ENGINEERING AND OPERATIONS COMMITTEE MEETING
Tuesday, June 20, 2017 at 3:30 p.m.

CALL TO ORDER

PLEDGE OF ALLEGIANCE

PUBLIC COMMENTS

Non-Agendized Matters: Members of the public are invited to address the Board on matters which are not on the Agenda. Each speaker is limited to three (3) minutes. The Board will set aside thirty (30) minutes for public comments.

Agendized Matters: Members of the public may comment on Agenda items before action is taken, or after the Board has discussed the item. Each speaker is limited to five (5) minutes.

CONSENT CALENDAR ITEMS:
Approve all matters under the Consent Calendar by one motion unless a Board member, staff, or a member of the public requests a separate action.

1. Developer Project Status Report
2. Mesa Water® and Other Agency Projects Status Report
3. Water Quality Call Report
4. Committee Policy & Resolution Review or Development
5. Water Operations Status Report

PRESENTATION AND DISCUSSION ITEMS:
Items recommended for approval at this meeting may be agendized for approval at a future Board meeting.

6. Well Automation and Rehabilitation Project Update

ACTION ITEMS:

7. Green Acres Project Agreement
8. Chandler Avenue Well Real Property Purchase
9. CLOSED SESSION:

CONFERENCE WITH REAL PROPERTY NEGOTIATOR:
Pursuant to Government Code Section 54956.8:
Property: 3120 S. Croddy Way, Santa Ana (APN: 415-024-17)
District Negotiator: General Manager
Negotiating Party: Lowers Leasing Inc.
Under Negotiation: Price and/or terms of purchase or acquisition of rights

RETURN TO OPEN SESSION.

REPORTS:
11. Directors’ Reports and Comments

INFORMATION ITEMS:
12. Chandler Avenue Well and Pipeline Design Services
13. Pipeline Integrity Program Consulting Services
14. HVAC System Design
15. On-Call Pipeline Construction Services

In compliance with California law and the Americans with Disabilities Act, if you need disability-related modifications or accommodations, including auxiliary aids or services in order to participate in the meeting, or if you need the agenda provided in an alternative format, please contact the District Secretary at (949) 631-1206. Notification 48 hours prior to the meeting will enable Mesa Water District (Mesa Water) to make reasonable arrangements to accommodate your requests.

Members of the public desiring to make verbal comments utilizing a translator to present their comments into English shall be provided reasonable time accommodations that are consistent with California law.

Agenda materials that are public records, which have been distributed to a majority of the Mesa Water Board of Directors (Board), will be available for public inspection at the District Boardroom, 1965 Placentia Avenue, Costa Mesa, CA and on Mesa Water’s website at www.MesaWater.org. If materials are distributed to the Board less than 72 hours prior or during the meeting, the materials will be available at the time of the meeting.

ADJOURNMENT
## PROJECT STATUS - DEVELOPER PROJECTS

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<tr>
<th>FILE NO.</th>
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<tr>
<td>C003-16-01</td>
<td>788 Center Street</td>
<td>2 Single Family Homes</td>
<td>Plans received and plan check fees paid on 6/28/16. Plans returned on 7/14/16. Fees paid and permit issued on 1/6/17. (6/9/17)</td>
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<tr>
<td>C0007-17-01</td>
<td>1620 Orange</td>
<td>2 Single Family Homes</td>
<td>Plans received and plan check fees paid on 8/10/16. Fees paid and permit issued on 2/16/17. Service and meter placement on 3/27/17. (6/9/17)</td>
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<tr>
<td>C0008-17-01</td>
<td>410 Walnut Place</td>
<td>4 Single Family Homes</td>
<td>Plans received and plan check fees paid on 8/10/16. Plans returned on 8/24/16. Awaiting resubmittal. Fees paid and permit issued on 4/7/17. (6/9/17)</td>
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<tr>
<td>C0017-17-01</td>
<td>166 Rochester</td>
<td>2 Single Family Homes</td>
<td>Plans received and plan check fees paid on 12/7/16. Plans returned on 12/15/16 and resubmitted on 1/5/17. Fees paid and permit issued on 5/5/17. (6/9/17)</td>
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<tr>
<td>C0020-17-01</td>
<td>2136 Thurin</td>
<td>4 Single Family Homes</td>
<td>Plans received and plan check fees paid on 1/13/17. Fees paid and permit issued on 2/28/17. Meters installed on 4/7/17. (6/9/17)</td>
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<tr>
<td>C0021-17-01</td>
<td>2068 Maple Ave</td>
<td>4 Single Family Homes</td>
<td>Plans received and plan check fees paid on 1/13/17. Fees paid and permit issued on 4/21/17. Hot-tap on 5/31/17. (6/9/17)</td>
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Updated 6/12/2017
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<tr>
<td>C0022-17-01</td>
<td>330 E 17th Street</td>
<td>Bar/Lounge</td>
<td>Plans received and plan check fees paid on 3/22/17. Awaiting final fee payment. (6/9/17)</td>
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<tr>
<td>C0025-17-01</td>
<td>2053 Tustin</td>
<td>2 Single Family Homes</td>
<td>Plans received and plan check fees paid on 3/22/17. Awaiting final fee payment. (6/9/17)</td>
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<tr>
<td>C0026-17-01</td>
<td>326 E 16th Street</td>
<td>2 Single Family Homes</td>
<td>Plans received and plan check fees paid on 3/20/17. Awaiting final fee payment. (6/9/17)</td>
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<tr>
<td>C0027-17-01</td>
<td>231 Flower Street</td>
<td>Meter Upgrade</td>
<td>Plans received and plan check fees paid on 3/23/17. Fees paid and permit issued on 4/21/17. (6/9/17)</td>
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<tr>
<td>C0029-17-01</td>
<td>127 23rd St.</td>
<td>4 Single Family Homes</td>
<td>Plans received and plan check fees paid on 5/12/17. Plan check in process. (6/9/17)</td>
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<tr>
<td>C0030-17-01</td>
<td>208 Camella Lane</td>
<td>New Home</td>
<td>Plans received and plan check fees paid on 5/12/17. Fees paid and permit issued on 5/25/17. (6/9/17)</td>
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<tr>
<td>C0031-17-01</td>
<td>235 Paularino Ave</td>
<td>Service Abandonment</td>
<td>Plans received and plan check fees paid on 6/5/17. Plan check in process. (6/9/17)</td>
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</table>
Project Title: OC-44 Replacement and Rehabilitation Evaluation and Cathodic Protection Study

File No.: M 2034

Description: Evaluate potential repair and replacement options

Status: Contract awarded to RBF Consulting 2/12/13. Kick-off meeting held on 2/21/13. TM 1, 2 and 3 reviewed by Mesa Water® and City of Huntington Beach. Revised TM 1 and 3 submitted 6/12/13. Final study report due 7/31/13. Staff requested RBF to perform hydraulic modeling and habitat assessment to supplement original SOW. A meeting with MWDOC, MET and RBF to analyze possible new service connections on the OC Feeder held on 6/25/13. Workshop to discuss TM’s held on 7/2/13. Meeting to discuss PDR, permitting, work plan and design concerns held on 7/16/13. Draft PDR and final design scope proposal received 8/6/13. Hydraulic studies “Evaluation of MWD Water Supply Facilities” and “Analysis of Emergency Supply from OC-44 and OCF” received 8/8/13. Staff reviewed the PDR and Hydraulic Study reports and submitted comments to RBF 9/9/13. Received proposal for design of OC-44 Pipeline Rehabilitation Project 9/24/13. Proposal approved by E&O Committee 11/19/13 and by Board on 12/12/13. Staff prepared change order to RBF. Kick-off meeting held on 01/22/14. Project on progress. Outreach coordination meetings with project stakeholders took place on 2/14/2014. RBF is working with City of Newport Beach, County of Orange, and Irvine Company on receiving permits for surveying and geotechnical boring work. Orange County Health Care Permit issued 3/24/2014. Geotechnical boring conducted on 3/28/14. The county of Orange permit was issued April 7, 2014. Biological and Topographic Survey started in mid-April and will continue through the end of July. Scour analysis completed on May 29, 2014. Jurisdictional Delineation completed on 6/30/2014. Project progress meeting with RBF and City of Huntington Beach held on 7/2/14 to review environmental assessment and predesign requirements. The design of the pipeline rehabilitation started on 7/8/2014. 60% plans and specifications submitted for review 9/8/2014. Staff is coordinating with City of Huntington Beach and finalizing review of the design package. Initial Study and Mitigated Negative Declaration submitted 11/2/14. Staff is reviewing the submittal (11/6/14). 60% review meeting with City of Huntington Beach and RBF held on 12/1/14. 90% design submittal received on 2/5/15. Notice of Intent (NOI) posted at County Clerk and State Clearinghouse on 1/29/15. Initial Study/Mitigated Negative Declaration (IS/MND) posted on Mesa Water® website and distributed to agencies/parties identified on distribution list on 1/29/15. Permit applications submitted to the regulatory agencies, legal notice posted in the Daily Pilot, and hard copy of IS/MND posted at front counter on 1/29/15 for public review. The review period concluded 2/27/15. Three comment letters received. Prepared written responses to the comments and held public hearing at the Board Meeting on 4/9/15. 90% design submittal comments sent back to RBF on 3/26/15. Additional questions from RBF analyzed in coordination with the City of Huntington Beach and comments provided to RBF on 6/1/15. Progress meeting with RBF and City of Huntington Beach
held 7/1/15. RBF is working with the regulatory agencies on obtaining encroachment permits and/or certifications. On 7/16/15 the consultant is scheduled to meet with the US Army Corps of Engineers (USACE) to discuss initial comments and obtain additional directions. Due to USACE staff shortage the permit is anticipated to be issued in March 2016. RBF is working with Regional Water Quality Control Board (RWQCB) on drafting the 401 Water Quality Certification for the project. The 401 Water Quality Certification was issued on 9/29/15. Comments to the California Department of Fish and Wildlife (CDFW) draft agreement were sent by RBF on 7/17/15. The CDFW permit is predicted to be issued in late October, 2015. In mid-June, 2015 RBF provided response to the California Coastal Commission’s (CCC) comments. The comments from CCC were received in the late July, 2015 and the permit is expected to be issued in mid-November, 2015. Permit from Caltrans obtained on August 17, 2015. 100% design package submitted on 7/21/15. Scour protection evaluation and recommendations submitted on 11/5/15. The CDFW should be issued by 12/18/15. The USACE has indicated that their permit should be issued in mid-January 2016. The Habitat Mitigation and Monitoring Plan (HMMP) has been updated by Michael Baker (former RBF) to reflect the USACE’s process and submitted to Mesa Water® for review on 1/8/16. Once the HMMP is revised and approved (1/19/16) it will be forward to all agencies, including Coastal Commission. Draft 1602 Streambed Permit obtained on 12/18/15. Final 1602 Streambed Permit pending CDFW will be issued while HMMP is accepted. U.S. Army Corps of Engineers’ 404 permit received on 2/10/16. Revised HMMP sent to CCC for review and approval. Project is pending CCC’s approval at an upcoming hearing. On 2/29/16 a meeting with Fletcher Jones Motorcars, City of Newport Beach, MBI (former RBF), and City of Huntington Beach was held to discuss issues associated with proposed construction activities. Traffic Plan prepared and submitted to the City of Newport Beach for approval on 6/29/16. Per request of CCC a dewatering plan was prepared and submitted for approval. Mesa Water® staff, MBI and CCC met on 10/6/16 and discussed mitigation conditions. Project approved at CCC Public Hearing on 12/7/16. MBI is working on finalizing the HMMP and construction plans and will submit them to CCC. Staff met with MBI on 5/1/17 and discussed comments after reviewing the draft final HMMP. Coastal Development Permit for Construction is anticipated in August, 2017. Project in progress.

**Project Title:** Well Automation and Rehabilitation  
**File No.:** MC 2101  
**Description:** Rehabilitate all clear water wells and add remote control SCADA capabilities  
**Status:** Design: RFP for Design Services released on 7/1/2014. Pre-proposal meeting held on 7/9/2014. 6 proposals received on 7/28/2014; interviewed 3 shortlisted firms on 8/6/2014. Recommendation to award contract to Carollo Engineers approved by E&O on 8/19/2014; Board approval requested on 9/11/2014. Project kickoff meeting held on

Construction Management (CM) Services: Released and RFP for CM services on December 30, 2014 Preproposal meeting held on January 12, 2015. Four (4) proposals were received on January 26, 2015. Three proposers were interviewed on February 4, 2015, and the recommended Contract with RBF was approved by the Board on March 12, 2015.

60% design received on April 13, 2015. General 60% Design Review workshop held on April 27, 2015 and electrical/instrumentation review workshop held on May 11, 2015. Working on optimizing construction sequence. Electrical design workshop scheduled for June 25, 2015. 90% design submittal received on July 15, 2015. Engineer’s Estimate of probable cost at 90% is approximately $10.1. Workshop to review and address 90% comments held on July 29, 2015. Contractor prequalification package sent to eight (8) General Contractors on July 18, 2015. Four prequalification applications were received on August 17, 2015. 100% Design received on September 16, 2015. Notice Inviting Sealed Bids was released to four prequalified contractors on October 5, 2015. Job Walks were conducted on October 13, 2015 for prequalified Prime Contractors and on November 3, 2015. Addenda and clarifications in response to bidder’s questions have been issued. Bid opening was extended to January 7, 2016 to allow for recent changes for new Well 9 layout. Four bids were received on January 7, 2016. An action item to award a contract to the lowest bidder was approved by the Engineering and Operations Committee on January 16, 2016 and by the full Board on February 11, 2016. Notice to proceed was sent on April 4, 2016. Preconstruction meeting held on April 12, 2016. The project is in the pre-construction submittal phase with several Requests for Information and equipment submittals received from the Contractor by the Construction Manager, and reviewed and responded to by the Design Engineer. Construction activities began at Well 5 on October 3, 2016 with demolition and well rehabilitation beginning in the first week. Video of Well 5 showed scale on the louvers, and potential failure of an unused sounding tube and a small area of the louvers potentially requiring swage patches. Repair completed on November 29, 2016. Well 5 rehabilitation resumed on December 3, 2016. Well 5 chemical facility pad has been constructed and is awaiting a weather forecast of 8 days with no predicted rain to apply the chemical-resistant coatings to the concrete. Well 5 pumping development began on January 4, 2017, and produced fine sand at pumping rates above 1100 gpm. Repairs were made to Well 5, and test pumping performed in February showed acceptable well production over 2500 gpm with manageable sand. Construction is substantially complete at the well 5 site. A start up planning meeting was held on March 29, 2017, and Well 5 start up is in process. Construction of the Well 7 chemical facility is also substantially complete, and electrical work is in progress.
Well 7 rehabilitation is complete, and test pumping shows production of 1,650 gpm. Well 7 start up is expected in July 2017.

