



November 6, 2015
AMEC Project No. 1420142020

Mr. Anthony Leverock, PE
Manager, Permits and Plan Review Unit
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

**RE: *Response to Public Comments on the*
 REVISED REMEDIAL ACTION PLAN (dated July 24, 2015)
 Maricopa County – Cave Creek Landfill
 3955 East Carefree Highway
 Phoenix, Arizona**

Dear Mr. Leverock:

This letter transmits comments received during the August 17, 2015 through September 15, 2015 public comment period on the draft final version of the *Revised Remedial Action Plan* dated July 24, 2015.

Public comments received via Maricopa County's email address set up for the site during the public comment period and those received during the September 1, 2015 public meeting are presented in Table 1. To organize responses to similar comments by topic, Table 2 summarizes public comments and presents written responses prepared on behalf of Maricopa County. Summary comments 24 through 31 are documentation of verbal public comments provided at the public meeting. Table 3 presents comments received from the City of Phoenix on the *Revised Remedial Action Plan* with responses prepared on behalf of Maricopa County.

As indicated in Table 3, Maricopa County is currently in the process of optimizing the preferred remedy's ability to enhance capture and address the possibility that the Dove Valley Ranch Golf Course may be able to reuse the treated groundwater. Maricopa County intends to revise the modeling report to incorporate this effort and will present associated results to the Arizona Department of Environmental Quality as soon as they are available. Given this effort, ongoing discussions with the City of Phoenix regarding the location of the downgradient monitoring well, and Maricopa County's commitment to the public regarding the timing of well installation activities, we will need to revise the project schedule presented in the *Revised Remedial Action Plan*. Our proposed schedule will be forwarded to you next week.

With ADEQ's approval, Maricopa County will post these responses on the public project website and mail comment responses to individuals that commented and/or registered their attendance at the public meeting.

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Please contact me at your convenience with any questions or concerns. I can be reached at 602.733.6087 or natalie.chrisman@amec.com.

Respectfully submitted,
Amec Foster Wheeler

A handwritten signature in blue ink, appearing to read 'N. Chrisman'.

Natalie Chrisman Lazarr, PE
Project Manager

cc: Rita H. Neill, PE (MCRMD)
Fields Moseley (MCOOC)

**TABLE 1 - PUBLIC COMMENTS ON THE CAVE CREEK LANDFILL REMEDIAL ACTION PLAN
RECEIVED DURING THE PUBLIC COMMENT PERIOD (AUGUST 17 THROUGH SEPTEMBER 15, 2015)
AND THE PUBLIC MEETING HELD ON SEPTEMBER 1, 2015**

Date Received and Commenter Name	Method Provided	Comments	Summary Comment Numbers
8/25/2015 Brad Burdick	via email	<ul style="list-style-type: none"> - I favor removing the entire landfill completely. - I am a resident of Dove Valley Ranch since it's [sic] inception in 1999. I recall reading a news article in the early 2000's indicating the Cave Creek School District pulled out of a site for a future new school within Dove Valley Ranch because of TCE in the ground water. Granted, this was before the CAP pipe was built to supply our water. I remember the construction of the CAP pipeline.....it was along Cave Creek Road and traveled North from Deer Valley Road. If the CAP water ever ceases or dries up, we will need this groundwater. It should be clean! - It's absolutely asinine to see the landfill was built within close proximity to a creek! Who thought of this brilliant idea and are they alive today? Why did they build landfills next to washes and rivers (i.e.: Salt River has at least one dump right on the banks of the creek) like this one? - As for clean up, it seems no matter what is done, pumping the water out of groundwater will have the same effect of spraying deodorizer on a pile of dog waste inside a home to get rid of the smell. We all know you need to REMOVE the pet waste to get rid of the problem. Thus, I ask, why can't the entire landfill be excavated and removed permanently, and have the desert put back the way it was pre 1960? - I seriously question how much TCE has contaminated local wells in the area, much less the City of Scottsdale's water. Where is the Town of Cave Creek getting their water from across the street? Do homes North of Carefree Highway get water from wells that could also be contaminated? Does Scottsdale (2 miles to the East) use wells or are they on CAP water like us? Also, how much of this could have traveled down Cave Creek to it's [sic] lower sections by Thunderbird Road. Your tests indicate it is only moving at 6 inches per year. Is that accurate? Isn't it batteries and chemicals that are causing TCE? Again, it seems that digging this mess up and disposing of it elsewhere would be the best and most effective result, then flushing the ground water would come later. - And finally, why can't plants or trees be planted on this mess of a dirt pile? I understand Mr. Pritchard (The developer of Dove Valley Ranch) tried planting seeds and trees on the banks of this thing in the early 2000's, but it failed due to heavy rains that year that washed the seeds and saplings away. The entire landfill is an eyesore. 	1, 15, 16, 17 and 19

