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Chapter 8 Introduction to Final EIR

The regulations for implementing CEQA direct the lead agency to respond to substantive public comments on the Draft EIR. The lead agency for this project is the City of Pasadena Water and Power Department (PWP). Comments received by PWP during the comment period for the Draft EIR are addressed in this document. The range of possible responses includes requiring specific mitigation measures, modifying alternatives, supplementing analyses, making factual corrections, and explaining why comments do not warrant further agency response.

8.1 Organization of the Document

The Final Environmental Impact Report (EIR) consists of the Draft EIR and appendices in Volume I and Comment Letters, Responses to Comments, and Mitigation Monitoring and Reporting Program in Volume II.

This document is Volume II of the Environmental Impact Report for the Pasadena Groundwater Storage Program. This volume contains three chapters, which present the responses to comments on the Draft EIR and an appendix which contains the Mitigation Monitoring and Reporting Program. The four sections are:

- 8 Introduction - this describes the organization of the document and summarizes the public review process for the Draft EIR.
- 9 Responses to Comments on Draft EIR- this includes individual responses to each comment on the Draft EIR. Revisions to text of the Draft EIR based on comments are included in these responses. Text revisions are formatted in revision fashion: ~~strikeouts~~ indicate removed text and underlines indicate new text.
- 10 Comment Letters received on the Draft EIR – this includes all letters received by PWP during the Draft EIR review period.
- Appendix I – Mitigation Monitoring and Reporting Program

8.2 Public Review Process for EIR

The public comment period for the Draft EIR began on June 12, 2007 with announcement of the availability of the Draft EIR. A public meeting was held on July 9, 2007 to present information about the project and to receive comments. The formal public comment period was closed on July 26, 2007.

The Draft EIR was distributed to those requesting copies. The Draft EIR was also made available to the public on the City's web site and hard copies were available for review at the following locations:

- Pasadena Water and Power Office, 150 S. Los Robles Ave., Suite 200, Pasadena
- Pasadena Permit Center, Window # 3, 175 N. Garfield Avenue, Pasadena
- Foothill Municipal Water District Office at 4536 Hampton Road, La Cañada Flintridge
- Central Library at 285 East Walnut Avenue, Pasadena
- Hill Avenue Branch Library at 55 South Hill Avenue, Pasadena
- Hastings Branch Library at 3325 East Orange Grove Boulevard, Pasadena
- La Cañada Flintridge Library at 4545 Oakwood Avenue, La Cañada Flintridge

The City Council, as the final decision making body on the Project and certification of the EIR, will consider certification of the EIR at its regular meeting on December 10, 2007 at the City Council Chambers in City Hall, Pasadena. In order to certify the Final EIR, the Council must find that:

- the Final EIR has been completed in compliance with CEQA;
- the Final EIR was presented to the decision making body of the lead agency and that the decision making body reviewed and considered the information contained in the Final EIR prior to selection of a Project; and
- The final EIR reflects the lead agency's independent judgment and analysis (CEQA Guidelines 15090).

If the Council certifies the Final EIR, a final decision will be made regarding whether to approve the project, and the Notice of Determination will be filed. At the time of considering approval of the project, the Council must consider the information presented in the Final EIR. Because the project has significant, unavoidable environmental impacts, the Council must find that the benefits of the project outweigh the environmental effects before it may approve the project. This is called a Statement of Overriding Considerations and it must be included in the record of project approval (CEQA Guidelines 15093).

8.3 Change in the Project Description

Since publication of the Draft EIR there has been a slight change in the configuration of the centralized chlorine facilities at Jones Reservoir. The new facilities, designed to provide centralized chlorination of water from PWP's Eastside wells would be installed adjacent to the proposed aqueous ammonia facility instead of inside an existing building. The new chlorine cylinders would be completely enclosed in individual containment vessels and include fail safe shut-off valves to prevent accidental leakage. Changes to the project description are described in Section 9.9 of this Final EIR, Staff Initiated Text Changes.

8.4 Consideration of Recirculation

If significant new information is added to an EIR after public review, the lead agency is required to recirculate the revised document (CEQA Guidelines Section 15088.5). Significant new information includes, for example, a new significant environmental impact or a substantial increase in the severity of an impact. New information is not considered significant unless the document is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or comment on a feasible mitigation measure that the proponent has declined to implement. As noted above, there have been minor changes in the configuration of the centralized chlorine facilities at Jones Reservoir. The impacts of the revision to the project have been evaluated and no impacts described as less than significant in the Draft EIR have been found to be significant as a result of this change.

Also, no substantial increase in the severity of impacts has been identified as a result of information brought forward in the comments. The comment letter from the Metropolitan Water District of Southern California (MWD or Metropolitan) provided information regarding interpretation of the State's Antidegradation Policy, which lead to a decision to characterize potential impacts to groundwater as less than significant with mitigation, rather than significant and unavoidable. This change does not constitute new information resulting in a new previously unidentified impact, more severe impact, or reveal fundamental inadequacies in the document. Rather, it has resulted in a finding that a previously identified significant impact can be

considered less than significant. MWD has provided substantial evidence supporting this revised interpretation of the Antidegradation Policy (see Comment Letter 4), and the factual information presented in the Draft EIR supports the conclusion.

Recirculation of the Draft EIR was thus not deemed to be necessary.

8.5 Use of Comment Summaries

The full text of all written comments is included in Chapter 10. Each comment is identified by a comment number in the margin; responses use the same corresponding number system. In addition, to facilitate reading the Response to Comments, a summary of each comment is inserted in *italics* just prior to each response. This summary does not substitute for the actual comment; the reader is urged to read the full original text of all comments. The responses are prepared in answer to the full text of the original comment, and not to the abbreviated summary.

8.6 List of Letters Commenting on Draft EIR

PWP received five comment letters on the Draft EIR, and one telephone communication, which was documented in writing. PWP also received correspondence from the State Clearinghouse documenting the completion of the public review period for the Draft EIR. Each communication is identified below by number, comment author and date.

Number	Comment Author	Comment Date
1	Jeff O'Keefe, P.E., District Engineer, California Department of Public Health, Metropolitan District	7/23/07
2	Dave Singleton, Program Analyst, State of California Native American Heritage Commission	7/3/07
3	Dennis Hunter, Assistant Deputy Director, Land Development Division, County of Los Angeles Department of Public Works	7/11/07
4	Delaine W. Shane, Interim Manager, Environmental Planning Team, Metropolitan Water District of Southern California	7/24/07
5	Julianna Delgado, President, Bungalow Heaven Neighborhood Association (comment communicated by telephone)	7/9/07
6	Terry Roberts, Director, State of California, Governor's Office of Planning and Research, State Clearinghouse	7/27/07
The following letter was received on July 30, 2007, after the close of the comment period		
7	Julianna Delgado, President, Bungalow Heaven Neighborhood Association	7/30/07

8.7 Testimony at Public Hearing on Draft EIR

One individual provided testimony at the public hearing on the Draft EIR, which was held on July 9, 2007. A summary of the comment is provided in Section 9, along with the response to the comment. The comment made at the public hearing is numbered 8-1.

8.7.1 Individual Testifying at the July 9, 2007 Public Hearing

Sue Tuemmler, 2121 Monte Vista Street, Pasadena

Chapter 9 Responses to Comments

9.1 Comment Letter 1 - California Department of Public Health

9.1.1 Response to Comment 1-1

Comment Summary: The comment states that the DEIR should mention that Pasadena's Public Water System Permit would need to be amended to include the new wells and the centralized chloramination facility, and Valley Water Company's permit would need to be amended to include the new nitrate treatment facility.

The EIR authors agree that the EIR should list the California Department of Public Health as a responsible agency.

Section 2.7 of the Draft EIR is revised as follows:

Page 2-46, the third sentence in the second paragraph is revised as follows:

Responsible agencies include: California Department of Public Health, Los Angeles Regional Water Quality Control Board...

Page 2-47, the following is added at the end of the bullet list

California Department of Public Health: amendment to the Pasadena Public Water System Permit to include four new wells and a new centralized chloramination facility; and amendment to the Valley Water Company Public Water System Permit to include a new groundwater nitrate treatment facility.

9.1.2 Response to Comment 1-2

Comment Summary: The comment states that the EIR indicates the nitrate treatment facility would receive 3,000 Acre-Feet per Year (AFY) of water, but does not specify if water will be treated at the nitrate treatment facility throughout the year or only during dry months, which would affect the design flow rate of the plant. The design flow rate in gallons per minute should be specified in the document.

The EIR authors would like to clarify that the proposed nitrate treatment facility would not receive 3,000 AFY as indicated in the comment. The nitrate treatment facility would allow FMWD to reduce MWD demand by up to 3,000 AFY in conjunction with the proposed PWP-FMWD interconnections. The nitrate treatment facility would eliminate the need for blending MWD water with water produced from the wells of Valley Water Company; thus allowing FMWD to receive PWP water (which is not suitable for blending) in lieu of MWD water.

The EIR authors agree that the EIR should specify the intended operational period and design flow rate of the plant.

Section 2.4 of the Draft EIR is revised as follows:

Page 2-30, the following paragraph is added after the first paragraph in Section 2.4.2

The proposed nitrate treatment facility would be designed to treat water from three out of four of Valley Water Company's wells running simultaneously, which is the maximum anticipated production capacity of Valley Water Company. Valley Water Company's wells are rated for 1,000 gallons per minute (gpm) each; therefore, the design flow rate of the nitrate treatment facility would be 3,000 gpm. When operating under the PGSP, the treatment facility would operate during take years when PWP is called upon to reduce MWD demand by more than 19,000 AFY. The facility would operate under the PGSP when PWP is transferring water to FMWD through PWP-FMWD system

interconnections, which is expected to occur during the months of May, June, November and December. Outside of the PGSP, the facility could also be used under the Foothill Conjunctive Use Program to help reduce FMWD's demand for MWD water during a take year, or it could be used by Valley Water Company during normal years or during an emergency when imported MWD water is not available for blending.

9.2 Comment Letter 2 - State of California Native American Heritage Commission

9.2.1 Response to Comment 2-1

Comment Summary: The comment provides information regarding the process for evaluating cultural resources impacts of projects.

The cultural resources section of the Draft EIR (Section 3.5) provides a description of the methodology and results of the cultural resources study that was performed for the project. As noted on page 3.5-1 of the Draft EIR, a cultural records search was performed through the California Historical Resources Information System South Central Coastal Information Center. A Sacred Lands Search was also conducted through the Native American Heritage Commission in Sacramento. In addition, windshield and pedestrian surveys of the project sites were conducted by a qualified archaeologist. The result of this research was a determination that no known archaeological or Native American Resources are present in the project area. The Draft EIR recognizes that lack of surface evidence of cultural resources does not preclude their subsurface existence, and includes mitigation for identification and evaluation of accidentally discovered archaeological resources. Please refer to Mitigation Measure CR-1-3. As noted on page 3.5-9 of the Draft EIR, "Any discovery of human remains would be treated in accordance with Section 5097.98 of the Public Resources Code (PRC) and Section 7050.5 of the Health and Safety Code."

9.3 Comment Letter 3 - County of Los Angeles, Department of Public Works

9.3.1 Response to Comment 3-1

Comment Summary: The comment states that the Los Angeles County Flood Control District should be identified as an agency with permitting responsibilities related to this project.

The EIR authors agree that the EIR should reflect the fact that the Los Angeles County Flood Control District is a responsible agency.

Section 2.7 of the Draft EIR is revised as follows:

Page 2-46, the third sentence in the second paragraph is revised as follows:

Responsible agencies include: California Department of Public Health, Los Angeles Regional Water Quality Control Board, Los Angeles County Flood Control District ...

Page 2-47, the following is added at the end of the bullet list

Los Angeles County Flood Control District will need to approve discharge of water into their facilities.

9.3.2 Response to Comment 3-2

Comment Summary: The comment states that the Draft EIR needs to address the discharge of water from ASR wells into the storm drain system.

The EIR authors agree with the comment and have revised the text to incorporate the comment.

Section 3.11 of the Draft EIR is revised as follows:

Page 3.11-7, the text of Mitigation Measure PS-4 is revised to read as follows:

Mitigation Measure PS-4: Consider storm drain capacity and obtain required permits prior to discharge of water from ASR wells.

During heavy rainfall periods when storm drains are carrying high volumes of runoff, ASR wells would not be operated in the flushing mode. PWP will coordinate with City of Pasadena Department of Public Works during periods of heavy rainfall as necessary. PWP will also obtain required permits from Los Angeles County Department of Public Works, and will address their requirements regarding quality of discharge water.

9.4 Comment Letter 4 - Metropolitan Water District of Southern California

9.4.1 Response to Comment 4-1

Comment Summary: The comment requests that the EIR add text recognizing the role of the Metropolitan Water District and Foothill Municipal Water District.

The EIR authors agree to add the requested text.

Section S.2 of the Draft EIR is revised as follows:

Page S-1, following text is added to the end of the third paragraph:

The Metropolitan Water District of Southern California (MWD) and Foothill Municipal Water District (FMWD) will be responsible agencies and will utilize this EIR to comply with CEQA for their actions for the proposed project. MWD is considering entering into a contractual agreement with PWP, FMWD and the Raymond Basin Management Board (RBMB) for storage in the Raymond Basin for use during dry years and emergencies. Under the agreement, MWD would fund capital facilities for the project to be constructed, owned and operated by Pasadena, FMWD, and RBMB or their assigns.

9.4.2 Response to Comment 4-2

Comment Summary: The comment request that Section S.3.2 of the EIR be modified to be consistent with Section 3.8 and reflect the findings of significance as documented in Section 3.8 of the EIR.

The EIR authors agree with two of the four bullets included in this comment. For the first bullet, the first paragraph of Section S.3.2 already notes that sulfate mass in the basin is expected to increase, therefore no edits are required. Similar, for the third bullet regarding DBP formation, the text is already present in the first paragraph of Section S.3.2, therefore no edits are required.

For the remaining two bullets, Section S.3.2 of the Draft EIR is revised as follows:

On page S-6, the first sentence of the first paragraph is modified as follows:

It was determined that the injection of Weymouth-treated water into the Raymond Basin would increase sulfate and chloride masses in the groundwater basin, and may increase TDS loading in the groundwater basin. Although TDS mass could potentially decrease based on calculations summarized in Section 3.8 of this EIR, the actual mass of salts in the basin will vary both temporally and spatially with the annual amount of precipitation, annual groundwater extractions, and as the quality of the source water changes.

On page S-6, the following text is added to the end of the second paragraph as follows:

The modeling indicated that with the Pasadena Groundwater Storage Program there may be differential movement of existing perchlorate and VOC plumes in the west-central portion of the Pasadena Subarea with movement to the south; however, these impacts are not expected to be significant as the differential plume movement predicated by modeling is small over the 27-year model period.

9.4.3 Response to Comment 4-3

Comment Summary: The comment states Metropolitan's disagreement with the following statement "and due to the potential formation of DBPs in groundwater as a result of the residual chlorine in the injected water."

Following additional review of Section 3.8, the EIR authors agree to strike the phrase from the paragraph in question. Therefore the Draft EIR is revised as follows:

Page S-6, the third paragraph in Section S.3.2 is revised as follows:

Based on these analyses, potential impacts on groundwater are expected to be less than significant as a result of the increased sulfate and ; chloride and potentially TDS loading in the groundwater basin, ~~due to the potential formation of DBPs in groundwater as a result of the residual chlorine in the injected water,~~ and as a result of potential differential plume movement resulting from Pasadena Groundwater Storage Program operations. ...

9.4.4 Response to Comment 4-4

Comment Summary: The comment requests that the Draft EIR acknowledge the discretionary authority that Metropolitan has over the project.

The EIR authors agree to add the requested information.

Section 1.4 of the Draft EIR is revised as follows:

Page 1-4, following text is added at the end of the paragraph under the heading Metropolitan Water District of Southern California:

MWD is considering entering into a contractual agreement with PWP, FMWD and RBMB for storage in the Raymond Basin for use during dry years and emergencies. Under the agreement, MWD would fund capital facilities for the project.

9.4.5 Response to Comment 4-5

Comment Summary: The comment requests revision to language in the project description.

The EIR authors agree to revise the text as requested.

Section 2.1 of the Draft EIR is revised as follows:

Page 2-1, the second sentence of the last paragraph is revised to read:

Metropolitan Water District of Southern California would fund the necessary capital improvements, which would be owned and operated by Pasadena Water and Power and Foothill Municipal Water District or its assigned, pursuant to ~~an~~ contractual agreement with Metropolitan Water District of Southern California.

