Shannon Road/El Camino del Cerro
Water Quality Assurance Revolving Fund (WQARF) Site
Community Involvement Plan

October 2022

ADEQ Document No. EQR-22-19

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Disclaimer: All telephone numbers, email addresses, and contact names are subject to change after the date of this publication.

Introduction

CIP Purpose

The Arizona Department of Environmental Quality (ADEQ) is committed to involving communities in the Water Quality Assurance Revolving Fund (WQARF) site investigation and cleanup process. The Shannon Road/El Camino del Cerro WQARF Site Community Involvement Plan (CIP) describes how ADEQ will fulfill this commitment. ADEQ will regularly update this plan based on site-specific developments, public comments, and community concerns. ADEQ welcomes community input on this CIP.

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. Created under the Environmental Quality Act of 1986, WQARF receives funding from legislative appropriations, cost recovery from responsible parties, and special fees.

The WQARF program identifies contaminated sites in significant need of remediation. WQARF Registry sites are assigned an Eligibility and Evaluation (E&E) score based on several factors, such as the nature and extent of contamination and the number of people who may be exposed to the contaminants. The E&E score does not necessarily mean that the site poses a direct risk to human health and/or the environment.

The WQARF process uses a step-by-step approach to thoroughly investigate contaminated sites. ADEQ uses data from the investigation to develop a site-specific cleanup strategy, also called the site's remedy.

The flowchart in Appendix A depicts each phase in the WQARF process. Please refer to the glossary for definitions of each WQARF phase.

ADEQ Spokesperson Contact Information

The ADEQ designated spokesperson, the Community Involvement Coordinator, will act as liaison between ADEQ and the community near the Shannon Road/El Camino del Cerro WQARF Site. The Community Involvement Coordinator will provide notice of public meetings, plan Community Advisory Board meetings, and ensure that CIP requirements are followed. Contact information for the designated spokesperson is below:

Community Involvement Coordinator ADEQ

1110 West Washington Street, 6th Floor, Phoenix AZ 85007
602-316-4270

Or

1-800-234-5677

Fax: 602-771-4272

Email: Marks.Tereza@azdeq.gov

View Community Involvement Contacts Online: azdeq.gov/WQARF

Site Information Repository

The Shannon Road/El Camino del Cerro WQARF Site information repository contains technical reports, public notices, and this CIP. ADEQ will add site-related documents to the repository as they are completed. The site information repository is available online and in person:

Online:
azdeq.gov/shannon-elcaminodelcerro

In Person:
ADEQ Records Center
1110 West Washington Street
Phoenix, AZ 85007
602-771-4380
Or
1-800-234-5677
(Please call to make an appointment)

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

Site Overview

The Shannon Road/El Camino del Cerro WQARF Site is located in Tucson, Arizona. The Site includes the closed El Camino del Cerro Landfill and is bounded by West Shumaker Drive to the north, El Camino del Cerro Road to the south, North Dartwhite Drive to the east, and North Camino de la Tierra to the west. The El Camino del Cerro Site was placed on the WQARF Registry in August 1998, with an eligibility and evaluation (E&E) score of 71 out of a possible 120. The Shannon Road-Rillito Creek Site was placed on the WQARF Registry in April 1999, with an E&E score of 53 out of a possible 120. The major factor leading to the scores was the presence of volatile organic compounds (VOCs) in groundwater at levels exceeding Arizona Aquifer Water Quality Standards (AWQS). In 2004, the El Camino del Cerro and the Shannon Road-Rillito Creek WQARF Sites were administratively combined into the Shannon Road/El Camino del Cerro WQARF Site.

The groundwater contaminants of concern at the Site are tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), and vinyl chloride. Lead was historically detected in soil samples at the former AMRI Oil property. However, the lead-contaminated soil was removed and backfilled with clean soil. Other compounds were used or disposed of at a facility, detected in environmental media at concentrations below regulatory standards, or detected inconsistently (spatially or temporally) above a regulatory standard at the Site. None of these compounds are considered contaminants of concern at the Site. These compounds included 1,1,1-trichloroethane, 1,4-dioxane, 1,1-dichloroethane, Freon 11, Freon 12, chromium, lead, benzene, toluene, ethylbenzene, xylenes, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and nitrate plus nitrite.

A groundwater pump and treat system, operated by the Metropolitan Domestic Water Improvement District (Metro Water) as part of an early response action at the South Shannon Wellhead, was installed in 1997 and continues to operate, providing water that meets the AWQS for the Tucson area.

The Draft Final Remedial Investigation (RI) Report for the Shannon Road/El Camino del Cerro WQARF Site was completed in March 2014. The Final RI Report was issued in April 2015. The Final Feasibility Study (FS) Report was issued in July 2017. The Proposed Remedial Action Plan (PRAP) was issued in March 2020.

The following map shows the plume boundaries based on the most recent groundwater monitoring data. This area may change as ADEQ collects more information.

A full history of site activities is located in Appendix B.

Shannon Road/El Camino del Cerro

Community Profile

Community Involvement Area (CIA)

The Shannon Road/El Camino del Cerro WQARF Site CIA designates a geographic area in which ADEQ will send mass mailings and focus its outreach efforts. CIA boundaries are determined based on site-specific characteristics such as the affected media (i.e., soil, surface water, or groundwater), groundwater flow direction, exposure routes, and proximity to residential areas and public facilities. The CIA may change as ADEQ collects more information.

The map on the following page illustrates the 2022 CIA for the Shannon Road/El Camino del Cerro WQARF Site.

Community Demographics

Demographics help ADEQ plan and implement tailored community involvement activities. The following page displays key demographic information for the Shannon Road/El Camino del Cerro WQARF Site CIA.

The Shannon Road/El Camino del Cerro WQARF Site CIA is located in Tucson, Arizona. The current estimated population of Tucson is 545,340 people[1].

