JANUARY 2022

EAST BAY PLAIN SUBBASIN GROUNDWATER SUSTAINABILITY PLAN APPENDIX 1

PREPARED FOR

East Bay Municipal Utility District GSA and
City of Hayward GSA

PREPARED BY

Luhdorff & Scalmanini Consulting Engineers
Geosyntec
Brown and Caldwell
Environmental Science Associates
Dr. Jean Moran
Farallon Geographics

APPENDIX 1. INTRODUCTION

APPENDIX 1. INTRODUCTION

1.A. East Bay Municipal Utility District's Groundwater Sustainability Agency Formation Notice

EAST BAY
MUNICIPAL UTILITY DISTRICT

By U.S. Mail and Email *(Mark.Nordberg@water.ca.gov, Bill.Brewster@water.ca.gov)*

August 15, 2016

Mark Nordberg, GSA Project Manager
Sustainable Groundwater Management Program
California Department of Water Resources
901 P Street, Room 213-B
P.O. Box 942836
Sacramento, CA 94236

Bill Brewster, Sr. Engineering Geologist
California Department of Water Resources
3500 Industrial Boulevard
West Sacramento, CA 95691

RE: Application to Serve as Groundwater Sustainability Agency for a Portion of the East Bay Plain Subbasin (Basin No. 2-9.04)

Dear Mr. Nordberg and Mr. Brewster:

This letter serves as notice that East Bay Municipal Utility District (EBMUD) intends to be the Groundwater Sustainability Agency (GSA) for a portion of the East Bay Plain Groundwater Subbasin (East Bay Plain), Basin No. 2-9.04.

EBMUD is public agency formed under the Municipal Utility District Act. It provides water service to 1.4 million customers in Alameda County and Contra Costa County. On August 9, 2016, EBMUD's Board of Directors elected to become the GSA for the portion of the East Bay Plain located within EBMUD's service area. Attached to this letter as Exhibit A is a map showing the EBMUD's service area boundaries, the boundaries of the East Bay Plain, and the portion of the East Bay Plain for which EBMUD intends to serve as the GSA. A GIS file is enclosed with this letter on a CD-ROM and will also be sent to you by email.

In late July, EBMUD published public hearing notices in newspapers of general circulation in Alameda County and Contra Costa County, as required Government Code section 6066. The public hearing was held on August 9, 2016 during EBMUD's regular board meeting, as required by Water Code section 10723(b). Proof of publication is attached to this letter as Exhibit B. The Board agenda that noticed the public hearing is attached as Exhibit C. Following the public hearing, EBMUD's Board of Directors adopted a resolution electing to become the GSA for the entire portion of the GSA that underlies EBMUD's service area and to undertake sustainable groundwater management within that area. A copy of the signed resolution is attached as Exhibit D. EBMUD has not adopted any related bylaws, ordinances, or new authorities.

EBMUD will consider the interests of all beneficial uses and users of groundwater and other interested parties within the East Bay Plain. Exhibit E lists the interested parties identified by EBMUD and, as applicable, explains how their interests will be considered in the development and operation of the GSA and the forthcoming Groundwater Sustainability Plan. As the GSA, EBMUD will work to establish contact with persons interested in receiving notices of its East Bay Plain activities, as required in Water Code Section 10723.4.

EBMUD representatives met with other local agencies that overlie the East Bay Plain before deciding to become a GSA. To the best of EBMUD's knowledge, no other agency has applied or intends to serve as GSA for the portion of the East Bay Plain covered by this application. However, EBMUD intends to coordinate with those agencies when undertaking its GSA responsibilities.

Please contact me at (510) 287-1303 if you have any questions regarding this application.

Sincerely,

Thomas B. Francis
Senior Civil Engineer

Attached: Exhibits A through E

Enclosure: CD-ROM (GIS shapefile)

EXHIBIT A

PROPOSED AREA OF THE EAST BAY PLAIN GROUNDWATER BASIN FOR WHICH EAST BAY MUNICIPAL UTILITY DISTRICT SHALL SERVE AS THE GROUNDWATER SUSTAINABILITY AGENCY

PROPOSED GSA COVERAGE AREA

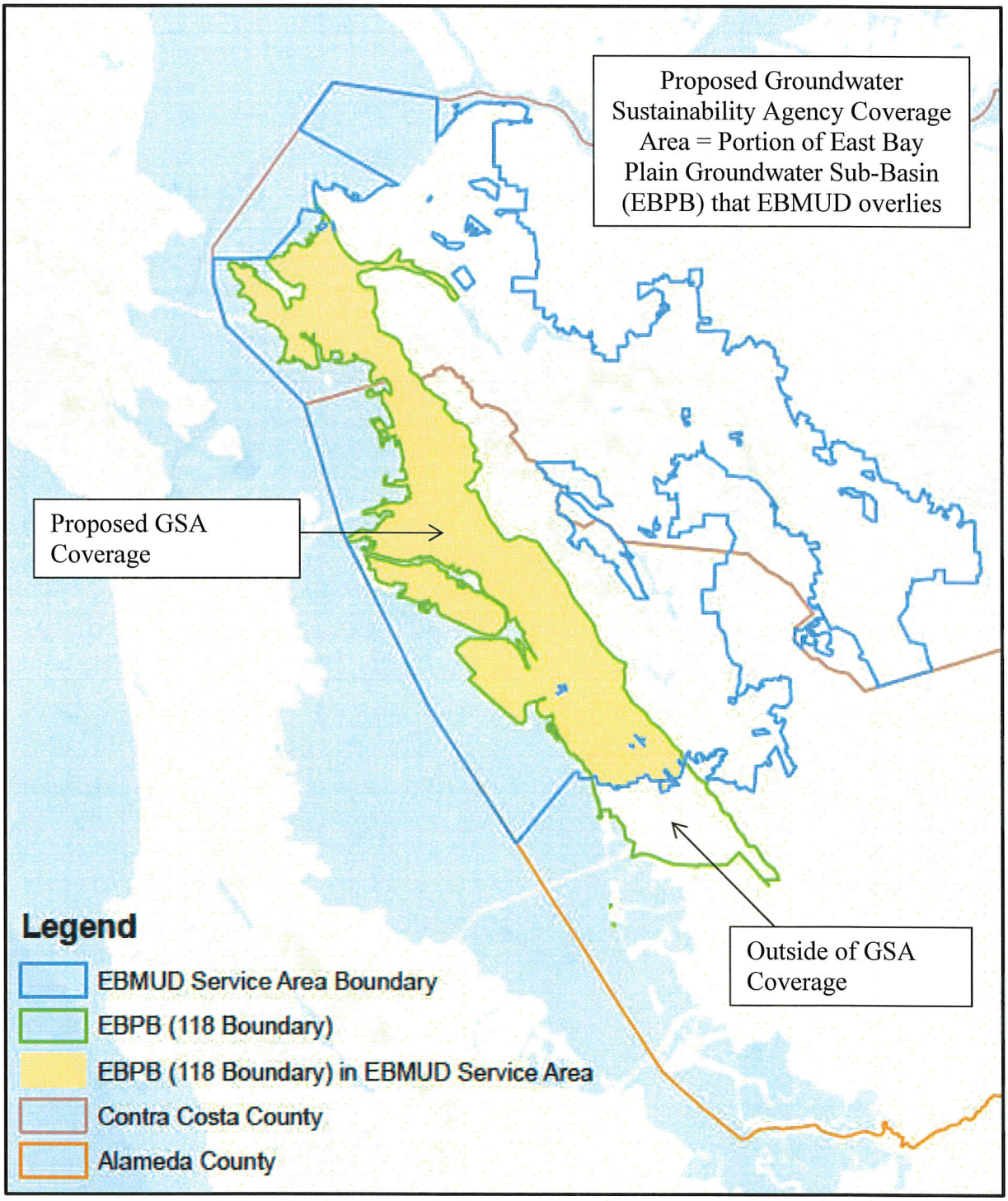

EXHIBIT B

PROOF OF ADVERTISEMENT

Exhibit B
Proof of Advertisement

A Public Notice was placed in local newspapers regarding the Public Hearing.

Publications:

- Oakland Tribune
- West County Times

Dates Published:

- July 22, 2016
- July 29, 2016

Notice Published:

NOTICE OF PUBLIC HEARING TO CONSIDER BECOMING A GROUNDWATER SUSTAINABILITY AGENCY

NOTICE IS HEREBY GIVEN that the Board of Directors of the East Bay Municipal Utility District (EBMUD) will hold a public hearing on Tuesday, August 9, 2016 at 1:15 p.m., in the boardroom of EBMUD's Administration Building, 375 Eleventh Street, Oakland, California, to receive comments from interested members of the public before deciding whether EBMUD should become the Groundwater Sustainability Agency for a portion of the groundwater basin known as the East Bay Plain Subbasin, which lies beneath western Contra Costa and Alameda Counties.

EBMUD is a public agency that supplies water to approximately 1.4 million customers in Alameda County and Contra Costa County. A new state law known as the Sustainable Groundwater Management Act requires that Groundwater Sustainability Agencies be created to sustainably manage certain California groundwater basins, including the East Bay Plain Subbasin. EBMUD is considering whether to become the Groundwater Sustainability Agency for the portion of the East Bay Plain Subbasin located within its existing water service area. The new law provides various authorities to Groundwater Sustainability Agencies to promote sustainable groundwater management, including the ability to meter wells, fund and implement groundwater management projects, and restrict or allocate pumping.

Public comments will be received during the public hearing on August 9, 2016. EBMUD's Board of Directors may decide whether to become a Groundwater Sustainability Agency immediately after the public hearing closes. For more information about EBMUD or to learn more about its water management efforts, visit www.ebmud.com or contact Thomas Francis at (510) 287-1303.

Lynelle M. Lewis
Secretary of the District
Dated: July 22 and 29, 2016

Oakland Tribune
1970 Broadway, Suite 100
Oakland, CA 94612
510-723-2850

3490260

EBMUD
PUBLIC AFFAIRS OFFICE/ANDREA POOK
PO BOX 24055 MS#802
OAKLAND, CA 94623

PROOF OF PUBLICATION

FILE NO. GSA Formation OGC 8/9/16

In the matter of

Oakland Tribune

The Oakland Tribune

I am a citizen of the United States; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the Legal Advertising Clerk of the printer and publisher of The Oakland Tribune, a newspaper published in the English language in the City of Oakland, County of Alameda, State of California.

I declare that The Oakland Tribune is a newspaper of general circulation as defined by the laws of the State of California as determined by this court's order, dated December 6, 1951, in the action entitled In the Matter of the Ascertainment and Establishment of the Standing of The Oakland Tribune as a Newspaper of General Circulation, Case Number 237798. Said order states that "The Oakland Tribune is a newspaper of general circulation within the City of Oakland, and the County of Alameda, and the State of California, within the meaning and intent of Chapter 1, Division 7, Title 1 [§§ 6000 et seq.], of the Government Code of the State of California." Said order has not been revoked, vacated, or set aside.

I declare that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

07/22/2016, 07/29/2016

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated: August 10, 2016

Public Notice Advertising Clerk

Legal No. **0005777200**

NOTICE OF PUBLIC HEARING TO CONSIDER BECOMING A GROUNDWATER SUSTAINABILITY AGENCY

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Lynelle M. Lewis
Secretary of the District
Dated: July 22 and 29, 2016

OT #5777200; Jul. 22, 29, 2016

West County Times
1050 Marina Way S.
Richmond, CA 94804
(510) 262-2740

3490260

EBMUD
PUBLIC AFFAIRS OFFICE/ANDREA POOK
PO BOX 24055 MS#802
OAKLAND, CA 94623

PROOF OF PUBLICATION

FILE NO. GSA Formation OGC 8/9/16

In the matter of

West County Times

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter.

I am the Principal Legal Clerk of the West County Times, a newspaper of general circulation, printed and published at 2640 Shadelands Drive in the City of Walnut Creek, County of Contra Costa, 94598

And which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Contra Costa, State of California, under the date of August 29, 1978. Case Number 188884.

The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

07/22/2016, 07/29/2016

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Executed at Walnut Creek, California.
On this 29th day of July, 2016.

Signature

Legal No. **0005777209**

NOTICE OF PUBLIC HEARING TO CONSIDER BECOMING A GROUNDWATER SUSTAINABILITY AGENCY

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Lynelle M. Lewis
Secretary of the District
Dated: July 22 and 29, 2016
WCT #5777209; Jul. 22, 29, 2016

EXHIBIT C

PUBLIC HEARING DOCUMENTATION

EBMUD Board Agenda

Board Meeting of August 9, 2016

GSA Hearing = Agenda Item #13

BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT

375 - 11th Street, Oakland, CA 94607 Office of the Secretary: (510) 287-0440

AGENDA
Tuesday, August 9, 2016

REGULAR CLOSED SESSION
11:00 a.m., Board Room

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.

EMERGENCY NOTIFICATION SYSTEM/MARCONI BRIEFING:

- Presentation on Emergency Notification System/Marconi

ANNOUNCEMENT OF CLOSED SESSION AGENDA:

1. Existing litigation pursuant to Government Code section 54956.9(d)(1):

    a. Water rights hearing on *Petition Requesting Changes in Water Rights of the Department of Water Resources and U.S. Bureau of Reclamation for the California WaterFix Project* California State Water Resources Control Board

2. Significant exposure to litigation pursuant to Government Code section 54956.9(d)(2):

    a. Cellular Concrete Spill in the Rockridge Branch of Glen Echo Creek

    b. One matter.

(The Board will hold Closed Session in Conference Room 8A/B)

REGULAR BUSINESS MEETING
1:15 p.m., Board Room

ROLL CALL:

BOARD OF DIRECTORS:

- Pledge of Allegiance

ANNOUNCEMENTS FROM CLOSED SESSION:

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.

CONSENT CALENDAR: (Single motion and vote approving 12 recommendations, including 2 resolutions.)

1. Approve the Regular Meeting Minutes of July 26, 2016.

2. File correspondence with the Board.

3. Authorize an agreement with the City of San Ramon in an amount not to exceed $152,200 for paving work in support of the San Ramon Valley Recycled Water Project - Bishop Ranch Pipeline Specification 2100.

4. Authorize an agreement beginning on or after August 10, 2016 with CDM Smith, Inc. in an amount not to exceed $275,000 for a safety audit of the District's water treatment plant chemical systems.

5. Authorize renewal of an existing agreement with Dynamic Systems, Inc. for one year beginning on or after August 28, 2016 in an amount not to exceed $85,000 for Oracle Premier Support for Systems with two options to renew for an additional one-year period with three percent annual increases, for a total cost not to exceed $263,000.

6. Authorize an agreement beginning on or after August 9, 2016 with Engineering/Remediation Resources Group, Inc. in an amount not to exceed $145,000 to provide surface fault rupture study consulting services to support the Bayfair Pumping Plant Replacement Project.

7. Authorize an agreement beginning on or after August 10, 2016 with GEMS Environmental Management Services, Inc. in an amount not to exceed $169,009 for the purchase and installation of replacement fuel dispensers at South Area Service Center and Castenada Service Center.

8. Authorize an agreement beginning on or after August 10, 2016 with Stillwater Sciences in an amount not to exceed $356,900 for the San Pablo Reservoir Water Quality Improvements Project.

9. Authorize execution of an additional six-month extension of the current five-year Joint Exercise of Powers Agreement with the City of Alameda for continued operation and maintenance of the Alameda Point water system from September 30, 2016 to March 31, 2017.

10. Authorize the execution of a Memorandum of Understanding with Zone 7 Water Agency (Zone 7) agreeing that Zone 7 shall serve as the Groundwater Sustainability Agency under the Sustainable Groundwater Management Act for the Livermore Valley Groundwater Basin, including the portion of the basin within the EBMUD service area.

11. Fix the ad valorem tax rate for Special District No. 1 (SD-1) to cover debt service, delinquencies, and county administrative fees in the amount of $2,744,941 on Wastewater System General Obligation Bond Series G for FY17 at a rate of $0.0028 per $100 of assessed value for properties located within the service area of SD-1. (Resolution)

12. Change the character of the position of Manager of Employee Relations from Civil Service to Civil Service Exempt. (Resolution)

PUBLIC HEARING:

13. Conduct a public hearing to receive public comments regarding the District's intent to serve as the Groundwater Sustainability Agency for the portion of the East Bay Plain Groundwater Subbasin within the District's service area.

DETERMINATION AND DISCUSSION:

14. Adopt a Resolution declaring the District's intent to serve as the Groundwater Sustainability Agency for the portion of the East Bay Plain Groundwater Subbasin within the District's service area. (Resolution)

15. Legislative Update:
    - Receive Legislative Report No. 10-16 and consider a position on AB 2549 (Committee on Water, Parks and Wildlife) Public Resources
    - Update on Legislative Issues of Interest to EBMUD

16. Amend Resolution No. 33041-97, "Establishing Attendance Requirements for Director Salaries," to set the definition of attendance. (Resolution)

17. General Manager's Report:
    - 2014-2016 Drought Report
    - Monthly Report – July 2016

REPORTS AND DIRECTOR COMMENTS:

18. Committee Reports:
    - EBMUD/EBRPD Liaison Committee
    - Sustainability/Energy
    - Finance/Administration
    - Planning
    - Legislative/Human Resources

19. Other Items for Future Consideration.

20. Director Comments.

ADJOURNMENT:

The next Regular Meeting of the Board of Directors will be held at 1:15 p.m. on Tuesday, September 13, 2016 in the Administration Center Board Room, 375 Eleventh Street, Oakland, California.

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.

BOARD CALENDAR

Date	Meeting	Time/Location	Topics
Tuesday, August 9	**Planning Committee** Linney {Chair}, McIntosh, Young	10:00 a.m. Training Resource Center	• Customer Lead Tap Sampling Program • Main Wastewater Treatment Plant Odor Control Program Update
	Legislative/Human Resources Committee Patterson {Chair}, Coleman, Young	10:30 a.m. Training Resource Center	• Legislative Update • Change of Character for Manager of Employee Relations Position
	Board of Directors	11:00 a.m. 1:15 p.m.	• Closed Session • Regular Meeting
Tuesday, August 23	**Finance/Administration Committee** Coleman {Chair}, Katz, Patterson		*Cancelled*
	Board of Directors		*Cancelled*
Monday, September 5	**Labor Day**		*District Offices Closed*
Friday, September 9	**Admission Day**		*District Offices Closed*
Tuesday, September 13	**Planning Committee** Linney {Chair}, McIntosh, Young	9:15 a.m. Training Resource Center	
	Legislative/Human Resources Committee Patterson {Chair}, Coleman, Young	10:15 a.m. Training Resource Center	
	Board of Directors	11:00 a.m. 1:15 p.m.	• Closed Session • Regular Meeting
Tuesday, September 27	**Finance/Administration Committee** Coleman {Chair}, Katz, Patterson	10:00 a.m. Training Resource Center	
	Board of Directors	11:00 a.m. 1:15 p.m.	• Closed Session • Regular Meeting

EXHIBIT D

RESOLUTION ELECTING TO BECOME THE GROUNDWATER SUSTAINABILIITY AGENCY FOR THE EAST BAY PLAIN GROUNDWATER BASIN

RESOLUTION NO. 34099-16

A RESOLUTION TO BECOME THE GROUNDWATER SUSTAINABILITY AGENCY FOR THE EAST BAY PLAIN SUBBASIN OF THE SANTA CLARA VALLEY BASIN WITHIN THE EAST BAY MUNICIPAL UTILITY DISTRICT'S SERVICE AREA

Introduced by Director McIntosh ; Seconded by Director Linney

WHEREAS, the East Bay Municipal Utility District ("District") is a public agency formed under the Municipal Utility District Act that provides water service to approximately 1.4 million customers in Alameda County and Contra Costa County; and

WHEREAS, the comprehensive groundwater legislation referred to as the Sustainable Groundwater Management Act ("SGMA") was signed into law on September 16, 2014, with an effective date of January 1, 2015, and is codified at Water Code section 10720 *et seq.*; and

WHEREAS, the stated purpose of SGMA is to provide for the sustainable management of groundwater basins and subbasins at a local level by providing local agencies, including agencies with water supply responsibilities, the legal authority and technical and financial assistance necessary to sustainably manage groundwater; and

WHEREAS, SGMA further provides for and anticipates that eligible local agencies overlying basins or subbasins that are designated by the California Department of Water Resources ("DWR") as "high priority" or "medium priority" will form Groundwater Sustainability Agencies ("GSAs") for the purpose of achieving groundwater sustainability through the adoption and implementation of Groundwater Sustainability Plans; and

WHEREAS, the East Bay Plain Subbasin of the Santa Clara Valley Basin ("East Bay Plain") has been designated by DWR as a medium priority subbasin; and

WHEREAS, the District currently exercises water supply and water management responsibilities within its service area, which service area overlies the majority of the East Bay Plain; and

WHEREAS, the District's expertise in water resources management renders it well-suited to serve as the GSA for the portion of the East Bay Plain within its service area; and

WHEREAS, the District has had ongoing close coordination with local agencies that overlie the East Bay Plain; and

WHEREAS, as required by Water Code section 10723(b), a notice of public hearing to consider this decision to become a GSA was published pursuant to Government Code section 6066, and the Board of Directors held the noticed public hearing before adopting this Resolution;

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the East Bay Municipal Utility District does hereby find and determine as follows:

1. The District hereby elects to become the GSA for the entire portion of the East Bay Plain that underlies the District's service area and to undertake sustainable groundwater management within that area.

2. The District intends to provide broad opportunity for public involvement in the ongoing management of groundwater in the East Bay Plain.

3. The District will continue to coordinate with other local agencies that overlie the East Bay Plain and with other groundwater management entities that elect to be the GSA for neighboring groundwater basins or subbasins.

4. The decision to become a GSA is not a "Project" pursuant to Public Resources Code section 21065 and therefore is not subject to the requirements of the California Environmental Quality Act. (See Title 14, Cal. Code Regs. § 15378(b)(5).)

5. Staff is directed to prepare notification of the District's decision to become a GSA and to submit that notification, and all supporting documentation, to DWR in accordance with Water Code section 10723.8(a).

6. The Secretary of the District is directed to file a Notice of Exemption with the County Clerks of Alameda County and Contra Costa County, in accordance with the law.

ADOPTED this 9th day of August, 2016 by the following vote:

AYES: **Directors Coleman, Katz, Linney, McIntosh, Patterson, Young and President Mellon.**

NOES: **None.**

ABSENT: **None.**

ABSTAIN: **None.**

Frank Mellon
President

ATTEST:

Lynelle M. Lewis
Secretary

APPROVED AS TO FORM AND PROCEDURE:

Craig S. Spencer
General Counsel

EXHIBIT E

LIST OF INTERESTED PARTIES
AS IT RELATES TO THE PORTION OF
THE EAST BAY PLAIN GROUNDWATER BASIN WHICH
EAST BAY MUNICIPAL UTILITY DISTRICT WISHES TO SERVE AS
THE GROUNDWATER SUSTAINABILITY AGENCY

EXHIBIT E

CONSIDERATION OF INTERESTS OF INTERESTED PARTIES

Pursuant to Water Code Section 10723.2: a groundwater sustainability agency (GSA) shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans (GSPs). The list of interested parties presented below was developed during the current GSA formation process. The interests of the agencies, organizations, and individuals identified below shall be considered during the development of the GSP.

(a) Holders of overlying groundwater rights, including:

(1) Agricultural users:

- None known in the GSA filing area

Land located within the proposed GSA boundary consists primarily of urban / residential, commercial and industrial areas and is not known to be used for agricultural purposes.

(2) Domestic well owners:

Southern portion of the GSA area:

- City of Alameda
- Metropolitan Golf Course, Oakland
- San Leandro Unified School District

Northern portion of the GSA area:

- City of San Pablo
- Salesian High School, San Pablo
- Contra Costa Community College District, San Pablo
- St. Joseph's Cemetery, San Pablo
- Richmond Country Club, Richmond

The above list contains all significant or potentially significant domestic groundwater wells known to EBMUD. There may be additional domestic well owners located within the GSA boundary. For example, EBMUD is aware that there historically are "backyard" wells that have been used for landscaping within the proposed GSA area over the years. However, those backyard wells are uncommon in the area, and their owners use them extract a relatively small amount of groundwater. As the GSA, EBMUD, with the assistance of stakeholder local agencies, will develop and maintain a list of well owners, including any known or identified backyard well owners, with contact information.

(b) Municipal well operators:

- EBMUD

EBMUD is the sole supplier of municipal drinking water within the proposed GSA coverage area. Further, EBMUD is the owner/operator of the Bayside Groundwater Project's injection / extraction well. This comprises the extent of municipal well operators located within the proposed GSA boundary. As the GSA, EBMUD will maintain a list of municipal well operators with contact information.

(c) Public water systems:

- EBMUD
- The Alameda Point portion of the City of Alameda
  - Under a Joint Exercise of Powers Agreement between EBMUD and the City of Alameda, Alameda Point's (formerly the Alameda Naval Air Station's) water distribution facilities are defined as the property of the City of Alameda. EBMUD is to provide labor, services, materials and equipment necessary to operate and maintain the water distribution facilities. EBMUD is responsible for supplying water for distribution within Alameda Point.

EBMUD is the sole supplier of municipal drinking water located partially or fully within the GSA boundary. As the GSA, EBMUD will continue maintaining a list of municipal well operators with contact information.

(d) Local land use planning agencies:

- Contra Costa County
- Alameda County
- City of San Pablo
- City of Richmond
- City of El Cerrito
- City of Albany
- City of Berkeley
- City of Emeryville
- City of Piedmont
- City of Oakland
- City of Alameda
- City of San Leandro

EBMUD will continue to maintain a list of local land use planning agencies and keep updated contact information. Note that there are also unincorporated communities that fall within the GSA boundary (El Sobrante, Kensington, and San Lorenzo). The respective Counties exercise land use authority within those unincorporated areas.

(e) Environmental Users of Groundwater:

- None known

If EBMUD becomes aware of environmental users of groundwater, it will maintain a list with updated contact information.

(f) Surface water users, if there is a hydrologic connection between surface and groundwater bodies:

- None known

This is not applicable for this GSA area. EBMUD is not aware of significant surface water diversions within the GSA area.

(g) The federal government, including, but not limited to, the military and managers of federal lands:

There are miscellaneous small federally owned parcels located within the proposed GSA coverage area. However, EBMUD is not aware of any groundwater use by those facilities. If in the future such use is discovered, the respective arm of the federal government that operates a particular facility will be included as an interested party.

(h) California Native American Tribes:

The Lytton Band of Pomo Indians owns land and operates Casino San Pablo. The Casino property is considered their reservation. Refer to Attachment 1 to this Exhibit E for contact information. EBMUD will include the Band as an interested party. EBMUD will work with the local land use agency (the City of San Pablo) to conduct required outreach to the Band.

(i) Disadvantaged communities, including, but not limited to, those served by private domestic wells or small community water systems:

There are several disadvantaged communities located within the proposed GSA (see the map provided as Attachment 2 to this Exhibit E). These disadvantaged communities are not served by private domestic wells or small community water systems. If in the future such a service interest is proposed and/or discovered, they will be included as an interested party.

(j) Entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the groundwater sustainability agency:

EBMUD is the sole authorized CASGEM monitoring entity for the East Bay Plain and as such is the only entity that reports the groundwater elevations under the CASGEM program.

Attachment 1 to Exhibit E

Referenced from the 2013 Bay Area Integrated Regional Water Management Plan, Appendix E-9.

Native American Tribes of the Bay Area

The following represents the Native American Tribes of the San Francisco Bay Area. Because of the boundaries of the Bay Area IRWMP jurisdiction, the tribes fall outside of the boundaries, with one significant exception – the Casino San Pablo in the East Bay, whose land and operations are owned and managed by the Lytton Band of Pomo Indians.

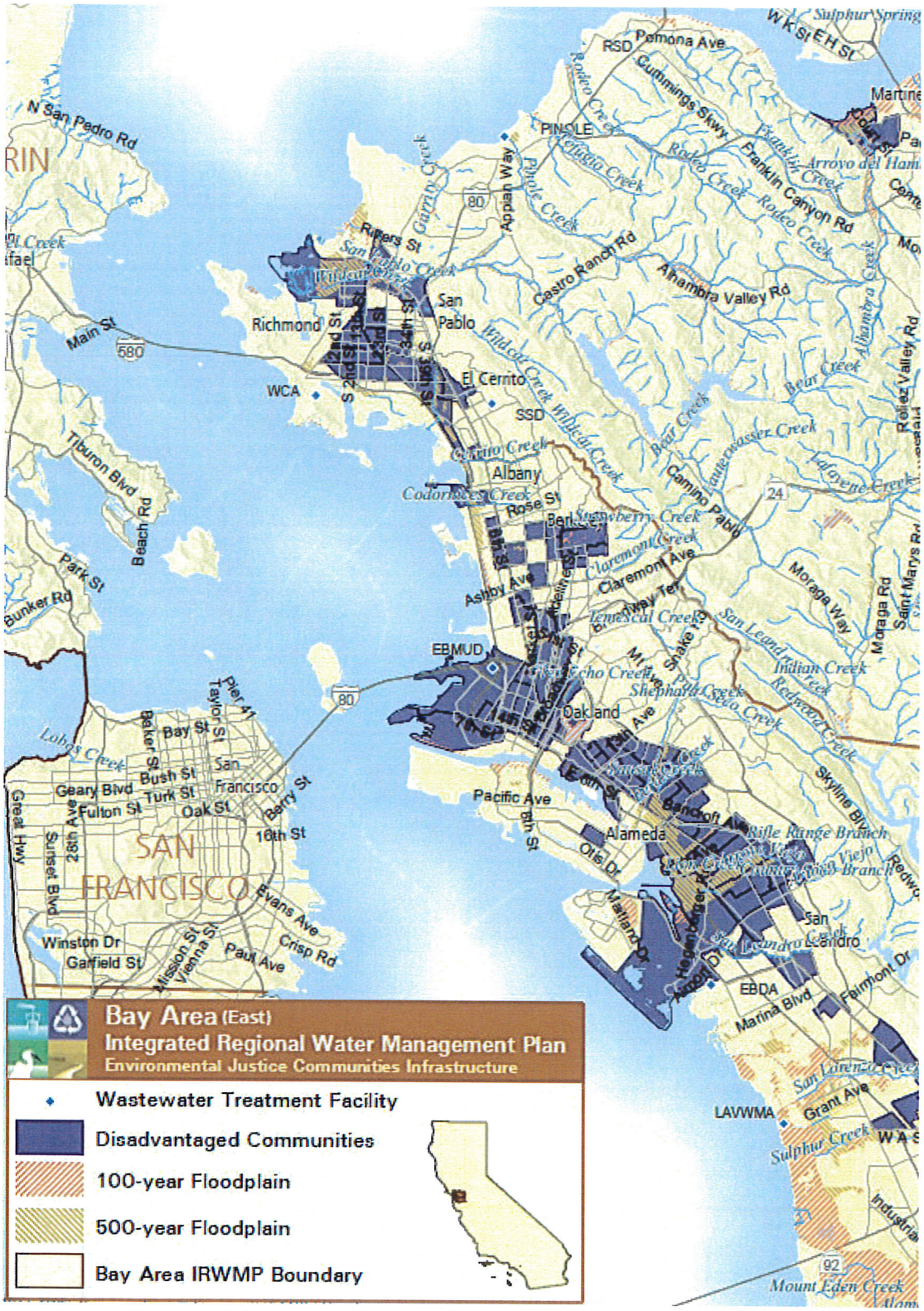
Sources: Chuck Striplen, San Francisco Estuary Institute; Karen Gaffney, North Coast IRWMP; Brian Campbell, EBMUD; tribal websites; DWR Water Plan

Location/population, contacts, IRWMP jurisdiction, issues, potential for IRWMP projects

Tribe	Tribal Lands/ Population	Contact Info	Jurisdiction	Issues/Capacity	Project Potential/ Partner
Lytton Band of Pomo Indians	Healdsburg. About 200-300 enrollees. Casino San Pablo in San Pablo is their reservation. They own 50 acres in Windsor and have wanted to develop it against local opposition.	Marjorie Mejia, Chairperson Lisa Miller, Tribal Administrator 1300 North Dutton Avenue Suite A Santa Rosa, CA 95401-7108	Primarily North Coast IRWMP per Karen Gaffney except for Casino San Pablo in Bay Area IRWMP		Casino San Pablo in San Pablo adjacent to a creek near the Bay.

Attachment 2 to Exhibit E

Referenced from the 2013 Bay Area Integrated Regional Water Management Plan, Appendix E-8.



APPENDIX 1. INTRODUCTION

1.B. City of Hayward's Groundwater Sustainability Agency Formation Notice

HAYWARD

February 28, 2017

Mr. Mark Norberg, GSA Project Manager
Mr. Bill Brewster, Senior Engineering Geologist
Sustainable Groundwater Management Program
California Department of Water Resources
901 P Street, Room 213-B
P.O. Box 942836
Sacramento, CA 94236

Subject: Application to Serve as Groundwater Sustainability Agency for the Portion of the East Bay Plain Subbasin (Basin No. 2-9.04) Located Within the City of Hayward Corporate Boundaries

Dear Mr. Norberg and Mr. Brewster:

This letter serves as notice that the City of Hayward intends to serve as the Groundwater Sustainability Agency (GSA), as defined in the Sustainable Groundwater Management Act (SGMA), for the portion of the East Bay Plain Groundwater Subbasin (East Bay Plain), Basin No. 2-9.04, that is located within the City's corporate boundaries.

The City of Hayward is a municipal corporation, with land use and water service authority within its boundaries. On February 7, 2017, the Hayward City Council elected to become the GSA for the above-referenced section of the East Bay Plain.

Attached to this letter, as Exhibit A, is a map showing the Hayward city limit boundaries, the boundaries of the East Bay Plain based on the 2016 interim update to Bulletin 118 , and the portion of the East Bay Plain for which Hayward intends to serve as the GSA. The GIS files for Hayward's city limit boundaries and proposed GSA coverage have also been provided electronically.

The following exhibits are provided pursuant to Water Code Section 10723.8 regarding GSA formation:

Exhibit A	A map showing the Hayward city limits, the East Bay Plain boundaries, and the portion of the East Bay Plain for which Hayward intends to serve as GSA. City limit and proposed GSA boundaries are also provided as a shape file.
Exhibit B	Proof of publication of public hearing notice. The City published notices in the newspaper of greatest circulation in Hayward, as required in Government Code Section 6066. The notice was published twice, on January 20, 2017 and January 27, 2017.

Utilities & Environmental Services Department 777 B Street, Hayward, CA 94541
T 510.583.4700 TTD 510.247.3340 F 510.583.3610 www.hayward-ca.gov

Exhibit C	Confirmation of the public hearing. The public hearing was conducted on February 7, 2017. The attached action minutes for the meeting document the action taken by the Council.
Exhibit D	Resolution No. 17-014, adopted by the City Council following the public hearing. Hayward has not adopted any related bylaws, ordinances or new authorities.
Exhibit E	List of interested parties identified by the City of Hayward. The City will consider the interests of all beneficial users and other interested parties. This exhibit lists the interested parties and, as applicable, explains how their interests will be considered in the development of the GSA and the forthcoming Groundwater Sustainability Plan.

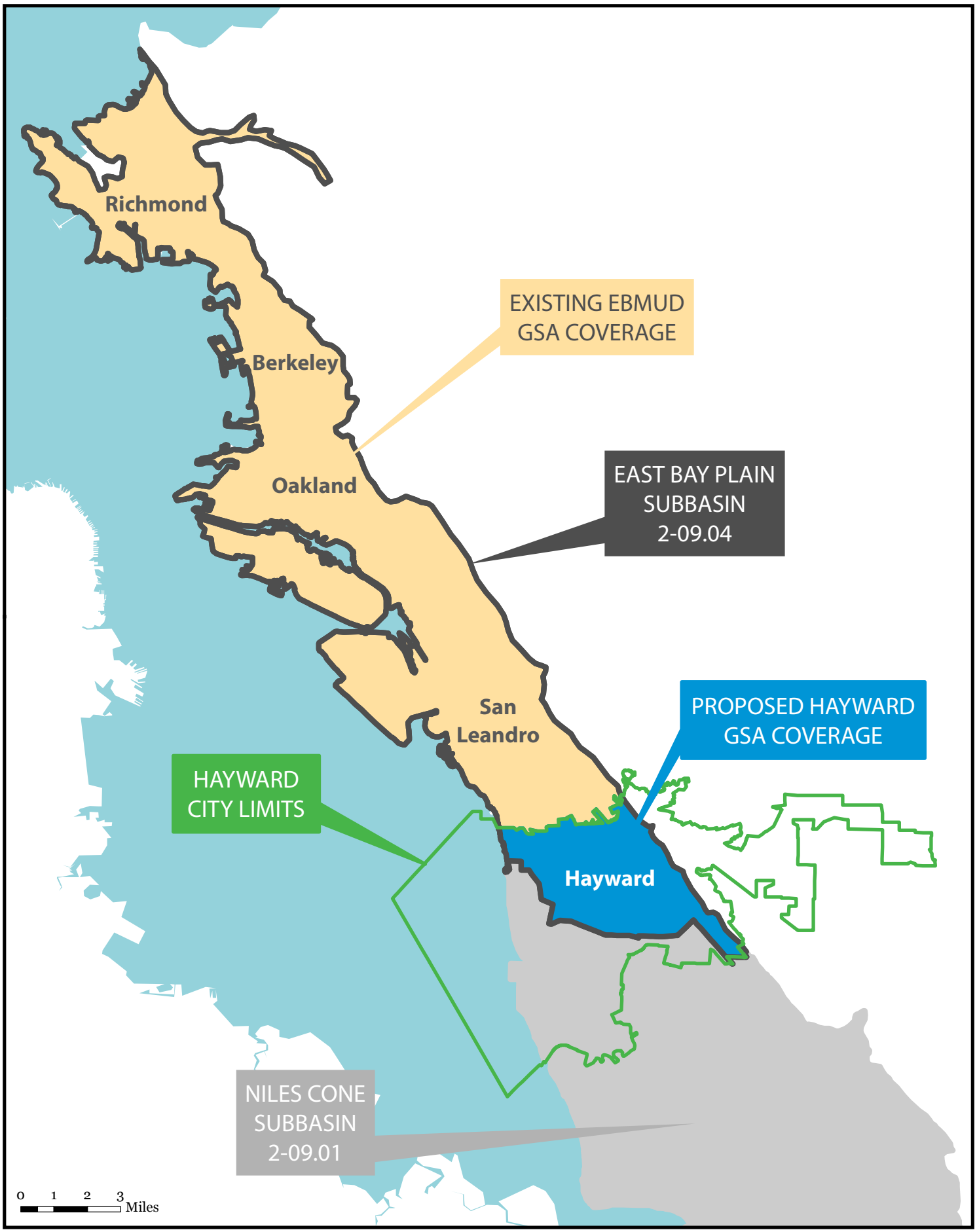
Please contact Jan Lee, Water Resources Manager, at (510) 583-4701, or by email at jan.lee@hayward-ca.gov, if you have questions regarding this application.

Sincerely,

Alex Ameri
Director of Utilities & Environmental Services

Attachments: Exhibit A - GSA Boundary Map
Exhibit B - Proof of Publication of Public Hearing Notice
Exhibit C - Proof of Public Hearing
Exhibit D - Resolution
Exhibit E - List of Interested Parties

City of Hayward — Proposed GSA Coverage Area



February 2017

Daily Review
c/o Bay Area News Group-East Bay
22533 Foothill Blvd.
Hayward, CA 94541
800-595-9595

3774608

CITY OF HAYWARD
ATTN: UTILITIES AND ENVIRONMENTAL SVS.
777 B ST., 4TH FL.
HAYWARD, CA 94541

PROOF OF PUBLICATION

FILE NO. 2/7/17 Hearing - Groundwater Sustainablity

In the matter of

Daily Review

The Daily Review

I am a citizen of the United States; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the Legal Advertising Clerk of the printer and publisher of The Daily Review, a newspaper published in the English language in the City of Hayward, County of Alameda, State of California.

I declare that the Daily Review is a newspaper of general circulation as defined by the laws of the State of California as determined by this court's decree, dated March 2, 1950, in the action entitled In the Matter of the Ascertainment and Establishment of the Standing of The Daily Review as a Newspaper of General Circulation, case number 221938. Said decree states that "'The Daily Review' has been established, printed, and published daily in the City of Hayward, County of Alameda, State of California, for one year or more next preceding the date of the filing of said petition; that it is a newspaper published for the dissemination of local and telegraphic news and intelligence of a general character and has a bona fide subscription list of paying subscribers; ... [ ] [and] THEREFORE, ... 'The Daily Review' is hereby determined and declared to be a newspaper of general circulation [within the meaning of Government Code §§ 6000 et seq.]" Said decree has not been revoked, vacated or set aside.

