

**REVISED REMEDIAL OBJECTIVES REPORT  
WEST CENTRAL PHOENIX NORTH CANAL PLUME  
WATER QUALITY ASSURANCE REVOLVING FUND  
REGISTRY SITE  
PHOENIX, ARIZONA**



January 27, 2020

Arizona Department of Environmental Quality  
Remedial Projects Unit  
1110 West Washington  
Phoenix, Arizona 85007

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## LIST OF ABBREVIATIONS & ACRONYMS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AMA	Active Management Area
ARS	Arizona Revised Statutes
AWQS	Aquifer Water Quality Standard
COC	Contaminants of Concern
1,1-DCE	1,1-Dichloroethene
FS	Feasibility Study
HGC	Hydro Geo Chem, Inc.
LUST	Leaking Underground Storage Tank
LWUS	Land and Water Use Study
mg/kg	Milligrams per kilogram
NCP	North Canal Plume
PCE	Tetrachloroethene
RO	Remedial Objective
RI	Remedial Investigation
SRL	Soil Remediation Level
SRP	Salt River Project
SVE	Soil Vapor Extraction
TCE	Trichloroethene
µg/L	Micrograms per liter
WQARF	Water Quality Assurance Revolving Fund

## 1.0 INTRODUCTION

The Arizona Department of Environmental Quality (ADEQ) has prepared this revised Remedial Objectives (ROs) Report for the West Central Phoenix (WCP) North Canal Plume (NCP) Water Quality Assurance Revolving Fund (WQARF) Registry Site (the Site) to meet requirements established under Arizona Administrative Code (A.A.C.) R18-16-406. This RO Report relies upon the Land and Water Use Study (LWUS) contained in the Remedial Investigation (RI) Report dated February 2017 and prepared by Hydro Geo Chem, Inc. (HGC) for ADEQ.

ROs are established for the current and reasonably foreseeable uses of land and waters of the state that have been or are threatened to be affected by a release of a hazardous substance. Pursuant to A.A.C. R18-16-406(D), it is specified that reasonably foreseeable uses of land are those likely to occur at the Site and the reasonably foreseeable uses of water are those likely to occur within one hundred years unless Site-specific information suggests a longer time period is more appropriate.

Reasonably foreseeable uses are those likely to occur, based on information provided by water providers, well owners, land owners, government agencies, and others. Not every use identified in the LWUS will have a corresponding RO. Uses identified in the LWUS may or may not be addressed based on information gathered during the public involvement process, limitations of WQARF, and whether the use is reasonably foreseeable.

The ROs must be stated in the following terms: (1) protecting against the loss or impairment of each use; (2) restoring, replacing, or otherwise providing for each use; (3) when action is needed to protect or provide for the use; and (4) how long action is needed to protect or provide for the use.

The ROs chosen for the Site will be evaluated in the feasibility study (FS) phase of the WQARF process. The FS will evaluate specific remedial measures and strategies required to meet ROs. A remedial strategy is one or a combination of six general strategies identified in Paragraph B.4 of Arizona Revised Statutes (A.R.S.) 49-282-06 (plume remediation, physical containment, controlled migration, source control, monitoring, and no action). A remedial measure is a specific action taken in conjunction with remedial strategies to achieve one or more ROs (for example, well replacement, well modification, water treatment, water supply replacement, and engineering controls).

The FS will propose at least three remedies, a reference remedy and generally two alternative remedies, capable of meeting ROs. A reference remedy is a combination of remedial strategies and measures capable of achieving ROs, and is compared with alternative remedies for purposes of selecting a proposed remedy. An alternative remedy is a combination of remedial strategies and measures different from the reference remedy; alternative remedies are compared with the reference remedy for purposes of selecting a proposed remedy. Proposed remedies will also be generally compatible with future land and water use specified by land owners and water providers.

Comments on this RO Report will be accepted for a period of 30 days following the publication.

## **2.0 REMEDIAL OBJECTIVES FOR LAND USE**

The Site is located in the City of Phoenix (COP) and is bounded approximately by Indian School Road to the north, Grand Avenue to the east, Flower Street to the south and 40<sup>th</sup> Avenue to the west. Contaminants of concern (COCs) for the Site are tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), and chromium contained in three separate groundwater plumes, a West Plume, Central Plume and an East Plume. After several years of investigations, the source areas of the plumes were determined to be at multiple facilities. These include former Precise Metal Plating Company/Paraflex Machine and Tool Company and former Giltspur Exhibits at the West Plume; former Pyramid Industries, former Triad Trucking Company, former Osborn Products Company, former Southwest Metal Plating Industries, former Magic Metals Plating Company, Redburn Tire Company, and the former DJM Construction Company in the Central Plume; and an unknown source in the East Plume.