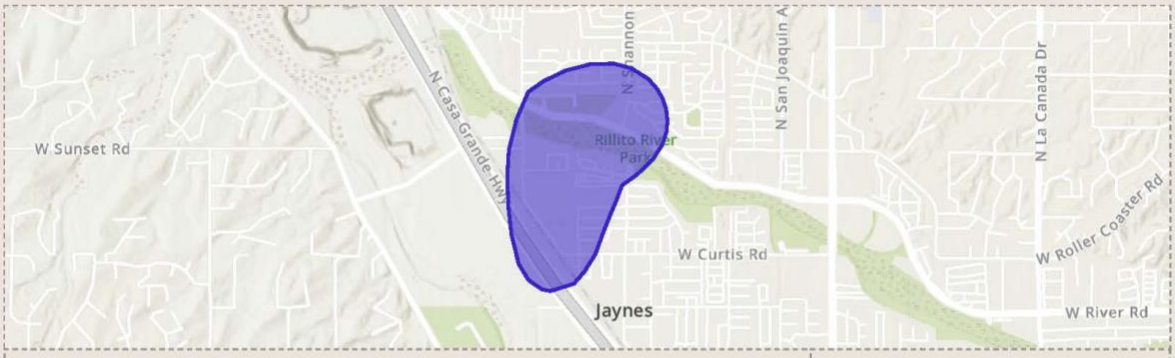
The CIA contains a mix of residential, commercial, and industrial areas within four zip codes (85705, 85741, 85743, and 85745). An estimated 1,645 people live in 545 households within the CIA. Among CIA residents above age five, 59% speak English only, 32% speak English well or very well, and 9% speak Spanish only. Given the high proportion of Spanish speakers, ADEQ will provide interpretation and translation services as requested.

ADEQ looks at the community as a whole with an emphasis on the proportion of residents under age five and above age 65. These populations are considered more vulnerable to the potential health effects associated with exposure to environmental contamination. In the CIA, approximately 7% of the population is under age five while 12% is above age 65.

A list of neighborhood associations, community schools, and vulnerable population centers is presented in Appendix C. A list of elected officials for the CIA is presented in Appendix D.

[1] Source: Arizona Demographics Interactive Map Viewer: https://geo.azmag.gov/maps/azdemographics/

Community Involvement Area
SHANNON ROAD/EL CAMINO DEL CERRO



Population and Households

1,645
Total Population

2.8
Average Household Size

$39,823
Median Household Income

545
2020 Total Households

21%
Renter Occupied Housing Units

79%
Owner Occupied Housing Units

Vulnerable Aged Population

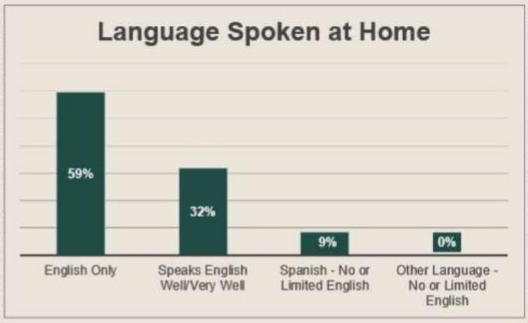
7%
Age 0-4

12%
Age 65+

This infographic contains data provided by Esri, ACS, Esri-MRI-Simmons, U.S. Census. The vintage of the data is 2022, 2016-2020, 2027, 2010.

Race and Ethnicity

Language Spoken at Home



Data is in accordance with guidelines provided by the U.S. Office of Management and Budget (OMB). The standards have five categories for data on race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. People may choose to report more than one race to indicate their racial mixture. People who identify their origin as Hispanic, Latino, or Spanish may be of any race.

Technology Access at Home

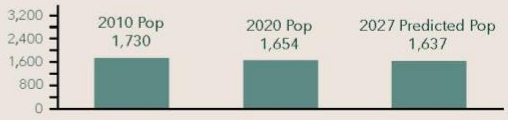
93%
Internet Access at Home

52%
Own Any Tablet

75%
HH Owns a Computer

92%
Smartphone

Population



Community Issues and Concerns

To better understand the community and its concerns, ADEQ conducted interviews with community and CAB members who live or work near the Shannon Road/El Camino del Cerro WQARF Site. As an update, ADEQ conducted an online survey in 2021 to assess current concerns about the Site. The following sections summarize common concerns related to the Site along with suggestions for ADEQ outreach activities. ADEQ will use this community feedback to ensure that future outreach addresses community concerns and to determine effective communication methods.

Community Interview Summary

All interviewees and survey respondents were familiar with the Shannon Road/El Camino del Cerro WQARF Site. Most interviewees were concerned with the severity of the contamination and the length of remedial action activities.

Environmental and health concerns

Specific environmental and health concerns expressed by the interviewees included the following:

- Have all of the potentially responsible parties/sources of contamination been found?
- Is the Draft RI report inclusive of all the pertinent information needed for the remedial decision-making process?
- What progress has been made toward cleanup goals at the Site?
- What is the status of ADEQ's budget for cleanup?
- What is the status of the remedy for the 1,4-dioxane contamination? There was concern that this needs to be implemented for remediation to occur.

Almost all of the interviewees wanted to know about the overall remedy for the Site, as well as future investigations.

Outreach Recommendations

Interviewees suggested the following community outreach and involvement strategies to ADEQ:

Sharing site information:

- Many of the respondents stated that the current electronic and U.S. mail communication methods in place by ADEQ were the best methods to share Shannon Road/El Camino del Cerro WQARF Site updates.
- A few community members stated that they felt the local ADEQ office was good about communicating with the public, while information from Phoenix was difficult to obtain.

There was a suggestion that a community involvement member should be located in the Tucson office.

