AGENDA
MESA WATER DISTRICT
BOARD OF DIRECTORS
Tuesday, October 9, 2018
1965 Placentia Avenue, Costa Mesa, CA 92627
9:00 a.m. Adjourned Regular Board Meeting

CALL TO ORDER

PLEDGE OF ALLEGIANCE

PUBLIC COMMENTS

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.

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.

ITEMS TO BE ADDED, REMOVED, 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.

ACTION ITEMS:

1. REGIONAL WATER ISSUES:

   Recommendation: Receive the information and take action as the Board desires.

2. CHANDLER & CRODDY WELLS AND PIPELINE PROJECT:

   Recommendation: Receive the presentation and take action as the Board desires.

3. NEW WATER CONSERVATION LAWS:

   Recommendation: Receive the presentation and take action as the Board desires.

4. GRANT OPPORTUNITIES FOR PROJECT FUNDING:

   Recommendation: Receive the information and take action as the Board desires.

5. LEGISLATIVE PLATFORMS:

   Recommendation: Approve the proposed legislative platforms.

REPORTS:

6. REPORT OF THE GENERAL MANAGER:
7. DIRECTORS' REPORTS AND COMMENTS:

INFORMATION ITEMS:

8. OTHER (NO ENCLOSURE)

CLOSED SESSION:

9. PURSUANT TO GOVERNMENT CODE SECTION 54957.6: PUBLIC EMPLOYEE PERFORMANCE EVALUATION
   Title: General Manager

   RETURN TO OPEN SESSION.

ACTION ITEMS (CONT.):

10. ANNUAL PERFORMANCE EVALUATION FOR GENERAL MANAGER:

   Recommendation: Take action as the Board desires.

ADJOURN TO A REGULAR BOARD MEETING SCHEDULED FOR THURSDAY, OCTOBER 11, 2018 AT 6:00 P.M.
MEMORANDUM

TO: Board of Directors
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: October 9, 2018
SUBJECT: Regional Water Issues

RECOMMENDATION

Receive the information and take action as the Board desires.

STRATEGIC PLAN

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

PRIOR BOARD ACTION/DISCUSSION

At its March 8, 2018 meeting, the Board of Directors (Board) received a presentation from General Manager Rob Hunter of the Municipal Water District of Orange County (MWDOC) regarding the management of southern California’s imported water supplies and policy issues occurring at Metropolitan Water District of Southern California (MWD) and across the state. The Board also received a presentation from General Manager Michael Markus of Orange County Water District (OCWD) on the condition of the Orange County Groundwater Basin and supporting policy issues.

At its August 9, 2018 meeting, the Board received a presentation from MWDOC General Manager Rob Hunter regarding the Irvine Ranch Water District (IRWD) Strand Ranch Project.

DISCUSSION

Mesa Water District (Mesa Water®) actively participates in water issues on both a regional and statewide basis. Major regional ongoing water policy issues include the following:

Storm Water Capture

Water supply availability continues to heighten the awareness and use of existing water supplies and the focus on developing new source water alternatives. Storm water capture projects are being considered by agencies at a local level and regional basis as an additional water supply alternative. Storm water capture projects use local storm water discharges that would normally be discharged to the ocean via city or county maintained storm drain systems and instead use this water for groundwater replenishment in local groundwater basins, irrigation water at municipal/commercial sites, and other similar uses.

Various agencies have ventured into the storm water capture arena with the development of local and regional projects. The Southern California Water Coalition (SCWC) recently published a 2018 whitepaper (see Attachment A) that assessed storm water capture projects of varying magnitude. The supporting agencies of this study included the Inland Empire Utilities Agency, Orange County Flood Control District, Los Angeles County Flood Control District, Los Angeles Department of Water and Power, Los Angeles Bureau of Sanitation, Eastern Municipal Water District, San Elijo...
Joint Powers Authority, County of Ventura, City of Santa Monica, and City of Torrance. The SCWC whitepaper contained the following findings:

- Project flows for 32 projects range from 0.1 Acre-Feet Per Year (AFY) to 3,356 AFY with a median flow of 279 AFY
- Construction cost of the 32 analyzed projects is $132M
- Capital project costs range from $59/Acre-Feet (AF) to $250,000/AF
- The median per acre-foot cost is $25,000 for distributed projects (e.g., bio-swales, permeable pavement, park retrofits, etc.)
- The median per acre-foot cost is $6,900 for centralized projects (e.g., spreading basins for groundwater recharge, etc.)
- Average storm water captured for 32 projects during the 11-year period was 13,400 AFY

OCWD has one of the largest and most cost effective storm water capture programs. The program routinely captures Santa Ana River (SAR) base flows and storm flow throughout the year and spreads it into its many spreading basins (fore bay) located in Anaheim. The fore bay replenishes the Orange County Groundwater Basin (Basin) allowing the 19 OCWD member agencies the ability to pump approximately 75% plus of their demands from a local and more cost affordable groundwater supply. The following are the SAR flow characteristics:

<table>
<thead>
<tr>
<th>Description</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Flow (AF)</td>
<td>84,571</td>
<td>64,152</td>
<td>63,756</td>
<td>69,101</td>
<td>67,946</td>
</tr>
<tr>
<td>Storm Flow (AF)</td>
<td>20,326</td>
<td>28,012</td>
<td>44,168</td>
<td>44,102</td>
<td>138,670</td>
</tr>
<tr>
<td>Total SAR Flow (AF)</td>
<td>104,897</td>
<td>92,164</td>
<td>107,924</td>
<td>113,203</td>
<td>206,616</td>
</tr>
<tr>
<td>Flow Lost to Pacific Ocean (AF)</td>
<td>440</td>
<td>500</td>
<td>3,230</td>
<td>610</td>
<td>67,933</td>
</tr>
<tr>
<td>Captured Flow (AF)</td>
<td>104,497</td>
<td>91,664</td>
<td>104,694</td>
<td>112,593</td>
<td>138,683</td>
</tr>
<tr>
<td>% Storm Flow Captured</td>
<td>99.6%</td>
<td>99.4%</td>
<td>97.0%</td>
<td>99.5%</td>
<td>67.1%</td>
</tr>
</tbody>
</table>

In partnership with the Army Corps of Engineers (ACOE), OCWD routinely captures over 97% of the base and storm water SAR flows each year by allowing storm flow to be captured behind Padre Dam and slowly releasing the flow throughout the year to allow maximum capture into OCWD’s fore bay. In certain years, intense hydrologic events require the ACOE to release flows at a greater rate than what OCWD can capture in the fore bay, forcing the excess storm flow to be discharged into the Pacific Ocean. This was the case in Fiscal Year 2017 with a loss of 67,933 AF to the Pacific Ocean.

OCWD recovers their annual capital and operating expenditures through the replenishment assessment (RA). The RA is assessed to each member agency for each acre-foot of water that is pumped out of the Basin. The Fiscal Year 2019 replenishment assessment is $462 per acre-foot. In addition to the SAR storm water capture program, the RA covers OCWD’s entire operations and capital project costs including the Groundwater Replenishment System (GWRS), the Green Acres Project (GAP), the Talbert Seawater Injection Barrier, and other numerous ongoing capital projects. Thus, the cost of recharging SAR storm water is a fraction of the $462 per acre-foot RA.
The City of Costa Mesa recently constructed two distributive storm water capture projects at Lions Park. These projects capture local storm water discharges and are used to for local infiltration uses. Project No. 1 can capture up to 2.61 AF; the construction cost was $1.3M. Project No. 2 can capture up to 0.15 AF; the construction cost was $420,000. Using a 30-year amortization and 5% bond rate (same assumptions for the SCWC whitepaper), the annualized capital cost for Project No.1 and Project No. 2 is $32,400 per AF and $182,144 per AF, respectively.

There are multiple perspectives other than just a cost-benefit analysis to participating in storm water capture projects. Should Mesa Water consider taking on the lead agency role of storm water capture in lieu of the City of Costa Mesa, Orange County Flood Control District (OCFCD), or OCWD, the following are some advantages and disadvantages to consider:

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Proactively drive distributive (local) project development</td>
<td>• Mesa Water does not own nor operate a storm drain system</td>
</tr>
<tr>
<td>• Partner in centralized (regional) project development as lead project agency</td>
<td>• Distributive (local) projects are not cost effective (e.g. &gt;$25,000/AF)</td>
</tr>
<tr>
<td>• Distributive project could provide opportunity for localized water quality cleanup</td>
<td>• Distributive projects do not add potable water supply to the Basin Principal Aquifer</td>
</tr>
<tr>
<td>• Distributive projects do not provide sufficient storm water yield to make projects affordable</td>
<td></td>
</tr>
</tbody>
</table>

While many local municipal agencies have good intentions in implementing and being engaged in distributive projects, it is rarely the most cost effective use of ratepayer’s funds. The following are possible policy positions for the Board to consider when discussing storm water capture projects and when considering taking a lead agency role:

• Consider supporting centralized storm water capture projects that yield cost effective (e.g., OCWD equivalent) alternative potable water supplies.
• Consider supporting distributive or centralized storm water capture projects that positively contribute to the Basin Principal Aquifer drinking water supply.
• Consider supporting distributive storm water capture projects when costs are equivalent to centralized projects and provides an alternative potable water supply.
• Support agency partnerships to develop centralized storm water capture project-based alternative projects.

An example of a proposed policy statement is the collaboration between OCWD and OCFCD to evaluate storm water capture projects on a countywide basis. OCWD/OCFCD meet regularly to discuss the Orange County Watershed Improvement Program and develop centralized projects that are cost effective and have a positive impact to the Basin. An example of a distributive project that indirectly contributes positively to the Basin is the implementation of the Santa Ana Delhi Channel Diversion Project. The Delhi Channel Project diverts local dry weather flows (~2,200 AFY) to the Orange County Sanitation District (OCSD) that ultimately feeds into OCWD’s GWRS Project.
Staff Recommendation: Staff recommends that the Board of Directors support storm water capture projects that are cost effective (e.g., equivalent to GWRS costs) and contribute source water to the Basin Principal Aquifer.

Service Area Islands

Mesa Water serves approximately 110,000 residents with 24,500 service connections. Mesa Water’s service boundary is legally defined by the Local Agency Formation Commission (LAFCO) and largely contains the City of Costa Mesa with a minor portion of the City of Newport Beach. Historically, service areas were developed by LAFCO in order to have the ability to practically service residents versus geographical city boundaries. As such, through the years of Mesa Water consolidating previous water and agricultural districts, portions of those areas that crossed into the City of Newport Beach were acquired as part of Mesa Water’s service area. As such, service area boundaries do not always align with a city’s boundary, particularly when a special district serves multiple city agencies.

Orange County Groundwater Basin (Basin) Storage

In August 2017, OCWD’s Board broadened their Water Resource Policy to allow for the consideration of water storage and exchange programs with South Orange County agencies. In February 2018, a proposal for a pilot storage program with Moulton Niguel Water District (MNWD) was considered by the Water Issues Committee (WIC). The MNWD proposal included the following provisions:

- OCWD and MNWD commit to work together to evaluate the issues and benefits of allowing MNWD to store water in the Basin.
- OCWD and MNWD will work to evaluate both existing and potential new conveyance methods to deliver water to MNWD for such a storage program.
- OCWD and MNWD will evaluate the feasibility and value of developing a small short-term pilot storage arrangement to assist in understanding all of the issues associated with such programs.
- OCWD and MNWD will collaboratively work with all interested Orange County stakeholders on all of the studies and evaluations that occur with the MOU in an open and transparent manner.

Several of the OCWD member agencies expressed concern about opening up storage to entities outside of the Basin. Concerns were also expressed about giving priority to OCWD member agencies that had interest in storage programs over outside entities, and the over-arching concern if sufficient basin storage capacity existed for future drought conditions. A letter dated January 31, 2018, submitted by a subgroup of OCWD member agencies, outlined the following process for evaluating the potential for storage accounts:

1. Evaluate the current and future operating parameters of the Basin;
2. Identify potential measures to optimize the storage of water in the Basin for the benefit of the Producers;
3. Consider how storage accounts could be implemented for Producer agencies; then
4. Consider potential storage accounts for non-Producer agencies.
OCWD’s WIC directed staff to review Basin storage and operations policies, and to work with the OCWD member agencies to receive their input on the topic.

Over the past several months, OCWD staff has met with the OCWD member agencies to update the 2007 report on Orange County Groundwater Basin Storage and Operational Strategy. The update focused on the following questions:

- How much storage is needed for a drought?
- Is there storage space remaining for other programs?

OCWD staff noted five significant observations of the 2012 - 2016 drought conditions. These observations determined that:

1. The 2012-2016 drought was the driest on record in southern California since the 1400s;
2. There was a significant reduction in rainfall (55% of average);
3. Santa Ana storm flows were reduced;
4. MWD went into allocation (reduction of imported water); and,
5. The Governor mandated 25% conservation.

Using the 2012-2016 drought as the basis of evaluating the storage issue, OCWD evaluated the following three main drought scenarios:

- Scenario No. 1 - Repeat the 2012-2016 drought with current demands and supplies
- Scenario No. 2 - Repeat 2012-2016 drought conditions, State does not reduce water demands by 25% in year 5; MWD deliveries cut in years 4 and 5
- Scenario No. 3 - Conditions plus MWD allocation in years 6 and 7

The evaluation of the three scenarios indicates that under the most extreme condition (Scenario No. 3), the Basin would go into overdraft to approximately 467,000 AF as shown in Figure 1:

![Accumulated Overdraft Projections](image)

**Figure 1**
This is approximately 180,000 AF beyond where the current Basin condition is currently operating (approximately 287,000 AF overdraft). OCWD’s analysis has determined that, given a drought of similar to worse magnitude from the 2012-2016 Scenario No. 3, the Basin would be able to reliably respond. In addition, it has been determined that Basin operations levels could be confidently amended to provide operational flexibility given the following findings:

- Lower total water demands over the last ten years have reduced impacts from drought cycles
- GWRS has offset impacts of reduced SAR base flows
- GWRS Final Expansion in 2023 will increase base supplies, further improving drought resiliency
- Base supplies and OCWD’s conservative approach to setting Basin Pumping Percentage (BPP) should address foreseeable drought possibilities

As such, OCWD has recommended the proposed following changes to Basin storage levels as shown in Figure 2:

![Proposed Basin Management Policy Revisions](image)

**Figure 2**

These changes will provide OCWD more flexibility to reliably operate the Basin, respond to drought conditions as they arise, and make additional water purchase decisions as supplies become available. While there is much interest from some Basin member agencies and non-Basin entities in developing storage agreements within the Basin, this analysis demonstrates:

- That the full operational spectrum of the Basin is needed to address the impacts that a drought can impose on the Basin;
- That individually-assigned storage accounts reduce the overall flexibility of the Basin and, subsequently, reliability to Basin members;
- That individual storage accounts progressively remove the historical collaboration among Basin members and promotes a path towards an adjudicated Basin; and,
If and when individual storage accounts are considered, storage should be equivalently valued based on the cost to construct alternative above ground storage systems.

