



**BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

Notice of Time Change

**PLANNING COMMITTEE
MEETING**

8:00 a.m.

Tuesday, October 11, 2016

Notice is hereby given that on Tuesday, October 11, 2016, the Planning Committee Meeting of the Board of Directors has been rescheduled from 9:15 a.m. to 8:00 a.m. The meeting will be held in the Training Resource Center of the Administration Building, 375 - 11th Street, Oakland, California.

Dated: October 6, 2016

A handwritten signature in blue ink, reading "Lynelle M. Lewis", is written over a horizontal line.

Lynelle M. Lewis
Secretary of the District



**BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 – 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

AGENDA

**Planning Committee
Tuesday, October 11, 2016
8:00 a.m.
Training Resource Center**

(Committee Members: Directors Linney {Chair}, McIntosh and Young)

ROLL CALL:

PUBLIC COMMENT: The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

DETERMINATION AND DISCUSSION:

- 1. Wet Weather Consent Decree – Implementation Update (Horenstein)
- 2. Partnership with Contra Costa Water District (Sykes)
- 3. Proposed Revisions to EBMUD Delta Principles (Sykes)
- 4. Lead Water Service Laterals (Wallis)
- 5. Local Hazard Mitigation Plan (Wallis)
- 6. Annual Recreation Reports (Sykes)

ADJOURNMENT:

Disability Notice

If you require a disability-related modification or accommodation to participate in an EBMUD public meeting please call the Office of the Secretary (510) 287-0404. We will make reasonable arrangements to ensure accessibility. Some special equipment arrangements may require 48 hours advance notice.

Document Availability

Materials related to an item on this Agenda that have been submitted to the EBMUD Board of Directors within 72 hours prior to this meeting are available for public inspection in EBMUD's Office of the Secretary at 375 11th Street, Oakland, California, during normal business hours, and can be viewed on our website at www.ebmud.com.

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 6, 2016

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Bennett K. Horenstein, Director of Wastewater *BK*

SUBJECT: Wet Weather Consent Decree - Implementation Update

SUMMARY

The District and its seven satellite collection system agencies (Satellites) have been implementing infiltration and inflow (I/I) reduction efforts since the Wet Weather Consent Decree was approved in September 2014. The Consent Decree requires the District and the Satellites to eliminate discharges from the District's three wet weather facilities by 2036 through the reduction of I/I. Staff will provide an update of the District's implementation of Consent Decree requirements at the October 11, 2016 Planning Committee meeting.

DISCUSSION

The District's Consent Decree is unique in that it provides the framework for an asset management-based approach to eliminate discharges from the District's three wet weather facilities. Instead of using a more traditional approach of large storage or treatment infrastructure, the Consent Decree concentrates on the rehabilitation of the older public and private infrastructure that allows stormwater to enter the regional collection system. By its design, the Consent Decree requires action by the parties directly responsible for the aged infrastructure to implement appropriate corrective measures – private property owners are responsible for private sewer laterals, the Satellites are responsible for community sewer systems, and the District is responsible for its interceptors.

Compliance with the Consent Decree is determined through the use of a District interceptor system flow model. Results from the flow model are reported to the regulators and used to determine Consent Decree compliance at check-in points in years 2022 and 2030, and final compliance in year 2036. Beginning in FY2015, annually-performed calibration efforts are used to determine I/I reduction levels to date. Through FY2015, with only a few years' worth of data, the rate of I/I reduction appears to be on pace to meet the first check-in benchmark in 2022. Additional data from subsequent model updates will be utilized to better understand trends.

To comply with the Consent Decree, the District is implementing a number of initiatives, including an inflow investigation program of the regional collection system (the Regional Technical Support Program), the Regional Private Sewer Lateral Program, flow modeling, and two capital improvement projects.

Regional Technical Support Program (RTSP)

The RTSP is a key element for achieving required Consent Decree flow reductions; it identifies I/I sources through District-led field investigations of Satellite-owned and operated sewer systems. Identified I/I sources that are deemed high priority are reported to the regulators, triggering repair/rehabilitation by the responsible party (i.e., Satellite Agency or private property owner). For the 22-year Consent Decree term, the District is required to spend a minimum of \$2 million per year on these field investigations and associated activities.

Investigations began in March 2014. Recently completed investigations include flow monitoring, smoke testing, and visual inspections including closed circuit television (CCTV) inspections and 3D manhole inspections. Additionally, two pilot projects were performed - one to assess the efficiency and effectiveness of available investigative techniques in varying site conditions and the other to document the conditions of manholes within the collection system.

Staff is reviewing the pilot findings to develop recommendations regarding preferred technologies as well as whether any future equipment or labor could be provided by the District.

In addition to the investigative work the District is performing, the Satellites are gathering data on their own systems, including flow and rainfall monitoring, smoke testing, and CCTV work. As the administrative agency for the regional wet weather collaboration, the District has historically provided the support for procuring a consultant to perform as-needed services for the Satellite agencies. At the October 25 meeting, the Board will be asked to consider a \$3 million contract with National Plant Services to perform this work over the next five years. All costs associated with this work will be reimbursed to the District by the Satellite agencies receiving the services.