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Date Received and Commenter Name	Method Provided	Comments	Summary Comment Numbers
9/1/2015 Elaine Alexander	At meeting	<p>Heard about meeting via: Mailed notice and HOA Landfill Status presented: Very Well Sufficient Level of Detail?: Yes</p> <ul style="list-style-type: none"> - Very happy this issue is being addressed. - Who's responble [sic] for keeping up the landfill appearance? - Is it possible to get this area facing our homes to be landsaped. [sic] Possible trees or large scrubs to make it look better. - Who could we contact to ask the question? - Please please [sic] pressure the preserve to allow some wells on there [sic] land. 	3, 8, 19 and 20
9/1/2015 Brent Gifford	At meeting	<p>Heard about meeting via: Mailed notice Landfill Status presented: Well Sufficient Level of Detail?: Yes</p> <ul style="list-style-type: none"> - Thank you. I agree that the RAP makes sense and is well thought out given the constraints that need to be dealt with. - I appreciate that the County is trying to get out in front of this and taking action now. - I think that the monitoring well is in a good location so that it shows data to provide evidence that the RAP is working. 	3, 4 and 6
9/3/2015 Nancy Olen	via email	<p>Heard about meeting via: HOA Landfill Status presented: Well Sufficient Level of Detail?: Yes</p> <ul style="list-style-type: none"> - There is obviously an ongoing problem that needs to be remediated. The County thus far is not considering what the residents are incurring with the wells that have already been dug, the equipment used, the noise, the dust, and location near the residences. Also that this is a problem that has been present for a long time. If it were not for the County wanting to put a test well next to our home in 2011 this would have just been put under the rug like it had been for years. The County employees that were involved in the test wells in 2011 had no answers and no idea of what was in the ground supposedly. If it were not for several neighbors in Emerald Greens to bring this problem to light there most likely would not be any remedial plan today. 	2, 5, 7, 8, 10, 11, 18, 19, 21 and 22

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		<ul style="list-style-type: none"> - What the county is not recognizing still to this date, is what effect the poor management of the landfill is having on the DVR, Emerald Greens residents. The location chosen is not favorable location at all, to the residents of Emerald Greens. It is too near the homes. - The noise, the dirt, the dust the equipment, and the test well post that will remain after it is drilled will remain forever next to the properties. The woman that gave the, presentation stated herself that it probably would be a better location if it were to be on the Sonoran Preserve land west of the proposed location of the new monitoring well. She stated that the City of Phoenix does not want to put it on the Preserve land. What is not being considered is what the tax payers/residents would like. The residents do not want it in the back of their homes either. All of the other test well are on the City of Phoenix Sonoran land or skirted around it. Why put it next to homes? - When it comes to resale there could inevitably [sic] a drop in property values and interest of future homebuyers with a well located near the current homes. If you google the Cave Creek Landfill you will see there is buyers questioning the landfill location and danger. Test wells and posts near the homes is a reg [sic] flag to most buyers. - Also, the season of next spring to begin the drilling of the new well. That is one of the worst times to make noise and have an eye sore near the residences. Windows are normally open at that time of year residents are outside. The county has no idea the volume of noise and dust, dirt, the eye sore of the equipment that we residents have already incurred from the other wells that have been drilled. It additionally takes away any enjoyment of one's home and yard. - It is my request that the location, and time of drilling be looked at again. Is it necessary to do this now? Change your proposed new monitoring well to accommodate the residents versus the City of Phoenix Sonoran Preserve. - The proposed location of the ground water treatment system should be located further from residences or choose the off site location. This too brings questions to future home buyers and possible noise and commercial traffic. The possibility of the TCE and other contaminates being removed near homes is upsetting. We were told doing research with the EPA and private labs that the air born possibilities of at least 2 contaminates in the ground are very harmful, and cancer causing. - Landscape what you have left open posts and the landfill itself. Don't make it stand out. - I would request your return comments and future updating regarding the issue at hand. 	