While individual storage accounts hinder operational flexibility and do not support a collaborative Basin, programmatic storage accounts that benefit Basin members could be considered. One such example of this program is MWD’s Conjunctive Use Program (CUP) that provides Basin members with local water supply reliability. OCWD Act Section 2.1.c gives the following authority to OCWD to consider and implement such programs:

**Section 2.1.c** - The groundwater storage agreement shall be limited to public and private entities distributing water to consumers for domestic, municipal, industrial, and agricultural use within their boundaries, which are located wholly or partially within the district, except that, where the primary benefits accrue to persons or property within the district, the agreement may include other public and private entities, including, but not limited to, the Metropolitan Water District of Southern California and the Department of Water Resources.

**Staff Recommendation:** Staff recommends that Mesa Water not support the concept of individual Basin member storage accounts and to limit any potential future storage agreements to storage programs that are compliant with OCWD Act Section 2.1.c.

**Metropolitan Water District of Southern California Nitrification Challenges**

As southern California’s largest water wholesaler, MWD treats and distributes hundreds of millions of gallons per day of potable drinking water to its member agencies. Like many water agencies, MWD experiences operational challenges that surround their various water supplies that feed the southern California service area. One of MWD’s ongoing challenges is nitrification within their distribution system. Nitrification events are a concern within distribution systems because they can cause a loss of disinfectant residual, result in an increase in coliforms, and promote corrosion impacts to the distribution system.

Nitrification events typically exist in water distribution systems that use a chloraminated disinfection protocol. Chloraminated water allows for ammonia-oxidizing bacteria (AOB) and nitrite-oxidizing bacteria (NOB) (collectively known as nitrifying bacteria) to sequentially convert nitrogen compounds into nitrites and nitrates. Nitrification events are typical in areas of the distribution system where there are long detention times, poor circulation in reservoirs, excess free ammonia, low or no disinfectant, dark environments, and warm temperatures - all which promote the growth of biofilms on distribution system surfaces.

As a result of these operational nitrification challenges, MWD is proposing to perform a short-term (1-2 months) conversion of its disinfection protocol to a free chlorine approach. This approach is similar to what Mesa Water has performed in previous years to assist in mitigating nitrification events within its distribution system. A tentative timeline for the free chlorine conversion is in early 2019; however, a definitive timeline has yet to be determined.

Since the late 1990’s, Mesa Water has used a chloraminated disinfection protocol within its distribution system. Mesa Water has had similar nitrification challenges to those faced by MWD. As a result, Mesa Water performed a detailed Nitrification Assessment in 2016 with follow-up
mitigation recommendations. One such recommendation was to evaluate the possibility of converting Mesa Water’s disinfection protocol to a free chlorine system. A free chlorine disinfection protocol eliminates the nitrifying bacteria and progressively removes the biofilm growth on the surfaces of the distribution system. While there are many positive results that come from using a free chlorine disinfection protocol, one of the biggest challenges is the compliance of disinfection byproducts (DBP) that are formed when using free chlorine. Similarly, this is one of the primary reasons MWD moved away from a free chlorine disinfection approach in 1984. Conversely, many water systems today still use a free chlorine disinfection protocol to control nitrification.

Mesa Water is finalizing its Disinfection Conversion Study and will be presenting the findings and recommendations to the Board at an upcoming Engineering and Operations Committee meeting. One of the primary draft findings of the Mesa Water Disinfection Conversion Study will be to run a full-scale pilot program by converting Mesa Water’s disinfection protocol to free chlorine for a twelve-month period (with Division of Drinking Water and Board approval) to ensure DBP compliance and to ensure disinfection residuals can be properly maintained throughout the distribution system.

Should Mesa Water be able to initiate this pilot program in early 2019, this would allow a more systematic integration with any MWD water that Mesa Water uses through the Coastal Pumping Transfer Program. Mesa Water will continue to monitor the development of the MWD free chlorine disinfection conversion program and update the Board as timelines are determined.

Metropolitan Water District of Southern California’s Orange County Feeder Relining Project

Over the past several years MWD has been working on relining the Orange County Feeder (OCF). Pipeline lining is a protective layer that coats the inside diameter of a pipeline with either coal tar enamel or cement mortar to prohibit corrosion from occurring during the service life of the pipe. The twenty-two mile OCF, originally constructed in the 1940s, is the main MWD feeder that spans from the Weymouth Water Treatment Plant in La Verne, CA to Orange County terminating in Corona Del Mar. The OCF ranges in size from thirty-three inches to forty-two inches and conveys up to fifty-seven cubic feet per second (cfs) in its upper reaches and 15 cfs in its lower reaches. The OCF is constructed of both welded steel pipe and precast concrete pipe.

Inspection of the OCF in 2005 revealed that several reaches had some level of corrosion. The OCF Relining Project will reline approximately 9.5 miles of Orange County pipeline and is being performed by MWD to provide long-term water reliability to Orange County by avoiding unplanned pipeline failures due to corrosion. The relining will be conducted in five phases starting in Santa Ana (next to the John Garthe Reservoir) and finishing in Newport Beach.

MWD is proposing to start the fifth relining phase in February 2019 with conclusion in late August 2019. As currently proposed by MWD, the fifth phase will make Mesa Water’s import connections, CM-2 and OC-14, unavailable during this time. These two connections represent a total of 25 cfs capacity. Under normal operational protocols, Mesa Water would not use imported water; however, Mesa Water has been participating in the OCWD Coastal Pumping Transfer Program (CPTP) and would use these stations intermittently to use import water as groundwater during this period along with emergency back-up supply. While Mesa Water could take the necessary CPTP
water and emergency flows through the OC-44 connections, Mesa Water will be preparing to start
the OC-44 Pipeline Rehabilitation Construction project in the summer of 2019 to mitigate
approximately 1,800 feet of weakened 42” pipeline across the San Diego Creek in the Newport
Back Bay. Thus, Mesa Water has expressed its concerns to MWDOC and MWD about the
proposed timing of the OCF Relining Project and have requested that they consider other options
for taking Mesa Water’s CM-2 and OC-14 connections out of service during the summer months
so as not to remove emergency backup supply reliability to Mesa Water’s service area. Mesa
Water staff will be meeting with MWDOC and MWD over the next several weeks to bring
resolution to this issue and will update the Board as progress is achieved.

**IRWD Strand Ranch Project**

MWDOC recently developed a conceptual Water Reliability Pilot Program (WRPP) that would
provide access to extraordinary water supplies during drought years when MWD is in allocation.
During an extensive drought period, MWD may enforce an allocation on its member agencies
thereby limiting the amount of imported water it may use without substantial penalties. In 2015-
2016, MWD assigned an allocation of 85% of its normal consumption to its member agencies as a
result of restrictions of the State Water Project and ongoing drought conditions. During a drought,
extraordinary water supplies are not included as part of the MWD allocation, thus, allowing
additional water to be used without additional penalties.

IRWD approached MWDOC to develop the conceptual WRPP, which would allow access to
IRWD’s Strand and Stockdale Integrated Water Banking Project (Water Bank) located west of
Bakersfield. The Water Bank purchases surplus water from other purveyors and stores it in the
Water Bank. The Water Bank can recharge up to 45,000 AF per year with an aquifer storage
capacity of 126,000 AF. Water is transported (wheeled) through MWD’s system for a cost. The
Water Bank is considered an extraordinary water supply under MWD allocation guidelines.

MWDOC and IRWD have developed a conceptual WRPP that would allow MWDOC to access this
water during MWD allocation periods. The terms of the conceptual WRPP were developed by a
joint IRWD/MWDOC Ad Hoc Committee. The conceptual WRPP terms are as follows:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Contract Term</td>
<td>1. 7 years</td>
</tr>
<tr>
<td>2. Quantity</td>
<td>2. 5,000 AF</td>
</tr>
<tr>
<td>3. Option Fee</td>
<td>3. $25/AF/yr. ($125K/Yr. or $875K over 7 years)</td>
</tr>
<tr>
<td>4. Cost of Water</td>
<td>4. $150/AF</td>
</tr>
<tr>
<td>5. Recovery Cost (Power)</td>
<td>5. $123/AF</td>
</tr>
<tr>
<td>6. Fixed Fee (Capital)</td>
<td>6. $260/AF</td>
</tr>
<tr>
<td>7. Program Set-up Fee</td>
<td>7. $5,000 (One-time)</td>
</tr>
<tr>
<td>8. Transaction Fee</td>
<td>8. $500/Call</td>
</tr>
</tbody>
</table>

The aggregate cost of the conceptual WRPP is approximately $1,952/AF. This cost includes the
aforementioned Option Fee and Program Set-up Fees ($176/AF), estimated Cost of Water
($150/AF), estimated Recovery Cost ($123/AF), Fixed Fee ($260/AF), and the MWD Tier 1 2025
Treated Rate ($1,243/AF). During a MWD allocation event, if MWDOC were to exceed the Tier 1
allocation limit, MWDOC and the infracting member agency would be assessed the Allocation

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Surcharge of $1,480 plus the Tier 1 Rate of $1,243/AF for a total of $2,723/AF. Thus, the potential cost savings to the infracting member agency is approximately $771/AF for calling upon the WRPP in lieu of taking additional MWD Tier 1 water.

MWDOC’s General Manager, Rob Hunter, made a presentation (see Attachment B) to Mesa Water District’s Board at its August 9, 2018 meeting to provide an overview of the conceptual WRPP. It was pointed out by the Board that, while the conceptual WRPP has potential cost savings for a MWDOC member agency, there are several challenges, institutional issues, and unanswered questions regarding this program. Some of the challenges/questions that were raised are as follows:

**Institutional Issues:**
- No apparent basis exists to demonstrate that MWDOC would ever need this extraordinary water supply.
- It is unclear if the appropriate California Environmental Quality Act study has been completed and approved by the lead agency.
- The costs for wheeling the water to MWDOC are unclear.
- It is unclear if there are potential water quality impacts to MWDOC member agencies from the introduction of a 3rd party water source.

**Financial Issues:**
- No apparent basis exists for the $25/AF/yr. Option Fee.
- What methodology will be used to assess the Option Fee across MWDOC member agencies (e.g., Choice vs. Core)?
- It is unclear if the Cost of Water and Recovery Cost program fees will be fixed or if they will vary from year to year.
- It is unclear if impacts to variable cost program components will have a maximum limit.
- No apparent basis exists for the Fixed Fee (capital) program costs.

Mr. Hunter has indicated that they will be working with IRWD over the next few months to develop a draft agreement for program implementation that MWDOC’s Board will consider for approval sometime in September or October 2018. Mr. Hunter also indicated that a rate study would be performed to determine how the Option Fee would be assessed to each member agency. Mesa Water will continue to follow and provide input on the development of the conceptual WRPP and report back to the Board as the program terms are refined and a more formal agreement has been developed.

**Metropolitan Water District of Orange County OC Reliability Study**

Staff will provide an update at the Board Workshop.

**FINANCIAL IMPACT**

None.
ATTACHMENTS

Attachment A:  Southern California Water Coalition 2018 Whitepaper Update
Attachment B:  MWDOC Strand Ranch Powerpoint Presentation
STORMWATER CAPTURE

ENHANCING RECHARGE & DIRECT USE THROUGH DATA COLLECTION

SOUTHERN CALIFORNIA WATER COALITION
2018 WHITEPAPER UPDATE

SCWC Stormwater Task Force
April 2018
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Acknowledgements

The Southern California Water Coalition would like to extend its deepest gratitude to the following agencies for volunteering to collect, consolidate, and submit the data that made this research effort possible:

- Inland Empire Utilities Agency
- Orange County Flood Control District
- Los Angeles County Flood Control District
- Los Angeles Department of Water & Power
- Los Angeles Bureau of Sanitation
- Eastern Municipal Water District
- San Elijo Joint Powers Authority
- County of Ventura
- City of Santa Monica
- City of Torrance

The working group’s effort was greatly appreciated by the Southern California Water Coalition and deserve recognition:

- Hatch – Pavitra Rammohan
- Inland Empire Utilities Agency – Andy Campbell
- Los Angeles County Flood Control District – Lee Alexanderson
- Metropolitan Water District of Southern California – Matthew Hacker and Miluska Propersi
- Southern California Water Coalition – Rich Atwater
Executive Summary

The purpose of this 2018 whitepaper update is to gain a better understanding of actual stormwater runoff capture volumes, costs, benefits, and project performance across the region to inform future discussions. This whitepaper augments prior efforts and uses the most recent and best available stormwater project data.

Since SCWC’s 2012 whitepaper, many of proposed projects were constructed and are now in operation. SCWC saw an opportunity to evaluate the costs and benefits of these constructed stormwater capture projects and pursued a whitepaper update.

In the spring of 2016, the Task Force embarked upon an ambitious data gathering project to get actual monitoring data – manually and/or automatically measured – for stormwater projects in Southern California. The Task Force developed a detailed data collection form to acquire actual stormwater and urban water runoff capture volumes, costs, benefits, and performance of existing stormwater projects. The form was distributed to 30 agencies across Southern California.

Each project was reviewed and assessed for completeness using the following criteria:

- Actual stormwater flow monitoring data
- At least one full year of stormwater capture volumes
- Actual construction costs to complete the project

The main objective in the data analysis was to calculate the cost per acre-foot of captured stormwater. For each project, the annual cost per acre-foot of stormwater captured was calculated and compared with its average stormwater captured.

- Costs of the projects range from $59 per acre-foot to more than $250,000 per acre-foot. The median cost per acre-foot is $1,070 and is bracketed by the 25th and 75th percentiles costs range from $334 to $4,911.

- Projects that have the ability to annually capture larger amounts of stormwater (over 600 acre-feet) have a lower cost per acre-foot captured (less than $1,200).

- Median costs for distributed projects are $25,000 per acre-foot, new centralized projects are $6,900 per acre-foot, and retrofit projects are $600 per acre-foot.

- Retrofit Projects tend to be more cost effective than new projects. Since retrofit projects by their nature exclude costs such as land acquisition and have a simpler permitting process, they are generally less expensive than new projects.

Of the 54 projects, 32 projects (from 6 different agencies) had complete data and were analyzed. The majority of the projects with complete data were retrofit/rehabilitation centralized projects and had water supply as the primary project benefit.

- The average stormwater captured for all 32 projects during the 11-year period was 13,400 AFY.
• As more projects come online, there has been an increasing ability to capture more stormwater per inch of rainfall.

• There was a noticeable reduction in stormwater capture ability in 2016 and this is most likely attributed to a wet year following a period of drought where most rainfall is absorbed in the mountains and not converted to runoff for capture.

In summary, an average of 13,400 AFY of stormwater was captured from 2006 through 2016, with a total capital cost of $132 million from the 32 projects, and cost per acre-foot of stormwater captured ranging from $59 per acre-foot to more than $250,000 per acre-foot.