I declare that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

01/20/2017, 01/27/2017

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated: January 27, 2017

Public Notice Advertising Clerk

Legal No. **0005889055**

OFFICIAL NOTICE OF PUBLIC HEARING
HAYWARD CITY COUNCIL

Date: **February 7, 2017**
Time: **7:00 p.m.**
Place: **City Hall, Council Chambers**
777 B Street, Second Floor
Hayward, CA 94541

On the above date, at or about the hour noted, the Hayward City Council will hold a public hearing to obtain citizen input on the following matter: Consideration of Becoming a Groundwater Sustainability Agency.

The Sustainable Groundwater Management Act (SGMA) was signed into State law in 2014. This legislation addresses comprehensive and sustainable management of California's groundwater resources. SGMA empowers local agencies overlying a groundwater basin to elect to serve as the "Groundwater Sustainability Agency" ("GSA") for that basin. The City overlies a portion of the East Bay Plain Subbasin of the Santa Clara Basin and is eligible to manage groundwater as the GSA for this portion of the basin.

If the City elects to serve as a GSA, it will be responsible for managing and monitoring the groundwater resources within its purview, and for performing the appropriate public outreach and inter-agency coordination that those tasks require. If the City elects not to serve as the GSA, another local agency needs to become the GSA. If no local agency assumes the role of GSA, the State will intervene to manage the groundwater basin on an interim basis until a local agency takes on the responsibility of becoming the long term GSA for the basin. After hearing public comments, the Hayward City Council will determine whether Hayward will become the GSA for the portion of the East Bay Plain Subbasin that underlies the City boundaries.

A copy of the staff report may be reviewed at the office of the City Clerk, 777 B Street, or at the Main City Library, 835 C Street, or the Weekes Branch, 27300 Patrick Avenue, Hayward, or on the City's website at https://hayward.legistar.com/Calendar.aspx. Staff reports are available the Friday before the hearing.

The community is encouraged to participate in the review process by attending the meeting to speak or by offering written comments.

Written comments may be directed to:
Alex Ameri,
Director of Utilities & Environmental Services
City of Hayward
777 B Street, Hayward, CA 94541
Phone number: (510) 583-4720
E-Mail: alex.ameri@hayward-ca.gov

ASSISTANCE will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Persons needing accommodation should contact the City Clerk's Office 48 hours in advance of the meeting at (510) 583-4400, or by using the TDD line for those with speech and hearing disabilities at (510) 247-3340.

PLEASE TAKE NOTICE that if you file a lawsuit challenging any final decision on the subject of this notice, the issues in the lawsuit may be limited to the issues which were raised at the City's public hearing or presented in writing to the City Clerk at or before the public hearing. By Resolution the City Council has imposed the 90-day time deadline set forth in C.C.P. Section 1094.6 for filing of any lawsuit challenging final action on an item which is subject to C.C.P. Section 1094.5.

DATED: January 20 and January 27, 2017
Miriam Lens, City Clerk
City of Hayward
DR #5889055; January 20, 27, 2017

CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

Action Minutes

City Council

Tuesday, February 7, 2017 **7:00 PM** **Council Chambers**

CITY COUNCIL MEETING

CALL TO ORDER Pledge of Allegiance: Council Member Mendall

ROLL CALL

Present: 7 - Council Member Francisco Zermeno, Council Member Al Mendall, Council Member Marvin Peixoto, Council Member Sara Lamnin, Council Member Elisa Marquez, Mayor Barbara Halliday, and Council Member Mark Salinas

CLOSED SESSION ANNOUNCEMENT

Mayor Halliday announced the Council convened in closed session pursuant to Government Code 54957 concerning the City Clerk's performance evaluation, and noted there was no reportable action taken.

City Attorney Lawson also announced the Council convened in closed session pursuant to Government Code 54956.9 regarding pending litigation of Maher/Goodfellow Top Grade Construction Co. v. City of Hayward, et al., Alameda County Superior Court No. HG 14747979; and noted the Council had unanimously approved resolution of the case with the release of $1.4 million in retention and the City will retain $1.5 million in contract funds which can be used for phases II and III of the Route 238 Corridor Improvement Project.

PUBLIC COMMENTS

Ms. Wynn Grcich
Mr. Glenn Kirby
Mr. Jim Drake

CONSENT

Consent Item No. 3 was removed for separate vote and to allow public comment.

Approval of the Consent Calendar

A motion was made by Council Member Márquez, seconded by Council Member Mendall, to approve the Consent Calendar. The motion carried by the following vote:

Aye: 7 - Council Member Zermeno, Council Member Mendall, Council Member Peixoto, Council Member Lamnin, Council Member Marquez, Mayor Halliday, and Council Member Salinas

1. Minutes of the City Council Meeting on January 17, 2017

Consent Item approved.

2. Transmittal of the Annual Mitigation Fee Act Report (AB 1600)

Consent Item approved.

3. Adoption of a Resolution Authorizing the City Manager to Execute an Amendment to the Agreement with CSG Consultants, Inc., for Development Review Services in the Planning Division for an Amount not to Exceed $425,000

A motion was made by Council Member Márquez, seconded by Council Member Mendall, to approve the staff's report. The motion carried by the following vote:

Aye: 7 - Council Member Zermeno, Council Member Mendall, Council Member Peixoto, Council Member Lamnin, Council Member Marquez, Mayor Halliday, and Council Member Salinas

4. Trash Capture Device Installation on Patrick Avenue: Approval of Plans and Specifications, and Call for Bids

Consent Item approved.

5. Revisions to the Council Member Handbook

Consent Item approved.

PUBLIC HEARING (Next Page)

6. Appeal by the Hayward Area Planning Association of the Planning Commission's December 15, 2016 Approval of the Maple & Main Mixed-Use Project and Related Adoption of a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program. The project includes 192 Market-Rate Apartments, 48 Apartments Affordable to Very Low Income Households, Rehabilitation of a 48,800 Square-Foot Medical Office Building, and Approximately 5,500 Square-Feet of Retail Space, Located Generally Within the Block Bounded by A Street, Main Street, McKeever Avenue and Maple Court in Downtown Hayward; Bay Area Property Developers, LLC and Klein Financial Corp (Applicants/Owners) (Report from Development Services Director Rizk)

A motion was made by Council Member Zermeño, seconded by Council Member Mendall, to approve staff's report with the following amendments: move the retail to Maple Court; the project proponent will make a one-time contribution in the amount of $10,000 to the proposed project's pedestrian-related impacts at the A Street and Main Street intersection; the existing large redwood tree is to be preserved on site or transplanted to another site in the area, and if preservation proves infeasible a total $75,000 contribution shall be made to the A Street and Main Street crossing improvements. The motion carried by the following vote:

Aye: 7 - Council Member Zermeno, Council Member Mendall, Council Member Peixoto, Council Member Lamnin, Council Member Marquez, Mayor Halliday, and Council Member Salinas

The City Council took a recess at 10:38 p.m., and reconvened the meeting at 10:43 p.m.

7. Sustainable Groundwater Management Act (SGMA): Formation of a Groundwater Sustainability Agency under SGMA (Report from Director of Utilities & Environmental Services Ameri)

A motion was made by Council Member Zermeño, seconded by Council Member Márquez, to approve staff's report. The motion carried by the following vote:

Aye: 7 - Council Member Zermeno, Council Member Mendall, Council Member Peixoto, Council Member Lamnin, Council Member Marquez, Mayor Halliday, and Council Member Salinas

ADJOURNMENT

Mayor Halliday adjourned the City Council meeting at 11:08 p.m., in memory of Melissa Fryer.

NEXT MEETING, February 21, 2017, 7:00 PM

HAYWARD CITY COUNCIL

RESOLUTION NO. 17-014

Introduced by Council Member Zermeño

RESOLUTION ELECTING TO BECOME THE GROUNDWATER SUSTAINABILITY AGENCY FOR THE EAST BAY PLAIN SUBBASIN OF THE SANTA CLARA VALLEY BASIN WITHIN THE CITY OF HAYWARD CITY BOUNDARY

WHEREAS, the comprehensive groundwater legislation referred to as the Sustainable Groundwater Management Act ("SGMA") was signed into law on September 16, 2014, with an effective date of January 2, 2015, and is codified in California Water Code Section 10720 et seq; and

WHEREAS, the stated purpose of SGMA is to provide for the sustainable management of groundwater basins and subbasins at a local level by providing local agencies, including agencies with water supply and/or land use responsibilities, the legal authority, and technical and financial assistance to sustainably manage groundwater; and

WHEREAS, SGMA further provides for and anticipates that eligible local agencies overlying basins or subbasins designated by the California Department of Water Resources ("DWR") as "high priority" or "medium priority" will form Groundwater Sustainability Agencies ("GSAs") and empowers those GSAs to pursue groundwater sustainability through the adoption and implementation of Groundwater Sustainability Plans ("GSPs") and related management actions; and

WHEREAS, in order to use the authority granted in SGMA, a local agency or combination of local agencies must elect to become a GSA, following notice and a public hearing; and

WHEREAS, where more than one local agency overlies a groundwater basin, SGMA calls on local agencies to cooperate to manage the groundwater basin in a sustainable manner; and

WHEREAS, the City of Hayward ("City") overlies an unadjudicated basin, the East Bay Plain Subbasin of the Santa Clara Valley Basin ("East Bay Plain"); and

WHEREAS, the East Bay Plain Subbasin has been designated as a medium priority subbasin by DWR, and therefore must have all GSAs identified by June 30, 2017 and must have a GSP or DWR-approved alternative in place by January 31, 2022; and

WHEREAS, the City currently has water supply and land use responsibilities within its boundaries, which overlie a portion of the East Bay Plain, and it is appropriate for the City to serve as a GSA in that basin; and

WHEREAS, the City has the technical expertise and resources to perform the functions of a GSA, including the expertise and resources to contribute to the development of a GSP and to ensure the on-going sustainable management of the East Bay Plain; and

WHEREAS, the City has coordinated closely with other local agencies and interested stakeholders that overlie the East Bay Plain, including the East Bay Municipal Utility District that has formed a GSA to manage the portion of the East Bay Plain north of the City limits, and intends to continue such coordination; and

WHEREAS, it is the intent of the City to work cooperatively with other water agencies, cities and counties, as may be appropriate, to sustainably manage the East Bay Plain; and

WHEREAS, a notice of public hearing to consider the decision to become a GSA was published pursuant to Government Code Section 6066, and notice was provided to interested parties; and

WHEREAS, the Hayward City Council held a public hearing before adopting this Resolution.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hayward that the City elects to become the GSA for the entire portion of the East Bay Plain that underlies the City's boundaries; and

BE IT FURTHER RESOLVED by the City Council of the City of Hayward that the City will continue to coordinate with other local agencies and stakeholders that overlie the East Bay Plain and neighboring groundwater basins or subbasins; and

BE IT FURTHER RESOLVED by the City Council of the City of Hayward that the City will provide broad opportunity for public involvement in the ongoing management of the portion of the East Bay Plain for which the GSA has responsibility; and

BE IT FURTHER RESOLVED by the City Council of the City of Hayward that the decision to become a GSA is not a "Project" pursuant Public Resources Code Section 21065 and therefore is not subject to the requirements of the California Environmental Quality Act. (See Title 14, Cal. Code Regs. §15378(b)(5).)

BE IT FURTHER RESOLVED by the City Council of the City of Hayward that staff is directed to notify DWR of the City's decision to become a GSA and to submit all required documentation in accordance with Water Code Section 10723.8(a).

BE IT FURTHER RESOLVED by the City Council of the City of Hayward that staff is directed to begin the process of developing a Groundwater Sustainability Plan for the East Bay Plain. Staff is further directed to develop those plans in consultation and close coordination with other local agencies, as contemplated by SGMA.

IN COUNCIL, HAYWARD, CALIFORNIA February 7, 2017

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS: Zermeño, Márquez, Mendall, Peixoto, Lamnin, Salinas
MAYOR: Halliday

NOES: COUNCIL MEMBERS: None

ABSTAIN: COUNCIL MEMBERS: None

ABSENT: COUNCIL MEMBERS: None

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

CITY OF HAYWARD
CONSIDERATION OF INTERESTS OF INTERESTED PARTIES

Pursuant to Water Code Section 10723.2, the Groundwater Sustainability Agency (GSA) must consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans (GSP). The list of interested parties below was developed during the GSA formation process. The interests of these agencies and organizations will be considered during development of the GSP.

a. Holders of overlying groundwater rights, including:

   (1) Agricultural users – None known in the GSA filing area
   (2) Domestic well owners
      - Hayward Area Recreation and Park District
      - Chabot Community College

   The above contains all significant or potentially significant domestic groundwater wells known to the City of Hayward. There may be additional domestic well owners located within the GSA boundary, which the City will attempt to identify with assistance from other local entities. The City will develop and maintain a list of well owners and communicate with them during development and implementation of the GSP.

b. Municipal well operators

   - City of Hayward

   Hayward is the sole supplier of municipal water within the proposed GSA coverage area.

c. Public water systems

   - City of Hayward
   - East Bay Municipal Utility District (EBMUD)

   Hayward is the main supplier of municipal drinking water within the proposed GSA coverage area. EBMUD provides water service to some small areas within the corporate City boundaries and has agreed in writing to allow Hayward to include those areas in its GSA.

d. Local land use planning agencies

   - City of Hayward
   - Alameda County

   While the City of Hayward is the local land use planning authority within the corporate city limits, Alameda County exercises land use authority in small areas in close proximity to the City. Due to this proximity, Hayward will maintain contact with the County during the development and implementation of the GSP.

e. Environmental users of groundwater

- None known in the GSA area

If the City becomes aware of environmental users of groundwater, it will maintain a list of such users and communicate during the development and implementation of the GSP.

f. Surface water users, if there is a hydrologic connection between surface and groundwater bodies.

- None known in the GSA area

Not applicable to this GSA area. Hayward is not aware of any significant surface water diversions.

g. Federal government, including but not limited to, the military and managers of federal lands

- None known in the GSA area

Hayward is not aware of any groundwater use by federal facilities within the GSA area. If such use is discovered, the respective federal entity will be included as an interested party, and the City will communicate during the development and implementation of the GSP.

h. California Native American Tribes

- None known in the GSA area

Hayward is not aware of any California Native American Tribes within the GSA area that utilize groundwater. If such use is discovered, the City will communicate with the tribe during the development and implementation of the GSP.

i. Disadvantaged communities, including but not limited to, those served by private domestic wells or small community water systems

- None known in the GSA area

There are several areas within the City limits that are designated as disadvantaged communities. To the City's knowledge, these areas are not served by private domestic wells or community water systems. If such a service is discovered in the future, the City will communicate with the system users during the development and implementation of the GSP.

j. Entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or part of the basin

- East Bay Municipal Utility District (EBMUD)

EBMUD is the current California Statewide Groundwater Elevation Monitoring (CASGEM) entity for the East Bay Plain. The City will continue to support EBMUD's groundwater monitoring efforts and work cooperatively with EBMUD during development and implementation of the GSP.

k. Other Interested Parties

- Alameda County Water District
- Bay Area Water Supply and Conservation Agency
- California Department of Water Resources
- City of Union City
- County of San Mateo
- San Francisco Public Utilities Commission
- Santa Clara Valley Water District
- Zone 7 Water Agency

The City has identified the above entities as potentially having an interest in the development and implementation of the GSP. Hayward will maintain updated contact information and communicate information about groundwater-related activities.

APPENDIX 1. INTRODUCTION

1.C. EBMUD and Hayward Cooperating Agreement

Duplicate Original

COOPERATING AGREEMENT BETWEEN EAST BAY MUNICIPAL UTILITY DISTRICT AND CITY OF HAYWARD FOR DEVELOPMENT OF A GROUNDWATER SUSTAINABILITY PLAN FOR THE EAST BAY PLAIN SUBBASIN

This Cooperating Agreement ("Agreement") is made and entered into on this 25 day of June, 2018 between the East Bay Municipal Utility District ("EBMUD"), a municipal utility district, and the City of Hayward ("City"), a municipal corporation, to work cooperatively to prepare a single Groundwater Sustainability Plan for the Subbasin designated in California Department of Water Resources Bulletin 118 as Basin No. 2-009.04 (the "East Bay Plain Subbasin" or "Subbasin") in compliance with the Sustainable Groundwater Management Act. EBMUD and the City are hereinafter sometimes referred to individually as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, the California Legislature has adopted, and Governor Jerry Brown signed into law, the Sustainable Groundwater Management Act of 2014 ("SGMA"), which authorizes and requires local agencies to sustainably manage local groundwater resources; and

WHEREAS, SGMA requires that, by January 31, 2022, all groundwater basins designated by the California Department of Water Resources ("DWR") as high- or medium-priority basins that are not subject to critical conditions of overdraft shall be managed under a single Groundwater Sustainability Plan ("GSP"), or under coordinated GSPs prepared by the Groundwater Sustainability Agency or Agencies ("GSA") managing the basin; and

WHEREAS, in the circumstances described in California Water Code section 10735.2(a)(1), SGMA authorizes the State Water Resources Control Board to designate a high- or medium-priority basin as a probationary basin and to exercise certain management authority thereof; and

WHEREAS, California Water Code section 10735.2(a)(1)(B) provides that a basin will not be designated as a probationary basin if a collection of local agencies has formed a GSA or prepared agreements to develop one or more GSPs that will collectively serve as a GSP for the entire basin; and

WHEREAS, the East Bay Plain Subbasin is categorized as a medium-priority groundwater basin and therefore SGMA requires sustainable management of the entire Subbasin pursuant to one or more GSPs; and

WHEREAS, the City and EBMUD are the exclusive GSAs for the entire portion of the East Bay Plain Subbasin within their respective boundaries; and

WHEREAS, the Parties wish to work cooperatively to prepare a single GSP that covers the entire East Bay Plain Subbasin; and

WHEREAS, on July 31, 2017 the Parties entered into a Memorandum of Understanding (MOU) for coordination and cooperation in planning SGMA compliance activities for the East Bay Plain Subbasin; and

WHEREAS, on May 7, 2018, DWR recommended a grant proposal for GSP development in the East Bay Plain Subbasin to receive a $1 million award under its Proposition 1 program, conditioned on execution of a grant agreement, which funds will support work by EBMUD and the City to prepare a single GSP for the East Bay Plain Subbasin; and

WHEREAS, this Agreement will outline the decision-making process related to, and the administration of, the grant funds and grant agreement; and

WHEREAS, as stipulated in the MOU, the Parties intended to enter into this Cooperating Agreement to set forth in greater detail the governance structure, decision-making procedures, and allocation of responsibilities relative to developing a single GSP to sustainably manage the entire East Bay Plain Subbasin in compliance with SGMA; and

WHEREAS, at the completion of GSP development, the Parties plan to develop and enter into a subsequent agreement that would address in greater detail the governance structure, decision-making procedures and allocation of responsibilities relative to implementing the GSP for the East Bay Plain Subbasin, to ensure the coordinated management and compliance of SGMA in the Subbasin.

AGREEMENT

NOW, THEREFORE, the Parties agree as follows:

ARTICLE I: DEFINITIONS

A. "Agreement" – this Cooperating Agreement and all exhibits hereto.

B. "C&E Plan" – the Stakeholder Communications and Engagement Plan attached as Exhibit D to this Agreement that was developed in compliance with GSP regulations by the Parties to inform the public and stakeholders about SGMA activities in the East Bay Plain Subbasin and to actively solicit public and stakeholder involvement and input in GSP development, as may be amended from time to time.

C. "City" – the City of Hayward.

D. "Cost Share Percentage" – the agreed percentage cost-share of Consultant costs assigned to Party for the GSP Development Project or a Joint Supplemental Project under this Agreement.

E. "Consultant" – a consulting firm, engineering firm, or public outreach firm retained to provide services, other than legal services, to the Parties.

F. "Contracting Entity" – the specific Party who will serve as the entity that enters into a contract with Consultant(s).

G. "East Bay Plain Subbasin" or "Subbasin" – the Subbasin designated in California Department of Water Resources Bulletin 118 as Basin No. 2-009.04.

H. "EBMUD" – the East Bay Municipal Utility District.

I. "GSA" – a Groundwater Sustainability Agency, as that term is defined by California Water Code section 10721(j).

J. "GSP" – a Groundwater Sustainability Plan, as that term is defined by California Water Code section 10721(k).

K. "GSP Development Project" – the development of a single GSP for the East Bay Plain Subbasin as described in the scope of work set forth in Exhibit A-1, the schedule set forth in Exhibit B-1, and the estimated budget and cost allocation described in Exhibit C-1, as these exhibits may be amended from time to time.

L. "Independent Supplemental Project(s)" – additional project(s) that are not included in the GSP Development Project scope of work that is attached hereto as Exhibit A-1 and are necessary or complementary to the development of the GSP and are solely funded by one Party.

M. "Joint Supplemental Project(s)" – additional project(s) that are not included in the GSP Development Project scope of work that is attached hereto as Exhibit A-1 and are necessary or complementary to the development of the GSP and are funded by both Parties.

M. "Management Area" – an area within the East Bay Plain Subbasin for which the GSP may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors.

N. "Project Account" – designated account associated with a particular Joint Supplemental Project or the GSP Development Project, into which funds are deposited and payments to Consultants are withdrawn under this Agreement.

O. "SGMA" – the Sustainable Groundwater Management Act of 2014, as may be amended, and all regulations adopted under the authority of that legislation.

ARTICLE II: PURPOSE AND TERM OF AGREEMENT

A. The Recitals above are incorporated and adopted as if fully set out herein.

B. *Purpose.* The purpose of this Agreement is to set forth the essential terms of the Parties' collaboration during the GSP development period. It includes a statement of roles, responsibilities, cost sharing and other commitments to prepare

a single GSP for the East Bay Plain Subbasin in compliance with SGMA. In the event that the East Bay Plain Subbasin is re-categorized by DWR such that a GSP is encouraged but not required under Water Code § 10720.7, the Parties will meet and confer to determine appropriate next steps, up to and including the amendment or termination of this Agreement as necessary. This Agreement is not intended to cover the implementation phase that will follow completion of the GSP development. A separate, subsequent GSP implementation agreement is anticipated.

C. *Term.* This Agreement shall become effective upon its execution by the Parties and will terminate on the sooner of: a) the date of DWR's approval of the GSP; or b) termination of this Agreement pursuant to Article X (Termination). The Parties can mutually agree to extend the term of this Agreement.

D. *Single GSP for Entire Subbasin.* The Parties agree that cooperating on a single GSP for the entire East Bay Plain Subbasin will foster effective, coordinated, and efficient groundwater management and is in the best interest of the Parties and the Subbasin. Accordingly, the Parties will work cooperatively to develop a single GSP to sustainably manage the entire East Bay Plain Subbasin in compliance with SGMA. If any portion of the Subbasin is determined to be outside of any GSA's boundary, the Parties will include that area in the GSP.

ARTICLE III: COLLABORATIVE WORKING STRUCTURE

A. *Governance and Decision-Making Authority.* The EBMUD Board of Directors and the Hayward City Council, as the governing bodies of the respective Parties, shall retain authority, to the extent required by each Party's applicable procedures and authorities, to approve contracts and authorize the expenditure of funds. The governing bodies shall be exclusively responsible for making the final decision to approve the GSP developed pursuant to this Agreement before its submittal to DWR. The Parties intend that the day-to-day administrative and technical work of developing a draft GSP for consideration by the GSAs' governing bodies will be performed at a staff level, consistent with the structure identified in this Agreement. Notwithstanding that principle, either Party may elevate any significant matter that arises in the course of the work performed under this Agreement to its governing body for determination and further discussion.

B. *Collaborative Working Structure.* The Parties agree to implement a collaborative working structure, including the following key bodies, which will be jointly staffed by the Parties:

1. *Steering Committee.* The Steering Committee will consist of two (2) management- or supervisory-level representatives appointed by the General Manager of EBMUD or his/her designee and two management- or supervisory-level representatives appointed by the City Manager of the City of Hayward or his/her designee. The Steering Committee will meet in person or via conference call, on a mutually agreeable frequency, to guide development of the GSP. The Steering Committee will review GSP materials and make key decisions regarding GSP policy and contents, and its members will advise and make recommendations to the governing bodies of the members' respective agencies as needed, including providing advice and making recommendations regarding the adoption and adequacy of the GSP. Members of the Steering Committee serve at the pleasure of the Party that they represent, and each Party shall notify the other in writing in the event that its appointed representatives to the Steering Committee change. The Steering Committee will make decisions based on consensus, based on affirmative feedback from each Party's representatives on the committee.

2. *Technical Team.* The Technical team shall consist of representatives, designated by the Steering Committee and authorized to speak on behalf of each GSA, who together will oversee development of the contents of the GSP, provide technical review, consider input from stakeholders through implementation of the C&E Plan, and make routine technical decisions regarding GSP development. The Technical Team will make decisions by consensus after considering Consultants' recommendations, and input received from interested parties, the Technical Advisory Committee, and the Inter-basin Working Group as described in Article IV. The Technical Team is responsible for technical oversight of the GSP's development, and for providing recommendations regarding the GSP's contents and development to the Steering Committee.

3. *Project Managers.* In addition to Technical Team and Steering Committee representatives, each Party shall designate a Project Manager to be the primary contact for coordinating and providing engineering oversight and review of technical work to develop the GSP. Both project managers shall attend meetings with and be included in regular communications with Consultant(s). The Parties anticipate that some review will be necessary at the GSA-staff level and each agrees to provide timely review and comment of any draft documents provided as to not delay the project schedule. The Project Managers shall be the point of contact for

collecting and conveying the results of this review to the other Party or to non-Party partners.

C. *Decision making.* The Parties will strive to arrive at each decision made at any level of authority by building consensus throughout the GSP development process, taking into account input from stakeholders through implementation of the C&E Plan, pursuant to Article IV (Stakeholder Communication and Engagement). Decisions between the Parties regarding the GSP's development and contents will be reached through consultation and negotiation first at the Project Manager, Technical Team or Steering Committee level as appropriate, and shall be elevated for feedback from the governing bodies or other representatives of the Parties as necessary. If the Parties cannot reach a mutually agreeable decision through consultation and negotiations, the matter will be resolved according to the dispute resolution procedures specified in Article VIII (Dispute Resolution).

ARTICLE IV: STAKEHOLDER COMMUNICATION AND ENGAGEMENT

A. *Stakeholder Communication and Engagement Plan (C&E Plan).* The Parties have developed the C&E Plan attached as Exhibit D. The Parties shall implement the attached C&E Plan to provide opportunities for public engagement and active involvement of diverse social, cultural and economic elements of the population within the East Bay Plain Subbasin, consistent with the DWR Guidance Document for Groundwater Sustainability Plan Stakeholder Communication and Engagement, as applicable.

B. *Stakeholders and Interested Parties.* Consistent with the C&E Plan, the Parties will provide notifications, updates, and other opportunities for general public, stakeholders and interested parties to engage and provide input into development of the GSP.

C. *Technical Advisory Committee.* The Parties agree to convene a Technical Advisory Committee (TAC) comprised of qualified technical professionals who are stakeholders or representatives of stakeholders within the East Bay Plain Subbasin, to provide more detailed, technical stakeholder input and advise the Technical Team. The TAC will review draft GSP materials including technical studies, investigation, and modeling and provide input to the Technical Team. Selection of TAC members will be as described in the C&E Plan.

D. *Inter-basin Working Group.* The Parties will cooperate in efforts to convene an Inter-basin Working Group, comprised of representatives from adjacent subbasins within the Santa Clara Basin, for the purpose of information sharing and coordination with the Technical Team.

E. *Coordination of Stakeholder Outreach.* Stakeholder communication and engagement will take place at both a Subbasin-wide and GSA area-specific level. Each GSA area may include a set of stakeholders with specific interests relevant only to a particular GSA or Management Area. Each GSA will decide the required levels of communication for its own GSA area and engage with stakeholders with area-specific interests as appropriate. For Subbasin-wide interests and issues, EBMUD and the City will jointly communicate with all stakeholders.

ARTICLE V: DEVELOPMENT OF GROUNDWATER SUSTAINABILITY PLAN

A. *GSP Development Project.* The Parties agree to work in good faith to prepare a single GSP for the entire East Bay Plain Subbasin that meets SGMA requirements and is completed in accordance with the scope of work, schedule, and budget as provided in Exhibits A-1, B-1, and C-1 respectively, which may be modified by the Steering Committee as it deems necessary subject to governing body oversight over expenditures. Modifications to the scope of work, schedule, and budget are subject to the ordinary limitations of each Party regarding contracting and procurement, and in any case must be memorialized in writing and approved unanimously by the Steering Committee.

B. *Contracting and Consultants.* The Parties anticipate the use of outside technical resources ("Consultant(s)") to complete the GSP Development Project. Prior to issuing any Request for Proposals (RFP) under this Agreement, the Parties shall prepare a mutually acceptable RFP, which shall be approved by the Technical Team. Consultants for jointly funded work shall be selected by consensus, and each Party shall be afforded an equal opportunity to participate in the Consultant selection process.

C. *Responsibilities of Contracting Entity.* Unless otherwise agreed to in writing by the Parties, EBMUD will be the Contracting Entity responsible for procuring, entering into, administering, and enforcing contract(s) with Consultant(s), to support the GSP Development Project. Before a contract for work under this Agreement is awarded, the Contracting Entity shall provide the draft contract to the other Party for its review and comment and the contract shall be

approved by the Steering Committee. The Contracting Entity shall conduct all administrative and management duties including receiving, verifying and remitting payments for Consultant invoices. The Contracting Entity shall not be reimbursed by the other Party for the performance of such administrative and management duties but shall receive credit for them as an in-kind contribution. Prior to remitting payments, invoices received from the Consultant will be sent to the other Party for approval.

D. *Joint Supplemental Projects.* The Parties acknowledge that Joint Supplemental Projects, not covered under the GSP Development Project scope of work described in Exhibit A-1, may become necessary to complete the GSP or be proposed by one or both Parties to provide additional information related to the development of the GSP. If a project is proposed which both Parties agree should be pursued as a Joint Supplemental Project, the Parties agree to negotiate in good faith on a case by case basis to determine each Party's respective responsibilities for implementing the Joint Supplement Project and a reasonable cost allocation. The identity of the Contracting Entity for any Joint Supplemental Project(s) shall be determined on a case by case basis by mutual consent of the Parties. For each Joint Supplemental Project, exhibits setting forth the Joint Supplemental Project's: (1) Scope of Work; (2) Schedule; and (3) Estimated Budget and Cost Allocation shall be prepared and amended into this Agreement (e.g., as Exhibits A-2, B-2, and C-2, respectively, for the first pursued Joint Supplemental Project).

E. *Accounting for Joint Supplemental Projects.* Unless otherwise specified in writing, each Joint Supplemental Project shall follow the procedures identified in Article VI (Cost Sharing and Payment), and shall include in its Estimated Budget and Cost Allocation the information necessary to implement the requirements of that Article, including: (a) each Party's Cost Share Percentage; (b) the designated Contracting Entity; (c) the minimum account balance and each Party's initial contribution amount for the Project Account; and (d) the process for final disbursement of funds in the Project Account. Optionally, the Estimated Budget and Cost Allocation may specify the amount of each Party's subsequent contributions. On a case by case basis, the Parties may elect to use an alternative method for tracking and payment of funds for a Joint Supplemental Project.

F. *Independent Supplemental Projects.* Nothing in this Agreement shall preclude one Party from implementing an Independent Supplemental Project that is funded solely by the interested Party, and in no case shall one Party bear any liability to the other Party or to any third party arising from an Independent

Supplemental Project that is solely funded by the other Party.

G. *Changes to Budgets, Contracts and Consultants.* The Parties agree to meet and confer in each of the following cases:

1. Either Party finds that new information or changed conditions necessitate a significant modification to a Consultant scope of work under this Agreement, or either Party is interested in significantly changing a Consultant's scope of work;

2. A Consultant provides notice to either Party that it anticipates exceeding its budget for any task and/or has requested a change to the budget;

3. Either Party has significant concerns about the quality of work produced by a Consultant; and/or

4. A Consultant notifies either Party that it will not be able to meet the project schedule.

In any of these cases, the Parties will meet and confer in good faith to seek a resolution that is mutually agreeable to the Parties. The Parties will amend this Agreement as necessary to effectuate that resolution. If the Parties cannot reach agreement, they will proceed under Article VIII (Dispute Resolution).

ARTICLE VI: COST SHARING AND PAYMENT

A. *Cost Share.*

1. *Consultant Costs.* With respect to the GSP Development Project, EBMUD will pay a Cost Share Percentage of sixty-five (65%) of the cost of Consultant work and the City will pay a Cost Share Percentage of thirty-five percent (35%) of the cost of Consultant work. The Cost Share Percentage for any Joint Supplemental Project shall be determined on a case-by-case basis, and memorialized in an amendment to this Agreement, as provided by Article V, section D (Development of Groundwater Sustainability Plan—Joint Supplemental Projects). With respect to any Independent Supplemental Project, the Party that proposed the Independent Supplemental Project will pay all costs of that project whether incurred by contract or otherwise. Payments are subject to the limit on contributions set forth in section D of this Article.

2. *Other Costs.* Each Party will bear the entire cost of technical, administrative, and legal work performed by its own staff or by a contractor that is not a Consultant as defined in this Agreement. Such cost is non-reimbursable under this Agreement whether incurred in connection with the GSP Development Project, a Joint Supplemental Project, or an Independent Supplemental Project. With respect to any project receiving grant funding, the Parties will track and report such costs to the extent required by Article VII (Grant Administration).

B. *Accounting and Payment.*

1. *Separate Project Account.* Consultant payments made under this Agreement will be paid from a designated Project Account established by the Contracting Entity. For example, as Contracting Entity for the GSP Development Project, EBMUD will establish and maintain a separate GSP Development Account. The Contracting Entity will deposit the following funds into a Project Account: (i) each Party's initial contribution, (ii) all subsequent contributions made by the Parties, and (iii) all grant reimbursement payments received from DWR, as applicable. The Contracting Entity will withdraw funds from the GSP Development Account for the following purposes: (i) to pay Consultant invoices for work done on the Project for which the Project Account was established, and (ii) to make the payment to the non-Contracting Entity described in paragraph 6 below.

2. *Initial Contribution.* The Parties will make an initial contribution to the Project Account before work is performed by a Consultant. The purpose of the initial contributions is to provide sufficient funds for the payment of initial Consultant invoices. The amount of each Party's initial contribution shall be proportionate to that Party's Cost Share Percentage for the Project. Following execution of a Consultant agreement for the GSP Development Project, EBMUD will make an initial contribution to the GSP Development Account of $195,000, and the City will make an initial contribution of $105,000, upon receipt of an invoice for such payment from EBMUD.

3. *Subsequent Contributions.* The Parties shall designate a minimum balance to be maintained in each Project Account. When the account balance falls below the minimum balance, and whenever necessary to ensure the Project Account contains sufficient funds to pay anticipated Consultant invoices from that Project Account, the Parties shall make additional contributions to the Project Account upon the Contracting Entity's request according to their respective Cost Share Percentages for the pertinent Project. The invoice will contain the report described in paragraph 4. The requirement to make subsequent contributions will continue while this Agreement remains in effect, subject to the limit on the Parties'

contributions set forth in section D of this Article. The minimum balance to be maintained in the GSP Development Account is $50,000. When the GSP Development Account balance falls below $50,000, EBMUD will make a subsequent contribution of $195,000, and the City will make a subsequent contribution of $105,000. When the Project Account for a Joint Supplemental Project falls below the minimum balance that applies to that account, each Party shall make a subsequent contribution in the amount specified in the Estimated Budget and Cost Allocation applicable to the Joint Supplemental Project or as otherwise agreed in writing, or, if agreement is not reached, in an amount equal to each Party's initial contribution for that Joint Supplemental Project.

4. *Tracking and Reporting.* The Contracting Entity will maintain a detailed accounting of each Project Account it establishes, including contributions made by each Party, payments made to Consultant(s), and any grant reimbursement payments received. The Contracting Entity will provide the non-Contracting Entity with a written report of this information with each invoice to the non-Contracting Entity for a subsequent contribution, and upon the non-Contracting Entity's request

5. *General Invoicing Procedures.* The Contracting Entity will track the balance of each Project Account it establishes and will invoice the non-Contracting Entity in a timely manner whenever payment of a subsequent contribution is due. The non-Contracting Entity will pay invoices within 30 days of receipt. Invoices will be supported by Consultant invoices and any other documentation needed to authenticate invoiced costs.

6. *Final Distribution of Project Account Funds.* After both of the following events have occurred: (1) the final payment for Consultant work on a Project has been made from the Project Account, and (2) the final expected grant reimbursement payment, if any, has been received from DWR and deposited into the Project Account, the Contracting Entity shall provide an accounting of any remaining funds in the Project Account. Following that accounting, the Contracting Entity shall make a one-time payment to the other Party in an amount equal to that Party's Cost Share Percentage of any remaining Project Account balance. This payment is the full extent of Contracting Entity's obligation to pay Project Account funds or any portion of them to the non-Contracting Entity.

C. *Access to Records.* Each Party may access and examine any of the other Party's pertinent books, documents, papers or other records, including electronic records, relating to the performance this Agreement. Nothing in this paragraph shall be construed to operate as a waiver of any applicable privileges, which each Party may take appropriate measures to protect in a manner consistent with the

rights of access and examination given by this paragraph.

D. *Limit on Contributions.* Notwithstanding any other provision of this Agreement, neither Party is required to make any required contribution or portion thereof to a Project Account which would cause that Party's total aggregate contributions to that Project Account to exceed its total combined cost share for that Project, with such cost share calculated by multiplying the Party's Cost Share Percentage for the Project by the sum of the then-current maximum cost ceilings of all Consultant contracts let for that Project, inclusive of any increases to such maximum cost ceilings that may be made through contract amendment, change order, or a similar process that have been agreed to by the Parties in accordance with Article V, section G (Development of Groundwater Sustainability Plan—Changes to Budgets, Contracts and Consultants).

ARTICLE VII: GRANT ADMINISTRATION

A. *Grant Administration.* EBMUD will negotiate and enter into a grant agreement with DWR on terms mutually acceptable to EBMUD and DWR. If the grant agreement is executed, EBMUD will administer the grant and prepare and submit all reports required by the grant agreement. The City will provide all support needed to meet grant agreement obligations.

B. *Deposit of Grant Funds.* EBMUD will deposit grant fund reimbursement payments into the GSP Development Account in their entirety as they are received. EBMUD will use all deposited grant funds to pay Consultant invoices for technical work, along with other funds contributed to the GSP Development Account by the Parties. The Parties do not anticipate receiving or expending grant reimbursement funds on any Joint Supplemental Project but, if grant funds are used, the Contracting Entity will do so in accordance with Article VI (Cost Sharing and Payment) and this Article.

C. *In-kind Contribution for Grant Funding.* The grant agreement may contain a "matching" provision which conditions DWR's obligation to make grant reimbursement payments upon a showing by the grant recipient that the Parties have contributed a specified quantity of in-kind services or cash to the funded project. If the grant agreement contains such a provision, each Party will diligently track and report such in-kind contributions and make best efforts to contribute a share of in-kind services that is commensurate with the Party's proportionate cost share obligation. Each Party will maintain and share records of the itemized costs of in-kind services categorized according to the requirements of the grant agreement.

The Parties understand that accurate and complete tracking and reporting of staff time and other in-kind contributions is essential to maximize grant benefits.

ARTICLE VIII: DISPUTE RESOLUTION

In the event of a dispute between the Parties, the Technical Team will meet in good faith to attempt to resolve the matter. If the Technical Team is unable to resolve the dispute, they will refer the matter to the Steering Committee. The Steering Committee will then meet to attempt to resolve the matter, and, if necessary, process an amendment to this Agreement to implement the terms of any such resolution. The Steering Committee may elect to elevate the dispute to other representatives of the GSA or to the GSA's governing body as necessary. If the Parties are unable to resolve a dispute through this process, the Parties may proceed under Article X (Termination).

ARTICLE IX: HOLD HARMLESS, INDEMNIFICATION AND DEFENSE

A. *Hold Harmless and Indemnification.* To the extent permitted by law, each Party ("Indemnifying Party") will indemnify, defend and hold the other Party and its directors, officers, agents, and employees ("Indemnified Party") safe and harmless from any and all claims, suits, judgments, damages, penalties, costs, expenses, liabilities and losses (including without limitation, sums paid in settlement of claims, actual attorneys' fees, paralegal fees, consultant fees, engineering fees, expert fees and any other professional fees) that arise from or are related in any way to negligent acts, errors or omissions, or willful misconduct by the Indemnifying Party or its associates, employees, sub-consultants, or other agents in the operation and/or performance of this Agreement.

