



**US Army Corps  
of Engineers®**

## **PERRIS II DESALTER GROUND WATER WELLS**

### **RIVERSIDE COUNTY, CALIFORNIA**

**Prepared by**

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## **1.0 INTRODUCTION**

This Environmental Assessment (EA) has been prepared by the U.S. Army Corps of Engineers (Corps) for the repair of storm-damaged subdrains within the Verdugo Wash Channel, Los Angeles County, California in compliance with the National Environmental Policy Act (NEPA) (42 USC 4321 et seq.), the Council on Environmental Quality (CEQ) regulations published at 40 CFR Part 1500 et seq., and the Corps' NEPA regulations published at 33 CFR Part 230.

### **1.1 LOCATION**

The project is located near the intersection of Nuevo Road and Meniffee Road in the city of Perris, Riverside County. In particular:

- Well 93 is located on Nuevo Road at intersection of Chase Avenue.
- Well 94 is located on 12<sup>th</sup> Street between Chase Avenue and Reservoir Avenue.
- Well 95 is located on 13<sup>th</sup> Street between Chase Avenue and Reservoir Avenue.
- Well 96 is located on Santa Rosa Road between Antelope Road and Pico Avenue.

### **1.2 AUTHORITY**

This Corps is authorized to design and construction water-related environmental infrastructure and resource protection and development projects, including wastewater treatment and related facilities and water supply, storage, treatment, and distribution facilities, pursuant to Section 219 (f)(52) of the Water Resources Development Act 1992 as amended.

### **1.3 PURPOSE AND NEED**

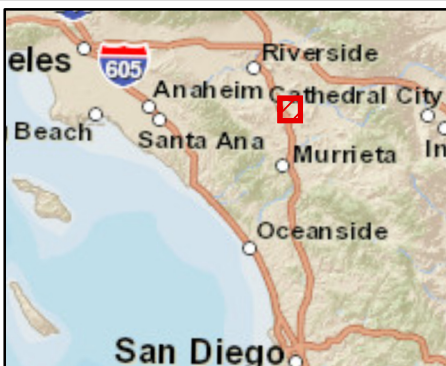
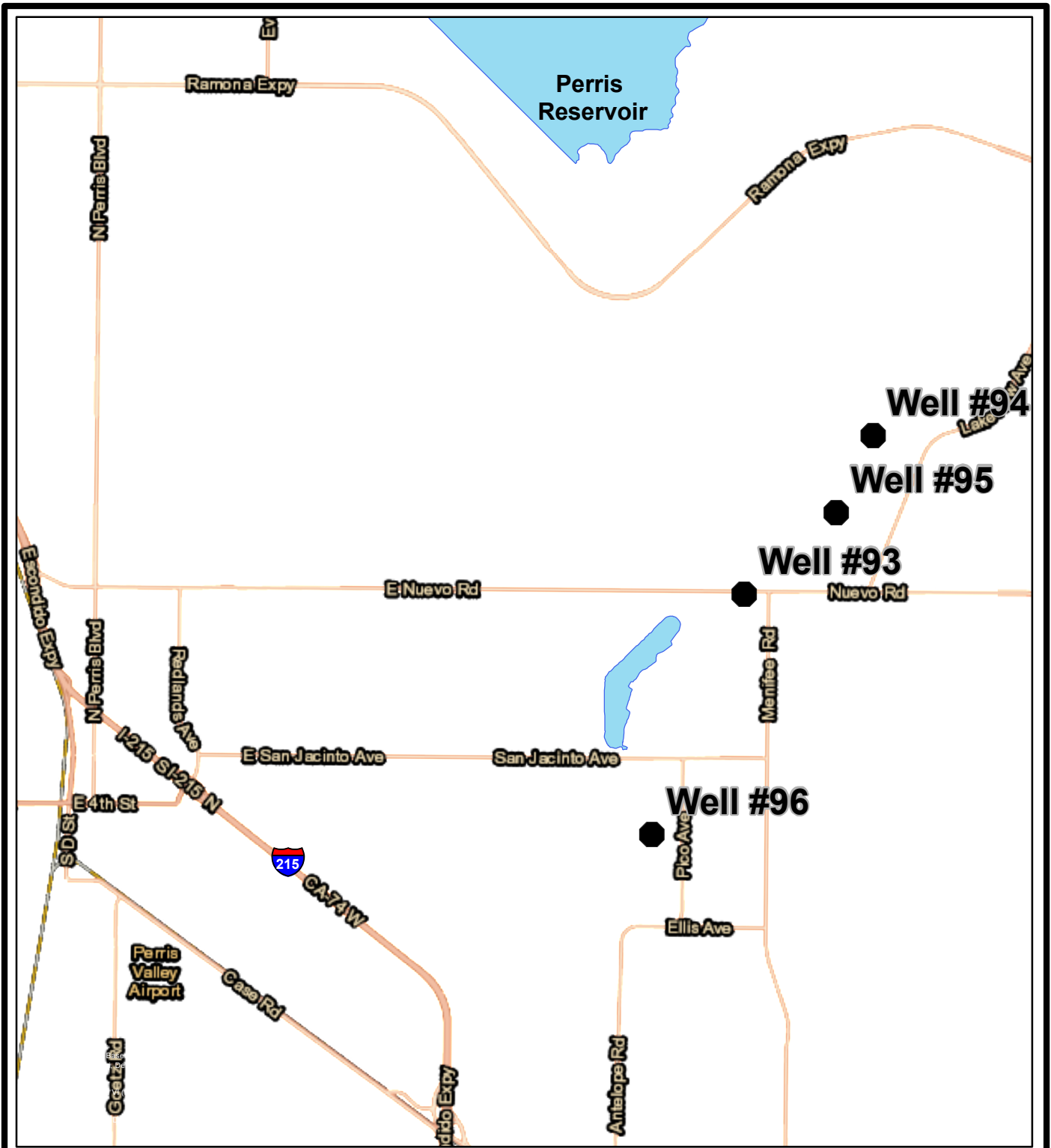
#### **Statement of Need**