9.4.6 Response to Comment 4-6

Comment Summary: The comment suggests that the mass balance analysis should be modified to account for annual variations in constituent concentrations over the model period. Additionally, the comment also states that the mound of injected water would, to a significant extent, be

pumped out by extraction wells in the vicinity of the injected water, and cites a 1995 study conducted which evaluated the impact of injection at the Garfield well and suggested that between 59 and 91 percent of injected water would be recovered. Finally, the comment asks that Table 3.8-2 be revised to include concentrations and reflect changes over the 27 year model period.

The EIR authors will respond to each of three points in this comment individually.

As to the request that the mass balance analyses be modified to account for annual variations in groundwater quality, annual water quality constituent concentrations were not provided beyond those presented in the EIR (that is, for the period between 2001 and 2005); sufficient data were not available to vary constituent concentrations in groundwater annually over the entire model period. However, if annual changes were considered, the impacts would be less than stated.

As to the comment regarding the re-capture of injected water in the 1995 study by the City of Pasadena (CH2M Hill, 1995), this study evaluated three 4-year cycle scenarios: Scenarios 1 and 2 differed by the number of wells operating (one well in Scenario 1 and two wells in Scenario 2), but both scenarios assumed two more-wet years were followed by one less-wet year, followed in turn by one dry year. Scenario 3 also assumed two operating wells and had one more-wet year followed by two less-wet years, followed by one dry year. A more-wet year assumed nine months of injection followed by three months of pumping. A less-wet year was defined as seven months of injection followed by five months of pumping, and the dry year assumed no injection and 12 months of pumping. The results from these modeling scenarios did, as stated, indicate that percent recovery at the end of the 4-year cycle would range from 59% (for Scenario 1) to 91% (for Scenario 2). However, this analysis did not consider potential hydrologic affects from other basin users nor did it consider periods of injection only or scenarios where extraction volumes were less than injected volumes (thereby leaving import water in the groundwater basin time to mix with ambient groundwater).

Finally, per the request to modify Table 3.8-2 as indicated in the comment, the EIR authors agree to revise the table to provide changes over the 27-year model period.

Page 3.8-15 of the Draft EIR, Table 3.8-2 is revised to read as follows:

Table 3.8-2: Summary of Mass Balance Calculations

Constituent	Units	Average Existing Conditions	Scenario 1		Scenario 3		Difference between Model Scenarios
			Cumulative Change in Conditions	Conditions at end of Model Run	Cumulative Change in Conditions	Conditions at end of Model Run	
Water in Storage*	AF	901,650	-33,617	868,033	-12,676	888,974	+20,941
Total Dissolved Solids	tons	398,366	-37,787	360,579	-13,180	385,186	+24,607
	mg/L	325	-19	306	-6	319	+13
Sulfate	tons	74,770	697	75,467	13,117	87,887	+12,420
	mg/L	61	+3	64	+12	73	+9
Chloride	tons	37,998	1,111	39,109	7,803	45,801	+6,692
	mg/L	31	+2	33	+7	38	+5

Notes:

*Volume in storage based on average of 1971 DWR estimate, and 1983, 1991, and 2002 Geoscience Estimates

9.4.7 Response to Comment 4-7

Comment Summary: The comment requests that a statement be include in the first paragraph on Page 3.8-15 stating that the projected concentrations would not impact beneficial uses of the basin nor would they exceed a basin plan objective for the basin. Additionally, the comment notes that increases in average concentrations are not expected to increase substantially.

The EIR authors agree to revise the text following Table 3.8-2.

Section 3.8 of the Draft EIR is revised as follows:

Page 3.8-16, the following sentence is added to the first paragraph:

However, based on the modeling and mass balances conducted to date, the projected concentrations of TDS, sulfate and chloride are not expected to exceed basin plan objectives, and would not be expected to impact beneficial uses in the basin. Average concentrations are not expected to increase substantially.

9.4.8 Response to Comment 4-8

Comment Summary: This comment requests that the last sentence in the first paragraph on page 3.8-17 be modified to include the length of the model period and that it be noted that no active or proposed production wells would be affected by the minor change in plume location.

The EIR authors agree to the first point in this comment; and Section 3.8 of the Draft EIR is revised as follows:

Page 3.8-17, following text is added to the end of the first paragraph:

...of the Pasadena Subarea, however these impacts are not expected to be significant as the differential plume movement predicted by the modeling is small (around 1,200 feet over the 27-year model period).

As to the second point, the EIR authors did not conduct the particle modeling described in the document, which relies on the model and report authors, Geoscience Support Services, Inc., for the model results (as documented in the Draft EIR). Per page 20 of Geoscience's report entitled *Final Draft...*, "... for Model Scenario 2 there will be more particles moving from the Arroyo Seco area towards the Lincoln Avenue Water Company wells." Additionally, the report states "In Model Scenario 2, particles placed in P-SUN, P-BAN and P-COP will also not move as fast...and not reach P-WOO by the end of the model period". Furthermore, the report states, that "Particle tracking for Model Scenario 3...is virtually exactly the same as Model Scenario 2". Finally, the document states that "More pumping in the central portion of the Pasadena subarea in model Scenarios 2 and 3 will have the effect of causing more particles to move past P-GAR and P-VIL." These statements appear to indicate that the Lincoln Avenue Water Company wells may be impacted by plume movement but does not definitively state such, nor does the report indicate the severity of water quality changes that may or may not occur as a result of the plume movement. Therefore, the EIR authors do not feel it is appropriate to make such a determinative statement based on insufficient information.

9.4.9 Response to Comment 4-9

Comment Summary: The comment states, in general, that the conclusion of the DEIR that projected changes in water quality resulting from the direct injection of Weymouth-treated water are not significant nor substantial and that the interpretation of the State's Antidegradation Policy, as used in the DEIR, is an 'overly strict interpretation'. The comment continues with a summary of Administrative Procedures Update No. 90-004, concluding that '...the project does not violate the state antidegradation policy.' And then continues with a summary of CEQA

Guidelines, Appendix G regarding what would constitute a potentially significant impact. Finally, the comment states Metropolitan Water District's belief that the water quality effects of the project are consistent with the state antidegradation policy and, accordingly, should be deemed less-than significant.

The EIR Authors have reviewed the information provided by the Metropolitan Water District (MWD) in addition to a legal opinion of that information provided by the proponent's legal counsel. MWD has provided substantial evidence and legal support for their position that the minor changes in water quality would not be in violation of the State's Antidegradation Policy. MWD has provided a clear rationale as to why the Antidegradation Policy allow minor changes in water quality and further that a degradation of water quality is nonetheless allowed if the "change will be consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses of such water and will not result in less quality water than prescribed in the policies". The analysis in the EIR supports the fact that the benefits of the project are consistent with the Antidegradation Policy and the EIR has already determined that changes in the water quality would not adversely affect beneficial uses or exceed Basin Plan limits (see Response to Comment 4-7). In essence, the Draft EIR based the conclusion of significance on the minor change to water quality, but did not consider whether the change would impact overall water quality nor did it factor in the benefits of the project in the determination of significance, as MWD argues is required by the Antidegradation Policy. The EIR authors agree with MWD's interpretation that water quality changes are minor and it is appropriate to consider project benefits. It is therefore agreed that Impact HWQ-2: Potential impacts on groundwater or surface water quality from recharge and/or recovery operations can be concluded to be less than significant with mitigation.

The text of the Draft EIR is revised as indicated below to reflect this conclusion.

Page S-6, the third paragraph under S.3.2 is revised as follows:

Based on these analyses, potential impacts on groundwater are expected to be less than significant as a result of the increased sulfate and ; chloride and potentially TDS loading in the groundwater basin, due to the potential formation of DBPs in groundwater as a result of the residual chlorine in the injected water, and as a result of potential differential plume movement resulting from Pasadena Groundwater Storage Program operations. ~~Although~~ Levels of sulfate and chloride are not expected to exceed water quality objectives for the Raymond Basin, and although levels of these constituents would be expected to increase, the changes would be minor; thus and this is considered a less-than-significant impact with mitigation. Mitigation measures include implementation of a Groundwater Monitoring Program and a Groundwater Injection Operations Protocol; ~~however, impacts are still considered significant and unavoidable.~~ With mitigation, the project is expected to be consistent with maximum benefit to the people of the State, the project would not unreasonably affect present and anticipated beneficial uses of the groundwater basin and would not result in water quality less than that prescribed in the Basin Plan.

Page S-8, Table S-3, the entry for Hydrology and Water Quality is revised as follows:

Table S-3: Overall Project Impacts

Resource Area	Level of Impact
Hydrology and Water Quality	<u>Less than significant with mitigation</u> Significant and Unavoidable

Page S-10, Table S-4, the entry for Hydrology and Water Quality is revised as follows:

Table S-4: Cumulative Impacts

Resource Area	Level of Impact
Hydrology and Water Quality	<u>Less than significant with mitigation</u> Significant and Unavoidable

Page S-10, the first paragraph in Section S.5.1, ASR Wells is revised as follows:

~~Significant and unavoidable~~ Impacts may occur through operation of the wells due to the potential increase in ~~TDS~~ chloride and sulfate loading to the basin through the introduction of treated imported water ~~and the potential for formation of DBPs in groundwater~~. Other potentially significant impacts at ASR wells include: air quality and noise impacts during construction of the wells; the potential for release of hazardous materials due to the storage and use of chlorine gas at each well and aqueous ammonia at McDonald and Victory Park wells; biological impacts on nesting birds and trees located at the sites; damage to facilities due to ground-shaking triggered by potential seismic activity; erosion and run-off during construction; potential damage or disruption of existing utilities during construction; and construction safety, access, and parking issues related to traffic impacts from construction. These impacts (with the exception of air quality, and noise and water quality) are mitigatable to a less than significant level. Impacts specific to individual well locations are discussed below.

Page 3.8-17, the paragraph preceding Mitigation Measure HWQ-2-1 is revised as follows:

Finally, there are no known hazardous waste sites located in areas proposed for the recharge/injection wells. Additionally, there is no indication that soils in the area contain hazardous substances, are saline, or would otherwise contribute solids to the aquifer as a result of recharge. In light of what is known, potential impacts on groundwater are expected to be less than significant with mitigation as a result of the increased sulfate and chloride loading in the groundwater basin, ~~and due to the potential formation of DBPs in groundwater as a result of the residual chlorine in the injected water~~. Increased sulfate and chloride loading are considered potentially significant because ~~any increase in these constituents violates~~ the state antidegradation policy requires that existing high quality should be maintained. Even though levels of sulfate and chloride are not expected to exceed water quality objectives for the Raymond Basin, levels of these constituents in groundwater would be expected to increase slightly, and mitigation is proposed to ensure that this is does not result in a significant impact. With the implementation of the mitigation measures described below, the minor increases in sulfate and chloride would not be expected to result in substantial increases in pollutant loading, and water quality would not be expected to be lowered significantly.

Page 3.8-18, the heading and paragraph under Level of Impact after Mitigation is revised as follows:

Level of Impact after Mitigation: Less than Significant ~~and Unavoidable~~

Although implementation of monitoring and management of injection is expected to prevent violation of ~~groundwater~~ quality objectives, it is not expected that injection can be done in such a way as to prevent any increase in groundwater constituent concentrations. However, with mitigation, the increases are expected to be minor. The project is expected to be consistent with maximum benefit to the people of the state; the

project would not unreasonably affect present and anticipated beneficial uses of the groundwater basin and would not result in water quality less than that prescribed in the Basin Plan. This impact is thus considered **less than significant with mitigation**. ~~Because any increase in concentrations of sulfate and TDS would be considered degradation, this impact is considered significant and unavoidable.~~

Page 3.8-23, Table 3.8-3, the entry for Impact HWQ-2 is revised as follows:

Table 3.8-3: PGSP Hydrology and Water Quality Impact Summary Table

Project Components								
Impacts	FMWD Nitrate Treatment System	Craig Well	McDonald Well	Victory Well	PWP-FMWD Interconnection			Eastside Well Collector
					Alt. 1b	Alt. 2	Alt. 4	
Long-Term Operational Impacts								
Impact HWQ-2: Potential Impacts on Groundwater or Surface Water Quality from Recharge and/or Recovery Operations	N	LSMU	LSMU	LSMU	N	N	N	N

Page 4-1, the first paragraph under Section 4.1, Significant Environmental Effects that Cannot be Avoided if the Proposed Project is Implemented, is revised as follows:

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. It was determined that implementation of the PGSP would result in construction-related significant and unavoidable impacts in the resources areas of Air Quality and Noise. ~~Significant and unavoidable impacts were identified for long term operational aspects of the project in the resource area of Hydrology and Water Quality.~~

...

Page 4-2, all of Section 4.1.2, Hydrology and Water Quality, is deleted:

4.1.2 Hydrology and Water Quality

~~Potential impacts on groundwater or surface water quality from recharge and/or recovery operations. It was determined that the injection of Weymouth-treated water into the Raymond Basin would increase sulfate and chloride masses in the groundwater basin, and may increase TDS loading in the groundwater basin. These increases in constituent mass may result in an increase in the concentration of these constituents above ambient groundwater quality. Additionally, Weymouth water is currently treated with chloramines for disinfection. Chloramines generally do not react as readily with organic matter in the treated water supplies, dramatically reducing the potential formation of DBPs. Based on current research and findings at similar ASR sites, significant DBP formation is not expected to occur due to the lack of organic matter in groundwater, however there is the potential for formation of DBPs in groundwater as a result of residual chlorine in the injected water. The disinfection processes at the Weymouth Water Treatment Plan are expected to change to ozonation starting in 2011. The change in disinfection process may result in an increase in bromate in the Weymouth-treated~~

~~water; however, this potential increase is dependent upon the bromide concentration of the raw water used at the plant.~~

~~Finally, particle tracking modeling was conducted to evaluate the effects of the Pasadena Groundwater Storage Program on known contaminant plume movement. Particles were “placed” at well locations with known perchlorate or VOC impacts, and the model scenarios run to see how the Pasadena Groundwater Storage Program could potentially affect the movement of these plumes. The modeling indicated that with the Pasadena Groundwater Storage Program, there may be differential movement of existing perchlorate and VOC plumes in the west central portion of the Pasadena Subarea with movement to the south.~~

~~Based on these analyses, potential impacts on groundwater are expected to be significant as a result of the increased sulfate, chloride and potentially TDS loading in the groundwater basin, due to the potential formation of DBPs in groundwater as a result of the residual chlorine in the injected water, and as a result of potential differential plume movement resulting from Pasadena Groundwater Storage Program operations. Although levels of sulfate are not expected to exceed water quality objectives for the Raymond Basin, levels of these constituents would be expected to increase, and this is a significant impact. Mitigation measures include implementation of a Groundwater Monitoring Program and a Groundwater Injection Operations Protocol, however, impacts are still considered significant and unavoidable.~~

Page 5-11, the first full paragraph is revised as follows:

The PGSP, like the FHCUP, will include the storage of treated imported water into the groundwater basin, and both projects will use water from MWD’s Weymouth WTP as its source of import water. Water from the Weymouth Water Treatment Plant has been shown to contain concentrations of sulfate, TDS and sometimes chloride in excess of basin Water Quality Objectives. ~~While~~ The mass loading of these constituents resulting from the direct injection of import water is expected to be small, and the cumulative impact resulting from the direct introduction of import water to the basin by all users is considered **less than significant** and **unavoidable**, ~~but~~ ultimately providing a benefit to those dependent upon the groundwater basin for part or all of its water supply.

Page 6-14, Table 6-2, Comparison of Project Alternatives Impacts, the entry for Impact HWQ-2 is revised as follows:

Table 6-2: Comparison of Project Alternatives Impacts

Impact	Proposed Project	No Project	Reduced Project
Hydrology and Water Quality			
Impact HWQ-2: Potential Impacts on Groundwater or Surface Water Quality from Recharge and/or Recovery Operations	<u>Less than Significant with Mitigation Incorporated</u> <u>Significant and Unavoidable</u>	<u>No Impact.</u> Under the No Project alternative there would be no recharge or recovery operations. <u>Significant and Unavoidable.</u> No ASR wells would be constructed to assist in the stabilization of groundwater levels. Potential would exist for long-term impacts on Raymond Basin water levels.	<u>Less than Significant with Mitigation Incorporated</u> <u>Significant and Unavoidable.</u> Recharge and/ recovery operations would still occur under the reduced project alternative. Thus, the impact would remain the same. Mitigation measures HWQ-2-1 and HWQ-2-2 would be implemented.

