AGENDA

Each item on the agenda, no matter how described, shall be deemed to include any appropriate motion, whether to adopt a minute motion, resolution, payment of any bill, approval of any matter or action, or any other action. Items listed as “For information” or “For discussion” may also be the subject of an “action” taken by the Board or a Committee at the same meeting.

1. **DETERMINATION OF A QUORUM**

2. **PUBLIC COMMENT**
   Pursuant to Government Code Section 54954.3

3. **WATER RESEARCH FOUNDATION ANNUAL MEMBERSHIP FOR 2018-2019**
   *Staff Recommendation:* The Water Resources Committee recommends the Board of Directors authorize the General Manager to renew membership with the Water Research Foundation for an amount not to exceed $57,459 for the period of October 2018 to September 2019.

4. **NO-COST TIME EXTENSION WITH U.S. GEOLOGICAL SURVEY FOR MONITORING WELL CONSTRUCTION**
   *Staff Recommendation:* The Water Resources Committee recommends the Board of Directors enter into an updated Joint Funding Agreement with the U.S. Geological Survey for monitoring well drilling, subject to approval of form by District Counsel, to extend the term of the JFA through June 30, 2020.

5. **OPERATIONS UPDATE**
   *Water Resources Committee Recommendation:* The Water Resources Committee recommends that the Board of Directors receive and file the report.

6. **GROUNDWATER BASIN UPDATE**
   *Staff Recommendation:* The Water Resources Committee will receive and file the report.

7. **CONTINUING DISCUSSIONS ON BASIN CONDITIONS AND REPLENISHMENT OPTIONS**
   *Staff Recommendation:* For discussion and possible action.

8. **DIRECTORS REPORTS, INQUIRIES, AND FOLLOW-UP OF DIRECTIONS TO STAFF**
9. **ADJOURNMENT**

The Water Resources Committee will adjourn to the next regular meeting.

Agenda posted on 11/17/2018. In compliance with the Americans with Disabilities Act (ADA), if special assistance is needed to participate in the meeting, please contact Brandon Mims, Board Deputy Secretary at (562) 921-5521 for assistance to enable the District to make reasonable accommodations. All public records relating to an agenda item on this agenda are available for public inspection at the time the record is distributed to all, or a majority of all, members of the Board. Such records shall be available at the District office located at 4040 Paramount Boulevard, Lakewood, California 90712. Agendas and minutes are available at the District’s website, [www.wrd.org](http://www.wrd.org). EXHAUSTION OF ADMINISTRATIVE REMEDIES – If you challenge a District action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the Deputy Secretary at, or prior to, the public hearing. Any written correspondence delivered to the District office before the District’s final action on a matter will become a part of the administrative record.
MEMORANDUM
ITEM NO. 3

DATE: NOVEMBER 20, 2018

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: WATER RESEARCH FOUNDATION ANNUAL MEMBERSHIP FOR 2018-2019

SUMMARY

The Water Research Foundation (WRF or Foundation), formerly the American Water Works Association Research Foundation (AwwaRF), sponsors research for all aspects of the drinking water industry, including water resources, supply, quality, and distribution. Much of this research has had direct applicability to WRD's projects and programs as discussed in greater detail below. Membership affords WRD and local purveyors access to and participation in state-of-the-art research developments in the water industry and also maximizes leverage of pooling resources for mutually beneficial projects and investigations. As a member, WRD is also able to submit proposals for new research ideas for consideration by the Foundation.

In recent years, the Foundation has conducted or sponsored research of particular relevance to WRD and our purveyors, including:

- Soil aquifer treatment (SAT) of recycled water used for groundwater recharge;
- Emerging contaminants, including pharmaceuticals, endocrine disruptors, and personal care products — occurrence, toxicological impacts, analytical methods, and methods of treatment and control;
- Climate change and impacts to water supply and water quality;
- Carbon sequestration in geologic structures;
- Water quality issues such as arsenic, chromium, and perchlorate;
- Desalination;
- Iron and manganese treatment;
- Evaluation of membrane technologies;
- Disinfection byproducts (DBPs);
- Distribution system water quality;
• Enhanced communication on drinking water issues;
• Integrated planning including planning between agencies, integrating operations, and water and electricity integration;
• Best practices in resiliency planning;
• New developments in stormwater management; and
• Infrastructure condition assessments and effective asset management

The Foundation has also recently expressed interest in joining with WRD and the City of Lakewood on new research efforts aimed at improving municipal well filter pack design. The project, once finalized, will evaluate the use of glass beads as an artificial filter pack to improve well capacities and decrease rehabilitation costs. The proposed project would include a comprehensive literature review in conjunction with side-by-side comparisons of a newly constructed well using glass beads and nearby traditional wells in the same aquifer.

