

Supplemental Environmental Assessment

Utility Repair–Sewer Main

Rubidoux Community Services District

FEMA-1577-DR-CA, PW# 1473

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FEMA

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Supplemental Environmental Assessment to the Programmatic Environmental Assessment for Typical Recurring Actions Resulting From Flood, Earthquake, Fire, Rain, and Wind Disasters in California (PEA) as Proposed by the Federal Emergency Management Agency

Rubidoux Community Services District

Utility Repair – Sewer Main Project

FEMA-1577-DR-CA, Project Worksheet 1473

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1. INTRODUCTION

The Rubidoux Community Services District (RCSD) has applied for funds from the Federal Emergency Management Agency (FEMA) through the California Governor's Office of Emergency Services (OES), to permanently replace damaged regional wastewater conveyance facilities with new conveyance facilities in a new alignment. The wastewater facilities were damaged due to severe storms, flooding, and debris flows in the region from December 27, 2004 through January 11, 2005. This natural disaster resulted in the presidential disaster declaration FEMA-1577-DR-CA. FEMA is proposing to fund the project under the Public Assistance (PA) Program that was implemented in response to the presidential disaster declaration.

1.1 SCOPE OF DOCUMENT

FEMA has prepared a Final Programmatic Environmental Assessment for Typical Recurring Actions Resulting from Flood, Earthquake, Fire, Rain, and Wind Disasters in California (PEA), which assesses common impacts of action alternatives that are under consideration at the proposed project site (FEMA, 2003). The PEA adequately assesses impacts from the action alternatives for some resource areas, but for the specific actions of this particular project, other resources are not fully assessed in the PEA.

Therefore, for this project to comply with the National Environmental Policy Act (NEPA), FEMA has prepared the Supplemental Environmental Assessment (SEA) contained herein to tier from the PEA and fully assess the additional impacts to resources that are not adequately addressed in the PEA. This SEA hereby incorporates the PEA by reference, in accordance with Title 40 of the Code of Federal Regulations (CFR) Part 1508.28.

1.2 PURPOSE OF AND NEED FOR ACTION

Under the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended, and Title 44 CFR, the PA Program provides supplemental aid to states and communities to help them recover from major disasters as quickly as possible. Specifically, the program provides assistance for the removal of debris, the implementation of emergency protective measures, and the permanent restoration of public infrastructure. The program also encourages protection from future damage by providing assistance for permanent hazard mitigation measures during the recovery process. Therefore, the purpose of this project is to provide Public Assistance

Program funding to RCSD to construct permanent regional wastewater conveyance facilities to replace those that were damaged by flood waters between December 2004 and January 2005.

RCSD is the primary supplier of water service for domestic consumption, irrigation, and fire protection for the community of Rubidoux, which is located within Riverside County, California. RCSD currently serves a population of approximately 31,500 with approximately 6,900 water service connections. Existing temporary sewage conveyance facilities installed since the storms of December 2004 and January 2005 are inadequate and in unstable locations for permanent use. Therefore, action is needed to restore regional wastewater conveyance facilities to replace those that were damaged during the disaster.

2. DESCRIPTION OF PROPOSED ACTONS AND ALTERNATIVES

2.1 NO ACTION ALTERNATIVE

NEPA requires the inclusion of a No Action Alternative in environmental analysis and documentation. The No Action Alternative is defined as maintaining the status quo with no FEMA funding for any alternative action. The No Action Alternative is used to evaluate the effects of not providing eligible assistance for the project, thus providing a benchmark against which action alternatives can be evaluated. The No Action Alternative is in conflict with FEMA's mission and the purpose of the PA Program. For the purpose of this alternative, it is assumed that RCSD would be unable to implement a project for lack of federal assistance, and permanent regional wastewater facilities would not be restored, as described in Section 2.1 of the PEA. The water quality of the Santa Ana River would be severely affected if the existing temporary facilities were to be damaged and raw sewage released. Furthermore, RCSD's existing regional lift station, with a peak flow capacity of 8.6 million gallons per day (MGD), and remaining portions of the gravity sewer lines, are now in unstable locations and need to be replaced.

Under the No Action Alternative, existing sewer facilities would not be improved. Adverse impacts would continue to occur within the existing floodplain. Floodwaters would continue to periodically inundate the area, which could result in damages to the temporary sewer mains, which could in turn cause an interruption of sanitary services and deterioration of water quality if untreated sewage were to drain into the Santa Ana River.

2.2 PROPOSED ACTION ALTERNATIVE

As defined in Section 2.3.4 of the PEA, the Proposed Action Alternative falls under the action alternative of Repairing, Realigning, or Otherwise Modifying Roads, Trails, Utilities, and Rail Lines. RCSD is proposing to construct permanent regional wastewater conveyance facilities to replace those damaged by flood waters between December 2004 and January 2005. The vicinity of the action area is shown in Figure 1, Appendix A. A diagram of the project is shown in Figure 2, Appendix A.

A new Regional Lift Station with a peak flow capacity of 8.0 MGD, and a new Juan Diaz Lift Station with a peak flow capacity of 0.6 MGD would be constructed to replace the existing regional lift station. The Juan Diaz Lift Station would be located near the south

western end of the action area, and the Regional Lift Station would be constructed near the project's north eastern end.

New 14-inch and 18-inch-diameter force mains (approximately 2,600 linear feet) would be constructed between the two lift stations. These mains would be directionally drilled and installed into bedrock to prevent damage from future flood waters. Remaining portions of the force mains (approximately 1,700 linear feet) would be installed via open trench.