EMWD services an approximately 555 square mile region of western Riverside County encompassing a number of rapidly growing cities including but not limited to Moreno Valley, Perris, Menifee, Hemet, and Murrieta. EMWD retails water to more than 82,000 homes and businesses, including 200 agricultural customers. The number of customers is expected to increase from approximately 630,000 to approximately 1 million by 2020.



EMWD relies on a mixture of ground water and water imported from Colorado River and from northern California via the Metropolitan Water District. However, with the persisting drought conditions throughout California and increasingly limited supplies from the Colorado River and from northern California, there is a need to further augment water supply through continued use of ground water.

#### **Statement of Purpose**

The purpose of the project is to construct an array of four ground water wells that would supply water to EMWD's Perris II desalination plant.



**Legend**

-  Wells
  -  Water Boundaries
- 0      0.5      1  
Miles

1 in = 1 miles



**PERRIS II  
DESALINATION PROJECT**

**GROUNDWATER WELL  
COMPLEXES**



U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT

## 2.0 ALTERNATIVES

### No Federal Action Alternative

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to further utilize ground water to supplement water supplies would remain unchanged.

### Proposed Alternative

Under the Proposed Alternative, the Corps would construct an array of four well complexes: Well 93, 94, 95, and 96. Each complex includes the well and appurtenant infrastructure such as blowoff ponds, pump house, and an access road. The footprint of each complex would range from 0.9 to 1.3 acres in size. Blowoff ponds capacity would range from 0.57 to 0.77 million gallons. An approximately 24 foot by 36 foot (864 square feet) cinderblock pump house would be constructed to house a process room, brine tank room, and an electrical room. A chain-link fence would circumscribe each complex.

	Complex Footprint (acres)	Blowoff Pond Capacity (million gallons)	Access Road Length (feet)	Road Alignment (feet)
Well 94	1.3	0.68	340	Circular
Well 95	0.9	0.61	300	T-intersection
Well 93	1.2	0.57	360	Circular
Well 96	1.2	0.77	280	T-intersection

## 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### 3.1 LAND USE AND AGRICULTURE

#### Affected Environment

All four well complexes are located within or near the unincorporated community of Nuevo. Well Complexes 93, 94, and 95 are located on agricultural land adjacent to existing roads. Well Complex 94 and 95 are located on agricultural lands designated by the state of California as Prime Farmland.<sup>1</sup> Well Complex 96 is located adjacent to rural residences.

<sup>1</sup> [ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/riv10\\_west.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/riv10_west.pdf)

<b>Table 2: Land Use Comparison</b>		
	Designated Land Use	Designated State Prime Farmland?
Well 93	Agricultural	No
Well 94	Agricultural	Yes
Well 95	Agricultural	Yes
Well 96	Rural Residential	n/a

## **Significance Threshold**

Impacts would be considered significant if the alternative results in:

- Substantial changes to the existing land uses.
- Substantial conversion of agricultural uses to non-agricultural uses.

## **Environmental Consequences**

### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

### **Proposed Alternative**

Under the Proposed Alternative, three 1-acre well complexes be constructed on agricultural lands, and one 1-acre well complex would be constructed on land designated as rural residential. The well complexes represent industrial uses. Thus, construction on lands designated for agricultural or rural residential uses would require zoning variances from the County of Riverside. However, locating small utility complexes within areas zoned for other uses is not uncommon. Since the well complexes are limited in size, self contained, and operations would not result in nuisances (e.g., noise, odors, etc.), construction and operations would not be incompatible with existing land uses.