Regional Private Sewer Lateral (PSL) Ordinance Activities

The Regional PSL Program began in 2011 and now includes all Satellites except for Berkeley, which continues to implement its own stand-alone PSL program. As part of the Regional PSL Program, the District issues compliance certificates to property owners who demonstrate a leak-free PSL upon hitting triggers including property sale. To date, 21,189 compliance certificates have been issued, representing approximately 15% of the laterals within the program area and with approximately 281 miles of new PSLs. For FY16, the compliance rate with the program was 95%, meeting the District's Strategic Plan Key Performance Indicator.

Additional Consent Decree Activities

The District is moving forward on two capital improvement projects. The Urban Runoff Diversion Project is being developed to treat up to 500,000 gallons per day of dry weather urban runoff at the District's Main Wastewater Treatment Plant as mitigation for continued operation of the wet weather facilities during the term of the Consent Decree. The construction of the project is scheduled to be completed by the end of 2016.

The Pump Station Q Force Main/Gravity Interceptor Reverse Flow Project is being implemented to provide additional capacity for flows from the north to the wastewater treatment plant, thereby reducing discharges from the Point Isabel Wet Weather Facility. The District utilized Schaaf & Wheeler to complete design of this project. At the October 11 meeting, the Board will be asked to consider an amendment to Schaaf & Wheeler's contract to provide design services during construction as the Engineer-of-Record. On October 11, the Board will also be asked to consider award of a construction contract for this project to Disney Construction, Inc., in the amount of \$5,604,916.

NEXT STEPS

Staff will continue implementation of the Consent Decree and will keep the Board informed on progress.

BKH:CD:akg

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 6, 2016

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Richard G. Sykes, Director of Water and Natural Resources *RGS*

SUBJECT: Partnership with Contra Costa Water District

INTRODUCTION

EBMUD and Contra Costa Water District (CCWD) are working cooperatively on opportunities to improve water supply reliability by sharing available capacity in existing facilities such as the Freeport Regional Water Project (Freeport) and Los Vaqueros Reservoir (LV). Potential opportunities include using Freeport or the Mokelumne system to convey water to LV for storage. CCWD is currently evaluating the enlargement of off-stream storage capacity at LV to up to 275,000 acre-feet. If feasible, EBMUD could be a potential beneficiary or partner in the project. EBMUD and CCWD are developing an agreement for CCWD to include use of EBMUD facilities in its project alternatives, including Freeport facilities, the Mokelumne Aqueduct system, and the EBMUD/CCWD raw water intertie. The agreement would include partnering on the LV California Environmental Quality Act effort and a potential grant application under the Proposition 1 Water Storage Program. The proposed agreement will be discussed at the Planning Committee meeting on October 11, 2016.

DISCUSSION

Background

The proposed partnership is consistent with past and ongoing EBMUD water supply planning. In 2012, the Board certified the Water Supply Master Plan (WSMP) 2040 Revised Program Environmental Impact Report and approved the WSMP 2040 Revised Final Plan (Plan). The Plan included a portfolio of projects and programs to address long-term water needs during times of drought. One proposed project was to partner with CCWD for storage in their newly expanded LV.

In 2013, and again in 2016, the Board approved the Principles of Agreement (Principles) between EBMUD and CCWD to cooperate on opportunities to improve water supply reliability by sharing available capacity in existing facilities including LV and Freeport.

Currently, EBMUD and CCWD are partners in the Bay Area Regional Reliability (BARR) Project, a joint project between eight Bay Area water agencies to develop a water supply reliability program that provides regional benefits. Projects being considered in BARR include the use of Freeport unassigned capacity and expansion of LV.

Potential EBMUD Benefits

EBMUD could potentially benefit from the project in several ways. First, EBMUD could provide water in wet years to CCWD from either the Mokelumne system or Freeport. In exchange, EBMUD could obtain storage in LV or an option to purchase water from CCWD in dry years or emergencies. Second, EBMUD could make its Freeport facilities available when not being used by the District so CCWD or other partners could move water into LV. In this case, the District may gain revenue through cost recovery or other benefits. Third, EBMUD facilities such as the Mokelumne Aqueduct No. 2, needed as a part of the project, may be eligible for grant-funded improvements such as relining or other major capital work. Other facilities needed to deliver water from CCWD to EBMUD, such as new pumping plants or treatment upgrades, would also be grant eligible.

LV Project Status

In March 2010, CCWD and the U.S. Bureau of Reclamation (Reclamation) completed the Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Los Vaqueros Reservoir Expansion Project (Project). In 2012, CCWD completed the first phase of the reservoir expansion from 100,000 acre-feet to 160,000 acre-feet. Now, CCWD, Reclamation, and local area water agencies are jointly studying the potential further expansion of Los Vaqueros Reservoir up to 275,000 acre-feet with related conveyance facilities. CCWD and Reclamation are developing a Draft Supplemental EIS/EIR that will be used to support both the federal feasibility study and the California Water Commission Proposition 1 grant funding application for the Project. CCWD has a cost share agreement in place with Reclamation, and federal funding is available for part of the environmental review and engineering and economic analyses needed to evaluate the Project. CCWD is seeking a partnership with EBMUD to fully evaluate the potential mutual benefits of expanding LV. To evaluate the full potential benefits of the project, District staff is proposing to perform in-kind services such as modeling, scenario development, and stakeholder outreach, and contribute \$100,000 towards CCWD's consultant budget. EBMUD's contributions would be counted as part of the non-federal cost share for the Project studies. The scope of the consultant work includes environmental, engineering, and operations modeling for preparation of the Supplemental EIS/EIR and grant application. Potential partners including Alameda County Water District, Zone 7 Water Agency, Santa Clara Valley Water District, Bay Area Water Supply and Conservation Agency, San Francisco Public Utilities Commission, San Luis & Delta-Mendota Water Authority, the U.S. Bureau of Reclamation, and others may also participate and contribute similar resources.