9.4.10 Response to Comment 4-10

Comment Summary: The comment notes that the mitigation measure should be modified to include maximizing in-lieu recharge, the timing of injection during periods when sulfate and chloride are lower, and monitoring of plume migration to reduce impacts to downgradient producers.

The EIR authors agree to add the requested text for the first two points (maximizing in-lieu recharge and the timing of injection periods); however, we feel that the third point, monitoring of plume migration, is fully captured in Mitigation Measure HWQ-2-1 as shown on Page 3.8-17 of the Draft EIR. To this end, Section 3.8 of the Draft EIR is revised as follows:

Page 3.8-18, the first paragraph of Mitigation Measure HWQ-2-2 is revised as follows:

A protocol for the injection and extraction of stored groundwater shall be prepared and implemented by PWP in conjunction with the Raymond Basin Management Board to define operational parameters and conditions under which injection and/or extraction operations are to be modified and/or cease. This protocol will be implemented in order to minimize any potential impacts to the basin that may result in significant changes to either groundwater quality (i.e. increased concentrations of constituents of concern) and/or groundwater levels (i.e. decreased groundwater levels resulting in adverse impacts such as land subsidence). Specific details of the protocol will be negotiated between PWP and the Raymond Basin Management Board (and, if necessary, other state regulatory agencies), but will include operating procedures to maximize the use of in-lieu groundwater recharge; criteria to promote the injection of import water during periods when TDS, sulfate and chloride concentrations are near, at or below ambient groundwater quality and such water is available for recharge; specific water quality parameters and groundwater levels that would require changes in operations; and would specify specific actions that would take place. For example, one operational parameter may specify that import water may not be injected into the groundwater basin when TDS concentrations exceed an agreed-upon level.

9.4.11 Response to Comment 4-11

Comment Summary: The comment notes Metropolitan Water District's disagreement with the conclusion of the EIR that, according to MWD, "...a slight and non-substantial change in water

quality throughout the basin is significant and unavoidable” and believes that the significance findings should be changed to “less than significant”.

Please refer to Response to Comment 4-9, which has revised the significance findings to less than significant.

9.4.12 Response to Comment 4-12

Comment Summary: The comment lists facilities that Metropolitan owns and operates within the project area boundaries, and expresses concern about potential impacts to those facilities associated with construction and operation of the project. Metropolitan requests that design plans be submitted for review and approval.

Page 3.11-6 acknowledges that project construction could conflict with existing utilities. Please refer to Mitigation Measures PS-1-1 and PS-1-2, which provide for coordination with utility providers and protection of existing utilities in the project area. Pasadena Water and Power would coordinate with MWD during design and would provide plans for improvements where MWD facilities are present. Information regarding MWD’s Guidelines is appreciated, and will be incorporated in design.

9.5 Comment Letter 5 - Bungalow Heaven Neighborhood Association (phone conversation documented by Brad Boman of PWP)

9.5.1 Response to Comment 5-1

Comment Summary: The comment expresses concern that the proposed driveway from Mountain Street to the proposed well building will be used by the public for parking, and requests that parking in the driveway be discouraged by use of bollards or other means.

As noted on page 3.2-6 of the Draft EIR in Mitigation Measure AES-1-1, “The service road will be kept to a minimum necessary width and length.” PWP shares this concern, as public parking on the drive would prevent clear access to the facility for maintenance. PWP will consider design features that will prevent public parking in the driveway.

9.5.2 Response to Comment 5-2

Comment Summary: The comment expresses concern about the aesthetics of the driveway, and the reduction of green land space at the park.

As noted above, and on page 3.2-6 of the Draft EIR in mitigation measure AES-1-1, “The service road will be kept to a minimum necessary width and length and will be maintained for aesthetic quality”. Mitigation Measure AES-1-2 also requires that “The design of the proposed improvements within parks will be reviewed by the City’s Park and Recreation Commission and the Pasadena Design Commission.”

9.5.3 Response to Comment 5-3

Comment Summary: The comment notes that Mountain Street is a very busy road, and asks whether the driveway could be built on the north side of the existing booster station from Wilson Avenue to the well building.

As noted on page 3.12-12 of the Draft EIR, “Because the project, by its nature, would generate minimal traffic in the operational phase, no significant traffic impacts would occur.” The addition of a driveway on Mountain Street has not been deemed to have adverse traffic impacts. However, as noted in Response to Comment 5-2, the final site design will be reviewed by the City, and comments regarding the proposed site plan will be considered during final design.

Conceptual design analysis has indicated that access from Wilson Street would cause more impact to the park, as access to the well head would still be necessary, which requires a drive from Mountain Street.

9.6 Comment Letter 6 - State Clearinghouse

9.6.1 Response to Comment 6-1

Comment Summary: The comment transmits comment letters from the California Department of Public Health (Letter 1 above) and State of California Native American Heritage Commission (Letter 2 above), and acknowledges that PWP has complied with the State Clearinghouse review requirements for draft environmental documents pursuant to the California Environmental Quality Act.

PWP appreciates the assistance of the State Clearinghouse in complying with CEQA requirements for environmental review.

9.7 Comment Letter 7 - Bungalow Heaven Neighborhood Association

9.7.1 Response to Comment 7-1

Comment Summary: The comment expresses opposition to the proposed ASR Well Site Plan for McDonald Park, as shown in Figure 2-8 of the Draft EIR.

Opposition to the site plan is noted for the record, and will be considered by decision makers who are deciding whether to approve the project. Recommendations regarding the site plan will also be considered during final design.

9.7.2 Response to Comment 7-2

Comment Summary: The comment states that the site plan is inadequate because it does not provide sections showing elevations and does not include landscaping plans.

The site plan as shown in Figure 2-8 is conceptual only, providing enough information to evaluate environmental impacts. Details such as elevations and landscaping have not yet been developed and will be developed during final design. As noted in Mitigation Measure AES-1-1 on page 3.2-6 of the Draft EIR, “Landscaping, vegetation, and a wall or fencing appropriate to the existing visual character of the site will be used to screen the well piping and facilities from public view. The proposed well facilities building at McDonald Park will be designed to the same quality and similar but distinct architectural style of the Wilson Booster Station and the above-ground piping associated with the well will be shielded from view by a masonry wall.” Mitigation Measure AES-1-2 also requires that “The design of the proposed improvements within parks will be reviewed by the City’s Park and Recreation Commission and the Pasadena Design Commission.”

9.7.3 Response to Comment 7-3

Comment Summary: The comment expresses concern that the proposed driveway at the McDonald Park site could encourage parking, that it adversely affects aesthetics of the area, and poses potential traffic conflicts.

These comments were also expressed in a phone conversation with PWP, which is documented as Letter 5. Please refer to Responses to Comments 5-1, 5-2 and 5-3.

9.7.4 Response to Comment 7-4

Comment Summary: The comment proposes several alternative configurations for the proposed site plan at McDonald Park and requests that plans be submitted to the Board for review and comment.

Recommendations regarding the site plan will also be considered during final design. Mitigation Measure AES-1-2 requires that “The design of the proposed improvements within parks will be reviewed by the City’s Park and Recreation Commission and the Pasadena Design Commission.”

9.7.5 Response to Comment 7-5

Comment Summary: The comment expresses concern about protection of park users and neighboring residents to environmental toxins, especially, PM_{10} during the construction process.

Local construction impacts of the project are addressed in the Draft EIR starting on page 3.3-12, under Impact AQ-2: Local construction impacts. Project-related emissions at the McDonald Park Well site are shown in Table 3.3-4 on page 3.3-14. As stated in these sections, without mitigation, emissions of PM_{10} at the McDonald Park Well site are slightly higher than the South Coast Air Quality Management District’s (SCAQMD) localized significance threshold of 3 pounds per day. The project will comply with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond site boundaries. Mitigation Measure AQ-2-1 requires implementation of a dust control plan. With mitigation the impacts at McDonald Park are expected to be reduced to less than significant. Impact AQ-3 on page 3.3-15 of the Draft EIR provides an evaluation of toxic air contaminants, and determines that project-related emissions during construction would be less than significant.

9.8 Comment 8 – Testimony at Public Hearing from Sue Tuemmler

9.8.1 Response to Comment 8-1

Comment Summary: The comment expresses concern over the construction and trenching along Monte Vista Street, and specifically the potential effects on a 30- to 36-inch-diameter tree on the north side of the street. Because the City has removed a number of trees over the years, the loss of this tree would have a negative impact. The comment also expresses concern because if the roots are damaged the tree could fall on the home of the commenter. The comment suggests either moving the trench to the south side of the street or using Villa Street as an alternative to Monte Vista Street.

Please refer to Mitigation Measure BIO-6, starting on page 3.4-28 of the Draft EIR, which provides a detailed tree protection plan for trees that could be affected by project construction. The mitigation includes establishment of a “Root Protection Zone” to safeguard the health of trees.

9.9 Staff-Initiated Text Changes

The following changes in the text of the Draft EIR were made by PWP staff to reflect a minor change in the Project Description since publication of the Draft EIR: a slight change in the configuration of the centralized chlorine facilities at Jones Reservoir. This change does not alter conclusions about significance of impacts, but is included here in the interest of accuracy and completeness. The Draft EIR is revised as follows:

Page S-4, in Table S-1 the last bullet under Description of Disinfection Facilities is revised as follows:

- Chlorine storage and feed facilities at Jones Reservoir ~~in existing chlorine room.~~

Pages S-4 and S-5, Table S-2 is revised as follows:

Table S-2: Pasadena Groundwater Storage Program Component Construction Schedule

Pasadena Groundwater Storage Program Component / Task	Construction Duration ^a
Three Proposed ASR Wells ^b	12 months
Mobilization and Site Preparation	1 month
Well Construction	8 months
<i>Drill Well</i>	<i>80 work days</i>
<i>Well Settling/Sealing</i>	<i>20 days</i>
<i>Well Testing</i>	<i>60 work days</i>
Site Work, Buildings, Piping, Etc.	2 months
Site Restoration/Landscaping	1 month
Foothill Municipal Water District Groundwater Nitrate Treatment Facility	7 months
Mobilization and Site Preparation	2 months
Treatment Facility Construction	4 months
Site Restoration/Landscaping	1 month
PWP-FMWD Interconnection Alternatives	1-2 months
• Alternative 1b	1 months
• Alternative 2	1 months
• Alternative 4	2 months
Eastside Well Collector Phase 1^c	6 months
Pipeline Construction	6 months
Ammonia Facility Construction	2 months (concurrent with pipeline construction)
Surge Tank Installations	2 weeks, each site (concurrent with pipeline construction)
<u>Centralized Chlorine Facilities</u>	<u>4 months (concurrent with pipeline construction)</u>
Eastside Well Collector Phase 2^d	3.5 months
Pipeline Construction	3.5 months
Surge Tank Installations	2 weeks, each site (concurrent with pipeline construction)
Centralized Chlorine Facilities^e	1 month

Notes:

- Construction durations are approximate.
- Construction of ASR wells would not be concurrent.
- Phase 1 consists of approximately 10,300 LF of 16 to 30-inch pipeline, the ammonia facility and chlorine facility at Jones Reservoir, and Jourdan, Chapman and Well 58 surge tank installation.
- Phase 2 consists of approximately 15,000 LF of 16 to 24-inch pipeline, and Woodbury, Monte Vista, Craig and Well 59 surge tank installation.
- ~~Centralized Chlorine Facilities at Jones Reservoir would be installed separately from the Eastside Well Collector project.~~

Page 2-22, in Table 2-11 the last bullet under Description of Disinfection Facilities is revised as follows:

- Chlorine storage and feed facilities at Jones Reservoir ~~in existing chlorine room.~~

Page 2-39, the last paragraph is deleted and replaced with the following:

The chlorine facilities would consist of three 1-ton chlorine gas cylinders at the reservoir site. The Jones Reservoir site currently contains existing chlorine facilities designed for up to nine 150-lb chlorine gas cylinders for boosting chlorine levels in the Jones Reservoir. These facilities would remain for that purpose. The new facilities, designed to provide centralized chlorination of water from PWP's Eastside wells, would be installed adjacent to the proposed aqueous ammonia facility. The new chlorine cylinders would be completely enclosed in individual containment vessels and would have a fail safe shut-off valve to prevent accidental leakage. A buried chlorine vacuum line would be installed from the contained chlorine cylinders to the new well collector pipeline upstream of the ammonia injection facility. A buried vault would be installed over the well collector pipeline to house a chlorine ejector, and a small diameter water line (2-inch approximately) would be installed from a nearby buried pipeline to supply the ejector (approximately 100 LF of buried water line).

~~The chlorine facilities would consist of approximately fourteen 150 lb chlorine gas cylinders installed in an existing chlorine room at the reservoir site. The existing chlorine facilities are designed for up to nine 150 lb chlorine gas cylinders. The facility would be upgraded to add an additional six cylinders, including installation of feed equipment and feed piping. The increased use of chlorine gas at Jones Reservoir would not require a significant amount of new facilities at Jones Reservoir. Required improvements would consist mainly of indoor upgrades to chlorination equipment. The existing chlorine room is also large enough to accommodate the additional 150 lb cylinders and equipment. A buried chlorine vacuum line would have to be installed from the chlorine room to the new well collector pipeline upstream of the ammonia injection facility. A buried vault would be installed over the well collector pipeline to house the chlorine ejector, and a small diameter water line (2 inch approximately) would be installed from a buried pipeline near the chlorine room to supply the ejector (approximately 250-300 lf of buried line).~~

Page 2-40, the first full paragraph and Table 2-14 are revised as follows:

Table 2-14 is a summary of the Eastside Well Collector pipeline and centralized disinfection system components. The chlorine facilities would ~~not~~ be constructed at the same time as the Eastside Well Collector Pipeline and Centralized Ammonia facilities. ~~Therefore, for some period of time, full chlorination (3 mg/l) would take place at the well sites.~~

Table 2-14: Eastside Well Collector and Centralized Disinfection Components

Component	Description
Proposed Pipe	10,390 feet of 16-inch diameter 8,065 feet of 24-inch diameter 7,148 feet of 30-inch diameter
Aqueous ammonia Tank	2,500 gallons (6 ft Ø, 12-13 ft)
Ammonia System Containment	15 ft x 32 ft
Jourdan well pump and motor replacement	Replace existing well pump and motor with same horsepower equipment
Well Site Surge Tanks	Jourdan – 500 gallon Chapman – 500 gallon Well 58 – 500 gallon Woodbury – 500 gallon Well 59 – 500 gallon Monte Vista – 1050 gallon Craig – 2500 gallon
Centralized Chlorine Facilities	<ul style="list-style-type: none"> • 250-300 Approximately 100 feet of 2-inch buried chlorine vacuum line • <u>Three 1-ton chlorine gas cylinders</u> • <u>Full containment system</u> • Five additional chlorine cylinders and feed equipment (indoors in existing room)

Page 2-43, the last sentence in the second paragraph under Operation and Maintenance is revised as follows:

An outside vendor ~~PWP truck~~ would deliver new chlorine cylinders approximately once ~~per every three weeks~~.