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9/4/2015 Robert Olen	via email	<p>Heard about meeting via: HOA Landfill Status presented: Well</p> <ul style="list-style-type: none"> - We thought the issue was presented well and was aware of the issue from a meeting several years ago. But was never informed of the remediation plans when we purchased our home, only that the danger was 600 feet below the surface and would have no effect on our health or enjoyment. - My comments are that this is an issue that has been known for over 30 years and now the County has decided to remediate the issue at the expense of my enjoyment of my senior years. The ground water 600 feet below the surface does not affect me in any manner. So if this issue must be resolved now please do it with the least inconvenience to my life. - I think drilling the monitoring well close to the community would be invasive and deprive me the enjoyment of my property. Therefore I would like to see the monitoring well positioned at the alternative site or on the preserve. This may not be the optimal site, but then had the County not neglected this issue for 30 years I would not have to pay for their negligence. I also think it will devalue our property values. - I also do not like the fact that the Groundwater Treatment System will be located close to my home and will not be supervised 24/7. I would prefer the Treatment System be located further north or use the off-site option. The last thing I want to hear is a pump running 24/7. - Finally it would be nice if you could landscape the dump to make it look more presentable. There are all kinds of rules to keep the landscape natural but yet the well heads are exposed with four concrete poles around them. Get creative and camouflage the wells to blend in. 	5, 7, 8, 11, 12, 19 and 23

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9/14/2015 Marsha Miller	via email	<p>Heard about meeting via: HOA Landfill Status presented: Very Well Sufficient Level of Detail?: Yes</p> <ul style="list-style-type: none"> - If the proposed monitoring well cannot be moved to the Phoenix Sonoran Preserve (south of the site) – please make sure the wellhead is not blocking the ped [sic] gate to the preserve. Also, try to keep that access gate open to the public during the drilling. - Please notify the residents in Emerald Green prior to drilling no matter what location is chosen. Make sure there is a hotline number. - Thank you for investing in the cleanup! 	8, 9, 21, and 22
9/14/2015 Tracy Mimoun	via email	<ul style="list-style-type: none"> - I attended the August meeting. - My concern is regarding the possibility of leakages including but not limited to operator errors and equipment malfunctions during the cleanup process. I am asking for extra safety measures to be put in place prior to the clean up. Since the extraction is not monitored 24/7, I believe the more safety measures in place the better. I'd like to see an alert system where managers would be notified immediately if there's a malfunction. An automatic shut-off feature on the pumps would be a benefit too. Frequent testing of the air quality around the site would be wise. I'd like to see the operations protected from vandalism/trespassing with surveillance cameras and a security patrol around the clock. Likely there are other safety measures that can be put into place as well. - I would appreciate seeing an update about these things as well as regular updates on the the [sic] progress being made online or posted on the Dove Valley Ranch community service boards. - Ideally the drilling could take place after the fall/winter months when residents are outside enjoying the cooler temperatures. - Thanks for considering my feedback. 	10, 11, 12, 13, 14, 21 and 22
9/14/2015 Nancy Burkhart	via email	<ul style="list-style-type: none"> - My concerns are basically the same as Tracy Mimoun's. - Also, as an owner, I have a concern about property values in the area and whether they will be adversely affected. My tenant has said that she may consider moving because of all this. If I disclose this to prospective tennants [sic], which I am required to do, I may not be able to get my house re-rented. I hope she stays!! 	7

**TABLE 2 - SUMMARY OF PUBLIC COMMENTS ON THE CAVE CREEK LANDFILL REMEDIAL ACTION PLAN
WITH RESPONSES PREPARED BY MARICOPA COUNTY**

