

CHAPTER 3.0

Summary of Impacts and Mitigation Measures

3.1 Introduction

This section provides a summary of the “proposed project” in accordance with the CEQA Guidelines Section 15123. As stated in Section 15123(a), “an EIR shall contain a brief summary of the proposed action and its consequences. The language of the summary should be as clear and simple as reasonably practical.” As required by the CEQA Guidelines, this chapter includes:

- A summary description of the proposed project;
- A synopsis of environmental impacts and recommended mitigation measures;
- Identification of the alternatives evaluated; and
- A discussion of areas of controversy associated with the proposed project;

Table 3-1 at the end of this chapter provides a summary of the impacts determined in this DEIR and the mitigation measures proposed to avoid or substantially minimize significant and potentially significant impacts.

3.2 Summary Description of the Proposed Project

The Aquifer Storage and Recovery Program (ASR) is proposed by the City to improve water supply reliability, maintain groundwater as a sustainable resource, improve operational flexibility, and meet regional conjunctive use program goals. ASR is a process where treated surplus surface water is injected through specially designed groundwater wells into the groundwater aquifer for storage. It is later recovered, when needed, for municipal use thereby increasing the City’s water supply reliability during peak demand times, or during dry rainfall years. The City is exploring ASR as a component of the its overall water supply strategy in order to maximize the ability to fully utilize allocated surface water; manage the groundwater aquifer for its cost-effective, large-scale storage capability not otherwise readily available above-ground; meet regional conjunctive use program goals as outlined in the City’s General Plan and Regional Water Management Plans; and ensure no net impact to the groundwater aquifer from potential use during dry and drier years.

The amount of surface water available for injection and the demand for extraction will vary based on the type of water year (i.e., wet/normal water year, or a drier water year). The minimum amount of water available for injection could be as low as 0 AF a year during a driest year and as much as 13,786 AF during a wet year based on population demand and a 20% conservation factor as mandated by State law.

The ASR program would involve the use of thirteen (13) specially designed and metered wells capable of both water injection and groundwater extraction. Figure 2-2. ASR Well Sites shows the existing and planned location of proposed ASR wells; while Table 2-1. ASR Program Wells, provides a status summary for each well.

As shown in Figure 2-2, ASR wells are proposed primarily on the City's western side. Well sites average between 0.5 and 1 acre, and are currently in varying stages of development. As shown in Table 2-1, the City has constructed six wells, all of which are equipped for both extraction and injection. Seven more wells have been planned as components of previously approved Specific Plan projects, and approved along with certification of those Specific Plan EIRs.

The City's municipal wells typically include "top side" (above ground) and below ground (well casing) improvements. Top side improvements typically include a small structure to house and secure the above ground ASR well equipment and support infrastructure such as pumps, electrical and disinfection equipment (Figure 2-3. Typical "Top Side" Well Improvement).

3.3 Environmental Impacts and Recommended Mitigation Measures

In accordance with CEQA Guidelines Section 15123, the summary section of an EIR should identify significant effects of the Proposed Project, as well as discuss alternatives that would avoid or substantially minimize these effects. Table 3-1, "Summary Table of Impacts and Mitigation Measures" presented at the end of this chapter, provides a summary of the EIR identified project impacts, the level of significance of the impact before mitigation, recommended mitigation measures for significant impacts, and the level of significance after implementation of the mitigation measures. The Summary Table also lists issue areas found to be less than significant based on analyses and mitigation measures contained in the Initial Study. All Initial Study mitigation measures have been incorporated into the project and are presented in Project Description, Section 2.2.6 Environmental Commitments.

The City issued a Notice of Preparation (NOP for the Proposed Project on June 30, 2009. The NOP was issued to solicit comments from public agencies and the public on issues of concern relative to the proposed project that should be considered in the EIR. In accordance with CEQA Guidelines Section 15063 (c)(3)(A), an Initial Study (Appendix A) was prepared to focus the scope of the EIR on the potentially significant effects of the proposed project, and explain the reasons for determining that potentially significant effects would not be significant, or would be less than significant with the application of mitigation measures.

3.4 Summary of Alternatives

CEQA requires that an EIR must describe a range of reasonable alternatives to the project which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. The EIR need not consider every conceivable alternative, but must consider a "reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." (CEQA Guidelines, § 15126.6, subd. (a).)

This EIR evaluates the following alternatives to the proposed project:

Alternative 1: No Project Alternative

Alternative 2: Upgrade Water Treatment Plant to Ultraviolet (UV) and Ozone with Separate Pipeline

Alternative 3: Surface Storage Alternative

Alternative 4: On-Site Groundwater Treatment at ASR Wells

The following is a brief description of each Alternative; Chapter 6 provides an Alternatives Analysis which further explores impacts associated with each alternative

3.4.1 .Alternative 1: No-Project Alternative

Analysis of a No-Project Alternative is required (CEQA Guidelines §15126.6) to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the project. This Alternative was ultimately rejected because under the No-Project Alternative, the wells would not include injection of surface water, but would supply extracted groundwater only as needed; nor would the No-Project Alternative attain the primary goals and objectives of the proposed ASR Program.

