM  2250 McCulloch Boulevard, Ste. J, Lake Havasu City, AZ 86403	(928) 855-5225
KLFG 2350 Miracle Mile Road, Ste. 300, Bullhead City, AZ 86442	(928) 763-5586
KLOVE (KLKI-FM) P.O. Box 2098, Omaha, NE 68103	(800) 525-5683
Your Celebration Radio Network (KNLB) 510 North Acoma Boulevard, Lake Havasu City, AZ 86404	(928) 855-9110
KLPZ 816 W. 16 <sup>th</sup> Street, Parker, AZ 85344	(928) 669-9274

Vinyl 93.7 (928) 855-9336

(KJJJ-FM; K260BR; KNTR; K232EI)

1845 McCulloch Boulevard, Suite A-14, Lake Havasu City, AZ 86403

**Krazy** (800) 582-7625

(KRCY; K242AR; K252FF; K254CE; KRRK; K290CG-FM; KZUL; K294CQ; K298BS)

2068 McCulloch Boulevard N., Lake Havasu City, AZ 86403

**CSN International** (KVIR FM 89.9)

(205) 734-6633

4002 N. 3300 E., Twin Falls, ID 83301

Univision (KLSQ) (212) 455-5200

605 Third Avenue, New York, NY 10158

# C. Television

<b>K27EC</b> (Cornerstone Network) 1 Signal Hill Drive, Wall, PA 15148	(412) 824-3930
<b>K31GZ-D</b> (Eight, Arizona PBS; Eight Life) 555 North Central Avenue, Phoenix, AZ 85004	(602) 496-8888
K38IR-D (Heroes) 6006 South 30th Street, Phoenix, AZ 85042	(602) 243-3333
KASW (CW-6) 645 East Missouri Avenue, Suite 100, Phoenix, AZ 85012	(480) 661-6161
KAZT (AZTV) 4343 East Camelback Road, #130, Phoenix, AZ 85018	(602) 977-7700
KPNX (Channel 12) 200 East Van Buren, Phoenix, AZ 85004	(602) 444-1212
KSAZ (Fox 10) 511 West Adams Street, Phoenix, AZ 85003	(602) 257-1234
<b>KTVK; KPHO</b> Channel 5 (3TV; CBS 5) 5555 North 7 <sup>th</sup> Street, Phoenix, AZ 85013	(602) 207-3333
<b>KUTP</b> (Fox 10 Xtra) 511 West Adams, Phoenix, AZ 85003	(602) 257-1234

## **Appendix F – Related Agencies and Contact Information**

The following list presents additional agencies that may be used by the public to address concerns related to the Lake Havasu Avenue and Holly Avenue WQARF Site.

#### **State of Arizona**

#### **Department of Agriculture**

1688 West Adams Street Phoenix, AZ 85007 Phone: (602) 542-4373

#### **Department of Health Services**

150 North 18<sup>th</sup> Avenue Phoenix, AZ 85007 Phone: (602) 542-1025

#### **Department of Water Resources**

## **Groundwater Permitting and Wells Section**

1110 West Washington St., Ste 310 Phoenix, AZ 85007 Phone: (602) 771-8527

#### Lake Havasu City

#### **Public Works Department**

2330 McCulloch Boulevard N. Lake Havasu City, AZ 86403 Phone: (928) 453-6660

#### **Public Information Office**

2330 McCulloch Boulevard N. Lake Havasu City, AZ 86403

Phone: (928) 453-6660

## **Other**

#### **Agency for Toxic Substances and Disease Registry**

Western Branch – Region 9 75 Hawthorne Street, Suite 9410, M/S:HHS-1 San Francisco, CA 94105 Phone: (800) 232-4636

#### **Real Estate Seller Disclosures**

Arizona Association of Realtors 255 East Osborn Road #200

Phoenix, AZ 85012 Phone: (602) 248-7787

https://www.aaronline.com/wp-content/uploads/2017/10/Residential-Sellers-Property-

<u>Disclosure-</u> <u>Statement-SPDS\_REV\_01Oct2017.pdf</u>

# Appendix G – Prospective Purchaser Agreements

The following table presents a list of parties that have requested, and received, prospective purchaser agreements from the Arizona Department of Environmental Quality for properties in or around the Lake Havasu Avenue and Holly Avenue WQARF Site.

