

**WaterSMART  
DROUGHT RESPONSE PROGRAM:  
DROUGHT RESILIENCY PROJECTS FOR FISCAL  
YEAR 2018**

**Funding Opportunity BOR-DO-18-F008**

**San Jacinto Valley Raw Water  
Conveyance Facilities Project:  
Phase I**

**February 13, 2018**

**Riverside County, California**



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- B. EMWD Water Shortage Contingency Plan**

- C. Metropolitan Water District of Southern California Integrated Water Resources Plan**
- D. Metropolitan Water District of Southern California Water Surplus and Drought Management Plan**
- E. SAWPA One Water One Watershed 2.0 Plan**
- F. Resolution**

# **TECHNICAL PROPOSAL**

## **I. EXECUTIVE SUMMARY**

### **I.A General Information**

<b>Date:</b>	February 13, 2018
<b>Applicant:</b>	EMWD Municipal Water District
<b>City, County, State:</b>	Perris, Riverside County, California

### **I.B Project Summary**

Eastern Municipal Water District's (EMWD's) San Jacinto Valley Raw Water Conveyance Facilities (SJVRWCF) Project will provide dedicated imported raw water conveyance for program recharge operations in its service area. The overall SJVRWCF Project will construct approximately six miles of 60-inch and 54-inch diameter transmission pipelines, a new Service Connection (EM-25) with Metropolitan Water District of Southern California (Metropolitan), a pumping station/chlorination facility, and related appurtenances. The SJVRWCF Project will interconnect the new transmission pipelines with existing (33-inch) pipelines in order to convey imported water to the existing Integrated Recharge and Recovery Program (IRRP) recharge facilities and proposed Enhanced Recharge and Recovery Program (ERRP) recharge facilities for recharge operations. This application is requesting funding for Phase I (Phase I Project) of the SJVRWCF Project which will design and construct the EM-25 Interconnection, the 60-inch portion of the transmission pipeline (that will connect to the existing 33-inch pipeline), and the chlorination facility, which will allow EMWD to convey imported water to the IRRP and ERRP facilities for recharge. The Phase I Project is expected to produce a total of 21,000 acre-feet (AF) of stored water supply over three years via groundwater recharge of imported Metropolitan water to the San Jacinto Upper Pressure Subbasin of the San Jacinto Groundwater Basin.

Grant funding will be used to design and construct the EM-25 Interconnection, the chlorination facility, and approximately 2.25 miles of the 60-inch diameter transmission pipeline from the EM-25 Interconnection to the intersection of Kirby Street and Commonwealth Avenue in Hemet, California. The Project will support water banking efforts designed to assist EMWD in proactively securing additional water supplies in wet years to be stored for use in times of drought. This project meets U.S. Bureau of Reclamation's (Reclamation's) Drought Response Program priorities for building long-term resiliency to drought by providing additional flexibility in how EMWD manages its water resources.

The Phase I Project will cost a total of approximately \$19.5 million, of which \$750,000 is requested under this FOA through Funding Group II. Project work began in October 2017 with preliminary design and construction is expected to be complete by mid-2021. The Project is not located on a Federal facility.

## II. BACKGROUND DATA

### II.A Geographic Location

EMWD is a regional public water and wastewater agency that provides service for a population of over 761,000 (32% of Riverside County) through 147,300 service connections. EMWD was formed in 1950 and annexed to Metropolitan in 1951, for the purpose of importing water to augment local groundwater supplies. EMWD serves as a wholesale provider of imported water to seven local public water systems, agricultural customers, and other private interests in addition to its retail customers. EMWD’s service area encompasses 555 square miles in a semi-arid region in southwest Riverside County along Interstate 215. It is bounded on the west by Western Municipal Water District and Elsinore Valley Municipal Water District, on the north by the San Bernardino County Line, and on the south by the San Diego County Line. The Project is located in Hemet, California located in Riverside County. The project latitude is 33°47’N and longitude is 116°60’W. A project area map is included as **Figure 1**.

### II.B Source of Water Supply

EMWD is located in a semi-arid region in southwest Riverside County, California. For many years, EMWD has proactively developed local resources to help meet the needs of customers. These efforts include the development of a robust recycled water program and the desalination of local brackish groundwater. Even with these efforts, 54 percent of EMWD’s total water supply is imported through Metropolitan.

EMWD has four sources of water supply: imported water purchased from Metropolitan, local potable groundwater, local desalinated groundwater, and recycled water. Total water supply for EMWD is made up of approximately 50 percent imported water, 12 percent local potable groundwater, 4 percent desalted groundwater, and 34 percent recycled water. Metropolitan delivers water from two sources, the State Water Project (SWP) and the Colorado River Aqueduct (CRA). **Table 1**, with information taken from EMWD’s 2015 Urban Water Management Plan (UWMP; 2016 EMWD), lists annual supply use from 2010 through 2015.

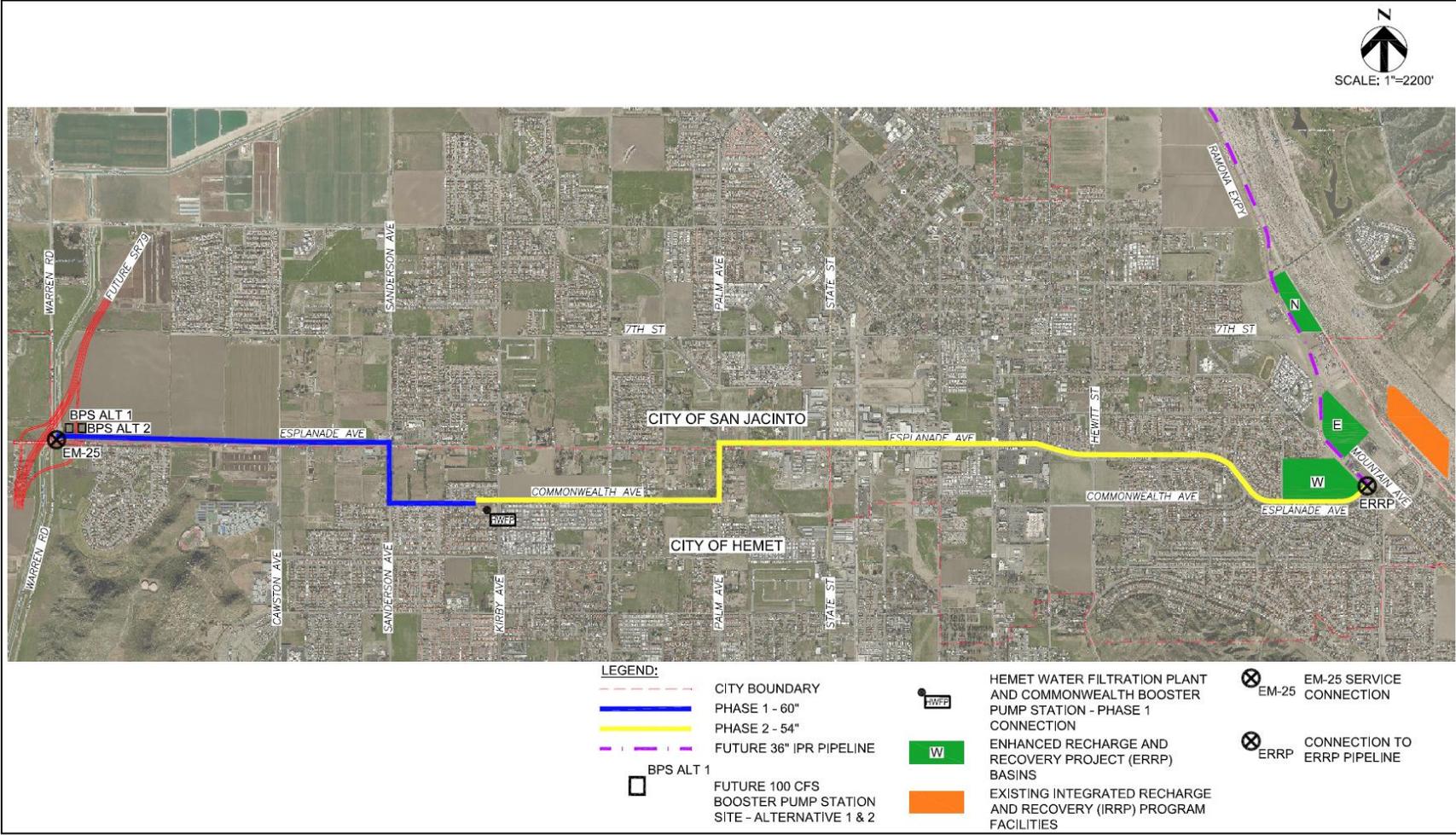
**Table 1. Retail Water Supply (AFY) 2010 – 2015**

Source	2010	2011	2012	2013	2014	2015
Imported – Metropolitan Treated	49,700	47,000	53,200	52,300	52,900	36,800
Imported – Locally Treated	16,600	16,200	18,300	18,100	21,600	18,600
Raw Imported Metropolitan	500	700	600	800	800	900
Groundwater - Hemet/San Jacinto and West San Jacinto Basins	15,700	17,500	15,500	18,800	12,000	15,300
Desalinated Groundwater from West San Jacinto Mgmt. Area	5,800	5,700	5,700	4,800	6,776	7,300
Recycled Water from EMWD Regional Reclamation Facilities	46,500	45,800	46,000	47,600	46,900	44,200
<b>Total</b>	<b>134,800</b>	<b>132,900</b>	<b>139,300</b>	<b>142,400</b>	<b>140,976</b>	<b>123,100</b>

It is anticipated that water demands will increase in the future, primarily due to urban development. To meet future demand, imported water sources will be supplemented by an increase in desalination of brackish groundwater, recycled water, and water use efficiency.