B. *Joint Defense.* Where more than one Party is named in a suit or proceeding challenging the GSP or a Party's act or omission in the course of GSP development, or made subject to a claim or penalty regarding the same, the Parties shall coordinate and undertake a joint defense, utilizing a joint defense agreement to the extent possible, subject to the approval of the Parties on terms agreeable to each of them. The joint defense agreement shall make appropriate provision to preserve legal privileges and protect confidentiality. Each Party to this Agreement agrees that, to the greatest extent practicable, it shall cooperate in such defense and execute any waivers and/or tolling agreements that may be necessary in order to provide for a single joint defense of such a suit, proceeding, claim, or imposition of penalty. Nothing in this paragraph is intended to require a joint defense under

circumstances where it would be legally impermissible or under circumstances where it is wholly impractical or to require a Party to retain counsel to assist in the joint defense other than counsel acceptable to such Party. The provisions of this paragraph shall apply to suits, proceedings, claims and penalties arising from or related to any grant that may be awarded in connection with the work to be performed under this Agreement, regardless of whether or not both Parties are named.

C. *Non-Contractual Liability.* In the case of non-contractual liabilities arising out of the activities of one or more individual Parties under this Agreement, the Parties specifically repudiate the divisions of liability outlined in California Government Code sections 895.2 and 895.6 and instead agree to share liability based on the relative fault of each individual Party. Each Party shall have the right to contribution against the other Party based on the terms of this Agreement.

ARTICLE X: TERMINATION

A. *Termination by Mutual Agreement.* This Agreement may be terminated by mutual written agreement of the Parties.

B. *Termination by Either Party.* The Parties shall negotiate in good faith and attempt to resolve any dispute which may develop hereunder as described in Article VIII (Dispute Resolution), and if the Parties are unable to resolve a dispute and all other remedies have been exhausted, then this Agreement can be terminated by either Party. Either Party can initiate termination under this paragraph by sending written notice of its intent to terminate to the other Party. The notice shall identify a termination date no earlier than 90 days following the date of such notice. Upon delivery of such a notice, the Parties will meet and negotiate in good faith as may be necessary to effectuate an orderly termination of this Agreement.

C. *Ownership of Materials.* In the event of termination of this Agreement, each Party shall enjoy full and undivided right, title and interest in all the fruits of any work performed in furtherance of the GSP Development Project and/or in furtherance of any jointly funded Supplemental Project and may use the same for any purpose.

D. *Implementation of Multiple GSPs.* In the unlikely event that this Agreement is terminated prior to DWR's approval of the GSP, the Parties agree to work together to develop and enter into a coordination agreement pursuant to

California Water Code section 10727(b)(3), under which the Parties would work together to develop and implement multiple GSPs for the sustainable management of the East Bay Plain Subbasin. The Parties further agree to use best efforts to structure the coordination agreement to meet any applicable grant funding requirements.

ARTICLE XI: GENERAL PROVISIONS

A. *Binding on Successors.* A Party may not assign or delegate its rights or duties under this Agreement without the prior written approval of the other Party. This Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of the Parties hereto.

B. *Agreement Not a Precedent.* The Parties intend that the provisions of this Agreement will not bind the Parties as to the provisions of any future agreement between them. This Agreement was developed specifically for the specified Agreement term.

C. *Notice.* All notices required to be given, or which may be given by either Party to the other, shall be deemed to have been fully received when made in writing and deposited in the United States mail, registered and postage prepaid and addressed to the respective Parties as follows:

City of Hayward
Director of Utilities and Environmental Services
777 B Street
Hayward, CA 94541

East Bay Municipal Utility District
Director of Water and Natural Resources
375 11th Street, MS 901
Oakland, CA 94607

D. *Counterparts.* This Agreement may be executed by the Parties in separate counterparts, each of which when so executed and delivered shall be an original. All such counterparts shall together constitute but one and the same instrument.

E. *Choice of Law.* This Agreement shall be governed by the laws of the State of California.

F. *Pending Costs; Survival.* Upon termination of this Agreement (either upon reaching the end of the term as defined in Article II, section C (Purpose and Term of Agreement—Term), or via termination by one or both parties as described in Article X (Termination)), the Parties shall remain responsible for the performance of any outstanding payment or reimbursement obligations incurred from the effective date of this Agreement to the date of termination, in accordance with Article VI (Cost Sharing and Payment) and Article VII (Grant Administration). Obligations under Article IX (Hold Harmless, Indemnification and Defense) shall survive termination of this Agreement.

G. *Severability.* If one or more clauses, sentences, paragraphs or provisions of this Agreement are held to be unlawful, invalid or unenforceable, it is hereby agreed by the Parties that the remainder of this Agreement shall not be affected thereby. Such clauses, sentences, paragraphs or provisions shall be deemed reformed so as to be lawful, valid and enforced to the maximum extent possible.

H. *Headings.* The paragraph headings used in this Agreement are intended for convenience only and shall not be used in interpreting this Agreement or determining any of the rights or obligations of the Parties to this Agreement.

I. *Construction and Interpretation.* This Agreement has been arrived at through negotiation and each Party has had a full and fair opportunity to revise the terms of this Agreement. As a result, the normal rule of construction that any ambiguities are to be resolved against the drafting Party shall not apply in the construction or interpretation of this Agreement.

J. *Waivers.* Waiver of any breach or default hereunder shall not constitute a continuing waiver or a waiver of any subsequent breach either of the same or of another provision of this Agreement and forbearance to enforce one or more of the remedies provided in this Agreement shall not be deemed to be a waiver of that remedy.

K. *Third Party Beneficiaries.* This Agreement shall not create any right or interest in any non-Party or in any member of the public as a third-party beneficiary.

L. *Parties Not Agents.* In the performance of this Agreement, each Party and its agents, employees, and contractors shall act in an independent capacity and not as officers, employees or agents of the other Party, with the exception of the Contracting Entity when performing its duties as Contracting Entity.

M. *No New Entity Formed.* This Agreement creates no joint powers agency, joint powers authority, or other new legal entity. All obligations of the Parties hereunder shall be performed by the City and EBMUD.

N. *Privileges and Immunities.* In the performance of this Agreement, the Parties intend to avail themselves fully of the protections of California Government Code section 6513, which extends certain privileges and immunities from liability, exemptions from laws, ordinances and rules, and benefits which apply to the activity of officers, agents or employees of a public agency when performing functions within the agency's territorial limits to apply to the same degree and extent while engaged in the performance of such functions extraterritorially pursuant to an interagency agreement.

O. *Entire Agreement.* This Agreement constitutes the entire agreement between the Parties with respect to the subject matter thereof and supersedes and replaces all prior agreements and understandings, written or oral, including but not limited to the July 31, 2017 Memorandum of Understanding between the Parties.

P. *Amendments.* This Agreement may be amended by written agreement executed by both Parties. The Agreement may be amended without governing body approval to the extent the amendment is within the authority delegated by each Party's respective governing body.

* * * * *

[Signatures appear on following page.]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement the day and year first above written.

CITY OF HAYWARD

Recommended by:

ALEX AMERI
Director of Utilities &
Environmental Services

By:
KELLY McADOO
City Manager

Approved as to form:

for MICHAEL LAWSON
City Attorney

Attest:
MIRIAM LENS
City Clerk

EAST BAY MUNICIPAL UTILITY DISTRICT

RICHARD SYKES
Director of Water & Natural Resources

Approved as to form:

for the Office of General Counsel

Initial Exhibits:

A-1.	GSP Development Project – Scope of Work
B-1.	GSP Development Project – Schedule
C-1.	GSP Development Project – Budget and Cost Allocation
D.	East Bay Plain Subbasin Stakeholder Communication and Engagement Plan

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Exhibit A-1

WORK PLAN

PROJECT SUMMARY:
EBMUD and the City of Hayward (Hayward) are the exclusive GSAs covering the entire East Bay Plain Subbasin (Subbasin) for their respective service and jurisdictional areas. Consistent with GSP regulations, EBMUD and Hayward will jointly develop a single Groundwater Sustainability Plan (GSP), for the entire East Bay Plain Subbasin (Bulletin 118 Basin No. 2-9.004). The East Bay Plain Subbasin is one of four subbasins that comprise the larger Santa Clara Groundwater Basin. GSP development requires understanding how management actions and sustainability goals developed for the Subbasin may affect neighboring basins. In the southern portion of the Subbasin, the boundary between the East Bay Plain and Niles Cone Subbasins, is not a strict barrier to flow between the subbasins and the degrees of connectivity between the subbasins is not yet thoroughly understood. Improved understanding of the interbasin connectivity will be essential to understand subbasin hydrogeologic boundaries and to develop a robust groundwater model that accurately accounts for interbasin flow.

The project will include working with neighboring GSAs and conducting an active stakeholder communication and engagement (C&E) process to inform and provide opportunities for groundwater users, stakeholders, interested parties, and the general public to participate in the development of the East Bay Plain GSP. The C&E process will allow the GSAs to disseminate information and provide progress updates, share data, reports, and studies, and seek input for the GSP development process. The C&E process will include the use of a dedicated and live webpage www.ebmud.com/SGMA and public meetings. Project updates can also be received by subscribing to the SGMA mailing list.

The East Bay Plain Subbasin GSP will describe the geographic, geologic, and hydrogeologic setting for the Subbasin; and summarize and document the baseline conditions of the Subbasin with respect to water levels, water quality (for selected key constituents), seawater intrusion, point and non-point sources of water quality degradation, and land subsidence. It will establish specific objectives based on stakeholder input. A sustainable yield will be determined by taking into account the six undesirable results listed in SGMA (Part 2.74., Chapter 2, Section 10721 (w)).

Specific activities and management actions to meet GSP objectives and achieve sustainability within 20 years of plan implementation will be identified, described, and evaluated. Near-term GSP implementation actions will be included and aligned with the GSP developed interim milestones. Monitoring programs proposed as a part of the GSP implementation will be discussed and delineated. The GSP will summarize: the existing/current procedures and protocols under Alameda and Contra Costa Counties ordinances and other well permitting programs, current land use processes and plans, and efforts to coordinate with neighboring GSAs.

Through the process of preparing and implementing the GSP, a greater understanding of the groundwater system dynamics including current and planned groundwater use and development will be gained. With this understanding, sustainability measures will be developed and implemented to manage local groundwater resource to be sustainable by 2042 as SGMA requires.

ENVIRONMENTAL COMPLIANCE AND PERMITTING:
While preparation of a GSP is itself exempt from CEQA as per §10728.6 of SGMA, the GSP development could include tasks and management actions that may trigger environmental regulatory requirements and/or permitting including but not limited to well drilling permits. EBMUD intends to fully comply with environmental regulations including CEQA and permitting requirements during GSP development and the implementation of the GSP. Should it become necessary, EBMUD will obtain any necessary permits such as well drilling permits for exploratory boreholes and monitoring wells, and also conduct necessary environmental documentation processes for completion of GSP preparation work.

In addition, as a task of the Work Plan, EBMUD will undertake environmental assessment activities including basin water quality assessment, identification of groundwater dependent ecosystems, identification of hazardous wastes and substances via databases like EnviroStar and GeoTracker. This

information will not only be used to develop sustainable management criteria and management actions for the Subbasin, but also be applied for environmental compliance needs.

SCOPE OF WORK:

Task 1.0 Stakeholders' Communication and Engagement (C&E)

Under this task, a comprehensive East Bay Plain Subbasin Stakeholder Communication and Engagement Plan (C&E Plan) will be developed in accordance with the DWR's C&E guidance. Development of a C&E Plan has already commenced and is building on the success of the GSA formation processes. In October 2015, EBMUD initiated the SGMA stakeholders outreach effort by conducting a stakeholders assessment and a meeting with Hayward. In 2016, EBMUD convened stakeholders meetings to review SGMA compliance needs and identify local entities' interests in GSA formation. Based on these C&E activities, EBMUD agreed to submit a filing to become a GSA. Hayward initiated discussions with stakeholders in December 2016 and agreed to become a GSA in March 2017. The existing and on-going stakeholder outreach activities and a current list of active stakeholders will be integrated into the C&E Plan. The C&E Plan will include forming a Technical Advisory Committee or equivalent and active stakeholders groups to provide stakeholders and the public opportunities to participate in the GSP development process.

The GSAs will collaborate to implement the C&E plan to inform, consult and involve groundwater users, stakeholders, interested parties, and the general public in GSP development and the decision making process. The C&E process will allow the GSAs to update the progress made in GSP development and disseminate information updates, data, reports and studies, as well as to seek input during the GSP development process. Continuing C&E activities will include meetings, presentations, and postings on social media pages. EBMUD has also established a dedicated website (www.ebmud.com/SGMA) and mailing list where stakeholders can receive project updates. Hayward is coordinating with EBMUD on outreach efforts and have reached out to neighboring agencies and groundwater users within its service area to invite them to participate in the process for developing the GSP. Hayward and EBMUD will coordinate to insure consistent messaging via the web and other media platforms.

Current Status: 15% complete

Task 2.0 Project Management and Grant Reporting

Under this task, the project manager for the East Bay Plain Subbasin GSP will manage resources, task completion, budget and schedule. Quarterly progress reports, other necessary grant reports, and a final report will be generated and submitted to DWR to meet grant requirements. Progress reports will describe task completion, milestones, and budget review. Outstanding items, contingencies, and decisions made will be documented as necessary.

Current Status: 15% complete

Task 3.0 Development of Governance Structure

This task is to develop a governance structure for management of the Subbasin. The EBMUD and Hayward GSAs will outline a legally binding formal structure for GSP development and implementation, decision making processes, dispute resolution, and funding mechanisms to develop the GSP. On July 31, 2017, EBMUD and Hayward entered into a Memorandum of Understanding to develop a cooperating agreement. This cooperating agreement will define among other things roles, responsibilities, decision making processes and governance of the Subbasin management and GSP implementation. It is anticipated that more specific governance will become fully developed over time, as the specific management actions are determined; however, EBMUD and Hayward are currently drafting the cooperating agreement, which will include an overarching framework for governance of the Subbasin.

Current Status: 15% complete

Task 4.0 Develop the East Bay Plain Groundwater Model (EBPGM)

Under this task, the GSAs will develop the EBPGM. Model input files will be prepared from the collected data and the geologic framework model. The EBPGM will be a transient model that simulates historical conditions through the present. Initial model parameters will be selected based on review and analysis of existing data in the southern portion of the Subbasin, and new data collected as part of this GSP effort mainly in the northern portion of the Subbasin.

Subtask 4.1 Data Syntheses and Analysis

The objective of this task is to collect and review all available data that will be needed to develop an integrated hydrologic model (groundwater model) for the East Bay Plain Subbasin. As part of this task, previous geologic and hydrologic work that has been performed in the Subbasin will be complied and integrated. The majority of the work done to date in the Subbasin has focused on the southern area. Existing datasets in the southern Subbasin include:

- Lithologic and geophysical well logs
- Aquifer properties derived from long-term pump tests
- Seismic refraction surveys, fault locations and faulting impacts on groundwater hydrology
- Precipitation, evapotranspiration, soil classification, and land use
- Groundwater pumping records, surface and recycled water deliveries
- Groundwater levels, land subsidence, and water quality

In contrast, key data set are not as readily available in the northern portion of the Subbasin. Therefore, this task will involve coordination with various stakeholders and research institutions such as USGS and Lawrence Berkeley National Laboratory to obtain additional data sets for the basin, that may not have been made publicly available. Through the process of gathering synthesizing and analyzing both new and existing data, the GSAs will identify data gaps.

The process of identifying data gaps is critical to the GSP development process for two reasons. First, by understanding the existing data gaps the GSAs can develop project concepts to fill them in to refine the groundwater modeling, and prepare sustainable yield estimates with the 5-year GSP updates. Second, the data gap assessment is a primary building block for analyzing uncertainty in the groundwater model results and sustainable yield estimate. A complete understanding of the existing uncertainty is needed for planning efforts for long-term sustainable management of the Subbasin.

Current Status: 0% complete

Subtask 4.2 Conceptual Hydrologeologic Model Development

As with the data gap assessment, development of a conceptual hydrogeologic model is a necessary and essential step in producing a representative groundwater model of the Subbasin, on which planning and management decisions can be based. In this task, a conceptual hydrologic model showing high-level representation of the groundwater flow system and detailing all the water budget components (or stresses) in the Subbasin will be developed.

As discussed above, although a number of studies have been completed for the southern part of the Subbasin, the hydrologic characteristics of the northern part of the Subbasin will be defined as a part of Subtask 4.1. This task will incorporate the new information obtained in Subtask 4.1 to define the characteristics of the Subbasin as a whole. This will be the first time that the hydrologic features, based on integrated findings from completed studies and investigations by EBMUD, Hayward, USGS, and others, will be incorporated into a single conceptual model of the entire Subbasin.

Also under this task, a 3D geologic framework will be developed to define the stratigraphy and connectivity of each geologic layer in the Subbasin. The geologic framework development will utilize collected data (such as well logs and faults) as well as previous geologic investigations in the Subbasin. The geologic model will be constructed based on the geologic framework so that it can easily be incorporated into and define the aquifer properties of an integrated hydrologic model.

Current Status: 0% complete

Subtask 4.3 Groundwater Model Objectives and Selection

Under this task the objectives and purpose of the groundwater model will be established. This will be used to select the appropriate model that will best quantify the water budget, determine the sustainable yield, and evaluate the sustainability indicators in the Subbasin.

Current Status: 0% complete

Subtask 4.4 Construct, Calibrate, and Perform Uncertainty Analysis of East Bay Plain Groundwater Model (EBPGM)

The objective of this task is to construct, calibrate, and validate the EBPGM. Once the data gap assessment, conceptual model development, and groundwater model code selection processes are complete, the results of these tasks will be used to construct the groundwater model for the Subbasin. After initial construction, the model will be calibrated, by adjusting the model parameters so the model outputs reflect historical observation data. If sufficient data are available, the results of the calibrated model can also be validated against existing data to determine the uncertainty in the model calibration. Additionally, a model calibrating software will be used to assist with the calibration process and quantify the uncertainty in the estimated parameter values.

Current Status: 0% complete

Subtask 4.5 Develop and Analyze Baseline Scenario and Alternative Management Scenarios

For this task, a baseline model will be developed that can be used to forecast future hydrologic conditions in the Subbasin. Then scenarios will be developed that simulate proposed water management actions, focusing on the potential impacts these actions may have on the six undesirable results defined under SGMA. Model outputs from the scenarios will be compared to the baseline to evaluate the hydrologic effects of the proposed water management actions.

Current Status: 0% complete

Subtask 4.6 Document and Archive EBPGM

Upon completion of the modeling work, the EBPGM development and results will be documented in a report under this task. The model files for the calibrated model and for each model scenario developed for the GSP will be archived.

Current Status: 0% complete

Task 5.0 Preparation of the East Bay Plain Subbasin GSP

Under this task, the Groundwater Sustainability Plan for entire East Bay Plain Subbasin is to be developed consistent with the GSP regulations, using the best available science, and relying on the sustainable yield and future scenario output of the model developed in Task 4.

Subtask 5.1 General Information, Plan Area and Subbasin Setting, Stakeholder C&E, and Monitoring

In this task, the majority of the technical work done toward sustainable management of the Subbasin will be presented. Additionally, as part of this task, general background information on the Subbasin, the hydrologeologic setting of the Subbasin setting, and the stakeholder C&E efforts conducted during the GSP development process will be documented in the GSP.

Development of the background information required for this task is already underway. This information includes: description of the entire Subbasin and the GSP coverage area, as defined by the exclusive GSAs' jurisdictional areas, information about the GSAs, organization and management structure of the GSAs, and legal authority. Additionally, DWR guidance and documentation will be used to describe the GSP implementation process and periodic evaluation requirements. More detailed information on estimated implementation costs and funding mechanisms to meet the costs, will be developed under this task.

For the Subbasin setting, the conceptual hydrogeologic model from Subtask 4.2 will be described along with historical and current groundwater conditions, water budget, sustainable yield and uncertainty analysis developed by the EBPGM. In this section, the GSP will apply the modeling efforts to assess groundwater sustainability elements, including potential saline water intrusion, migration of existing contaminant plumes, reduction in groundwater storage, and impacts to groundwater dependent ecosystems that are reliant upon interconnected surface and groundwater. The results of the future scenarios will be documented and the designated management areas will be

identified and discussed detailing relevant sustainable management actions for each area as suggested by the model output.

In order to ensure ongoing sustainable management and to develop the measurable objectives against which sustainability will be assessed, existing groundwater level monitoring, CASGEM monitoring, subsidence monitoring, and water quality monitoring under permit compliance will be described. Ensuing discussion will detail how these existing monitoring programs will be integrated into proposed water resources monitoring and management programs.

In addition to the background information and the completed technical work, this task will document the stakeholder communication and outreach efforts for groundwater users, interested parties, environmental interests, and the public.

Finally, this task will also include preparing sustainability goals that will be based on the technical work and stakeholder input. The GSAs recognize that SGMA allows local entities to determine what constitutes "significant and unreasonable" undesirable effects in each basin. This determination can only be reached through the technical efforts to understand the impacts of management actions on both groundwater sustainability and local stakeholders

Current Status: 0% complete

Subtask 5.2 Sustainable Management Criteria and Management Actions

Once the sustainability goals for the Subbasin have been developed, the GSAs will work to define the sustainable management criteria, including measurable objectives and minimum thresholds for the Subbasin. The GSP will describe and quantify the sustainability goals/indicators and associated minimum thresholds factored by reasonable margins of safety for each goal.

Measurable objectives to evaluate meeting interim milestones will also be described. Management areas will be designated as needed based on beneficial uses, water quality objectives, and/or jurisdictional boundaries, and relevant measurable objectives for specific management areas will be developed.

Also under this task, projects and management actions designed to achieve measurable objectives will be described. Management actions may include:

- Assessing current Subbasin water quality and developing groundwater quality management actions
- Identifying existing hazardous waste and substances from sites such as EnviroStor, GeoTracker, Enviromapper, Cleanups in My Community, and DWR's Water Data Library and developing management strategies
- Updating well inventory and developing a database
- Preventing or minimizing groundwater quality degradation through actions such as identifying wellhead protection areas and measures
- Integrating the existing South East Bay Plain Subbasin Subsidence Monitoring Program into a Subbasin-wide program
- Expanding existing Bayside Project monitoring and CASGEM monitoring programs into a Subbasin-wide groundwater elevation and water quality monitoring program
- Filling data gaps in areas including groundwater elevation data, water quality sampling, seawater intrusion control, and subsidence monitoring reference elevation datum
- Assessing existing saltwater intrusion, monitoring, and control
- Well abandonment and well destruction program
- Replenishment of groundwater extractions
- Planning for existing and future conjunctive use and underground storage
- Well construction policies and permitting standards
- Groundwater contamination cleanup, recharge, diversions to storage, conservation, water recycling, conveyance, and extraction projects
- Efficient water management practices
- Relationships with state and federal regulatory agencies

- Land use plans and efforts to coordinate with land use planning agencies to assess activities that potentially create risks to groundwater quality or quantity
- Addressing potential impacts on groundwater dependent ecosystems

Current Status: 0% complete

Subtask 5.3 GSP Implementation Plan Development

Technical studies and investigations will define the current state of the basin's hydrogeological characteristics as well as data gaps, monitoring needs, and need for additional studies. This known and unknown information and data will be considered to develop a phased implementation plan. For example, additional monitoring wells may be necessary to define the seawater intrusion more accurately; basin-wide water quality and water level monitoring program may be developed; subsidence monitoring program may be developed; and more targeted investigations may be scoped under this task. Based on the findings from completed investigations, management areas may be designated as needed to implement relevant monitoring and management actions for each area. These management areas will be defined and delineated along with specific management actions for each area.

Once the sustainable groundwater management actions and specific projects are defined, a project development plan, completing with scope of work, planned budget, implementation schedule, periodic evaluation, and reporting for each project or study will be prepared.

Current Status: 0% complete

Subtask 5.4 Review of draft GSP and Finalizing the GSP

This task is to review the draft GSP, perform final quality assurance/quality control assessment of data accuracy and interpretation, organization of the GSP, consistency, correctness, and need to incorporate editorial changes. Then, the GSP will be finalized and submitted for public comment and DWR's review and approval. Once DWR's review is completed, the final GSP will be revised and modified as necessary to incorporate input and comments from both DWR and the public. All references, citations, and studies as well as documents for appendices will be compiled and documented.

Current Status: 0% complete

PROJECT DELIVERABLES:
The Project deliverables are outlined in the following table:

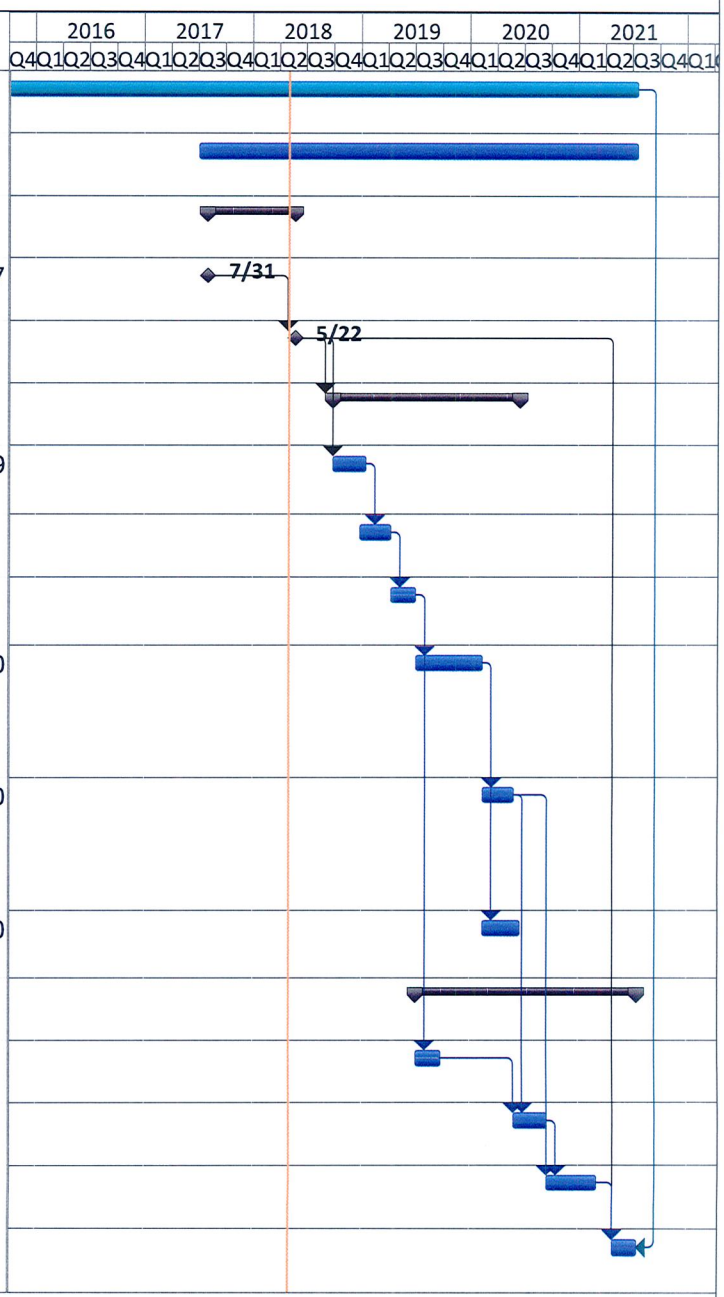
Task	General Description	Deliverables
1.0	Conduct stakeholder communication and engagement plan and implementation	Stakeholders communication and engagement records
2.0	Project management and grant reporting	Quarterly progress reports, necessary grant reports, and a final report
3.0	Develop governance structure outlining structure of GSP development and implementation, decision making, dispute resolution, and funding	A cooperating agreement between EBMUD and Hayward
4.0	Develop the East Bay Plain Groundwater Model (EBPGM)	An integrated transient groundwater flow base model that simulates historical conditions through the present and is capable of analyzing surface water groundwater interaction
4.1	Conduct Data Syntheses and Analysis	Summary of data syntheses and analysis including identification of data gaps
4.2	Conceptual Hydrologic Model Development	A conceptual hydrologic model showing high-level representation of the groundwater flow system. The conceptual model will include all of the water budget components (or stresses) and a 3D geologic framework model that will define the stratigraphy and connectivity of each geologic layer in the Subbasin.
4.3	Model Objectives and Selection	Establishing the model's purpose and objectives and selecting the appropriate model
4.4	Construct, calibrate, and perform uncertainty analysis of the EBPGM	A calibrated transient model that simulates historical conditions through the present
4.5	Develop and analyze baseline scenario and alternative management scenarios for the Subbasin	Tabulated comparisons of model output from the scenarios and the baseline to evaluate the hydrologic effects of the proposed water management actions
4.6	Document model development and results	Model files and technical memorandum documenting model development and runs
5.0	Preparation of the EBP Subbasin GSP	
5.1	General Information, Plan Area, and Subbasin Setting	• Draft Introduction • Identify Sustainability Goals • Draft Agency Information • Draft GSP Organization • Stakeholders C&E Process • Description and maps of GSA areas, jurisdictional areas, and existing land use • Description and maps of existing and planned monitoring facilities such as monitoring wells, subsidence monitoring facility, and reference datum • Discussion of land use planning elements • Discussion of well standards and permitting entities • Detailed discussion of Subbasin setting including water budget, sustainable yield, natural and artificial recharge, current and future groundwater pumping, and designated management areas

5.2	Sustainable Management Criteria and Management Actions	• Description of sustainability goals, measureable objectives • Description of minimum thresholds and undesirable results • Monitoring programs for groundwater elevations, water quality, and subsidence • Description of data gaps and future plan • Descriptions of projects and management actions
5.3	GSP Implementation Plan Development	• A work plan to implement the management actions including descriptions of projects, schedules, costs, and reporting
5.4	Review of draft GSP and Finalizing the GSP	• A final GSP to submit for DWR's review and approval • Compiled references, citations, and studies • Compiled documents for appendices • Revised final GSP incorporating DWR's input and comments

Exhibit B-1

East Bay Plain Subbasin Groundwater Sustainability Plan Development Schedule (May 2018)

ID	Task Name	Duration	Start	Finish
1	1.0 Stakeholder Communication and Engagement	1510 days	Mon 10/5/15	Fri 7/16/21
2	2.0 Project Management and Grant reporting	1055 days	Mon 7/3/17	Fri 7/16/21
3	**3.0 Development of Governance Structure**	**212 days**	**Mon 7/31/17**	**Tue 5/22/18**
4	3.1 EBMUD/Hayward MOU	1 day	Mon 7/31/17	Mon 7/31/17
5	3.2 EBMUD/Hayward Cooperating Agreement	1 day	Tue 5/22/18	Tue 5/22/18
6	**4.0 East Bay Plain Groundwater Model (EBPGM) Development**	**450 days**	**Wed 9/26/18**	**Tue 6/16/20**
7	4.1 Data Syntheses and Analysis	80 days	Wed 9/26/18	Tue 1/15/19
8	4.2 Conceptual Hydrologic Model	75 days	Wed 12/26/18	Tue 4/9/19
9	4.3 Model Objectives and Selection	60 days	Wed 4/10/19	Tue 7/2/19
10	4.4 Construct, Calibrate, and Perform Uncertainty Analysis of EBPIHM	160 days	Wed 7/3/19	Tue 2/11/20
11	4.5 Develop and Analyze Baseline Scenario and Alternative Management Scenarios	75 days	Wed 2/12/20	Tue 5/26/20
12	4.6 Document Model Development and Results	90 days	Wed 2/12/20	Tue 6/16/20
13	**5.0 Preparation of the EBP Subbasin GSP**	**533 days**	**Wed 7/3/19**	**Fri 7/16/21**
14	5.1 General Information, Plan Area, and Subbasin Setting	60 days	Wed 7/3/19	Tue 9/24/19
15	5.2 Sustainable Management Criteria and Management Actions	80 days	Wed 5/27/20	Tue 9/15/20
16	5.3 GSP Implementation Plan Development	120 days	Wed 9/16/20	Tue 3/2/21
17	5.4 Review of Draft GSP and Finalizing the GSP	60 days	Mon 4/26/21	Fri 7/16/21



GSP Development Schedule_050218
Wed 5/2/18

Exhibit C-1

EBMUD - CITY OF HAYWARD
GROUNDWATER SUSTAINABILITY PLAN
Cost Allocation

Task No.	Task Description	Estimated Cost From Workplan	% Allocated to Hayward	Hayward Cost	% Allocated to EBMUD	EBMUD Cost
ESTIMATED IN-HOUSE SERVICES - Actual costs to be paid by incurring agency						
1.0	**Stakeholder Communication and Engagement**	162,000	30%	48,600	70%	113,400
2.0	**Project Management and Grant Reporting**	216,000	30%	64,800	70%	151,200
3.0	**Develop Governance Structure**	150,000	35%	52,500	65%	97,500
	Total Cost of In-House Services	528,000		165,900		362,100
	Percent Allocation			31%		69%
CALCULATION OF COST SHARING FORMULA						
Cost Allocation for Outside Consulting Services						
4.0	**Develop East Bay Plain Groundwater Model**					
4.1	Data Syntheses and Analysis	250,000	20%	50,000	80%	200,000
4.2	Conceptual Hydrogeologic Model Development	175,000	50%	87,500	50%	87,500
4.3	Model Objectives and Selection	150,000	40%	60,000	60%	90,000
4.4	Construct, Calibrate and Perform Uncertainty Analysis	275,000	30%	82,500	70%	192,500
4.5	Baseline Scenario and Alternative Management Scenarios	175,000	40%	70,000	60%	105,000
4.6	Document Model Development and Results	100,000	40%	40,000	60%	60,000
	Total Cost for Model Development	1,125,000		390,000		735,000
	Percent Allocation			35%		65%
	Maximum Grant Request	1,000,000		346,667		653,333
	Minimum Cost to Agencies	125,000		43,333		81,667
				35%		65%
5.0	**Preparation of East Bay Plain GSP**					
5.1	General Information, Plan Area and Subbasin Setting	75,000	35%	26,250	65%	48,750
5.2	Sustainable Management Criteria and Management Actions	90,000	35%	31,500	65%	58,500
5.3	GSP Implementation Plan Development	110,000	35%	38,500	65%	71,500
5.4	Review of Draft GSP and Preparation of Final GSP	90,000	35%	31,500	65%	58,500
	Total Cost for East Bay Plain GSP	365,000		127,750		237,250
	Percent Allocation			35%		65%
	Total **Allocated** Costs with No Grant Funding	1,490,000		517,750		972,250
				35%		65%
	Total **Allocated** Cost with Maximum Grant Funding	490,000		171,083		318,917
				35%		65%

Prepared: 11/30/2017

Exhibit D

Duplicate Original

AMENDMENT NO. 1

COOPERATING AGREEMENT BETWEEN
EAST BAY MUNICIPAL UTILITY DISTRICT
AND CITY OF HAYWARD
FOR
DEVELOPMENT OF A GROUNDWATER SUTAINABILITY PLAN
FOR THE EAST BAY PLAIN SUBBASIN

This Amendment No. 1 to COOPERATING AGREEMENT BETWEEN EAST BAY MUNICIPAL UTILITY DISTRICT AND CITY OF HAYWARD FOR DEVELOPMENT OF A GROUNDWATER SUSTAINABILITY PLAN FOR THE EAST BAY PLAIN SUBBASIN ("Cooperating Agreement"), dated for convenience this 19th day of March, 2019, is by and between the East Bay Municipal Utility District ("EBMUD"), a municipal utility district, and the City of Hayward ("City"), a municipal corporation. EBMUD and the City are hereinafter referred to collectively as the "Parties."

RECITALS:

WHEREAS, EBMUD and the City entered into the Cooperating Agreement dated the 25th day of June, 2018 to work cooperatively to prepare a single Groundwater Sustainability Plan (GSP) for the Subbasin designated in California Department of Water Resources Bulletin 118 as Basin No 2-009.04 (the "East Bay Plain Subbasin" or "Subbasin") in compliance with the Sustainable Groundwater Management Act; and

WHEREAS, the Cooperating Agreement included Exhibits A-1, B-1, and C-1 to describe, respectively, the GSP Development Scope of Work, GSP Development Project Schedule, and GSP Development Project Budget and Cost Allocation based on the best information available at the time of execution; and

WHEREAS, the Agreement further included provisions for the Parties to procure the services of outside technical resources for completion of the GSP Development Project; and

WHEREAS, the Parties worked collaboratively to develop a Request for Proposals, evaluate consultant proposals, and select the most qualified consulting firm; and

WHEREAS, on January 23, 2019, EBMUD and Luhdorff Scalmanini Consulting Engineers executed a professional services agreement, which includes a final scope of work, project schedule, and budget for the GSP Development Project; and

WHEREAS, the Agreement further anticipated the possibility of grant funding from the State of California Department of Water Resources (DWR) for completion of the GSP Development Project, and a grant agreement was executed on November 9, 2018 between EBMUD and DWR in the amount of $1 million; and

WHERAS, Article III.B.1 of the Agreement provides for a Steering Committee to guide development of the GSP; and

WHEREAS, Article V.A of the Agreement states that Exhibits A-1, B-1 and C-1 may be modified by the Steering Committee as it deems necessary subject to governing body oversight over expenditures, if memorialized in writing and approved unanimously by the Steering Committee; and

WHEREAS, the Steering Committee has unanimously approved the revised scope of work, schedule, and budget which are described in the revised versions of Exhibits A-1, B-1, and C-1 attached hereto, and each Party has obtained any necessary approval from its governing body to make the expenditures described therein; and

WHEREAS, the Parties desire to amend the Agreement to incorporate updated Exhibits A-1, B-1, and C-1, which document the updated scope of work, project schedule, and budget and cost allocation, including the grant funding; and

NOW, THEREFORE, EBMUD and the City agree to Amendment No. 1 as follows:

A. DELETE AND REPLACE Exhibits A-1, B-1, and C-1 with the attached Exhibits A-1, B-1 and C-1 dated January 23, 2019 to reflect the updated scope of work, schedule, and budget and cost allocation for the GSP Development Project.

B. Except as specifically amended, all other terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have executed this Amendment No. 1 to the Agreement the date and year first above written.

CITY OF HAYWARD

Recommended By:

ALEX AMERI
Director of Utilities & Environmental Services

By:
KELLY McADOO
City Manager

Approved as to form:

MICHAEL LAWSON
City Attorney

Attest:
MIRIAM LENS
City Clerk

EAST BAY MUNICIPAL UTILITY DISTRICT

MICHAEL TOGNOLINI
Director of Water & Natural Resources

Approved as to form:

For the Office of General Counsel

Exhibit A-1

Exhibit A-1 Description of the Consultant Services

The consultant services to be provided for Request for Proposal (RFP) Tasks 1, 2, 4, 5, and 6 are provided below. Task 3 is not included because it relates to development of governance structure and does not require consultant services.

Task 1 Stakeholder's Communication and Engagement Plan

Subtask 1.0

RFP Scope of Work

The Sustainable Groundwater Management Act (SGMA) and Groundwater Sustainability Plan (GSP) regulations (Reg. § 354.10) require public notification and communication at particular instances as well as throughout the GSP development process. In accordance with the GSP regulations, EBMUD and the City of Hayward developed and are currently implementing the East Bay Plain Subbasin Stakeholder Communication and Engagement (C&E) Plan, which describes the GSAs' joint decision-making process and outlines a roadmap to meet SGMA's stakeholder engagement requirements. We understand the GSAs will use the C&E Plan to engage with and gather input from various stakeholders. The GSAs' Technical Team will work with the Luhdorff & Scalmanini Consulting Engineers (LSCE) Team (LSCE, GeoSyntec, Brown and Caldwell, ESA, Dr. Jean Moran, Farallon Geographics, Kearns and West) to consider input from the stakeholders in making key decisions in the GSP development process.

The LSCE Team will support the C&E process by participating in meetings of the Technical Advisory Committee (TAC), Interbasin Working Group, and general stakeholders. It is anticipated that the TAC will meet approximately every other month. We understand the LSCE Team may also be requested to participate in general stakeholders meetings and Interbasin Working Group meetings, which are expected to be scheduled every six months in alternating quarters.

We understand that C&E associated tasks for the LSCE Team may include preparing presentations, status updates, and responses to issues or concerns raised by stakeholders.

Deliverables:

- Progress update presentations
- Responses to stakeholder issues and concerns

Additional Details of the LSCE Team Approach

While we understand that the East Bay Plain Subbasin GSAs have prepared and plan to implement a C&E Plan, our Team includes additional support for stakeholder communications and outreach in case it may become necessary at some point during the GSA process. Thus, we have included Kearns and West on our Team solely on an as-needed basis as directed by the GSAs.

Task 2 Project Management and Grant Reporting

Subtask 2.0

RFP Scope of Work

The GSAs' project managers for the Subbasin GSP will manage the overall GSP development project including resources, consulting contracts, task completion, budget and schedule and grant reporting. Each GSA will appoint a Project Manager to coordinate with the consultant.

LSCE will be solely responsible for coordinating closely with GSAs and managing its consulting team, including our subconsultants, specialists, contractors and supporting entities, to meet the project schedule and produce deliverables as per the consulting contract. LSCE will prepare initial project schedules for consulting services. This schedule will incorporate the GSAs' C&E activities and an overall project schedule and will include milestones for deliverables.

LSCE will track contract budget and schedule to update the GSAs' Technical Team on a monthly basis. The updates will show itemized tasks, budget allocation, percent completion and remaining budget balance.