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<td><strong>File No.:</strong> MC 2158</td>
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<tr>
<td><strong>Description:</strong> New wells and real estate services to identify and acquire property</td>
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<td><strong>Status:</strong> Change Order to Well Rehabilitation and Automation approved at January 20, 2015 E&amp;O to retain Carollo and subconsultant Geotechnical Consultants Inc. (GTC) to provide typical well site layout and hydrogeological investigation to identify promising locations for two new 2,000-gpm clear wells. Met with Real Estate Professionals on February 2, 2015, to discuss scope of work for well site property identification and acquisition. Met with OCWD Chief Hydrogeologist on March 24, 2015, to identify study area for new well sites. Gave Notice to Proceed to Real Estate company on May 4, 2015, and provided consultant report on preferred well site property characteristics. Real Estate consultant developed an advertisement postcard to describe the type of property needed, and sent it to over 1,000 commercial and industrial property owners in the study area. Three sites have been presented for evaluation. Also met with the Laguna Beach County Water District (LBCWD) Manager of Engineering and Operations on October 13, 2015, to discuss development of a jointly-owned well on property in Fountain Valley owned by LBCWD. An offer to purchase one site was presented to the property owner on November 16, 2016. The owner has not responded, and the offer time frame has expired. An offer for a different property was prepared and presented on January 6, 2016. Owner has decided to lease the property rather than selling. A third property is being evaluated by staff and OCWD for potential interference from the OCWD mid-basin injection. Travel time analysis results from OCWD showed that the property is inside the six month travel time window. A meeting was held on February 22, 2016, with OCWD and DDW to discuss the travel time analysis, and DDW determined that it would not issue a permit for a drinking water well at the site. A meeting with the City of Santa Ana Water Department was held to discuss the possibility of a jointly-owned well on a City of Santa Ana-owned site. An offer to purchase was presented to a property owner for an underutilized portion of a property on May 4, 2016. The offer was rejected. A revised offer was submitted on June 7, 2016. The owner has decided not to sell the property. Staff is working with Voit Real Estate to identify and evaluate underutilized sites in the vicinity of the study area. One underutilized site on Sunflower Boulevard was considered but rejected for being only 200 feet from the current Well 9B site, which would add significantly to pumping costs at both sites. Another site near Bristol and St. Gertrude was considered, but rejected due to the cost of the property, its location adjacent to a residential area, and the cost of construction of two miles of pipeline to Mesa Water’s service area. A purchase agreement for an industrial site at 4011 W. Chandler Avenue in Santa Ana was negotiated in January 2017. The purchase agreement includes a 45 day contingency period, escrow close date of March 31, 2017, and 18 month leaseback to the seller.</td>
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The Phase 1 Environmental Site Assessment and Property Condition Assessment were received on February 23, 2017, and showed the site and property to be in good condition. The lease was executed on March 27, 2017, and escrow closed on April 5, 2017. A request for proposal for design services for the new well and pipeline was released in May 2017. An offer for a second new well site at 3120 S. Croddy, which would utilize the same water transmission pipeline as planned for the W. Chandler well site. A counter offer for 3120 S. Croddy was received on June 5, 2017, and negotiations with the seller are on-going.

Project Title: MWRF Parking Project

File No.: M 2052

Description: Conduct parking layout design

Status: Parking study prepared by Onward Engineering in November 2013. The Board approved alternative # 3 Parking Along the MWRF Frontage on Gisler Ave. on 3/15/2014. RFP for the parking design in consultants’ review (11/6/14). RFP sent out to consultants 11/25/14. Proposals due 12/19/14. Interview with three consultants held on 1/7/15. Recommendation brought to January E and O for consideration of approval and will be brought to the Board on 2/12/15 for approval. Project approved 2/12/15. Kick-off meeting held on 2/19/15. Design in progress. 30% design submittal submitted 3/23/15. Staff met with C.J. Segerstrom and discussed concept and details of the proposed parking layout. Segerstrom verbally approved the project. City of Costa Mesa approved the concept and currently consultant is evaluating the landscape requirements with the City of Costa Mesa. E and O Committee accepted the conceptual design and provided comments on 5/19/15. The condition approval from Segerstrom received on 6/29/15. Staff is working with the designer (CivilSource), Mesa Water’s attorney, and City of Costa Mesa on addressing Segerstrom’s comments. Staff is reviewing the Initial Study/Summary of Findings Report received on 8/3/15. Staff has addressed all Segerstrom’s requests included in their 6/29/15 letter and prepared a response letter. Approved construction plans were received from the City of Costa Mesa on 12/29/15. The final bid package completed 3/15/16. Encroachment Permit Application submitted to the City on 3/6/16. Hold Harmless Agreement for the Installation of Off-Site Parking Improvements within Public Right-of-Way received on 5/4/16. Staff reviewed the Agreement and sent comments to the City of Costa Mesa on 5/27/16. City approved all revisions as proposed by Mesa Water® and sent the agreement for signature on 6/24/16. The Engineering and Operations Committee reviewed the Agreement at July 19, 2016 meeting and recommended Board approval. Board approval obtained on August 11, 2016. Agreement sent to the City for execution and recording on 9/7/16. Recorded Agreement received from the City on 10/19/16.

Project Title: Pipeline Testing Program

File No.: MC 2112

Description: Implement Resolution No. 1442 Replacement of Assets to annually
perform non-destructive testing of 1% of the distribution system, and destructive testing of segments that are shown to have less than 70% of original wall thickness by non-destructive testing.

**Status:** Identifying segments for FY 2015 non-destructive testing and arranging for excavation and removal of segments that tested below 70% remaining wall thickness in FY2014 non-destructive testing. Released a Request for Proposal for a consultant to administer the program and develop standard operating processes on February 6, 2015. Three proposals were received on February 26, 2015, and interviews conducted on March 4, 2015. A contract with RBF was approved by the Board on April 9, 2015. Kickoff meeting held on April 21, 2015. Project status meeting held on June 8, 2015. Draft deliverable of prioritization of asbestos concrete pipe (ACP) for non-destructive testing received on June 26, 2015; updated draft received on August 7, 2015. Draft deliverable with recommendations for non-destructive testing technologies for metallic pipe received on August 7, 2015. Draft evaluation of destructive testing laboratories and tests received on August 21, 2015; final report received on September 16, 2015. Echologics performed non-destructive testing of 3 miles of ACP from July 13-17, 2015. Draft report received on August 14, 2015; final report received on September 1, 2015. Based on the Echologics reports from 2013 and 2015, ten ACP segments were selected for sampling and destructive testing. Three ferrous material pipelines with a history of repairs were also selected for field sampling and destructive testing. Draft bid documents for field sampling received on October 16, 2015. Final bid documents were released to three on-call contractors on November 23, 2015, for bids. Pre-bid meeting was held on December 7, 2015 and attended by all three of the bidders. Three bids were received on December 16, 2015. All bids exceeded the budget and the General Manager’s signing authority. An action item to approve a contract with the low bidder was approved by the Engineering and Operations Committee on January 19, 2016, and by the Board on February 11, 2016. Notice to Proceed with field sampling was given on March 7, 2016. An encroachment permit from the City of Costa Mesa was received on April 25, 2016. Field sampling began on May 16, 2016 and completed on June 28, 2016. Samples were shipped to MEIC Lab in Portland, Oregon, for destructive testing on July 7, 2016. Samples were received at MEIC on July 11, 2016. Lab results, including estimates of remaining useful life, were received on October 24, 2016. Non-destructive testing of the next 3 miles of ACP was completed on September 16, 2016, and the draft report was received October 1, 2016. All of the ACP and Cast Iron Pipe (CIP) showed less than 70% remaining wall thickness compared to its assumed original thickness. Extraction of six sections of ACP and two sections of CIP are in process for 2017 destructive testing. ACP samples were sent to WSP Canada for destructive testing. CIP samples will be sent to McWane Ductile’s lab in Ohio for destructive testing. Destructive testing results are expected in June and July 2017. A Request for Qualifications for consulting services for the Pipeline Integrity Program was released in May 2017.

**Project Title:** MWRF Outreach Center
### File No.: MC 2147

**Description:** Report on the feasibility of reconfiguring and potentially expanding the functional uses of the MWRF Operations and Administration Building to include a multi-purpose room and educational forum.

**Status:** Mesa Water® is coordinating with IBI Group (designer) on the feasibility of implementing an education and outreach center at the MWRF. Kick-off meeting was held on 6/1/2015. Program Requirement Questionnaire meetings were held on 6/9/2015 and 6/17/15. Program Report delivered to Mesa Water® for review on 7/7/2015. 60% design concepts are scheduled for submittal on 08/14/15. 100% concept design received on 09/29/15. Virtual rendering received on 10/6/15. Concept designs presented at the October Board Workshop. A follow-up planning session was held at the November Engineering and Operations Committee Meeting to capture the Board’s input on evaluating reduced cost options and to revisit the existing Boardroom improvements. Board directed staff to develop a scope of work to evaluate scaled down layouts of the MWRF Outreach Center and revisit expanded layouts of the main Boardroom. Engineering and Operations Committee approved a contract amendment with IBI Group to reflect the revised scope of work. Item was approved by the Board February 11, 2016. IBI Group performed an inspection of the existing Boardroom on February 25, 2016 and are in the process of developing conceptual layouts. Staff review and meeting occurred on April 11, 2016. Conceptual layout work has been completed.

### Project Title: Mesa Water® Main Office HVAC Study

### File No.: MC 2171

**Description:** Evaluate the existing HVAC system and provide recommendations for improved efficiency and operations of the system.

**Status:** Mesa Water® has contracted with Goss Engineering Inc. to perform this study. Kick off meeting was held January 13, 2016. Goss Engineering performed a field survey of both main campus buildings over the course of three days. Draft report with results and recommendations was reviewed by staff. The final report was delivered on June 30, 2016 and was reviewed by staff for completeness. Staff presented the findings and recommendation to the Board of Directors at the July E&O Committee Meeting. Board approved contract to move forward with the design of a complete Variable Refrigerant Flow system. Contract has been executed and returned to Goss Engineering. Project kick-off and notice to proceed was issued on November 30, 2016. 50% drawings have been delivered for review and comments returned. Stakeholder meeting was held on February 2, 2017 to provide comments for the new VRF system 50% design. 90% design drawings and specifications were submitted for Mesa Water® review on March 10, 2017. Bid package is currently being developed by the consultant. Proposals for roof design are currently being solicited.
**Project Title:** Reservoirs 1 & 2 Pumps, Controls, and Chemical System Assessment Project

**File No.:** MC 2173

**Description:** Evaluate the existing Pumps, Controls, and Chemical Systems at Reservoirs 1 & 2. The project includes lab testing of pump efficiency, physical assessment of pumps and pipework, assessment of the existing control system, and preliminary design of a chemical dosing system. Recommendations for improved efficiency and operations of the system will be included in a final report.

**Status:** Mesa Water® has contracted with Hazen & Sawyer to perform this study. Kick off meeting was held September 30, 2015. The consultant performed a field survey of both Reservoirs 1 & 2 over two days. A preliminary outline of technical memo 1 was provided on December 11, 2015. Initial data requests were responded to by December 7, 2015, with follow up responses provided on January 7, 2016 (SCADA Data) and February 9, 2016 (Jockey Pump Data). Pump testing scope of work has been reviewed by Mesa Water® and returned to the Consultant for revision. TM-1 has been reviewed by staff and returned to the consultant. Pump extraction plan and bid documents are currently being reviewed by staff. The Consultant has begun the preliminary design of a chemical dosing system. Request for bids for the pump extraction will be released in August 2016. Bids for the pump extraction were submitted and reviewed. The item was presented to the Engineering and Operations Committee at the September 20, 2016 meeting. Contract has been executed. Field assessment was completed on October 19, 2016. Factory pump testing scheduled in early January 2017. Further field tests conducted on December 2, 2016. Pump 2 from Reservoir 1 was removed and sent to the factory test facility on January 3, 2017. Factory testing was completed on February 27, 2017 with results aligning with the results obtained in the field. The pump has undergone a physical assessment and a refurbishment scope of work developed. The pump will be installed and operational on May 9, 2017. TM-2 is scheduled for delivery on June 14, 2017. Chemical management PDR is scheduled for delivery on June 16, 2017.

**Project Title:** Other Agency Project Coordination

**File No.:**

**Description:** Median construction in Placentia Ave. between Wilson St. and Adams Ave.

**Status:** Mesa Water® 16” main runs 5’ East of the street center line. Mesa Water® is coordinating with designer and City on design of necessary protection and root barrier for the water main. 85% design plans received on (12/22/14). Plan review in progress 1/8/15. Plan review comments sent to the City 2/6/15. Mesa Water® provided update comments to landscaping plans on 6/17/15. Mesa Water® continuing to coordinate with the City, Stivers and Associates, Inc., and City Designer on layout of project.
Revised final plans submitted for Mesa Water® review on 11/19/15. Staff reviewed the submittal in cooperation with Mesa Water® landscape consultant (Stivers Associates) and submitted comments to the City Designer on 12/28/15. The comments have been accepted by the Designer and Final Plans were submitted on 2/9/16. New comments sent to the Designer on 2/18/16. The revised final plans received on 3/21/16 and approved by Mesa Water® on 3/31/16. On May 24, 2017 the City Designer notified Mesa Water that the City was planning to advertise the project in the first half of June, 2017.
Project Title: Other Agency Project Coordination

File No.: M 2106

Description: Water main relocation in New Hampshire Dr. due to Greenville-Banning Channel Improvements by County of Orange.