Being a member of the Foundation also allows an opportunity to sit on prestigious Project Advisory Committee (PAC) panels, which provide technical review and guidance on the Foundation's research projects. WRD staff has previously sat on PAC panels related to Groundwater Recharge Facilities, Carbon Sequestration, and Vadose Zone Recharge Wells. Sitting on the PAC panel affords the opportunity to guide the research projects to areas directly related to WRD's activities.

Research is funded through subscriber membership fees, which are typically based on the annual amount of water delivered or served to customers. WRD has been a continuous subscriber since 1992. Other subscribers from the local area include the Central and West Basin Municipal Water Districts, Golden State Water Company, the Los Angeles Department of Water and Power, Long Beach Water Department, and the Metropolitan Water District of Southern California.

FISCAL IMPACT

For the subscription period of October 2018 to September 2019, the membership fee is $57,459, which is unchanged from the 2017-18 year. This subscription was anticipated was included in the current fiscal year's adopted budget under Project 006 (Water Quality) and is available for use.

STAFF RECOMMENDATION

The Water Resources Committee recommends that the Board of Directors authorize the General Manager to renew membership with the Water Research Foundation for an amount not to exceed $57,459 for the period of October 2018 to September 2019.
MEMORANDUM
ITEM NO. 4

DATE: NOVEMBER 20, 2018

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: NO-COST TIME EXTENSION WITH U.S. GEOLOGICAL SURVEY FOR MONITORING WELL CONSTRUCTION

SUMMARY
On July 20, 2017, the Board of Directors authorized entering into a Joint Funding Agreement (JFA) with the U.S. Geological Survey (USGS) to construct two nested groundwater monitoring wells in support of WRD’s Regional Groundwater Monitoring Program, California Statewide Groundwater Elevation Monitoring, and the Sustainable Groundwater Management Act. To date, one of the wells has been constructed and is known as LA#5. The second well has been delayed due to extensive permitting requirements from the City of Los Angeles and availability of the USGS drill rig and crew. Current estimates for well installation is February or March 2019. Since the Joint Funding Agreement will expire on December 31, 2018, a no-cost time extension is needed. The USGS has submitted another JFA with the same terms, scope, and budget as the original JFA, with the exception of extending the termination date to June 30, 2020.

FISCAL IMPACT
None, as this revised JFA only extends the termination date. All the remaining items in the original JFA, including the original Board authorized budget of $1,260,000, remains unchanged.

STAFF RECOMMENDATION
The Water Resources Committee recommends the Board of Directors enter into a updated Joint Funding Agreement with the U.S. Geological Survey for monitoring well drilling, subject to approval of form by District Counsel, to extend the term of the JFA through June 30, 2020.
MEMORANDUM
ITEM NO. 5

DATE:       NOVEMBER 20, 2018

TO:         WATER RESOURCES COMMITTEE

FROM:       ROBB WHITAKER, GENERAL MANAGER

SUBJECT:    OPERATIONS UPDATE

SUMMARY

The intent of the Operations Update staff report/agenda item is to inform and update members of the Water Resources Committee on a regular and reoccurring basis about operational matters, technical issues, engineering plans, and various multi-agency strategies in regards to all of the District’s current and planned operational facilities.

Terminal Island Water Reclamation Plant (TIWRP) / Dominguez Gap Barrier Project (DGBP) Update

Highlights from the TIWRP / DGBP include the following:

• LASAN was unable to deliver recycled water due to issues the AOP Unit. LASAN is continuing to work with the manufacturer on resolving this and resumed production in November following a short-term fix.
• LASAN will be doing further optimization that will bring TIWRP to a long term solution. There will be short periods (a couple of days here and there) over the next few months where their consultant will do follow-up testing and would need to stop delivery at these times.

TORRANCE DESALTER UPDATE

Highlights from the Torrance Desalter include the following:

• Production averaged 56 million gallons for the month of October, with a plant on-line factor of 93%. Two shutdowns were experienced – one for chemical
cleaning of the reverse osmosis (RO) membranes and the second associated with a communication failure in the plant's product water sump.

- After increasing RO train production last month to 2.2 million gallons per day, train performance has continued to remain fairly stable. Chemical cleanings are still on the targeted trajectory of quarterly (for full chemical cleaning) and monthly for the high pH caustic cleanings.
- The City of Torrance is currently scheduling the removal and repair work for the high pressure pump on RO Train #1.
- WRD staff continues to collect information on all assets at the Torrance Desalter to build the database for implementation a Computerized Maintenance Management System (CMMS).