As per DWR's grant agreement, EBMUD, the grantee, is required to submit quarterly progress reports, groundwater level data, groundwater quality data, any requested information and data, and a final grant completion report via DWR's Grant Review and Tracking System (GRanTs). The progress reports will provide a brief description of the work performed, grantee activities, milestones achieved, any accomplishments and any problems encountered in the performance of the work under the grant agreement during the reporting period.

Under this task, LSCE will provide requested information in a form that can be incorporated into the quarterly reports to be prepared by EBMUD such as the formats described in the applicable portion of Exhibit F and Exhibit G of DWR's standard grant agreement. When invoicing for rendered services, LSCE will prepare invoices by identifying completed tasks as per the Workplan listed in the GSAs' Prop 1 GSP grant proposal.

Deliverables:

- Monthly invoices and information for progress reports
- Information for quarterly grant reports
- Data sets
- Information for grant completion report sections in Tasks 4 and 5 as well as aggregating GSP sections into administrative draft, draft, and final GSP documents (Task 5).

Task 4 Develop the East Bay Plain Groundwater Model (EBPGM)

Subtask 4.0

RFP Scope of Work

Under this task, the LSCE Team will develop the EBPGM. The EBPGM will be a transient model, which simulates historical conditions through the present. Initial model parameters will be selected based on review and analysis of existing data in the southern portion of the Subbasin, and new data collected as part of this GSP effort mainly in the northern portion of the Subbasin.

Task 4 EBPGB Model: Data Syntheses and Analysis

Subtask 4.1

RFP Scope of Work

The objective of this task is to collect and review all available data that will be needed to develop an integrated hydrologic model (groundwater model) for the East Bay Plain Subbasin. As part of this task, previous geologic and hydrologic work that has been performed in the Subbasin will be compiled and integrated. The majority of the work done to date in the Subbasin focuses on the southern area and includes:

- Lithologic and geophysical well logs
- Aquifer properties derived from long-term pump tests
- Seismic refraction surveys, fault locations and faulting impacts on groundwater hydrology
- Precipitation, evapotranspiration, soil classification, and land use
- Groundwater pumping records, surface and recycled water deliveries
- Groundwater levels, land subsidence, and water quality
- USGS Research papers
- AB 3030 South East Bay Plain Groundwater Management Plan (GMP), and
- Environmental documents

We understand that while preliminary geohydrologic investigations have been previously completed, more investigation and research will be necessary to better characterize the northern portion of the Subbasin. We anticipate this task will involve coordination with various stakeholders and research institutions such as United States Geological Survey (USGS) and Lawrence Berkeley National Laboratory to obtain published and unpublished data sets for the basin.

Through this process of compiling, synthesizing and analyzing both new and existing data, the LSCE Team will identify data gaps and make recommendations of project concepts to fill the data gaps as optional services. These data gaps will be accounted for in our uncertainty analyses of the groundwater model results and sustainable yield estimate.

Deliverables:

- Technical memorandum summarizing data syntheses and analyses, including identification of data gaps

RFP Scope of Work

Under this task, the LSCE Team will prepare a descriptive hydrogeologic conceptual model (HCM) of the Subbasin based on completed and concurrent technical studies (compiled under Subtask 4.1) and qualified maps that characterize the physical components and interaction of the surface water and groundwater systems in the Subbasin. The HCM will represent the Subbasin's groundwater flow system and detail all the water budget components (or stresses) in the Subbasin.

The new and relevant information obtained from Subtask 4.1 will be integrated into current knowledge of Subbasin's hydrologic features and findings from completed studies and investigations by EBMUD, Hayward, USGS, and others. From this information, the HCM of the entire Subbasin will be developed in accordance with GSP §354.14.

This task will include a graphical and narrative description of the HCM based on technical studies and qualified maps that characterize the physical components and interaction of the surface water and groundwater systems in the Subbasin. This task will also include the regional geologic and structural setting of the Subbasin, including the immediate surrounding area, Subbasin boundaries and major geologic features that significantly affect groundwater flow, the definable bottom of the basin, and principal aquifers and aquitards.

The graphical description will include the physical components of the basin complete with sufficient numbers of scaled cross sections and transects, map(s) of physical characteristics, topographic maps, surficial geology, soil characteristics, delineation of existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas and discharge areas, surface water bodies, and source and point of delivery for local and imported water supplies.

Also under this task, a 3D geologic framework will be rendered to delineate the stratigraphy and connectivity of each geologic layer in the Subbasin. The geologic framework development will utilize collected data as well as previous geologic investigations in the Subbasin. The geologic model will be constructed based on the geologic framework so that it can easily be incorporated into and define the aquifer properties of the integrated HCM. Interbasin hydraulic connectivity between East Bay Plain and Nile Cones Subbasin will be conceptualized using the latest available information, including USGS research papers.

Deliverables:

- A hydrogeologic conceptual model showing high-level representation of the groundwater flow system. The conceptual model will include all of the water budget components (or stresses) and a 3D geologic framework model that will define the stratigraphy and connectivity of each geologic layer in the Subbasin.

Additional Details of the LSCE Team Approach

While SGMA and GSP regulations include specific requirements for an HCM, such as a minimum number of basin geologic cross sections, the HCM to be developed in the GSP is intended to strongly address the GSAs' interests in a solid physical basis for the groundwater model. For example, while GSP regulations require only two 2D geologic cross sections to characterize the subbasin, our scope of work includes updates to several existing geologic cross sections prepared by LSCE (2003) and others with recent well log data. LSCE (2003) previously prepared several detailed hydrostratigraphic cross sections of the East Bay Plain and Niles Cone Subbasins between Oakland and Union City. These existing cross sections will be updated with new borehole lithologic and geophysical data collected since 2003 (e.g., ACWD, 2006; DWR well logs dated after 2003), and up to 10 new hydrostratigraphic cross sections will be developed throughout the subbasin, including several in the northern portion of the subbasin between Berkeley and Richmond and potentially (depending on available of data) some additional cross sections between Oakland and Hayward to fill in data gaps from the previous study.

The updated existing 2D cross sections and the new 2D cross sections and associated borehole lithologic and geophysical data will be input to a database for use with ArcHydro software to develop a three-dimensional geologic framework model. This 3D geologic model is intended to improve overall understanding of the basin stratigraphy and transition zone area and will provide important input for development/refinement of model layering. The 3D geologic framework model is described in more detail below.

The 3D geologic framework model will build off of previous work conducted for the EBMUD GMP. The ArcHydro Database will be populated with boring lithologic and geophysical data for borings greater than a specified depth (minimum depth likely between 150 and 200 feet), so that it captures data relevant to regional groundwater supply analysis. 3D geostatistical interpolation using kriging will be used to generate a 3D grid of lithology. The software will then allow for development

of 2D cross sections and 3D geovolumes that result in a 3D geologic framework model and will serve as an excellent tool for model layer development.

The LSCE Team will compile and analyze available information from a variety of sources including boring logs, geophysical logs, DWR well reports, geologic and soil maps, cross sections and groundwater models. We will store the information in a database that is compatible with geoprocessing software such as ArcHydro Groundwater (AHGW), which is a framework for managing groundwater data within an ArcGIS environment. As described above, we will develop a 3D hydrogeologic model of the model domain area. The 3D geologic framework model will be used as the basis for layering and assigning aquifer properties in the NEB MODFLOW model and will be a powerful tool for displaying cross sections and visualization of the subsurface hydrostratigraphy, wells, groundwater levels, and flow.

Our water balance approach will include the development of a root zone model for the East Bay Plain Subbasin, which utilizes meteorological, land use, water use (evapotranspiration), and applied water data. The monthly data sets developed from the root zone model will inform water budget components, including groundwater recharge. A rainfall departure from mean analysis will be conducted to select a hydrologically representative base period for the water balance analysis and groundwater model calibration. Bedrock inflow will be quantified by reviewing available well log data for bedrock wells derived from a DWR well log review, some of which often include data on pumping tests that can be utilized to estimate hydraulic conductivity and groundwater gradients.

Percolation of streamflow will be evaluated by delineating lined vs. unlined portions of the stream channels, evaluating soils and shallow stratigraphy along stream channels, evaluating stream gauging data to the extent these data may be available, and possibly by analogy to stream gauging and/or stream percolation data from nearby streams in other basins that may be deemed representative.

Following up on work conducted by Muir (1993), potential contributions from water supply pipelines, storm drain networks, and sewer lines will be evaluated for potential contribution to recharge. Water supply pipeline leaks will involve consideration of losses reported by EBMUD and Hayward in their distribution networks, and typical representative loss percentages reported by other water purveyors. The analysis will also consider the potential for some of the pipeline leakage to migrate to local stream channels and exit the basin as surface water discharge to the bay.

Groundwater storage changes and subsurface inflows/outflows will be estimated using measured groundwater elevation data, thereby informing additional local water budget components. Existing published groundwater models will be evaluated, including NEBIGSM (including the most recent updated version from ACWD, if available), the SMPGWM, and the 2001 SEBP MODFLOW model for their model water balance inputs/outputs.

Water budget data from existing NEBIGSM will be compared to the independently developed water budget components discussed above. Results from the existing NEB MODFLOW model will be evaluated relative to the local hydrogeologic conditions and independently-developed water budget components, and necessary key local model refinements will be made to the new East Bay Plain groundwater model being developed under Subtasks 4.3 through 4.6. The refined model will then be used during GSP analyses to evaluate sustainability and produce the water budget components required for the GSP, including management area water budgets.

This subtask will include compilation of available groundwater level data into a database. These efforts will be focused on deeper wells that are representative of the major aquifers; however, water

level data from a subset of shallow wells in pertinent areas of the basin will also be incorporated in the database. The groundwater level data will be used to prepare groundwater elevation contour maps for selected years, and groundwater hydrographs for selected wells with significant periods of record. The available groundwater level data will also be used to evaluate groundwater storage changes over the representative base period.

The HCM will include compilation of available/existing groundwater quality data. The compiled groundwater quality data will be reviewed and additional assessment/evaluations conducted to the extent possible with available data. The additional analyses may include time series plots of key constituents, piper diagrams, stiff diagrams, and evaluation of potential water quality differences among management areas or in different portions of the basin. The specific GSP elements related to groundwater quality data will be reviewed to ensure the GSP meets applicable SGMA requirements. GSP elements include general water quality of the principal aquifers, and groundwater quality issues that may affect the supply and beneficial uses of groundwater. Ultimately, our evaluation of groundwater quality data in this task will be focused on meeting GSP requirements and providing a basis for use of key constituents as sustainability criteria for the subbasin.

Limited work has been done in previous studies on groundwater–surface water (GW-SW) interactions along the major streams in the EBP Subbasin. Additional assessment will be conducted to evaluate current and historical groundwater levels adjacent to waterways, and evaluate the impacts of potential increased groundwater pumping on future GW-SW interactions. Furthermore, the relationship between groundwater levels and groundwater dependent ecosystems (GDEs) have not been previously considered. We will review GDE mapping conducted by The Nature Conservancy and DWR with respect to potential GDEs that may be present in EBP Subbasin and available groundwater level data in those areas. Assessments of local hydrogeologic conditions will be conducted for potential GDEs to determine relationships to the regional aquifer system.

RFP Scope of Work

Subtasks 4.3 through 4.6 relate to development, calibration, application, and documentation of the East Bay Plain Groundwater Basin Model for this GSP effort. A description of the scope of work for each modeling subtask is followed by further details and key points in our Team's approach.

Subtask 4.3 Groundwater Model Objectives and Selection

Under this task, the objectives and purpose of the groundwater model will be established. These objectives will be used to evaluate and select an appropriate model that will best quantify the water budget, determine the sustainable yield, and evaluate the sustainability indicators in the Subbasin. We understand that the selected model will need to be capable of simulating surface

water/groundwater interaction, areal recharge, variable-density groundwater flow and transport to analyze seawater intrusion, multi-aquifer screened wells, water budget, storage capacity, and sustainable yield. The model will also be designed to be capable of generating output files and/or other derivatives to be used for other applications such as contaminant transport and water quality analyses. The model's input and output files will be convertible to run on commonly used groundwater modeling applications.

Deliverables:

- Technical memorandum establishing the model's purpose and objectives, evaluating model selection criteria, and recommending the appropriate model

Subtask 4.4 Construct, Calibrate, Validate and Perform Uncertainty Analysis of East Bay Plain Groundwater Model (EBPGM)

Once the data gap assessment, HCM development, and groundwater model code selection processes are complete, the results of these tasks will be used to construct the groundwater model for the Subbasin. The LSCE Team will construct, calibrate, and validate the EBPGM to be used as a key tool to develop the sustainable management criteria, water budget, and sustainable yield. Available data and basin characteristics, including findings from completed technical reports are expected to be integrated as appropriate. EBPGM will be a transient model that is capable of simulating historical conditions through the present.

We understand that GSAs may propose management areas based on basin management objectives and jurisdictional areas. The LSCE Team will also recommend management areas for technical reasons, as may be deemed appropriate and necessary. The model set-up, such as grid sizes, parameter selection, and Subbasin hydrogeological characteristics, will reflect the objectives of each management area.

After initial construction, the model will be calibrated by adjusting the model parameters so the model outputs reflect historical observation data, including both long-term historical groundwater level fluctuations and pumping test data. If sufficient data are available, the results of the calibrated model will be validated against existing data to determine the uncertainty in the model calibration. The LSCE Team anticipates using Parameter Estimation (PEST) or similar model calibrating software to assist with the calibration process and quantify the uncertainty in the estimated parameter values.

Deliverables:

- An integrated and validated transient groundwater flow based model that simulates historical conditions through the present and is capable of analyzing surface water-groundwater interaction

Subtask 4.5 Develop and Analyze Baseline Scenario and Alternative Management Scenarios

In this task, the LSCE Team will develop a baseline model that can be used to forecast future hydrologic conditions in the Subbasin. This will include recording current and future planned groundwater uses for groundwater demand analysis. The LSCE Team will evaluate historical climatic conditions to determine a representative hydrologic time period to use for the baseline simulation. Scenarios will be developed to simulate proposed water management actions, current and future groundwater resources development in the Subbasin, focusing on the potential impacts these actions may have on the six sustainability indicators defined under SGMA. Model outputs from these

scenarios will be compared to the baseline to evaluate the hydrologic effects of the proposed water management and groundwater resources development plans. Based on this analysis, the LSCE Team will recommend sustainable management actions to GSAs (see Task 5.2).

Deliverables:

- Tabulated comparisons of model output from the scenarios and the baseline to evaluate the hydrologic effects of the proposed water management actions

Subtask 4.6 Document and Archive EBPGM

Upon completion of the modeling work, the LSCE Team will document the EBPGM development and results in a technical memorandum under this task. The model files for the calibrated model and for each model scenario developed for the GSP will be archived and copied onto a portable storage device and provided to GSAs.

Deliverables:

- Model files and technical memorandum documenting model development and runs

Additional Details of the LSCE Team Approach

Overview

Subtasks 4.3 through 4.6 involve implementation of the comprehensive HCM (developed in Subtasks 4.1 and 4.2) as the basis for a numerical groundwater flow model of the East Bay Plain. The East Bay Plain Subbasin HCM and model will provide improved representation of local hydrogeologic and water use conditions.

Our team's extensive knowledge and experience in the conceptualization of the hydrogeology and water use activities within the East Bay Plain Subbasin will enable us to develop a local model incorporating important refinements and calibrate the model using sufficient local detail, leading to a more robust groundwater flow model for use during GSP analyses and for many other current and future applications. A key aspect of the EBPGB Model will be its ability to assess all the relevant stresses (including effects of climate change) on the groundwater system, including the highly confined Deep Aquifer, which cannot be accurately assessed with the currently available models. The EBPGB Model will build on and extend datasets from existing flow models and utilize independently developed water budget components (as described in Task 4.2). The independent water budget will be used as input data and for calibration of the model.

The fully calibrated EBPGB Model will utilize local water budget information and will provide model water budgets for the entire Subbasin and GSAs, and Management Areas, if any are designated. Analyses using annual pumping, change in groundwater storage, simulated recharge, simulated stream leakage, and simulated subsurface lateral flow will help determine suitable sustainable yield values that will be vital for achieving sustainability goals and designing management approaches, as well as evaluating proposed project benefits for the Subbasin. The information extracted from the EBPGB Model will be key for supporting development of a successful GSP.

The RFP scope of work describes that Management Areas may be proposed by the GSAs and/or recommended for technical reasons by the LSCE Team. For cost-efficiency reasons, our approach will focus first and foremost on whether there is a need for the delineation of Management Areas. This includes consideration of Subbasin conditions (evaluated as part of Subtask 4.2) to identify

areas that would be appropriately defined as Management Areas per GSP regulations. We will describe and illustrate (map) these areas (if any), including explanation of distinguishing features justifying treatment as a separate Management Area. Technical considerations for the need to delineate Management Areas will be derived from the HCM, groundwater conditions, and water budgets. We also understand that GSAs may propose Management Areas; the decision for development and delineation of Management Areas should be made relatively early in the process to allow consideration in development of the groundwater model. To the extent that Management Areas are defined, they will be represented in the groundwater model (Subtask 4.4), incorporated in development of sustainable management criteria (Subtask 5.2), and considered in delineation of the GSP monitoring network (Subtask 5.3). Close communication with the GSAs will be critical to determine whether delineation of Management Areas is a desirable and cost-effective approach.

Subtask 4.3 Groundwater Model Objectives and Selection

The groundwater model will serve as a tool in the development of a single GSP for EBMUD and Hayward to manage groundwater resources in the EBP Subbasin. The groundwater model will be used as tool to simulate, visualize, and evaluate groundwater flow directions, groundwater elevations, areal recharge, water budgets, wells screened in multiple aquifers, interaction between surface water and groundwater, sustainable yield, and groundwater quality within the EBP Subbasin.

The GSP will comply with requirements of SGMA. The model also will be used to compute water budgets, including flow between the EBP and Niles Cone Subbasins for baseline conditions and potential groundwater resource development projects within the EBP Subbasin. The model will also be used to help evaluate potential for development of groundwater resources relative to occurrence of undesirable effects as defined by the six sustainability indicators listed in SGMA GSP regulations. The model will also help to evaluate and establish a groundwater monitoring network.

The NEBIGSM Model was translated to MODFLOW in 2013 (NEB MODFLOW). We recommend that MODFLOW[1] also be used for the new expanded and updated groundwater model to be developed under Subtask 4.4. MODFLOW is widely used public domain software developed and supported by the USGS. MODFLOW and related modules or companion software, including

[1] MODFLOW is the USGS's modular finite-element hydrologic model. MODFLOW is considered an international standard for simulating and predicting groundwater conditions and groundwater/surface-water interactions (Harbaugh et al., 2000). https://water.usgs.gov/ogw/modflow/

MODPATH[2], MT3DMS[3], MT3D-USGS[4] and SEAWAT[5], can meet all the potential objectives including contaminant transport, variable density flow, subsidence[6], and compliance with SGMA, as well as support long-term groundwater resources management needs for EBMUD and Hayward.

The 2013 NEB MODFLOW was developed using the Groundwater Modeling System (GMS) groundwater modeling software package, which is one of several available proprietary graphical user interfaces with enhanced capability for model design, preparation of input files, and processing and visualizing model results. GMS is integrated with the Arc Hydro Groundwater (AHGW) suite of tools that were used to support the data management, data analysis, processing, and visualization work completed for the groundwater management plan (EBMUD, 2013). AHGW and ArcGIS are powerful tools for processing spatial and temporal inputs for groundwater models and updating model surfaces. Although we propose to utilize AHGW, the database we provide for the project will be formatted so that it is compatible with other software such that data can be imported and exported in a seamless manner for use with another interface as may be desired by EBMUD and Hayward. For example, the LSCE Team will design the database so the EBP Subbasin groundwater monitoring data can be uploaded seamlessly to the DWR CASGEM[7] database. We emphasize the importance of well-organized, well-documented compilation of all project data to facilitate efficient data transfer between other parties and software packages.

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[2] MODPATH is a particle-tracking post-processing program that can be used to trace groundwater flow paths and travel time, which is designed to work with MODFLOW (Pollock, 2016). https://water.usgs.gov/ogw/modpath/

[3] MT3DMS is a new version of the Modular 3-D Transport model, where MS denotes the Multi-Species structure for accommodating add-on reaction packages. MT3DMS has a comprehensive set of options and capabilities for simulating advection, dispersion/diffusion, and chemical reactions of contaminants in groundwater flow systems under general hydrogeological conditions (Zheng, 2010). https://hydro.geo.ua.edu/mt3d/index.htm

[4] MT3D-USGS is a USGS updated release of the groundwater solute transport code MT3DMS. MT3D-USGS includes new transport modeling capabilities to accommodate flow terms calculated by MODFLOW packages that were previously unsupported by MT3DMS and to provide greater flexibility in the simulation of solute transport and reactive solute transport (Bedekar et al., 2016). https://water.usgs.gov/ogw/mt3d-usgs/

[5] SEAWAT is a generic MODFLOW/MT3DMS-based computer program designed to simulate three-dimensional variable-density groundwater flow coupled with multi-species solute and heat transport. SEAWAT uses the familiar structure of MODFLOW and MT3DMS (Langevin et al., 2007). https://water.usgs.gov/ogw/seawat/

[6] The Subsidence and Aquifer-System Compaction package for MODFLOW simulates the drainage, changes in groundwater storage, and compaction of aquifers, interbeds and confining units in an aquifer system. The MODFLOW subsidence package is compatible with MODFLOW-2000, MODFLOW-2005, MODFLOW-LGR, MODFLOW-CFP, MODFLOW-OWHM
https://water.usgs.gov/nrp/gwsoftware/modflow2000/MFDOC/index.html?sub.htm
https://water.usgs.gov/nrp/gwsoftware/ModelMuse/Help/sub_subsidence_and_aquifer_sys.htm?toc=0&printWindow

[7] CASGEM is the California State Groundwater Elevation Monitoring program and database developed by DWR in 2009. CASGEM is permanent locally-managed routine program to track seasonal fluctuations and long-term trends of groundwater elevations. Participating agencies in the Bay area include EBMUD, ACWD, SCVWD, and Westside Basin.

The LSCE team will discuss pros and cons of different software alternatives with EBMUD, Hayward, and the technical advisory panel before choosing which version of MODFLOW to use, as well as specific software for data storage and processing, and for interfacing with MODFLOW. Moreover, regardless of which proprietary groundwater software is selected, the LSCE Team will generate standard USGS MODFLOW files that can be used with public domain MODFLOW software and imported by other proprietary software. All project data will be compiled in a GIS database with an associated and linked base map that can be easily transferred.

Subtask 4.4 Construct, Calibrate, Validate and Perform Uncertainty Analysis of East Bay Plain Groundwater Model (EBPGM)

Model Construction

The LSCE Team will utilize the updated HCM and 3D geologic framework model described in Subtask 4.2 to develop the EBP Subbasin groundwater model. The 3D geologic framework model will be used to define the MODFLOW model layering and aquifer parameters. The relationship between the 3D geologic framework model and MODFLOW will be illustrated with powerful visualizations that can be used for public outreach and to facilitate the presentation of complex topics to non-technical audiences.

The model layering configuration of the existing NEB MODFLOW will be reviewed in light of the HCM developed for the GSP. It will be important to accurately represent the vertical distribution of fine-grained units vs. coarse-grained units in the EBP Subbasin, based on the detailed cross section analysis and 3D geologic framework model developed in the GSP. In addition, the transition zone stratigraphy that will be updated in the GSP HCM will be reviewed to determine the most accurate way to represent model layering through the transition zone (e.g., the stair-step nature of the Deep Aquifer stratigraphy in the transition zone).

The model grid spacing will be evaluated relative to several considerations:

- Ability to calibrate to historical measured groundwater level fluctuations
- Adequate representation of monitoring well drawdowns during local and regional pumping tests to be used as part of model calibration
- Adequate representation of transition zone characteristics
- Model run times, and
- Potential future development of particle tracking and/or solute transport models

We propose to extend the new model to the bay margin north of Richmond and southward to the boundary between Alameda and Santa Clara Counties to incorporate all of the East Bay Plain and Niles Cone Subbasins as defined by DWR. The proposed model domain will likely also include Castro Valley north of Hayward and the San Pablo Creek Valley. We will discretize the model domain with sufficient detail to represent the general hydrostratigraphy, large scale variation in aquifer/aquitard geometry, hydraulic properties, and boundaries, and to also provide sufficient resolution of hydraulic gradients.

The 2013 NEB MODFLOW model has seven layers and a uniform grid cell size of 1000 feet. This model layering and grid spacing will be further evaluated relative to the updated HCM, along with project goals and objectives. Additional layers may be added to facilitate representation of screened intervals of existing or potential wells or variation in hydraulic properties associated with stratigraphy

or facies changes. We will design the MODFLOW grid to facilitate variation of detail in assigned hydraulic properties and for high resolution of hydraulic gradients in some locations. Areas with finer grid cells are appropriate to facilitate developing a MT3DMS model for simulating transport of dissolved chemicals in groundwater and the potential influence of pumping on the distribution and concentration of chemicals.

The proposed western margin of the model is near the middle of the bay similar to the NEBIGSM and the NEB MODFLOW model. Representation of the bay as either a lake or as a portion of an added upper layer with constant water level will facilitate computation of rate of influx of water from the bay to the underlying aquifers. A water budget approach will be used initially to evaluate the potential for salt water intrusion for different groundwater pumping scenarios. MT3DMS also may be used to estimate changing chloride concentration with time in the aquifers. If necessary, a SEAWAT model can also be developed from the MODFLOW model to also account for influence of variable density with salinity on groundwater flow.

In most cases, incorporating the influence of variable density on groundwater flow due to variation in salinity is not likely to be important to evaluate the potential for salt water intrusion due to groundwater pumping because the influence of density variation is negligible compared to the hydraulic gradient caused by pumping. Uncertainties in hydraulic conductivity, which varies by orders of magnitude, are much more important than variable density with salinity because seawater is only 2.5% more dense than freshwater. Developing a separate relatively simple analytical or cross-sectional SEAWAT model based on the three-dimensional MODFLOW model can be used to assess the influence of variable density from salinity on potential salt water intrusion, and may be an appropriate precursor to a potential full-scale 3D SEAWAT model.

Prior to finalizing the model design, we will discuss options for the model design with EBMUD and Hayward and balance efficiency and general utility of the model as a tool for evaluating options for sustainable development and ongoing management and protection of groundwater resources.

The 2013 NEB MODFLOW model includes pumping from mostly non-specific wells, and includes calculated pumping that was adjusted in the IGSM model as part of the calibration process. Compilation, review, and analysis of well and pumping data are needed to refine and update the pumping in the new MODFLOW model to be developed for the GSP. The LSCE Team will thoroughly investigate basin water demand to improve accuracy of the pumping component of the water balance in the model and the overall water budget for baseline conditions.

Calibration, Validation, and Uncertainty Analysis

The groundwater simulation period for transient calibration will be evaluated in Subtask 4.2 based on available data and a departure from mean rainfall analysis. The model will be calibrated to several well locations with long-term groundwater level records. In addition, the model will used to simulate and calibrate to aquifer tests and measured fluctuations in groundwater levels recorded during those tests, including the two-week pumping tests conducted on Hayward Wells C and E (LSCE, 2003) and the 8-week Bayside ASR Well Test (Fugro, 2011).

The LSCE Team will conduct the groundwater modeling in general accordance with accepted guidelines (e.g. Anderson and Woessner, 1992; Hill, 1998; Reilly and Harbaugh, 2004; ASTM 1996), but plans to perform advanced numerical calibration using automated parameter estimation software

such as PEST[8] (Doherty and Hunt, 2010). The automated calibration can be conducted very efficiently in a cloud environment and will be designed so that model sensitivity and predictive uncertainty analysis will be evaluated simultaneously with model calibration. Calibration metrics will go beyond the ordinary statistics and goodness of fit, by including the results of advanced predictive analytics, including trend analyses, probabilities, and advanced animations.

The LSCE Team plans to implement a stochastic modeling approach that will analyze thousands of automated model runs with a range of assigned values for model properties and select a subset of models that are all equally probable and will be used for predictions. This will quantify uncertainty in the model predictions. The LSCE Team will also conduct a thorough evaluation and sensitivity analysis of the spatial distribution and vertical hydraulic conductivity of aquitard intervals between the shallow, intermediate, and deep aquifers, because these are key factors in the model that will influence potential for salt water intrusion from the Bay into aquifers with increases in groundwater pumping. Following calibration, model validation will be performed to assess how well the numerical model simulates site specific conditions and data that were not used to build the model. The sensitivity and predictive uncertainty analyses will be used to recommend potential additional field investigations and testing.

Subtask 4.5 Develop and Analyze Baseline Scenario and Alternative Management Scenarios

The LSCE Team will develop a steady state model to represent average conditions at the beginning of the representative base period. The steady state baseline model will be used for starting conditions in the transient model runs and as a basis of comparison for predictive simulations of potential groundwater resources development projects. The historical transient simulation period will be based upon the representative hydrologic period developed under Subtask 4.2, which is typically in the range of a 25 to 30-year period. The calibrated historical transient simulation period, which is anticipated to extend to at least 2015, will represent the baseline period to serve as a basis of comparison to future groundwater management scenario simulations. The evaluation of alternative future groundwater resource development projects will include specific assessment of undesirable results and sustainability indicators as defined by SGMA. The baseline model and future groundwater development scenario simulations will also be used as to estimate sustainable groundwater yield for the East Bay Plain subbasin.

The predictive model simulations will be run with a steady state model and also a transient model over a time period of at least 50 years (2020 to 2070). The model simulations will also include evaluation of potential impacts to water quality from groundwater development projects, including salt water intrusion, migration of nitrates, and industrial contaminant plumes.

In addition, an initial screening level evaluation of the potential for subsidence will be conducted based on geotechnical properties of the soil and aquifer materials and model simulations of change in groundwater levels. Based on the screening level assessment using water levels, model simulations will be run using the subsidence module of MODFLOW to further evaluate the potential for subsidence as appropriate. The LSCE Team plans to review and compile data from the

[8] PEST the most advanced software for automated parameter estimation to calibrate models and conduct predictive uncertainty analysis. http://www.pesthomepage.org/ http://www.sspa.com/software/pest

USGS Bayside Groundwater Project extensometer and potentially utilize the data to calibrate subsidence modeling.

The LSCE Team will provide figures illustrating model results of change in groundwater conditions relative to average baseline conditions and a table summarizing model results for several potential groundwater resources development project scenarios in the East Bay Plain Subbasin. The LSCE Team will work with the GSAs and technical advisory committee to develop the groundwater resource development scenarios to be simulated by the model.

Based on the model simulations, the LSCE Team will recommend sustainable groundwater development alternatives and management actions for both EBMUD and Hayward including monitoring programs and potential enhancement of recharge.

Subtask 4.6 Document and Archive EBPGM

The LSCE Team will provide the GSAs with the GIS and groundwater model files, including standard MODFLOW files and documentation of the model development and model simulations including the baseline calibrated model and groundwater resources development scenarios. We will utilize accepted guidelines (e.g., Anderson and Woessner, 1992; ASTM, 1998) in preparing the model documentation.

Task 5: Preparation of the East Bay Plain Subbasin GSP

Subtask 5.0

RFP Scope of Work

Under this task, the LSCE Team will prepare the draft GSP for the entire East Bay Plain Subbasin in compliance with SGMA and the GSP regulations, using the best available science, and incorporating information developed under Task 4. We understand the GSAs desire to review and comment on draft sections of the GSP as it is developed. Prior to beginning work on preparing the GSP, the LSCE Team will develop an outline of the GSP for review and approval by the GSAs. The format of the GSP should generally follow DWR's Groundwater Preparation Checklist for GSP Submittal Guidance Document, to ensure that the GSP includes all information required for a GSP.

Deliverables:

- GSP outline

Task 5: Preparation of the East Bay Plain Subbasin GSP: General Information; Plan Area Subbasin Setting, Stakeholder C&E, and Monitoring

Subtask 5.1

RFP Scope of Work

In this task, the LSCE Team will document general information, the hydrogeologic setting of the Subbasin, and the stakeholder C&E efforts conducted during the GSP development process. General information will include descriptions of the entire Subbasin and the GSP coverage area, as defined by the exclusive GSAs' jurisdictional areas, information about the GSAs, organization and management structure of the GSAs, and legal authority. This information will be supported by appropriate maps such as GSAs' coverage area, jurisdictional boundaries of Federal, State, and tribal land, existing land use designations, density of wells per square mile, the geological map of the Subbasin. A topographic contour map showing known fault zones and surface water features will be included. The LSCE Team is familiar with and will use DWR guidance and BMPs as appropriate.

For the Subbasin setting, the LSCE Team will discuss the HCM from Subtask 4.2, historical and current groundwater conditions, water budget, and sustainable yield. A key objective of this task is determining the baseline condition for SGMA's sustainable management criteria development based on thorough understanding of the historical groundwater conditions of the Subbasin, including data from January 1, 2015. The Subbasin setting will be described in terms of:

- Groundwater elevation data - Generate temporal and spatial data series for representative monitoring sites for each aquifer unit of the entire Subbasin using available historical data, current data, and model predictions.
- Estimate of groundwater storage – Use groundwater model to estimate the storage capacity.
- Water Budget – Use historical, current, and projected groundwater use to prepare water budgets to estimate future conditions of supply, demand, and aquifer response. Projected water budgets will be prepared to estimate future conditions of supply, demand, and aquifer response to plan implementation, and to identify the uncertainties of these projected water budget components. More specifically, local groundwater users' projected groundwater use, land use planning, planned conjunctive use projects, groundwater augmentation and planned emergency and/or drought water supply projects will be accounted for and discussed.
- Seawater intrusion conditions - The LSCE Team will investigate potential seawater intrusion conditions, identify data gaps, and propose management actions for future GSP updates for each principal aquifer for the most vulnerable part of the Subbasin as necessary. It should be noted that seawater intrusion conditions in shallow, intermediate, and deep aquifer units will be differentiated from historical chloride concentrations in the perched water table of the Subbasin.
- Groundwater quality issues: We will use applicable information and data from available databases to analyze groundwater quality issues that may affect the supply and beneficial uses of groundwater, including a description and a map showing locations of known groundwater contamination sites and plumes. Identify and describe proposed management actions required to meet sustainability goals.
- Land subsidence conditions - The LSCE Team will analyze land subsidence conditions using available data, published information, and research information including data from the subsidence monitoring facility (extensometer), developed by USGS and EBMUD, to monitor elastic and inelastic vertical deformation of the area near EBMUD's Bayside Groundwater Facilities, and
- Identification of interconnected surface water systems and GDEs: The Nature Conservancy published a guide, Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans," in January 2018. This guide will be used as appropriate in developing this section.

Deliverables:

- Applicable GSP Sections

Task 5: Preparation of the East Bay Plain Subbasin GSP: Sustainable Management Criteria and Management Actions

Subtask 5.2

RFP Scope of Work

This task is to develop sustainable management criteria that will be based on the technical work, GSAs' management objectives, and stakeholder input. SGMA allows local entities to determine what constitutes "significant and unreasonable" undesirable results in each basin. The LSCE Team will work with the GSAs' Technical Team to develop sustainable management criteria, sustainability goals, undesirable results, minimum thresholds and measurable objectives. Measurable objectives will provide a reasonable margin of operational flexibility, taking into consideration historical water budgets, seasonal and long-term trends, periods of drought, and existing and planned conjunctive use projects such as Bayside and Hayward's emergency wells.

The LSCE Team will prepare relevant sections of the GSP to describe and quantify the sustainability goals/indicators and associated minimum thresholds factored by reasonable margins of safety for each goal. Measurable objectives to evaluate meeting interim milestones will also be described.

Under this task, the LSCE Team will analyze and recommend management area designations, if designated. Management areas may be designated based on beneficial uses, water quality objectives, jurisdictional boundaries, and/or other criteria set by GSAs. For each management area approved by the GSAs, the LSCE Team will prepare descriptions and sustainable management criteria specific to the management area, consistent with SGMA and GSP regulations.

After developing the sustainable management criteria for the Subbasin, the LSCE Team will develop and recommend project alternatives and management actions required to achieve the sustainability goals for the Subbasin. These projects and actions will be developed in a phased approach along with alternative options. Once GSAs have determined a suite of projects and management actions, the LSCE Team will describe these projects and management actions for the Subbasin in relevant sections of the GSP. Management actions may include:

- Assessing current Subbasin water quality and developing groundwater quality management actions
- Identifying existing hazardous waste and substances from sites such as EnviroStor, GeoTracker, Enviromapper, Cleanups in My Community, and developing management strategies
- Updating well inventory and developing a database
- Preventing or minimizing groundwater quality degradation through actions such as identifying wellhead protection areas and measures

- Integrating the existing South East Bay Plain Subbasin Subsidence Monitoring Program into a Subbasin-wide program
- Expanding existing Bayside Project monitoring and CASGEM monitoring programs into a Subbasin-wide groundwater elevation and water quality monitoring program
- Filling data gaps in areas including groundwater elevation data, water quality sampling, seawater intrusion control, and subsidence monitoring reference elevation datum
- Assessing existing saltwater intrusion, monitoring, and control
- Well abandonment and well destruction program
- Replenishment of groundwater extractions
- Planning for existing and future conjunctive use and underground storage
- Well construction policies and permitting standards
- Groundwater contamination cleanup, recharge, diversions to storage, conservation, water recycling, conveyance, and extraction projects
- Efficient water management practices
- Relationships with state and federal regulatory agencies
- Land use plans and efforts to coordinate with land use planning agencies to assess activities that potentially create risks to groundwater quality or quantity, and
- Addressing potential impacts on GDEs

These existing monitoring programs will be integrated into proposed water resources monitoring and management programs. This section will also summarize coordination with counties and cities on well permitting within the basin, local well ordinances, and relevant codes and policies.

Deliverables:

- Applicable GSP Sections

Additional Details of the LSCE Team Approach

Our Team's approach to evaluation of sustainable management criteria is described below.

EVALUATION OF SUSTAINABILITY INDICATORS AND DETERMINATION OF UNDESIRABLE RESULTS

Groundwater Levels and Storage

Available groundwater elevation data, groundwater contour maps, and hydrographs will be compiled, analyzed, and summarized in the HCM. Groundwater levels will then be evaluated further in terms of sustainability goals, minimum thresholds, measurable objectives, and sustainable yield. Similarly, evaluation of groundwater storage that is conducted as part of HCM development will be evaluated relative to sustainability criteria and sustainable yield.

Seawater Intrusion

Available groundwater data (e.g., levels, quality, pumping) and studies related to historical occurrence of seawater intrusion will be reviewed, analyzed, and summarized in the HCM developed

in Subtask 4.2. Areas and depth zones with reported/apparent occurrence of historical seawater intrusion and associated groundwater data/studies will be documented. This HCM information, combined with groundwater model simulations of future proposed development alternatives, will be reviewed and evaluated to provide the basis for establishment of sustainability criteria and as input to sustainable yield calculations.

Streamflow Depletion

Our team's approach will include characterizing the existing GW-SW interactions and GDEs under Subtask 4.2, incorporating minimum thresholds into the sustainable yield analysis, and, if necessary, developing potential management actions to address undesirable results related to streamflow depletion and degradation of aquatic and riparian ecosystems (including GDEs).

The first step involves collecting background data and evaluation of GDE mapping provided by The Nature Conservancy and DWR. The map of potential GDEs will be evaluated to determine which GDEs are sustained by local shallow/perched groundwater that is distinct from the regional groundwater versus GDEs that may be sustained by the regional groundwater system where most of the basin pumping occurs. Any stream reaches or GDEs that are identified to have a connection to the regional groundwater system will be further evaluated in terms of the need to establish minimum thresholds, measurable objectives, and incorporation into the sustainable yield analysis. A literature/data review and GIS-based assessment of the current ecological conditions in the East Bay Plain Subbasin within watercourses, riparian corridors, and other GDEs (e.g., wetlands) will be performed. Next, a review of groundwater model results will be conducted to determine future trends in groundwater elevations and surface water/groundwater interaction. The effects of potential changes in future GW-SW interactions on streams and GDEs and ecological assets will be evaluated.

Surface water and groundwater level data for wells near streams in the East Bay Plain Subbasin will be collected and analyzed to better understand GW-SW interactions. This complex relationship can be dynamic, in that different times of the year streams may exhibit gaining or losing stream conditions. Once the current relationship of surface water to groundwater is established, management actions can be developed to address potential future undesirable results for GW-SW interactions and GDEs. Monitoring of paired observation stations in the stream and adjacent groundwater can provide real-time data that can be used to monitor GW-SW interactions.