Remedial activities at the various facilities have included excavation of contaminated soil at former Osborn Products Company, former Magic Metals Plating Company, and operation of a soil vapor extraction (SVE) system and an air sparge system at the Triad Trucking Company as part of a leaking underground storage tank (LUST) investigation. These actions reduced the COCs detected in the vadose zone soil and subsequently in groundwater at the Site.

Typically, ROs for land use are established for those properties known to be contaminated with hazardous substances above a Soil Remediation Level (SRL) or a risk-based level. Soil data collected at various facilities indicate that the vadose zone is contaminated above regulatory standards for COCs. The groundwater is currently contaminated with COCs.

### **2.1 Summary of Current and Reasonably Foreseeable Land Use**

Generally, the Site is located in a mixed industrial, commercial and single/multiple family residential area. The City of Phoenix created the West Phoenix Revitalization Area (WPRA) in 2004 with the intention of improving living conditions in 52 square miles in West Phoenix, including the entire WCP complex of WQARF sites, by enhancing public safety, promoting economic development, and investing in cultural resources and educational opportunities for the West Phoenix community. The WPRA has been prioritized as a target area for Environmental Protection Agency (EPA) Brownfields Program assistance in redeveloping contaminated former industrial properties. The Isaac Redevelopment Area is located about 1.3 miles southeast of the Site and has also been targeted for redevelopment to reverse urban blight.

### **2.2 Soil Remedial Objective**

Vadose zone data indicate that concentrations of the COCs, PCE and TCE, were detected in soil at 26 mg/kg and 3.5 mg/kg respectively. These concentrations are greater than residential SRLs of 0.51 mg/kg for PCE and 3.0 mg/kg for TCE.

Based on the information presented above, COCs are present in soil at concentrations greater than Arizona remediation standards. Therefore, a remedial objective is needed for land use. PCE and TCE concentrations in soil samples collected from soil borings at the Site have exceeded applicable SRLs. Based on this information, the remedial objective for the soil is:

**Protect against the loss or impairment of land threatened by the contaminants of concern, PCE and TCE, at the West Central Phoenix – North Canal Plume WQARF Site and restore land that has been impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site to below applicable remediation levels. Action is needed for the present time and for as long as necessary to ensure that the level of contamination in the soil associated with the Site no longer exceeds applicable remediation levels.**

### **3.0 REMEDIAL OBJECTIVES FOR GROUNDWATER USE**

The groundwater use portion of the LWUS is an inclusive summary of information gathered from the Arizona Department of Water Resources (ADWR), water providers, municipalities, and land owners. The water providers within the Site are the COP and the Salt River Project (SRP).

#### **3.1 Summary of Current and Reasonably Foreseeable Groundwater Use**

The Site lies within the Phoenix Active Management Area (AMA). The Phoenix AMA was created by the Arizona Groundwater Management Code passed in 1980 and covers approximately 5,646 square miles in central Arizona. All groundwater withdrawn from any AMA must occur under a groundwater right or permit, unless groundwater is being withdrawn from an exempt well.

According to ADWR records, there is one non-exempt withdrawal well, an irrigation well, within the Site. ADWR records indicate that there are no exempt withdrawal wells within the Site and there are no grandfathered rights within the Site. The COP and SRP have service area rights within the Site. However of the two, only SRP is currently pumping groundwater within the Site.

Questionnaires were mailed to the COP, SRP, and land owners to obtain information regarding current and future uses of groundwater within the Site. The following paragraphs identify current and foreseeable groundwater uses within the Site and ROs.

The Site is in the City of Phoenix and the Phoenix AMA, an area where groundwater use is controlled and regulated. The City of Phoenix does not have groundwater wells within the Site but has indicated that it may install wells here in the future. Currently a portion of the groundwater within the Site is contaminated with COCs that would restrict use of the groundwater by the City of Phoenix if the city wanted to use the groundwater for municipal purposes.

SRP currently owns one well (9.5E-7.7N) within the Site boundaries. TCE has been detected above the Arizona Water Quality Standard (AWQS) of 5.0 micrograms per liter ( $\mu$  g/L) in the well. Currently the well provides water for irrigation, however, SRP anticipates that the well will transition to drinking water supply in the reasonably foreseeable future, either by directly connecting the well to municipal water distribution systems or piping to municipal water treatment plants located on the SRP canal system. According to SRP, the SRP well is currently pumped intermittently and there may be anticipated changes in the pumping schedule.

