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.

ITEMS TO BE ADDED, WITHDRAWN, OR REORDERED ON THE AGENDA
At the discretion of the Board, all items appearing on this agenda, whether or not expressly listed as an Action Item, may be deliberated and may be subject to action by the Board.

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. Approve minutes of regular Board meeting of January 11, 2018.
   3. Approve minutes of special Board meeting of January 18, 2018.
   4. Approve attendance considerations (additions, changes, deletions).
   5. Board Schedule:
      • Conferences, Seminars, and Meetings
      • Board Calendar
      • Upcoming Community Outreach Events
   6. Award a contract to Hazen and Sawyer for $262,835 plus a contingency for a total not-to-exceed amount of $289,119 for professional engineering design services for the completion of the Reservoirs 1 & 2 Chemical Management System Design Project.
   7. Award a contract with Butier Engineering, Inc. in the amount of $972,480 with a 10% contingency for a not-to-exceed amount of $1,069,728, to provide professional Construction Management Services for the Croddy and Chandler Wells and Pipeline Project, and authorize execution of the contract.
   8. Appoint Marwan Khalifa as District Treasurer and award the existing stipend for the Treasurer in the amount of $350 per month.
   9. Direct staff to add Mesa Water District’s name and logo to a joint letter of support for National Priority Listing of the Orange County North Basin Site.
PRESENTATION AND DISCUSSION ITEMS:

11. ORANGE COUNTY MOSQUITO & VECTOR CONTROL DISTRICT PRESENTATION:
   Recommendation: Receive the presentation.

12. ELITE CUSTOMER SERVICE UPDATE:
   Recommendation: Receive the presentation.

ACTION ITEMS:

13. PROCEDURES FOR MEETINGS OF THE BOARD OF DIRECTORS:
   Recommendation: Adopt Resolution No. 1509, Adopting Procedures for Meetings of the Board of Directors, Superseding Resolution No. 1456.

14. CLOSED SESSION:
   CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION:
   Pursuant to California Government Code Sections 54956.9 (d) (1) and 54954.5 (c)
   Case: Costa Mesa Sanitary District v. Mesa Water District
   Case No. 30-2017-00923819-CU-PT-CJC

   PUBLIC EMPLOYEE DISCIPLINE/DISMISSAL/RELEASE:
   Pursuant to California Government Code Section 54957

   RETURN TO OPEN SESSION.

15. SPECIAL DISTRICTS SHARED EFFICIENCIES:
   Recommendation: Take action as the Board desires.

REPORTS:

16. REPORT OF THE GENERAL MANAGER:
   • January Key Indicators Report
   • Other (no enclosure)

17. DIRECTORS’ REPORTS AND COMMENTS:

INFORMATION ITEMS:

18. DIRECTORS’ REPORTS (AB 1234) PER CA GOVERNMENT CODE SECTION 53232.3 (D)

19. OTHER (NO ENCLOSURE)
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.

ADJOURN TO A REGULAR BOARD MEETING SCHEDULED FOR THURSDAY, MARCH 8, 2018 AT 6:00 P.M.
CALL TO ORDER
The meeting of the Board of Directors was called to order on January 11, 2018 at 6:00 p.m. by President Atkinson at the District Office Boardroom, located at 1965 Placentia Avenue, Costa Mesa, California.

PLEDGE OF ALLEGIANCE
Director Dewane led the Pledge of Allegiance.

Directors Present
Jim Atkinson, President
Fred R. Bockmiller, P.E., Vice President
Marice H. DePasquale, Director
Shawn Dewane, Director
James R. Fisler, Director

Directors Absent
None

Staff Present
Paul E. Shoenberger, P.E., General Manager
Phil Lauri, P.E., Assistant General Manager/District Treasurer
Denise Garcia, Administrative Services Manager/District Secretary
Marwan Khalifa, CPA, MBA, Chief Financial Officer
Stacie Sheek, Customer Services Manager
Stacy Taylor, External Affairs Manager
Syndie Ly, Human Resources Manager
Tracy Manning, Water Operations Manager
Rob Anslow, Partner, Atkinson, Andelson, Loya, Ruud & Romo

Others Present
Rafael Hidalgo Gatty, Account Manager, Alliant Employee Benefits
Michael Morales, Benefits Consultant, Vice President, Alliant Employee Benefits
Mark J. Austin, Partner, Rutan & Tucker, LLP
Bob Ooten, Member of the Public
Anna Vrska, Member of the Public

PUBLIC COMMENTS
President Atkinson asked for public comments on non-agendized items.

There were no comments and President Atkinson proceeded with the meeting.
ITEMS TO BE ADDED, WITHDRAWN, OR REORDERED ON THE AGENDA

General Manager Shoenberger requested to reorder the agenda to take the Closed Session related to Existing Litigation after the Consent Calendar. There were no objections from the Board.

CONSENT CALENDAR ITEMS:

1. Approve minutes of regular Board meeting of December 14, 2017.
2. Approve minutes of special Board meeting of December 18, 2017.
3. Approve minutes of special Board meeting of December 19, 2017.
4. Approve minutes of special Board meeting of December 21, 2017.
5. Approve attendance considerations (additions, changes, deletions).
6. Board Schedule:
   • Conferences, Seminars, and Meetings
   • Board Calendar
   • Upcoming Community Outreach Events
7. Award a contract in the amount of $154,760 to Trussell Technologies, Inc. to evaluate the feasibility of converting from chloramination disinfection to free chloring disinfection.
8. Approve an increase to the On-Call Pipeline Repair and Construction contracts by $150,000 for a total not-to-exceed amount of $400,000 for Fiscal Year 2018, and authorize execution of the change order.
9. Renew the contract with California Advocates for Advocacy Consulting Services through December 31, 2018 for an amount not to exceed $84,000.

President Atkinson asked for comments from the public. There were no comments.

MOTION

Motion by Director Dewane, second by Vice President Bockmiller, to approve Items 1 - 9 of the Consent Calendar. Motion passed 5-0.

Item 11 - CLOSED SESSION:

President Atkinson asked for comments from the public.

There were no comments and President Atkinson announced the Board was going into Closed Session at 6:05 p.m.

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION:
Pursuant to California Government Code Sections 54956.9 (d) (1) and 54954.5 (c)
Case: Costa Mesa Sanitary District v. Mesa Water District
Case No. 30-2017-00923819-CU-PT-CJC

RETURN TO OPEN SESSION.

The Board returned to Open Session at 6:56 p.m.

Special Legal Counsel Austin announced that the Board conducted one Closed Session with the General Manager, Assistant General Manager, District Secretary, External Affairs
Manager and Special Legal Counsel pursuant to Government Code Sections 54956.9 (d) (1) and 54954.5 (c). The Board received information and there was no other announcement.

PRESENTATION AND DISCUSSION ITEMS:
None.

ACTION ITEMS:

10. BOARD WORKSHOP PLANNING:

GM Shoenberger reviewed the proposed topics and noted the Board Workshop is scheduled for Monday, March 26, 2018. He asked for additional topics and the Board replied that there were none at this time.

No action was taken on this item.

The agenda was reordered to take Items 13 - 16 prior to Closed Session. There were no objections.

REPORTS:

Item 13 – REPORT OF THE GENERAL MANAGER:
- December Key Indicators Report
- Other (no enclosure)

Item 14 – DIRECTORS' REPORTS AND COMMENTS:

INFORMATION ITEMS:

Item 15 - DIRECTORS' REPORTS (AB 1234) PER CA GOVERNMENT CODE SECTION 53232.3 (D)

Item 16 - OTHER (NO ENCLOSURE)

ACTION ITEMS:

President Atkinson asked for comments from the public.

There were no comments and President Atkinson announced the Board was going into Closed Session at 7:18 p.m.

11. CLOSED SESSION:

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION:
Pursuant to California Government Code Sections 54956.9 (d) (1) and 54954.5 (c)
Case: Costa Mesa Sanitary District v. Mesa Water District
Case No. 30-2017-00923819-CU-PT-CJC
The first Closed Session was taken earlier on the agenda.

CONFERENCE WITH LABOR NEGOTIATOR PURSUANT TO GOVERNMENT CODE 54957.6:
District Negotiator: General Manager
Employee Organization: District Employees

RETURN TO OPEN SESSION.

The Board returned to Open Session at 8:21 p.m.

Attorney Anslow announced that the Board met in one Closed Session with the General Manager, Assistant General Manager, District Secretary, Human Resources Manager, Alliant Employee Benefits Vice President Morales and Account Manager Gatty and Legal Counsel pursuant to Government Code 54957.6. The Board received information. Action will be taken under Item 12.

12. TERMS AND CONDITIONS FOR COMPENSATION – NON-REPRESENTED EMPLOYEES:

President Atkinson asked for comments from the public. There were no comments.

MOTION

Motion by Vice President Bockmiller, second by Director DePasquale, to extend the same terms and conditions to the Non-Represented Employees as set forth in the proposed Memorandum of Understanding with the Mesa Water District Employee Association (MWDEA) for the period of January 1, 2018 through December 31, 2022. Motion passed 5-0.

REPORTS:

13. REPORT OF THE GENERAL MANAGER:
   • December Key Indicators Report
   • Other (no enclosure)

   Item taken earlier on the agenda.

14. DIRECTORS’ REPORTS AND COMMENTS:

   Item taken earlier on the agenda.

INFORMATION ITEMS:

15. DIRECTORS’ REPORTS (AB 1234) PER CA GOVERNMENT CODE SECTION 53232.3 (D)

   Item taken earlier on the agenda.
16. OTHER (NO ENCLOSURE)

Item taken earlier on the agenda.

President Atkinson adjourned the meeting at 8:23 p.m. in honor of the victims and rescue workers in Montecito, California to a Regular Board Meeting scheduled for Thursday, February 8, 2018, at 6:00 p.m.

Approved:

Jim Atkinson, President

Denise Garcia, District Secretary

Recording Secretary: Sharon D. Brimer
MINUTES OF THE BOARD OF DIRECTORS
MESA WATER DISTRICT
Tuesday, January 16, 2018
1965 Placentia Avenue, Costa Mesa, CA 92627
3:30 p.m. Special Board Meeting

ENGINEERING AND OPERATIONS COMMITTEE MEETING

CALL TO ORDER
The meeting of the Board of Directors was called to order on January 16, 2018 at 3:31 p.m. by Chairman Fisler at the District Office Boardroom, located at 1965 Placentia Avenue, Costa Mesa, California.

PLEDGE OF ALLEGIANCE
Director Dewane led the Pledge of Allegiance.

Directors Present
Jim Atkinson, President
Fred R. Bockmiller, P.E., Vice President (arrived at 3:42 p.m.)
Marice H. DePasquale, Director
Shawn Dewane, Director
James R. Fisler, Director, Chair

Directors Absent
None

Staff Present
Paul E. Shoenberger, P.E., General Manager
Phil Lauri, P.E., Assistant General Manager
Wendy Duncan, Records Management Specialist/Assistant District Secretary
Stacy Taylor, External Affairs Manager
Tracy Manning, Water Operations Manager
Karyn Igar, Senior Civil Engineer

Others Present
Kevin Alexander, Vice President and West Regional Manager, Hazen and Sawyer

PUBLIC COMMENTS
There were no comments on non-agendized topics.

CONSENT CALENDAR ITEMS:
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
MOTION

Motion by Director Dewane, second by Director DePasquale, to approve Items 1 - 5 of the Consent Calendar. Motion passed 4-0-1, with Vice President Bockmiller absent.

PRESENTATION AND DISCUSSION ITEMS:

6. Reservoirs 1 & 2 Pumps, Controls, and Chemical System Assessment Project

Assistant General Manager Lauri introduced Hazen and Sawyer’s Vice President and West Regional Manager Kevin Alexander who proceeded with a presentation that highlighted the following:

- Study Organization
- Booster Pump Station Review (TM-1)
- Pump Condition Assessment (TM-2)
- Reservoir 1 Pump 2 Inspection
- Pump Repair and Replacement Approach
- Reservoir Operation and Control System (TM-3)
- TM-3 Recommendations
- Chemical Feed Improvements (PDR)
- Estimated Cost of Improvements

Mr. Alexander responded to questions and the Board thanked him for the presentation.

MOTION

Motion by Vice President Bockmiller, second by Director Dewane, to add to the next regular Board meeting Consent Calendar award of a contract to Hazen and Sawyer for $262,835 plus a 10% contingency for a total not-to-exceed amount of $289,119 for professional engineering design services for the completion of the Reservoirs 1 & 2 Chemical Management System Design Project. Motion passed 5-0.

7. Capital Projects Update

AGM Lauri provided a verbal update on the District’s Fiscal Year 2018 Capital Projects.

ACTION ITEMS:

8. Construction Management Services for Croddy and Chandler Wells and Pipeline Project

MOTION

Motion by Vice President Bockmiller, second by Director Dewane, to add to the next regular Board meeting Consent Calendar award of a contract with Butier Engineering, Inc. in the amount of $972,480 with a 10% contingency for a not-to-exceed amount of $1,069,728, to provide professional Construction Management Services for the Croddy and Chandler Wells and Pipeline Project, and authorization to execute the contract. Motion passed 5-0.
REPORTS:


10. Directors’ Reports and Comments

INFORMATION ITEMS:

11. On-Call Electrical Services

The Board meeting was adjourned at 4:47 p.m.

Approved:

______________________________
Jim Atkinson, President

______________________________
Denise Garcia, District Secretary
FINANCE COMMITTEE MEETING

CALL TO ORDER
The meeting of the Board of Directors was called to order on January 18, 2018 at 3:30 p.m. by Chairman Bockmiller at the District Office Boardroom, located at 1965 Placentia Avenue, Costa Mesa, California.

PLEDGE OF ALLEGIANCE
CFO Khalifa led the Pledge of Allegiance.

Directors Present
Jim Atkinson, President
Fred R. Bockmiller, P.E., Vice President, Chair
Marice H. DePasquale, Director
Shawn Dewane, Director
James R. Fisler, Director

Directors Absent
None

Staff Present
Paul E. Shoenberger, P.E., General Manager
Denise Garcia, Administrative Services Manager/District Secretary
Marwan Khalifa, CPA, MBA, Chief Financial Officer
Stacy Taylor, External Affairs Manager

Others Present
Mark J. Austin, Partner, Rutan & Tucker, LLP

PUBLIC COMMENTS
There was no public present.

CONSENT CALENDAR ITEMS:

1. Accounts Paid Listing
2. Monthly Financial Reports
3. Major Staff Projects

MOTION
Motion by Director Dewane, second by President Atkinson, to approve Items 1 - 3 of the Consent Calendar. Motion passed 5-0.
PRESENTATION AND DISCUSSION ITEMS:

4. Policy Positions
   General Manager Shoenberger introduced the item.
   Discussion ensued amongst the Board.

MOTION

Motion by President Atkinson, second by Director Dewane, to direct staff to finalize the policy position on basin storage and exchange programs and to bring back to a future meeting for further consideration and input. Motion passed 5-0.

A recommendation was made to reorder the agenda to take Items 7 and 8 prior to Item 5. There were no objections.

ACTION ITEMS:

Item 7 – CLOSED SESSION:

Vice President Bockmiller announced the Board was going into Closed Session at 4:05 p.m.

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION:
Pursuant to California Government Code Sections 54956.9 (d) (1) and 54954.5 (c)
Case: Costa Mesa Sanitary District v. Mesa Water District
Case No. 30-2017-00923819-CU-PT-CJC

RETURN TO OPEN SESSION.

The Board returned to Open Session at 4:21 p.m.

Special Legal Counsel Austin announced the Board conducted one Closed Session with the General Manger, District Secretary, Chief Financial Officer, External Affairs Manager, and Special Legal Counsel pursuant to California Government Code Sections 54956.9 (d) (1) and 54954.5 (c). The Board received information and there was no other announcement.

Item 8 – Special Districts Shared Efficiencies

Motion by Director Dewane, second by President Atkinson to direct staff to draft a letter to the Costa Mesa Sanitary District Board of Directors to be reviewed by an Ad Hoc Committee appointed by President Atkinson and consisting of two members, Directors Dewane and Fisler. Motion passed 5-0.

5. Delegation of Authority to the General Manager

Motion by Director Dewane, second by President Atkinson, to adopt Resolution No. 1507 Declaring the Delegation of Authority to the General Manager, Superseding Resolution No. 1263. Motion passed 5-0, by the following roll call vote:
AYES: DIRECTORS DePasquale, Dewane, Fisler, Bockmiller, Atkinson
NOES: DIRECTORS None
ABSENT: DIRECTORS None
ABSTAIN: DIRECTORS None


Motion by Director Dewane, second by President Atkinson, to adopt Resolution No. 1508 Providing Guidelines for the Procurement of Goods and Services and Cash Disbursements, Superseding Resolution No. 1458. Motion passed 5-0, by the following roll call vote:

AYES: DIRECTORS DePasquale, Dewane, Fisler, Bockmiller, Atkinson
NOES: DIRECTORS None
ABSENT: DIRECTORS None
ABSTAIN: DIRECTORS None

7. CLOSED SESSION:

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION:
Pursuant to California Government Code Sections 54956.9 (d) (1) and 54954.5 (c)
Case: Costa Mesa Sanitary District v. Mesa Water District
Case No. 30-2017-00923819-CU-PT-CJC

Item taken earlier on the agenda.

8. Special Districts Shared Efficiencies

Item taken earlier on the agenda.

REPORTS:


10. Directors’ Reports and Comments

INFORMATION ITEMS:

None.
The Board meeting was adjourned at 4:43 p.m.

Approved:

_______________________________
Jim Atkinson, President

_______________________________
Denise Garcia, District Secretary
MEMORANDUM

TO: Board of Directors  
FROM: Paul E. Shoenberger, P.E., General Manager  
DATE: February 8, 2018  
SUBJECT: Attendance at Conferences, Seminars, Meetings, and Events

RECOMMENDATION

In accordance with Ordinance No. 28, adopted April 13, 2017, authorize attendance at conferences, seminars, meetings, and events.

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.  
Goal #4: Increase public awareness about Mesa Water® and about water.  
Goal #5: Attract and retain skilled employees.  
Goal #6: Provide outstanding customer service.  
Goal #7: Actively participate in regional water issues.

PRIOR BOARD ACTION

On June 8, 2017, the Board approved Fiscal Year 2018 attendance at Conferences, Seminars, Meetings, and Events.

DISCUSSION

During the discussion of this item, if any, the Board may choose to delete any item from the list and/or may choose to add additional conferences, seminars, meetings, or events for approval, subject to available budget or additional appropriation.

FINANCIAL IMPACT

None.

ATTACHMENTS

None.
## 2018 CONFERENCES, SEMINARS, AND MEETINGS:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 7 - 9, 2018</td>
<td>Urban Water Institute Conference</td>
<td>Palm Springs, CA</td>
</tr>
<tr>
<td>February 27 - March 1, 2018</td>
<td>ACWA Washington, D.C. Conference</td>
<td>Washington, D.C.</td>
</tr>
<tr>
<td>March 12 - 16, 2018</td>
<td>Joint CA-NV AWWA/AMTA Spring Conference</td>
<td>West Palm Beach, FL</td>
</tr>
<tr>
<td>March 14, 2018</td>
<td>ACWA Legislative Symposium</td>
<td>Sacramento, CA</td>
</tr>
<tr>
<td>March 28-29, 2018</td>
<td>WaterNow Alliance Annual Summit</td>
<td>Salt Lake City, UT</td>
</tr>
<tr>
<td>April 5, 2018</td>
<td>MWDOC Water Policy Forum</td>
<td>Fountain Valley, CA</td>
</tr>
<tr>
<td>Sunday</td>
<td>Monday</td>
<td>Tuesday</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7:30AM ISDOC Executive Committee (IMDOC Conference Room 101)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8:00AM California WaterFix Breakfast - Atkinson (Marina Park Ballroom, 1600 West Balboa Boulevard, Newport Beach, CA, 92663, US)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:30PM Executive Committee Meeting - Atkinson, Bockmiller (Panian Conference Room)</td>
</tr>
<tr>
<td>Payday</td>
<td>8:00AM ISDOC Executive Committee (IMDOC Conference Room 101)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>2:30AM ISDOC Executive Committee (IMDOC Conference Room 101)</td>
<td>8:00AM California WaterFix Breakfast - Atkinson (Marina Park Ballroom, 1600 West Balboa Boulevard, Newport Beach, CA, 92663, US)</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>8:00AM LAFCO Meeting (Planning Commission Hearing Room; 10 Civic Center Plaza Santa Ana, CA 92701)</td>
<td>11:30AM OMOD/OCSD Winter Fest (GWRS, 18700 Ward Street, Fountain Valley)</td>
<td>11:30AM CM Chamber Networking Event (Karl Strauss Brewery; 901A South Coast Drive, Costa Mesa, Ca 92626)</td>
</tr>
<tr>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>2:30PM LAFCO Meeting (Planning Commission Hearing Room; 10 Civic Center Plaza Santa Ana, CA 92701)</td>
<td>11:30AM OMOD/OCSD Winter Fest (GWRS, 18700 Ward Street, Fountain Valley)</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
</tbody>
</table>
## March 2018

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
</table>

### Monday
- **ACWA DC Conference**
- **Pay Period Ends**

### Tuesday
- **Payday**
- **ACWA Legislative Sym...**
- **Payday**
- **Pay Period Ends**

### Wednesday
- **7:30AM ISDOC Executive Committee (MMDOC Conference Room 101)**
- **3:30PM Executive Committee Meeting - Atkinson, Bockmiller (Panian Conference Room)**
- **5:45PM Costa Mesa City Council Meeting**

### Thursday
- **4:00PM Chamber Board Meeting - Fisker (TBD)**
- **6:00PM Mesa Water Board Meeting (Boardroom)**
- **11:30AM Costa Mesa Chamber Event**
- **11:30AM Costa Mesa Chamber Event**
- **Pay Period Ends**

### Friday
- **8:00AM MWDOC Board Meeting (MWDOC Boardroom)**
- **5:30PM OCWD Board Meeting (OCWD Boardroom)**
- **11:30AM ISDOC Quarterly Meeting (MWDOC/OCWD Boardroom)**

### Saturday
- **9:00AM Board Workshop (MMRF)**
- **WaterNow Alliance Annual Summit • Salt Lake City**
- **Pay Period Ends**
<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Payday</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>7:30AM ISDOC Executive Committee (MWDOC Conference Room 101)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>3:30PM Executive Committee Meeting (Atkinson, Bidderrill (Panian Conference Room))</td>
<td>8:00PM MMDOC Elected Official Forum (MWDOC Boardroom)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td>5:45PM Costa Mesa City Council Meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td></td>
<td>Pay Period Ends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

March 2018

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Payday</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>7:30AM ISDOC Executive Committee (MWDOC Conference Room 101)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>3:30PM Executive Committee Meeting (Atkinson, Bidderrill (Panian Conference Room))</td>
<td>8:00PM MMDOC Elected Official Forum (MWDOC Boardroom)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td>5:45PM Costa Mesa City Council Meeting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td></td>
<td>Pay Period Ends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## UPCOMING COMMUNITY OUTREACH EVENTS

<table>
<thead>
<tr>
<th>Event:</th>
<th>Date &amp; Time:</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Children’s Water Education Festival</strong></td>
<td>Wednesday &amp; Thursday March 28 &amp; 29, 2018 9:30 a.m. – 12:30 p.m.</td>
<td>University of California, Irvine Irvine, CA 92697</td>
</tr>
<tr>
<td><strong>Turf Removal &amp; Water Efficient Landscape Workshop</strong></td>
<td>Saturday March 10, 2018 8:30 a.m. – 12:00 p.m.</td>
<td>Mesa Water District Board Room 1965 Placentia Avenue Costa Mesa, CA 92627</td>
</tr>
</tbody>
</table>
MEMORANDUM

TO: Board of Directors
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: February 8, 2018
SUBJECT: Reservoirs 1 & 2 Pumps, Controls, and Chemical System Assessment Project

RECOMMENDATION

Award a contract to Hazen and Sawyer for $262,835 plus a 10% contingency for a total not-to-exceed amount of $289,119 for professional engineering design services for the completion of the Reservoirs 1 & 2 Chemical Management System Design Project.

The Engineering and Operations Committee reviewed this item at its January 16, 2018 meeting and recommends Board approval.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice Continuous Infrastructure Renewal and Improvement
Goal #6: Provide outstanding customer service.

PRIOR BOARD ACTIONS

At its January 20, 2015 meeting, the Engineering and Operations (E&O) Committee was presented an information item that a Request for Proposals was being solicited for Reservoir Pump Inspection & Efficiency Testing.

At its September 10, 2015 meeting, the Board of Directors (Board) approved award of a contract to Hazen and Sawyer for a not-to-exceed amount of $418,018 to provide professional engineering services for the Reservoirs 1 & 2 Pumps, Controls, and Chemical System Assessment Project.

BACKGROUND

Mesa Water® has two storage reservoirs that pump water into the distribution system. Reservoir No. 1, constructed in 1990, has five pumps with a total capacity of approximately 9,500 gallons per minute (gpm). Reservoir No. 2, constructed in 1996, has four pumps with a combined capacity of approximately 16,800 gpm. Since entering into service over twenty years ago, the operating conditions and system demands have changed within the Mesa Water service area. The expected useful life of a vertical turbine pump is approximately 15-30 years. These changes, coupled with the length of time the pumps have been in operation, may result in potential inefficiencies during regular operation of the reservoirs. In order to assess the conditions of the pumps, this project will evaluate field pump testing, perform factory pump testing and physical inspection/condition assessment, and final field pump testing to determine a change in efficiency, and optimize reservoir operational set points and protocols.

This project resulted in three technical memorandums (TMs) and one preliminary design report (PDR) outlining the findings & recommendations, cost estimates, and schedule for the recommended work. Key project elements include:
TM-1
- Review and summary of existing records, data and as-built information
- Development of a pump extraction plan and schedule
- Development of pump test scope and inspection protocols (i.e., schedule, testing oversight, identification of testing facilities, standards & parameters, and arrangements for pump transport)

TM-2
- Evaluate the pump condition assessment and factory test results
- Summarize findings and provide recommendation for pump repair/replacement

TM-3
- Assess the existing reservoir engine control system
- Summarize engine control system deficiencies including programming support, long-term viability, risk of unsupported assets
- Optimize efficient reservoir operations control strategy

PDR
- Develop permanent chemical management system solutions to mitigate nitrification events within the existing reservoirs and distribution system
- Develop a PDR for a new chemical management and water quality monitoring system

DISCUSSION

Findings, recommendations, and costs for each phase of the aforementioned work are summarized below. More detailed information can be found in the Executive Summary (Attachment A).

TM 1 – Reservoir Pump Station Review
This TM provided a data analysis of pump runtimes and historical water demands. The analysis determined there is only enough redundant pumping capacity for one pump to be out of service at a time. It was recommended that Pump No. 2 at Reservoir No. 1 be removed and tested first due to previous cavitation issues. Operational and risk exposure were determined to be minimal for pump removal from November through February. This TM also provided the foundational data analysis for the pump testing/inspection scope of work and specifications, bid solicitation process, and subsequent work in TM-2 and TM-3.

TM 2 – Pump Condition Assessment
As part of the condition assessment, field hydraulic testing, extraction, refurbishment and reinstallation of pumps at Reservoirs 1 and 2 was performed according to the specification developed in TM-1. Field hydraulic testing was performed on Jockey Pump No. 1 and Engine Pump No. 2 at Reservoir No. 1, and on Engine Pump No. 4 at Reservoir No. 2. Following field testing, Engine Pump No. 2 at Reservoir No. 1 was extracted for visual inspection, condition assessment, and factory hydraulic testing. After further analysis of recent testing of Reservoir 2 Pump No. 4 and the 2012 condition assessment from the pump extraction and repair, it was decided that testing of Engine No. 2 at Reservoir No. 1 would be the only pump test and inspection required as the condition of this pump would be representative of the other pumps at
Reservoirs 1 and 2.

The information collected from the condition assessment, pump refurbishment, and photos were used to provide a numerical rating score for the pump. The rating system utilizes a scale of 1 to 5, with 1 being excellent and 5 being poor. The ranking table was developed in accordance with United States Environmental Protection Agency approach to condition assessment. The following provides a description of the criteria utilized to rank the condition of the pumps and how the criteria were applied to Engine Pump No. 2 at Reservoir No. 1:

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excellent</td>
<td>The physical condition of the asset is new or like new, well maintained, fully operable and performs at or above standards.</td>
</tr>
<tr>
<td>2</td>
<td>Good</td>
<td>Asset is sound, well maintained, delivers full efficiency with little or no performance deterioration, but may show signs of wear.</td>
</tr>
<tr>
<td>3</td>
<td>Average</td>
<td>Asset is functionally sound and shows normal signs of wear relative to age and use, but may have minor failures or performance deterioration. Minor or moderate refurbishment of 10-20% of asset may be needed within the next 2 years.</td>
</tr>
<tr>
<td>4</td>
<td>Fair</td>
<td>Asset functions but requires sustained high level of maintenance to remain operational. Substantial wear is visible and likely to cause significant performance deterioration. Refurbishment of 20-40%</td>
</tr>
<tr>
<td>5</td>
<td>Poor</td>
<td>Asset is very near or beyond its useful life. Incapable of performing to a satisfactory standard under normal operational conditions without on-going or corrective maintenance. Replacement needed in the near term (less than 2 years).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Condition</th>
<th>Numerical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge head</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Column pipe</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Cast iron water lube bearing retainers</td>
<td>Poor</td>
<td>5</td>
</tr>
<tr>
<td>Pump bowls</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Impellers</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Hydraulic seal ring</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Bowls shaft and bearings</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Rubber retainer bushings</td>
<td>Poor</td>
<td>5</td>
</tr>
<tr>
<td>Bearing journal sleeves</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Upper head shaft</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Lower head shaft</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Packing box bearing journal</td>
<td>Poor/Worn</td>
<td>5</td>
</tr>
<tr>
<td>Packing box</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Bronze packing box sleeve bearing</td>
<td>Poor</td>
<td>5</td>
</tr>
<tr>
<td>General coatings</td>
<td>Poor</td>
<td>5</td>
</tr>
<tr>
<td>Suction basket strainer</td>
<td>Missing</td>
<td>5</td>
</tr>
<tr>
<td>Gear drive ratchet/coupling bore</td>
<td>Poor/Damaged</td>
<td>5</td>
</tr>
<tr>
<td>Horizontal drive shaft</td>
<td>Poor/Broken</td>
<td>5</td>
</tr>
</tbody>
</table>

Based on the findings, repair alternatives for each pump were considered:
1. Minimal Repairs - This alternative includes the minimum repairs required to put the disassembled pump back into service. It excludes installation of new wear rings in the pump, new bearing retainers in the column, and does not recoat the pump, column or discharge head.
2. Full Rehabilitation - This alternative includes complete refurbishment of the pump bowl assembly, column assembly and discharge head. It excludes sandblasting and recoating of the bowl assembly due to the extensive corrosion observed.

3. New Pump with Full Rehabilitation - This alternative replaces the complete pump bowl assembly with a new pump, and provides full repairs to the existing column and discharge head.

4. New Pump and Column - This alternative completely replaces the pump and column assemblies with new pump and column assemblies, and repairs the discharge head.

The alternatives were evaluated based upon capital cost, cost differential between new and refurbished, life expectancy of repair, operational downtime, and whether the repair addresses the deficiencies noted during the condition assessment. Based upon this analysis, the following recommendations were developed:

- Reservoir No. 1 – Replace all engine driven and electric pumps with new pumps and column (Option No. 4) at an estimated cost of $436,000, with a life expectancy of 20 to 25 years.
- Reservoir No. 2 – Replace the existing engine driven pumps with all new pumps at an estimated total cost of $385,000, with a life expectancy of 20 to 25 years and refurbish the two electric driven pumps at an estimated cost of $122,000.

It should be noted that the recommendations herein are based on the analysis in TM-2 and TM-3. The schedule for pump replacement will take approximately 12 months. This includes specifying pumps, bidding, shop drawing review, fabrication, factory testing, installation and testing at the site. The removal of the existing pumps and installation of the new pumps after fabrication is expected to take approximately one month.

TM 3 – Evaluate Existing Motor Control System and Develop Operational Control Strategy

The work for this task includes operational analysis to provide recommendations for optimal pump sequencing, set points, storage levels, engine speeds and associated alarm set points. The current reservoir operational practices were reviewed and evaluated for potential areas of optimization. Water storage levels, operational set points and pump sequencing were analyzed in extensive detail. Summarized are the recommendations as a result of the analyses conducted:

1. More aggressive cycling of storage reservoirs is necessary to alleviate water age and nitrification issues.
2. Existing Reservoirs 1 and 2 pumps have an acceptable hydraulic performance and efficiency range (74%-84%).
   - Pumps need replacement due to deterioration and end of useful life to provide long-term reliability.
3. Modifications to the pump sequencing and set points are necessary for both Reservoirs 1 and 2.
   - Adjust flow ranges for Reservoir No. 2 pumps to allow pumps to operate within the optimum efficiency ranges
   - Flow pacing and pressure management should be based on engine speed in lieu of flow rate to provide more consistent and reliable operational control.
   - Seasonally adjust maximum level set points in Reservoirs 1 and 2 to 15 and 20 feet during summer months and to 8 and 17 feet during winter months, respectively.
Modifications to SCADA reporting units to provide consistency of monitoring and reporting.

4. Installation of a new water quality reservoir management system is necessary to stabilize disinfection residual (see discussion for PDR); developed in the preliminary design report as part of this project.

5. Relocation of flowmeters at Reservoirs 1 and 2 is necessary to provide two diameters of straight pipe between the flowmeters and existing gate valves to provide reliable flow monitoring and reporting.

6. At Reservoir No. 2 it is recommended that the two existing jockey pumps be refurbished and used to improve efficiency which would save approximately $15,000 per year in energy savings.

The evaluation of the existing control system included evaluating the existing MurCal controllers and SCADA. The purpose of the evaluation is to determine if modifications can be made to further optimize the existing system or if it is beneficial to replace the control system equipment with an alternative to improve reliability. Evaluation parameters included availability of technical support, long-term reliability, cost, source code architecture format, and programmability. An analysis including best practices and identification of deficiencies were included as part of the evaluation. Evaluation of the MurCal control system yielded the following results:

- Certain control system electronic components are obsolete, at the end of their useful life and are no longer supported by MurCal.
- System programming is proprietary and difficult to get vendor maintenance/programming support.
- MurCal has not indicated a clear vision for future product development and therefore, it is unknown if future support for the existing system and components will be available.
- Existing control system infrastructure has low bandwidth capacity and is not appropriate for existing use.

Two alternatives were developed to mitigate the existing control system and manufacturer support deficiencies at each of the reservoirs. The options included:

1. Retaining Murphy Controls and modifying operations and adding automation
2. Replacing Murphy Controls, modifying operations and adding automation

For both Reservoirs 1 and 2, Option 2 is recommended which includes replacing the existing Murphy engine controllers and Murphy Central Controller with more industry standard open source Allen-Bradley control system components and programming. This recommendation was based on evaluation of the market and considering reliability, programming expertise, product support and innovation, and resources necessary to maintain the system. Open source programming allows the option of working with a third party Allen-Bradley programmer or an original equipment manufacturer representative who specializes in engine control functions and programming. There are multiple companies that can perform control system replacement and programming. Additionally, there are multiple companies that can program for Mesa Water after the project is complete. This provides a clear benefit for reliability and, ultimately, system improvement. The estimated costs of the recommended improvements to the control system are approximately $731,000 and $680,000 at Reservoirs 1 and 2, respectively. This includes a 30 percent contingency.
**Preliminary Design Report – Chemical Feed Systems**

Currently, water quality samples are collected during filling and emptying of each reservoir as well as when the water is idle within each reservoir. Water quality samples are collected via the common inlet and outlet pipeline, meaning that real-time water quality information within the reservoir does not currently exist. Sodium hypochlorite is manually dosed through one existing SolarBee mixing system until sampling shows the target residual concentration has been reached. Reservoir No. 1 has two online analyzers, a prominent chlorine analyzer and a Hach APA 6000 ammonia/monochloramine analyzer. Reservoir No. 2 is equipped with two online analyzers, a prominent chlorine analyzer and a Hach APA 6000 ammonia/monochloramine analyzer.

In order to maintain a high level of water quality, it is recommended that Reservoirs 1 and 2 be retrofitted with real-time chemical feed and monitoring equipment that have the capabilities to ensure that the potable water quality standards are being maintained, nitrification events are eliminated, and are automatically adjusted. Equipment shall include chemical storage tanks, metering pumps, chemical injection equipment, in-tank mixing systems and residual disinfection analyzers that provide direct, consistent, and accurate monitoring and control capabilities. The chemical management system will be designed using the Well Automation Project Standards to provide consistency across Mesa Water’s production facilities. The Consultant has completed a preliminary design report, including 30% design drawings as part of this project. The estimated cost for installation of the proposed chemical management systems is $1,280,000 for Reservoir No. 1 and $1,153,000 for Reservoir No. 2.

The next phase of work is to complete the final design process for the Chemical Management System Project. Hazen and Sawyer has provided excellent work in the original scope of work and was competitively selected. Staff recommends that the Board of Directors consider awarding a contract to Hazen and Sawyer for a not-to-exceed amount of $262,835 plus a 10% contingency for a total not-to-exceed amount of $289,119 for professional engineering design services for the completion of the Reservoirs 1& 2 Chemical System Management Design Project.

**FINANCIAL IMPACT**

<table>
<thead>
<tr>
<th>Reservoirs 1&amp; 2 Chemical System Management Design</th>
<th>Project Estimate</th>
<th>Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Project Estimate (FY 2018)</td>
<td>$ 200,000</td>
<td>$ 262,835</td>
</tr>
<tr>
<td>Original Contracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Orders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requested Funding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revised Contracts</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Actual spent to date (12/18/17) 0

Revised Project Estimate  $ 262,835
ATTACHMENTS

Attachment A: Executive Summary - Reservoirs 1 & 2 Pumps, Controls, and Chemical System Assessment Project
Attachment B: Proposal, Hazen and Sawyer
Reservoir 1 & 2 Pumps, Controls, and Chemical System Assessment Project

Executive Summary

December, 2017
Intentionally left blank
Reservoirs 1 & 2 Pumps, Controls, and Chemical System Assessment Project

Executive Summary

Prepared for

MesaWater District®

December 2017
Intentionally left blank
## Table of Contents

EXECUTIVE SUMMARY .................................................................................................................. 3
Background...................................................................................................................................... 3
Study Objectives ............................................................................................................................. 4
Technical Memorandum 1 – Booster Pump Station Review ......................................................... 4
Technical Memorandum 2 – Pump Condition Assessment ......................................................... 5
Technical Memorandum 3 – BPS Operations and Control System ........................................ 7
Preliminary Design Report- Chemical Feed Systems ................................................................. 9
Cost Estimates ............................................................................................................................... 11
Intentionally left blank
EXECUTIVE SUMMARY

Mesa Water District (Mesa Water®) supplies water service to over 108,000 residents in an 18-square mile area, serving Costa Mesa, parts of Newport Beach, and unincorporated areas of Orange County, including John Wayne Airport. Mesa Water® owns and operates a significant amount of water treatment and supply infrastructure to address the water demands in their service area. The agency predominately uses local groundwater, recycled water, and conservation to meet its demands. They own and operate five (5) clear water wells in the northern part of its service area, and treats amber-tinted water from the deep aquifer from two additional wells at the Mesa Water® Reliability Facility (MWRF). Mesa Water® has two storage reservoirs. Reservoirs 1 and 2 provide approximately 10 and 18 million gallons of storage, respectively. Together with an onsite reservoir at the MWRF, Mesa Water®'s local water storage capacity equals 29 million gallons.

Similar to other agencies, the water system is continuously being operated, maintained, repaired and rehabilitated to meet the goals the agency has set for reliability and perpetual infrastructure renewal and improvement. The Reservoirs 1 & 2 Pumps, Controls, and Chemical System Assessment Project will assist Mesa Water® with planning for repairs, rehabilitation, and necessary replacement to ensure water supply reliability into the future.

Background

As part of the Water Master Plan Update in 2014, a number of repairs were identified to ensure that Mesa Water® continues to have the reliability needed to provide uninterruptable water service to its customers. Comprehensive assessment and upgrades/repairs to the pumps at Reservoirs 1 and 2, assessment and associated upgrades or replacement of the MurCal engine control systems, and improved disinfection chemical system and monitoring were identified as critical components to assist the District in better meeting its goals and objectives for reliable and efficient water supply.

Mesa Water® has two Reservoirs that pump water into the distribution system. The booster pumps at Reservoir 1 and Reservoir 2 were installed in 1987 and 1992 respectively, and have never been removed for repair or rehabilitated with the exception of an Engine Pump 4 at Reservoir 2 that was refurbished in 2012. Reservoir 1 is equipped with five (5) pumps (3 engine and 2 jockey) that have a total pumping capacity of approximately 9,500 gallons per minute (gpm)\(^1\) and a storage capacity of 9.5 MG\(^1\). Kemp Reservoir (Reservoir 2) is equipped with four (4) pumps (4 engine) with a combined capacity of 16,800 gpm\(^1\) and a storage capacity of 18.7 MG\(^1\). The controls for these stations are set to maintain preset discharge pressures established by operations. The flow rate varies as needed to maintain the downstream pressure at each station.

To develop the project, Mesa Water® retained Hazen and Sawyer and its subconsultant Richard Brady & Associates (BRADY) to perform the following scope of work:

- Evaluate the pump operations at Mesa Water’s Reservoirs,
- Develop a pump test scope of work and phasing/extraction schedule for condition assessment,
- Prepare pump test bid documents and provide oversight of pump testing and condition assessment,

---

\(^1\) Water Master Plan Update 2014
Assess the MurCal reservoir operational control system,
Develop reservoir operations control strategy,
Develop pump rehabilitation or replacement recommendations based on test results,
Develop a preliminary design report for a new chemical dosing and water quality monitoring system.

Study Objectives

The Reservoirs 1 & 2 Pumps, Controls, and Chemical System Assessment Project is a multi-faceted project that addresses the overall operation of the potable water system's two reservoirs (Reservoirs 1 and 2). The focus of the project was to evaluate the booster pump condition and operation, evaluate the booster pump control system and make recommendations on the appropriate improvements and provide recommended water quality improvements as it relates to chemical injection and residual monitoring.

This project addresses the following strategic goals of Mesa Water®:

1. Providing adequate and reliable water supply. The booster pumps at Reservoirs 1 and 2 are critical to ensuring adequate and reliable water supply. Without the booster pumps, Mesa Water would be reliant on imported water from Metropolitan Water District.
2. Assessing the condition of the reservoir infrastructure to determine if it is time to rehabilitate or replace the pumps as part of a perpetual renewal and improvement process.
3. Providing Mesa Water® with the information necessary to make informed decisions.
4. Customer service and making sure the customers receive the quantity and quality of safe reliable drinking water required is an inherent goal of the project.
5. Analysis of the pumps to determine reliability and remaining useful life.

The project addresses the strategic goals through development of the following documents:

- Technical Memorandum 1 (TM-1) includes the review and analysis of data and information provided by Mesa Water® to assess the best time to remove and evaluate the pumps. Included in TM-1 is the pump test scope of work, the pump test phasing and extraction schedule, and the pump testing bid preparation and solicitation.