Land Subsidence

An initial assessment of subsidence and compilation of subsidence data/studies in the subbasin will be conducted in Subtask 4.2 as part of HCM development. Assessment of historical groundwater levels, occurrence (or lack thereof) of historical subsidence, available extensometer data, and soil/sediment properties will be reviewed. Review of this data combined with subbasin-specific groundwater elevation data for wells completed at known depths will be used to establish sustainability thresholds related to subsidence. Available lithologic data and geologic cross sections will be used to cross check the occurrence and physical properties of clay layers that may cause inelastic (i.e., irreversible) subsidence. Groundwater elevation data from wells in areas where land subsidence could be a future concern will be used to determine historical lows, or thresholds of drawdown, that should not be exceeded in order to avoid further exacerbation of the compaction of potential inelastic clay layers.

Water Quality Impairment

GSP development will include further characterization of historical and baseline groundwater and surface water quality during development of the HCM in Subtask 4.2. Key constituents will be identified and evaluated in more detail for potential inclusion in the subbasin sustainability criteria. This water quality characterization will provide the basis for establishment of minimum thresholds and measurable objectives as part of the overall sustainability analysis.

SUSTAINABILITY CRITERIA

Baselines

Historical water budget information will be the basis for estimating future baseline conditions of hydrology, water demand and surface water supply reliability over the 50-year planning and implementation horizon. Fifty years of historical precipitation, evapotranspiration, and streamflow information will be used in developing future baseline hydrology conditions. The uncertainty associated with climate change will be considered using climate change scenarios provided by DWR. The most recent land use and water supply information will be used in the baseline condition for estimating future groundwater and surface water supply incorporating the historical surface water supply reliability with consideration given to projected changes in local land use planning and population growth. The projected water budget accounting will also include estimated changes in the projected water budget resulting from planned implementation of the selected projects and will be used to quantify the estimated future baseline conditions of supply, demand, and aquifer response to GSP implementation. The projected water budget assessment in the GSP will also evaluate and identify the level of uncertainty in the projected water budget estimate.

Sustainable Yield

Sustainable yield occurs when the subbasin is in balance and the outflows are not greater than the inflows, and undesirable results do not occur. As suggested in previous studies, it is likely some amount of basin groundwater outflow to San Francisco Bay must occur to avoid undesirable results related to seawater intrusion. However, other sustainability indicators must be considered as well. The methods to estimate sustainable yield include: analysis of historical conditions; evaluation of water budgets; change in groundwater storage calculations; and using the basin groundwater flow model.

The groundwater flow model will likely be the most robust tool to determine sustainable yield, as various management actions and groundwater pumping model inputs can be altered and effects on groundwater levels/storage, seawater intrusion, SW/GW interactions and GDEs, and subsurface lateral flows can be simulated. The testing of various combinations of groundwater supply development and aquifer storage and recovery (ASR), and the evaluation of simulated effects as cited above will lead to an estimate of sustainable yield.

Development of Basin Thresholds

Minimum thresholds will be established for each sustainability indicator to avoid undesirable results for the East Bay Plain Subbasin. As stated above, sustainability indicators include: groundwater levels, groundwater storage, seawater intrusion, water quality, land subsidence, and interconnected surface water. Undesirable results may occur when one or more sustainability indicators experience conditions below the minimum thresholds. Minimum thresholds are a numeric value for each sustainability indicator used to define undesirable results. Minimum thresholds will be described in terms of their effects on the beneficial uses and users of groundwater, and how the minimum thresholds do not adversely affect the ability of adjacent basins to achieve sustainability.

In terms of groundwater levels, the minimum thresholds will be developed based on long-term groundwater level data. Representative wells selected for particular geographic areas and particular aquifer units will be used to develop minimum thresholds, or minimum groundwater elevations that must not be exceeded. For groundwater storage, the minimum threshold will be developed such that sustainable yield is met (i.e., there is no continuing long-term storage decline) and groundwater storage changes are within a reasonable limit, pending water year types. Seawater intrusion is anticipated to be a major sustainability indicator for the East Bay Plain Subbasin, and will be extensively evaluated to provide input and guidance for establishing minimum thresholds. Groundwater quality minimum thresholds will likely be related to drinking water maximum contaminant levels (MCLs), and other water quality standards for constituents of interest. A list of water quality parameters specific to the East Bay Plain Subbasin will be used for developing minimum thresholds for groundwater quality constituents.

Minimum thresholds for land subsidence will be developed in conjunction with the groundwater level minimum threshold. Hydrographs showing historical groundwater level trends for wells across the subbasin will be used to determine historical low groundwater elevations, combined with evaluation of the level of subsidence that did (or did not) occur at those historical lows. A combination of land surface elevation values (e.g., from extensometer stations and/or InSAR) and representative groundwater level monitoring will likely be used to develop the minimum thresholds for land subsidence.

Minimum thresholds for interconnected surface water will be developed for surface water bodies that have a connection to groundwater. The GW-SW relationship will be detailed in the HCM, which will indicate areas in the EBP Subbasin where groundwater has the ability to provide baseflow to surface water bodies (or the groundwater elevation influences the amount of streamflow percolation). Surface water stage and flow data may be used in conjunction with shallow monitoring wells in the vicinity of surface water bodies to determine appropriate local shallow groundwater elevation thresholds, that when exceeded, would result in undesirable and unreasonable streamflow depletion.

The minimum thresholds will be used to help develop measurable objectives for each sustainability indicator, as required in the GSP. Measurable objectives will be based on minimum thresholds, and like minimum thresholds, will represent quantitative values but will be selected to provide operational flexibility in the case of extenuating or adverse circumstances (e.g. a long-term drought). The measurable objectives will represent the end goal toward maintaining sustainable groundwater management through 2042 and thereafter.

Task 5: Preparation of the East Bay Plain Subbasin GSP: Monitoring Network

Subtask 5.3

RFP Scope of Work

This task is to design and describe the monitoring programs, monitoring protocols standards, design considerations and justifications, and data gaps in compliance with GSP regulations. We understand that EBMUD has developed and is operating the Bayside Groundwater Monitoring network, the CASGEM monitoring program for the Subbasin, and the Bayside Subsidence Monitoring Program in collaboration with USGS, and the City of Hayward monitors water levels in its emergency supply wells. These existing monitoring programs need to be integrated into the Subbasin-wide monitoring programs developed under this RFP.

The LSCE Team will describe monitoring network objectives, including how the network will be developed and implemented to monitor groundwater and related surface conditions and interconnection of surface water and groundwater, if applicable. The monitoring network will be designed to collect sufficient data to demonstrate short-term, seasonal, and long-term groundwater level trends and related surface conditions, and yield representative information about groundwater conditions as necessary to evaluate GSP implementation.

The monitoring network will be designed to ensure adequate coverage of applicable sustainability indicators. For each management area (if applicable), the quantity and density of monitoring sites will need to be sufficient to evaluate conditions of the basin setting and sustainable management criteria specific to that area.

This discussion will also outline how GSAs can review and evaluate effectiveness of the monitoring network, modify monitoring frequency and density, and identify and fill the data gaps in a phased approach.

Additional Details of the LSCE Team Approach

The LSCE Team's development of the GSP monitoring network will build on prior work that includes EBMUD groundwater level, quality, and subsidence monitoring, the CASGEM groundwater level monitoring networks for the East Bay Plain Subbasin, and Hayward monitoring. This work will include review of the HCM to delineate aquifer zones and understand how individual wells represent conditions in vertically-stratified aquifer zones. We will also consider the need to develop GW-SW monitoring facilities that will improve understanding of GW-SW interactions and the potential for adverse impacts on streamflow depletion and GDEs resulting from groundwater pumping.

The project team will develop a plan describing a monitoring network that provides sufficient data to describe short-term, seasonal, and long-term trends in groundwater and related surface water conditions. The monitoring plan will describe objectives and how the network will be developed, implemented, and monitored to provide sufficient spatial and temporal coverage to obtain sufficient

data for each sustainability indicator. Overall, the project team will develop a monitoring plan that targets the following: demonstrates maintenance of measurable objectives, monitors impacts to beneficial uses/users, monitors changes in groundwater conditions, and helps quantify annual changes in water budget components. Based on the project team's HCM and groundwater conditions assessment, a subset of monitoring sites will be selected to be representative of overall basin conditions (or in each management area) for each sustainability indicator. The monitoring network will be evaluated every five years to determine if it is meeting the needs of the GSP, identify data gaps remaining to be addressed and steps to be taken to fill data gaps, and evaluate and adjust monitoring frequency as necessary.

Task 5: Preparation of the East Bay Plain Subbasin GSP: GSP Implementation Plan

Subtask 5.4

RFP Scope of Work

The LSCE Team will develop a project implementation plan for the management actions, complete with scope of work, cost estimate, implementation schedule over a 20-year planning period, periodic evaluation, and reporting for each project or study. Cost information will include estimates of annual GSP implementation costs shown as capital costs and operating costs based on life cycles of necessary infrastructure.

Deliverables:

- A work plan to implement the management actions, including descriptions of projects, schedules, costs, and reporting

Task 5 – Prepare Functionally Equivalent Plan for Salt/Nutrient Components per Recycled Water Policy

Subtask 5.5.

RFP Scope of Work

The GSAs have existing and planned recycled water projects which deliver recycled water for irrigation over portions of the East Bay Plain Subbasin. The State Water Resources Control Board (SWRCB) has recently amended the Recycled Water Policy, which includes requirements for addressing the management of salts and nutrients. The Amended Policy requires Regional Water Boards to evaluate and prioritize groundwater basins for salt and nutrient management plan (SNMP) development based on GAMA or as a priority basin under the GAMA system for development of a SNMP.

The SWRCB recognizes the overlap between SNMP and GSP requirements. The Proposed Amendment allows for GSPs developed pursuant to SGMA to be found functionally equivalent to a SNMP (Section 6.2.1.4). The LSCE Team will incorporate added information and analyses into the GSP to meet the SNMP requirements of the Recycled Water Policy. Salt and nutrient components that will be in the GSP include:

- Basin-wide monitoring program
- Provision for monitoring of constituents of concern
- Goals for recycled water use and stormwater recharge
- Estimates of loading from identified sources of salts and nutrients and the assimilative capacity of the basin, and
- An antidegradation analysis of recycled water projects in the basin to satisfy the requirements of State Water Board Resolution No. 68-16

Additional Details of the LSCE Team Approach

LSCE will work with Team member Brown and Caldwell (BC) to address salt and nutrient management planning issues.

LSCE and BC will develop functionally equivalent SNMP compliant components in the GSP to enable increased delivery of recycled water in accordance with the amended Recycled Water Policy. Our approach will be to coordinate and utilize as much of the information from parallel GSP sections development efforts as possible. Tasks will include:

- Potential recycled water projects will be identified along with associated salt and nutrient loadings. Other groundwater constituents will be reviewed for potential inclusion in the management process. A list of specific constituents to be addressed in the SNMP process will be prepared along with justification for inclusion.

- Basin water quality objectives will be compiled from the Basin Plan and other relevant guidelines and maximum contaminant limits.
- Calculate assimilative capacity of the basin in tons of salts, nutrients, and other constituents from current groundwater quality data compared with water quality objectives.
- EBPGM output for flows across model boundaries and historical groundwater concentrations will be used to estimate baseline basin mass balances.
- Initial estimates of changes due to recycled water use and other mass loading changes will be calculated on a basin-wide basis. Some of the other mass loading changes will include groundwater recharge using stormwater and changes in the mix of water supplies. Outflow concentrations will be adjusted incrementally to reflect average basin concentration changes.
- Anti-degradation analysis will be performed to compare salt and nutrient effects with benefits to satisfy Resolution 68-16. Approaches from Santa Ana Region Resolution No. R8-2004-0001 and the 2018 amendment to Recycled Water Policy will be utilized.
- Goals and descriptive text associated with salts and nutrients will be provided for GSP sustainable management criteria and management actions.
- The preliminary GSP basin monitoring program will be reviewed and embellished for consistency with Recycled Water Policy including the monitoring of salts, nutrients, and CECs, and
- Participation in outreach satisfying SNMP guidance will be performed as part of GSP outreach.

Deliverables:

- Tables, text and figures related to the scope described above in electronic format (i.e. PowerPoint, excel, pdf)
- Response to regulatory comments

Assumptions:

- All deliverables will be in electronic format

Task 5: Preparation of the East Bay Plain Subbasin GSP: Prepare and Finalize the GSP

Task 5.6

RFP Scope of Work

This task is to compile the draft GSP sections into a single report, perform final quality assurance/quality control assessment of data accuracy and interpretation, organization of the GSP, consistency, correctness, and incorporate editorial changes. The draft GSP will be released for public comment prior to adoption by the GSA's governing bodies. The GSP will then be submitted to DWR, where it will be posted for an additional 60-day public review period. After that time, DWR has up to two years to approve the GSP. All references, citations, and studies, as well as documents for appendices will be compiled and documented.

Deliverables:

- Admin Draft GSP
- Draft GSP
- Final GSP for Adoption and Submittal to DWR

Additional Details of the LSCE Team Approach

Preparation of the GSP Sections will include public-friendly narrative in plain language that addresses topics in compliance with DWR GSP standards, while detailed technical memoranda are to be incorporated as appendices. This allows GSA members and stakeholders to review GSP content at either a higher planning-level or a more detailed technical level depending on their interests.

Topics for individual GSP chapters or sections will be prepared and presented during meetings in a structured schedule to allow GSAs to absorb GSP content over time rather than in one large document at the end of a two to three-year process.

We will adopt a streamlined approach for receiving comments on draft GSP materials by providing a form that allows the GSA and stakeholders to provide feedback. The form allows the LSCE Team to quickly organize comments and identify areas that require further discussion to resolve conflicting comments.

Task 6 – Optional Tasks: Environmental Compliance and Permitting

Subtask 6.1

RFP Scope of Work

While a GSP is exempt from CEQA as per §10728.6 of SGMA, the GSP may include tasks and management actions that trigger environmental documentation processes and/or permitting including but not limited to well drilling permits. The GSAs intend to fully comply with environmental regulations including CEQA and permitting requirements during GSP development and the implementation of the GSP. Should it become necessary and upon GSAs' prior written authorization for optional services, the LSCE Team will obtain any necessary permits such as well drilling permits for exploratory boreholes and monitoring wells, and also conduct necessary environmental documentation processes for GSP preparation.

Additional Details of the LSCE Team Approach

LSCE Team member ESA will be available to address environmental compliance and permitting issues on an as-needed basis.

If it is determined during GSP preparation that field data collection via monitoring wells and/or exploratory boreholes, or other projects and management actions that may be defined as a Project under the California Environmental Quality Act (CEQA) require a permit or otherwise trigger environmental documentation processes, ESA will work with EBMUD and the project team to review information regarding the project/management action and determine whether environmental documentation and permits are required. Based on our understanding and experience with monitoring well and other data collection efforts, it is typical that such actions would be defined as a Project under CEQA, but typically can be identified within the list of classes of projects which have been determined not to have a significant effect on the environment and are therefore exempt from the provisions of CEQA. Other projects and management actions may have more significant requirements under CEQA. Monitoring wells and borings often are identified under the class 6 exemption for data collection (CEQA Guidelines Section 15306). However, monitoring wells and borings may also fall under exemptions related to replacement or conversion of existing structures or small new structures; or in the case of a GSP, actions required for protection of the environment.

ESA will also work with EBMUD and the project team to determine the permit requirements for the given proposed project or management action. This will be based on the review of the project/management action description information, existing site conditions, and regulatory requirements. In terms of borings and monitoring wells, preparation of an application to Alameda County for a well drilling permit will likely be the extent of required permits.

Prior to undertaking any effort under Optional Task 6.2, ESA will outline the recommended CEQA and permit requirements based on the environmental conditions at the site and provide a scope and

cost request for such effort. Upon authorization to proceed, we will discuss the timeframes for the CEQA and permit compliance processes (as well as any challenges that may delay the processes), describe any additional requirements subsequent to completion of the CEQA and permit compliance (i.e., pre-construction surveys, training, and monitoring), and undertake the required CEQA compliance and partner with EBMUD and the project team to complete required permit applications.

Task 6 – Optional Tasks: Data Management System (DMS)

Subtask 6.2.

RFP Scope of Work

The LSCE Team will develop a Technical Memo regarding a Data Management System designed to maintain a database, allow queries, analyze the data, and generate data analysis reports. At a minimum, the Technical Memo will describe data management needs, options, evaluation criteria, and long-term costs. A typical DMS includes the following features but is not limited to:

- A web-based user interface
- Built-in GIS set up to locate data points and geographical references
- Levels of privileges for administrators and various users
- Cloud data storage with multiple back-ups
- Capability to link with modeling platform for model input or output datasets, and
- Customizable off-the-shelf application and NOT be a proprietary application

Additional Details of the LSCE Team Approach

LSCE Team member Farallon Geographics will be available to address DMS development issues related to the TM required under this task and on an as-needed basis.

The GSAs will likely require a Data Management System to properly organize, update, analyze, and report on the hydrogeologic data that will be compiled and developed during preparation of the East Bay Plain Subbasin GSP. In addition to the features summarized in the RFP, we anticipate that the DMS will be used to manage a variety of hydrogeologic data well after the GSP has been adopted. For example, the DMS should be able to manage:

- Location, status, construction details of production wells, monitoring wells, and piezometers
- Groundwater production data for pumping wells, water level, and groundwater elevation time-series data for non-production wells
- Groundwater quality data
- Modeled and interpreted groundwater information (e.g., maps of water quality for the basin)
- Extent and character of important geologic features (e.g., aquifer and aquitard extents)
- Reports, historical maps, images, and other documents, and

- Ability to define and publish data queries, reports, analytical results

Identifying an appropriate DMS capable of meeting the GSAs' needs will require defining a set of functional requirements for the system, stakeholders' needs, data security/access requirements, and technology/deployment constraints that the DMS must meet. LSCE Team member Farallon will work closely with EBMUD, City of Hayward, and other key stakeholder communities to elicit the set of requirements and expectations for the DMS from each user community. We will conduct on-site interviews with key user community representatives to identify the essential capabilities of the DMS.

Concurrently, Farallon will review and compile a list of datasets that the DMS will be required to maintain and manipulate. This effort will include identifying existing systems that may need to integrate with the DMS (e.g., Document Management, Statistical Analysis, GIS, visualization packages, and groundwater modeling packages).

The requirement's definition effort will be used to define a set of core system capabilities and the evaluation criteria that will be used to identify off-the-shelf application(s) that can meet the needs of EBMUD and the City of Hayward. Once potential applications have been identified, Farallon will build a cost model to estimate the implementation, administration, and on-going hosting costs for each potential DMS solution.

Results of this task will be summarized as a draft Technical Memorandum, ready for review and comment by EBMUD and City of Hayward. Based on these reviews of the draft Memorandum, Farallon will finalize the document for incorporation in the GSP.

Deliverable:

- Technical Memorandum

Task 6 – Optional Tasks: Additional Editorial Review and Services

Subtask 6.3

Scope of Work

This task provides for additional consultant services that may be requested related to additional materials such as brochures or other work products and/or additional editorial services beyond those included in Tasks 1, 2, 4, and 5.

Task 6 – Optional Tasks: Additional General Services

Subtask 6.4.

Scope of Work

This task provides for additional consultant general services that may be requested beyond those included in Tasks 1, 2, 4, and 5.

Task 6 – Optional Tasks: Stakeholder/Public Outreach and Facilitation Support As Needed

Subtask 6.5.

RFP Scope of Work

Although not included in the RFP Scope of Work, the LSCE Team includes Kearns and West to provide stakeholder/public outreach and facilitation support on an as-needed basis. This potential service is included on our team to provide the EBP Subbasin GSAs with the option to utilize consultant support should unexpected needs arise.

Additional Details of LSCE Team Approach

In the event that EBP GSAs should desire services from Kearns and West, a specific budget allocation has not been provided, and those services will be provided based upon the KW Fee Schedule.

Exhibit – B-1

Exhibit B-1. East Bay Plain Subbasin Groundwater Sustainability Plan Development Project Schedule (updated January 2019)

	Contracted Services	2019				2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Stakeholders' Communication and Engagement Support (led by GSAs)												
2.1	Project Administration (led by GSAs)												
2.2	Preparation of Project Updates												
2.3	Project Management by Consultant												
4.1	Data Syntheses and Analysis												
4.2	Hydrogeologic Conceptual Model (HCM) Development												
4.3	Groundwater Model Objectives and Selection												
4.4	Construct, Calibrate, Validate and Perform Uncertainty Analysis of EBPGM												
4.5	Baseline Scenario and Alternative Management Scenarios												
4.6	Document and Archive EBPGM												
5.1	General Information, Plan Area Setting, Stakeholder C&E, Monitoring												
5.2	Sustainable Management Criteria and Management Actions												
5.3	Monitoring Network												
5.4	GSP Implementation Plan												
5.5	Prepare Functionally Equivalent Plan for Salt/Nutrient Components												
5.6	Prepare and Finalize the GSP												
	Optional Services												
6.1	Environmental Compliance and Permitting												
6.2	Data Management System (DMS)												
6.3	Additional Editorial Review and Services												
6.4	Additional General Services												
6.5	C&E Facilitation Support[1]												

1 LSCE Team Optional Facilitation Support (As Needed)

Exhibit B-1

Exhibit C-1

Exhibit C-1
East Bay Plain Subbasin Groundwater Sustainability Plan Development Project (updated as of December 2018)
Cost Distribution

	Total Cost	% Allocated to Hayward	Hayward Cost	% Allocated to EBMUD	EBMUD Cost
Task 1 - Stakeholders' Communication and Engagement (C&E) Support					
1.1.Meetings					
Technical Advisory Committee 1. TAC meetings to be held approximately every other month 2. General stakeholders meetings and Interbasin Working Group meetings (every six months)	$ 84,744	30%	$ 25,423	70%	$ 59,321
1.2. Preparation of Project Updates, Presentations, Responses to Stakeholder Issues or Concerns	$ 68,684	30%	$ 20,605	70%	$ 48,079
Deliverables: Progress update presentations, responses to stakeholder issues and concerns					
Task 1 Subtotals	$ 153,428		$ 46,028		$ 107,400
Task 2 - Project Management and Grant Reporting					
2.1. Project Administration	$ 12,560	35%	$ 4,396	65%	$ 8,164
Deliverables: Project Schedule					
2.2. Preparation of Project Updates	$ 12,560	35%	$ 4,396	65%	$ 8,164
Deliverables: Information for quarterly grant reports, data sets, information for grant completion report					
2.3. Project Management by Consultant	$ 16,860	35%	$ 5,901	65%	$ 10,959
Deliverables: Monthly invoices and project status updates					
Task 2 Subtotals	$ 41,980		$ 14,693		$ 27,287
Task 4 - Develop the East Bay Plain Groundwater Model (EBPGM)					
4.1. Data Syntheses and Analysis	$ 134,973	20%	$ 26,995	80%	$ 107,978
Deliverables: Technical memorandum summarizing data syntheses and analyses, including identification of data gaps and recommendations of project concepts to fill data gaps as optional services					
4.2. Hydrogeologic Conceptual Model (HCM) Development	$ 201,290	50%	$ 100,645	50%	$ 100,645
Deliverables: A conceptual hydrogeologic model showing high-level representation of the groundwater flow system. The conceptual model will include all of the water budget components (or stresses) and a 3D geologic framework model that will define the stratigraphy and connectivity of each geologic layer in the Subbasin					
4.3. Groundwater Model Objectives and Selection	$ 29,588	40%	$ 11,835	60%	$ 17,753
Deliverables: Technical memorandum establishing the model's purpose and objectives, evaluating model selection criteria, and recommending the appropriate model					
4.4. Construct, Calibrate, Validate and Perform Uncertainty Analysis of East Bay Plain Groundwater Model (EBPGM)	$ 201,340	30%	$ 60,402	70%	$ 140,938
Deliverables: An integrated and validated transient groundwater flow based model that simulates historical conditions through the present and is capable of analyzing surface water-groundwater interaction					
4.5. Develop and Analyze Baseline Scenario and Alternative Management Scenarios	$ 127,192	40%	$ 50,877	60%	$ 76,315
Deliverables: Tabulated comparisons of model output from the scenarios and the baseline to evaluate the hydrologic effects of the proposed water management actions					
4.6. Document and Archive EBPGM	$ 69,080	40%	$ 27,632	60%	$ 41,448
Deliverables: Model files and technical memorandum documenting model development and runs					
Task 4 Subtotals	$ 763,463		$ 278,386		$ 485,077
Task 5 - Preparation of the East Bay Plain Subbasin GSP					
5.1. General Information, Plan Area and Subbasin Setting, Stakeholder C&E, and Monitoring	$ 58,253	35%	$ 20,389	65%	$ 37,864
Deliverables: GSP Outline; Applicable GSP Sections					
5.2. Sustainable Management Criteria and Management Actions	$ 94,881	35%	$ 33,208	65%	$ 61,673
Deliverables: Applicable GSP Sections					
5.3. Monitoring Network	$ 54,600	35%	$ 19,110	65%	$ 35,490
Deliverables: Applicable GSP Sections					
5.4. GSP Implementation Plan	$ 46,926	35%	$ 16,424	65%	$ 30,502
Deliverables: A work plan to implement the management actions including descriptions of projects, schedules, costs, and reporting					
5.5. Prepare Functionally Equivalent Plan for Salt/Nutrient Components per Recycled Water Policy	$ 99,192	35%	$ 34,717	65%	$ 64,475
Deliverables: Incorporate added information and analyses into GSP to meet SNMP requirements of the Recycled Water Policy					
5.6. Prepare and Finalize the GSP	$ 146,171	35%	$ 51,160	65%	$ 95,011
Deliverables: Draft GSP, Final GSP for Adoption and Submittal to DWR					
Task 5 Subtotals	$ 500,023		$ 175,008		$ 325,015
Contracted Services Subtotal	**$ 1,458,894**		**$ 514,115**		**$ 944,779**
Task 6 (Optional Services)					
6.1. Environmental Compliance and Permitting Deliverables: Environmental documentation processes for GSP preparation	$ 49,844	35%	$ 17,445	65%	$ 32,399
6.2. Data Management System (DMS) Deliverables: Technical Memorandum describing Data Management System including but not limited to data management needs, options, evaluation criteria, and long-term costs	$ 32,204	35%	$ 11,271	65%	$ 20,933
6.3. Additional Editorial Review and Materials Deliverables: May include additional materials such as brochures or other work products and/or additional editorial services beyond those include in Tasks 1 and 5	$ 10,360	35%	$ 3,626	65%	$ 6,734
6.4. Additional General Services Deliverables: To be determined, dependent on services to be provided under this optional task that are beyond those include in other tasks	$ 40,140	35%	$ 14,049	65%	$ 26,091
Optional Services Subtotals	**$ 132,548**		**$ 46,392**		**$ 86,156**
Totals (Contracted Services plus Optional Services)	$ 1,591,442	35.22%	$ 560,507	64.78%	$ 1,030,935
with grant funding	$ 591,442	35%	$ 207,005	65%	$ 384,437
original estimated cost	$ 490,000	34.91%	$ 171,083	65.09%	$ 318,917
difference	$ 101,442		$ 35,922		$ 65,520

Note:
% in Black color font are original distribution
% in Green color font are modified distribution

AMENDMENT NO. 2

COOPERATING AGREEMENT BETWEEN EAST BAY MUNICIPAL UTILITY DISTRICT AND CITY OF HAYWARD FOR DEVELOPMENT OF A GROUNDWATER SUSTAINABILITY PLAN FOR THE EAST BAY PLAIN SUBBASIN

This Amendment No. 2 to COOPERATING AGREEMENT BETWEEN EAST BAY MUNICIPAL UTILITY DISTRICT AND CITY OF HAYWARD FOR DEVELOPMENT OF A GROUNDWATER SUS TAIN ABILITY PLAN FOR THE EAST BAY PLAIN SUBBASIN ("Cooperating Agreement"), as previously amended, is by and between the East Bay Municipal Utility District ("EBMUD"), a municipal utility district, and the City of Hayward ("City"), a municipal corporation. EBMUD and the City are hereinafter referred to collectively as the "Parties."

RECITALS:

WHEREAS, EBMUD and the City entered into the Cooperating Agreement dated the 25th day of June, 2018 to work cooperatively to prepare a single Groundwater Sustainability Plan (GSP) for the Subbasin designated in California Department of Water Resources Bulletin 118 as Basin No 2-009.04 (the "East Bay Plain Subbasin" or "Subbasin") in compliance with the Sustainable Groundwater Management Act, and said Cooperating Agreement provided for the Parties to fund and carry out a GSP Development Project paid for in part by grant funds; and

WHEREAS, EBMUD and the City previously amended the Cooperating Agreement on March 19, 2019 by entering into Amendment No. 1 thereto, which amended the scope of work, schedule, and budget and cost allocation of the GSP Development Project, and said Cooperating Agreement as previously amended is hereinafter referred to as the "Amended Cooperating Agreement"; and

WHEREAS, EBMUD entered into an amended grant agreement with State of California Department of Water Resources on May 15, 2020 (Agreement No. 4600012665—Amendment No. 1) ("Amended Grant Agreement"), which awarded additional grant funds made available by Proposition 68 and expanded and added to the scope of work set forth in the original grant agreement; and

WHEREAS, the Amended Cooperating Agreement provides for the Parties to enter into a Joint Supplemental Project and to determine the Cost Share Percentage for such Joint Supplemental Project on a case-by-case basis, as memorialized in an amendment to the Amended Cooperating Agreement; and

WHEREAS, the Parties wish to pursue as a Joint Supplemental Project the portion of the Amended Grant Agreement's scope of work which appears therein under the heading "Task 6:

Data Management System" and to apply a different Cost Share Percentage for such portion of work than applies to the GSP Development Project; and

WHEREAS, the Parties desire to further amend the Amended Cooperating Agreement to (1) incorporate updated Exhibits A-1, B-1, and C-1, which document the updated scope of work, project schedule, and budget and cost allocation for the GSP Development Project, and (2) add new Exhibits A-2, B-2, and C-2, which document the scope of work, project schedule, and budget and cost allocation for the Joint Supplemental Project;

NOW, THEREFORE, EBMUD and the City hereby agree as follows:

1. With respect to the GSP Development Project, the Parties hereby revise the scope of work, project schedule, and budget and cost allocation as follows:

a. Exhibits A-1, B-1, and C-1 of the Amended Consulting Agreement are hereby deleted.

b. The revised versions of Exhibits A-1, B-1 and C-1 attached to this Amendment No. 2 are hereby added to the Amended Consulting Agreement and fully incorporated therein.

2. With respect to the Joint Supplemental Project, the Parties agree as follows:

a. Exhibits A-2, B-2, and C-2 as attached to this Amendment No. 2, which describe the scope of work, schedule, and budget and cost allocation for the Joint Supplemental Project, are hereby added to the Amended Consulting Agreement and fully incorporated therein.

b. For this Joint Supplemental Project only, EBMUD shall pay a Cost Share Percentage of fifty percent (50%) and City shall pay a Cost Share Percentage of fifty percent (50%). The Cost Share Percentage for the GSP Development Project set forth in the Amended Cooperating Agreement remains unchanged. The Cost Share Percentage for this Joint Supplemental Project shall not be regarded as a precedent for future cost allocation decisions.

c. EBMUD shall be the Contracting Entity and shall enter into a contract with a Consultant to perform the scope of work described in Exhibit A-2. Such Consultant shall be selected and approved by the Parties in the manner described in the Amended Cooperating Agreement. The Parties shall be jointly responsible for the successful completion of the work.

d. EBMUD shall account for funds held for the Joint Supplemental Project separately from funds held for the GSP Development Project, provided that funds may be commingled if such separate accounting is maintained.

e. Each Party's initial contribution towards the Joint Supplemental Project shall be $50,000 which the City shall pay to EBMUD following execution of the Consultant contract for the Joint Supplemental Project upon receipt of an invoice from EBMUD.

f. The minimum balance of funds held for the Joint Supplemental Project by EBMUD shall be $50,000. In the event the funds held by EBMUD for the Joint Supplemental

Project fall below such minimum balance, each Party shall make a subsequent contribution upon EBMUD's request in the manner provided in Article VI, section B (Cost Sharing and Payment—Accounting and Payment) of the Amended Cooperating Agreement.

g. Notwithstanding Article VII, section B (Grant Administration—Deposit of Grant Funds) of the Amended Cooperating Agreement, each Party acknowledges its intent that grant reimbursement funds be used on the Joint Supplemental Project, as provided for by the Amended Grant Agreement, in a manner consistent with the Amended Cooperating Agreement.

h. Any remaining funds held for the Joint Supplemental Project shall be returned as provided in Article VI, section B, paragraph 6 (Cost Sharing and Payment—Accounting and Payment—Final Distribution of Project Account Funds) of the Amended Cooperating Agreement.

3. Except as specifically amended herein, all other terms and conditions of the Cooperating Agreement shall remain in full force and effect.

4. The Parties agree to the use of electronic signatures to execute this Amendment No. 2

5. This Amendment No. 2 shall become effective on the first date that it has been fully executed by EBMUD and the City.

[remainder of page intentionally left blank]

IN WITNESS WHEREOF, the Parties hereto have executed this Amendment No. 2 to the Amended Cooperating Agreement the date and year first above written.

CITY OF HAYWARD

Recommended By:

DocuSigned by:
Alex Ameri
85810E68250446B...

ALEX AMERI
Director of Public Works

DocuSigned by:
Kelly McAdoo
38D5F24F5EFE4F8...

KELLY MCADOO
City Manager

Approved as to form:

DocuSigned by:
FB80EC4EC3F24B7...

MICHAEL LAWSON
City Attorney

Attest:

DocuSigned by:
Miriam Lens
0022A42DA1F540D...

MIRIAM LENS
City Clerk

EAST BAY MUNICPAL UTILITY DISTRICT

DocuSigned by:
Michael Tognolini
0D2B81DF07164BD...

MICHAEL TOGNOLINI
Director of Water & Natural Resources

Approved as to form:

DocuSigned by:
Jon Salmon
BF92C1A0D8D9486...

for the Office of General Counsel

Exhibit A-1

Original Scope of Work funded under Prop. 1

Exhibit A-1 Description of the Consultant Services

The consultant services to be provided for Request for Proposal (RFP) Tasks 1, 2, 4, 5, and 6 are provided below. Task 3 is not included because it relates to development of governance structure and does not require consultant services.

Task 1 Stakeholder's Communication and Engagement Plan

Subtask 1.0

RFP Scope of Work

The Sustainable Groundwater Management Act (SGMA) and Groundwater Sustainability Plan (GSP) regulations (Reg. § 354.10) require public notification and communication at particular instances as well as throughout the GSP development process. In accordance with the GSP regulations, EBMUD and the City of Hayward developed and are currently implementing the East Bay Plain Subbasin Stakeholder Communication and Engagement (C&E) Plan, which describes the GSAs' joint decision-making process and outlines a roadmap to meet SGMA's stakeholder engagement requirements. We understand the GSAs will use the C&E Plan to engage with and gather input from various stakeholders. The GSAs' Technical Team will work with the Luhdorff & Scalmanini Consulting Engineers (LSCE) Team (LSCE, GeoSyntec, Brown and Caldwell, ESA, Dr. Jean Moran, Farallon Geographics, Kearns and West) to consider input from the stakeholders in making key decisions in the GSP development process.

The LSCE Team will support the C&E process by participating in meetings of the Technical Advisory Committee (TAC), Interbasin Working Group, and general stakeholders. It is anticipated that the TAC will meet approximately every other month. We understand the LSCE Team may also be requested to participate in general stakeholders meetings and Interbasin Working Group meetings, which are expected to be scheduled every six months in alternating quarters.

We understand that C&E associated tasks for the LSCE Team may include preparing presentations, status updates, and responses to issues or concerns raised by stakeholders.

Deliverables:

- Progress update presentations
- Responses to stakeholder issues and concerns

Additional Details of the LSCE Team Approach

While we understand that the East Bay Plain Subbasin GSAs have prepared and plan to implement a C&E Plan, our Team includes additional support for stakeholder communications and outreach in case it may become necessary at some point during the GSA process. Thus, we have included Kearns and West on our Team solely on an as-needed basis as directed by the GSAs.

Task 2 Project Management and Grant Reporting

Subtask 2.0

RFP Scope of Work

The GSAs' project managers for the Subbasin GSP will manage the overall GSP development project including resources, consulting contracts, task completion, budget and schedule and grant reporting. Each GSA will appoint a Project Manager to coordinate with the consultant.

LSCE will be solely responsible for coordinating closely with GSAs and managing its consulting team, including our subconsultants, specialists, contractors and supporting entities, to meet the project schedule and produce deliverables as per the consulting contract. LSCE will prepare initial project schedules for consulting services. This schedule will incorporate the GSAs' C&E activities and an overall project schedule and will include milestones for deliverables.

LSCE will track contract budget and schedule to update the GSAs' Technical Team on a monthly basis. The updates will show itemized tasks, budget allocation, percent completion and remaining budget balance.

As per DWR's grant agreement, EBMUD, the grantee, is required to submit quarterly progress reports, groundwater level data, groundwater quality data, any requested information and data, and a final grant completion report via DWR's Grant Review and Tracking System (GRanTs). The progress reports will provide a brief description of the work performed, grantee activities, milestones achieved, any accomplishments and any problems encountered in the performance of the work under the grant agreement during the reporting period.

Under this task, LSCE will provide requested information in a form that can be incorporated into the quarterly reports to be prepared by EBMUD such as the formats described in the applicable portion of Exhibit F and Exhibit G of DWR's standard grant agreement. When invoicing for rendered services, LSCE will prepare invoices by identifying completed tasks as per the Workplan listed in the GSAs' Prop 1 GSP grant proposal.

Deliverables:

- Monthly invoices and information for progress reports
- Information for quarterly grant reports
- Data sets
- Information for grant completion report sections in Tasks 4 and 5 as well as aggregating GSP sections into administrative draft, draft, and final GSP documents (Task 5).

Task 4 Develop the East Bay Plain Groundwater Model (EBPGM)

Subtask 4.0

RFP Scope of Work

Under this task, the LSCE Team will develop the EBPGM. The EBPGM will be a transient model, which simulates historical conditions through the present. Initial model parameters will be selected based on review and analysis of existing data in the southern portion of the Subbasin, and new data collected as part of this GSP effort mainly in the northern portion of the Subbasin.

Task 4 EBPGB Model:
Hydrogeologic Conceptual Model (HCM) Development
Subtask 4.2

RFP Scope of Work

Under this task, the LSCE Team will prepare a descriptive hydrogeologic conceptual model (HCM) of the Subbasin based on completed and concurrent technical studies (compiled under Subtask 4.1) and qualified maps that characterize the physical components and interaction of the surface water and groundwater systems in the Subbasin. The HCM will represent the Subbasin's groundwater flow system and detail all the water budget components (or stresses) in the Subbasin.

The new and relevant information obtained from Subtask 4.1 will be integrated into current knowledge of Subbasin's hydrologic features and findings from completed studies and investigations by EBMUD, Hayward, USGS, and others. From this information, the HCM of the entire Subbasin will be developed in accordance with GSP §354.14.

This task will include a graphical and narrative description of the HCM based on technical studies and qualified maps that characterize the physical components and interaction of the surface water and groundwater systems in the Subbasin. This task will also include the regional geologic and structural setting of the Subbasin, including the immediate surrounding area, Subbasin boundaries and major geologic features that significantly affect groundwater flow, the definable bottom of the basin, and principal aquifers and aquitards.

The graphical description will include the physical components of the basin complete with sufficient numbers of scaled cross sections and transects, map(s) of physical characteristics, topographic maps, surficial geology, soil characteristics, delineation of existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas and discharge areas, surface water bodies, and source and point of delivery for local and imported water supplies.

Also under this task, a 3D geologic framework will be rendered to delineate the stratigraphy and connectivity of each geologic layer in the Subbasin. The geologic framework development will utilize collected data as well as previous geologic investigations in the Subbasin. The geologic model will be constructed based on the geologic framework so that it can easily be incorporated into and define the aquifer properties of the integrated HCM. Interbasin hydraulic connectivity between East Bay Plain and Nile Cones Subbasin will be conceptualized using the latest available information, including USGS research papers.

Deliverables:

- A hydrogeologic conceptual model showing high-level representation of the groundwater flow system. The conceptual model will include all of the water budget components (or stresses) and a 3D geologic framework model that will define the stratigraphy and connectivity of each geologic layer in the Subbasin.

Additional Details of the LSCE Team Approach

While SGMA and GSP regulations include specific requirements for an HCM, such as a minimum number of basin geologic cross sections, the HCM to be developed in the GSP is intended to strongly address the GSAs' interests in a solid physical basis for the groundwater model. For example, while GSP regulations require only two 2D geologic cross sections to characterize the subbasin, our scope of work includes updates to several existing geologic cross sections prepared by LSCE (2003) and others with recent well log data. LSCE (2003) previously prepared several detailed hydrostratigraphic cross sections of the East Bay Plain and Niles Cone Subbasins between Oakland and Union City. These existing cross sections will be updated with new borehole lithologic and geophysical data collected since 2003 (e.g., ACWD, 2006; DWR well logs dated after 2003), and up to 10 new hydrostratigraphic cross sections will be developed throughout the subbasin, including several in the northern portion of the subbasin between Berkeley and Richmond and potentially (depending on available of data) some additional cross sections between Oakland and Hayward to fill in data gaps from the previous study.