NEXT STEPS

Based on input from the Planning Committee, staff will prepare a partnership agreement between EBMUD and CCWD for Board consideration on November 8, 2016.

RGS:MTT:TBF:acr

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 6, 2016

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *AME*

FROM: Richard G. Sykes, Director of Water and Natural Resources *R Sykes*

SUBJECT: Proposed Revisions to EBMUD Delta Principles

INTRODUCTION

In 2007, the Board of Directors adopted “EBMUD Principles Regarding Major Delta Initiatives” to assure a healthy river ecosystem and to protect EBMUD’s interests in the Sacramento-San Joaquin Delta. The Principles were developed as the Delta Vision process was getting underway, which later informed the Delta Reform Act of 2009. The Principles were subsequently revised in 2011 when the state’s proposal for Delta conveyance took shape with the Bay Delta Conservation Plan (BDCP). The proposed revisions to the Principles recognize several recent developments in the state’s plans and update the language to better reflect current conditions and issues. The proposed revisions, which are attached in underline/strikeout form, will be discussed at the Planning Committee meeting on October 11, 2016.

DISCUSSION

Since the 2011 revision to the Principles, several developments have taken place that prompted proposed changes. In 2013, the Delta Stewardship Council adopted a Delta Plan, but it was immediately challenged in court and invalidated earlier this year. (That decision is now under appeal.) The California Department of Water Resources (DWR) proposed a new alternative to the BDCP called “WaterFix,” which segregated the twin tunnels conveyance from a reduced-scale ecosystem restoration component, now known as “EcoRestore.” Finally, the State Water Resources Control Board has initiated hearings on a petition by DWR and the U.S. Bureau of Reclamation for a change in the point of diversion for the state and federal projects, which is a critical step in the permitting process for WaterFix. EBMUD has submitted a protest to this petition, on the grounds of potential unmitigated impacts on Freeport operations, the Mokelumne Aqueducts, and the salmonid fishery in the Mokelumne River.

Throughout the course of these developments in the Delta, EBMUD has continuously focused on protecting several key interests. These include:

- **Water rights and contract entitlements:** Given the limited water resources in California, it is important that when increasing reliability for south of Delta parties, the WaterFix should not reduce reliability for others. In this context, EBMUD has asserted that any new conveyance in the Delta must not result in a reduction in EBMUD's water rights or Central Valley Project allocations. In the absence of an updated Water Quality Control Plan for the Delta, it is critical that EBMUD not be forced to make up for any impacts that new conveyance has on water quality or Delta outflows.
- **Freeport operations:** Any new intakes on the Sacramento River must mitigate for potential "reverse flows" that would shut down pumping operations at the Freeport Regional Water Project.
- **Mokelumne Aqueducts:** Construction of the twin tunnels could have adverse impacts on the Mokelumne Aqueducts where the alignments intersect. In addition, the state must recognize that its future Delta tunnel could be in conflict with EBMUD's plans for a Delta tunnel replacement for Mokelumne aqueduct conveyance along EBMUD-owned property.
- **Mokelumne fishery:** EBMUD has made substantial investments in and continuing commitments to a healthy fishery on the Mokelumne River. The state must analyze potential impacts on fish migration from changes in the operation of the Delta Cross Channel or other project facilities.
- **Financing:** EBMUD has long advocated for the beneficiary pays principle, which requires those entities benefiting from a project to fully fund it. EBMUD opposes the imposition of any water fee or surcharge that would subsidize new Delta conveyance.

The proposed revisions clarify and update EBMUD's Delta Principles in response to evolving state proposals and processes, and EBMUD's own strategy for sustainable water supplies.

NEXT STEPS

Staff will finalize the Delta Principles based on Planning Committee input and seek Board adoption at the November 8, 2016 Board meeting.

ARC:RGS:DW

Attachment

~~April 12, 2011~~ October 6, 2016

EBMUD PRINCIPLES REGARDING MAJOR DELTA INITIATIVES

The following principles are adopted to assure a healthy Delta ecosystem and to protect EBMUD's infrastructure, water supply reliability, and ecosystem investments in the Sacramento-San Joaquin Delta watershed. These principles address future proposed actions that may include major infrastructure improvements, operational changes, and ecosystem restoration initiatives. These principles do not commit the EBMUD Board to supporting new conveyance in the Delta. They do clarify that if any new conveyance ~~is~~ proposed for the Delta, ~~it~~ should meet certain criteria that will be better satisfied by reducing a range of adverse impacts on the Delta, other stakeholders, and EBMUD's customers.