- Technical Memorandum 2 (TM-2) summarizes the results of the pump analysis, pump inspection, testing and condition assessment.

- Technical Memorandum 3 (TM-3) summarizes the analysis of booster pump and reservoir operations and addresses the reservoir operational control system.

- Preliminary Design Report (PDR) develops the chemical dosing, chemical mixing and water quality monitoring stations and other improvements.

Technical Memorandum 1 – Booster Pump Station Review

Technical Memorandum 1 was developed based on the analysis and observation of reservoir operations to determine the best time of the year to remove, inspect, test and rehabilitate the booster pumps at Reservoirs 1 and 2. The analysis was conducted and approached from two perspectives: 1) From an operational
standpoint, and 2) From a risk exposure perspective. The risk-based approach was to confirm and validate the results obtained from the operational standpoint.

The results of the analysis showed an estimated pump testing duration of four months for each pump based on the operational perspective and the risk exposure perspective. Four months was based on testing onsite, removal and transport, disassembly, inspection and analysis, rehabilitation, factory testing, transport, reinstallaation and startup. The recommendations for removal and testing of the three (3) pumps were as follows:

- Remove engine pump 2 at Reservoir 1 during the months of November through February.
- Remove engine pump 1 at Reservoir 2 during the months of November through February.
- Remove jockey pump 1 at Reservoir 1 during the months of March through June.

After further analysis of recent testing of Reservoir 2 on Booster Pump 4, it was decided that testing of Engine Pump 2 at Reservoir 1 would be the only pump test and inspection required. Engine Pump 4 at Reservoir 2 was removed in 2012 for repair and it was determined that sufficient information and documentation was provided as part of that effort to perform a condition assessment of the Reservoir 2 pumps. The testing, removal, inspection, repair, and reinstallaation of Engine Pump 2 at Reservoir 1 was completed in March 2017.

Technical Memorandum 2 – Pump Condition Assessment

The purpose of Technical Memorandum 2 was to summarize the booster pump condition assessment, and provide recommendations for repair/rehabilitation or replacement of the pumps at Mesa Water’s booster pumping stations at Reservoir 1 and Reservoir 2.

Reservoir 1 booster pump station contains 5 pumps: Two 1,000-gpm and 60-hp electrically driven pumps, and three engine gas driven pumps at 2,500-gpm each and 137-hp.

Reservoir 2 booster pump station contains 6 pumps including four gas driven pumps at 4,200-gpm and 369-hp and two electrically driven pumps at 1,000 gpm and 75-hp. The smaller pumps are not used and were originally designed to be used for the Santa Ana Heights service area.

As part of the condition assessment, field hydraulic testing, extraction, refurbishment and reinstallaation of a pump at Reservoir 1 was performed according to the specification developed in TM-1. Field hydraulic testing was performed on electric Pump 1 and Engine Pump 2 at Reservoir 1, and on pump 4 at Reservoir 2. Following field testing, pump 2 at Reservoir 1 was extracted for visual inspection, condition assessment, and factory hydraulic testing. Based on the comparison of information obtained from Reservoir 2, Engine Pump 4 2012 repair/refurbishment and the information obtained for Engine Pump 2 at Reservoir 1, it was determined that a single pump would be representative of the condition of all of the pumps and, therefore, other pumps would not be removed. After inspection, Engine Pump 2 from Reservoir 1 was refurbished and reinstalled and retested in the field.
The findings of the condition assessment indicated that the pumps are in fair to poor condition and are at the end of their expected useful life. The analysis was conducted according to the US EPA standards for condition assessment. Table ES-1 provides a description of the criteria utilized to rank the condition of the pumps and Table ES-2 shows how the criteria were applied to pump 2 at BPS 1.

### Table ES-1: Condition Assessment Ranking Criteria

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excellent</td>
<td>The physical condition of the asset is new or like new, well maintained, fully operable and performs at or above standards.</td>
</tr>
<tr>
<td>2</td>
<td>Good</td>
<td>Asset is sound, well maintained, delivers full efficiency with little or no performance deterioration, but may show signs of wear.</td>
</tr>
<tr>
<td>3</td>
<td>Average</td>
<td>Asset is functionally sound and shows normal signs of wear relative to age and use, but may have minor failures or performance deterioration. Minor or moderate refurbishment of 10-20% of asset may be needed within the next 2 years.</td>
</tr>
<tr>
<td>4</td>
<td>Fair</td>
<td>Asset functions but requires sustained high level of maintenance to remain operational. Substantial wear is visible and likely to cause significant performance deterioration. Refurbishment of 20-40%</td>
</tr>
<tr>
<td>5</td>
<td>Poor</td>
<td>Asset is very near or beyond its useful life. incapable of performing to a satisfactory standard under normal operational conditions without on-going or corrective maintenance. Replacement needed in the near term (less than 2 years).</td>
</tr>
</tbody>
</table>

### Table ES-2: Reservoir 1 Engine Driven Pump 2 Condition Assessment Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Condition</th>
<th>Numerical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge head</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Column pipe</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Cast iron water tube bearing retainers</td>
<td>Poor</td>
<td>5</td>
</tr>
<tr>
<td>Pump bowls</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Impellers</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Hydraulic seal ring</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Bowls shaft and bearings</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Rubber retainer bushes</td>
<td>Poor</td>
<td>5</td>
</tr>
<tr>
<td>Bearing journal sleeves</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Upper head shaft</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Lower head shaft</td>
<td>Fair/Worn</td>
<td>4</td>
</tr>
<tr>
<td>Packing box bearing journal</td>
<td>Poor/Worn</td>
<td>5</td>
</tr>
<tr>
<td>Packing box</td>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Bronze packing box sleeve bearing</td>
<td>Poor</td>
<td>5</td>
</tr>
<tr>
<td>General coatings</td>
<td>Poor</td>
<td>5</td>
</tr>
<tr>
<td>Suction basket strainer</td>
<td>Missing</td>
<td>5</td>
</tr>
<tr>
<td>Gear drive ratchet/coupling bore</td>
<td>Poor/Damaged</td>
<td>5</td>
</tr>
<tr>
<td>Horizontal drive shaft</td>
<td>Poor/Broken</td>
<td>5</td>
</tr>
<tr>
<td>Right-angle gear drive</td>
<td>Not inspected</td>
<td>5</td>
</tr>
</tbody>
</table>
Based on the findings, repair alternatives for each pump were considered, including minimal repairs, full rehabilitation, new pump with full rehabilitation, and new pump and column. The alternatives were evaluated based upon capital cost, life expectancy of repair, and whether the repair addresses the deficiencies noted during the condition assessment. Based upon this analysis, the following recommendations were developed:

- Reservoir 1 – Replace all engine driven and electric pumps with new pumps at an estimated cost of $436,000, with a life expectancy of 20 to 25 years.

- Reservoir 2 – Replace the existing engine driven pumps with all new pumps at an estimated total cost of $385,000, with a life expectancy of 20 to 25 years and refurbish the two electric driven pumps at an estimated cost of $122,000.

It should be noted that the recommendations herein are based on the analysis in TM-2 and TM-3. The schedule for pump replacement will take approximately 12 months. This includes specifying pumps, bidding, shop drawing review, fabrication, factory testing, installation and testing at the site. The removal of the existing pumps and installation of the new pumps after fabrication is expected to take approximately 1 month for both BPS.

**Technical Memorandum 3 – Reservoir Operations and Control System**

The purpose of Technical Memorandum 3 was to evaluate and summarize the operations of the reservoirs and booster pump stations and to evaluate of the existing engine control system.

The reservoir operations evaluation focused on hydraulic operations for each reservoir taking into account the existing operational protocol in the standard operating procedures document to determine what modifications can be made to maximize pump efficiency, increase reliability of operations, and reduce energy costs. The operational analysis also included recommendations for pump sequencing, set points, storage levels, engine speeds and associated alarm set points. The current reservoir operational practices were reviewed and evaluated for potential areas of optimization. Water storage levels, operational set points and pump sequencing were analyzed in extensive detail. Summarized are the recommendations as a result of the analyses conducted:

- More aggressive cycling of storage reservoirs is necessary to alleviate water age and nitrification issues.

- Existing Reservoir 1 and 2 pumps have an acceptable hydraulic performance and efficiency range (74%-84%).
  - Pumps need replacement due to deterioration and end of useful life to provide long-term reliability.

- Modifications to the pump sequencing and set points are necessary for both Reservoirs 1 and 2.
  - Flow pacing and pressure management should be based on engine speed in lieu of flow rate.
- Seasonally adjust maximum level set points in Reservoir 1 and 2 to 15 and 20 feet during summer months and 8 and 17 feet during winter months, respectively.

- Installation of a new water quality reservoir management system is necessary to stabilize disinfection residual; developed in the preliminary design report as part of this project.

- Modifications to units for SCADA monitoring parameters to provide consistency of monitoring and reporting.
  - Adjust flow ranges for Reservoir 2 pumps to allow pumps to operate within the optimum efficiency ranges

- Relocation of flowmeters at Reservoirs 1 and 2 is necessary to provide two diameters of straight pipe between the flowmeters and existing gate valves.

- At Reservoir 2 it is recommended that the two existing jockey pumps be refurbished and used to improve efficiency which would save approximately $15,000 per year in energy savings.

The evaluation objectives of the existing control system included evaluating the existing MurCal controllers and SCADA to determine how to improve long-term reliability, repair and programming response time, and ability to remove proprietary system architecture. The purpose of the evaluation is to determine if modifications can be made to further optimize and protect the existing system or if it is beneficial to replace the control system equipment with an alternative to improve overall system reliability when considering aforementioned evaluation objectives. Evaluation parameters included availability of technical support, long-term reliability, cost, source code architecture format, vendor support, and programmability. An analysis including best practices and identification of deficiencies were included as part of the evaluation. Evaluation of the MurCal control system yielded the following results:

- Certain control system electronic components are obsolete, at the end of their useful life and are no longer supported by MurCal,

- System programming is proprietary and difficult to get vendor maintenance/programming support,

- MurCal has not indicated a clear vision for future product development and therefore, it is unknown if future support for the existing system and components will be available,

- Existing control system infrastructure has low bandwidth capacity and is not appropriate for existing use.

Several control system alternatives were developed to mitigate the existing control system deficiencies and challenges at each of the reservoirs. The options included: 1) Retaining Murphy Controls and modifying operations and adding automation, 2) Replacing Murphy Controls, modifying operations and adding automation. For both Reservoirs 1 and 2. Based on the evaluation, option 2 is recommended which includes replacing the existing Murphy engine controllers and Murphy Central Controller with more industry standard open source Allen-Bradley control system components and programming. This recommendation was based on evaluation of the market and considering reliability, programming expertise, product support
and innovation, and resources necessary to maintain the system. There are multiple companies that can perform control system replacement and programming. Additionally, there are multiple companies that can program for Mesa Water after the project is complete. This provides a clear benefit for reliability and ultimately system improvement.

To minimize capital costs and leverage the existing assets, it is recommended that the existing Allen-Bradley PLC be retained and be reprogrammed to provide functionality of the central controller, integrate the input/output (I/O) points associated with the chemical dosing and missing systems and continue to support its existing I/O. The estimated costs of the recommended improvements to the control system are approximately $731,000 and $680,000 at Reservoirs 1 and 2, respectively. This includes a 30 percent contingency.

Preliminary Design Report- Chemical Feed Systems

Mesa Water® uses chloramine as the primary disinfectant at the well sites and the MWRF facility. On average, the surplus water carries a chloramine residual of 1.5 mg/L when it enters the reservoirs. Each reservoir is currently equipped with a chlorine, 12.5% (by weight) sodium hypochlorite chemical feed system to boost the residual by converting free ammonia to chloramine. However, despite the addition of sodium hypochlorite, water quality in the existing Reservoirs 1 and 2 has experienced degradation due to nitrification. The nitrification is primarily due to a loss of chlorine residual, excess free ammonia and water age within the existing reservoirs and distribution system.

To address nitrification issues being experienced within the existing reservoirs and distribution system, the project evaluated the existing reservoir mixing system, reservoir chemical feed system and controls at Mesa Water®’s Reservoirs 1 and 2, shown in Figure ES 1 and Figure ES 2, respectively and make recommendations for improvements.

Figure ES 1. Reservoir 1 Site Layout
Reservoir 1 and Reservoir 2 both operate in two modes, fill or empty. Surplus water enters and exits the reservoir in a common inlet and outlet pipeline. Water quality samples are collected during filling and emptying of the reservoir as well as when the water is idle in the reservoir via the common inlet and outlet pipelines. Sodium hypochlorite 12.5% (by weight) is manually dosed through two existing SolarBee mixers at Reservoir 1 and one SolarBee mixer at Reservoir 2 until sampling shows the target residual concentration has been reached. Water quality data from 2015 for Reservoirs 1 and 2 provided by Mesa Water, indicates that nitrification is occurring and there are large fluctuations in the residual concentrations at both reservoirs (0.22 to 2.8 mg/L and 0.44 to 2.6 mg/L) in Reservoirs 1 and 2 respectively. In addition, the water quality information showed that the total ammonia concentration in the reservoirs were linearly proportional to total chlorine and the low total ammonia concentration corresponded to the low chlorine residual.

To minimize the large swings in the residuals and maintain a consistent total chlorine residual of 2.5 mg/L in the reservoirs, it is recommended that the two existing reservoirs, Reservoirs 1 and 2, be retrofitted with chemical feed and monitoring equipment that have the capabilities to ensure that the potable water quality standards are being met at each of the reservoir sites. Equipment shall include chemical storage tanks that will provide approximately one-month supply of 19% (by weight) aqueous ammonia (ammonia) and 12.5% (by weight) sodium hypochlorite, metering pumps, chemical injection equipment, in-tank mixing systems and residual disinfection analyzers that provide direct and consistent monitoring capabilities.
To be consistent with Mesa Water’s Well Automation Project and for the ease of maintenance and operations, the modifications will be similar and the equipment proposed is the same at both Reservoirs 1 and 2. Three reservoir chemical feed and mixing systems were evaluated and the Tank Shark is recommended. The engineer’s estimate of probable construction costs for Reservoirs 1 and 2 is approximately $1.3M and $1.2M, respectively. This includes 15 percent for engineering and construction support services and a 30 percent contingency which is based on the level of engineering. Note that prior to final design, conducting a CFD model on the selected mixer is recommended to confirm the number of mixers, placement of mixers and the placement of sampling locations within the reservoirs. This will ensure that the reservoirs are getting thoroughly mixed and the water sample that is being taken is representative of the entire reservoir.

Cost Estimates

The estimates of the probable construction and project costs of the recommendations from each of the TMs are summarized in the following table.

<table>
<thead>
<tr>
<th>Description</th>
<th>Booster Pump Station 1 ($)</th>
<th>Booster Pump Station 2 ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pump improvements</td>
<td>$ 436,000</td>
<td>$ 507,000</td>
</tr>
<tr>
<td>2. SCADA improvements to switch from MurCal.</td>
<td>$ 731,000</td>
<td>$ 680,000</td>
</tr>
<tr>
<td>3. Mixers, chemical system and electrical improvements</td>
<td>$1,280,000</td>
<td>$ 1,153,000</td>
</tr>
<tr>
<td><strong>Total Recommended Improvements</strong></td>
<td><strong>$2.4M</strong></td>
<td><strong>$2.3M</strong></td>
</tr>
</tbody>
</table>

Notes:
1. Costs do not include legal or administrative costs.
2. Estimate based on level of engineering.
3. Costs include 15% for Engineering and Construction Support and 30% Contingency
December 12, 2017

Phil Lauri, PE  
Assistant General Manager  
Mesa Water Water District  
1965 Placentia Avenue  
Costa Mesa Water, CA 92627

Subject: Final Design of Chemical Feed System and Water Quality Monitoring at Reservoirs 1 and 2

Dear Mr. Lauri:

Per your request, Hazen and Sawyer (Hazen) has prepared the attached engineering Scope of Services and fee estimate to complete the final design of the Chemical Feed and Water Quality Monitoring Systems at Mesa Water District's (Mesa Water) Reservoir 1 and 2 sites.

We have included in our Scope of Services, site surveying, geotechnical investigations, Computational Fluid Dynamics (CFD) modeling and engineering services to prepare final design plans and specifications for the Reservoirs 1 and 2 Sites. For purposes of our fee estimate, we have assumed that Hazen will submit 75 percent, 100 percent and Final documents for Mesa Water's review and comment.

Our team of engineers will be led by Steven Conner, PE from our local Irvine Office. Steve will be assisted by the staff shown in Figure 1.

We are pleased to provide this proposal for your consideration. Should you have any questions or comments with regards to the Scope of Services or attached fee, please feel free to contact Kevin Alexander, PE at (760) 525-3281 or kalexander@hazenandsawyer.com.

Very truly yours,

Steven Conner, PE  
Project Manager

Kevin Alexander, PE  
Principal-in-Charge/VP

Attachments:  
Exhibit A – Scope of Services  
Exhibit B - Compensation
Figure 1
Mesa Water Water District
Final Design of Reservoir 1 and 2 Chemical Feed and Water Quality Monitoring Systems
EXHIBIT A

SCOPE OF SERVICES
FOR
CHEMICAL DOSING SYSTEM AND WATER QUALITY MONITORING
FINAL DESIGN

Hazen and Sawyer (Hazen) agrees to perform the following Scope of Services as they pertain to the final design of the Chemical Dosing and Water Quality Monitoring systems at Mesa Water District’s (Mesa Water) Reservoir 1 and 2 sites. In performing the services described below, Hazen has or will receive information prepared or compiled by others, the accuracy and completeness of which Hazen is entitled to rely upon without independent evaluation or verification. Adjustments to scope and fee may be required to address unforeseen conditions and will be discussed with Mesa Water in advance of providing services in addition to those included below.

1. Project Management

Hazen will effectively administer the budget, schedule, work progress, and work quality. Hazen will implement a QA/QC program and maintain regular contact with Mesa Water’s Project Manager to coordinate work progress. Hazen will prepare and submit monthly Progress and Budget Reports, monthly schedules, and monthly invoices for work performed to date.

2. Preparation of Facilities Design

Hazen will gather the necessary data, review, and perform sites topographic survey (by Hazen’s sub-consultant Bush and Associates), geotechnical investigation (by Hazen’s sub-consultant GMU), and technical/engineering analyses. Hazen will prepare a 50, 90 and 100 percent submittal that will include construction drawings, technical specifications, regulatory coordination, and an engineer’s estimate of probable construction costs for review by Mesa Water. Comments received by Mesa Water will be incorporated into the subsequent submittal.

2.1 Computational Fluid Dynamics (CFD) Modeling

Hazen will perform the CFD modeling to confirm the optimum number of mixers, locations of mixers, chemical dosing locations, and water quality sampling locations. This CFD modeling is especially important for Reservoir 1 configuration to ensure that water is circulated between the two chambers of the reservoir and to prevent dead zones in the corners of the rectangular reservoir.

2.2 Topographic Survey

Hazen will retain Bush & Associates, Inc. (Bush & Associates) to perform topographic surveying for both Reservoir 1 and Reservoir 2 sites. Bush & Associates proposes to provide the following services:
A. Research at County offices for local survey control.

B. Establish survey control using NAD83 coordinates and NAVD88 County benchmark elevations.

C. Topographic surveying of the Reservoir 1 and Reservoir 2 sites shall include both reservoirs and the proposed chemical dosing system locations. All visible culture will be located and ground elevations will be measured.

D. The final product will be a two-dimensional Autocad Civil3d drawing file that will include culture, one-foot contours, and spot elevations.

2.3 Geotechnical Investigation

Hazen will retain GMU to perform a geotechnical investigation, and will coordinate and supervise GMU at all times while work is in progress. GMU will perform subsurface exploration as required for the project. Tasks associated with the geotechnical investigation include:

A. Existing Geotechnical Data Collection & Review

GMU will collect and review the available geotechnical investigation reports pertaining to the area of the noted improvements available in GMU files and at the City. GMU will also review the data available at the United States Geological Survey and California Geological Survey websites. The collected data will be utilized in preparing the final geotechnical report and recommendations.

B. Geotechnical Field Investigation

- GMU will visit the site and mark locations for the proposed drill holes (one at each site). GMU will coordinate with DigAlert to clear potential conflicts with existing underground utilities. The boring locations will be coordinated with Mesa Water Staff. GMU will not be responsible for utilities not properly marked at the ground surface. To reduce the risk of damaging unidentified underground utilities during drilling, GMU may also contract with a private utility locator.

- GMU proposes to perform two drill holes (one at each Reservoir site) to a maximum depth of 50 feet below ground surface (bgs) or refusal, whichever is encountered first, for evaluating the soil properties for excavation and grading of each of the proposed facilities. GMU will drill two (2) drill holes, one (1) at Reservoir 1 and one (1) at Reservoir 2 at the locations proposed for the new chemical facilities as shown on the figures below. The drill holes will be used to evaluate the soil properties for the proposed facilities, utilities, and make recommendations on asphaltic and concrete pavement thicknesses for the site areas. Bulk, Standard Penetration Tests (SPT), and drive samples will be conducted to collect necessary subgrade soil samples for laboratory testing from the drill holes. Depth to groundwater, if encountered, will be recorded. The drill hole will be backfilled with soil
cuttings upon completion of the drilling and capped by quick set concrete patch in the pavement.

C. Laboratory Testing Program

Laboratory testing will be conducted on the samples collected from the field investigation. Laboratory tests will include:

- In-place moisture/density (14);
- Gradation & hydrometer tests for classification (2);
- Atterberg limits (including Plasticity Index) for soil classification (2);
- Maximum density and optimum moisture content (2);
- Expansion Index (2);
- Consolidation (2);
- Direct shear: Undisturbed (2);
- R-value (2); and
- Corrosion series testing (sulfate content, chloride content, pH, and soil resistivity (2).

D. Laboratory Testing Program

GMU will review the collected field and laboratory data and perform engineering analysis to evaluate and develop recommendations for site earthwork, remedial grading, shoring and retaining structures, foundations, vehicular pavement design, and utility placement and connections. GMU will prepare a report that includes the results of the investigation and provide conclusions and geotechnical recommendations for the proposed improvements.

The report will summarize the site conditions and discuss the primary geotechnical and/or geologic concerns and development considerations for each item. The geotechnical report will include a site plan, boring logs, and laboratory test data in addition to the following information:

**Site Conditions:** GMU will review and update the surface, subsurface, and groundwater conditions and the engineering properties of the subsurface material encountered during the site investigation to complement the data obtained from review of previous site investigations.

**Geologic Hazards:** GMU will evaluate geologic hazards on a site-specific basis, including descriptions of the locations and characteristics of known faults near the site and the potential for fault rupture through the site, liquefaction, seismic-induced landsliding, and earthquake-induced ground subsidence and/or flooding. Liquefaction potential and landslide evaluation will be based on California Geological Survey Special Publication 117A.

**Seismicity:** GMU will discuss the regional seismicity, including regional active faults, past ground shaking, and future earthquake probabilities. A site-specific seismic hazard analysis will be performed to estimate the peak ground acceleration (PGA) for the maximum considered earthquake (MCE) for liquefaction evaluation. GMU will also provide seismic coefficients based on the 2016 CBC.
Foundations: Utilizing the data collected during the investigation, GMU will recommend a suitable and cost-effective foundation type for the proposed structures. GMU will also provide foundation design criteria including recommendations for minimum size, embedment depth, allowable vertical and lateral capacities, and expected total and differential settlements.

Shoring: GMU will provide geotechnical design parameters for shoring the pipeline trenches, including lateral earth pressures to minimize consequences on adjacent properties and improvements.

Retaining Structures: GMU will present retaining structures design criteria, including recommended foundation type, lateral earth pressures, drainage, and backfill for potential vaults or manholes.

Remedial Grading: GMU will assess earthwork criteria, including recommendations for clearing and site preparation, subgrade preparation, compaction, materials for fill, temporary cut and fill slopes, utility trench backfill, surface drainage and landscaping considerations, as necessary.

Soil Corrosion Evaluation: GMU will perform a soil corrosion evaluation for the site to evaluate the impact on the proposed structures. Two (2) soil samples will be tested for pH, resistivity, chloride, and sulfate. The results of our analysis and laboratory testing will be included in our report with generalized corrosion mitigation measures based on 2016 CBC and ACI-318 requirements.

Pavement: Engineering analysis will be performed to evaluate the pavement sections along the pipeline trench and potentially around the chemical facilities in accordance with the California Highway Design Manual. The California Highway Design considers the relationships between the traffic indexes (TI), R-value of subgrade materials, and the gravel equivalent (GE). We assume that we will be provided the TI for a 20-year design life for our analysis.

ASSUMPTIONS

- GMU has assumed that Mesa Water will provide access to the sites for the field investigations within the facilities.

- GMU has assumed the drill holes will be backfilled with the soil cuttings and surfacing them with rapid-set concrete wherever pavement is encountered. Sand blasting spray mark, pavement grinding, and hot asphalt patch are not included in the fee estimate.

- This proposal specifically excludes the assessment of environmental characteristics, particularly those involving hazardous substances at the site. In the event that obviously suspicious subsurface materials are encountered visually or by odor in the geotechnical test borings, such borings will be immediately terminated until GMU receives direction from Hazen. GMU will notify Hazen as soon as possible of such an occurrence, and a mutual decision whether to continue, modify, or cease the remainder of the drilling program and whether an environmental assessment should be conducted. All added costs incurred
because of suspected hazardous substances will be charged on a time-and-expense basis over and above the established fees for the site investigation.

3. **Final Design**

The purpose of this task is to provide complete construction documents including plans and specifications incorporating Task 2 items, Mesa Water’s comments, constructability review, and regulatory requirements before proceeding with the bidding phase.

3.1 **Final Design and Drawings**

Hazen will prepare 50%, 90%, and 100% design level submittals. Hazen will review and provide responses to all comments and revise construction documents accordingly. Hazen will perform final design, and prepare final construction drawings for construction bid advertising. The drawings will be formatted on 22” x 34”, stamped and signed, and will be legible when printed half-size on 11” x 17”. For purposes of estimating the necessary sheets, Hazen has assumed that both Reservoir sites will be incorporated into one bid package and one set of construction drawings and specifications will be prepared. Hazen anticipates the following sheets:

<table>
<thead>
<tr>
<th>Sheet No.</th>
<th>Drawing No.</th>
<th>Sheet Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>G-1</td>
<td>Title Sheet</td>
</tr>
<tr>
<td>2</td>
<td>G-2</td>
<td>Location Map, Vicinity Map, and Sheet Index</td>
</tr>
<tr>
<td>3</td>
<td>G-3</td>
<td>General Notes, Abbreviations, and Symbols</td>
</tr>
<tr>
<td>4</td>
<td>C-1</td>
<td>Site Plan Reservoir 1</td>
</tr>
<tr>
<td>5</td>
<td>C-2</td>
<td>Yard Piping Plan - Reservoir 1</td>
</tr>
<tr>
<td>6</td>
<td>C-3</td>
<td>Site Plan Reservoir 2</td>
</tr>
<tr>
<td>7</td>
<td>C-4</td>
<td>Yard Piping Plan - Reservoir 2</td>
</tr>
<tr>
<td>8</td>
<td>C-5</td>
<td>Civil Details - 1</td>
</tr>
<tr>
<td>9</td>
<td>C-6</td>
<td>Civil Details - 2</td>
</tr>
<tr>
<td>10</td>
<td>C-7</td>
<td>Civil Details - 3</td>
</tr>
<tr>
<td>11</td>
<td>DS-1</td>
<td>Structural Notes</td>
</tr>
<tr>
<td>12</td>
<td>DS-3</td>
<td>Structural Details 1</td>
</tr>
<tr>
<td>13</td>
<td>DS-4</td>
<td>Structural Details 2</td>
</tr>
<tr>
<td>14</td>
<td>S-1</td>
<td>Floorplan Reservoir 1</td>
</tr>
<tr>
<td>15</td>
<td>S-2</td>
<td>Sections – Reservoir 1</td>
</tr>
<tr>
<td>16</td>
<td>S-3</td>
<td>Architectural Details – Reservoir 1</td>
</tr>
<tr>
<td>17</td>
<td>S-4</td>
<td>Floorplan – Reservoir 2</td>
</tr>
<tr>
<td>18</td>
<td>S-5</td>
<td>Sections – Reservoir 2</td>
</tr>
<tr>
<td>19</td>
<td>S-6</td>
<td>Architectural Details – – Reservoir 2</td>
</tr>
<tr>
<td>20</td>
<td>M-1</td>
<td>Mechanical Standard Symbols</td>
</tr>
<tr>
<td>Sheet No.</td>
<td>Drawing No.</td>
<td>Sheet Title</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>21</td>
<td>M-2</td>
<td>Reservoir 1 Chemical Facilities Plan</td>
</tr>
<tr>
<td>22</td>
<td>M-3</td>
<td>Reservoir 1 Chemical Facilities Section-1</td>
</tr>
<tr>
<td>23</td>
<td>M-4</td>
<td>Reservoir 1 Chemical Facilities Section-2</td>
</tr>
<tr>
<td>24</td>
<td>M-5</td>
<td>Reservoir 2 Chemical Facilities Plan</td>
</tr>
<tr>
<td>25</td>
<td>M-6</td>
<td>Reservoir 2 Chemical Facilities Section-1</td>
</tr>
<tr>
<td>26</td>
<td>M-7</td>
<td>Reservoir 2 Chemical Facilities Section-2</td>
</tr>
<tr>
<td>27</td>
<td>M-8</td>
<td>Mechanical Details - 1</td>
</tr>
<tr>
<td>28</td>
<td>M-9</td>
<td>Mechanical Details - 2</td>
</tr>
<tr>
<td>29</td>
<td>M-10</td>
<td>Mechanical Details - 3</td>
</tr>
<tr>
<td>30</td>
<td>E-1</td>
<td>Standard Electrical Symbols and Abbreviations</td>
</tr>
<tr>
<td>31</td>
<td>E-2</td>
<td>Reservoir 1 – Electrical Site Plan</td>
</tr>
<tr>
<td>32</td>
<td>E-3</td>
<td>Reservoir 1 – Chemical Facilities/Reservoir Plan</td>
</tr>
<tr>
<td>33</td>
<td>E-4</td>
<td>Reservoir 1 – Single Line Diagram</td>
</tr>
<tr>
<td>34</td>
<td>E-5</td>
<td>Reservoir 1 – Schedules and Details</td>
</tr>
<tr>
<td>35</td>
<td>E-6</td>
<td>Reservoir 1 – Schedules and Details</td>
</tr>
<tr>
<td>36</td>
<td>E-7</td>
<td>Reservoir 2 – Electrical Site Plan</td>
</tr>
<tr>
<td>37</td>
<td>E-8</td>
<td>Reservoir 2 – Chemical Facilities/Reservoir Plan</td>
</tr>
<tr>
<td>38</td>
<td>E-9</td>
<td>Reservoir 2 – Single Line Diagram</td>
</tr>
<tr>
<td>39</td>
<td>E-10</td>
<td>Reservoir 2 – Schedules and Details</td>
</tr>
<tr>
<td>40</td>
<td>E-11</td>
<td>Reservoir 2 – Schedules and Details</td>
</tr>
<tr>
<td>41</td>
<td>E-12</td>
<td>Electrical Details</td>
</tr>
<tr>
<td>42</td>
<td>E-13</td>
<td>Electrical Details</td>
</tr>
<tr>
<td>43</td>
<td>I-1</td>
<td>Process and Instrumentation Symbols and Abbreviations</td>
</tr>
<tr>
<td>44</td>
<td>I-2</td>
<td>Reservoir 1 – Network Architecture</td>
</tr>
<tr>
<td>45</td>
<td>I-3</td>
<td>Reservoir 1 – Chemical Feed System P&amp;ID</td>
</tr>
<tr>
<td>46</td>
<td>I-4</td>
<td>Reservoir 1 – Reservoir Mixing P&amp;ID</td>
</tr>
<tr>
<td>47</td>
<td>I-5</td>
<td>Reservoir 2 – Network Architecture</td>
</tr>
<tr>
<td>48</td>
<td>I-6</td>
<td>Reservoir 2 – Chemical Feed System P&amp;ID</td>
</tr>
<tr>
<td>49</td>
<td>I-7</td>
<td>Reservoir 2 – Reservoir Mixing P&amp;ID</td>
</tr>
</tbody>
</table>

**ASSUMPTIONS**

**Reservoir 1:**

- Existing Panel DF has adequate capacity to supply the new Mixing System.
- Truck Hoist is no longer in service and the existing circuit in Panel DF can be repurposed to supply the new Mixing System.
- Mesa Water to hire an electrician to conduct a load test to confirm Panel DF and the existing generator have adequate capacity at Reservoir 1.
- No standby power improvements are required.

Reservoir 2:

- Mixers are not required to be on standby power and no standby power improvements are required.

3.2 Final Specifications

Hazen will prepare 50%, 90%, and 100% design level submittals of the specifications. Hazen will revise the specifications to address all design level review comments. Hazen will prepare the Bid Schedule items for the proposal, and the general and technical specifications for construction bid advertising. The construction documents will be stamped and signed by a professional engineer registered in the State of California. Mesa Water will prepare Notice Inviting Sealed Proposals, Instruction to Bidders, Proposal, Contract Agreement, Bonds, General and Special Conditions. Hazen will review the specifications in its entirety, and revise the documents as required. The specifications will be in CSI format.

3.3 Final Engineer’s Estimate of Probable Construction Costs

Hazen will prepare the engineer’s estimate of probable construction costs that reflect the 50%, 90%, and 100% design levels in the same format as the bid schedule. The final engineers estimate of probable construction costs shall be a AACE Class 1 cost estimate prior to project bidding.

3.4 Permit and Regulatory Coordination

Hazen will coordinate all permits/permit amendments from the State Water Quality Resources Control Board (SWQRCB) Division of Drinking Water (DDW) and any other applicable agencies such as Orange County Fire Authority (OCFA). Hazen will document and incorporate appropriate findings into the final design as appropriate and deemed necessary.

3.5 Meetings

Hazen will attend and prepare all meeting agendas, presentations, minutes including documenting verbal comments and questions, and action items, as necessary and/or as directed by Mesa Water. Hazen will provide sufficient copies for meeting attendees. At a minimum, the following project meetings are anticipated:

1- Kick-Off Meeting
2- Meet with Mesa Water to present and discuss the design, Mesa Water Water’s comments and responses to the 50%, 90%, and 100% Submittals. Three (3) meetings budgeted.
4. **Design of Redundant Distribution System Monitoring at Reservoir 1 and Reservoir 2 Pump Stations**

The purpose of this task is to prepare complete construction documents including plans and specifications, bidding support, construction support, and startup support for replacing the existing pressure monitoring instrumentation with dual pressure monitoring instrumentation at each reservoir pump station.

4.1 **Review Existing Pressure Monitoring and Record Drawings**

Hazen will review record drawings provided by Mesa Water of both reservoir pump stations and SCADA systems and perform one site visit to each pump station.

4.2 **Preliminary Design**

Hazen will evaluate applicable standards and make recommendations for distribution system pressure monitoring redundancy for Reservoir 1 and Reservoir 2 pump stations. The recommendations will include pressure monitoring instrumentation, locations for redundant distribution system pressure monitoring and control, power requirements, electrical and instrumentation conduit runs, and SCADA integration.

The evaluations and recommendations will be incorporated into a Preliminary Design Report (PDR). The PDR will include preliminary layouts for pressure monitoring and control at both pump stations, and a preliminary list of specifications that should be developed in Final Design.

One electronic PDR and four hardcopies will be provided to Mesa Water for review.

4.3 **Final Design**

Based on the results of Task 4.2 Preliminary Design, Hazen will develop final plans and technical specifications in sufficient detail to allow Mesa Water to request and receive hard bids from qualified contractors to perform the work. Bid documents will include Mesa Water’s standard construction contract General Conditions and Special Provisions. Final design will include Functional Control Logic Descriptions, recommended set points, and recommended alarm triggers. Hazen will integrate these descriptions into modified process control drawings, P&IDs, and electrical drawings. Consultant shall deliver one electronic final design package, as well as 3 full size drawing sets and 3 sets of specifications.

Hazen anticipates the following sheets are required:

<table>
<thead>
<tr>
<th>Sheet No.</th>
<th>Drawing No.</th>
<th>Sheet Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>G-1</td>
<td>Title Sheet Location Map, Vicinity Map, and Sheet Index</td>
</tr>
<tr>
<td>2</td>
<td>G-2</td>
<td>General Notes, Abbreviations, and Symbols</td>
</tr>
<tr>
<td>3</td>
<td>EM-1</td>
<td>Reservoir 1 – Electrical and Mechanical Site Plan</td>
</tr>
<tr>
<td>4</td>
<td>EM-2</td>
<td>Reservoir 1 – Electrical and Mechanical Details</td>
</tr>
<tr>
<td>5</td>
<td>EM-3</td>
<td>Reservoir 2 – Electrical and Mechanical Site Plan</td>
</tr>
<tr>
<td>6</td>
<td>EM-4</td>
<td>Reservoir 2 – Electrical and Mechanical Details</td>
</tr>
<tr>
<td>7</td>
<td>I-1</td>
<td>Reservoir 1 – P&amp;ID</td>
</tr>
<tr>
<td>8</td>
<td>I-2</td>
<td>Reservoir 2 – P&amp;ID</td>
</tr>
</tbody>
</table>
4.4 **Bidding Support**
Hazen will lead a contractor job walk, and answer contractor questions during the bidding phase. Answers to questions that alter the Request for Bid (RFB) documents will be answered in the form of Addenda to the RFB. It is assumed one addendum is required. Hazen will provide one electronic and three hardcopies of conformed drawings and specifications after bidding.

4.5 **Engineering Support During Construction**
Hazen will review contractor submittals, and respond to contractor’s requests for information and clarification. It is assumed that 10 submittals and 6 requests for information are required.

4.6 **Start-Up Assistance**
Hazen shall provide on-site assistance for startup and testing of the pressure monitoring system. It is assumed one day of start-up assistance is required per site.

4.7 **Project Close-Out**
Hazen will provide record drawings based on contractor redlines, and review Operations and Maintenance manuals supplied by the Contractor for all new equipment. Record drawings will be specific to each site, and include one set of Mylars and three sets of 11x17 hardcopies.

4.8 **Meetings**
Hazen will run and attend bi-weekly project meetings for the duration of the project. A total of 14 meetings is budgeted under this task. The following meetings will be scheduled in addition to or in lieu of the regular bi-weekly meetings:
- Design Kickoff
- Preliminary Design Review
- Final Design Review
- Contactor Job Walk
- Preconstruction Meeting
- Start up

**Additional Services**

Services which are not specifically identified herein as services to be performed by Hazen are considered “Additional Services” for the purposes of this Agreement. Mesa Water may request that Hazen perform services which are Additional Services; however, Hazen is not obligated to perform such Additional Services unless an amendment to this Agreement has been fully executed setting forth the scope, schedule, and fee for such Additional Services.

In the event Hazen performs Additional Services at Mesa Water’s request before receipt of such executed amendment, Mesa Water acknowledges its obligation to pay for such services at Hazen’s standard rates.
EXHIBIT B
COMPENSATION

Mesa Water to compensate Hazen for the services described in Exhibit A – Scope of Services.

Compensation will be on a time and materials basis not to exceed $262,835 in accordance with the attached Fee Estimate. The not-to-exceed amount will not be exceeded without prior written authorization by Mesa Water. Additional Tasks will not be performed by Hazen without prior written authorization by Mesa Water.

Progress billings will be forwarded to Mesa Water on a monthly basis. Monthly billings will be computed on the basis of percent complete for the task items noted thereon and based upon Mesa Water’s receipt of milestone submittals for the detailed design task. Mileage will be billed at the current standard IRS business rates in effect.

Additional services, if requested by Mesa Water will be performed by Hazen in accordance with the hourly rates in the Fee Estimate.
### Fee Schedule

Mesa Water District  
Final Design of Reservoir 1 and 2 Chemical Feed and Water Quality Monitoring Systems  
December 12, 2017

#### Task 1 - Project Management

<table>
<thead>
<tr>
<th>Task</th>
<th>Work Breakdown</th>
<th>Time (hrs)</th>
<th>TMH</th>
<th>Labor</th>
<th>ODC</th>
<th>Travel</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Project Management</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>40</td>
<td>30</td>
<td>30</td>
<td>67</td>
</tr>
<tr>
<td>1.2 Specifications</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>40</td>
<td>30</td>
<td>30</td>
<td>67</td>
</tr>
<tr>
<td>1.3 Geotechnical Investigation</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>40</td>
<td>30</td>
<td>30</td>
<td>67</td>
</tr>
<tr>
<td>1.4 Meetings (3)</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td>1.5 (90%) QA/QC</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td>1.6 (50%, 90% and Final)</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td><strong>Task 1 TOTALS</strong></td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>38</td>
<td>32</td>
<td>86</td>
<td>124</td>
</tr>
</tbody>
</table>

#### Task 2 - Preparation of Facilities Design

<table>
<thead>
<tr>
<th>Task</th>
<th>Work Breakdown</th>
<th>Time (hrs)</th>
<th>TMH</th>
<th>Labor</th>
<th>ODC</th>
<th>Travel</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Computational Fluid Dynamics Model</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>12</td>
<td>48</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>2.2 Topographic Survey</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>12</td>
<td>48</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>2.3 Geotechnical Investigation</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>12</td>
<td>48</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>2.4 Permit and Regulatory Coordination</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>12</td>
<td>48</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>2.5 Meetings (3)</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td>2.6 (90%) QA/QC</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td>2.7 (50%, 90% and Final)</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td><strong>Task 2 TOTALS</strong></td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>38</td>
<td>32</td>
<td>86</td>
<td>124</td>
</tr>
</tbody>
</table>

#### Task 3 - Final Design

<table>
<thead>
<tr>
<th>Task</th>
<th>Work Breakdown</th>
<th>Time (hrs)</th>
<th>TMH</th>
<th>Labor</th>
<th>ODC</th>
<th>Travel</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Final Design Plans</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>12</td>
<td>48</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>3.2 Specifications</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>12</td>
<td>48</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>3.3 Engineer’s Estimate of Probable Construction Costs</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>12</td>
<td>48</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>3.4 Permit and Regulatory Coordination</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>12</td>
<td>48</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>3.5 Meetings (3)</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td>3.6 (90%) QA/QC</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td>3.7 (50%, 90% and Final)</td>
<td>8</td>
<td>4</td>
<td>32</td>
<td>128</td>
<td>32</td>
<td>128</td>
<td>160</td>
</tr>
<tr>
<td><strong>Task 3 TOTALS</strong></td>
<td>12</td>
<td>8</td>
<td>76</td>
<td>280</td>
<td>32</td>
<td>352</td>
<td>384</td>
</tr>
</tbody>
</table>

#### Task 4 - Redundant Distribution System Pressure Monitoring

<table>
<thead>
<tr>
<th>Task</th>
<th>Work Breakdown</th>
<th>Time (hrs)</th>
<th>TMH</th>
<th>Labor</th>
<th>ODC</th>
<th>Travel</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Review Record Drawings and Field Visit</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>4.2 Preliminary Design</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>4.3 Final Design</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>4.4 Bideting Support</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>4.5 Engineering Support During Construction</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>4.6 Startup Assistance</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>4.7 Project Close-Out</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>4.8 Meetings (14)</td>
<td>5</td>
<td>10</td>
<td>50</td>
<td>240</td>
<td>50</td>
<td>290</td>
<td>340</td>
</tr>
<tr>
<td><strong>Task 4 TOTALS</strong></td>
<td>5</td>
<td>0</td>
<td>76</td>
<td>103</td>
<td>0</td>
<td>0</td>
<td>76</td>
</tr>
</tbody>
</table>

**TASKS 1-4 GRAND TOTALS**

<table>
<thead>
<tr>
<th>Task</th>
<th>Time (hrs)</th>
<th>TMH</th>
<th>Labor</th>
<th>ODC</th>
<th>Travel</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Project Management</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>1.2 Specifications</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>1.3 Geotechnical Investigation</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>1.4 Meetings (3)</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>1.5 (90%) QA/QC</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>1.6 (50%, 90% and Final)</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>2.1 Computational Fluid Dynamics Model</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>2.2 Topographic Survey</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>2.3 Geotechnical Investigation</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>2.4 Permit and Regulatory Coordination</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>2.5 Meetings (3)</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>2.6 (90%) QA/QC</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>2.7 (50%, 90% and Final)</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>3.1 Final Design Plans</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>3.2 Specifications</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>3.3 Engineer’s Estimate of Probable Construction Costs</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>3.4 Permit and Regulatory Coordination</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96</td>
</tr>
<tr>
<td>3.5 Meetings (3)</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>3.6 (90%) QA/QC</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>3.7 (50%, 90% and Final)</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>4.1 Review Record Drawings and Field Visit</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4.2 Preliminary Design</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4.3 Final Design</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4.4 Bideting Support</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4.5 Engineering Support During Construction</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4.6 Startup Assistance</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4.7 Project Close-Out</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4.8 Meetings (14)</td>
<td>340</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>340</td>
</tr>
<tr>
<td><strong>TASK 1-4 GRAND TOTALS</strong></td>
<td>1,352</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,352</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subconsultants</th>
<th>Geotechnical</th>
<th>Surveying</th>
<th>Bush &amp; Associates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alexander</td>
<td>$270</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Menendez</td>
<td>$235</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thurnhorst</td>
<td>$236</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corner</td>
<td>$238</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rahman</td>
<td>$156</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zhang</td>
<td>$218</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yu</td>
<td>$127</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benavides</td>
<td>$122</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portner</td>
<td>$112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dressler</td>
<td>$143</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAD Designer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TMH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ODC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mr. Phil Lauri
Chemical Dosing System and Water Quality Monitoring – Final Design
Exhibit B - Compensation
December 1, 2017
MEMORANDUM

TO:        Board of Directors
FROM:      Phil Lauri, P.E., Assistant General Manager
DATE:      February 8, 2018
SUBJECT:   Construction Management Services for Croddy and Chandler Wells and Pipeline Project

RECOMMENDATION

Award a contract with Butier Engineering, Inc. in the amount of $972,480 with a 10% contingency for a not-to-exceed amount of $1,069,728, to provide professional Construction Management Services for the Croddy and Chandler Wells and Pipeline Project, and authorize execution of the contract.