Status: Relocation of 12” water main is required due to enlarged box culvert on Greenville-Banning Channel. Task Order No. RBF-2 issued to RBF Consulting on June 24, 2014 for design of the relocation. Mesa Water® is coordinating with County of Orange and RBF. Design in progress. Hydraulic analysis received from RBF 9/12/14 indicated that taking the New Hampshire pipeline out of service during construction of the Greenville-Banning Channel will have no adverse impacts on the distribution system (8/9/14). Mesa Water® is working with OCFCD on finalizing the cooperative agreement. E&O Committee approved the agreement 11/18/14. Pipeline relocation design package submitted to Mesa Water® on 1/31/15. Mesa Water® is coordinating with OCFCD and consultant to address final comments. Plans and specifications for the pipeline relocation completed 3/3/15 and forwarded to OCFCD on 3/5/15. Project was delayed until Spring of 2016. Attended the pre-construction meeting on 7/21/15. Construction meeting with OCFCD’s contractor Sukut Construction (Sukut) held on 4/7/16. Staff is coordinating with OCFCD and Sukut on project schedule. Two new 12-inch valves installed by Mesa Water® on New Hampshire Dr. at Idaho Ave. on 7/7/16 and air-vac valve relocated on 7/18/16. Approx. 110 ft. long section of existing 12” water main removed and existing box culvert demolished on 7/25/16. Construction of the new box culvert and water main replacement were completed in September, 2016. Completion of the Channel Improvements Project is scheduled for mid-February, 2017. Final project walk through was held on 2/23/17. Project is completed. Final invoice from OCFCD paid on May 17, 2017.

Project Title: Well 8 Demolishing Project

File No.: M 2219

Description: Prepare Well 8 demolishing plans and remove above-ground portions of the well and onsite facilities at the well facility to the scope and extent acceptable to the land owner Interinsurance Exchange of the Automobile Club of Southern California (the “Exchange”) to return the site to its near original condition.

Status: Prepare Well 8 demolishing plans and remove above-ground portions of the well and onsite facilities at the well facility to the scope and extent acceptable to the land owner Interinsurance Exchange of the Automobile Club of Southern California (the “Exchange”) to return the site to its near original condition.

Status: The Consultant has performed the required site Investigation and final design Services. The Consultant provided a 90% design which is being reviewed by Mesa Water. On February 6, 2017, Mesa Water® staff met with the Exchange personnel and discussed the 90% plan review comments. The comments will be incorporated into the
100% design. In November 2016, the property owner assigned a project manager to work with Mesa Water® to move the project forward. Well 8 demolition is scheduled for early June and should take approximately 60 calendar days to complete. Received 100% construction plans on 4/19/17. Project sent out to bid (13 contractors) on 4/20/17. The pre-bid job walk held on 4/26/16. One bid received on 5/4/17. Board of Directors awarded a contract to RC Foster Corporation on May 16, 2017. The kick-off meeting is scheduled for 6/15/17.
Water Quality Call Report
May 2017

Date: 5/5/2017
Source: Phone
Address: 657 Cove St.
Description: Customer wanted information on lead testing for his home.
Outcome: Customer was provided with a list of state certified laboratories so he may request more information on getting the water tested at his home.

Date: 5/24/2017
Source: Email/Phone
Address: Eastside
Description: Customer sent e-mail asking about fluoride, lead, bacteria, and using tap water to prepare formula for her baby.
Outcome: Called customer and explained about the Annual Water Quality Report and levels of fluoride and lead. Customer was referred to her pediatrician with regards to her questions on using tap water to prepare formula.

Date: 5/31/2017
Source: Phone
Address: 3064 Gibraltar
Description: Customer was curious why his store bought sampling kit suddenly shows water hardness level at very low level. He’s concerned about the hardness level for his fish tank.
Outcome: Explained to customer that the hardness level in the water varies with the different wells but all sources have moderately hard water except for water treated at the MWRF, which has lower hardness level. Since customer lives near the MWRF, his water may have varying hardness levels depending on operations.
## Policy Assignments for 2017

<table>
<thead>
<tr>
<th>Policy Name</th>
<th>Resolution</th>
<th>Date Adopted</th>
<th>Revision Schedule</th>
<th>Next Review</th>
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<td>Rules and Regulations for Water Services (will include review of meter capacity charges and easement procedures)</td>
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<td>Act Days</td>
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<td><strong>TOTAL</strong></td>
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</table>
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: June 20, 2017
SUBJECT: Well Automation and Rehabilitation Project Update

RECOMMENDATION

Recommend that the Board of Directors approve a change order to Carollo Engineers, Inc. in the amount of $195,960 to continue providing engineering services for the Well Automation and Rehabilitation Project, and authorize execution of the change order.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSION

On March 15, 2014, the Board adopted Resolution No. 1442 Replacement of Assets, which calls for rehabilitation of groundwater production wells if and when well production drops by more than 20% for a given well and 10% for overall clear water well production.

On March 18, 2014, the Board received an information item describing the scope of the Well Automation and Rehabilitation Project.

On October 10, 2014, the Board approved a contract with Carollo Engineers, Inc. for design of the Well Automation and Rehabilitation Project.

On March 12, 2015, the Board approved a contract with RBF Consulting- A Michael Baker International Company for Construction Management services for the Well Automation and Rehabilitation Project.

On May 19, 2015, the Committee received an information item on the planned appearance of the well sites, including the new chemical facility aesthetics.

On October 20, 2015, the Committee received an update and overview of the Well Automation and Rehabilitation Project, and approved the project as well as the Notice of Categorical Exemption from the California Environmental Quality Act (CEQA) for the project.

On January 19, 2016, the Committee approved a contract with Pacific Hydrotech for construction of the Well Automation and Rehabilitation Project.

On August 16, 2016, the Committee received an update on the Well Automation and Rehabilitation Project.
BACKGROUND

The Well Automation and Rehabilitation Project was recommended as part of the 2014 Master Plan Update and included in the adopted Capital Improvement Program. The project provides the necessary improvements to Mesa Water’s clear well sites and includes the following key objectives:

1. Rehabilitation of clear wells 1, 3, 5, and 7 that were shown to have lost more than 20% of production as a result of the condition assessment performed in October 2013;
2. Design of well automation functionality for all clear wells, including remote well start/stop capabilities and chemical addition system based on real-time system chemical demands;
3. Standardization of clear well operations across all well sites;
4. Reducing the frequency of chemical deliveries by increasing the size of the storage tanks;
5. Reducing the energy and labor costs of well operations;
6. Replacement of equipment that has exceeded its useful life, including well pumps, motors, and electrical switchgear;
7. Back-up power for all wells to maintain operation when grid power is not available; and
8. Installation of well site security system infrastructure.

A construction contract was awarded to Pacific Hydrotech for $10,488,500 for the construction of the Well Automation and Rehabilitation Project. The construction cost is spread over three fiscal years (FY 2016- FY 2018).

DISCUSSION

Well 5: Construction on the Well Automation and Rehabilitation Project began at Well 5 in October 2016. Work completed to date includes demolition of the end of useful life equipment, construction of permanent chemical facilities, well rehabilitation, installation of the new natural gas engine, and repairs to the well casing. Repair work to the well casing consisted of swaging a hole in the casing and placing a concrete plug at the bottom of the well to mitigate sanding. Test pumping demonstrated that Well 5 can produce approximately 2,500 gpm. The new pump has been installed, powered by a new Waukesha gas engine. The new chemical facilities have been constructed. Start up of Well 5 is currently in progress.

Well 7: Construction is also proceeding at Well 7. Work completed at Well 7 includes demolition of the end of useful life equipment, and installation of the new pump, motor, and electrical equipment. The new permanent chemical facilities are nearing completion. After a conservative rehabilitation program, test pumping showed that Well 7 can produce 1,650 gpm. Startup of Well 7 is planned for July 2017.

Future Work: In FY 2018, project work will move to Well 3, Well 9, and Well 1.

The project team is functioning well, collaboratively resolving the challenges and unforeseen conditions. The project team includes Mesa Water Engineering and Operations staff, the design engineering firm Carollo Engineers, the construction manager Michael Baker International, and the contractor Pacific Hydrotech. All of the members of the project team were competitively selected through the Request for Proposal/Bid process. The Carollo design contract is expiring at
the end of FY 2017, and additional design support funds are needed to support construction at Well 1, Well 3, and Well 9, planned for FY 2018.

Additional funds are necessary for the following:
- Extended hydrogeologist support for well rehabilitation
- Adding variable frequency drives (VFDs) to well pumps
- Continuing to attend construction meetings through project completion in FY 2018
- Responding to additional contractor requests for information and requests for clarification
- Reviewing additional contractor shop drawings and equipment submittals
- Continuing to provide project management for the extended schedule

The change order request is detailed in Attachment A. Staff recommends that the Board of Directors consider approving a change order to Carollo Engineers, Inc. in the amount of $195,960 to support the construction activities to complete the Well Automation and Rehabilitation project.

FINANCIAL IMPACT

$2,510,000 is budgeted in FY 2017 and the requested funding will come from Cash on Hand.

<table>
<thead>
<tr>
<th>Project Estimate (FY 2016)</th>
<th>Project Cost Amounts</th>
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<tbody>
<tr>
<td>$12,032,045</td>
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<tr>
<td>Original Contracts</td>
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<td>Change orders</td>
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<td>Requested funding</td>
<td>$195,960</td>
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<tr>
<td>Revised Contracts</td>
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Actual spent to date $3,726,094
Revised Project Estimate $12,103,091

ATTACHMENTS

Attachment A: Carollo Letter Request for Change Order
June 6, 2017

Karyn Igar, P.E., Project Manager
Mesa Water District
1965 Placentia Avenue
Costa Mesa, CA 92627

Subject: Request for Amendment to the Well Automation Engineering Services During Construction (ESDC) Project - DRAFT

Dear Ms. Igar:

Based on previous discussions with you in February and May, 2017 regarding the status of our budget related to the subject project, Carollo Engineers, Inc. (Carollo) is writing Mesa Water District (Mesa Water) to outline justifications for a fee amendment. This request has been deemed necessary based on an extended construction schedule, out of scope work, and design changes during construction. At the time of this letter, the estimated, remaining budget for the project is approximately, $25,000. Therefore, sufficient budget does not exist to complete the ESDC scope of work remaining such as meetings, submittal/RFI review, record drawings, and start-up support. The following sections of this letter discuss each of the amendment areas identified and a summary table is provided with estimated fee impacts.

Well Redevelopment Issues – Earlier this year, issues surfaced after the redevelopment of Well No. 5, including sanding and the appearance of screen and louver holes during video inspections. This complication required numerous project meetings, additional time in the field, and the development of contingency plans, such as installation of a concrete plug and further test pumping. These efforts include time for Carollo and GTC (74 hours) to address the Well No. 5 issues, including:

1. Evaluation of well screen corrosion and sanding
2. Evaluation and design of concrete plug
3. Evaluation of pump testing data, analysis of sand sizing, and backwash rate of sand separators to determine optimum Well 5 production rates
4. Evaluation of alternative drilling location for Well 5B (future), means to utilize existing gas engine for a new well located away from the building, and impacts on the new gas engine if production capacity was reduced

Furthermore, additional well rehabilitation oversight by GTC has been required for Well No. 7 and it is anticipated that more oversight for Well Nos. 1 and 3 will be required than originally assumed in the project RFP. This includes the development of DWSAPs for the wells. In summary, additional work includes:

1. Well 1B and 3B: All work through rehabilitation and testing is estimated to be 100 hours each, resulting in 200 additional hours for these wells. An additional 40 hours was also assumed to update the wells DWSAP, which was not in our original scope of work.
2. Well 5 summary memorandum and DWSAP (44 hours).
Karyn Igar, P.E., Project Manager  
Mesa Water District  
June 6, 2017

Page 2

3. Well 7: The team recently completed pumping development and testing to complete and a summary memorandum (60 hours). An additional 20 hours was assumed for the updating of the well DWSAP.

The work effort for the well rehabilitation effort is much more than the original estimate. However, Mesa Water has requested GTC to be present in the field frequently, which has increased field costs in addition to well memoranda and DWSAP work.

**Extended Schedule** – Per the original request for proposal (RFP), the Project construction schedule was assumed to be 2 years in duration. However, the construction schedule is now anticipated to be almost 3 years in total based on the Pacific Hydrotech’s latest construction schedule. An extended construction schedule requires additional budget for field visits, construction meetings, and project management time:

1. Meetings - The construction time extension will result in the need to attend an additional 48 construction meetings. To date, in order to conserve budget, we have been attending construction meetings as needed.

2. Project Management - Construction extension will require additional time to manage the project including project coordination and site visits.

3. Resolving Project Technical Issues - Additional field meetings with the CM and contractor are required to address project technical issues that may arise from unforeseen site conditions or changes in Mesa Water preferences.

**VFDs and Pump Verification** – Since the onset of construction, it has been determined that nitrification issues within the Mesa Water distribution system may be attributed to excessive water age resulting from too much system storage. To overcome this problem, a decrease in system storage and operation of the well field to meet live system demand will lead to improvements in water quality. This will require the well pumps to be operated with variable frequency drives (VFD). However, the original design of the electric drive wells included constant speed, soft start, drives. As a result, Carollo will require additional engineering time in order to redesign Well Nos. 1, 3, 7, and 9 to utilize VFDs. These changes will affect several drawings and require an additional 112 hours.

**RFIs** – During the construction phase of the project, additional time was expended given that more RFIs were received and processed than originally budgeted.

