West San Jacinto Groundwater Management Area Stakeholder Advisory Group Meeting

June 26, 2019
Agenda

**Item No. 1:** West San Jacinto Groundwater Management Area 2018 Monitoring Program

**Item No. 2:** West San Jacinto Groundwater Sustainability Agency Development of the West San Jacinto Groundwater Sustainability Plan

**Item No. 3:** Perris II Reverse Osmosis Treatment Facility Status
Agenda

• Introduction

• West San Jacinto Groundwater Management Area 2018 Annual Monitoring Report

• Next Steps

• Feedback

• Questions and Answers
Location of the West San Jacinto Groundwater Management Area, Groundwater Management Zones, & Basin Plan Water Quality Objectives

Figure 7-1: Location Map of the Management Area

Figure 7-2: Groundwater Management Zone Boundaries and Current Basin Plan Water Quality Objectives
Groundwater Producers in the West San Jacinto Groundwater Management Area

- Eastern Municipal Water District
- Nuevo Water Company
- City of Perris
- Private Producers
2018 West San Jacinto Groundwater Monitoring Programs

• Groundwater Quality
  – 105 Wells Sampled by EMWD

• Groundwater Levels
  – 149 Measured by EMWD in Spring and 147 in Fall
  – 257 Wells Reported to EMWD

• Groundwater Extractions
  – 39 Wells Metered by EMWD
  – 4 Wells Metered and Reported to EMWD
  – 14 Wells Estimated by EMWD
Groundwater Quality Monitoring Program

- Total Dissolved Solids (TDS)
  - Drinking Water Secondary Maximum Contaminant Level (SMCL) for TDS
    - SMCL = 500 mg/L
    - Upper Limit = 1,000 mg/L
  - Highest TDS Concentration was 11,700 mg/L in Perris South Groundwater Management Zone
  - Lowest TDS Concentration was 268 mg/L in Lakeview Groundwater Management Zone
Groundwater Quality Monitoring Program

- **Nitrate as N (NO₃-N)**
  - Drinking Water Secondary Maximum Contaminant Level (MCL) for NO₃-N = 10.0 mg/L
  - Highest NO₃-N Concentration was **42.6 mg/L** in Perris North Groundwater Management Zone
  - Lowest NO₃-N Concentration was **Non-Detect** in Remaining Groundwater Management Zones Except Menifee and Hemet South (Partial)
## Groundwater Extraction Monitoring Program

<table>
<thead>
<tr>
<th>Year</th>
<th>Method of Determining Groundwater Extraction</th>
<th>Total Wells</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Number of Meters Read by EMWD</td>
<td>Number of Meters Read by Other Agencies &amp; Reported to EMWD</td>
</tr>
<tr>
<td>2014</td>
<td>38</td>
<td>4</td>
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<tr>
<td>2015</td>
<td>37</td>
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<td>2016</td>
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<td>2018</td>
<td>39</td>
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<table>
<thead>
<tr>
<th>Management Zone</th>
<th>Year</th>
<th>Lakeview</th>
<th>Perris North</th>
<th>Perris South</th>
<th>San Jacinto Lower Pressure</th>
<th>Menifee</th>
<th>Hemet South (Partial)</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Lakeview</td>
<td>2014</td>
<td>4,968</td>
<td>5,183</td>
<td>9,108</td>
<td>1,168</td>
<td>3,685</td>
<td>423</td>
<td>24,535</td>
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<tr>
<td>North</td>
<td>2015</td>
<td>4,940</td>
<td>6,070</td>
<td>9,474</td>
<td>1,304</td>
<td>4,164</td>
<td>335</td>
<td>26,287</td>
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<tr>
<td>South</td>
<td>2016</td>
<td>5,572</td>
<td>5,466</td>
<td>7,813</td>
<td>1,301</td>
<td>4,024</td>
<td>265</td>
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<tr>
<td>Lower</td>
<td>2017</td>
<td>5,562</td>
<td>3,941</td>
<td>6,890</td>
<td>1,090</td>
<td>4,244</td>
<td>112</td>
<td>21,839</td>
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<td>Pressure</td>
<td>2018</td>
<td>5,398</td>
<td>4,406</td>
<td>6,765</td>
<td>1,088</td>
<td>4,155</td>
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<td>21,813</td>
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</table>
Groundwater Extraction Monitoring Program
Meter Repair & Replacement