The Engineering and Operations Committee reviewed this item at its January 16, 2018 meeting and recommends Board approval.

STRATEGIC PLAN

Goal #1: Provide a safe, abundant, and reliable water supply.
Goal #2: Practice perpetual infrastructure renewal and improvement.
Goal #6: Provide outstanding customer service.

PRIOR BOARD ACTION/DISCUSSION

At its August 10, 2017 meeting, the Board of Directors (Board) approved award of a contract to Tetra Tech, Inc. for $920,000 plus a 10% contingency for a not-to-exceed amount of $1,012,000 to provide professional engineering design and permitting services for the West Chandler Avenue Well, the South Croddy Way Well, and the Pipeline Project.

At its September 19, 2017 meeting, the Engineering and Operations (E&O) Committee received an information item that a Request for Proposals for Construction Management Services was being solicited.

At its November 21, 2017 meeting, the Engineering and Operations (E&O) Committee directed staff to layout the well sites as water production facilities with the option of creating a shared commercial space.

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 industrial/commercial building at 4011 West 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.
In August 2017, Mesa Water purchased a second property at 3120 South Croddy Way in the City of Santa Ana. This property is 0.5 acres and contains a 6,700 square foot industrial/commercial building. This new well site is approximately 0.2 miles outside the District service area.

Mesa Water began design of the Croddy and Chandler Wells and Pipeline Project in August 2017. This project will provide construction bid documents to allow Mesa Water to retain a competitively selected contractor to construct new water production facilities and associated distribution pipeline. In an effort to effectively optimize Mesa Water’s staff time, take advantage of industry specific construction management expertise, and minimize unforeseen construction impacts, professional construction management services will be necessary to oversee the construction of the project.

DISCUSSION

In November 2017, Mesa Water released a Request for Proposal (RFP) for Professional Construction Management Services. This schedule allows the Construction Management team to provide constructability and bid-ability review at the 50% design submittal phase scheduled for April 2018, when it is still cost effective to make design changes. The Construction Manager (CM) will assist in recruiting and prequalifying contractors in FY 2018 in advance of the construction bid, and oversee the selected contractor(s) during construction in FY 2018 and FY 2019. The scope of work is comprehensive and includes the following major tasks:

**Task 1: Project Management and Administration.** The purpose of this task is to establish and maintain effective project management, including conducting weekly project meetings, reviewing schedules, approving invoices, and oversight of project documentation.

**Task 2: Construction Documents Review.** The CM will review construction documents at the 50%, 90%, and 100% design milestones. Construction documents shall be reviewed for clarity, conflicts, consistency and completeness with respect to bidding and construction means and methods. The CM will also provide input to the sequence of construction to minimize the downtime for each well.

**Task 3: Bidding Support Services.** The CM will assist with recruiting and prequalifying potential contractors based on licenses, insurance, bonding, similar experience, and references. The CM will also support the Mesa Water Project Manager during bidding.

**Task 4: Construction Administration and Closeout.** The CM will provide a full-time Resident Engineer to oversee the contractor’s day-to-day activities, monitor progress compared to schedule and budget, and manage submittals, change order requests, and requests for information.

**Task 5: Inspection.** The CM will provide certified inspectors and/or registered engineers to ensure that construction adheres to the project plans and specifications.
**Task 6: Equipment and System Testing, Start-Up, and Training.** The CM shall oversee testing, start-up and training to ensure that fully operational wells are turned over to Mesa Water per specifications.

**Task 7: Construction Close Out.** The CM will ensure that construction is complete and record drawings and project documentation is organized and received per Mesa Water’s specifications.

**Selection Process**

Proposals were solicited from seven firms to provide the required scope of work. The firms included: Black & Veatch, Butier Engineering, Inc. (Butier), CDMSmith, Hazen and Sawyer, HDR Inc., Michael Baker International (MBI), and MWH Constructors, Inc. (MWH). A pre-proposal meeting was conducted on November 28, 2017. Three proposals were received on December 15, 2017. The proposing firms included Butier, Michael Baker International, and MWH Constructors.

Proposals were reviewed and evaluated by a selection panel comprised of Mesa Water staff and staff from an outside water district. Each proposal was scored based on qualifications, experience, staff availability and commitment, scope of work approach, and proposal quality. Interviews with Butier, MBI, and MWH were conducted on December 19, 2017. The following table summarizes the selection process evaluation scores:

<table>
<thead>
<tr>
<th>Final Ranking</th>
<th>Proposer</th>
<th>Proposal Score</th>
<th>Cost</th>
<th>Average Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Butier Engineering</td>
<td>9.1</td>
<td>$972,480</td>
<td>$158.38</td>
</tr>
<tr>
<td>2</td>
<td>Michael Baker Intl.</td>
<td>8.1</td>
<td>$958,466</td>
<td>$154.70</td>
</tr>
<tr>
<td>3</td>
<td>MWH Constructors</td>
<td>8.0</td>
<td>$1,247,413</td>
<td>$180.36</td>
</tr>
</tbody>
</table>

Each of the interviewing teams had excellent proposed personnel and good approaches to the scope of work. However, the Selection Committee found that Butier Engineering has extensive experience with well site and pipeline construction, a good understanding of phasing and sequencing requirements, and has worked with the City of Santa Ana on other well construction projects. Butier’s Technical Proposal is included as Attachment A. Evaluation of the cost proposal component of the selection process showed that the fee proposals by Butier and the second-ranked proposer (Michael Baker International) were within 2.4% of each other. Therefore, staff recommends that the Board consider awarding a contract to Butier Engineering, Inc. in the amount of $972,480 with a 10% contingency for a not-to-exceed amount of $1,069,728, to provide professional Construction Management Services for the Croddy and Chandler Wells and Pipeline Project.
## FINANCIAL IMPACT

<table>
<thead>
<tr>
<th>Project Estimate Amounts</th>
<th>Project Cost Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Original Contracts</strong></td>
<td>$ 972,480</td>
</tr>
<tr>
<td><strong>Change orders</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Requested funding</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Revised Contracts</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Actual spent to date</strong></td>
<td>$ 0</td>
</tr>
<tr>
<td><strong>Revised Project Estimate</strong></td>
<td>$ 972,480</td>
</tr>
</tbody>
</table>

## ATTACHMENTS

Attachment A: Technical Proposal for Construction Management Services for the Croddy and Chandler Way Wells and Pipeline Project, Butier Engineering, Inc.
Proposal to Provide

Construction Management Services for the Croddy and Chandler Way Wells and Pipeline Project

Submission Date: December 15, 2017

Submitted to:
Timothy Beaman, P.E.
Project Manager
Mesa Water District
1965 Placentia Avenue
Costa Mesa, CA 92627

Submitted by:
Mark M. Butier, VP/CFO
Butier Engineering, Inc.
17822 E. 17th St., Ste. 404
Tustin, CA 92780
Tel: 714-832-7222
jbutier@butier.com

Front Cover
Print on 11” x 17”
Trim to 9” x 11”
Print on 100 lb. cover gloss
Proposal to Provide:

Construction Management Services for the Croddy and Chandler Way Wells and Pipeline Project

December 15, 2017
PROPOSAL COVER PAGE

December 14, 2017

Mesa Water District
1965 Placentia Avenue
Costa Mesa, CA 92627-3420
Attn: Timothy Beaman, P.E., Associate Engineer

Subject: Proposal to Provide Construction Management Services for the Croddy and Chandler Way Wells & Pipeline Project

Dear Mr. Beaman:

Butier Engineering, Inc. is pleased to present five (5) hard copies of its technical proposal and one (1) electronic PDF version of the complete proposal on CD. Per the RFP instructions, one (1) hardcopy of the fee proposal has been provided under a separate sealed envelope. Our submittal is fully responsive to the RFP issued on November 22, 2017, and additional correspondence received on November 28, 2017, and December 1, 2017. Butier offers several distinguishing qualifications and a proven record of performance to Mesa Water District. We have assembled a team that has provided CM and inspection services on some of the largest water/wastewater capital improvement projects in Southern California.

Consulting Firm Information

<table>
<thead>
<tr>
<th>Name of Business:</th>
<th>Butier Engineering, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>17822 E. 17th Street, Suite 404; Tustin, CA 92780</td>
</tr>
<tr>
<td>Telephone/Fax:</td>
<td>Tel: (714) 832-7222</td>
</tr>
<tr>
<td>Email &amp; Web Addresses:</td>
<td><a href="mailto:jrbutier@butier.com">jrbutier@butier.com</a></td>
</tr>
<tr>
<td>Federal Tax ID Number:</td>
<td>953043844</td>
</tr>
<tr>
<td>Type of Business/Years:</td>
<td>Corporation</td>
</tr>
<tr>
<td>Authorized Representative:</td>
<td>Mark M. Butier, Jr., Vice President/CFO</td>
</tr>
</tbody>
</table>

Certificate of Insurance

Per the RFP Instructions, please find Butier’s Certificate of Insurance located after the Proposal Cover Page. Butier will provide and maintain the coverages outlined in the Professional Services Contract.
Unique Team Features

- **Project Team Members**—Butier has an established, long term working relationship with our key team members; *On-Site Technical Services* and *Ninyo & Moore*. Both firms have worked with Butier on recent OCWD, SDCWA, and MWD projects. Our continuous professional relationship has refined our ability to address specific field QA/QC issues and create efficient management practices that will be utilized on the Mesa project(s). Mesa will benefit from a team that has successfully completed over 20 projects in last 15 years.

- **City of Santa Ana**—Butier is intimately familiar with the requirements of the City of Santa Ana. We coordinated closely with the City during the construction of the City of Tustin’s Edinger Avenue Well – Phase II Equipping Project and OCWD’s Groundwater Storage Program, which included 8 extraction wells. **In addition, we are currently managing OCWD’s Mid Basin Injection Wells Project, which includes five (5) wells within the City of Santa Ana’s 87-acre Centennial Park.**

- **Designer of Record**—Butier and Tetra Tech have over 25 years of project history. Our firm has provided CM and inspection services on several large, multi-phase projects designed by Tetra Tech, including OCWD’s Mid-Basin Injection Wells—Centennial Park; OCWD’s Burris Pump Station Project; the City of Tustin’s Rawlings Reservoir Replacement; and the City of Anaheim’s La Palma Complex Reservoir Rehabilitation / Pump Station Replacement and Nohl Canyon Water Storage Tank. **Our long-standing relationship with Tetra Tech and Mr. Tom Epperson, P.E. will make the development of our management approach more efficient and cost effective.**

- **Flexibility**—The Butier team is local. We have the staff and resources to meet the demands of the project efficiently. Key personnel will be assigned to the project for the duration. We strongly believe the project will need a team-oriented approach for inspection. We have the appropriately licensed personnel to perform all RFP inspection requirements within budget limitations.

- **Simple, Scalable Electronic Document Control System**—Butier utilizes Procore, a cloud based document control system. The program is simple to navigate and the access is specific to the project participant. Features will be customized according to the District’s preferences and provide a “dash board” user interface with multi-level security features. Project information can be viewed and uploaded from a smart phone ensuring timely information updates to the project team.

- **Contractor Prequalification & Bid Phase Services**—Butier’s Team has assisted numerous clients with the contractor prequalification process by assembling prequalification packages, sending invitations to bid to a select list of contractors, and providing bid review assistance. **We have exceptional insight to contractors who perform work in this category. This will allow us to assist the District staff with refining bid packages and research the best timing for release of the work.**

- **Constructability Reviews**—Butier’s assigned personnel have performed constructability reviews and implemented inspection requirements on a number of projects that are nearly identical to the Croddy and Chandler Way Wells and Pipeline Project.

We have assembled a team that will efficiently serve Mesa Water District though every phase of the project delivery. If you have any questions regarding our proposal, please direct them to me for clarification at (714) 832-7222.

Respectfully Yours,

Butier Engineering, Inc.

Mark M. Butier, Jr.
Vice President/CFO
### Certificate of Liability Insurance

**Certificate Number:**

**Issue Date:** 6/26/2017

**Producer:**
Dealey, Renton & Associates  
P. O. Box 12675  
Oakland, CA 94604-2675  
510 465-3090

**Contact:**
Nancy Ferrick  
PHONE (A/C No., Ext.): 510 465-3090  
FAX (A/C No.): 510 452-2193  
E-MAIL: nferick@dealeyrenton.com

**Insured:**
Butler Engineering, Inc.  
Tustin Financial Center  
17822 E 17th St., Suite 404  
Tustin, CA 92780

**Insurers:**
- American Automobile Ins. Co.  
- XL Specialty Insurance Co.

### Coverages

<table>
<thead>
<tr>
<th>INSURER</th>
<th>POLICY NUMBER</th>
<th>POLICY EFFECT DATE</th>
<th>LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>MZG80977372</td>
<td>06/25/2017</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>B</td>
<td>DPR9915523</td>
<td>06/25/2017</td>
<td>$1,000,000 per Claim</td>
</tr>
</tbody>
</table>

**Description of Operations / Locations / Vehicles (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**

- For proposal purposes, an actual certificate will be issued at the request of the named insured.

**Certificate Holder:**

**Cancellation:**

- Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

**Authorized Representative:**

**Sample Certificate:**

© 1988-2014 ACORD CORPORATION. All rights reserved.

The ACORD name and logo are registered marks of ACORD.

#S2045948/M2045632
1. Firm Qualifications and Experience
1. FIRM QUALIFICATIONS & EXPERIENCE

Firm Overview
Butier Engineering, Inc. services public agencies and special districts in the delivery of water/wastewater and large scale civil infrastructure. We are singularly focused and organized to deliver third-party construction management and inspection services—a commitment we made to our clients over 41 years ago. Our corporate focus has enabled us to deliver over $1.5 billion of public infrastructure projects throughout Southern California. Our regional emphasis has given us unique insight to the local designers, suppliers, and contractors. As a result, we are very familiar with the strengths and shortcomings of the firms competing to deliver Mesa’s proposed projects.

Comprehensive Services
Working closely with the client, designer, and contractor, we create efficient and quality-oriented teams to manage the day-to-day flow of construction activities. Butier’s professional services include the following: (partial list)
- Design and Constructability Reviews
- Bidding Assistance
- Construction Management
- Contract Administration
- Field Inspection and QA/QC
- Design/Build Management
- Scheduling and Estimating
- Project Cost Analysis
- Construction Claims Analysis

Professional Staff
Our available staff includes: Resident Engineers / Construction Managers; Field Engineers / Document Control Specialists, Multi-Disciplined Inspectors, Schedulers and Estimators. Many of our construction professionals are licensed civil engineers who bring significant experience in the construction of water and wastewater treatment infrastructure.

Primary Office Location
Butier’s key personnel will provide responsive service to the District for the Croddy and Chandler Way Wells and Pipeline Project from Butier’s corporate office, which is centrally located at 17822 E. 17th Street, Suite 404, Tustin, CA 92780.

Specialized Experience
The project experience on the following pages demonstrates that Butier is uniquely qualified to provide construction management, inspection and support services to Mesa Water District for the Croddy and Chandler Way Wells and Pipeline Project.

Our key personnel have successfully provided CM services for water production wells throughout Southern California, including seven (7) in the City of Santa Ana for OCWD. These projects are similar in scope and complexity with respect to phasing / sequencing; working within restricted construction parameters; and in close proximity to commercial buildings.

In addition, Butier has managed numerous pipeline projects totaling over 50 miles of transmission pipelines and $500 million in construction costs. These projects have included coordination with multiple agencies and contractors to complete interconnection tie-ins through a variety of environments. Our experience includes pipelines from 6” to 120” in every available material currently specified. Projects range from $2 million to $160 million in construction value, and have lasted from several months to two years.

Butier has significant experience in “vertical” Class B construction as well. We have served the County of Orange at John Wayne Airport providing PM /CM services for 15 years. Should Mesa elect to repurpose some of the existing commercial buildings, we have the expertise to manage and provide both design management and construction services.
OC Groundwater Storage Program, 8 Wells  
Orange County, California

The OC Groundwater Storage Program consisted of constructing eight extraction wells within the Orange County groundwater basin. The Program calls for up to 60,000 acre-feet of excess MWD supplies to be delivered by MWD and stored when available during normal and wet years in the Orange County groundwater basin. When called by MWD during dry-year imported water shortages, 20,000 AF per year can be extracted from the Orange County groundwater basin. The scope of work for each project location included the following: housing structures for pumps, motors, and piping; site improvements, including paving, drainage, fencing, and landscaping; installation of deep well turbine pump and motors; electrical and instrumentation; disinfection facilities; discharge piping and valving; off-site piping and valving; and startup, testing, and training.

- **City of Santa Ana Well No. 40**—Major housing structure with an attached patio. Structure was designed to blend in with park atmosphere.
- **City of Santa Ana Well No. 41**—Located in Santa Ana Stadium near city hall and courthouse. Fully closed pump building with chlorine feed and attached storage room.
- **City of Anaheim Well No. 52**—Screen wall with landscaping vs. housing structure.
- **City of Buena Park Well No. BP-02**—Housing structure is located at the end of a cul-de-sac in a residential area. The structure was designed to blend in with the surrounding neighborhood.
- **City of Garden Grove Well No. 30**—Housing structure contains separate chemical, electrical, and pump rooms.
- **Valley View Well No. 2**—Located near business and residential areas, opposite Cypress College. It adjoins the old Southern Pacific Railroad. Pump building sits on rails and rolls back for access.
- **City of Westminster Well No. 75A**—Housing structure is located in a residential area. The structure was designed to blend in with the Spanish-Mediterranean architecture.
- **Yorba Linda Water District Well No. 19**—Located in the Yorba Linda Water District maintenance yard.

Butier managed the projects with one Resident Engineer and a multi-disciplined inspector. Additional services included geotechnical; deputy inspection for concrete placement, structural steel welding, and masonry; and electrical / instrumentation and certification of equipment and testing. The project required the involvement of seven water agency municipalities and their associated City Building and Public Works Departments. In addition, the project included close coordination with various public utilities and the Department of Health Services.
Mid-Basin Injection Wells—Centennial Park Project
Santa Ana, California

Butier is providing constructability review, project coordination, resident engineering, and construction inspection services for the Mid-Basin Injection Wells Project located within the City of Santa Ana’s 87-acre Centennial Park. The wells will be used to directly inject product water from the District’s Groundwater Replenishment System (GWRS) into the principal groundwater aquifer in the central portion of the Orange County groundwater basin. The project consists of the following.

- Construction of four (4) groundwater injection wells in below grade vaults (1,200 feet deep) and all related appurtenances
- Construction of the SR-13 monitoring well at the Heritage Museum site
- Construction of 5,500 linear feet of purified recycled water injection supply pipeline that connects to the District’s existing GWRS pipeline and crosses the Santa Ana River
- Construction of 4,200 liner feet of backflush discharge pipeline that discharges to the Greenville-Banning Channel and Centennial Park Lake
- Installation of submersible pumps within the four injection wells
- Replacement of 9.6 acres of paving with the Park
- Demolishing an existing City of Santa Ana restroom facility
- Construction of two new buildings with shared City of Santa Ana and District uses

The design and construction of this project requires special consideration of Park impacts. The project requires close coordination with the City of Santa Ana, Santa Ana Unified School District, Heritage Museum, and state and federal agencies. Heritage Museum is a cultural and natural history center bounded by Godinez High School to the north and west and Mitchell Child Development Center to the east. The Museum contains a historic plaza featuring several buildings from the 1890s, extensive flora gardens, citrus groves, agricultural demonstration garden area, and a restored wetland area.
Edinger Avenue Well—Phase II Equipping
Tustin, California

Butier Engineering, Inc. provided project / construction management and inspection services for the Edinger Avenue Well – Phase II Equipping Project. Construction of the building and equipping of the pump included the following:

- Installation of a 225 LF of 12-inch diameter CML ductile iron pipe discharge water line; connection to 12-inch ductile iron watermain;
- Installation of 162 LF of 18-inch diameter C-905 drain line;
- Connection to the existing storm drain;
- Placement of new onsite sewer manhole;
- Installation of 76 LF of 8-inch diameter SDR 26 sewer lateral;
- Connection to existing OCSD sewer manhole; and
- Erection of 2,376 SF of CMU block wall with a metal roof building to enclose the well pump, electrical equipment and chlorine room

The project is part of the City of Tustin’s Water Services Division, which is responsible for the production and safe delivery of domestic water to more than 14,100 service connections through approximately 172 miles of water mains.

Butier staff coordinated with several agencies including the City of Tustin, City of Santa Ana, and Caltrans.
<table>
<thead>
<tr>
<th>Project Title / Client</th>
<th>Completion / Value</th>
<th>Key Personnel</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chino Desalter Phase 3 Expansion Product Water Pipeline Project; Eastvale and Jurupa Valley, CA</strong></td>
<td>Completion: 2015  Value: $19 million</td>
<td>Mark Butier, Project Director  Dustin Morton, Field Engineer / Inspector</td>
<td>Provided CM and inspection services. CDA constructed 10,700 LF of 30-inch diameter CML&amp;C steel pipeline to deliver drinking water to the cities of Eastvale, Ontario, and Norco. The project began at Mississippi Drive and continued northbound along Hamner Avenue to Riverside Drive. The pipeline project was part of an expansion of CDA’s water treatment and delivery system.</td>
</tr>
<tr>
<td><strong>Construction of Wells 21 and 22 and Reverse Osmosis Water Treatment Plant; Irvine and Tustin, CA</strong></td>
<td>Completion: 2012  Value: $35 million</td>
<td>Mark Butier, Project Director  Stephen White, P.E., RE</td>
<td>Provided CM and inspection services. Due to the increase of imported water from MWD, along with groundwater treatment technologies, IRWD decided that it would be more feasible to integrate Wells 21 and 22 into its potable water system. Due to the proximity of the wells to existing residences, each well was equipped with above ground, constant speed, vertical turbine pumps and motors housed in a sound attenuated building.</td>
</tr>
<tr>
<td><strong>Equipping of Chino Creek Well Field Wells I-16, I-17, and I-18; Chino, CA</strong></td>
<td>Completion: 2013  Value: $1,571,777</td>
<td>Mark Butier, Project Director  Dustin Morton, Field Engineer / Inspector</td>
<td>Butier provided CM and inspection services. In addition to well equipping, the project included the installation of 625 LF of 8” diameter HDPE corrugated storm drain pipe and the grading and paving of the well sites. Coordination with other projects was required, including connection of well discharge lines to the Chino Creek Well Field Raw Water Pipeline.</td>
</tr>
<tr>
<td><strong>EW-1 Well Equipping Project; Fullerton, CA</strong></td>
<td>Completion: 2017  Value: $1.1 million</td>
<td>Mark Butier, Project Director  Casey Harris, Senior Scheduler  Stephen White, PE Resident Engineer  Kent Kreeger, Mechanical</td>
<td>Provided CM and inspection services for the well equipping project, which included rehabilitation and redevelopment of the well, completing construction of the wellhead, installing a submersible pump and shroud, and constructing piping and a connection to a nearby OCSD sewer trunk line in State College Blvd. for discharge of the pumped groundwater. The Butler Team coordinated with OCWD, the Contractor, and the property owner’s association to select an acceptable temporary piping route.</td>
</tr>
</tbody>
</table>
ON-SITE Technical Services

(Constructability Review—Mechanical / Startup Support)

ON-SITE Technical Services’ team of management professionals and inspectors has over 25 years of direct experience in supporting fabrication and site inspection utilizing stringent quality requirements at locations throughout the United States and numerous overseas locations utilizing local area inspectors.

ON-SITE’s international capabilities enable them to provide testing and inspection services to clientele in some 135 countries located throughout Europe, Asia, the Pacific Rim, the Middle East, Central and South America. This allows them to provide a cost-effective means of quality assurance to most regions of the industrialized world.

ON-SITE’s project management staff includes mechanical engineers, welding engineers, NDT Level III coordinators, NACE certified personnel, AWS CWI, Carbon Fiber Wrap Trained inspectors, and hydroelectric rotating equipment specialists all devoted to the task of Quality Assurance (QA).

They have provided constructability review, startup support, and fabrication inspection services as a part of Butier’s team for OCWD’s Burris Pump Station-Phase II; SDCWA’s Pipeline 4 Relining SR 52 to Lake Murray; and MWD’s Perris Valley Pipeline, San Diego Pipeline No. 6, and Colorado River Aqueduct Rehabilitation and Improvements projects.

Ninyo & Moore

(Specialty Inspection, Soils & Materials Testing Services)

The experience of Ninyo & Moore's staff encompasses projects throughout the southwestern United States including, but not limited to wells, pump stations, pipelines, sewers, reservoirs, treatment plants, and other public and private works. Please find below recent project experience that is similar in scope to the Croddy and Chandler Way Wells & Pipeline Project.

Wellhead Automation and Rehabilitation; Costa Mesa, CA (Mesa Water District)—The project included work associated with the modernization and automation of the five well sites, including replacement of wellhead piping, new well site electrical equipment, construction of new chemical storage facilities at all sites, chemical storage facility concrete containment structures with canopy roofs, as well as installation of 4,000-gallon storage tanks. Earthwork for the project included overexcavation and recompack of near surface soils and trench backfill, as well as subgrade and aggregate base preparation. Ninyo & Moore provided deputy inspection services, including project coordination, management and technical support, NACE coating inspections, as well as structural steel and welding inspection services.

Wells 21 and 22 Pipelines; Tustin, CA (IRWD)—Ninyo & Moore provided geotechnical and materials testing services, including project coordination, management and technical support. Field services included sampling and testing of structural concrete subgrade (SG), aggregate base (AB) and asphalt concrete (AC). Their services also included batch plant inspection during production of asphalt concrete and laboratory testing services included proctor density, sieve analysis, sand equivalent, AC extraction and gradation, AC maximum density, and concrete compressive strength. The project consisted of installing 6,800 linear feet of untreated water pipeline, 1,300 linear feet of well pump-to-waste pipeline, 12,600 linear feet of product water pipeline and 1,570 linear feet of non-reclaimable waste pipeline, as well as pavement replacement along the pipeline alignments.
2. Staff Experience and Availability
Introduction

By having the Butier Team serve the District as a single-source of responsibility, the construction management and inspection activities will be well coordinated and delivered efficiently. We propose to approach this project with a spirit of partnership, as we have demonstrated to the District and its senior staff members on previous projects. This enables us to combine the knowledge, ideas, and talents of your staff with our construction administration experience to provide extraordinary results. Butier has joined with On-Site Technical Services and Ninyo & Moore to provide the District with complete construction management, specialty inspection, and start-up support services.

Our key personnel are available during the proposed schedule for the Croddy and Chandler Way Wells and Pipeline Project. We recognize the District is in the preliminary stages of design development. The CM team must have the ability to quickly accommodate shifting project demands. Stakeholder approvals/demands (City of Santa Ana) will drive the project schedule. It will be critical for the CM team to work closely with Design staff (Tetra Tech) and City staff to ensure an efficient project delivery schedule. Butier has unmatched experience with the Tetra Tech design team. In addition, we are currently delivering (5) five wells and significant pipeline work in the City of Santa Ana for OCWD. We will have over a year of daily interaction with City staff prior to the start of the proposed Mesa Project(s).

Biographical Sketches

Résumés for all personnel listed on the organizational chart can be found in the Appendix.

BUTIER ENGINEERING, INC.

Mark M. Butier, Jr., Project Director

Mr. Butier has over 30 years of project management, CM, and claims mitigation experience on major water / wastewater treatment, storage, and transmission pipeline projects. He will serve as the Project Director responsible for ensuring that all necessary resources are available to meet the requirements of the project and expectations of the District. He will meet with the District’s representatives at key project milestones, as appropriate. His similar project experience includes the OC Groundwater Storage Project—8 Extraction Wells; Mid-Basin Injection Wells—Centennial Park; and City of Tustin’s Edinger Avenue Well—Phase II Equipping.

Casey Harris, Principal Project Manager / Senior Scheduler / Constructability Review

Mr. Harris has over 35 years of experience as a project manager, resident engineer, scheduler, and estimator. His capital improvement project experience represents over $700 million in construction costs. He is an expert CPM scheduler and is proficient in Primavera (P6) Professional Project schedule and control systems. Mr. Harris performed as the Senior Scheduler for the Carlsbad 50 MGD Seawater Desalination Treatment Plant.

Stephen White, P.E., Resident Engineer / Constructability Review

Mr. White will be assigned full time for the duration of the project. He is a registered California Professional Engineer (Civil) with over 20 years of experience in the construction industry providing PM and CM services for wells, pump stations, reservoirs, water and wastewater treatment plants, and desalination plants. He performed as the RE for OCWD’s Groundwater Storage Program, which included 8 extraction wells and OCWD’s EW-1 Well Equipping Project.

Jason Kraus, P.E., Constructability Review (Pipeline)

Mr. Kraus has over 15 years of varied experience as a civil engineer, project manager, and resident engineer. He recently served as the Owner’s Resident Engineer for the Carlsbad 10-Mile Conveyance Pipeline ($160 million). Additional Resident Engineering assignments include MWD’s Perris Valley Pipeline ($80 million) and San Diego Pipeline No. 6 ($67 million).
Dustin Morton, CWI, Field Engineer / Civil/Mechanical Inspector (Wells)

Mr. Morton’s areas of expertise include quality control, field engineering, and inspection for civil infrastructure projects. He is an AWS-certified welding inspector; ACI-certified concrete field technician; and ICC-certified reinforced concrete specialty inspector and structural steel and bolting inspector. He recently provided field engineer/inspection services for the CDA Product Water Pipeline and the City of Tustin’s Edinger Avenue Well—Phase II Equipping Project.

Martin Brunenieks, CWI Civil/Mechanical Inspector (Pipeline)

Mr. Brunenieks has over 22 years of inspection experience in a multitude of construction settings, including pipelines, water/wastewater treatment facilities, airports, commercial/retail and residential structures. He is AWS, CWI and ICC-certified in several areas, including structural steel and welding, spray-applied fireproofing, and concrete. Experience includes both new and retrofit construction.

Jared Rogers, P.E., Constructability Review / Electrical/Instrumentation Inspector

Mr. Rogers is a registered Professional Engineer (Electrical) with a vast background designing and inspecting electrical, instrumentation, controls and SCADA throughout California, Arizona, Oregon, Washington, and Florida. Specific project types include water and wastewater treatment plants, pump stations, reservoirs, water production wells, water quality laboratories, commercial and office buildings, and multi-family residences.

ON-SITE TECHNICAL SERVICES

Kent Kreeger, Constructability Review / Start-Up Support

Mr. Kreeger has over 32 years of QA/QC experience with 15 years inspection management and coordination experience. His areas of expertise include the fabrication and testing of rotating equipment, including pumps, motors, steam and gas turbines, compressors and generators. Mr. Kreeger develops specifications, completes submittal reviews, and reviews test data for conformance. He provides start-up support and troubleshooting, vibration analysis and failure analysis.

Richard Grounds, P.E. Constructability Review/Start-Up Support

Mr. Grounds is a registered Professional Engineer (Mechanical) with 26 years of engineering and QA/QC experience in the water/wastewater treatment, hydroelectric, power generation, and petrochemical industries. He is knowledgeable and experienced in functional testing, debugging, start-up and commissioning of systems related to water treatment, water distribution, large pumping stations, electrical equipment, components and instrumentation, SCADA, and other equipment and systems. He works with contractors during installation of equipment, witnesses performance testing and factory acceptance tests.

NINYO & MOORE

Garreth Saiki, P.E., G.E. (Ninyo & Moore) Project Manager, Geotechnical

Mr. Saiki is a registered Professional Civil and Geotechnical Engineer. He coordinates and conducts geotechnical evaluations for residential, commercial, and public facilities; performs underground pipeline design; prepares and reviews geotechnical reports; and provides geotechnical design parameters and recommendations for shallow and deep foundations, retaining structures, in-situ ground remediation and earthwork; reviews laboratory results, project plans and specifications; provides supervision and technical support to staff-level engineers and geologists; and performs project administration and management.

Work Breakdown Structure

Please refer to the Work Breakdown Structure provided at the end of this section.
MESA WATER DISTRICT
Phil Lauri, P.E., District Engineer
Timothy Beaman, P.E., Associate Engineer
Operations & Maintenance

STAKEHOLDERS
Cities of Costa Mesa & Santa Ana
Local Businesses/Residents
Public Utilities
Department of Health

PROJECT DIRECTOR
Mark Butler Jr.

DISTRICT CONSULTANTS
Tetra Tech (Design Engineer)
Prime Systems (System Integrator)
General Contractors (TBD)

PRINCIPAL PROJECT MANAGER/
SENIOR SCHEDULER
Casey Harris

RESIDENT ENGINEER
Stephen White, PE

START-UP SUPPORT
On-Site Technical Services
Kent Kreeger
Richard Grounds, PE

FIELD ENGINEER
Butler Engineering, Inc.
Dustin Morton, CWI

CONSTRUCTABILITY REVIEW
Butler & On-Site Technical
Casey Harris (Civil/Structural)
Stephen White, PE (Civil/Structural)
Vladimir Burce, PE (Civil)
Jason Kraus, PE (Pipeline)
Jared Rogers, PE (Electrical)
Kent Kreeger (Mechanical)
Richard Grounds, PE (Mechanical)

FIELD INSPECTORS
Butler Engineering, Inc.
Dustin Morton, CWI
Civil/Mechanical (Wells)
Martin Brunenieks, CWI
Civil/Mechanical (Pipeline)
Jared Rogers, PE
Electrical/Instrumentation
Richard Grounds, PE
Mechanical/Start-Up

SOILS/MATERIALS TESTING
Ninyo & Moore
Garreth M. Saiki, PE, GE
Project Manager, Geotechnical
Steven Eck,
Senior Field Technician
George A. Schubert, Jr.
Senior Field Technician / Inspector
## Work Breakdown Structure

### Mesa Water District—Croddy and Chandler Way Wells & Pipeline Project

<table>
<thead>
<tr>
<th>Task Name</th>
<th>WBS MWD1</th>
<th>Duration</th>
<th>Service Description Units</th>
<th>PM Hours</th>
<th>RE Hours</th>
<th>INSP Wells Hours</th>
<th>SP. INS. Hours</th>
<th>Admin Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task 1 - Program Management</strong> MWD1.G.4.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CM Staffing During Construction</strong> MWD1.G.4.6.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident Engineer MWD1.G.4.6.14.6</td>
<td></td>
<td>80 weeks</td>
<td>1 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well On-site Inspection MWD1.G.4.6.14.7</td>
<td></td>
<td>60 weeks</td>
<td>0.5 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline On-site Inspection MWD1.G.4.6.14.8</td>
<td></td>
<td>20 weeks</td>
<td>1 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Engineer/Manager MWD1.G.4.6.14.9</td>
<td></td>
<td>80 weeks</td>
<td>1-4 per month</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Support MWD1.G.4.6.14.10</td>
<td></td>
<td>80 weeks</td>
<td>0.25 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Task 2 Construction Document Review</strong> MWD1.A.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructability Review MWD1.A.1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% Constructability Review MWD1.A.1.1.3</td>
<td></td>
<td>1 week</td>
<td>1 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90% Constructability Review MWD1.A.1.1.6</td>
<td></td>
<td>1 week</td>
<td>1 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100% Constructability Review MWD1.A.1.1.9</td>
<td></td>
<td>1 week</td>
<td>1 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Task 3 Pre-Construction Bidding Support</strong> MWD1.G.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor Prequalifications MWD1.G.3.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare Pre-Qualification Document / Questionnaire MWD1.G.3.14.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mesa Water District Review MWD1.G.3.14.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor Recruiting MWD1.G.3.14.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Send Pre-Qual Docs MWD1.G.3.14.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CM &amp; MWD Evaluate Responses and Qualify Contractors MWD1.G.3.14.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MWD Distribute Bid Documents to Qualified Contractors MWD1.G.3.14.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bidding</strong> MWD1.G.3.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bidding Support MWD1.G.3.15.3</td>
<td></td>
<td>2 days</td>
<td>1 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bid Review</strong> MWD1.G.3.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receive Bids &amp; Review MWD1.G.3.16.3</td>
<td></td>
<td>2 days</td>
<td>1 full-time equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Task 5 Inspection</strong> MWD1.G.4.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Structural and Special Inspections</strong> MWD1.G.4.8.4.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundations MWD1.G.4.8.4.25.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete MWD1.G.4.8.4.25.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel MWD1.G.4.8.4.25.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masonry MWD1.G.4.8.4.25.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seismic-force-resisting Systems MWD1.G.4.8.4.25.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel and HSS MWD1.G.4.8.4.25.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Soils and Materials Testing</strong> MWD1.G.4.8.4.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material Sampling MWD1.G.4.8.4.30.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material Testing MWD1.G.4.8.4.30.5.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMU Testing MWD1.G.4.8.4.30.5.2.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete Compressive Testing MWD1.G.4.8.4.30.5.2.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soils Testing MWD1.G.4.8.4.30.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Review MWD1.G.4.8.4.30.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting MWD1.G.4.8.4.30.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Scope of Work Understanding and Schedule
3. **SCOPE OF WORK & SCHEDULE**

**Project Understanding**

Tetra Tech is providing permitting, design, and documentation for both wells and the distribution pipeline. This phase is expected to be finished in October 2018. Construction will commence in December 2018 and is expected to be completed by June 2020.

**Project Issues/ Key Challenges**

The main project issues that the District faces with the Croddy and Chandler Way Wells and Pipeline project include the following:

- **Phasing/Bid Packaging**—The Butier Team will provide constructability reviews at the 50%, 90%, and 100% design stages. Multiple bid packages will be utilized to ensure the project meets the program schedule (demolition, well drilling, well equipping/building and pipeline). Design development must be carefully coordinated with the City of Santa Ana, particularly if Mesa elects to develop leasable square footage on the properties. *We have worked closely with Tetra Tech and specifically with Mr. Epperson’s team on nearly identical project circumstances. The design critical path will run through City approvals. It is imperative City staff remains consistently engaged throughout the design process. We will include key stakeholders in our management information system. The objective will be to mitigate review time by concurrently distributing preliminary design and schedule milestones to the entire project team.*

- **Site Constraints**—Project coordination and staging will be challenging due to site access and the operations of surrounding businesses. Both sites will require a unique access evaluation and outreach. We would anticipate permit constraints on construction traffic, specific haul routes, sound mitigation and monitoring, potentially vibration monitoring. We would anticipate a comprehensive pre-construction site investigation. Butier suggests the District engage the services of a professional video documentation firm to memorialize the adjacent properties and business locations. Our team will make recommendations on items that will need to be a part of the project Special Provisions. Construction impacts from dust control to noise monitoring need to be infinitely clear to the bidding contractors. The Special Provisions language must also give the field construction management team the power to enforce permit/specification requirements.

- **Contractor Pre-Qualification**—We understand that the District may prequalify contractors for four (4) separate packages (demolition, well drilling, well equipping, and pipeline construction). The Butier team is very familiar with contractors that perform this type of work in the size category. We have direct experience with the performance history of the local contractors. *Pre-qualification of quality contractors will be critical to on-time delivery.*

- **Construction of Distribution Pipeline**
  Segerstrom is classified as a major arterial that travels through the City of Santa Ana between the Santa Ana River to the west and S. Flower Street to the east. The designer may utilize trenchless technology for the intersection crossing. We have significant experience in all forms of trenchless installation and can assist the Designer in selection of the most appropriate methodology. *A traffic control plan that includes robust and detailed sequencing, alternative access into the work areas, and restricted work hours will need to be provided in the construction documents.*

- **Coordination with the City of Santa Ana**—As mentioned previously, Butier has developed a successful working relationship with the City of Santa Ana on several well equipping projects for OCWD and the City of Tustin. Key members of our
proposed staff have worked closely with City Public Works personnel and are fluent with their procedures. This history provides Butier with exceptional insight into how their procedures are implemented at the field level. Our specific knowledge of the City’s processes will assist Mesa in the processing of design, permits and required construction inspections.

Project Approach/Scope of Work

Please find below our Team’s plan to implement the scope of work described in the RFP. We have provided sufficient detail to demonstrate our understanding of Mesa’s needs for the key phases of the project delivery.

1. Program Management

A. Kick-Off Meeting

The Butier Team will facilitate a “kick-off” meeting with the District to discuss the scope of work and parameters of the Project. The Resident Engineer will prepare and distribute a draft agenda in advance of the meeting for review and comment by the District. Specific Project goals will be identified and a strategy to accomplish these goals will be developed during the meeting. These goals will be memorialized into the project communications plan and distributed to all project stakeholders.