Maricopa County Cave Creek Landfill – Phoenix, Arizona

Summary Comment Topic	Summary Comment Number	Summary Comment	Maricopa County Response to Summary Comment
Remedial Approach	1	Without removing the landfill entirely, the source of contamination will continue to impact groundwater.	Contaminated vapor located in soil underlying the landfill at depth is the source of groundwater contamination at the site. Implementation of the Remedial Action Plan (RAP) includes soil vapor extraction (SVE) to remove this vapor. Contaminant vapor concentrations within the landfill are much lower than concentrations underlying the landfill and thus removal of the landfill would not remove the source of groundwater contamination. Groundwater monitoring will continue until remediation efforts are completed.
Remedial Approach	2	The groundwater should be remediated and the duration required to address the problem has been too long.	Site characterization for remediation projects can be difficult and expensive for complex sites such as Cave Creek Landfill. However, without adequate characterization, effective remedial approaches cannot be developed. Maricopa County is committed to cleaning up Cave Creek Landfill and also supports expedited remediation since this contributes to protection of the public, risk reduction and cost control.
Remedial Approach	3	We are happy the issue is being addressed and the County is taking action.	As a steward of our natural resources, Maricopa County accepts our obligation to protect public health and the environment.
Remedial Approach	4	The RAP makes sense and is well thought out given project constraints.	Maricopa County has made great efforts to develop a remediation plan that is effective and protective of public health.
Remedial Approach	5	The groundwater should be remediated with the least inconvenience to nearby residents.	Maricopa County will endeavor to limit the inconvenience of remediation activities to nearby residents.
Monitoring Well Location	6	The proposed monitoring well is in a good location because it will provide evidence that the RAP is working.	At the time the draft final version of the RAP was prepared, the proposed monitoring well location was sited to provide useful data and minimize impact to nearby residents within the limits of project constraints.

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Monitoring Well Location	7	The County needs to consider the adverse impacts of wells installed near residents: <ul style="list-style-type: none"> – The equipment used is noisy and generates dust; – The presence of wells in the neighborhood has the potential to result in lowering property values; – The wells are unsightly and remain indefinitely; measures should be taken to make existing and future wellheads less intrusive. 	Maricopa County will implement control measures to mitigate noise and dust during drilling activities. Maricopa County is unable to comment on the correlation between groundwater wells and property values; however, there are numerous wells located throughout the Phoenix Metropolitan Area with a wide variety of very useful purposes. Maricopa County will keep the public’s concern regarding obtrusiveness in mind when designing the wellheads of future wells. At the completion of remediation activities when the wells no longer serve a purpose, wells will be abandoned and the wellheads will be removed.
Monitoring Well Location	8	The new monitoring well should be located on the Sonoran Preserve or at the alternative location to keep it away from nearby residents.	Maricopa County is currently advocating for placement of proposed monitoring well in the Sonoran Preserve with the City of Phoenix. If the City of Phoenix grants permission to drill in the Preserve, the location of the well will be changed to this location.
Monitoring Well Location	9	The new monitoring wellhead should not block the pedestrian gate to the Sonoran Preserve; gate access should remain open to the public during drilling.	Well siting will address access requirements of surrounding features.
Monitoring Well Location	10	If new wells are installed, drilling should take place after fall/winter months when residents are outside enjoying cooling temperatures. How long will it take to complete installation of the monitoring well?	Drilling and installation of planned wells located near residents will be performed during the late Spring and Summer months. Appropriate measures to reduce disturbance to nearby residents during drilling activities will be utilized. Monitoring well construction is expected to take approximately four weeks.

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Maricopa County Cave Creek Landfill – Phoenix, Arizona