3.4.2 Alternative 2: Upgrade Water Treatment Plant to UV and Ozone with Separate Pipeline

The Water Treatment Plant (WTP) UV/Ozone with Separate Pipeline Alternative would modify the Water Treatment Plant to disinfect filtered water with UV or ozone to minimize the formation of disinfection byproducts, including chloroform. The process would require construction of an additional treatment system using UV reactors or ozone injectors, and separate pipeline for conveyance to ASR well sites, specifically for water to be injected.

3.4.3 Alternative 3: Surface Storage Alternative

The Surface Storage Alternative would require construction of above-ground storage. Specifically, a water basin or reservoir adequately sized to store excess raw water from the City's entitled surface water allocation will need to be constructed. This alternative would require identifying and procuring a suitable site, as well as design and construction of infrastructure to convey and treat the water at the City's Barton Road Water Treatment Plant.

3.4.4 Alternative 4: Onsite Groundwater Treatment at ASR Wells

The Onsite Groundwater Treatment Alternative would entail construction of water treatment facilities at ASR well sites to treat groundwater to the equivalent of surface water in terms of appearance, odor, and taste. This would be accomplished using a reverse osmosis membrane filtration system prior to delivery to water customers.

3.4.5 Environmentally Superior Alternative

Alternative 2, the WTP upgrade with a Separate Pipeline, would be the environmentally superior alternative. Compared to the Surface Storage Alternative and Onsite Treatment Alternative, the WTP Plant upgrade with a Separate Pipeline would require significantly less land area, and consequently fewer associated impacts (e.g., land use, transportation,

biologic and cultural resource impacts). The WTP Upgrade/Pipeline Alternative also meets the water quality objectives of the local RWQCB, and provides additional water reliabilities and water resources for the City in drought or emergencies. Ultimately the infrastructure costs required to implement the WTP Upgrade and Separate Pipeline would render the Alternative economically infeasible.

3.5 Areas of Controversy

The City issued a NOP for the proposed project on June 30, 2009. The NOP was issued to solicit comments from public agencies and the public on issues of concern relative to the proposed project that should be considered in the EIR. Public scoping meetings for the project were held on July 15 and July 29, 2009. These meetings were also for the purpose of soliciting comments from the public on project effects and alternatives.

At the local level, the project has generated some public controversy. The controversy is primarily due to the experience residents cited during a demonstration phase of the ASR Program. Residents identified concerns regarding:

1. Water quality, including:
 - Increased hardness of water and the associated effects on skin, plumbing, household items and clothing,
 - Odor, taste, and appearance of ASR water,
 - Potential for health effects due to higher sodium levels and other constituents, and in particular on the aging population, and
 - General water quality concerns including potential for surface water contamination, mixing with contaminated groundwater in other areas, and the testing and monitoring process.
2. If the ASR water would be used to support new development.

Seven comment letters were received in response to the NOP, in addition to verbal and written comments received at the scoping meetings. Comments received address the above-mentioned areas of controversy. All issues raised in these comment letters are addressed within this DEIR, and letters received are attached as Appendix B of this DEIR.

TABLE 3-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact Statement	Mitigation Measure	Significance	
		Before Mitigation	After Mitigation
4.2 Hydrology and Water Quality			
4.2-1: Potential Changes to Groundwater Quality – Injection Water	No mitigation is required.	LTS	LTS
4.2-2: Potential Changes to Drinking Water Quality – Extracted Water .	No mitigation is required.	LTS	LTS
4.2-3: Potential Health Effects from Groundwater Use – Effects to Taste, Odor and Aesthetics (Secondary Drinking Water Standards)	ASR water would meet all primary potable water quality standards for public water systems. While customers may notice a decrease in aesthetic, or secondary standards, these would be considered adverse but less than significant impact as the secondary standards are not enforceable, but rather are guidelines for predicting consumer acceptance. Therefore, the potential for decreased secondary standards would be considered adverse, but would not trigger a CEQA threshold that would be categorized as a significant impact.	LTS	LTS
4.3 Noise			
4.3-1: Short Term Drilling Noise Levels at Nearest Residences. Implementation of the proposed project would result in well drilling noise in the vicinity of the Woodcreek West, Del Webb, and Hewlett Packard well sites. The predicted noise levels at the adjacent residences range between 75 dB and 78 dB Leq. Therefore, the noise levels would exceed the nighttime noise level standard of 45 dB Leq by approximately 30 dB. Although well drilling activities are temporary (expected to occur for no more than one to two weeks) the noise levels would be substantial and would be a cause for annoyance. This is considered to be a potentially significant impact.	4.3-1: Use of sound attenuation measures during well drilling operations. One such method to reduce noise levels is to erect a temporary sound barrier on the sides facing the residences. An example would be barriers such as noise blanket panels mounted to steel framing. Noise blanket panels can be mounted horizontally or vertically and attached to vertical steel I-beam supports. Such barriers can reduce overall noise levels by approximately 17 dB. 4.3-2: Under §9.24.140 of the City of Roseville Noise Ordinance, the City Council can, by resolution, adopt a temporary noise level standard of 50 dB Leq during the drilling operations. This noise level is adequate to allow a reasonable interior environment for sleeping in urban areas. Based on typical construction, the exterior to interior noise level reduction is expected to be 25 dB, with closed windows and doors. With implementation of MM4.2-1 the interior noise levels are expected to be approximately 43 dB to 46 dB Leq.	PS	SU
<p><i>NI = No Impact LTS = Less-than-significant PS = Potentially Significant S = Significant SU = Significant and Unavoidable</i></p>			