A 12-inch-diameter gravity sewer, approximately 2,200 feet in length, would be installed from the intersection of Peralta Place and Riverview Drive to the proposed new Regional Lift Station. A new 24-inch-diameter gravity sewer, approximately 250 feet in length, would also be installed. This portion of the sewer would connect the new Regional Lift Station and an existing gravity sewer line just easterly of the Sunnyslope Channel.

The Proposed Action Alternative would include the construction of sewage facilities to provide wastewater service to a Riverside County Regional Park and Open-Space District maintenance building and to the Louis Rubidoux Nature Center (Nature Center). These facilities would include a new 6-inch diameter gravity sewer lateral (approximately 300 feet in length) running from the Nature Center to the proposed 12-inch-diameter gravity sewer beginning in Peralta Place; a new Maintenance Building lift station (40 gallon per minute capacity) within the yard of the maintenance building site (which is east of the intersection of Riverview Drive and Kern Drive); and a new 2-inch-diameter force main (approximately 600 feet in length) extending from the proposed new Maintenance Building lift station to the proposed 12-inch-diameter gravity sewer in Riverview Drive.

The Proposed Action Alternative would include the construction of a new access road. The access road would begin approximately 40 yards northeast of the intersection of Riverview Drive and Jodie Lane and run approximately 800 feet easterly to the proposed new Regional Lift Station. A 4-inch-diameter water pipeline (approximately 900 feet in length) would be constructed within the access road and would run from an existing water pipeline in Riverview Drive to the proposed new Regional Lift Station.

The Proposed Action Alternative would also involve the abandonment of existing flood-damaged facilities. The existing 18-inch- and 24-inch-diameter gravity sewers that were not washed out during the December 2004 – January 2005 floods would be abandoned. The existing Regional Lift Station would be abandoned and removed.

2.3 OTHER ACTION ALTERNATIVES

Other alternatives to the proposed project are adequately addressed in Section 2 of the PEA.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The PEA has adequately described the affected environment and the impacts of the Proposed Action Alternative for many resources areas, except for geology, seismicity,

and soils; air quality; water resources; biological resources; cultural resources; socioeconomics and public safety; public services and recreation; transportation; and visual resources. Therefore, the affected environment and environmental consequences for those resources are described in this section, which is intended to supplement the information contained in the PEA. Necessary avoidance and minimization measures, either stipulated in the PEA, or based on the results of the impact analysis in this SEA and that are appropriate for the Proposed Action Alternative, are discussed in Section 4. The No Action Alternative is adequately described in the PEA for all resource areas.

3.1 GEOLOGY, SEISMICITY, AND SOILS

The action area is located in the Peninsular Ranges Geomorphic Province. Two of California's most active faults, the San Andreas and the San Jacinto faults, transverse Riverside County. Both of these faults, as well as the Elsinore fault zone, have the potential to generate future earthquakes within Riverside County. There are no active faults projecting toward or crossing the action area. Furthermore the action area is not within a currently designated State of California Earthquake Fault Zone. The action area is, however, located in a seismically active zone. Ground shaking from earthquakes associated with nearby and distant faults may occur during the lifetime of the project.

The project site rests on alluvial soils underlain by bedrock. The results of twenty borings performed by Converse Consultants, a consultant to RCSD, indicated that alluvial soils consist of primarily well-consolidated mixtures of sand, silt, clay, and gravel to a depth of 51.5 feet. The bedrock below the alluvial soils at the project site is quartz diorite, a medium- to coarse-grained "granitic" bedrock of the Southern California Batholith. The bedrock varies from "severely" weathered at and just below the alluvial soils/bedrock contact, to "slightly" weathered, as was the bedrock found in the deepest boring. The bedrock is fractured at angles of approximately 45 and 60 degrees from horizontal with one half-inch to twelve-inches between fractures.

Implementation of the Proposed Action Alternative would temporarily impact soils at the project site during construction activities such a grading, removal of vegetation, and the use of heavy equipment. Potential impacts to soils could include compaction and a temporary increase in susceptibility to water and wind erosion due to disturbance of soil and removal of vegetation. Areas that would be disturbed by construction activities would be stabilized with erosion control measures to minimize any erosion that might occur, as described in Section 4.1 of this SEA. With the implementation of these measures, construction of the Proposed Action Alternative would not result in adverse, long-term impacts to geology, seismicity, and soils.

3.2 AIR QUALITY

The action area is located within the South Coast Air Basin, which covers an area of 10,743 square miles and includes Los Angeles County, Orange County, and the western portions of San Bernardino and Riverside Counties. With over 16 million people, it is the second most populated urban area in the United States. The South Coast Air Basin's climate is determined by its terrain and geographical location. It is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest

and by mountains that channel and confine the airflow around the rest of the perimeter. The basin generally lies in the semi-permanent high-pressure zone of the eastern Pacific.

The action area is under the jurisdiction of the South Coast Air Quality Management District (AQMD). The primary sources of air pollution within the area include industrial facilities and vehicle emissions. Residents in the South Coast Air Basin drive 40 percent of all vehicle miles traveled in California and produce one-third of all air pollutant emissions in the state.

The project site is located in the western portion of Riverside County, which is:

- designated as serious-17 non-attainment for ozone (O₃); serious non-attainment for particulate matter less than 10 micrometers in diameter (PM₁₀); non-attainment for particulate matter less than 2.5 micrometers in diameter (PM_{2.5}); maintenance for carbon monoxide (CO); and attainment or unclassified for lead, nitrogen dioxide (NO_x), and sulfur dioxides under the National Ambient Air Quality Standards (NAAQS) (EPA 2007); and
- designated as non-attainment for the O₃, PM₁₀, and PM_{2.5} California Ambient Air Quality Standards (CAAQS), but is in attainment or unclassified for all other California criteria pollutants (California Air Resources Board 2007).