**Submittals** – The original RFP required Carollo to assume 387.5 hours for the review of 175 submittals and resubmittals. Although the contract documents required the contractor to submit submittals in large packages, the submittals were still submitted in sections. Overall, to date, Carollo has billed 461 hours for the review of 222 submittals and resubmittals (about 2 hours/submittal average). Furthermore, it is anticipated that there will be 80 more submittals that will require our review, including, but not limited to:

1. Electrical coordination study

2. Start-up submittals

3. Loop Drawings
4. O&M submittals

5. Outstanding re-submittals

Budget for Carollo

Table A summarizes additional budget requirements anticipated for Carollo in order to complete the project based on the items discussed above. For each scope item, the additional budget was calculated by using estimated hours for team members at their current billing rates. The right-hand column of the table presents a justification for the anticipated additional budget, as described in detail above. As shown, we anticipate that an additional 1,130 labor hours will be needed, for a total cost of $195,960.

<table>
<thead>
<tr>
<th>Scope Item</th>
<th>Hours</th>
<th>Budget ($)</th>
<th>Justification</th>
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<td>Requested Changes:</td>
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<tr>
<td>Well Redevelopment</td>
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<td>Budget to address Well 5 sanding and additional well rehabilitation oversight</td>
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<td>Extended Schedule</td>
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<td>VFDs and Pump Verification</td>
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<td>16,160</td>
<td>Well drive redesign and verification of pump curves and design points for use with VFDs</td>
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<tr>
<td>RFIs</td>
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<tr>
<td>Submittals</td>
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<td>40,365</td>
<td>Exceeded project budget for submittals given that the contractor submitted more than anticipated and outstanding submittals yet to be reviewed.</td>
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Grand Total: 1,130 $195,960

Based on our review of the current and anticipated scope of work, we request that Mesa Water issue an Amendment to the existing Agreement for the anticipated budget shortfall in the amount of $195,960.

Please let the undersigned know if you have any questions or require any further information. We look forward to continuing our good working relationship with the Mesa Water team and for the successful completion of this important project.

Sincerely,

CAROLLO ENGINEERS, INC.
TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: June 20, 2017
SUBJECT: Green Acres Project Agreement

RECOMMENDATION

Recommend that the Board of Directors authorize execution of the Green Acres Project agreement.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSION

On February 19, 2013, the Committee received a recommendation to approve Amendment #1 to the 1988 agreement between Orange County Water District and Mesa Water District for Distribution and Sale of Green Acres Project Water.

On March 14, 2013, the Board approved Amendment #1 to the 1988 agreement between Orange County Water District and Mesa Water District for Distribution and Sale of Green Acres Project Water.

On June 21, 2016 the Board received an information item outlining the intent of the Orange County Water District Board to negotiate new agreements with five water retail agencies, including Mesa Water District, for Distribution and Sale of Green Acres Project Water.

BACKGROUND

Mesa Water District (Mesa Water®) provides recycled water service within its service area as part of the larger regional Green Acres Project (GAP) that is managed by the Orange County Water District (OCWD). The GAP began operations in 1991 and uses a secondary treated wastewater effluent as its supply source, provided by the Orange County Sanitation District (OCSD), and treats it to a tertiary level compliant with Titles 17 and 22 standards. The GAP currently uses a conventional dual media treatment process and has approximately 36 miles of distribution pipeline that spans throughout the cities of Costa Mesa, Fountain Valley, Santa Ana, Newport Beach, and Huntington Beach. The GAP regionally has 107 active meters and serves approximately 4,320 acre-feet per year. Mesa Water has 42 of the 107 active meters and serves approximately 1,375 acre-feet per year of GAP water within its service area.

The GAP has been a proven source of water reliability to the Orange County region since its inception, allowing its users to replace potable supplies with recycled water for irrigation purposes. The original investment into the GAP treatment and distribution system was paid for and supported by all the OCWD member agencies and highly incentivized by Metropolitan Water District (MWD) through the Local Resources Program (LRP) over the past several years. While the GAP has been a locally reliable alternative supply source, OCWD has in parallel developed
the Groundwater Replenishment System (GWRS) that allows indirect potable reuse of recycled water. These systems use and compete for the same OCSD supply source. Due to the aging GAP treatment system and the end of the MWD LRP incentive, the OCWD Board considered several policy issues of the GAP’s long-term viability and economic benefits moving forward.

During 2016, the OCWD Board held several workshops regarding the GAP policy issues with input from OCWD staff, retail agencies, and the public. The following GAP policy issues were considered and decisions made by the OCWD Board:

- **Continued GAP Operation**: Because the GAP’s conventional treatment system is aging and is in need of replacement, OCWD staff evaluated several possibilities of discontinuing the use of the GAP system and giving prioritization of the source water to the GWRS. The OCWD Board agreed that due to the substantial financial investments made by OCWD, its retailers, and end-users the GAP should remain operational and appropriate improvements be made to the GAP system to ensure efficient short and long-term operations. OCWD staff identified and proposed the potential to serve the GAP customers using future added microfiltration capacity from the GWRS. OCWD Board directed staff to perform a study to evaluate this option as part of the GWRS Final Expansion Project.

- **Source Water Prioritization**: The OCWD Board considered the long-term source water prioritization of the GAP and GWRS collectively as both systems use and compete for OCSD secondary effluent as their source water. One key concept considered was to prioritize GWRS source water use over the GAP system as it would directly benefit all groundwater producers through indirect potable recharge in-lieu of just serving five of the basin agencies via the GAP system. While there are varying perspectives on this topic, the OCWD Board directed staff to continue supporting operations of the GAP, but with limited capability to further expand the GAP capacity.

- **Future GAP Connections**: Historically GAP water has been a more cost effective supply source for end-users with large irrigation areas. The recent drought renewed the interest in the GAP system from large irrigation users to seek new connections as the use of recycled water was not restricted by the State Water Resources Control Board as part of the target conservation mandate. Thus, the demand for the limited OCSD source water supply would continue to increase under the renewed interest, further restricting flow to the existing GWRS and potentially endangering the ability to implement the GWRS Final Expansion Project due to insufficient source water. Therefore, the OCWD Board directed staff to allow projects that were currently in the design process to be implemented, but future connections would be prohibited without the approval of the local retailer and the OCWD Board.

- **GAP Pricing**: The original OCWD GAP sales rate was set to 80% of the Area Groundwater Cost per the policy established in the late 1980s through agreements with each retailer. Until recently, GAP water was sold for less ($377/AF-FY 15) than its costs to produce and distribute ($724/AF - $162/AF [MWD LRP Incentive] = $562/AF). Restructuring of the GAP rates occurred in FY 16 among some of the retailers to maintain consistency with Propositions 218 and 26. With the LRP incentive terminating in October 2016 and the cost of GAP service solely supported by the five participating retailers, the actual cost of GAP water will be approximately $750-$800 per acre-foot. The GAP retailers agreed that the actual cost of water
should not continue to be subsidized by the other OCWD basin members since they receive no direct benefit from the GAP system. Thus, the OCWD Board directed staff to renegotiate the retailer agreements to reflect the new cost terms.

**DISCUSSION**

In early 2017, the five GAP retail agencies met with OCWD to negotiate the new GAP Agreement terms and conditions. The following major changes were made to the original GAP Agreement as follows:

- Addition of new GAP users will require retailer and OCWD Board approval;
- GAP retailers will pay the actual cost of GAP water;
- Retailers will attempt to reduce recycled water use during drought “State of Emergency” consistent with the Retailers’ conservation standards mandated by the State;
- Formation of a GAP Operating Group will be established among the participating Retailers and OCWD to review annual GAP sales rates, water quality performance, and upcoming construction projects;
- 30-year agreement term with early termination by either party given three years notification;
- Retailer shall establish their own sales rate for GAP water to end-users; and
- Flexibility for OCWD to adjust GAP water quality as changes in treatment technology, source water, and disinfection occur.

The new GAP agreement is included in Attachment A. Exhibit D of Attachment A demonstrates the tentative upcoming costs to the Retailers to operate the GAP system. The unit costs passed through from OCWD to Mesa Water for fiscal year 2018 will be $738 per acre-foot verses the fiscal year 2017 unit cost of $478 per acre-foot. Mesa Water will include any additional costs to administer the GAP program in future rate studies and subsequent Board actions.

The proposed GAP agreement provides several new benefits to the GAP Retailers as follows:

- Formation of the GAP Operating Group will provide direct input and oversight of GAP costs;
- Existing GAP customers will continue to have reliable and high quality recycled water;
- GWRS Final Expansion will be more viable as new GAP connections will be minimized;
- GAP system costs will be solely supported by GAP Retailers; and
- Retailers can terminate Agreement with prior notice at any time.

Therefore, staff recommends that the Board consider authorizing execution of the proposed GAP agreement.

**FINANCIAL IMPACT**

None.

**ATTACHMENTS**

Attachment A: Green Acres Project Agreement
AGREEMENT BETWEEN ORANGE COUNTY WATER DISTRICT AND MESA WATER DISTRICT REGARDING DISTRIBUTION AND SALE OF GREEN ACRES PROJECT WATER

THIS AGREEMENT (“Agreement”), is made and entered into as of July 1, 2017, by and between the ORANGE COUNTY WATER DISTRICT, a special governmental district (hereinafter “OCWD”) and the MESA WATER DISTRICT, a County Water District (hereinafter “RETAILER”).

RECITALS

A. OCWD was created by the OCWD Act, Ch. 924, Stats. 1933, as amended, for the purpose of protecting and managing the Orange County groundwater basin. The OCWD Act empowers OCWD to manage the groundwater basin, to provide for the conservation of the quantity and quality of water in the groundwater basin, to conserve and reclaim water within or outside of the boundaries of OCWD, to sell or otherwise put to beneficial use any water or reclaimed wastewater in order to conserve groundwater resources, and to distribute water to persons in exchange for ceasing or reducing the extraction of groundwater from the groundwater basin.

B. OCWD purchases imported water from the Metropolitan Water District of Southern California (hereinafter “MWD”), through its member public agencies, for spreading and replenishment purposes, and obtains wastewater from the Orange County Sanitation District (hereinafter “OCSD”) for renovation-reclamation, spreading and replenishment purposes, and groundwater injection.

C. A portion of the reclaimed wastewater currently produced by OCWD is suitable for a number of non-potable uses, including but not limited to, landscape irrigation and industrial uses.

D. RETAILER is a County Water District organized and existing pursuant to the laws of the State of California. RETAILER is the exclusive retail water purveyor, including water for residential, industrial, commercial, public agency, agricultural and other uses, within RETAILER’s boundaries. RETAILER currently distributes potable water in part purchased from the MWD and in part produced from groundwater within its boundaries. The water service boundaries of RETAILER are within the jurisdictional boundaries of OCWD.

E. Landscape irrigation and industrial water users within the jurisdictional and service boundaries of RETAILER currently either purchase potable or non-potable water from RETAILER for their use, or produce water from the groundwater basin by means of their own facilities for their use, which private groundwater production is under the jurisdiction and control of OCWD.

F. In 1991, OCWD began operating a water treatment facility, transmission mains and distribution pipeline system (including mainlines and service lines) and, in some cases, on-
site plumbing, known as the “Green Acres Project”, for the purpose of reclaiming wastewater received from OCSD (hereinafter, “Project Water”) and distributing the Project Water for appropriate landscape irrigation and industrial purposes in order to supplement and conserve the supply of potable groundwater available to the residents and water users within the boundaries of OCWD. OCWD entered into agreements with retail water providers within OCWD’s boundaries, including RETAILER, for the distribution and sale of Project Water within the respective boundaries of RETAILER and the other retail water agencies contracting with OCWD for Project Water. OCWD has operated the Green Acres Project continually since 1991; and during that period, RETAILER has continually purchased Project Water for resale to certain customers for landscape irrigation and/or industrial uses. OCWD and RETAILER desire to continue use of the Green Acres Project and its associate Project Water. A plat map depicting the location of the facilities comprising the Green Acres Project which OCWD currently operates and maintains is set forth as Exhibit A hereto.

G. OCWD and RETAILER mutually acknowledge that the use of reclaimed water for landscape irrigation is of mutual benefit to OCWD and RETAILER in fulfilling their joint responsibilities for the conservation of water resources in accordance with Sections 13550 and 13551 of the California Water Code.

H. OCWD and RETAILER mutually desire to terminate their existing Project Water agreement and enter into a new agreement to set forth the terms and conditions under which OCWD will continue to sell Project Water to RETAILER for resale by RETAILER to appropriate landscape irrigation and industrial water users within the service boundaries of RETAILER, and under which RETAILER will continue to purchase Project Water from OCWD for such resale purposes.

AGREEMENTS

NOW, THEREFORE, in consideration of the facts recited above and the terms, covenants and conditions herein contained, the parties hereto agree as follows:

SECTION ONE: TERMINATION OF PREVIOUS AGREEMENT

1.1 OCWD and RETAILER mutually agree that the written agreement entered into between OCWD and RETAILER, entitled “AGREEMENT BETWEEN ORANGE COUNTY WATER DISTRICT AND MESA CONSOLIDATED WATER DISTRICT REGARDING DISTRIBUTION AND SALE OF GREEN ACRES PROJECT WATER” and dated March 16, 1988, and the “FIRST AMENDMENT TO AGREEMENT BETWEEN ORANGE COUNTY WATER DISTRICT AND MESA WATER DISTRICT REGARDING DISTRIBUTION AND SALE OF GREEN ACRES PROJECT WATER” and dated March 16, 2013, relating to the construction of the Project Facilities and the sale of Project Water by OCWD to RETAILER for resale to RETAILER’s Project Customers, is hereby terminated as of the effective date of this Agreement and superseded by this Agreement.
SECTION TWO: FACILITIES FOR DELIVERY AND DISTRIBUTION OF PROJECT WATER

2.1 The parties acknowledge that OCWD has constructed, operates, owns, and maintains, the Green Acres Project, and all facilities to produce, transport and distribute Project Water for the herein specified purposes (hereinafter, the “Project Facilities”). A plat map depicting that portion of the Project Facilities which OCWD constructed, operates and maintains within the boundaries of RETAILER is attached hereto as Exhibit B.