Pages 2-43 and 2-44, Table 2-15 is revised as follows

Table 2-15: Pasadena Groundwater Storage Program Component Construction Schedule

Pasadena Groundwater Storage Program Component / Task	Construction Duration ^a
Three Proposed ASR Wells ^b	12 months
Mobilization and Site Preparation	1 month
Well Construction	8 months
<i>Drill Well</i>	80 work days
<i>Well Settling/Sealing</i>	20 days
<i>Well Testing</i>	60 work days
Site Work, Buildings, Piping, Etc.	2 months
Site Restoration/Landscaping	1 month
Foothill Municipal Water District Groundwater Nitrate Treatment Facility	7 months
Mobilization and Site Preparation	2 months
Treatment Facility Construction	4 months
Site Restoration/Landscaping	1 month
PWP-FMWD Interconnection Alternatives	1-2 months
• Alternative 1b	1 months
• Alternative 2	1 months
• Alternative 4	2 months
Eastside Well Collector Phase 1 ^c	6 months
Pipeline Construction	6 months
Ammonia Facility Construction	2 months (concurrent with pipeline construction)
Surge Tank Installations	2 weeks, each site (concurrent with pipeline construction)
<u>Centralized Chlorine Facilities</u>	<u>4 months (concurrent with pipeline construction)</u>
Eastside Well Collector Phase 2 ^d	3.5 months
Pipeline Construction	3.5 months
Surge Tank Installations	2 weeks, each site (concurrent with pipeline construction)
Centralized Chlorine Facilities ^e	1 month

Notes:

- a) Construction durations are approximate.
- b) Construction of ASR wells would not be concurrent.
- c) Phase 1 consists of approximately 10,300 LF of 16 to 30-inch pipeline, the ammonia facility and chlorine facility at Jones Reservoir, and Jourdan, Chapman and Well 58 surge tank installation.
- d) Phase 2 consists of approximately 15,000 LF of 16 to 24-inch pipeline, and Woodbury, Monte Vista, Craig and Well 59 surge tank installation.
- e) ~~Centralized Chlorine Facilities at Jones Reservoir would be installed separately from the Eastside Well Collector project.~~

Page 3.2-4, the last paragraph under Impact AES-1 is revised as follows:

The work zone for the Eastside Well Collector construction would be the same as the interconnection system (described above); between 300 and 400 feet in length. The proposed aqueous ammonia and chlorine facilities ~~would be constructed on the outer edge of Hamilton Park and the chlorine facilities would be installed in an existing chlorine room at the Jones Booster Station on the southern edge of the park.~~ The aqueous ammonia facility would consist of a concrete area with a tank, an open wall structure with

a roof over the tank, and chemical feed equipment, including metering pumps. The chlorine cylinders would be fully enclosed within individual containment vessels. The facility Both facilities would be located in an existing fenced area. The construction area at the aqueous ammonia facility would be approximately ~~50 ft x 50 ft~~ 150 ft x 90 ft and the chlorine facility would be approximately 15 ft x 25 ft. Construction activities would occur within the approved construction limits.

Page 3.2-5, the last two sentences at the end of the page under Impact AES-3 are revised as follows:

There would be visible chlorine containment vessels and a visible tank constructed at the aqueous ammonia facility as part of the Eastside Well Collector. The proposed aqueous ammonia facility and chlorine facilities would be located in an area containing bushes and small brush on the south edge of Hamilton Park, which overlays Jones Reservoir.

Page 3.7-8, text of the first paragraph under Impact HAZ-3, starting with the third sentence, is revised as follows:

...The Eastside Well Collector would include 19% aqueous ammonia and chlorine gas storage facilities. Ammonia would be stored in newly installed tanks in a fenced area. Three 1-ton chlorine gas cylinders would be stored in individual full containment vessels at the site, each with a fail safe shut off valve to prevent accidental leakage. ~~There is an existing chlorine building that holds nine, 150 lb cylinders of chlorine gas in its current configuration, which would be reconfigured to accommodate an additional five cylinders (14 cylinders in total) needed for centralized chloramination. ...~~

Page 3.7-9, the fourth paragraph is revised as follows:

The Uniform Fire Code allows storage and use of 150-lb chlorine gas cylinders and 1-ton containers of chlorine gas without the requirement of scrubbers or other on-site containment systems when an automatic, fail-safe shut off valve activated by a gas detection system is employed in the facility at the tank valve and an approved containment vessel or containment system capable of fully containing or terminating a release is available or can be transported to the site of the leaking container ~~gas detection system is installed.~~

Page 3.7-10, Mitigation Measure HAZ-3-2 is revised as follows:

Mitigation Measure HAZ-3-2: Design disinfection facilities to reduce the risk of accidental release and exposure.

Chlorine Facilities. The Uniform Fire Code allows storage and use of 150 pound chlorine gas cylinders and 1-ton containers of chlorine gas without the requirement of scrubbers or other on-site containment systems when an automatic, fail-safe shut off valve is employed in the facility at the tank valve, ~~and~~ a gas detection system is installed, and a portable containment system is available. At each of the new well sites and the Jones Reservoir chlorine facilities, a vacuum regulator and a gas detector will be installed ~~in the chlorine room,~~ connected to an alarm light, horn and the PWP SCADA system, which meets these requirements. The 1-ton chlorine cylinders at Jones Reservoir would also be completely enclosed in a containment system. An approved portable containment system capable of fully containing or terminating a release would be available for use at the well sites. Liquid sodium hypochlorite will also be used at the Nitrate Treatment Facility which must be stored in a cool, corrosion-resistant tank. In general, local fire departments will require secondary containment on storage tanks and double-walled piping associated with sodium hypochlorite.

Page 3.9-4, the last two sentences in the first paragraph are revised as follows:

The proposed aqua ammonia and chlorine facilities would be located on the south side of Hamilton Park, which overlays Jones Reservoir. ~~The existing chlorine building where the new chlorination facilities would be installed is also on the south side of Hamilton Park.~~

Page 3.9-9, Mitigation Measure LU 8-2 is revised as follows:

Mitigation Measure LU-8-2: Construction of new feature at McDonald Park.

A shade structure will be constructed over the playground and a 2-3 foot retaining wall or drainage improvements will be built adjacent to the basketball court. These additions would not result in impacts beyond what are discussed for the proposed projects. The impact would be **less than significant**.

Page 3.10-17, Table 3.10-5 and the paragraph preceding it are revised as follows:

Construction activities for building of the Centralized Ammonia and Chlorine Facilities would occur within existing Jones Reservoir area and are expected to last 4 ~~weeks~~ months, total. ~~There is an existing chlorine building and the new construction would include installation of a new Chlorine Facility and two-inch chlorine injection line.~~ The nearest residential property to the future site of the ~~Ammonia~~ new disinfection facilities ~~y~~ is located along Sierra Madre Boulevard approximately 70 feet from the Jones Reservoir south property line. The construction activity would include: mobilization and site preparation, installation of ammonia treatment facility and chlorination facility and installation of a chlorine line, testing and site restoration. Construction related noise levels are presented in Table 3.10-5. It is estimated that construction related noise levels at the nearest residential receptor to the ammonia and chlorine treatment facilities ~~y~~ would exceed the current daytime ambient noise level by a maximum of 21 dBA. Noise generated during construction of the proposed ammonia and chlorine facilities would be considered a **significant but temporary** impact on the nearest residential receptor.

Table 3.10-5: Centralized Ammonia and Chlorine Facilities Construction Noise Levels

Noise Receptor	Threshold of Significant Noise Impact ^a , dBA (Leq)	Estimated Construction Noise Levels at the nearest Noise Sensitive Receptor R10 by Construction Phase, dBA (Leq)		
		Mobilization/ Site Preparation	Installation of Ammonia <u>and Chlorine</u> Treatment Facilities y	Testing/ Site Restoration
R10 – Sierra Madre Boulevard	73	82	84	81

Notes: a. Threshold of significant noise impact determined based on existing measured daytime ambient noise level plus 10 dBA.

Page 3.12-7, the last paragraph is revised as follows:

The ammonia and chlorine facilities would be located just south of the Jones Reservoir in an area on the southern edge of Hamilton Park that lies behind a locked gate, with access from Sierra Madre Boulevard. The chlorine facilities would be ~~installed in an existing chlorine building~~ located adjacent to the east of the proposed ammonia facility. Approximately ~~250~~ 100 feet of two-inch piping would be installed to deliver chlorine to

the ammonia facility well collector pipeline for disinfection purposes. The location of the ammonia and chlorine facilities y and chlorine piping is located will be outside the public right-of-way and is inaccessible to the general public. All construction, construction-related parking, and construction material storage would occur within the site itself.

9.10 Revised Summary Table

The following table summarizes changes to impacts since the publication of the Draft EIR.

Table 9-6: Impact Summary

Project Component								
Impacts	FMWD Nitrate Treatment Facility	Craig Well	McDonald Well	Victory Well	PWP-FMWD Interconnection			Eastside Well Collector
					Alt. 1b	Alt. 2	Alt. 4	
Construction Impacts								
Impact AES-1: Temporary visual impacts at the project sites	LS	LS	LS	LS	LS	LS	LS	LS
Impact AES-2: Temporary source of substantial light or glare would adversely affect day or nighttime views in the area	LS	LS	LS	LS	LS	LS	LS	LS
Impact AQ-1: Regional Construction Impacts	LS	LS	SU	LS	SU	SU	SU	SU
Impact AQ-2: Local Construction Impacts	LS	LSM	LSM	LSM	SU	LSM	SU	LSM
Impact AQ-3: Toxic Air Contaminants	LS	LS	LS	LS	LS	LS	LS	LS
Impact AQ-4: Odor	LS	LS	LS	LS	LS	LS	LS	LS
Impact BIO-1: Native Plant Communities	N	N	N	N	LS	N	N	N
Impact BIO-2: Wildlife Movement	N	N	N	N	N	N	N	N
Impact BIO-3: Jurisdictional Features	N	N	N	N	LSM	N	N	N
Impact BIO-4: Sensitive Biological Resources	N	LS	LS	LS	LS	LS	LS	LS
Impact BIO-5: Nesting Birds	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact BIO-6: Regulated Trees-Pasadena	N/A	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact BIO-7: Regulated Trees-La Cañada Flintridge	LSM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Impact CR-1: Historic Resources	N	LS	LSM	N	N	N	N	N
Impact CR-2: Archaeological Remains	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact CR-3: Paleontological Resources	N	LSM	LSM	LSM	N	N	N	N
Impact CR-4: Human Remains	LS	LS	LS	LS	LS	LS	LS	LS
Impact GEO-1: Increase in erosion	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM

Project Component								
Impacts	FMWD Nitrate Treatment Facility	Craig Well	McDonald Well	Victory Well	PWP-FMWD Interconnection			Eastside Well Collector
					Alt. 1b	Alt. 2	Alt. 4	
Impact GEO-2: Threat to workers from seismically-induced landslide	N	N	N	N	LSM	LS	N	N
Impact HAZ-1: Exposure during construction	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact HAZ-2: Use of hazardous materials within one quarter-mile of sensitive receptors	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact HWQ-1: Degradation of Water Quality Resulting From Construction Runoff	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact LU-1: Short-term disturbance of activities and impaired access to adjacent land uses	LS	LS	LS	LS	LS	LS	LS	LS
Impact LU-2: Acquisition or lease of property from landowners, organizations, or local agencies	N	N	N	N	N	N	N	N
Impact LU-3: Temporary adverse impact on recreation opportunities within the project area	LS	LS	LS	LSM	LSM	LSM	LS	LS
Impact LU-4: Temporary obstruction of park entrances by construction activities	LS	LS	LS	LS	LS	LS	LS	LS
Impact NOI-1: Noise Generated During Construction	SU	LSM	LSM	LSM	SU	LS	SU	SU
Impact NOI-2: Vibration Generated During Construction	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact PS-1: Temporary disruption of utilities and service	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact TRA-1: Construction Safety	N	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact TRA-2: Access	N	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact TRA-3: Parking	N	LSM	LSM	LSM	LSM	LSM	LSM	LSM

Project Component								
Impacts	FMWD Nitrate Treatment Facility	Craig Well	McDonald Well	Victory Well	PWP-FMWD Interconnection			Eastside Well Collector
					Alt. 1b	Alt. 2	Alt. 4	
Long-Term Operational Impacts								
Impact AES-3: Project implementation would cause substantial degradation to the existing visual character or quality of the area and the visual quality of McDonald Park	LSM	LS	LSM	LS	N	N	N	N
Impact AES-4: Project implementation would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area	LSM	LS	LS	LS	N	N	N	N
Impact AES-5: Project implementation would cause an adverse effect on a scenic vista and scenic resources	N	N	N	N	N	N	N	N
Impact AQ-5: Regional Operational Impacts	LS	LS	LS	LS	LS	LS	LS	LS
Impact AQ-6: Local Operational Impacts	LS	LS	LS	LS	LS	LS	LS	LS
Impact AQ-7: Toxic Air Contaminant Impacts	LS	LS	LS	LS	LS	LS	LS	LS
Impact AQ-8: Odor	N	N	N	N	N	N	N	N
Impact GEO-3: Infrastructure damage from fault displacement and ground-shaking	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
Impact GEO-4: Infrastructure damage from liquefaction and/or seismically-induced landslides	N	N	N	N	LSM	LSM	N	LSM
Impact HAZ-3: Creation of a hazard through routine storage and use of hazardous materials or accidental release	LSM	LSM	LSM	LSM	LS	LS	LS	LSM
Impact HWQ-2: Potential Impacts on Groundwater or Surface Water Quality from Recharge and/or Recovery Operations	N	<u>LSM</u> U	<u>LSM</u> U	<u>LSM</u> U	N	N	N	N
Impact HWQ-3: Depletion of Groundwater Supplies within the Raymond Basin	N	N	N	N	N	N	N	N
Impact HWQ-4: Long-Term Changes in Raymond Basin Groundwater Levels	N	LSM	LSM	LSM	N	N	N	N

Project Component								
Impacts	FMWD Nitrate Treatment Facility	Craig Well	McDonald Well	Victory Well	PWP-FMWD Interconnection			Eastside Well Collector
					Alt. 1b	Alt. 2	Alt. 4	
Impact HWQ-5: Substantial Impacts on Surrounding Groundwater Wells Attributable to Recharge and/or Recovery Operations	N	LSM	LSM	LSM	N	N	N	N
Impact HWQ-6: Substantially Alter the Existing Drainage Pattern or Contribute to Existing Local or Regional Flooding	N	LSM	LSM	LSM	N	N	N	N
Impact HWQ-7: Pressurization along local faults	N	LS	LS	LS	N	N	N	N
Impact LU-5: Long-term disturbance of activities and impaired access to adjacent land uses at project sites	N	N	N/A	N	N	N	N	N
Impact LU-6: Physically divide an established community	N	N	N	N	N	N	N	N
Impact LU-7: Conflict with any applicable land use plans, policies, or regulations or any applicable habitat conservation plan or natural community conservation plan	N	N	N	N	N	N	N	N
Impact LU-8: Project implementation would cause an adverse effect on the recreational quality of McDonald Park	N	N	LSM	N	N	N	N	N
Impact LU-9: Increase in the use of recreational facilities or need for new facilities	N	N	N	N	N	N	N	N
Impact NOI-3: Long-Term Noise Generated due to Project Operation	N	LSM	LSM	LSM	N	N	N	N
Impact PS-2: Project implementation would cause an increase in the need for law enforcement services	N	N	N	N	N	N	N	N
Impact PS-3: Increased demand for electricity	LS	LS	LS	LS	N	N	N	LS
Impact PS-4: Increased discharge to storm drains and sewers, and increased waste generation	LS	LSM	LSM	LSM	N	N	N	N

Chapter 10 Comment Letters

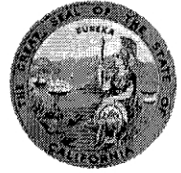
The comment letters received on the Draft EIR are included in this section.



MARK B HORTON, MD, MSPH
Director

State of California—Health and Human Services Agency
California Department of Public Health

Letter 1



ARNOLD SCHWARZENEGGER
Governor

July 23, 2007

Mr. Brad Bowman
Pasadena Water and Power
150 South Los Robles Avenue
Pasadena, CA 91109

Dear Mr. Bowman:

**SYSTEM NO. 1910124 – SCH# 2006121001, PASADENA GROUNDWATER
STORAGE PROGRAM, PUBLIC DRAFT ENVIRONMENTAL IMPACT REPORT**

Thank you for the opportunity to comment on the above-referenced environmental document.

1-1 Section 2.7 of the Draft Environmental Impact Report (DEIR) should mention that Pasadena's Public Water System Permit would need to be amended to include the four new wells and the centralized chloramination facility, and Valley Water Company's permit would need to be amended to include the new nitrate treatment facility.

1-2 The DEIR indicates that the nitrate treatment facility will receive 3,000 acre-feet/year, but does not say if this will be treated throughout the year or only during the dry months. This would determine the design flow rate of the plant in gallons per minute, which should be specified in the document.

If you have any questions, please contact Mr. Alan Sorsher at (213) 580-5777.