- Interviewees were concerned that when state budget issues caused stoppage on remediation efforts that communication efforts also ceased, leaving them uninformed.
- Suggestions for other methods of communication included newsletter and local school district outreach.
- Maps should be improved to include easier to read text and better color contrast.
- The information presented at meetings should be more than just data and include interpretation so that the public can better understand the progress and future success of the remediation project.
- Demographic data presented in the CIP may not adequately reflect individual communities with the zip codes. A CAB member provided information on the demographics of Laguna Elementary School, which showed a larger percentage of Latino children than indicated by overall demographics. There are also more rental units in the area than in the county as a whole. Thus, there may be additional communication challenges within the CIA. ADEQ is committed to providing interpretation services when needed.

Community Involvement Action Plan

The Shannon Road/El Camino del Cerro WQARF Site Community Involvement Action Summary table describes the required community involvement activities for each WQARF phase and notes the date of completed activities. This summary is followed by a description of ADEQ communication techniques to share site information and implement required activities.

Community Involvement Action Summary - Required Activities

The following table describes the required community involvement actions for the Shannon Road/El Camino del Cerro WQARF Site and notes which actions have been completed to date.

Community Involvement Action Summary					
WQARF Phase	**ADEQ Community Involvement Activity**	**Statute (A.R.S.) and Rule (A.A.C) References**	**Activity to Date**	**Complete**	
				El Camino del Cerro	**Shannon Road**
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)	Mailing to owners and operators: Shannon Road–Rillito Creek, July 2000; El Camino del Cerro, July 2000 Public notice: Shannon Road–Rillito Creek, March 1999; El Camino del Cerro, March 1998	✓	✓
WQARF Registry Listing	Following the listing of a site on the WQARF Registry, ADEQ will: ● Establish a preliminary community involvement area (see Chapter 2, Section A) within 90 days of site listing on the WQARF Registry. ● 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. ● Identify ADEQ personnel to contact for further information.	A.R.S. § 49-289.02	Notice to the community and development of a community involvement area, Summer 1999 and July 2000	✓	✓
	Develop a Community Involvement Plan that establishes a Community Advisory Board, 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 Community Advisory Board meetings and public meetings. Update the Community Involvement Plan 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 2000 Community Involvement Plan updated: 2002, 2006, 2015, 2018, 2019, 2020 and 2022.	✓	✓

Community Involvement Action Summary					
WQARF Phase	**ADEQ Community Involvement Activity**	**Statute (A.R.S.) and Rule (A.A.C) References**	**Activity to Date**	**Complete**	
				El Camino del Cerro	**Shannon Road**
Early Response Action	A work plan shall be prepared for each Early Response Action that will include a description of work to be done, known site conditions, 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 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 field work 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. R-18-16-405(E) A.A.C. R18-16-405(G)	Early Response Action Notices: -Fall 2001 Early Response Action Meetings: -1996 (regarding AMRI Oil/Wrecksperts property on Highway Drive) -September 25, 2001 (regarding E.C. Winter Oil property)	✓	✓
Remedial Investigation	Provide notice to interested parties announcing the availability of the Remedial Investigation Scope of Work or Work Plan, Fact Sheet, and Community Involvement Plan 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. 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. R18-16-301(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)	Notices: -Shannon Road–Rillito Creek, March 1999 -El Camino del Cerro, March 1998 Combined notices, July 2000	✓	✓

Note: A potentially responsible party search is conducted concurrently with the Remedial Investigation and Feasibility Study, but does not have mandated community involvement activities.

Community Involvement Action Summary				
WQARF Phase	**ADEQ Community Involvement Activity**	**Statute (A.R.S.) and Rule (A.A.C) References**	**Activity to Date**	**Complete** **El Camino del Cerro/Shannon Road**
Remedial Investigation (continued)	Establish a selection committee to choose Community Advisory Board 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)	Selection committee, August 2000	✓
	Establish a Community Advisory Board of between 5 to 20 members that represent a diversified cross section of the community. Within 90 days of appointment by the Community Advisory Board selection committee, the Community Advisory Board 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)	Joint Community Advisory Board established, October 2000	✓
	Publish a combined public notice announcing the availability of the Draft Remedial Investigation Report for review and a minimum 30-day public comment period and the date of 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. The Draft Remedial Investigation Report should be provided to the Community Advisory Board, interested local government agencies, affected water providers and the Department of Water Resources.	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)	Public notice and comment period: -March 19, 2014 Public meeting: -May 8, 2014	✓

Community Involvement Action Summary				
WQARF Phase	**ADEQ Community Involvement Activity**	**Statute (A.R.S.) and Rule (A.A.C) References**	**Activity to Date**	**Complete**
				El Camino del Cerro/Shannon Road
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/comment period: -May 12, 2014 Final Remedial Investigation Report public notice: - April 20, 2015	✓
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)	Final Feasibility Study -July 2017	✓
Proposed Remedial Action Plan	Publish a public notice announcing the availability of the Proposed Remedial Action Plan for a 90-day public comment period. (If not combined, separate public notices will be provided for the Draft Remedial Investigation/comment period and the Remedial Objectives solicitation and public meeting.) Mail the same notice(s) to interested parties. The notice(s) 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)	Proposed Remedial Action Plan -March 2020	✓

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		
Community Involvement Action Summary				
WQARF Phase	**ADEQ Community Involvement Activity**	**Statute (A.R.S.) and Rule (A.A.C) References**	**Activity to Date**	**Complete** **El Camino del Cerro/Shannon Road**
Implementation of Remedy (Remedial Actions)	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		
	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)(l)		
	Provide notice to the public that fieldwork 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)	Done as needed	✓
	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. R18-16-4-16(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 WQARF 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	A.R.S. § 49-289.03(A)(3)		

	the opportunity for a 30-day public comment period.	A.A.C. R18-16-301(C)		
	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)		

Community Involvement Techniques

This section describes the specific activities and resources that ADEQ uses to communicate and engage with stakeholders and community members near the Shannon Road/El Camino del Cerro WQARF Site.