#### **3.2 Groundwater Remedial Objectives**

The current use of water at the Site is for irrigation water. The future use of groundwater at the Site includes irrigation and municipal (potable supply). The groundwater at the Site is currently contaminated with PCE at concentrations that exceed the AWQS. Thus, the ROs for groundwater use at the Site are as follows:

### Irrigation Use

**Protect against the loss or impairment of irrigation water threatened by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Where protection cannot be achieved in a reasonable, necessary, or cost-effective manner; restore, replace, or otherwise provide for irrigation water that is lost or impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Action is needed for as long as necessary to ensure that, while the water exists and the resource remains available, the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site does not prohibit or limit the designated use of groundwater.**

### Potable Use

**Protect against the loss or impairment of potable water threatened by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Where protection cannot be achieved in a reasonable, necessary, or cost-effective manner; restore, replace, or otherwise provide for potable water that is lost or impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Action is needed for as long as necessary to ensure that, while the water exists and the resource remains available, the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site does not prohibit or limit the designated use of groundwater.**

## **4.0 REMEDIAL OBJECTIVES FOR SURFACE WATER USE**

Surface water within the Site occurs in engineered canals for irrigation use at schools. No other properties within the Site are irrigated by canal water. The canal water source is from a portion of the Grand Canal supplied by groundwater from SRP wells located outside the Site.

### **4.1 Summary of Current and Reasonably Foreseeable Surface Water Use**

The only use of surface water within the Site is for irrigation at the schools located along the south side of the Grand Canal. This water is supplied by from SRP groundwater wells located outside the Site.

SRP well 9.5E-7.7N discharges into the Grand Canal and into the SRP lateral canal adjacent to 39<sup>th</sup> Avenue. Water is used for irrigation at properties outside of the Site. Future SRP plans for the Grand Canal include a possible drinking water treatment plant that may be constructed at the end of the Grand Canal.

### **4.2 Surface Water Remedial Objective**

Current surface water use within the Site is for irrigation and comes from groundwater sources outside the Site; SRP's reasonably foreseeable plans are to use the surface water for drinking water purposes. However, the primary source of this surface water is from groundwater outside the Site and is discharged to concrete lined canals. Therefore no RO for surface water is necessary.

## **Attachment A**

### **REMEDIAL OBJECTIVES RESPONSIVENESS SUMMARY**

**REVISED REMEDIAL OBJECTIVES  
RESPONSIVENESS SUMMARY**

***WEST CENTRAL PHOENIX NORTH CANAL PLUME WQARF REGISTRY SITE  
PHOENIX, ARIZONA***

Arizona Department of Environmental Quality  
Remedial Projects Unit  
1110 West Washington  
Phoenix, Arizona 85007



***January 27, 2020***

## **REVISED REMEDIAL OBJECTIVES RESPONSIVENESS SUMMARY**

### **WEST CENTRAL PHOENIX NORTH CANAL PLUME WQARF REGISTRY SITE PHOENIX, ARIZONA**

#### **INTRODUCTION**

Pursuant to the requirements of the Arizona Administrative Code (A.C.C.) R-18-16-406 (I) and (J), the Arizona Department of Environmental Quality (ADEQ) has prepared this comprehensive responsiveness summary for comments received on the *Revised Proposed Remedial Objectives Report*, for the *Remedial Investigation Report West Central Phoenix North Canal Plume WQARF Site, Phoenix, Arizona* dated December 28, 2017. The *West Central Phoenix North Canal Plume Water Quality Assurance Revolving Fund (WQARF) Site (Site) Proposed Revised Remedial Objectives (RO) Report* was made available for public review and comment on December 10, 2019 for 30 days. A public meeting was held at the Maryvale Community Center, 4420 North 51<sup>st</sup> Avenue, Phoenix Arizona on December 3, 2019. The purpose of the meeting was to receive oral and/or written comments on the Proposed Revised Remedial Objectives Report and to solicit proposed remedial objectives. ADEQ did not receive oral or written comments regarding the Proposed Revised Remedial Objectives during the public meeting, ADEQ received written comments during the comment period. The comments from the 30 day comment period are summarized below with ADEQ responses. Copies of written comments and proposed remedial objectives submitted by the public are contained in the attachment following the summaries below.

#### **Written Comments**

##### **Julie Riemenschneider, COP (Comments dated December 30, 2019)**

- 1. The City agrees with ADEQ's proposed ROs for soil and potable groundwater. The RO for groundwater indicates that ADEQ acknowledges the important resource groundwater is for the City and the future of our citizens.*

*The City looks forward to working with ADEQ on the feasibility study and development of the proposed remedy for this site.*

- ADEQ Response: Thank you for your comment.