Sincerely,

Jeff O'Keefe, P.E.
District Engineer
Metropolitan District

cc: next page

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
 SACRAMENTO, CA 95814
 (916) 653-6251
 Fax (916) 657-5390
 Web Site www.nahc.ca.gov
 e-mail: ds_nahc@pacbell.net



July 3, 2007

Mr. Brad Boman

Pasadena Water and Power

150 South Los Robles Avenue
 Pasadena, CA 91101

Re: SCH#2006121001; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for Pasadena Groundwater Storage Program; Pasadena Water and Power; Los Angeles County, California

Dear Mr. Boman:

Thank you for the opportunity to comment on the above-referenced document. The Native American Heritage Commission is the state's Trustee Agency for Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per CEQA guidelines § 15064.5(b)(c). In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

- ✓ Contact the appropriate California Historic Resources Information Center (CHRIS). Contact information for the Information Center nearest you is available from the State Office of Historic Preservation (916/653-7278)/ <http://www.ohp.parks.ca.gov/1068/files/IC%20Roster.pdf>. The record search will determine:
 - If a part or the entire APE has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded in or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission (NAHC) for:
 - * A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity that may have additional cultural resource information. Please provide this office with the following citation format to assist with the Sacred Lands File search request: USGS 7.5-minute quadrangle citation with name, township, range and section.
 - The NAHC advises the use of Native American Monitors to ensure proper identification and care given cultural resources that may be discovered. The NAHC recommends that contact be made with Native American Contacts on the attached list to get their input on potential project impact (APE).
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
 - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
- ✓ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.
 - * CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens.



DONALD L. WOLFE, Director

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
<http://dpw.lacounty.gov>

Letter 3

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

July 11, 2007

IN REPLY PLEASE
REFER TO FILE: **LD-0**

Mr. Brad Boman
Pasadena Water and Power
150 South Los Robles Avenue
Pasadena, CA 91101

Dear Mr. Boman:

**NOTICE OF AVAILABILITY FOR A DRAFT ENVIRONMENTAL IMPACT REPORT
PASADENA GROUNDWATER STORAGE PROGRAM
CITY OF PASADENA**

Thank you for the opportunity to review the notice of availability for the above Draft Environmental Impact Report. We offer the following comments for your consideration as you prepare the Final EIR (FEIR).

Watershed Management

- 3-1** The Los Angeles County Flood Control District should be identified as an agency with permitting responsibilities related to this project. The Draft Environmental Impact Report should address the discharge of water into the storm drain system as part of the maintenance of the ASR wells. Pending water quality regulations will limit the District's ability to allow connections to our facilities for flows associated with this type of activity.
- 3-2**

When it is ready, please send a copy of the FEIR to:

Mr. Conal McNamara, AICP
County of Los Angeles
Department of Public Works
Land Development Division
P.O. Box 1460
Alhambra, CA 91802-1460

If the FEIR is available electronically or on-line, please forward it or the link to Mr. McNamara at cmcnamara@dpw.lacounty.gov.

**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

July 24, 2007

Via-E-Mail and Federal Express

Brad Boman
 Pasadena Water and Power
 150 South Los Robles Avenue
 Pasadena, California 91101

Dear Mr. Boman:

Draft Environmental Impact Report for the
Pasadena Groundwater Storage Program (SCH No. 2006121001)

The Metropolitan Water District of Southern California (Metropolitan) has received a copy of the Draft Environmental Impact Report (Draft EIR) for the Pasadena Groundwater Storage Program (Project). This letter contains Metropolitan's response to the Draft EIR as a potentially affected responsible public agency.

SPECIFIC COMMENTS

1. S. Summary, S.1, Page S-1

4-1

Please add the following to the end of third paragraph S.2: "The Metropolitan Water District of Southern California (Metropolitan) and Foothill Municipal Water District (FMWD) will be responsible agencies and will utilize this EIR to comply with CEQA for their actions for the proposed project. Metropolitan is considering entering into a contractual agreement with PWP, FMWD and RBMB for storage in the Raymond Basin for use during dry years and emergencies. Under the agreement, MWD would fund capital facilities for the project to be constructed, owned and operated by Pasadena, FMWD, and RBMB or their assigns."

2. S.3.2 Hydrology and Water Quality, Page S-6,

This section appears to be inconsistent with Section 3.8. Please modify this section to reflect the following findings of significance in the text.

4-2

- "As shown in Table 3.8-2, sulfate mass in the basin is expected to increase slightly under both scenarios." (Page 3.8-15, Last Paragraph)
- Data show decreases in TDS loading in the basin (Page 3.8-15, Table 3.8-2). The Draft EIR makes reference to potential missing data but it is unclear that these data would result in an increase in the average TDS of the basin.
- "...significant DBP formation is not expected to occur due to lack of organic matter in groundwater" (Page 3.8-16, 4th Paragraph)

Mr. Brad Boman

Page 2

July 24, 2007

- Differential movements of perchlorate plume are "...not expected to be significant as the differential plume movement predicted by the modeling is small..." (Page 3.8-17, First Paragraph).

4-3

Additionally, Metropolitan disagrees with the following statement "and due to the potential formation of DBPs in groundwater as a result of the residual chlorine in the injected water." on page S-6. This statement conflicts with Page 3.8-16, paragraph 2, which states "Chloramines generally do not react as readily with organic matter in the treated water supplies, dramatically reducing the potential formation of DBPs", and paragraph 4 of the same page "based on current research and findings at similar ASR sites, significant DBP formation is not expected to occur due to the lack of organic matter in groundwater."

4-4

3. 1.4 CEQA Compliance and Lead, Responsible, and Trustee Agencies, Page 1-4

Metropolitan requests that the heading "Metropolitan Water District of Southern California" identify the discretionary authority Metropolitan has over this Project (i.e. funding, contractual agreement). Metropolitan will rely on this information to file a Notice of Determination as a Responsible Agency for this Project, pursuant to CEQA Guidelines, §15096(i).

4-5

4. Chapter 2 Project Description, 2.1 Introduction, Page 2-1, Last Paragraph

Please change the second sentence in this paragraph as follows: "...pursuant to a contractual agreement with Metropolitan."

4-6

5. 3.8 Hydrology and Water Quality, Page 3.8-15, Last Paragraph

The mass balance analysis should be modified to assume that the average TDS, sulfate and chloride concentrations of groundwater change annually throughout the model period. The mound of injected water, to a significant extent, would be pumped out by extraction wells in the vicinity of the injected water after the injection. For example, data from a study published by the City of Pasadena in 1995 (CH2MHill, 1995), which evaluated the impact of injection at the Garfield well suggest that between 59 and 91 percent of the injected water would be recoverable by the wells in the Sunset area and the salts added to the basin by the program would be extracted near the injection point. Therefore, it would not be reasonable to assume that the extracted water quality would remain unchanged throughout the life of the program. Rather, a more appropriate conservative assumption would be to assume that the injected water would mix in the Pasadena unit and changes in groundwater quality should be calculated annually.

Based upon the above suggestions, this table should be revised to include concentrations and should reflect changes over the 27-year model period, not simply annual changes. The suggested changes are summarized in Table 3.8-2 below.

Mr. Brad Boman

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July 24, 2007

Table 3.8-2: Summary of Mass Balance Calculations in Pasadena Subarea

Constituent	Units	Average Existing Conditions	Change over Model Period Model Scenario 1	Change over Model Period Model Scenario 3	Difference between Model Scenario 1 and 3
Water in Storage	AF	1,000,000	-33,610	-12,678	+20,932
	tons	445,000	-34,000	-12,000	+22,000
	mg/L	328	-15	-5	+10
Sulfate	tons	83,000	0	+7,000	+7,000
	mg/L	61	+2	+8	+6
Chloride	tons	42,000	+1,000	+5,000	+4,000
	mg/L	31	+2	+5	+3

Notes: Mass values are rounded to nearest 1,000 tons.

6. 3.8 Hydrology and Water Quality, Page 3.8-15, First Paragraph

4-7 This discussion should include a statement that projected concentrations would not a) impact beneficial uses in the basin or b) exceed a basin plan objective for the basin. In addition, as discussed above, increases in average concentration are not expected to increase substantially.

7. 3.8 Hydrology and Water Quality, Page 3-8.17, First paragraph

4-8 Metropolitan suggests modifying the last sentence of this paragraph as follows "...these impacts are not expected to be significant as the differential plume movement predicted by the modeling is small (around 1,200 feet over the 27-year model period)." In addition, this evaluation should indicate that no active or proposed production wells would be affected by the minor change in plume location.

8. 3.8 Hydrology and Water Quality, Page 3-8.17, Second Paragraph

4-9 Metropolitan disagrees with the Draft EIR conclusion that the Project's relatively minor increases in sulfate, chloride, and chlorine loading to the basin constitute a significant water quality impact because "any increase in these constituents violates the state antidegradation policy." This is an overly strict interpretation of the state antidegradation policy that wrongly assumes the addition of just one molecule of any constituent is a violation.

The state "antidegradation policy" (State Water Resources Control Board's [SWRCB] Statement of Policy with Respect to Maintaining High Quality of Waters in California (Resolution No. 68-16.)) states:

"Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to

Mr. Brad Boman

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July 24, 2007

the people of the State, will not unreasonably affect present and anticipated beneficial uses of such water and will not result in water quality less than that prescribed in the policies.”

Thus, by its own terms, the antidegradation policy is triggered by a lowering of water quality as opposed to any increase in the level of any constituent. This interpretation is supported by SWRCB guidance.

4-9 Administrative Procedures Update No. 90-004 (SWRCB, Administrative Procedures Update No. 90-004 (July 2, 1990)), provides guidance on when an antidegradation analysis is required and how to conduct the analysis. According to this guidance document, no antidegradation analysis is required if the regional board “has no reason to believe that existing water quality will be reduced due to the proposed action.” A limited assessment is appropriate for increases not deemed to be “significant.” A regional board may use “its best professional judgment and all available pertinent information,” to determine that “the discharge will not be adverse to the intent and purpose of the State and federal antidegradation policies.” An example of a situation in which a regional board “determines the proposed action will produce *minor effects* which will not result in a *significant reduction* of water quality” is where “a POTW has a minor increase in the volume of discharge subject to secondary treatment.” Finally, a complete antidegradation analysis is required when the proposed activity results in “a *significant* increase in pollutant loadings,” such as “a *substantial increase* in mass emissions of a pollutant.” (Emphasis added.)

Thus, the antidegradation policy applies when the proposed action will result in significantly lowered water quality and/or when the proposed action involves a “significant” or “substantial” increase in pollutant loadings. The minor contributions from the project in increases in sulfate, chloride, and chlorine do not represent a “significant” or “substantial” increase in pollutant loading and would not significantly lower water quality. Thus, the project does not violate the state antidegradation policy.

In addition, the CEQA Guidelines, Appendix G, provides that water quality impacts would not be potentially significant unless the project would “violate any water quality standards or waste discharge requirements” or “otherwise substantially degrade water quality.” Because the project would not violate any water quality standard or basin plan objective, would not violate the state antidegradation policy, and would not substantially degrade water quality, its effects on basin water quality are not significant.

This interpretation of the state antidegradation policy and conclusion of no significant water quality impacts is consistent with the City’s past analyses for the introduction of Weymouth treated water into the basin. In 1995, for example, the City’s ASR Feasibility Study concluded:

“Although a slight degradation in groundwater quality occurs relative to TDS and sulfate from injecting Weymouth recharge water relative to RWQCB Basin Plan Objectives and

Mr. Brad Boman

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July 24, 2007

**4-9
cont'd**

secondary MCLs, the State Antidegradation Policy restricting degradation of surface or groundwater is not considered to be compromised. Consistent with the Antidegradation policy, this slight degradation in water quality is considered to be acceptable because [] there is a maximum benefit to the people through increased groundwater elevations and water supply. . . .”

Based on language of the state antidegradation policy, the official guidance interpreting that policy, the CEQA Guidelines, and the City’s own previous analysis, Metropolitan believes the water quality effects of project are consistent with the state antidegradation policy and, accordingly, should be deemed less-than-significant.

4-10

9. 3.8 Hydrology and Water Quality, Page 3-8.18, First paragraph

The mitigation measures discussion should include maximizing in-lieu, timing of injection during periods when sulfate and chloride are lower, and monitoring of downgradient migration of plume to reduce impact to downgradient producers.

4-11

10. 3.8 Hydrology and Water Quality, Page 3-8.18, Second paragraph

The discussion inappropriately concludes that a slight and non-substantial change in water quality throughout the basin is significant and unavoidable. As discussed in Comment 6, Metropolitan strongly disagrees with this conclusion. Given that the analysis suggests that there would not be an impact to beneficial uses, average concentrations would not exceed basin plan objectives and there would be a net benefit to water supply and groundwater levels, the significance findings should be changed to “less than significant.”

GENERAL COMMENTS

Metropolitan owns and operates facilities within the Project area boundaries. The following is a list of specific proposed Project areas identified in the Draft EIR that either traverse or are adjacent to Metropolitan’s facilities:

4-12

- McDonald Park ASR Well – Metropolitan’s Upper Feeder (10-foot-inside-diameter tunnel) is located under Mountain Street, and adjacent to Project site.
- Victory Park ASR Well – Metropolitan’s Upper Feeder (9-foot-8-inch-inside diameter pipe) and accompanying has a 40-foot-wide permanent easement traverse the park site, and are north of the Project site. Also, Metropolitan’s San Marino Lateral (16-inch-inside-diameter pipeline) is located in N. Altadena Drive, west of the Project site.

Mr. Brad Boman

Page 6

July 24, 2007

- Eastside Well Collector Pipelines:
 - ❖ A 24" pipeline will cross Metropolitan's San Marino Lateral (16-inch-inside-diameter pipeline) in N. Altadena Drive at White Street/Sierra Madre Boulevard.
 - ❖ A 30" pipeline in Sierra Madre Boulevard will be located in the vicinity of the Metropolitan's Upper Feeder (9-foot-8-inch-inside diameter pipe).
- Jones Reservoir Disinfection Facilities – Metropolitan's Upper Feeder (9-foot-8-inch-inside-diameter pipeline), Service Connection P-04 facilities, and 30- and 40-foot-wide permanent easements are located on the north side of the reservoir park site, north of the proposed Project improvements.

4-12
con'd

Metropolitan is concerned with potential impacts to these facilities associated with future excavation, construction, utilities or any development that may result from implementation of the proposed Project. Development associated with the proposed Project must not restrict any of Metropolitan's day-to-day operations and/or access to its facilities. Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to our facilities and properties at all times in order to repair and maintain our system.

Metropolitan requests that the City consider Metropolitan's facilities and property in the Draft EIR, and avoid potential impacts that may occur due to implementation of the proposed Project.

In order to avoid potential conflicts with Metropolitan's rights-of-way, we require that any design plans for any activity in the area of Metropolitan's pipelines or facilities be submitted for our review and written approval. Approval of the Project where it could impact Metropolitan's property should be contingent on Metropolitan's approval of design plans for the Project. Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564. To assist in preparing plans that are compatible with Metropolitan's facilities, easements, and properties, we have enclosed a copy of the "Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California." Please note that all submitted designs or plans must clearly identify Metropolitan's facilities and rights-of-way.

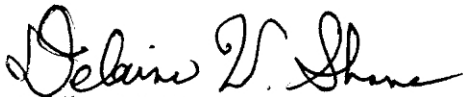
Mr. Brad Boman

Page 7

July 24, 2007

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental documentation on this project. If we can be of further assistance, please contact Ms. Kathy Kunysz at (213) 217-6272.

Very truly yours,

A handwritten signature in black ink, appearing to read "Delaine W. Shane". The signature is fluid and cursive, with the first name "Delaine" being more prominent.

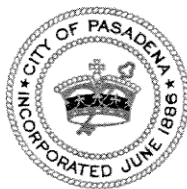
Delaine W. Shane

Interim Manager, Environmental Planning Team

LIM/lim

(Public Folders/EPU/Letters/20-JUN-07Adoc -- Brad Boman)

Enclosure: Planning Guidelines



PASADENA WATER AND POWER

MEMORANDUM

July 9, 2007

To: RMC Water and Environment

From: Brad Boman *BRB*

Re: **Pasadena Groundwater Storage Program Public Draft EIR**

5-1

On July 9, 2007 Julianna Delgado, President of the Bungalow Heaven Neighborhood Association (BHNA), called Pasadena Water and Power (PWP) to comment on the proposed infrastructure at McDonald Park. She wished to inform PWP that the BHNA is concerned that the proposed driveway from Mountain Street to the proposed well building in McDonald Park will be accessible to the public for parking vehicles as the park does not have a lot of parking spaces available. She would prefer if the driveway would not look like a parking area, or at a minimum if bollards (as an example) could be placed to discourage parking on the driveway.

5-2

BHNA is also concerned about the driveway aesthetically with the amount of concrete to be used and the reduction of green land space at the park.

5-3

Also, Ms. Delgado commented that Mountain Street is a very busy road and wondered whether the driveway could be built around the north side of the existing booster station from Wilson Avenue to the well building.