Construction of Well Complexes 93, 94, and 95 would permanently convert approximately three acres of farmlands to non-agricultural uses. Riverside County has approximately 397,123 acres of farmlands. Therefore, permanent conversion of three acres of farmland to non-agricultural uses represents a de minimis decrease. Furthermore, Well Complexes 94 and 95 are located on farmlands designated as California State Prime Farm Lands. Riverside County has approximately 119,635 acres of designated Prime Farmlands. Construction of Well Complexes 94 and 95 would result permanent conversion of two acres of State Prime Farmlands. The decrease would be de minimis. Last, Well Complexes 93, 94, and 95 would be located on adjacent to existing roads. As a result, the sites would be located at the outer edges of agricultural fields. Since the outer edges are typically used for access roads, the likelihood of losing productive agricultural lands is minimal. Based on the above, impacts would be less than significant.

## **3.2 SOILS AND SUBSTRATE**

### **Affected Environment**

The primary soil type encompassing the area for all well complex sites is the Hanford-Tujunga-Greenfield association. The association consists of very deep, well drained to excessively drained, nearly level to moderately steep soil that has a surface layer of sand to sandy loam, and is located on alluvial fans and flood plains. Soil stability is considered poor to fair with significant erosion potential.

### **Significance Threshold**

Impacts would be considered significant if the alternative results in:

- Long term loss of substrate from well complex sites due to erosion.

### **Environmental Consequences**

#### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

#### **Proposed Alternative**

Construction of each well would require export of approximately 2,000 cubic yards of fill associated with the excavation of blowoff ponds. Each well complex would have minimal surface area of bare soils exposed upon completion of construction due to access roads and concrete lining. Well complexes would also be designed to drain storm water from the site and convey flows into existing storm drains. There would be no long term loss of substrate from well complex sites. Based on the above, impacts would be less than significant.

## **3.3 WATER QUALITY**

### **Affected Environment**

All well complexes 93, 94, and 95 are located agricultural lands approximately 300 to 3,000 feet away from the San Jacinto River, a water of the United States. Well complex 96 is located within a rural residential area approximately 6,300 feet away from the San Jacinto River.

The well complex array would extract water from the San Jacinto Groundwater Basin. The basin underlies San Jacinto, Perris, Moreno, and Menifee Valleys in western Riverside County. Basin capacity is approximately 3 million acre feet (CDWR 2006).

During the 1960s, groundwater levels in the western and central parts of the basin declined; whereas, in the south-central part of the basin, they were moderately stable. During the 1970s through the 1990s, groundwater levels declined about 20 to 40 feet in the northern and southeastern parts of the basin and were relatively stable in the southern part of the basin. During the 1970s through the 1980s, groundwater levels rose 80 to 200 feet in the western part of the basin because of infiltration from Lake Perris. During 2001 and 2002, groundwater levels generally rose in the central part of the basin and declined in the northeastern and southern parts of the basin (CDWR 2006).

Natural recharge to the basin is primarily from percolation of flow in the San Jacinto River and its tributary streams; less recharge is from infiltration of rainfall on the valley floor (CDWR 2006). Natural recharge is augmented by spreading of State Water Project and reclaimed water through infiltration ponds in the upper reaches of the San Jacinto River (EMWD 2002). Percolation of water stored in Lake Perris has been an additional source of recharge since construction of the lake in the 1970s, and reclaimed water percolates through several storage ponds distributed throughout the valley. Artificial recharge can exceed natural recharge, particularly in years with low precipitation (EMWD 2003).

Groundwater in the basin has historically had high salt content. The high salt content rises during periods of high groundwater extraction, indicating a strong correlation between groundwater levels and salt content. The high salinity, measured as Total Dissolved Solids (TDS) is attributed to high salt content in the water-bearing sediments. In 2002, TDS content ranged from 230 to 12,580 mg/L; maximum TDS content exceeded 1,000 mg/L in most parts of the basin (EMWD 2003). The range of TDS and nitrate values for management zones sampled in 2013 are shown in Table XXX. The upper ranges of sampled values for both parameters exceed Santa Ana Regional Water Quality Control Board’s water quality objectives.

<b>Table 3: Ground Water Quality</b>				
Management Zones	Total Dissolved Solids		Nitrates	
	Range of 2013 Samples (mg/L) <sup>1</sup>	SARWQCB Water Quality Objectives (mg/L) <sup>2</sup>	Range of 2013 Samples (mg/L) <sup>1</sup>	SARWQCB Water Quality Objectives (mg/L) <sup>2</sup>
Perris North	220-1,800	570	21 - 0.2	5.2
Perris South	230-9,600	1260	22 – 0.2	2.5
Menifee	830-2,900	1020	9.8 – 0.2	2.8

<sup>1</sup>Eastern Municipal Water District (2013). West San Jacinto Groundwater Management Area 2013 Annual Report.