**Table 2** lists the projected average year supply resources available to EMWD from 2020 – 2040.

Figure 1: Project Map



**SAN JACINTO VALLEY RAW WATER CONVEYANCE FACILITIES**  
**PRIMARY DESIGN PHASE 1 AND PHASE 2**  
**PIPELINE ALIGNMENTS**

DATE  
 JAN 2018  
 FIGURE  
 1

In an effort to reduce dependency on imported water from Metropolitan, EMWD has developed several programs designed to take advantage of local resources. High quality groundwater is a source of local water supply for customers in the Hemet/San Jacinto area of the East San Jacinto Basin. Groundwater from the West San Jacinto Basin is desalted and blended with imported water for use in the western portion of EMWD’s service area. EMWD has constructed two desalination facilities (desalter) in the West San Jacinto Groundwater Basin area; a third desalter has been designed and is scheduled to come online between 2020 and 2025. Desalters recover poor quality groundwater with high levels of total dissolved solids (TDS) and produce water that is of high enough quality to enter EMWD’s potable distribution system. In addition to groundwater extraction, EMWD is one of the leading suppliers of recycled water in Southern California.

**Table 2. Projected Retail Water Supply Sources for 2020–2040 under Average Year (AFY)**

	2020	2025	2030	2035	2040
Metropolitan Water District <sup>(1)</sup>	73,697	81,597	92,997	104,097	114,597
Groundwater	12,303	12,303	12,303	12,303	12,303
Desalters	7,000	10,100	10,100	10,100	10,100
Recycled Water	45,245	48,334	50,017	51,800	53,300
<b>Total Supplies</b>	<b>138,245</b>	<b>152,334</b>	<b>165,417</b>	<b>178,300</b>	<b>190,300</b>

(1) Imported water totals from Metropolitan do not include 7,500 AF in annual deliveries for recharge purposes under the Soboba Settlement Agreement.

EMWD has identified several projects that would supplement imported supplies, including groundwater development, groundwater treatment, retrofit of potable water landscape customers with recycled water, indirect potable recharge, and additional water use efficiency.

Through the use of pilot programs and temporary facilities, EMWD has recharged groundwater in the Hemet/San Jacinto area with imported Replenishment Service water from Metropolitan since 1990. In April of 2004, EMWD, Lake Hemet Municipal Water District (LHMWD), and the Cities of Hemet and San Jacinto executed a Memorandum of Understanding (MOU) for an Interim Water Supply Plan. The purpose of the plan was to address the deteriorating groundwater situation in the Hemet/San Jacinto area by providing recharge of imported water from the State Water Project into the aquifer. From 2004 through 2007, the amount of water recharged into the aquifer from the SWP was 20,819 AF. Due to dry conditions, environmental restriction, and the level of demands in its service area, Metropolitan curtailed Replenishment Service in May 2007. Since then, permits to recharge water through this temporary program has expired.

To replace the temporary recharge facilities, long-term facilities were built as part of the IRRP. The IRRP consists of 35 acres of basins or ponds for recharging State Project Water, as well as, three extraction wells to extract the recharged water; three monitoring wells; modification to two existing pump stations; and pipelines within, and adjacent to, the San Jacinto River. In 2012 over 8,000 AF was recharged at the IRRP ponds, and in 2017, 19,686 AF was recharged in IRRP and another recharge facilities in the same vicinity.

EMWD is also contributing to the replenishment of the basin by providing recycled water in lieu of groundwater production. The Recycled In-Lieu Program supplies recycled water for agricultural irrigation in-lieu of those users pumping native groundwater and can deliver up to 8,540 AFY to local agricultural water producers. Agreements that set limits on groundwater production and provide for payment of a portion of the operation and maintenance costs have been in place since 2008.

## **II.C Water Rights**

On October 16, 1950 EMWD was organized under the Municipal Water District Act of 1911, for the primary purpose of importing Colorado River water to its service area to augment local water supplies. The following provides a discussion of EMWD and member agency water rights.

### *Imported Water Rights*

In 1951 EMWD was annexed into Metropolitan by EMWD's voters. EMWD is a member of Metropolitan, which is a cooperative organization of 26 cities and water agencies that are responsible for providing imported water to arid Southern California. EMWD is currently entitled to have one EMWD representative on the Metropolitan Board. The statutory relationship between Metropolitan and its member agencies establishes the scope of EMWD's entitlements from Metropolitan.

### *Groundwater Rights and Management*

As described previously, EMWD has access to groundwater from both the East (Hemet/San Jacinto area) and West San Jacinto Basins. Since 2001 through 2007, the Cities of Hemet and San Jacinto, LHMWD, EMWD, and representatives of the private groundwater producers, with a mediator from the California Department of Water Resources (DWR), worked on developing a groundwater management plan for the Hemet/San Jacinto area. As a result of their efforts, a final Hemet/San Jacinto Water Management Plan (HSJWMP) was completed in 2007 and a Stipulated Judgment was finalized in 2013.

Long term groundwater management includes plans for artificial recharge using Metropolitan replenishment water via permanent facilities through the IRRP. An agreement with the Soboba Band of Luiseño Indians (Soboba Settlement) requires that, on average, an annual delivery of 7,500 AF of water be made available from Metropolitan over 30 years. Water is delivered to EMWD on behalf of the settlement parties including EMWD, LHMWD, and the Cities of Hemet and San Jacinto. This is part of an effort to recharge groundwater in the Hemet/San Jacinto area, fulfilling the Soboba Tribe's water rights and addressing chronic groundwater overdrafts.

EMWD's rights under the HSJWMP include a base groundwater production right of 10,869 AFY. As water levels decline, EMWD has been required to reduce production by up to 10 percent annually over six years. EMWD's adjusted production right will be reduced to 7,303 AFY by 2018/19. Any pumping above that amount is subject to replenishment fees unless groundwater is stored in advance by EMWD for its use.

In the West San Jacinto area, a cooperative groundwater management plan is also in place to insure the reliability and quality of the water supply. In June 1995, EMWD adopted the West San Jacinto Groundwater Basin Management Plan (WSJGBMP) in accordance with the statutes in the State Water Code Sections 10750 through 10755, resulting from the passage of Assembly Bill 3030 (AB3030). The plan was adopted after extensive public outreach and meetings with interested individuals and agencies.

## **II.D Water Uses, Current and Projected Water Demand**

Located in Southwest Riverside County, EMWD's service area experienced one of the fastest growth rates in the nation in the early 2000's. Although having recently experienced a dramatic slowdown in the development market, EMWD is less than 40 percent built out and expects demand to grow as the economy continues to recover.

EMWD’s service area is made up of mostly single family residential homes with a small amount of commercial and industrial development. Only a small portion of EMWD’s agricultural customers are served with potable water. The majority of agricultural demand and a portion of landscape and industrial demand are met with recycled water. **Table 3** provides the percent of EMWD’s current potable water supply used by retail customer type. EMWD currently serves 761,000 people (32% of Riverside County) through 147,300 service connections.

**Table 3. Percent of Potable Water Uses for EMWD’s Retail Customers<sup>1</sup>**

Single Fam. Residential	Multi-Family Residential	Com-mercial	Industrial	Institu-tional	Landscape	Agriculture	Other <sup>2</sup>	Losses
59.2%	7.5%	6.0%	0.3%	2.7%	10.0%	2.5%	6.4%	5.4%

(1) Does not include demands supplied with raw water

(2) Other uses include temporary construction meters, unbilled but authorized consumption, etc.

**Table 4** lists current and future potable water demand for EMWD.

**Table 4. Current and Future Potable and Raw Water Demand (AFY) – 2015-2040**

	Actual	Projected				
	2015	2020	2025	2030	2035	2040
Retail Potable Water	78,937	100,500	111,500	122,900	134,000	144,500
Wholesale Demands <sup>1</sup>	21,768	50,500	54,100	57,700	61,200	64,800
Other Water Uses / Losses	4,183	7,100	7,900	8,800	9,700	10,500
<b>Total</b>	<b>104,888</b>	<b>158,100</b>	<b>173,500</b>	<b>189,400</b>	<b>204,900</b>	<b>219,800</b>

(1) Sales and Groundwater recharge

## II.E Potential Shortfalls in Water Supply

EMWD’s water supply is a blend of imported and local resources. Both of these resources face limitations, especially as development increases. Improving reliability and efficient use of water is a key to supporting economic development and improving resiliency. Reducing demand for landscape irrigation will stretch existing supplies and improve long term reliability.

EMWD is proactive in developing and protecting its local resources, including groundwater, desalinated water and recycled water. Even with large investments in local facilities and supply, EMWD is still heavily reliant on imported water from Metropolitan for both direct use and recharge.

Metropolitan uses the Water Surplus and Drought Management (WSDM) Plan as a guideline to store surplus water when available to supplement dry year supplies. During unprecedented shortage events, the Metropolitan Water Supply Plan (WSAP) is implemented, requiring a reduction in demand by member agencies, and takes into account member agency population growth and investments in local resources. Member agencies are allocated a portion of their anticipated demand with the assurance that a member agency will not see a retail shortage greater than the regional shortage.

Water supply is not limited under the allocation plan but water use above a member agency’s allocation is charged at a much higher rate. Several years of dry conditions and regulatory limitations on SWP operations required Metropolitan to implement the WSAP at a 10 percent regional shortage level from July of 2009 through April of 2011. This action follows the principles in the Water Surplus and Drought Management Plan as described in the 2010 EMWD UWMP. During the allocation from Metropolitan, EMWD implemented demand reduction strategies as

outlined in its Water Shortage Contingency Plan (WSCP) and reduced imported demand below the allocation level.

To decrease reliance on imported water, EMWD has developed groundwater management plans, implemented a groundwater desalination program, and expanded its recycled water system. Although these efforts have reduced dependence on Metropolitan imports there is the potential for shortfalls in local water resources, specifically groundwater which has been heavily over-drafted in the past.

EMWD is actively working with other agencies and groups to ensure groundwater will be a reliable resource far into the future by limiting the amount of water that EMWD extracts. Native production in Hemet and San Jacinto will be reduced as the groundwater management plan is implemented and extraction of recharge water begins. If recharge water from Metropolitan is not available to recharge the basin it could threaten the ability to meet water demand in that area. The West San Jacinto Groundwater Basin's production must also remain static to prevent continued overdraft. Although the desalters will be an additional supply of water, the amount of water produced is not sufficient to accommodate all the proposed growth within EMWD.