1. New actions that may be proposed in the Delta must avoid and minimize adverse impacts, and provide enhancements or restoration actions-benefits where possible-needed-to-ensure-that-a-net-improvement-to-the-Delta-environment-is-achieved. Existing infrastructure should also be improved, ~~and~~ operated, and maintained in such a way as to meet this standard.
2. ~~If~~ For any new conveyance ~~is~~ proposed for the Delta, the analysis should include a full range of facility sizes, components, and operations, as well as provision and financing for robust adaptive management. Any new infrastructure or operational changes in the Delta must not result in unmitigated, redirected impacts to third parties, including EBMUD and its customers. ~~A small isolated facility of 3,000 cfs should be analyzed as it would provide comparable water supply benefits to the export community while better protecting EBMUD's interests in the Delta, as well as many other Delta resources.~~
3. ~~The Delta Stewardship Council's Delta Plan and the Bay Delta Conservation Plan will include an evaluation of various potential improvements to water supply reliability for the State and federal pumping projects in the southern Delta. Prior to any major Delta infrastructure investment, both Plans should demonstrate compliance with the Delta Reform Act's requirement to reduce reliance on the Delta, including the promotion of water conservation, water recycling, conjunctive use and desalination.~~
3. Implementation of new projects or other actions must assure that no unmitigated adverse water supply reliability or water quality impact is imposed upon EBMUD customers, including no new or increased level of health risk.
4. Emergency response plans should be developed for the Delta. ~~The restoration of public water service, which is vital for public health and safety, should be prioritized in such plans. -~~ The sState should encourage all water purveyors reliant on the Delta to develop contingency plans for continued water service in the event of catastrophic failure of the Delta levee system.

EBMUD Principles Regarding Major Delta Initiatives

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- ~~5.~~ Housing developments proposed within a flood inundation zone should be subject to review and approval by the appropriate state and/or local flood management
5. agency(ies) to verify that such developments are located on land that meets a 200-year flood protection standard.
6. Existing legal and regulatory agreements and decisions concerning releases to the Mokelumne River and Delta must be acknowledged and respected. This includes the Joint Settlement Agreement ~~of 1998~~ between EBMUD, the California Department of Fish ~~& and~~ Game Wildlife, and the U.S. Fish and Wildlife Service, approved by the Federal Energy Regulatory Commission in 1998 to addressing Mokelumne River flows, which has led to significant fishery improvements; and State Water Resources Control Board Decision D-1641 regarding flow obligations from the Mokelumne River into the Delta.
7. Proposed actions must not diminish the entitlements or increase the financial obligations of EBMUD customers under the existing EBMUD Central Valley Project water service contract and successive renewals, unless consistent with these principles.
8. If the ~~s~~State imposes assessments on owners of land or infrastructure in the Delta for the protection or improvement of the Delta system, EBMUD's annual contributions to local reclamation districts should be formally recognized and fully credited.
9. Long-term protection of EBMUD infrastructure in the Delta must be part of any long-term plan for reconfiguring Delta islands or constructing a major new water conveyance around or beneath the Delta that would decrease the reliance on existing Delta islands and channels. Recognizing that the Mokelumne Aqueducts are vulnerable to seismic events and flooding in the Delta, EBMUD's long-term, conceptual strategy for protecting its raw water supply is to construct a tunnel across the Delta. Proposed actions must not interfere with EBMUD's future ability to build a Delta tunnel to convey raw water.
- ~~8. Implementation of new projects or other actions must assure that no unmitigated adverse water supply reliability or water quality impact is imposed upon EBMUD customers, including no new or increased level of health risk.~~
- 9-10. EBMUD customers will only be requested to finance project(s), if any, in proportion to the benefit received and will not be requested to bear costs that benefit others. Assurances and safeguards must be provided in financing mechanisms to avoid any unfair ~~s~~State water tax or fee on EBMUD customers. Parties that propose new facilities in the Delta must be responsible for financing such projects, including mitigation of existing or future environmental impacts.
- 10-11. Use of EBMUD facilities for the benefit of others must not diminish EBMUD water quality, environmental, water supply reliability, operational needs, or recreational benefits

EBMUD Principles Regarding Major Delta Initiatives

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unless such impacts are consented to by EBMUD; and its customers are compensated for their substantial investments. Use by other parties of unassigned EBMUD capacity in Freeport Regional Water Project Facilities shall be in accordance with the ~~Board-Board-~~ adopted principles of February 8, 2005, including any future modifications or amendments.

~~Long term protection of EBMUD infrastructure in the Delta must be part of any long term plan for reconfiguring Delta islands or constructing a major new water conveyance around or beneath the Delta that would decrease the reliance on existing Delta islands and channels.~~

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 6, 2016

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Michael J. Wallis, Director of Operations and Maintenance *MJW*

SUBJECT: Lead Water Service Laterals

INTRODUCTION

The United States Environmental Protection Agency (USEPA) promulgated the Lead and Copper Rule (LCR) in 1991. Since the late 1980's, the District has maintained an ongoing program to replace all lead water service laterals (services), the small diameter pipes connecting the water main to the customer's meter. This memo discusses the LCR, how the District complies with the LCR, and the District's plans to comply with SB 1398, signed by Governor Brown on September 27, 2016. These items will be discussed at the October 11, 2016 Planning Committee meeting.

DISCUSSION

Lead Service Replacements and Corrosion Control

In March 1989, in anticipation of the LCR, the District initiated a program to replace all of the District's lead services. The District reviewed all paper records to identify known lead services and began replacement. The last known lead service on record was replaced in 1997. Despite this service area-wide effort, District crews still occasionally find and replace lead services in the service area. Once found, these services are immediately replaced during repair work or planned pipeline replacements.