ARNOLD SCHWARZENEGGER
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



CYNTHIA BRYANT
DIRECTOR

July 27, 2007

Brad Boman
Pasadena Water and Power
150 South Los Robles Avenue
Pasadena, CA 91101

Subject: Pasadena Groundwater Storage Program
SCH#: 2006121001

Dear Brad Boman:

6-1

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on July 26, 2007, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Letter 7

July 30, 2007

EMAILED AND MAILED

Mr. Brad Boman
Pasadena Water and Power
150 South Los Robles Avenue
Pasadena CA 91109

RE: Comments on Draft Environmental Impact Report for the Pasadena Groundwater Storage Program – Opposition to ASR Well Site Plan for McDonald Park (Figure 2-8)

Dear Mr. Boman,

At its meeting of July 6, 2007, the Board of Directors of the Bungalow Heaven Neighborhood Association (BHNA) reviewed the Draft EIR for the Pasadena Groundwater Storage Program and is providing you with its comments regarding improvements proposed for McDonald Park and potential impacts to park users and the surrounding residents.

7-1

The BHNA supports and understands the importance of the Groundwater Storage Program in securing a source of reliable, safe and cost effective water for Pasadena's future. However, the Board opposes the proposed ASR Well Site Plan, as shown in Figure 2-8 of the Draft EIR.

Furthermore, the Plan is inadequate as no sections showing disturbances to the existing elevations or landscaping plans are provided. As shown, a fifteen foot (15'), straight, concrete access road is proposed to be constructed on the site perpendicular to Mountain Avenue, leading from Mountain Avenue and to a large, flat onsite concrete delivery area immediately south of the picnic and children's play areas, and immediately east of the proposed Well Building. No indication of protective landscaping or buffering is provided, which is especially needed to screen and soften the effect of masonry walls proposed to shield the new Piping Area.

7-2

Currently, there is no onsite parking at McDonald Park. It was originally designed to neighborhood-serving in an era that encouraged and supported walking. The Plan as shown could result in an attractive nuisance, encouraging onsite parking uses as well as increase the amount of reflective, hard surface in a very well-used area of the park. Also, the southwest corner of McDonald Park is its most highly visible entranceway, especially for drivers entering our neighborhood eastbound along Mountain Avenue. As shown, the new driveway does not respect the existing terrain or pathways. The Plan would reduce the aesthetic enjoyment of that area and may increase potential pedestrian, automobile, and truck conflicts near the intersection of Wilson Avenue and Mountain Avenue.

7-3

The Board is proposing the following preferred alternatives in descending order:

- 1.) Truck deliveries along Wilson Avenue only; no onsite vehicle deliveries or use.

Currently, access and deliveries to the Booster Station are made from the front of the Station on Wilson Avenue, with truck parking along Wilson Avenue, the western boundary of the park. The BHNA preferred alternative would be for trucks or other vehicles used in association with the Groundwater Storage Program to park along Wilson as well. A hand truck or other device could be used to provide any deliveries to the Well Building. If need be, a narrow footpath from Wilson to the delivery area could be added on the north side of the Booster Station and proposed Well Building. This alternative would be the least disruptive and provide minimal aesthetic disturbance.

2.) Onsite truck deliveries from Wilson Avenue only; narrow driveway on the north side of the Booster Station and Well Building; no delivery area pad

The second preferred alternative would be construction of a narrow driveway (not to exceed 10 feet), using “green” permeable paving materials, along the north side of the Wilson Booster Station to the end of the proposed Well Building (so as minimized impacts to the picnic structure and area). Onsite access would be via a curb cut on Wilson Avenue that would contain removable bollards or fencing to discourage unauthorized use. PWP vehicles could then pull onto the site and back out onto Wilson, which is a low-volume, residential-serving street.

3.) “Green” Reworking of Proposed ASR Plan

The third, but least preferred alternative would be a reworking of the Proposed Plan, in a “greener,” more environmentally-friendly manner. The existing concrete pathway could be slightly reconfigured and widened to support PWP vehicle access, with street access via a short extension leading to a curb cut on Mountain Avenue. Bollards or fencing would prevent unauthorized ingress/egress from Mountain Avenue and onsite vehicle use. Should a delivery area be required, it could be designed using “green” paving materials that accommodate vehicles but also provide a permeable surface. Additional landscaping would be needed to screen the delivery area, separate onsite PWP vehicle use from the picnic and play areas, and create an attractive improvement to the park.

The BHNA Board would be most interested and willing to work with PWP on any further landscaping plans for McDonald Park in conjunction with the Program, and requests that any further plans be submitted to the Board for review and comment.

In addition to the above comments regarding the proposed Well Site Plan as shown in Figure 2-8, the BHNA has also expressed concern about protection of park users and neighboring residents from exposure to environmental toxins, especially PM10, during the year-long construction process. Surrounding residents and park users should be informed of any potential risks.

Thank you for the opportunity to comment.

Sincerely,

Julianna Delgado
President, Bungalow Heaven Neighborhood Association

**Appendix I - Mitigation Monitoring and Reporting
Program**

Pasadena Groundwater Storage Program

Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) for the Pasadena Groundwater Storage Program (PGSP) located at various locations in the City of Pasadena and City of La Cañada Flintridge, has been prepared pursuant to the California Environmental Quality Act (CEQA – Public Resources Code, Section 21000 et seq.), the CEQA Guidelines (Cal. Code Regs., Title 14, Chapter 3, Sections 15074 and 15097) and the City of Pasadena CEQA Guidelines. The mitigation measures included herein are considered conditions of approval of the project. A master copy of this MMRP shall be kept in the office of the Zoning Administrator and shall be available for viewing upon request. A copy also will be available at the office of the Condition/Mitigation Monitoring Coordinator.

The PGSP is a conjunctive use program to be implemented by Metropolitan Water District of Southern California (MWD), Pasadena Water and Power (PWP), and Foothill Municipal Water District (FMWD) to improve water supply reliability for the City of Pasadena and surrounding water agencies, and reduce dependence on imported MWD water deliveries during periods of drought or emergency conditions. The PGSP would store up to 66,000 AF of water in the Raymond Basin over a four-year period at a maximum rate of 16,500 AFY when imported water supply is plentiful. The water could then be extracted at a maximum rate of 22,000 AFY when imported water supplies are limited. Water would be stored in the Basin by direct injection of imported water using aquifer storage and recovery wells (ASR wells), surface spreading of imported water using existing spreading grounds, and through in-lieu recharge (reduced groundwater pumping).

A critical component of the PGSP would be construction of PWP and FMWD capital improvements to increase groundwater extraction and injection capacity. Capital improvements to be constructed under the program consist of four major components: (1) three PWP ASR wells, (2) an FMWD groundwater nitrate treatment facility, (3) new or upgraded interconnections between the PWP and FMWD water distribution systems, and (4) a collector pipeline and centralized disinfection facilities for seven existing PWP wells.

This MMRP includes mitigation measures in the Mitigation Monitoring and Reporting Matrix on the following pages that correspond to the final Environmental Impact Report (EIR) for the project. The matrix lists each mitigation measure or series of mitigation measures by environmental topic. For each mitigation measure, the frequency of monitoring and the responsible monitoring entity is identified. Mitigation measures may be shown in submittals and may be checked only once, or they may require monitoring periodically during or after construction. Once a mitigation measure is complete, the responsible monitoring entity shall date and initial the corresponding cell, and indicate how effective the mitigation measure was.

If any mitigation measures are not being implemented, the City may pursue corrective action. Penalties that may be applied include, but are not limited to, the following: (1) a written notification and request for compliance; (2) withholding of permits; (3) administrative fines; (4) a stop-work order; (5) forfeiture of security bonds or other guarantees; (6) revocation of permits or other entitlements.

Mitigation Monitoring and Reporting Program Matrix Pasadena Groundwater Storage Program

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<u>Impact 1 – Aesthetics</u>					
Mitigation Measure AES-1-1: Maintain and Restore Visual Character. Landscaping, vegetation, and a wall or fencing appropriate to the existing visual character of the site will be used to screen the well piping and facilities from public view. The proposed well facilities building at McDonald Park will be designed to the same quality and similar but distinct architectural style of the Wilson Booster Station and the above-ground piping associated with the well will be shielded from view by a concrete or masonry wall with stucco exterior. The service road will be kept to the minimum necessary width and length, and will be maintained for aesthetic quality.	<ul style="list-style-type: none"> McDonald ASR Well 	Architectural and landscaping features to be incorporated during design. Installation of required elements to be completed during construction and verified following completion of construction.	PWP		
Mitigation Measure AES-1-2: Design review. The design of proposed improvements within existing parks will be reviewed by the City's Park and Recreation Commission and the Pasadena Design Commission. The Urban Forestry Advisory Committee, staffed by the City of Pasadena Public Works Department will review all requests to remove public trees.	<ul style="list-style-type: none"> McDonald ASR Well Victory ASR Well 	Review to occur prior to completion of final design documents.	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
Mitigation Measure AES-1-3: Tree Planting. Trees shall be planted along the fence line between the FMWD Nitrate Facility site and the adjacent residence to shield views of the facility.	<ul style="list-style-type: none"> FMWD Nitrate Treatment 	Requirements to be included in final design documents and implemented during construction.	FMWD		
Mitigation Measure AES-3: Glare resistant siding and roofing materials. Glare resistant siding and roofing shall be used on all buildings. If metal siding or roofing is used, a protective coating will be used to mitigate any glare impacts.	<ul style="list-style-type: none"> FMWD Nitrate Treatment 	Architectural features to be incorporated during design. Installation of required elements to be verified at end of construction.	FMWD		
<u>Impact 2 – Air Quality</u>					
Mitigation Measure AQ-1-1: Equipment Operation and Maintenance. During all phases of construction, contractors will maintain and operate construction equipment in accordance with manufacturer's specifications to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues will turn their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks and discontinued during Stage II Smog Alerts or higher.	<ul style="list-style-type: none"> McDonald ASR Well Victory ASR Well Craig ASR Well Eastside Well Collector PWP-FMWD Interconnect FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure AQ-1-2: Minimize Use of Generators.</p> <p>During construction, contractors will use electricity from power poles rather than temporary diesel- or gasoline-powered generators except where power is not available and construction of power poles is not possible.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		
<p>Mitigation Measure AQ-1-3: Use of Alternative Fuels.</p> <p>During construction, contractors will use alternative clean fuels, such as compressed natural gas-powered equipment instead of diesel-powered engines. The use of diesel-powered equipment will be minimized by using gasoline-powered equipment to reduce NO_x emissions. If diesel equipment is used, particulate filters and low sulfur diesel fuel will be used to the extent feasible (less than 15 ppm sulfur content). The contractor shall provide a plan, for approval by the lead agency and SCAQMD, demonstrating that heavy-duty (>50 horsepower) off-road vehicles, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20% NO_x reduction compared to most recent CARB fleet average at the time of construction.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
Mitigation Measure AQ-1-4: Use of Low Pressure Paint Spray Systems. During construction, high volume/low pressure paint spray systems will be used by the contractor to minimize overspray to comply with SCAQMD Rule 1113.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		
Mitigation Measure AQ-1-5: Use of Low VOC Paint. During construction, low VOC paint, architectural coatings and asphalt will be used by the contractor to comply with SCAQMD Rule 1113.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure AQ-2-1: Implement a Dust Control Plan.</p> <p>During all phases of construction, contractors will implement a fugitive dust control program pursuant to the provisions of SCAQMD Rule 403.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD and SCAQMD		
<p>Mitigation Measure AQ-2-2: Watering or other stabilization method for excavated soil.</p> <p>During all phases of construction, contractors will water excavated soil piles hourly or cover piles with temporary coverings. Additional unpaved construction areas will be watered twice daily.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure AQ-2-3: High wind event.</p> <p>In the event wind exceeds 25 miles per hour, construction activities that generate dust will cease.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		
<p>Mitigation Measure AQ-2-4: Additional dust suppression prior to extended leave.</p> <p>On the last day of active operations prior to a weekend or holiday, contractors will apply water or a chemical stabilizer to maintain a stabilized surface. If chemical stabilizers are employed, only non-toxic soils stabilizers will be used and will be applied according to manufacturer's specifications.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure AQ-2-5: Reduce off-road speed.</p> <p>During construction, contractors will post signs and monitor speed on unpaved roads to assure traveling speeds of no more than 15 miles per hour.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		
<p>Mitigation Measure AQ-2-6: Off-site fugitive dust prevention.</p> <p>During construction, contractors will ensure that truckloads of dirt hauled off-site will have two feet of freeboard and will be covered in the truck bed to prevent fugitive dust emissions en-route to disposals site.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure AQ-2-7: Construction site maintenance.</p> <p>During construction, contractors will wash or brush off construction equipment prior to leaving the construction site. The contractor will sweep or remove from the street visible soil material that is inadvertently carried off the construction site.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		
<p>Mitigation Measure AQ-2-8: Construction notification to schools.</p> <p>Prior to construction activity on the project site, notification to schools within one quarter-mile of construction activities will be made. This will enable coordination with the schools on outdoor student activities to prevent undue exposure of students to active demolition and site grading activities.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Notification to be made prior to construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
Impact 3 – Biology					
<p>Mitigation Measure BIO-5: Avoidance during nesting season or pre-construction surveys.</p> <p>Mitigation for the potential taking of nesting birds protected by the MBTA will be accomplished in one of two ways. First, efforts will be made to schedule tree or vegetation removal/trimming activities outside the nesting season to avoid potential impacts to nesting birds. The nesting season is typically February 15–August 31. This would insure that no active nests would be disturbed and that tree and vegetation removal/trimming could proceed rapidly.</p> <p>If tree or vegetation removal occurs during the nesting season, trees or vegetation to be removed will be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If active nests are detected, a buffer of appropriate width, as determined by the monitoring biologist (between 100 and 300 feet) will be delineated, flagged, and avoided until the nesting cycle is complete or the biological monitor determines clearing can occur.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	<p>Required timing for tree removal to be included in specifications.</p> <p>If timing of removal is not feasible, surveys are to be completed and buffer areas established before construction.</p>	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure BIO-6: Tree Protection Plan.</p> <p>A Tree Protection Plan will be completed by a certified arborist and submitted to the City of Pasadena for approval by the Pasadena City Manager for trees that may be removed, pruned, trimmed, or otherwise impacted by the proposed project within the City. The tree protection plan will include written recommendations for the health and long-term welfare of the trees during the pre-construction, demolition, construction, and post-construction development phases. Notes on the construction plans will include specifics on avoiding injury, damage treatment, and inspections of protected trees.</p> <p>The following guidelines will be included in the Tree Protection Plan (as appropriate) to minimize damage to the root system of protected trees. These guidelines establish a "Root Protection Zone" to safeguard the health of protected trees.</p> <ul style="list-style-type: none"> • Protective chain-link fencing with an access gate of minimal width will be installed at the Root Protection Zone of protected trees and approved in place by staff prior to the commencement of construction, or demolition. • The protection zone will be irrigated sufficiently with clean potable water to keep the tree in good health and vigor before, during, and after construction. This may mean deeply soaking the ground periodically. 	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect 	<p>Plans and specifications to include tree protection requirements. Prior to construction, Tree Protection Plan to be submitted for review and approval.</p> <p>Implementation of plan to be confirmed during construction.</p>	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<ul style="list-style-type: none"> No construction staging or disposal of construction materials or by-products including, but not limited to paint, plaster, or chemical solutions is allowed in the Root Protection Zone. The Root Protection Zone will not be subjected to flooding incidental to the construction work. Work conducted in the ground within the Root Protection Zone of a protected tree will be accomplished with hand tools, unless an air spade is utilized. Trenches in the Root Protection Zone will be tunneled, or completed with an air spade to avoid damage to small feeder roots within the Root Protection Zone. Where structural footings are required and major roots (over 3 inches in diameter) will be impacted, the engineer of record will submit acceptable footing design alternatives and or location alternatives to staff before proceeding with further plan review. Where more than 50 percent of the root zone is impacted or roots greater than three inches in diameter are to be removed within four feet of the trunk, the engineer of record will submit acceptable design alternatives to staff for review. Trenching will be routed in such a manner as to minimize root damage. Radial trenching (radial to the tree 					