##### **Andrea Martinez, SRP (Comments dated January 20, 2020)**

- 1. SRP has reviewed the Report and supports the new addition of proposed ROs for land use and preservation of the existing proposed groundwater ROs. However, SRP remains concerned regarding the adequacy of the proposed groundwater ROs and lack of surface water ROs. This letter serves to: 1) reiterate SRP's current and reasonably foreseeable groundwater and surface water use in and near the Site, 2) discuss the status of SRP*

water production wells in and around the Site, and 3) provide recommendations for groundwater and surface water ROs.

### ***Currently and Reasonably Foreseeable Use***

*SRP provides water to its customers in the Phoenix area through a series of canals and laterals. In 2017, SRP entered into an Agreement with the City of Goodyear to wheel Goodyear's surface water supplies to the future Goodyear WTP via the Grand Canal and its associated laterals.<sup>1</sup> Although the water delivered to Goodyear will primarily be Goodyear's surface water supplies, from an operational perspective, some of that water may be physically comingled with groundwater from SRP production wells located near or within WQARF sites. Once the Goodyear WTP is completed, the designated use of groundwater wells in and around the Site will include both irrigation and raw drinking water supplies. As a practical matter, groundwater pumped from SRP well 9.5E-7.7N, which is located in the Site, may also be included in the raw drinking water supply for Goodyear. Thousands of water customers will be served once Goodyear starts treating its raw water delivered by SRP.*

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<sup>1</sup> *The Grand Canal and other canals throughout the Valley are currently waters of the State.*

### ***Status of SRP Water Production Wells***

*On November 4, 2019, SRP provided ADEQ an updated Land and Water Use Questionnaire, which was modified to specifically address the 2017 Agreement with the City of Goodyear and include recent groundwater sampling results from four SRP wells within one mile of the Site (8.5E-7.5N, 9.5E-7.7N, 10.5E-7.5N, and 11.2E-7.7N). Of particular importance, SRP well 9.5E-7.7N is located directly within the plume and is currently impacted by contamination from the Site.<sup>2</sup> Though the well was intermittently pumped throughout the Site's history, SRP has pumped the well more regularly in recent years (ca. 2015-present).<sup>3</sup> Water from 9.5E-7.7N is pumped to the Grand Canal to be used for irrigation downstream. However, once the Goodyear WTP goes online, water from 9.5E-7.7N will become part of the raw drinking water supply for the City of Goodyear and must meet applicable drinking water standards.*

*SRP maintains a policy that prohibits wells to discharge into canals if the water does not meet applicable standards for the receiving water body. Consistent with Arizona Pollutant Discharge Elimination System (AZPDES) permit #AZ0024341, wells discharging into canals that feed municipal drinking water systems must not exceed established drinking water standards for volatile organic compounds. As a result, it is imperative that remedial actions are taken to treat groundwater to levels that will meet these standards. Without proper remediation of the Site, TCE contamination from the Site will impact SRP's ability to pump well 9.5E-7.7N into the Grand Canal after the Goodyear WTP goes online.*

*Additionally, SRP well 10.5E-7.5N is located within 0.5 miles of the plume and has been inactive over the past decade due to the threat that contamination from the Site will impact the well. This production well is located in a prime location to pump water to the Grand Canal for use at the Goodyear WTP, but will likely be obligated to remain offline due to concerns that regular pumping would result in the migration of the plume (southeast) toward the well.*

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<sup>2</sup> Well 9.5E-7.7N was last sampled in 2017. TCE concentrations exceeded the Aquifer Water Quality Standard (AWQS) at 9.5 µg/L and PCE concentrations approached the AWQS at 4.5 µg/L. PCE and TCE concentrations appear to be increasing in the well.

<sup>3</sup> SRP reserves the right to pump impacted wells for irrigation purposes where (i) the well's discharge may be isolated to laterals and canals without prospective drinking water uses, (ii) the concentrations of contaminants do not exceed the applicable standards for the receiving water body, and (iii) there is no risk to public health.