Purchaser Name	Address	Public Notice Date	Effective Date
Palo Verde Investments, L.L.C.	900 N. Lake Havasu Ave, Lake Havasu City, AZ	February 6, 2002	March 15, 2002

#### **Acronyms and Glossary of Terms**

**Aquifer:** An underground rock formation composed of such materials as sand, soil, or gravel, that can store groundwater and supply it to wells and springs. In aquifers, groundwater occurs in sufficient quantities to be used for drinking water, irrigation, and other purposes.

Aquifer Water Quality Standards (AWQS): State of Arizona maximum levels for contaminants which apply to groundwater in aquifers designated for drinking water use. For example, the AWQS for tetrachloroethene is 5 micrograms per liter ( $\mu$ g/L).

**Arizona Administrative Code (A.A.C.):** The publication in which the official rules of the state of Arizona are published. The *Code* is the official compilation of rules that govern state agencies, boards, and commissions.

**Arizona Department of Environmental Quality (ADEQ):** ADEQ is the executive agency of the Arizona State Government mandated to enforce and administer the State's environmental laws and regulations.

**Arizona Revised Statutes (A.R.S.):** State laws adopted by the Arizona State Legislature.

**Cleanup:** Actions taken that deal with a release or threat of a release of hazardous substances that could adversely affect public health and/or the environment. The word "cleanup" is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action.

Community Advisory Board (CAB): A diverse group of community members interested in or affected by the presence of a WQARF site. By statute, ADEQ is required to form a CAB for each WQARF Registry site where ADEQ is initiating a Remedial Investigation. ADEQ seeks the CAB's input in the decision-making process and works with them from the onset of the RI/FS process until the requirements of the record of decision have been fulfilled.

**Community Involvement Area:** The mailing area of residences and businesses used in the notification for public meetings and other written notices regarding a site.

**Community Involvement Coordinator:** The ADEQ employee responsible for ensuring that all statutes and rules related to the involvement of the public and public outreach at WQARF sites are upheld and complied with by ADEQ. Community Involvement Coordinators manage and coordinate the work of CABs for WQARF sites.

**Community Involvement Plan (CIP):** A document that identifies techniques used by ADEQ and EPA to communicate effectively with the public during the Superfund cleanup process at a specific site. This plan describes the site history, nature and history of community involvement, and concerns expressed during community interviews. In addition, the plan outlines methodologies and timing for continued interaction between the Agencies and the public at the site.

**Contamination:** Any hazardous or regulated substance released into the environment.

**Contaminant:** Any physical, chemical, biological or radiological substance or matter present in any media at concentrations that may result in adverse effects on air, water or soil. A harmful or hazardous matter introduced into the environment that is not normally found there, or not naturally occurring.

**Early Response Action (ERA):** Refers to a remedial action performed prior to the final remedy, and often prior to the Remedial Investigation. An ERA addresses current risks to public health, welfare, and the environment; protects or provides a supply of water; addresses sources of contamination; or controls or contains contamination where such actions are expected to reduce the scope or cost of the remedy needed at the site. Also referred to as an interim remedial action.

**Feasibility Study (FS):** A process to identify a reference remedy and alternative remedies that appear to be capable of achieving the Remedial Objectives for the site. It is often done as part of a two-phase investigation in conjunction with a Remedial Investigation (RI/FS).

**Groundwater:** Water located beneath the ground surface in soil pore spaces and in the fractures of geologic formations. A formation of rock or soil is called an aquifer when it can yield a usable quantity of water.

**Hazardous Substance:** Any material that, because of its quantity, concentration, physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

**Information Repository:** A collection of documents about a specific project. Information on certain WQARF and Superfund sites may be available at ADEQ offices and libraries throughout the state.

**Monitoring Well (Monitor Well):** A well installed for the purpose of collecting samples such as groundwater and soil gas. Analytical results from samples are used to characterize the extent of contamination, the direction of groundwater flow, and the types and quantities of contaminants present in the groundwater.

**Potentially Responsible Party (PRP):** A party (individual or corporation) identified by state or federal authorities as potentially liable for cleanup costs at a contaminated site.

**Preliminary Investigation (PI):** The process of collecting and reviewing available information about a known or suspected hazardous waste site or release.