Stormwater capture is one of the many water supply opportunities for agencies and municipalities to pursue as they strive for a more sustainable and reliable water future. Cost and climate uncertainties may continue to be a barrier, and Southern California as a region should continue to invest in a broad range of water supply alternatives including, investments in imported supply reliability, recycled water, desalination, groundwater cleanup, and stormwater capture.
Introduction

A secure future for Southern California’s water resources greatly depends on a diverse water supply portfolio in combination with smart and efficient management of this water. Groundwater sustainability – the long-term balance of production and recharge – is an integral part of ensuring continuing reliability within the region. The replenishment of the groundwater basins is important to meeting that goal (MWD, 2016). A key component of Southern California’s sustainable water supply portfolio is stormwater.

Many Southern California agencies are focusing on local water supplies, such as stormwater, due to the impacts of climate change, drought, regulatory issues, and other water supply challenges. A paradigm shift from simply conveying stormflows off-site for flood control towards increasing stormwater capture and infiltration can serve multiple purposes. Many local agencies in Southern California have already implemented regional and distributed (also known as neighborhood-scale) stormwater projects to increase local water supply, improve water quality, and address flood risks. These projects have created an opportunity to evaluate actual data for stormwater projects. Unfortunately, the project data compiled in this paper were primarily projects in the Chino Groundwater Basin with some projects in LA County and none in Ventura, Orange, Riverside and San Diego Counties. The analysis of these data and its implications are the subject of this whitepaper.

SCWC and Stormwater Task Force Background

The Southern California Water Coalition (SCWC) spans Los Angeles, Orange, San Diego, San Bernardino, Riverside, Ventura, Kern, and Imperial counties, and is comprised of approximately 200 member organizations including leaders from business, regional and local government, agricultural groups, labor unions, environmental organizations, water agencies, as well as the general public. Key technical support is provided by flood control district staff, city engineers, urban planners and redevelopment staff, water resource planners, real estate development professionals, hydrogeologists, and experts from consulting firms.

In January 2011, the SCWC formed the Stormwater Task Force (Task Force), to develop regional consensus-based strategies and recommendations for utilizing stormwater effectively as an emerging new local water supply and to reduce water pollution from urban runoff within the region. This includes identifying potential issues, constraints and opportunities related to the management of stormwater and providing a forum for discussion and evaluation of challenges for individual watersheds within the coastal plain of Southern California.

Key focus areas are:

- Enhancing local water resiliency and adapting to climate change through stormwater capture
- Promoting stormwater capture, flood risk mitigation, and groundwater conjunctive use
- Advancing regional integrated water resources management strategies and plans
- Developing synergies in new local supplies including groundwater, recycled water, and stormwater within the coastal plain of Southern California
- Improving stormwater management as related to water quality and protection of beneficial uses of receiving waters
• Assessing the relationship between regulatory compliance and need for stormwater management and groundwater recharge
• Evaluating low impact design standards and development incentives

Purpose of Whitepaper

The purpose of this 2018 whitepaper update is to gain a better understanding of actual stormwater runoff capture volumes, costs, benefits, and project performance across the region to inform future discussions. This whitepaper augments prior efforts and uses the most recent and best available stormwater project data.

Previously in January 2012, the SCWC published its first whitepaper on stormwater titled *Stormwater Capture: Opportunities to Increase Water Supplies in Southern California* (SCWC 2012). The purpose of the 2012 whitepaper was to examine existing statewide policies, goals, and regional plans related to integrated stormwater management; trends, structure, and requirements of MS4 permits as they pertain to both opportunities and constraints to maximizing stormwater capture for water supply purposes; and the advantages and disadvantages of two strategies of stormwater management: onsite low impact development and regional stormwater capture and infiltration. Lastly, the 2012 whitepaper largely focused on conceptual stormwater projects and technical strategies for increasing stormwater capture.

Since the 2012 whitepaper, many of the proposed projects were constructed and in operation. Other plans such as Metropolitan’s 2015 Integrated Resources Plan (MWD 2016), the City of Los Angeles’s Stormwater Capture Master Plan (LADWP 2015), and Los Angeles County Flood Control District’s LA Basin Study (LACFCD 2016) also estimated stormwater capture and costs. The SCWC saw an opportunity to evaluate the costs and benefits of these constructed stormwater capture projects and pursued a whitepaper update.

Stormwater Capture Overview

For over a century, the LACFCD and other agencies, including Orange County Water District, San Bernardino County Flood Control District and Chino Basin Water Conservation District, have been capturing stormwater for recharge in large centralized spreading grounds adjacent to flood control channels. Over the last 30 years, an average of approximately 324,000 AFY of stormwater (excluding Santa Ana River baseflow) has been captured and recharged in the Metropolitan service area. While this value varies from year to year, during the exceptionally wet winter of 2004-05 over 900,000 acre-feet of runoff was captured and infiltrated into the local groundwater basins. Figure 1 displays the amount of stormwater captured over the last 30 years and the trendline, which despite of the two recent severe droughts, is increasing.
The existing stormwater capture system can recharge large amounts of water above its long-term average when rainfall is bountiful. This emphasizes the important role that centralized infrastructure plays in water resiliency as well as helping the region adapt to climate change, such as more intense storms, by capturing significant stormwater volumes during peak storm events.

There are three main types of stormwater capture projects within the region: 1) large, centrally located infrastructure projects; 2) smaller, distributed projects (or neighborhood projects) for groundwater recharge; or 3) distributed projects that make use of captured stormwater directly on the site.

**Table 1: Stormwater Capture Project Definitions**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Centralized</strong></td>
<td>Projects which capture rainfall and stormwater runoff from natural and engineered drainage systems and stored in centralized facilities such as spreading basins and recharge basins for the managed replenishment of local groundwater basins.</td>
</tr>
<tr>
<td><strong>Distributed</strong></td>
<td>Projects which retain rainfall and stormwater runoff on site (at end user locations) to infiltrate into and replenish local groundwater basins. Examples of distributed recharge projects include green streets, park retrofits, permeable pavement and bio-swales.</td>
</tr>
<tr>
<td><strong>Distributed</strong></td>
<td>Projects which capture and store rainfall and stormwater runoff on site (at end user locations) which is then used to meet non-potable demands. Examples include stormwater capture using rain grading, tanks and cisterns, permeable pavement, and parkway basins. In some instances, stormwater capture for direct use may be used to meet potable demands as well.</td>
</tr>
</tbody>
</table>

Definitions adapted from LA Basin Study (Los Angeles County Flood Control District & Bureau of Reclamation 2014)
Historically, Southern California has primarily utilized centralized stormwater projects to capture and recharge large volumes of water every year. However, as water becomes increasingly more valuable along with urbanization developing much of the remaining open space, agencies are looking towards decentralized projects at parks and schools as new locations to help capture and recharge or reuse stormwater. When these stormwater projects – both large and small, for recharge and direct use – are combined into a comprehensive strategy, the region will be able to maximize its capture for water supply (LADWP 2015).

**Evaluating the Data**

Complete sets of high quality data can often reveal new insights for organizations and agencies to enhance customer service, improve their operations, and make more intelligent decisions. Within water resources management, good data can help to:

- Develop business cases
- Attract multiple project partners
- Drive meaningful and effective regulations

In the spring of 2016, the Task Force embarked upon an ambitious data gathering project to get actual monitoring data – manually and/or automatically measured – for stormwater projects in Southern California. The following section outlines the process for the data collection effort, the results, and the conclusions.

**Data Collection**

The Task Force developed a detailed data collection form to acquire actual stormwater and urban water runoff capture volumes, costs, benefits, and performance of existing stormwater projects. The form was distributed to 30 agencies across Southern California.

Data for a total of 54 projects was received. Each project was reviewed and assessed for completeness using the following criteria:

- **Actual** stormwater flow monitoring data
- At least one full year of stormwater capture volumes
- **Actual** construction costs to complete the project

Of the 54 projects, 32 projects (from 6 different agencies) had complete data and were analyzed. Table 2 shows the type of projects that were received and further analyzed. Additional information on the projects analyzed is provided in Appendix A. The majority of the projects with complete data were retrofit/rehabilitation centralized projects and had water supply as the primary project benefit. Figure 2 shows the location of the projects that were carried forward for the analysis.
Figure 2: Existing Stormwater Projects by Type and Average Stormwater Captured
Table 2: Types of Stormwater Projects Analyzed (32 total)

<table>
<thead>
<tr>
<th>Type of Project</th>
<th>No. of Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized</td>
<td></td>
</tr>
<tr>
<td>New</td>
<td>4</td>
</tr>
<tr>
<td>Retrofit/Rehabilitation</td>
<td>25</td>
</tr>
<tr>
<td>Distributed</td>
<td></td>
</tr>
<tr>
<td>New</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary Project Benefit</th>
<th>No. of Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>27</td>
</tr>
<tr>
<td>Flood Risk Mitigation</td>
<td>2</td>
</tr>
<tr>
<td>Water Quality</td>
<td>3</td>
</tr>
</tbody>
</table>

Based on the data received, Figure 3 shows the amount of stormwater captured per year versus annual rainfall. Over this period, stormwater capture and rainfall averaged 13,400 AFY and 10.0 inches, respectively. Generally, stormwater capture volumes are directly related to annual rainfall. Minimum stormwater capture occurred during 2007 which had the lowest annual rainfall, while maximum capture was in 2011 which was slightly wetter than average. Although 2010 was the wettest year with nearly 20 inches of rain, stormwater capture was ranked second. It is speculated that the dry years leading up to 2010 reduced stormwater capture due to the upstream watersheds being parched, absorbing more rainfall than normal, and preventing runoff from making it to stormwater projects.

Figure 3: Actual Stormwater Captured and Rainfall by Year

1Total annual stormwater captured by the 32 projects.
As more projects come online, there has been an increasing ability to capture more stormwater per inch of rainfall as shown by the positive trend in Figure 4. For this analysis, there were 19 stormwater projects operational in 2006 with a project coming online approximately once a year. By 2016, there were 13 additional projects for a total of 32, and which helped to increase the capture ability by nearly 700 acre-feet per inch of rain over this 11-year period. There was a noticeable reduction in stormwater capture ability in 2016 and this is most likely attributed to a wet year following a period of drought where most rainfall is absorbed in the mountains and not converted to runoff for capture. Overall, as more stormwater capture projects are constructed, it is encouraging to observe average stormwater capture volumes and the capture ability trendline increasing independently from cycles of wet and dry years.

Figure 4: Increasing Stormwater Capture Ability per Inch of Rainfall for Projects Evaluated

The average stormwater captured for all 32 projects during the 11-year period was 13,400 AFY. During this period average rainfall was 10.0 inches, which is below the long-term average of 15.2 inches. The key data evaluated is summarized in Table 3.

Table 3: Summary of Data Collected

<table>
<thead>
<tr>
<th>Period of Analysis</th>
<th>Number of Projects Analyzed</th>
<th>Average Stormwater Capture from Projects</th>
<th>Average Rainfall During Period of Analysis</th>
<th>Total Construction Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-2016</td>
<td>32</td>
<td>13,400 AFY</td>
<td>10.0 inches</td>
<td>$132 million</td>
</tr>
</tbody>
</table>
Data Analysis

The 32 projects were analyzed based on average stormwater capture for all operational years and project costs, including capital cost and annual operations and maintenance (O&M) costs. Capital costs were escalated to July 2017 dollars and amortized at 5 percent over 30 years. If a project did not have annual O&M data available, O&M was assumed to be three percent of the capital cost of the project to align with the 2015 IRP Update. Total capital cost for the 32 projects was $132 million in 2017 dollars.

The main objective in the data analysis was to calculate the cost per acre-foot of captured stormwater. For each project, the annual cost per acre-foot of stormwater captured was calculated and compared with its average stormwater captured. Figure 5 shows the average stormwater capture versus the annual cost per acre-foot captured on a log-log scale. As shown in the figure, projects that have the ability to annually capture larger amounts of stormwater (over 600 acre-feet) have a lower cost per acre-foot captured (less than $1,200). Distributed projects tend to have higher annual costs per acre-foot captured since they involve more infrastructure to capture smaller amounts of stormwater. It is also important to note that retrofit projects were less expensive than new projects. However, it is difficult to parse out the incremental stormwater benefit of the improvements from the original yield. Modeling the pre- and post-project design conditions using recorded rainfall would be able to show these incremental benefits, however, this would require a significant effort and was beyond the scope of this whitepaper.

Figure 5: Unit Cost by Amount of Stormwater Captured

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1 Capital costs amortized over 30 years
2 Includes capture by the entire spreading grounds (does not isolate the marginal capture of the retrofit)
The range of stormwater capture costs for the 32 projects analyzed are shown in Figure 6. Costs of the projects range from $59 per acre-foot to more than $250,000 per acre-foot. The median cost per acre-foot is $1,070 and is bracketed by the 25th and 75th percentiles costs range from $334 to $4,911, respectively. It is important to note that most of the projects (25 of the 32) in the database were from centralized retrofit projects. These projects tend to cost less than the new projects (as shown in Figure 5) so the median cost may not be a representative cost for future stormwater projects. Median costs for distributed projects are $25,000 per acre-foot, new centralized projects are $6,900 per acre-foot, and retrofit projects are $600 per acre-foot.

**Figure 6: Range of Stormwater Capture Costs for 32 Projects (25th, Median, and 75th Percentiles)**

Challenges

Many challenges were encountered when trying to collect stormwater project data. The first challenge was actually collecting the project data. Most of the data is stored internally within organizations and required information requests to access it. Secondly, the small quantity of data collected made it difficult to fully characterize stormwater project capture volumes and costs. Looking ahead, although stormwater project data sets are small currently, this is an emerging field and the availability of data is expected to keep increasing.

Once collected, some of the most common issues encountered with the data itself were:

- Obtaining actual flow data
  - Most projects do not have flow monitoring in place because monitoring devices are expensive and/or there isn’t sufficient funding to support staff to collect metering data
  - Some projects with flow meters had technical difficulties and only partial data were available

- Estimating additional stormwater capture at retrofit/rehabilitation projects is burdensome
  - Since retrofit projects enhance existing facilities, it is challenging to parse out any additional stormwater capture during less than average storm seasons
Obtaining project costs may be difficult
- Extracting only the costs associated with the stormwater capture when part of a larger multi-benefit project is unclear depending on cost tracking
- Some projects were constructed many years ago and the historical records are tough to obtain
- Records that were spread across the multiple agencies and/or departments involved made data retrieval difficult
- Identifying and disaggregating various costs such as planning, design, construction, and ongoing O&M is difficult depending on cost tracking methods or systems

Standardizing project records is problematic
- Data is often maintained in differing formats by the various agencies
- Staff within the same organization may store data differently

**UP & COMING STRATEGIES | WaterLA Case Study**

The WaterLA program was developed to explore how residents of Los Angeles could play a role in helping to manage the region’s stormwater. With the goal of maximizing runoff capture, water conservation, and reuse on individual properties, this pilot offered a model for how to design sustainable home landscapes that could, in aggregate, create a more climate-resilient Los Angeles.

WaterLA installed a combination of stormwater BMPs at 22 locations in the San Fernando Valley at an average cost of $5,200 per household. The findings are promising – a total of 1.2 million gallons of stormwater can be captured in an average year along with a 25% reduction in residential water use.