### ***SRP Supports Robust Groundwater and Surface Water ROs***

*For this WQARF site alone, two SRP wells have been impacted by the contamination at no fault of our own. Therefore, SRP encourages ADEQ to adopt robust groundwater ROs that not only protect against loss or impairment of the current and on-going irrigation use and future drinking water use once the Goodyear WTP comes on-line, but also restore, replace or otherwise provide a water supply in the event contamination from the Site impacts SRP wells in or near the Site.*

*Additionally, given the possibility that contamination from the Site could be discharged to the canal from well(s) not subject to the groundwater ROs, SRP urges ADEQ to adopt surface water ROs that not only protect against loss or impairment, but also restore, replace or otherwise provide a water supply in the event contamination from the Site impacts other SRP wells outside the Site.*

### ***Groundwater ROs***

*SRP appreciates the inclusion of groundwater ROs for the Site. However, it is SRP's expectation that groundwater ROs should adequately cover and protect all of SRP groundwater uses within or outside the Site. As a result, SRP is requesting revisions to Section 3.2 of the Report to clearly define groundwater ROs for irrigation use and potable use. SRP recommends adopting the following language, which is based upon ADEQ's 48<sup>th</sup> and Indian School Road WQARF Site Final Remedial Objectives Report dated November 12, 2019, for both irrigation and potable use groundwater ROs:*

### Irrigation Use

*Protect against the loss or impairment of irrigation water threatened by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Where protection cannot be achieved in a reasonable, necessary, or cost-effective manner; restore, replace, or otherwise provide for irrigation water that is lost or impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Action is needed for as long as necessary to ensure that, while the water exists and the resource remains available, the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site does not prohibit or limit the designated use of groundwater.*

### Potable Use

*Protect against the loss or impairment of potable water threatened by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Where protection cannot be achieved in a reasonable, necessary, or cost-effective manner; restore, replace, or otherwise provide for irrigation water that is lost or impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Action is needed for as long as necessary to ensure that, while the water exists and the resource remains available, the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site does not prohibit or limit the designated use of groundwater.*

### **Surface Water ROs**

*In the Report, ADEQ states “... no RO for surface water is necessary” because: 1) the Grand Canal is concrete lined and thereby isolated from the Site, and 2) The primary source of canal (surface) water within the Site originates from outside the Site boundary. SRP acknowledges the nuances of site boundary limitations and understands that groundwater ROs should theoretically preclude the need for surface water ROs by preventing contaminated groundwater from entering the Grand Canal. However, SRP views groundwater ROs as a safeguard and remains insistent that surface water ROs should also be proposed for this Site and other WQARF sites throughout the Valley.<sup>4,5</sup>*

*SRP believes this request is justified in light of the future Goodyear WTP and impending changes to the definition of the Waters of the US (WOTUS), which will have the effect of deregulating the Phoenix area canals. With the anticipated deregulation of canals, surface water ROs are needed to protect SRP’s current and foreseeable water use. SRP recommends adopting the following language, which is based upon ADEQ’s 2012 West Van Buren WQARF Site Remedial Objectives Report, for surface water use:*

### Remedial Objectives for Surface Water Use

*To protect, restore, replace, or otherwise provide a water supply for potable or non-potable use by SRP wells outside the current plume boundaries of the West Central Phoenix – North Canal Plume WQARF Site if the current and foreseeable future uses are impaired or lost due to contamination from the Site. Remedial actions will be in place for as long as the need for the water exists, the resource remains available, and the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the Record of Decision.*

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<sup>4</sup> SRP verbally requested the inclusion of surface water ROs during WCP-NCP Feasibility Study Defense Meeting held on November 12, 2019, at ADEQ Headquarters.

<sup>5</sup> Over the last 16 months, SRP has submitted five comment letters to ADEQ respectfully requesting the addition of surface water ROs for multiple sites across the Valley:

- 1) RE: Salt River Project Comments Draft – Remedial Objective Report, 7th Street and Missouri Avenue, dated September 14, 2018.
- 2) RE: Salt River Project Comments – Draft Remedial Investigation Report for 32nd Street and Indian School WQARF Site, dated May 6, 2019.
- 3) RE: Salt River Project Comments – Proposed Remedial Objectives Reports for 24th Street & Grand Canal and 32nd Street and Indian School Road WQARF Sites, dated May 31, 2019.
- 4) RE: Salt River Project Comments – Proposed Remedial Action Plan, Cooper and Commerce, Water Quality Assurance Revolving Fund Site, dated October 16, 2019.
- 5) RE: Salt River Project Comments – Proposed Remedial Objectives Report, 48th Street and Indian School Road, Water Quality Assurance Revolving Fund Site, dated October 28, 2019.