**LEO J. VANDER LANS FACILITY (LVL) UPDATE**

Highlights from the LVL facility include the following:

- Execution of the Emergency Resolution on 11/07/18 has enabled staff to begin work to address leaking chemical lines at the Facility. Work is scheduled to begin on 11/15/18.
- Staff from the Long Beach Water Department (LBWD) and WRD continue to meet on a weekly basis to review and address other action items for correction in preparation for a plant restart.
  - Engineering review (via the District’s on-call engineering support pool) of the fiberglass (i.e., FRP) platform surrounding the RO cleaning tanks has been completed and the final report will be sent to WRD.
  - Through the on-call engineering support pool, contracts were awarded to address two issues at the Facility: the chemical conveyance system and upsizing of the bulk storage for calcium chloride.
- Computerized Maintenance Management System (CMMS) continues to be utilized with oversight and support from WRD staff. To date, 388 electronic work orders (for maintenance-related issues) have been entered and/or processed through the system (vs. 311 reported last month).
  - Staff kicked off a project (10/26/18) to conduct a comprehensive condition assessment (CA) of all assets at the Facility, based on training and guidelines provided by the District's asset management advisor. This information will be used to assist Operations in developing an asset replacement strategy.
- During the month of October 2018, 538.1 acre-feet (AF) of imported water from the LB07A connection was used to satisfy the barrier demand (vs. 627 AF the previous month).
  - Current barrier injection is approximately 5.32 mgd of imported water.

**FISCAL IMPACT**

No Impact
STAFF RECOMMENDATION

Staff recommends the Water Resources Committee receive and file the report.
DATE: NOVEMBER 20, 2018

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: GROUNDWATER BASIN UPDATE

SUMMARY
WRD Hydrogeology staff monitors groundwater conditions in its service area throughout the year. A summary of the latest conditions is attached as the monthly Groundwater Basin Update.

FISCAL IMPACT
None at this time

STAFF RECOMMENDATION
Staff recommends the Water Resources Committee receive and file the report.
DATE: NOVEMBER 20, 2018
TO: WATER RESOURCES COMMITTEE
FROM: ROBB WHITAKER, GENERAL MANAGER
SUBJECT: GROUNDWATER BASIN UPDATE

GROUNDWATER BASINS AT A GLANCE *

* - Preliminary numbers, subject to change.
SUMMARY

Staff monitors groundwater conditions in its service area throughout the year. A summary of the latest information is presented below.

Precipitation (as of November 9, 2018)
The WRD precipitation index reports that for the 2018-19 Water Year, there has been 0.61 inches of rainfall. The normal rainfall for this time period is 0.80 inches, so the District is 76% of normal. As of November 6, 2018, the U.S. Drought Monitor is reporting 100% of the State is abnormally dry, 52% is under drought conditions, 2% of the State is under severe drought conditions including most of Los Angeles County, and 5% of the State is under extreme drought (in portions of eastern Riverside, eastern San Bernardino, and Imperial Counties).

Reservoirs (as of November 9, 2018)
For all 16 reservoirs reported monthly to the committee, water levels have lowered in 12 reservoirs compared to levels recorded in the previous month. The largest decrease (-0.20 million acre feet) occurred at Lake Shasta. The smallest decrease (<0.01 million acre feet) occurred at Diamond Valley Lake. Levels rose at the San Luis Reservoir (0.06 million acre feet), Millerton Lake (<0.01 million acre feet), Pine Flat Reservoir (0.02) and Lake Perris (<0.01 million acre feet). These reservoirs are at 45% capacity (32.41 million acre feet).
Groundwater Levels (through November 9, 2018)

Groundwater levels in key monitoring wells are shown in the hydrographs below.

**Groundwater Level Changes in Key Wells**

<table>
<thead>
<tr>
<th>Well Name</th>
<th>Since Last Month</th>
<th>Since Same Time the Previous Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Basin Key Well 1601T</td>
<td>Decreased 1.8 feet</td>
<td>Decreased 16.3 feet</td>
</tr>
<tr>
<td>Central Basin Key Well Long Beach #6_4</td>
<td>Increased 4.6 feet</td>
<td>Decreased 11.0 feet</td>
</tr>
<tr>
<td>West Coast Basin Key Well Lawndale #1_4</td>
<td>Increased 1.7 feet</td>
<td>Increased 3.9 feet</td>
</tr>
<tr>
<td>West Coast Basin Key Well Carson #1_2</td>
<td>Decreased 0.34 foot</td>
<td>Increased 6.4 feet</td>
</tr>
</tbody>
</table>
Optimum and Minimum Groundwater Quantity
In response to a 2002 State audit of the District’s activities, the Board of Directors adopted an Optimum and Minimum Quantity for groundwater in the District to define an appropriate operating range that would sustain adjudicated pumping rights, leave room for future storage projects, and identify a lower limit. The amounts are based on the accumulated overdraft concept, which the District tracks year by year based on changes in groundwater storage.