ADEQ uses the following community involvement techniques:

1. CAB: The CAB, with assistance from ADEQ, has been conducting public meetings about the Shannon Road/El Camino del Cerro WQARF Site since 2000. The CAB advises ADEQ on sharing site information and provides input on content. CAB members serve as an information resource for their community. Per Arizona Revised Statutes § 49-289.03, CAB meetings are open to the public and held at easily accessible locations. CAB meetings will be held to receive site briefings, progress reports and other pertinent information in response to site activities or a request from a community advisory board member or a city, town or county in which the site is located. CAB meetings may be held virtually if requested. For a list of current CAB members, see Appendix E.

2. Local Print Media: ADEQ will publish all WQARF milestone public notices in *The Daily Territorial*. The Arizona Newspaper Association maintains a database of all public notices published in major Arizona newspapers (arizonapublicnotices.com). For a list of other media outlets, see Appendix F.

3. U.S. Mail and Email Lists: ADEQ created U.S. Mail and email address lists to share updates on the Shannon Road/El Camino del Cerro WQARF Site. Anyone can join the site mailing list by contacting the ADEQ Community Involvement Coordinator or registering on GovDelivery (public.govdelivery.com/accounts/AZDEQ/subscriber/new).

4. ADEQ Website: ADEQ's website provides visitors with three areas of information related to the site and is updated regularly:

    - Notices Page: contains WQARF site public notices and announces comment periods (azdeq.gov/notices).

    - Events Page: includes information on WQARF site public meetings, including CAB meetings (azdeq.gov/events).

    - Site Information Page: provides detailed site information and links to the site information repository (link to My Community Page).

5. ADEQ Notice Board: Notices are displayed on boards located in ADEQ's Phoenix and Tucson offices.

6. Public Meetings: In addition to CAB meetings, ADEQ may schedule public meetings or open houses as needed or requested. Examples include meetings with neighborhood/homeowner's associations, schools, or other community groups.

7. Site Tours: The public may request site tours through the ADEQ Community Involvement Coordinator. Tours will be arranged in conjunction with the property owners and in compliance with current regulations.

ADEQ takes reasonable measures to provide access to community involvement activities to individuals with limited English proficiency and/or to those with disabilities. The community can request language interpretation, ASL interpretation, CART captioning services or disability accommodations through the ADEQ Title VI Nondiscrimination Coordinator (602-771-2288 or Drago.Leonard@azdeq.gov).

The following table of Communication Techniques illustrates how these techniques have and will be used throughout the WQARF process for the Shannon Road/El Camino del Cerro WQARF Site.

Communication Techniques							
Communication Deliverable			**Communication Recipients/Methods**				
Type	**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 table).	✓	✓	✓ *(site and calendar pages)*	✓ *(The Daily Territorial)*	✓
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 (see Community Involvement Action table).	✓	✓	✓ *(site, 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.	✓	Not Applicable	✓ *(site page)*	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.	✓	Not Applicable	✓ *(information repository)*	Not Applicable	Not Applicable
Site Fact Sheet	Provide current information about the site activity.	Published at the start of the Remedial Investigation and at specific milestones or other times as deemed appropriate by ADEQ and the CAB.	✓	✓	✓ *(information repository)*	Not Applicable	Not Applicable

Communication Techniques							
Communications Deliverable			**Communications Recipients/Methods**				
Type	**Why**	**When**	**CAB Members**	**Interested Parties List**	**ADEQ Website**	**Local Print Media**	**ADEQ Notice Board**
Public Meeting to solicit Remedial Objectives	Provide forum to solicit Remedial Objectives. (Note that this meeting may be conducted in conjunction with a CAB meeting.)	After release of Draft Remedial Investigation Report.	✓	✓	✓ *(site and calendar pages)*	✓ *(The Daily Territorial)*	✓
Public notice announcing a prospective purchaser agreement	Provide notice of availability and request comments.	Per mandate (see Community Involvement Action table).	✓	✓	✓ *(online information repository)*	✓ (Newspaper of general circulation in Pima County)	Not Applicable
Public notice announcing settlement agreement with a responsible party.	Provide notice of availability and request comments.	Per mandate (see Community Involvement Action table).	✓	✓	✓ *(online information repository)*	✓ (Newspaper of general circulation in Pima County)	Not Applicable
Site Tour	Provide walking or driving tour of the site to observe current site conditions and the surrounding community and environment.	If requested, and with cooperation of current property owners.	Contact ADEQ Community Involvement Coordinator.				