The LCR requires the District to complete lead sampling at the customer's tap. At the time of the District's first LCR tap sampling in 1992, some lead services remained to be replaced, and 50 of the 100 required tap samples were taken from these homes. The other 50 tap samples were collected from homes with copper services and lead solder. In both rounds of the 1992 testing, in the samples from the lead services and others, the 90th percentile lead concentration was less than the federal action level, an indication that the District's corrosion control practices were effective. Subsequent LCR sampling has confirmed the District's current corrosion control treatment is an effective method of protecting the public from exposure to lead and copper.

In 1994, as part of the LCR, the District completed a required corrosion control study which was later updated in 1997. The study report noted that the District had implemented a corrosion control program in the 1930s to protect the distribution system. The program has been modified but remains an integral component of the District's water treatment process today. The completed corrosion control study and recommendations for corrosion control treatment were submitted to the State Department of Health Services (State) for their review. On March 4, 1999, the State determined that the District's treatment practice for corrosion with pH adjustment by lime and/or caustic soda met the requirement of the LCR and approved the District's LCR Corrosion Report.

LCR Sampling and Compliance

The LCR regulations require a water utility to sample at locations that may be particularly susceptible to high lead or copper concentrations. The LCR established a tiering system for prioritizing sampling sites. A materials evaluation is required to help classify sampling sites into the tiers.

- Tier 1 sampling sites are single family structures with copper pipes having lead solder installed after 1982 or contain lead pipes and/or are served by lead services.
- Tier 2 sampling sites are buildings and include multi-family residences with copper pipes having lead solder installed after 1982 and/or are served by a lead services.
- Tier 3 sampling sites are single family structures with copper pipes having lead solder installed before 1983.

A water utility must sample at Tier 1 sites. If there are an insufficient number of Tier 1 sites, a utility can use Tier 2 sites, followed by Tier 3 sites, and finally by representative sites to achieve the necessary sample size. If a utility has lead services in the distribution system, then the utility must collect at least half of their samples from sites served by lead services. If a water utility has no lead services but has lead gooseneck or pigtails, the utility has the option to collect samples at those locations.

All of the District's sampling points are at Tier 1 sites, single family structures with copper pipes installed after 1982. Sample kits are dropped off to the customer the night before testing and come with detailed instructions on how to collect the sample. Customers are asked to flush their household line for two to three minutes before water flow is stopped for a minimum of 6 hours and maximum of 12 hours. Following this waiting period, a 1-liter first draw sample is collected. The District is revising these instructions to eliminate the flushing step.

Due to the District's active corrosion control program and history of below action level results, the District's current compliance tap sampling plan is a reduced three-year monitoring frequency plan. The next LCR tap monitoring is scheduled to be conducted from June to September of 2017. There are 50 sample sites/residences in the LCR tap sampling plan, all of which are served

by copper constructed with lead soldering joints (see attached map), as all known lead services have been replaced.

The LCR regulations require the tap sample sites to be those that may be particularly susceptible to high lead and copper concentration. When the District occasionally finds previously unknown lead service locations in the distribution system, those lead service locations will be added to the District's LCR tap sampling plan.

SB 1398

SB 1398 was signed by Governor Brown on September 27, 2016. This law requires public water systems to:

- Compile an inventory of known lead pipes in use in its system, and identify areas that may have lead pipes in use in its system, by July 1, 2018.
- Provide a timeline for replacement of known lead pipes in its system to the State Water Resources Control Board.
- Determine the existence or absence of lead pipes in areas that may have lead pipes and provide the information to the State Water Resources Control Board, or provide a timeline for replacement of pipes whose content cannot be determined by July 1, 2020.

Lead Inventory

In March 2016, the District began a review of existing files and databases to determine if there was a single comprehensive electronic database of service line material type. Based on the review, no comprehensive database existed, and a project to develop a database was initiated. An initial data sample review of service line (tap) records occurred in April 2016.

During the April review, a number of tap records indicated that the service line material was still lead. Field staff checked those service lines and verified that the lead services had been replaced. As part of the continuing database process, in late September, staff found records showing lead services were replaced at two locations in the last four years. This prompted review of another database not available during the initial early 1990s lead service replacement project that identified 51 lead services replaced between 2002 and 2015 in the cities of Alameda, Berkeley, El Cerrito, Oakland, Richmond, San Leandro, San Lorenzo, and San Pablo. The tap records for three streets (from the list of 51 replacements) were reviewed and 30 tap records indicated that the lead services were not replaced. Field staff checked these locations and found four lead services.

In the District service area, lead services were installed primarily between 1940 and 1945. During this period, approximately 18,150 services were installed with various materials including lead, copper, and galvanized steel. However, lead services may have been installed from 1935 to 1950; this includes approximately 65,000 services. The District's comprehensive

review of tap records will begin this year, and all data will be entered into an electronic database. First priority for this work is focused on services installed between 1940 and 1945. Data entry, field verification, and replacement of any identified lead services within 1940-45 services (18,150 services) will take approximately 10 weeks. Data entry, field verification, and replacement of any identified lead services within all 1930-55 installations (65,000 services) will take approximately 30 weeks. Staff will continue review and updates to the full service area tap record electronic database (all 400,000 services) to be completed by July 1, 2018.