For FEMA to comply with the General Conformity Rule (GCR) and determine whether the Proposed Action Alternative conforms to the State Implementation Plan (SIP) and thus not have adverse effects to air quality, a comparison must be made to demonstrate that the Proposed Action Alternative emissions would be below the applicable screening threshold rates listed in the GCR. A summary of the applicable GCR emission threshold rates for the western portion of Riverside County is presented below.

Applicable GCR Emission Threshold Rates

Pollutant	Non-Attainment (ton/yr)
CO	100 (maintenance area)*
NO _x	25 (serious-17 non-attainment, O ₃ precursor)*
PM ₁₀	70 (serious non-attainment)*
PM _{2.5}	100 (non-attainment)
Sulfur dioxide (SO ₂)	100
VOC	25 (serious-17 non-attainment, O ₃ precursor)*

*Note: GCR determinations are based on federal attainment designations, not state attainment designations.

Implementation of the Proposed Action Alternative would not result in permanent impacts to the existing air quality in the area. However, implementation of the Proposed Action Alternative would result in temporary impacts to the existing air quality in the area. These impacts include temporary increases of fugitive dust (PM₁₀ and PM_{2.5}) and combustion emissions (CO, NO_x, PM₁₀, PM_{2.5}, SO₂, and volatile organic compounds

[VOC]). Fugitive dust emissions would be generated by vehicle movement over paved and unpaved roads, dirt tracked onto paved surfaces from unpaved areas at access points, and particulate matter that is suspended during construction activities. Combustion emissions would be generated from the operation of construction equipment and worker vehicles during the construction process.

It is important to note that there are no NAAQS or CAAQS for VOCs. Along with NO_x, VOCs are a precursor to O₃, which has both a Federal and State ambient air quality standard. The formation of O₃ occurs in the troposphere as precursor pollutants react in the presence of sunlight. Therefore, the only way to regulate/reduce O₃ is through the control of its reactive precursors.

To determine conformance with the GCR, construction-related emissions were analyzed to determine if emission threshold rates would be exceeded. Unmitigated emission estimates were determined using the basic guidance and assumptions described below.

- The peak daily emissions provided in the Initial Study and Draft Mitigated Negative Declaration (2007) that was prepared for RCSD’s compliance with the California Environmental Quality Act for the Proposed Action Alternative (CEQA document) were scaled up to 270 days of construction. This is a conservative approach, as the peak daily emissions rate would not be expected to occur throughout the entire duration of construction.
- Peak daily emissions, as estimated in the CEQA document, were determined using South Coast AQMD Guidance and the California Air Resources Board’s EMISSION FACTORS model.

Based on the above assumptions, the following unmitigated emissions are expected for this project:

Estimated Emission Rates of Proposed Action

Pollutant	Emission Rate^a (ton/yr)
CO	10.3
NO _x	23.5
PM ₁₀ ^b	12.6
PM _{2.5} ^b	3.9
SO ₂	2.3
VOC	1.9
^a Emissions include contributions from construction equipment and employee vehicle contributions ^b Includes particulate from fugitive dust and combustion activities	

The emissions calculated for the Proposed Action Alternative would be below the applicable GCR threshold emission rates. Therefore, the Proposed Action Alternative qualifies as a GCR exemption, and no further analysis is required to establish conformity

with the SIP. RCSD would be required to implement mitigation measures to further minimize air quality impacts as described in Section 4.2 of the SEA.

3.3 WATER RESOURCES

The action area is located in the lower watershed of the Santa Ana River. The watershed begins in the San Bernardino and San Gabriel Mountains within the San Bernardino National Forest, and the river flows westward through San Bernardino and Orange Counties to the Pacific Ocean. Rainfall in the action area averages around 18 inches per year, though some upper watershed areas in the San Bernardino Mountains average approximately 40 inches of precipitation per year. Flows in the action area are perennial, and peak flows occur during the late winter and spring due to a combination of winter and spring storms and snowmelt in the San Bernardino and San Gabriel Mountains. Therefore, most flooding occurs during the winter and early spring months (SAWPA 2002).

There are no wells with published data within one mile of the project site. RCSD would implement measures to control erosion and sedimentation during construction, as described in Section 4.3 of the SEA. With the implementation of these measures, the Proposed Action Alternative would have minimal impacts to water resources.

3.3.2 Executive Order 11988: Floodplain Management

Executive Order (EO) 11988 requires federal agencies to avoid, to the extent possible, the short- and long-term adverse impacts associated with the occupancy and modification of floodplains. If there is no practicable alternative to undertaking an action in a floodplain, any potential adverse impacts must be mitigated. FEMA's regulations for complying with Executive Order 11988 are found in 44 CFR Part 9.

FEMA has published a Flood Insurance Rate Map (FIRM) for the action area (FEMA 1980). According to the FIRM, Community Panel Number 060245 0710A, the action area is primarily located within Zones B and A30. Zone B is an area between the 100-year and 500-year floodplain, which may experience shallow (<1ft depth, low velocity) flooding during the 100-year event. Zone A30 is an area subject to inundation by the 1-percent-annual-chance (or 100-year) flood event. Developed land and park land surrounds much of the project site, and the surrounding area within the floodplain is primarily park land and other open space.