2.2 The constructed Project Facilities include a distribution pipeline system from the site of the Green Acres Project Water Treatment Facility, located at 18700 Ward Street, Fountain Valley, California, to the point of connection to each of the proposed Project Water customers within the boundaries of RETAILER (hereinafter, “Project Customers”), for the purpose of distributing Project Water to RETAILER at the points of connection of the Project Customers for purchase by RETAILER and resale to the Project Customers. The names and anticipated annual Project Water demands of each existing and currently allowed new Project Customer are set forth in Exhibit C.

2.3 The parties acknowledge that the Project Facilities are owned by OCWD, and OCWD shall perform maintenance, emergency response, repair and replacement of the Project Facilities located within the boundaries of RETAILER. RETAILER may perform, on behalf of OCWD, maintenance, emergency response, repair and replacement of the Project Facilities located within the boundaries of RETAILER, pursuant to paragraph 5.1 herein below and arranged in writing prior to any such activity. In this regard:

2.3.1 The parties agree to restore, or cause Project Customer to restore, roads, streets, alleys, avenues, highways, drainage facilities, or any other public way or property used for construction, operations, or maintenance of the Project Facilities within RETAILER’s boundaries to at least the same condition existing prior to construction, operation or maintenance of the Project Facilities, to the reasonable satisfaction of RETAILER and OCWD.

2.3.2 The parties agree to provide, or cause Project Customer to provide, adequate safeguards to afford security to life and property during construction, operation, and maintenance of the Project Facilities, with due regard being given to other existing uses of public roads, streets, alleys, avenues, highways, drainage facilities, public ways and property within the boundaries of RETAILER.

2.3.3 The parties agree to use, or cause Project Customer to use, its best efforts to minimize noise, dust, pollution and problems relating to police and fire protection within the boundaries of RETAILER throughout construction, operation and maintenance of the Project Facilities within RETAILER’s boundaries.
2.3.4 The parties understand and agree that OCWD’s rights to construct, maintain, operate, inspect, repair and replace the Project Facilities within the lands and rights-of-way of RETAILER do not constitute vested property rights and are expressly subject to and governed solely by this Agreement.

2.4 The parties acknowledge that RETAILER has, at no cost to OCWD, provided metering devices meeting RETAILER’s specifications, and that these metering devices are owned, operated and maintained by RETAILER for the purpose of measuring the quantity of Project Water purchased by RETAILER and resold by RETAILER to each Project Customer. In the event that OCWD and RETAILER determine to expand the Green Acres Project to serve one or more new Project Customers, RETAILER shall provide a metering device for each new Project Customer, and shall own, operate and maintain it at no cost to OCWD. RETAILER shall be responsible for ensuring the accuracy of all metering devices used to measure the quantity of Project Water delivered to each existing or new Project Customer. Any costs incurred in modifying the size of existing RETAILER meters shall be the responsibility of RETAILER; provided, however, that RETAILER has the discretion to delegate that duty to a Project Customer, so long as RETAILER remains ultimately responsible to OCWD for the accuracy of the metering device. The quantity of Project Water measured by the meters to be owned, operated and maintained by RETAILER shall be the sole basis for determining the quantity of Project Water delivered to Project Customer under Section Three of this Agreement. In the event that a meter measuring the quantity of Project Water delivered by RETAILER for resale to a Project Customer indicates a lesser quantity than OCWD’s meter measuring the quantity of Project Water delivered to RETAILER for resale to a Project Customer, OCWD shall be responsible for the cost of such difference, and RETAILER shall not be liable therefor. In the event RETAILER has a separate metering device serving exclusively non-potable uses on the premises of a Project Customer, OCWD may sell Project Water to RETAILER by connecting the Project Facilities distribution pipeline system directly to the separate non-potable meter so long as the standards and requirements of RETAILER and any other governmental agency having jurisdiction over the quality of Project Water are satisfied.

2.5 RETAILER shall implement and maintain measures to avoid the risk that Project Water may enter into RETAILER’s potable water distribution system at no cost to OCWD. The parties acknowledge that the non-potable Project Water system has been marked with separate marking in accordance with standards and regulations in existence when the Project Water system was constructed, and that any extensions of the Project Water system shall be separately marked as required by law.

2.6 The Project Water distribution pipeline system has been constructed by OCWD with sufficient capacity to allow RETAILER to serve the landscape irrigation and industrial water users participating as Project Customers as shown in Exhibit C. OCWD shall sell to RETAILER, and RETAILER shall purchase from OCWD, sufficient quantities of Project Water for RETAILER to sell to those Project Customers. OCWD and RETAILER mutually understand
and agree that additional non-potable water users within the boundaries of RETAILER may at some future time be served with Project Water and become Project Customers without the necessity of amending this Agreement, provided that a water user within the service boundaries of RETAILER shall become a new Project Customer only with the approval of both OCWD and RETAILER; and provided further, that OCWD shall have the sole discretion to determine whether to expand the Project Facilities or the production and distribution capacity of the Project Facilities to meet any future demand for Project Water that may be generated within the boundaries of RETAILER. All future water users within the service boundaries of RETAILER who become Project Customers shall be subject to the Project Rules as defined in paragraph 6.2 and adopted by RETAILER pursuant to paragraph 6.3 herein below.

2.7 The addition of infrastructure to serve future Project Customers shall be approved by OCWD, RETAILER, and pertinent regulatory agencies. Additional infrastructure may include service laterals, mainline pipelines, pump stations, vaults, meters, and other components. Unless authorized in writing by OCWD, the permitting, design, construction, inspection, specialty inspection and materials testing, start-up, on-going regulatory compliance, and those costs described in Paragraph 2.3 shall be performed at no expense to OCWD. The OCWD staff time for review of the design, construction inspection of the additional infrastructure, and assistance in regulatory permitting shall be included in the annual Project Water costs set forth in paragraph 3.2 as components of the Project Water rate charged by OCWD to RETAILER, unless otherwise stipulated in writing by OCWD. OCWD shall cause the Project Facilities within the boundaries of RETAILER to be constructed in accordance with the construction standards of RETAILER. Addition of infrastructure located within public right-of-way and upstream of the RETAILER meters described in paragraph 2.4 shall become the property of OCWD after written construction acceptance by OCWD, RETAILER, and any other pertinent agency. Additional infrastructure within private property shall not be owned by OCWD, unless authorized in writing by OCWD and pursuant to an easement granted from the land owner to RETAILER and/or OCWD. Unless authorized in writing by OCWD, new RETAILER meters shall be located in the public right-of-way. The regulatory permitting and/or approvals of any future Project Customer site shall be obtained prior to delivery of Project Water to that site. RETAILER shall lead the effort to obtain these permits and/or approvals and OCWD shall assist and coordinate with the RETAILER.

2.8 Major expansions to the Project Water distribution system may be performed under a different ownership-maintenance model than described in Section 2 if mutually approved and defined in writing by OCWD and RETAILER.

SECTION THREE: PURCHASE AND SALE OF PROJECT WATER

3.1 RETAILER shall have the exclusive right to purchase Project Water from OCWD, at the point of connection to each Project Customer, and to resell Project Water to the Project Customers shown in Exhibit C, and such other landscape irrigation and industrial water
users within the boundaries of RETAILER that may be added as Project Customers in accordance with paragraphs 2.6, 2.7 and 2.8 above.

3.2 RETAILER shall purchase the Project Water from OCWD, at the point of its metered connections, for an amount equal to OCWD’s cost of producing and distributing Project Water based on the methodology set forth in Exhibit D, as determined by OCWD after consultation with the Operating Group defined in paragraph 3.3. Capital improvements such as changes in treatment plant technology and distribution system operation shall be included in OCWD’s costs. OCWD shall annually calculate the Project Water rate, and provide written notice to RETAILER of the then-effective Project Water rate. Upon request, OCWD shall provide RETAILER with supporting data used to calculate the Project Water rate. OCWD shall have discretion to smooth out anticipated increases in debt and capital improvement payments over several years preceding and following actual OCWD cost incurrence years, in order to avoid significant and sudden increases to the Project Water rate. When a smoothing method is applied by OCWD, it will be discussed with the Operating Group, as defined in paragraph 3.3, and disclosed on the annual revision of Exhibit D. The point of connection and sale of the Project Water from OCWD to RETAILER shall be at the meter which measures the flow of Project Water to each Project Customer, as described in paragraph 2.4 herein above. The parties mutually recognize and agree that the Project Water rate may change each year and become effective on July 1 of each year during the term of this Agreement.

3.3 Staff representatives of OCWD, RETAILER, and other retail agencies participating in the Green Acres Project shall form an “Operating Group” to meet at least once prior to the annual publishing of the revised Exhibit D by OCWD. The Operating Group shall meet and confer with regard to the proposed Exhibit D contents, future Exhibit D estimates, planned Green Acres Project capital and repair projects, and review previous Green Acres Project projects, Project Water performance, and revisions to Exhibit E.

3.4 The governing body of RETAILER shall establish the rate for the resale of Project Water to each Project Customer in accordance with applicable legal requirements which may include cost of service.

3.5 RETAILER shall read the Project Water meter for each Project Customer on a one (1) month cycle or in concurrence with RETAILER’s schedule for reading meters which measure the quantity of potable water delivered by RETAILER. Within fifteen (15) days thereafter, RETAILER shall transmit to OCWD a statement setting forth the Project Water rate established by RETAILER pursuant to paragraph 3.4 during that billing period, a description of the maintenance, repair and replacement activities of RETAILER on Project Facilities, the amount of such actual costs incurred by RETAILER pursuant to paragraph 5.1 herein below during that billing period, and indicating, for each Project Customer, the current meter reading, the previous meter reading, and the total quantity of Project Water purchased from OCWD and resold by RETAILER to such Project Customer during the billing period. Together with this statement, RETAILER shall transmit to OCWD payment in accordance with paragraph 3.2 for the Project Water purchased from OCWD by RETAILER and resold by RETAILER to all of the
Project Customers during the billing period, after deducting therefrom the actual costs incurred by RETAILER in maintaining, repairing and replacing the Project Water distribution system within RETAILER’s boundaries as set forth in paragraph 5.1 herein below.

SECTION FOUR: PROJECT WATER QUALITY REGULATIONS

4.1 OCWD shall deliver and sell to RETAILER pursuant to this Agreement Project Water that conforms to all current and future requirements established by the California Regional Water Quality Control Board – Santa Ana Region, California State Water Resources Control Board Division of Drinking Water, County of Orange Health Care Agency, and all other federal, state and local agencies having jurisdiction to fix minimum standards. The anticipated quality of Project Water is shown on Exhibit E attached hereto and incorporated herein, and this Exhibit E shall subsequently be revised to conform to any future regulatory requirements; provided however, that OCWD shall not have obligation to modify the quality of Project Water to meet the needs of any particular Project Customer. OCWD shall revise Exhibit E if and when OCWD modifies the tertiary treatment technology, disinfection process, and/or introduces OCSD Plant #2 effluent to the GAP treatment process, and provide written notice of such revised Exhibit E to RETAILER. The parties acknowledge that Exhibit E can be revised by OCWD without amending this Agreement after such revision’s discussion at the Operating Group. OCWD shall strive to meet or exceed the minimum criteria stated in Exhibit E.

4.2 During the term of this Agreement, OCWD shall pay all costs imposed by any and all governmental agencies having jurisdiction over the quality or use of Project Water for the issuance of any permits, licenses or approvals required for the production treatment, distribution or sale of Project Water. If incurred by OCWD, the costs described in this paragraph shall be included in the annual Project costs set forth in paragraph 3.2 as components of the Project Water rate charged by OCWD to RETAILER.

4.3 OCWD shall inform RETAILER promptly after becoming aware of any proposed or actual modifications by any agency having jurisdiction over the quality of Project Water to any requirements governing the minimum standards of quality for or use of Project Water, or of any changes in the legally permissible uses which might affect the use of the Project Water sold by OCWD to RETAILER for resale by RETAILER to Project Customers, and OCWD shall bear all costs of conforming to any such future requirements. If incurred by OCWD, the costs described in this paragraph shall be included in the annual Project costs set forth in paragraph 3.2 as components of the Project Water rate charged by OCWD to RETAILER.

4.4 RETAILER shall perform Project Customer inspection and testing in accordance with the Project Rules defined in paragraph 6.2, prepared by OCWD and transmitted to RETAILER who may make additions, as amended from time to time by OCWD, and provide a written record of such activities to OCWD within sixty (60) days of their performance. Expenses for these activities shall not be reimbursed by OCWD.
SECTION FIVE: OPERATING OBLIGATIONS OF THE PARTIES

5.1 During the term of this Agreement, OCWD shall manage, operate and maintain the Project Facilities in an efficient manner and in accordance with the highest standards of skill and workmanship; provided, however, that OCWD may contract with RETAILER for the performance by RETAILER of the actual maintenance, repair and replacement responsibilities with respect to those Project Facilities located within the service boundaries of RETAILER. RETAILER recognizes the special quality considerations relating to Project Water, and RETAILER shall perform its maintenance, repair and replacement responsibilities in an efficient manner and in accordance with the highest standards of skill and workmanship. OCWD retains the right to make repairs to Project Facilities within the service boundaries of RETAILER. RETAILER shall receive as a credit against all monies due OCWD, pursuant to paragraph 3.2 herein above for the sale of Project Water, the cost of such maintenance, repair and replacement activities actually undertaken by or on behalf of RETAILER, which costs shall include the actual labor, material and equipment costs, plus overhead costs incurred by RETAILER and necessary for such maintenance, repair and replacement activities.

5.2 Notwithstanding the provisions of paragraph 5.1, the operating responsibility of OCWD with respect to the Project Facilities shall include the maintenance of quality, quantity and pressure of the Project Water, and compliance with all regulatory requirements and conditions applicable to the distribution and sale of Project Water, to the point of connection to each Project Customer.

5.3 RETAILER shall, at no cost to OCWD, assume ownership, service, maintenance and reading of the Project Water meter and valve set and meter box/vault for each Project Customer in the same manner that RETAILER would for a customer service meter attached to its potable water system. RETAILER further shall, at no cost to OCWD, be responsible for customer service functions relating to all Project Customers, including but not limited to billing and collection of payments from Project Customers for the Project Water, record keeping, and notification to OCWD of the quantity of Project Water delivered through each Project Customer’s meter during each meter reading period.