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>trunk) is preferred as it is less harmful than tangential trenching. Construction activity will be diverted from the Root Protection Zone. Cutting of roots will be avoided (i.e., place pipes and cables below uncut roots). Wherever possible and in accordance with applicable code requirements, the same trench will be used for multiple utilities.</p> <ul style="list-style-type: none"> • “Natural” or pre-construction grade will be maintained in the Root Protection Zone. At no time during or after construction should soil be in contact with the trunk of the tree above the basal flair. • In areas where the grade around the protected tree will be lowered, some root cutting may be unavoidable. Cuts will be clean and made at right angles to the roots. When practical, cut roots back to a branching lateral root. • When removing existing pavement in the Root Protection Zone, avoid the use of heavy equipment which will compact and damage the root system. • If staff requires mulch in the Root Protection Zone, the mulch materials and location will be shown on the plan. Larger projects will require construction staging plans to indicate where materials will be stored and how the equipment will move in and around the property to minimize damage to the Root Protection Zone and tree canopies. Root damage and soil 					

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>compaction may be mitigated in some cases by using plywood or mulch in the Root Protection Zone.</p> <p>Additional guidelines in the Tree Protection Ordinance will also be adhered to as it applies to pruning and inspections.</p>					
<p>Mitigation Measure BIO-7: Mitigate impacts to trees regulated by the City of La Cañada Flintridge.</p> <p>Removal of native oak, sycamore, deodar cedar, Chinese elm, or California pepper trees meeting size criteria stated in the ordinance will require a permit for removal in accordance with the City of La Cañada Flintridge tree ordinance. A Tree Plan that provides the location, size, species, and reason for removal of protected tree species will be prepared and submitted to the city.</p> <p>Removal of a protected tree that is 36 inches or greater in diameter will be considered mature or scenic and will be subject to the CEQA environmental review process.</p> <p>Tree protection measures during construction will be followed in accordance with Section 4.26.040, Tree Protection Guidelines, of the City municipal code and will include establishment of a tree protection zone, protective barriers (as appropriate), root system protection measures, and pruning measures.</p>	<ul style="list-style-type: none"> FMWD Nitrate Treatment 	<p>Plans and specifications to include tree protection requirements. Prior to construction, Tree Protection Plan to be submitted for review and approval.</p> <p>Implementation of plan to be confirmed during construction.</p>	FMWD/ City of La Cañada Flintridge		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
Impact 4 – Cultural Resources					
<p>Mitigation Measure CR-1-1: Design review by a qualified architectural historian.</p> <p>In order for the proposed improvements to meet the Secretary of Interior's Standards, modifications would be compatible with the existing structure and neighborhood setting, yet be differentiated to the extent that the original design of the station is still discernable. Compatible yet differentiated treatments may include tinting the new stucco walls that screen the piping modifications a slightly different color from the original building; using barrel tile of a different dimension on any additions; offsetting the rear addition from the corner of the existing structure to retain the side profile and corner; and using doors and windows that are differentiated yet compatible with the original design.</p> <p>The City shall not issue a permit to alter the Wilson Booster Station unless the proposed alterations meet the Secretary of the Interior's Standards. Substantial changes to the Wilson Booster Station will require review by the Historic Preservation Commission and Design Commission.</p>	<ul style="list-style-type: none"> McDonald ASR Well 	<p>Prior to the issuance of a permit to alter the Wilson Booster Station, the design for the rear addition to the Wilson Booster Station will be reviewed by a qualified architectural historian, or historic architect for conformance to the Secretary of the Interior's Standards for Rehabilitation.</p>	<p>PWP/Historic Preservation Commission and Design Commission.</p>		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure CR-1-2: Photographic documentation and recording.</p> <p>Prior to the issuance of a demolition permit for the Craig well site, a photographic documentation report should be prepared by a qualified architectural historian, architect experienced in historic preservation, or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61. This report should document the building and its physical conditions, both historic and current, through photographs. Photographic documentation noting all elevations and additional details of architectural features shall be taken utilizing 35-mm black and white film. The photographer shall be familiar with the recordation of historic resources. Photographs shall be prepared in a format similar to the Historic American Buildings Survey (HABS) standard for field photography. Copies of the report shall be submitted to the City's Planning and Development Department, the Pasadena Public Library (Central Branch), and the Pasadena Historical Museum.</p>	<ul style="list-style-type: none"> ▪ Craig ASR Well 	Prior to permit issuance and demolition.	PWP		
<p>Mitigation Measure CR-1-3: Evaluation of accidental discoveries.</p> <p>Any accidental discovery of cultural resources during construction would be evaluated by a qualified archaeologist. If the find is determined to be potentially significant, the</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
archaeologist, in consultation with Pasadena, and appropriate Native American groups, and if the resource is prehistoric in nature, would develop a treatment plan. All work proximal to the unanticipated discovery (within 25 feet) shall cease until the qualified archaeologist has evaluated the discovery, or the treatment plan has been implemented.	<ul style="list-style-type: none"> Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 				
<p>Mitigation Measure CR-1-4: Evaluation of paleontological finds.</p> <p>If buried paleontological resources are accidentally discovered and identified during construction, a qualified paleontologist would be contracted by the City to recover them. This process should be completed in a short period of time; however, if the fossil specimen requires extended salvage, the paleontologist shall be allowed to temporarily divert or redirect excavation activities in the immediate vicinity in order to examine the find and determine an appropriate treatment.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	Requirements to be included in specifications and implemented during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
Impact 5 – Geology and Soils					
<p>Mitigation Measure GEO-2: Limit hazards related to landslide potential at Alternative 1b site.</p> <p>The use of excess amounts of water along with any other slope-weakening mechanisms will be limited on the hill-slope during construction to minimize the potential for slope-failure should seismically-induced ground-shaking occur during construction.</p>	<ul style="list-style-type: none"> ▪ PWP-FMWD Interconnect (Alternative 1b only) 	<p>Limitations on water use to be included in specifications at the time of design and monitored during construction.</p>	PWP		
<p>Mitigation Measure GEO-3: Facilities inspections after large seismic events.</p> <p>Due to the potential effects of land movement on the wells, which are particularly vulnerable to seismic activity due to their rigid construction and inflexible seals, wellhead facilities will be inspected prior to start-up following a seismic event. Particular attention will be paid to the integrity of sanitary seals at the wellhead and operation of pumps (increased sand or sediment production can indicate a problem with the screen or casing). Well facility buildings, nitrate treatment facilities and pipeline vaults will also be visually inspected after a significant seismic event.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	<p>Prior to start-up following large seismic events.</p>	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure GEO-4: Conduct a Geotechnical Investigation for pipeline construction areas within mapped Seismic Hazard Zones.</p> <p>Given the potential for liquefiable soils and seismically-induced landslides, a geotechnical investigation will be conducted to the satisfaction to the City of Pasadena Building & Safety Department. The investigation will include both a regional and site-specific investigation. The types of information to be reviewed include, but are not limited to, topographic maps, geologic and soil engineering maps and reports, aerial photographs, water well logs, agricultural soil survey reports, and other published and unpublished references. A field reconnaissance of the area will also be conducted as part of the investigation to verify the information gathered, observe the surface features and details, and fill in data gaps.</p>	<ul style="list-style-type: none"> Eastside Well Collector PWP-FMWD Interconnect (Alternatives 1b and 2 only) 	Investigation to be completed during design and used to prepare design details. Data obtained will be made available to the contractor as technical data for determining appropriate construction methods.	PWP		
<u>Impact 6 – Hazards and Hazardous Materials</u>					
<p>Mitigation Measure HAZ-1-1: Conduct Phase I Study along pipeline segments.</p> <p>Before beginning construction PWP will complete Phase I hazardous waste/hazardous materials studies for soil and groundwater contamination in areas where Eastside Well Collector and PWP-FMWD Interconnection project facilities would be constructed. The recommendations set forth in the Phase I assessment will be implemented to the satisfaction of applicable agencies before</p>	<ul style="list-style-type: none"> Eastside Well Collector PWP-FMWD Interconnect 	Studies to be completed prior to construction.	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
construction begins. If Phase I assessments indicate the potential for contamination within the construction zone of the pipelines, Phase II studies will be completed before construction begins. Phase II studies will include soil and groundwater sampling and analysis for anticipated contaminants. The Phase II sampling is intended to identify how to dispose of any potentially harmful material from excavations, and to determine if construction workers need specialized personal protective equipment while constructing the pipeline through that area. If soil or groundwater contaminated by potentially hazardous materials is exposed or encountered during construction that was not identified in the Phase I assessment, the appropriate hazardous materials agencies will be notified.					
<p>Mitigation Measure HAZ-3-1: Implement appropriate plans and programs.</p> <p>The owner/operator will comply with Federal, State, and local requirements for managing hazardous materials and wastes. Based on the type and quantity of hazardous materials and wastes likely to be handled and used, stored, and generated at the project sites, these requirements will likely include the preparation, implementation, and training in the following plans and programs.</p> <p>Hazardous Materials Business Plan. Facilities that use, store, or handle hazardous materials in quantities greater than 500 pounds, 55 gallons, or 200 cubic feet are required to prepare a Hazardous Materials</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ FMWD Nitrate Treatment 	Requirements to be met before start of operation of facilities requiring the handling and use of hazardous materials.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Business Plan. The plan will contain facility maps, up-to-date inventories of all hazardous materials for each area, and emergency response procedures, equipment, and employee training. Pasadena requires all businesses that handle any amount of hazardous materials to submit an inventory of the hazardous materials that they manage to the Pasadena Fire Department. As part of this Plan, the owner/operator will submit a list of hazardous materials used to the Fire Department, or update a previously submitted list to include ammonia.</p> <p>Cal ARP. Facilities that use significant quantities of acutely hazardous materials must prepare an Accidental Release Prevention Program if there is significant likelihood that this use may pose an accident risk. The program must describe acutely hazardous materials accidents that have occurred at the facility within the past three years and indicate equipment, procedures, and training to reduce the risk of such accidents.</p> <p>Risk Management Plan. In compliance with Cal ARP requirements, the owner/operator will prepare or update an existing Risk Management Plan for each site where threshold values for hazardous materials are exceeded.</p> <p>Injury and Illness Prevention Plan. The California General Industry Safety Order requires that all employers in California prepare and implement an Injury and Illness Prevention Plan, which contains a code of safe practice for each job category, methods</p>					

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>for informing workers of hazards, and procedures for correcting identified hazards.</p> <p>Emergency Action Plan. The California General Industry Safety Order requires that all employers in California prepare and implement an Emergency Action Plan. This plan designates employee responsibilities, evacuation procedures and routes, alarm systems, and training procedures.</p> <p>Fire Prevention Plan. The California General Industry Safety Order requires that all employers in California prepare and implement a Fire Prevention Plan. This plan specifies areas of potential hazard, persons responsible for maintenance of fire prevention equipment or systems, fire prevention procedures, and fire hazard training procedures.</p> <p>Hazard Communication Plan. Facilities involved in the use, storage, and handling of hazardous materials are required to prepare a Hazard Communication Plan. The purpose of this plan is to provide safe handling practices for hazardous materials, ensure proper labeling of hazardous materials containers, and ensure employee access to Material Safety Data Sheets.</p> <p>Spill Prevention, Control and Countermeasures Plan. Prior to construction activities, the owner/operator or its agent must develop and implement a Spill Prevention, Control and Countermeasures Plan (SPCCP) to minimize the potential for, and effects from, spills of hazardous, toxics or petroleum substances during construction</p>					

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
activities for its contractors. The plan and methods shall be in conformance with state and federal water quality regulations. The applicant will provide for routine inspection of construction areas to verify the measures specified in the SPCCP are properly implemented and maintained and further ensure that contractors are notified immediately if there is a noncompliance issue that would require compliance.					
<p>Mitigation Measure HAZ-3-2: Design disinfection facilities to reduce the risk of accidental release and exposure. The Uniform Fire Code allows storage and use of 150 pound chlorine gas cylinders and 1-ton containers of chlorine gas without the requirement of scrubbers or other on-site containment systems when an automatic, fail-safe shut off valve is employed in the facility at the tank valve, and a gas detection system is installed, and a portable containment system is available. At each of the new well sites and the Jones Reservoir chlorine facilities, a vacuum regulator and a gas detector will be installed in the chlorine room, connected to an alarm light, horn and the PWP SCADA system, which meets these requirements. The 1-ton chlorine cylinders at Jones Reservoir would also be completely enclosed in a containment system. An approved portable containment system capable of fully containing or terminating a release would be available for use at the well sites. Liquid sodium hypochlorite will also be used at the Nitrate Treatment Facility which must be stored in a cool, corrosion-resistant tank. In general, local</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ FMWD Nitrate Treatment 	<p>To be incorporated into disinfection system design by inclusion in plans and specifications during design.</p> <p>Adequate installation of facilities will be verified before the start of operation.</p>	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>fire departments will require secondary containment on storage tanks and double-walled piping associated with sodium hypochlorite.</p> <p>The Chlorine Manual published by the Chlorine Institute provides additional recommendations for the design of chlorine storage facilities, including the following that will be incorporated into the project:</p> <p>Chlorine rooms will be provided with an adequate ventilation system consisting of an exhaust fan and intake louvers. Ventilation in chlorine storage rooms will be capable of 60 air changes per hour. The exhaust fan will be energized by an automatic door switch and a manual switch outside of the door that simultaneously open an air intake damper. Ventilation air will be introduced at the ceiling and exhausted at floor level because chlorine is heavier than air.</p> <p>Chlorine rooms will be walled off from the rest of the building, with access only from the outside. A fixed glass viewing window will be included in an inside wall to check for leaks before entering the room.</p> <p>Ammonia Facilities. Ammonia storage tanks will be surrounded by a containment wall with a volume of at least 110% of the tank volume to provide secondary containment. Indoor ammonia facilities will be provided with an adequate ventilation system, which will be introduced at the floor and exhausted at ceiling level because ammonia vapor is lighter than air. Outdoor ammonia storage facilities will be protected from sunlight by a roof structure. Ammonia tanks will include vapor return piping to carry ammonia vapor displaced during the</p>					

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
off-loading operation back to the tank truck.					