After an extensive review of over 70 years of water level fluctuations and discussions with the Board and pumping community, Water Year 1999/2000 was recognized as a representative year for the Optimum Quantity, which equated to an accumulated overdraft of approximately 612,000 acre-feet. The Minimum Quantity was defined as an accumulated overdraft of 900,000 acre-feet, which allowed an operating range from 0 acre-feet (minimum) to 288,000 acre-feet (optimum). The Board also adopted a policy to make-up the groundwater deficit should the accumulated overdraft fall too far below the Optimum Quantity.

The Accumulated Overdraft at the end of September 2018 has been estimated at 825,000 acre-feet (subject to change), or 75,000 acre-feet above the Minimum Quantity.

Montebello Forebay Spreading Grounds (October 2017 - September 2018)
The following Chart shows the preliminary spreading grounds replenishment water to date:
The District placed an order for 5,300 acre-feet of imported water for replenishment in Water Year 2017-18 to complete the 38,000 acre-feet order from earlier in 2017. The imported water delivery began on December 6th and was completed on December 17th with a total of 5,286 acre-feet of Imported Water delivered. An order for an additional 4,500 acre-feet was placed in April with 4,506 acre-feet of Imported Water delivered for a total of 9,792 acre-feet.

Preliminary numbers for the 2017-18 Water Year show that 56,752 acre-feet of recycled water has been recharged, which is above the year to date target amount of 55,000 acre-feet. The 120-month running average of recycled water contribution in the Montebello Forebay is 39.0% and the regulatory maximum is 45%, with additional studies and monitoring being required once 40% is reached.

Local water (stormwater plus dry weather urban runoff) is captured by the Los Angeles County Department of Public Works (LACDPW) at the spreading grounds for recharge. Local water amounts are determined as the sum of the total waters conserved at the spreading grounds less the imported and recycled water deliveries. For the 2017-18 Water Year, 5,125 acre-feet of local water capture has been reported by the LACDPW.
Seawater Barrier Well Injection and Replenishment (October 2017 - September 2018)

The following Chart shows the barrier water injection to date:

Preliminary numbers for the the 2017-18 Water Year show that the West Coast Barrier used 2,492 acre-feet of imported water and 12,310 acre-feet of recycled water, or 83% recycled water. The Dominguez Gap Barrier used 3,786 acre-feet of imported water and 3,064 acre-feet of recycled water, or 45% recycled water. The Alamitos Barrier, on the WRD side, used an estimated 2,988 acre-feet of imported water and 119 acre-feet of recycled water, or 4% recycled water.

Pumping (October 2017 - September 2018* and Fiscal Year to Date)

Preliminary numbers for groundwater production in the District for the 2017-18 Water Year indicate that 220,893 acre-feet were pumped compared to 212,690 acre-feet the year previous, or an increase of 8,202 acre-feet (3.9%). In the Central Basin, pumping was 5,564 acre-feet higher than the previous water year (3.0%) and the West Coast Basin pumping was up 2,638 acre-feet from the previous water year (9.0%). The Chart below shows Water Year 2017-18 pumping versus Water Year 2016-17.

Preliminary numbers for groundwater production in the District for the Fiscal Year 2018-19 (July 2018 – June 2019) indicate pumping in the Central Basin was up 1,386 acre-feet from the same time of the previous fiscal year (2.7%) and the West Coast Basin pumping was 1,798 acre-feet lower than the previous fiscal year (-20.0%). The total pumping is 59,403 acre-
feet compared to 59,814 acre-feet during the same time the previous year for a decrease of 412 acre-feet, or -0.7%. The current pumping data do not include four Central Basin pumpers and two West Coast Basin pumpers totaling an estimated 30 additional acre-feet.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

The Water Resources Committee receive and file the report.
DATE: November 20, 2018

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: CONTINUING DISCUSSIONS ON BASIN CONDITIONS AND REPLENISHMENT OPTIONS

SUMMARY

At the October 16, 2018 Water Resources Committee meeting, the committee members requested this item be brought back for further discussions. Staff will review the latest long-term (45-year) District groundwater budget derived from the detailed work by the U.S. Geological Survey, the more recent shorter-term groundwater budget, the current groundwater levels in the basins as compared to the Board policy on Optimum and Minimum Quantities, recycled water percentages at the Montebello Forebay spreading grounds, and the available water purchase funds held by the District.

FISCAL IMPACT

None at this time pending decisions on purchase of budgeted replenishment water.

STAFF RECOMMENDATION

For discussion and possible action.