WaterLA is an example of a distributed stormwater capture program. This pilot was considered for the 2017 Whitepaper analysis since it had well documented construction costs, however, the stormwater capture volumes were modeled and not monitored. This highlights a key need for future distributed projects – some solution needs to be achieved that balances the ease of modeling stormwater capture volumes versus the more accurate yet logistically daunting task of monitoring numerous locations. As more and more distributed projects are implemented, understanding how much stormwater is being captured and subsequently recharged into the groundwater basins will be important to track.

Key Insights and Findings

From the 32 projects analyzed, an average of 13,400 AFY of stormwater was captured with a total capital cost of $132 million during the 11-year analysis period. Costs of the projects range from $59 per acre-foot to more than $250,000 per acre-foot with most of the projects being less expensive retrofit projects. Median costs for distributed projects are $25,000 per acre-foot, new centralized projects are $6,900 per acre-foot, and retrofit projects are $600 per acre-foot. Key insights and findings of this analysis include:

**Retrofit Projects** tend to be more cost effective than new projects. Since retrofit projects by their nature exclude costs such as land acquisition and have a simpler permitting process, they are generally less expensive than new projects.

**Distributed Projects** are usually designed for multiple benefits, with one of them being water supply. Within this study, distributed projects provided smaller capture volumes, yet demonstrated the potential to meaningfully contribute to regional water supply if implemented on a broad scale. Additionally, because of their multiple benefits (e.g., water quality improvement, recreation, open space, and habitat restoration), there are ample partnership opportunities with other agencies.

**Good Monitoring** is essential. Many projects do not include monitoring in the budget. These findings suggest that actual yield can be significantly less than the modeled or estimated yield of the project, especially during droughts or other periods of low stormwater runoff.
Summary

The LACFCD and other agencies have been capturing stormwater for groundwater recharge for over a hundred years. With ongoing issues of climate change, new regulations, and water resiliency, stormwater has an increasingly essential role to play. The focus of this 2018 whitepaper was to collect and evaluate actual stormwater project performance data and identify challenges encountered. Based on the 54 projects received, 32 projects had the actual monitoring data for at least a year and actual construction costs. Obtaining actual monitoring data and actual costs is a challenge, especially for distributed projects.

In summary, an average of 13,400 AFY of stormwater was captured from 2006 through 2016, with a total capital cost of $132 million from the 32 projects, and cost per acre-foot of stormwater captured ranging from $59 per acre-foot to more than $250,000 per acre-foot (Figure 7). Key findings of the whitepaper are that retrofit projects can be a smart way for agencies to start capturing stormwater at a reasonable cost, distributed projects create opportunities for agencies and the public to collaborate, and good monitoring data is critical to the success of projects.

Figure 7: Summary of Data Set Used in Analysis

Recommendations and Next Steps

Some recommendations for the future studies and actions include:

- **Study the relationship between stormwater capture and water supply yield.**
  
  An important subject to understand is how stormwater capture relates to increased groundwater production or yield. Optimum locations for stormwater capture include areas with high permeability and infiltration rates in unconfined aquifers. This is typically found closer to the foothill regions and alongside natural or historic waterways where there are coarse grain materials such as sand and gravel. In addition, many groundwater basins are adjudicated and have a fixed pumping rate. It will be important to work with the basin managers to evaluate how stormwater capture can lead to increased production.

- **Explore opportunities for multiple agencies to partner on stormwater projects.**
There is a growing trend, both at the state and local levels, to prioritize grant funding for projects that can demonstrate multiple benefits. For example, living streets combine LID elements including sustainably landscaped green streets, heat radiant cool streets, and bike and pedestrian-friendly complete streets. Although, regional or sub-regional storage facilities such as recharge basins and spreading grounds will continue to play a predominant role in terms of storage and infiltration for water supply augmentation, neighborhood and distributed stormwater capture projects can facilitate infiltration and water supply augmentation while enhancing flood hazard mitigation, augmenting habitat, and benefitting local communities, thereby creating opportunities for multiple stakeholders and partners to come to the table.

- **Continue regional collaboration on stormwater data and monitoring.**

Continuing the efforts of the SCWC Stormwater Task Force on data collection and monitoring is key for stormwater development in the region. There are many other stormwater data collection efforts underway which are being led by organizations such as the Southern California Stormwater Monitoring Coalition (Standardized Monitoring and CLEAN Project), LACFCD (Watershed Reporting Adaptive Management Planning System), and Army Corps Silver Jackets (Green Infrastructure Interagency Project). It will be important for the region to collaborate and exchange stormwater data between all of these efforts, and potentially consolidate the information into a single database.
Additional Information

To access SCWC's Stormwater Project Database, please visit the website at:

http://www.socalwater.org/stormwater/

References


### Stormwater Projects Analyzed

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Leading Organization</th>
<th>Project Name</th>
<th>Stormwater Project Type*</th>
<th>Type of Project</th>
<th>Water Supply Augmentation</th>
<th>Water Quality Improvement</th>
<th>Open Space Recreation</th>
<th>Habitat Restoration</th>
<th>Flood Risk Mitigation</th>
<th>Average Stormwater Capture (AFY)</th>
<th>Construction Completion Year</th>
<th>Total Cost (2017 $)</th>
<th>O&amp;M Cost (2017 $)</th>
<th>water quality improvements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LACFCD</td>
<td>Citrus SG Modification Project</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2006</td>
<td>$867,363</td>
<td>$26,000</td>
<td>0</td>
<td>Connect Basins 2 and 3, raise western levee of Basin 2, construct outlet from Basin 3 to Big Dalton Wash</td>
</tr>
<tr>
<td>2</td>
<td>LACFCD</td>
<td>Eaton Spreading Grounds Improvements</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2011</td>
<td>$5,637,482</td>
<td>$169,000</td>
<td>0</td>
<td>The proposed improvements include: 1) Upgrading the intake capacity to 125 cfs. The vehicle access slab will be replaced with a removable metal grate. 2) Combine Basin 1 and 2 by removing the levee and expansion of basins further south. 3) Replace the intake pipe to the shallow basins to eliminate the seepage problem and increase storage capacity to 575 AF along the basin expansion. 4) Excavation of approximately 115, 145 cubic yards of soil and inert material to enlarge Basin 1, construction of a reinforced concrete retaining wall and rubber dam gate in the channel to divert water to the spreading grounds, and the performance of other appurtenant work.</td>
</tr>
<tr>
<td>3</td>
<td>LACFCD</td>
<td>Hansen SG Basin Improvements</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2010</td>
<td>$15,481,960</td>
<td>$464,000</td>
<td>0</td>
<td>Hansen Spreading Grounds is located adjacent to the Tujunga Wash Channel downstream form the Hansen Dam. This site is owned and operated by the Los Angeles County Flood Control District (LACFCD). The LACFCD and the City of Los Angeles Department of Water Power elected to modernize the facility to increase intake and storage capacity thereby improving groundwater recharge, water quality, flood protection while providing opportunities in the future for passive recreation and native habitat improvements.</td>
</tr>
<tr>
<td>4</td>
<td>LACFCD</td>
<td>Live Oak SG Improvements</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2015</td>
<td>$3,067,523</td>
<td>$92,000</td>
<td>0</td>
<td>The Live Oak Spreading Grounds Improvement Project consisted of installation of a rubber dam, electric motor operated gates, diversion/bypass pipeline, and water line extension. The improvements optimize groundwater recharge at the facility by increasing the intake capacity and utilizing the existing debris inlet as a storage basin. Rubber dam is 8-foot high by 35-foot long.</td>
</tr>
<tr>
<td>5</td>
<td>LACFCD</td>
<td>Rio Hondo Cleanout Basin 1</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2009</td>
<td>$1,805,742</td>
<td>$48,000</td>
<td>0</td>
<td>The subject project proposes the excavation of approximately 130,000 cubic yards at the Rio Hondo Coastal Spreading Grounds Basin 1E. The sediment will be removed from the facility by trucking. The excavated sediment will be hauled to the Manning Pit Sediment Placement Site located in the City of Irwindale. This cleanout will promote the effective operation of the Spreading Grounds and help increase the percolation rate of the basin, which has decreased over time due to sediment accumulation from the Rio Hondo Channel.</td>
</tr>
<tr>
<td>6</td>
<td>LACFCD</td>
<td>San Dimas Spreading Grounds/Puddingstone Diversion</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2008</td>
<td>$1,801,413</td>
<td>$54,000</td>
<td>0</td>
<td>The project will restore water conservation efforts of 1,500 acre-feet per year and prevent potential erosion of channel behind residential properties below the spillway.</td>
</tr>
<tr>
<td>7</td>
<td>LACFCD</td>
<td>San Dimas Wash, Ben Lomond Spreading Ground, Interconnecting Drain to Citrus</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2010</td>
<td>$1,537,515</td>
<td>$46,000</td>
<td>0</td>
<td>Construction of a 3,700 feet long 48-inch reinforced concrete pipe (RCP) pipeline to allow water from San Dimas Wash to be diverted from Ben Lomond Spreading Grounds to Citrus Spreading Grounds. Construction of a 4-foot by 4-foot gated inlet structure with a motor operator in Basin 1 of Ben Lomond Spreading Grounds. Flowmeter installed in the RCP prior to entering Citrus Spreading Grounds. Installation of an outlet structure and sloped protection barrier in Basin 1 of Citrus Spreading Grounds.</td>
</tr>
<tr>
<td>Project No.</td>
<td>Leading Organization</td>
<td>Project Name</td>
<td>Stormwater Project Type</td>
<td>Type of Project</td>
<td>Project Benefits (Primary = ☑, Secondary = ✓)</td>
<td>Average Stormwater Capture (AFY)</td>
<td>Construction Completion Year</td>
<td>Total Cost (2017 $)</td>
<td>“Analysis” Annual O&amp;M Cost (2017 $)</td>
<td>Description</td>
<td></td>
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</tr>
<tr>
<td>8</td>
<td>LACFCD</td>
<td>San Gabriel Coastal Basin Spreading Grounds Pump station and Pipeline Project</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>3,356</td>
<td>2011</td>
<td>$7,275,735</td>
<td>$218,000</td>
<td>Construction of a pipeline between RHCBSG and SGCBSG to allow 150 cfs to either gravity flow from RHCBSG to SGCBSG or flow in the opposite direction using a four pump system. The project consisted of approximately 6,000 linear feet of 78-inch rubber gasketed reinforced concrete pipe, reinforced concrete transition box conduit, a concrete outlet structure at RHCBSG Basin 2 and SGCBSG Basin 2, and four variable speed pumps which draw water from a sump constructed in the canal at SGCBSG. The entire system is linked together with a telemetry system ensuring the proper operation of the gates when the pump is active.</td>
<td></td>
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<tr>
<td>9</td>
<td>LACFCD</td>
<td>Santa Anka Spreading Grounds Improvements</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>22</td>
<td>2009</td>
<td>$1,062,999</td>
<td>$32,000</td>
<td>This project involves mostly earthenwork and other pertinent maintenance work required for efficient operation of the spreading grounds. The project proposes to modify the overflow channel, located adjacent to the spreading grounds and convert the Borrow Pit area into three spreading basins. The proposed project will increase the capacity of SAGS from 38 acre-feet to 62 acre-feet, conserving an average of 314 acre-feet per year and 1,782 acre-feet during a wet year.</td>
<td></td>
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<tr>
<td>10</td>
<td>LACFCD</td>
<td>Sun Valley Park Drain and Infiltration System</td>
<td>Centralized</td>
<td>New</td>
<td>☑</td>
<td>65</td>
<td>2006</td>
<td>$8,517,875</td>
<td>$256,000</td>
<td>The project alleviates localized flooding in the residential area tributary to the project. Street runoff is routed through a water quality treatment system at the park and directed into two underground infiltration chambers for infiltration.</td>
<td></td>
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<tr>
<td>11</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - College Heights</td>
<td>Centralized</td>
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<td>☑</td>
<td>76</td>
<td>2005</td>
<td>$4,111,281</td>
<td>$28,600</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
<td></td>
<td></td>
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<td>IEUA</td>
<td>Chino Basin Facilities Improvement - 8th St</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>1,028</td>
<td>2005</td>
<td>$4,384,929</td>
<td>$64,300</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
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<td></td>
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<td>Chino Basin Facilities Improvement - Banana</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>237</td>
<td>2005</td>
<td>$628,744</td>
<td>$34,000</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
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<td>392</td>
<td>2005</td>
<td>$2,073,367</td>
<td>$49,100</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
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<tr>
<td>15</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Declez</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>688</td>
<td>2005</td>
<td>$2,970,478</td>
<td>$35,100</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
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<td>16</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Ely</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>1,132</td>
<td>2005</td>
<td>$2,005,395</td>
<td>$63,600</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
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<tr>
<td>17</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Elawanda DB</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>230</td>
<td>2005</td>
<td>$1,520,959</td>
<td>$22,900</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
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<td></td>
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<tr>
<td>18</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Hickory</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>352</td>
<td>2005</td>
<td>$6,883,717</td>
<td>$50,400</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
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<td></td>
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<tr>
<td>19</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Lower Day</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>322</td>
<td>2005</td>
<td>$2,879,679</td>
<td>$31,400</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
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<td></td>
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<tr>
<td>20</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Montclair</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>706</td>
<td>2005</td>
<td>$818,749</td>
<td>$24,700</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>21</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - RP3</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>1,095</td>
<td>2005</td>
<td>$17,676,328</td>
<td>$163,400</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>22</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - San Sevaine</td>
<td>Centralized</td>
<td>Retrofit/Rehabilitation</td>
<td>☑</td>
<td>648</td>
<td>2005</td>
<td>$701,309</td>
<td>$51,700</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO₃), diluent water for recycled water recharge</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
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</table>
## Appendix A – Stormwater Projects Analyzed