The action area was damaged during flooding that occurred between December 27, 2004 and January 11, 2005. Approximately 2.5 million cubic yards of soil were eroded and washed away, exposing or destroying 1580 linear feet of both 18" and 24" diameter gravity sewer mains. These sewer lines carried 90% of the sewage for the Rubidoux Community Services District's 6000 sewer connections. Temporary above-ground replacement lines are currently being used until permanent reconstruction takes place. These temporary lines are vulnerable to damage from future flood events.

FEMA applies the Eight-Step Decision-Making Process to ensure that it funds projects consistent with EO 11988. The NEPA compliance process involves essentially the same basic decision-making process to meet its objectives as the Eight-Step Decision-Making Process. Therefore, the Eight-Step Decision-Making Process has been applied through

implementation of the NEPA process. In compliance with EO 11988, if there is no practicable alternative to undertaking an action in a floodplain, any potential adverse impacts must be mitigated. As described below in Step of the Eight-Step Decision-Making Process, there is no practicable alternative to the Proposed Action Alternative, which involves siting the Regional Lift Station aspect of the Proposed Action Alternative within the Zone A30 of a 100-year floodplain.

The following summarizes the results of the Eight-Step Decision-Making Process for the Proposed Action Alternative, in compliance with Executive Order (EO) 11988 (Floodplain Management), EO 11990 (Wetland Protection), and 44 CFR Part 9 (Flood Management and Protection of Wetlands).

1. Determine whether the proposed action is located in a wetland and/or the 100-year floodplain (500-year floodplain for critical actions); and whether it has the potential to affect or be affected by a floodplain or wetland.

The Riverside County, California (Unincorporated Areas) National Flood Insurance Program (NFIP) Flood Insurance Rate Map (FIRM), Community Panel Number 060245 0710A, effective date April 15, 1980, shows that a portion of the project area is within the floodplain of the Santa Ana River. The floodplain extends away from the stream into the area of the proposed Regional Lift Station. This floodplain is designated Zone A30, an area subject to inundation by the 1-percent-annual-chance flood event, as determined by detailed methods. A site reconnaissance on August 1, 2007 revealed that no wetlands were likely to be present within the footprint of the Proposed Action Alternative. The reconnaissance also revealed a post-disaster northwestern migration of the channel invert, which indicates that the floodplain has likely changed since it was mapped in 1980.

2. Notify the public at the earliest possible time of the intent to carry out an action in a floodplain or wetland.

The public was notified of FEMA's intent to carry out an action within a floodplain through publications immediately following the disaster.

3. Identify and evaluate practicable alternatives to locating the proposed action in a floodplain or wetland.

One alternative to locating the Lift Station in Zone A30 is the "no action" alternative. The "no action" alternative would allow for the continued existence of the hazard of a potential failure of temporary sewer facilities, resulting in potential hazards to human health, costly and repetitive repairs from flood damage to the sewer line, adverse affects to water quality, and adverse affects to the floodplain. Additionally, the existing temporary facilities exist above-ground on a roadside and are vulnerable to damage from vehicular traffic and weather-related events. Two additional alternatives are available to locating the proposed Lift Station outside of the Zone A30. First, the project may be returned to pre-disaster conditions without constructing the proposed Lift Station. This includes restoring

the pre-disaster riverbank with imported fill and replacing the gravity-fed sewer lines along their original alignment. This would expose the sewer lines to repeated flood inundation due to post-disaster migration of the channel bed location and therefore would not be recommended. The second alternative would be to relocate the proposed Lift Station outside of the 100-year floodplain, approximately 600 feet in the northwest direction. The installation would not be constructed at-grade due to the below-grade, gravity-fed intake line. The proposed scope of work specifies that a nearby forced-main gravity line would be installed using horizontal directional drilling (HDD) through bedrock. Assuming the bedrock to be uniformly shallow across the project site, installing the proposed below-grade components of the Regional Lift Station to allow for the gravity-fed intake line would require excavation into bedrock, which would result in greatly increased construction cost. Therefore, because of the risk of repetitive damage or excessive construction costs, neither of these potential alternatives would be feasible.

4. Identify the potential direct and indirect impacts associated with the occupancy or modification of floodplains.

The proposed project involves an above ground structure located within a 100-year floodplain boundary. The wastewater facilities in this area have been significantly impacted by flooding in the past. Occupancy and modification of the floodplain may result in a decrease in natural water resource values and an increase in flood hazard-related factors such as natural moderation of floods, modification of flood water velocities, water quality maintenance and ground water recharge.

5. Minimize the potential adverse impacts and support to or within floodplains identified under Step 4.

According to 44 CFR Part 59.1 definitions, the Regional Lift Station would qualify as a non-residential structure and therefore does not require elevation, but may be required to be flood-proofed to the 100-year base flood elevation (BFE) to minimize the potential adverse impacts to the Regional Lift Station. If the Regional Lift Station exists in the 100-year floodplain, and for the County of Riverside to remain in good standing in the NFIP, RCSD would need to ensure that the Regional Lift Station is designed with walls to be substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy below the BFE, in accordance with 44 CFR Section 60.3. Incorporating these design criteria would minimize potential adverse impacts to floodplain values, potential hazard to lives and the investment at risk from the base flood, and potential adverse impacts that the action may have on others.

6. Reevaluate the proposed action

Restoring the project to pre-disaster conditions or relocating the proposed Regional Lift Station outside of the floodplain were determined to be unfeasible alternatives. Therefore, the Proposed Action Alternative would be the only alternative practicable. Harm to and within the floodplain would be minimized

since the majority of the Regional Lift Station would be constructed below ground.