<sup>2</sup>Santa Ana Regional Water Quality Control Board (2011). Santa Ana Region Basin Plan. p. 4-41.

### **Significance Threshold**

Impacts would be considered significant if the alternative:

- Creates long-term violations of Regional Water Quality Control Board (RWQCB) water quality standards or objectives, or causes impairments of beneficial uses of water.



## **Environmental Consequences**

### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

### **Proposed Alternative**

Construction of Well Complexes 93 thru 96 would not result in impacts to surface waters since they are located approximately 300 to 6,300 feet away from the San Jacinto River. There would be no discharge of fill into waters of the United States. Surface water quality during construction would remain unaffected. Establishment of wells would result in minimal impacts to groundwater quality. An auger would contact groundwater and sediment during the drilling process. Mechanical disruption of the substrate would grind sediment and suspend fines, temporarily increasing turbidity during construction. However, the turbidity would be localized to water within the excavated areas. Dispersion would be limited by the substrate surrounding the well.

## **3.4 AIR QUALITY**

### **Affected Environment**

#### **Climate**

The climate of the project area is typical of the Mediterranean climate of coastal California, which is characterized by cool, dry summers and mild, wet winters. The hottest month is August with an average maximum temperature of 74°F and December is the coldest month with an average minimum temperature of 64°F. Precipitation averages 10.69 inches annually, with February as the wettest month.

#### **Air Quality**

The project area is within the South Coast Air Basin which includes Los Angeles, Orange, and portions of Riverside, and San Bernardino Counties. Air quality within the project area is governed by the South Coast Air Quality Management District (AQMD). To protect the public health and welfare, the Federal and state governments have identified five criteria air pollutants and a list of air toxics and have established ambient air quality standards through the Federal Clean Air Act and the California Clean Air Act. The air pollutants for which Federal and state standards have been promulgated and that are most relevant to air quality planning and regulation in the air basins include ozone (O<sub>3</sub>), carbon monoxide (CO), suspended particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), Reactive Organic Gasses (ROG), Volatile Organic Compounds (VOC), and lead (Pb). PM comes in a range of sizes. PM emissions are regulated in two size classes: Particulates up to 10 microns in diameter (PM<sub>10</sub>) and particulates up to 2.5 microns in diameter (PM<sub>2.5</sub>).

A state or region is given the status of “attainment” or “unclassified” if ambient air quality standards have not been exceeded. A status of "nonattainment" for particular criteria pollutants is assigned if the ambient air quality standard for that pollutant has been exceeded. Once designated as nonattainment, attainment status may be achieved after three years of data showing non-exceedance of the standard. When an area is reclassified from nonattainment to attainment, it is designated as a “maintenance area,” indicating the requirement to establish and enforce a plan to maintain attainment of the standard.

California classifies areas of the state as attainment, nonattainment, nonattainment-transitional, extreme or unclassified with respect to the state air quality standards.

The attainment status of the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) are shown below:

<b>Table 4: South Coast Air Basin Attainment Status</b>		
<b>Pollutant</b>	<b>National AAQS</b>	<b>California AAQS</b>
Carbon Monoxide (CO)	Attainment/Maintenance	Unclassified
Ozone (O3) (1-hour standard)		Extreme
Ozone (O3) (8-hour standard)	Nonattainment-Extreme	Nonattainment
Nitrogen Dioxide (NO2)	Attainment/Maintenance	Attainment
Sulfur Dioxide (SO2)	Attainment	Attainment
Particulate Matter (PM10)	Attainment/Maintenance	Nonattainment
Particulate (PM2.5)	Nonattainment	Nonattainment
Lead	Nonattainment	Nonattainment

Source: <http://www.arb.ca.gov/desig/adm/adm.htm>

### **Significance Threshold**

Impacts would be considered significant if the alternative:

- Exceeds any SCAQMD daily construction significance thresholds.
- Exceeds General Conformity Rule de minimis thresholds.

### **Environmental Consequences**

#### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

## Proposed Alternative

Emissions were estimated using CALEEMOD Version 2013.2.2. Construction of Well Complexes 93 thru 96 would require grading of four 1-acre plots of land on which the well complexes would be sited. For each well, clearing and grading operations would require the use of graders, loaders, and dozers for approximately 4 days. Construction of the well complex would require a drill rig, an excavator, cranes, forklifts, generators, and loaders for approximately 45 days. Approximately 2,000 cubic yards of fill would need to be exported resulting in approximately 100 truck trips. Number of construction workers would range from 5 to 13. Approximately 5 vendor trips per day would be required.

During Fiscal Year 2014, the Corps would fund construction of Well Complex 96. Construction of the remaining three well complexes would be funded upon receipt of additional funds. The number of wells constructed per year would be funding dependent. Table XX and XX shows estimated emissions associated with construction of one, two, and three wells.