*ADEQ is strongly encouraged to include ROs for groundwater and surface water that not only protect against the loss or impairment, but also restore, replace or otherwise provide a water supply in the event contamination from the Site impacts SRP wells either inside or outside the Site. As such, it is SRP's expectation that in the event that TCE or PCE levels exceed drinking water standards after the Goodyear WTP becomes operational, appropriate contingency measures, such as wellhead treatment, will be implemented to allow continued operation of the SRP wells. SRP respectfully requests that ADEQ fully draft and approve appropriate contingency measures in the upcoming Feasibility Study report.*

- ADEQs Response: With regard to the three items presented by SRP in the opening paragraph of the January 20, 2020 comments letter, ADEQ provides the following responses:
  - 1) Comments noted.
  - 2) Comments noted.
  - 3) Comments noted. As stated in Section 3.2 (Groundwater Remedial Objective) in the Revised Remedial Objectives Report, the future use of the SRP canal water at the Site is taken into account by the groundwater RO, therefore the addition of a surface water RO is not necessary. Modifications to the groundwater ROs are as follows:

### Irrigation Use

**Protect against the loss or impairment of irrigation water threatened by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Where protection cannot be achieved in a reasonable, necessary, or cost-effective manner; restore, replace, or otherwise provide for irrigation water that is lost or impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Action is needed for as long as necessary to ensure that, while the water exists and the resource remains available, the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site does not prohibit or limit the designated use of groundwater.**

### Potable Use

**Protect against the loss or impairment of potable water threatened by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Where protection cannot be achieved in a reasonable, necessary, or cost-effective manner; restore, replace, or otherwise provide for potable water that is lost or impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Action is needed for as long as necessary to ensure that, while the water exists and the resource remains available, the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site does not prohibit or limit the designated use of groundwater.**

ADEQ has included contingencies in the West Central Phoenix North Canal Plume WQARF Site Feasibility Study Report for wellhead treatment of both SRP and COP production wells in the event that these wells are needed as a municipal/drinking water supply.

**Attachment B**

**COPIES OF WRITTEN COMMENTS RECEIVED**



**City of Phoenix**  
OFFICE OF ENVIRONMENTAL PROGRAMS

December 30, 2019

Arizona Department of Environmental Quality  
Waste Programs Division  
Mr. Eric Mannlein  
1110 West Washington Street  
Phoenix, AZ 85007

Re: Comments regarding the Proposed Revised Remedial Objectives (RO) Report for the West Central Phoenix North Canal Plume Water Quality Assurance Revolving Fund (WQARF) prepared by the Arizona Department of Environmental Quality (ADEQ) December 10, 2019.

Dear Mr. Mannlein,

The City of Phoenix (City) has reviewed the above referenced draft RO for the North Canal Plume WQARF site.

The City agrees with ADEQ's proposed ROs for soil and potable groundwater. The RO for groundwater indicates that ADEQ acknowledges the important resource groundwater is for the City and the future of our citizens.

The City looks forward to working with ADEQ on the feasibility study and development of the proposed remedy for this site. If ADEQ would like to discuss these comments, please contact me at 602-256-5681.

Sincerely,

A handwritten signature in blue ink that reads "Julie Riemenschneider".

Julie Riemenschneider  
Environmental Programs Coordinator  
Office of Environmental Programs, City of Phoenix

C: Tina LePage, ADEQ (electronic copy)  
Nancy Allen, OEP (electronic copy)  
Elizabeth Zima, OEP (electronic copy)



Andrea Martinez, Water Quality &  
Waste Management Services, Manager  
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January 20, 2020

***Via Electronic Mail***

To: Eric Mannlein  
Arizona Department of Environmental Quality  
Waste Programs Division  
1110 W. Washington Street  
Email: Mannlein.Eric@azdeq.gov

**Reference: Proposed Revised Remedial Objectives Report, West Central Phoenix – North Canal Plume, Water Quality Assurance Revolving Fund Site; Phoenix, AZ**

**RE: Salt River Project Comments – Proposed Revised Remedial Objectives Report, North Canal Plume, Water Quality Assurance Revolving Fund Site**

Dear Mr. Mannlein:

Salt River Project Agricultural Improvement and Power District (SRP) appreciates the opportunity to provide comments on the Proposed Revised Remedial Objectives (RO) Report dated December 10, 2019 (Report), for the West Central Phoenix – North Canal Plume (WCP-NCP) Water Quality Assurance Revolving Fund (WQARF) site in Phoenix, AZ (Site). SRP has reviewed the Report and supports the new addition of proposed ROs for land use and preservation of the existing proposed groundwater ROs. However, SRP remains concerned regarding the adequacy of the proposed groundwater ROs and lack of surface water ROs. This letter serves to: 1) reiterate SRP's current and reasonably foreseeable groundwater and surface water use in and near the Site, 2) discuss the status of SRP water production wells in and around the Site, and 3) provide recommendations for groundwater and surface water ROs.