7. Prepare and provide the public with a finding and public explanation of any final decision that the floodplain or wetland is the only practicable alternative.

FEMA would ensure publication of a Final Public Notice in compliance with Executive Order 11988 before implementation of the Proposed Action.

8. Review the implementation and post-implementation phases of the proposed action

RCSD would ensure that the project is constructed as proposed.

As stated above, the Proposed Action Alternative occurs within the 100-year floodplain, as currently mapped. Development in this area would be subject to the requirements of the local floodplain management ordinance and the NFIP regulations. Since the proposed Regional Lift Station is within a floodplain designated Zone A30, a Conditional Letter of Map Revision (CLOMR) may be necessary, in accordance with 44 CFR Section 65.12. A CLOMR would be necessary when the County of Riverside proposes to permit encroachments upon the floodplain that will cause 1) increases in the base flood elevation in excess of one foot if no floodway is designated [44 CFR Section 60.3(c)(10)], or 2) any increase in the base flood elevation, if a floodway is designated [44 CFR Section 60.3(d)(3)]. If such conditions exist, the County of Riverside must apply to FEMA for conditional approval of the Proposed Action Alternative prior to permitting the encroachments to occur. Within 90 days of receiving the request with all necessary information, FEMA will notify the County of Riverside if the changes requested are approved. Upon receipt of the conditional approval, and prior to approving the proposed encroachments, the County of Riverside must provide evidence to FEMA of the adoption of floodplain management ordinances incorporating the increased base flood elevations and/or revised floodway reflecting the post-project condition. Finally, upon completion of the project, the County of Riverside must provide as-built certifications, in accordance with 44 CFR Section 65.3, and request a revision to the FIRM. FEMA may issue a Letter of Map Revision (LOMR), which modifies an effective FIRM.

If the Proposed Action Alternative were to alter Special Flood Hazard Area (SFHA) and/or changes the BFE, the County of Riverside must request a map revision in accordance with 44 CFR Part 65. In accordance with 44 CFR Section 65.3, the County of Riverside shall notify FEMA of changes by submitting the appropriate technical hydrologic and hydraulic data to FEMA upon completion of any development that changes the SFHA as soon as practicable, but not later than six months after such data becomes available. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and flood plain management requirements will be based upon current data. Failure to do so could jeopardize the NFIP status for the County of Riverside.

3.3.3 Executive Order 11990: Protection of Wetlands

EO 11990, Protection of Wetlands, requires federal agencies to take action to minimize loss of wetlands. The action area does not contain wetlands. Therefore, the proposed action complies with EO 11990.

3.3.4 Water Quality

The Santa Ana River is a vital source of water for residents and industries in Southern California. Water from the Santa Ana River is used for municipal potable supply, irrigation, and groundwater recharge. The river also carries the discharge from wastewater treatment plants from the City of Riverside and other cities downstream. The flood damage to the action area resulted in releases of untreated sewage from the damaged sewage mains into the Santa Ana River that continued until temporary replacement lines were installed. Damage to the current temporary sewage lines would result in further adverse impacts to the water quality of the Santa Ana River.

The Clean Water Act (CWA) regulates water quality, establishes the National Pollutant Discharge Elimination System (NPDES) (Sections 401 and 402), and requires permits for any dredge or fill activities in jurisdictional waters of the United States (Section 404). Section 404 permits are obtained from the U.S. Army Corps of Engineers. RCSD would be responsible for complying with all state and local regulations and for obtaining all necessary permits governing water quality.

Temporary impacts could occur to water resources during construction activities. With the implementation of avoidance and minimization measures such as BMPs for erosion and sediment control, as described in Sections 4.1 and 4.3 of the SEA, impacts to water quality would be minimal for the Proposed Action Alternative.

3.4 BIOLOGICAL RESOURCES

The determination of potential affects of the Proposed Action Alternative to biological resources are based on an analysis performed by biologists of Nationwide Infrastructure Support Technical Assistance Consultants (NISTAC), a contractor to FEMA; information provided in the CEQA document (RCSD 2007), which included a Biological Assessment Report and results of field surveys conducted in September 2005 (AMEC 2005); and informal consultation under Section 7 of the federal Endangered Species Act (ESA) between FEMA and the U.S. Fish and Wildlife Service.

The vicinity of the action area is characterized by single-family residential development, improved streets, the Nature Center, and previously-disturbed vacant lots. The Flabob Airport is located approximately 1.5 miles northeast of the action area, and the Santa Ana River runs southwesterly along the east side of the action area. The action area itself is adjacent to extensive riparian habitat along the Santa Ana River, and consists of a narrow corridor along existing roads, which is not suitable for animals other than the most common or adaptable species.

The Proposed Action Alternative would be constructed primarily in disturbed areas. The portions of the 14-inch-diameter and 18-inch-diameter force main alignments that are to be installed by open trench would remain within existing roads and previously-disturbed

areas adjacent to them. The majority of the alignment of the 14-inch-diameter and 18-inch-diameter force mains through the Nature Center would be directionally drilled and installed into bedrock and would not disturb the land surface. The 12-inch-diameter gravity sewer would also remain within existing roads and previously-disturbed areas. The 2-inch-diameter force main and Maintenance Building Lift Station would be constructed in areas within and adjacent to Riverview Drive. The access road and 4-inch-diameter water pipeline would be constructed within the access road to be constructed from Riverview Drive to the Regional Lift Station.