B. Monthly Progress Reports

The RE will prepare a written summary report with pictures of the project on a monthly basis for the District’s internal review. The summary report will provide details of the entire project, including project costs to date citing the status of time and costs associated with the project; reconciliation of contract time, work progress, and manpower usage by the Contractor; and key issues addressed or arising from the project requiring resolution.

C. Progress Meetings

The Butier Team will conduct monthly progress meetings involving the project team and maintain action items, minutes of said meetings, and compliance with the contract provisions. Each meeting will cover site safety, progress, job problems, and any actions requiring clarification of design intent, ambiguities in contract documents, and other key issues. The RE will maintain and distribute meeting minutes within two (2) working days.

D. Assistance with Presentations

The RE will prepare information as requested and prepare draft presentation slides for the District for use in semi-annual reports to the Board of Directors. These slides include summary cost reports, schedules, pictures, brief description of work completed to date and any pending issues impacting cost and schedule.

E. Invoices

Butier will submit monthly invoices along with supporting documentation in accordance with the contract terms and in the format specified by the District. The CM services will be tied to the approved baseline schedule. Back up information will include hours by labor category and task. A man-power histogram will be furnished at project start to reflect as-planned vs. actual burn rates.

F. Construction Management Plan

The Principal Project Manager and Resident Engineer will prepare a CM Plan utilizing the final conformed contract documents that will include the following elements: Organizational Chart; CM Project Team and description of duties and responsibilities; Safety compliance; Claims avoidance strategy; Special inspection requirements; Inspection procedures; List of all tests required for project; Materials testing location; Document management system; Field office location, and Project closeout process.

2. Construction Document Review

The Butier Team will perform Constructability Reviews as directed by the District’s PM at the 50%, 90% and 100% design milestones. Butier’s staff of professional civil, mechanical, electrical, and geotechnical engineers and its team of subconsultants possess the
professional knowledge, skills and expertise in all assigned projects to the specific type of construction.

A. Constructability Review
The Butier Team will review the design documents for clarity, conflicts, consistency and completeness with respect to bidding and construction purposes. The Team will provide constructability comments listed by specification section and/or drawing sheet. The Team will identify potential construction conflicts in relationship to District standards, permits, or other relevant requirements. The Team will identify potential areas within the contract documents that may require clarification prior to bid, recognizing that there are potential benefits to the District to resolve cost or schedule issues prior to the acceptance of bids.

B. Construction Sequencing and Staging
The Butier Team will provide input to the District and the Design Engineer to recommend the optimum sequence of construction for the wells and the distribution pipeline. Butier will deliver a proposed master construction schedule in Oracle Primavera Professional P6 that will define key tasks and subtasks from the Contractor’s NTP through site close-out.

3. Pre-Construction Bidding Support Services

A. Contractor Prequalification
The Principal Project Manager and Resident Engineer will prepare experienced-based prequalification questionnaires and distribute to potential contractors 60 days before the anticipated release date of the project bid documents. The PM and RE will assist the District and Design Engineer in evaluating the submitted questionnaires and compiling a master electronic contact list of potential bidders from the list of pre-qualified contractors.

B. Bidding
Butier will review the contract documents, project plans, and technical specifications prior to the pre-bid meeting to determine if ambiguities, errors, omissions, or conflicts exist. These conflicts will be documented and brought to the attention of the District for review, and the Butier Team will work with the Design Engineer to revise, clarify, and finalize the bid documents.

C. Bid Review
Our CM team will review the submitted bids for responsiveness and completeness including verifying licensing and bonding and will assist in performing reference checking. Our experienced estimators will evaluate the bids to ensure they are balanced and not front-end ‘loaded’. Upon completion of the foregoing, we will recommend the apparent responsible and responsive low bidder.

4. Construction Administration

A. Contract Administration
1. Administration: The Resident Engineer will administer the construction contract and provide technical Construction Management support to District staff to facilitate completion of projects. The Butier Team will develop and maintain open lines of communication between other consultants, contractors, The City of Santa Ana and District Operations.

2. Contractor Communication: The Butier Team will provide for timely, thorough, clear, effective and responsible communications to Requests for Information (RFIs), Requests for Change (RFCs), Requests for Proposals (RFPs), submittals, and other miscellaneous correspondence. The Resident Engineer and Field Inspectors will receive, log, and track RFIs, RFCs, and RFPs and will provide a technical review of RFIs to determine if the issue is addressed adequately.

3. Quality Assurance: Field Inspector(s) will ensure that the Contractor complies with its QA Plan and information provided in the contract. The Butier Team will maintain quality control on all work performed by the Contractor and subcontractors and
memorialize the information in our document control system.

4. **Interaction with Agencies:** The Butier Team will be responsible for coordinating and maintaining ongoing interaction with appropriate agencies, City of Santa Ana, utilities and District Operations staff to ensure successful project completion.

5. **Substitution Requests:** The Resident Engineer will evaluate requests for material and equipment substitutions and changes based on compliance with contract specifications and taking into account the impacts to cost and schedule. **Final authority on substitution requests will be the Design Engineer.**

6. **Monitoring Contractor’s Critical Path Schedule:** The Resident Engineer and Senior Scheduler will monitor and report on the Contractor's baseline and monthly updated critical path schedule noting any long lead items and deviance from the critical path.

7. **Schedule of Values:** The Resident Engineer will approve the Contractor's detailed schedule of value and reconcile each month against the Contractor's submitted schedule of values for the Contractor’s payment application.

8. **Submittal Review/Logging:** The Resident Engineer will utilize Procore, a computerized systematic tracking procedure for timely submittal review and processing of shop drawings. Submittal tracking will be introduced into the document control system and status of submittals will be known at all times. This system will be coordinated with the Contractor per contract document requirements. The Resident Engineer will provide limited reviews as shop drawings are received during the construction phase and provide recommendations and review comments supplemented by District staff. The RE will ensure that the Contractor’s submittal schedule is updated weekly and reviewed at weekly progress meetings.

9. **Project Meetings:** The Butier Team will conduct weekly job site progress meetings. Each meeting will cover site safety, progress, job problems, and any actions requiring clarification of design intent, ambiguities in contract documents, and other key issues.

**B. Safety and Security Monitoring**

The Contractor is solely responsible for safety on all projects. The Butier Team will monitor, approve safety protocols, and promote a safe overall environment for all workers and visitors to the project site. Butier will provide all necessary personal protective equipment (PPE) and follow a safety plan for the CM Team; routinely check job site security and measures taken to protect the public from hazards; and review the Contractor’s emergency response plans.

**C. Environmental Monitoring**

The Butier Team will review and monitor the enforce requirements stipulated in permits issued by regulatory agencies and the environmental documents as shown or referenced in the contract documents.

**D. Controls and Scheduling**

Butier’s Principal Project Manager / Senior Scheduler and Resident Engineer will provide comprehensive project scheduling and control expertise as follows:

**Baseline Schedule Review:** The PM and RE will review, analyze and comment on the Contractor’s baseline and project schedule critical path, and logic review. They will ensure that the schedule meets all requirements of the contract documents.

**Progress Schedule Review:** The RE will ensure that a two-week look-ahead schedule is developed in coordination with the Contractor and provided bi-weekly at progress meetings. The RE will evaluate and monitor the construction schedule and progress for the overall project and will update the
schedule to reflect actual progress and changes. Slippage of any contract activities on the critical path, as well as time sequence problems, will be identified early so that the construction management team may take corrective action if possible.

**Cost and Budget:** The PM and RE will establish a cost control system for monitoring and updating the status of the project costs and budget throughout the project. The Butier Team utilizes Primavera P6 Professional Project Management to integrate cost and schedule. The cost-loaded CPM schedule will provide the PM with the basis for cash flow projections.

**Construction Reports:** The Butier Team will prepare and distribute daily, weekly and monthly construction progress and inspection reports per the District’s direction. The RE will prepare a monthly progress report and submit to the District for review. The report will include a summary of the prior month’s main accomplishments and current construction activities; overall Contractor’s conformance to contract schedule and quality requirements; identification of key problems, action items, and issues along with recommendation for solutions.

**Progress Payment Review:** The RE will receive, check, and verify all Contractor monthly progress payment requests and other project-related invoices based upon the cost-loaded schedule. The progress payment worksheet will be based on an approved schedule of values.

**Contract Extensions:** The RE will review, analyze, and make recommendations on contractor time extensions/requests. All extensions must be supported by critical path impacts on the approved baseline schedule. All delays, regardless of source, will be documented as to the nature and party responsible.

**Miscellaneous Coordination:** The PM will coordinate and monitor work to be performed by others. The Butier Team will not be responsible for Contractor or Agency workforce means and methods.

**Project Notice Coordination:** The PM will receive and review project notices and submit to the District with appropriate recommendations.

**Performance Evaluation:** The PM and RE will provide quarterly Contractor performance evaluations during construction. Performance evaluation criteria will be developed prior to bid and distributed to the contractor at the pre-construction conference. The Contractor will be allowed to comment on the metrics used for performance reporting.

**Time Impact Analysis Review:** The Butier Team will monitor and log Contractor labor time, attendance, labor cost, minimize compliance risk and evaluate in coordination with potential change order claims. The Contractor will be required to provide weekly and monthly construction reports.

**Monitor Time & Materials Work:** The Butier Team will monitor and log Contractor labor time, attendance, labor cost, minimize compliance risk and evaluate in coordination with potential change order claims.

**E. Cost Estimating**

The Butier Team will maintain a cost estimating system that conforms to industry accepted practices and will provide the following:

1. **Contractor Proposals:** The PM and RE will evaluate Contractor cost reduction proposals in accordance with industry cost standards. The PM will provide a detailed analysis of the Contractor's proposal along with a recommended outcome to the District’s PM.

2. **Change Order Review:** The RE will utilize the document control system to track and document all changes for added costs or credits. The RE will have no authority to issue changes or modifications to the contract documents. The District or the Contractor may initiate a change, or request
for changes or modifications may arise due to differing site conditions. The RE will track, document, and negotiate all changes for added costs or credits with the Contractor and evaluate all schedule impacts of changes in addition to advising the District of equitable cost and time adjustments for proposed or authorized changes including credits, if any, that are due.

F. Document Control/Tracking
The Butier Team will utilize Procore—a cloud-based construction project management solution—to organize, manage and control the project documentation. The advantages of Procore include unlimited users, unlimited storage, 24/7 visibility into project status, and a centralized, comprehensive platform to manage vital project data. All parties involved will have access to the system. Each user will be able to access the program via a web browser on their computer or mobile device using secure log-in information.

Procore will be utilized to store, review, track, and manage all project documents, including construction drawings and specifications, RFIs, submittals, transmittals, meeting agendas and minutes, emails and correspondence, progress photos, budgets, schedule of values, payment applications, change orders, daily inspection reports, final punch lists, and point of contact information.

Butier’s Document Control Manager will organize training sessions on the proposed document control system for the project team.

G. Spare Parts Inventory
The Butier Team will implement a spare parts inventory and maintenance system as defined by the project specifications, in conformance with the District’s standards, including a final transfer to O&M.

H. Operations & Maintenance Manuals
The Butier Team will receive final O&M equipment manuals from the Contractor and will coordinate their review. The RE will deliver the final O&M manuals to the District.

I. Change Order and Claims Management
Document Management: The main defense against claims resides in the project documentation: contract documents, correspondence files, inspection reports, and field communications. The RE and Field staff will minimize the potential impact of claims through prompt and equitable resolution with minimal disruption to the on-going construction effort.

Change Order Review: The Construction Management team will review the claim documentation in detail and compile complete records to begin the evaluation. After receipt of a written claim, the RE will prepare a written acknowledgement of receipt of the claim. This correspondence clarifies the status of the request for all parties to minimize misunderstandings about the issues at depth.

Negotiate and Resolve Claims: The evaluation results and recommendations will be forwarded to the District’s Project Manager. The recommendation may suggest a negotiated settlement (in which case a settlement strategy would need to be established) or may confirm the original results of the change order evaluation, in which case the claim would be denied and the dispute acknowledged.

Change Order Expediting: The RE will assist and support the District in analyzing, responding to, negotiating, and resolving claims and disputes, including written responses to the Contractor. After equitable resolution is reached, the RE will expedite approval of the negotiated change order.

5. Inspection
All of Butier’s inspectors have appropriate technical certifications in the designated field of expertise in which inspection services are being performed. All certifications have been provided under the key personnel’s résumés in Appendix A.
A. Daily and Weekly Documentation

The required inspection disciplines will provide daily and weekly inspection reports of material installations and deficiencies noted by qualified inspection personnel with follow-up procedures recommended for ensuring that corrections are made for non-conforming work necessary to comply with contract document requirements. The reports will be linked to both still and video graphic logs to highlight critical construction activity.

Field Inspectors will prepare daily inspection reports that will document construction activities including the date, day of week, and weather conditions; hours of work; personnel on site; time periods of equipment being used; idle or inoperable equipment; details of each activity; difficulties encountered; controversial matters/disputes; deficiencies and violations; instructions issued to the construction contractor; safety concerns; description of accidents; major material and equipment deliveries to the site; names of visitors to the site; and delays and extra work. Inspection reports will be submitted to the District on a weekly basis.

Field Inspectors will provide weekly photographic/digital records of the project during construction. Log construction digital photographs on a daily basis. A digital photographic library will be maintained of significant construction activities. The photographs will be labeled with the date, location, and narrative information. Additional digital photographs will be taken to document differing site conditions, change order and claim items, and any special or unique conditions as they arise.

B. Civil Inspections

Butier and Ninyo & Moore will provide qualified inspectors for all improvements to inspect, monitor, and report on construction improvements, including but not limited to: site grading, site improvements, pipeline installations, pavement restoration, striping restoration, pipeline bedding and compaction, and coordination of soil sampling and testing.

Site Grading/Improvements

Ninyo & Moore’s inspection team will sample concrete, grout, mortar, and other miscellaneous concrete for slump testing and compressive strength testing. All asphalt to be placed will also be sampled. The team will allow for additional reserve samples for use if any tests fail. Concrete testing will consist of preforming compressive strength tests on cement concrete, grout, and masonry prisms. Density, oil content, and aggregate gradations will be performed on asphalt. On-site and imported materials will be sampled for compliance with the specifications for use as backfill materials.

Pipeline Installation

For the pipeline portion of the project, Ninyo & Moore will perform maximum density tests and optimum moisture content tests on materials to be used as backfill. Examples of testing include gradation, R-value, sand equivalence, etc. Their inspectors will perform compaction tests for backfill, and separate testing will be performed for the pavement zone, street zone, trench zone, pipe zone, bedding zone, and areas of over-excavation.

C. Structural Inspections

The Butier Team will provide certified structural inspectors and specialty inspectors (ICC, ACI, AWS or equivalent) to inspect, monitor, and report on the construction of various types of structures and structural elements, including, but not limited to: concrete, steel, masonry, foundations, welding inspection/ultrasonic testing/X-raying, seismic-force-resisting systems, and steel and HSS.

D. Mechanical Inspections

The Butier Team will provide certified mechanical inspectors to witness field tests and start-up procedures for each site. In addition, the inspectors will be responsible for inspection monitoring and reporting on the installation of mechanical equipment.
E. **Electrical/Instrumentation Inspections**

Butier’s registered Electrical Engineer will inspect, monitor and report on the installation of electrical equipment and systems including, but not limited to, site security system, well pump motor, backup power generator, chemical feed system, electrical components water mixers, flow meters, control valves, PLCs, instrumentation, control system, cathodic protection equipment, and other components of the water production, storage, and distribution system. He will also witness field tests and startup procedures for electrical equipment.

The Electrical Engineer will also inspect, monitor and report on the instrumentation of equipment and systems; witness field tests and Operational Readiness Tests (ORT); participate in startup meetings, planning and procedures; perform or witness instrumentation loop checks and maintain as-built drawings for all loop drawings and Process and Instrumentation Diagrams (P&ID) Drawings. The Butier Team will coordinate with Mesa Water’s System Integrator, Prime System, Inc. and ensure that the new well and SCADA system are fully integrated with Mesa Water’s existing system.

F. **Soil and Materials Testing**

*Ninyo & Moore’s* specialty inspections and soils and materials testing services will be performed by certified field technicians and inspectors. They are prepared to provide services on an as-needed basis. All services will be provided in accordance with the District guidelines and requirements.

G. **Storm Water Pollution Prevention Plan**

The Butier Team will monitor the Contractor’s site specific SWPPPs for compliance with applicable regulation and will monitor the Contractor’s activities regarding pollution prevention controls and activities for general compliance with the Contractor’s SWPPP Best Management Practice (BMP). The SWPPP inspector will notify the Contractor and the District if the pollution prevention controls are not in accordance with the SWPPP.

H. **Well Drilling & Development Inspection**

The Resident Engineer will coordinate the Design Engineer’s Field Hydrogeologist to oversee the well drilling and development. The RE will also be responsible for coordinating work with the Design Engineer’s Field Hydrogeologist and Mesa Water for certified laboratory testing of the newly developed well for water quality purposes to show conformance with the Department of Health for final permitting of the well.

I. **Pressure Test & Disinfection Inspection**

The Resident Engineer will coordinate the Contractor and Mesa Water to oversee the pressure test and disinfection testing of the distribution pipeline and disinfection of the well prior to connection to the Mesa Water system.

J. **Final Health Department Permitting**

The Butier Team will work with Mesa Water, Design Engineer’s Field Hydrogeologist, the Contractor(s) and the Department of Public Health, Orange County Division of Environmental Health to ensure that the new well and pipeline meet all codes and standards.

6. **Equipment and System Testing, Start-Up, and Training**

The Butier Team will coordinate, oversee and monitor the project start-up operations plan and schedule. The start-up plan and schedule will be coordinated with the District, project management team, Design Engineer, vendors and Contractor and shall define specific start-up milestones.

7. **Construction Closeout**

A. **Site Closeout**

The Butier Team will close out construction and oversee demobilization at each site. The Site Closeout tasks will include the following:
1. **Site Final Walk-Through**: Coordinate and conduct a final walk-through to verify completion of contract and related items of work within 7 days of completion.

2. **Site Punch List**: Develop punch list and verify completion and obtain final documentation and releases within 7 days of substantial completion.

3. **Site Record Drawing Review and Corrections**: Verify and deliver Contractor as-built marked-up drawings for each site to the District for record drawing preparation within 14 calendar days of substantial completion.

4. **Site Permitting**: Monitor permit and agency sign-offs within 30 calendar days of substantial completion.

5. **Site Final Reporting**: The Resident Engineer will prepare and submit a site summary report to the District within 7 calendar days of final completion.

6. **Site Documentation Turnover**: The Butler Team will turnover site project files, contract, correspondence, and documentation to the District within 30 calendar days of final completion.

7. **Site Warranty Coordination**: The Butler Team will prepare a list of warranty items, warranty period, and warranty repair procedures, and turnover to the District Project Manager.

8. **Site Demobilization**: The RE will demobilize the CM staff and facilities in accordance with the agreed upon plan.

**B. Construction Contract Closeout**

The Butler Team will oversee the contract closeout process and assist in resolving O&M service disputes. The closeout shall entail sign-offs by responsible parties and include:

1. **Project-Wide Final Walk-Through**: Coordinate and conduct a final walk-through to verify completion of contract and all related items of work within 7 days of substantial completion.

2. **Project-Wide Punch List**: Develop punch list and verify completion and obtain final documentation and releases within 7 days of substantial completion.

3. **Project-Wide Record Drawing Review and Corrections**: Review record drawings prepared by the Design Engineer or contractor as-built marked-up drawings delivered for each site for correctness and consistency within 14 calendar days of substantial completion.

4. **Final Payment/Close-Out Change Order Review**: Review final payment and close out change order within 7 days of substantial completion.

5. **Permitting**: Confirm that all permits are in place within 14 calendar days of substantial completion.

6. **Final Reporting**: The report will include a complete overview of the contract, Contractor’s performance, accomplishments, a comparison of preliminary and final costs, cash flows, schedules, and recommendations for alleviating design, construction management, and construction problems on the project.

7. **Documentation Turnover**: The Butler Team will furnish all original project documents and final project reports to the District within 14 calendar days of final completion. The electronic files will be provided following the project format.

8. **Project Warranty Coordination**: The Butler Team will review and update, as needed, the list of warranty items, warranty period, and warranty repair procedures, and turnover to the District Project Manager.

9. **Final Demobilization**: The RE will demobilize the CM staff and facilities in accordance with the agreed upon plan.

10. **Critical Path Schedule**

A summary of our Critical Path Schedule is provided on the following page. Please refer to Appendix C for a comprehensive schedule.
<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>WBS</th>
<th>Duration</th>
<th>Early Start</th>
<th>Late Start</th>
<th>Early Finish</th>
<th>Late Finish</th>
<th>Predecessor/Successors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Croddy and Chandler Way Wells &amp; Pipeline Project</td>
<td>MWD1</td>
<td>616 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>DESIGN PHASE</td>
<td>MWD1.A</td>
<td>205 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Mon 12/3/18</td>
<td>Mon 12/3/18</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Task 2 Construction Document Review</td>
<td>MWD1.A.1</td>
<td>205 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Mon 12/3/18</td>
<td>Mon 12/3/18</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Constructability Review</td>
<td>MWD1.A.1.1</td>
<td>160 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Mon 10/1/18</td>
<td>Mon 10/1/18</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Construction Sequence and Staging</td>
<td>MWD1.A.1.2</td>
<td>45 days</td>
<td>Tue 10/2/18</td>
<td>Tue 10/2/18</td>
<td>Mon 12/3/18</td>
<td>Mon 12/3/18</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>BID PHASE</td>
<td>MWD1.G</td>
<td>616 days</td>
<td>Tue 2/20/18</td>
<td>Wed 4/25/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Task 3 Pre-Construction Bidding Support Services</td>
<td>MWD1.G.3</td>
<td>126 days</td>
<td>Tue 6/26/18</td>
<td>Tue 6/26/18</td>
<td>Tue 12/18/18</td>
<td>Tue 12/18/18</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Contractor Prequalifications</td>
<td>MWD1.G.3.14</td>
<td>80 days</td>
<td>Tue 6/26/18</td>
<td>Tue 6/26/18</td>
<td>Mon 10/15/18</td>
<td>Mon 10/16/18</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Bidding</td>
<td>MWD1.G.3.15</td>
<td>21 days</td>
<td>Tue 10/16/18</td>
<td>Tue 10/16/18</td>
<td>Tue 11/13/18</td>
<td>Tue 11/13/18</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Bid Review</td>
<td>MWD1.G.3.16</td>
<td>25 days</td>
<td>Wed 11/14/18</td>
<td>Wed 11/14/18</td>
<td>Tue 12/18/18</td>
<td>Tue 12/18/18</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>CONSTRUCTION PHASE</td>
<td>MWD1.G.4</td>
<td>616 days</td>
<td>Tue 2/20/18</td>
<td>Wed 4/25/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Task 1 Program Management</td>
<td>MWD1.G.4.6</td>
<td>605 days</td>
<td>Tue 2/20/18</td>
<td>Wed 4/25/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/30/20</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>Task 4 Construction Administration</td>
<td>MWD1.G.4.7</td>
<td>411 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td></td>
</tr>
<tr>
<td>149</td>
<td>Contract Administration</td>
<td>MWD1.G.4.7.3</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>Safety and Security Monitoring</td>
<td>MWD1.G.4.7.4</td>
<td>411 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td></td>
</tr>
<tr>
<td>218</td>
<td>Task 5 Inspection</td>
<td>MWD1.G.4.8</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td></td>
</tr>
<tr>
<td>224</td>
<td>Civil Inspections</td>
<td>MWD1.G.4.8.4</td>
<td>389 days</td>
<td>Wed 12/19/18</td>
<td>Wed 12/19/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td></td>
</tr>
<tr>
<td>278</td>
<td>Task 6 Equipment and System Testing, Start-Up and Training</td>
<td>MWD1.G.4.9</td>
<td>40 days</td>
<td>Thu 1/2/20</td>
<td>Thu 1/2/20</td>
<td>Wed 2/26/20</td>
<td>Wed 2/26/20</td>
<td></td>
</tr>
<tr>
<td>282</td>
<td>Task 7 Construction Closeout</td>
<td>MWD1.G.4.10</td>
<td>89 days</td>
<td>Thu 2/27/20</td>
<td>Thu 2/27/20</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td></td>
</tr>
<tr>
<td>289</td>
<td>Construction Contract Closeout</td>
<td>MWD1.G.4.10.4</td>
<td>89 days</td>
<td>Thu 2/27/20</td>
<td>Thu 2/27/20</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td></td>
</tr>
<tr>
<td>302</td>
<td>PROJECT SUBSTANTIAL COMPLETION</td>
<td>MWD1.G.5</td>
<td>0 days</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>Mon 150,151,1,303</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>CLOSEOUT COMPLETE</td>
<td>MWD1.G.6</td>
<td>0 days</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td></td>
</tr>
</tbody>
</table>
Appendix A. Rèsumès
Mark M. Butler, Jr.
Project Director

Professional Summary

Mr. Butler serves as Vice-President and Chief Financial Officer for Butler Engineering. His primary duties include functioning as the primary point of contact between Butler and its clients; contract management; sub-consultant contract management; maintenance of Butler’s project information system; development of the firm’s field procedural manuals; and staff resource management. Mr. Butler works closely with the field construction management staff to ensure all contract scope requirements are being fully implemented. Mr. Butler also serves as the firm’s contact between the field construction management staff/client and the project public outreach effort, when necessary. He has been responsible for generating, distributing, and presenting to numerous public boards and community associations dealing with the impact of construction activity on the local community.

Mr. Butler has 28 years of varied experience as an Assistant Resident Engineer and Inspector for municipal and governmental agency projects. Primary emphasis has been in municipal water and wastewater transmission and treatment projects. His responsibilities include project field engineer/inspector in quality control for civil inspection; shop drawing review and approval; full responsibilities for contract administration; CPM scheduling; cost controls; and contractor claims and changes.

Project Experience

Project Director, Orange County Groundwater Storage Program, 8 Municipal Water Production Wells; Orange County, CA; Orange County Water District (Completion: 2007; Value: $9.6 million)—Project Director for the Orange County Groundwater Storage Program, which consisted of equipping eight (8) municipal water production wells located throughout Orange County, including two wells in the City of Santa Ana. The scope of work for the wells included site work; installation of deep well turbine pump and motors, electrical and instrumentation work, disinfection facilities, discharge piping and valving, and off-site piping and valving; construction of concrete block buildings, paving, drainage, fencing, and landscaping; and startup, testing, and training.

Project Director, Mid-Basin Injection: Centennial Park Project; Santa Ana, CA; Orange County Water District (Estimated Completion: 2019; Value: $23.2 million)—The Butler Team is providing constructability review, project coordination, resident engineering, and construction inspection services for the Mid-Basin Injection Wells Project located within Santa Ana’s 87-acre Centennial Park. The wells will be used to directly inject product water from the District’s GWRs into the principal groundwater aquifer. The project consists of the following: construction of four (4) groundwater injection wells in below grade vaults (approximately 1,200 feet deep); construction of a monitoring well at the Heritage Museum site; construction of 5,500 LF of purified recycled water injection supply pipeline that connects to the District’s existing GWRS pipeline and crosses the Santa Ana River; construction of 4,200 LF of backflush discharge pipeline that discharges to the Greenville-Banning Channel and Centennial Park Lake; installation of submersible pumps within the four injection wells; replacement of 9.6 acres of paving with the Park; demolishing an existing City of Santa Ana restroom facility; and construction of two new buildings with shared City of Santa Ana and District uses.
Mark M. Butier, Jr.
Project Director

Project Director, Edinger Avenue Well—Phase II Equipping Project; City of Tustin, Public Works (Completion: 2016; Value: $4,103,650)—Construction of the building and equipping of the pump included installation of a 225 LF of 12-inch diameter CML ductile iron pipe discharge water line; connection to 12-inch ductile iron watermain; installation of 162 LF of 18-inch diameter C-905 drain line; connection to the existing storm drain; placement of new onsite sewer manhole; installation of 76 LF of 8-inch diameter SDR 26 sewer lateral; and connection to existing OCSD sewer manhole. The scope of work also included the erection of 2,376 SF of CMU block wall with a metal roof building to enclose the well pump, electrical equipment and chlorine room. Butier staff coordinated with several agencies including the City of Tustin, City of Santa Ana, and Caltrans.

Project Director, EW-1 Well Equipping Project; Fullerton, CA; Orange County Water District (Estimated Completion: September 2017; Value: $1,092,074)—Mr. Butier oversaw the construction management and inspection services team for the well equipping project, which is located on private property in Fullerton Industrial Park. The project included rehabilitation and redevelopment of the well, completing construction of the wellhead, installing a submersible pump and shroud, and constructing piping and a connection to a nearby OCSD sewer trunk line in State College Blvd. for discharge of the pumped groundwater. The Butier Team coordinated with OCWD, the Contractor, and the property owner’s association to select an acceptable temporary piping route to the nearest storm drain.

Chino II Well Field Equipping of Raw Water Well Nos. II-10 and II-11; Eastvale and Ontario, CA; Chino Basin Desalter Authority (Completion: July 2017; Value: $3,881,633)—The Butier Team provided construction management, field inspection, surveying, geotechnical/materials testing, and labor compliance services for the well equipping project. The scope of work included the following: construction of a reinforced masonry block building; installation of 3,300 gpm vertical turbine pumping unit and 600 hp premium efficiency motor, 16-inch diameter epoxy lined steel discharge header pipe, 12-inch diameter pump to waste piping, 16-inch diameter flow meter, 16-inch diameter C905 PVC underground discharge pipeline, and connection to existing 24-inch diameter discharge pipeline; and on- and off-site electrical, including power, control, lighting, underground electrical duct, instrumentation, switchgear, VFD and motor control center equipment, and installation of SCADA equipment.

Project Director, Carlsbad 50 MGD Seawater Reverse Osmosis Desalination Plant and 10-Mile Conveyance Pipeline ($697 million); Carlsbad, CA; Poseidon Water—Provided owner’s engineer services for the 50 MGD seawater reverse osmosis desalination plant and conveyance pipeline. The 10-mile, 54-inch diameter pipeline was constructed under Interstate 5 Highway and a railroad using a jack and bore tunnel method. Butier staff coordinated closely with the City of Carlsbad, SDCWA, SDG&E, Poseidon and the Coastal Commission during the construction of the tunnel option across Macario Canyon. The pipeline alignment includes over 6,000 feet of tunnels performed by four different tunneling subcontractors. One of the tunnels is over 1,700 linear feet, 30 feet below sea level, and required a vertical shaft over 80 feet in height.
Professional Summary

Mr. Harris has 40 years of varied experience as a project/construction manager, resident engineer, and senior scheduler. As the on-site/owner representative for major municipal, public agency, and special district capital improvement projects, Mr. Harris has successfully managed the construction of multi-million dollar water and wastewater treatment facilities, pipelines, airports, solid waste landfills, water quality laboratories, and ports. Collectively, this project experience represents over $700 million in construction costs.

Mr. Harris is an expert CPM scheduler, has established and implemented effective change order control systems, negotiated change orders with design/build contractors, performed routine shop drawing reviews, and resolved contractor claims. As a Senior Scheduler, Mr. Harris conducts pre-construction scheduling meetings with the owner and contractor to discuss the scheduling specification requirements and format. The meeting facilitates timely submittal, review, and approval of the contractor’s baseline schedule and helps to reduce the number of resubmittals. Mr. Harris evaluates and monitors the contractor’s baseline schedule, weekly look-ahead schedules, and provides monthly schedule updates, time impact analyses (TIAs), schedule revisions, and as-built schedule submittals. He is also responsible for updating the overall project schedule to reflect actual progress and changes. He identifies slippage of contract activities on the critical path, as well as time sequence problems, early on so that the construction management team may take corrective action.

Project Experience

Project Manager/Senior Scheduler, Mid-Basin Injection: Centennial Park Project; Santa Ana, CA; Orange County Water District (Completion: 2019; Value: $23.2 million)—The Butier Team is providing constructability review, project coordination, resident engineering, and construction inspection services for the Mid-Basin Injection Wells Project located within Santa Ana’s 87-acre Centennial Park. The wells will be used to directly inject product water from the District’s GWRS into the principal groundwater aquifer. The project consists of the following: construction of four (4) groundwater injection wells in below grade vaults (approximately 1,200 feet deep); construction of a monitoring well at the Heritage Museum site; construction of 5,500 LF of purified recycled water injection supply pipeline that connects to the District’s existing GWRS pipeline and crosses the Santa Ana River; construction of 4,200 LF of backflush discharge pipeline that discharges to the Greenville-Banning Channel and Centennial Park Lake; installation of submersible pumps within the four injection wells; replacement of 9.6 acres of paving with the Park; demolishing an existing City of Santa Ana restroom facility; and construction of two new buildings with shared City and District uses.

Senior Scheduler, Edinger Avenue Well—Phase II Equipping Project; City of Tustin, Public Works (Completion: 09/2016; Value: $4,171,215)—Mr. Harris provided schedule review services for the Edinger Avenue Well - Phase II Equipping Project. Construction of the building and equipping of the pump included installation of a 225 LF of 12-inch diameter CML ductile iron pipe discharge water line; connection to 12-inch ductile iron watermain; installation of 162 LF of 18-inch diameter C-905 drain line; connection to the existing storm drain; placement of
new onsite sewer manhole; installation of 76 LF of 8-inch diameter SDR 26 sewer lateral; and connection to existing OCSD sewer manhole. The scope of work also included the erection of 2,376 SF of CMU block wall with a metal roof building to enclose the well pump, electrical equipment and chlorine room.

**Project Manager/Senior Scheduler, EW-1 Well Equipping Project; Fullerton, CA; Orange County Water District (Completion: 09/2017; Value: $1,092,074)**—Mr. Harris was responsible for performing schedule review services for the well equipping project, which is located on private property in Fullerton Industrial Park. EW-1 was one of six extraction wells that was part of a 2008 project to contain groundwater with elevated concentrations of volatile organic compounds (VOCs). However, the project was put on hold and the wellhead was not constructed, a pump was not installed, and considerable biological growth formed inside EW-1 as it sat idle for over eight years. The project included rehabilitation and redevelopment of the well, completing construction of the wellhead, installing a submersible pump and shroud, and constructing piping and a connection to a nearby OCSD sewer trunk line in State College Blvd. for discharge of the pumped groundwater. The Butier Team coordinated with OCWD, the Contractor, and the property owner’s association to select an acceptable temporary piping route to the nearest storm drain. In addition, a grade separation project was constructed concurrently in State College Blvd. adjacent to Fullerton Industrial Park. The Butier Team was the main point of contact between the Contractor and the City of Fullerton, OCTA and OCSD, to assist in coordinating project construction activities.

**Senior Scheduler, Carlsbad 50 MGD Seawater Reverse Osmosis Desalination Plant and Conveyance Pipeline ($697 million); Carlsbad, CA; Poseidon Water**—Provided scheduling services for the new construction of a 50 MGD seawater reverse osmosis desalination plant at the Encina Power Station located in Carlsbad, CA. The scope also included the construction of a 2.5 million gallon product water storage tank; product pump station; and 10-mile, 54-inch diameter conveyance pipeline to deliver the drinking water produced by the Project to water utilities and municipalities in San Diego County.

**Program Manager/Senior Scheduler, Edward C. Little Water Recycling Facility Phase V Design-Build Expansion; El Segundo, CA; West Basin Municipal Water District (Completion: 05/2013; Value: $61,854,989)**—As a part of the project, West Basin expanded the Title 22, Barrier Water and Low Pressure Boiler Feed water treatment processes. The Phase V project involved expanding the Title 22 pretreatment capacity by 10 MGD to achieve a total treatment capacity of 40 MGD, along with expanding the Barrier Water production from 12.5 MGD to 17.5 MGD and the Low Pressure Boiler Feed water production from 1.7 to 2.2 MGD to serve Single-Pass RO water to NRG’s El Segundo Power Plant. The Phase V project addressed numerous capacity expansion and treatment process upgrades. The project included, but was not limited to, the following components: Ozone-Microfiltration Pretreatment Process; West Coast Barrier; El Segundo Power-Low Pressure Boiler Feed Water; Title 22 Facility-High Rate Clarifier Expansion; Title 22 Pump Station; Chemical Facilities; and miscellaneous civil work.
Stephen White, P.E.
Resident Engineer/Constructability Review

Professional Summary

Mr. White has 20 years of experience in the construction industry as a resident engineer and general contractor for reservoirs, wells, water and wastewater treatment plants, desalination plants, and residential home construction. He has been with Butier for 16 years, during which time he has focused his expertise on water treatment projects. He has excellent project management and computer skills, and brings experience in contract administration, including change order requests, pay requests, preparation of subcontracts, and records management, as well as supervision of work crews in the field, design review, project scheduling, and client interface.

Mr. White’s responsibilities for the projects listed below include, but are not limited to, the following: supervising and managing the construction project field office; supervising personnel, including assistant RE, field engineer, inspectors, estimators and schedulers, engineering technicians, and administrative assistants; full contract administration; leading preconstruction and weekly construction meetings; responding to contractor correspondence, requests for information (RFIs), and submittals; CPM scheduling; shop drawing reviews; preparing and reviewing cost estimates; negotiating settlements for changes and claims; recommending extra work and claims settlements to Owners; negotiating and recommending monthly progress payments; preparing monthly progress reports; maintaining a daily diary of events; reviewing and approving materials, equipment, and testing procedures; coordinating with Owner operations personnel, PM staff, and stakeholders; and project start-up, acceptance, and close-out.

Project Experience

Resident Engineer, Orange County Groundwater Storage Program, 8 Municipal Water Production Wells; Orange County, CA; Orange County Water District (Value: $9.6 million)—Resident Engineer for the Orange County Groundwater Storage Program, which consisted of equipping eight (8) municipal water production wells located throughout Orange County, including two in the City of Santa Ana. The scope of work for the wells included site work; installation of deep well turbine pump and motors, electrical and instrumentation work, disinfection facilities, discharge piping and valving, and off-site piping and valving; construction of concrete block buildings, paving, drainage, fencing, and landscaping; and startup, testing, and training.

Resident Engineer, EW-1 Well Equipping Project, Fullerton CA; Orange County Water District (Completion: 2017; Value: $9.6 million)—Resident Engineer for the Orange County Groundwater Storage Program, which consisted of equipping eight (8) municipal water production wells located throughout Orange County, including two in the City of Santa Ana. The scope of work for the wells included site work; installation of deep well turbine pump and motors, electrical and instrumentation work, disinfection facilities, discharge piping and valving, and off-site piping and valving; construction of concrete block buildings, paving, drainage, fencing, and landscaping; and startup, testing, and training.

Constructability Review and Resident Engineering, Burris Pump Station Project—Phase 2; Anaheim, CA (Orange County Water District)—Mr. White performed civil/structural design review for the Burris Pump Station Project—Phase 2 as a part of Butier’s construction management agreement with OCWD. The scope of services included report and data review and Phase 2 Design Review at the 75% design
stage. Mr. White also provided resident engineering services under the construction phase of the Burris Pump Station Project. Phase 2 consisted of the construction of a new 10,000 SF storm water pump station that uses four conventional vertical turbine pumps installed in a circular wet well. The pump station also consists of new mechanical, electrical, and control systems. An intake pipe was installed on the slope of the embankment, connecting the new pumps to the intake invert.

**Resident Engineer, Expansion of the Leo J. Vander Lans Water Treatment Facility; Long Beach, CA (Water Replenishment District of Southern California)—**Mr. White provided resident engineering, and cost and schedule control for this **$32 million** expansion. The expansion included upgrading the existing 3 mgd to 8 mgd capacity; construction of additional microfiltration (MF), reverse osmosis (RO), and UV treatment and other systems; and upgrading the wastewater equalization system and improvements to the electrical and instrumentation and controls.

**Assistant Resident Engineer, Edward C. Little Water Recycling Facility Phase V Design-Build Expansion; El Segundo, CA (West Basin Municipal Water District)—**West Basin expanded Title 22, Barrier Water and Low Pressure Boiler Feed water treatment processes. The Phase V project involved expanding the Title 22 pretreatment capacity by 10 MGD to achieve a total treatment capacity of 40 MGD, along with expanding the Barrier Water production from 12.5 MGD to 17.5 MGD and the Low Pressure Boiler Feed water production from 1.7 to 2.2 MGD to serve Single-Pass RO water to NRG’s El Segundo Power Plant. The Phase V project addressed numerous capacity expansion and treatment process upgrades. The project included, the following components: Ozone-Microfiltration Pretreatment Process; West Coast Barrier; El Segundo Power-Low Pressure Boiler Feed Water; Title 22 Facility-High Rate Clarifier Expansion; Title 22 Pump Station; Chemical Facilities; and miscellaneous civil work.

**Resident Engineer, West Basin Water Recycling Plant Phase IV Expansion; El Segundo, CA; West Basin Municipal Water District (Completion: 2007—Duration: 1,113 calendar days)—**Performed as Resident Engineer for the **$51.6 million** design/build expansion. Responsible for coordination of design development, overall document control, contract administration, coordination between the City and Design/Builder, project meetings between Owner, Design/Builder and Construction Manager (Butier), and managing/evaluating/processing project documents, including RFIs/RFCs, submittals, pay requests, etc.

**Resident Engineer, Construction of 2.0 MG Hidden Hills Reservoir; Yorba Linda, CA; Yorba Linda Water District (Completion: 2010; Value: $5.5 million)—**Resident Engineer for construction management and inspection services for the construction of a 2.0 million gallon, dual-bay hopper, buried concrete reservoir and upgrades to the existing Santiago Booster Pump Station. The Hidden Hills Reservoir will be located adjacent to a single-family residential development to the south and east and undeveloped Chino Hills State Park to the north. The scope of work includes construction of the following: 2.0 million gallon buried concrete reservoir, piping and associated inlet, outlet, overflows and drain structures; 1,500 lineal feet of 16-inch water transmission main and 18-inch storm drain within a new access road, including grading and paving as a proposed extension of Hidden Hills Road; and upgrades to an existing pump station including new electrical circuits, conduit, cabinets and telemetry controls, pump replacements, and various SCADA communication devices.
Professional Summary

Mr. Jason Kraus provides on-site owner’s representative services for some of the largest heavy civil infrastructure projects in Southern California, including water and reclaimed water treatment facilities, pipelines, and pump stations. He has over 14 years of varied experience as a civil engineer, project manager, and resident engineer. Mr. Kraus is a practiced CPM scheduler and estimator and has implemented effective change order control procedures. He was responsible for implementing Butier’s web-based project controls system, which is utilized on projects ranging from $500,000 to over $650 million. In addition, he performs design/constructability reviews; interfaces/coordinates with project stakeholders; manages field personnel and sub-consultants; prepares construction management procedures manuals; reviews contractors’ schedules and estimates; and performs change order/claims analysis and control.