No meters were repaired/replaced in 2018
Inactive Well Capping & Sealing Program

• 1 Well Capped and Sealed in 2018
• 65 Wells Capped and Sealed Since 2000
• 5 Wells Identified for Capping and Sealing in 2019
Recycled Water Monitoring

Recycled Water Use Within the Management Area From:

- San Jacinto Valley RWRF
- Moreno Valley RWRF
- Perris Valley RWRF
- Temecula Valley RWRF

<table>
<thead>
<tr>
<th>Year</th>
<th>Lakeview (AF)</th>
<th>Perris North (AF)</th>
<th>Perris South (AF)</th>
<th>San Jacinto Lower Pressure (AF)</th>
<th>Menifee (AF)</th>
<th>Hemet South (Partial) (AF)</th>
<th>Total (AF)</th>
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<tr>
<td>2014</td>
<td>4,688</td>
<td>1,846</td>
<td>7,948</td>
<td>5,652</td>
<td>503</td>
<td>50</td>
<td>20,687</td>
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<td>2015</td>
<td>4,318</td>
<td>1,190</td>
<td>5,888</td>
<td>8,130</td>
<td>497</td>
<td>310</td>
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<td>2016</td>
<td>3,880</td>
<td>1,164</td>
<td>5,354</td>
<td>7,584</td>
<td>662</td>
<td>405</td>
<td>19,049</td>
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<tr>
<td>2017</td>
<td>2,858</td>
<td>1,218</td>
<td>4,818</td>
<td>7,866</td>
<td>1,178</td>
<td>305</td>
<td>18,243</td>
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<tr>
<td>2018</td>
<td><strong>3,402</strong></td>
<td><strong>1,311</strong></td>
<td><strong>4,109</strong></td>
<td><strong>8,133</strong></td>
<td><strong>950</strong></td>
<td><strong>289</strong></td>
<td><strong>18,194</strong></td>
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</table>
Groundwater Extraction, Recycled Water Use, Untreated Imported Water Use, & Rainfall Within the Management Area

Groundwater Extraction, Recycled Water Use, Untreated Imported Water Use (Acre Feet)

Rainfall (Inches)

- Groundwater Extraction
- Recycled Water Use
- Untreated Imported Water Use
- Rainfall

2012 2013 2014 2015 2016 2017 2018


Groundwater Extraction: 2012 - 25,000 acre feet, 2013 - 27,000 acre feet, 2014 - 29,000 acre feet, 2015 - 31,000 acre feet, 2016 - 33,000 acre feet, 2017 - 35,000 acre feet, 2018 - 37,000 acre feet

Recycled Water Use: 2012 - 10,000 acre feet, 2013 - 12,000 acre feet, 2014 - 14,000 acre feet, 2015 - 16,000 acre feet, 2016 - 18,000 acre feet, 2017 - 20,000 acre feet, 2018 - 22,000 acre feet

Untreated Imported Water Use: 2012 - 15,000 acre feet, 2013 - 17,000 acre feet, 2014 - 19,000 acre feet, 2015 - 21,000 acre feet, 2016 - 23,000 acre feet, 2017 - 25,000 acre feet, 2018 - 27,000 acre feet

Annual Well Owners’ Reports

- 42 Well Owner Reports were distributed for 2018

For more information contact:
Eastern Municipal Water District
Attn: Rachel Gray
P.O. Box 8300, Parris, CA 92572-8300
Phone: 951.928.3777 x4514
San Jacinto Watershed Groundwater Recordation Program

- 69 Recordations were distributed for 2018
### Estimated Calendar Year 2019 Budget