EMWD has a growing population expected to grow from 761,000 people in 2015 to 1,275,000 in 2040. According to the Riverside County Center for Demographic Research 2010 projection, 58,000 new homes in EMWD's retail service area are proposed by 2020. To prepare for new economic opportunities and the water demand that will accompany them, EMWD is proposing to develop aggressive water use efficiency standards and practices for new development to implement.

### II.F Water Delivery System

EMWD has 2,441 miles of pipeline delivering water to approximately 147,300 retail connections and eight wholesale customers. EMWD's system ties together its local potable water sources to feed the entire service area (shown at right). Groundwater is the primary supply of water in the eastern area portion of EMWD, includes the Cities of Hemet and San Jacinto as well as surrounding unincorporated areas. The groundwater desalination plants serve the

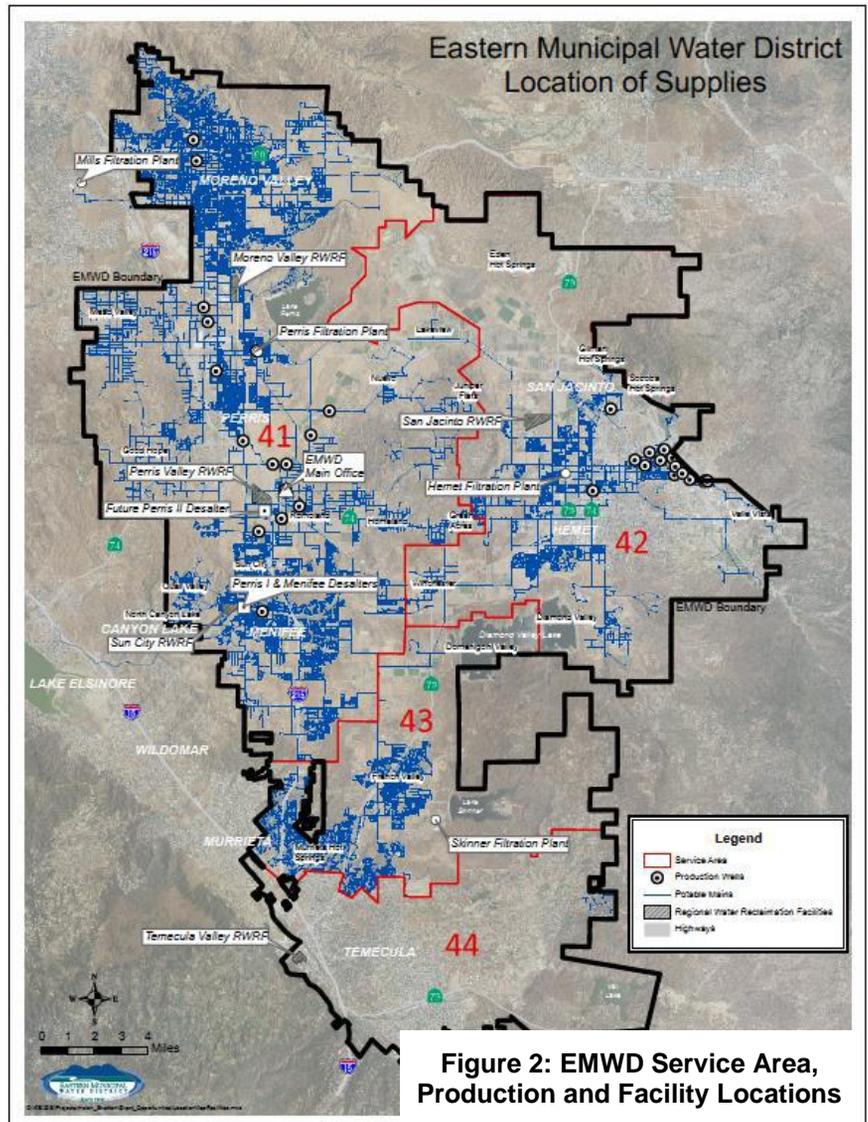


Figure 2: EMWD Service Area, Production and Facility Locations

middle portion of the EMWD. The microfiltration plant in Perris currently serves the City of Perris and surrounding areas. The Hemet Microfiltration Plant supplements supply to the Hemet/San Jacinto area. Metropolitan's Mills Filtration Plant serves Moreno Valley South, while Skinner in the southeast serves the Murrieta/Temecula area. The limits of services for each source of supply often vary due to demand level and operation procedures and constraints.

EMWD has 78 storage tanks, with a total storage capacity of 195<sup>5</sup> MG. EMWD's storage tanks are at ground elevations that are high enough to supply their respective pressure zones by gravity flow with suitable pressures. In addition, EMWD has 77 booster pump stations. A summary of storage facilities and booster pump station capacities are provided as an attached in **Appendix A**.

EMWD's service area is divided into three sub-areas (SA), shown in **Figure 2**, for retail distribution of potable water. The divisions are based on location, local water sources, existing water deliveries, and proximity to sources of imported water. Water can be transferred from one sub-area to another on a limited basis, but in general, the sub-areas are designed to operate independently using locally-accessible sources. In recent years, EMWD has had to move water into SA 42, from SA 41 and 43, to meet seasonal and maximum day demands (MDD). SA 44 only receives wholesale imported water from EMWD.

## **II.G Past and Present Working Relationships with Reclamation**

EMWD has worked with Reclamation on several different projects which include the following programs:

- **California Friendly Median/Large Landscape Irrigation Rebate Program (July 2006 – June 2009):** This was a three (3) year project, funded in part by the Reclamation's Field Services Water Conservation Program. This program funded more than 27,000 rotating nozzles for commercial customers.
- **California Friendly Home Projects (2005 – 2008):** This entailed multiple projects, funded in part by Reclamation's Field Services Water Conservation Program and administered through Metropolitan. This program provided water efficient landscape incentives for 555 new homes in EMWD's service area.
- **The Perris Groundwater Basin – Zero Liquid Discharge System (2005 – ongoing):** This is an ongoing project, funded by Reclamation. This project applies new technology to reduce volume of brine discharge.
- **Public School Retrofit Program (2008 – 2011):** This was a three (3) year project, funded in part by Reclamation's CALFED Water Use Efficiency Grant. This program enabled 48 public schools within EMWD's service area to retrofit inefficient devices with water efficient devices both indoor and outdoor.
- **High Efficiency Clothes Washer Direct Install Program in partnership with Southern California Gas (2010 – ongoing):** This is an ongoing program, funded in part by Reclamation, to provide the installation of HEWs, as a component of the SoCal Gas Low Income Energy Efficiency program, to low-income single-family homes that are customers of both EMWD and SoCal Gas.
- **Perris Water Filtration Plant Reject Recovery Facility Project (2010 – ongoing):** Funding from Reclamation was used to fund the design of this facility. The Reject Recovery Facility will divert reject stream from the Perris Water Filtration Plant from the sewer and will treat the flow using low pressure membrane filtration. The project will offset up to 0.85 mgd of imported water and reduce discharge to the sewer by the same amount.

- **Water Efficient Guidelines for New Development (2011 – ongoing):** This ongoing program, which was funded in part by Reclamation, will develop a guidebook for new construction that will encourage water use efficiency beyond what is currently required by legislation, code and ordinance.
- **Water Use Efficiency Master Plan (WUEMP) (2014 – 2015):** The WUEMP was funded in part by Reclamation. It helped to identify and update the targets for saving water through active conservation and provided a portfolio of projects and actions that can meet or exceed the Water Conservation Act of 2009, Senate Bill 7x-7 (SB7x-7), which set a requirement for water agencies to reduce their per capita water use by the year 2020.
- **Outdoor School Water Management Program (October 2015 – December 2017):** The objective of this program is to assist schools in reducing the amount of water they are currently using by eliminating non-functional turf and installing devices such as smart controllers and nozzles. The program was funded under Reclamation’s CALFED Water Use Efficiency Grant Program.

### III. TECHNICAL PROJECT DESCRIPTION

The Project is expected to produce a total of 21,000 AF of stored water supply over three years. EMWD plans to recharge the San Jacinto Upper Pressure Subbasin of the San Jacinto Groundwater Basin with surplus imported water from Metropolitan. The Project will construct an interconnection with Metropolitan Water District (EM-25) and a portion of the 60-inch transmission pipeline that will connect to the existing 33-inch pipeline, as described in the “General Information” section of this proposal. This will allow EMWD to convey recharge water to the IRRP facilities, which has an existing capacity of 42 cubic feet per second (cfs). Project work will result in the construction of EM-25 and approximately 2.25 miles of the 60-inch diameter transmission pipeline from EM-25 to the intersection of Kirby Street and Commonwealth Avenue in the City of Hemet. Project work includes preliminary design, final design, specification review, bid award, construction, and project closeout.

Seven tasks are defined below to accomplish the Project work and are organized to parallel the Budget Proposal items. Project work will focus on preliminary design through project close out. EMWD has hired a consultant to assist in design and will select a contractor through a standard competitive bid award process to complete Project construction.

#### **Task 1: Preliminary Design**

Preliminary design will include data gathering, site reconnaissance, and analysis of the project area. These preliminary investigations will help to inform Task 2 and Task 5. An investigation and evaluation will be conducted for facility siting, pipeline alignments, and project phasing. Geotechnical work and property acquisition support will both take place in this initial project task as well. EMWD, in coordination with its consultants and Metropolitan, will develop design criteria and site configurations. In addition, equipment and materials sizing and selection will help to develop a preliminary construction cost estimate and schedule. Deliverables for Task 1 are the Preliminary Design Report and 30-percent Design Level Drawings.

#### **Task 2: Final Design**

Work involved in Task 2 will help to finalize the Project design based on the preliminary engineering design. EMWD will conduct Safety Pre-Use and relevant facility-specific analyses. In

preparation for the 60-, 90-, and 100-percent construction contract documents, EMWD will coordinate with Systems Integrator and Site Security vendors, finalize construction cost estimates and schedules. Operational control strategy, work sequencing, and start-up plans will also be developed. Design support tasks, which include permitting and CEQA compliance, will be done concurrently in Task 2, and is anticipated include the preparation of Mitigated Negative Declaration (MND). In addition, all required permits will be obtained, as required by City, State, and Federal laws and regulations. Final Task 2 design deliverables include 60-, 90-, and 100-percent drawings, plans, and specifications. In addition, EMWD will deliver final CEQA documentation and Facility Design and Operations Manual. EMWD will also develop public outreach materials such as website updates, fact sheets, notifications to homeowners and businesses near the project site, and presentations to community organizations and governmental agencies.