Constructing up to two well complexes per year would not exceed daily AQMD emission thresholds. Constructing three well complexes per year would exceed AQMD NO<sub>x</sub> daily emission threshold. Emission attenuation measures would entail the use of Tier 4 engines for commonly used construction equipment. With implementation of emission attenuation measures, emissions associated with the construction of three wells would be below ADMD thresholds.

Pollutant	One Well (lb/day)	Two Wells (lb/day)	Three Wells (lb/day)	Three Wells w/ emission attenuation measures (lb/day)	AQMD Threshold (lb/day)
CO	16.2	32.4	48.6	47.1	550
NO <sub>x</sub>	25.6	51.2	76.8	44.1	55
ROG	10.4	20.8	31.2	31.2	55
SO <sub>x</sub>	0.0338	0.0676	0.1014	0.1014	150
PM10	6.47	12.94	19.41	17.7	150
PM2.5	3.5	7	10.5	8.7	55

Annual emission estimates are shown in Table X. Estimated emissions are below General Conformity de minimis Thresholds.

Pollutant	One Well (tons/year)	Two Wells (tons/year)	Three Wells (tons/year)	CAA de minimis Thresholds (tons/year)
VOC	0.32	0.64	0.96	10
NO <sub>2</sub>	0.53	1.06	1.59	10
PM10	0.078	0.156	0.234	70
PM2.5	0	0	0	100
Pb	0.04	0.08	0.12	25
CO	0.03	0.06	0.09	100

Based on the above, construction of up to two wells per year or three wells per year with implementation of emission attenuation measures would result in less than significant impacts. Furthermore, annual emissions for all construction scenarios are below General Conformity de minimis Thresholds. Therefore, a General Conformity analysis is not required.

### Environmental Commitments

- AQ-1: Utilize Tier 4 engines for earthmoving equipment when three wells are constructed within one year.

### 3.5 NOISE

#### Affected Environment

All four well complexes are located within or near the unincorporated community of Nuevo. Well Complexes 93, 95, and 96 are located on agricultural land adjacent to existing roads. Well Complex 96 is located adjacent to rural residences. Acceptable noise levels for each type of land use is shown below:

<b>Table 7: Noise</b>			
Well Complex	Location	Designated Land Use	Acceptable Noise Levels <sup>1</sup>
93	Community of Nuevo - Unincorporated Riverside County	Agricultural	Up to 75 dBA
94	Community of Nuevo - Unincorporated Riverside County	Agricultural	Up to 75 dBA
95	Community of Nuevo - Unincorporated Riverside County	Agricultural	Up to 75 dBA
96	Unincorporated Riverside County	Rural Residential	Up to 60 dBA

<sup>1</sup> County of Riverside. (2014). General Plan - Noise Element. Table N-1: Land Use Compatibility for Community Noise Exposure.

#### Significance Threshold

Impacts would be considered significant if the alternative:

- Long term elevation of noise above acceptable noise levels.

#### Environmental Consequences

Construction would utilize a number of earthmoving equipment: excavators, loaders, dozers, compactors, rollers, and drill rigs. As shown in Table 7.2-1, noise associated with construction

equipment at 50 feet ranges from 80 dBA to 90 dBA (USEPA, 1972). Furthermore, noise levels are atmospherically attenuated by a factor of 6 dB per doubling of the distance.

<b>Table 8 Potential Noise Levels At Various Distances</b>	
<b>Distance from Construction Activities (ft)</b>	<b>Noise Levels (dBA)</b>
50	80 - 90
100	74 - 84
200	68 - 78
400	66 - 72
800	60 - 66
1,600	54 - 60
3,200	48 - 54

<sup>1</sup> USEPA (1971). Noise from Construction Equipment And Operations, Building Equipment, and Home Appliances.

Use of construction equipment at sites for Well Complexes 93, 94, and 95 would result in varying noise levels for the duration of construction depending on the receptor distance.

Well 93 is located on agricultural land, approximately 3,000 feet from rural residential structures. As a result, noise levels during construction would range from 48 to 54 dBA. The noise level would be within the range of Acceptable Noise Level for agricultural land use. However, since 50 dBA is approximately the noise level associated with indoor dwellings, construction litter noise would be indistinguishable from ambient noise levels at this range.

Well 94 is located on agricultural land, approximately 400 feet from a rural residential structure. As a result, noise levels during construction would range from 66 to 72 dBA. The noise level would be within the range of Acceptable Noise Level for agricultural land use.

Well 95 is located on agricultural land, approximately 900 feet from a rural residential structure. As a result, noise levels during construction would range from 60-66 dBA. The noise level would be within the range of Acceptable Noise Level for agricultural land use.