Project Experience

Owner’s Representative, Agua Hedionda Sewer Lift Station and Vista/Carlsbad Interceptor Sewer Replacement; Vista, CA; Cities of Vista and Carlsbad (Completion: 2017; Value $64.2 million)—The project begins at the north shore of the Agua Hedionda Lagoon in Carlsbad and extends a distance of 2.3 miles to the Encina Water Pollution Control Facility. Major project components include the following: 1) Removal and replacement of the existing wood trestle sewer support bridge across the lagoon with a new steel support bridge. The existing 42-inch diameter sewer pipe along the bridge will be replaced with a new 54-inch pipe; 2) Removal and replacement of the existing Agua Hedionda lift station. The new structure will house replacement motors and pumps, as well as new system enhancements including an emergency generator and bypass motors and pumps, an electrical control building, and odor control facilities; and 3) Construction of a new 30-inch diameter gravity sewer line to increase system capacity and reliability. The force main will provide 4,000 linear feet of high density polyethylene pipe parallel to an existing line and will connect into 7,000 linear feet of new 54-inch diameter gravity sewer to be constructed in Avenida Encinas from Cannon Road to the Encina Water Pollution Control Facility.

Owner’s Representative, Vista Verde Reservoir Replacement Project—Phase II; Vista, CA; Cities of Escondido (Completion: 2018; Value $9.5 million)—Butier is providing construction management and inspection services for the replacement of the Vista Verde Reservoir. The existing 750,000-gallon steel reservoir, which suffered from internal corrosion, is being replaced with two 1 million-gallon Type I pre-stressed concrete reservoirs that will be partially buried. The extra capacity for water storage will allow additional development in the area. The scope of work also includes new interconnecting piping, valve structure, grading, paving, site improvements, landscaping, electrical, instrumentation, and incidentals for a complete and usable facility. The pipeline portion of the project will extend from the existing pump station along Vista Verde Way, up to the Vista Verde Way cul-de-sac (approximately 6,000 Linear Feet). It includes inlet, outlet and drain line up the hill to the vault structure.
Owner’s Engineer, Carlsbad 50 MGD Seawater Desalination Plant and 10-Mile Conveyance Pipeline; Carlsbad, CA; Poseidon Water (Completion: December 2015; Value: $537 million Plant and $160 million Pipeline)—In addition to the 50 MGD seawater desalination plant, the scope included the construction of a 2.5 MG product water storage tank; product pump station; and conveyance pipeline. The 10-mile, 54-inch diameter pipeline was constructed under Interstate 5 Highway and a railroad using a jack and bore tunnel method. Mr. Kraus coordinated closely with the City of Carlsbad, SDCWA, SDG&E, Poseidon and the Coastal Commission during the construction of the tunnel option across Macario Canyon. The pipeline alignment included over 6,000 feet of tunnels performed by four different tunneling subcontractors. One of the tunnels is over 1,700 linear feet, 30 feet below sea level, and required a vertical shaft over 80 feet in height.

Resident Engineer, Pipeline 3 Desalination Relining San Marcos to Twin Oaks; San Marcos, CA; San Diego County Water Authority (Completion: 2015; Value: $25.2 million)—The Water Authority relined five miles of Pipeline 3 through Twin Oaks Valley into the northern part of San Marcos. Pipeline 3 was relined to accommodate pressurized flows from the new Carlsbad 50 MG Seawater Desalination RO Treatment Plant. The relining project included upgrading 27,000 feet of existing 72- and 75-inch diameter pipe with new welded steel liners; fabricating and installing 494 feet of 69-inch outside diameter welded steel pipe at seven access portals; fabricating and installing 448 feet of 67 ¾-inch outside diameter welded steel pipe at eight access portals; and replacing 47 feet of 72-inch steel pipe with new 67 ¾-inch outside diameter welded steel pipe.

Resident Engineer, Pipeline 4 Relining SR52 to Lake Murray; San Diego, CA; San Diego County Water Authority (Completion: May 2013; Value: $21 million)—The work included relining 2,400 feet of existing 69-inch diameter Pipeline 3 and 16,600 feet of existing 72-inch diameter Pipeline 4 prestressed concrete cylinder pipe using steel liners and the replacement of approximately 60 feet of existing 84-inch Pipeline 4 PCCP using welded steel pipe.

Resident Engineer/Inspector, Baseline Feeder Well Replacement and Improvement Project; San Bernardino, CA; San Bernardino Valley Municipal Water District (Completion: 2012; Value: $5,538,602)—Construction of water transmission facilities at the 9th Street Complex and the existing Perris Street well site. The scope of work at the 9th Street Complex consisted of equipping two wells, including a vertical turbine pump, construction of a 350,000-gallon reservoir, booster station building, vertical can booster pumps, piping, and bulk sodium hypochlorite disinfection systems. Site work included yard piping, valving, energy dissipater, foundation preparation, and fencing. Other improvements included connection to the 48-inch Baseline Feeder Pipeline, traffic control, asphalt paving, sidewalk, curb and gutter, and culverts. The scope of work at the existing Perris Street well site included well rehabilitation, cleaning and redevelopment; pump testing; wellhead structural and mechanical improvements; electrical equipment and mechanical piping demolition; and well equipping work, including furnishing new pumping equipment. Both sites included the installation of electrical, control panels, and telemetry to incorporate the WVWD’s existing SCADA system and testing, disinfection and start-up.
Professional Summary

Mr. Dustin Morton has diversified experience working in the areas of quality control, field engineering, and inspection. He is an ACI certified concrete field technician; ICC-certified reinforced concrete special inspector, structural steel and bolting inspector, and structural welding special inspector; and an AWS Certified Welding Inspector. As a field engineer, Mr. Morton’s responsibilities include supporting the construction manager with progress meetings, schedules and staffing, payment requests, record drawings, RFI reviews, RFI responses, daily construction photos, inspection reports, and submittals. As a field inspector, Mr. Morton is responsible for observing and documenting the work and its conformance with construction documents. His duties include preparing daily inspection reports of construction activities; reports of deviations and non-conformance to specifications; and performing technical inspection at the jobsite or off-site of materials.

Project Experience

Field Engineer/Inspector, Edinger Avenue Well Phase II Equipping Project; Tustin, CA; City of Tustin (Completion: 2016; Value: $4.1 million)—Provided field engineering and inspection services for the equipping of the ground well. Construction included the following: installation of 225 LF of 12” diameter CML ductile iron pipe discharge water line; connection to 12” ductile iron watermain; installation of 162 LF of 18” diameter C-905 drain line; connection to the existing storm drain; placement of new onsite sewer manhole; installation of 76 LF of 8” diameter SDR 26 sewer lateral and connection to existing OCSD sewer manhole; erection of 2,376 SF of CMU block with metal roof building to enclose the well pump, electrical equipment and chlorine room; and erection of 330 LF of CMU block wall.

Field Engineer/Inspector, Chino Creek Well Field Equipping—Wells I-16, I-17, and I-18; Chino, CA; Chino Basin Desalter Authority (Completion: 2013; Value: $1.5 million)—Provided field engineering and inspection services for the Equipping of Chino Creek Well Field Wells I-16, I-17 & I-18 project. The groundwater wells were equipped as part of the CDA Phase 3 Expansion Project. In addition to well equipping, the project included the installation of 625 LF of 8” diameter HDPE corrugated storm drain pipe and the grading and paving of the well sites. Coordination with other projects was required, including connection of well discharge lines to the Chino Creek Well Field Raw Water Pipeline. The project also involved coordination with the City of Chino to secure the required permits.

Field Engineer, Chino Desalter Phase 3 Product Water Pipeline; Ontario, CA; Chino Basin Desalter Authority (Value: $19 million)—Provided field engineering services for the Project Water Pipeline project, which is a part of the Chino Desalter Phase 3 Expansion. The scope of work included saw cut, removal and replacement of 10,700 LF of AC paving, temporary paving and base material; installation of 10,700 LF of 30-inch diameter CML&C steel pipe; installation of 905 LF of 42-inch diameter steel casing for connection to existing pump station; connection of existing 30-inch Hamner product water pipeline; pressure testing and disinfection of installation pipeline; installation of 4-inch blow-offs, 30-inch diameter butterfly valves, 4-inch vacuum and air release valves, and manways; potholing of underground utilities; installation of cathodic protection test station; and installation of 30-inch diameter class 250 CML/CMC wsp water main including fittings, thrust blocks and double pass welds.
Field Engineer, Chino Creek Well Field Raw Water Pipeline; Chino, CA; Chino Basin Desalter Authority (Completion: 2013; Value: $1.3 million)—Provided field engineering services for the Chino Creek Well Field Raw Water Pipeline project. The pipeline was installed as part of the CDA Phase III Expansion Project. Approximately 8,500 LF of PVC pipe ranging from 8” to 16” in diameter was installed within the City of Chino right of way to convey raw water from three Chino Creek Wells to the Chino I treatment facility. Work included pipe installation and related trenching, backfilling, paving, and testing within the streets along the pipe alignment. The project also involved coordination with the City of Chino to meet traffic control guidelines and inspection requirements. The project included coordinating a temporary shut-down of the Chino I facility to tie the new pipeline into an existing 30” main near the Chino I facility.

Field Engineer, Chino II Desalter Concentrate Reduction Facility; Jurupa Valley, CA; Chino Basin Desalter Authority (Value: $46.6 million)—Provided field engineering services for the CRF groundwater treatment facility, which is one of two plants managed by the Chino Basin Desalter Authority. Both ion exchange (IX) and reverse osmosis (RO) treatment trains are used to treat brackish groundwater from eight wells that also have elevated nitrate concentrations. The project scope included construction of new softening, clarification, filtration, and secondary RO (SRO) treatment and solids dewatering and storage; installation of a new decarbonator; installation of a new transfer pump with motor with associated VFD and motor controls and discharge piping and valves; installation of new cartridge filters; modification of the existing sulfuric acid chemical system; modification of the existing threshold inhibitor chemical system; and site modifications, including new fencing and gates, yard piping, and storm drain replacement.

Field Engineer, John Wayne Airport Project Management Services; Costa Mesa, CA; County of Orange, Airport Operations—Mr. Morton has provided field engineering services as an extension of John Wayne Airport’s staff during implementation of various capital improvement projects. Please find below a sample of these projects:

- **Paularino Gate Improvements (P211)**—Contract Value: $2,300,000. Provide CM insight, observation, and coordination of all construction activities including: reconstruction of access road and parking lot, installation of hardened security fencing and gates, improved security lighting, relocation and construction of new guard station and gate.

- **Tenant Improvement Projects (P307)**—Completion Date: On-going. Provided CM insight, observation, and coordination of all construction activities for the Vino Volo Wine Lounge refurbishment, including demolition of countertops, installation of electrical conduit for new blade display sign, and painting of interior space (Contract Value: $146,726). Additional tenant improvement projects include the refurbishment of Subway; refurbishment of the Paradies news and gift stores; and the distributed antenna system (DAS) installation for Boingo (Verizon Wireless).

- **Common Use Passenger System (CUPPS) Relocation Project (P419)**—Contract Value: $842,755; Completion Date: 11/05/2016. Provided CM insights, observation, and coordination of all construction activities for the installation of ticket kiosks in Terminals A, B and C.
**Professional Summary**

Mr. Martin Brunenieks has over 22 years inspection experience in a multitude of construction settings, including airports, water/wastewater treatment facilities, pipelines, commercial/retail and residential structures, refineries, offshore platforms, medical centers, schools, and universities. He is ICC-certified in several areas, including structural steel and welding, spray-applied fireproofing, and concrete. Experience includes both new and retrofit construction.

Mr. Brunenieks’ inspection experience includes the following: Construction phases, including new and retrofit construction on multiple-story structural steel buildings; earthquake retrofits; DSA related projects; OSHPD related projects; multiple-story tilt-top office buildings; refinery construction phases; shut down retrofits; tracking and monitoring wear; and verified hydrotesting of pipelines, pressure vessels, exchangers, and tanks.

**Project Experience**

**Civil/Mechanical Inspector, J.B. Latham Treatment Plant Facility Improvements Packages A and C; Dana Point, CA; South Orange County Wastewater Authority (Completion: 2017; Value: $14 million)**—Mr. Brunenieks provided civil/mechanical field inspection services for the reconstruction of the aeration system; replacement of the aged switchgear, motor control center, and power distribution system; replacement of the engine driven blower system; refurbishment of mechanical and structural elements of the Plant 1 secondary sedimentation basins; and repair to the structural deficiencies throughout the plant basins.

**Civil/Mechanical Inspector, Regional Treatment Plant Cogeneration and Switchgear Upgrades Project; Dana Point, CA; South Orange County Wastewater Authority (Completion: 2017; Value: $8.9 million)**—Mr. Brunenieks provided civil/mechanical field inspection services for the upgrade to the cogeneration and switchgear systems for the RTP. The scope of work included the following: construction of a new masonry building to the west of the Energy Building to house the new switchgear; removal of one of the existing 400 kW engine generator units; removal of power and control wiring from the remaining two 400 kW engine generator sets; installation of a new 800 kW engine generator system, new boiler system, and new co-generation control system; replacement of plant switchgear; relocation of temporary hot water pipeline; and replacement of the coating systems within Digester No. 2.

**Civil/Mechanical Inspector, 930 Zone Recycled Water Pipeline; Chino and Chino Hills, CA; Inland Empire Utilities Agency (Completion: Fall 2014; Value: $12.5 million)**—Mr. Brunenieks provided field inspection services for the construction of 12,536 linear feet of 30-inch recycled water pipeline via open cut and trenchless methods and a new above-grade pressure reducing station. The project connects the existing 30-inch pipeline in Eucalyptus Avenue west of Peyton Drive with the existing 20-inch pipeline in Chino Hills Parkway just west of Monte Vista. Work includes excavation in City of Chino and Chino Hills streets, City of Chino Hills property, Caltrans right-of-way, SBCFCD right-of-way, and Army Corps of Engineers right-of-way; pipe bedding preparation; pipe installation; pipe appurtenance and lateral installation; backfill; saw-cutting of pavement;
pavement removal, disposal, and replacement including grinding, base course, and surface course installation; sidewalk, curb and gutter replacement; traffic control; installation of corrosion test stations; irrigation and landscaping at Inland Hills Church; and removal and installation of new fencing along flood control channels. Work also includes street rehabilitation of the north half of Eucalyptus Avenue from Bluebell Drive to Pipeline Avenue.

**Civil/Mechanical Inspector, OCWD Advanced Water Quality Assurance Laboratory; Fountain Valley, CA; Orange County Water District (Completion: 2009; Value: $24 million)**—Performed as Inspector for the 39,000 square-foot, two-story steel framed sustainable (green) laboratory. Butier’s scope of work included the following: preparing the CM and procedures plan and communications manual; documents control; tracking and documenting submittal procedures, correspondence, RFIs, and change orders; reviewing construction documents and cost estimates; developing a QA/QC Plan; scheduling weekly meetings; community relations; coordinating field inspection and testing; contractor claims review; construction progress reports; reviewing/monitoring CPM schedule; Compiling and submitting operation and maintenance manuals; and start-up, close-out, and acceptance services.

**Chief Inspector, GWR System Unit 1 Pipeline; Fountain Valley to Santa Ana, CA; Orange County Water District**—Performed as Chief Inspector for 5.5 miles of 78-inch and 54-inch CML&C pipeline for this project. This project involved installation of approximately 31,000 LF of 78-inch, 72-inch, and 66-inch diameter cement mortar lined and coated (CML&C) steel pipe with each joint field-welded. The project also included installation of approximately 900 feet of 54-inch parallel Santa Ana River Discharge pipeline from the Advanced Water Treatment Facility to the Santa Ana River. This unit extends from the AWTF/OCSD Plant No. 1 site to just north of 17th Street in Santa Ana and includes tunnels at each street and freeway under crossing.

**Field Inspector, Bradley Park Relocation of Pipelines 3 and 4; San Diego, CA; San Diego County Water Authority (Value: $11 million)**—Pipelines 3 and 4 pass through Bradley Park, which is an inactive municipal landfill of the County of San Diego that has been transformed into a park. The relocated pipelines connect to the existing pipelines north of Linda Vista Drive in the Authority’s right-of-way. The project included the construction of 1,650 LF of 72-inch and 1,550 LF of 96-inch finished inside diameter cement mortar lined and dielectrically coated welded steel pipe; connections to existing WSP, pipeline Cathodic protection system; air-release/air vacuum valves and blowoffs; sidewalk; paving restoration; re-vegetation; and traffic control. Work also included the removal of 230 LF of 72-inch and 96-inch diameter welded steel pipe. In addition, 1,120 LF of Pipeline 3 and 970 LF of Pipeline 4 was abandoned in place.
Professional Summary

Mr. Jared Rogers is a registered electrical engineer with a vast background designing and inspecting electrical, instrumentation, controls and SCADA throughout California, Arizona, Oregon, Washington, and Florida. Specific project types include water and wastewater treatment plants, pump stations, reservoirs, water production wells, water quality laboratories, commercial and office buildings, and multi-family residences. Prior to his experience at Butier, Mr. Rogers was the Principal at JR Consulting in which he performed electrical design, review, construction management, and inspection services on a consulting basis for capital improvement projects for municipal and public agencies throughout Southern California. In addition, he was a Principal and Electrical Engineer at CR Engineers and an Electrical Engineer with Carollo Engineers.

Project Experience

**Electrical Review, Edinger Avenue Well—Phase II Equipping Project; City of Tustin, Public Works (Completion: 2016; Value: $4,103,650)**—Mr. Rogers provided electrical review for the Edinger Avenue Well - Phase II Equipping Project. Construction of the building and equipping of the pump included installation of a 225 LF of 12-inch diameter CML ductile iron pipe discharge water line; connection to 12-inch ductile iron watermain; installation of 162 LF of 18-inch diameter C-905 drain line; connection to the existing storm drain; placement of new onsite sewer manhole; installation of 76 LF of 8-inch diameter SDR 26 sewer lateral; and connection to existing OCSD sewer manhole. The scope of work also included the erection of 2,376 SF of CMU block wall with a metal roof building to enclose the well pump, electrical equipment and chlorine room. The project is part of the City of Tustin’s Water Services Division, which is responsible for the production and safe delivery of domestic water to more than 14,100 service connections through approximately 172 miles of water mains. Butier staff coordinated with several agencies including the City of Santa Ana and Caltrans.

**Constructability Review, Mid-Basin Injection: Centennial Park Project; Santa Ana, CA (Orange County Water District)**—Mr. Rogers is performing electrical constructability review services for the Mid-Basin Injection project, which consists of the construction of the following: four groundwater injection wells in below grade vaults, including all related appurtenances within Centennial Park; a monitoring well at the Heritage Museum site; a purified recycled water injection supply pipeline approximately 5,000 feet long that connects to the District’s existing Groundwater Replenishment System (GWRS) pipeline and crosses the Santa Ana River; a backflush discharge pipeline approximately 4,000 feet long that discharges to the Greenville-Banning Channel and Centennial Park Lake; installation of submersible pumps within the four injection wells; replacement of approximately 9.6 acres of paving within the Park; demolishing an existing City of Santa Ana restroom facility; and constructing two new buildings with shared City and District uses.
Jared C. Rogers, P.E.
Electrical/Instrumentation Inspector

**Electrical Inspector, Burris Pump Station Project—Phase 2; Anaheim, CA; Orange County Water District (Completion: 2016; Value: $20,585,400)**

Phase 1 included the construction of a portion of the building site and an earthen berm. The berm allows the basin to remain in operation during final construction of the wet well and pump station. Phase 2 consisted of the construction of a new 10,000 SF storm water pump station that uses four conventional vertical turbine pumps installed in a circular wet well. The pump station also consists of new mechanical, electrical, and control systems. An intake pipe was installed on the slope of the embankment, connecting the new pumps to the intake invert.

**Electrical Review, Carlsbad 50 MGD Seawater Reverse Osmosis Desalination Plant ($537 million) and 10-Mile Product Water Pipeline ($160 million); Carlsbad, CA; Poseidon Water (Completion: 2015)**

Mr. Rogers provided electrical review services as a part of Butier’s Owner’s Engineer (OE) team for construction of the 50 MGD seawater reverse osmosis desalination plant at the Encina Power Station located in Carlsbad, CA. The scope also includes the construction of a 2.5 million gallon product water storage tank, and product pump station and project water pipeline system to deliver the drinking water produced by the project to water utilities and municipalities in San Diego County. The responsibility of the OE is to observe the Contractor’s compliance with the contract throughout the project from pre-construction, design, construction, commissioning and ultimate handover to the Owner. When the Contractor deviates from its contractual obligations, it is the OE’s responsibility to identify this shift in the project’s risk profile.

**Electrical Inspector, Chino II Desalter Concentrate Reduction Facility ($46.6 million); Jurupa Valley, CA; Chino Basin Desalter Authority (Completion: 2015; Value: $46.6 million)**

Mr. Rogers provided electrical inspection services for the CRF groundwater treatment facility, which is one of two plants managed by the Chino Basin Desalter Authority. Both ion exchange (IX) and reverse osmosis (RO) treatment trains are used to treat brackish groundwater from eight wells that also have elevated nitrate concentrations. The project scope included construction of new softening, clarification, filtration, and secondary RO (SRO) treatment and solids dewatering and storage; installation of a new decarbonator; installation of a new transfer pump with motor with associated VFD and motor controls and discharge piping and valves; installation of new cartridge filters; modification of the existing sulfuric acid chemical system; modification of the existing threshold inhibitor chemical system; and site modifications, including new fencing and gates, yard piping, and storm drain replacement.

**Electrical Inspector, Regional Treatment Plant Cogeneration and Switchgear Upgrades Project; Dana Point, CA; South Orange County Wastewater Authority (Completion: July 2017; Value: $8.9 million)**

Mr. Rogers provided electrical inspection services for the upgrade to the cogeneration and switchgear systems for the RTP. The scope of work included the following: construction of a new masonry building to the west of the Energy Building to house the new switchgear; removal of one of the existing 400 kW engine generator units; removal of power and control wiring from the remaining two 400 kW engine generator sets; installation of a new 800 kW engine generator system, new boiler system, and new co-generation control system; replacement of plant switchgear; relocation of temporary hot water pipeline; and replacement of the coating systems within Digester No. 2.
Professional Summary

Mr. Burce is a registered civil engineer with over 22 years of professional experience in project and construction management, including planning, design, resource allocation, and cost/schedule management of major projects. He has extensive experience in providing PM and CM services for water/wastewater treatment facilities, wells, pump stations, storm water detention / retention systems, transportation, parking structures, industrial, educational, residential, and land development projects during the design and construction phases.

Mr. Burce has diverse project experience in public works and real estate development. This background provides him with an in-depth understanding of civil engineering disciplines. His professional responsibilities have ranged from feasibility study, geotechnical, civil design, complex drainage design and regulatory requirements, technical specifications development and preparation of bid documents, design/constructability review, schedule preparation, field implementation and supervision, and construction management.

Relevant Experience

Resident Engineer, Mid-Basin Injection: Centennial Park Project; Santa Ana, CA; Orange County Water District (Est. Completion: 2018)—Mr. Burce is performing as the Resident Engineer for the Mid-Basin Injection project, which consists of the construction of the following: four groundwater injection wells in below grade vaults, including all related appurtenances within Centennial Park; a monitoring well at the Heritage Museum site; a purified recycled water injection supply pipeline approximately 5,000 feet long that connects to the District’s existing Groundwater Replenishment System (GWRS) pipeline and crosses the Santa Ana River; a backflush discharge pipeline approximately 4,000 feet long that discharges to the Greenville-Banning Channel and Centennial Park Lake; installation of submersible pumps within the four injection wells; replacement of approximately 9.6 acres of paving within the Park; demolishing an existing City of Santa Ana restroom facility; and constructing two new buildings with shared City and District uses. **Mr. Burce is coordinating closely with the City of Santa Ana.**

Resident Engineer, Chino Desalter Phase 3 Expansion Project; Norco, CA (Chino Basin Desalter Authority—City of Ontario, Jurupa Community Services District, and Western Municipal Water District)—The Chino Desalter Phase 3 Expansion Project includes the drilling of six (6) additional wells, new raw water and product water pipelines, and expansion of the Chino Desalter’s treatment facilities. The scope of the Expansion is to increase desalter groundwater pumping from the lower Chino Basin to approximately 40,000 acre-feet per year (AF/yr) and provide at least 10 MGD of additional product water capacity. The treatment processes include reverse osmosis (RO), ion exchange (IC), and air stripping. Mr. Burce recently performed as a Resident Engineer on the following Chino Desalter Phase 3 Expansion projects:

- Chino Creek Well Fields I and II Raw Water Intertie Pipeline (Completion: April 2016; Value: $4,558,959)
• CDA Wells II-10 and II-11 Well Equipping (Completion: November 2016; Value: $3,568,000)
• Pre-Engineered Metal Storage Building
• 1010-1110 Pump Station

**Project Manager, On-Call Construction Management and Inspection Services Contract (Inland Empire Utilities Agency)**—Mr. Burce provided project management and resident engineering services for IEUA’s on-call construction management and inspection services contract. He was responsible for implementing day-to-day construction projects, managing daily and monthly schedules, ensuring successful startup and supervising and monitoring contractors. He performed daily record keeping and management of all proper construction administration and documentation. Mr. Burce coordinated with IEUA Construction Management, Engineering, Operations and Maintenance Departments; member agencies; and regulatory/permitting agencies. He provided services for the following projects:

• Wineville Extension Recycled Water Pipeline Segments A and B
• 930 Zone Recycled Water Reservoir and Recycled Water Pipeline

**Perris Valley Regional Water Reclamation Facility; Perris, California (Eastern Municipal Water District)**—Prepared the site civil and drainage plans for part of the expansion of existing plant operations. Interaction between the process, piping, and mechanical engineers was instrumental during the planning and site development constraints. The construction costs were estimated at $12 million. The plant receives sewage from a 120-square-mile area from people in Perris, Sun City, Romoland, Homeland, and a portion of Moreno Valley. The facility is sited on some 300 acres where it can be seen west of I-215 and south of Case Road. Recycled to high standards for beneficial reuse, the water is sold to farmers who irrigate about 900 acres.

**Corona Water and Wastewater Treatment Plant; Corona, California (City of Corona)**—Mr. Burce was a member of the design-build team responsible for expanding the existing WWTP where construction costs were estimated at $10 million. As the task manager, he managed and implemented the site development design; researched adjacent land titles being affected by the expansion; and provided a detailed engineer’s cost estimate for part of the construction budgeting and management processes. He also prepared a construction schedule, and contacted various vendors to help negotiate costs.

**Groundwater Treatment Facility; Marinette, Wisconsin (TYCO Fire Products)**—As a member of the construction management team, Mr. Burce managed and oversaw the vertical construction of a groundwater treatment facility of approximately 14,000 SF. The building consisted of a reinforced concrete slab-on-grade floor supported by Geo-Piers; structural steel frame; metal siding; and groundwater treatment process equipment with an office. Observed, monitored, and coordinated the various trades consisting of concrete, roofing, framers, electrical, piping, HVAC, and plumbing-contractors. Approximately 7,000 LF of HDPE piping were installed throughout the project site and terminated at the building and tied into the (Siemens) process equipment. Groundwater contaminated with arsenic is being treated.
YEARS WITH FIRM
13 Years

EDUCATION
B.S. Mechanical Engineering, 1977 – 1982 Cal Poly Pomona

YEARS’ EXPERIENCE
32 Years (QA/QC)
25 Years (Inspection Management and Coordination)

Professional Summary
Mr. Kent Kreeger has over 25 years of direct QA Management experience providing inspection and engineering support of projects both domestic and overseas. Mr. Kreeger’s direct experience in the Hydroelectric, Power Generation, Petrochemical and Water Industry providing engineering support in all aspects of rotating and stationary equipment operation and reliability. Has a proven track record managing domestic and overseas fabrication inspection assignments. Provides technical support to difficult fabrication and construction problems. Provides Start up support and failure analysis services.

Areas of expertise include inspection of mechanical equipment, welded structures, pressure vessels, large diameter water pipe, fabricated valves, and engineered equipment. Experienced in the fabrication and testing and start-up support of hydroelectric power generation equipment, rotating equipment including pumps, motors, steam and gas turbines, compressors and generators. Provides failure analysis support and solutions to difficult performance problems with mechanical systems.

Knowledgeable and experienced in functional testing, debugging, start-up and commissioning of systems related to water treatment, water distribution, large pumping stations, electrical equipment, components and instrumentation, SCADA, and other equipment and systems.

Supported the fabrication inspection of switchgear, transformers, MCCS, control systems and PLCs; extensive experience in FRP fabrication and testing of filament wound tanks and pipe, and hand laid up assemblies; has inspected the application of all types of coating systems used in industrial applications.

Successfully directed international based inspections in the following countries; Canada, Mexico, Brazil, Korea, Japan, England, Scotland, France, Germany, Spain, Poland, Sweden, Portugal, Austria, Indonesia, and India. Projects included large diameter valves, pumps and hydraulic turbine generators, forgings and welded structures, pressure vessels, and mechanical assemblies.

Project Experience
 EW-1 Well Equipping Project; Fullerton, CA; Orange County Water District (Completion: 09/2017; Value: $1,092,074)—Provided mechanical review, shop fabrication inspection and field construction inspection support as a sub-consultant to Butier Engineering, Inc. The project includes rehabilitation and redevelopment of the well, completing construction of the wellhead, installing a submersible pump and shroud, and constructing piping and a connection to a nearby OCSD sewer trunk line in State College Blvd. for discharge of the pumped groundwater. The Butier Team coordinated with OCWD, the Contractor, and the property owner’s association to select an acceptable temporary piping route to the nearest storm drain. The Butier Team is the main point of contact between the Contractor and the City of Fullerton, OCTA and OCSD, to assist in coordinating project construction activities.

 Burris Pump Station Project—Phase 2, Orange County Water District—Provided support as a sub-consultant to Butier Engineering, Inc. during the initial evaluation of the existing pump station, repair or replace. Provided technical support by reviewing the job specifications, mechanical equipment proposals and
submittals. Witnessed performance testing of the motor which were fabricated in Brazil, and the pumps, worked closely with the construction team to develop a plan to install the pumps. Provide construction inspection and start up support for the pumps, VFD’s and PLC.

**Santiago Pump Station, Orange County Water District**—Provided fabrication inspection support as a sub-consultant to Butier Engineering, Inc. for the floating fiberglass pump station and witnessed performance testing for the pumps. Provided submittal review and worked closely with the design engineer to resolve construction problems. Provided RE construction engineering support including inspection of the assembly of the barge, installation of the pumps and piping, testing of the PLC and start up support.

**Expansion of the Leo J. Vander Lans Water Treatment Facility; Water Replenishment District of Southern California (Completion: 07/2014; Value: $31,588,721)**—Provided shop fabrication inspection and field construction inspection support as a sub-consultant to Butier Engineering, Inc. The project included upgrading from 3 mgd to 8 mgd capacity; construction of additional microfiltration (MF), reverse osmosis (RO), and UV treatment and other systems; and upgrading the wastewater equalization system and improvements to the electrical and instrumentation and controls.

**Edward C. Little Water Recycling Facility Phase V Design-Build Expansion; El Segundo, CA; West Basin Municipal Water District (Completion: 05/2013; Value: $61,854,989)**—Provided shop fabrication inspection and field construction inspection support as a sub-consultant to Butier Engineering, Inc. As a part of the project, West Basin expanded Title 22, Barrier Water and Low Pressure Boiler Feed water treatment processes. The Phase V project involved expanding the Title 22 pretreatment capacity by 10 MGD to achieve a total treatment capacity of 40 MGD, along with expanding the Barrier Water production from 12.5 MGD to 17.5 MGD and the Low Pressure Boiler Feed water production from 1.7 to 2.2 MGD to serve Single-Pass RO water to NRG’s El Segundo Power Plant. The Phase V project addressed numerous capacity expansion and treatment process upgrades. The project included, but was not limited to, the following components: Ozone-Microfiltration Pretreatment Process; West Coast Barrier; El Segundo Power-Low Pressure Boiler Feed Water; Title 22 Facility-High Rate Clarifier Expansion; Title 22 Pump Station; Chemical Facilities; and miscellaneous civil work.

**Start-Up Engineer, The Lake Hodges Pump / Storage Station, San Diego County Water Authority**—As Start-Up Engineer has overall responsibilities providing as needed technical assistance during the fabrication, installation and commissioning 20 MW (26800 HP) Hydroelectric turbines, mechanical and electrical equipment. Was tasked with assembling and providing technical to a blended team of Hydro Electric Technical Specialist to assist in the evaluation and forensic investigation during catastrophic failure of the turbines during commissioning. The blended team consisted of Start-Up Engineers, Millwright Specialists to assist during tear down and rebuild of the turbines, Electrical Specialist, Engineers developing O&M Manual, and Forensic Specialists all devoted to the task bring this unit on line. Reports directly to SDCWA Designated Board members, Head of Engineering and assisting Project Team members providing technical assistance.
Richard Grounds, P.E.
Constructability Review (Mechanical) / Startup Support

Professional Summary

Mr. Grounds has over 26 years of experience performing resident engineering, project management, and mechanical engineering services in the water/wastewater treatment, hydroelectric, power generation, and petrochemical industries. He is knowledgeable and experienced in piping and equipment installation, functional testing, debugging, startup and commissioning of systems related to water treatment, water distribution, large pumping stations, electrical equipment, components and instrumentation, SCADA, and other equipment and systems. He is knowledgeable of the AWS and ASME welding code, as well as various NDE testing methods.

In addition, Mr. Grounds provides engineering support in all aspects of rotating and stationary equipment operation and reliability. His areas of expertise include inspection of mechanical equipment specializing in rotating equipment support, equipment startup and repairs. He provides constructability review, submittal review, works with contractors during installation of equipment, witnesses performance testing and factory acceptance tests, and completes QA inspections at fabricators.

Work History

On-Site Technical Services, Inc. 2005 to Present
Consulting Engineer

Mr. Grounds provides engineering, project management and inspection services for commercial businesses and various governmental water agencies on machinery, piping and capital projects. He is familiar with machinery performance testing, machine shop practices, geomembrane installation for water retaining structures, inspection of shop and field fabrications, and project management.

Mr. Grounds is a Construction Project Manager (CPM) who plans, directs, schedules, oversees, and provides technical and functional supervision to lower level construction personnel. Additional services include design, repair, troubleshooting and inspection of rotating machinery and piping systems. Key clients include the Metropolitan Water District of Southern California, California Department of Water Resources, City of Los Angeles Department of Water & Power, Honeywell, and Goodrich Aerospace.

Project Experience

Start-Up Engineer, Burris Pump Station Project—Phase 2, Orange County Water District—Provided support during the initial evaluation of the existing pump station, repair or replace. Provided technical support by reviewing the job specifications, mechanical equipment proposals and submittals. Witnessed performance testing of the motor (fabricated in Brazil) and the pumps, and worked closely with the construction team to develop a plan to install the pumps. Provided construction inspection and start-up support for the pumps, VFD’s and PLC.

Resident Engineer, RO Treatment Plant Rehabilitation, City of Beverly Hills—Provided day-to-day project management, submittal review and monitored schedules and budget performance. Worked closely with the owner and the QA inspectors to confirm quality and specification compliance.
Richard Grounds, P.E.
Constructability Review (Mechanical) / Startup Support

Start-Up Engineer, Carlsbad 50 MGD Seawater RO Desalination Plant; Carlsbad, CA; Poseidon Water (Completion: 2015; Value: $697 million)—Provided oversight and engineering project start up support on behalf of SDCWA during the construction, installation and commissioning of 7000 HP pumps, mechanical and electrical equipment associated with this project. Primary duties included providing expert technical assistance during the startup of the pump station verifying conformance to specification requirements.

Start-Up Engineer, The Lake Hodges Pipeline and Hydro Electric Pump Station, San Diego County Water Authority—As Start-Up Engineer, provided oversight and engineering project startup support on behalf of SDCWA during the construction, installation and commissioning of 20 MW (15300 HP) hydroelectric turbines, mechanical and electrical equipment. Primary duties included providing expert technical assistance during the startup of the pump station and rebuild of two 28,000 HP 40-megawatts pump-hydroelectric turbines and associated electrical engineering support.

Start-Up Engineer, San Vicente Pump Station, San Diego County Water Authority—As Start-Up Engineer, provided oversight and engineering project start-up support on behalf of SDCWA during the construction, installation and commissioning of 6000 HP pumps, mechanical and electrical equipment associated with this project. Primary duties included providing expert technical assistance during the startup of the pump station verifying conformance to specification requirements.

Resident Engineer, IERCF Belt Conveyor Modifications, Inland Empire Utilities Agency—Provided day-to-day project management, submittal review and monitored schedules and budget performance. Worked closely with the owner and the QA inspectors to confirm quality and specification compliance.

Power and Instrumentation & Controls Start-Up Engineer, Chino II Desalter Concentrate Reduction Facility; Jurupa Valley, CA; Chino Basin Desalter Authority (Completion: 2016; Value: $46.6 million)—Provided technical support during the construction and testing of the high voltage equipment and worked directly with the fabricator and contractor to resolve construction problems. Advised the project team on technical and safety related issues and reviewed submittals and testing procedures. Witnessed field testing to confirm the equipment was properly installed and safe to operate. Reviewed field test data for conformance to the specifications and industry standards.

Start-Up Engineer, Advanced Water Quality Laboratory, Orange County Water District—As Start-Up Engineer, provided oversight and engineering project startup for 23 systems within the complex. Coordinated manufacturer startup and training on behalf of the owner. Resolved startup problems and warranty issues. Coordinated startup design problem resolution with the design engineer. Lead daily commissioning meetings with the contractor and the respective fabricators. Coordinated punch list resolution. Supported claim review and analysis.
Garreth M. Saiki, PE, GE  
Project Manager – Geotechnical

EDUCATION
MBA, 1998, University of California Davis
M.S., Civil Engineering, 1989, University of California Berkeley
B.S., Civil Engineering, 1987, University of California Berkeley

REGISTRATIONS AND CERTIFICATIONS
RCE 49665 (California)
GE 2509 (California)
Nuclear Gauge Operator Certification

EXPERIENCE HIGHLIGHTS
Orange County Sanitation District, On-Call Geotechnical and Materials Testing
Los Angeles Unified School District, As-Needed Materials Testing and Inspection Services
John Wayne Airport, A-E Services for Geotechnical Engineering, Materials Testing, Construction Observation and Inspection
City of Los Angeles, As-Needed Geotechnical and Environmental Engineering Services

PROFESSIONAL AFFILIATIONS
American Society of Civil Engineers

Professional Summary
Mr. Saiki coordinates and conducts geotechnical evaluations for residential, commercial, and public facilities, including highways, railroads, airports, pipelines, public and private buildings, and bridges; performs slope stability analyses, flexible and rigid pavement design, and underground pipeline design; prepares and reviews geotechnical reports; and provides geotechnical design parameters and recommendations for shallow and deep foundations, retaining structures, in-situ ground remediation and earthwork; reviews laboratory results, project plans and specifications; provides supervision and technical support to staff-level engineers and geologists; performs project administration and management; and provides forensic evaluation of distressed pavement, residential and commercial structures.

Project Experience
Mesa Water District, Wellhead Automation, Costa Mesa, CA—Mr. Saiki provided technical review for deputy inspection services for the construction of the Mesa Water District’s Well Automation & Rehabilitation project in Costa Mesa, California.

Orange County Sanitation Authority On-Call Geotechnical, Materials Testing, and Inspection Services for Collection Systems and Treatment Plant Projects: Served as Project Manager for four consecutive contract periods (over 43 projects) to provide the Authority with as-requested geotechnical, materials testing, and inspection services for various projects located within the Authority’s Collection System, Treatment Plant No. 1 in Fountain Valley and Treatment Plant No. 2 in Huntington Beach. Ninyo & Moore has provided field technicians and registered deputy inspectors on various Authority projects to perform field sampling and testing of materials and special inspection services.

Orange County Water District, Riverbed Filtration Desilting Demonstration Project, Anaheim, California: Served as Principal Engineer providing oversight during the design and construction of the Riverbed Filtration Desilting Demonstration project. Geotechnical services during construction included providing assistance to the OCWD inspector in evaluating preparation of the carrier pipe subgrade, geotechnical observation and testing services during backfill of the carrier pipe trench where it crosses from the Off-River Channel to Olive Basin, and preparation of a Field Observation and Density Testing report.
Chiquita Water Treatment Plant, Phase III Expansion, San Juan Capistrano, California: Served as Project Manager providing soils and materials testing and inspection services for the Phase III expansion of the existing Chiquita Water Treatment Plant located in unincorporated Orange County, California. The expansion project was part of the master plan to increase the plant capacity from 6 million gallons of wastewater treatment per day to 21 million gallons per day. The expansion included five new buildings, ten large reinforced concrete structures, three small-reinforced structures, various pipelines, and associated site grading and paving. The structures included tertiary filters, a chlorine contact basin, a chemical building, a tertiary pump station, an aeration basin, a secondary clarifier, an equalization basin, a RAS pump station, a grit chamber, a primary clarifier, and a digester.

Jurupa Community Services District Pyrite Creek/Regional Wastewater, Jurupa Valley, California: Principal-in-Charge during construction of the Pyrite Creek Trunk Sewer and Regional Wastewater Force Main projects. The project consisted of sewer line and sewer force main, sewer lift station, laterals, manholes, sluice gate, couplers, fire hydrants, flanges, storm drain, electrical conduit, curb and gutter, aggregate base, asphalt concrete paving overlay, traffic signal loops, and other miscellaneous appurtenances. Field services included observation, sampling, and testing during the trench backfill process, manhole construction, fine grading of subgrade and aggregate base, and asphalt concrete lay down operations. Laboratory testing services included Proctor density, sieve analysis, sand equivalent, percent wear, durability, concrete compression, R-value, Hveem, gradation, and asphalt concrete core density.
Steven Eck  
Senior Field Technician

**Professional Summary**

As a Senior Field Technician for Ninyo & Moore, Mr. Eck performs field testing of concrete and asphalt concrete, inspection of asphalt and concrete batch plants, geotechnical laboratory testing, quality control for all laboratory procedures, including fulfilling requirements for ASTM, AASHTO, CALTRANS, ACI, and UBC Standards. Additionally, he provides geotechnical observation and testing services for earthwork projects. His field experience includes drill foundation, slope stability reconstruction, mass grading, and individual building pad over excavation and recompaction; canyon clean-outs, retaining walls, structural, and trench backfills; caisson excavation and pile driving observation and documentation; roadway testing during subgrade, aggregate base, and asphalt concrete construction.

**Project Experience**

**IRWD Wells 21 and 22 Wellhead Facilities, Tustin, California:** Senior Field Technician for materials testing services. The project consisted of installing 6,800 linear feet of untreated water pipeline, approximately 1,300 linear feet of well pump-to-waste pipeline, approximately 12,600 linear feet of product water pipeline and approximately 1,570 linear feet of non-reclaimable waste pipeline, as well as pavement replacement along the pipeline alignments, wellhead facility site improvements also included a new concrete vault, utilities, piping, concrete pads, asphalt pavement and block walls. Services included project coordination, management and technical support. Field services included sampling and testing of structural concrete, subgrade (SG), aggregate base (AB) and asphalt concrete (AC).

**Water Main in Country Glen, Anaheim, California:** Senior Field Technician retained to provide geotechnical, materials testing, and deputy inspection. Services for the project included project coordination, management and technical support, earthwork observation and density testing for utility trench backfill, subgrade (SG), aggregate base (AB) placement, and asphalt concrete (AC) placement. The project consisted of construction of an 8-inch water main replacement throughout Lots 1-6, and 10 of the condominium complex on Country Glen Way. Laboratory testing services included proctor density, sieve analysis, sand equivalent, permeability testing of bedding materials, AC maximum density, and AC extraction/gradation.