### **Task 3: Specification Review**

EMWD will spend a period of 4 to 6 weeks to review 60%, 90% and 100% final construction plans and specifications. The review will encompass biddability, value engineering, and constructability techniques for final packaging and solicitation. The Task 3 deliverables include bid-ready construction contract documents (plans and specifications).

### **Task 4: Bid Award**

EMWD will develop and advertise the Notice Inviting Bids according to the EMWD procurement policies and applicable codes, and include any/all documentation required of external funding agreements. During the advertisement period, EMWD will hold a pre-bid meeting for interested contractors and material suppliers to obtain pertinent information regarding the Project affecting their preparation of bids. During the pre-bid meeting, EMWD will discuss the project goals, timelines, constraints, and discuss any drivers that may be pertinent to the successful completion of the project. After a typical 4-5 week bidding period, EMWD will accept bids from responsible/responsive bidders. Upon receipt of bids, EMWD will review all received bids to validate/confirm the lowest responsive bid, which will be the basis of contract award.

### **Task 5: Construction**

Task 5 work includes construction administration, field inspections, and start-up and commissioning. Construction administration includes but is not limited to a pre-construction meeting, pre-construction safety meeting, bi-weekly progress meetings, processing contractor submittals, reviewing requests for information (RFIs), change controls, and overall project construction management of the project. Field Inspection activities shall include but not be limited to quality assurance inspections, shop/factory material inspections, general safety inspections, and other activities to ensure the successful construction of this project.

Facility construction will include the EM-25 service connection (located at the intersection of Warren Road and Esplanade Avenue, in the City of San Jacinto), the chlorination facility (located adjacent to the EM-25 service connection, east of Warren Road), as well as the construction of approximately 2.25 miles of 60-inch transmission pipeline (beginning at EM-25 and ending at a connection to the existing 33-inch pipeline near the Hemet Water Filtration Plant in the City of Hemet, at the intersection of Kirby Street and Commonwealth Avenue).

Task 5 deliverables include construction cost pay estimates, daily documentation of field construction activities, responses to RFIs, submittal reviews, authorization of Change Orders, and the Notice of Completion

#### **Task 6: Closeout**

Upon construction completion, EMWD will initiate the construction closeout process. Task 6 final deliverable is the substantiation of beneficial use or Notice of Substantial Completion, initiation and completion of the punchlist, and contract record drawings.

## **IV. PERFORMANCE MEASURES**

The performance of the Project can be measured in terms of additional imported water recharged into the local groundwater basin during wet and average years for use during dry years. The Project is expected to facilitate an additional 7,000 AFY of recharge over three wet years for a total of 21,000 AF of banked water available for extraction during dry years. Note that the three wet years are not assumed to be contiguous, but are expected to occur over the course of a ten-year period.

Currently, the Hemet Water Filtration Plant (HWFP) and the recharge facilities share the same MWD connection and supply pipeline. The Project will increase the amount of imported water available for recharge by separating the MWD connection and supply pipeline so that each facility has its own discrete source.

When the HWFP operates at its full capacity, the amount of imported water available for recharge is reduced by up to 18.0 cfs. By providing a separate MWD connection and supply pipeline to the recharge facilities, the Project will supply an additional 7,000 AFY during wet years. The capacity of the existing recharge facilities (about 30,000 AFY) is already adequate to handle this additional recharge, and additional recharge facilities will be constructed to allow even more recharge in the future.

## **V. EVALUATION CRITERIA**

### **V.A.1 Evaluation Criterion A: Project Benefits (40 points)**

***How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?***

The Project will help EMWD to maximize its local water resources and meet the growing water needs and economic opportunities of the region. More specifically, the Project builds long-term resilience to drought by improving EMWD's ability to store surplus imported water during wet years for use during drought years by recharging the San Jacinto Upper Pressure Subbasin of San Jacinto Groundwater Basin with surplus water from Metropolitan via the State Water Project.

As discussed in Section II, EMWD is subject to Metropolitan's WSAP which is only implemented in cases of extreme water shortage within Metropolitan's service area. When enacted, EMWD still has the option to purchase additional imported water to meet demand, but at a much higher rate. In the future, additional groundwater banking in the San Jacinto Upper Pressure Subbasin through the Project is expected to help minimize the potential for penalty water during drought.

Finally, the Project is expected to provide benefits to the Soboba Band of Luiseño Indians (Soboba Tribe) by fulfilling the Soboba Tribe's water rights and addressing chronic groundwater overdraft. The Soboba Band of Luiseño Indians Settlement Act of 2007 (Soboba Settlement) mandates, on

average, an annual delivery of 7,500 AF of water by Metropolitan for the next 30 years to EMWD, LHMWD, and the Cities of Hemet and San Jacinto, as part of an effort to recharge the San Jacinto Groundwater Basin, fulfilling the Soboba Tribe's water rights and addressing chronic groundwater overdraft. If Metropolitan allocations are curtailed due to drought, the region may find it more difficult to fulfill requirements of the Soboba Settlement Act. This Project will ensure the requirements of the Soboba Settlement are met, and that groundwater is available for the beneficial use of the Soboba Tribe.

The Project will continue to provide benefits to the region for as long as facilities are maintained. The lifespan of pipelines is anticipated to be 100 years, while the lifespan of pump stations are 30-50 years.

***Will the project make additional water supplies available? What is the estimated quantity of additional supply and how was this estimated? What percentage of the total water supply does the additional water supply represent and how was this estimated? Provide brief qualitative description of the degree/significance of the benefits associated with the additional water supply.***

The Project makes available during a dry year an additional 21,000 AF total, or 7,000 AFY for three wet years, of water supplies available for EMWD's use. These supply benefits were calculated based on the volume of capacity available in the existing system, where 13 cfs is available in the system, which is equivalent to 9,400 AFY. It is assumed that the percent usage will be 75%, and when applied to 9,400 AFY equates to approximately 7,000 AFY. Over the assumed three wet years, this will equal 21,000 AF of storage. At buildout (following the Phase 1 portion of the Project being proposed in this grant proposal), an additional 31,000 AF of storage is expected.

The additional 7,000 AFY of water supplies represents approximately 5 percent of EMWD's total water supply of 135,579 AFY. At buildout, the San Jacinto Valley Raw Water Conveyance Facilities Project is expected to represent up to 15 percent of EMWD's total water supplies. Total water supply used was calculated as the five-year average of EMWD's total water supply from 2010-2015, based on EMWD's 2015 Urban Water Management Plan (UWMP).

This secured drought supply increases the overall reliability of EMWD's water supply system, and will satisfy a potential 5 percent regional water reduction in imported deliveries from Metropolitan for three out of every 10 years, allowing EMWD to avoid drought allocation penalties if it is unable to meet required reductions to its water demand during droughts. Banking 21,000 AF will help offset anticipated cutbacks of projected imported water supplies during drought years. Groundwater banking avoids potentially large Metropolitan penalty rates and severe water use restrictions anticipated during severe water shortages. Without water banking, EMWD would have to pay Metropolitan penalty rates in allocation years if mandatory reductions are not achieved. Additionally, storing additional water in the region's groundwater aquifers will help to maintain and improve groundwater levels in the San Jacinto Groundwater Basin, which have historically been overdrafted.

***Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g. improve the ability to deliver water during drought or access other sources of supply)? How will the project increase efficiency or operational flexibility?***

The water supply stored through the Project improves management of water supplies by increasing water supplies available to offset dry-year imported water purchases from Metropolitan. The Project will allow EMWD more operational flexibility in how it manages its water during droughts and water shortages by allowing EMWD to reduce reliance on, and purchase of, additional imported water supplies from Metropolitan during drought.

***What is the estimated quantity of water to be better managed as a result of this project? How was this calculated?***

The estimated quantity of better managed water is 21,000 AF. This quantity was calculated as the volume of stored wet-year water provided by the Project.

***What % of total water supply does this water better managed represent? How was this estimated?***

This better managed water represents 15 percent of EMWD's total water supply of 135,579. Total water supply used was calculated as the five-year average of EMWD's total water supply from 2010-2015, based on EMWD's 2015 UWMP.

***Provide a brief qualitative description of the degree/significance of anticipated water management benefits.***

EMWD will avoid paying drought allowance penalties, which can be significant, thus reducing cost burdens on rate payers. In addition, EMWD will be able to prolong or avoid implementation of its WSCP, which forces water users to reduce their demand, and can have a significant impact on everyday life and local businesses. Finally, though the project is expected to recharge only SWP water, EMWD uses imported water from both the SWP and Colorado Aqueduct to serve its region. My improving management of imported water in the Upper San Jacinto Groundwater Basin area, it's expected that imported water used region-wide will be reduced during periods of drought.

***Will the project make new information available to water managers? If so, what is the information and how will it improve water management?***

The project will not make new information available to water managers.

***Will the project have benefits to fish, wildlife, or the environment? If so, please describe those benefits.***

The Project will help to support the regional ecosystems that are dependent on the surface water system overlying the San Jacinto Groundwater Basin, given the interconnection groundwater and surface water systems and benefit provided by sustainable groundwater management. The Santa Ana River, the major river within the watershed, supports an abundant amount of wildlife and plant species. Managing a sustainable level in the groundwater basin will reduce depletion of flows in the Santa Ana River and will benefit the species that depend on these flows. The varied geography and natural features of the Santa Ana River Watershed provide habitat for a number of Federal and/or State-listed species. The OWOW Plan 2.0 highlights listed species of concern that occupy aquatic, wetland, riparian, or riparian-adjacent areas. Species such as the Santa Ana River woolly star (*Eriastrum densifolium*), the least Bell's vireo (*Vireo bellii pusillus*), and the Stephen's kangaroo rat (*Dipodomys panamintinus*) are a few species that are dependent on the health of the Santa Ana River and the watershed's groundwater basins. The NMFS identified groundwater extraction as one of the highest threats to the native steelhead/rainbow trout (*Oncorhynchus mykiss*) populations in the Santa Ana River Watershed.