Summary Comment Topic	Summary Comment Number	Summary Comment	Maricopa County Response to Summary Comment
Treatment Facility	11	The groundwater treatment facility should be located further from residences or an off-site treatment strategy should be employed. Treating extracted groundwater near residents is upsetting and could adversely impact the health of nearby residents.	The location of the groundwater treatment facility is currently proposed on the western side of the landfill property. Figure 6-1 of the RAP will be revised to show this updated location which will assist with obscuring the treatment equipment from view by residents. Groundwater treated at the facility will be contained in closed remediation equipment that is similar in function to drinking water purification filters used in homes (i.e. liquid-phase granular activated carbon).
Treatment Facility	12	Since the treatment facility will not be staffed 24/7, the groundwater treatment system should have extra safety measures to protect the environment and nearby residents from the possibility of leakages (e.g., an alert system notifying operators immediately of malfunctions, an automatic shut-off feature on pumps in the event of a malfunction, etc.).	A comprehensive Operations and Maintenance Plan will be prepared for the treatment facility that outlines all the safety measures, response requirements, and monitoring frequencies necessary to ensure the safety of the public and the environment. The groundwater treatment system will be designed with appropriate physical containment infrastructure and control systems to monitor and immediately shutdown the system should a malfunction or failure occur. The control system will also be equipped with telemetry to notify a properly trained technician (and backup personnel) of alarm conditions so that an appropriate response can be conducted in a timely manner.
Treatment Facility	13	Frequent testing of the air quality around the treatment facility would be wise.	Groundwater treated at the facility is contained in closed remediation equipment. Extracted water is not exposed to the atmosphere nor does the process discharge to the atmosphere. The Soil Vapor Extraction (SVE) treatment system discharges treated vapor and is tested per Maricopa County Air Permit requirements.
Treatment Facility	14	The treatment facility should be protected from vandalism/trespassing with surveillance cameras and a security patrol around the clock.	The treatment system will be constructed with appropriate security measures.

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Maricopa County Cave Creek Landfill – Phoenix, Arizona

Summary Comment Topic	Summary Comment Number	Summary Comment	Maricopa County Response to Summary Comment
History/Impacts of Contamination	15	Has the TCE associated with the site impacted drinking water supplies?	Residents of Dove Valley Ranch receive drinking water from the City of Phoenix. Drinking water is not sourced from contaminated Site groundwater; regional drinking water supply wells are located approximately two miles east and southeast of the Site. Two irrigation supply wells are also located within two miles of the site. These drinking water and irrigation supply wells are not currently impacted by Site contamination but have the potential to be impacted in the distant future if no action is taken. The Remedial Action Plan serves to address the potential for future impact to the drinking and irrigation supply wells.
History/Impacts of Contamination	16	What is the source of TCE in the landfill?	Residential and commercial solid waste was disposed of at Cave Creek Landfill. TCE is an ingredient in a number of consumer and industrial products such as adhesives, cleaning fluids, degreasers, paint removers/strippers, spot removers, and typewriter correction fluids. The source of TCE at Cave Creek Landfill is likely from products such as these disposed of as waste in the landfill.
Landfill Presence	17	Landfills should not be built in close proximity to creeks.	Regulatory landfill construction requirements change over time. Cave Creek Landfill was in compliance with siting requirements at the time it was built.
Landfill Presence	18	Poor management of the landfill is having an adverse effect on nearby residents.	Efforts are being made to reduce adverse effects that have been caused by the landfill.
Landfill Maintenance	19	Can the landfill slopes adjacent to Dove Valley Ranch be landscaped?	Evaluation of additional vegetation measures at the landfill will be explored. However, due to the steep slope and limited access of the landfill slopes adjacent to Dove Valley Ranch, options are limited and must not promote erosion or compromise the integrity of the landfill.

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Maricopa County Cave Creek Landfill – Phoenix, Arizona

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Landfill Maintenance	20	Who is responsible for keeping up the landfill appearance and can residents contact that individual?	The Maricopa County Waste Resources & Recycling Department is responsible for Cave Creek Landfill maintenance activities. The department website has a contact form that can be used to submit questions and comments: http://swm.maricopa.gov/contact.htm .
Resident Notification	21	Residents should be routinely updated of site progress (perhaps through Dove Valley Ranch community service boards).	Communication efforts will include progress updates to residents in the affected area in advance of significant field activities. Dove Valley Ranch Community will be included in the communication efforts and they may provide communication to the residents as the community deems appropriate. Maricopa County's Cave Creek Landfill Cleanup website will also be updated with the latest site progress information at http://www.maricopa.gov/groundwater/ .
Resident Notification	22	Residents should be notified in advance of drilling activities. A drilling hotline number should be provided to residents.	A Public Notification Flyer that summarizes planned drilling activities will be prepared and circulated to residents within 1,000 feet of Maricopa County landfill property at least 30 days in advance of drilling activities. The flyer will include a general description of the drilling work activities, location of planned work, start date, planned duration, and contact information for lead project representatives.
Resident Notification	23	Residents should have been informed of the contamination and remedial plans when they purchased their homes. Residents were told that the contamination was 600 feet below ground surface and would not impact resident's health or enjoyment.	All information concerning the landfill is in the public domain. Remediation efforts to protect human health while limiting impact to nearby residents are being performed.
Groundwater	24	What is the direction of the groundwater flow?	Groundwater flow direction fluctuates due to influence from surrounding water supply well pumping. Generally groundwater flow is to the south but ranges from south-southeast to south-southwest.