More than half of the plants observed during the field survey in the vicinity of the action area are non-native. There are no riparian habitats, vernal pools, coastal sage scrubs, or US Army Corps of Engineers jurisdictional areas in the action area.

An evaluation of the potential presence of federally listed species in the action area was completed based on a review of existing data sources and the CEQA document. Sources of existing data included the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDDB) records and a US Fish and Wildlife Service (USFWS) species list obtained for the nine 7.5-minute US Geological Survey (USGS) quadrangles surrounding the action area: Riverside West, Corona North, Guasti, Fontana, San Bernardino South, Riverside East, Steele Peak, Lake Mathews, and Corona South. NISTAC also requested a species list from the USFWS for those same USGS quadrangles. The background data review identified 12 wildlife species and 13 plant species that are federally listed or proposed to be listed as threatened or endangered, have recorded occurrences in the vicinity of the action area, and/or have the potential to occur based on historic range and suitable habitat in the vicinity of the action area.

As a result of the background review and site reconnaissance, FEMA determined that the action area or its immediate vicinity may provide suitable habitat to support two federally-listed species under the USFWS's jurisdiction: the least Bell's vireo (*Vireo bellii pusillus*) and the southwestern willow flycatcher (*Empidonax traillii extimus*)

Least Bell's Vireo

The least Bell's vireo is listed as endangered under the ESA. Its historical range extends from Red Bluff, California, in the north to northwestern Baja California, Mexico, in the south and east to Owens Valley, Death Valley and along the Mojave River. This species' current range is a very small fraction of its former range. The least Bell's vireo is a migratory songbird that nests and forages almost exclusively in riparian woodlands. Its breeding period begins in mid-March. It departs its breeding grounds in late September.

The action area is not located within the designated critical habitat for the least Bell's vireo (USFWS 1994), though there are several records of the least Bell's vireo occurring along the Santa Ana River (CDFG 2007). The areas containing riparian habitat in the vicinity of the action area provide suitable habitat for this migratory bird species.

Southwestern Willow Flycatcher

The southwestern willow flycatcher is listed as endangered under the ESA. Historically, this migrant bird was known to occur in suitable habitat in the Los Angeles Basin; San Bernardino, Riverside, and San Diego Counties; and the lower Colorado River valley. The southwestern willow flycatcher inhabits riparian habitats along rivers, streams, and other wetland habitats with dense growths of willows. It breeds from mid-May to late August.

The action area is not located within the designated critical habitat for the southwestern willow flycatcher (USFWS 1997). There are several records of the southwestern willow flycatcher occurring along the Santa Ana River (CDFG 2007). The areas containing riparian habitat in the vicinity of the action area provide suitable habitat for this migratory bird species.

Summary

The proposed action would not impact riparian habitat or aquatic resources of the Santa Ana River or its tributaries. Additionally, the nearest suitable nesting habitat for least Bell's vireo or southwestern willow flycatcher is approximately 200 feet from the Juan Diaz Lift Station site, the portion of the action area closest to habitat for these species. By location and design, the Proposed Action Alternative avoids adversely affecting any federally listed species and/or their designated critical habitats--most of the alignments follow existing roads or would be placed by directional boring. The lift stations would be constructed in ruderal areas.

Based upon the above evaluation, FEMA has determined that the Proposed Action Alternative is not likely to adversely affect the least Bell's vireo or the southwestern willow flycatcher and/or their designated critical habitat. In compliance with Section 7 of the ESA, FEMA entered into informal consultation with the USFWS and submitted a letter report with its determination for the Proposed Action Alternative on April 2, 2007. FEMA received a letter dated July 17, 2007 from the USFWS concurring with FEMA's determination that implementation of the Proposed Action Alternative is not likely to adversely affect federally listed species or their critical habitat by location and design, thus completing the ESA Section 7 consultation process for the Proposed Action Alternative. Copies of the letters described above can be found in Appendix B.

With the implementation of the appropriate minimization and avoidance measures described in Section 4.4 of this SEA, the Proposed Action Alternative would not have any adverse impacts on any federally protected species or their critical habitat and is thus in compliance with the ESA.

3.5 CULTURAL RESOURCES

Cultural resources investigations and archaeological surveys were undertaken to identify both previously recorded and undiscovered sites within the action area. RCSD's cultural resources consultant, CRM TECH, prepared a cultural resources report to support and supplement the CEQA document. FEMA utilized this report along with an addendum and

a supplemental survey performed by NISTAC archaeologists, to ensure compliance with Section 106 of the National Historic Preservation Act (NHPA) and the 2005 First Amended Programmatic Agreement (Agreement) among FEMA, the California State Historic Preservation Officer (SHPO), OES, and the Advisory Council on Historic Preservation.

NISTAC contacted the California Native American Heritage Commission (NAHC) to request a review of its Sacred Lands File with respect to the project site. The NAHC was also asked to provide a list of Native American groups and individuals it believed should be contacted regarding the Proposed Action Alternative. The NAHC responded on June 28, 2007 with negative results for its search of the Sacred Lands File and with a list of groups and individuals that should be contacted regarding the project. FEMA sent letters to those groups and individuals listed by the NAHC. Two response letters have been received to date. FEMA responded to both of these inquiries in separate letters dated November 2, 2007. A packet was attached to these letters, which outlined all resources found during literature review and field surveys, measures to reduce impacts to resources, and the need for Native American monitor.

CRM TECH undertook an archaeological survey of most of the area of potential effects (APE) on August 8, 2005 and April 17, 2007. On August 2, 2007, a supplemental survey of the remainder of the APE was conducted by a NISTAC archaeologist. Field surveys relocated 2 archaeological sites previously recorded as being within the APE.