EMWD's water supply averaged 135,579 acre-feet from all sources (imported water, local groundwater, desalted groundwater, and recycled water) from 2010 to 2015. All imported and local groundwater is used for potable water. Water banked by the Project will reduce imported water from the SWP and Colorado River Aqueduct during droughts, where impacts to the environment can be more significant.

By reducing imported water demand during droughts, the Project will reduce diversions from the Colorado River and Bay-Delta and improve the condition of the downstream habitat on the Colorado River and the Bay-Delta. In the Bay-Delta, natural flows are altered by operation of the SWP, impacting aquatic species health. The Bay Delta Conservation Plan (BDCP), created to develop a plan for habitat conservation in the Delta, notes that various habitat types exist in the area including tidal and nontidal wetlands, floodplains, and riparian habitat. Reducing imported water use would allow for water to remain in the system to support these habitats. Additionally, species such as the Delta smelt become entrained in the pumps used to bring flows to Southern California. Reducing imported water demand will contribute towards reducing pumping in the Delta. The diversion of water for supply from the Colorado River has impacted downstream habitats, particularly habitats in the Colorado River Delta that are actively being restored, such as riparian and brackish marsh habitats. Reducing dependence on imported water from the Colorado River will contribute flows towards these efforts.

#### **V.A.2 Evaluation Criterion B: Drought Planning and Preparedness (20 points)**

A copy of EMWD's Water Shortage Contingency Plan, Metropolitan's Integrated Water Resources Plan, Metropolitan's Water Surplus and Drought Management Plan, and SAWPA's One Water One Watershed 2.0 Plan (SAWPA) are provided as attachments to this application, and are described in the narrative below.

***Explain how plan addresses drought. Proposals that reference plans clearly intended to prepare for and address drought will receive more points. Explain whether drought plan was developed with input from multiple stakeholders. Describe how the proposed project is supported by existing drought plan.***

##### *Water Shortage Contingency Plan (EMWD)*

EMWD's Water Shortage Contingency Plan (WSCP), provided in **Appendix B**, outlines the five stages in response to a water shortage. The WSCP defines a water shortage as a condition in which potable water supply does not meet water demands. The WSCP follows this by acknowledging a water shortage condition may be the result of factors such as drought or failures of water distribution systems. Though the WSCP does not directly consider climate change impacts, the five-stage response plan will be implemented as a response to immediate impacts of climate change as they affect water supply availability.

Coordinated development and implementation of the WSCP was undertaken by regional planning groups including Metropolitan and EMWD sub-agencies, Lake Hemet Municipal Water District, Nuevo Water Company, Rancho Water District, and the Cities of Perris, Hemet, and San Jacinto.

While the WSCP does not specifically identify the Project as a response action, the Project will curtail the impacts of a water shortage, as defined by the WSCP. Having a contingency water supply stored in local groundwater basins will prolong EMWD's need to implement various stages of the WSCP that include mandatory demand reductions.

### *Water Surplus and Drought Management Plan (Metropolitan)*

Metropolitan uses the Water Surplus and Drought Management (WSDM) Plan, **Appendix D**, as a guideline to store surplus water when available to supplement dry year supplies. The WSDM Plan is a 10-year plan used to direct resources operations to help attain the region’s 100 percent reliability goal. The overall goal of the WSDM Plan is to avoid mandatory imported water shortage allocations and is part of the implementation of the regional Integrated Resources Plan (IRP) – discussed below. Though the WSDM Plan itself does not address climate change, the IRP considers the impacts of climate change on water supply and demand on Metropolitan’s service area. Major areas of concern highlighted in the IRP are reduction in the Sierra Nevada snowpack, reduction in runoff and river flow of the Colorado River Basin, increased intensity and frequency of extreme weather events, such as drought, and sea level rise. To ensure supply reliability under various drought conditions, Metropolitan and its member agencies, including EMWD, have invested in various regional water resource projects such as the SWP, the Eastside Reservoir Project, and a groundwater conjunctive use storage program in the North Las Posas Basin in Ventura County.

The Project aligns with Metropolitan’s goal of expanding its regional storage capacity in order to bank surplus imported water during wet years as a mitigation measure. Metropolitan’s storage program aims to increase storage in groundwater basins within its service area as an economical way to increase supply reliability. Groundwater replenishment allows Metropolitan member agencies to access additional water supply by using existing wells and without the construction of new facilities. The Project will allow the region’s contingency water supply to be readily accessible during times of drought or emergency. The major goal of the WSDM Plan is to utilize surplus wet-year supply to offset dry-year deficits. The Project fulfills this major need.

### *Integrated Water Resources Plan (Metropolitan)*

Metropolitan’s Integrated Water Resources Plan (IRP), **Appendix C**, is a long-term water strategy with a fundamental goal of increasing water system reliability for the present and future. Metropolitan and its member agencies plan to meet the IRP’s goal by implementing an adaptive management strategy. The IRP identifies supply and conservation targets, potential risks, and “Future Supply Actions” that will prepare the region to adapt to changing water supply conditions. The IRP includes a comprehensive summary of the extensive analysis Metropolitan has done in terms of understanding the effects of climate change on the region’s water supply and demand. Metropolitan has identified adaptive actions that will allow the region’s resources to become more resilient to the project impacts of climate change. Metropolitan’s IRP emphasized water conservation and local supply development as essential components to future water supply reliability. In addition, focusing attention on expanding the inadequate conveyance and storage systems of SWP infrastructure will help to offset impacts of sea level rise and the loss of snowpack as a primary water supply reservoir.

The development of the IRP involved intense collaborative efforts between Metropolitan staff, its member agencies, and numerous stakeholders. The IRP’s focus on increasing resiliency includes the expansion of water supply storage. The Project will use under-utilized groundwater basins in the Santa Ana River Watershed to store surplus SWP water. The IRP specifically identified the WSDM Plan a key water management strategy. The major operational strategy of the WSDM Plan will help to minimize the impacts of water shortages on the region’s retail consumers and economy by reserving surplus water during wet years.

### *One Water One Watershed 2.0 Plan (SAWPA)*

The One Water One Watershed (OWOW) Plan, Appendix E, is the Santa Ana River Watershed's Integrated Regional Water Management Plan (IRWMP). The plan strives to create opportunities for collaboration to find sustainable watershed-wide solutions among diverse stakeholders from throughout the Santa Ana River Watershed. The OWOW Plan also provides guidance for water resources management within the watershed for the next 30 years. The OWOW 2.0 Plan also integrates climate change into its long-range water resource planning strategy. One of the plan's six visions is a watershed that is adaptable to climate change and recognize climate change as a threat to water supply availability in the region.

The Santa Ana IRWM Program is a collaborative effort that represents counties and cities within the Santa Ana River Watershed, including the Santa Ana Watershed Project Authority (SAWPA). EMWD Municipal Water District is a member agency of SAWPA, which is a joint powers authority composed of five-member agencies. The development of the plan also included participation by a diverse group of stakeholders from all geographic regions and political jurisdictions, and from different sectors of the community within the watershed. The imported water banking concept was highlighted as a recommended focus for implementation for the five years following the release of the OWOW Plan. Imported water banking as been identified as one way the Santa Ana River Watershed IRWM Region can optimize its water resources, particularly utilizing banked water during dry years.

### **V.A.3 Evaluation Criterion C: Severity of Actual or Potential Drought Impacts to be Addressed by the Project (20 points)**

***What are the ongoing/potential drought impacts to specific sectors in the project area if no action is taken and how severe are those impacts.***

#### ***Public health concerns***

Based on current knowledge, water quality threat's the Metropolitan's water supply come from increased salinity levels in the Colorado River supplies and SWP water supplies. Increased salinity may impact the amount of water available in the future. If additional treatment is required, Metropolitan could experience a loss of up to 15 percent of the water processed. Currently Metropolitan blends CRA water with SWP to meet salinity standards. However, due to the recent severe drought, SWP water is in limited supply and CRA supply has not been blended, therefore increasing salinity.

Water imported via the CRA has the highest level of salinity of all of MWD's sources of supply, with TDS averaging around 630 milligrams per liter (mg/L) since 1976. Concerns about salinity led the seven Colorado River basin states to form the Colorado River Basin Salinity Control Forum (Forum) to cooperatively address the issue. The Forum proposed and the U. S. Environmental Protection Agency (USEPA) approved water quality standards in 1975 that established numeric criteria for salt loading and required that the flow-weighted average annual salinity remain at or below the 1972 levels. The Forum developed and implemented the Colorado River Basin Salinity Control Program. The program is designed to prevent a portion of the salt supply from moving into the river system through the interception and control of non-point sources, such as surface runoff, as well as wastewater and saline hot springs. Salinity control projects have reduced salinity concentrations of Colorado River water TDS on average by over 100 mg/L or \$264 million per year (2005 dollars) in avoided damages. During periods of high flow, salinity levels have been known to drop to 525 mg/L, but drought has brought the return of higher salinity levels.

***Drinking water supply shortage***

MWD is facing significant challenges in providing adequate, reliable and high quality supplemental water for Southern California. Dry conditions have impacted water supply reliability on both the SWP and the CRA requiring MWD to make significant withdrawals from its storage reserves. MWD has progressively taken action to address these challenges including: increasing incentives for conservation and recycled water conversion, augmenting supplies through transfers and exchanges, and modifying its distribution system to increase CRA delivery capabilities. In 2015, MWD also implemented Level 3 (15 percent regional reduction) of its Water Supply Allocation Plan (WSAP) allocating water to its member agencies to preserve limited storage. MWD's forecast shows that under multiple-dry year hydrology, MWD could face reduced supply capabilities during the next three years. EMWD will respond to any potential shortages by reducing demand through its WSCP. Moving forward, flexible and adaptive regional planning strategies are required. MWD's continued progress in developing a diverse resource will allow it to meet the region's water supply needs. MWD's 2015 UWMP detailed its planning initiatives and based on these efforts concluded that with the storage and transfer programs developed, MWD has sufficient supply capabilities to meet the expected demands of its member agencies from 2020 through 2040 under normal, historic single-dry and historic multiple dry year conditions. EMWD is relying on MWD's 2015 UWMP to evaluate the reliability of imported supplies and the amount of imported water which will be available in EMWD's service area during normal, single dry, and multiple dry water years period.