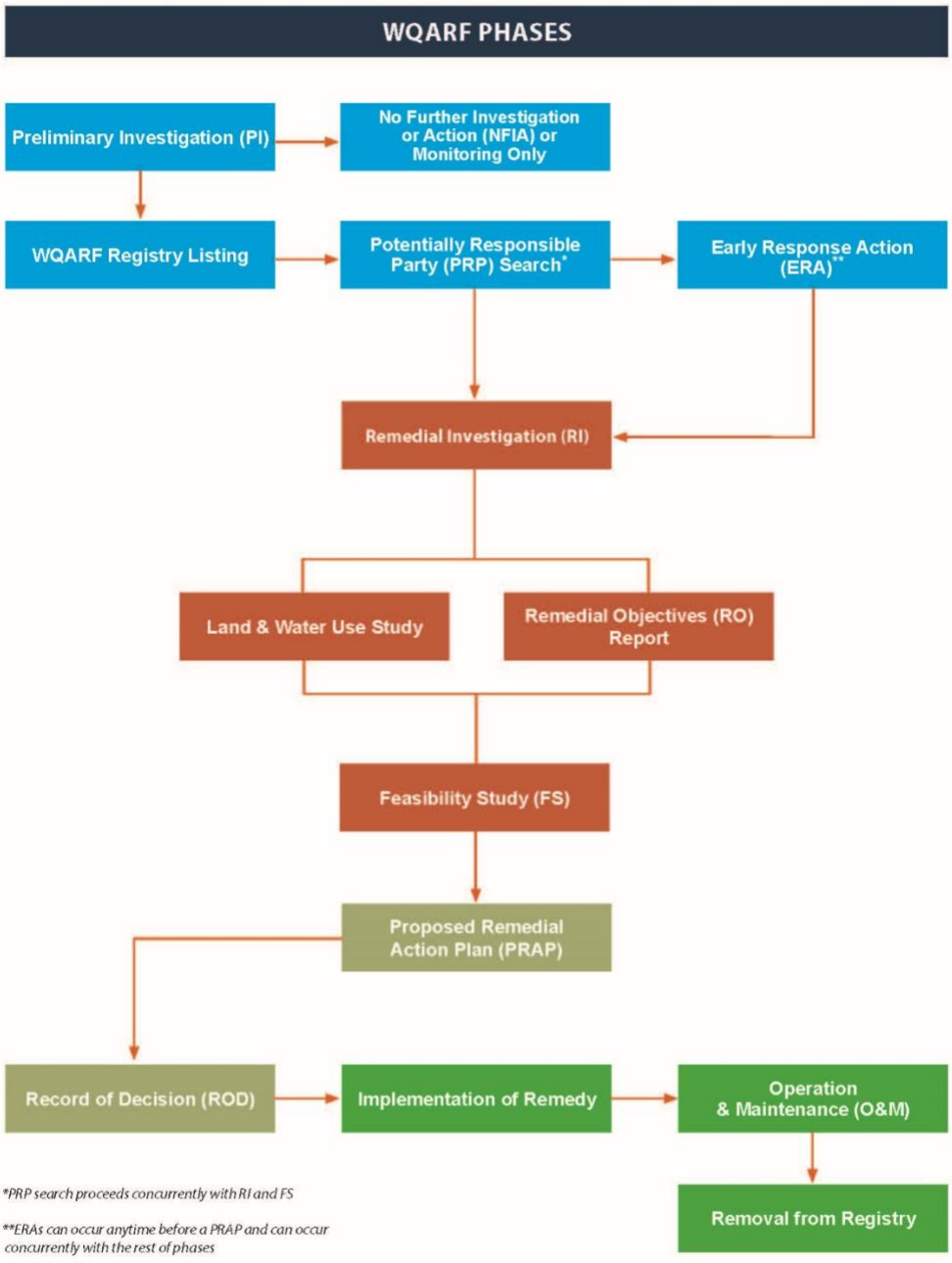
APPENDICES

The following appendices provide additional resources to support community involvement for the Shannon Road/El Camino del Cerro WQARF Site:

- Appendix A: WQARF process flowchart
- Appendix B: History of major activities at the Shannon Road/El Camino del Cerro WQARF Site.
- Appendix C: Targeted communities in the Shannon Road/El Camino del Cerro WQARF Site CIA.
- Appendix D: Elected officials representing communities within the CIA.
- Appendix E: Current Shannon Road/El Camino del Cerro WQARF Site CAB members.
- Appendix F: Local media outlets in the area.
- Appendix G: Related state and local agencies.
- Appendix H: Prospective purchaser agreements for property in and around the Shannon Road/El Camino del Cerro WQARF Site.
- Appendix I: Consent decree settlements related to the Shannon Road/El Camino del Cerro WQARF Site.

Appendix A

WQARF Process Chart



Appendix B
Site History

1950s–1974 The E.C. Winter Oil property was a used oil recycling facility from 1962 until 1974. The property has been a mixed use (industrial/commercial/residential) property since the cessation of the E.C. Winter Oil operation.

1993 VOCs were detected in the City of Tucson Z-006A water supply well, and this well was taken out of the Tucson water distribution system. This well is currently used as a monitoring well.

1994 VOCs were detected in the Metropolitan Domestic Water Improvement District (Metro Water) South Shannon Well and in the Acacia Gardens Mobile Home Park Water Supply Well. Metro Water designated the South Shannon Well as a backup well, and the water drawn from it was blended with the water from two other wells prior to distribution.

1995–2000 In June 1995, the Pima County Health Department tested residents on the Arizona Wrecksperts property, formerly the AMRI Oil facility, for lead. Some children on site had elevated blood lead levels, and the residents moved off the site until April 1996. From February to April 1996, ADEQ's Site Assessment Unit conducted an initial investigation and a soil removal action at the Arizona Wrecksperts/AMRI Oil property, after a black, tar-like substance was found on the property. Soil contaminated by lead and waste oil was removed and replaced with clean backfill. Additional investigations were conducted to monitor the lead levels of residents and to determine if the contamination had impacted groundwater.

In 1995, Acacia Gardens Mobile Home Park was connected to Tucson Water. In 1997, the owners of Acacia Gardens installed a wellhead treatment system for their well and operated their system until December 2000, then returned to City of Tucson water.

In September 1996, Pima County began the operation of a pilot landfill gas mitigation system flare. This system utilized a series of gas extraction wells that removed landfill gases from the El Camino del Cerro Landfill to a flare where they were burned off.

In May 1997, ADEQ completed the installation of five soil vapor monitoring wells in the area of the El Camino del Cerro Landfill. In June 1997, Metro Water completed the installation of a wellhead treatment system for the South Shannon Well.

In December 1997, Pima County completed the El Camino del Cerro Study Area Landfill and Groundwater Operable Unit FS reports. Addendums to the reports were issued by Pima County in 1999. Subsequent landfill cleanup utilized vapor extraction wells, and

the extracted gas was piped to a biomass filter. Between 20 and 40 pounds of VOCs were removed each week when this system was operating. The system eventually reached a state of ineffective mass removal, and Pima County shut down the system to let the landfill soil gas return to equilibrium.

The El Camino del Cerro Site was placed on the WQARF Registry in August 1998 with a score of 71 out of a possible 120. In April 1999, the Shannon Road-Rillito Creek Site was placed on the WQARF Registry with a score of 53 out of a possible 120.