<table>
<thead>
<tr>
<th>Groundwater Management Plan Activity</th>
<th>Estimated Annual Cost</th>
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<tr>
<td>Groundwater Extraction Monitoring</td>
<td>$10,660</td>
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<tr>
<td>Groundwater Level Monitoring Program</td>
<td>$12,270</td>
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<tr>
<td>Groundwater Quality Monitoring Program</td>
<td>$66,545</td>
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<tr>
<td>Inactive Well Capping/Sealing Program</td>
<td>$6,135</td>
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<tr>
<td>Meter Installation, Repair, and Maintenance Program</td>
<td>$9,120</td>
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<tr>
<td>Data Management, Documentation, and Reporting</td>
<td>$28,716</td>
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<tr>
<td>Contingencies</td>
<td>$10,792</td>
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<tr>
<td><strong>TOTAL YEAR 2019 ESTIMATED BUDGET</strong></td>
<td><strong>$144,238</strong></td>
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</table>
Next Steps:

• Approve the 2018 Annual Report Subject to the Inclusion of the Stakeholder Advisory Group’s Comments, if Any

• Forward 2018 Annual Report to EMWD Board of Directors for Receipt and Filing
Feedback/Questions & Answers
Contact Information

Rachel Gray
Water Resources Planning Manager
(951) 928-3777 Ext. 4514
Email: grayr@emwd.org
West San Jacinto Groundwater Sustainability Agency (GSA) Development of the West San Jacinto Groundwater Sustainability Plan (GSP)

Rachel Gray
June 26, 2019
Agenda

• Introduction
• Project Overview
• SGMA Webpage
• Feedback
• Questions and Answers
Introduction

West San Jacinto Groundwater Sustainability Agency (GSA)

EMWD Board of Directors

West San Jacinto Groundwater Sustainability Plan (GSP) Oversight

EMWD Staff

West San Jacinto GSP Development
DUDEK

West San Jacinto GSP
Stakeholder Input

West San Jacinto GSP Groundwater Modeling
Woodard and Curran
Project Overview
What is the Sustainable Groundwater Management Act?

- Signed September 16, 2014
- Effective January 1, 2015
- Requires:
  - Formation of Groundwater Sustainability Agencies (GSAs) for High and Medium Priority Groundwater Basins
  - Preparation of Groundwater Sustainability Plans (GSPs) by 2022
  - Achieve Sustainability Within 20 Years of Plan Adoption
- “A Central Tenet of These Bills is the Recognition That Groundwater Management is Best Accomplished Locally.”
  - Governor Edmund G. Brown, Jr.
What is a Groundwater Sustainability Plan?

- Technical and Planning Document that includes:
  - Hydrogeological Understanding of the Basin
    - Geologic Setting
    - Aquifer Location, Thickness, and Depth to Groundwater
    - Sources of Water
    - Uses of Water
  - Predictions of Future Groundwater Use and Conditions in the Basin
  - Criteria by Which the Basin Will be Managed Sustainably by 2042
    - Based on Six (6) Sustainability Indicators
Determining Sustainability

<table>
<thead>
<tr>
<th>SUSTAINABILITY INDICATORS</th>
<th>SUSTAINABLE MANAGEMENT CRITERIA</th>
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<tbody>
<tr>
<td>Groundwater Elevation</td>
<td>Sustainability Goal</td>
</tr>
<tr>
<td>Groundwater in Storage</td>
<td>Undesirable Results</td>
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<tr>
<td>Groundwater Quality</td>
<td>Minimum Thresholds</td>
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<tr>
<td>Land Subsidence</td>
<td>Measurable Objectives</td>
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<tr>
<td>Interconnected Surface</td>
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<tr>
<td>Water and Groundwater</td>
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<tr>
<td>Seawater Intrusion</td>
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GSP Development Process Update

Start GSP
Data Collection, Review Background Information
Start: Feb 2019

Basin Area + Setting
Analyze Data, Conceptual Model, Historical & Current Groundwater Conditions
Start: Feb 2019