**Orange County Water District On-Call Materials Testing Services:** Senior Field Technician providing materials testing services for our on-call contract with the Orange County Sanitation District during construction of various capital improvement projects. Services include field testing and sampling of materials, and laboratory testing of soil, concrete, steel, and other materials.

**EDUCATION**

High School Diploma

**REGISTRATIONS AND CERTIFICATIONS**

- ACI Field Testing Technician Grade I
- Radiation (Nuclear Gauge) User Safety
- City of Los Angeles Deputy Grading Inspector
- ICC Soils Special Inspector
City of Los Angeles, Machado Lake Ecosystem Rehabilitation Project, Harbor City, California: Senior Field Technician retained for observation and testing services during the construction phase of the Machado Lake Ecosystem Rehabilitation project located in Harbor City, California. Services included evaluation of the soil conditions on site with regard to geotechnical design recommendations and to evaluate the contractor’s performance with regard to the project specifications. Services also included geotechnical observation and testing during remedial excavations for at-grade and below-grade structures, grading of lake edge and park improvements, installation of cast-in-drilled-hole (CIDH) pile foundations for the fishing piers, construction of dam improvements and the sediment basin, and backfill of structures and underground utilities.

City of Westminster Public Works Department: Density testing during the various City roadway subgrades, aggregate base, soil cement, and asphalt concrete construction.

City of La Habra Public Works Department: Density testing during the various City roadway subgrades, aggregate base, and asphalt concrete, as well as trench backfill construction.

City of Garden Grove Public Works Department: Density testing during the various City roadway subgrades, aggregate base, and asphalt concrete, as well as trench backfill construction.
George A. Schubert, Jr.
Senior Field Technician/Inspector

Professional Summary

As Senior Field Technician for Ninyo & Moore, Mr. Schubert has over 25 years of experience in the geotechnical and materials testing field. His responsibilities include performing quality control and quality assurance testing of soil, aggregate, asphalt, and concrete materials in accordance with applicable ASTM, AASHTO, ACI, and CALTRANS standards. As a senior technician, Mr. Schubert has extensive experience providing both field and laboratory testing of soils and construction materials and maintains his current soils and materials testing certifications from ACI and Caltrans, as well as his nuclear gauge certification. He provides geotechnical observation and testing services during earthwork operations, including mass grading operations, trench and wall backfill, and roadway and building pad subgrade preparation, as well as providing inspection of asphalt and concrete batch plants. Mr. Schubert also has extensive experience in the requirements and specifications in Greenbook for public works construction projects, as well as the requirements of Caltrans for testing frequencies, test methods, and record keeping as described in Caltrans Standard Specifications, Standard Special Provisions, and the Caltrans Construction Manual. He maintains a current Caltrans CT-375 AC Testing certification for field testing. His project experience includes:

Project Experience

IRWD Wells 21 and 22 Wellhead Facilities, Tustin, California: Senior Field Technician retained to provide materials testing services during construction of the Wells 21 & 22 Wellhead Facilities and Pipelines project in Tustin, California. The project consisted of installing approximately 6,800 linear feet of untreated water pipeline, approximately 1,300 linear feet of well pump-to-waste pipeline, approximately 12,600 linear feet of product water pipeline and approximately 1,570 linear feet of non-reclaimable waste pipeline, as well as pavement replacement along the pipeline alignments, wellhead facility site improvements also included a new concrete vault, utilities, piping, concrete pads, asphalt pavement and block walls. Services included sampling and testing of structural concrete, subgrade (SG), aggregate base (AB) and asphalt concrete (AC). Our services also included batch plant inspection during production of asphalt concrete. The project schedule required work at night and on weekends. Our laboratory testing services included proctor density, sieve analysis, sand equivalent, AC extraction and gradation, AC maximum density, and concrete compressive strength.

Port of Long Beach, Pier G, North Railroad Reno: Served as concrete technician providing sampling of concrete placement. This project includes the re-engineering of subgrade materials, backfill of utility structures, boring and jacking for utilities beneath the existing railway, construction of concrete retaining walls, placement of Cement-Treated Base (CTB) as well as asphalt concrete (AC) pavement.
Long Beach Water District On-Call Geotechnical Services, Long Beach, California: Senior Field Technician providing materials testing services for Capital Improvement Projects (CIP) located throughout the vicinity. So far, projects have included the De Forest Avenue Sewer Repair, the Alamitos Tank project in Long Beach, Long Beach Airport LGB Terminal Drain project and the Orange Avenue Sewer Main Backfill project.
Appendix B. Contract Acceptance Form
Appendix B: Professional Services Agreement Acceptance Form

Firm Name: Mark M. Butier, Jr.
Address: 17822 E. 17th Street, Suite 404
City ________________ State __________ Zip Code ____________
Telephone: 714-832-7222 Fax: 714-832-7211

I have reviewed the RFP and Professional Services Agreement in their entirety. Our firm will execute the Professional Services Agreement with no exceptions.

Name of Authorized Representative: Mark M. Butier, Jr.
Signature of Authorized Representative: ____________________________
Date: December 14, 2017
Appendix C. Critical Path Schedule
## Construction Management Services Schedule

### MESA WATER DISTRICT

#### Croddy and Chandler Way Wells & Pipeline Project

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>WBS</th>
<th>Duration</th>
<th>Early Start</th>
<th>Late Start</th>
<th>Early Finish</th>
<th>Late Finish</th>
<th>Total Slack</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Croddy and Chandler Way Wells &amp; Pipeline Project</td>
<td>MWD1</td>
<td>616 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td>0 days</td>
</tr>
<tr>
<td>2</td>
<td>DESIGN PHASE</td>
<td>MWD1.A</td>
<td>205 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Mon 12/3/18</td>
<td>Mon 12/3/18</td>
<td>0 days</td>
</tr>
<tr>
<td>3</td>
<td>Task 2 Construction Document Review</td>
<td>MWD1.A.1</td>
<td>205 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Mon 12/3/18</td>
<td>Mon 12/3/18</td>
<td>0 days</td>
</tr>
<tr>
<td>4</td>
<td>Constructability Review</td>
<td>MWD1.A.1.1</td>
<td>160 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Mon 10/1/18</td>
<td>Mon 10/1/18</td>
<td>0 days</td>
</tr>
<tr>
<td>5</td>
<td>CM Notice to Proceed</td>
<td>MWD1.A.1.1.1</td>
<td>0 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>0 days</td>
</tr>
<tr>
<td>6</td>
<td>50% Design Completion</td>
<td>MWD1.A.1.1.2</td>
<td>45 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Mon 4/23/18</td>
<td>Mon 4/23/18</td>
<td>0 days</td>
</tr>
<tr>
<td>7</td>
<td>50% Constructability Review</td>
<td>MWD1.A.1.1.3</td>
<td>10 days</td>
<td>Tue 6/24/18</td>
<td>Tue 4/24/18</td>
<td>Mon 5/7/18</td>
<td>Mon 5/7/18</td>
<td>0 days</td>
</tr>
<tr>
<td>8</td>
<td>Response to 50% Design Comments</td>
<td>MWD1.A.1.1.4</td>
<td>10 days</td>
<td>Tue 5/8/18</td>
<td>Tue 5/8/18</td>
<td>Mon 5/21/18</td>
<td>Mon 5/21/18</td>
<td>0 days</td>
</tr>
<tr>
<td>9</td>
<td>90% Design Completion</td>
<td>MWD1.A.1.1.5</td>
<td>45 days</td>
<td>Tue 5/22/18</td>
<td>Tue 5/22/18</td>
<td>Mon 7/23/18</td>
<td>Mon 7/23/18</td>
<td>0 days</td>
</tr>
<tr>
<td>10</td>
<td>90% Constructability Review</td>
<td>MWD1.A.1.1.6</td>
<td>10 days</td>
<td>Tue 7/24/18</td>
<td>Tue 7/24/18</td>
<td>Mon 8/6/18</td>
<td>Mon 8/6/18</td>
<td>0 days</td>
</tr>
<tr>
<td>11</td>
<td>Response to 90% Design Comments</td>
<td>MWD1.A.1.1.7</td>
<td>10 days</td>
<td>Tue 8/7/18</td>
<td>Tue 8/7/18</td>
<td>Mon 8/20/18</td>
<td>Mon 8/20/18</td>
<td>0 days</td>
</tr>
<tr>
<td>12</td>
<td>100% Design Completion</td>
<td>MWD1.A.1.1.8</td>
<td>20 days</td>
<td>Tue 8/21/18</td>
<td>Tue 8/21/18</td>
<td>Mon 9/17/18</td>
<td>Mon 9/17/18</td>
<td>0 days</td>
</tr>
<tr>
<td>13</td>
<td>100% Constructability Review</td>
<td>MWD1.A.1.1.9</td>
<td>5 days</td>
<td>Tue 9/18/18</td>
<td>Tue 9/18/18</td>
<td>Mon 9/24/18</td>
<td>Mon 9/24/18</td>
<td>0 days</td>
</tr>
<tr>
<td>14</td>
<td>Response to 100% Design Comments</td>
<td>MWD1.A.1.1.10</td>
<td>5 days</td>
<td>Tue 9/25/18</td>
<td>Tue 9/25/18</td>
<td>Mon 10/1/18</td>
<td>Mon 10/1/18</td>
<td>0 days</td>
</tr>
<tr>
<td>15</td>
<td>Construction Sequence and Staging</td>
<td>MWD1.A.1.2</td>
<td>45 days</td>
<td>Tue 10/2/18</td>
<td>Tue 10/2/18</td>
<td>Mon 12/3/18</td>
<td>Mon 12/3/18</td>
<td>0 days</td>
</tr>
<tr>
<td>16</td>
<td>Prepare Construction Master Schedule</td>
<td>MWD1.A.1.2.1</td>
<td>30 days</td>
<td>Tue 10/2/18</td>
<td>Tue 10/2/18</td>
<td>Mon 11/12/18</td>
<td>Mon 11/12/18</td>
<td>0 days</td>
</tr>
<tr>
<td>17</td>
<td>MWD Review and Comment on Master Schedule</td>
<td>MWD1.A.1.2.2</td>
<td>10 days</td>
<td>Tue 11/13/18</td>
<td>Tue 11/13/18</td>
<td>Mon 11/26/18</td>
<td>Mon 11/26/18</td>
<td>0 days</td>
</tr>
<tr>
<td>18</td>
<td>CM Incorporate Comments</td>
<td>MWD1.A.1.2.3</td>
<td>5 days</td>
<td>Tue 11/27/18</td>
<td>Tue 11/27/18</td>
<td>Mon 12/3/18</td>
<td>Mon 12/3/18</td>
<td>0 days</td>
</tr>
<tr>
<td>19</td>
<td>BID PHASE</td>
<td>MWD1.G</td>
<td>616 days</td>
<td>Tue 2/20/18</td>
<td>Tue 2/20/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td>0 days</td>
</tr>
<tr>
<td>20</td>
<td>Task 3 Pre-Construction Bidding Support Services</td>
<td>MWD1.G.3</td>
<td>126 days</td>
<td>Tue 6/26/18</td>
<td>Tue 6/26/18</td>
<td>Tue 12/18/18</td>
<td>Tue 12/18/18</td>
<td>0 days</td>
</tr>
<tr>
<td>21</td>
<td>Contractor Prequalifications</td>
<td>MWD1.G.3.14.1</td>
<td>80 days</td>
<td>Tue 6/26/18</td>
<td>Tue 6/26/18</td>
<td>Tue 10/15/18</td>
<td>Tue 10/16/18</td>
<td>0 days</td>
</tr>
<tr>
<td>22</td>
<td>Prepare Pre-Qualification Document / Questionnaire</td>
<td>MWD1.G.3.14.2</td>
<td>10 days</td>
<td>Tue 7/10/18</td>
<td>Tue 7/10/18</td>
<td>Mon 7/23/18</td>
<td>Mon 7/23/18</td>
<td>0 days</td>
</tr>
<tr>
<td>23</td>
<td>Mesa Water Dist. Review</td>
<td>MWD1.G.3.14.3</td>
<td>20 days</td>
<td>Tue 7/24/18</td>
<td>Tue 7/24/18</td>
<td>Mon 8/20/18</td>
<td>Mon 8/20/18</td>
<td>0 days</td>
</tr>
<tr>
<td>24</td>
<td>Contractor Recruiting</td>
<td>MWD1.G.3.14.4</td>
<td>10 days</td>
<td>Tue 8/21/18</td>
<td>Tue 8/21/18</td>
<td>Mon 9/3/18</td>
<td>Mon 9/3/18</td>
<td>0 days</td>
</tr>
<tr>
<td>25</td>
<td>Send Pre-Qual Docs</td>
<td>MWD1.G.3.14.5</td>
<td>20 days</td>
<td>Tue 9/4/18</td>
<td>Tue 9/4/18</td>
<td>Mon 10/1/18</td>
<td>Mon 10/1/18</td>
<td>0 days</td>
</tr>
<tr>
<td>26</td>
<td>Potential Contractors Respond</td>
<td>MWD1.G.3.14.6</td>
<td>10 days</td>
<td>Tue 10/2/18</td>
<td>Tue 10/2/18</td>
<td>Mon 10/15/18</td>
<td>Mon 10/15/18</td>
<td>0 days</td>
</tr>
<tr>
<td>27</td>
<td>CM &amp; MWD Evaluate Responses and Qualify Contractors</td>
<td>MWD1.G.3.14.7</td>
<td>0 days</td>
<td>Mon 10/15/18</td>
<td>Mon 10/15/18</td>
<td>Tue 10/16/18</td>
<td>Tue 10/16/18</td>
<td>0 days</td>
</tr>
<tr>
<td>28</td>
<td>MWD Distribute Bid Documents to Qualified Contractors</td>
<td>MWD1.G.3.15</td>
<td>21 days</td>
<td>Tue 10/16/18</td>
<td>Tue 10/16/18</td>
<td>Tue 11/13/18</td>
<td>Tue 11/13/18</td>
<td>0 days</td>
</tr>
<tr>
<td>29</td>
<td>Bidding</td>
<td>MWD1.G.3.15.3</td>
<td>21 days</td>
<td>Tue 10/16/18</td>
<td>Tue 10/16/18</td>
<td>Tue 11/13/18</td>
<td>Tue 11/13/18</td>
<td>0 days</td>
</tr>
<tr>
<td>30</td>
<td>Bidding Support</td>
<td>MWD1.G.3.16</td>
<td>25 days</td>
<td>Wed 11/14/18</td>
<td>Wed 11/14/18</td>
<td>Tue 12/18/18</td>
<td>Tue 12/18/18</td>
<td>0 days</td>
</tr>
<tr>
<td>31</td>
<td>Bid Review</td>
<td>MWD1.G.3.16.3</td>
<td>5 days</td>
<td>Wed 11/14/18</td>
<td>Wed 11/14/18</td>
<td>Tue 11/20/18</td>
<td>Tue 11/20/18</td>
<td>0 days</td>
</tr>
</tbody>
</table>

**Project: MWD-1.mpp**

**Date: Wed 12/13/17**
<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>WBS</th>
<th>Duration</th>
<th>Early Start</th>
<th>Late Start</th>
<th>Early Finish</th>
<th>Late Finish</th>
<th>Total Slack</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>Award</td>
<td>MWD1.G.3.16.10</td>
<td>0 days</td>
<td>Tue 11/20/18</td>
<td>Wed 11/21/18</td>
<td>Wed 11/21/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Contractor Bonds, Insurance</td>
<td>MWD1.G.3.16.11</td>
<td>20 days</td>
<td>Wed 11/21/18</td>
<td>Tue 12/18/18</td>
<td>Tue 12/18/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Contractor's Notice to Proceed</td>
<td>MWD1.G.3.16.12</td>
<td>0 days</td>
<td>Tue 12/18/18</td>
<td>Tue 12/18/18</td>
<td>Tue 12/18/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>CONSTRUCTION PHASE</td>
<td>MWD1.G.4</td>
<td>616 days</td>
<td>Wed 2/20/18</td>
<td>Wed 4/25/18</td>
<td>Wed 6/30/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Task 1 Program Management</td>
<td>MWD1.G.4.6</td>
<td>605 days</td>
<td>Wed 2/20/18</td>
<td>Wed 4/25/18</td>
<td>Wed 6/30/20</td>
<td>11 days</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Construction Kick-off Meeting</td>
<td>MWD1.G.4.6.8</td>
<td>1 day</td>
<td>Wed 12/19/18</td>
<td>Wed 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Project Management During Construction</td>
<td>MWD1.G.4.6.9</td>
<td>400 days</td>
<td>Wed 12/14/18</td>
<td>Tue 12/4/18</td>
<td>Wed 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Construction Progress Meetings</td>
<td>MWD1.G.4.6.10</td>
<td>381 days</td>
<td>Wed 12/26/18</td>
<td>Tue 2/18/18</td>
<td>Wed 6/10/20</td>
<td>3 days</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Construction Progress Meetings 1</td>
<td>MWD1.G.4.6.10.78</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Construction Progress Meetings 2</td>
<td>MWD1.G.4.6.10.79</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Construction Progress Meetings 3</td>
<td>MWD1.G.4.6.10.80</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Construction Progress Meetings 4</td>
<td>MWD1.G.4.6.10.81</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Construction Progress Meetings 5</td>
<td>MWD1.G.4.6.10.82</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Construction Progress Meetings 6</td>
<td>MWD1.G.4.6.10.83</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Construction Progress Meetings 7</td>
<td>MWD1.G.4.6.10.84</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Construction Progress Meetings 8</td>
<td>MWD1.G.4.6.10.85</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Construction Progress Meetings 9</td>
<td>MWD1.G.4.6.10.86</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Construction Progress Meetings 10</td>
<td>MWD1.G.4.6.10.87</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Construction Progress Meetings 11</td>
<td>MWD1.G.4.6.10.88</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Construction Progress Meetings 12</td>
<td>MWD1.G.4.6.10.89</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Construction Progress Meetings 13</td>
<td>MWD1.G.4.6.10.90</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Construction Progress Meetings 14</td>
<td>MWD1.G.4.6.10.91</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Construction Progress Meetings 15</td>
<td>MWD1.G.4.6.10.92</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Construction Progress Meetings 16</td>
<td>MWD1.G.4.6.10.93</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Construction Progress Meetings 17</td>
<td>MWD1.G.4.6.10.94</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Construction Progress Meetings 18</td>
<td>MWD1.G.4.6.10.95</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Construction Progress Meetings 19</td>
<td>MWD1.G.4.6.10.96</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Construction Progress Meetings 20</td>
<td>MWD1.G.4.6.10.97</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Construction Progress Meetings 21</td>
<td>MWD1.G.4.6.10.98</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Construction Progress Meetings 22</td>
<td>MWD1.G.4.6.10.99</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Construction Progress Meetings 23</td>
<td>MWD1.G.4.6.10.100</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Construction Progress Meetings 24</td>
<td>MWD1.G.4.6.10.101</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>Construction Progress Meetings 25</td>
<td>MWD1.G.4.6.10.102</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Construction Progress Meetings 26</td>
<td>MWD1.G.4.6.10.103</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Construction Progress Meetings 27</td>
<td>MWD1.G.4.6.10.104</td>
<td>1 day</td>
<td>Wed 12/26/18</td>
<td>Tue 12/19/18</td>
<td>Wed 12/19/18</td>
<td>0 days</td>
<td></td>
</tr>
</tbody>
</table>
### Construction Progress Meetings

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>WBS</th>
<th>Duration</th>
<th>Early Start</th>
<th>Late Finish</th>
<th>Total Slack</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>Construction Progress Meetings 28</td>
<td>MWD1.G.4.6.10.105</td>
<td>1 day</td>
<td>Wed 7/3/19</td>
<td>Tue 4/7/20</td>
<td>199 days</td>
</tr>
<tr>
<td>69</td>
<td>Construction Progress Meetings 29</td>
<td>MWD1.G.4.6.10.106</td>
<td>1 day</td>
<td>Wed 7/10/19</td>
<td>Wed 4/8/20</td>
<td>195 days</td>
</tr>
<tr>
<td>70</td>
<td>Construction Progress Meetings 30</td>
<td>MWD1.G.4.6.10.107</td>
<td>1 day</td>
<td>Wed 7/17/19</td>
<td>Thu 4/9/20</td>
<td>191 days</td>
</tr>
<tr>
<td>71</td>
<td>Construction Progress Meetings 31</td>
<td>MWD1.G.4.6.10.108</td>
<td>1 day</td>
<td>Wed 7/24/19</td>
<td>Fri 4/10/20</td>
<td>187 days</td>
</tr>
<tr>
<td>72</td>
<td>Construction Progress Meetings 32</td>
<td>MWD1.G.4.6.10.109</td>
<td>1 day</td>
<td>Wed 7/31/19</td>
<td>Mon 4/13/20</td>
<td>183 days</td>
</tr>
<tr>
<td>73</td>
<td>Construction Progress Meetings 33</td>
<td>MWD1.G.4.6.10.110</td>
<td>1 day</td>
<td>Wed 8/7/19</td>
<td>Tue 4/14/20</td>
<td>179 days</td>
</tr>
<tr>
<td>74</td>
<td>Construction Progress Meetings 34</td>
<td>MWD1.G.4.6.10.111</td>
<td>1 day</td>
<td>Wed 8/14/19</td>
<td>Wed 4/15/20</td>
<td>175 days</td>
</tr>
<tr>
<td>75</td>
<td>Construction Progress Meetings 35</td>
<td>MWD1.G.4.6.10.112</td>
<td>1 day</td>
<td>Wed 8/21/19</td>
<td>Thu 4/16/20</td>
<td>171 days</td>
</tr>
<tr>
<td>76</td>
<td>Construction Progress Meetings 36</td>
<td>MWD1.G.4.6.10.113</td>
<td>1 day</td>
<td>Wed 8/28/19</td>
<td>Fri 4/17/20</td>
<td>167 days</td>
</tr>
<tr>
<td>77</td>
<td>Construction Progress Meetings 37</td>
<td>MWD1.G.4.6.10.114</td>
<td>1 day</td>
<td>Wed 9/4/19</td>
<td>Wed 4/9/20</td>
<td>163 days</td>
</tr>
<tr>
<td>78</td>
<td>Construction Progress Meetings 38</td>
<td>MWD1.G.4.6.10.115</td>
<td>1 day</td>
<td>Wed 9/11/19</td>
<td>Tue 4/21/20</td>
<td>159 days</td>
</tr>
<tr>
<td>79</td>
<td>Construction Progress Meetings 39</td>
<td>MWD1.G.4.6.10.116</td>
<td>1 day</td>
<td>Wed 9/18/19</td>
<td>Wed 4/22/20</td>
<td>155 days</td>
</tr>
<tr>
<td>80</td>
<td>Construction Progress Meetings 40</td>
<td>MWD1.G.4.6.10.117</td>
<td>1 day</td>
<td>Wed 9/25/19</td>
<td>Thu 4/23/20</td>
<td>151 days</td>
</tr>
<tr>
<td>81</td>
<td>Construction Progress Meetings 41</td>
<td>MWD1.G.4.6.10.118</td>
<td>1 day</td>
<td>Wed 10/2/19</td>
<td>Fri 4/24/20</td>
<td>147 days</td>
</tr>
<tr>
<td>82</td>
<td>Construction Progress Meetings 42</td>
<td>MWD1.G.4.6.10.119</td>
<td>1 day</td>
<td>Wed 10/9/19</td>
<td>Mon 4/27/20</td>
<td>143 days</td>
</tr>
<tr>
<td>83</td>
<td>Construction Progress Meetings 43</td>
<td>MWD1.G.4.6.10.120</td>
<td>1 day</td>
<td>Wed 10/16/19</td>
<td>Tue 4/28/20</td>
<td>139 days</td>
</tr>
<tr>
<td>84</td>
<td>Construction Progress Meetings 44</td>
<td>MWD1.G.4.6.10.121</td>
<td>1 day</td>
<td>Wed 10/23/19</td>
<td>Wed 4/29/20</td>
<td>135 days</td>
</tr>
<tr>
<td>85</td>
<td>Construction Progress Meetings 45</td>
<td>MWD1.G.4.6.10.122</td>
<td>1 day</td>
<td>Wed 10/30/19</td>
<td>Thu 4/30/20</td>
<td>131 days</td>
</tr>
<tr>
<td>86</td>
<td>Construction Progress Meetings 46</td>
<td>MWD1.G.4.6.10.123</td>
<td>1 day</td>
<td>Wed 11/16/19</td>
<td>Fri 5/1/20</td>
<td>127 days</td>
</tr>
<tr>
<td>87</td>
<td>Construction Progress Meetings 47</td>
<td>MWD1.G.4.6.10.124</td>
<td>1 day</td>
<td>Wed 11/13/19</td>
<td>Mon 5/4/20</td>
<td>123 days</td>
</tr>
<tr>
<td>88</td>
<td>Construction Progress Meetings 48</td>
<td>MWD1.G.4.6.10.125</td>
<td>1 day</td>
<td>Wed 11/20/19</td>
<td>Tue 5/5/20</td>
<td>119 days</td>
</tr>
<tr>
<td>89</td>
<td>Construction Progress Meetings 49</td>
<td>MWD1.G.4.6.10.126</td>
<td>1 day</td>
<td>Wed 11/27/19</td>
<td>Wed 5/6/20</td>
<td>115 days</td>
</tr>
<tr>
<td>90</td>
<td>Construction Progress Meetings 50</td>
<td>MWD1.G.4.6.10.127</td>
<td>1 day</td>
<td>Wed 12/4/19</td>
<td>Thu 5/7/20</td>
<td>111 days</td>
</tr>
<tr>
<td>91</td>
<td>Construction Progress Meetings 51</td>
<td>MWD1.G.4.6.10.128</td>
<td>1 day</td>
<td>Wed 12/11/19</td>
<td>Fri 5/8/20</td>
<td>107 days</td>
</tr>
<tr>
<td>92</td>
<td>Construction Progress Meetings 52</td>
<td>MWD1.G.4.6.10.129</td>
<td>1 day</td>
<td>Wed 12/18/19</td>
<td>Mon 5/11/20</td>
<td>103 days</td>
</tr>
<tr>
<td>93</td>
<td>Construction Progress Meetings 53</td>
<td>MWD1.G.4.6.10.130</td>
<td>1 day</td>
<td>Wed 12/25/19</td>
<td>Tue 5/12/20</td>
<td>99 days</td>
</tr>
<tr>
<td>94</td>
<td>Construction Progress Meetings 54</td>
<td>MWD1.G.4.6.10.131</td>
<td>1 day</td>
<td>Wed 1/1/20</td>
<td>Wed 5/13/20</td>
<td>95 days</td>
</tr>
<tr>
<td>95</td>
<td>Construction Progress Meetings 55</td>
<td>MWD1.G.4.6.10.132</td>
<td>1 day</td>
<td>Wed 1/8/20</td>
<td>Wed 1/8/20</td>
<td>91 days</td>
</tr>
<tr>
<td>96</td>
<td>Construction Progress Meetings 56</td>
<td>MWD1.G.4.6.10.133</td>
<td>1 day</td>
<td>Wed 1/15/20</td>
<td>Fri 5/15/20</td>
<td>87 days</td>
</tr>
<tr>
<td>97</td>
<td>Construction Progress Meetings 57</td>
<td>MWD1.G.4.6.10.134</td>
<td>1 day</td>
<td>Wed 1/22/20</td>
<td>Mon 5/18/20</td>
<td>83 days</td>
</tr>
<tr>
<td>98</td>
<td>Construction Progress Meetings 58</td>
<td>MWD1.G.4.6.10.135</td>
<td>1 day</td>
<td>Wed 1/29/20</td>
<td>Tue 5/19/20</td>
<td>79 days</td>
</tr>
<tr>
<td>99</td>
<td>Construction Progress Meetings 59</td>
<td>MWD1.G.4.6.10.136</td>
<td>1 day</td>
<td>Wed 2/5/20</td>
<td>Wed 2/5/20</td>
<td>75 days</td>
</tr>
<tr>
<td>100</td>
<td>Construction Progress Meetings 60</td>
<td>MWD1.G.4.6.10.137</td>
<td>1 day</td>
<td>Wed 2/12/20</td>
<td>Tue 5/21/20</td>
<td>71 days</td>
</tr>
<tr>
<td>101</td>
<td>Construction Progress Meetings 61</td>
<td>MWD1.G.4.6.10.138</td>
<td>1 day</td>
<td>Wed 2/19/20</td>
<td>Fri 5/22/20</td>
<td>67 days</td>
</tr>
<tr>
<td>102</td>
<td>Construction Progress Meetings 62</td>
<td>MWD1.G.4.6.10.139</td>
<td>1 day</td>
<td>Wed 2/26/20</td>
<td>Mon 5/25/20</td>
<td>63 days</td>
</tr>
</tbody>
</table>

**Project: MWD-1.mpp**

**Date:** Wed 12/13/17

**MESA WATER DISTRICT**

**Crosby and Chandler Way Wells & Pipeline Project**

**Construction Management Services Schedule**
### Construction Management Services Schedule

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>WBS</th>
<th>Duration</th>
<th>Early Start</th>
<th>Late Start</th>
<th>Early Finish</th>
<th>Late Finish</th>
<th>2018 Q4</th>
<th>2019 Q1</th>
<th>2019 Q2</th>
<th>2019 Q3</th>
<th>2019 Q4</th>
<th>2020 Q1</th>
<th>2020 Q2</th>
<th>2020 Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>139</td>
<td>Monthly Invoicing 16</td>
<td>MWD1.G.4.6.12.33</td>
<td>20 days</td>
<td>Fri 4/10/20</td>
<td>Wed 5/6/20</td>
<td>Thu 5/7/20</td>
<td>Tue 6/2/20</td>
<td>18 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>141</td>
<td>Construction Management Plan Using Conformed Documents</td>
<td>MWD1.G.4.6.13</td>
<td>10 days</td>
<td>Wed 12/19/18</td>
<td>Wed 12/19/18</td>
<td>Tue 1/1/19</td>
<td>Tue 1/1/19</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>142</td>
<td>CM-Staffing During Construction</td>
<td>MWD1.G.4.6.14</td>
<td>400 days</td>
<td>Tue 10/16/18</td>
<td>Tue 12/4/18</td>
<td>Mon 4/27/20</td>
<td>Tue 6/30/20</td>
<td>35 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>143</td>
<td>Resident Engineer</td>
<td>MWD1.G.4.6.14.6</td>
<td>400 days</td>
<td>Tue 10/16/18</td>
<td>Tue 12/4/18</td>
<td>Mon 4/27/20</td>
<td>Mon 6/15/20</td>
<td>35 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>Well On-site Inspection</td>
<td>MWD1.G.4.6.14.7</td>
<td>300 days</td>
<td>Wed 2/20/19</td>
<td>Tue 4/23/19</td>
<td>Tue 4/14/20</td>
<td>Mon 6/15/20</td>
<td>44 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>145</td>
<td>Pipeline On-site Inspection</td>
<td>MWD1.G.4.6.14.8</td>
<td>100 days</td>
<td>Wed 1/2/19</td>
<td>Thu 8/15/19</td>
<td>Tue 5/21/19</td>
<td>Wed 1/1/20</td>
<td>161 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>146</td>
<td>Principal Engineer/Manager</td>
<td>MWD1.G.4.6.14.9</td>
<td>400 days</td>
<td>Tue 10/16/18</td>
<td>Wed 12/19/18</td>
<td>Mon 4/27/20</td>
<td>Tue 6/30/20</td>
<td>46 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>147</td>
<td>Administrative Support</td>
<td>MWD1.G.4.6.14.10</td>
<td>400 days</td>
<td>Tue 10/16/18</td>
<td>Wed 12/19/18</td>
<td>Mon 4/27/20</td>
<td>Tue 6/30/20</td>
<td>46 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>Task 4 Construction Administration</td>
<td>MWD1.G.4.7</td>
<td>411 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>149</td>
<td>Contract Administration</td>
<td>MWD1.G.4.7.3</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>Administration</td>
<td>MWD1.G.4.7.3.11</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>151</td>
<td>Administrative Support Assistance</td>
<td>MWD1.G.4.7.3.12</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>Contractor Communication</td>
<td>MWD1.G.4.7.3.13</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>153</td>
<td>Quality Assurance</td>
<td>MWD1.G.4.7.3.14</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>154</td>
<td>Interaction with Agencies</td>
<td>MWD1.G.4.7.3.15</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>155</td>
<td>Substitution Requests</td>
<td>MWD1.G.4.7.3.16</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>156</td>
<td>Monitoring the Contractor’s CPM Schedule</td>
<td>MWD1.G.4.7.3.17</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>157</td>
<td>Schedule of Values Approval and Monitoring</td>
<td>MWD1.G.4.7.3.18</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>158</td>
<td>Submittal Review/Logging</td>
<td>MWD1.G.4.7.3.19</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>159</td>
<td>Project Meetings - See Activity 40 Above</td>
<td>MWD1.G.4.7.3.20</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>Safety and Security Monitoring</td>
<td>MWD1.G.4.7.4</td>
<td>411 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>161</td>
<td>PPE for CM Team</td>
<td>MWD1.G.4.7.4.8</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>162</td>
<td>Job Site Security Verification</td>
<td>MWD1.G.4.7.4.9</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>Emergency Response Plan Review / Compliance</td>
<td>MWD1.G.4.7.4.10</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>164</td>
<td>Environmental Monitoring</td>
<td>MWD1.G.4.7.4.11</td>
<td>411 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Tue 6/30/20</td>
<td>Tue 6/30/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td>Enforce Reg Agencies Permit Requirements</td>
<td>MWD1.G.4.7.4.11.5</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>166</td>
<td>Controls and Scheduling</td>
<td>MWD1.G.4.7.4.11.6.11</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>167</td>
<td>Baseline Schedule Review</td>
<td>MWD1.G.4.7.4.11.6.11.11</td>
<td>15 days</td>
<td>Wed 1/30/19</td>
<td>Wed 1/30/19</td>
<td>Tue 2/19/19</td>
<td>Tue 2/19/19</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>168</td>
<td>Critical Path Schedule Reviews 1</td>
<td>MWD1.G.4.7.4.11.6.12.12</td>
<td>376 days</td>
<td>Mon 1/7/19</td>
<td>Mon 2/11/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>Critical Path Schedule Reviews 2</td>
<td>MWD1.G.4.7.4.11.6.12.12.30</td>
<td>250 days</td>
<td>Mon 1/7/19</td>
<td>Mon 2/11/19</td>
<td>Fri 3/8/19</td>
<td>25 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>Critical Path Schedule Reviews 3</td>
<td>MWD1.G.4.7.4.11.6.12.220</td>
<td>250 days</td>
<td>Mon 1/7/19</td>
<td>Mon 2/11/19</td>
<td>Fri 3/1/19</td>
<td>25 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Critical Path Schedule Reviews

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>WBS</th>
<th>Duration</th>
<th>Early Start</th>
<th>Late Start</th>
<th>Early Finish</th>
<th>Late Finish</th>
<th>Total Slack</th>
</tr>
</thead>
<tbody>
<tr>
<td>172</td>
<td>Critical Path Schedule Reviews 4</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 4/1/19</td>
<td>Mon 5/6/19</td>
<td>Fri 4/26/19</td>
<td>Fri 5/31/19</td>
<td>25 days</td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>Critical Path Schedule Reviews 5</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 5/6/19</td>
<td>Mon 6/3/19</td>
<td>Fri 5/31/19</td>
<td>Fri 6/28/19</td>
<td>20 days</td>
<td></td>
</tr>
<tr>
<td>174</td>
<td>Critical Path Schedule Reviews 6</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 6/3/19</td>
<td>Mon 7/1/19</td>
<td>Fri 6/28/19</td>
<td>Fri 7/26/19</td>
<td>20 days</td>
<td></td>
</tr>
<tr>
<td>175</td>
<td>Critical Path Schedule Reviews 7</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 7/1/19</td>
<td>Mon 7/29/19</td>
<td>Fri 7/19/19</td>
<td>Fri 8/23/19</td>
<td>20 days</td>
<td></td>
</tr>
<tr>
<td>176</td>
<td>Critical Path Schedule Reviews 8</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 8/5/19</td>
<td>Mon 8/26/19</td>
<td>Fri 9/20/19</td>
<td>Fri 10/18/19</td>
<td>15 days</td>
<td></td>
</tr>
<tr>
<td>177</td>
<td>Critical Path Schedule Reviews 9</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 9/2/19</td>
<td>Mon 9/23/19</td>
<td>Fri 9/27/19</td>
<td>Fri 10/18/19</td>
<td>15 days</td>
<td></td>
</tr>
<tr>
<td>178</td>
<td>Critical Path Schedule Reviews 10</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 10/7/19</td>
<td>Mon 10/21/19</td>
<td>Fri 11/1/19</td>
<td>Fri 11/15/19</td>
<td>10 days</td>
<td></td>
</tr>
<tr>
<td>179</td>
<td>Critical Path Schedule Reviews 11</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 11/4/19</td>
<td>Mon 11/18/19</td>
<td>Fri 11/29/19</td>
<td>Fri 12/13/19</td>
<td>10 days</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>Critical Path Schedule Reviews 12</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 12/2/19</td>
<td>Mon 12/16/19</td>
<td>Fri 12/27/19</td>
<td>Fri 1/10/20</td>
<td>10 days</td>
<td></td>
</tr>
<tr>
<td>181</td>
<td>Critical Path Schedule Reviews 13</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 1/6/20</td>
<td>Mon 1/13/20</td>
<td>Fri 3/1/20</td>
<td>Fri 2/7/20</td>
<td>5 days</td>
<td></td>
</tr>
<tr>
<td>182</td>
<td>Critical Path Schedule Reviews 14</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 2/3/20</td>
<td>Mon 2/10/20</td>
<td>Fri 2/28/20</td>
<td>Fri 3/6/20</td>
<td>5 days</td>
<td></td>
</tr>
<tr>
<td>184</td>
<td>Critical Path Schedule Reviews 16</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 4/6/20</td>
<td>Mon 4/6/20</td>
<td>Fri 5/1/20</td>
<td>Fri 5/1/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>185</td>
<td>Critical Path Schedule Reviews 17</td>
<td>MWD1.G.4.7.11.12.320 days</td>
<td>Mon 5/4/20</td>
<td>Mon 5/4/20</td>
<td>Fri 5/29/20</td>
<td>Fri 5/29/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>186</td>
<td>Critical Path Schedule Reviews 18</td>
<td>MWD1.G.4.7.11.12.311 days</td>
<td>Mon 6/1/20</td>
<td>Mon 6/1/20</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
</tbody>
</table>

**Project: MWD-1.mpp**

**Date: Wed 12/13/17**

---

**Construction Management Services Schedule**
# Construction Management Services Schedule

## MESA WATER DISTRICT

### Croddy and Chandler Way Wells & Pipeline Project

<table>
<thead>
<tr>
<th>Task</th>
<th>WBS</th>
<th>Duration</th>
<th>Early Start</th>
<th>Late Start</th>
<th>Early Finish</th>
<th>Late Finish</th>
<th>Total Slack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claims</td>
<td>MWD1.G.4.7.4.11.8.8</td>
<td>400 days</td>
<td>Wed 12/19/18</td>
<td>Tue 6/30/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Document Tracking</td>
<td>MWD1.G.4.7.4.11.8.9</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Document Managing</td>
<td>MWD1.G.4.7.4.11.8.10</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>As-Built Documents Administration</td>
<td>MWD1.G.4.7.4.11.8.11</td>
<td>400 days</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Document Maintenance</td>
<td>MWD1.G.4.7.4.11.8.12</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Spare Parts Inventory</td>
<td>MWD1.G.4.7.4.11.8.13</td>
<td>75 days</td>
<td>Wed 3/8/20</td>
<td>Tue 3/30/20</td>
<td>Mon 6/15/20</td>
<td>39 days</td>
<td></td>
</tr>
<tr>
<td>Operations and Maintenance Manuals</td>
<td>MWD1.G.4.7.4.11.8.14</td>
<td>45 days</td>
<td>Wed 1/8/20</td>
<td>Tue 4/14/20</td>
<td>Mon 6/15/20</td>
<td>69 days</td>
<td></td>
</tr>
<tr>
<td>Change Order and Claims Management</td>
<td>MWD1.G.4.7.4.11.8.15</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Document Managing / Collect Docs and Recommendation Regarding Change Orders</td>
<td>MWD1.G.4.7.4.11.8.16</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Review Contractor Requests</td>
<td>MWD1.G.4.7.4.11.8.17</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Change Order Review</td>
<td>MWD1.G.4.7.4.11.8.18</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Change Order Expediting</td>
<td>MWD1.G.4.7.4.11.8.19</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Task 5 Inspection</td>
<td>MWD1.G.4.8</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Daily and Weekly Documentation</td>
<td>MWD1.G.4.8.3</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Documentation of Construction Activities</td>
<td>MWD1.G.4.8.3.5</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Construction Reporting</td>
<td>MWD1.G.4.8.3.6</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Non-Conformance Reporting</td>
<td>MWD1.G.4.8.3.7</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Photographic Records</td>
<td>MWD1.G.4.8.3.8</td>
<td>400 days</td>
<td>Tue 12/4/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Civil Inspections</td>
<td>MWD1.G.4.8.4</td>
<td>389 days</td>
<td>Wed 12/19/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Site Grading</td>
<td>MWD1.G.4.8.4.18</td>
<td>10 days</td>
<td>Wed 12/19/18</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Site Improvements</td>
<td>MWD1.G.4.8.4.19</td>
<td>60 days</td>
<td>Wed 1/12/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Pipeline Installations</td>
<td>MWD1.G.4.8.4.20</td>
<td>100 days</td>
<td>Wed 1/12/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Pavement Restorations</td>
<td>MWD1.G.4.8.4.21</td>
<td>15 days</td>
<td>Wed 5/22/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Stripping Restoration</td>
<td>MWD1.G.4.8.4.22</td>
<td>10 days</td>
<td>Wed 5/22/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Pipeline Bedding and Compaction</td>
<td>MWD1.G.4.8.4.23</td>
<td>60 days</td>
<td>Wed 1/12/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Coordination of Soil Sampling and Testing</td>
<td>MWD1.G.4.8.4.24</td>
<td>20 days</td>
<td>Wed 1/12/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Structural and Special Inspections</td>
<td>MWD1.G.4.8.4.25</td>
<td>120 days</td>
<td>Wed 1/12/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Foundations</td>
<td>MWD1.G.4.8.4.25.8</td>
<td>20 days</td>
<td>Wed 3/7/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Concrete</td>
<td>MWD1.G.4.8.4.25.9</td>
<td>20 days</td>
<td>Wed 3/7/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Steel</td>
<td>MWD1.G.4.8.4.25.10</td>
<td>20 days</td>
<td>Wed 3/7/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Masonry</td>
<td>MWD1.G.4.8.4.25.11</td>
<td>20 days</td>
<td>Wed 3/7/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Welding Inspection/Ultrasonic Testin, X-raying</td>
<td>MWD1.G.4.8.4.25.12</td>
<td>100 days</td>
<td>Wed 3/7/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Seismic-force-resisting Systems</td>
<td>MWD1.G.4.8.4.25.13</td>
<td>100 days</td>
<td>Wed 3/7/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>Steel and HSS</td>
<td>MWD1.G.4.8.4.25.14</td>
<td>100 days</td>
<td>Wed 3/7/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
</tbody>
</table>