2001 In February, lead-contaminated soil was found in the southeast corner of the Western Trailer Park property, formerly part of the AMRI Oil property. The lot was unoccupied, so there was no risk to residents. Additional soil and groundwater tests were conducted to further determine the extent of the contamination and any potential risks that it might pose.

A site investigation of the former E.C. Winter Oil property was completed and an engineering evaluation/cost analysis was issued in June. In the fall, ADEQ excavated surface and near-surface contaminated soil for disposal in a permitted landfill. Also, the Acacia Gardens Well was abandoned. Currently the City of Tucson is supplying water to the mobile home park.

2004–2006 Remedial Investigations were conducted by Pima County in the vicinity of the El Camino del Cerro Landfill and northeast of Interstate 10. The Remedial Investigations included characterization of the nature and extent of groundwater contamination, evaluation of aquifer characteristics near the landfill, and characterization of the composition of the landfill gas. Available data showed that there was a single plume and, as a result, the El Camino del Cerro and Shannon Road-Rillito Creek WQARF Sites were combined into the existing Shannon Road/El Camino del Cerro WQARF Site in 2004.

An ADEQ study to determine the vertical extent of the groundwater contamination within contaminated wells at the Site was conducted. The data gathered was used to develop future monitoring well designs.

An extensive passive soil gas survey was conducted south of Rillito Creek along the east sides of Interstate 10 to screen for potential sources of the groundwater contamination. The survey did not indicate that a significant source for the groundwater contamination exists in this area. Additional active soil vapor investigations were completed at the former E.C. Winter Oil and Arizona Wrecksperts/AMRI Oil properties because these properties had the highest passive soil gas results. In June 2006, a soil vapor extraction (SVE) system was installed at the former E.C. Winter Oil property. The system was expected to operate for 1 to 2 years, alternating on and off for 6-month periods.

The effectiveness of the treatment system at Metro Water's South Shannon Well was diminishing as VOC concentrations increased in the well water. An FS for upgrading the system was performed. The treatment system was shut down from April 2004 through June 2006 and upgraded with two large granular activated carbon (GAC) filters. Five additional groundwater monitoring wells were installed in winter 2006 to further evaluate the groundwater on the Arizona Wrecksperts/AMRI Oil property.

2007 Five monitoring wells were installed at the Site in the early summer. A soil removal action was completed at the former Arizona Wrecksperts/AMRI Oil property in the spring and summer. A total of 1,600 tons of lead-contaminated soil were removed from the eastern portion of the former Arizona Wrecksperts/AMRI Oil and Western Trailer Park properties. In addition, a number of soil samples were collected from the western portion of the former Arizona Wrecksperts/AMRI Oil property, to complete a human health risk assessment. This risk assessment indicated that no unacceptable risk was associated with the soils at the former Arizona Wrecksperts/AMRI Oil property.

2008 Four additional monitoring wells were installed in January. These wells were designed to more fully define the extent of contamination and to replace some wells that had gone dry. Three of the new monitoring wells also served as "sentinel" wells for monitoring possible containment migration toward Metro Water wells. Data gathered from these new wells was used to complete RI Report for the Site. Also, in January, ADEQ discontinued operation of the SVE system at the former E.C. Winter Oil property because of declining extraction rates.

2009 The Pima County Solid Waste Division began operation of a shallow tray air stripper treatment system at the former El Camino del Cerro Landfill. The pump and treat system was expected to remove the bulk of the continuing source of groundwater contamination. By the end of September, the treatment system had removed approximately 14.9 pounds of VOCs.

2010 Metro Water continued to operate the GAC treatment system at the South Shannon Well, and the Pima County Solid Waste Division continued to operate the shallow tray air stripper treatment system at the former El Camino del Cerro Landfill. By the end of 2010 Metro Water had pumped 851 million gallons of water and removed approximately 174.5 pounds or 79.2 kilograms of VOCs. Also, by the end of the year, Pima County had pumped 124 million gallons of water and removed 36.5 pounds or 16.6 kilograms of VOCs.

2011 By September, the extraction well at the former El Camino del Cerro Landfill had been shut down because of scaling problems. The treatment system had pumped 131 million gallons of water and removed approximately 37.5 pounds or 16.6 kilograms of VOCs.

2012	The extraction well for the shallow tray air stripper treatment system at the former El Camino del Cerro Landfill was replaced with a new extraction well located closer to the landfill.
2013	The Metro Water GAC treatment system continued to treat water at the South Shannon Road well. By the end of June, 1337 million gallons of water had been treated, with 272 pounds of VOCs removed. The new extraction well at the former El Camino del Cerro Landfill remained inoperable for much of the year because of electrical problems.
2014	The Draft Final RI Report for the Shannon Road/El Camino del Cerro WQARF Site was completed in March 2014. The 60-day public comment period on the document ended May 17, 2014. A public meeting was held on May 8, 2014, to present the findings of the RI to the public and to solicit remedial objectives. ADEQ was planning further investigations to fill known gaps in the RI data during the upcoming FS.
2015	The RI Report was finalized in April. ADEQ's contractor conducted a data gap investigation including depth-specific groundwater sampling and developed an evaluation of remedial alternatives in preparation for the conducting the FS.
2016	Operation of the South Shannon Well wellhead treatment system and regular groundwater monitoring continued throughout the year.
2017	The Final FS was issued in July. Operation of the South Shannon Well wellhead treatment system and regular groundwater monitoring continue.
2018-2020	Operation of the South Shannon Well wellhead treatment system and regular groundwater monitoring continued throughout these years. The Proposed Remedial Action Plan was released in March 2020. The 90-day public comment period for the plan occurred from March 23 to June 22, 2020.
2020	Groundwater modeling to determine the South Shannon Well's plume capture at different pumping rates was completed. The results of the modeling indicated that recent pumping rates were suboptimal for hydraulic control and plume capture. Operation of the South Shannon Well wellhead treatment system and regular groundwater monitoring continued throughout the year.
2021	Preliminary design of an Early Response Action (ERA) to increase the pumping rate of the South Shannon Well based on 2020 groundwater modeling was completed. The ERA was designed to upgrade the well's treatment technology from carbon to advanced oxidation, allowing the well owner/operator to exceed the previous pumping rate which was limited by mass balance during downstream blending. Operation of the South

Shannon Well wellhead treatment system and regular groundwater monitoring continued throughout the year.