Water Budget
Historical & Projected
April - Dec 2019

Identify Sustainable Management Criteria
Start: July 2019

Plan Implementation Actions
January 2020 - July 2020

Evaluate Projects and Management Actions
Dec 2019 - July 2020

Admin Draft GSP
Jul 2020

Public Draft GSP
December 2020

GSP to DWR
August 2021

Public Outreach & Engagement Plan
Start: June 2019

Start: July 2019

6/26/19
Next Steps

- EMWD and Consultant Team Will Continue to Work Together to:
  - Develop Figures to Support Technical Background Sections
    - Historical and Current Conditions
    - Historical Water Budget
  - Develop Model Assumptions for Future Groundwater Model Scenarios
  - Begin Defining Sustainable Management Criteria

- Next Stakeholder Advisory Group Meeting Scheduled for September 2019 to Discuss the Current and Historical Conditions and the Water Budget
SGMA Webpage

Feedback / Questions & Answers
Contact Information

Rachel Gray
Water Resources Planning Manager
(951) 928-3777 Ext. 4514
Email: grayr@emwd.org
Perris II ROTF Stakeholder Advisory Group Meeting

Alfred Javier
Jorge Anaya, P.E.
June 26, 2019
Agenda

• Introduction
• Project Overview
• Project Status
• Public Outreach
• Feedback
• Q & A
Project Overview

• Intended to Manage Migration and Treat Degraded Groundwater from the Perris South Groundwater Management Zone (GMZ) in the West San Jacinto Basin

• Funding in Part by Proposition 1 Through the Grant Agreement No. D1712512 With the State Water Resources Control Board

• For the Purpose of Constructing a 5.4 mgd Reverse Osmosis (RO) Treatment Facility to Protect Potable Groundwater Resources Threatened by Migration of Brackish Groundwater Contaminated by Perchlorate and Nitrate
Project Overview (Continued)

• The Perris II Reverse Osmosis Treatment Facility (ROTF)
  – Masonry Block Building that Houses the Reverse Osmosis (RO) System; Chemical Storage and Feed System; Electrical Equipment; Heating, Ventilation, and Air Conditioning (HVAC); Local Control Room; Restroom; and Maintenance Shop and Storage Area

• Monitoring and Reporting Plan (MRP)
  – Component of Grant Agreement
  – Provides Documentation of the Implementation of the Perris II ROTF Using Groundwater Quality During the Projected 20-Year Project Life
  – Provides a Description of the Wells and Facilities Associated with the Perris II ROTF; the Associated Goals, Objectives, and Desired Outcomes; and the Plan for Monitoring, Assessing, and Reporting Progress Toward Those Goals, Objectives, and Desired Outcomes After Construction and Startup of the Perris II ROTF
Perris II ROTF - Site Rendering