***Political conflicts***

As discussed under Evaluation Criteria A, the Soboba Settlement mandates, on average, an annual delivery of 7,500 AF of water by Metropolitan for the next 30 years to EMWD, LHMWD, and the Cities of Hemet and San Jacinto, as part of an effort to recharge the San Jacinto Groundwater Basin, fulfilling the Soboba Tribe's water rights and addressing chronic groundwater overdraft. If Metropolitan allocations are curtailed due to drought, the region may find it more difficult to fulfill requirements of the Soboba Settlement Act. This Project will ensure the requirements of the Soboba Settlement are met.

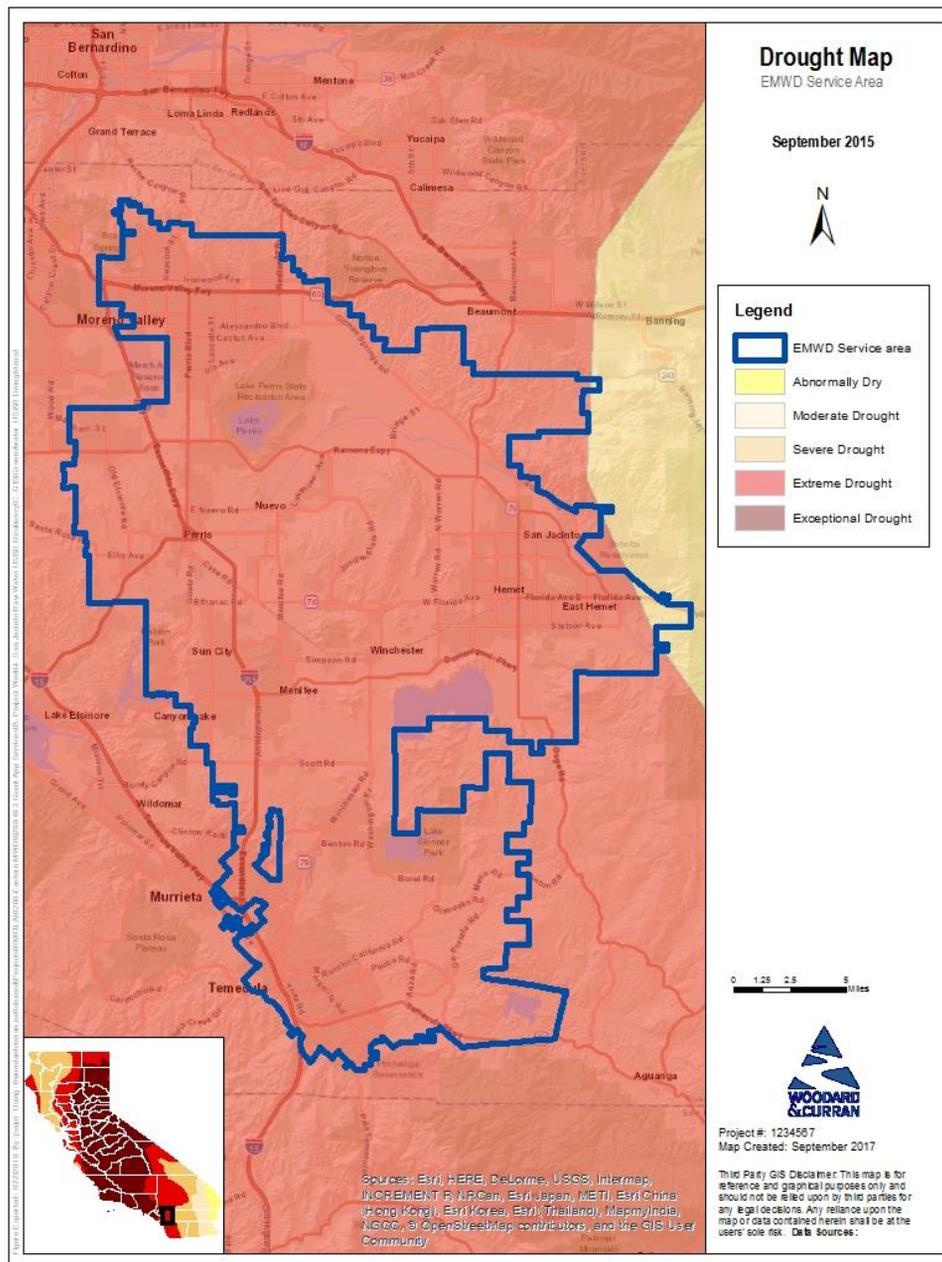
***Describe existing/recent drought conditions***

The most recent drought in the state of California occurred from 2012 through 2016. Currently, over half of EMWD's water supply is comprised of imported water from the SWP and CRA. In recent years, these sources have become decreasingly reliable. The Colorado River has been experiencing drought conditions for over a decade. In addition, the State of California recently experienced a severe drought, which significantly limited the availability of supplies from the SWP. The most recent statewide drought conditions resulted in supplies from the SWP being curtailed to a 2014 Table A supply allocation of merely 5 percent, with 2015 allocations at 20 percent. **Figure 3** shows drought conditions in EMWD's service area and the severity and extent of the drought state-wide.

***Describe projected increase to severity or duration of drought in project area due to climate change***

The Climate Change Analysis for the Santa Ana River Watershed (SAWPA, 2014) identified key supply vulnerabilities to climate change.

Figure 3: 2015 EMWD Service Area Drought Map



The Analysis concluded that increases in temperature and decreases in precipitation will result in increased water demands and decreased groundwater recharge, respectively. The 2011 SWP Reliability Report predicts that the Sierra Nevada snowpack will reduce by 25 percent to 40 percent of its historical average and change in precipitation patterns may lead to earlier runoff. The report predicts that a water shortage worse than the 1977 drought could occur one out of every six to eight years by the middle of the 21st century and one out of every two to four years by the end of the 21st century. In addition, the predicted increase in water demand and decline in flow will likely lead to decrease carryover storage from year to year.

EMWD has considered the impact of climate change on water supplies as part of its long-term strategic planning. Climate change has the potential to affect not only local demand and supplies,

but to reduce the amount of water available for import. Warmer temperatures will lead to higher demand for water within EMWD’s service area and throughout California. An increase in intensity and frequency of extreme weather events, such as drought, can impact both local and imported supplies. EMWD gets the majority of its supply from MWD which imports water from the Bay-Delta system through the SWP. Rising sea levels can increase the risk of damage to the Bay-Delta from storms and erosion of levees which decreases imported water reliability.

**V.A.4 Evaluation Criterion D: Project Implementation (10 points)**

***Describe the implementation plan of the proposed project.***

The estimated Project schedule is provided in **Table 5**.

**Table 5: Project Schedule**

<b>Task</b>	<b>Completion</b>	<b>Completion Date</b>
Task 1: Preliminary Design	October 2017	May 2018
Milestones: Preliminary Design Report and 30-percent Design Level Drawings complete		
Task 2: Final Design	June 2018	July 2019
Milestones: 60-percent Design, 90-percent Design, 100-percent Design complete		
Task 3: Specification Review	August 2019	September 2019
Milestones: Specifications complete		
Task 4: Bid Award	November 2019	December 2019
Milestones: Contract awarded		
Task 5: Construction	January 2020	April 2021
Milestones: Pre-construction meeting, contractor mobilization, construction progress meetings, substantial completion of facilities, commissioning/start-up.		
Task 6: Closeout	May 2021	June 2021
Milestones: Notice of Substantial Completion, initiation and completion of the punchlist, and contract record drawings completed		

***Describe any permits that will be required, along with the process for obtaining such permits.***

The Project does not require a permit from the California State Water Resources Control Board, Division of Drinking Water (DDW) as it only involves conveyance of raw water. The Project will require two permits as followed:

- Groundwater Dewatering Permit: General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat to Water Quality, Santa Ana RWQCB Order No. R8-2015-0004
- Construction Storm Water Permit: General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, SWRCB Order No. 2009-0009-DWQ

***Identify and describe any engineering or design work performed specifically in support of the project.***

Feasibility planning for the Project was completed through the 2015 San Jacinto Valley Water Supply Alternatives Evaluation. The Project is currently in the initial design phase. It’s expected that final design will be completed in March 2019, allowing construction to begin July 2019.

***Describe any new policies or administrative actions required to implement the project.***

No new policies or administrative actions are required to implement the Project.

***Describe how the environmental compliance estimate was developed. Has the compliance costs been discussed with the local Reclamation office?***

It is anticipated that the Project will complete a Mitigated Negative Declaration (MND) to meet requirements of the California Environmental Quality Act (CEQA) and is expected to be developed within a seven-month timeframe with an estimated cost of \$80,000. This compliance cost estimates were determined by Jennifer Jacobus of ESA based on past experience with similar projects. EMWD discussed the environmental compliance costs with Dennis Wolfe of the local Reclamation office who estimated Reclamation's cost for review of the compliance documents to be \$10,000.

**V.A.5 Evaluation Criterion E: Nexus to Reclamation (10 points)**

***How is the proposed project connected to a Reclamation project or activity?***

Reclamation's WaterSMART Drought Response Program focuses on proactive approaches to drought that help to build long-term resiliency. The Project demonstrates the opportunity for significant drought resiliency by recharging the local groundwater basin with surplus imported water for use during drought. This reduces EMWD's need to purchase additional imported water during times of shortage. The water conserved is directly related to the CALFED Bay-Delta Program which is a major ongoing Reclamation activity. EMWD has and continues to have a close working relationship with the Lower Colorado Regional and Southern California offices. A list of Reclamation projects is presented in the background section of this grant proposal.