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Leading Organization</th>
<th>Project Name</th>
<th>Stormwater Project Type</th>
<th>Water Supply Augmentation</th>
<th>Water Quality Improvement</th>
<th>Open Space Recreation</th>
<th>Habitat Restoration</th>
<th>Flood Risk Mitigation</th>
<th>Average Stormwater Capture (AFY)</th>
<th>Construction Completion Year</th>
<th>Total Cost (2017 $)</th>
<th>&quot;Analysis&quot; Annual O&amp;M Cost (2017 $)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Turner 1&amp;2</td>
<td>Centralized</td>
<td>Retrofit/ Rehabilitation</td>
<td>✓</td>
<td>✔</td>
<td>1,016</td>
<td>2005</td>
<td>$3,574,494</td>
<td>$64,600</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO3), diluent water for recycled water recharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Turner 3&amp;4</td>
<td>Centralized</td>
<td>Retrofit/ Rehabilitation</td>
<td>✓</td>
<td>✔</td>
<td>512</td>
<td>2005</td>
<td>$5,690,086</td>
<td>$53,500</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO3), diluent water for recycled water recharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Upland</td>
<td>Centralized</td>
<td>Retrofit/ Rehabilitation</td>
<td>✓</td>
<td>✔</td>
<td>376</td>
<td>2005</td>
<td>$372,814</td>
<td>$22,600</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO3), diluent water for recycled water recharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>IEUA</td>
<td>Chino Basin Facilities Improvement - Victoria</td>
<td>Centralized</td>
<td>Retrofit/ Rehabilitation</td>
<td>✓</td>
<td>✔</td>
<td>336</td>
<td>2005</td>
<td>$3,626,615</td>
<td>$79,500</td>
<td>Groundwater recharge and groundwater quality improvement (TDS and NO3), diluent water for recycled water recharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>San Elijo JPA</td>
<td>San Elijo Stormwater Diverter</td>
<td>Centralized</td>
<td>New</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
<td>2013</td>
<td>$64,296</td>
<td>$2,000</td>
<td>Divert low flow urban runoff into the sewer system for treatment and reuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>San Elijo JPA</td>
<td>Seascape Sur Diversion Structure</td>
<td>Centralized</td>
<td>New</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
<td>2014</td>
<td>$181,071</td>
<td>$5,000</td>
<td>Divert low flow urban runoff away from beach and into sewer system for treatment and reuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Santa Monica</td>
<td>Santa Monica Urban Runoff Recycling Facility</td>
<td>Centralized</td>
<td>New</td>
<td>✓</td>
<td>✓</td>
<td>183</td>
<td>2001</td>
<td>$17,328,122</td>
<td>$300,000</td>
<td>Collect dry weather runoff from central part of Santa Monica, and west Los Angeles, from Kenneth Canyon. Treat and reuse for landscape irrigation and flushing. Offset using potable water for non-potable purposes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Santa Monica</td>
<td>Virginia Avenue Park Library Rainwater Harvesting Project</td>
<td>Distributed-type BMPs for Direct Use</td>
<td>New</td>
<td>✓</td>
<td>✓</td>
<td>0.1</td>
<td>2014</td>
<td>$440,819</td>
<td>$6,000</td>
<td>Collect onsite rainwater from buildings' roofs, store, treat and use onsite for bathroom flushing. Supplemental local water supply to replace potable; keep runoff pollution out of the Bay.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>City of Los Angeles</td>
<td>Elmer Avenue</td>
<td>Distributed-type BMPs for Direct Use</td>
<td>New</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>12</td>
<td>2010</td>
<td>$3,060,117</td>
<td>$92,000</td>
<td>The Elmer Avenue Neighborhood Retrofit transformed a typical residential street into a model &quot;green street&quot; by incorporating stormwater best management practices and educating residents. Elmer Avenue includes underground infiltration galleries, open bottom catch basins, bioswales, rain barrels, permeable pavers, climate-appropriate landscapes, and solar street lights.</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>City of Los Angeles</td>
<td>Broadway Neighborhood Stormwater Greenway Project</td>
<td>Distributed-type BMPs for Direct Use</td>
<td>New</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>24</td>
<td>2016</td>
<td>$4,752,297</td>
<td>$150,000</td>
<td>A combination of BMPs were deployed, including a large infiltration chamber, dry wells, pre-cast concrete sidewalk bioswales, and 20 residential landscape projects. The project will help augment groundwater recharge to the Central and West Coast Basins.</td>
<td></td>
</tr>
</tbody>
</table>
Proposed Pilot Program Between MWDOC & IRWD

MESA WATER BOARD MEETING
August 9, 2018

Agenda

- Conceptual Framework
- Purpose of the Pilot Program
- Overview of the Proposed Pilot Program between MWDOC & IRWD
- Benefits of the Pilot Program
- Description of IRWD's "Strand Ranch" Water Bank
- Proposed Next Steps
Conceptual Framework

- **Insurance Policy for Water Reliability/Supply During MET Allocations**
  - Annual Premium to mitigate Potential Loss or Cost
  - Additional cost of Water Purchase incurred only if needed

- **Probable Rate Structure would be Volumetric Charge**
  - Risk approximately proportional to the volume of imported water purchased
  - Premium Costs follow Potential Benefits
    - MESA WATER - Retail
      - Purchase Volume = 0 AF/year
      - Premium Cost = $0/year
    - OCWD - Replenishment
      - Premium Cost = $0/year

- **Additional Cost of Water Purchase paid by those triggering Water Purchase**

Purpose of the Pilot Program

- Provides MWDOC retail agencies with reliability “Insurance” to access extraordinary supplies during MET Drought Allocation or during emergency conditions

- Helps mitigate some of the supply uncertainty until the CA WaterFix is operational

- Avoid paying expensive MET allocation surcharge (i.e. Penalty) (Costs vs. Benefits)
Allocations & Extraordinary Supply

- Water Supply Allocation Plan
  - Under MET’s Water Supply “Condition 3” establishes a member agency supply allocation (90% to 50% Allocation = 10% to 50% imported supply Reduction)
  - Can’t “pump your way out” of allocation

- IRWD’s Strand Ranch Bank Water is categorized by MET as an “Extraordinary Supply”
  - Water supply in addition to the amount allocated to a member agency
  - Intended to increase water supplies to the region during an allocation that does not originate from MET
  - Non-MET Water that is only used during Allocation or Emergency (not baseload)

Overview of the Pilot Program

- **Term:** Seven years (no opt-out)
- **Amount:** 5,000 AF from IRWD Water Bank

MWDOC administers the pilot program for retail agencies

IRWD manages the water bank facilities

MWDOC secures annual option for the right to call on the water

If called, MWDOC, on behalf of retail agencies*, pays IRWD for the actual water delivered

* Actual delivery charges will be the responsibility of agency needing water.
Fees, Charges & Costs

- **Set Up Fee**
  - $1 per AF (one-time payment)

- **Annual reservation charges**
  - $25 per AF for 7 years (no opt out)
    - **Premium Cost**

- **Extraction and deliveries costs**
  - $533 per AF (only if called)
    - **Purchase Cost**