**Currently and Reasonably Foreseeable Use**

SRP provides water to its customers in the Phoenix area through a series of canals and laterals. In 2017, SRP entered into an Agreement with the City of Goodyear to wheel Goodyear's surface water supplies to the future Goodyear WTP via the Grand Canal and its associated laterals.<sup>1</sup> Although the water delivered to Goodyear will primarily be Goodyear's surface water supplies,

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<sup>1</sup> The Grand Canal and other canals throughout the Valley are currently waters of the State.

from an operational perspective, some of that water may be physically comingled with groundwater from SRP production wells located near or within WQARF sites. Once the Goodyear WTP is completed, the designated use of groundwater wells in and around the Site will include both irrigation and raw drinking water supplies. As a practical matter, groundwater pumped from SRP well 9.5E-7.7N, which is located in the Site, may also be included in the raw drinking water supply for Goodyear. Thousands of water customers will be served once Goodyear starts treating its raw water delivered by SRP.

### **Status of SRP Water Production Wells**

On November 4, 2019, SRP provided ADEQ an updated Land and Water Use Questionnaire, which was modified to specifically address the 2017 Agreement with the City of Goodyear and include recent groundwater sampling results from four SRP wells within one mile of the Site (8.5E-7.5N, 9.5E-7.7N, 10.5E- 7.5N, and 11.2E-7.7N). Of particular importance, SRP well 9.5E-7.7N is located directly within the plume and is currently impacted by contamination from the Site.<sup>2</sup> Though the well was intermittently pumped throughout the Site's history, SRP has pumped the well more regularly in recent years (ca. 2015-present).<sup>3</sup> Water from 9.5E-7.7N is pumped to the Grand Canal to be used for irrigation downstream. However, once the Goodyear WTP goes online, water from 9.5E-7.7N will become part of the raw drinking water supply for the City of Goodyear and must meet applicable drinking water standards.

SRP maintains a policy that prohibits wells to discharge into canals if the water does not meet applicable standards for the receiving water body. Consistent with Arizona Pollutant Discharge Elimination System (AZPDES) permit #AZ0024341, wells discharging into canals that feed municipal drinking water systems must not exceed established drinking water standards for volatile organic compounds. As a result, it is imperative that remedial actions are taken to treat groundwater to levels that will meet these standards. Without proper remediation of the Site, TCE contamination from the Site will impact SRP's ability to pump well 9.5E-7.7N into the Grand Canal after the Goodyear WTP goes online.

Additionally, SRP well 10.5E-7.5N is located within 0.5 miles of the plume and has been inactive over the past decade due to the threat that contamination from the Site will impact the well. This production well is located in a prime location to pump water to the Grand Canal for use at the Goodyear WTP, but will likely be obligated to remain offline due to concerns that regular pumping would result in the migration of the plume (southeast) toward the well.

### **SRP Supports Robust Groundwater and Surface Water ROs**

For this WQARF site alone, two SRP wells have been impacted by the contamination at no fault of our own. Therefore, SRP encourages ADEQ to adopt robust groundwater ROs that not only protect against loss or impairment of the current and on-going irrigation use and future drinking

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<sup>2</sup> Well 9.5E-7.7N was last sampled in 2017. TCE concentrations exceeded the Aquifer Water Quality Standard (AWQS) at 9.5 µg/L and PCE concentrations approached the AWQS at 4.5 µg/L. PCE and TCE concentrations appear to be increasing in the well.

<sup>3</sup> SRP reserves the right to pump impacted wells for irrigation purposes where (i) the well's discharge may be isolated to laterals and canals without prospective drinking water uses, (ii) the concentrations of contaminants do not exceed the applicable standards for the receiving water body, and (iii) there is no risk to public health.

water use once the Goodyear WTP comes on-line, but also restore, replace or otherwise provide a water supply in the event contamination from the Site impacts SRP wells in or near the Site.

Additionally, given the possibility that contamination from the Site could be discharged to the canal from well(s) not subject to the groundwater ROs, SRP urges ADEQ to adopt surface water ROs that not only protect against loss or impairment, but also restore, replace or otherwise provide a water supply in the event contamination from the Site impacts other SRP wells outside the Site.