***Will the project benefit any tribe?***

The Project supports Metropolitan in fulfilling its obligations to deliver 7,500 AFY to EMWD, LHMWD, and the Cities of Hemet and San Jacinto, as mandated in the Soboba Settlement Act. This water will be used to replenish the San Jacinto Upper Pressure Subbasin for the beneficial use of the Soboba Band of Luiseño Indians.

***Does the applicant receive Reclamation project water?***

EMWD receives water both from the SWP and the CRA, though it should be noted that the project itself is required to use SWP water only, as specified in the Soboba Settlement.

***Is the project on Reclamation project lands or involving Reclamation facilities?***

The Project focuses on municipal water delivery and distribution, and does not directly involve Reclamation project lands or facilities.

***Is the project in the same basin as a Reclamation project or activity?***

There are numerous Reclamation projects and activities in the Santa Ana River Basin including the ongoing Basin Study, a collaborative effort by Reclamation and the Santa Ana Watershed Authority (of which EMWD is a member agency).

***Will the proposed work contribute water to a basin where a Reclamation project is located?***

Per the Soboba Settlement, the project will only recharge SWP water, and therefore does not contribute water to a basin where a Reclamation project is located.

## PROJECT BUDGET

The total Project cost is estimated at \$13,457,500 over three years. The Funding Group II request is for \$750,000. EMWD has authorized financing for the remaining \$12,707,500.

### Funding Plan and Letters of Commitment

EMWD will finance all Project costs not funded by Reclamation. The funding plan anticipates that WaterSMART grant funds will be used for the construction component of the project only.

The EMWD Board of Directors is committed to the Project as proposed. Non-Reclamation funding will be provided solely by EMWD, and therefore, letters of commitment from third parties are not required.

(1) The local contribution will be made through cash contributions. Cash contributions totaling \$12,707,500 will be financed through the District’s water operations budget. The District’s ability to support cash contributions is related to cash and investments of over \$200 million. EMWD’s Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2017 can be viewed online at: <https://www.emwd.org/about-emwd/financial-information/financial-reports>

(2) No costs incurred before the anticipated Project start date are included in the Project budget. There are no funding partners associated with the proposed Project.

(4) There are no funding requests from other Federal partners. All local funds will come from rate payers. No other Federal or State funds will be used.

(5) EMWD has numerous funding requests working at various levels. Those requests are independent of the proposed Project and will not affect or influence EMWD’s commitment to this Project should it receive funding.

**Table 6** provides a summary of non-federal funding sources for the Project. The non-Federal funding represents approximately 94.4% of the total Project cost.

**Table 6: Summary of Non-Federal Funding Sources**

FUNDING SOURCES	AMOUNT
Non Federal Entities	
1. EMWD	\$12,707,500
<i>Non-Federal Subtotal</i>	<i>\$12,707,500</i>
Other Federal Entities	
Not applicable	
<i>Other Federal Subtotal</i>	<i>\$0</i>
<b>REQUESTED RECLAMATION FUNDING</b>	<b>\$750,000</b>

## Budget Proposal

**Table 7** provides a summary of the budget proposal. Additional information on these costs can be found in the Budget Narrative in the next section.

**Table 7: Budget Proposal**

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
<b>Salaries and Wages</b>				
Not applicable				
<b>Fringe Benefits</b>				
Not applicable				
<b>Travel</b>				
Not applicable				
<b>Equipment</b>				
Not applicable				
<b>Supplies and Materials</b>				
Not applicable				
<b>Contractual/Construction</b>				
Contractor	\$13,447,500	1	Construction Contract	\$13,447,500
<b>USBR Environmental Review</b>				
Other				10,000
<b>TOTAL DIRECT COSTS</b>				<b>\$13,457,500</b>
<b>Indirect Costs</b>				
Type of rate	percentage	\$base		\$0
<b>TOTAL ESTIMATED PROJECT COSTS</b>				<b>\$13,457,500</b>

## Budget Narrative

*Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The budget narrative provides a discussion of, or explanation for, items included in the budget proposal. Include the value of in-kind contributions or donations of goods and services and sources of funds provided to complete the Project. The types of information to describe in the narrative include, but are not limited to, those listed in the following subsections. Costs, including the valuation of in-kind contributions and donations, must comply with the applicable cost principles contained in 2 CFR Part §200, available at the Electronic Code of Federal Regulations ([www.ecfr.gov](http://www.ecfr.gov)).*

### *Salaries and Wages*

EMWD will not be seeking reimbursement for staff labor. In alignment with budget provided in Table 7, the construction contract budget category will be utilized to maximize the grant and satisfy the District's cost share.

### *Fringe Benefits*

The labor component and fringe benefits are not a part of the budget presented.

*Travel*

No travel is included in the budget.

*Equipment*

No equipment cost is included in the budget.

*Materials and Supplies*

No materials and supplies cost are included in the budget

*Contractual*

The contractual/construction component of the budget reflects an estimated \$13,447,500 for the construction contract. The potential grant amount of \$750,000 and the cost share required will be maximized against the construction contract estimated amount of \$13,447,500.

*Environmental and Regulatory Compliance Costs*

Not applicable.

*Other Expenses*

The budget includes an estimated \$10,000 for the Bureau of Reclamation environmental review associated with this project. The estimated \$10,000 includes the cost incurred by the Reclamation to determine the level of environmental compliance required for the project and review any environmental compliance documents, and was an estimate provided by the local Reclamation office.

*Indirect Costs*

Not applicable.

*Total Costs*

The total project cost is estimated at \$13,457,500 which includes an estimated construction contract amount of \$13,447,500 and \$10,000 for the Reclamation's environmental review effort.

## **ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE**

### **VII.A Impacts to the Surrounding Environment**

Excavation activities will be required for construction of the Project, however impacts to the surrounding environment are anticipated to be minimal with proper mitigation strategies. Excavation activities include excavation for EM-25 and construction of a portion of the 60-inch transmission pipeline and associated appurtenances. The Project will have an overall construction footprint of approximately 9 acres, considering buried pipelines.

A Program level Environmental Impact Report (EIR), currently being prepared by EMWD, identifies the project and program level mitigation measures. A subsequent CEQA document will be required for the project in the future. The subsequent CEQA document, most likely a Mitigated Negative Declaration (MND), will require a project-level mitigation measures will be provided for project related impacts. These mitigation measures will be outlined in the Mitigation, Monitoring, and Reporting Program (MMRP) and will identify actions to incorporate into the project design and construction Best Management Practices (BMPs) that would minimize impacts to the extent feasible.

Construction components of the Project have the potential to result in air quality impacts. The CEQA document will require a project-level air quality assessment and mitigation measures will be provided for impacts identified. This air quality assessment and mitigation measures outline in the MMRP will identify actions to incorporate into the project design and construction Best Management Practices (BMPs) that would minimize air quality impacts to the extent feasible.

Noise from construction as well as other construction activities have the potential to affect animal habitat in and surrounding the project area. The Project is located within a Multiple Habitat Conservation Area and near United States Fish & Wildlife Service (USFWS) Species Critical Habitats for several known special status species. Surveys and mitigation for sensitive plant and wildlife species, nesting and migratory birds, and native habitat assessments will be among mitigation measures identified in the MMRP to reduce impacts to animal habitat from the Project. Project construction is primarily located within developed areas that have been previously disturbed. However, a project-level biological assessment will be conducted to determine any wildlife and habitat impacts of this project and identify mitigation measures for project-level impacts.

EMWD will ensure all project components comply with all mitigation measures required by the CEQA document. During the development of the CEQA document, hydrology and water quality as well as hazardous materials will be evaluated and mitigation measures provided. Air quality impacts are likely to be significant and mitigation measures will be provided to minimize to a less than significant level. Dust emissions and their associated impacts are anticipated to adversely affect air quality as a result of Project construction. Best management practices (BMPs) will be incorporated to mitigate these air quality impacts.

In addition, the protection of water quality and biological resources during construction will also be carried out with mitigation measures from the MMRP and EMWD standard construction BMPs as they relate to each topical area. BMPs for water quality will be identified during the creation of a storm water pollution prevention plan (SWPPP). The SWPPP will be implemented by the

construction contractor with the intent to minimize storm water discharge and reduce erosion from the construction site.

Biological resources that are sensitive to noise from the construction site will be addressed by avoiding noisy construction activities during the nesting season. A qualified biologist will also conduct surveys of all suitable habitat for nesting birds within and adjacent to the project site prior to commencement of vegetation removal or construction activities. The MMRP will identify mitigation measures to further minimize impacts on the surrounding environment, as necessary.

### VII.B Listed Species

The following table provides a listing of listed species and their potential to occur in the project area.

Special Status Plant Species Common Name	Status	Potential to Occur*
	(Federal/State/CRPR)	
Munz's onion	FE/SE/1B.1	Medium. The survey area contains grassland habitats particularly in the western portion of the site. However, the site lacks suitable heavy clay soils to support this species. This species could occur in less disturbed grassland areas that are adjacent to the survey area where suitable clay soils may be present.
Special Status Wildlife Species Common Name	Status	Potential to Occur
Reptiles	(Federal/State)	
Coastal whiptail	--/S2S3	Medium. This is a relatively common species in the region and suitable habitat is present within the grassland areas adjacent to the project alignment.
Coast horned lizard	--/SSC	Medium. Potentially suitable habitat for this species occurs within sandy areas in the eastern portion of the site within the proposed recharge basins adjacent to the San Jacinto River.
Birds		
Burrowing owl	-/SSC	High. The grasslands and disturbed habitats within the proposed recharge basins, well locations, and adjacent to the pipeline alignments contain suitable habitat to support this species. Potentially suitable burrows were also observed within the project-level impact areas during the habitat assessment.
Northern harrier	--/SSC	Medium. There is a potential for this species to forage within the grasslands within and adjacent to the pipeline alignment, and marginal nesting habitat is present within the San Jacinto River approximately 100 feet to the east.
California horned lark	--/WL	High. Suitable foraging and nesting habitat is present within the grasslands and agriculture areas on and adjacent to the survey area.