Appendix C
Targeted Communities

Neighborhood Associations

Flowing Wells 520-661-4603
Kevin Daily; kevincdaily@yahoo.com
www.flowingwellsnacc.org

Santiago Acacia Gardens 520-887-1982
5505 N Shannon Rd, Tucson, AZ 85705
www.santiagocorp.com

Palm Vista Estates 520-887-2581
5445 N Shannon Rd, Tucson, AZ 85705
palm-vista-estates.edan.io

Schools

Flowing Wells Unified School District 520-696-8800
1556 West Prince Road, Tucson, AZ 85705
www.flowingwellsschools.org

Laguna Elementary School 520-696-8450
5001 North Shannon Road, Tucson, AZ 85705
laguna.flowingwellsschools.org

Pima County JTED Career and Technical Education District 520-352-5833
2855 West Master Pieces Drive, Tucson, AZ 85741
pimajted.org

Vulnerable Population Centers

No vulnerable population centers, such as child care and assisted living facilities, were identified in the Shannon Road/El Camino del Cerro WQARF Site CIA.

Appendix D

Elected Officials

As of the publication of this community involvement plan, the community involvement area for the Shannon Road/El Camino del Cerro WQARF Site falls under Tucson City Ward 3, two County Districts (1 and 3), and Arizona Legislature Districts 9 and 11.

Tucson City Council	Pima County Supervisors	State Senators	State Legislators
City Hall 255 W. Alameda St. 10th Floor Tucson, AZ 85701 (520)791-4213 www.tucsonaz.gov	130 W. Congress St. 11th Floor Tucson, AZ 85701 520-724-8449 webcms.pima.gov/government/board_of_supervisors	1700 W. Washington St Phoenix, AZ 85007 azleg.gov/memberroster/	1700 W. Washington St Phoenix, AZ 85007 azleg.gov/memberroster/
Mayor Regina Romero 520-791-4201 Mayor.Romero@tucsonaz.gov	**District 3 Supervisor** Sharon Bronson 520-724-8051 District3@pima.gov	**District 9 Senator** Victoria Steele Room 213 602-926-5683 vsteele@azleg.gov	**District 9 Representative** Christopher Mathias Room 326 602-926-3138 cmathias@azleg.gov
City Manager Michael Ortega 520-791-4204 citymanager@tucsonaz.gov	**District 1 Supervisor** Rex Scott 520-724-2738 District1@pima.gov	**District 11 Senator** Vince Leach Room 303 602-926-3106 vleach@azleg.gov	**District 9 Representative** Pamela Powers Hannley Room 335 602-926-4848 ppowershannley@azleg.gov
Ward 3 Council Member Kevin Dahl 520-791-4711 ward3@tucsonaz.gov			**District 11 Representative** Mark Finchem Room 313 602-926-3122 Mfinchem@azleg.gov
			District 11 Representative Teresa Martinez Room 113 602-926-3158 tmartinez@azleg.gov

Appendix E

Community Advisory Board

The Shannon Road/El Camino del Cerro WQARF Site Community Advisory Board was established in October 2000. The following table lists the Shannon Road/El Camino del Cerro WQARF Site Community Advisory Board (CAB) members as of September 2022

Community Advisory Board Members	
Bob Ornelas, Chair RBTORNELAS@COMCAST.NET	Keith Adkins KAWRITE@GMAIL.COM
Gary Burchard HYDROGARY@COMCAST.NET	Kerry Xhaferi BILLIONTIMES16@GMAIL.COM
Adele Steger NANSTEG40@GMAIL.COM	

Appendix F
Media Outlets

The community may use any media outlets to share information on the Shannon Road/El Camino del Cerro WQARF Site. ADEQ will publish all site-related public notices in the *The Daily Territorial.* All future public notices for the Shannon Road/El Camino del Cerro WQARF Site can be found by searching arizonapublicnotices.com.

Newspapers and Magazine

Arizona Daily Star 520-573-4292
PO Box 26887, Tucson, AZ 85726
tucson.com

The Arizona Daily Wildcat 520-621-3425
888 North Euclid Avenue, Room 131, Tucson, AZ 85721
www.wildcat.arizona.edu

BizTucson 520-299-1005
4729 East Sunrise Drive, Suite 505, Tucson, AZ 85718
biztucson.com

The Daily Territorial 520-299-1200
100 North Stone Avenue, Suite 300, Tucson, AZ 85701
about.dailyterritorial.com

Desert Times, Inside Tucson Business, Tucson Weekly and Explorer Newspapers 520-797-4384
7225 North Mona Lisa Road, Suite 125, Tucson, AZ 85741
www.tucsonlocalmedia.com/deserttimes

Tucson Citizen[9] No Phone Number
tucsoncitizen.com

Desert Leaf 520-881-5188
3978 East Fort Lowell Road, Tucson, AZ 85712
www.desertleaf.com

[9]The *Tucson Citizen* ended its print edition in 2009, then became an online compendium for blogs until February 2014. The *Tucson Citizen* remains an archive as a community resource.