View of Facility from Murrieta Road - Looking Northwest
# Project Status

## Submittals & Deliverables Exhibit A-3

<table>
<thead>
<tr>
<th>Item</th>
<th>Description of Submittal</th>
<th>Critical Due Date</th>
<th>Estimated Due Date</th>
<th>Status</th>
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<tbody>
<tr>
<td>1.2</td>
<td>Notification of Upcoming Meetings, Workshops, Fieldwork, and Construction Activities</td>
<td>60 days after Execution</td>
<td>15 working days prior to Meetings</td>
<td>Ongoing</td>
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<td>1.3</td>
<td>Detailed Project Schedule</td>
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<td>60 days after Execution</td>
<td>Completed</td>
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<td>1.4</td>
<td>Periodic and Final Site Visits</td>
<td></td>
<td>As Needed</td>
<td>Ongoing</td>
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<tr>
<td>1.5</td>
<td>Prev., During, and Post-Construction Photos</td>
<td></td>
<td>Ongoing</td>
<td>Ongoing</td>
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<td>2.1</td>
<td>General Compliance Requirements/Project Effectiveness and Performance</td>
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<td></td>
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<tr>
<td>2.2</td>
<td>GPS Information</td>
<td>October 30, 2020</td>
<td>January 2019</td>
<td>Completed</td>
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<tr>
<td>2.2.1 Monitoring and Reporting Plan (MRP)</td>
<td></td>
<td>January 2019</td>
<td>Completed</td>
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<tr>
<td>2.2.2 Project Assessment and Evaluation Plan (PAEP)</td>
<td></td>
<td>January 2019</td>
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<td>2.4</td>
<td>Quality Assurance Project Plan (QAPP)</td>
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<td>2.5.2 Annotated List of Reviewed Data and Reports</td>
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<td>3.1</td>
<td>List of Approvals, Entitlements, and Permits</td>
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<td>4</td>
<td>Technical Advisory Committee (TAC)</td>
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<td>List of TAC Members, Roles and Responsibilities, and Affiliations</td>
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<td>March 2018</td>
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<td>4.2</td>
<td>Summary of the Kickoff Meeting</td>
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<td>4.3</td>
<td>Agendas, Meeting Minutes, and Sign-in Sheets</td>
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<td>5</td>
<td>Stakeholder Advisory Group (SAG)</td>
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<td>5.1</td>
<td>List of SAG Members</td>
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<td>5.2.1 SAG Meeting Schedule</td>
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<td>5.2.2 SAG Meeting Materials, Summary of Feedback and Comments, and Sign-in Sheet(s)</td>
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<td>Ongoing</td>
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<td>Memorandum of Understanding (MOU)</td>
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<td>Design and Engineering</td>
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<td>100% Design Plans and Specification</td>
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<td>Advertised Bid Documents and Bid Summary</td>
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<td>December 2018</td>
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<td>8</td>
<td>Construction and Implementation</td>
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<td>8.1</td>
<td>As-built Drawings for Extraction Wells and Transmission Pipeline</td>
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<td>November 2020</td>
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<td>8.3</td>
<td>Proposed Changes that Arise During Construction</td>
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<td>As-built Drawings and Summary of Changes</td>
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<td>8.5</td>
<td>Operations and Maintenance Plan</td>
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<td>9</td>
<td>Public Outreach</td>
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<td>Outreach Materials and Web Links</td>
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<td>9.2</td>
<td>Meeting Materials and Sign-in Sheet(s)</td>
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<td>Ongoing</td>
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Project Status – MRP & QAPP

• Monitoring and Reporting Plan (MRP) & QAPP:
  – Living Document
  – Accepted by SWRCB on June 17, 2019
    • Division of Financial Assistance (DFA)
    • Santa Ana Regional Water Quality Control Board
    • Division of Drinking Water (DDW)
Project Status - Construction

- Perris II ROTF Construction:
  - West perimeter wall construction completed one week ahead of schedule
  - Forebay excavation completed, placement of compacted fill and reinforcement begun
  - Below grade yard piping installation is underway
  - Potholing completed
## Public Outreach

<table>
<thead>
<tr>
<th>OUTREACH EVENT NAME</th>
<th>DATE</th>
<th>THOSE INVITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wake-Up Menifee</td>
<td>February 6, 2019</td>
<td>Menifee Valley Chamber of Commerce, local public</td>
</tr>
<tr>
<td>Perris II Desalter Community Meeting</td>
<td>February 13, 2019</td>
<td>Local residents near the Desalter site; Board President Sullivan, EMWD staff, contractors, City of Menifee staff and electeds</td>
</tr>
<tr>
<td>Perris II Groundbreaking Ceremony</td>
<td>March 28, 2019</td>
<td>EMWD Board members, key EMWD staff, contractors, USBR, Regional Board, City of Menifee, Riverside County</td>
</tr>
<tr>
<td>Perris II Desalter Community Meeting Update</td>
<td>Future As-Needed</td>
<td>Local residents near the Desalter site; Board President Sullivan, EMWD staff, contractors, City of Menifee staff and electeds</td>
</tr>
</tbody>
</table>
Stakeholder Advisory Group

- Feedback
- Q & A
Contact Information

Alfred Javier
Director of Environmental and Regulatory Compliance
javiera@emwd.org
951.928.3777, Ext 6327

Jorge D. Anaya, P.E.
Civil Engineer II
anayavj@emwd.org
951.928.3777, Ext 4447