The updated existing 2D cross sections and the new 2D cross sections and associated borehole lithologic and geophysical data will be input to a database for use with ArcHydro software to develop a three-dimensional geologic framework model. This 3D geologic model is intended to improve overall understanding of the basin stratigraphy and transition zone area and will provide important input for development/refinement of model layering. The 3D geologic framework model is described in more detail below.

The 3D geologic framework model will build off of previous work conducted for the EBMUD GMP. The ArcHydro Database will be populated with boring lithologic and geophysical data for borings greater than a specified depth (minimum depth likely between 150 and 200 feet), so that it captures data relevant to regional groundwater supply analysis. 3D geostatistical interpolation using kriging will be used to generate a 3D grid of lithology. The software will then allow for development

of 2D cross sections and 3D geovolumes that result in a 3D geologic framework model and will serve as an excellent tool for model layer development.

The LSCE Team will compile and analyze available information from a variety of sources including boring logs, geophysical logs, DWR well reports, geologic and soil maps, cross sections and groundwater models. We will store the information in a database that is compatible with geoprocessing software such as ArcHydro Groundwater (AHGW), which is a framework for managing groundwater data within an ArcGIS environment. As described above, we will develop a 3D hydrogeologic model of the model domain area. The 3D geologic framework model will be used as the basis for layering and assigning aquifer properties in the NEB MODFLOW model and will be a powerful tool for displaying cross sections and visualization of the subsurface hydrostratigraphy, wells, groundwater levels, and flow.

Our water balance approach will include the development of a root zone model for the East Bay Plain Subbasin, which utilizes meteorological, land use, water use (evapotranspiration), and applied water data. The monthly data sets developed from the root zone model will inform water budget components, including groundwater recharge. A rainfall departure from mean analysis will be conducted to select a hydrologically representative base period for the water balance analysis and groundwater model calibration. Bedrock inflow will be quantified by reviewing available well log data for bedrock wells derived from a DWR well log review, some of which often include data on pumping tests that can be utilized to estimate hydraulic conductivity and groundwater gradients.

Percolation of streamflow will be evaluated by delineating lined vs. unlined portions of the stream channels, evaluating soils and shallow stratigraphy along stream channels, evaluating stream gauging data to the extent these data may be available, and possibly by analogy to stream gauging and/or stream percolation data from nearby streams in other basins that may be deemed representative.

Following up on work conducted by Muir (1993), potential contributions from water supply pipelines, storm drain networks, and sewer lines will be evaluated for potential contribution to recharge. Water supply pipeline leaks will involve consideration of losses reported by EBMUD and Hayward in their distribution networks, and typical representative loss percentages reported by other water purveyors. The analysis will also consider the potential for some of the pipeline leakage to migrate to local stream channels and exit the basin as surface water discharge to the bay.

Groundwater storage changes and subsurface inflows/outflows will be estimated using measured groundwater elevation data, thereby informing additional local water budget components. Existing published groundwater models will be evaluated, including NEBIGSM (including the most recent updated version from ACWD, if available), the SMPGWM, and the 2001 SEBP MODFLOW model for their model water balance inputs/outputs.

Water budget data from existing NEBIGSM will be compared to the independently developed water budget components discussed above. Results from the existing NEB MODFLOW model will be evaluated relative to the local hydrogeologic conditions and independently-developed water budget components, and necessary key local model refinements will be made to the new East Bay Plain groundwater model being developed under Subtasks 4.3 through 4.6. The refined model will then be used during GSP analyses to evaluate sustainability and produce the water budget components required for the GSP, including management area water budgets.

This subtask will include compilation of available groundwater level data into a database. These efforts will be focused on deeper wells that are representative of the major aquifers; however, water

level data from a subset of shallow wells in pertinent areas of the basin will also be incorporated in the database. The groundwater level data will be used to prepare groundwater elevation contour maps for selected years, and groundwater hydrographs for selected wells with significant periods of record. The available groundwater level data will also be used to evaluate groundwater storage changes over the representative base period.

The HCM will include compilation of available/existing groundwater quality data. The compiled groundwater quality data will be reviewed and additional assessment/evaluations conducted to the extent possible with available data. The additional analyses may include time series plots of key constituents, piper diagrams, stiff diagrams, and evaluation of potential water quality differences among management areas or in different portions of the basin. The specific GSP elements related to groundwater quality data will be reviewed to ensure the GSP meets applicable SGMA requirements. GSP elements include general water quality of the principal aquifers, and groundwater quality issues that may affect the supply and beneficial uses of groundwater. Ultimately, our evaluation of groundwater quality data in this task will be focused on meeting GSP requirements and providing a basis for use of key constituents as sustainability criteria for the subbasin.

Limited work has been done in previous studies on groundwater–surface water (GW-SW) interactions along the major streams in the EBP Subbasin. Additional assessment will be conducted to evaluate current and historical groundwater levels adjacent to waterways, and evaluate the impacts of potential increased groundwater pumping on future GW-SW interactions. Furthermore, the relationship between groundwater levels and groundwater dependent ecosystems (GDEs) have not been previously considered. We will review GDE mapping conducted by The Nature Conservancy and DWR with respect to potential GDEs that may be present in EBP Subbasin and available groundwater level data in those areas. Assessments of local hydrogeologic conditions will be conducted for potential GDEs to determine relationships to the regional aquifer system.

Task 4 EBPGB Model: Numerical Groundwater Flow Model

Subtasks 4.3 through 4.6

RFP Scope of Work

Subtasks 4.3 through 4.6 relate to development, calibration, application, and documentation of the East Bay Plain Groundwater Basin Model for this GSP effort. A description of the scope of work for each modeling subtask is followed by further details and key points in our Team's approach.

Subtask 4.4 Construct, Calibrate, Validate and Perform Uncertainty Analysis of East Bay Plain Groundwater Model (EBPGM)

Once the data gap assessment, HCM development, and groundwater model code selection processes are complete, the results of these tasks will be used to construct the groundwater model for the Subbasin. The LSCE Team will construct, calibrate, and validate the EBPGM to be used as a key tool to develop the sustainable management criteria, water budget, and sustainable yield. Available data and basin characteristics, including findings from completed technical reports are expected to be integrated as appropriate. EBPGM will be a transient model that is capable of simulating historical conditions through the present.

We understand that GSAs may propose management areas based on basin management objectives and jurisdictional areas. The LSCE Team will also recommend management areas for technical reasons, as may be deemed appropriate and necessary. The model set-up, such as grid sizes, parameter selection, and Subbasin hydrogeological characteristics, will reflect the objectives of each management area.

After initial construction, the model will be calibrated by adjusting the model parameters so the model outputs reflect historical observation data, including both long-term historical groundwater level fluctuations and pumping test data. If sufficient data are available, the results of the calibrated model will be validated against existing data to determine the uncertainty in the model calibration. The LSCE Team anticipates using Parameter Estimation (PEST) or similar model calibrating software to assist with the calibration process and quantify the uncertainty in the estimated parameter values.

Deliverables:

- An integrated and validated transient groundwater flow based model that simulates historical conditions through the present and is capable of analyzing surface water-groundwater interaction

Subtask 4.5 Develop and Analyze Baseline Scenario and Alternative Management Scenarios

In this task, the LSCE Team will develop a baseline model that can be used to forecast future hydrologic conditions in the Subbasin. This will include recording current and future planned groundwater uses for groundwater demand analysis. The LSCE Team will evaluate historical climatic conditions to determine a representative hydrologic time period to use for the baseline simulation. Scenarios will be developed to simulate proposed water management actions, current and future groundwater resources development in the Subbasin, focusing on the potential impacts these actions may have on the six sustainability indicators defined under SGMA. Model outputs from these

scenarios will be compared to the baseline to evaluate the hydrologic effects of the proposed water management and groundwater resources development plans. Based on this analysis, the LSCE Team will recommend sustainable management actions to GSAs (see Task 5.2).

Deliverables:

- Tabulated comparisons of model output from the scenarios and the baseline to evaluate the hydrologic effects of the proposed water management actions

Subtask 4.6 Document and Archive EBPGM

Upon completion of the modeling work, the LSCE Team will document the EBPGM development and results in a technical memorandum under this task. The model files for the calibrated model and for each model scenario developed for the GSP will be archived and copied onto a portable storage device and provided to GSAs.

Deliverables:

- Model files and technical memorandum documenting model development and runs

Additional Details of the LSCE Team Approach

Overview

Subtasks 4.3 through 4.6 involve implementation of the comprehensive HCM (developed in Subtasks 4.1 and 4.2) as the basis for a numerical groundwater flow model of the East Bay Plain. The East Bay Plain Subbasin HCM and model will provide improved representation of local hydrogeologic and water use conditions.

Our team's extensive knowledge and experience in the conceptualization of the hydrogeology and water use activities within the East Bay Plain Subbasin will enable us to develop a local model incorporating important refinements and calibrate the model using sufficient local detail, leading to a more robust groundwater flow model for use during GSP analyses and for many other current and future applications. A key aspect of the EBPGB Model will be its ability to assess all the relevant stresses (including effects of climate change) on the groundwater system, including the highly confined Deep Aquifer, which cannot be accurately assessed with the currently available models. The EBPGB Model will build on and extend datasets from existing flow models and utilize independently developed water budget components (as described in Task 4.2). The independent water budget will be used as input data and for calibration of the model.

The fully calibrated EBPGB Model will utilize local water budget information and will provide model water budgets for the entire Subbasin and GSAs, and Management Areas, if any are designated. Analyses using annual pumping, change in groundwater storage, simulated recharge, simulated stream leakage, and simulated subsurface lateral flow will help determine suitable sustainable yield values that will be vital for achieving sustainability goals and designing management approaches, as well as evaluating proposed project benefits for the Subbasin. The information extracted from the EBPGB Model will be key for supporting development of a successful GSP.

The RFP scope of work describes that Management Areas may be proposed by the GSAs and/or recommended for technical reasons by the LSCE Team. For cost-efficiency reasons, our approach will focus first and foremost on whether there is a need for the delineation of Management Areas. This includes consideration of Subbasin conditions (evaluated as part of Subtask 4.2) to identify

areas that would be appropriately defined as Management Areas per GSP regulations. We will describe and illustrate (map) these areas (if any), including explanation of distinguishing features justifying treatment as a separate Management Area. Technical considerations for the need to delineate Management Areas will be derived from the HCM, groundwater conditions, and water budgets. We also understand that GSAs may propose Management Areas; the decision for development and delineation of Management Areas should be made relatively early in the process to allow consideration in development of the groundwater model. To the extent that Management Areas are defined, they will be represented in the groundwater model (Subtask 4.4), incorporated in development of sustainable management criteria (Subtask 5.2), and considered in delineation of the GSP monitoring network (Subtask 5.3). Close communication with the GSAs will be critical to determine whether delineation of Management Areas is a desirable and cost-effective approach.

[1] MODFLOW is the USGS's modular finite-element hydrologic model. MODFLOW is considered an international standard for simulating and predicting groundwater conditions and groundwater/surface-water interactions (Harbaugh et al., 2000). https://water.usgs.gov/ogw/modflow/

Subtask 4.4 Construct, Calibrate, Validate and Perform Uncertainty Analysis of East Bay Plain Groundwater Model (EBPGM)

Model Construction

The LSCE Team will utilize the updated HCM and 3D geologic framework model described in Subtask 4.2 to develop the EBP Subbasin groundwater model. The 3D geologic framework model will be used to define the MODFLOW model layering and aquifer parameters. The relationship between the 3D geologic framework model and MODFLOW will be illustrated with powerful visualizations that can be used for public outreach and to facilitate the presentation of complex topics to non-technical audiences.

The model layering configuration of the existing NEB MODFLOW will be reviewed in light of the HCM developed for the GSP. It will be important to accurately represent the vertical distribution of fine-grained units vs. coarse-grained units in the EBP Subbasin, based on the detailed cross section analysis and 3D geologic framework model developed in the GSP. In addition, the transition zone stratigraphy that will be updated in the GSP HCM will be reviewed to determine the most accurate way to represent model layering through the transition zone (e.g., the stair-step nature of the Deep Aquifer stratigraphy in the transition zone).

The model grid spacing will be evaluated relative to several considerations:

- Ability to calibrate to historical measured groundwater level fluctuations
- Adequate representation of monitoring well drawdowns during local and regional pumping tests to be used as part of model calibration
- Adequate representation of transition zone characteristics
- Model run times, and
- Potential future development of particle tracking and/or solute transport models

We propose to extend the new model to the bay margin north of Richmond and southward to the boundary between Alameda and Santa Clara Counties to incorporate all of the East Bay Plain and Niles Cone Subbasins as defined by DWR. The proposed model domain will likely also include Castro Valley north of Hayward and the San Pablo Creek Valley. We will discretize the model domain with sufficient detail to represent the general hydrostratigraphy, large scale variation in aquifer/aquitard geometry, hydraulic properties, and boundaries, and to also provide sufficient resolution of hydraulic gradients.

The 2013 NEB MODFLOW model has seven layers and a uniform grid cell size of 1000 feet. This model layering and grid spacing will be further evaluated relative to the updated HCM, along with project goals and objectives. Additional layers may be added to facilitate representation of screened intervals of existing or potential wells or variation in hydraulic properties associated with stratigraphy

or facies changes. We will design the MODFLOW grid to facilitate variation of detail in assigned hydraulic properties and for high resolution of hydraulic gradients in some locations. Areas with finer grid cells are appropriate to facilitate developing a MT3DMS model for simulating transport of dissolved chemicals in groundwater and the potential influence of pumping on the distribution and concentration of chemicals.

The proposed western margin of the model is near the middle of the bay similar to the NEBIGSM and the NEB MODFLOW model. Representation of the bay as either a lake or as a portion of an added upper layer with constant water level will facilitate computation of rate of influx of water from the bay to the underlying aquifers. A water budget approach will be used initially to evaluate the potential for salt water intrusion for different groundwater pumping scenarios. MT3DMS also may be used to estimate changing chloride concentration with time in the aquifers. If necessary, a SEAWAT model can also be developed from the MODFLOW model to also account for influence of variable density with salinity on groundwater flow.

In most cases, incorporating the influence of variable density on groundwater flow due to variation in salinity is not likely to be important to evaluate the potential for salt water intrusion due to groundwater pumping because the influence of density variation is negligible compared to the hydraulic gradient caused by pumping. Uncertainties in hydraulic conductivity, which varies by orders of magnitude, are much more important than variable density with salinity because seawater is only 2.5% more dense than freshwater. Developing a separate relatively simple analytical or cross-sectional SEAWAT model based on the three-dimensional MODFLOW model can be used to assess the influence of variable density from salinity on potential salt water intrusion, and may be an appropriate precursor to a potential full-scale 3D SEAWAT model.

Prior to finalizing the model design, we will discuss options for the model design with EBMUD and Hayward and balance efficiency and general utility of the model as a tool for evaluating options for sustainable development and ongoing management and protection of groundwater resources.

The 2013 NEB MODFLOW model includes pumping from mostly non-specific wells, and includes calculated pumping that was adjusted in the IGSM model as part of the calibration process. Compilation, review, and analysis of well and pumping data are needed to refine and update the pumping in the new MODFLOW model to be developed for the GSP. The LSCE Team will thoroughly investigate basin water demand to improve accuracy of the pumping component of the water balance in the model and the overall water budget for baseline conditions.

Calibration, Validation, and Uncertainty Analysis

The groundwater simulation period for transient calibration will be evaluated in Subtask 4.2 based on available data and a departure from mean rainfall analysis. The model will be calibrated to several well locations with long-term groundwater level records. In addition, the model will used to simulate and calibrate to aquifer tests and measured fluctuations in groundwater levels recorded during those tests, including the two-week pumping tests conducted on Hayward Wells C and E (LSCE, 2003) and the 8-week Bayside ASR Well Test (Fugro, 2011).

The LSCE Team will conduct the groundwater modeling in general accordance with accepted guidelines (e.g. Anderson and Woessner, 1992; Hill, 1998; Reilly and Harbaugh, 2004; ASTM 1996), but plans to perform advanced numerical calibration using automated parameter estimation software

such as PEST[8] (Doherty and Hunt, 2010). The automated calibration can be conducted very efficiently in a cloud environment and will be designed so that model sensitivity and predictive uncertainty analysis will be evaluated simultaneously with model calibration. Calibration metrics will go beyond the ordinary statistics and goodness of fit, by including the results of advanced predictive analytics, including trend analyses, probabilities, and advanced animations.

The LSCE Team plans to implement a stochastic modeling approach that will analyze thousands of automated model runs with a range of assigned values for model properties and select a subset of models that are all equally probable and will be used for predictions. This will quantify uncertainty in the model predictions. The LSCE Team will also conduct a thorough evaluation and sensitivity analysis of the spatial distribution and vertical hydraulic conductivity of aquitard intervals between the shallow, intermediate, and deep aquifers, because these are key factors in the model that will influence potential for salt water intrusion from the Bay into aquifers with increases in groundwater pumping. Following calibration, model validation will be performed to assess how well the numerical model simulates site specific conditions and data that were not used to build the model. The sensitivity and predictive uncertainty analyses will be used to recommend potential additional field investigations and testing.

Subtask 4.5 Develop and Analyze Baseline Scenario and Alternative Management Scenarios

The LSCE Team will develop a steady state model to represent average conditions at the beginning of the representative base period. The steady state baseline model will be used for starting conditions in the transient model runs and as a basis of comparison for predictive simulations of potential groundwater resources development projects. The historical transient simulation period will be based upon the representative hydrologic period developed under Subtask 4.2, which is typically in the range of a 25 to 30-year period. The calibrated historical transient simulation period, which is anticipated to extend to at least 2015, will represent the baseline period to serve as a basis of comparison to future groundwater management scenario simulations. The evaluation of alternative future groundwater resource development projects will include specific assessment of undesirable results and sustainability indicators as defined by SGMA. The baseline model and future groundwater development scenario simulations will also be used as to estimate sustainable groundwater yield for the East Bay Plain subbasin.

The predictive model simulations will be run with a steady state model and also a transient model over a time period of at least 50 years (2020 to 2070). The model simulations will also include evaluation of potential impacts to water quality from groundwater development projects, including salt water intrusion, migration of nitrates, and industrial contaminant plumes.

In addition, an initial screening level evaluation of the potential for subsidence will be conducted based on geotechnical properties of the soil and aquifer materials and model simulations of change in groundwater levels. Based on the screening level assessment using water levels, model simulations will be run using the subsidence module of MODFLOW to further evaluate the potential for subsidence as appropriate. The LSCE Team plans to review and compile data from the

[8] PEST the most advanced software for automated parameter estimation to calibrate models and conduct predictive uncertainty analysis. http://www.pesthomepage.org/ http://www.sspa.com/software/pest

USGS Bayside Groundwater Project extensometer and potentially utilize the data to calibrate subsidence modeling.

The LSCE Team will provide figures illustrating model results of change in groundwater conditions relative to average baseline conditions and a table summarizing model results for several potential groundwater resources development project scenarios in the East Bay Plain Subbasin. The LSCE Team will work with the GSAs and technical advisory committee to develop the groundwater resource development scenarios to be simulated by the model.

Based on the model simulations, the LSCE Team will recommend sustainable groundwater development alternatives and management actions for both EBMUD and Hayward including monitoring programs and potential enhancement of recharge.

Subtask 4.6 Document and Archive EBPGM

The LSCE Team will provide the GSAs with the GIS and groundwater model files, including standard MODFLOW files and documentation of the model development and model simulations including the baseline calibrated model and groundwater resources development scenarios. We will utilize accepted guidelines (e.g., Anderson and Woessner, 1992; ASTM, 1998) in preparing the model documentation.

Task 5: Preparation of the East Bay Plain Subbasin GSP

Subtask 5.0

RFP Scope of Work

Under this task, the LSCE Team will prepare the draft GSP for the entire East Bay Plain Subbasin in compliance with SGMA and the GSP regulations, using the best available science, and incorporating information developed under Task 4. We understand the GSAs desire to review and comment on draft sections of the GSP as it is developed. Prior to beginning work on preparing the GSP, the LSCE Team will develop an outline of the GSP for review and approval by the GSAs. The format of the GSP should generally follow DWR's Groundwater Preparation Checklist for GSP Submittal Guidance Document, to ensure that the GSP includes all information required for a GSP.

Deliverables:

- GSP outline

Task 5: Preparation of the East Bay Plain Subbasin GSP: General Information; Plan Area Subbasin Setting, Stakeholder C&E, and Monitoring

Subtask 5.1

RFP Scope of Work

In this task, the LSCE Team will document general information, the hydrogeologic setting of the Subbasin, and the stakeholder C&E efforts conducted during the GSP development process. General information will include descriptions of the entire Subbasin and the GSP coverage area, as defined by the exclusive GSAs' jurisdictional areas, information about the GSAs, organization and management structure of the GSAs, and legal authority. This information will be supported by appropriate maps such as GSAs' coverage area, jurisdictional boundaries of Federal, State, and tribal land, existing land use designations, density of wells per square mile, the geological map of the Subbasin. A topographic contour map showing known fault zones and surface water features will be included. The LSCE Team is familiar with and will use DWR guidance and BMPs as appropriate.

For the Subbasin setting, the LSCE Team will discuss the HCM from Subtask 4.2, historical and current groundwater conditions, water budget, and sustainable yield. A key objective of this task is determining the baseline condition for SGMA's sustainable management criteria development based on thorough understanding of the historical groundwater conditions of the Subbasin, including data from January 1, 2015. The Subbasin setting will be described in terms of:

- Groundwater elevation data - Generate temporal and spatial data series for representative monitoring sites for each aquifer unit of the entire Subbasin using available historical data, current data, and model predictions.
- Estimate of groundwater storage – Use groundwater model to estimate the storage capacity.
- Water Budget – Use historical, current, and projected groundwater use to prepare water budgets to estimate future conditions of supply, demand, and aquifer response. Projected water budgets will be prepared to estimate future conditions of supply, demand, and aquifer response to plan implementation, and to identify the uncertainties of these projected water budget components. More specifically, local groundwater users' projected groundwater use, land use planning, planned conjunctive use projects, groundwater augmentation and planned emergency and/or drought water supply projects will be accounted for and discussed.
- Seawater intrusion conditions - The LSCE Team will investigate potential seawater intrusion conditions, identify data gaps, and propose management actions for future GSP updates for each principal aquifer for the most vulnerable part of the Subbasin as necessary. It should be noted that seawater intrusion conditions in shallow, intermediate, and deep aquifer units will be differentiated from historical chloride concentrations in the perched water table of the Subbasin.
- Groundwater quality issues: We will use applicable information and data from available databases to analyze groundwater quality issues that may affect the supply and beneficial uses of groundwater, including a description and a map showing locations of known groundwater contamination sites and plumes. Identify and describe proposed management actions required to meet sustainability goals.
- Land subsidence conditions - The LSCE Team will analyze land subsidence conditions using available data, published information, and research information including data from the subsidence monitoring facility (extensometer), developed by USGS and EBMUD, to monitor elastic and inelastic vertical deformation of the area near EBMUD's Bayside Groundwater Facilities, and
- Identification of interconnected surface water systems and GDEs: The Nature Conservancy published a guide, Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans," in January 2018. This guide will be used as appropriate in developing this section.

Deliverables:

- Applicable GSP Sections

Task 5: Preparation of the East Bay Plain Subbasin GSP: Sustainable Management Criteria and Management Actions

Subtask 5.2

RFP Scope of Work

This task is to develop sustainable management criteria that will be based on the technical work, GSAs' management objectives, and stakeholder input. SGMA allows local entities to determine what constitutes "significant and unreasonable" undesirable results in each basin. The LSCE Team will work with the GSAs' Technical Team to develop sustainable management criteria, sustainability goals, undesirable results, minimum thresholds and measurable objectives. Measurable objectives will provide a reasonable margin of operational flexibility, taking into consideration historical water budgets, seasonal and long-term trends, periods of drought, and existing and planned conjunctive use projects such as Bayside and Hayward's emergency wells.

The LSCE Team will prepare relevant sections of the GSP to describe and quantify the sustainability goals/indicators and associated minimum thresholds factored by reasonable margins of safety for each goal. Measurable objectives to evaluate meeting interim milestones will also be described.

Under this task, the LSCE Team will analyze and recommend management area designations, if designated. Management areas may be designated based on beneficial uses, water quality objectives, jurisdictional boundaries, and/or other criteria set by GSAs. For each management area approved by the GSAs, the LSCE Team will prepare descriptions and sustainable management criteria specific to the management area, consistent with SGMA and GSP regulations.

After developing the sustainable management criteria for the Subbasin, the LSCE Team will develop and recommend project alternatives and management actions required to achieve the sustainability goals for the Subbasin. These projects and actions will be developed in a phased approach along with alternative options. Once GSAs have determined a suite of projects and management actions, the LSCE Team will describe these projects and management actions for the Subbasin in relevant sections of the GSP. Management actions may include:

- Assessing current Subbasin water quality and developing groundwater quality management actions
- Identifying existing hazardous waste and substances from sites such as EnviroStor, GeoTracker, Enviromapper, Cleanups in My Community, and developing management strategies
- Updating well inventory and developing a database
- Preventing or minimizing groundwater quality degradation through actions such as identifying wellhead protection areas and measures

- Integrating the existing South East Bay Plain Subbasin Subsidence Monitoring Program into a Subbasin-wide program
- Expanding existing Bayside Project monitoring and CASGEM monitoring programs into a Subbasin-wide groundwater elevation and water quality monitoring program
- Filling data gaps in areas including groundwater elevation data, water quality sampling, seawater intrusion control, and subsidence monitoring reference elevation datum
- Assessing existing saltwater intrusion, monitoring, and control
- Well abandonment and well destruction program
- Replenishment of groundwater extractions
- Planning for existing and future conjunctive use and underground storage
- Well construction policies and permitting standards
- Groundwater contamination cleanup, recharge, diversions to storage, conservation, water recycling, conveyance, and extraction projects
- Efficient water management practices
- Relationships with state and federal regulatory agencies
- Land use plans and efforts to coordinate with land use planning agencies to assess activities that potentially create risks to groundwater quality or quantity, and
- Addressing potential impacts on GDEs

These existing monitoring programs will be integrated into proposed water resources monitoring and management programs. This section will also summarize coordination with counties and cities on well permitting within the basin, local well ordinances, and relevant codes and policies.

Deliverables:

- Applicable GSP Sections

Additional Details of the LSCE Team Approach

Our Team's approach to evaluation of sustainable management criteria is described below.

EVALUATION OF SUSTAINABILITY INDICATORS AND DETERMINATION OF UNDESIRABLE RESULTS

Groundwater Levels and Storage

Available groundwater elevation data, groundwater contour maps, and hydrographs will be compiled, analyzed, and summarized in the HCM. Groundwater levels will then be evaluated further in terms of sustainability goals, minimum thresholds, measurable objectives, and sustainable yield. Similarly, evaluation of groundwater storage that is conducted as part of HCM development will be evaluated relative to sustainability criteria and sustainable yield.

Seawater Intrusion

Available groundwater data (e.g., levels, quality, pumping) and studies related to historical occurrence of seawater intrusion will be reviewed, analyzed, and summarized in the HCM developed

in Subtask 4.2. Areas and depth zones with reported/apparent occurrence of historical seawater intrusion and associated groundwater data/studies will be documented. This HCM information, combined with groundwater model simulations of future proposed development alternatives, will be reviewed and evaluated to provide the basis for establishment of sustainability criteria and as input to sustainable yield calculations.

Streamflow Depletion

Our team's approach will include characterizing the existing GW-SW interactions and GDEs under Subtask 4.2, incorporating minimum thresholds into the sustainable yield analysis, and, if necessary, developing potential management actions to address undesirable results related to streamflow depletion and degradation of aquatic and riparian ecosystems (including GDEs).

The first step involves collecting background data and evaluation of GDE mapping provided by The Nature Conservancy and DWR. The map of potential GDEs will be evaluated to determine which GDEs are sustained by local shallow/perched groundwater that is distinct from the regional groundwater versus GDEs that may be sustained by the regional groundwater system where most of the basin pumping occurs. Any stream reaches or GDEs that are identified to have a connection to the regional groundwater system will be further evaluated in terms of the need to establish minimum thresholds, measurable objectives, and incorporation into the sustainable yield analysis. A literature/data review and GIS-based assessment of the current ecological conditions in the East Bay Plain Subbasin within watercourses, riparian corridors, and other GDEs (e.g., wetlands) will be performed. Next, a review of groundwater model results will be conducted to determine future trends in groundwater elevations and surface water/groundwater interaction. The effects of potential changes in future GW-SW interactions on streams and GDEs and ecological assets will be evaluated.

Surface water and groundwater level data for wells near streams in the East Bay Plain Subbasin will be collected and analyzed to better understand GW-SW interactions. This complex relationship can be dynamic, in that different times of the year streams may exhibit gaining or losing stream conditions. Once the current relationship of surface water to groundwater is established, management actions can be developed to address potential future undesirable results for GW-SW interactions and GDEs. Monitoring of paired observation stations in the stream and adjacent groundwater can provide real-time data that can be used to monitor GW-SW interactions.

Land Subsidence

An initial assessment of subsidence and compilation of subsidence data/studies in the subbasin will be conducted in Subtask 4.2 as part of HCM development. Assessment of historical groundwater levels, occurrence (or lack thereof) of historical subsidence, available extensometer data, and soil/sediment properties will be reviewed. Review of this data combined with subbasin-specific groundwater elevation data for wells completed at known depths will be used to establish sustainability thresholds related to subsidence. Available lithologic data and geologic cross sections will be used to cross check the occurrence and physical properties of clay layers that may cause inelastic (i.e., irreversible) subsidence. Groundwater elevation data from wells in areas where land subsidence could be a future concern will be used to determine historical lows, or thresholds of drawdown, that should not be exceeded in order to avoid further exacerbation of the compaction of potential inelastic clay layers.

Water Quality Impairment

GSP development will include further characterization of historical and baseline groundwater and surface water quality during development of the HCM in Subtask 4.2. Key constituents will be identified and evaluated in more detail for potential inclusion in the subbasin sustainability criteria. This water quality characterization will provide the basis for establishment of minimum thresholds and measurable objectives as part of the overall sustainability analysis.

SUSTAINABILITY CRITERIA

Baselines

Historical water budget information will be the basis for estimating future baseline conditions of hydrology, water demand and surface water supply reliability over the 50-year planning and implementation horizon. Fifty years of historical precipitation, evapotranspiration, and streamflow information will be used in developing future baseline hydrology conditions. The uncertainty associated with climate change will be considered using climate change scenarios provided by DWR. The most recent land use and water supply information will be used in the baseline condition for estimating future groundwater and surface water supply incorporating the historical surface water supply reliability with consideration given to projected changes in local land use planning and population growth. The projected water budget accounting will also include estimated changes in the projected water budget resulting from planned implementation of the selected projects and will be used to quantify the estimated future baseline conditions of supply, demand, and aquifer response to GSP implementation. The projected water budget assessment in the GSP will also evaluate and identify the level of uncertainty in the projected water budget estimate.

Sustainable Yield

Sustainable yield occurs when the subbasin is in balance and the outflows are not greater than the inflows, and undesirable results do not occur. As suggested in previous studies, it is likely some amount of basin groundwater outflow to San Francisco Bay must occur to avoid undesirable results related to seawater intrusion. However, other sustainability indicators must be considered as well. The methods to estimate sustainable yield include: analysis of historical conditions; evaluation of water budgets; change in groundwater storage calculations; and using the basin groundwater flow model.

The groundwater flow model will likely be the most robust tool to determine sustainable yield, as various management actions and groundwater pumping model inputs can be altered and effects on groundwater levels/storage, seawater intrusion, SW/GW interactions and GDEs, and subsurface lateral flows can be simulated. The testing of various combinations of groundwater supply development and aquifer storage and recovery (ASR), and the evaluation of simulated effects as cited above will lead to an estimate of sustainable yield.

Development of Basin Thresholds

Minimum thresholds will be established for each sustainability indicator to avoid undesirable results for the East Bay Plain Subbasin. As stated above, sustainability indicators include: groundwater levels, groundwater storage, seawater intrusion, water quality, land subsidence, and interconnected surface water. Undesirable results may occur when one or more sustainability indicators experience conditions below the minimum thresholds. Minimum thresholds are a numeric value for each sustainability indicator used to define undesirable results. Minimum thresholds will be described in terms of their effects on the beneficial uses and users of groundwater, and how the minimum thresholds do not adversely affect the ability of adjacent basins to achieve sustainability.

In terms of groundwater levels, the minimum thresholds will be developed based on long-term groundwater level data. Representative wells selected for particular geographic areas and particular aquifer units will be used to develop minimum thresholds, or minimum groundwater elevations that must not be exceeded. For groundwater storage, the minimum threshold will be developed such that sustainable yield is met (i.e., there is no continuing long-term storage decline) and groundwater storage changes are within a reasonable limit, pending water year types. Seawater intrusion is anticipated to be a major sustainability indicator for the East Bay Plain Subbasin, and will be extensively evaluated to provide input and guidance for establishing minimum thresholds. Groundwater quality minimum thresholds will likely be related to drinking water maximum contaminant levels (MCLs), and other water quality standards for constituents of interest. A list of water quality parameters specific to the East Bay Plain Subbasin will be used for developing minimum thresholds for groundwater quality constituents.

Minimum thresholds for land subsidence will be developed in conjunction with the groundwater level minimum threshold. Hydrographs showing historical groundwater level trends for wells across the subbasin will be used to determine historical low groundwater elevations, combined with evaluation of the level of subsidence that did (or did not) occur at those historical lows. A combination of land surface elevation values (e.g., from extensometer stations and/or InSAR) and representative groundwater level monitoring will likely be used to develop the minimum thresholds for land subsidence.

Minimum thresholds for interconnected surface water will be developed for surface water bodies that have a connection to groundwater. The GW-SW relationship will be detailed in the HCM, which will indicate areas in the EBP Subbasin where groundwater has the ability to provide baseflow to surface water bodies (or the groundwater elevation influences the amount of streamflow percolation). Surface water stage and flow data may be used in conjunction with shallow monitoring wells in the vicinity of surface water bodies to determine appropriate local shallow groundwater elevation thresholds, that when exceeded, would result in undesirable and unreasonable streamflow depletion.

The minimum thresholds will be used to help develop measurable objectives for each sustainability indicator, as required in the GSP. Measurable objectives will be based on minimum thresholds, and like minimum thresholds, will represent quantitative values but will be selected to provide operational flexibility in the case of extenuating or adverse circumstances (e.g. a long-term drought). The measurable objectives will represent the end goal toward maintaining sustainable groundwater management through 2042 and thereafter.

Task 5: Preparation of the East Bay Plain Subbasin GSP: Monitoring Network

Subtask 5.3

RFP Scope of Work

This task is to design and describe the monitoring programs, monitoring protocols standards, design considerations and justifications, and data gaps in compliance with GSP regulations. We understand that EBMUD has developed and is operating the Bayside Groundwater Monitoring network, the CASGEM monitoring program for the Subbasin, and the Bayside Subsidence Monitoring Program in collaboration with USGS, and the City of Hayward monitors water levels in its emergency supply wells. These existing monitoring programs need to be integrated into the Subbasin-wide monitoring programs developed under this RFP.

The LSCE Team will describe monitoring network objectives, including how the network will be developed and implemented to monitor groundwater and related surface conditions and interconnection of surface water and groundwater, if applicable. The monitoring network will be designed to collect sufficient data to demonstrate short-term, seasonal, and long-term groundwater level trends and related surface conditions, and yield representative information about groundwater conditions as necessary to evaluate GSP implementation.

The monitoring network will be designed to ensure adequate coverage of applicable sustainability indicators. For each management area (if applicable), the quantity and density of monitoring sites will need to be sufficient to evaluate conditions of the basin setting and sustainable management criteria specific to that area.

This discussion will also outline how GSAs can review and evaluate effectiveness of the monitoring network, modify monitoring frequency and density, and identify and fill the data gaps in a phased approach.

Additional Details of the LSCE Team Approach

The LSCE Team's development of the GSP monitoring network will build on prior work that includes EBMUD groundwater level, quality, and subsidence monitoring, the CASGEM groundwater level monitoring networks for the East Bay Plain Subbasin, and Hayward monitoring. This work will include review of the HCM to delineate aquifer zones and understand how individual wells represent conditions in vertically-stratified aquifer zones. We will also consider the need to develop GW-SW monitoring facilities that will improve understanding of GW-SW interactions and the potential for adverse impacts on streamflow depletion and GDEs resulting from groundwater pumping.

The project team will develop a plan describing a monitoring network that provides sufficient data to describe short-term, seasonal, and long-term trends in groundwater and related surface water conditions. The monitoring plan will describe objectives and how the network will be developed, implemented, and monitored to provide sufficient spatial and temporal coverage to obtain sufficient

data for each sustainability indicator. Overall, the project team will develop a monitoring plan that targets the following: demonstrates maintenance of measurable objectives, monitors impacts to beneficial uses/users, monitors changes in groundwater conditions, and helps quantify annual changes in water budget components. Based on the project team's HCM and groundwater conditions assessment, a subset of monitoring sites will be selected to be representative of overall basin conditions (or in each management area) for each sustainability indicator. The monitoring network will be evaluated every five years to determine if it is meeting the needs of the GSP, identify data gaps remaining to be addressed and steps to be taken to fill data gaps, and evaluate and adjust monitoring frequency as necessary.

Task 5: Preparation of the East Bay Plain Subbasin GSP: GSP Implementation Plan

Subtask 5.4

RFP Scope of Work

The LSCE Team will develop a project implementation plan for the management actions, complete with scope of work, cost estimate, implementation schedule over a 20-year planning period, periodic evaluation, and reporting for each project or study. Cost information will include estimates of annual GSP implementation costs shown as capital costs and operating costs based on life cycles of necessary infrastructure.

Deliverables:

- A work plan to implement the management actions, including descriptions of projects, schedules, costs, and reporting

Task 5 – Prepare Functionally Equivalent Plan for Salt/Nutrient Components per Recycled Water Policy

Subtask 5.5.

RFP Scope of Work

The GSAs have existing and planned recycled water projects which deliver recycled water for irrigation over portions of the East Bay Plain Subbasin. The State Water Resources Control Board (SWRCB) has recently amended the Recycled Water Policy, which includes requirements for addressing the management of salts and nutrients. The Amended Policy requires Regional Water Boards to evaluate and prioritize groundwater basins for salt and nutrient management plan (SNMP) development based on GAMA or as a priority basin under the GAMA system for development of a SNMP.

The SWRCB recognizes the overlap between SNMP and GSP requirements. The Proposed Amendment allows for GSPs developed pursuant to SGMA to be found functionally equivalent to a SNMP (Section 6.2.1.4). The LSCE Team will incorporate added information and analyses into the GSP to meet the SNMP requirements of the Recycled Water Policy. Salt and nutrient components that will be in the GSP include:

- Basin-wide monitoring program
- Provision for monitoring of constituents of concern
- Goals for recycled water use and stormwater recharge
- Estimates of loading from identified sources of salts and nutrients and the assimilative capacity of the basin, and
- An antidegradation analysis of recycled water projects in the basin to satisfy the requirements of State Water Board Resolution No. 68-16

Additional Details of the LSCE Team Approach

LSCE will work with Team member Brown and Caldwell (BC) to address salt and nutrient management planning issues.

LSCE and BC will develop functionally equivalent SNMP compliant components in the GSP to enable increased delivery of recycled water in accordance with the amended Recycled Water Policy. Our approach will be to coordinate and utilize as much of the information from parallel GSP sections development efforts as possible. Tasks will include:

- Potential recycled water projects will be identified along with associated salt and nutrient loadings. Other groundwater constituents will be reviewed for potential inclusion in the management process. A list of specific constituents to be addressed in the SNMP process will be prepared along with justification for inclusion.

- Basin water quality objectives will be compiled from the Basin Plan and other relevant guidelines and maximum contaminant limits.
- Calculate assimilative capacity of the basin in tons of salts, nutrients, and other constituents from current groundwater quality data compared with water quality objectives.
- EBPGM output for flows across model boundaries and historical groundwater concentrations will be used to estimate baseline basin mass balances.
- Initial estimates of changes due to recycled water use and other mass loading changes will be calculated on a basin-wide basis. Some of the other mass loading changes will include groundwater recharge using stormwater and changes in the mix of water supplies. Outflow concentrations will be adjusted incrementally to reflect average basin concentration changes.
- Anti-degradation analysis will be performed to compare salt and nutrient effects with benefits to satisfy Resolution 68-16. Approaches from Santa Ana Region Resolution No. R8-2004-0001 and the 2018 amendment to Recycled Water Policy will be utilized.
- Goals and descriptive text associated with salts and nutrients will be provided for GSP sustainable management criteria and management actions.
- The preliminary GSP basin monitoring program will be reviewed and embellished for consistency with Recycled Water Policy including the monitoring of salts, nutrients, and CECs, and
- Participation in outreach satisfying SNMP guidance will be performed as part of GSP outreach.