The Arizona Business Gazette and The Arizona Republic 602-444-8000
200 East Van Buren Street, Phoenix, AZ 85004
www.azcentral.com/business

Radio

Arizona Public Media (KUAT, KUAZ) 520-621-1480
PO Box 2100067, Tucson AZ 85721
www.azpm.org

Cumulus Media (KCUB, KHYT, KSZR, KTUC) 520-887-1000
575 West Roger Road, Tucson, AZ 85705
www.cumulusmedia.com

KXCI Community Radio (KXCI) 520-209-1965
220 South 4th Avenue, Tucson, AZ 85701
kxci.org

Cochise Broadcasting (KNXN) 520-209-1965
7604 North LaCholla Boulevard, Tucson, AZ 85741

Family Life Radio (KQTH) 800-776-1070
PO Box 35300, Tucson, AZ 85740
www.myflr.org

Lotus Communications Corp (KTKT, KLPX, KFMA, KCMT, KMXZ, KFFN, KPLX) 520-407-4500
3871 North Commerce Drive, Tucson AZ 85705
www.lotuscorp.com

iHeartMedia Inc. (KIIM, KMIY, KNST, KOHT, KRQQ, KTZR, KYMD, KXEW) 520-326-1200
3202 North Oracle Road, Tucson, AZ 85705
www.iheart.com

Bustos Media (KVOI) 520-790-2440
3222 South Richey Avenue, Tucson, AZ 85713
bustosmedia.com

Television

KFTU-CA Channel 25 (Univision) 520-204-1270
2301 North Forbes Boulevard, Suite 103, Tucson, AZ 85745
www.univision.com/temas/tucson

KGUN Channel 9 (ABC) AND KWBA (The CW) 520-722-5486
7280 East Rosewood Street, Tucson, AZ 85710
www.kgun9.com

KHRR Channel 40 (Telemundo) 520-396-2618
283 North Stone Avenue, Suite 101, Tucson, AZ 85701
www.telemundoarizona.com

KMSB Channel 11 (Fox) 520-770-1123
7831 North Business Park Drive, Tucson, AZ 85743

KOLD Channel 13 (CBS) 520-744-1313
7831 North Business Park Drive, Tucson, AZ 85743
www.kold.com

KVOA Channel 4 (NBC) 520-792-2270
PO Box 5188, Tucson, AZ 85703
www.kvoa.com

KUDF-LP Channel 14 (Azteca America Tucson) 520-881-0334
2919 East Broadway Boulevard, Tucson, AZ 85716
aztecaamericatucson.com

KTTU Channel 18 520-770-5434
7831 North Business Park Drive, Tucson, AZ 85743

KUAT/KUAS (PBS) 520-621-5828
University of Arizona, PO Box 210067, Tucson, AZ 85721
tv.azpm.org

Tucson 12 (TV12) 520-791-2582
124 East Broadway Boulevard, Tucson, AZ 85701
www.tucsonaz.gov/info/tv12

Appendix G
Local and State Agencies

The following list presents additional agencies that may be used by the public to address concerns related to the Shannon Road/El Camino del Cerro WQARF Site.

State of Arizona

Department of Health Services: Environmental Health — 602-542-1025
150 N 18th Ave Phoenix, AZ 85007 — azdhs.gov/environmentalhealth

Department of Water Resources: Permitting and Wells — 602-771-8527
1110 W Washington St, Ste 310, Phoenix, AZ 85007 — new.azwater.gov/permitting-wells

City of Tucson

Housing and Community Development Department — 520-791-4171
310 North Commerce Park Loop, Tucson, AZ 85745 — www.tucsonaz.gov/housing-and-community-development

Environmental Services — 520-791-4155
Price Service Center, 4004 South Park Ave, Bldg 1, Tucson, AZ 85714 — www.tucsonaz.gov/environmental-services

Tucson Water Department — 520-791-3242
310 West Alameda Street, Tucson AZ 85701 — www.tucsonaz.gov/water

Other

Metropolitan Water Improvement District — 520-575-8100
6265 N La Cañada Dr, Tucson, AZ 85704 — metrowater.com

Agency for Toxic Substances and Disease Registry – Region 9 — 800-232-4636
75 Hawthorne St, Ste 9410 M/S:HHS-1, San Francisco, CA 94105 — atsdr.cdc.gov

Arizona Association of Realtors: Real Estate Seller Disclosures — 602-248-7787
255 E Osborn Rd #200, Phoenix, AZ 85012
aaronline.com/wp-content/uploads/2017/10/Residential-Sellers-Property-Disclosure-Statement-SPDS_REV_01Oct2017.pdf

Pima County Health Department **5**20-724-7770
3950 South Country Club Rd, Ste 100, Tucson, AZ 85714 webcms.pima.gov/government/health_department

Tucson Association of Realtors: Real Estate Seller Disclosures 520-327-4218
2445 North Tucson Blvd, Tucson, AZ 85716 www.tucsonrealtors.org

Appendix H
Prospective Purchaser Agreements

No parties have requested or received prospective purchaser agreements from the Arizona Department of Environmental Quality for properties in or around the Shannon Road/El Camino del Cerro WQARF Site.

Appendix I
Consent Orders and Settlements

As of the date of this CIP, there are no parties that have entered into consent decree settlements with the ADEQ for properties in or around the Shannon Road/El Camino del Cerro WQARF Site.

Acronyms and Glossary of Terms

Air Stripping: A treatment system that removes or "strips" VOCs from contaminated groundwater or surface water as air is forced through the water, causing the compounds to evaporate. Often the compounds are then captured using air filters.

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 (µg/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.

Eligibility and Evaluation score (E&E): ADEQ's method to prioritize sites for investigation and cleanup. The score is based on multiple criteria and does not always mean there is a current threat to health.

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).

Granular Activated Carbon (GAC): An effective absorbent primarily due to its extensive porosity and very large available surface area. By definition, granular activated carbon (as opposed to powdered activated carbon or PAC) is composed of particles with sizes greater than 0.8 mm, about the size of coarse sand. Activated carbon is manufactured from a variety of raw materials, including wood, coal, and coconut shells, making it plentiful, relatively inexpensive, and versatile.

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.