5.4 OCWD shall have the right to review the books, records and accounts maintained by RETAILER relating to the Project water and Project Customers during normal business hours, upon forty-eight (48) hours prior written notice to RETAILER.

5.5 OCWD shall operate the Project Facilities in such a manner that Project Water shall be delivered to the point of connection to each Project Customer on a continuous basis at a pressure of not less than fifty (50) pounds per square inch. RETAILER shall assist OCWD in achieving this pressure criterion by staggering Project Customer demand timeframes as needed. OCWD shall strive to have a pressure greater than one hundred (100) pounds per square inch entering the Project Facilities from the Water Treatment Facility. If OCWD’s analysis of future Project Customer sites indicates this pressure criteria cannot be met by the existing Project
Facilities, OCWD shall declare by written notice to RETAILER that this standard of service will not apply to these future Project Customers.

5.6 Except as provided in paragraph 9.6 below, in the event that, at any time during the term of this Agreement, OCWD for any reason cannot or chooses not to produce Project Water from its Green Acres Project Water Treatment Facility described in paragraphs 2.1 and 2.2 above, OCWD shall provide through the Project Facilities, or otherwise, at a cost equal to the cost of Project Water, sufficient water of a quality at least equal to the quality of Project Water to meet the landscape irrigation and industrial water needs of all of the Project Customers. OCWD, however, shall have no such obligation in the event that Project Water cannot be delivered to Project Customers due to damage to, breaks, or other disruptions in the distribution facilities transporting Project Water to Project Customers, including maintenance and additions to Project Facilities. OCWD shall strive to restore Project Water delivery within 72 hours of disruptions. With respect to non-emergency maintenance, repair, and construction work, OCWD shall coordinate such interruptions with RETAILER at least thirty (30) days in advance.

5.7 If the State of California proclaims a drought “State of Emergency” and restricts the use of potable water supplies, RETAILER will attempt to reduce the use of recycled water consistent with the RETAILER’s conservation standards mandated by the State. Notwithstanding the RETAILER’s existing regulations, RETAILER’s governing body shall consider enacting permanent mandatory water conservation requirements for recycled water use and any additional restrictions during periods of water supply shortages.

SECTION SIX: PROJECT WATER RULES AND REGULATIONS

6.1 All Project Water produced by OCWD for delivery and sale to RETAILER shall be in accordance with the terms and conditions of the discharge requirements and primary user permit for the Project Water issued to OCWD by the California Regional Water Quality Control Board – Santa Ana Region. OCWD has obtained and shall maintain a blanket primary user permit for the production, distribution and sale of Project Water, and shall at all times maintain and comply with all present and future provisions thereof and all renewals or subsequent such permits.

6.2 The parties acknowledge that OCWD has promulgated, and the parties agree that OCWD and RETAILER shall enforce rules and regulations regarding the distribution, delivery and sale of Project Water to RETAILER, and governing the use of Project Water resold by RETAILER to Project Customers (“Project Rules”). OCWD shall maintain approvals from all federal, state, and local agencies having jurisdiction over the production, quality and use of Project Water, including, but not limited to, the California Regional Water Quality Control Board – Santa Ana Region, California State Water Resources Control Board Division of Drinking Water, and County of Orange Health Care Agency, that such Project Rules comply with the regulations, requirements and orders of such regulatory agencies.
6.3 The parties acknowledge that OCWD has heretofore prepared and transmitted to RETAILER the Project Rules, and that RETAILER has itself adopted the Project Rules and incorporated them into RETAILER’s promulgated rules and regulations governing the distribution, delivery and sale of water within the service boundaries of RETAILER. Promptly upon adoption of RETAILER’s revised promulgated rules and regulations, RETAILER shall transmit to OCWD RETAILER’s adopted Project Rules. Should OCWD choose either to make reasonable amendments or modifications to the Project Rules not contrary to this Agreement, or be required by any governmental agency exercising jurisdiction over the distribution, sale or use of the Project Water to modify or amend the Project Rules, OCWD shall promptly furnish such modifications or amendments to RETAILER; and RETAILER, after being provided a ninety (90) day period in which to review, comment upon, and/or meet and confer with OCWD regarding such proposed modifications or amendments, shall incorporate such proposed modifications or amendments into RETAILER’s adopted rules and regulations. Project Rules may be revised by OCWD without amendment to this Agreement. The parties acknowledge that OCWD and RETAILER have participated in a group of Orange County agencies to standardize procedures, inspection, testing, and submission requirements for applications seeking approval from regulatory authorities for new Project Customer sites and the ongoing inspection and testing of existing sites. The parties further acknowledge that upon the finalization of the Orange County standardized practices, the Project Rules will be amended to incorporate the standardized practices, which finalization is expected in 2017. RETAILER shall ensure that each Project Customer has a copy of the Project Rules and that the Project Customer adheres to the Project Rules.

6.4 RETAILER shall include in its promulgated rules and regulations provisions requiring that any current or future Project Customer permit representatives of OCWD and RETAILER to enter the premises of the Project Customer at all reasonable times for the purpose of monitoring, inspecting, analyzing and observing the Project Customer’s on-site Project Water facilities and the utilization by the Project Customer of Project Water.

6.5 In connection with RETAILER’s adoption of modifications or amendments to the Project Rules as part of its amended rules and regulations, and at the request of RETAILER, OCWD shall cooperate with and assist RETAILER in obtaining from the State of California Water Resources Control Board any necessary certifications, findings or orders authorized under Sections 13550 and 13551 of the California Code to require the use of Project Water for non-potable uses within the service boundaries of RETAILER.

6.6 The parties understand and agree that Project Water delivered and sold by OCWD to RETAILER pursuant to the terms of this Agreement has limited uses, and OCWD shall deliver and sell to RETAILER Project Water only for those uses and purposes which are legally permissible under the laws of the State of California and the rules, regulations and directions of the appropriate federal, state and local regulatory agencies exercising jurisdiction over the quality and use of Project Water. In this regard, OCWD and RETAILER shall cooperatively enforce Project Rules limiting the use of Project Water to legally permissible landscape irrigation
and industrial applications, and shall monitor the use of Project Water by Project Customers to safeguard against any misuse or improper application of Project Water by Project Customers.

SECTION SEVEN: INDEMNITY AND INSURANCE

7.1 OCWD shall hold RETAILER harmless from and against and shall indemnify RETAILER from any liability, loss, costs, expenses or damages however by reason of any injury (whether to body, property, or personal or business character or reputation) sustained by or to any person or property by reason of any act, neglect, default, or omission of OCWD or any of its agents, employees, or representatives, or caused by reason of the design, construction, operation or maintenance of the Project Facilities, or the distribution and sale to RETAILER for resale purposes herein of Project Water that does not meet the quality standards set forth in Title 22 of the California Administrative Code; provided, however, that OCWD shall not be responsible for the negligent operation, maintenance or repair of the Project Facilities within RETAILER’S service boundaries by RETAILER, the negligent operation, maintenance or repair by RETAILER, any Project Customer of Project Water distribution and storage facilities located on the lands of any Project Customer, and/or the misuse or misapplication of the Project Water on the Project Customer’s side of the Project Water meter by any person, including RETAILER or any Project Customer. If RETAILER is sued in any court for damages by reason of any of the acts for which OCWD is required to indemnify RETAILER in this paragraph 7.1, including but not by way of limitation, damages arising out of a products liability claim, OCWD shall defend said action (or cause same to be defended) at its own expense and shall pay and discharge any and all amounts of judgement that may be rendered in any such action. If OCWD fails or neglects to so defend in said action, RETAILER may defend the same and any expenses, including reasonable attorney’s fees, which it may pay or incur in defending said action and the amount of any judgement which it may be required to pay shall be promptly reimbursed upon demand. Nothing herein is intended to nor shall it relieve RETAILER or any Project Customer from liability for its own willful acts or active negligence.

7.2 OCWD shall cause RETAILER to be named as an additional insured on OCWD’s general liability policy of insurance with respect to the sale and distribution to RETAILER of Project Water within the service boundaries of RETAILER, and OCWD shall provide RETAILER with certificates of insurance and endorsements evidencing such insurance coverage.

7.3 OCWD shall not commence nor permit any contractor or subcontractor to commence work or construction of any of the Project Facilities that are located within the service boundaries of RETAILER until OCWD has obtained, or has caused its contractors to obtain, comprehensive general liability insurance providing coverage for bodily injury, personal injury and property damage, and which shall include as additional insureds RETAILER, its City Council, Board Members, boards and commissions, officers, agents, vendors, and employees, but only while acting in their capacity as such and only as respects operations of the original named
insured, its subcontractors, agents, officers and employees in the performance of the construction contract. OCWD shall furnish RETAILER with certificates of insurance and endorsements showing insurance coverage as described above. RETAILER shall incur no expense in connection with obtaining and maintaining any insurance required under paragraph 7.2 and 7.3.

SECTION EIGHT: DISPUTES

8.1 In the event of any dispute arising under this Agreement, the parties hereto agree to utilize the arbitration procedure set forth in this Section Eight as the sole and exclusive means of resolving any such dispute.

8.2 Arbitration shall be initiated by any party hereto serving upon any other party a written demand for arbitration, which demand shall describe with specificity the nature of the dispute. Except as specified herein, the arbitration shall be conducted pursuant to the provisions of California Code of Civil Procedure, Section 1280, et seq. The parties hereto agree that there shall be a single neutral arbitrator who shall be a civil engineer knowledgeable in water facilities operation and reclaimed wastewater, who shall be selected in the following manner:

8.2.1 The demand for arbitration shall include a list of the names of five (5) persons acceptable to the demanding party for appointment as arbitrator. The responding party shall determine if any of the names submitted are acceptable, and, if so, shall inform the other party within ten (10) days of actual receipt of the arbitration demand, and such person will be designated as arbitrator;

8.2.2 In the event that none of the names submitted by the demanding party is acceptable to the responding party, or if for any reason the arbitrator selected is unable to serve, the responding party shall submit to the demanding party a list of the names of five (5) persons acceptable to the responding party for the appointment as arbitrator. The demanding party shall in turn have ten (10) days from actual receipt of the list in which to determine if one such person is acceptable;

8.2.3 If the parties are unable mutually to agree upon a neutral arbitrator as described above, the matter of the selection of an arbitrator, qualified as above, shall be submitted to the Orange County Superior Court pursuant to Code of Civil Procedure Section 1281.6. Upon selection of an arbitrator, the arbitration shall be conducted consistent with the provisions of Code of Civil Procedure Section 1280, et seq., as are deemed practicable by the arbitrator, considering the nature of the dispute.

8.3 The costs of arbitration, including but not limited to reasonable attorneys’ fees, shall not be recoverable by the party prevailing in the arbitration, including the court costs and reasonable attorneys’ fees incurred if an arbitration conducted hereunder is appealed to a court pursuant to the procedures set forth in Code of Civil Procedure Section 1280, et seq. This provision shall not relieve any party of the duty to indemnify, defend, and hold harmless the other party under this Agreement.
SECTION NINE: MISCELLANEOUS PROVISIONS

9.1 Notices: All notices, payments, transmittals of documentation and other writings required or permitted to be delivered or transmitted to any of the parties under this Agreement shall be personally served or deposited in a United States mail depository, first class postage prepaid, and addressed as follows:

If to OCWD: Orange County Water District  
18700 Ward Street  
P.O. Box 8300  
Fountain Valley, California 92728  
Attn: General Manager

If to RETAILER: Mesa Water District  
1965 Placentia Avenue  
Costa Mesa, California 92627  
Attn: General Manager

or such other address or person as OCWD or RETAILER shall direct in writing. Service of any instrument or writing by mail shall be deemed complete forty-eight (48) hours after deposit in a United States mail depository.

9.2 Term and Amendment: The term of this Agreement shall be for thirty (30) years from the date hereof. Either party shall have the right to terminate this Agreement by written notice to the other at least three (3) years prior to the termination date. The parties must mutually agree in writing to extend the term of this Agreement. This Agreement may only be amended or modified by mutual agreement in writing of OCWD and RETAILER.

9.3 Limitation on Sales by OCWD: OCWD acknowledges and agrees that, except as provided herein or with the prior written consent of RETAILER, OCWD is not now and will not in the future become a wholesale or retail seller of Project Water within the service boundaries of RETAILER without RETAILER’s written consent, and OCWD further agrees that it will not use or contract with any entity other than RETAILER for the purpose of selling and distributing Project Water within the service boundaries of RETAILER.

9.4 Basin Limitations: OCWD and RETAILER mutually understand and agree that any and all Project Water delivered and sold by OCWD hereunder shall not constitute either “supplemental sources” or “groundwater supplies” for the purpose of the annual establishment of basin groundwater production requirements and limitations by OCWD pursuant to Section 31.5 of the OCWD Act. Project Water is hereby established as a separate class of water for the purposes of Section 31.5 of the OCWD Act.

9.6 Conditions Subsequent: The performance of this Agreement is conditioned upon OCWD’s continued ability feasibly to produce and distribute Project Water for sale to
RETAILER and resale by RETAILER to Project Customers in a cost-effective manner. Subsequent to the date of this Agreement, should OCWD determine in its sole discretion that unanticipated increases in the cost of producing or distributing Project Water or new or modified regulatory requirements governing the production, distribution, quality or use of Project Water render the Green Acres Project economically unfeasible, OCWD may cease production and distribution of Project Water upon ninety (90) days written notice to RETAILER. In the event that OCWD ceases the production and distribution of Project Water pursuant to this paragraph 9.6, this Agreement shall terminate and OCWD shall incur no liability to RETAILER or any Project Customer by reason of the termination of this Agreement or the termination of production and delivery of Project Water.