Well 96 is located on a rural residential area, approximately 200 feet from rural residential structures. As a result, noise levels during construction would range from 68-78 dBA during construction. The noise level would not be within the range of Acceptable Noise Level for rural residential land use. However, the elevated noise level would be temporary and will last for the duration of construction.

### **3.6 BIOLOGICAL RESOURCES**

#### **Affected Environment**

Well Complexes 93, 94, and 95 are located within active agricultural lands. Well Complex 96 is located on an undeveloped rural residential lot. The approximately 1-acre sites are devoid of undisturbed vegetation and surface waters. As a result, the sites do not contain suitable habitat for or support federal or state endangered or threatened species, or species of special concern.

Common mammals (i.e., raccoons, opossums, rats, skunks, and feral cats) are likely present within the vicinity of the sites. Birds associated with a developed environment such as house sparrows, doves, and pigeons are also expected to be present within the vicinity.

### **Significance Threshold**

Impacts would be considered significant if the alternative results in:

- A substantial diminishment of biological resources at any of well complex sites.

### **Environmental Consequences**

#### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

#### **Proposed Alternative**

Well complex construction would entail clearing and grading operations on highly disturbed agricultural lands and a rural residential lot. Since the sites are devoid of undisturbed vegetation and surface waters, construction would not result in disturbance of habitat components used by federally or state listed threatened and endangered species, or species of special concern. No threatened, endangered, or species of special concern are anticipated in the project area. Therefore, there would be no impacts to these species. Critical habitat for federally threatened or endangered species does not occur in the project area. Therefore, there would be no impact to designated critical habitat. Mammals and birds associated with developed lands maybe present within the vicinity of the project area during construction. Construction noise may startle such animals and cause temporary abandonment of the area adjacent to the construction site during construction. However, the animals are mobile and highly adapted to the urban environment. As a result, they are expected to quickly reoccupy the abandoned areas upon completion of construction. Based on the above, the Preferred Alternative would not impact biological resources.

## **3.7 CULTURAL RESOURCES**

### **Affected Environment:**

Well Complexes 93, 94, and 95 are located within active agricultural lands. Well Complex 96 is located an undeveloped rural residential lot. The approximately 1-acre sites are highly disturbed. No cultural resources listed on or eligible for the National Register of Historic Places are present within the well complex footprints. The area of potential effects (APE) encompasses the approximately 1-acre footprints where soil would be disturbed.

## **Significance Threshold**

Impacts would be considered significant if the alternative results in:

- The removal or destruction of buried cultural resources.

## **Environmental Consequences**

### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

### **Proposed Alternative**

Well complex construction would entail clearing and grading operations on highly disturbed agricultural lands and a rural residential lot. There would be no impacts to historic properties. Excavation of the blowoff ponds could unearth buried cultural resources. With the implementation of the Environmental Commitment CUL-1, impacts would be less than significant.

## **Environmental Commitments**

- CUL-1: Initial excavation for construction will be monitored by the Corps archaeologist or by an archaeologist selected by the Corps archaeologist. The monitor must meet the Standards of the Secretary of the Interior.
- CUL2: In the event that previously unknown cultural resources are encountered during construction of the proposed project, all activities will cease until the provisions of 36 CFR 800.11 are met.
- CUL-3: In the event of accidental discovery of human remains, the Corps archaeologist and the Riverside County Coroner must be notified and construction activities will be halted immediately. If the remains are identified as Native American, the Native American Heritage Commission (NAHC) must be notified within 24 hours. NAHC guidelines will then be followed.

## **3.8 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE**

### **Affected Environment**

Well Complexes 93, 94, and 95 are located in Nuevo, an unincorporated community within western Riverside County. Well Complex 96 is located in the vicinity of Nuevo. The socioeconomic demographics for Nuevo and Riverside County are shown below.

In general, the socioeconomic demographics for Nuevo are similar to those for Riverside County. Nuevo’s median household income is slightly higher than Riverside County, and percentage of persons below poverty is slightly higher. The percentage of Blacks in Nuevo is notably.

Parameters	Community of Nuevo	County of Riverside
Total population	6,447	2,189,641
White	40.3%	38.0%
Black	1.8%	7%
Hispanic/Latino	54.5%	46.9%
Asian	1.3%	1.9%
Median Household Income	\$60,132	\$57,096
Persons below poverty	16.6%	15.6%

### Significance Threshold

Impacts would be considered significant if the alternative results in:

- A substantial shift in population, housing, and employment.
- Disproportionate adverse environmental impacts to minority or low-income populations.

### Environmental Consequences

#### No Federal Action Alternative

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

#### Proposed Alternative

The construction work at each well complex is limited in scope and would last approximately one year in duration with multiple elements occurring concurrently. Clearing, grading, and excavation operations would likely be completed within one month. Approximately six months would be required to drill the well. Construction of each well complex would temporarily provide approximately 5 to 15 construction jobs depending on the construction element. The scope of construction would not alter regional socioeconomic trends.