Special Status Plant Species Common Name	Status	Potential to Occur*
	(Federal/State/CRPR)	
<b>Mammals</b>		
San Bernardino kangaroo rat	FE/SSC	Present. The proposed recharge basins in the eastern portion of the survey area, adjacent to the San Jacinto River, contains suitable habitat and soils to support this species. Focused surveys detected the presence of this species within the Mountain Avenue South basin. Additionally, several occurrences have been recorded immediately adjacent to the proposed basins and the proposed basins occur within Critical Habitat for this species.
Stephens' kangaroo rat	FE/ST	High. Suitable habitat for this species occurs within the grassland areas within and adjacent to the survey area, particularly at the Mountain Avenue South basin.
San Diego black-tailed jackrabbit	--/SSC	High. Suitable habitat for this species occurs in the grassland areas adjacent to the project alignment.
Los Angeles pocket mouse	--/SSC	High. Suitable habitat for this species occurs in the eastern portion of the site within the proposed basins located adjacent to the San Jacinto River due to sandy soils and grassland habitat. The proposed basins also occur within a mandatory MSHCP survey area for the species.

Key:

**Federal Listings**

FE = Listed as endangered under the FESA

**State Listings**

SE = Listed as endangered under the CESA

ST= Listed as threatened under the CESA

SSC = Species of Special Concern (CDFW)

WL = Watch List (CDFW)

**CNDDB Element Rankings**

S1 = Less than 6 element occurrences (EOs) or 1,000 individuals or less than 2,000 acres (S1.1 very threatened, S1.2 threatened, S1.3 no current threats known)

S2 = 6-20 EOs or 1,000-3,000 individuals or 2,000-10,000 acres (S2.1 very threatened, S2.2 threatened, S2.3 no current threats known)

S3 = 21-100 EOs or 3,000-10,000 individuals or 10,000-50,000 acres (S3.1 very threatened, S3.2 threatened, S3.3 no current threats known)

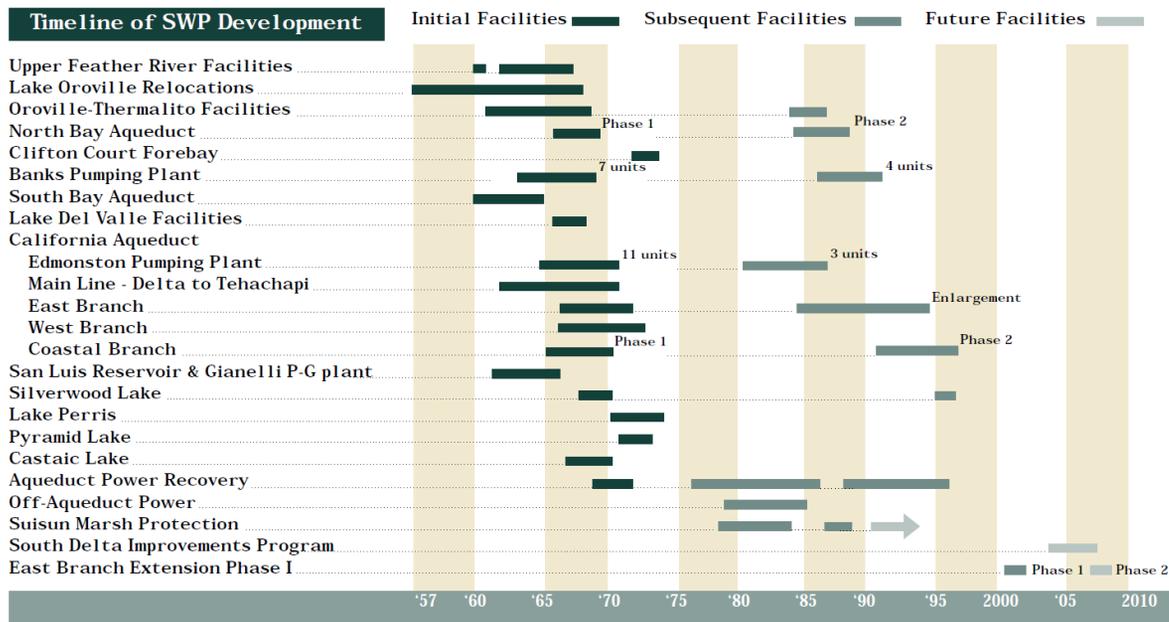
**VII.C Wetlands or Surface Water**

The primary surface water body located near the Project is the San Jacinto River within the Santa Ana River watershed. The Project is not expected to impact local surface waters.

### VII.D Water Delivery System Construction

EMWD’s water delivery system was constructed in 1951. As a member agency of Metropolitan, EMWD utilizes Metropolitan’s imported water delivery system. The CRA, which brings conveys water from the Colorado River to Metropolitan’s service area, was completed in 1939 and regional distribution system was operational in 1941. Construction of the SWP, began in 1957. **Figure 4** outlines the development of the SWP storage and conveyance system.

**Figure 4: SWP Development Timeline**



### VII.E Irrigation System Impacts

The Project would not modify or affect individual features of the City’s irrigation system.

### VII.F Buildings and Structures

No buildings, structures or features of the project are listed or eligible for listing on the National Register of Historic Places within the proposed Project area, according to a search of the California Office of Historic Preservation’s Listed California Historical Resources.

### VII.G Archaeological Sites

There are no known archaeological sites in the proposed Project area.

### VII.H Environmental Justice Considerations

The additional water benefits from the Project will be available to all customers in the EMWD service area, which includes both low income and minority populations. By increasing reliability within EMWD’s system, EMWD will be able to avoid rate increases and mandatory demand reductions that harm EMWD customers’ quality of life.

### VII.I Tribal Lands

The proposed Project is not expected to limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

## **VII.J Noxious Weeds or Invasive Species**

It is not anticipated that Project activities will contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species. Project components will take place primarily on disturbed, developed, and ornamental plant-covered areas and will not disturb native vegetated communities. Therefore, it is unlikely that the Project components will cause the introduction of non-native invasive species within and surrounding the project area.

## **REQUIRED PERMITS OR APPROVALS**

As described under Evaluation Criteria D, the Project will require two permits as followed:

- Groundwater Dewatering Permit: General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat to Water Quality, Santa Ana RWQCB Order No. R8-2015-0004
- Construction Storm Water Permit: General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, SWRCB Order No. 2009-0009-DWQ

## **DROUGHT CONTINGENCY PLAN**

EMWD's Water Shortage Contingency Plan is provided as Appendix B.

## **LETTERS OF SUPPORT**

Letters of support were not available as of the date of submittal of this proposal; however, it's expected that the Project would be supported by local groundwater users, including the Cities of Hemet and San Jacinto, Lake Hemet Municipal Water District and the Soboba Tribe.

## **OFFICIAL RESOLUTION**

A Certified Resolution was approved on January 17, 2018, and is provided as an attachment in Appendix F.

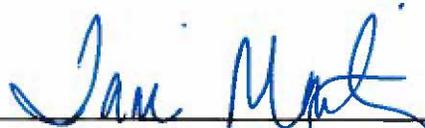
## Appendix F: Resolution

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STATE OF CALIFORNIA)  
 )ss.  
COUNTY OF RIVERSIDE)

I, TAMI MARTINEZ, Deputy Secretary to the Board of Directors of Eastern Municipal Water District, do hereby certify that the foregoing Resolution was duly adopted by the Board of Directors of said District at the Regular Meeting of said Board held on the 17th day of January 2018, and that it was so adopted by the following vote:

AYES: Directors, Record, Kuebler, Sullivan, and Paule  
NOES: None  
ABSTAIN: None  
ABSENT: Slawson



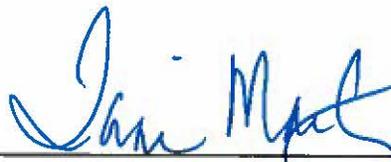
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Tami Martinez, Deputy Secretary of the  
Eastern Municipal Water District  
and to the Board of Directors thereof

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STATE OF CALIFORNIA)  
 )ss.  
COUNTY OF RIVERSIDE)

I, TAMI MARTINEZ Deputy Secretary to the Board of Directors of Eastern Municipal Water District, do hereby certify that the above and foregoing is a full, true and correct copy of Resolution No. 2018-007 of said Board, and that the same has not been amended or repealed.

DATE: January 17, 2018



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Tami Martinez, Deputy Secretary of the  
Eastern Municipal Water District  
and to the Board of Directors thereof

(SEAL)

**RESOLUTION NO. 2018-007**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT SUPPORTING THE DISTRICT'S PROPOSAL FOR THE U.S. BUREAU OF RECLAMATION'S WATERSMART: DROUGHT RESPONSE PROGRAM, DROUGHT RESILIENCY PROJECTS FOR FISCAL YEAR 2018, AND DESIGNATING AN AUTHORIZED REPRESENTATIVE**

**WHEREAS**, Eastern Municipal Water District desires to finance a portion of the costs of the San Jacinto Valley Raw Water Conveyance Facilities Project (the "Project"); and

**WHEREAS**, the District intends to finance the cost of the Project or portions of the Project with monies provided by the U.S. Bureau of Reclamation ("Reclamation").

**NOW, THEREFORE, THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT DOES HEREBY RESOLVE, DETERMINE AND ORDER AS FOLLOWS:**

1. The General Manager (the "Authorized Representative") or his designee is hereby authorized and directed to sign and file, for and on behalf of the District, a WaterSMART Grant Proposal for financing the cost of the Project from Reclamation; and
2. This Authorized Representative, or his designee, is authorized to certify that the District has and will comply with the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance; and
3. That Eastern Municipal Water District has the capacity to provide funding and/or in-kind contributions specified in the funding plan; and
4. That Eastern Municipal Water District will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

5. This Resolution shall be effective upon its adoption.

DATED: January 17, 2018

/s/David J. Slawson  
David J. Slawson, President

I hereby certify that the foregoing is a full, true and correct copy of the Resolution adopted by the Board of Directors of the Eastern Municipal Water District at its meeting held on January 17, 2018.

ATTEST:

/s/Sheila Zelaya  
Sheila Zelaya, Board Secretary

(SEAL)