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Soil Vapor Extraction System	25	Why is the soil vapor extraction system located near the northern portion of the landfill?	Data obtained from on-Site monitoring wells indicate the highest concentration of TCE in soil is located in the northern portion the new landfill.
Soil Vapor Extraction System	26	Will equipment working on the landfill be necessary?	Drilling equipment may be necessary on the landfill should additional soil vapor monitoring or extraction be necessary. Drilling equipment should not be necessary on top of the landfill for construction of the groundwater treatment system.
Landfill Methane	27	Is it possible to use the methane generated at the landfill?	Methane was previously captured and flared on-Site. Over time, the methane concentration extracted from the site decreased to levels that made operation of the system no longer cost effective. The system was removed from service in 2007.
Contaminants of Concern	28	Are there contaminants of concern other than TCE present at the landfill?	TCE is the only contaminant routinely present in groundwater underlying the landfill at concentrations in excess of regulatory thresholds. Other contaminants are present at concentrations that are less than regulatory limits. Most of these contaminants are by-products of the degradation of TCE into less complex chemicals. Monitoring of TCE and these additional contaminants in groundwater occurs on a routine basis with regulatory oversight.
Remedy Selection	29	If the off-Site remedy was selected would the water be hauled off-Site for treatment?	Due to the flow rates and duration required to remediate the plume, it is not cost effective to haul (e.g. truck) extracted water off-Site for treatment. The Off-Site Remedy includes a treatment system located in the immediate vicinity of the off-site extraction well to allow extracted groundwater to be treated near the wellhead(s).

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Remedy Selection	30	What remedy would be recommended if the treatment system, or components of the system, could be built on the Sonoran Preserve?	If it was feasible to do so, the extraction well and supporting piping would be most appropriately located on the Sonoran Preserve while the treatment system location would remain on-Site at the landfill. There are many administrative and engineering constraints that make this alternative less implementable than the preferred remedy.
Contaminated Vapors	31	Will vapors from the contaminants affect residents?	Subsurface soil vapor monitoring along the perimeter of the landfill has been conducted and levels do not exceed human health-based limits. Continued monitoring is part of the RAP.

**TABLE 3 - CITY OF PHOENIX COMMENTS ON THE CAVE CREEK LANDFILL REMEDIAL ACTION PLAN
WITH RESPONSES PREPARED BY MARICOPA COUNTY**

Maricopa County Cave Creek Landfill – Phoenix, Arizona

Comment Type	Document Reference	Comment Number	Comment	Maricopa County Response to Summary Comment
General		1	The County...proposed using two existing monitoring wells on the Sonoran Preserve as injection wells to enhance the remediation action. Phoenix understands that MW 4 and MW 7 are the proposed wells to complete this remediation action. Phoenix requests clarification if the wells listed are not the correct wells for this proposal. The remediation would include the injection of sodium permanganate into the wells and circulating it between them to help break down the contamination.	The City of Phoenix's understanding is correct. The proposed wells for the ISCO Early Response Action are MW-4 and MW-7. Section 8.3 of the RAP will be revised.
General		2	Phoenix is concerned that the recommended alternative will allow a portion of the contaminant plume to migrate down gradient without containment by the planned treatment system. This aquifer is a drinking water resource for Phoenix and there are drinking water wells down-gradient from the contamination plume. In response to this concern, the County and ADEQ agreed to clarify in the RAP contingency language that would include having all water suppliers be consulted in the decision making for future remediation actions, if warranted. More specifically, if monitoring were to indicate contamination with the potential to impact water supply wells, additional contingencies would be implemented by the County to eliminate the concern. Phoenix requests that the RAP be updated to be clear that contingent measures will be implemented to protect the water supply.	Section 8 of the RAP will be revised with language that states contingent measures will be implemented if the results of the groundwater monitoring program indicate that contamination with the potential to impact water supply wells at concentrations exceeding drinking water standards will occur. The RAP will also indicate that water suppliers potentially affected by site contamination will be consulted in the decision making process for future remedial actions.
General		3	In response to comments from the County about the desire to implement injection into MW 4 and MW 7, located on the Sonoran Preserve, Phoenix supports this recommendation and requests that this be included in the RAP. Phoenix would also request periodic updates on the success of the entire remedy.	Periodic updates on the success of the entire remedy will be provided to the City of Phoenix.