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
Impact 7 – Hydrology and Water Quality					
<p>Mitigation Measure HWQ-1-1: Compliance with State Stormwater NPDES General Construction Permit.</p> <p>To reduce or eliminate construction-related water quality effects, before onset of any construction activities, the owner/operator or its contractor would obtain coverage under the State Stormwater NPDES General Construction Permit. The owner/operator would be responsible for ensuring that construction activities comply with the conditions in this permit, which would require development of a Storm Water Pollution Prevention Plan (SWPPP), implementation of Best Management Practices (BMPs) identified in the SWPPP, and monitoring to ensure that effects on water quality are minimized. As part of this process the owner/operator would implement erosion and sediment control BMPs in areas with potential to drain to surface water. These BMPs would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. BMPs to be implemented as part of this mitigation measure may include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Temporary erosion control measures (such as silt fences, straw wattles, silt/sedimentation basins or traps, temporary revegetation) employed to control erosion from disturbed areas. 	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect ▪ FMWD Nitrate Treatment 	<p>Contractor to prepare a SWPPP prior to construction.</p> <p>During construction PWP, FMWD or their agent would perform routine inspections of the construction areas to verify that the BMPs specified in the SWPPP are properly implemented and maintained. PWP or FMWD would notify its contractors immediately if there is a noncompliance issue that would require correction.</p>	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<ul style="list-style-type: none"> Protection of drainage facilities in downstream off-site areas from sediment using BMPs acceptable to the LARWQCB. Potential contaminants such as fuels managed in such a way as to prevent accidental or incidentally discharge to the environment. This may include, but is not limited to, the storage of potential contaminants in secondary containment structures, the use of proper concrete waste disposal and off-site fueling in controlled areas. 					
<p>Mitigation Measure HWQ-1-2: Implementation of Spill Prevention, Control and Countermeasures.</p> <p>Prior to construction activities, the owner/operator or its agent will develop and implement a Spill Prevention, Control and Countermeasures Plan (SPCCP) to minimize the potential for, and effects from, spills of hazardous, toxics or petroleum substances during construction activities for its contractors. The plan and methods shall be in conformance with State and Federal water quality regulations.</p> <p>The Federal reportable spill quantity for petroleum products, as defined in 40 CFR 110 is any oil spill that (1) violates applicable water quality standards, (2) causes a film or sheen upon or discoloration of the water surface or adjoining shoreline, or (3) causes a sludge or emulsion to be deposited beneath the surface</p>	<ul style="list-style-type: none"> McDonald ASR Well Victory ASR Well Craig ASR Well Eastside Well Collector PWP-FMWD Interconnect FMWD Nitrate Treatment 	<p>Plan to be developed and implemented prior to construction.</p> <p>During construction PWP or FMWD will provide for routine inspection of construction areas to verify the measures specified in the SPCCP are properly implemented and maintained and further ensure that contractors are notified immediately if there is a noncompliance issue that requires compliance.</p>	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>of the water or adjoining shoreline.</p> <p>If a spill is reportable, the contractor's superintendent shall notify the owner/operator who shall inform the applicable County agency and arrange for the appropriate safety and cleanup crews to ensure that the spill prevention plan is followed. A written description of reportable releases must be submitted to the RWQCB and the applicable County and/or City agencies. This submittal must include a description of the release, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases will be documented on a spill report form. If a spill occurs, the owner/operator will coordinate with the responsible agency(ies) to implement measure to control and abate contamination.</p>					
<p>Mitigation Measure HWQ-1-3: Use of Proper Well Installation Methodologies.</p> <p>Prior to and following well installation activities (including between boreholes), drilling and well development equipment and soil/water quality sampling equipment shall be thoroughly decontaminated. In situations where surface and/or shallow soil may be contaminated, conductor casing shall be used to prevent the downward migration of contaminants. Wells shall be completed with sanitary seals per local and county regulations to prevent the possibility of cross-contamination via the direct introduction of</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector (Jourdan Well Replacement) 	<p>Prior to and following well installation activities (including between boreholes).</p>	<p>PWP</p>		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
contaminants.					
<p>Mitigation Measure HWQ-2-1: Groundwater Monitoring Program.</p> <p>A Groundwater Monitoring Program shall be implemented by PWP and overseen by the Raymond Basin Management Board to monitor the impact of operations on groundwater levels and quality and to ensure that adjacent well owners are protected. PWP shall be responsible for developing a Groundwater Monitoring Program that details monitoring and groundwater sampling frequency, parameters to be monitored and/or analyzed, detailed monitoring and operational constraints; the Groundwater Monitoring Program must be approved by the Raymond Basin Management Board (RBMB).</p> <p>Development and implementation of the Groundwater Monitoring Program shall be the responsibility of PWP with oversight by the Raymond Basin Management Board. Prior to development of the plan, PWP (or its designate) shall conduct a basin-wide survey to identify existing wells that are suitable (based on construction criteria, location and accessibility) for use in a long-term monitoring program. Sites for three additional monitoring wells shall be identified as part of this exercise, and the monitoring wells installed to fill spatial gaps.</p> <p>Groundwater elevations and water quality shall be measured at all municipal production and injection wells and, initially, at all monitoring wells in accordance with DHS Title</p>	Program-Level	<p>Groundwater Monitoring Program to be developed and submitted to RBMB before start of ASR operations.</p> <p>Monitoring to be implemented throughout the life of the project.</p>	PWP and RBMB		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
22 of the California Code of Regulations (CCR) requirements (§66431-§64444 of Title 22). Wells shall be sampled on a monthly basis for the first year, and the sampling and analysis portion of the Groundwater Monitoring Plan shall be re-evaluated after the first year in conjunction with the Raymond Basin Management Board to better focus the monitoring program on the project's operations. Finally, all ongoing groundwater investigation and remediation projects in the basin shall be identified, and a program designed to coordinate communications between the project's operators and the investigation/remediation projects to the satisfaction of the Raymond Basin Management Board to avoid and/or mitigate any potential impairment to groundwater remediation resulting from additional plume movement that may be caused by the project's operation.					
Mitigation Measure HWQ-2-2: Groundwater Injection Operations Protocol. A protocol for the injection and extraction of stored groundwater shall be prepared and implemented by PWP in conjunction with the Raymond Basin Management Board to define operational parameters and conditions under which injection and/or extraction operations are to be modified and/or cease. This protocol will be implemented in order to minimize any potential impacts to the basin that may result in significant changes to either groundwater quality (i.e. increased	Program-Level	Protocol to be developed prior to start of operation and implemented throughout the life of the project.	PWP and RBMB		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
concentrations of constituents of concern) and/or groundwater levels (i.e. decreased groundwater levels resulting in adverse impacts such as land subsidence). Specific details of the protocol will be negotiated between PWP and the Raymond Basin Management Board (and, if necessary, other state regulatory agencies), but will include operating procedures to maximize the use of in-lieu groundwater recharge; criteria to promote the injection of import water during periods when TDS, sulfate and chloride concentrations are near, at or below ambient groundwater quality and such water is available for recharge; specific water quality parameters and groundwater levels that would require changes in operations; and specific actions that would take place. For example, one operational parameter may specify that import water may not be injected into the groundwater basin when TDS concentrations exceed an agreed-upon level.					
Impact 8 – Land Use and Recreation					
Mitigation Measure LU-1. Ensure safe access to properties: The City shall ensure safe access to all properties is maintained along the proposed pipeline alignments and construction sites during construction hours, and that temporary trench covers are utilized during other times until construction is completed.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD 	Requirement to maintain access to be included in specifications at the time of design and to be implemented during construction	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
	Interconnect				

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
Mitigation Measure LU-3-1: Limit construction at Victory Park. Due to high use of Victory Park, construction will be restricted to not impact more than 20 to 30 percent of the current parking lot. Unrestricted public use of the parking lot and public right of way will be provided during New Years Holiday activities.	<ul style="list-style-type: none"> ▪ Victory ASR Well 	Requirement to limit parking lot use to be included in specifications at the time of design and to be implemented during construction.	PWP		
Mitigation Measures LU-3-2: Post alternate route signs for closure of access road as part of Alternative 1b. To mitigate the impacts of the closure of the access road used by pedestrians, advance notices will be posted at either end of the access road alerting pedestrians to closure, duration, and noting alternate routes.	<ul style="list-style-type: none"> ▪ PWP-FMWD Interconnect (Alternative 1b only) 	Notices to be posted in advance of construction.	PWP		
Mitigation Measure LU-5: Construction of a maintenance building at Victory Park. A maintenance building will be constructed at the current maintenance site at Victory Park in order to ensure no net loss of maintenance space due to project implementation. This maintenance building will service Victory Park and McDonald Park. Impacts resulting from the construction and operation of the maintenance building are discussed throughout this EIR as part of the proposed project.	<ul style="list-style-type: none"> ▪ Victory ASR Well 	The maintenance building will be included in project plans during design, and will be completed along with other facilities at completion of construction.	PWP		
Mitigation Measure LU-8-1: Maintain and restore recreational quality of McDonald Park.	<ul style="list-style-type: none"> ▪ McDonald ASR Well 	These features will be included in project plans during design,	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>The picnic table removed for the construction of the service road will be replaced with two to three picnic tables in a location of similar recreational value near the adjacent play area and picnic area. The well building will be designed to the same quality and style of the Wilson Booster Station and the above surface piping associated with the well will be shielded from views by masonry walls. The service road will be kept to the minimum necessary width and length.</p> <p>The maintenance building proposed as mitigation measure LU-5 will support maintenance activity at McDonald Park.</p>		<p>and will be completed along with other facilities at completion of construction.</p> <p>New picnic tables will be installed before the start of other construction activities.</p>			
<p>Mitigation Measure LU-8-2: Construction of new feature at McDonald Park.</p> <p>A shade structure will be constructed over the playground and a 2-3 foot retaining wall or drainage improvements will be built adjacent to the basketball court.</p>	<ul style="list-style-type: none"> McDonald ASR Well 	<p>These facilities will be included in project plans during design, and will be completed before the start of other construction activities.</p>	PWP		
<u>Impact 9 – Noise</u>					
<p>Measure NOI-1-1: Noise Barrier Walls.</p> <p>The construction zone/area associated with the proposed ASR well sites will be contained within noise-barrier walls constructed of sufficient height and construction materials to provide a minimum of 12 dBA sound reduction. All operational construction equipment used in connection with the construction at ASR well sites (all three sites), which are listed in Table 3.10 1, will be</p>	<ul style="list-style-type: none"> McDonald ASR Well Victory ASR Well Craig ASR Well 	<p>Noise barriers will be included in project plans during design, and will be completed before the start of other construction activities.</p>	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
contained within the noise barrier walls. The engineering acoustical details of the noise barrier wall will be designed by a qualified acoustical engineer for review by the City of Pasadena.					
Mitigation Measure NOI-1-2: Equipment Noise Attenuation. Construction equipment associated with the construction of the proposed ASR wells will have standard manufacturer installed sound suppression devices such as engine mufflers and engine enclosures that are in good working condition.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well 	Equipment requirements will be included in project specifications during design, and use will be verified during construction	PWP		
Mitigation Measure NOI-1-3: Motel Accommodations. Where the construction of proposed ASR wells would extend to the nighttime hours and where the noise impact is determined as significant, the applicant will offer to provide motel accommodations to the residents within the noise impacted area for nights on which the construction will be in progress. The impacted noise area will be determined based on threshold of significance noise impacts as shown in Table 3.10 3 (noise levels over 64 dBA for the McDonald Park and Victory Park sites, and over 60 dBA for the Craig Well site) during the project design phase and will consider the project's proposed noise mitigations measures including noise barrier walls and acoustical enclosures for noisy equipment. Noise modeling will be conducted by a qualified consultant in advance of nighttime work. The applicant will offer motel	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well 	Noise modeling to determine affected area will be conducted before the start of construction. Motel accommodations will be offered to affected residents during construction.	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
accommodations for the duration of the 24-hour period construction processes to those residences that are located in the impacted area.					
Mitigation Measure NOI-1-4: Residential Notification. At least 24 hours before the start of pipeline construction the applicant will notify residents near the construction zone of where high noise levels will occur for approximately four days.	<ul style="list-style-type: none"> ▪ PWP-FMWD Interconnect ▪ Eastside Well Collector 	Notification to occur prior to construction.	PWP		
Mitigation Measure NOI-1-5: Limit Construction Hours and Days. Construction activities in connection with the Eastside Well Collector, PWP-FMWD Interconnection, and the construction of the proposed ASR well facilities will be limited to 7 a.m. to 7 p.m. Monday through Saturday. Well construction, however, would require nighttime operations, and would be subject to Measure NOI-1-3. No construction activities will take place during Sunday or recognized national holidays.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect 	Construction hours will be included in project specifications during design, and compliance will be verified during construction.	PWP		
Mitigation Measure NOI-2: Vibration Monitoring. The applicant will conduct vibration monitoring at the nearest residence adjacent to the Craig ASR well construction. Ground vibration level at the nearest residential structure to the construction site shall be monitored using vibration sensor (s) or velocity transducer with adequate sensitivity capable of measuring	<ul style="list-style-type: none"> ▪ Craig ASR Well 	Requirements to be included in specifications and implemented during construction	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
peak particle velocity level in the frequency range of 1 Hz to 100 Hz. If the vibration level due to construction activities exceeds the project's criteria of 0.20 inch/second, the applicant shall review the construction method and submit mitigation measures to the City for review. Potential mitigation measures include, but are not limited to, modifications/revisions of construction methods such as use of roller compactor in lieu of vibratory compactors.					
Mitigation Measure NOI-3: Design Craig ASR Well Facility to meet City's noise standards. A detailed analysis of the buildings' sound isolations will be conducted by a qualified acoustical consultant during the engineering design phase of the project for the Craig well site.	<ul style="list-style-type: none"> ▪ Craig ASR Well 	Analysis to be performed during design of the project. A post-construction field measurement shall be conducted by an acoustical consultant to verify the project operational noise standard of 55 dBA has been met.	PWP		
<u>Impact 10 – Public Services and Utilities</u>					
Mitigation Measure PS-1-1: Coordinate relocation and interruptions of service with utility providers during construction. The construction contractor will contact Underground Service Alert (800/642-2444) at least 48 hours before excavation begins to verify the nature and location of underground utilities. The contractor will notify and coordinate with public and private utility providers at least 48 hours before the commencement of work	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD 	Requirements to be included in specifications and implemented before the start of construction	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
adjacent to any utility, unless the excavation permit specifies otherwise. The service provider will be notified in advance of service interruptions and will be given sufficient time to notify customers. The timing of interruptions will be coordinated with the service providers to minimize the frequency and duration of interruptions.	Interconnect <ul style="list-style-type: none"> ▪ FMWD Nitrate Treatment 				
<p>Mitigation Measure PS-1-2: Protect existing utilities.</p> <p>The construction contractor will be responsible for protecting utility facilities. Exposed pipelines will be temporarily supported during construction, concrete cradles between existing and proposed pipelines will be installed when a minimum vertical clearance is not available, and a minimum separation distance of five feet from all existing utility lines will be maintained to the extent possible. Existing utility mapping obtained from the service providers will be utilized during final design in addition to potholing (temporarily exposing buried utilities to determine horizontal and/or vertical location) during design and construction. Service providers and Underground Service Alert will also be contacted to mark lines prior to excavation.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect FMWD Nitrate Treatment 	Requirements for utility protection will be included in project specifications during design, and compliance will be verified during construction.	PWP, FMWD		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
<p>Mitigation Measure PS-4: Consider storm drain capacity and obtain required permits prior to discharge of water from ASR wells.</p> <p>During heavy rainfall periods when storm drains are carrying high volumes of runoff, ASR wells would not be operated in the flushing mode. PWP will coordinate with City of Pasadena Department of Public Works during periods of heavy rainfall as necessary. PWP will also obtain any required permits from Los Angeles County Department of Public Works, and will address their requirements regarding quality of discharge water.</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well 	During project operation	PWP		
<u>Impact 11 – Traffic and Transportation</u>					
<p>Mitigation Measure TRA-1-1: Construction Staging and Traffic Management Plan.</p> <p>A construction Staging and Traffic Management Plan will be prepared for each construction site and submitted to the Pasadena Department of Public Works for review and approval prior to the start of construction work. This plan will include such elements as the location of lane closures, restrictions on hours or times of the year during which lane closures or other work would be allowed, the location of access to each off-street construction site, the designation of haul routes for construction-related trucks, requirements for protective devices and traffic controls (such as barricades, cones, flagmen, lights, warning beacons, warning signs, temporary turn</p>	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect 	Plan to be submitted prior to construction and implemented during construction.	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
restrictions), identification of local traffic detours (where necessary and where reasonable alternate routes exist), measures to address restrictions on access to abutting properties, provisions to maintain emergency access through construction work areas, and designation of staging and parking areas for workers and equipment.					
Mitigation Measure TRA-1-2: Alternative Routes. Provide alternative pedestrian and bicycle access routes where existing sidewalks, crosswalks, or bike lanes would be affected.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect 	Alternative routes to be developed in Traffic Management Plan, which is to be submitted prior to construction and implemented during construction.	PWP		
Mitigation Measure TRA-1-3: Advanced Notice. Provide advance notice to any affected residents, businesses, and property owners in the vicinity of each construction site, and identify alternative means of access where existing property access would be reduced.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect 	Notice to be provided prior to construction. Alternative access to be developed in Traffic Management Plan, which is to be submitted prior to construction and implemented during construction.	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
Mitigation Measure TRA-1-4: Emergency Service Coordination. Coordinate with emergency service providers (police, fire, ambulance, and paramedic services) to provide advance notice of any planned lane closures, construction hours, or changes to local access and to identify alternative routes where appropriate.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect 	Coordination to be completed prior to construction. Alternative access and routes to be developed in Traffic Management Plan, which is to be submitted prior to construction and implemented during construction.	PWP		
Mitigation Measure TRA-1-5: Public Transit Coordination. Coordinate with public transit providers (Metro, Pasadena ARTS, Foothill Transit, and Montebello Bus Service) to provide advance notice of lane closures, construction hours and, where necessary, identify sites for temporary bus stops within a reasonable walking distance of any displaced bus stops.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well Collector ▪ PWP-FMWD Interconnect 	Coordination to be completed prior to construction. Temporary bus stops to be developed in Traffic Management Plan, which is to be submitted prior to construction and implemented during construction.	PWP		
Mitigation Measure TRA-1-6: Restoration of Facilities. Upon completion of construction and testing at the proposed ASR wells, PWP-FMWD Interconnection and Eastside Well Collector, streets, sidewalks, driveways and public transit stops will be completely restored to pre-existing condition.	<ul style="list-style-type: none"> ▪ McDonald ASR Well ▪ Victory ASR Well ▪ Craig ASR Well ▪ Eastside Well 	Requirements to be included in specifications and implemented at the completion of construction	PWP		

Mitigation Measure	Applicable Project Components	Mitigation Monitoring Timing	Responsible Monitoring Entity	Mitigation Measure Complete?	Effectiveness
	Collector ▪ PWP-FMWD Interconnect				