---

**Proposed Extraction & Delivery Charges (Estimated Year 7)**

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<tr>
<th>$/AF</th>
<th>$533/AF</th>
<th>Capital Facility Use Fee</th>
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<td></td>
<td>$260/AF</td>
<td>Based on IRWD's total capital costs &amp; the total amount of water expected to delivered from the projects over 50 years</td>
</tr>
<tr>
<td></td>
<td>$123/AF</td>
<td>Est. Recovery Cost</td>
</tr>
<tr>
<td></td>
<td>$150/AF</td>
<td>(Escalated @ 3%/yr.) Includes power costs, Rosedale fees, share of Recovery O&amp;M and Kern Conveyance costs</td>
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<tr>
<td></td>
<td>$100/AF</td>
<td>Est. Cost of Water</td>
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<td></td>
<td>Based on actual costs of water, includes Rosedale fees, Kern banking fees, share of recharge O&amp;M costs</td>
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</table>

```
Pilot Program Cost Comparison

Under MET Drought Allocations
If called upon in 7th Year (2025)

$2,723/AF

Savings
$771/AF

$1,952/AF

MET Full Service Rate
$1,243/AF

Extration, Facility & Water Costs
$533/AF

$176/AF

Pilot Program Reservation Charge

Pilot Program

Total MET Surcharge (over usage)

Program Costs & Potential Cost Avoidance (5 TAF Call)

PROGRAM AGGREGATE

<table>
<thead>
<tr>
<th>TERM (Yrs)</th>
<th>FIXED COSTS (Premium Payments)</th>
<th>TOTAL PROJECT COST (with Water Purchase)</th>
<th>TOTAL MET COSTS (Water Purchase + Surcharge)</th>
<th>POTENTIAL COST AVOIDANCE</th>
<th>RATIO (COST AVOIDANCE divided by FIXED COSTS)</th>
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<tr>
<td>5</td>
<td>$ 630,000</td>
<td>$ 9,140,137</td>
<td>$ 12,881,316</td>
<td>$ 3,741,179</td>
<td>5.94</td>
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<tr>
<td>7</td>
<td>$ 880,000</td>
<td>$ 9,760,437</td>
<td>$ 13,615,201</td>
<td>$ 3,854,764</td>
<td>4.38</td>
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<td>9</td>
<td>$ 1,130,000</td>
<td>$ 10,417,887</td>
<td>$ 14,425,760</td>
<td>$ 4,007,873</td>
<td>3.55</td>
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<td>$ 1,630,000</td>
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<td>17</td>
<td>$ 2,130,000</td>
<td>$ 13,402,304</td>
<td>$ 18,391,759</td>
<td>$ 4,989,455</td>
<td>2.34</td>
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</table>
Average MWDOC Retail Member Agency Example

- "Average" Retail Agency
  - Accounts for 4% of MWDOC's Annual Imported Water Purchases
  - 25 Retail MAs

- Fixed Costs: 1-year premium cost
  - $5,029

- Total Water Costs: With 5,000 AF call
  - $9,760,437

- Potential Cost Avoidance:
  - $3,854,764

- Ratio (Cost Avoidance : Fixed Costs)
  - 767 : 1

---

Average MWDOC Retail Member Agency Example

- How likely is it that One "Average Retail MA" would trigger a 5 TAF allocation overage and the Extraordinary Supply purchase?
- Not very - They would have to increase instead of decrease their volume of normal water purchases
- More reasonable scenario would be that Six Average RMAs reduce their use of imported water by only 6% instead of the required 15%
- With six Average RMAs sharing the costs of the Extraordinary Supply purchase the Ratio of Avoided Cost Divided by Premium Cost goes from 767:1 to 128:1
Pilot Program Benefits

- Increases water supply reliability during Drought Allocation or Emergency Conditions
  - Access to Extraordinary Supplies

- "Inexpensive" "Insurance"
  - Pay for the full cost & delivery of this water only when you need it
  - Significantly less expensive than paying the MET Allocation Surcharge
  - Significantly less expensive than developing own facility

- Proportional Coverage for ALL MWDOC Retail MAs

- Institutional Structure & Assets are already in place and tested
Agreements in Place to Delivery this Water

- **The Coordinated Operating and Exchange Agreement (2011):**
  - Allows IRWD to secure SWP water to store in IRWD Water Banks
  - or in Southern California
  - MWD can borrow SWP supplies from IRWD
  - Water qualifies as Extraordinary Supply

- **The Template Wheeling Agreement*:**
  - Allows access to MWD facilities to transport non-SWP water;
  - Must be executed for each transaction;
  - Water qualifies as Extraordinary Supply

[*] A pilot Wheeling Agreement for delivering 1,000 AF was executed in June 2014

Description of “Strand Ranch” Water Bank

- **Aquifer:** 126 TAF of storage
- **Land:** 761 acres for recharge, 45,000 AFY
- **Water Supply:** Unbalanced exchanges
  (Currently 40,000 AF+)
- **Recovery:** 13 wells, 70 cfs, 29,000 AFY
- **Conveyance:** 3 turnouts with access to the California Aqueduct and Cross Valley Canal
Recap of Pilot Program Operational Conditions

- Project Operational
- Water already in the ground
- Existing Contracts
- Extraordinary Supply was approved during last allocation period

Proposed Next Steps

- Seek feedback and direction from the MWDOC P&O Committee
- Discuss the proposed Pilot Program with the MWDOC Member Agencies
- Start developing a Draft Pilot Program Agreement between MWDOC and IRWD
- Develop a MWDOC Drought Reliability Program for review and consideration
- Include this Pilot Program in the evaluation of projects for the O.C. Reliability Study
Discussion
MEMORANDUM

TO: Board of Directors
FROM: Phil Lauri, P.E., Assistant General Manager
DATE: October 9, 2018
SUBJECT: Chandler & Croddy Wells and Pipeline Project

RECOMMENDATION

Receive the presentation and 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.

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 December 14, 2017 meeting, the Board authorized staff to proceed with Layout Scenario No. 3 Well Site design.

At its February 8, 2018 meeting, the Board awarded 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 Chandler & Croddy Wells and Pipeline Project.

BACKGROUND

As part of the 2014 Master Plan, the Board 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 an additional 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.
DISCUSSION

As part of the preliminary design, Tetra Tech (Consultant) created three conceptual site layout options considering various components such as civil, mechanical, electrical, well drilling, structural, and architectural disciplines. Field visits were completed to collect information required for the conceptual site layout options. Each option considered the following:

- Site constraints
- Site ingress/egress
- Utilities
- Site security
- Sound mitigation
- Chemical handling facilities
- Chemical delivery
- Suitability and repurposing of existing structures
- Piping
- Emergency power (i.e., backup generator)
- Mechanical/electrical/radio communication equipment
- Proposed points of piping connection

At its November 21, 2017 meeting, the E&O Committee was presented with several layout concepts. The Committee directed staff to proceed with the concept that best utilized the site for Mesa Water well production facilities and, if possible, consider commercial development on any residual unused land. Attachment A shows the site layouts and renderings from the Preliminary (30%) Design Report.

Preliminary (30%) Design Summary
Each well is expected to be 18-inches in diameter and drilled to approximately 850 to 1,000 feet deep and cased with stainless steel. Production is expected to be 3,000 to 4,000 gallons per minute. Well pump design will be based on pump testing once the wells are drilled. The well pumps will be driven by efficient electric motors with variable frequency drives. The sites will include dedicated chemical handling facilities for disinfection chemicals and automated control of the pump speeds and disinfection process through Mesa Water’s SCADA system. Back-up electric power will be provided at each site using diesel generators. The Class 4 construction cost estimate of the wells and equipment is approximately $12M.

A pipeline to transport the produced water to Mesa Water’s distribution system is also in the preliminary (30%) design phase. The pipeline is expected to be 16-inch ductile iron pipe from the Chandler site to the Croddy site, and 30-inch steel pipe from the Croddy site to the Mesa Water service area. The connection point to the Mesa Water distribution system will be at the Hyland and MacArthur intersection. The Class 4 pipeline construction cost estimate of the approximately 4,500 feet of pipeline is approximately $2.7M.

Next Steps
The Chandler & Croddy Wells and Pipeline Project is currently in final design, with four bid packages expected to be released near the end of Fiscal Year 2019. Phased bid packages are expected to include the following:
1. Demolition of existing facilities at both sites
2. Well drilling and pump testing of wells at both sites
3. Equipping and site work at both sites
4. Pipeline construction

Concurrent with design, the design team is also working with the Division of Drinking Water (DDW) and City of Santa Ana to meet the permitting requirements. The design team is also developing a Mitigated Negative Declaration in compliance with the California Environmental Quality Act (CEQA). The draft CEQA filing will be brought to the Board for approval at a future meeting.

Demolition and drilling are expected to start in mid-Fiscal Year 2020, with all construction expected to take two to three years to complete.

FINANCIAL IMPACT

In Fiscal Year 2019, $625,000 has been budgeted for the Chandler & Croddy Wells and Pipeline Project Design.

<table>
<thead>
<tr>
<th>Project Estimate Amounts</th>
<th>Project Cost Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Project Estimate (FY 2018)</td>
<td>$ 920,000</td>
</tr>
<tr>
<td>Original Contracts</td>
<td>$ 920,000</td>
</tr>
<tr>
<td>Change Orders</td>
<td>$ 0</td>
</tr>
<tr>
<td>Requested Funding</td>
<td>$ 0</td>
</tr>
<tr>
<td>Revised Contracts</td>
<td>$ 0</td>
</tr>
<tr>
<td>Actual Spent to Date</td>
<td>$ 334,672</td>
</tr>
<tr>
<td>Revised Project Estimate</td>
<td>$ 920,000</td>
</tr>
</tbody>
</table>

ATTACHMENTS

Attachment A: Preliminary Design Layouts and Renderings
MOJICA, MICHAEL
www.tetratech.com

Designed By:
Project No.:
Date:

Bar Measures 1 inch

Copyright: Tetra Tech

Figure

6.7

WELL NO. 12, WELL NO. 13 AND PIPELINE
Mesa Water District

WELL 13 ARCHITECTURAL RENDERING
AERIAL 2

6.7

Mesa Water District

WELL NO. 12, WELL NO. 13 AND PIPELINE

PROJECT NO. 200-09377-17001

Mesa, CA 92614

Phone: (949) 809-5000 Fax: (949) 809-5010

6.7

Figures 1-10

6.7
MEMORANDUM

TO: Board of Directors
FROM: Stacy Taylor, External Affairs Manager
DATE: October 9, 2018
SUBJECT: New Water Conservation Laws

RECOMMENDATION

Receive the presentation and 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

None.

DISCUSSION

Initial to Final Legislation – Comparison

On May 31, 2018, two new water conservation laws, SB 606 (Hertzberg, D-Van Nuys) and AB 1668 (Friedman, D-Glendale), were signed by Governor Brown and chaptered by California’s Secretary of State. Representing the most far-reaching and comprehensive revisions to California’s water management statutes since the 2009 passage of SBX7-7, these two bills will change local water management for urban and agricultural water suppliers. They will also require new due diligence standards for water agencies with respect to planning cooperatively with local Counties to avoid water shortages during drought years.

The Association of California Water Agencies (ACWA) and its coalition, including Mesa Water District’s staff and consultants (California Advocates), actively engaged on both bills. As originally introduced in February 2017, SB 606 and AB 1668 (and AB 1669, which dealt more with agricultural water issues and was folded into AB 1668) provided a “top down” regulatory process delegating broad authority to the State Water Resources Control Board (SWRCB) and the Department of Water Resources (DWR) to establish statewide water efficiency standards.

In the absence of any guidelines or perimeters, the introduced version of these bills delegated all authority to SWRCB and DWR, covering such topics as: potable reuse bonus incentive (credit); variances; enforcement; indoor and outdoor water use; drought-resilient supplies protection; water loss; Commercial, Industrial, and Institutional (CII) use; and, unique situations.
The ACWA coalition acted swiftly and strongly to advocate for more local control by elected water boards and curtail the initial bills’ designation of unprecedented authority to SWRCB and DWR. After 18 months of advocacy efforts -- including meetings with stakeholders, members and staff, and providing testimonies -- the coalition successfully restricted SWRCB’s and DWR’s power by imposing specific boundaries, as well as by requiring findings and reporting language.

In total, the bills were amended 19 times collectively (with a total of 2,100 changes made to AB 1668 alone). The sought amendments focused on nine key issues encompassing the coalition’s main areas of concern. The coalition was able to favorably amend the bills in seven of the nine key issue areas (see Attachment A).

**Legislation Implementation – Methodology Summary and Timing**

The two laws set statewide permanent overall targets for indoor and outdoor water use, with a “water budget” methodology made up of specific components for indoor residential water use, outdoor residential water use, CII water use, landscape irrigation by dedicated water meters, and water loss through leaks. A sum of these various water use components would create a benchmark against which urban water agencies would be measured to determine their compliance with the standard.

The laws also make significant changes to the water shortage planning required under Urban Water Management Plans, whereby water agencies must make determinations regarding the reliability of their supplies and demand assessment. Non-compliant agencies would be declared ineligible for State water-related grant funds or loans.

Regarding implementation timing, the laws stipulate over 30 deadlines -- beginning April 1, 2019 through January 1, 2030 -- for actions, collaborations, and reports by SWRCB, DWR, the Legislative Analysts’ Office, and agricultural and urban retail water suppliers. ACWA has created a spreadsheet of these implementation deadlines, listing the dates and responsible parties for each deliverable, citing the matching code section (see Attachment B).

**Legislation Implementation – Process and Resources**

A key part of the laws is that SWRCB and DWR must solicit broad participation from stakeholders to effect the development of new long-term standards. During the legislative development of the two bills, stakeholder participation was a major priority for the ACWA coalition to ensure a process that provides opportunities for creating outcomes that are feasible, fiscally sound, and locally controlled.

As Chair of ACWA’s Water Management Committee, General Manager Shoenberger formed an ad hoc subcommittee with the goal of proactively addressing the various water conservation legislation pieces that involve a stakeholder process. The subcommittee held its first meeting at ACWA in August 2018, with a second meeting scheduled during the Fall ACWA Conference in San Diego the afternoon of Monday, November 26, 2018.
Mesa Water staff are reviewing our internal and external resources dedicated to this effort. In addition to General Manager Shoenberger, Water Use Efficiency Analyst Finch and External Affairs Manager Taylor have been working on this issue with support from Sacramento consultants, California Advocates. To ensure Mesa Water’s effectiveness in positively impacting the implementation process of this legislation, staff anticipates that additional resources may be needed, possibly to include specialized advocacy, legal, and/or technical consulting services. If/when such added services are determined necessary, staff will request such from the Board of Directors at a future meeting.

FINANCIAL IMPACT

None.

ATTACHMENTS

Attachment A: Comparison of Initial and Final 2018 Water Conservation Legislation
Attachment B: SB 606 and AB 1668 Implementation Deadlines
<table>
<thead>
<tr>
<th>Issue</th>
<th>Initial Language</th>
<th>Final Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potable Reuse Credit</strong></td>
<td>Potable reuse credit discussions were initiated at 10%.</td>
<td>The “bonus incentive” shall not exceed 15% of the urban water supplier’s water use objective for any potable reuse water produced at an existing facility – defined as a facility that has a certified EIR, mitigated negative declaration, or negative declaration on or before 1-1-2019. For new facilities the credit shall not exceed 10%.</td>
</tr>
</tbody>
</table>
| **Variance** | Language did not require the SWB to adopt variances/processes for calculating variances for a variety of anomalous situations, including:  
• environmental uses;  
• irrigation with recycled water in areas having high levels of total dissolved solids; and,  
• seasonal populations. | The adoption of variances is required. Additionally:  
• State agencies must adopt a threshold of significance for each variance;  
• water suppliers are required to request and receive SWB approval for adoption of a variance; and,  
• the SWB must post variance information on its website. |
| **Enforcement** | • Imposition of civil liability under Section 377.  
• No “glidepath” approach to enforcement, including incorporating remedial action plans before conservation orders and fees.  
• No requirement that conservation orders and fines should result only if a supplier does not take the actions detailed in a SWB-approved remedial action plan. | Section 377 liability removed. Modified glidepath added:  
• Starting 11-1-2023 the SWB may issue informational orders to a non-compliant urban retail water supplier, after considering the degree to which the supplier is not meeting its urban water use objective and the actions they have implemented or plan to implement.  
• After 11-1-2024, the SWB may issue written notices to a non-compliant urban retail water supplier, after considering whether the supplier has received an informational order, the degree to which the supplier is not meeting its urban water use objective and the actions they have implemented or plan to implement.  
• After 11-1-2025, the SWB may issue conservation orders to a non-compliant urban retail water supplier. This order may consist of, but is not limited to, referral to DWR for technical assistance, requirements for education and outreach, requirements for local enforcement, and other efforts to assist the supplier in meeting their urban water use objective. |
| **Indoor Water Use Standard** | SS Gallons Per Capita Per Day (GPCD) and rachet down to 50 GPCD. | SS GPCD and conduct studies re. impacts of ratcheting down to 52.5 GPCD, then 50 GPCD, depending on data. |
| **Drought-Resilient Supplies Protection** | Upon proclamation of a drought emergency, did not provide that:  
• the SWB shall defer to locally adopted water shortage contingency plans, to the extent practicable, and allow suppliers to implement their plans based on the level of shortage being experienced locally; and,  
• recycled water (including potable reuse), desalination, emergency water, and other drought-resilient supplies identified in an urban water supplier’s water shortage contingency plan not be restricted. | No change. The Administration didn’t want to erode the Governor’s authority during a declared drought emergency. |
| **Unique Situations (affecting the calculation of urban water use objectives)** | No DWR/SWRCB authority granted to develop alternative methods for calculating an urban water use objective where unique conditions make it technically, economically, or administratively infeasible to calculate the objective using the standard method. | No change. The Administration desired a consistent formula statewide. |
| **Outdoor Residential Water Use** | Language did not include what factors the State Water Resources Control Board (SWB) should consider when setting the standards for outdoor residential and outdoor Commercial Industrial Institutional (CII) water use. Also, the “principles” of Model Water Efficient Landscape Ordinance (MWELO) were unclear. | Factors that the SWB should consider were added, incorporating MWELO principles, as applied to irrigable lands and swimming pools/spas. Factors include:  