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Maricopa County Cave Creek Landfill – Phoenix, Arizona

Comment Type	Document Reference	Comment Number	Comment	Maricopa County Response to Summary Comment
General		4	Regarding the request to place an additional monitoring well on the Sonoran Preserve, Phoenix would like to work with the County and ADEQ to identify a location for this monitoring well that is least disruptive to the Preserve and meets its intended objective of monitoring for plume containment and treatment progress.	Comment noted. Maricopa County looks forward to discussing alternative well locations with the City of Phoenix.
Specific	Section 3.1.5 (Regional Groundwater)	5	<p>This section summaries Phoenix's water supply wells in the immediate area. Well 55-603807 is denoted as owned by City of Phoenix, but was sold in 2001.</p> <p>Phoenix initiated an Aquifer Restoration Program in 2010, where treated Central Arizona Project water supplies are directly injected into the Northeast Aquifer. Storing these supplies are necessary for mitigating future droughts. Since that time, we have constructed three Aquifer Storage and Recovery (ASR) well systems (55-218928, 55-214540, and 55-221212). These wells are registered with the Arizona Department of Water Resource (ADWR) and annual recharge volumes are reported to the ADWR Recharge Division. Recharge from Phoenix's ASR wells to the northeast aquifer should be evaluated by the County to understand the impact of this storage on the flow of the contaminant plume.</p>	<p>Section 3.1.5 of the RAP will be revised to reflect the status of the current owner of Well 55-603807.</p> <p>Maricopa County has acknowledged the City of Phoenix ASR project in previous site documentation and understands that these operations can affect both the direction of regional groundwater flow and the rate of plume migration. Given the uncertain nature of future water supply requirements, Maricopa County maintains that extracting contaminated groundwater onsite (as proposed in the preferred remedy) will be the most resilient strategy to address future changing conditions in the regional aquifer.</p>

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Maricopa County Cave Creek Landfill – Phoenix, Arizona

Comment Type	Document Reference	Comment Number	Comment	Maricopa County Response to Summary Comment
Specific	Section 5.3.1 (Description of Preliminary Alternatives)	6	<p>As was discussed during our meeting, is there an opportunity to increase extraction well pumping rates or add an additional well on-site, that might serve to capture the contaminant plume from off-site? This would satisfy Phoenix's concern that Alternative 4, as recommended, would allow a portion of the plume to escape containment.</p> <p>Alternative 4 proposes to install the injection well on the western portion of the landfill. During the meeting we discussed if substitute locations were modeled to create a hydraulic barrier between the contamination plume and Phoenix water supply wells or injection at the toe of the contamination plume to reduce off-site migration. Although Amec confirmed that numerous alternative models were evaluated, we are requesting confirmation that none of the modeled alternatives would serve as a more effective injection location to contain the plume.</p>	<p>Maricopa County is further optimizing the preferred remedy's ability to enhance capture by evaluating varying extraction well rates, extraction and injection well locations and the number of wells installed. The results of this effort will be presented in a modeling report update included with the final RAP.</p> <p>Maricopa County is also evaluating the recent possibility that the treated water (or a portion thereof) be reused by Dove Valley Ranch Golf Course. To accommodate this potential opportunity, alternatives with and without groundwater reinjection will be considered.</p>
Specific	Section 7.2.2 (Risk)	7	<p><i>However, the contaminant flux that is not contained is anticipated to be low and thus this additional risk may not be significant.</i>" Having any groundwater contaminants near Phoenix's potable water supply wells is a significant risk to our residents and there is a long-standing Phoenix policy that mere wellhead treatment of man-made contaminants at a potable water supply is not an acceptable solution/remedy. During the September meeting the County agreed to add contingency language into the RAP. Phoenix asked that all water suppliers be part of the decision making should the treatment system not fully capture the contamination plume and a contingency would have to be implemented.</p>	<p>Comment noted. See response to Comment 2.</p>