## Project: MWD-1.mpp

- **Date:** Wed 12/13/17
- **Duration:**
  - Q1: 206 days
  - Q2: 208 days
  - Q3: 210 days
  - Q4: 212 days
- **Critical:**
  - Task 5 Inspection
- **Non-Conformance Reporting**
  - Task 5 Inspection
- **Pipeline Bedding and Compaction**
  - Task 5 Inspection
- **Coordination of Soil Sampling and Testing**
  - Task 5 Inspection
- **Seismic-force-resisting Systems**
  - Task 5 Inspection
- **Steel and HSS**
  - Task 5 Inspection

---

**Construction Management Services Schedule**

### Construction Management Services Schedule

<table>
<thead>
<tr>
<th>Task</th>
<th>Inactive Task</th>
<th>Duration-only</th>
<th>Finish-only</th>
<th>Critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milestone</td>
<td>Inactive Milestone</td>
<td>Manual Summary Rollup</td>
<td>External Tasks</td>
<td>Critical Split</td>
</tr>
<tr>
<td>Summary</td>
<td>Inactive Summary</td>
<td>Manual Summary</td>
<td>External Milestone</td>
<td>Progress</td>
</tr>
<tr>
<td>Project Summary</td>
<td>Manual Task</td>
<td>Start-only</td>
<td>Deadline</td>
<td>Manual Progress</td>
</tr>
</tbody>
</table>
## Construction Management Services Schedule

### MESA WATER DISTRICT

#### Croddy and Chandler Way Wells & Pipeline Project

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>WBS</th>
<th>Duration</th>
<th>Early Start</th>
<th>Late Start</th>
<th>Early Finish</th>
<th>Late Finish</th>
<th>Total Slack</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
<td>Mechanical Inspections</td>
<td>MWD1.G.4.8.4.26.4</td>
<td>100 days</td>
<td>Wed 1/2/19</td>
<td>Tue 5/21/19</td>
<td>Tue 8/13/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>241</td>
<td>Inspection, Monitoring, and Reporting</td>
<td>MWD1.G.4.8.4.26.6</td>
<td>100 days</td>
<td>Wed 1/2/19</td>
<td>Tue 5/21/19</td>
<td>Tue 8/13/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>242</td>
<td>Field Testing</td>
<td>MWD1.G.4.8.4.26.4</td>
<td>100 days</td>
<td>Wed 1/2/19</td>
<td>Tue 5/21/19</td>
<td>Tue 8/13/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>243</td>
<td>Electrical Inspections</td>
<td>MWD1.G.4.8.4.27.3</td>
<td>1 day</td>
<td>Wed 3/22/19</td>
<td>Wed 8/14/19</td>
<td>Wed 8/14/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>244</td>
<td>Field Testing</td>
<td>MWD1.G.4.8.4.27.3</td>
<td>1 day</td>
<td>Wed 3/22/19</td>
<td>Wed 8/14/19</td>
<td>Wed 8/14/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>245</td>
<td>Instrumentation Inspections</td>
<td>MWD1.G.4.8.4.28.7</td>
<td>70 days</td>
<td>Thu 6/20/19</td>
<td>Thu 9/12/19</td>
<td>Thu 9/12/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>246</td>
<td>Inspection, Monitoring, and Reporting</td>
<td>MWD1.G.4.8.4.28.8</td>
<td>20 days</td>
<td>Thu 6/20/19</td>
<td>Thu 9/12/19</td>
<td>Thu 9/12/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>Field Testing</td>
<td>MWD1.G.4.8.4.28.8</td>
<td>15 days</td>
<td>Thu 7/18/19</td>
<td>Thu 10/10/19</td>
<td>Thu 10/10/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>248</td>
<td>Participation in Meetings</td>
<td>MWD1.G.4.8.4.28.9</td>
<td>5 days</td>
<td>Thu 8/8/19</td>
<td>Thu 10/10/19</td>
<td>Thu 10/10/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>Loop Drawing Checking</td>
<td>MWD1.G.4.8.4.28.10</td>
<td>10 days</td>
<td>Thu 8/15/19</td>
<td>Thu 11/7/19</td>
<td>Thu 11/7/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>251</td>
<td>Field Installation Verification</td>
<td>MWD1.G.4.8.4.28.11</td>
<td>10 days</td>
<td>Thu 8/29/19</td>
<td>Thu 11/11/19</td>
<td>Thu 11/11/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>Instrument Calibration</td>
<td>MWD1.G.4.8.4.28.12</td>
<td>10 days</td>
<td>Thu 9/12/19</td>
<td>Thu 12/5/19</td>
<td>Thu 12/5/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>253</td>
<td>Mesa Water Systems Integrator</td>
<td>MWD1.G.4.8.4.29.4</td>
<td>10 days</td>
<td>Thu 9/26/19</td>
<td>Thu 12/19/19</td>
<td>Thu 12/19/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>254</td>
<td>Soils and Materials Testing</td>
<td>MWD1.G.4.8.4.30.4</td>
<td>80 days</td>
<td>Wed 4/24/19</td>
<td>Tue 8/13/19</td>
<td>Tue 8/13/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>255</td>
<td>Material Sampling</td>
<td>MWD1.G.4.8.4.30.5</td>
<td>40 days</td>
<td>Wed 4/24/19</td>
<td>Wed 11/12/19</td>
<td>Wed 11/12/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>258</td>
<td>Concrete Compressive Testing</td>
<td>MWD1.G.4.8.4.30.2</td>
<td>20 days</td>
<td>Wed 5/22/19</td>
<td>Wed 10/19/19</td>
<td>Wed 10/19/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>259</td>
<td>Soils Testing</td>
<td>MWD1.G.4.8.4.30.6</td>
<td>20 days</td>
<td>Wed 5/22/19</td>
<td>Wed 10/19/19</td>
<td>Wed 10/19/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>260</td>
<td>Data Review</td>
<td>MWD1.G.4.8.4.30.7</td>
<td>20 days</td>
<td>Wed 6/19/19</td>
<td>Wed 12/4/19</td>
<td>Wed 12/4/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>261</td>
<td>Reporting</td>
<td>MWD1.G.4.8.4.30.8</td>
<td>20 days</td>
<td>Wed 7/17/19</td>
<td>Wed 12/5/19</td>
<td>Wed 12/5/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>262</td>
<td>Storm Water Pollution Prevention Plan Inspection</td>
<td>MWD1.G.4.8.4.31.1</td>
<td>389 days</td>
<td>Wed 12/19/18</td>
<td>Wed 12/19/18</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>263</td>
<td>Review SWPPP</td>
<td>MWD1.G.4.8.4.31.3</td>
<td>20 days</td>
<td>Wed 12/19/18</td>
<td>Tue 1/15/19</td>
<td>Tue 1/15/19</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>264</td>
<td>Monitor SWPPP BMP Implementation</td>
<td>MWD1.G.4.8.4.31.4</td>
<td>365 days</td>
<td>Tue 1/22/19</td>
<td>Mon 6/15/20</td>
<td>Mon 6/15/20</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>265</td>
<td>Well Drilling and Development Inspection</td>
<td>MWD1.G.4.8.4.32.4</td>
<td>196 days</td>
<td>Wed 2/20/19</td>
<td>Wed 11/20/19</td>
<td>Wed 11/20/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>266</td>
<td>DHS Coordination for Well Approval</td>
<td>MWD1.G.4.8.4.32.4</td>
<td>26 days</td>
<td>Wed 2/20/19</td>
<td>Wed 3/27/19</td>
<td>Wed 3/27/19</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>267</td>
<td>Drill Cuttings and Soil Logging</td>
<td>MWD1.G.4.8.4.32.5</td>
<td>100 days</td>
<td>Thu 3/28/19</td>
<td>Thu 8/14/19</td>
<td>Thu 8/14/19</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>268</td>
<td>Final Report Collection</td>
<td>MWD1.G.4.8.4.32.6</td>
<td>70 days</td>
<td>Thu 8/15/19</td>
<td>Thu 11/20/19</td>
<td>Thu 11/20/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>269</td>
<td>Well Description</td>
<td>MWD1.G.4.8.4.32.6.8</td>
<td>10 days</td>
<td>Thu 8/15/19</td>
<td>Thu 8/15/19</td>
<td>Thu 8/15/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>270</td>
<td>Detailed Well Logs</td>
<td>MWD1.G.4.8.4.32.6.9</td>
<td>10 days</td>
<td>Thu 8/29/19</td>
<td>Thu 9/11/19</td>
<td>Thu 9/11/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>271</td>
<td>Description of Type of Construction</td>
<td>MWD1.G.4.8.4.32.6.10</td>
<td>10 days</td>
<td>Thu 9/12/19</td>
<td>Thu 9/25/19</td>
<td>Thu 9/25/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>272</td>
<td>Details of Perforation</td>
<td>MWD1.G.4.8.4.32.6.11</td>
<td>10 days</td>
<td>Thu 9/26/19</td>
<td>Thu 10/9/19</td>
<td>Thu 10/9/19</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td>273</td>
<td>Methods used to seal off surface or contaminated waters</td>
<td>MWD1.G.4.8.4.32.6.12</td>
<td>10 days</td>
<td>Thu 10/10/19</td>
<td>Thu 10/23/19</td>
<td>Thu 10/23/19</td>
<td>60 days</td>
<td></td>
</tr>
</tbody>
</table>
Front Cover
Print on 11” x 17”
Trim to 9” x 11”
Print on 100 lb. cover gloss
TO: Board of Directors
FROM: Denise Garcia, Administrative Services Manager
DATE: February 8, 2018
SUBJECT: Appointment of the District Treasurer

RECOMMENDATION

Appoint Marwan Khalifa as District Treasurer and award the existing stipend for the Treasurer in the amount of $350 per month.

The Executive Committee will discuss this item at its February 6, 2018 meeting.

STRATEGIC PLAN

Goal #3: Be financially responsible and transparent.

PRIOR BOARD ACTION/DISCUSSION

At its December 8, 2016 meeting, the Board of Directors (Board) confirmed its District Officers. The Board has chosen to review the Appointment of District Officers to coincide with the Election of Officers which is conducted every two years, per Resolution No. 1479 – Protocols of the Board.

At its April 13, 2017 meeting, the Board appointed Coleen L. Monteleone as District Treasurer and awarded the existing Treasurer stipend of $285 per month.

At its June 8, 2017 meeting, the Board appointed Phil Lauri as District Treasurer and awarded the stipend for the District Treasurer in the amount of $350 per month, effective July 1, 2017.

DISCUSSION

With the July 31, 2017 hire of Marwan Khalifa as Chief Financial Officer, staff recommends Mr. Khalifa’s appointment to serve as Treasurer of Mesa Water District. If confirmed by the Board, CFO Khalifa will serve in this capacity at the Board’s pleasure.

FINANCIAL IMPACT

The current stipend in the amount of $4,200 per year for the District Treasurer is included in the Fiscal Year 2018 budget; $2450 has been spent to date.

ATTACHMENTS

None.
MEMORANDUM

TO: Board of Directors
FROM: Paul E. Shoenberger, P.E.
DATE: February 8, 2018
SUBJECT: Support for National Priority Listing of the Orange County North Basin Site

RECOMMENDATION

Direct staff to add Mesa Water District’s name and logo to a joint letter of support for National Priority Listing of the Orange County North Basin Site.

The Executive Committee will discuss this item at its February 6, 2018 meeting.

STRATEGIC PLAN

Goal #1: Provide a safe, reliable and abundant water supply.
Goal #3: Be financially responsible and transparent.
Goal #7: Actively participate in regional water issues.

PRIOR BOARD ACTION/DISCUSSION

None.

BACKGROUND

The Environmental Protection Agency (EPA) is currently accepting comments on its proposal to add the Orange County North Basin site (the Site) to the National Priorities List (NPL), commonly called the Superfund list. The Site, located in Northern Orange County, is a comingled groundwater plume of chlorinated solvents and other contaminants covering more than five square miles. The State of California referred the Site to EPA.

EPA’s Superfund program identifies sites that may pose actual or potential threats to public health or the environment due to contamination in groundwater, surface water, soils and air. EPA may conduct investigations, assess cleanup alternatives, and conduct certain response actions at such sites without those sites being on the NPL. However, placing a site on the NPL allows EPA to use federal resources to conduct cleanup activities and require potentially responsible parties to conduct or fund that work.

The attached draft letter expresses the support of the Water Producers Served by Orange County Water District (OCWD) for the National Priority Listing of the Orange County North Basin site. A 60-day public comment period is currently underway to receive community input on EPA’s proposal to add the Site to the NPL. Public comments must be postmarked by March 19, 2018.

Mesa Water has Board policies to support OCWD and its good groundwater management. Staff recommends that the Board direct staff to add Mesa Water’s name and logo to the joint letter of support.
FINANCIAL IMPACT

None.

ATTACHMENTS

Attachment A: Draft Letter of Support
January 31, 2018

Mr. Scott Pruitt, Administrator
U.S. Environmental Protection Agency
EPA Docket Center
Superfund Docket Number [EPA-HQ-OLEM-2017-0603]
Mail Code 2822IT
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Support for National Priority Listing of the Orange County North Basin Site

Dear Mr. Pruitt:

The undersigned groundwater producers operating within the Orange County Water District currently draw 75% of our water supply from the Orange County Groundwater Basin. This supply is critically important to the 2.5 million citizens of our community.

As your agency knows, it is important to protect this water resource from legacy industrial contamination in the North Basin. We support the Orange County Water District’s role in managing this problem and are thankful that they invited the USEPA to lead and direct the much-needed remedy.

We were also pleased to see your office identify this site on its short list of 21 sites across the nation calling for special consideration and inclusion on the National Priorities List (NPL). With the site officially proposed for listing, we send this letter affirming our support for North Basin’s final listing on the NPL.

If there is anything else that the undersigned water producers can do to support your good work in Orange County, please let us know.
Sincerely,
Water Producers Served by OCWD

Michael R. Markus, P.E., D.WRE, BCEE, F.ASCE
General Manager
Orange County Water District

Michael Moore, P.E.
Assistant General Manager
City of Anaheim

Lisa Ohlund
General Manager
East Orange County Water District

Hye-Jin Lee
Water Director
City of Fullerton

Ken Vecchiarelli
District Manager
Golden State Water Company

Paul A. Cook
General Manager
Irvine Ranch Water District

Paul Shoenberger
General Manager
Mesa Water District

Michael Grisso
Utilities Manager
City of Buena Park

Mark Lewis
Director of Public Works
City of Fountain Valley

Bill Murray
Water Services Manager
City of Garden Grove

Brian A. Ragland
Utilities Manager
City of Huntington Beach

Carlo Nafarrete
Water Supervisor
City of La Palma

Steffen Catron
Acting Utilities Director
City of Newport Beach
Joe DeFranceco
Public Works Director
City of Orange

Nabil Saba, P.E.
Water Resources Manager
City of Santa Ana

David Spitz
Associate Engineer
City of Seal Beach

Jerry Vlander
General Manager
Serrano Water District

Art Valenzuela
Water Services Manager
City of Tustin

Scott Miller
Water Superintendent
City of Westminster

Marc Marcantonio
General Manager
Yorba Linda Water District
MEMORANDUM

TO: Board of Directors  
FROM: Syndie Ly, Human Resources Manager  
DATE: February 8, 2018  
SUBJECT: Quarterly Training Report

RECOMMENDATION


STRATEGIC PLAN

Goal #5: Attract and retain skilled employees.

DISCUSSION

As part of the Board’s adopted 2017 Strategic Plan Goal #5 – Attract and retain skilled employees, Objective B is to Build Employee Skills, specifically the following:

- Fully train a minimum of two employees in key processes to ensure accountability and sustainability
- Develop and implement an operational and institutional knowledge transfer plan

Outcome 3 calls for quarterly training reports to the Board of Directors.

Attached is the Quarterly Training Report for October 1, 2017 to December 31, 2017. In addition to the training listed on the report, staff also conducts safety training for all employees and Monday Morning Tailgate Talks for Water Operations, Engineering and Customer Services field staff.

The Tailgate Talks for this quarter included the following topics:

- Avoiding Slips and Trips
- Distracted Driving
- Asbestos Quiz
- Active Shooter
- Forklift Safety
- Defensive Driving for Daylight Savings Time
- Fire Prevention Quiz
- Emergency Evacuation
- Get the Lead Out…Safely
- Protecting Against Bloodborne Pathogens
- PPE Quiz
- Forklift Operator Video
- Slips, Trips and Falls
The Safety Training program included the following topics:

- Unknown Contaminate Table Top Exercise BSI & Water Quality
- Fire Prevention
- IIPP, EAP, Alcohol and Controlled Substance, HazCom, Fire
- HAZWOPER Refresher
- The Great Shake Out

Below is the required continuing education hours needed, over a three-year period, for each Distribution and Treatment Certification Renewal held by staff:

<table>
<thead>
<tr>
<th>Distribution and Treatment Certification Renewals – Required Continuing Education Hours (within the last three years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1</td>
</tr>
<tr>
<td>12 hours</td>
</tr>
</tbody>
</table>

FINANCIAL IMPACT

The cost for the training is budgeted each fiscal year, per department or in the overall safety budget.

ATTACHMENTS

Attachment A: Quarterly Training Report for October 1, 2017 to December 31, 2017
<table>
<thead>
<tr>
<th>Position</th>
<th>Department</th>
<th>Date of Training</th>
<th>Type of Training</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Services Manager</td>
<td>Administrative Services</td>
<td>9/28/2017</td>
<td>ECS Imaging Annual Customer Conference</td>
<td>ECS Imaging Inc.</td>
</tr>
<tr>
<td>Records Management Specialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Human Resources Analyst</td>
<td>Human Resources</td>
<td>10/5 - 7/2017</td>
<td>AWI Annual Conference</td>
<td>Association of Workplace Investigators</td>
</tr>
<tr>
<td>Senior Operator</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Operations Manager</td>
<td>Water Operations</td>
<td>10/10/2017</td>
<td>SWMOA Membrane Manufacturer Tour</td>
<td>SWMOA - Carlsbad</td>
</tr>
<tr>
<td>Water Operations Supervisor</td>
<td>Water Operations</td>
<td>10/19/2017</td>
<td>Preventing Workplace Harassment, Discrimination and Retaliation</td>
<td>Liebert Cassidy Whitmore</td>
</tr>
<tr>
<td>External Affairs Manager</td>
<td>External Affairs</td>
<td>10/12/2017</td>
<td>Leadership Essentials for the Water Industry</td>
<td>ACWA JPIA</td>
</tr>
<tr>
<td>Water Quality Technician I</td>
<td>Water Operations</td>
<td>10/16 -17/2017</td>
<td>Water Quality &amp; Regulations- Chemical &amp; Microbial</td>
<td>AWWA</td>
</tr>
<tr>
<td>Senior Civil Engineer</td>
<td>Engineering</td>
<td>10/17/2017</td>
<td>ACWA Water Loss Regulatory Seminar</td>
<td>AWWA - Sacramento</td>
</tr>
<tr>
<td>Senior Operator</td>
<td>Water Operations</td>
<td>10/19/2017</td>
<td>Preventing Workplace Harassment, Discrimination and Retaliation</td>
<td>Liebert Cassidy Whitmore</td>
</tr>
<tr>
<td>Administrative Services Manager</td>
<td>Administrative Services</td>
<td>10/23 - 25/2017</td>
<td>CSDA Board Secretary Conference</td>
<td>CSDA</td>
</tr>
<tr>
<td>Executive Assistant to the General Manager</td>
<td>Records Management Specialist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chief Financial Officer</td>
<td>Financial Services</td>
<td>10/23 - 25/2017</td>
<td>CalPERS Education Forum</td>
<td>CalPERS</td>
</tr>
<tr>
<td>Human Resources Manager</td>
<td>Human Resources</td>
<td>10/23 - 25/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Civil Engineer</td>
<td>Engineering</td>
<td>10/31 - 11/2/2017</td>
<td>AWWA Water Infrastructure Conference</td>
<td>AWWA - Houston</td>
</tr>
<tr>
<td>Senior Operator</td>
<td>Water Operations</td>
<td>11/6 - 8/2017</td>
<td>D-4 Review</td>
<td>WQI</td>
</tr>
<tr>
<td>Water Operations Manager</td>
<td>Water Operations</td>
<td>11/13 - 16/2017</td>
<td>AWWA Water Quality Technology Conference</td>
<td>AWWA - Portland, OR</td>
</tr>
<tr>
<td>Human Resources Assistant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## FY18 Quarterly Training Report
### 2nd Quarter October 1, 2017 - December 31, 2017

<table>
<thead>
<tr>
<th>Position</th>
<th>Department</th>
<th>Date of Training</th>
<th>Type of Training</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin. Services Mgr</td>
<td>Administrative Services</td>
<td>12/4/2017</td>
<td>Elite Customer Services Training</td>
<td>Moran Consulting</td>
</tr>
<tr>
<td>Chief Fin Officer</td>
<td>Financial Services</td>
<td>12/5/2017</td>
<td>Tax Seminar</td>
<td>White Nelson Diehl Evans LLP</td>
</tr>
<tr>
<td>Senior H.R. Analyst</td>
<td>Human Resources</td>
<td>12/6 - 8/2017</td>
<td>CALPELRA Annual Training Conference</td>
<td>CALPELRA</td>
</tr>
<tr>
<td>Chief Fin Officer</td>
<td>Financial Services</td>
<td>12/11 - 12/2017</td>
<td>Disaster Finance Workshop</td>
<td>WEROC</td>
</tr>
<tr>
<td>Acc. Technician II</td>
<td>Financial Services</td>
<td>12/13/2017</td>
<td>1099 Webinar</td>
<td>RSM Product Sales</td>
</tr>
<tr>
<td>External Affairs Mgr</td>
<td>External Affairs</td>
<td>12/23/2017</td>
<td>Sexual Harassment Prevention for Supervisors (CA AB 1825)</td>
<td>TargetSolutions</td>
</tr>
<tr>
<td>Senior Civil Eng.</td>
<td>Engineering</td>
<td>Weekly</td>
<td>Toastmaster's Seminar</td>
<td>Toastmasters</td>
</tr>
</tbody>
</table>
RECOMMENDATION

Receive the presentation.

STRATEGIC PLAN

Goal #6: Provide outstanding customer service.
Goal #7: Actively participate in regional water issues.

PRIOR BOARD ACTION/DISCUSSION

None.

DISCUSSION

The Orange County Mosquito & Vector Control District (OCMVCD) is conducting an outreach campaign to increase awareness of mosquito/vector-borne disease threats throughout Orange County. OCMVCD’s District Manager, Rick Howard, will provide a presentation regarding best management practices for municipal partnerships and community education/engagement to reduce/eliminate mosquito sources and protect public health.

FINANCIAL IMPACT

None.

ATTACHMENTS

None.
MEMORANDUM

TO: Board of Directors
FROM: Stacie Sheek, Customer Services Manager
DATE: February 8, 2018
SUBJECT: Elite Customer Service Update

RECOMMENDATION

Receive the presentation.

STRATEGIC PLAN

Goal #5: Attract and retain skilled employees.
Goal #6: Provide outstanding customer service.

PRIOR BOARD ACTION/DISCUSSION

At its July 14, 2016 meeting, the Board of Directors (Board) awarded a contract to Moran Consulting, Inc. (Moran) for $99,043 plus a 10% contingency for a not-to-exceed amount of $108,947 to develop and provide elite customer service training at Mesa Water District (Mesa Water®).

At its April 13, 2017 meeting, the Board amended a contract with Moran for $145,000 plus a 10% contingency for a not-to-exceed amount of $159,830 to develop an elite customer service program to be implemented District-wide.

At its August 18, 2017 meeting, the Board received a presentation of the performance tools to be implemented for measuring and elevating customer service to an elite level.

BACKGROUND

In 2007, the Mesa Water Board adopted strategic goals to provide foundational management to the District’s mission of “Dedicated to Satisfying Our Community’s Water Needs” and its vision of “Being a Top Performing Water Agency”. Since then, Mesa Water has implemented several key accountability programs that align with the District’s goals. Examples of these programs are as follows:

- Safety Program (Strategic Goal #1: Provide a safe, abundant, and reliable water supply)
- Information Technology Metrics & Monitoring (Strategic Goal #2: Practice perpetual infrastructure renewal and improvement)
- Production Duty Operations Metrics & Monitoring (Strategic Goal #1)

Strategic Goal #6, Provide outstanding customer service, is the core of how Mesa Water interacts with its customers and provides the supporting framework of meeting its mission and vision statements. In 2016, Mesa Water competitively selected Moran to develop and implement an accountability program to ensure that outstanding/elite customer service is always provided to its customers. Moran was selected because of their prior experience with assisting public agencies in elevating their customer services to an elite level. Moran outlined the following goals as part of their commitment to assist Mesa Water in achieving elite customer service:
• Establish customer service baseline;
• Identify areas of opportunity for improvement/enhancement;
• Develop elite customer service standards;
• Train Mesa Water staff;
• Develop elite customer service metrics and reporting; and
• Perform quarterly monitoring and reporting.

In August 2016, Moran worked with Mesa Water to conduct a survey of the customer service processes to establish a customer service baseline and identify areas of improvements. Recommended improvements were suggested for implementation in two main areas:
• General customer service training District-wide for all employees, and
• Specialized training specifically focusing on the Customer Services staff.

In October 2016, Moran initiated the first of several District-wide training sessions that focused on training all staff on the elite customer service standards. This training has been valuable in providing consistent customer service across all of Mesa Water’s departments. In addition, Moran has identified several key recommendations for implementation within the Customer Services department that will assist in providing the specialized training for this group.

DISCUSSION

In September 2017, the District implemented a recorded greeting to ensure proper notification to callers that their call may be recorded. The District also initiated a phone and walk-in survey to allow customers to provide feedback on service they received from Mesa Water.

Staff will provide an update for the Elite Customer Service project and propose next steps.

Similar to Mesa Water’s other accountability programs, a third party quarterly evaluation will be performed and the results will be shared with the Board in March.

FINANCIAL IMPACT

In Fiscal Year 2018, $103,000 is budgeted for Elite Customer Service; $52,570 has been spent to date.

<table>
<thead>
<tr>
<th>Project Estimate Amounts</th>
<th>Project Cost Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Project Estimate (FY 2017)</td>
<td>$ 99,043</td>
</tr>
<tr>
<td>Original funding</td>
<td>$ 99,043</td>
</tr>
<tr>
<td>Change Orders</td>
<td>0</td>
</tr>
<tr>
<td>Requested Funding (Change Order #1)</td>
<td>145,300</td>
</tr>
<tr>
<td>Revised Contracts</td>
<td>$ 244,343</td>
</tr>
<tr>
<td>Actual spent to date</td>
<td>$ 164,634</td>
</tr>
<tr>
<td>Revised Project Estimate</td>
<td>$ 244,343</td>
</tr>
</tbody>
</table>
ATTACHMENTS

None.
MEMORANDUM

TO: Board of Directors  
FROM: Denise Garcia, Administrative Services Manager  
DATE: February 8, 2018  
SUBJECT: Procedures for Meetings of the Board of Directors

RECOMMENDATION

Adopt Resolution No. 1509, Adopting Procedures for Meetings of the Board of Directors, Superseding Resolution No.1456.

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.
Goal #4: Increase public awareness about Mesa Water® and about water.
Goal #5: Attract and retain skilled employees.
Goal #6: Provide outstanding customer service.
Goal #7: Actively participate in regional water issues.

PRIOR BOARD ACTION/DISCUSSION

At its March 21, 2015 meeting, the Board of Directors (Board) adopted Resolution No. 1456, Adopting Procedures for Meetings of the Board of Directors.

At its December 5, 2017 meeting, the Executive Committee suggested updates to Resolution No. 1456, Adopting Procedures for Meetings of the Board of Directors.

At its January 9, 2018 meeting, the Executive Committee reviewed the recommended updates to Resolution No. 1456. The Board directed staff to bring Resolution No. 1456, with modifications, to the February 8, 2018 Board meeting for adoption.

DISCUSSION

The following is a summary of the suggested updates to be made to Resolution No. 1456:

APPENDIX A

I. GENERAL

E. Definitions.
Added Language:
Board Member – means an elected or appointed Director from one of the five divisions of Mesa Water District…
Staff – ...(or equivalent officers if designated with different titles).

New Definitions:
Executive Committee – shall mean a standing committee comprised solely of less than a quorum of the Board of Directors (President and Vice President).
Teleconferencing – means a meeting of the legislative body, the members of which are in different locations, connected by electronic means, through either audio or video, or both.

The definition for Legal Counsel was removed as it is no longer referred to in this resolution.

II. TIME AND PLACE OF BOARD MEETINGS

C. Workshop Meetings.
   Added Language: Workshop meetings may be conducted as regular meetings, adjourned regular meetings or special meetings of the Board.

F. Emergency Meetings. (New Section)
   The Board reserves the right to call and conduct emergency meetings as provided for pursuant to Government Code Section 54956.5 under such circumstances as are described in that statute.

I. Teleconferencing. (New Section)
   The Board reserves the right to conduct meetings involving a teleconference. All Board meetings which involve one or more teleconferences shall conform to the requirements of Government Code 54953.

III. STRUCTURE OF BOARD MEETINGS

A. Order of Business.
   Action Items was reordered to be taken after the Consent Calendar and Closed Session(s) was reordered to be taken after Reports.

B. Public Comments.
   2a. Added Language: (unless a physical disability prevents a member of the public from utilizing the podium).
   2b. Added language: (unless the President grants additional time to a speaker with consensus of the majority of the Board).
   2c. Added Language: Public comments presented at the beginning of the meeting on items not appearing on that meeting’s agenda will be limited to no more than 30 minutes total for all speakers (subject to the Board granting additional time in light of circumstances).
   2d. Added Language: and with consensus of the majority of the Board.
   2e. Removed Language: …on agendized relating to specific agenda items shall be limited to five minutes per speaker on any particular item…

   Added Language: regarding items on the agenda for that Board meeting will be limited to no more than 60 minutes total for all speakers. This time limit may be extended by the Board President and with consensus of the majority of the Board.

C. Items to be Added to the Agenda.
   (First Paragraph)
   Added Language: for a regular or adjourned regular meeting of the Board…

   1. Added Language: or a special meeting of the Board…
   2. Removed language: Upon finding the above two conditions to be true, the Board, by two-thirds of the total voting Board Members, or if two-thirds of the voting Board Members are not present, by unanimous vote of those Board Members present, must take action to make the determination that a need for immediate action exists.
(Second Paragraph)
Added Language: The foregoing determinations require the vote of four of the Board Members, or if four of the Board Members are not present, by a unanimous vote of those Board Members present for the item to be placed on the agenda for the applicable meeting of the Board. Items may not be added to the agenda in the case of a special meeting of the Board.

(Third Paragraph)
Added Language: Upon making the foregoing determinations, the Board may then choose to consider and/or take action(s) on the referenced item at such point in the agenda as the Board shall direct.

H. Resolved Items.
Added Language: appear on the agenda for a Board meeting for reconsideration for the period of one year. The Executive Committee may place such items on an agenda or such items may be placed on an agenda by action of a majority of the Board.

M. Transcribing Minutes.
(Third Paragraph)
Added Language: any recordings made by Mesa Water which are…

Removed Language: deleted following the occurrence of both the following events: 1) The transcribed minutes shall have been approved by the Board: and 2) At Least…

Added Language: erased or destroyed after…

IV. RULES OF ORDER

B. Determination of Acting President.
(Second Paragraph)
Added Language: If the Immediate Past President is not present at such meeting, the Board members in attendance shall determine which of their members shall act as President for such meeting.

C. Actions of the Board.
(First Paragraph)
Added Language: Voting on all matters by the Board shall conform to the requirements of the Brown Act and secret balloting or voting shall not be permitted. Unless a vote is unanimous on an item with all Directors present and voting, the votes for, against, absent or abstain as to a matter shall be recorded and listed in the minutes for such Board meeting as required under Water Code Section 30526.

In addition to general formatting and grammatical changes, legal updates were also made to this resolution to reflect any changes to Governmental Codes.

LEGAL REVIEW

Staff worked with Mesa Water’s General Legal Counsel on the update of this resolution.

FINANCIAL IMPACT

None.
ATTACHMENTS

Attachment A: Draft – Resolution No. 1509, Procedures for Meetings of the Board of Directors
Attachment B: Redline – Resolution No. 1456, Procedures for Meetings of the Board of Directors
RESOLUTION NO. 1509

RESOLUTION OF THE
MESA WATER DISTRICT BOARD OF DIRECTORS
ADOPTING PROCEDURES FOR MEETINGS
OF THE BOARD OF DIRECTORS,
SUPERSEding RESOLUTION NO. 1456

WHEREAS, the Mesa Water District (Mesa Water®) is a county water district organized and operating pursuant to the provisions of the laws of the State of California (State or California); and

WHEREAS, the Board of Directors (Board) is authorized, pursuant to California Water Code Section 30530, to adopt procedures regarding meetings of the Board; and

WHEREAS, the Board has previously adopted Resolution No. 1456, which fixed the time, day, and place of regular meetings of the Board and set forth specific procedures regarding meetings of the Board; and

WHEREAS, the Board deems it desirable to update and revise the specific meeting procedures previously adopted by the Board whilst complying with State law.

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

Section 1. The foregoing recitals are true and correct and are incorporated herein by this reference.

Section 2. The procedures for meetings of the Mesa Water District Board, as set forth in Appendix A hereto, are hereby adopted, to be effective from and after February 9, 2018.

Section 3. Resolution No. 1456 shall be superseded by this Resolution upon the adoption hereof.

ADOPTED, SIGNED, AND APPROVED this 8th day of February 2018 by a roll call vote.

AYES: DIRECTORS:
NOES: DIRECTORS:
ABSENT: DIRECTORS:
ABSTAIN: DIRECTORS:

Jim Atkinson
President, Board of Directors

Denise Garcia
District Secretary

Resolution No. 1509
Page 1 of 1
Adopted: February 8, 2018
APPENDIX A

RESOLUTION NO. 1509

RESOLUTION OF THE
MESAB WATER DISTRICT BOARD OF DIRECTORS
ADOPTING PROCEDURES FOR MEETINGS
OF THE BOARD OF DIRECTORS,
SUPERSEDING RESOLUTION NO. 1456

I. GENERAL

A. Adoption, Application and Purpose. This policy, Meetings of the Board of Directors (Policy), is adopted pursuant to Water Code Section 30530. The content of this Policy is generally declarative of existing procedures and is intended to be integrated as part of Mesa Water District’s (Mesa Water®) policies and directives. The purpose of this Policy is to allow the Mesa Water Board of Directors (Board) to conduct its meetings in an efficient and organized manner.

B. Compliance with California Law. This Policy is enacted in accordance with existing and applicable California Law including the provisions of the Ralph M. Brown Act (being California Government Code Sections 54950 et seq., “Brown Act”) and the County Water District Law. It is the intention of the Board, by adopting this Policy, to observe the requirements and provisions of the Brown Act. It is the intention of the Board that this Policy shall not conflict with California laws or regulations. Although State laws and regulations are not generally restated in this Policy, it is intended that this Policy will be in addition to, or clarifications of, existing California Law. To the extent of future legislative changes or judicial interpretations, applicable hereto, this Policy shall be deemed, or shall actually be, modified accordingly. For purposes of citing particular laws, statutes, or regulations, the phrase “but not limited to” is implied and operative.

C. Future Amendments. The Board hereby reserves the right to formally amend this Policy in the future as may be determined to be necessary or appropriate due to conditions, circumstances, future legislative changes, judicial interpretations, or laws and regulations, which may affect this Policy.

D. Exceptions to This Policy. It should be understood that all of the provisions of this Policy are subject to determination(s) by the Board, on a case-by-case basis, and without setting or establishing any precedent, to make exceptions to this Policy where such may be determined by the Board to be necessary or desirable. Such action(s) shall occur at the direction or pleasure of the Board.
based upon such circumstances and factors as the Board shall determine to be appropriate.

E. Definitions. Unless otherwise defined herein, the following definitions shall apply for purposes of the interpretation and implementation of this Policy:

**Board** – shall mean the Board of Directors of Mesa Water.

**Board Member** – shall mean an elected or appointed Director from one of the five divisions of Mesa Water District once that person takes office.

**Brown Act** – shall mean the Ralph M. Brown Act being California Government Code Sections 54950 *et seq.*

**District Secretary** – shall mean the Secretary of the Mesa Water District as appointed pursuant to Water Code Section 30540(a).

**Executive Committee** – shall mean a standing committee comprised solely of less than a quorum of the Board of Directors (President and Vice President).

**General Manager** – shall mean the General Manager of the Mesa Water District as appointed pursuant to Water Code Section 30540(a).

**Immediate Past President** – shall mean the person who served the prior term as President of the Board as elected pursuant to Water Code Section 30520.

**May** – use of the word “may” indicates the referenced action is discretionary.

**Mesa Water** – shall mean the Mesa Water District, a county water district.

**Policy** – shall mean this Mesa Water District Policy for Meetings of the Board of Directors.

**President** – shall mean the President of the Board as elected pursuant to Water Code Section 30520.

**Public** – shall mean members of the public as that term is generally defined in the Brown Act.

**Shall** – use of the word “shall” indicates the referenced action is mandatory.

**Staff** – shall mean staff members of Mesa Water including the General Manager, District Secretary and District Treasurer (or equivalent officers if designated with different titles).
Teleconferencing – shall mean a meeting of the legislative body, the members of which are in different locations, connected by electronic means, through either audio or video, or both.

Vice President – shall mean the Vice President of the Board as elected pursuant to Water Code Section 30520.

F. References to action(s) of the Board shall generally mean action by, or concurrence of, a majority of the Board (i.e., at least three Board Members).

II. TIME AND PLACE OF BOARD MEETINGS

A. Regular Meetings. Pursuant to Water Code Section 30521, the time and place for regular meetings of the Board shall be established by resolution adopted by the Board. Regular Board meetings are currently held on the second Thursday of each month at 6:00 p.m. at Mesa Water’s office located at 1965 Placentia Avenue, Costa Mesa, California. The Board may change the time and place of its meetings as it shall determine to be appropriate.

B. Open Public Meetings. Pursuant to Water Code Section 30529, all meetings of the Board, except as may be permitted under the Brown Act, shall be open to the public. It shall be the general policy of the Board that regular Board meetings shall adjourn by 10:00 p.m.

C. Workshop Meetings. The Board may conduct workshop meetings on an as-needed basis. Such workshop meetings are Board meetings and action items can and shall be considered at such meetings. The date, time and place for such workshop meetings shall be set by the Board. Workshop meetings may be conducted as regular meetings, adjourned regular meetings or special meetings of the Board.

D. Adjournment. Any regular meeting, adjourned regular meeting, or special meeting of the Board may be continued to a later date or time by adjournment to a date, time, and place certain as provided in the Brown Act, including meeting at other locations within Mesa Water’s service area. Any such adjournment shall be at the discretion and pleasure of the Board.

E. Special Meetings. Special Board meetings may be called by the President or a majority of the Board consistent with the requirements of Government Code Section 54956. Notice of the time, place, and date for a special Board meeting shall conform to the requirements of the Brown Act.

F. Emergency Meetings. The Board reserves the right to call and conduct emergency meetings as provided for pursuant to Government Code Section 54956.5 under such circumstances as are described in that statute.
G. **Closed Sessions.** The Board reserves the right to conduct closed sessions, at such meetings as it is determined to be appropriate and as permitted under the Brown Act.

H. **Adjourn or Recess.** The Board reserves the right to adjourn or recess any meeting with the purpose of maintaining or restoring order, or where other circumstances make it appropriate, and reserves its rights pursuant to Government Code Section 54957.9.

I. **Teleconferencing.** The Board reserves the right to conduct meetings involving a teleconference. All Board meetings which involve one or more teleconferences shall conform to the requirements of Government Code 54953.

J. **Lack of Quorum.** In the event that a quorum of the Board is not present at the time and place scheduled for a meeting, the Board Members present may adjourn such meeting to a time, place, and date specified. If all of the Board Members are absent from a regular or adjourned regular Board meeting, the District Secretary shall adjourn the meeting pursuant to Government Code Section 54955.

III. **STRUCTURE OF BOARD MEETINGS**

A. **Order of Business.** The Executive Committee shall determine the general order of business for Board meetings, which generally includes these items:

1) Call to Order
2) Pledge of Allegiance
3) Public Comments (see paragraph (B), below)
4) Items to be Added, Removed, or Reordered on the Agenda (see paragraphs C, D, and E, below)
5) Consent Calendar Items
   • Board Schedule
6) Action Items
7) Presentation and Discussion Items
8) Reports
9) Closed Session(s)
10) Information Items
11) Adjournment

B. **Public Comments.**

1. Pursuant to Government Code Section 54954.3(b), the Board hereby determines that reasonable limitations on public comments are necessary in order for the Board to conduct its business within a reasonable time
frame. The right of the public to make comments to the Board must be balanced with the Board’s need to have adequate time to consider and take action on items before it.

2. The following procedures shall apply to public comments:

   a. Public comments shall be made from the podium provided (unless a physical disability prevents a member of the public from using the podium).

   b. Public comments shall be limited to three minutes per speaker (unless the President grants additional time to a speaker with consensus of the majority of the Board).

   c. Public comments presented at the beginning of the meeting on items not appearing on that meeting’s agenda will be limited to no more than 30 minutes total for all speakers (subject to the Board granting additional time in light of circumstances).

   d. Additional time for public comments regarding items not on the agenda may be provided at the end of the Board meeting, if time permits and with consensus of the majority of the Board.

   e. Public comments regarding items appearing on that meeting’s agenda will be limited to no more than 60 minutes total for all speakers. This time limit may be extended by the President with consensus of the majority of the Board.

3. The following notations, which may be changed from time to time, shall be set forth on meeting agendas:

   Items Not on the Agenda: Members of the public are invited to address the Board on items which are not on the agenda. Each speaker is limited to three minutes. The Board will set aside 30 minutes for public comments on items not on the agenda.

   Items on the Agenda: 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 three minutes. The Board will set aside 60 minutes for public comments for items on the agenda.

C. Items to be Added to the Agenda. The Board may add an item to the agenda for a regular or adjourned regular meeting of the Board after the agenda has been posted, only if the following two conditions are determined by the Board to be true:
1. The Board determines that there is a need for immediate action on an item which cannot reasonably wait for the next regularly scheduled meeting or a special meeting of the Board; and

2. The Board determines that the need for immediate action came to the attention of the Board or staff after the applicable agenda had been posted.

The foregoing determinations require the vote of four of the Board Members or, if four of the Board Members are not present, by a unanimous vote of those Board Members present for the item to be placed on the agenda for the applicable meeting of the Board. Items may not be added to the agenda in the case of a special meeting of the Board.

Upon making the foregoing determinations, the Board may then choose to consider or take action(s) on the referenced item at such point in the agenda as the Board shall direct.

D. Items to be Removed From the Agenda. Any Board Member or the General Manager may remove any item of business from a meeting agenda, unless a majority of the Board objects.

E. Reordering of the Agenda. Any Board Member may request a change the order of business at any time during the meeting, which shall be granted unless a majority of the Board objects.