The community of Nuevo has less low income and minority populations than Riverside County. Though environmental impacts associated with construction of well complexes are expected to be minor, the impacts would not be disproportionately borne by low income or minority populations. As a result, there would be less than significant impacts on socioeconomics and environmental justice.



### **3.9 RECREATION**

#### **Affected Environment**

Well Complexes 93, 94, and 95 are located within active agricultural lands. Well Complex 96 is located on an undeveloped rural residential lot. There are no recreation facilities within the immediate vicinity of all four well complex sites.

#### **Significance Threshold**

Impacts would be considered significant if the alternative:

- Permanently limits the use of and access of a recreational area or facility.

#### **Environmental Consequences**

##### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Construction of the well complexes under the No Federal Action Alternative would not affect recreation since there are no recreation facilities within the immediate vicinity of all four well complex sites.

##### **Proposed Alternative**

Construction of the well complexes would not affect recreation since there are no recreation facilities within the immediate vicinity of all four well complex sites.

### **3.10 AESTHETICS**

#### **Affected Environment**

Well Complexes 93, 94, and 95 would be located on existing agricultural lands, both active and fallow. The foreground is composed of open agricultural lands. The middle ground encompasses houses, barns, and hay sheds that form distinct elements within the viewing area. Background views to the north include open vistas towards the mountains.

Well Complex 96 is located within a rural residential neighborhood. The foreground consists of residential houses. The middle ground encompasses open agricultural lands. Background views to the north include open vistas towards the mountains.

#### **Significance Threshold**

Impacts would be considered significant if the alternative results in:

- A substantial modification of the scenic vista.

## **Environmental Consequences**

### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

### **Proposed Alternative**

Under the Proposed Alternative, the Corps would construct an array of four well complexes: Well 93, 94, 95, and 96. Each complex includes the well and appurtenant infrastructure such as blowoff ponds, pump house, and an access road. The footprint of each complex would range from 0.9 to 1.3 acres in size. An approximately twenty foot tall, 24 foot by 36 foot (864 square feet) cinderblock pump house would be constructed to house a process room, brine tank room, and an electrical room. A chain-link fence would circumscribe each complex. Well Complexes 93, 94, and 95 would entail distinct protrusions within the immediate vicinity of the sites.

However, when viewed from a distance, the structures would be easily resolved into the middle ground which is composed of houses, barns, and hay sheds. Furthermore, background views to the north in the far distance would remain unchanged. Due to the limited size of each well complex, the structures would not substantially modify the existing vista.

Well Complex 96 would resolve into the foreground since it is immediately adjacent to large rural residential homes. However, its industrial exterior would be visually distinct from the rural residential structures. When viewed from a distance, the structure would add to the existing line composed of residential structures when juxtaposed against the nearby open fields. Background views to the north in the far distance would remain unchanged. Due to the limited size of the well complex, the structure would not substantially modify the existing vista.

## **3.11 TRAFFIC**

### **Affected Environment**

The project area would likely be accessed using Interstate 215, Nuevo Road, Menifee Road, and Reservoir Avenue. The average daily trips (ADTs) for the primary arteries are indicated below.

### **Significance Threshold**

Impacts would be considered significant if the alternative results in:

- A substantial increase in ADTs of primary arteries used to access the site.

## Environmental Consequences

### No Federal Action Alternative

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

### Proposed Alternative

In general, each well complex would require export of approximately 2,000 cubic yards of fill during the clearing, grading, and excavation phases. Fill export would require approximately 100 truck trips using 20 cubic yard trucks. Earthwork would likely be completed within 30 days resulting in approximately 3 truck trips per day. Approximately 5 vendor trips per day would be required throughout the construction period. Last, the number of construction workers would range from 5 to 13. At peak construction there could be approximately 21 additional trips per day. Increases in AADTs associated with peak traffic estimates are shown below.

Artery	Average Annual Daily Trips	Additional Trips at Peak Construction	Percent Increase in Average Annual Daily Trips
Interstate 215	109,371	21	0.02%
Nuevo Road	11,898	21	0.17%
Menifee Road	5,542	21	0.37%
Reservoir Avenue	905	21	2.3%

The increase in construction related traffic represents an approximately 0.02% to 2.3% increase over the existing AADTs. The increase would be temporary. AADTs would return to pre-project levels upon completion of construction. Therefore, traffic impacts would be less than significant.

## 3.12 HAZARDOUS AND TOXIC SUBSTANCES

### Affected Environment

Per the Department of Toxic Substance Control (DTSC) EnviroStor database, there are no cleanup sites within a five mile radius of the well complex sites. Wells Complexes 93, 94, and 95 would be located on agricultural lands. As a result, presence of agricultural chemicals (e.g., chemical fertilizers, pesticides, and herbicides) within the soils is likely.