9.7 No Duplication of Services Intended or Created: OCWD and RETAILER mutually understand and agree that the construction and operation of the Project Facilities and the distribution and sale of Project Water by OCWD to RETAILER for sale by RETAILER to Project Customers pursuant to this Agreement do not constitute either a duplication of RETAILER’s retail water service or a taking of any property of RETAILER within the meaning of Section 1501, et seq., of the California Public Utilities Code. RETAILER shall have no right to institute any action against OCWD pursuant to Sections 1503, 1504 or 1505.5 of the Public Utilities Code by reason of the construction and operation of the Project Facilities and the distribution and sale of Project Water by OCWD to RETAILER in conformance with this Agreement.

9.8 Warranty: OCWD represents and warrants that under the OCWD Act, OCWD, without the consent of any other public agency water purveyor, may enter into this Agreement to deliver and sell Project Water to RETAILER for resale by RETAILER to Project Customers or lands within the service boundaries of RETAILER.

9.9 Construction: This Agreement shall be construed according to its plain meaning and as if prepared by all parties hereto. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

9.10 Integration: The parties herein have set forth the whole of their agreement, and the performance of this Agreement constitutes the entire consideration intended herein.

9.11 Successors: This Agreement and all of the provisions herein shall be binding upon and inure to the benefit of OCWD and RETAILER, and their respective successors and assigns.
WHEREFORE, the parties herein have executed this Agreement as of the date set forth above.

APPROVED AS TO FORM:

By

[Signature]

General Counsel for
Orange County Water District

ORANGE COUNTY WATER DISTRICT

By

[Signature]

President

By

[Signature]

General Manager

APPROVED AS TO FORM:

By

[Signature]

General Counsel, Mesa Water District

MESA WATER DISTRICT

By

[Signature]

General Manager

Attest: ______________________

District Secretary
Exhibit A: Green Acres Project Facilities
Exhibit B: Green Acres Project Facilities within Jurisdiction of RETAILER
## Exhibit C: RETAILER’s Current Project Customers and Anticipated Annual Demand

<table>
<thead>
<tr>
<th>Project Customer</th>
<th>Meter Number</th>
<th>Estimated Annual Usage (acre-feet per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt. Olive Memorial - 1625 Gisler Ave</td>
<td>1393997</td>
<td>56.4</td>
</tr>
<tr>
<td>Plaza Tower-Ave of Arts - 600 Anton Blvd</td>
<td>67491556</td>
<td>7.3</td>
</tr>
<tr>
<td>C.M. Park-Civic Center - 111 Fair Dr.</td>
<td>58576687</td>
<td>6.3</td>
</tr>
<tr>
<td>Crystal Court West - 3333 Bear St.</td>
<td>68410988A</td>
<td>20.6</td>
</tr>
<tr>
<td>Crystal Court East - 3333 Bear St.</td>
<td>59587969</td>
<td>1.6</td>
</tr>
<tr>
<td>Talbert Park&amp; SAR 1&amp;10-2505 Placentia Ave</td>
<td>10244458</td>
<td>76.1</td>
</tr>
<tr>
<td>C.M. Park-Fairview Park-2501 Placentia Ave</td>
<td>S1615399</td>
<td>21.7</td>
</tr>
<tr>
<td>C.M. Park-Tewinkle (West) - 970 Arlington Dr.</td>
<td>86029466</td>
<td>47.5</td>
</tr>
<tr>
<td>C.M. Park-Tewinkle (East) - 970 Arlington Dr.</td>
<td>90461078</td>
<td>20.4</td>
</tr>
<tr>
<td>South Pacific Car Wash (SL) - 2770 Bristol St.</td>
<td>51039220</td>
<td>0.5</td>
</tr>
<tr>
<td>Town Center-Park Center Dr - 600 Town Center Dr.</td>
<td>1366431</td>
<td>23.9</td>
</tr>
<tr>
<td>Bear Median-S of Sunflower - 3333 1/2 Bear St.</td>
<td>51068668</td>
<td>0.2</td>
</tr>
<tr>
<td>Bear Median-N.of S.C. Dr - 3333 1/2 Bear St.</td>
<td>51866675</td>
<td>0.3</td>
</tr>
<tr>
<td>Bear Median-S.of S.C. Dr - 2800 Bear St.</td>
<td>51039232</td>
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<tr>
<td>Caltrans 405 - 3201 Bear St.</td>
<td>9063841</td>
<td>72.3</td>
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<tr>
<td>Caltrans S. of 405 - 3145 Bear St.</td>
<td>69761113</td>
<td>30.8</td>
</tr>
<tr>
<td>Caltrans 405 - Bear No.2 - 3203 Bear St.</td>
<td>9052662</td>
<td>17.2</td>
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<tr>
<td>Caltrans 55 - Arlington - 2600 Newport Blvd.</td>
<td>65492077</td>
<td>14.9</td>
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<tr>
<td>Caltrans 55 - Vanguard - 2300 Newport Blvd.</td>
<td>65779085</td>
<td>12.2</td>
</tr>
<tr>
<td>Caltrans 405 - Harbor - 3213 Harbor Blvd.</td>
<td>70184559</td>
<td>29.0</td>
</tr>
<tr>
<td>Caltrans - 1100 Bristol St.</td>
<td>65672945</td>
<td>10.8</td>
</tr>
<tr>
<td>Coast Community College - 2701 Fairview Rd.</td>
<td>95808822</td>
<td>77.3</td>
</tr>
<tr>
<td>Susan Street Median - 1400 Sunflower Ave.</td>
<td>66096714</td>
<td>3.4</td>
</tr>
<tr>
<td>Caltrans 55 (55/73 Fwy) - 1100 Bristol St.</td>
<td>69468882</td>
<td>66.7</td>
</tr>
<tr>
<td>Costa Mesa Country Club - 1701 Golf Course Dr.</td>
<td>952596</td>
<td>360.1</td>
</tr>
<tr>
<td>Caltrans 73 (Bear/73 Fwy) - 3001 Bear St.</td>
<td>67491566</td>
<td>5.3</td>
</tr>
<tr>
<td>Harbor Median (Scenic) - 3581 Harbor Blvd.</td>
<td>67491564</td>
<td>2.1</td>
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<tr>
<td>Harbor Median (Gisler) - 3202 Harbor Blvd.</td>
<td>67491559</td>
<td>2.5</td>
</tr>
<tr>
<td>Harbor Median (Merrimac) - 2621 1/2 Harbor Blvd.</td>
<td>67491565</td>
<td>3.0</td>
</tr>
<tr>
<td>SAR - C.M. - 1900 Gisler Ave.</td>
<td>1519413</td>
<td>13.4</td>
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<tr>
<td>C.M.- 2750 Fairview Rd.</td>
<td>5307005</td>
<td>35.3</td>
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<tr>
<td>C.M.- 2600 Fairview Rd.</td>
<td>16274807</td>
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<tr>
<td>C.M.- 2650 Fairview Rd.</td>
<td>15221243</td>
<td>0.6</td>
</tr>
<tr>
<td>IKEA - 1475 South Coast Dr.</td>
<td>61196270</td>
<td>11.9</td>
</tr>
<tr>
<td>EMULEX - 3333 Susan St.</td>
<td>62581037</td>
<td>10.8</td>
</tr>
<tr>
<td>Providence Homes - 3350 Susan St.</td>
<td>68362190</td>
<td>9.9</td>
</tr>
<tr>
<td>Segerstrom Center for the Arts - 615 Town Center Dr.</td>
<td>66768415</td>
<td>6.7</td>
</tr>
<tr>
<td>Ave of the Arts Median - 3200 Avenue of the Arts</td>
<td>51068727</td>
<td>2.8</td>
</tr>
<tr>
<td>* Location ID #19902400</td>
<td>62233463</td>
<td>Sub-Meter</td>
</tr>
<tr>
<td>* Location ID #19902500</td>
<td>62233468</td>
<td>Sub-Meter</td>
</tr>
<tr>
<td>* Location ID #19902600</td>
<td>53094303</td>
<td>Sub-Meter</td>
</tr>
<tr>
<td>* South Coast Plaza Pking Lot (19902700)</td>
<td>60572144</td>
<td>Sub-Meter</td>
</tr>
<tr>
<td>South Coast Plaza Expansion</td>
<td></td>
<td>Future ~100</td>
</tr>
<tr>
<td>Azulon at Mesa Verde Apartments</td>
<td></td>
<td>Future ~20</td>
</tr>
<tr>
<td>The Enclave Apartments</td>
<td></td>
<td>Future ~30</td>
</tr>
<tr>
<td>Mesa Verde Shopping Center</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Exhibit D: OCWD Unit Price Calculation for Project Water Sold to RETAILER

Revisions to Exhibit D by OCWD do not require an amendment to this Agreement.

Fiscal Year 2015-2016 calculation listed below. This unit price shall be effective for Fiscal Year 2017-2018.

\[
\begin{align*}
\text{Previous fiscal year operational and maintenance cost to operate, treat, and distribute Product Water (Electricity, Chemicals, Labor, Maintenance, Testing, Utility Location Services, Replenishment Assessment Value of Deep Well Blending Water)} \quad &+\quad \text{Previous fiscal year Repair and Rehabilitation Fund contribution for Project Facilities. This figure may be periodically reviewed and adjusted by OCWD Board as necessary} \quad +\quad \text{Debt service payments. This figure may vary as terms for loans, certificates of participation, and other Project Facilities financing change. Smoothing may occur to avoid sudden increases to this figure} \\
$1,173,230.46 &+\quad $936,678.00 &+\quad $980,296.67 \\
\text{Previous fiscal year Project Water in acre-feet} \quad &\quad &\quad =\quad $738 \\
4,186.09 &\quad &\quad \text{per acre foot}
\end{align*}
\]

Estimated future fiscal year rates provided for planning purposes only. Rates are subject to substantive change prior to implementation.
FY 2018-19: $778 per acre foot
FY 2019-20: $769 per acre foot
FY 2020-21: $741 per acre foot
FY 2021-22: $761 per acre foot
FY 2022-23: $782 per acre foot
**Exhibit E: Typical Project Water Quality**

Revisions to Exhibit E by OCWD do not require an amendment to this Agreement.

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration Range (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Dissolved Solids</td>
<td>700 - 1,050</td>
</tr>
<tr>
<td>Hardness</td>
<td>170 - 350</td>
</tr>
<tr>
<td>Calcium</td>
<td>45 - 100</td>
</tr>
<tr>
<td>Magnesium</td>
<td>15 – 35</td>
</tr>
<tr>
<td>Potassium</td>
<td>10 – 25</td>
</tr>
<tr>
<td>Sodium</td>
<td>150 - 250</td>
</tr>
<tr>
<td>Bicarbonate</td>
<td>170 - 250</td>
</tr>
<tr>
<td>Chloride</td>
<td>170 - 320</td>
</tr>
<tr>
<td>Sulfate</td>
<td>160 – 225</td>
</tr>
<tr>
<td>Boron</td>
<td>0.3 - 0.6</td>
</tr>
<tr>
<td>Fluoride</td>
<td>0.7 - 1.4</td>
</tr>
<tr>
<td>Silica</td>
<td>15 – 24</td>
</tr>
<tr>
<td>Total Nitrogen</td>
<td>2.4 – 20</td>
</tr>
<tr>
<td>Phosphate Phosphorous</td>
<td>0.06 – 4</td>
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<tr>
<td>Chemical Oxygen Demand</td>
<td>10 – 35</td>
</tr>
<tr>
<td>Sodium Adsorption Ratio</td>
<td>3 - 7</td>
</tr>
</tbody>
</table>

Exhibit E shall be revised if and when OCWD modifies the tertiary treatment technology, disinfection process, and/or introduces OCSD Plant #2 effluent to the GAP treatment process.
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Paul E. Shoenberger, P.E., General Manager
DATE: June 20, 2017
SUBJECT: Chandler Avenue Well Real Property Purchase

RECOMMENDATION

Announce that the Chandler Avenue Well property purchase has been completed for a price of $2,161,067.56.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSSION

On November 25, 2014, the Engineering and Operations Committee approved recommendations from the 2014 Water Systems Master Plan Update to direct staff to plan water supply to meet 115% of projected demands and explore the development of two new well sites while abandoning Well 8.

On January 20, 2015, the Board of Directors approved a motion to retain professional real estate services for the acquisition of two new well sites for an amount not-to-exceed $25,000. The contract was awarded to Voit Real Estate Services (Voit).

On September 15, 2015, the Engineering and Operations Committee received a presentation on the properties being considered for purchase.

On October 8, 2015, the Board of Directors approved the General Manager to negotiate on behalf of the Board for the property purchase of two new well sites.

On July 14, 2016, the Board awarded a contract change order to Voit for $50,000 to continue real estate acquisition services for two new well sites and authorize execution of the change order.

On December 20, 2016, Mesa Water District and IDAS Properties agreed to the terms of a property purchase at 4011 W. Chandler Avenue, Santa Ana for use as a new well site.

On March 13, 2017, the Board of Directors visited the property to be acquired at 4011 W. Chandler.

On March 23, 2017, the Board of Directors approved execution of the property lease for 4011 W. Chandler to lease the property back to the Seller for up to 18 months from close of escrow.

DISCUSSION

On November 8, 2016, the Board of Directors met in Closed Session to review purchase of Real Property located at 4011 Chandler Avenue, Santa Ana, California.
Direction was provided to the District’s Real Property Negotiator, the District's General Manager.

On March 31, 2017, Mesa Water purchased the above-referenced Real Property for a purchase price of $2,161,067.56 upon specified terms and conditions.

In order to comply with the requirements of the Ralph M. Brown Act, the Board of Directors needs to announce the details and that the purchase has been completed.

FINANCIAL IMPACT

The purchase has been completed and the funds came from Cash on Hand.

ATTACHMENTS

None.
ACTION ITEMS:

9. CLOSED SESSION:

CONFERENCE WITH REAL PROPERTY NEGOTIATOR:
Pursuant to Government Code Section 54956.8:
Property: 3120 S. Croddy Way, Santa Ana (APN: 415-024-17)
District Negotiator: General Manager
Negotiating Party: Lowers Leasing Inc.
Under Negotiation: Price and/or terms of purchase or acquisition of rights
REPORTS:

10. REPORT OF THE GENERAL MANAGER:
REPORTS:

11. DIRECTORS’ REPORTS AND COMMENTS:
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: June 20, 2017
SUBJECT: Chandler Avenue Well and Pipeline Design Services

RECOMMENDATION

This item is provided for information only.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSION

None.