Lead Service Replacement Plan

As the District identifies lead services and plans for their replacement, staff will provide a customer outreach package to affected residents. The District is developing this outreach package, and will include information about lead, internal property plumbing inspections recommendations, free District-managed lead tap sampling before and after replacement, and District inspection of customers' external pipe materials.

Current research and experience indicate that partial lead service replacements, only the utility-owned portion, can increase lead concentrations. Therefore, the District does not plan to proceed at this time with any partial lead service replacements. If a customer's external pipe material is not lead, the District will proceed with replacement following notification of the customer and any requested lead tap sampling. If a customer's external pipe is lead, the District will work with the customer to simultaneously replace all of the lead pipes. The customer will need to fund the lead pipe replacement on their side of the meter.

The four lead services identified during the September field review will be replaced within a month after the customer outreach materials are developed. The District has confirmed that the pipe material on the customers' side of the meters is not lead. A fifth lead service failed and was replaced on October 5, 2016. The District identified the customer's portion of the service line to be copper. The District has been unable to reach the customer, and left a door hanger notifying the customer of the replacement and providing instructions to flush the household plumbing. In addition, the District offered to test the customer's water.

ARC:MJW:ss

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 6, 2016

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Michael J. Wallis, Director of Operations and Maintenance *MJW*

SUBJECT: Local Hazard Mitigation Plan

INTRODUCTION

Hazard mitigation – any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards – is part of an effective Emergency Preparedness Program. Staff has prepared an update to the District’s Local Hazard Mitigation Plan (LHMP) in accordance with the Federal Disaster Mitigation Act (FDMA) of 2000 guidelines. An LHMP provides a plan for activities that can reduce or eliminate risks from natural hazards such as fires, floods, climate change, and earthquakes. Having a completed and approved LHMP allows the District to apply for funding to implement capital improvements designed to mitigate potential impacts of natural or human-caused events. An approved LHMP also qualifies the District for a greater reimbursement amount following a declared emergency. The District’s LHMP will be discussed and public comments received at the October 11, 2016 Planning Committee meeting. Adoption of the LHMP is scheduled for Board consideration at the October 25, 2016 meeting.

SUMMARY

The District maintains an active and effective Emergency Preparedness Program, which includes an all-hazards Emergency Operations Plan and a well-trained Emergency Operations Team. In addition, the District has a history of developing and implementing proactive mitigation strategies in anticipation of natural disasters such as fires, floods, and earthquakes. The District’s \$189 million Seismic Improvement Program was a ten year program that included large projects such as the seismic retrofit of the Administration Building, upgrade of the Claremont Tunnel Hayward Fault crossing, and seismic upgrades to critical facilities.

State and local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance (e.g., Hazard Mitigation and Pre-Disaster Mitigation Grants), and funding for mitigation projects. In addition, state law limits the state’s share for any eligible financial disaster assistance to no more than 75 percent of total state eligible costs. The state will pay up to 100 percent if the local agency has adopted an LHMP in accordance with the FDMA. The FDMA outlines a process that cities, counties, and special districts can follow to develop an LHMP. In 2011, the District developed its first LHMP

as an annex to the Association of Bay Area Governments' (ABAG) plan to address District-specific vulnerabilities, facilities, and hazards. As required by the FDMA, all LHMPs must be updated at least once every five years, and ABAG is no longer organizing joint plans with multiple agencies. For 2016, the District has written a stand-alone LHMP and addressed all required components of such plans required by the Federal Emergency Management Agency (FEMA).

DISCUSSION

Since the 2011 LHMP was issued, the District has completed or begun a large number of capital projects to improve water service reliability and reduce future maintenance and repair costs. Some notable projects that the District completed or initiated in the last five years include replacement of four open cut reservoirs (Estates, Berryman, Schapiro, and Summit), the Dingee Pipeline and Claremont Center Aqueducts Replacement Project, the Orinda Water Treatment Plant Reliability and Maintenance Improvements Project, Lafayette Clearwell Replacement Project, and the Mokelumne Aqueduct Interconnection Project, Levee Improvements and Repair. These projects and other capital projects that were completed in the last five years include proactive mitigation strategies in anticipation of natural disasters.

Highlights of future capital projects that will improve water service reliability and are scheduled for design and construction in the next five years include the replacement and/or demolition of three more open cut reservoirs (South, San Pablo Clearwell, and Seneca), the Alameda Estuary Crossings Pipeline Replacement Project, the Summit Pressure Zone South Pipeline Replacement Project, Reliability and Maintenance Improvements at the Upper San Leandro and Sobrante Water Treatment Plants, and replacement of a large diameter transmission pipeline in Oakland that crosses the Hayward fault and has experienced a significant number of breaks (MacArthur/Davenport Pipeline).

Future Mitigation Actions

Future mitigation actions are being integrated into the District's Water and Wastewater Capital Improvement Programs (CIP) for the next five years, and will include capital projects discussed above. Additional grant funding will also be sought to accomplish additional work, not currently funded in the District's CIP, in order to help speed up critical improvements. A discussion of longer-term critical capital improvements needs, required to further improve the reliability of the District's water supply and distribution system, is also included in the District's draft 2016 LHMP.

Public Input

Federal regulations require that the District provide an opportunity for the public to comment on the draft plan and prior to plan approval. The plan must document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved. Consequently, the draft plan is posted at www.ebmud.com/customers/emergency-preparedness/. In addition, public input will be considered at the October 11 Planning Committee meeting.