### Significance Threshold

Impacts would be considered significant if the alternative results in:

- Long-term exposure of humans, wildlife, wildlife habitat, and the general environment to hazardous materials.

## **Environmental Consequences**

### **No Federal Action Alternative**

Under the No Federal Action alternative, the Corps would not construct the four ground water wells. In the absence of federal assistance, EMWD would likely continue with construction since the need to utilize ground water to supplement water supplies would remain unchanged. Impacts would be similar to those characterized under the Proposed Alternative.

### **Proposed Alternative**

Construction of each well complex use of standard construction materials such as concrete, asphalt, cinderblock, rebar, construction adhesives, architectural coatings, sealants, and metal pipes. Electrical motors and appurtenant electrical equipment such as transformers would also be utilized. Security fencing would circumscribe each well complex.

Clearing, grading, and excavation operations at Well Complexes 93, 94, and 95 could temporarily suspend particulate matter containing trace amounts of agricultural chemicals. However, use of watering trucks would minimize suspension of such dust.

During operation, water will be treated onsite with sodium chloride. The sodium chloride would be stored as solid salt. Chlorine from the salt would be procured on an as needed basis through an electrolytic process, resulting in a brine solution. Liquid or gaseous forms of chlorine which could result in acute health impacts upon accidental releases of chlorine would not be utilized. Treated raw water would be pumped to the Perris II desalter plant. No manufacturing byproducts would be generated by the on-site water treatment process.

Based on the above, construction and operation of the wells would not result in long-term exposure of humans, wildlife, wildlife habitat, and the general environment to hazardous materials. Impacts would be less than significant.

## **4.0 CUMULATIVE IMPACTS**

EMWD services an approximately 555 square mile region of western Riverside County encompassing a number of rapidly growing cities including but not limited to Moreno Valley, Perris, Menifee, Hemet, and Murrieta. EMWD retails water to more than 82,000 homes and businesses, including 200 agricultural customers. The number of customers is expected to increase from approximately 630,000 to approximately 1 million by 2020.

EMWD relies on a mixture of ground water and imported water. Approximately 75% of EMWD's potable water is imported from the Colorado River Aqueduct and from State Water Project via the Metropolitan Water District.<sup>2</sup> The remaining 25% is supplied by EMWD water

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<sup>2</sup> <http://www.emwd.org/services/drinking-water-service/water-supply#ground>

wells located throughout its service area. EMWD ground water wells pump both potable and raw groundwater. The majority of the groundwater produced by EMWD comes from its wells in the Hemet and San Jacinto area. EMWD also has wells in the Moreno Valley, Perris Valley, and Murrieta areas which are a part of EMWD's West San Jacinto Groundwater Management Area.

With the persisting drought conditions throughout California and increasingly limited supplies from the Colorado River and from northern California, there is a need to further augment water supply through continued use of ground water. With the West San Jacinto Groundwater Management Area where the four proposed well complexes are located there are approximately over 500 wells. EMWD currently operates 11 raw ground water well complexes. In addition to the four proposed wells that would be constructed in conjunction with the Corps, EMWD plan to construct three additional groundwater wells in the West San Jacinto Groundwater Management Area. EMWD has no plans to add additional ground water wells in the foreseeable future. However, given the substantial role of agriculture in the regional economy of Riverside and the continuing need to utilize groundwater, the number of private wells could increase in the foreseeable future. As a result, the addition of four new wells to the approximately over 500 wells in the West San Jacinto Groundwater Management Area would result in less than significant cumulative impacts.

## **5.0 APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS**

- **Clean Air Act of 1972, as amended, 42 U.S.C. 7401, et seq.** *Full compliance.* The project is not expected to violate any Federal air quality standards, exceed the U.S. EPA's general conformity de minimis threshold, or hinder the attainment of air quality objectives in the local air basin.
- **Endangered Species Act of 1973, as amended, 16 U.S.C. 1531, et seq.** *Full compliance.* The project would not affect any federally listed species or designated critical habitat. As such, Endangered Species Act section 7 consultation with the US Fish and Wildlife Service is not required.
- **National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321, et seq.** *Full compliance.* This EA has evaluated alternatives and associated environmental impacts.
- **National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470 et seq.** *Full Compliance.* No cultural resources listed on or eligible for the National Register of Historic Places are present within the project area. The undertaking would not affect historic properties.
- **Executive Order 12898, Environmental Justice Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994.** *Full Compliance.* Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations) was signed on

February 11, 1994. This order directs Federal agencies to make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the U.S. Based on the evaluation above, the project would not result in disproportionate environmental impacts on low income and minority populations.

## **6.0 LIST OF PREPARERS**

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