Deliverables:

- Tables, text and figures related to the scope described above in electronic format (i.e. PowerPoint, excel, pdf)
- Response to regulatory comments

Assumptions:

- All deliverables will be in electronic format

Task 5: Preparation of the East Bay Plain Subbasin GSP: Prepare and Finalize the GSP

Task 5.6

RFP Scope of Work

This task is to compile the draft GSP sections into a single report, perform final quality assurance/quality control assessment of data accuracy and interpretation, organization of the GSP, consistency, correctness, and incorporate editorial changes. The draft GSP will be released for public comment prior to adoption by the GSA's governing bodies. The GSP will then be submitted to DWR, where it will be posted for an additional 60-day public review period. After that time, DWR has up to two years to approve the GSP. All references, citations, and studies, as well as documents for appendices will be compiled and documented.

Deliverables:

- Admin Draft GSP
- Draft GSP
- Final GSP for Adoption and Submittal to DWR

Additional Details of the LSCE Team Approach

Preparation of the GSP Sections will include public-friendly narrative in plain language that addresses topics in compliance with DWR GSP standards, while detailed technical memoranda are to be incorporated as appendices. This allows GSA members and stakeholders to review GSP content at either a higher planning-level or a more detailed technical level depending on their interests.

Topics for individual GSP chapters or sections will be prepared and presented during meetings in a structured schedule to allow GSAs to absorb GSP content over time rather than in one large document at the end of a two to three-year process.

We will adopt a streamlined approach for receiving comments on draft GSP materials by providing a form that allows the GSA and stakeholders to provide feedback. The form allows the LSCE Team to quickly organize comments and identify areas that require further discussion to resolve conflicting comments.

Task 6 – Optional Tasks: Environmental Compliance and Permitting

Subtask 6.1.

RFP Scope of Work

While a GSP is exempt from CEQA as per §10728.6 of SGMA, the GSP may include tasks and management actions that trigger environmental documentation processes and/or permitting including but not limited to well drilling permits. The GSAs intend to fully comply with environmental regulations including CEQA and permitting requirements during GSP development and the implementation of the GSP. Should it become necessary and upon GSAs' prior written authorization for optional services, the LSCE Team will obtain any necessary permits such as well drilling permits for exploratory boreholes and monitoring wells, and also conduct necessary environmental documentation processes for GSP preparation.

Additional Details of the LSCE Team Approach

LSCE Team member ESA will be available to address environmental compliance and permitting issues on an as-needed basis.

If it is determined during GSP preparation that field data collection via monitoring wells and/or exploratory boreholes, or other projects and management actions that may be defined as a Project under the California Environmental Quality Act (CEQA) require a permit or otherwise trigger environmental documentation processes, ESA will work with EBMUD and the project team to review information regarding the project/management action and determine whether environmental documentation and permits are required. Based on our understanding and experience with monitoring well and other data collection efforts, it is typical that such actions would be defined as a Project under CEQA, but typically can be identified within the list of classes of projects which have been determined not to have a significant effect on the environment and are therefore exempt from the provisions of CEQA. Other projects and management actions may have more significant requirements under CEQA. Monitoring wells and borings often are identified under the class 6 exemption for data collection (CEQA Guidelines Section 15306). However, monitoring wells and borings may also fall under exemptions related to replacement or conversion of existing structures or small new structures; or in the case of a GSP, actions required for protection of the environment.

ESA will also work with EBMUD and the project team to determine the permit requirements for the given proposed project or management action. This will be based on the review of the project/management action description information, existing site conditions, and regulatory requirements. In terms of borings and monitoring wells, preparation of an application to Alameda County for a well drilling permit will likely be the extent of required permits.

Prior to undertaking any effort under Optional Task 6.2, ESA will outline the recommended CEQA and permit requirements based on the environmental conditions at the site and provide a scope and

cost request for such effort. Upon authorization to proceed, we will discuss the timeframes for the CEQA and permit compliance processes (as well as any challenges that may delay the processes), describe any additional requirements subsequent to completion of the CEQA and permit compliance (i.e., pre-construction surveys, training, and monitoring), and undertake the required CEQA compliance and partner with EBMUD and the project team to complete required permit applications.

Task 6 – Optional Tasks: Additional Editorial Review and Services

Subtask 6.3.

Scope of Work

This task provides for additional consultant services that may be requested related to additional materials such as brochures or other work products and/or additional editorial services beyond those included in Tasks 1, 2, 4, and 5.

Task 6 – Optional Tasks: Additional General Services

Subtask 6.4.

Scope of Work

This task provides for additional consultant general services that may be requested beyond those included in Tasks 1, 2, 4, and 5.

Task 6 – Optional Tasks: Stakeholder/Public Outreach and Facilitation Support As Needed

Subtask 6.5.

RFP Scope of Work

Although not included in the RFP Scope of Work, the LSCE Team includes Kearns and West to provide stakeholder/public outreach and facilitation support on an as-needed basis. This potential service is included on our team to provide the EBP Subbasin GSAs with the option to utilize consultant support should unexpected needs arise.

Additional Details of LSCE Team Approach

In the event that EBP GSAs should desire services from Kearns and West, a specific budget allocation has not been provided, and those services will be provided based upon the KW Fee Schedule.

Additional Scope of Work funded under Prop. 68

Task B: Monitoring Well Installation and Geophysical Investigation

As a part of the EBP Subbasin GSP Data Syntheses and Analysis task, the GSAs' consultant team led by Luhdorff & Scalmanini, Consulting Engineers (LSCE) analyzed a total of 22,433 well completion reports (WCRs). LSCE team compiled and analyzed available data including well logs, water levels, water quality, water budget components, and other data types. These data were spatially distributed and time-series data were evaluated. In June 2020, LSCE completed the technical memorandum (TM) titled *"Data Compilation and Data Gaps Analysis"*. From this analysis, a primary data gap area requiring supplementary data has been identified in the northern portion of the Subbasin between Oakland and Richmond, and other smaller data gap areas for further evaluation are located in the central portion of the Subbasin. Although the southern portion the Subbasin has more data, it still lacks monitoring wells and data in order to help define the hydrogeologic transition zone between East Bay Plain and Niles Cone subbasins and also to generate chloride isocontours to analyze potential seawater intrusion scenarios.

Under this task, Contractors must apply the findings of the TM to plan, design, and construct 12 monitoring wells in 5 locations within the subbasin. Well design must be in compliance with DWR's well standards and permitting agencies' requirements and use schedule 80 polyvinyl chloride (PVC) casings, with 10- to 60-ft slotted-screen intervals; slot size 1.2 by 0.02 inches, width by height, respectively. Screened intervals must be sand packed by using a tremmie pipe with #3 Monterey sand; all other intervals must be grouted with a 30-percent-solids bentonite grout to hydraulically isolate the sand packs and seal the boreholes from surface infiltration. The uppermost parts of the piezometers must be encased in protective underground vaults fitted with locking lids for security purposes. The piezometers must be developed by using an air-lifting and surging technique until no drilling mud is visible in the discharge and several water-quality parameters (specific conductance, pH, temperature) are stabilized. Most importantly, sealant applied to separate discrete zones must isolate any flow between these discrete zones. Contractor must provide warranty of effectiveness of sealant for 20 years and failure of sealant because of workmanship or material must be repaired and remediated during 20 years.

Of these 12 monitoring wells, install 6 nested monitoring wells in two sites (3 nested wells at each site) in the southern portion of the Subbasin to a depth of approximately 600 feet and collect samples every 10 feet. Install 6 nested monitoring wells in three sites (2 nested wells at each site) in the northern portion of the Subbasin to a depth of approximately 300 feet and collect samples every 10 feet. Complete all necessary permitting and environmental documentation, as needed, to develop the design plans for the monitoring wells. Submit the well completion reports to DWR. Prepare a technical memorandum summarizing the well installation and geophysical investigation.

Approximate of the nested monitoring wells are shown as S1, S2, N1, N2, and N3 on Figure 1. Typical schematics of the nested monitoring wells are shown as Figures 2, 3, and 4.

Location S1:

Three nested monitoring wells must be constructed in this southern location of the Subbasin. Assumptions include drilling to 600 feet by direct mud rotary, sample collection every 10 feet and prepare lithologic logs, geophysical logs, triple completion in one borehole with intermediate seals and 2-inch PVC well casing/screen, nested well depths of 200, 400, and 600 feet, well development, groundwater quality sampling, and transducer installation.

Location S2:
Three nested monitoring wells must be constructed in the southern location of the Subbasin. Assumptions include drilling to 600 feet by direct mud rotary, sample collection every 10 feet and prepare lithologic log, geophysical logging, triple completion in one borehole with intermediate seals and 2-inch PVC well casing/screen, nested well depths of 200, 400, and 600 feet, well development, groundwater quality sampling, and transducer installation.

S1 and S2 wells will be useful for isotopic analyses of Task C as well.

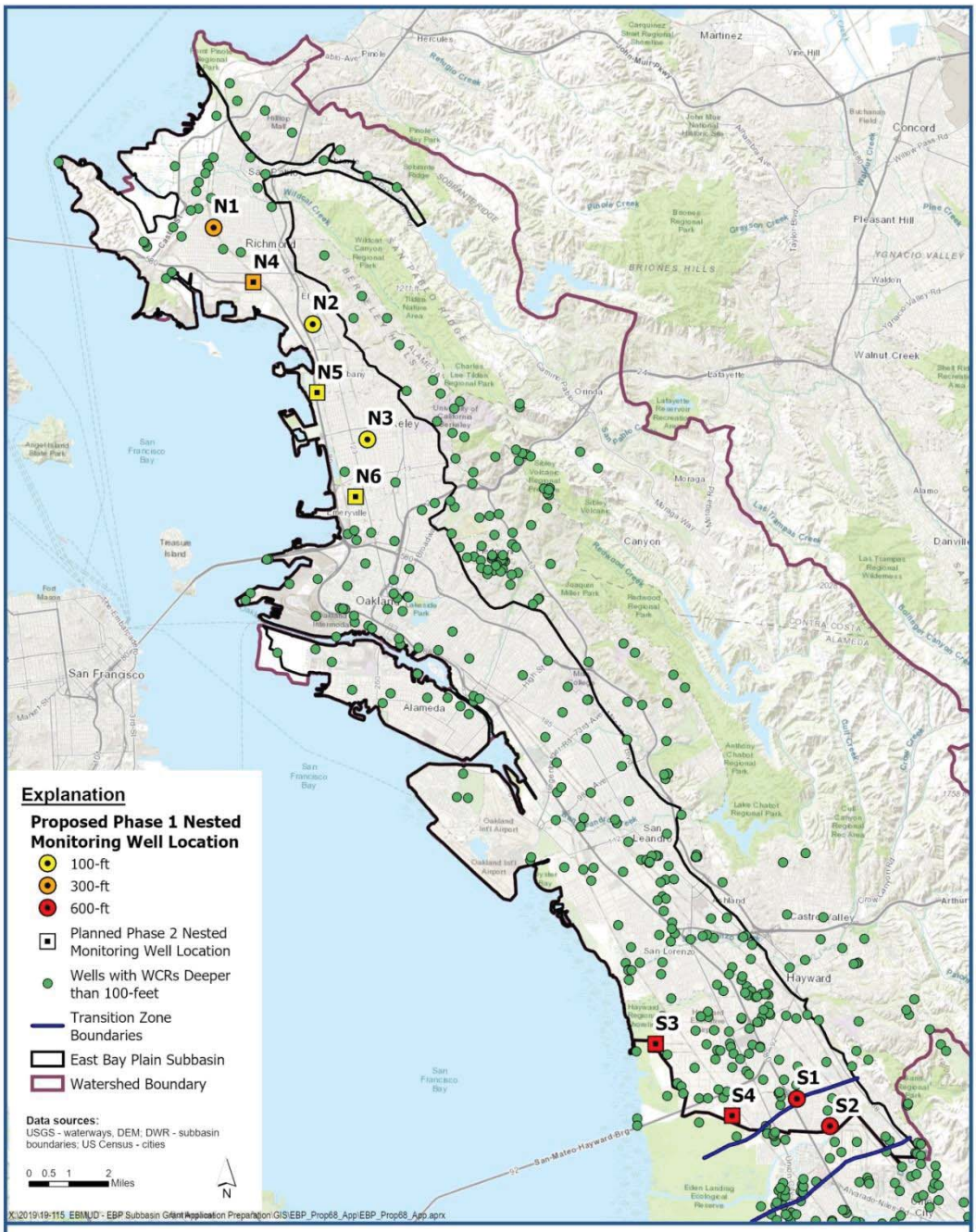
Location N1:
Two nested monitoring wells must be constructed in the northern location of the Subbasin. Assumptions include drilling to 300 feet by direct mud rotary, sample collection every 10 feet and prepare lithologic log, geophysical logging, double completion in one borehole with intermediate seals and 2-inch PVC well casing/screen, nested well depths of 150 and 300 feet, well development, groundwater quality sampling, and transducer installation.

Location N2:
Two shallow nested monitoring wells must be constructed in this northern location of the Subbasin. Assumptions include drilling to 100 feet by hollow stem auger, sample collection every 5 feet and prepare lithologic log, geophysical logging, double completion in one borehole with intermediate seals and 2-inch PVC well casing/screen, nested well depths of 50 and 100 feet, well development, groundwater quality sampling, and transducer installation.

Location N3:
Two shallow nested monitoring wells will be constructed in this northern location of the Subbasin. Assumptions include drilling to 100 feet by hollow stem auger, sample collection every 5 feet and prepare lithologic log, geophysical logging, double completion in one borehole with intermediate seals and 2-inch PVC well casing/screen, nested well depths of 50 and 100 feet, well development, groundwater quality sampling, and transducer installation.

After drilling bore holes, geophysical investigations must be conducted to define lithology and geophysical properties of the location. The District will implement the Monitoring Well Installation and Geophysical Investigation in the northern portion of the Subbasin and jointly implement this task with the City of Hayward for the southern portion.

Deliverables:
- Permit(s), access agreements (if needed), and environmental documentation
- Nested well design in compliance with DWR well standards and permitting agencies' requirements
- Well completion reports
- Technical memorandum summarizing well installation, water quality sampling and geophysical investigation

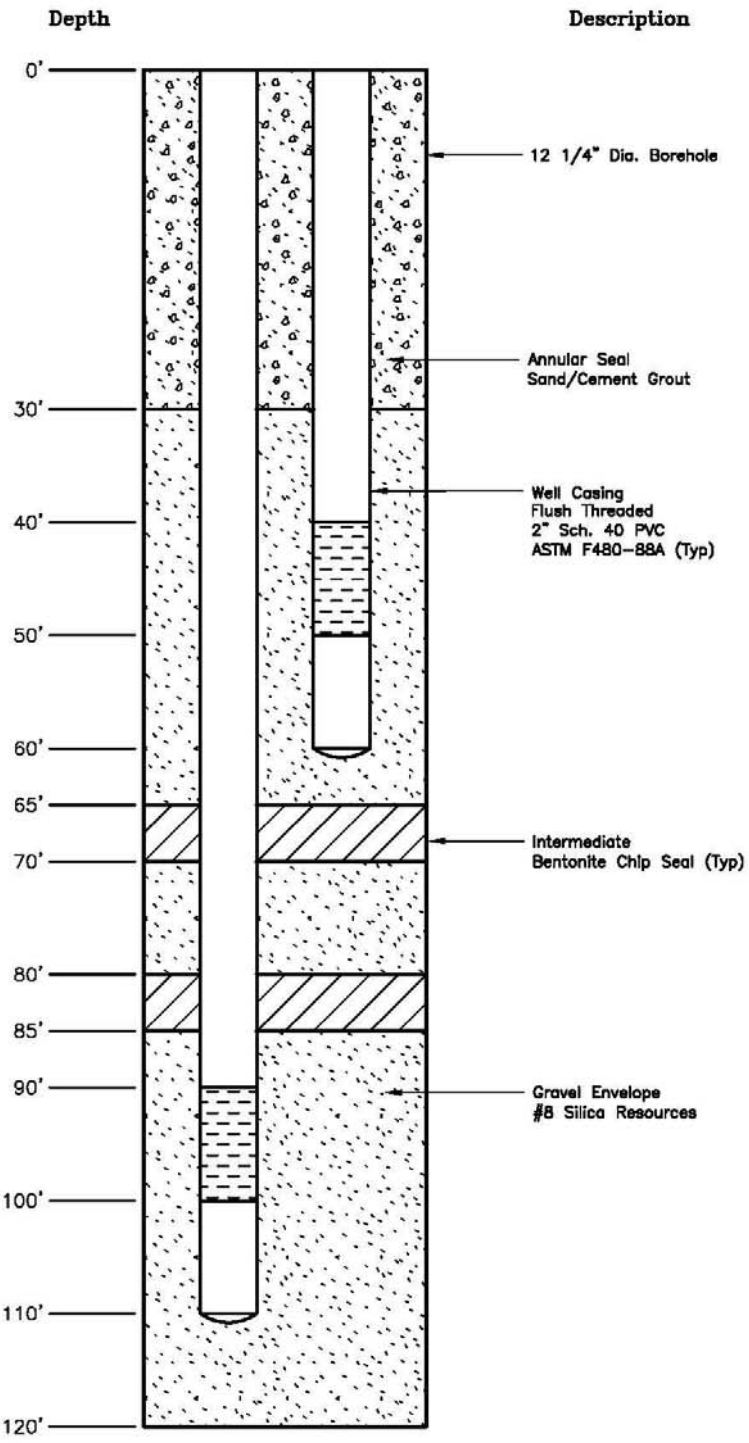


Luhdorff & Scalmanini
Consulting Engineers

Prop 68 Grant Application
Nested Well Locations

East Bay Plain Subbasin
Prop 68 Grant Application

Figure 1



CAD FILE: G:\Well Profiles\Conceptual (MW).dwg DATE: 10/22/2019 11:28 AM

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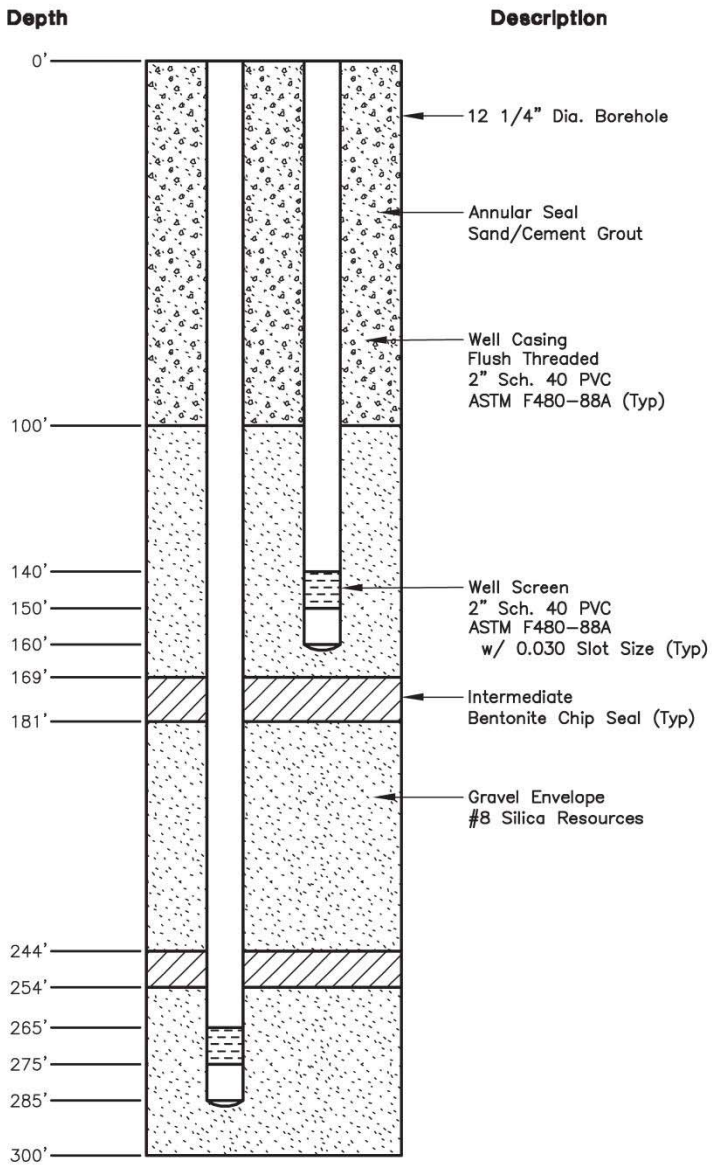
Consulting Engineers

Figure 2
Typical Monitoring Well Profile (100-ft)

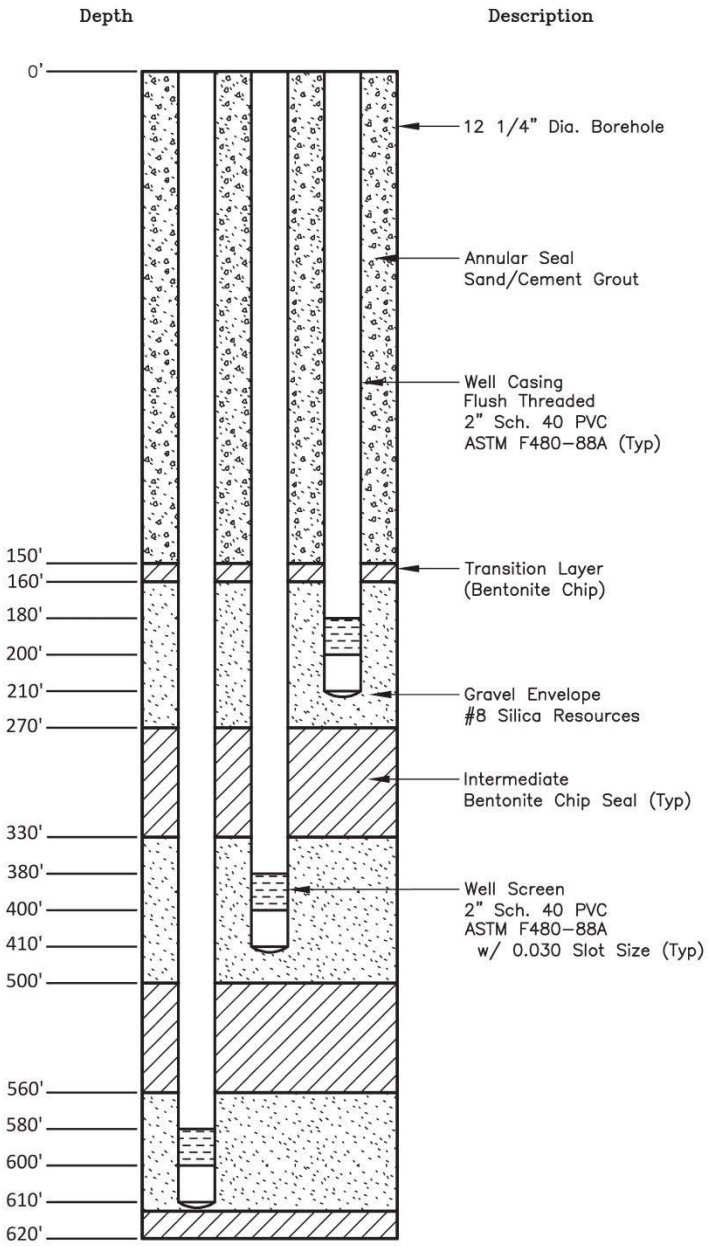


CAD FILE: C:/Documents and Settings/DavidT.LSCEDOMAIN/Local Settings/Application Data/Autodesk/AutoCAD 2014/R19.1/enu/Template/Typical MW (2).dwt

Luhdorff & Scalmanini Consulting Engineers

Figure 3

Typical Monitoring Well Profile (300-ft)



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Luhdorff & Scalmanini
Consulting Engineers

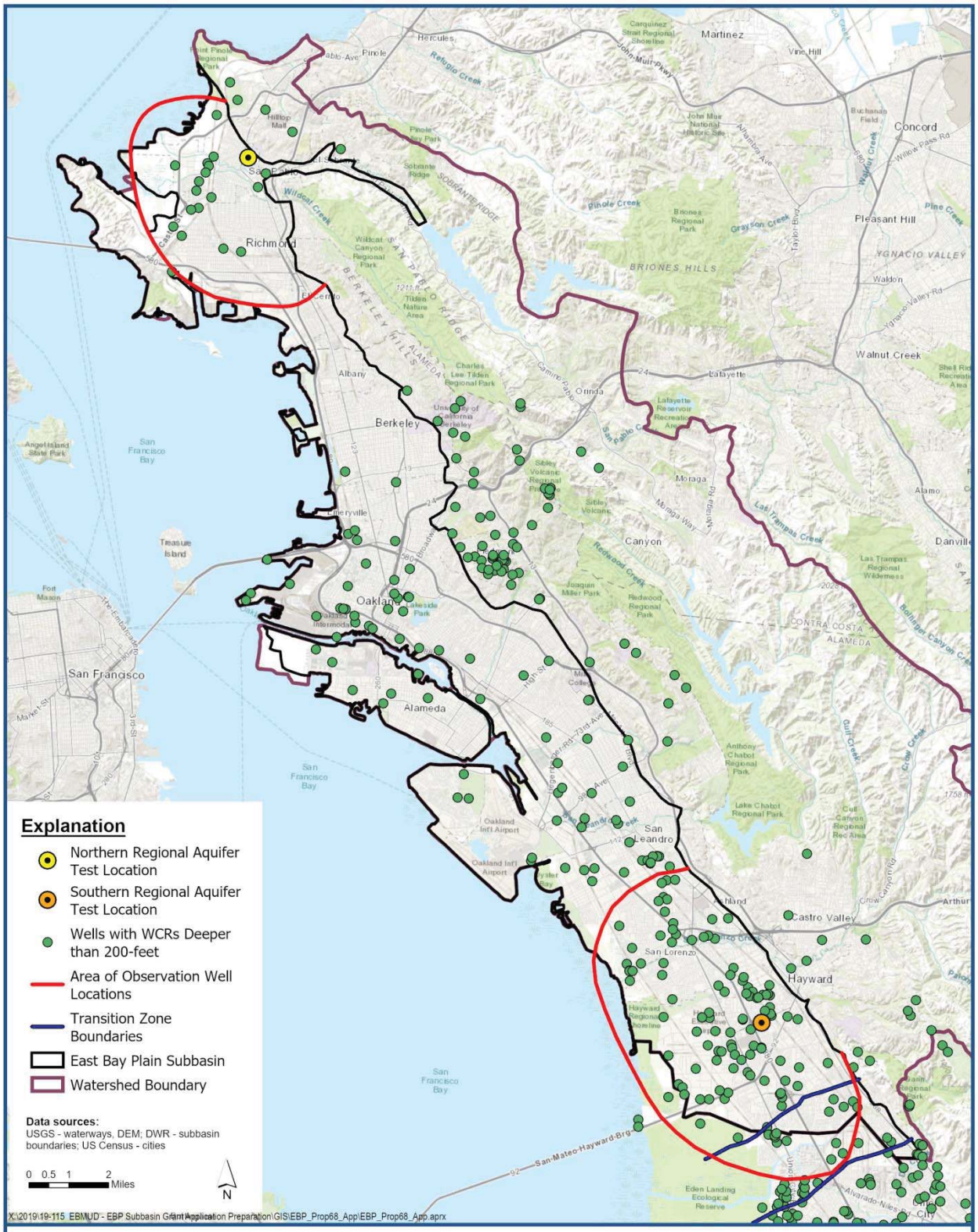
Figure 4
Typical Monitoring Well Profile (600-ft)

Task C: Regional Aquifer Tests

Under this task, conduct two regional aquifer tests (see locations on Figure 5) with one test in the southern portion such as the Hayward Well A and the other in the northern portion of the Subbasin such as a production well near Contra Costa College. Continuously pump the wells for 14 days and monitor the surrounding groundwater levels. Coordinate with local well owners such as private parties, Hayward Area Recreation District, and Alameda County Water District to monitor groundwater level changes in East Bay Plain and Niles Cone subbasins as necessary. Analyze the data and develop the hydraulic parameters to obtain a better understanding of the Subbasin boundary conditions to use in the groundwater model development. Obtain necessary permits and environmental documentation, as needed. Analyze the Regional Aquifer tests' results to develop hydraulic parameters and a better understanding of subbasin boundary conditions for use in the groundwater model development.

Deliverables:

- Permits and environmental documentation, as needed
- Technical memorandum summarizing aquifer tests



Luhdorff & Scalmanini Consulting Engineers

Prop 68 Grant Application
Regional Aquifer Test Locations

East Bay Plain Subbasin
Prop 68 Grant Application

Figure 5

Task D: Isotopic Analysis

Under this category, collect surface and groundwater samples from local streams and wells. Prepare a sampling plan including discussion of sampling frequencies, applied sampling protocols, monitoring standards, and selection of a certified laboratory. Analyze isotopic compositions of these samples to identify surface water-groundwater interaction in local streams, where potential groundwater dependent ecosystems are located in the Subbasin area and wells in the transition zone between Niles Cone and East Bay Plain subbasins. Investigate interbasin hydrogeologic communication between Niles Cone and East Bay Plain Subbasins based on these analyses and previously completed studies such as USGS's technical investigations. Conduct detailed isotopic evaluation of boundary conditions by the tasks listed below.

Basin Boundary Evaluation:

- Isotopic sampling from 18 additional wells (existing and newly installed) for the suite of isotopic tracers.

Surface Water-Groundwater Interaction:

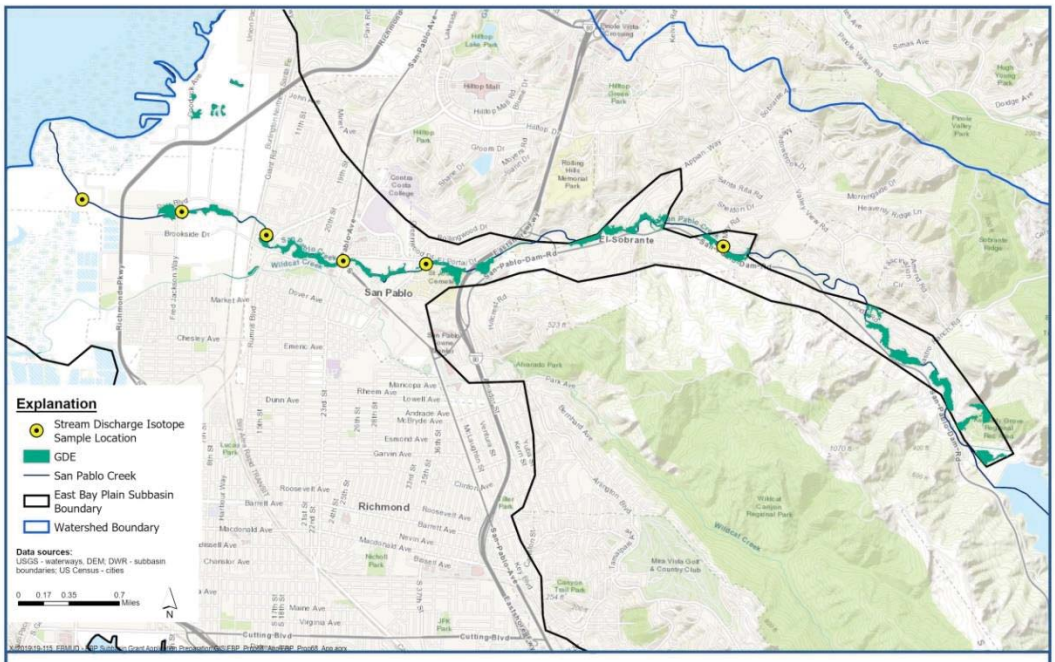
- Synoptic streamflow measurements at 4 to 6 locations along San Pablo Creek in the northern portion of the subbasin on the same day, and repeating this process on the same stream on different days representative of different seasons/streamflow conditions (see Figure A for San Pablo Creek)

- Synoptic streamflow measurements at 4 to 6 locations along San Leandro Creek on the same day, and repeating this process on the same stream on different days representative of different seasons/streamflow conditions (see Figure B for San Leandro Creek)

- Collection of water samples to analyze isotopes and other constituents to better understand gaining and losing stream reaches and sources of water to the stream
- Water samples would be collected on the same days for analysis of isotopes and other constituents. The two sets of data will be complementary to each other for analysis of surface water – groundwater interaction
- Measurement of field water quality parameters (specific conductance and temperature)
- Dissolved radon (222Rn) measurement to identify gaining and losing reaches and seasonal changes in groundwater inflow to the creeks targeted for study

Deliverables:

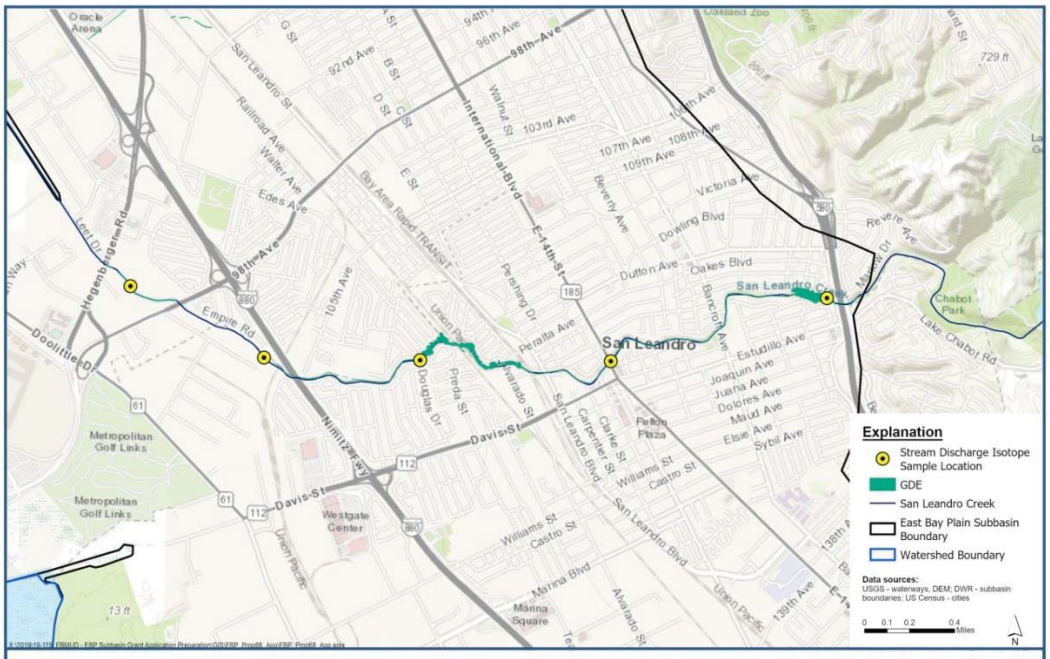
- Sampling Plan including discussion of sampling frequencies, applied sampling protocols, monitoring standards, and selection of a certified laboratory
- Technical memorandum summarizing isotope sampling, analyses and findings
- Environmental documentation, as needed



Luhdorff & Scalmanini Consulting Engineers

Prop 68 Grant Application
Locations of Proposed Measurements along San Pablo Creek
East Bay Plains Subbasin
Prop 68 Grant Application

Figure A



Luhdorff & Scalmanini Consulting Engineers

Prop 68 Grant Application
Locations of Proposed Measurements along San Leandro Creek
East Bay Plain Subbasin
Prop 68 Grant Application

Figure B

Exhibit A-2

Data Management System Development funded under Prop. 68

Data Management System (DMS):

The LSCE Team will continue to develop a Technical Memo regarding a Data Management System designed to maintain a database, allow queries, analyze the data, and generate data analysis reports. At a minimum, the Technical Memo will describe data management needs, options, evaluation criteria, and long-term costs. A typical DMS includes the following features but is not limited to:

- A web-based user interface
- Built-in GIS set up to locate data points and geographical references
- Levels of privileges for administrators and various users
- Cloud data storage with multiple back-ups
- Capability to link with modeling platform for model input or output datasets, and
- Customizable off-the-shelf application and NOT be a proprietary application

Results of this task will be summarized as a draft Technical Memorandum, ready for review and comment by EBMUD and City of Hayward. Based on these reviews of the draft Memorandum, Farallon will finalize the document for incorporation in the GSP.

LSCE Team's Deliverable: Technical Memorandum

Following to completion of the technical memorandum, a DMS will be developed to manage currently available data and future data. The DMS will be designed for various users. A primary purpose of the DMS will be to provide a diverse community of stakeholders' access to hydrogeologic data for the Subbasin. Stakeholders will include cities and counties, utilities, regulatory agencies, State agencies, environmental organizations, and members of the public. The DMS will function as the authoritative data management repository for the East Bay Plain GSP. It will provide data management, secure information storage/backup, and data access to support the internal management and analysis needed for annual GSP reporting and 5-year updates.

The following sections summarize specific requirements of a DMS:

Data Content and Modeling Requirements

Some of the data themes the DMS will manage include:

- Groundwater level data
- Water quality data
- Stream gauge data
- Land Use, Surface water bodies
- Wells
- Water production and usage data
- Land Use, Administrative Boundaries, Demographic data
- Climate, Atmospheric data
- Natural vegetation/groundwater dependent ecosystems
- Organizations, People

Data modeling capabilities shall include:

- Ability to define data completeness and validation rules
- Default values for selected database fields
- Ability to define relationships between data tables
- Ability to model geospatial data as points, lines, polygons or multi-geometry representations as appropriate
- Ability model temporal data and uncertainty about dates

Data Formats, Import and Export Requirements:

The system will include the following formats:

- Encoded using non-proprietary formats
- For non-spatial data, formats shall include .csv (comma separated value) and JSON (JavaScript Object Notation)
- For geospatial data, the system shall support import and export of data using the GeoJSON format
- The DMS shall support import/export of data using the Shapefile specification
- Optionally, the DMS may also support proprietary formats for geospatial data so long as it supports the required data formats
- The DMS shall also support import and export of digital files
- The DMS shall support import/export of specialized datasets such as 3-D models, geophysical borehole logs, etc.

To support the inclusion of existing data into the DMS, the vendor will be required to assist in the data processing needed to prepare data for import into the DMS. Given the sensitive nature of some water data, the DMS will support the ability to define a subset of the information managed by the system for export and publication on a data portal or other platform to promote access and download of selected DMS data by the public.

Data Editing and User Permission Requirements:

To meet EBMUD's needs, the DMS shall provide a web interface capable of:

- Reading, creating, updating, and deleting records in the DMS via valid transactions
- Supporting the ability of users with appropriate data editing permissions to read, create, update, delete geospatial data via a web mapping interface
- Providing a web interface for managing data records and ensuring that data validation rules are met
- Allowing a system administrator to configure the layout, labeling, and order in which data entry forms are presented to users
- Providing context-sensitive help for users

Controlled vocabularies will be required to limit a user's input for selected fields in the DMS to a list of valid values. Because the DMS will manage diverse data and multiple stakeholders, it will be essential that the system implement data access and editing permissions. At a minimum, the DMS shall support:

- No-access, read-only, create, update, and delete permissions for a record.
- Group-based permissions.
- Account-level permission.
- Instance-level permissions

Search, Discovery, and Visualization Requirements:

At a minimum, the DMS will support:

- Term-based search filters.
- Geospatial filters.
- Temporal filters.
- Combined search filters.

The DMS shall also support discoverability and visualization of data managed by the system as follows:

- Map-based presentation of data, symbolizing it based on a configurable set of criteria
- Support for clicking on a map element to show additional data related to the object
- Ability to show hydrographs, histograms, and other charts
- Ability to access data from other systems and present them as map overlays
- Support the ability to display 2-D and 3-D models

System Integration Requirements
The DMS shall support integration with external data resources, and will provide external systems an API to programmatically access data within the DMS. The DMS API will be secure, requiring that the requesting system can authenticate itself as a DMS client.

Technology, Deployment, and Intellectual Property Rights
The DMS vendor shall:

- Summarize DMS system design and identify the specific components of the system
- Identify the DMS system technologies and the rationale for selecting the technology
- Describe methodology proposed to develop the software needed to implement the DMS
- Summarize how the DMS will be tested, documented, and deployed

Developing the DMS using open source technologies is the preferred approach. If the DMS vendor proposes a system using proprietary technology, the system must provide access to all data managed by the DMS free of charge. The intent is that the DMS use technologies that do not require EBMUD/Hayward to pay for access to its own data. In practice, this means that the DMS may use technology such as a proprietary database or geospatial server. However, the DMS must provide a means to access, create, update, delete, and visualize data owned by EBMUD/Hayward and project stakeholders using clients such as a web browser or desktop software without requiring payment for the API (Application Programming Interface) used, purchase of tokens, middleware licenses or other fees.