NEXT STEPS

Staff will update the draft plan to include public input and bring it to the Board for consideration at its October 25, 2016 meeting. If approved, the District will submit the plan to the California Office of Emergency Services (Cal OES) for review. Cal OES will advise the District of any necessary changes and submit the final document to FEMA for approval.

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: October 6, 2016
MEMO TO: Board of Directors
THROUGH: Alexander R. Coate, General Manager *ARC*
FROM: Richard G. Sykes, Director of Water and Natural Resources *R Sykes*
SUBJECT: Annual Recreation Reports

INTRODUCTION

This memo provides an update on recreation activities in EBMUD's watersheds during the past year and reports on performance indicators established for recreation in applicable master plans, management plans and business plans. This update includes both Mokelumne and East Bay recreation programs. A presentation on this information will be made at the Planning Committee on October 11, 2016.

SUMMARY

EBMUD's watersheds receive nearly 2 million visitors per year. Visitation is predominantly at the developed recreation areas, with most visitors at Lafayette and Camanche reservoirs. Overall visitation in 2015 was up 8 percent in the East Bay, and down 11 percent in the Mokelumne. Cost recovery targets were met at 4 of the 6 recreation areas. Public safety and customer satisfaction Key Performance Indicators (KPIs) were above established targets at all areas. Significant activities in 2015/16 include:

- Timely management of drought impacts to recreation including contract amendments, area closures and low water launch ramp management in the Mokelumne;
- Continued work on key recreation infrastructure projects including the completion of the Camanche North Shore dock replacement and the rebuild of the Pardee Seasonal RV Park;
- The popularity of the East Bay watershed trails and recreation areas continues to increase; and
- A review and update of the 1995 East Bay Watershed Master Plan.

MOKELUMNE WATERSHED RECREATION

The Mokelumne Watershed Master Plan and subsequent management plans establish a number of KPIs for evaluating recreational services based on financial performance, public safety and customer satisfaction levels. Table 1 shows annual visitation for the Mokelumne Area recreation venues and Tables 2 through 4 show performance results based on the KPIs. All KPIs are reported by calendar year with the exception of fiscal KPIs which are reported by fiscal year.

Table 1 – Annual Visitation at Mokelumne Recreation Venues (Visitor Days)

| Location | CY 2011 | CY 2012 | CY 2013 | CY 2014 | CY 2015 |
|---------------------------------|----------------|----------------|----------------|----------------|--|
| Camanche North Shore | 202,320 | 194,689 | 193,050 | 170,525 | 147,726 13.4% decrease from CY14 |
| Camanche South Shore | 188,662 | 181,250 | 189,360 | 168,291 | 164,264 2.4% decrease from CY14 |
| Pardee Recreation Area | 92,501 | 77,611 | 71,558 | 66,769 | 48,140 27.9% decrease from CY14 |
| Mokelumne River Day Use | 38,108 | 44,889 | 58,242 | 60,753 | 53,520 11.9% decrease from CY14 |
| Camanche Hills Hunting Preserve | 10,222 | 12,252 | 12,962 | 13,262 | 12,768 3.7% decrease from CY14 |
| Watershed Trails | 6,658 | 6,783 | 7,838 | 7,761 | 7,942 2.3% increase from CY14 |
| Total | 538,471 | 517,474 | 533,010 | 487,361 | 434,360 10.9% decrease from CY14 |

Table 2 – KPI Performance: Percent Cost Recovery

| Location | Goal % Cost Recovery | Results FY 2012 | Results FY 2013 | Results FY 2014 | Results FY 2015 | Results FY2016 |
|---|----------------------|-----------------|-----------------|-----------------|-----------------|----------------|
| Pardee Recreation Management Area | 40% | 26% | 41% | 40% | 45% | 34% |
| Camanche North Shore Recreation Management Area | 45% | 64% | 66% | 66% | 67% | 54% |
| Camanche South Shore Recreation Management Area | 45% | 58% | 64% | 64% | 63% | 63% |
| Camanche Hills Hunting Preserve | 100% | 100% | 96% | 93% | 87% | 94% |

Table 3 – KPI Performance: Public Safety

| KPI | Goal | Results CY 2010 | Results CY 2011 | Results CY 2012 | Results CY 2013 | Results CY 2014 |
|---|------|---|---|---|---|---|
| Boating Accidents (# of accidents per boating day) | .01% | .014% 4 accidents 29,612 vessels | .015% 4 accidents 27,267 vessels | .019% 5 accidents 26,713 vessels | .005% 1 accident 20,461 vessels | .000% 0 accident 18,223 vessels |
| Visitor Incidents (# of visitor incidents per visitor day) | .2% | .10% 528 incidents 538,472 visitors | .07% 363 incidents 488,063 visitors | .12% 634 incidents 533,010 visitors | .06% 294 incidents 487,361 visitors | .06% 273 incidents 434,360 visitors |

Table 4 – KPI Performance: Visitor Satisfaction Survey

| Location | Goal | Results CY 2012 | Results CY 2013 | Results CY 2014 | Results CY 2015 |
|------------------------------------|------------------------------|--------------------|--------------------|--------------------|--------------------|
| Pardee Recreation Area | 80% "Good" or "Excellent" | 98% | 87% | 93% | 97% |
| Camanche North Shore | 80% "Good" or "Excellent" | 98% | 89% | 83% | 95% |
| Camanche South Shore | 80% "Good" or "Excellent" | 86% | 87% | 91% | 91% |
| Camanche Hills Hunting Preserve | 80% "Good" or "Excellent" | 100% | 100% | 99% | 100% |
| Mokelumne River Day Use | 80% "Good" or "Excellent" | N/A | 95% | 94% | 96% |
| Watershed Trails | 80% "Good" or "Excellent" | N/A | 95% | 98% | 99% |