On August 28, 2007, FEMA transmitted a letter to the SHPO describing FEMA's determination of "no historic properties affected," per the Agreement, for the Proposed Action Alternative and requested that the SHPO concur with FEMA's determination. FEMA also transmitted a packet of material containing the report and report addendum prepared by CRM TECH and the supplemental survey information conducted by a NISTAC archaeologist in support of their determination. As a part of this determination, FEMA concluded that the Proposed Action Alternative would not affect any of the contributing elements of Site 33-00559. However, FEMA will require that a Native American monitor will be present during implementation of the Proposed Action Alternative in the immediate vicinity of the site. At Site 33-11578, FEMA determined that the limited impact of the Proposed Action Alternative would not amount to a substantial alteration to the characteristics of the site that may help it qualify for a listing in the California Register of Historic Places, should it prove to be eligible. Thus, FEMA considered any impacts to this site to not be adverse. On October 22, 2007, the SHPO responded to FEMA's letter (Appendix C), concurring with FEMA's compliance with the Agreement and FEMA's proposed measure to reduce effects to archaeological resources. The SHPO stated that a "No Adverse Effect" determination was more appropriate, and concluded FEMA and the SHPO's compliance process pursuant to the Agreement.

With the implementation of appropriate minimization and avoidance measures described in Section 4.5 of this SEA, this project complies with Section 106 of the NHPA and the Agreement.

3.6 SOCIOECONOMICS AND PUBLIC SAFETY

3.6.1 EXECUTIVE ORDER 12898: ENVIRONMENTAL JUSTICE

Executive Order (EO) 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” directs federal agencies to ensure that their programs, policies, and activities do not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations. This executive order also tasks federal agencies with ensuring that public notification regarding environmental issues is concise, understandable, and readily accessible.

Socioeconomic and demographic data from US Census Bureau for residents in the project vicinity were studied for the preparation of this SEA. The data indicated that a disproportionate number (defined as greater than 50 percent) of minority or low-income persons would not have the potential to be adversely affected by the Proposed Action Alternative. All adverse impacts would be temporary and negligible. The Proposed Action Alternative would benefit residents, employees, and visitors in Rubidoux by restoring the capability of the sewer system and reducing the threat of future sewage releases into the Santa Ana River. Therefore, the Proposed Action Alternative complies with EO 12898 and its implementation would result in no disproportionately high and adverse human health effects upon minority or low-income populations.

3.7 PUBLIC SERVICES AND RECREATION

Recreational areas and facilities in the vicinity of the action area include the Santa Ana River Regional Park, the Rancho Jurupa Park, the Jurupa Hills Country Club, and the Louis Rubidoux Nature Center. While there would be minimal ground disturbance along Riverview Drive, the project would not affect the use of surrounding parks and recreation areas.

A 6-inch gravity sewer lateral would be connected to the Louis Rubidoux Nature Center. Activities at the center include children’s day camp programs in the summer, winter and spring breaks; year-round environmental education; and interpretive programs and exhibits. Construction could temporarily disturb and minimally impact activities at the Nature Center.

Peralta Elementary School, of the Jurupa Unified School District, is adjacent to the action area. Any adverse impacts to the school would be minimal and temporary.

With the implementation of the minimization and avoidance measures outlined in Section 4.7 of this SEA, no substantial adverse effects to public safety would result from implementation of the Proposed Action Alternative.

3.8 TRANSPORTATION

Construction activities would occur within areas of residential traffic flow along a two-lane road, Riverview Drive, which Riverside County lists as a secondary right-of-way and a County maintained street. Construction activities would also occur along approximately 400 feet of Peralta Place northwest of Riverview Drive. Construction

activities would result in a short-term increase in the number of vehicles surrounding the action area over the course of the construction of the project. With the implementation of the minimization and avoidance measures described in section 4.4, no substantial or permanent adverse impacts to transportation are anticipated as a result of construction activities.

3.9 VISUAL RESOURCES

The existing visual resources of and surrounding the action area are residential, agricultural, and scenic in nature. The action area is bounded to the north and west by a residential neighborhood, to the northeast by agricultural fields, and to the southeast and south by extensive riparian habitat bordering the Santa Ana River. The riparian habitat bordering the Santa Ana River and the river itself are scenic in nature. Primary viewers of the project site and its surroundings would include residents and employers/employees in the area, Peralta Elementary School students, visitors to the area, visitors to the Louis Rubidoux Nature Center, recreational users of parks in the area (including the Santa Ana River Regional Park, the Rancho Jurupa Park, the Martha McLean-Anza Narrows Park, and the Mt. Rubidoux Memorial Park), and travelers along Riverview Drive.

The Proposed Action Alternative would have a temporary effect on the scenic aspects of the action area and its surroundings during construction. Temporary construction activities would be visible from multiple viewing areas on both sides of the Santa Ana River.

Implementation of the Proposed Action Alternative would not substantially or permanently affect the visual quality or scenic nature of the action area or its surrounds, particularly with the implementation of minimization and avoidance measures described in Section 4.8 of this SEA.

3.10 CUMULATIVE IMPACTS

Cumulative impacts are the impacts on the environment, which result from the incremental impact of the Proposed Action Alternative when added to other past, present, and reasonable future actions regardless of the person or group that undertakes the other actions.