**Proposed Remedial Action Plan (PRAP):** A document that reviews the cleanup alternatives presented in the site Feasibility Study and identifies ADEQ's preferred alternative. Selection of a preferred alternative is not a closed-end commitment to use that alternative; rather, it is a way for the agency to indicate, based on experience and expertise, which alternative is the most likely course of action. ADEQ must actively solicit public review of and comment on all the alternatives under consideration.

**Public Comment Period:** A period during which the public can formally review and comment on various documents and ADEQ actions.

**Record of Decision (ROD):** A legal document that announces and explains the cleanup methods ADEQ will use at a Superfund/WQARF site. The Record of Decision is based on information and technical analysis generated during the Remedial Investigation and Feasibility Study, and on consideration of comments received during the public comment record for the Proposed Remedial Action Plan.

**Remedial Action (RA):** Any action taken to investigate, monitor, assess and evaluate the release or threat of release of hazardous substances or contaminants to the environment. It may also refer to the actual "cleanup" of the environment by various removal, treatment, monitored remediation, or corrective actions. The term cleanup is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action.

**Remedial Investigation (RI):** Establishes the nature and extent of the contamination and the sources; identifies current and potential impacts to public health, welfare, and the environment; identifies current and reasonable foreseeable uses of land and waters of the state; and obtains and evaluates any information necessary for identification and comparison of alternative remedial actions.

**Remedial Objective (RO):** Established remedial goals for the current and reasonably foreseeable uses of lands and waters of the state that have been or are threatened to be affected by a release of hazardous substance.

**Remediation:** Cleanup or other methods used to remove or contain a toxic spill or hazardous materials.

**Remedy:** Cleanup method chosen for a site.

**Responsible Party:** An individual or company (*e.g.*, an owner, operator, transporter, or generator of hazardous waste) that is responsible for the contamination problems at a Superfund/WQARF site. Whenever possible, responsible parties are required to clean up hazardous waste sites they have contaminated.

**Responsiveness Summary:** A summary of oral and written comments (and ADEQ responses to those comments) received during the public comment period.

**Soil Remediation Level (SRL):** A pre-determined risk-based standard protective for residential or non-residential use based upon the total contaminant concentration in soil. In addition to meeting the SRLs, it must also be shown that soil contaminant levels do not: 1) Cause or threaten to cause a violation of Water Quality Standards that are protective of aquifer water quality and surface water quality; 2) Exhibit a hazardous waste characteristic of ignitability, corrosivity, or reactivity; and 3) Cause or threaten to cause an adverse impact to ecological receptors. SRLs have replaced what were known as Health-Based Guidance Levels or HBGLs.

**Soil Vapor Extraction (SVE):** Soil vapor extraction removes contaminant vapors from below ground for treatment above ground. Soil vapor extraction removes vapors from the soil above the

water table by applying a vacuum to pull the vapors out. The method is used for chemicals that evaporate easily, such as those found in solvents and gasoline.

**Superfund:** The federal program operated under the legislative authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) that funds and carries out U.S. Environmental Protection Agency solid waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising cleanup and other remedial actions. It provides for the cleanup of hazardous substances released into the environment, regardless of fault. The term Superfund also is used to refer to cleanup programs designed and conducted under CERCLA and its subsequent amendments.

**Tetrachloroethene or Tetrachloroethylene or Perchloroethene (PCE):** A clear, colorless, liquid with a chloroform or sweet odor and a low boiling point; a solvent used for dry-cleaning; degreasing and drying metals and other solids; dissolving waxes, greases, oils, fats, and gums, and in other industrial applications. PCE is a potential occupational carcinogen. Evaporation of PCE increases as temperature increases.

**Total Petroleum Hydrocarbons (TPH)**: Total petroleum hydrocarbons refer to a measure of concentration or total mass of petroleum hydrocarbon constituents present in a given amount of air, soil or water.

**Trichloroethene or Trichloroethylene (TCE):** A colorless liquid used as a solvent, metal degreasing agent, and in other industrial applications.

**Volatile Organic Compounds (VOC):** A large group of carbon-containing compounds that are easily dissolved into water, soil, or the atmosphere and evaporate readily at room temperature. Examples of VOCs include PCE, TCE, benzene, toluene, ethylbenzene, and xylene. These contaminants are typically generated from metal degreasing, printed circuit board cleaning, gasoline, and wood preserving processes.'

Water Quality Assurance Revolving Fund (WQARF): Also known as the State Superfund, WQARF is the program and funding used to address hazardous substance releases within the state that are not covered by other specific programs.