### **Groundwater ROs**

SRP appreciates the inclusion of groundwater ROs for the Site. However, it is SRP's expectation that groundwater ROs should adequately cover and protect all of SRP groundwater uses within or outside the Site. As a result, SRP is requesting revisions to Section 3.2 of the Report to clearly define groundwater ROs for irrigation use and potable use. SRP recommends adopting the following language, which is based upon ADEQ's 48<sup>th</sup> and Indian School Road WQARF Site Final Remedial Objectives Report dated November 12, 2019, for both irrigation and potable use groundwater ROs:

#### Irrigation Use

*Protect against the loss or impairment of irrigation water threatened by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Where protection cannot be achieved in a reasonable, necessary, or cost-effective manner; restore, replace, or otherwise provide for irrigation water that is lost or impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Action is needed for as long as necessary to ensure that, while the water exists and the resource remains available, the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site does not prohibit or limit the designated use of groundwater.*

#### Potable Use

*Protect against the loss or impairment of potable water threatened by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Where protection cannot be achieved in a reasonable, necessary, or cost-effective manner; restore, replace, or otherwise provide for irrigation water that is lost or impaired by the contaminants of concern at the West Central Phoenix – North Canal Plume WQARF Site. Action is needed for as long as necessary to ensure that, while the water exists and the resource remains available, the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site does not prohibit or limit the designated use of groundwater.*

## **Surface Water ROs**

In the Report, ADEQ states "... no RO for surface water is necessary" because: 1) the Grand Canal is concrete lined and thereby isolated from the Site, and 2) The primary source of canal (surface) water within the Site originates from outside the Site boundary. SRP acknowledges the nuances of site boundary limitations and understands that groundwater ROs should theoretically preclude the need for surface water ROs by preventing contaminated groundwater from entering the Grand Canal. However, SRP views groundwater ROs as a safeguard and remains insistent that surface water ROs should also be proposed for this Site and other WQARF sites throughout the Valley.<sup>4,5</sup>

SRP believes this request is justified in light of the future Goodyear WTP and impending changes to the definition of the Waters of the US (WOTUS), which will have the effect of deregulating the Phoenix area canals. With the anticipated deregulation of canals, surface water ROs are needed to protect SRP's current and foreseeable water use. SRP recommends adopting the following language, which is based upon ADEQ's 2012 West Van Buren WQARF Site Remedial Objectives Report, for surface water use:

### *Remedial Objectives for Surface Water Use*

*To protect, restore, replace, or otherwise provide a water supply for potable or non-potable use by SRP wells outside the current plume boundaries of the West Central Phoenix – North Canal Plume WQARF Site if the current and foreseeable future uses are impaired or lost due to contamination from the Site. Remedial actions will be in place for as long as the need for the water exists, the resource remains available, and the contamination associated with the West Central Phoenix – North Canal Plume WQARF Site prohibits or limits groundwater use. Remedial actions to meet ROs will be implemented upon issuance of the Record of Decision.*

ADEQ is strongly encouraged to include ROs for groundwater and surface water that not only protect against the loss or impairment, but also restore, replace or otherwise provide a water supply in the event contamination from the Site impacts SRP wells either inside or outside the Site. As such, it is SRP's expectation that in the event that TCE or PCE levels exceed drinking water standards after the Goodyear WTP becomes operational, appropriate contingency

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<sup>4</sup> SRP verbally requested the inclusion of surface water ROs during WCP-NCP Feasibility Study Defense Meeting held on November 12, 2019, at ADEQ Headquarters.

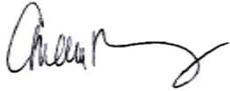
<sup>5</sup> Over the last 16 months, SRP has submitted five comment letters to ADEQ respectfully requesting the addition of surface water ROs for multiple sites across the Valley:

- 1) RE: Salt River Project Comments Draft – Remedial Objective Report, 7th Street and Missouri Avenue, dated September 14, 2018.
- 2) RE: Salt River Project Comments – Draft Remedial Investigation Report for 32nd Street and Indian School WQARF Site, dated May 6, 2019.
- 3) RE: Salt River Project Comments – Proposed Remedial Objectives Reports for 24th Street & Grand Canal and 32nd Street and Indian School Road WQARF Sites, dated May 31, 2019.
- 4) RE: Salt River Project Comments – Proposed Remedial Action Plan, Cooper and Commerce, Water Quality Assurance Revolving Fund Site, dated October 16, 2019.
- 5) RE: Salt River Project Comments – Proposed Remedial Objectives Report, 48th Street and Indian School Road, Water Quality Assurance Revolving Fund Site, dated October 28, 2019.

measures, such as wellhead treatment, will be implemented to allow continued operation of the SRP wells. SRP respectfully requests that ADEQ fully draft and approve appropriate contingency measures in the upcoming Feasibility Study report.

SRP appreciates the opportunity to provide these comments to ADEQ and reserves its right to provide additional comments once these concerns are addressed. If you have any questions, please call me at 602-236-2618.

Sincerely,



Andrea Martinez  
Water Quality & Waste Management Services, Manager

cc: Robert Pane, SRP  
Karis Nelson, SRP