BACKGROUND

As part of the 2014 Master Plan, the Board of Directors adopted a policy for Mesa Water’s local water supply reliability to be at least 115% of water demand. This requirement will provide Mesa Water with the additional assurance to meet its demands with local groundwater supplies during peak demand periods and when water production facilities are undergoing routine maintenance. In March 2017, Mesa Water purchased a 0.42 acre lot containing a 10,000 square-foot building at 4011 Chandler Avenue in the City of Santa Ana. The lot is located approximately 0.6 miles outside of Mesa Water’s service area and is intended to house a new well that will provide additional water supply and reliability to the District. The pipeline alignment will be located within the City of Santa Ana, connecting to the Mesa Water distribution system at the City of Costa Mesa border along MacArthur Avenue.

DISCUSSION

Mesa Water is requesting proposals from experienced consulting engineering firms to provide professional services for the Chandler Avenue Well and Pipeline Project. This work requires the Consultant to develop design drawings, specifications, bid documents, and provide engineering support services during construction for the Mesa Water Chandler Avenue Well and Pipeline Design Project. The Project includes civil, electrical, architectural, structural, geotechnical, and mechanical design efforts. Twelve firms were solicited to submit proposals with five firms attending the mandatory pre-proposal meeting. Selection recommendations will be brought to a future Engineering and Operations Committee.
FINANCIAL IMPACT

In Fiscal Year 2018, $450,000 has been budgeted for Chandler Avenue Well and Pipeline Design.

<table>
<thead>
<tr>
<th>Project Estimate (FY 2018)</th>
<th>Project Cost Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>$450,000</td>
<td>TBD</td>
</tr>
<tr>
<td>Original Contracts</td>
<td>TBD</td>
</tr>
<tr>
<td>Change orders</td>
<td>TBD</td>
</tr>
<tr>
<td>Requested funding</td>
<td>TBD</td>
</tr>
<tr>
<td>Revised Contracts</td>
<td>TBD</td>
</tr>
<tr>
<td>Actual spent to date</td>
<td>$0</td>
</tr>
<tr>
<td>Revised Project Estimate</td>
<td>$450,000</td>
</tr>
</tbody>
</table>

ATTACHMENTS

None.
RECOMMENDATION

This item is provided for information only.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.
Goal #3: Be financially responsible and transparent.

PRIOR BOARD ACTION/DISCUSSION

On March 15, 2014, the Board adopted Resolution No. 1442 Replacement of Assets to supersede Resolution No. 1268 to better define the concept of pipeline useful life introduced in Resolution No. 1268.

On March 17, 2015, the E&O Committee approved a contract with Michael Baker International, Inc. to provide consulting services for the Pipeline Integrity Testing Program.

On January 19, 2016, the Board received an update on the progress of the Pipeline Integrity Testing Program, and approved contracts with Paulus Engineering, Inc. to remove pipeline segments for testing and to MEIC Lab for destructive testing.

On September 8, 2016, the Board approved a Change Order to MEIC Lab for additional testing.

On November 8, 2016, the Board received a presentation on the results of the first year of destructive testing.

BACKGROUND

Resolution No. 1442 Replacement of Assets

Mesa Water District (Mesa Water®) has implemented Resolution No. 1442 Replacement of Assets, adopted by the Board on March 15, 2014.

Objectives

Resolution No. 1442 was established to optimize Mesa Water’s assets’ useful life using accepted industry test methods. This approach allows full recognition of an asset’s useful life, reduces costs to rate payers, and ensures timely replacement to maintain reliability to Mesa Water’s customers. Resolution No. 1442 uses three metrics to assess the remaining useful life; known pipeline failure rate, non-destructive testing results, and destructive testing results. Resolution No. 1442 first considers the known failure rate of the pipelines. Failure rates exceeding 0.1 breaks per mile per
year are considered to have reached the end of their useful life. Otherwise, pipelines are subject to a two-step testing method:

- Nondestructive testing (NDT) of 1% of the system (~3 miles each year) to measure the pipeline wall thickness; and

- Destructive testing methodologies of pipe segments shown by nondestructive testing to have less than 70% of wall thickness remaining compared to a new pipe.

Resolution No.1442 prioritizes pipelines for testing as follows:

- Pipelines with a known history of failure
- Pipelines within 10 years of age-based useful life based on industry standards
- Pipelines within soil known to be corrosive
- Pipelines with the largest diameter

**Distribution System Statistics**

Mesa Water’s distribution system includes approximately 317 miles of pipelines ranging from 4” to 42” in diameter. Nearly 90% of the distribution system was installed between 1950-1990. Approximately 235 miles (74%) of the pipelines are Asbestos Cement Pipe (ACP), with the remaining 26% comprised of Polyvinyl Chloride (PVC) (37 miles), Cement Mortar Lined and Coated (CML&C) Steel (25 miles), Concrete Cylinder Pipe (CCP) (16 miles), Cast Iron Pipe (CIP) (2.3 miles), and Ductile Iron Pipe (DIP) (1.7 miles).

**Age Based Useful Life**

The average age-based expected useful life of each pipeline material was assessed from AWWA, WEF and WRF publications as part of the 2014 Water System Master Plan Update and is shown in Table 1. Resolution No. 1442 calls for non-destructive testing to begin when a pipe segment is within 10 years of its average age-based useful life.

**Table 1. Age-based Useful Life and Testing Age by Pipeline Material**

<table>
<thead>
<tr>
<th>Material</th>
<th>Age-Based Useful Life</th>
<th>Age to Start Testing</th>
<th>Installation Year to Start Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACP</td>
<td>75</td>
<td>65</td>
<td>1951</td>
</tr>
<tr>
<td>CIP</td>
<td>65</td>
<td>55</td>
<td>1961</td>
</tr>
<tr>
<td>CML&amp;C</td>
<td>80</td>
<td>70</td>
<td>1946</td>
</tr>
<tr>
<td>CCP</td>
<td>80</td>
<td>70</td>
<td>1946</td>
</tr>
<tr>
<td>DIP</td>
<td>82.5</td>
<td>72.5</td>
<td>1943</td>
</tr>
<tr>
<td>PVC</td>
<td>85</td>
<td>75</td>
<td>NA</td>
</tr>
</tbody>
</table>

**DISCUSSION**

The Pipeline Integrity Testing Program was established to implement Resolution No. 1442. In the
first three years of the Pipeline Integrity Testing Program, Mesa Water and its consultants have accomplished the following:

- Assessment of pipeline materials and installation dates based on information in GIS
- Evaluation of age-based useful life by pipeline material
- Non-destructive testing of approximately 7 miles of AC pipe using Echologics e-Pulse
- Non-destructive testing prioritization of AC pipe segments based on age, break history, water quality, diameter, and traffic loading
- Non-destructive testing of approximately 1 mile of cast iron pipe using Echologics epulse
- Evaluation of non-destructive testing methods for CML&C and CCP pipelines; no method has been implemented
- Template plans and specifications for removing pipe segments for destructive testing
- Destructive testing plan for AC pipe
- Evaluation of testing labs for AC pipe; a local lab is still sought
- Method for estimating remaining useful life of AC pipes
- Collection and destructive testing, and remaining useful life assessment of 12 AC pipe samples
- Collection and destructive testing of 2 CML&C samples
- Collection and destructive testing of 1 Cast Iron pipe sample
- Collection of 6 additional AC pipe segments for destructive testing
- Collection of 2 additional Cast Iron pipe segments for destructive testing

AC and Cast Iron samples are currently at laboratories undergoing destructive testing; results are expected in July 2017.

Next Steps

The contract with the initial consultant selected to support the Pipeline Integrity Testing Program has expired, and staff is developing a Request for Qualifications to select a highly qualified consultant for the next five years of the program. The role of the Consultant is envisioned to provide technical support to Mesa Water’s Program Manager in the following key areas:

- Evaluation of non-destructive and destructive test data
- Estimation of remaining useful life using the methods described in WRF Report #4093, *Long Term Performance of Asbestos Cement Pipe*
- Determination of method for estimating the remaining useful life of ferrous material pipes
- Evaluations of non-destructive, in-situ pipeline testing methods
- Identification of additional destructive testing labs for asbestos cement and ferrous material pipelines
- Statistical application and financial analysis of future replacement valuation of non-destructive and destructive pipe testing results to Mesa Water’s global distribution system
- Recommendations for improvements to cathodic protection equipment and maintenance program
- Development of the program annual report and annual presentation to Mesa Water’s Board of Directors
A Request for Qualifications has been issued, and staff will bring a recommendation for selection at a future Engineering and Operations Committee meeting.

FINANCIAL IMPACT

$375,200 is budgeted for the Pipeline Integrity Testing Program in FY 2017; and $330,619 has been expended in FY 2017. $310,000 has been budgeted in FY 2018 for the Pipeline Integrity Testing Program, including $35,000 for consulting services.

ATTACHMENTS

None.
TO: Engineering and Operations Committee  
FROM: Phil Lauri, P.E., Assistant General Manager  
DATE: June 20, 2017  
SUBJECT: HVAC System Design

RECOMMENDATION

This item is provided for information only.

STRATEGIC PLAN

Goal #2: Practice perpetual infrastructure renewal and improvement.

PRIOR BOARD ACTION/DISCUSSION

On August 11, 2016, the Board of Directors awarded a contract to Goss Engineering to perform design of a new heating, ventilation, and air conditioning (HVAC) system for the Administration and Operation Buildings.

BACKGROUND

Mesa Water District’s (Mesa Water®) current HVAC system has provided 24 years of service. The HVAC system is a roof top mounted fan-coil type system consisting of seven units placed atop the Operations and Administration Buildings. The system has been periodically maintained throughout the years and various repairs made to accommodate changing office configurations. With an increasing frequency in repairs, a need for more systematic control to address varying thermal conditions within the office environment, changing code compliance requirements, and the age of the current system, Mesa Water engaged Goss Engineering Inc. (GEI) in July 2015 to perform an assessment of Mesa Water's HVAC system.

The assessment recommended that Mesa Water replace the rooftop units with a new variable refrigerant flow (VRF) system. VRF systems provide more flexibility with improved zoning ability with the installation of individual cooling units in each occupant’s space. VRF systems consist of interior fan-coil units that can be ducted, ceiling mounted or wall-mounted and rooftop condensing units. The most appropriate fan-coil solution would include a ceiling-mounted approach. Ceiling-mounted units are preferred as they simplify condensate pipe installation and provide a cleaner appearance once installed. Installing a fan-coil unit in each space would allow individual occupant control of temperature in each office or workspace. GEI was awarded a contract to complete the design of a new VRF system.

DISCUSSION

GEI has completed the design drawings, specifications, and contract documents to the 90% level and are currently preparing the final deliverable for bid solicitation. Copies of the 90% design drawings are available upon request.
During the 2016-17 winter season, the Mesa Water Operations and Administration Buildings were subject to water infiltration on several occasions. It was determined that the roofs on both buildings, as well as the skylight in the Administration Building, were in need of replacement. In order to prevent patching of a new roof or removal of the new HVAC units to install a roof, the projects will be combined under one construction contract. Proposals for roof design services are currently being solicited and will be presented to the Board of Directors as an amendment to the GEI contract.

FINANCIAL IMPACT

In Fiscal Year 2018, $970,000 is budgeted for the construction of the new VRF HVAC System and Roof.

<table>
<thead>
<tr>
<th>Project Estimate (FY 2018)</th>
<th>Project Estimate Amounts</th>
<th>Project Cost Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Design Contracts</td>
<td>$970,000</td>
<td>$79,882</td>
</tr>
<tr>
<td>Change orders</td>
<td></td>
<td>TBD</td>
</tr>
<tr>
<td>Requested funding</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Revised Contracts</td>
<td></td>
<td>TBD</td>
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<tr>
<td>Actual spent to date</td>
<td></td>
<td>$51,930</td>
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<tr>
<td>Revised Project Estimate</td>
<td></td>
<td>$970,000</td>
</tr>
</tbody>
</table>

ATTACHMENTS

None.
MEMORANDUM

TO: Engineering and Operations Committee
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: June 20, 2017
SUBJECT: On-Call Pipeline Construction Services

RECOMMENDATION

This item is provided for information only.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.
Goal #3: Be financially responsible and transparent.

PRIOR BOARD ACTION/DISCUSSION

On March 8, 2013, the Board approved On-Call Pipeline Construction Services with Doty Bros., J.A. Salazar Construction and Supply, and Paulus Engineering.

For the FY 2014 and FY 2015 budgets, the Board approved $100,000 and $150,000, respectively, for on-call construction.

On March 17, 2015, the Committee approved contract extensions with the three On-Call Pipeline Construction contractors through June 30, 2017.

DISCUSSION

The use of on-call Pipeline Construction Contractors allow Mesa Water District (Mesa Water®) to react quickly to urgent operational events, such as pipeline breaks that require external personnel and equipment beyond Mesa Water crews’ expertise (i.e., deep excavations and shoring, etc.). The on-call contractors are also an efficient resource to complete small projects that take away from traditional capital replacement work efforts performed by Mesa Water crews.

Emergency work is assigned to Contractors most readily available and capable of performing the work. Capital replacement work is competitively bid on a project-by-project basis to the three pre-approved contractors to ensure cost effective pricing.

The current On-call Pipeline Construction Contracts expire at the end of Fiscal Year 2017. Staff is developing a Request for Bid for On-call Pipeline Construction with the intent to award three contracts valued at $150,000 per year for five years, with the option for up to two annual renewals. Proposed contractors and bids will be brought to a future Engineering & Operations Committee meeting for consideration.

FINANCIAL IMPACT

$150,000 is budgeted for the On-call Pipeline Construction Services in FY 2018.
ATTACHMENTS

None.