• amount of water needed by different plant types;  
• composition of existing urban landscapes;  
• evapotranspiration;  
• impacts of soil and water quality on water needs;  
• levels of irrigation system efficiency; and,  
• unique water needs of special landscapes. |
| **Water Loss** | Did not exclude water loss from the urban retail water use objective, even though existing law already addressed this issue under SB 555. | Standards for water loss will be set according to SB 555 under which the SWB is required to adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses. |
| **CII Use** | Did not require cost-benefit and feasibility as key factors that the Department of Water Resources (DWR) and the SWB must consider in developing performance measures for the CII sector, which urban water suppliers will be asked to implement. | Performance measures adopted by the SWB may include CII water use best management practices, “…water audits and water management plans for those CII customers that exceed a recommended size, volume of water use, or other threshold.” Water suppliers remain obligated to implement performance measures adopted by the SWB. |
## SB 606 and AB 1668 Implementation Deadlines

<table>
<thead>
<tr>
<th>When</th>
<th>Who</th>
<th>What</th>
<th>Code Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning April 1, 2019, and annually thereafter</td>
<td>Agricultural water suppliers</td>
<td>Submit annual aggregated farm-gate delivery data reports for the prior year to DWR.</td>
<td>§531.10 (a)(1)</td>
</tr>
<tr>
<td>June 1, 2019, and annually thereafter</td>
<td>Urban Water Supplier</td>
<td>Submit an annual water supply and demand (water shortage) assessment report to DWR.</td>
<td>§10632.1</td>
</tr>
<tr>
<td>No later than January 1, 2020</td>
<td>Department of Water Resources (DWR)</td>
<td>Coordinate with the State Water Resources Control Board (State Water Board) to identify small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability.</td>
<td>§10609.42(a)</td>
</tr>
<tr>
<td>By January 1, 2020</td>
<td>DWR</td>
<td>Consult with the State Water Board to propose recommendations and guidance to the Governor and the Legislature relating to the development and implementation of countywide drought and water shortage contingency plans to address the planning needs of small water suppliers and rural communities.</td>
<td>§10609.42(b)</td>
</tr>
<tr>
<td>By January 1, 2020</td>
<td>DWR</td>
<td>Coordinate with the State Water Board to recommend to the Legislature the feasibility of developing and enacting water loss reporting requirements for urban wholesale water suppliers.</td>
<td>§10608.35(a)</td>
</tr>
<tr>
<td>By January 1, 2021</td>
<td>DWR</td>
<td>Coordinate with the State Water Board to conduct studies and investigations to report and recommend to the Legislature an alternative standard for indoor residential water use that more appropriately reflects best practices for indoor residential water use than the standard described in §10609.4(a).</td>
<td>§10609.4(b)(1)</td>
</tr>
<tr>
<td>By January 1, 2021</td>
<td>DWR</td>
<td>Provide each urban retail water supplier with data regarding the area of residential irrigable lands.</td>
<td>§10609.6(C)(b)</td>
</tr>
<tr>
<td>On or before April 1, 2021</td>
<td>Agricultural water suppliers</td>
<td>Update agricultural water management plan (AWMP) and submit the AWMP to DWR every five years on or before April 1.</td>
<td>§10820(2)(A)</td>
</tr>
<tr>
<td>No later than October 1, 2021</td>
<td>State Water Board and DWR</td>
<td>Jointly conduct studies and investigations and recommend standards for outdoor residential use for adoption by the State Water Board.</td>
<td>§10609.6(a)(1)</td>
</tr>
<tr>
<td><strong>When</strong></td>
<td><strong>Who</strong></td>
<td><strong>What</strong></td>
<td><strong>Code Section</strong></td>
</tr>
<tr>
<td>-------------------------------------------</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>No later than October 1, 2021</td>
<td>DWR</td>
<td>Coordinate with the State Water Board to conduct studies and investigations and recommend standards for outdoor irrigation of landscape areas with dedicated irrigation meters or other means of calculating outdoor irrigation use in connection with CII water use for adoption by the State Water Board.</td>
<td>§10609.8(a)</td>
</tr>
<tr>
<td>No later than October 1, 2021</td>
<td>DWR</td>
<td>Coordinate with the State Water Board to conduct studies and investigations and recommend performance measures for commercial, industrial, institutional (CII) and large landscape water use for adoption by the State Water Board.</td>
<td>§10609.10(a)</td>
</tr>
<tr>
<td>No later than October 1, 2021</td>
<td>DWR</td>
<td>Coordinate with the State Water Board to conduct studies and investigations and recommend appropriate variances for unique uses for adoption by the State Water Board.</td>
<td>§10609.14(a)</td>
</tr>
<tr>
<td>No later than October 1, 2021</td>
<td>DWR</td>
<td>Coordinate with the State Water Board to conduct studies and investigations and recommend guidelines and methodologies for the board to adopt that identify how an urban retail water supplier calculates its urban water use objective for adoption by the State Water Board.</td>
<td>§10609.16</td>
</tr>
<tr>
<td>On or before April 30, 2022</td>
<td>DWR</td>
<td>Submit a report every five years that summarizes the status and evaluation of AWMP of agricultural water suppliers.</td>
<td>§10845(a)</td>
</tr>
<tr>
<td>By May 30, 2022</td>
<td>State Water Board</td>
<td>Identify the standards and potential effects on local wastewater management, developed and natural parklands, and urban tree health.</td>
<td>§10609.2(c )</td>
</tr>
<tr>
<td>On or before June 30, 2022*</td>
<td>State Water Board</td>
<td>Coordinate with DWR to adopt variances, guidelines, and methodologies pertaining to the calculation of an urban retail water supplier’s urban water use objective.</td>
<td>§10609.2(e)</td>
</tr>
<tr>
<td>On or before June 30, 2022</td>
<td>State Water Board</td>
<td>Coordinate with DWR to adopt long-term standards for the efficient use of water.</td>
<td>§10609.2 (a)</td>
</tr>
<tr>
<td>On or before June 30, 2022</td>
<td>State Water Board</td>
<td>Coordinate with DWR and adopt performance measures for CII water use.</td>
<td>§10609.10(d)(1)</td>
</tr>
<tr>
<td>July 1, 2022, and every five years thereafter</td>
<td>DWR</td>
<td>Submit a report summarizing the status of 2020 plans and water shortage contingency plans (WSCPs) to the Legislature.</td>
<td>§10644(c)(1)(A)</td>
</tr>
<tr>
<td>By November 1, 2023, and annually thereafter</td>
<td>Urban Retail Water Suppliers</td>
<td>Deadline to calculate urban water use objective and report to DWR.</td>
<td>§10609.20(a)</td>
</tr>
<tr>
<td>When</td>
<td>Who</td>
<td>What</td>
<td>Code Section</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>By November 1, 2023, and annually thereafter</td>
<td>Urban Retail Water Suppliers</td>
<td>Deadline to calculate the previous years' actual urban water use and report to DWR.</td>
<td>§10609.22(a)</td>
</tr>
<tr>
<td>On and after November 1, 2023</td>
<td>State Water Board</td>
<td>Issue informational orders for water production, water use, and water conservation to urban retail water suppliers that do not meet their urban water use objectives.</td>
<td>§10609.26(a)(1)</td>
</tr>
<tr>
<td>On or before January 10, 2024</td>
<td>Legislative Analyst's Office</td>
<td>Provide to the appropriate policy committees of both houses of the Legislature and the public a report evaluating the implementation of the water use efficiency standards and water use reporting.</td>
<td>§10609.30</td>
</tr>
<tr>
<td>On and after November 1, 2024</td>
<td>State Water Board</td>
<td>Issue written notices to urban retail water suppliers that do not meet their urban water use objectives.</td>
<td>§10609.26(b)</td>
</tr>
<tr>
<td>By January 1, 2024</td>
<td>Urban Retail Water Suppliers</td>
<td>Submit to DWR a supplement to the adopted 2020 plan with a narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027.</td>
<td>§10621(f)(2)</td>
</tr>
<tr>
<td>Beginning January 1, 2025</td>
<td>Urban Retail Water Suppliers</td>
<td>Abide by a standard for indoor residential water use of 52.5 gpcd.</td>
<td>§10609.4(a)(2)</td>
</tr>
<tr>
<td>On and after November 1, 2025</td>
<td>State Water Board</td>
<td>Issue conservation orders to urban retail water suppliers that do not meet their urban water use objectives.</td>
<td>§10609.26(c)(1)</td>
</tr>
<tr>
<td>On or around January 1, 2026</td>
<td>Chair, State Water Board &amp; Director, DWR</td>
<td>Appear before the appropriate policy committees of both houses of the Legislature to report on the implementation of the water use efficiency standards and water use reporting.</td>
<td>§10609.32</td>
</tr>
<tr>
<td>After November 1, 2027</td>
<td>State Water Board</td>
<td>Impose fines for violations of long-term standards for efficient water use (from a minimum of $1,000/day to a maximum of $10,000/day in a drought emergency or critically dry year).</td>
<td>§1846.5(a)(1) &amp; §1846.5(a)(2)</td>
</tr>
<tr>
<td>Beginning January 1, 2030</td>
<td>Urban Retail Water Suppliers</td>
<td>Abide by a standard for indoor residential water use of 50 gpcd.</td>
<td>§10609.4(a)(3)</td>
</tr>
</tbody>
</table>

*Presumed due date or action based on statute
MEMORANDUM

TO: Board of Directors
FROM: Stacy Taylor, External Affairs Manager
DATE: October 9, 2018
SUBJECT: Grant Opportunities for Project Funding

RECOMMENDATION

Receive the information and 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

None.

DISCUSSION

The Municipal Water District of Orange County (MWDOC) recently held meetings regarding its new Grant Assistance Program for MWDOC Member Agencies, featuring services by Soto Resources, a grants funding consultant. The purpose of the Grant Assistance Program is to identify possible federal, state, local, and private (corporate and foundation) grants funding for Capital Improvements Projects.

As part of this program, MWDOC encourages member agencies to submit Capital Improvements Projects (CIPs) for grants funding consideration. Last month, Mesa Water District (Mesa Water®) provided its list (see Attachment A) to MWDOC and Soto Resources. Soto Resources’ services include:

- Identifying potential current and future grants funding opportunities for CIPs;
- Matching CIPs with grants funding opportunities (CIPs may qualify for more than one opportunity);
- Providing “Go/No-Go” evaluation regarding grants funding opportunities for CIPs;
- Upon request, and under a separate and approved contract, assisting agencies with applying for grants funding opportunities; and,
- Ongoing research and reporting regarding CIPs grants funding opportunities.

After grants funding opportunities have been identified and matched with Mesa Water’s CIPs, staff will report back to the Board with Soto Resources’ “Go/No-Go” evaluations for consideration.
At that point, the Board may provide further direction to staff. Meanwhile, staff will continuously provide additional and updated information regarding Mesa Water’s CIPs to MWDOC and Soto Resources for grants funding opportunities.

FINANCIAL IMPACT

None.

ATTACHMENTS

Attachment A: Mesa Water CIPs for MWDOC’s Grant Assistance Program
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project Status</th>
<th>Project Description</th>
<th>Estimated Completion Date</th>
<th>Estimated Project Total Cost</th>
<th>Partner (if any)</th>
<th>Agency Contact</th>
<th>Primary Project Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>OC-44 Pipeline Rehabilitation</td>
<td>Shovel Ready</td>
<td>Rehabilitate 1,800 feet of 42&quot; steel pipe w/30&quot; Ductile Iron Pipe across Newport Backbay</td>
<td>2/28/20</td>
<td>$2,040,400</td>
<td>Yes/CHB</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Chandler/Croddy Wells &amp; Pipeline</td>
<td>Design</td>
<td>Construction two new wells and pipeline to provide 115% local water reliability.</td>
<td>6/30/22</td>
<td>$12,000,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Supply</td>
</tr>
<tr>
<td>Building &amp; HVAC Improvements</td>
<td>Shovel Ready</td>
<td>Replaces an end of life HVAC system and roof replacement on Administration and Operations Bldg</td>
<td>6/30/19</td>
<td>$1,800,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>Reservoirs 1 &amp; 2 Chemical Management System</td>
<td>Design</td>
<td>Provide real-time chemcial management and reservoir mixing to ensure optimum water quality</td>
<td>6/30/20</td>
<td>$1,919,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Quality</td>
</tr>
<tr>
<td>19th Street &amp; Harbor Blvd. Pipeline Replacement</td>
<td>Planning</td>
<td>Replaces approximately 8,000 feet of 12&quot; deteriorated steel pipe.</td>
<td>6/30/21</td>
<td>$2,980,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Harbor/Wilson Pipeline</td>
<td>Design</td>
<td>Replaces approx. 800 feet of deteriorated 12&quot; steel pipe</td>
<td>6/30/20</td>
<td>$560,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Santa Ana Pressure Reducing Station Upgrade</td>
<td>Construction</td>
<td>Routinely test asbestos cement pipeline samples to determine remaining useful life and plann replacements</td>
<td>11/30/18</td>
<td>$700,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Pipeline Integrity Testing Program</td>
<td>Planning/Design</td>
<td>Routinely test asbestos cement pipeline samples to determine remaining useful life and plann replacements</td>
<td>Continuous</td>
<td>$1,250,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>I-405 Fairview Pipeline</td>
<td>Design</td>
<td>Replaces approx. 1,200 feet of 12&quot; CML pipeline under the I405 Fwy at Fairview Ave due to I405 Widening Project</td>
<td>6/30/20</td>
<td>$925,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>PLC Replacements</td>
<td>Planning</td>
<td>Assesses existing PLC's, SCADA system hardware, &amp; radio antennae system end of life and provide replacement strategy &amp; approach</td>
<td>6/30/20</td>
<td>$1,000,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Cathodic Protection</td>
<td>Planning</td>
<td>Assesses condition and plans for replacement of cathodic protection system of ferrous pipelines</td>
<td>6/30/22</td>
<td>$600,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Fire Flow Enhancements (Phase 1)</td>
<td>Planning</td>
<td>Replaces end of life pipelines to enhance fire flow protection to areas with smaller diameter pipelines</td>
<td>6/30/20</td>
<td>$2,195,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Fire Flow Enhancements (Phase 2 - 8&quot;7.700&quot;)</td>
<td>Planning</td>
<td>Replaces end of life pipelines to enhance fire flow protection to areas with smaller diameter pipelines</td>
<td>6/30/21</td>
<td>$1,700,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Abandoned Vault Closures</td>
<td>Planning</td>
<td>Demolition of abandoned MET connections</td>
<td>6/30/22</td>
<td>$1,200,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Quality</td>
</tr>
<tr>
<td>4&quot; Diameter Main Replacements (8&quot;5,000')</td>
<td>Planning</td>
<td>Replaces end of life pipelines to enhance fire flow protection to areas with smaller diameter pipelines</td>
<td>6/30/23</td>
<td>$1,200,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Pipeline Replacements (Phase 2 - 8&quot;8.000')</td>
<td>Planning</td>
<td>Replaces pipelines at the end of their useful life</td>
<td>6/30/23</td>
<td>$1,920,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Southeastern Pipeline Replacements (Phase 2 - 8&quot;800')</td>
<td>Planning</td>
<td>Replaces pipelines at the end of their useful life</td>
<td>6/30/23</td>
<td>$250,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>Fire Flow Enhancements (Phase 3 - 8&quot;9.200')</td>
<td>Planning</td>
<td>Replaces end of life pipelines to enhance fire flow protection to areas with smaller diameter pipelines</td>
<td>6/30/23</td>
<td>$2,045,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
<tr>
<td>OC-44 Armor Protection</td>
<td>Planning</td>
<td>Provides rip-rap armoring protection of the OC44 pipeline across the San Diego Creek of the Newport Backbay against tidal erosion.</td>
<td>6/30/22</td>
<td>$2,000,000</td>
<td>N/A</td>
<td>Phil Lauri</td>
<td>Water Reliability</td>
</tr>
</tbody>
</table>
MEMORANDUM

TO: Board of Directors
FROM: Stacy Taylor, External Affairs Manager
DATE: October 9, 2018
SUBJECT: Legislative Platforms

RECOMMENDATION

Approve the proposed legislative platforms.

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

This item is updated annually for the Mesa Water District (Mesa Water®) Fall Board Workshop.

DISCUSSION

The purpose of developing Mesa Water’s legislative platforms is to establish a philosophical basis for policy principles and policy positions, agreed upon by the Board, in order to assist staff and advocacy consultants in monitoring, identifying, evaluating, and prioritizing legislation and regulations that can impact Mesa Water and the interests of our constituents.

Mesa Water continues to engage with state legislative, regulatory and industry groups -- such as the Association of California Water Agencies, California Special Districts Association, State Water Resources Control Board, and others -- as well as with regional and local industry associations, to develop opportunities for beneficially influencing water issue discussions and policy decisions.

Mesa Water’s proposed 2019 legislative platforms (see Attachment A) establish advocacy guidelines that allow timely response to certain types of legislation and regulations that are relevant to our operations including, but not necessarily limited to:

- infrastructure funding and fiscal policies;
- water pricing and conservation/water use efficiency;
- water resources public policy;
- water quality mandates;
- development/treatment of local water supplies such as desalination, potable reuse, and recycled water; and,
- local governance/ transparency issues.
Any legislative/regulatory issues with complex implications requiring further clarification will be presented to the Board of Directors for guidance. The legislative platforms relate to all seven of Mesa Water’s strategic plan goals and can be updated on an as-needed basis and, minimally, annually.

FINANCIAL IMPACT

None.

ATTACHMENTS

Attachment A: Proposed 2019 Legislative Platforms
Attachment B: 2018 Legislative Platforms, Redline
Attachment C: Policy Positions
2019 Legislative Platforms
Proposed October 2018

Calendar Year 2019 marks the first year of California's two-year (2019 and 2020) legislative session, with the State legislature slated to reconvene at noon on Monday, December 3, 2018. Staff expects that legislative proposals and ongoing policy discussions from the 2018 session will return in 2019, including water legislation that could significantly impact Mesa Water District (Mesa Water®). The State administration and legislature explored several water issues in 2018, including, but not limited to:

- water use efficiency/conservation legislation updating “20x2020” and Urban Water Management Planning;
- a statewide “public goods charge” (tax) on water;
- water district consolidations;
- prohibiting residential water shutoffs;
- low income water rates assistance programs (aka “lifeline rates” or LiWRA);
- water quality and lead;
- recycled water and water reuse;
- California Environmental Quality Act (CEQA) reform; and,
- Delta Flows and the California WaterFix/EcoRestore.

As policy discussions continue in 2019, the above issues will be the primary areas of legislative and regulatory focus. Additionally, the November 2018 election will result in a new State Governor and administration, as well as current and new state legislative leadership, lawmakers, and regulators who will be dedicated to implementing the recently enacted water conservation bills -- SB 606 and AB 1668 -- which passed during the 2018 legislative session.

Listed below, for the Board's consideration, are the proposed legislative and regulatory platforms regarding anticipated high-priority public policy issues in 2019 that could have major consequences for Mesa Water:

- **Water Rates** – Mesa Water supports local rate-setting control with rate structures, set by publicly-elected boards and councils, that best serve customers and comply with the law. Furthermore, Mesa Water supports cost-based water rates that:
  - represent the true, full cost of water services, including operational costs and infrastructure funding to ensure water system sustainability into perpetuity; and,
  - harmonize the concepts of conservation and legality, with rates that provide a strong price signal for ratepayers to conserve while also complying with legal mandates (i.e., Article X of the CA Constitution; SB 606 and AB 1668; and, Propositions 13, 26, and 218).

- **Proposition 218** – Mesa Water supports Article XIII C and D of the California Constitution (Prop. 218) regarding government service assessments, fees, rates, and taxes, specifically:
  - the “2/3 vote” required from the legislature and voters for approval of new levies; and,
  - the “special benefit and proportionality requirements” provision which directly connects the special benefits received with reasonable proportionate costs, and ensures that
assessments imposed for property-related (water) services must not exceed the proportional cost of the services attributable to the parcel.

- **Water Rate Assistance Programs ("WRAP")** – Mesa Water supports localized "WRAP" (aka "lifeline rates" or LiWRA) programs that comply with Prop. 218 of the California Constitution and/or are funded either voluntarily or via nonrestricted/non-water-rates revenues.

- **Orange County Groundwater Basin** – Mesa Water opposes any potential streamlined process for adjudicating groundwater basins, including the Orange County groundwater basin which is currently managed by the Orange County Water District (OCWD).

- **Water Bonds Funding (Propositions 1 and 68)** – Mesa Water supports funding from the November 2014 and June 2018 water bonds for OCWD’s priority projects.

- **Water Desalination** – Mesa Water supports CalDesal in its desalination advocacy efforts, as well as the local and regional development of cost-effective and environmentally sensitive water desalination projects statewide -- including brackish and ocean water desalination and the proposed Huntington Beach and Dana Point projects -- in order to enhance the availability and reliability of local and regional water supply sources, and improve water supply reliability for Orange County, Southern California, and statewide.

- **Water Conservation/Water Use Efficiency** – Mesa Water supports accounting for water resource and supply investments -- such as desalination, potable reuse, and water recycling - as part of any potential statewide effort to update urban water conservation goals. Mesa Water supports compliance flexibility and local control; maximum credit for drought-resilient supplies; and, water use and water loss target-setting by the legislature that is based on valid data and includes a glide path for enforcement as well as a variance process for unique situations.

- **Water Recycling** – Mesa Water supports OCWD and WateReuse in its efforts to advance potable reuse legislation and/or regulations.

- **Water Quality** – Mesa Water supports efforts by the Association of California Water Agencies (ACWA) to protect public health by using the best available scientific data and cost/benefit analyses to inform the development of reasonable and fiscally-responsible water quality legislation and regulations which consider technical and economical feasibility while ensuring clean, safe drinking water.

- **Water Storage and Exchange Programs** – Mesa Water supports the “Beneficiaries Pay” principle for water storage and exchange/transfer programs provided that they are market-based, ensure full cost recovery at a minimum, and account for water loss.

- **CEQA Reforms** – Mesa Water supports the efforts of ACWA and other water industry associations/organizations to streamline CEQA to enhance efficiencies, reduce redundancies in the environmental review/permitting process, and eliminate unnecessary, costly, and time-consuming litigation and related delays.
• **Local Government** – Mesa Water supports the efforts of California Special Districts Association (CSDA) and the Local Agency Formation Commission (LAFCO) to ensure local control and representation, efficient delivery of government services, and appropriate reserve funds levels.

• **Delta Functional Flows and Solutions** – Mesa Water supports the efforts of ACWA, Municipal Water District of Orange County (MWDOC), Metropolitan Water District of Southern California (MWD), and/or Southern California Water Committee (SCWC) to achieve a long-term solution for the Bay Delta that includes functional, unimpaired flows for optimal statewide water supply reliability, sustainability and quality, and Delta ecosystem health and restoration for the public benefit.

• **Federal Drought Legislation** – Mesa Water supports the efforts of ACWA and other water industry associations/organizations in collaborating with U.S. representatives to develop bipartisan federal drought legislation.
Calendar Year 2019 marks the first year of California’s two-year (2019 and 2020) legislative session, with the State legislature slated to reconvene at noon on Monday, December 3, 2018. It is expected that legislative proposals and ongoing policy discussions from the 2018 session will return in 2019, including water legislation that could significantly impact Mesa Water District (Mesa Water®). The State administration and legislature explored several water issues in 2018, including, but not limited to:

- water use efficiency/conservation legislation updating “20x2020” and Urban Water Management Planning;
- a statewide “public goods charge” (tax) on water;
- water district consolidations;
- prohibiting residential water shutoffs;
- low income water rates assistance programs (aka “lifeline rates” or LiWRA);
- water quality and lead;
- recycled water and water reuse;
- California Environmental Quality Act (CEQA) reform; and,
- Delta Flows and the California WaterFix/EcoRestore.

As policy discussions continue in 2019, it is anticipated that all of the above issues will be the primary areas of legislative and regulatory focus. Additionally, the November 2018 elections will result in a new State Governor and administration, as well as current and new state legislative leadership, lawmakers, and regulators who will be dedicated to implementing the recently enacted water conservation bills -- SB 606 and AB 1668 -- which passed during the 2018 legislative session.

Listed below, for the Board’s consideration, are the proposed legislative and regulatory platforms for anticipated high-priority public policy issues in 2019 that could have major consequences for Mesa Water:

- **Water Rates** – Mesa Water® supports local rate-setting control with rate structures, set by publicly-elected boards and councils, that best serve customers and comply with the law. Furthermore, Mesa Water supports cost-based water rates that:
  o represent the true, full cost of water services, including the cost of District operational costs and infrastructure funding to ensure water system sustainability into perpetuity; and,
  o harmonize the concepts of conservation and legality, with rates that provide a strong price signal for ratepayers to conserve while also complying with legal mandates (i.e., Article X of the CA Constitution; SB X7-7: The Water Conservation Act of 2009 and any updates to such 606 and AB 1668; and, Propositions 13, 26, and 218).

- **Proposition 218** – Mesa Water supports Article XIII C and D of the California Constitution (Prop. 218) regarding government service assessments, fees, rates, and taxes, specifically:
the “2/3 vote” required from the legislature and voters for approval of new levies; and,
o the “special benefit and proportionality requirements” provision which directly connects the special benefits received with reasonable proportionate costs, and ensures that assessments imposed for property-related (water) services must not exceed the proportional cost of the services attributable to the parcel.

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- **Orange County Groundwater Basin** – Mesa Water opposes any potential streamlined process for adjudicating groundwater basins, including the Orange County groundwater basin which is currently managed by the Orange County Water District (OCWD).

- **Proposition 1 (2014 Water Bonds Funding (Propositions 1 and 68)** – Mesa Water supports Proposition 1 funding from the November 2014 and June 2018 water bonds for OCWD’s priority projects.

- **Water Desalination** – Mesa Water supports CalDesal in its desalination advocacy efforts, as well as the local and regional development of cost-effective and environmentally sensitive water desalination projects statewide, including brackish and ocean water desalination and the proposed Huntington Beach and Dana Point projects, in order to enhance the availability and reliability of local and regional water supply sources, and improve water supply reliability for Orange County, Southern California, and statewide. Mesa Water supports an increase in the per-project grant funding cap for Proposition 1 desalination grant funds.

- **Water Conservation/Water Use Efficiency** – Mesa Water supports accounting for water resource and supply investments -- such as desalination, potable reuse, and water recycling -- as part of any potential statewide effort to update urban water conservation goals. Mesa Water supports compliance flexibility and local control; maximum credit for drought-resilient supplies; and, water use and water loss target-setting by the legislature that is based on valid data and includes a glide path for enforcement as well as a variance process for unique situations.

- **Water Recycling** – Mesa Water supports OCWD and WateReuse in its efforts to advance potable reuse legislation and/or regulations.

- **Water Quality** – Mesa Water supports efforts by the Association of California Water Agencies (ACWA) to protect public health by using the best available scientific data and cost/benefit analyses to inform the development of reasonable and fiscally-responsible water quality legislation and regulations which consider technical and economical feasibility while ensuring clean, safe drinking water.

- **Water Storage and Exchange Programs** – Mesa Water supports the “Beneficiaries Pay” principle for water storage and exchange/transfer programs provided that they are market-based, ensure full cost recovery at a minimum, and account for water loss.
• **CEQA Reforms** – Mesa Water supports the efforts of ACWA and other water industry associations/organizations to streamline CEQA to enhance efficiencies, reduce redundancies in the environmental review/permitting process, and eliminate unnecessary, costly, and time-consuming litigation and related delays.

• **Local Government** – Mesa Water supports the efforts of California Special Districts Association (CSDA) and the Local Agency Formation Commission (LAFCO) to ensure local control and representation, efficient delivery of government services, optimal local governance structures, local control and representation, and appropriate reserve funds levels.

• **MWDOC/MWD Delta Functional Flows and Solutions** – Mesa Water supports the efforts of ACWA, Municipal Water District of Orange County (MWDOC), Metropolitan Water District of Southern California (MWD), and/or Southern California Water Committee (SCWC) to achieve a long-term solution for the Sacramento-San Joaquin RiverBay Delta that includes functional, unimpaired flows for optimal statewide water supply reliability, sustainability and quality, and Delta ecosystem health and restoration for the public benefit.

• **Federal Drought Legislation** – Mesa Water supports the efforts of ACWA and other water industry associations/organizations in collaborating with U.S. representatives to develop bipartisan federal drought legislation.
Policy Positions
Updated: May 3, 2018

Mesa Water District (Mesa Water®) supports:

1. Groundwater Quality Protection
   a. Support Orange County Water District’s (OCWD) current groundwater quality protection programs
      i. Basin Equity Assessment (BEA) Exemption Program for Impaired Groundwater (including the Mesa Water Reliability Facility)
      ii. The MTBE, North Basin, and South Basin groundwater protection projects
      iii. The Tustin and Irvine desalters
   b. Encourage OCWD to protect the Basin from chlorides caused by seawater intrusion
      i. Encourage OCWD to set a goal of maintaining protective elevations along the coast
      ii. Encourage OCWD to hold semi-annual barrier meetings with Coastal Agencies (Huntington Beach, Mesa Water, and Seal Beach)
      iii. Encourage semi-annual reporting on the barrier

2. Policies that raise and stabilize the Basin Pumping Percentage (BPP)
   a. Support OCWD setting a target BPP that they intend to consistently meet
   b. Support new water supply projects that help achieve this goal
   c. Support OCWD adopting a water supply policy that sets a goal of developing water supply and recharge capabilities, including purchasing replenishment water, or other actions that result in a reliable and predictable source of groundwater at a BPP of 80 percent. A goal of this policy is to accomplish this with a cost-neutral, or better, impact on producers when the avoided cost of purchasing imported water is considered

3. Policies that keep the Basin full
   a. Support OCWD adhering to the BPP-setting formula
   b. Support maximum production at the Groundwater Replenishment System (GWRS) to ensure a cost-effective, high-quality, environmentally-friendly and sustainable local water supply that benefits all OCWD producers and that increases the region’s current and future water reliability
   c. Support maximum wastewater flows treatable by the GWRS to the Orange County Sanitation District (OCSD) -- and support OCSD/OCWD’s permanent acquisition of such wastewater flows -- to ensure source reliability for the GWRS

4. Basin Storage and Exchange Programs where the primary benefits accrue to OCWD, its Groundwater Producers, and the ratepayers they serve with such Programs applying the “Beneficiaries Pay” principle and addressing cost issues including, but not limited to:
   a. Full cost recovery of a proportional share of the historic and future capital investments as well as operations and maintenance costs incurred by OCWD to manage the Basin
   b. Full cost recovery of the proportional value that entry into the Basin affords, including the value of reliability (and thus loss of reliability to the Groundwater Producers through the loss of available storage capacity) and the value of treatment
   c. Accounting for water loss in a current or future year (both lost out of the Basin and lost due to inability to spread or extract)
   d. Consideration that the above is merely a “break even” deal, and any program should bring significant benefits in excess of the above to OCWD and its Groundwater Producers
e. Deferring entering into any agreements until the *IRWD v. OCWD* lawsuit is resolved
f. Deferring entering into any agreements until the Metropolitan Water District of Southern California (MWD) Conjunctive Use Program has been terminated
g. Maximizing the beneficial use of the Basin while maximizing Basin Pumping Percentage (BPP) for the Groundwater Producers overlying the Basin

5. Annexations
   a. Support financially neutral annexations into OCWD

6. A financially strong OCWD
   a. Support policies and practices that maintain OCWD’s current AAA credit rating from two of the three credit rating agencies

7. The potential merger of the Municipal Water District of Orange County (MWDOC) and OCWD if the merger:
   a. is mutually agreed upon by both MWDOC and OCWD;
   b. results in efficiencies and economic savings for the members of both agencies;
   c. improves or, at a minimum, preserves the quality, reliability and sustainability of wholesale water services to the members of both agencies;
   d. preserves the interests of groundwater producers currently existing within Orange County’s groundwater basin and protects those interests from diminished groundwater resources or supplies;
   e. preserves the existing boundaries of the Orange County groundwater basin for pumping and storage purposes;
   f. allows the Orange County groundwater basin to remain unadjudicated;
   g. respects the “one person one vote” principle if the new Board of Directors is a wholly elected board;
   h. is facilitated openly and transparently; and,
   i. increases the effectiveness of Orange County’s representation at MWD, with a coordinated and unified voice representing Orange County

8. A strong independent MWDOC
   a. Support MWDOC’s current mission and geographic boundaries, and oppose any efforts to break up the agency
   b. Encourage MWDOC and OCWD exploring mutual areas of efficiency
   c. Support any governance change agreed to by the MWDOC board

9. Increased influence at Metropolitan Water District of Southern California (MWD)
   a. Support increased allocations of MWDOC resources for engagement at MWD
   b. Support coordination of the entire Orange County MWD delegation

10. MWDOC’s priority initiatives at MWD
    a. Protect Mesa Water’s service area from any cost shifts as a result of the San Diego County Water Authority lawsuit
    b. Encourage continued efforts in improving the Delta
    c. Seek opportunities for MWD to provide assistance (or partnership) with MWDOC on developing desalination in Orange County
    d. Continue to support MWD’s discounted replenishment water program

11. Close working relationships with MWDOC on local issues and programs for which the organization is advocating at MWD

12. The current Mesa Water Strategic Plan, including the District’s goals to:
    a. Provide a safe, abundant, and reliable water supply.
b. Practice perpetual infrastructure renewal and improvement.
c. Be financially responsible and transparent.
d. Increase public awareness about Mesa Water and about water.
e. Attract and retain skilled employees.
f. Provide outstanding customer service.
g. Actively participate in regional water issues.

13. The development of cost-effective and environmentally sensitive sources of water, including recycling, groundwater clean-up, conservation, and desalination

14. The potential Huntington Beach Ocean Desalter project as it can possibly provide a new, reliable, quality water supply that is appropriately priced

15. The co-equal goals of improved water supply reliability and Delta ecosystem health

16. Water rates based on true costs in conformance with Prop. 218, and tax-free revenue

17. Policies that encourage economical and practical water efficiency for indoor water use, irrigation water use, and commercial and industrial water use, without stranding investments in potable reuse systems, including:
   a. Indoor water use efficiency at the level needed for community health and safety -- as substantiated by a recently-commissioned, validated, and peer-reviewed end-use study -- and that protects local investments in potable reuse systems
   b. Irrigation water use efficiency at the level necessary for productive crops and attractive landscapes
   c. Commercial and industrial water use efficiency at a level that sustains economic vitality

18. Water use efficiency policies based on fact-based data and water use efficiency standards based on sound studies that are credible, replicable, and verifiable

19. Policies that establish regulatory and statutory parity for all types of recycled water, including purple pipe and potable reuse

20. Theft prevention of municipal metal infrastructure, such as fire hydrants, manhole covers, and backflow devices

**Mesa Water opposes:**

1. The encroachment of Mesa Water easements, rights-of-way, and property without negotiation, agreed upon compensation, and advance approval at the sole discretion of the District
REPORTS:

6. REPORT OF THE GENERAL MANAGER:
REPORTS:

7. DIRECTORS’ REPORTS AND COMMENTS:
There are no support materials for this item.
CLOSED SESSION:

9. PURSUANT TO GOVERNMENT CODE SECTION 54957.6: PUBLIC EMPLOYEE PERFORMANCE EVALUATION
Title: General Manager
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.

DISCUSSION

This item has been agendized to provide the Board the opportunity to discuss the General Manager’s contract terms and conditions of employment, and take action if desired.

FINANCIAL IMPACT

There is no financial impact for the discussion of this item unless action is taken by the Board.

ATTACHMENTS

None.