RCSD is undertaking a project in the vicinity of the Proposed Action Alternative, the Avenue Juan Bautista Water Service Replacement Project. This project involves the replacement of approximately 25 residential shared customer water services with approximately 58 individual water services. The project would be implemented in the vicinity of the intersection of Avenue Juan Bautista and Cahuilla Street, which is approximately .4 miles northwest of the Proposed Action Alternative project site.

RCSD is also undertaking the Peralta Elementary School Sewer Improvement Project, which would be implemented just northwest of the Proposed Action Alternative project site. The project would involve the construction of new manholes in Kern Drive and Peralta Place which would be connected by a pipe running underneath the grounds of Peralta Elementary School. Currently, no construction dates have yet been set.

Implementation of the above projects would not be expected to result in adverse cumulative impacts to the environment or the surrounding community. If the one or both of the above projects were to be implemented simultaneously with the Proposed Action Alternative, which has not yet been a determined, temporary adverse cumulative impacts could result from simultaneous construction activities such as noise, dust, and transportation impacts. No substantial permanent adverse cumulative impacts would be expected to occur due to implementation of the Proposed Action Alternative and the above nearby projects.

4. MINIMIZATION AND AVOIDANCE MEASURES

The following minimization and avoidance measures have been extracted from Section 4 of the PEA, or have been developed based on site-specific impacts, and are applicable for the Proposed Action Alternative.

4.1 GEOLOGY AND SOILS

RCSD would be responsible for implementing erosion protection measures including best-management-practices (BMPs) such as installing silt fences or mulching cleared soil to eliminate or reduce soil erosion during construction. RCSD would implement permanent erosion control measures including revegetation with native species when construction is completed.

4.2 AIR QUALITY

RCSD would be responsible for reducing potential air quality impacts from construction activities and employing BMPs to limit fugitive dust emissions. These BMPs would include, but are not limited to the following:

- watering disturbed areas to minimize fugitive dust;
- scheduling the location of staging areas to minimize fugitive dust;
- keeping construction vehicles and equipment properly tuned and maintained;
- requiring all trucks hauling soil, sand, and other loose materials to securely cover their loads;
- sweeping adjacent streets and roads if visible soil is carried over to these areas from the construction site; and
- curtailing activities to the degree necessary during high-wind periods to prevent fugitive dust from construction operations from being a nuisance or hazard on- or off-site.

All construction activities would comply with all South Coast Air Quality Management District rules and standards.

4.3 WATER RESOURCES

To avoid and minimize any adverse impacts to water resources, BMPs would be implemented to reduce potential impacts to water resources and would include the following:

- developing and implementing a sediment control plan;
- using silt fences, hay bales, and similar measures to prevent soils from eroding and entering the Santa Ana river;
- revegetation of disturbed soils to provide stability and runoff filtration after construction activities are complete; and
- designating vehicle parking areas on paved surfaces where possible to prevent disturbance of surface soils.

RCSD would be required to comply with the Clean Water Act, state water quality regulations, local water quality regulations, and obtain all applicable and necessary permits.

4.4 BIOLOGICAL RESOURCES

To avoid indirect adverse effects to the least Bell's vireo and the southwestern willow flycatcher, construction activities at or near the Juan Diaz Lift Station would not occur from mid March through late September. Furthermore, RCSD would designate a field contact representative who should be responsible for overseeing compliance with stipulations to protect sensitive species

4.5 CULTURAL RESOURCES

In accordance with Stipulation X of the Agreement (Unexpected Discoveries), FEMA will require RCSD to stop work in the event of an unexpected discovery and to comply with the all steps outlined in Stipulation X.

A Native American monitor is required to be present during implementation of the Proposed Action Alternative in the vicinity of Site 33-00559. Coordination of monitoring would be the responsibility of RCSD.

4.6 PUBLIC SAFETY

RCSD would be responsible for implementation of the following measures to protect the health and safety of the community surrounding the action area during the Proposed Action Alternative:

- work areas and other public hazards would be barricaded and properly marked;
- construction vehicles traveling through the area would maintain legal and safe speeds; and

- any open trench at any one time would be limited to 300 feet in length and would be filled in at the end of each day.

4.7 PUBLIC SERVICES AND RECREATION

To minimize adverse effects to public services and recreation, RCSD would provide advance notice of construction activities to the Nature Center, the Jurupa Unified School District, and Peralta Elementary School.

4.8 TRANSPORTATION

RCSD would be responsible for implementing the following measures to minimize the potential short-term impacts to transportation in the action area during construction:

- no public traffic routes would be fully blocked at any time;
- workers would park their privately owned vehicles at designated locations to reduce transportation impacts;
- a 12 foot minimum lane width would be maintained at all times and a minimum distance of 5 feet would be maintained between any open trench and the nearest active traffic lane;
- staging areas and construction activities would occur completely within RCSD right-of-way;
- temporary parking advisory signs would be posted at least 24 hours, but no more than 48 hours in advance of construction;
- within three days of placement of final pavement, all traffic striping destroyed or damaged shall be restored in accordance with Riverside County standards; and
- access to private property would be maintained at all times.

4.9 VISUAL RESOURCES

RCSD would be responsible for implementing minimization and avoidance measures to address potential short-term and long-term impacts to visual resources. The measures would include but are not limited to the following:

- contouring of finished surfaces to blend with adjacent natural terrain where appropriate;
- replacing vegetation removed from the project site during construction with native vegetation; and

- maintaining replacement native vegetation seedlings until they are well established.

5. REFERENCES

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Appendix A – Figures

Figure 1 Project Location and Vicinity Map

Figure 2 Action Area

Appendix B – USFWS Concurrence

Appendix C – SHPO Concurrence