F. Consent Calendar. Any item of business may be removed from the Consent Calendar by any Board Member, the General Manager or member of the public to permit separate discussion. Such discussion and voting shall take place during the period for Consent Calendar items.

G. Continue or Table Items. The Board may, by action of a majority of its members, continue or table action on any particular item for a period of one year.

H. Resolved Items. Any item, which has previously been reviewed, discussed, and acted upon by the Board, by way of motion, resolution, ordinance, or assigned and completed by staff shall not appear on the agenda for a Board meeting for reconsideration for the period of one year, unless the Executive Committee places such items on an agenda or such items are placed on an agenda by action of a majority of the Board.

I. Adding Items to the Agenda. The District Secretary shall maintain, and present to the Board on a regular basis, an advance schedule of Board meeting topics. The Executive Committee and staff shall determine the agenda for each Board meeting. Any request for the inclusion of an item(s) to
a Board meeting agenda by any Board member or member of the public shall be addressed to the Board President who shall bring the item(s) to the Executive Committee for scheduling. Such item(s) shall be scheduled for the next available Board meeting unless the Executive Committee determines otherwise and notifies the Board member of the reason. The Board specifically reserves the right to change that schedule, or to direct that an item be placed on the agenda of a particular Board meeting. Placing any item on the agenda for the Board's consideration is subject to override by majority action of the Board.

J. **Reports From Closed Session.** The Board reserves its right to conduct closed sessions as permitted by the provisions of the Brown Act. The Board also reserves its right to give directives and make decisions in closed sessions as permitted by the Brown Act. Notwithstanding paragraph K. below (Closed Sessions Regarding Personnel Matters), it shall be the policy of the Board to make reports of decisions made in closed sessions in open session as permitted and/or required under the provisions of the Brown Act. For matters or issues where decisions cannot be made in closed session, or where the Board so determines, such decisions shall be made in open session. Where reports are made from closed session pursuant to the Brown Act, or where action(s) is taken in open session, a record of such report(s) shall be made, or action(s) taken, which shall be set forth in the minutes of such meeting.

K. **Closed Sessions Regarding Personnel Matters.** It shall be the policy of the Board that matters relating to Mesa Water personnel generally shall not be discussed in open session in regard to performance evaluations and reviews, personnel records, disciplinary proceedings and similar matters. In the event the Board conducts a closed session pursuant to the applicable provisions of the Brown Act for the evaluation of performance, or similar matters relating to staff, Mesa Water will not make a report from closed session in regard to such personnel matters unless, and until, required under State law.

L. **Minutes.** The Board hereby directs that minutes of all Board meetings (except for closed sessions during which no minutes shall be taken unless otherwise directed by the Board) shall be prepared by the District Secretary. Such minutes shall include a record of all votes of the Board pursuant to Water Code Section 30526. Upon completion, minutes of all such meetings shall be returned to the Board for review and approval.

M. **Transcribing Minutes.** The Board hereby finds that additional means of preparing and transcribing the minutes, including recordings, may be used by the District Secretary. It is hereby the directive and determination of the Board that such recordings are not the official minutes or transcripts of such Board meetings.
Any such recordings of any Board meeting made by Mesa Water shall be subject to the provisions of Government Code Section 54953.5(b), or any successor section thereto.

Further, it shall be the directive and policy of the Board that any recordings made by Mesa Water which are used to assist the District Secretary in transcribing the minutes of Board meetings shall be erased or destroyed after 30 days have elapsed since the date of the meeting at which such recording was made.

IV. RULES OF ORDER

A. President. It shall be the policy of the Board that the President shall preside over meetings of the Board where the President is present. The public, Board Members, the General Manager, and staff shall direct questions and comments to, or through, the President.

B. Determination of Acting President. In the absence of the President, the Vice President shall preside over the meeting. In such case, the Vice President shall be the acting President and shall have all powers vested in the President.

In the absence of both the President and the Vice President at a Board meeting, where a meeting includes a quorum of the Board, the Immediate Past President shall act as the acting President for purposes of that Board meeting. The Immediate Past President will have the power of acting President for that meeting. If the Immediate Past President is not present at such meeting, the Board members in attendance shall determine which of their members shall act as President for such meeting.

C. Actions of the Board. Pursuant to Water Code Section 30523, the Board shall take formal action by way of ordinance, resolution or motion. The Board may also act informally as to matters of procedure, scheduling and similar matters by directive to staff or by concurrence of the Board with Board or staff recommendations. Voting on all matters by the Board shall conform to the requirements of the Brown Act and secret balloting or voting shall not be permitted. Unless a vote is unanimous on an item with all Directors present and voting, the votes for, against, absent or abstain as to a matter shall be recorded and listed in the minutes for such Board meeting as required under Water Code Section 30526.

D. Robert's Rules of Order. The Board hereby references, without adopting, Robert's Rules of Order as a general guide for procedural matters where such rules may help it more efficiently conduct business at meetings of the Board. However, these Rules of Order shall not be binding on the proceedings of the Board.
V. DOCUMENTATION

A. Posting Agendas. Pursuant to the requirements of Government Code Section 54954.2, the District Secretary shall post, or cause to be posted, notices of Board meetings and/or agendas for all regular, adjourned regular and special meetings of the Board at Mesa Water’s business office located at 1965 Placentia Avenue, Costa Mesa, California. The District Secretary may also post agendas, as time permits, at other publicly accessible locations within Mesa Water’s service area.

B. Disability-Related Modifications or Accommodations. The following notations shall be set forth on the agendas for all Board meetings open to the public:

“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 call the District Secretary at (949) 631-1205. Notification 48 hours prior to the meeting will enable Mesa Water (Mesa Water®) to make reasonable arrangements to accommodate your requests.”

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

C. Distribution of Documentation. Documentation and other materials relating to the Board meeting agenda items shall be distributed to all Board Members in advance of the Board meeting whenever possible. In such regard, Mesa Water shall comply with the requirements of Government Code Section 54957.5.

1. The following notation shall be set forth on the agendas for all meetings open to the public:

“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.”

2. It shall be the general policy of the Board that documentation furnished to any one Board Member shall also be furnished to, or offered to, all of the remaining Board Members.
Documentation furnished to Board Members relative to agenda items may be furnished without cost to members of the public upon request. However, the Board specifically reserves the right, in accordance with California Law, including Government Code Sections 6257 and 54957.5, to impose reasonable and necessary charges relative to the furnishing of such documentation at such time as the Board determines that it is appropriate or necessary to do so.

D. Introduced Documents. On occasion, a member of the public or a Board Member may introduce a document during a Board meeting. To the extent that it is possible and reasonable to do so, the Board may, at its discretion, after consulting with the District Secretary, provide for copying and redistribution of such document(s) to other interested members of the public during such meeting. However, it is specifically noted that redistribution of such documentation may not be feasible or practical during such meeting. The Board reserves its right, by way of a majority vote of the Board, on a case-by-case basis, to take such action or to make such documentation available after the conclusion of such meeting pursuant to Mesa Water's Public Records Act Policy.

E. Public Records Requests. In the event that the Board receives a request for public records at a Board meeting, it is the Board’s policy to respond in a reasonable manner and to comply with the provisions of the California Public Records Act. Further, it is the finding and determination of the Board that Mesa Water’s business needs be conducted in an efficient manner in terms of allocation of staff time and other resources.

Confidential or privileged records that by law may not be disclosed are not subject to disclosure under the California Public Records Act.

F. Disclosure of Closed Session Information.

1. Confidential information (e.g., all hand-written, printed, copied, electronic files or documents, and data, as well as spoken information) received, acquired by, or made available to anyone that pertains to closed sessions held pursuant to the Brown Act, shall not be disclosed to anyone not entitled to receive it pursuant to Government Code Sections 1098 and 54963.

2. Any Board or staff member shall not willfully and knowingly disclose for pecuniary gain, to any other person, confidential information acquired by him or her in the course of his or her official duties pursuant to Government Code Section 1098.
RESOLUTION NO. 14561509

RESOLUTION OF THE
MESA WATER DISTRICT BOARD OF DIRECTORS
ADOPTING PROCEDURES FOR MEETINGS
OF THE BOARD OF DIRECTORS,
SUPERSEADING RESOLUTION NO. 14271456

WHEREAS, the Mesa Water District (Mesa Water® or District) is a county water district organized and operating pursuant to the provisions of the laws of the State of California (State or California) according to California Law; and

WHEREAS, the Board of Directors (Board) is authorized, pursuant to State California Water Code Section 30530, to adopt procedures regarding meetings of the Board; and

WHEREAS, the Board has previously adopted Resolution No. 14271456, which fixed the time, day, and place of regular board meetings of the Board and set forth specific procedures regarding meetings of the Board; and

WHEREAS, the Board views it as appropriate to update and revise the specific meeting procedures previously adopted by the Board whilst complying with, keeping in mind the requirements of State law and applicable requirements.

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

Section 1. The foregoing recitals are true and correct and are incorporated herein by this reference.

Section 2. The procedures for meetings of the Mesa Water District Board of Directors, as set forth in Appendix A hereto, are hereby adopted, to be effective from and after, March 21, February 2018.

Section 3. Resolution No. 1456 shall be superseded by this Resolution upon the adoption hereof.

ADOPTED, SIGNED, AND APPROVED this 21st/8th day of March/February 2015/2018 by a roll call vote.

AYES: DIRECTORS: Fisler, Dewane, Temianka
NOES: DIRECTORS: Atkinson, Bockmiller
ABSENT: DIRECTORS:
ABSTAIN: DIRECTORS:
APPENDIX A

RESOLUTION NO. 14561509

RESOLUTION OF THE
MESA WATER DISTRICT BOARD OF DIRECTORS
ADOPTING PROCEDURES FOR MEETINGS
OF THE BOARD OF DIRECTORS,
SUPERSEDING RESOLUTION NO. 14271456

I. GENERAL MATTERS

A. Adoption, Application and Purpose. This policy, Meetings of the Board of Directors (Policy), is adopted pursuant to Water Code Section 30530. The content of this Policy is generally declarative of existing procedures and is intended to be integrated as part of Mesa Water District’s (Mesa Water®) policies and directives. The purpose of this Policy is to allow the Mesa Water® Board of Directors (Board) to conduct its meetings in an efficient and organized manner.

B. Compliance with California Law. This Policy is enacted in accordance with existing and applicable California Law including, but not limited to, the provisions of the Ralph M. Brown Act (being California Government Code Sections 54950 et seq., “Brown Act”) and the County Water District Law. It is the intention of the Board, by adopting this Policy, to observe the requirements and provisions of the Brown Act. It is the intention of the Board that this Policy shall not conflict with California State laws or regulations. Although State laws and regulations are not generally restated in this Policy, it is intended that this Policy will be in addition to, or clarifications of, existing California Law. To the extent of future legislative changes or judicial interpretations, applicable hereto, this Policy shall be deemed, or shall actually be, modified accordingly. For purposes of citing particular laws, statutes, or regulations, the phrase “but not limited to” is implied and operative.

C. Future Amendments. The Board hereby reserves the right to formally amend this Policy in the future as may be determined to be necessary or appropriate due to conditions, circumstances, future legislative changes, judicial interpretations, or laws and regulations, which may affect this Policy.

D. Exceptions to This Policy.

It should be understood that all of the provisions of this Policy are subject to determination(s) by the Board, on a case-by-case basis, and without setting or establishing any precedent, to make exceptions to this Policy where such
may be determined by the Board to be necessary and or desirable. Such action(s) shall occur at the direction or pleasure of the Board based upon such circumstances and factors as the Board shall determine to be appropriate.

D.

E.
Definitions. Unless otherwise defined herein, the following definitions shall apply for purposes of the interpretation and implementation of this Policy:

**Board** – shall mean the Board of Directors of **Mesa Water District**.

**Board Member** – shall mean an elected or appointed Director from one of the five divisions of Mesa Water District member of the Board of Directors of the **Mesa Water District** once that person takes office.

**Brown Act** – shall mean the provisions of the Ralph M. Brown Act being California Government Code Sections 54950 et seq.

**District Secretary** – shall mean the Secretary of the Mesa Water District as appointed pursuant to Water Code Section 30540(a).

**Executive Committee** – shall mean a standing committee comprised solely of less than a quorum of the Board of Directors (President and Vice President).

**General Manager** – shall mean the General Manager of the Mesa Water District as appointed pursuant to Water Code Section 30540(a).

**Immediate Past President** – shall mean the person who served the prior term as President of the Board as elected pursuant to Water Code Section 30520.

**Legal Counsel**—shall mean the Mesa Water District General Legal Counsel as retained by the Board of Directors pursuant to Water Code Section 30544.

**May** – use of the word “may” indicates the referenced action is discretionary.

**Mesa Water**® – shall mean the Mesa Water District, a county water district.

**Policy** – shall mean this Mesa Water District Policy for Meetings of the Board of Directors.

**President** – shall mean the President of the Board as elected pursuant to Water Code Section 30520.

**Public** – shall mean members of the public as that term is generally defined in the Brown Act.

**Secretary or District Secretary** – shall mean the Secretary of the Mesa Water District as appointed pursuant to Water Code Section 30540(a).

**Shall** – use of the word “shall” indicates the referenced action is mandatory.
Staff – shall mean staff members of the Mesa Water District including, but not limited to, the General Manager, District Secretary, and District Treasurer (or equivalent officers if designated with different titles).

Teleconferencing – shall mean a meeting of the legislative body, the members of which are in different locations, connected by electronic means, through either audio or video, or both.

Vice President – shall mean the Vice President of the Board as elected pursuant to Water Code Section 30520.

F. References to action(s) of the Board shall generally mean action by, or concurrence of, a majority of the Board (i.e., at least three Board Members).

II. TIME AND PLACE OF BOARD MEETINGS

A. Regular Meetings. Pursuant to Water Code Section 30521, the time and place for regular board meetings of the Board shall be established by resolution adopted by the Board. Regular board meetings are currently held on the second Thursday of each month at 6:00 p.m. at Mesa Water’s office located at 1965 Placentia Avenue, Costa Mesa, California. The Board reserves the right to change the time and place of its board meetings, in accordance with California Law, as it shall determine to be appropriate.

B. Open Public Meetings. Pursuant to Water Code Section 30529, all meetings of the Board, except as may be permitted under the Brown Act, shall be open to the public. It shall be the general policy of the Board that regular Board meetings shall adjourn by 10:00 p.m.

C. Workshop Meetings. The Board may conduct meeting workshop meetings on an as-needed basis. Such workshop meetings are Board meetings and action items can and shall be considered at such meetings. The date, time, and place for such workshop meetings shall be set established by the Board. Workshop meetings may be conducted as regular meetings, adjourned regular meetings or special meetings of the Board.

D. Adjournment. Any regular meeting, or adjourned regular meeting, or special meeting of the Board of Directors may be continued at a later date or time by adjournment to a date, time, and place certain as provided in the Brown Act, including, but not limited to, meeting at other locations within Mesa Water’s service area. Any such adjournment shall be at the discretion and pleasure of the Board.
E. **Special Meetings.** Special Board meetings may be called by the President or a majority of the Board consistent with the requirements of Government Code Section 54956. Notice of the time, place, and date for a special Board meeting shall conform to the requirements of the Brown Act.

E.F. **Emergency Meetings.** The Board reserves the right to call and conduct emergency meetings as provided for pursuant to Government Code Section 54956.5 under such circumstances as are described in that statute.

F.G. **Closed Sessions.** The Board hereby reserves all of its rights to conduct closed sessions, at such meetings as it is determined to be appropriate and as permitted under the Brown Act.

H. **Adjourn or Recess.** The Board reserves for itself the right to adjourn or recess any meeting with the purpose of maintaining or restoring order, or where other circumstances make it appropriate, and reserves its rights pursuant to Government Code Section 54957.9.

G.I. **Teleconferencing.** The Board reserves the right to conduct meetings involving a teleconference. All Board meetings which involve one or more teleconferences shall conform to the requirements of Government Code 54953.

H.J. **Lack of Quorum.** In the event that a quorum of the Board is not present at the time and place scheduled for a meeting, the Board Members present may adjourn such meeting to a time, place, and date specified. If all of the Board Members are absent from a regular or adjourned regular Board meeting, the District Secretary shall adjourn the meeting pursuant to Government Code Section 54955.

III. **STRUCTURE OF BOARD MEETINGS**

A. **Order of Business.** The Executive Committee shall determine the general order of business for Board meetings, which generally includes these items:

1) Call to Order
2) Pledge of Allegiance
3) Public Comments (see paragraph (HB), below)
4) Items to be Added, Withdrawn, Removed, or Reordered on the Agenda (see paragraphs C, D, F, and E, below)
5) Consent Calendar Items
   • Board Schedule
6) Action Items
7) Presentation and Discussion Items
8) Action Items

8) Reports

9) Closed Session(s)

10) Information Items

11) Adjournment

B. Public Comments.

1. Pursuant to Government Code Section 54954.3(b), the Board hereby determines that reasonable limitations on public comments are necessary in order for the Board to conduct its business within a reasonable time frame. The right of the public to make comments to the Board must be balanced with the Board's need to have adequate time to consider and take action on items before it.

2. The following procedures shall apply to public comments:

   a. Public comments shall be made from the podium provided (unless a physical disability prevents a member of the public from using the podium).

   b. Public comments will be limited to three minutes per speaker (unless the President grants additional time to a speaker with consensus of the majority of the Board).

   c. Public comments presented at the beginning of the meeting on non-agendized items not appearing on that meeting's agenda at the beginning of the meeting will be limited to no more than 30 minutes total for all speakers (subject to the Board granting additional time in light of circumstances).

   d. Additional time for public comments on non-agendized regarding items not on the agenda may be provided at the end of the Board meeting, if time permits and with consensus of the majority of the Board.

   e. Public comments on regarding agendized relating to specific agenda items appearing shall be limited to five minutes per speaker on any particular item on the meeting's agenda for that Board meeting will be limited to no more than 60 minutes total for all speakers. This time limit may be extended by the President and with consensus of the majority of the Board.

3. The following notations, which may be changed from time to time, shall be set forth on meeting the agendas:
Non-Agendized Matters Items Not on the Agenda: Members of the public are invited to address the Board on matters which are not on the agenda. Each speaker is limited to three minutes. The Board will set aside 30 minutes for public comments on items not on the agenda.

Agendized Matters Items on the Agenda: 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 three five–minutes. The Board will set aside 60 minutes for public comments for items on the agenda.

C. Items to be Added Adding Items to the Agenda. The Board may add an item to the agenda for a regular or adjourned regular meeting of the Board after the agenda has been posted, only if the following two conditions are determined by the Board to be true:

1. The Board determines that there is a need for immediate action on an item which cannot reasonably wait for the next regularly scheduled meeting or a special meeting of the Board; and

2. The Board determines that the need for immediate action came to the attention of the Board or staff the Board after the applicable agenda had been posted.

Upon finding the above two conditions to be true, the Board, by two-thirds of the total voting Board Members, or if two-thirds of the voting Board Members are not present, by a unanimous vote of those Board Members present, must take action to make the determination that a need for immediate action exists. The foregoing determinations require the vote of four of the Board Members, or, if four of the Board Members are not present, by a unanimous vote of those Board Members present for the matter to be placed on the agenda for the applicable meeting of the Board. Items may not be added to the agenda in the case of a special meeting of the Board.

Upon making the foregoing determinations, the Board may then choose to consider or take action(s) on the referenced matter at such point in the agenda as the Board shall direct.

D. Removing Items to be Removed From the Agenda. Any Board Member or the General Manager may remove any item of business from a meeting the agenda, unless a majority of the Board objects.

D.
E. Change of Order of Business. Any Board Member may request a change the order of business at any time during the meeting, which shall be granted unless a majority of the Board objects.

F. Consent Calendar. Any item of business may be removed from the Consent Calendar by any Board Member, the General Manager or member of the public to permit separate discussion. Such discussion and voting shall take place during the period for Consent Calendar items.

G. Continue or Table Items. The Board may, by action of a majority of its members, continue or table action on any particular item for a period of one year.

H. Resolved Items. Any item, which has previously been reviewed, discussed, and acted upon by the Board, by way of motion, resolution, ordinance, or assigned and completed by staff shall not appear be agendized on the agenda for a Board meeting for reconsideration for the period of one year, unless The Executive Committee may places such items on an agenda or such items may be placed on an agenda by unless the item is re-agendized by the Executive Committee or by a majority action of a majority of the Board.

Agendizing of Adding Items to the Agenda. The District Secretary shall maintain, and present to the Board on a regular basis, an advance schedule of Board meeting topics. The Executive Committee and staff shall determine the agenda for each Board meeting. Any request for the inclusion of an item(s) to a Board meeting agenda by any Board member or member of the public shall be addressed to the Board President who shall bring the item(s) to the Executive Committee for scheduling. Such item(s) shall be scheduled for the next available board meeting unless the Executive Committee determines otherwise and notifies the Board member of the reason. The Board specifically reserves the right to change that schedule, or to direct that an matter item be agendized or placed on the agenda or for a particular Board meeting. Placing any matter item on the agenda for the Board's consideration is subject to override by majority action of the Board.

I. Reports From Closed Session. The Board reserves its right to conduct closed sessions, as permitted by the provisions of the Brown Act. The Board also reserves its right to give directives and make decisions in closed sessions as permitted by the Brown Act. Notwithstanding paragraph MK. below (Closed Sessions Regarding Personnel Matters), it shall be the policy of the Board to
make reports of decisions made in closed sessions in open session as permitted and/or required under the provisions of the Brown Act. For matters or issues where decisions cannot be made in closed session, or where the Board so determines, such decisions shall be made in open session. Where reports are made from closed session pursuant to the Brown Act, or where action(s) is taken in open session, a record of such report(s) shall be made, or action(s) taken, which shall be set forth in the minutes of such meeting.

J.

K. Closed Sessions Regarding Personnel Matters. It shall be the policy of the Board that matters relating to Mesa Water personnel generally shall not be discussed in open session in regard to performance evaluations and reviews, personnel records, disciplinary proceedings, and similar matters. In the event the Board conducts a closed session pursuant to the applicable provisions of the Brown Act for the evaluation of performance, or similar matters relating to Mesa Water personnel, Mesa Water will not make a report from closed session in regard to such personnel matters unless, and until, required under State law.

H.L. Minutes. The Board hereby directs that minutes of all Board meetings (except for closed sessions during which no minutes shall be taken unless otherwise directed by the Board) shall be prepared by the District Secretary. Such minutes shall include a record of all votes of the Board pursuant to Water Code Section 30526. Upon completion, minutes of all such meetings shall be returned to the Board for review and approval.

I.M. Transcribing Minutes. The Board hereby finds that additional means of preparing and transcribing the minutes, including, but not limited to, recordings, may be used by the District Secretary. It is hereby the directive and determination of the Board that such recordings are not the official minutes or transcripts of such the Board meetings.

Any such recordings of any Board meeting made by Mesa Water shall be subject to the provisions of Government Code Section 54953.5(b), or any successor section thereto.

Further, it shall be the directive and policy of the Board that any recordings made by Mesa Water which are used to assist the District Secretary in transcribing the minutes of Board meetings shall be deleted following the occurrence of both of the following events:

- The transcribed minutes shall have been approved by the Board;
- and

At least erased or destroyed after 30 days have elapsed since the date of the meeting at which such recording was made.

IV. RULES OF ORDER
A. President. It shall be the policy of the Board that the President shall preside over meetings of the Board where he or she the President is present. The public, Board Members, the General Manager, and staff shall direct questions and comments to, or through, the President.

B. Determination of Acting President. In the absence of the President, the Vice President shall preside over the meeting. In such case, the Vice President shall be the acting President and shall have all powers vested in the President.

B.

In the absence of both the President and the Vice President at a Board meeting, where a meeting includes a quorum of the Board, the Immediate Past President shall act as the acting President for purposes of that Board meeting. The Immediate Past President will have the power of acting President for that meeting. If the Immediate Past President is not present at such meeting, the Board members in attendance shall determine which of their members shall act as President for such meeting.

C. Actions of the Board. Pursuant to Water Code Section 30523, the Board shall take formal action by way of ordinance, resolution, or motion. The Board may also act informally as to matters of procedure, scheduling and similar matters by directive to staff or by concurrence of the Board with Board or staff recommendations. Voting on all matters by the Board shall conform to the requirements of the Brown Act and secret balloting or voting shall not be permitted. Unless a vote is unanimous on an item with all Directors present and voting, the votes for, against, absent or abstain as to a matter shall be recorded and listed in the minutes for such Board meeting as required under Water Code Section 30526.

C.

D. Robert’s Rules of Order. The Board hereby references, without adopting, Robert’s Rules of Order as a general guide for procedural matters where such rules may help it more efficiently conduct its business at board meetings of the Board. However, these Rules of Order shall not be binding on the proceedings of the Board.

D.

V. DOCUMENTATION

V.

A. Posting Agendas. Pursuant to the requirements of Government Code Section 54954.2, the District Secretary shall post, or cause to be posted, notices of
Board meetings and/or agendas for all regular, adjourned regular and special meetings of the Board at Mesa Water’s business office located at 1965 Placentia Avenue, Costa Mesa, California. The District Secretary may also post agendas, as time permits, at other publicly accessible locations within Mesa Water’s service area.

A.

B.—Disability-Related Modifications or Accommodations. The following notations shall be set forth on the agendas for all Board meetings open to the public:

B.

“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 telephone—(949) 631-1205. Notification 48 hours prior to the meeting will enable Mesa Water (Mesa Water®) to make reasonable arrangements to accommodate your requests.”

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

C.—Distribution of Documentation. Documentation and other materials relating to the Board meeting agenda items shall be distributed to all Board Members in advance of the Board meeting whenever possible. In such regard, Mesa Water® shall comply with the requirements of Government Code Section 54957.5.

C.

4.—The following notation shall be set forth on the agendas for all meetings open to the public:

1.

“Agenda materials that are public records, which have been distributed to a majority of the Mesa Water® Board of Directors (Board)-(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.”
2. It shall be the general policy of the Board that documentation furnished to any one Board Member shall also be furnished to, or offered to, all of the remaining Board Members.

3. Documentation furnished to Board Members relative to agenda items may be furnished without cost to members of the public upon request. However, the Board specifically reserves the right, in accordance with California Law, including but not limited to Government Code Sections 6257 and 54957.5, to impose reasonable and necessary charges relative to the furnishing of such documentation at such time as the Board determines that it is appropriate or necessary to do so.

D. Introduced Documents. On occasion, a member of the public or a Board Member may introduces a document during a Board meeting. To the extent that it is possible and reasonable to do so, the Board may, at its discretion, after consulting with the District Secretary, provide for copying and redistribution of such document(s) to other interested members of the public during such meeting. However, it is specifically noted that redistribution of such documentation may not be feasible or practical during such meeting. The Board reserves its right, by way of a majority vote of the Board, on a case-by-case basis, to take such action or to make such documentation available after the conclusion of such the meeting pursuant to Mesa Water's Public Records Act Policy.

D.

E. Public Records Requests. In the event that It is the Board's receives a request for public records at a Board meeting, it is the Board's policy to respond to informational requests in a reasonable manner and to comply with the provisions of the California Public Records Act. Further, it is the finding and determination of the Board that Mesa Water's business needs be conducted in an efficient manner in terms of allocation of staff time and other resources.

Confidential or privileged records that by law may not be disclosed are not subject to disclosure under the California Public Records Act.

E. Disclosure of Closed Session Information.

F.

1. Confidential information (e.g., all hand-written, printed, copied, electronic files or documents, and data, as well as spoken information) received, acquired by, or made available to anyone that pertains to closed sessions held pursuant to the Brown Act, shall not be disclosed to anyone not
entitled to receive it (pursuant to Government Code Sections 1098 and 54963).

1.

2. Any Board or staff member shall not willfully and knowingly disclose for pecuniary gain, to any other person, confidential information acquired by him or her in the course of his or her official duties (pursuant to Government Code Section 1098).
ACTION ITEMS:

14. CLOSED SESSION:

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION:
Pursuant to California Government Code Sections 54956.9 (d) (1) and 54954.5 (c)
Case: Costa Mesa Sanitary District v. Mesa Water District
Case No. 30-2017-00923819-CU-PT-CJC

PUBLIC EMPLOYEE DISCIPLINE/DISMISSAL/RELEASE:
Pursuant to California Government Code Section 54957
MEMORANDUM

TO: Board of Directors  
FROM: Paul E. Shoenberger, P.E., General Manager  
DATE: February 8, 2018  
SUBJECT: Special Districts Shared Efficiencies

RECOMMENDATION

Take action as the Board desires.

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.
Goal #4: Increase public awareness about Mesa Water® and about water.
Goal #5: Attract and retain skilled employees.
Goal #6: Provide outstanding customer service.
Goal #7: Actively participate in regional water issues.

PRIOR BOARD ACTION/DISCUSSION

At its January 18, 2018 meeting, the Finance Committee directed staff to draft a letter to the Costa Mesa Sanitary District Board of Directors to be reviewed by an Ad Hoc Committee appointed by President Atkinson and consisting of two members, Directors Dewane and Fisler.

DISCUSSION

The Board of Directors will discuss the topic and take action if desired.

FINANCIAL IMPACT

There is no financial impact for the discussion of this matter.

ATTACHMENTS

None.
REPORTS:

16. REPORT OF THE GENERAL MANAGER:
   • January Key Indicators Report
   • Other (no enclosure)
Goal #1: Provide a safe, abundant, and reliable water supply

FY 2018 Potable Production (Acre Feet)

<table>
<thead>
<tr>
<th>Water Supply Source</th>
<th>FY 2018 YTD Actual (AF)</th>
<th>FY 2018 YTD Budget (AF)</th>
<th>FY 2018 Annual Budget (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Water</td>
<td>2,170</td>
<td>1,980</td>
<td>2,986</td>
</tr>
<tr>
<td>Amber Water (MWRF)</td>
<td>2,160</td>
<td>2,663</td>
<td>4,328</td>
</tr>
<tr>
<td>Imported</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Basin Management Water (In-Lieu)</td>
<td>5,931</td>
<td>5,318</td>
<td>10,000</td>
</tr>
<tr>
<td>Total Production</td>
<td>10,261</td>
<td>9,961</td>
<td>17,314</td>
</tr>
</tbody>
</table>

YTD actual water production (AF) through January 31, 2018

Water Production by Source - 12 Month Trailing Percent of Acre Feet Produced

- Clear Water
- Amber Water
- In-Lieu
- Imported
### Goal #1: Provide a safe, abundant, and reliable water supply

**FY18 System Water Quality – This data reflects samples taken in December**

<table>
<thead>
<tr>
<th>Distribution System:</th>
<th>Average</th>
<th>Range</th>
<th>MCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine Residual (mg/L) Compliance</td>
<td>1.89</td>
<td>Current RAA = 1.77</td>
<td>4 RAA</td>
</tr>
<tr>
<td>Coliform Positive % Compliance</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Temperature (°F)</td>
<td>67.1</td>
<td>53 – 75</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reservoir I &amp; II:</th>
<th>Average</th>
<th>Range</th>
<th>MCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine Residual (mg/L)</td>
<td>1.79</td>
<td>0.97 – 2.39</td>
<td>None</td>
</tr>
<tr>
<td>Monochloramine (mg/L)</td>
<td>1.75</td>
<td>0.94 – 2.35</td>
<td>None</td>
</tr>
<tr>
<td>Ammonia (mg/L)</td>
<td>0.40</td>
<td>0.2 – 0.53</td>
<td>None</td>
</tr>
<tr>
<td>Temperature (°F)</td>
<td>62.5</td>
<td>53 – 68</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wells (Treated):</th>
<th>Average</th>
<th>Range</th>
<th>MCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine Residual (mg/L)</td>
<td>2.68</td>
<td>2.51 – 2.97</td>
<td>None</td>
</tr>
<tr>
<td>Monochloramine (mg/L)</td>
<td>2.73</td>
<td>2.58 – 3.02</td>
<td>None</td>
</tr>
<tr>
<td>Ammonia (mg/L)</td>
<td>0.65</td>
<td>0.59 – 0.74</td>
<td>None</td>
</tr>
<tr>
<td>Temperature (°F)</td>
<td>71.0</td>
<td>68 – 72</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MWRF:</th>
<th>Average</th>
<th>Range</th>
<th>MCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine Residual (mg/L)</td>
<td>2.37</td>
<td>2.32 – 2.43</td>
<td>None</td>
</tr>
<tr>
<td>Monochloramine (mg/L)</td>
<td>2.40</td>
<td>2.31 – 2.5</td>
<td>None</td>
</tr>
<tr>
<td>Ammonia (mg/L)</td>
<td>0.52</td>
<td>0.50 – 0.54</td>
<td>None</td>
</tr>
<tr>
<td>Temperature (°F)</td>
<td>79</td>
<td>77 – 82</td>
<td>None</td>
</tr>
<tr>
<td>Color (CU) Compliance</td>
<td>ND</td>
<td>ND</td>
<td>15</td>
</tr>
<tr>
<td>Odor (TON) Compliance</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Quality Calls/Investigations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Calls</td>
</tr>
<tr>
<td>Total Investigations (from calls)</td>
</tr>
</tbody>
</table>
Goal #2: Practice perpetual infrastructure renewal and improvement

Revenues of Potable Water
(in thousands)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Budget</th>
<th>Difference</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total YTD $</td>
<td>15,797,710</td>
<td>15,037,426</td>
<td>760,284</td>
<td>5.06%</td>
</tr>
</tbody>
</table>
Goal #3: Be financially responsible and transparent

Actual vs. Budget Capital Spending
(current month actual figures are estimated)
Goal #4: Increase public awareness about Mesa Water® and about water

Web Site Information

<table>
<thead>
<tr>
<th>Web Site Information</th>
<th>December 2017</th>
<th>January 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visits to the web site</td>
<td>4,376</td>
<td>5,161</td>
</tr>
<tr>
<td>Unique visitors</td>
<td>2,433</td>
<td>2,873</td>
</tr>
<tr>
<td>(First time to the site)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average per day</td>
<td>145</td>
<td>172</td>
</tr>
<tr>
<td>Average visit length</td>
<td>1 minute, 39 seconds</td>
<td>1 minute, 27 seconds</td>
</tr>
<tr>
<td>Page visited most</td>
<td>Home</td>
<td>Home</td>
</tr>
<tr>
<td>Second most visited page</td>
<td>Online Bill Pay</td>
<td>Online Bill Pay</td>
</tr>
<tr>
<td>Third most visited page</td>
<td>Human Resources</td>
<td>Human Resources</td>
</tr>
<tr>
<td>Fourth most visited page</td>
<td>About/Organization</td>
<td>About/Organization</td>
</tr>
<tr>
<td>Fifth most visited page</td>
<td>Contact</td>
<td>Rates and Fees</td>
</tr>
<tr>
<td>Most downloaded file</td>
<td>Board Agenda</td>
<td>2017 Water Quality Report</td>
</tr>
<tr>
<td>Second most downloaded file</td>
<td>2017 Water Quality Report</td>
<td>Board Agenda</td>
</tr>
<tr>
<td>Most active day of the week</td>
<td>Friday</td>
<td>Monday</td>
</tr>
<tr>
<td>Least active day of the week</td>
<td>Sunday</td>
<td>Sunday</td>
</tr>
</tbody>
</table>

Total visits since June 1, 2002: 1,233,525

Water Vending Machine Information

<table>
<thead>
<tr>
<th>Vending Machine Location</th>
<th>Vend Measurement</th>
<th>January 2018 Vends</th>
<th>Totals Vends</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesa Water Office</td>
<td>1 gal</td>
<td>4,446</td>
<td>279,200</td>
</tr>
<tr>
<td>DEPARTMENT:</td>
<td>FY 2017</td>
<td>COMMENTS:</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------</td>
<td>---------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>OFFICE OF THE GENERAL MANAGER:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Manager</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Processes</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>2.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ADMINISTRATIVE SERVICES:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Services</td>
<td>4.75</td>
<td>Department Assistant - recruitment in process</td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td>2.00</td>
<td>Information Technology Coordinator - vacant/using temporary assistance</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>6.75</td>
<td>Information Technology Technician - vacant/using temporary assistance</td>
<td></td>
</tr>
<tr>
<td><strong>CUSTOMER SERVICES:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conservation</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Service</td>
<td>8.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>9.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ENGINEERING:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>5.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>5.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EXTERNAL AFFAIRS:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legislative &amp; Governmental Affairs</td>
<td>1.50</td>
<td>Department Assistant - vacant</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>1.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FINANCIAL SERVICES:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Reporting/ Purchasing</td>
<td>4.00</td>
<td>Controller - recruitment in process</td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>3.00</td>
<td>Senior Financial Analyst - vacant</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>7.00</td>
<td>Senior Accounting Technician - vacant</td>
<td></td>
</tr>
<tr>
<td><strong>HUMAN RESOURCES:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resources</td>
<td>3.00</td>
<td>Sr. Human Resources Analyst - recruitment in process</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>3.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PUBLIC AFFAIRS:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreach, Education &amp; Communications</td>
<td>2.50</td>
<td>Public Affairs Manager - vacant</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>2.50</td>
<td>Department Assistant - vacant</td>
<td></td>
</tr>
<tr>
<td><strong>WATER OPERATIONS:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervision/Support</td>
<td>6.00</td>
<td>Department Assistant - recruitment in process</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>10.00</td>
<td>Facilities Maintenance Worker - vacant</td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>3.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Quality</td>
<td>2.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>21.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL BUDGETED POSITIONS:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>57.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>46.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INTERNS: (0.5 FTE = 1 Intern)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>1.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>59.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Goal #6: Provide outstanding customer service

### Customer Calls

<table>
<thead>
<tr>
<th>Call Type</th>
<th>FY18 YTD</th>
<th>January 2018</th>
<th>YTD Weekly Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Billing Question</td>
<td>2115</td>
<td>325</td>
<td>69</td>
</tr>
<tr>
<td>Service Requests</td>
<td>1710</td>
<td>231</td>
<td>57</td>
</tr>
<tr>
<td>High Bill</td>
<td>673</td>
<td>136</td>
<td>21</td>
</tr>
<tr>
<td>Payments</td>
<td>1788</td>
<td>265</td>
<td>59</td>
</tr>
<tr>
<td>Late Fee</td>
<td>967</td>
<td>134</td>
<td>32</td>
</tr>
<tr>
<td>Account Maintenance</td>
<td>499</td>
<td>98</td>
<td>15</td>
</tr>
<tr>
<td>On-Line Bill Pay</td>
<td>1002</td>
<td>187</td>
<td>31</td>
</tr>
<tr>
<td>Water Pressure</td>
<td>43</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>No Water</td>
<td>175</td>
<td>82</td>
<td>4</td>
</tr>
<tr>
<td>Conservation</td>
<td>93</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Water Waste</td>
<td>39</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Other (District info. other utility info. etc.)</td>
<td>2563</td>
<td>334</td>
<td>86</td>
</tr>
<tr>
<td>Rate Increase</td>
<td>25</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Fluoridation</td>
<td>13</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL CUSTOMER CALLS</strong></td>
<td>11705</td>
<td>1845</td>
<td>379</td>
</tr>
<tr>
<td><strong>AVERAGE ANSWER TIME (Seconds)</strong></td>
<td></td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

### Online Bill Pay Customers

<table>
<thead>
<tr>
<th>Current Customers Enrolled</th>
<th>FY 2018 YTD</th>
<th>January 2018</th>
<th>YTD Weekly Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>12402</td>
<td>1111</td>
<td>134</td>
<td>37</td>
</tr>
</tbody>
</table>
REPORTS:

17. DIRECTORS' REPORTS AND COMMENTS:
**DIRECTORS’ REPORTS (AB 1234) PER CA GOVERNMENT CODE SECTION 53232.3 (d)**

In accordance with CA Government Code 53232.3 (d), the following report identifies the meetings for which Mesa Water Directors received expense reimbursement.

<table>
<thead>
<tr>
<th>Jim Atkinson</th>
<th>Meetings Attended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reimbursement Date:</strong></td>
<td><strong>Description, Date</strong></td>
</tr>
<tr>
<td>1/19/18</td>
<td>Vanguard’s Fantasia Event, 12/5</td>
</tr>
<tr>
<td>1/19/18</td>
<td>MWDOC/MWD Workshop, 12/6</td>
</tr>
<tr>
<td>1/19/18</td>
<td>OCWD Board Meeting, 12/6</td>
</tr>
<tr>
<td>1/19/18</td>
<td>WACO Meeting, 12/8</td>
</tr>
<tr>
<td>1/19/18</td>
<td>WACO Planning Committee Meeting, 12/12</td>
</tr>
<tr>
<td>1/19/18</td>
<td>City/Districts Liaison Committee Meeting, 12/15</td>
</tr>
<tr>
<td>1/19/18</td>
<td>WACO Meeting, 1/5</td>
</tr>
<tr>
<td>1/19/18</td>
<td>WACO Planning Committee Meeting, 1/16</td>
</tr>
<tr>
<td>1/19/18</td>
<td>OCWD Board Meeting, 1/16</td>
</tr>
<tr>
<td>1/19/18</td>
<td>MWDOC Board Meeting, 1/17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fred R. Bockmiller, Jr., P.E.</th>
<th>Meetings Attended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reimbursement Date:</strong></td>
<td><strong>Description, Date</strong></td>
</tr>
<tr>
<td>1/19/18</td>
<td>Meeting w/ CMSD, 12/7</td>
</tr>
<tr>
<td>1/19/18</td>
<td>Mesa Water® Employee Event, 12/12</td>
</tr>
<tr>
<td>1/19/18</td>
<td>City/Districts Liaison Committee Meeting, 12/15</td>
</tr>
<tr>
<td>1/19/18</td>
<td>Meeting w/ General Manager, 12/20</td>
</tr>
<tr>
<td>1/19/18</td>
<td>WACO Meeting, 1/5</td>
</tr>
<tr>
<td>1/26/18</td>
<td>ACWA/JPIA Fall Conference, 11/28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marice H. DePasquale</th>
<th>Meetings Attended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reimbursement Date:</strong></td>
<td><strong>Description, Date</strong></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shawn Dewane</th>
<th>Meetings Attended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reimbursement Date:</strong></td>
<td><strong>Description, Date</strong></td>
</tr>
<tr>
<td>1/19/18</td>
<td>Mesa Water® Employee Event, 12/12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>James R. Fisler</th>
<th>Meetings Attended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reimbursement Date:</strong></td>
<td><strong>Description, Date</strong></td>
</tr>
<tr>
<td>1/19/18</td>
<td>ISDOC Executive Committee Meeting, 12/5</td>
</tr>
<tr>
<td>1/19/18</td>
<td>WACO Meeting, 12/8</td>
</tr>
<tr>
<td>1/19/18</td>
<td>OCWD Board Meeting, 12/20</td>
</tr>
<tr>
<td>1/19/18</td>
<td>Meeting w/ External Affairs Manager Taylor, 12/26</td>
</tr>
<tr>
<td>Date</td>
<td>Meeting</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1/19/18</td>
<td>CM Chamber Gov’t Affairs Committee, 1/4</td>
</tr>
<tr>
<td>1/19/18</td>
<td>ISDOC Executive Committee Meeting, 1/9</td>
</tr>
<tr>
<td>1/19/18</td>
<td>MWDOC Board Meeting, 1/17</td>
</tr>
</tbody>
</table>
There are no support materials for this item.