Impact Statement	Mitigation Measure	Significance	
		Before Mitigation	After Mitigation
<p>4.3-2: Temporary Construction Noise Levels at Nearest Residences.</p> <p>Implementation of the proposed project would result in short-term construction activities associated with individual development projects in the Plan area. These construction activities could potentially expose sensitive receptors to noise levels in excess of the applicable noise standards and/or result in a noticeable increase in ambient noise levels. Therefore, this impact is considered potentially significant.</p>	<p>4.3-3: Short-Term Construction-Generated Noise Levels:</p> <p>Although impacts related to short-term construction-generated noise were considered to be less than significant with implementation of the project, the following mitigation is provided to ensure impacts remain at a less-than-significant level.</p> <p>Construction contractors shall implement the following measures during construction activities:</p> <ul style="list-style-type: none"> • Construction equipment shall be properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (i.e., mufflers, silencers, wraps, etc). Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on power equipment. • Construction operations and related activities associated with the proposed project shall comply with the operational hours outlined in the City of Roseville Municipal Code Noise Ordinance; construction operations shall be limited to between the hours of 7 a.m. and 7 p.m. Monday through Friday and between 8 a.m. and 8 p.m. Saturday and Sunday. • Construction equipment should not be idled for extended periods of time in the vicinity of noise-sensitive receptors. • Locate fixed and/or stationary equipment as far as possible from noise sensitive receptors (e.g., generators, compressors, rock crushers, cement mixers). Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on powered construction equipment. • Where feasible, temporary barriers shall be placed as close to the noise source or as close to the receptor as possible and break the line of sight between the source and receptor where modeled levels exceed applicable standards. Acoustical barriers shall be constructed material having a minimum surface weight of 2 pounds per square foot or greater, and a demonstrated Sound Transmission Class (STC) rating of 25 or greater as defined by American Society for Testing and Materials (ASTM) Test Method E90. Placement, orientation, size, and density of acoustical barriers shall be specified by a qualified acoustical consultant. 	LTS	LTS

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Impact Statement	Mitigation Measure	Significance	
		Before Mitigation	After Mitigation
<p>4.3-3: Well Pump (Operational) Noise Levels Implementation of the proposed project would result in increases in stationary source noise associated with the proposed residential and commercial land uses. These stationary noise sources could potentially exceed the City's noise standards (hourly and maximum) and result in a noticeable increase in ambient noise levels.</p>	<p>4.3-4: Reduce noise levels associated with the well pump by providing a full or partial enclosure. The enclosure can take the form of a block house or surrounding barrier designed to accommodate a pump motor 5-feet in height, and elevated off the ground by 18 inches.</p> <p>A full enclosure with a roof would sufficiently reduce noise levels, however, ventilation openings should be located on the side of the building opposite the nearest residences. If a traditional barrier is constructed around the well site, it would need to be a minimum of 8-feet in height.</p> <p>A variety of suitable sound attenuation options would be available. In order to ensure that sound levels are adequately mitigated, a qualified acoustical expert shall be consulted regarding placement, orientation, size, and density of acoustical barriers.</p>	PS	LTS
<p>4.3-4: Ground-Borne Noise and Vibration Levels at Sensitive Receptors. Implementation of the proposed project could result in exposing sensitive noise-receptors to ground-borne noise and vibration levels during well drilling. These ground-borne noise and vibration levels could result in annoyance or architectural/structural damage. Therefore, this impact is considered potentially significant.</p>	Based on the extent of ground-borne vibration during drilling of previous wells, the distance of adjacent development, and the absence of historic architectural resources, this impact would be less than significant.	PS	LTS

Impacts Previously Identified as Less than Significant in the NOP/Initial Study (Appendix A)

Aesthetics

- Agricultural Resources
- Air Quality
- Greenhouse Gas Emissions and Global Climate Change
- Biological Resources

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S = Significant

SU = Significant and Unavoidable

Impact Statement	Mitigation Measure	Significance	
		Before Mitigation	After Mitigation
<ul style="list-style-type: none"> • Cultural Resources • Geology, Soils and Seismicity • Hazards and Hazardous Materials • Land Use Planning • Mineral Resources • Public Services • Traffic and Circulation • Transportation and Circulation • Utilities and Service Systems 			

5.0 CEQA Considerations

5.2.3. Potentially Growth Inducing Impacts	No mitigation is required.	PS	PS
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S = Significant

SU = Significant and Unavoidable