Table 1 shows declines in visitation at all Mokelumne venues except Watershed Trails. The declines can be directly attributed to the drought conditions and resulting lower reservoir and river levels in 2015. In addition, Pardee Recreation Area was closed in July 2015 to accommodate the RV Park construction project. The park normally closes in November. Trail use is not directly impacted by these levels, and consequently it continued its general upward trend. Overall, cost recovery figures were down in FY16 due to lower visitation and some higher operating costs to manage drought and associated water quality issues. Safety and customer satisfaction were both outstanding for 2015.

In 2015/16, a number of significant infrastructure projects progressed to completion:

- The 40+ year-old dock at Camanche North Shore was removed and a new dock was constructed and opened to the public in January 2016;
- The Pardee RV Park construction was completed in late summer 2016 ;

- A grant-funded vessel decontamination station was installed at Camanche South Shore to ensure that boats are free of invasive aquatic species prior to launching at Pardee and Camanche reservoirs; and
- A new irrigation system designed with an emphasis on water conservation was installed at the Camanche North Shore Mobile Home Park.

These projects help to ensure a safe and enjoyable experience for our recreational guests by supporting the District's Strategic Plan goals of Long-Term Water Supply, Water Quality & Environmental Protection and Long-Term Infrastructure Investment.

EAST BAY WATERSHED RECREATION

KPIs have been established for evaluating recreational services based on financial performance, public safety and customer satisfaction levels. Table 5 shows annual visitation for the East Bay Recreation Area venues and Tables 6 through 9 show performance results based on the KPIs.

Table 5 – Recreation Visitation at East Bay Recreation Venues (Visitor Days)

| Location | CY2011 | CY 2012 | CY 2013 | CY 2014 | CY 2015 |
|---------------------------|------------------|------------------|------------------|------------------|---|
| Lafayette Recreation Area | *950,000 | 940,960 | 907,000 | 1,020,616 | 1,106,994 8.5% increase over CY14 |
| San Pablo Recreation Area | 85,500 | 127,351 | 130,941 | 143,045 | 153,045 7% increase over CY14 |
| East Bay Trails | 44,020 | 47,720 | 52,160 | 57,133 | 68,300 19.5% increase over CY14 |
| Total | 1,079,520 | 1,079,520 | 1,116,031 | 1,220,794 | 1,328,339 8.8% increase over CY14 |

*Estimated value – annual pass automated gate malfunction for approximately 45 days.

Table 7 – KPI Performance: Percent Cost Recovery

| Location | Goal (% Cost Recovery) | Results FY2013 | Results FY2014 | Results FY2015 | Results FY 2016 |
|--------------------------------------|------------------------|----------------|----------------|----------------|-----------------|
| Lafayette Recreation Management Area | 65% | 78% | 84% | 82% | 79% |
| San Pablo Recreation Management Area | 40% | *N/A | *N/A | 54% | 57% |

*Final data not available at this time.

Table 8 – KPI Performance: Public Safety

| KPI | Goal | Results CY 2013 | Results CY 2014 | Results CY 2015 |
|--|------|---|---|---|
| Visitor Incidents (number of documented visitor incidents per visitor day) | .2% | .02% 278 incidents 1,116,031 visitors | .02% 281 incidents 1,220,794 visitors | .03% 403 incidents 1,328,339 visitors |

Table 9 – KPI Performance: Visitor Satisfaction Surveys

| Location | Goal | Results CY 2014 | Results CY 2015 |
|-------------------------------|---------------------------------|-----------------|-----------------|
| All East Bay Recreation Areas | 80% “Good” or “Excellent” | 94% | 100% |

Opportunities to explore and enjoy nature continue to attract visitors to the East Bay reservoirs and watershed trails. Visitation at San Pablo Recreation Area increased 7 percent, Lafayette 9 percent, and 20 percent on the watershed trail system. Special events including trail races, rowing events at the reservoirs and summer camps continue to attract visitors by the thousands. Cost recovery at Lafayette and San Pablo Recreation Areas remains well above target levels. Recreation safety in the East Bay continues to be very good. There were no major accidents or reported public safety related events in 2015. All customer satisfaction surveys in 2015 showed a rating of “Good” or “Excellent”.

NEXT STEPS

For 2016, staff will focus on ensuring success at the renovated Pardee RV Park as it becomes reoccupied. We will also complete the RFP process to select a new Pardee Recreation Area concessionaire. In the East Bay, staff will complete the replacement of the potable water storage tank at the San Pablo Recreation Area. Maintenance, including resurfacing paved hiking trails, sewer force main and self-contained restroom facilities replacement at Lafayette Reservoir will

continue in FY17. Additionally, an updated and improved East Bay trail system map is in progress. The map will show all of EBMUD's trails plus linkages to adjacent and interconnecting trails like those of the East Bay Regional Park District. Finally, following Board and public input, the East Bay Watershed Master Plan update is expected to be completed.

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