EBMUD/Hayward are considering both on premises and hosted deployment options for the DMS. The DMS vendor shall identify the deployment options open to EBMUD/Hayward and describe the software license costs (if any) associated with each option. The DMS vendor will clearly state the software ownership and intellectual property rights that will be conferred to EBMUD as part of the system development and deployment effort.

DMS contractor/vendor is yet to be determined.

Deliverable: DMS populated with data compiled from previously collected data, publically available data, completed data analyses and modeling.

Exhibit – B-1

EAST BAY PLAIN SUBBASIN GSP DEVELOPMENT SCHEDULE
(As of July 2020)

No	TASKS	2019				2020				2021				2022			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	***Prop 1 Scope of Work***																
	Stakeholders' Communication and Engagement																
	Project Management																
	Develop the East Bay Plain Groundwater Model																
	Preparation of the East Bay Plain Subbasin GSP																
	Optional Tasks																
2	***Prop 68 Scope of Work***																

Exhibit – B-2

EAST BAY PLAIN SUBBASIN GSP DEVELOPMENT SCHEDULE
(As of July 2020)

No	TASKS	2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	***Data Management System Development***								

Exhibit – C-1

Cost Allocations for the Scope of Work funded under Prop 1

Exhibit C-1
East Bay Plain Subbasin Groundwater Sustainability Plan Development Project (updated as of December 2018)
Cost Distribution

	Total Cost	% Allocated to Hayward	Hayward Cost	% Allocated to EBMUD	EBMUD Cost
Task 1 - Stakeholders' Communication and Engagement (C&E) Support					
1.1.Meetings	$ 84,744	30%	$ 25,423	70%	$ 59,321
Technical Advisory Committee 1. TAC meetings to be held approximately every other month 2. General stakeholders meetings and Interbasin Working Group meetings (every six months)					
1.2. Preparation of Project Updates, Presentations, Responses to Stakeholder Issues or Concerns	$ 68,684	30%	$ 20,605	70%	$ 48,079
Deliverables: Progress update presentations, responses to stakeholder issues and concerns					
Task 1 Subtotals	$ 153,428		$ 46,028		$ 107,400
Task 2 - Project Management and Grant Reporting					
2.1. Project Administration	$ 12,560	35%	$ 4,396	65%	$ 8,164
Deliverables: Project Schedule					
2.2. Preparation of Project Updates	$ 12,560	35%	$ 4,396	65%	$ 8,164
Deliverables: Information for quarterly grant reports, data sets, information for grant completion report					
2.3. Project Management by Consultant	$ 16,860	35%	$ 5,901	65%	$ 10,959
Deliverables: Monthly invoices and project status updates					
Task 2 Subtotals	$ 41,980		$ 14,693		$ 27,287
Task 4 - Develop the East Bay Plain Groundwater Model (EBPGM)					
4.1. Data Syntheses and Analysis	$ 134,973	20%	$ 26,995	80%	$ 107,978
Deliverables: Technical memorandum summarizing data syntheses and analyses, including identification of data gaps and recommendations of project concepts to fill data gaps as optional services					
4.2. Hydrogeologic Conceptual Model (HCM) Development	$ 201,290	50%	$ 100,645	50%	$ 100,645
Deliverables: A conceptual hydrogeologic model showing high-level representation of the groundwater flow system. The conceptual model will include all of the water budget components (or stresses) and a 3D geologic framework model that will define the stratigraphy and connectivity of each geologic layer in the Subbasin					
4.3. Groundwater Model Objectives and Selection	$ 29,588	40%	$ 11,835	60%	$ 17,753
Deliverables: Technical memorandum establishing the model's purpose and objectives, evaluating model selection criteria, and recommending the appropriate model					
4.4. Construct, Calibrate, Validate and Perform Uncertainty Analysis of East Bay Plain Groundwater Model (EBPGM)	$ 201,340	30%	$ 60,402	70%	$ 140,938
Deliverables: An integrated and validated transient groundwater flow based model that simulates historical conditions through the present and is capable of analyzing surface water-groundwater interaction					
4.5. Develop and Analyze Baseline Scenario and Alternative Management Scenarios	$ 127,192	40%	$ 50,877	60%	$ 76,315
Deliverables: Tabulated comparisons of model output from the scenarios and the baseline to evaluate the hydrologic effects of the proposed water management actions					
4.6. Document and Archive EBPGM	$ 69,080	40%	$ 27,632	60%	$ 41,448
Deliverables: Model files and technical memorandum documenting model development and runs					
Task 4 Subtotals	$ 763,463		$ 278,386		$ 485,077
Task 5 - Preparation of the East Bay Plain Subbasin GSP					
5.1. General Information, Plan Area and Subbasin Setting, Stakeholder C&E, and Monitoring	$ 58,253	35%	$ 20,389	65%	$ 37,864
Deliverables: GSP Outline; Applicable GSP Sections					
5.2. Sustainable Management Criteria and Management Actions	$ 94,881	35%	$ 33,208	65%	$ 61,673
Deliverables: Applicable GSP Sections					
5.3. Monitoring Network	$ 54,600	35%	$ 19,110	65%	$ 35,490
Deliverables: Applicable GSP Sections					
5.4. GSP Implementation Plan	$ 46,926	35%	$ 16,424	65%	$ 30,502
Deliverables: A work plan to implement the management actions including descriptions of projects, schedules, costs, and reporting					
5.5. Prepare Functionally Equivalent Plan for Salt/Nutrient Components per Recycled Water Policy	$ 99,192	35%	$ 34,717	65%	$ 64,475
Deliverables: Incorporate added information and analyses into GSP to meet SNMP requirements of the Recycled Water Policy					
5.6. Prepare and Finalize the GSP	$ 146,171	35%	$ 51,160	65%	$ 95,011
Deliverables: Draft GSP, Final GSP for Adoption and Submittal to DWR					
Task 5 Subtotals	$ 500,023		$ 175,008		$ 325,015
Contracted Services Subtotal	**$ 1,458,894**		**$ 514,115**		**$ 944,779**
Task 6 (Optional Services)					
6.1: Environmental Compliance and Permitting Deliverables: Environmental documentation processes for GSP preparation	$ 49,844	35%	$ 17,445	65%	$ 32,399
6.2. Data Management System (DMS) Deliverables: Technical Memorandum describing Data Management System including but not limited to data management needs, options, evaluation criteria, and long-term costs	$ 32,204	35%	$ 11,271	65%	$ 20,933
6.3. Additional Editorial Review and Materials Deliverables: May include additional materials such as brochures or other work products and/or additional editorial services beyond those include in Tasks 1 and 5.	$ 10,360	35%	$ 3,626	65%	$ 6,734
6.4. Additional General Services Deliverables: To be determined; dependent on services to be provided under this optional task that are beyond those include in other tasks	$ 40,140	35%	$ 14,049	65%	$ 26,091
Optional Services Subtotals	**$ 132,548**		**$ 46,392**		**$ 86,156**
Totals (Contracted Services plus Optional Services)	**$ 1,591,442**	**35.22%**	**$ 560,507**	**64.78%**	**$ 1,030,935**
with grant funding	**$ 591,442**	**35%**	**$ 207,005**	**65%**	**$ 384,437**
original estimated cost	$ 490,000	34.91%	$ 171,083	65.09%	$ 318,917
difference	$ 101,442		$ 35,922		$ 65,520

Note:
% in Black color font are original distribution
% in Green color font are modified distribution

Cost Allocations for the Scope of Work funded under Prop 68

Cost Allocation for the scope of work --excluding Data Management System-- funded under Prop 68

(Costs shown here are proposed costs and actual costs may vary)

Tasks	Prop 68 Budget Catogories	Round 3 Grant Amount	Round 3 Local Cost Share	Contracted Cost	Net Local Cost	EBMUD Cost Share %	Hayward Cost Share %	EBMUD Cost Share $	Hayward Cost Share $
A	**Grant Administration**	$80,000	$14,000	*$6,200*	$14,000	100%	0%	$14,000	$0
D	**GSP Developmentt**	$532,000	$120,000						
D-1	*12 Wells*			*$499,180*	$0	65%	35%	$0	$0
D-2	*2 Regional Pumping Tests*			*$90,360*	$0	65%	35%	$0	$0
D-3	*Isotopic Sampling & Analysis*			*$164,890*	$222,430	65%	35%	$144,580	$77,851
	Total	**$612,000**	**$134,000**	**$760,630**	**$236,430**			**$158,580** 1/	**$77,851**

1 Figure includes grant administration costs of $14,000 which will be provided as in-kind services. EBMUD's out-of-pocket expenditures will not exceed $144,580 for Prop. 68-funded work shown on this table.

Exhibit – C-2

Cost Allocations for Data Management System Development funded under Prop 68

Cost Allocation for the Data Management System (Joint Supplemental Project)

(Costs shown here are estimated costs and actual costs may vary)

Task	Scope	Grant	Local Share	Total	Estimated Additional Local Share Required (Excluded in the grant)	Description of Additional Local Share Required	Projected Total Local Cost	EBMUD Cost Share %	Hayward Cost Share %	EBMUD Cost Share $	Hayward Cost Share $
1	Data Management System Development	$68,000	$12,000	$80,000	$20,000 - $170,000	Estimated additional costs above grant funding to complete	**$32,000 - $182,000**	50%	50%	$91,000	$91,000
	Total	**$68,000**	**$12,000**	**$80,000**	**$20,000 - $170,000**		**$32,000 - $182,000**			**$91,000**	**$91,000**

APPENDIX 1. INTRODUCTION

1.D. GSP Adoption Resolutions, Meeting Minutes and Notices

APPENDIX 1. INTRODUCTION

1.D. GSP Adoption Resolutions, Meeting Minutes and Notices

EBMUD GSP ADOPTION RESOLUTION

RESOLUTION NO. 35259-21

ADOPTING EAST BAY PLAIN SUBBASIN GROUNDWATER SUSTAINABILITY PLAN

Introduced by Director Mellon ; Seconded by Director Patterson

WHEREAS, the California Legislature has enacted, and the Governor has signed into law, the Sustainable Groundwater Management Act of 2014 (SGMA), which authorizes local agencies to ensure sustainable management of groundwater resources; and

WHEREAS, SGMA requires that by January 31, 2022, all groundwater basins designated by the California Department of Water Resources (DWR) as high- or medium-priority basins be managed under a Groundwater Sustainability Plan (GSP), or coordinated GSPs as provided for in California Water Code section 10720.7(a); and

WHEREAS, DWR has categorized the East Bay Plain Subbasin of the Santa Clara Valley Basin, Basin No. 2-009.04 (East Bay Plain Subbasin) as a medium-priority basin which must be managed under a GSP by January 31, 2022; and

WHEREAS, the East Bay Municipal Utility District (District) and the City of Hayward (Hayward) are the water providers that overlie the East Bay Plain Subbasin; and

WHEREAS, the District and Hayward are the exclusive Groundwater Sustainability Agencies (GSAs) for the East Bay Plain Subbasin, and each GSA exercises management responsibility within the portion of the East Bay Plain Subbasin underlying its boundaries; and

WHEREAS, the District and Hayward have agreed that working cooperatively to prepare a single GSP that covers the entire East Bay Plain Subbasin would be feasible and mutually beneficial; and

WHEREAS, on June 25, 2018, the District and Hayward executed a Cooperating Agreement to set forth the roles, responsibilities, cost-sharing, and other commitments to jointly prepare a single GSP for the East Bay Plain Subbasin in compliance with SGMA; and

WHEREAS, the Cooperating Agreement was amended in March 2019, December 2020, and December 2021 to (i) reflect the final scope of work, schedule, and budget for the development of the East Bay Plain Subbasin GSP, (ii) incorporate additional groundwater monitoring and analysis, including installation of new monitoring wells and development of a Data Management System, and (iii) allocate responsibility for the new monitoring wells and appoint a Plan Manager as required by DWR; and

WHEREAS, the District has prepared the East Bay Plain Subbasin GSP in cooperation with Hayward as GSAs for the Subbasin based on the best available data and science in accordance with SGMA; and

WHEREAS, development of the draft East Bay Plain Subbasin GSP was supported by three groups of public participants: General Stakeholders, a Technical Advisory Committee, and an Interbasin Working Group, which have each met with District and Hayward staff and technical consultants during the plan preparation process; and

WHEREAS, California Water Code section 10728.4 authorizes a GSA to adopt a groundwater sustainability plan after a public hearing, held at least 90 days after providing notice to a city or county within the area of the proposed plan or amendment, and directs each GSA to review and consider comments from any city or county that receives notice pursuant to that section and to consult with a city or county that requests consultation within 30 days of receipt of the notice; and

WHEREAS, on September 7, 2021, the GSAs notified the cities and counties within the East Bay Plain Subbasin of their intent to adopt a GSP for the East Bay Plain Subbasin pursuant to California Water Code section 10728.4; and

WHEREAS, a draft of the East Bay Plain Subbasin GSP in its entirety was made available for public review on September 17, 2021, including by posting it on the respective websites of the District and Hayward and by making printed copies available at several local libraries, and the public was invited to submit written comments during a comment period which closed November 1, 2021; and

WHEREAS, the GSAs received several comment letters during the public comment period, including two letters submitted by cities within the East Bay Plain Subbasin, and the District has consulted with each city or county which requested consultation within 30 days of the receipt of the September 7, 2021 notice; and

WHEREAS, the GSAs have reviewed and considered all comments received from cities and counties within the area of the East Bay Plain Subbasin GSP as required by Water Code section 10728.4, along with all other comments received during the comment period, and have modified the GSP as appropriate in response thereto; and

WHEREAS, on December 7, 2021, the City of Hayward held a public hearing on the East Bay Plain Subbasin GSP and thereafter adopted the GSP; and

WHEREAS, the District held a public hearing on the East Bay Plain Subbasin GSP on December 14, 2021, and the District's Board of Directors has considered any and all public comments received during that hearing;

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the East Bay Municipal Utility District hereby finds and determines as follows:

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

2. The plan entitled "East Bay Plain Subbasin Groundwater Sustainability Plan," a copy of which is on file with the Secretary of the Board of Directors, is hereby approved and adopted as the Groundwater Sustainability Plan for the East Bay Plain Subbasin.

3. The Plan Manager and other appropriate District staff are hereby authorized and directed to take such actions as may be necessary to submit the adopted East Bay Subbasin Groundwater Plan to DWR by January 31, 2022 and to take all other actions reasonably necessary to effectuate the intent and purposes of this Resolution.

4. Preparation and adoption of the East Bay Plain Subbasin GSP is exempt from the requirements of the California Environmental Quality Act pursuant to California Water Code section 10728.6.

ADOPTED this 14th day of December, 2021 by the following vote:

AYES: Directors Coleman, Katz, McIntosh, Mellon, Patterson, Young and President Linney.

NOES: None.

ABSENT: None.

ABSTAIN: None.

President

ATTEST:

Secretary

APPROVED AS TO FORM AND PROCEDURE:

General Counsel

BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT

375 - 11th Street, Oakland, CA 94607 Office of the Secretary: (510) 287-0440

Notice of Time and Location Change

REGULAR CLOSED SESSION
10:30 AM
and
REGULAR BUSINESS MEETINGS
1:15 PM
Tuesday, December 14, 2021
Virtual

Notice is hereby given that the Tuesday, December 14, 2021 Regular Closed Session Meeting of the Board of Directors has been rescheduled from 11:00 a.m. to 10:30 a.m.

In accordance with Government Code section 54953(e), the Regular Closed Session Meeting scheduled for 10:30 a.m., and the Regular Business Meeting scheduled for 1:15 p.m., **will be conducted via webinar and teleconference only**. A physical location will not be provided for these meetings.

Dated: December 9, 2021

Rischa S. Cole

Rischa S. Cole
Secretary of the District

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BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT

375 - 11th Street, Oakland, CA 94607 Office of the Secretary: (510) 287-0440

AGENDA

REGULAR CLOSED SESSION

Tuesday, December 14, 2021
10:30 a.m.
*****Virtual*****

Location

In accordance with Government Code section 54953(e), **this meeting will be conducted by webinar and teleconference only**. A physical location will not be provided for this meeting.

*****Please see appendix for public participation instructions*****

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.

ANNOUNCEMENT OF CLOSED SESSION AGENDA:

1. Existing litigation pursuant to Government Code section 54956.9(a):

   a. *Shaunte Scott v. East Bay Municipal Utility District*
   Alameda County Superior Court, Case No. RG20062324

2. Conference with Labor Negotiators Gregory Ramirez and Jeff Bailey from the Industrial Employers Distributors Association; Clifford C. Chan, General Manager; Sophia D. Skoda, Director of Finance; Laura A. Acosta, Director of Human Resources, pursuant to Government Code section 54957.6: Employee Organizations International Union of Operating Engineers, Local 39; American Federation of State, County and Municipal Employees, Locals 444 and 2019; and International Federation of Professional & Technical Engineers, Local 21.

(The Board will discuss Closed Session agenda items via webinar or teleconference.)

REGULAR BUSINESS MEETING
1:15 p.m.
Virtual

Location

In accordance with Government Code section 54953(e), **this meeting will be conducted by webinar and teleconference only**. A physical location will not be provided for this meeting.

Please see appendix for public participation instructions

ROLL CALL:

BOARD OF DIRECTORS:

- Pledge of Allegiance

ANNOUNCEMENTS FROM CLOSED SESSION:

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.

CONSENT CALENDAR: (Single motion and vote approving 11 recommendations including 1 resolution.)

1. Approve the Regular Meeting Minutes of November 23, 2021 and the Special Closed Session Meeting Minutes of December 2, 2021.

2. File correspondence with the Board.

3. Authorize an agreement beginning on or after December 14, 2021 with ADS Corp. in an amount not to exceed $9,609,396 for the Consent Decree Performance Evaluation Plan Flow and Precipitation Monitoring.

4. Authorize agreements beginning on or after December 14, 2021 with Fehr & Peers and Sandis Civil Engineers Surveyors Planners in an aggregate amount not to exceed $400,000 for two years for preparation of signed, stamped, and site-specific traffic control plans.

5. Authorize an agreement beginning on or after December 14, 2021 with National Plant Services, Inc. for five years for a total amount not to exceed $3,000,000 for sanitary sewer inspection and cleaning services in support of the East Bay communities' infiltration and inflow reduction activities in the communities' collection systems.

6. Authorize agreements beginning on or after January 1, 2022 with Occupational Health Centers of California dba Concentra Medical Centers, Emeryville Occupational Medical Center, Kaiser Permanente On-the-Job, Mobile-Med Work Health Solutions, Inc., and Alshifa Medical Group dba Trinity Urgent Care & Occupational Health for three years with two options to renew for additional one-year periods, in an aggregate amount, including option years, not to exceed $250,000 for providing medical evaluations required by federal and state regulations.

CONSENT CALENDAR: (Continued)

7. Authorize actions related to the Special Structures Rehabilitation Phase 1 Project.

    7.1. Award a contract to the lowest responsive/responsible bidder, JMB Construction, Inc., in an amount not to exceed $8,433,652 for construction of the Special Structures Rehabilitation Phase 1 project under Specification SD-404.

    7.2. Authorize an amendment to the agreement previously authorized under Board Motion No. 191-20 with CDM Smith, Inc. to increase the agreement amount by $508,612 to a total amount not to exceed $1,502,817 and extend the agreement term to December 31, 2023 for additional construction inspection and engineering services during construction for the Special Structures Rehabilitation Phase 1 Project.

8. Authorize the General Manager to execute an option agreement with Sycamore Mutual Water Company (Sycamore) at a maximum total cost of $230,000 whereby EBMUD would secure the right of first refusal to negotiate with Sycamore for the purchase of up to 6,000 acre-feet of transfer water in 2022.

9. Authorize a second amendment to the Memorandum of Agreement (MOA) for the Bay Area Regional Reliability partnership to extend the term of the MOA through March 31, 2023, update the signatory authorities and the delegated contacts, and include Marin Municipal Water District as a participating partner to work collaboratively to develop the Bay Area Shared Water Access Program.

10. Authorize the Office of General Counsel to continue the employment of the law firm of Hanson Bridgett, LLP, for specialized legal services related to construction, public contracts and procurement, claims, intellectual property and technology matters, tax, public pension law, labor and employment, and litigation matters.

11. Adopt resolutions to Amend and Restate the East Bay Municipal Utility District 401(a), 401(k) and 457 Deferred Compensation Plans to comply with tax law requirements enacted under the Setting Every Community Up for Retirement Enhancement Act of 2019. (Resolutions)

PUBLIC HEARING:

12. Conduct a public hearing and adopt the East Bay Plain Subbasin Groundwater Sustainability Plan.

    12a. Conduct a public hearing to receive comments on the East Bay Plain Subbasin Groundwater Sustainability Plan.

    12b. Adopt the East Bay Plain Subbasin Groundwater Sustainability Plan prepared pursuant to the Sustainable Groundwater Management Act. (Resolution)

DETERMINATION AND DISCUSSION:

13. Appointment of Assistant Attorney. (Resolution)

14. Declare an end to the District emergency initiated on November 3, 2021 and ratified on November 9, 2021 under Board Resolution No. 35253-21 to install temporary chemical storage tanks at the Oakport Wet Weather Facility. (Resolution)

15. Make requisite findings and adopt a resolution to continue to hold meetings of the Board of Directors via teleconference under Government Code section 54953(e) until such time as the State of Emergency resulting from the COVID-19 pandemic no longer impacts the ability of Board members to meet safely in person. (Resolution)

16. Legislative Update:
    - State Legislative Initiatives for 2022 Legislative Year
    - Update on Legislative Issues of Interest to EBMUD

17. Authorize actions related to Wheeling Principles with Marin Municipal Water District.

    17.1. Adopt the Proposed Wheeling Principles (EBMUD Principles) to govern negotiation of a potential wheeling agreement with Marin Municipal Water District (Marin Water) in furtherance of Marin Water's Marin East Bay Emergency Intertie Project.

    17.2. Authorize the General Manager to begin negotiating a wheeling agreement with Marin Water based on the EBMUD Principles for potential future consideration by the Board.

18. General Manager's Report:
    - Water Supply Update
    - 2021 Drought Update
    - Monthly Report – November 2021

REPORTS AND DIRECTOR COMMENTS:

19. Committee Reports:
    - Redistricting Ad Hoc
    - Finance/Administration
    - Planning
    - Legislative/Human Resources

20. Other Items for Future Consideration.

21. Director Comments.

ADJOURNMENT:

The next Regular Meeting of the Board of Directors will be held at 1:15 p.m. on Tuesday, January 11, 2022.

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.

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BOARD CALENDAR

Date	Meeting	Time/Location	Topics
Tuesday, December 14	**Planning Committee**	8:45 a.m. Virtual	• DSRSD/EBMUD Recycled Water Authority (DERWA) Side Agreement • Oakland Inner Harbor Pipeline Crossing Update • Fiscal Year 2021 Annual Readiness Report
	Legislative/Human Resources Committee	9:45 a.m. Virtual	• State Legislative Initiatives for 2022 Legislative Year • Contract Equity Program Annual Report – Fiscal Year 2021
	Board of Directors	10:30 a.m. Virtual 1:15 p.m. Virtual	• Closed Session • Regular Meeting
Friday, December 24 – Monday, December 27	**Christmas Holiday *observed***		*District Offices Closed*
Tuesday, December 28	**Finance/Administration Committee**	*Cancelled*	
	Board of Directors	*Cancelled*	
Friday, December 31	**New Year's Day Holiday *observed***		*District Offices Closed*
Tuesday, January 11	**Planning Committee**	TBD	
	Legislative/Human Resources Committee	TBD	
	Board of Directors	11:00 a.m. TBD 1:15 p.m. TBD	• Closed Session • Regular Meeting

2021 Board Committee Members

Finance/Administration	Patterson {Chair}, Coleman, Katz
Legislative/Human Resources	Coleman {Chair}, McIntosh, Patterson
Planning	Young {Chair}, McIntosh, Mellon
Sustainability/Energy	Young {Chair}, Katz, Mellon
Redistricting Ad Hoc	Coleman, Linney, Young

APPENDIX

Closed Session and Regular Business Meetings
Tuesday, December 14, 2021
10:30 a.m. and 1:15 p.m.

EBMUD public Board meetings will be conducted via Zoom.
Please note that Board meetings are recorded, live-streamed, and posted on the District's website.

Please visit this page beforehand to familiarize yourself with Zoom.
https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting

Online
https://ebmud.zoom.us/j/97065086667?pwd=eUdZSGh5SG82akZiRDF2UDg2b0IyUT09
Webinar ID: 970 6508 6667
Passcode: 238500

By Phone
Telephone: 1 669 900 6833
Webinar ID: 970 6508 6667
Passcode: 238500
International numbers available: https://ebmud.zoom.us/u/adMXn1VnPp

Providing public comment
The EBMUD 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.

If you wish to provide public comment please:

- Use the raise hand feature in Zoom to indicate you wish to make a public comment https://support.zoom.us/hc/en-us/articles/205566129-Raising-your-hand-in-a-webinar
    - If you participate by phone, press *9 to raise your hand
- When prompted by the Secretary, please state your name, affiliation if applicable, and topic
- The Secretary will call each speaker in the order received
- Comments on **non-agenda items** will be heard at the beginning of the meeting
- Comments on **agenda items** will be heard when the item is up for consideration
- Each speaker is allotted 3 minutes to speak; the Board President has the discretion to amend this time based on the number of speakers
- The Secretary will keep track of time and inform each speaker when the allotted time has concluded

Submitting written comments or materials

- Email written comments or other materials for the Board of Directors to SecOffice@ebmud.com
- Please indicate the meeting date and agenda item number or non-agenda item in the subject of the email. Contact information is optional.
- **Please email by 4 p.m. the day prior to the scheduled regular meeting**; written comments and other materials submitted to the Board of Directors will be filed in the record.

To *observe* the public portion of the 10:30 a.m. Closed Session Meeting and the entirety of the 1:15 p.m. Regular Business Meeting, please visit: https://www.ebmud.com/about-us/board-directors/board-meetings/

MINUTES

Tuesday, December 14, 2021
East Bay Municipal Utility District
Board of Directors
375 Eleventh Street
Oakland, California
Virtual

Regular Closed Session Meeting

President Doug A. Linney called to order the Regular Closed Session Meeting of the Board of Directors at 10:40 a.m. He announced that in accordance with Government Code section 54953(e), this meeting would be conducted by webinar and teleconference only. A physical location was not provided for this meeting.

ROLL CALL

Directors John A. Coleman, Andy Katz, William B. Patterson, Marguerite Young, and President Doug A. Linney were present at roll call. Director Frank Mellon joined at 10:42 a.m. and Director Lesa R. McIntosh joined at 10:45 a.m. All Directors participated remotely.

Staff participants included General Manager Clifford C. Chan, General Counsel Derek T. McDonald, Assistant General Counsel Lourdes Matthew (Items 1a and 2), Director of Finance Sophia D. Skoda (Items 1a and 2), Director of Human Resources Laura A. Acosta (Item 2), and IEDA representatives Jeff Bailey and Gregory Ramirez (Item 2).

PUBLIC COMMENT

- Addressing the Board were the following: 1) Eric O. Larsen, President, AFSCME Local 444 commented on inflation, cost of living, the December CPI and the most recent offer from District negotiators; 2) George D. Cleveland, Chief Steward, AFSCME Local 2019 commented on a member involved in a fact finding investigation and asked the District to apologize for mistakenly including the member in the process; and 3) Ivette Rivera, EBMUD Gardener Foreman, commented on the lawsuits filed by former employees Ayriel Bland and Saji Pierce. Secretary of the District Rischa S. Cole read comments into the record regarding negotiations, recruitment and retention, and equity adjustments for Information Technology staff from the following: Harry Richardson, Supervising Systems Programmer; Kevin Fitzsimmons, Information Services Supervisor; Andy Szeto, Information Services Supervisor; Tom Canale, Information Services Supervisor; Kevin Kim, IT Engineer II; Michael Leong, IT Engineer II; Henry Lavigne, Senior IT Engineer; David Valenzuela, Senior IT Engineer; John Pennington, Senior IT Engineer: Rex Jou, Senior IT Engineer; Susan Lord, Senior IT Engineer; Brandon Lee, Senior IT Engineer; Mark Smith, Senior IT Engineer; Anonymous Employee; Sean McDonough, Senior IT Engineer; Hai Lin, Senior IT Engineer; Ross Hoyt, Senior IT Engineer; Ronald Brunner, Senior IT Engineer; Spencer Cowenhoven, Senior IT Engineer; Anna Lee, Senior IT Engineer; and Yu Lin, Senior IT Engineer.

President Linney requested an update on the investigation referenced by George Cleveland.

ANNOUNCEMENT OF CLOSED SESSION AGENDA

President Linney announced the closed session agenda and said the Regular Business Meeting would convene at 1:15 p.m. The Board convened for discussion (remotely).

Regular Business Meeting

President Doug A. Linney called to order the Regular Business Meeting of the Board of Directors at 1:17 p.m. He announced that in accordance with Government Code section 54953(e), this meeting would be conducted by webinar and teleconference only. A physical location was not provided for this meeting.

ROLL CALL

Directors John A. Coleman, Andy Katz, Lesa R. McIntosh, Frank Mellon, William B. Patterson, Marguerite Young, and President Doug A. Linney were present at roll call. All Directors participated remotely. Staff participants included General Manager Clifford C. Chan, General Counsel Derek T. McDonald, and Secretary of the District Rischa S. Cole.

ANNOUNCEMENTS FROM CLOSED SESSION

There were no announcements required from closed session.

BOARD OF DIRECTORS

President Linney led the Pledge of Allegiance.

PUBLIC COMMENT

- Addressing the Board were the following: 1) Nick Lawrence commented on continuing unsafe conditions on Tappan Terrace in Orinda; 2) George D. Cleveland, Chief Steward, AFSCME Local 2019 commented on a member required to use sick leave due to COVID-19 and the vaccination status of the General Manager and Board members; 3) Kelly A. commented on remarks from EBMUD Board members regarding public comment from non-ratepayers; and 4) Ivette Rivera, EBMUD Gardener Foreman commented on the lawsuits filed by former employees Ayriel Bland and Saji Pierce.

In response to Kelly A.'s comments, President Linney stated the Board of Directors welcomes public comments.

CONSENT CALENDAR

- Motion by Director Mellon, seconded by Director Coleman to approve the recommended actions for Items 1-11 on the Consent Calendar carried (7-0) by the following roll call vote: AYES (Coleman, Katz, McIntosh, Mellon, Patterson, Young, and Linney); NOES (None); ABSTAIN (None); ABSENT (None).

1. **Motion No. 210-21 –** Approved the Regular Meeting Minutes of November 23, 2021 and the Special Closed Session Meeting Minutes of December 2, 2021.

2. The following correspondence was filed with the Board: **1)** Presentation entitled, "Close Out of Emergency Declaration Oakport Wet Weather Facility Chemical Tank Failure" dated December 14, 2021; **2)** Presentation entitled, "East Bay Plain Subbasin Groundwater Sustainability Plan," dated December 14, 2021; **3)** Presentation entitled, "Drought Update," dated December 14, 2021; **4)** Presentation entitled, "Water Supply Update," dated December 14, 2021; **5)** Presentation entitled, "EBMUD Principles for Potential Wheeling Agreement with Marin Water," dated December 14, 2021; **6)** Presentation entitled, "Resolution Continuing Virtual Meetings of the Board," dated December 14, 2021; **7)** Oakland Tribune Proof of Publication of the Notice of Public Hearing to Consider Adopting the East Bay Plain Subbasin Groundwater Sustainability Plan (Legal No. 6626856 published November 26 and December 3, 2021); **8)** West County Times Proof of Publication of the Notice of Public Hearing to Consider Adopting the East Bay Plain Subbasin Groundwater Sustainability Plan (Legal No. 6626856 published November 26 and December 3, 2021); and **9)** Written comments (undated) from the following District employees regarding negotiations, recruitment and retention, and equity adjustments for Information Technology staff: Harry Richardson, Supervising Systems Programmer; Kevin Fitzsimmons, Information Services Supervisor; Andy Szeto, Information Services Supervisor; Tom Canale, Information Services Supervisor; Kevin Kim, IT Engineer II; Michael Leong, IT Engineer II; Henry Lavigne, Senior IT Engineer; David Valenzuela, Senior IT Engineer; John Pennington, Senior IT Engineer: Rex Jou, Senior IT Engineer; Susan Lord, Senior IT Engineer; Brandon Lee, Senior IT Engineer; Mark Smith, Senior IT Engineer; Anonymous Employee; Sean McDonough, Senior IT Engineer; Hai Lin, Senior IT Engineer; Ross Hoyt, Senior IT Engineer; Ronald Brunner, Senior IT Engineer; Spencer Cowenhoven, Senior IT Engineer; Anna Lee, Senior IT Engineer; and Yu Lin, Senior IT Engineer.

3. **Motion No. 211-21 –** Authorized an agreement beginning on or after December 14, 2021 with ADS Corp. in an amount not to exceed $9,609,396 for the Consent Decree Performance Evaluation Plan Flow and Precipitation Monitoring.

4. **Motion No. 212-21 –** Authorized agreements beginning on or after December 14, 2021 with Fehr & Peers and Sandis Civil Engineers Surveyors Planners in an aggregate amount not to exceed $400,000 for two years for preparation of signed, stamped, and site-specific traffic control plans.

5. **Motion No. 213-21 –** Authorized an agreement beginning on or after December 14, 2021 with National Plant Services, Inc. for five years for a total amount not to exceed $3,000,000 for sanitary sewer inspection and cleaning services in support of the East Bay communities' infiltration and inflow reduction activities in the communities' collection systems.

6. **Motion No. 214-21 –** Authorized agreements beginning on or after January 1, 2022 with Occupational Health Centers of California dba Concentra Medical Centers, Emeryville Occupational Medical Center, Kaiser Permanente On-the-Job, Mobile-Med Work Health Solutions, Inc., and Alshifa Medical Group dba Trinity Urgent Care & Occupational Health for three years with two options to renew for additional one-year periods, in an aggregate amount, including option years, not to exceed $250,000 for providing medical evaluations required by federal and state regulations.

7.1 **Motion No. 215-21 –** Awarded a contract to the lowest responsive/responsible bidder, JMB Construction, Inc., in an amount not to exceed $8,433,652 for construction of the Special Structures Rehabilitation Phase 1 project under Specification SD-404.

7.2 **Motion No. 216-21 -** Authorized an amendment to the agreement previously authorized under Board Motion No. 191-20 with CDM Smith, Inc. to increase the agreement amount by $508,612 to a total amount not to exceed $1,502,817 and extend the agreement term to December 31, 2023 for additional construction inspection and engineering services during construction for the Special Structures Rehabilitation Phase 1 Project.

8. **Motion No. 217-21 –** Authorized the General Manager to execute an option agreement with Sycamore Mutual Water Company (Sycamore) at a maximum total cost of $230,000 whereby EBMUD would secure the right of first refusal to negotiate with Sycamore for the purchase of up to 6,000 acre-feet of transfer water in 2022.

9. **Motion No. 218-21 –** Authorized a second amendment to the Memorandum of Agreement (MOA) for the Bay Area Regional Reliability partnership to extend the term of the MOA through March 31, 2023, update the signatory authorities and the delegated contacts, and include Marin Municipal Water District as a participating partner to work collaboratively to develop the Bay Area Shared Water Access Program.

10. **Motion No. 219-21 –** Authorized the Office of General Counsel to continue the employment of the law firm of Hanson Bridgett, LLP, for specialized legal services related to construction, public contracts and procurement, claims, intellectual property and technology matters, tax, public pension law, labor and employment, and litigation matters in an additional amount not to exceed $250,000.

11. **Adopt resolutions to amend and restate the East Bay Municipal Utility District 401(a), 401(k) and 457 Deferred Compensation Plans to comply with tax law requirements enacted under the Setting Every Community Up for Retirement Enhancement Act (SECURE Act) of 2019.**

Resolution No. 35256-21 – Amending and Restating the East Bay Municipal Utility District 401(a) Plan.

Resolution No. 35257-21 – Amending and Restating the East Bay Municipal Utility District 401(k) Tax Deferred Savings Plan.

Resolution No. 35258-21 – Amending and Restating the East Bay Municipal Utility District 457 Deferred Compensation Plan and Trust.

PUBLIC HEARING

12a. **Conduct a public hearing to receive comments on the East Bay Plain Subbasin Groundwater Sustainability Plan.**

President Linney opened the public hearing at 1:33 p.m. He announced the hearing is to receive comments on the East Bay Plain Subbasin Groundwater Sustainability Plan (GSP) pursuant to the Sustainable Groundwater Management Act (SGMA).

Senior Civil Engineer Bradley M. Ledesma and Associate Civil Engineer Grace W. Su presented the update. EBMUD and the City of Hayward (Hayward) are the designated Groundwater Sustainability Agencies (GSAs) for the Subbasin, and through an existing cooperating agreement, have completed the GSP. The GSP was developed and written to meet California Code of Regulations and using the Department of Water Resource's best management practices and guidance documents. The GSP identifies sustainable management criteria that are used to establish whether undesirable results have occurred within the following six sustainability indicators: 1) chronic lowering groundwater levels; 2) reduction in groundwater storage; 3) seawater intrusion; 4) degradation of water quality; 5) land subsidence; and 6) depletion of interconnected surface water. The criteria in the GSP were based on the best available data and science; however, they will change over time as identified data gaps are filled. The GSP also evaluated a future scenario relative to the sustainable management criteria that accounts for climate change, land use changes, and future groundwater pumping. It also outlines ongoing management actions that Hayward and the District will be responsible for implementing to monitor the Subbasin and ensure that sustainable management criteria are met to avoid undesirable results. Mr. Ledesma highlighted stakeholder and public outreach efforts conducted throughout the GSP development process. EBMUD and Hayward provided 90-day notice on September 7, 2021 to the cities and counties within the geographic area covered by the GSP of the intent to hold a public hearing and adopt the GSP. The draft GSP was available for public review from September 17, 2021 through November 1, 2021 and remains posted on each agency's SGMA website. Ms. Su highlighted key points in the GSP and in the comment letters received on the draft GSP. The comments and associated responses are included as an appendix in the GSP. Mr. Ledesma noted a public hearing and Board adoption of the GSP are required before the District can submit the final GSP to the Department of Water Resources by January 31, 2022 as required under the SGMA. Mr. Ledesma and Ms. Su responded to Board questions regarding entities besides state agencies that may have commented on or participated in the development of the GSP; the number of wells in the San Leandro/San Lorenzo area; the status of the GSP for the basin where the Demonstration Recharge, Extraction and Aquifer Management Project is located; capacity in the District's Bayside Groundwater facility in wet years; the potential for increased contaminated zones due to climate change; Hayward's estimated costs for monitoring actions; and whether Hayward has drawn water from the Subbasin.

President Linney asked for public comment. There were no comments. President Linney closed the public hearing at 1:55 p.m.

12b. **Adopt the East Bay Plain Subbasin Groundwater Sustainability Plan prepared pursuant to the Sustainable Groundwater Management Act.**

- Motion by Director Mellon, seconded by Patterson to approve the recommended actions for Item 12b carried (7-0) by the following roll call vote: AYES (Coleman, Katz, McIntosh, Mellon, Patterson, Young, and Linney); NOES (None); ABSTAIN (None); ABSENT (None).

  Resolution No. 35259-21 – Adopting East Bay Plain Subbasin Groundwater Sustainability Plan.

DETERMINATION AND DISCUSSION

13. **Appointment to the Position of Assistant Attorney.**

General Counsel Derek T. McDonald introduced Ruby Acevedo as the candidate for the position of Assistant Attorney of the District with the title of Attorney II and highlighted her background and experience.

- Motion by Director McIntosh, seconded by Director Young to approve the recommended actions for Item 13 carried (7-0) by the following roll call vote: AYES (Coleman, Katz, McIntosh, Mellon, Patterson, Young, and Linney); NOES (None); ABSTAIN (None); ABSENT (None).

  Resolution No. 35260-21 – Appointing Ruby Acevedo to the Position of Assistant Attorney of the District With the Title of Attorney II. *(effective December 20, 2021)*

The Board welcomed Ms. Acevedo and commented on how her experience working in the public interest will benefit various District efforts. Ms. Acevedo thanked the Board and said she looks forward to working at the District.

14. **Declare an end to the District emergency initiated on November 3, 2021 and ratified on November 9, 2021 under Board Resolution No. 35253-21 to install temporary chemical storage tanks at the Oakport Wet Weather Facility.**

Director of Wastewater Eileen M. White presented an update on actions to address the catastrophic failure of one of the three 10,000-gallon sodium hypochlorite storage tanks at the Oakport Wet Weather Facility (WWF). The incident occurred on Monday, November 1, 2021 and it was determined the tank could not be repaired. On November 3, the General Manager, in consultation with the Board President, declared a District emergency in accordance with Policy 7.03 – Emergency Preparedness/Business Continuity. The Board ratified the emergency declaration at its Regular meeting on November 9. Ms. White explained sodium hypochlorite dosing is needed to disinfect the flow that enters the Oakport WWF and the failure of one tank creates a significant shortage of chemical supply at the WWF. Work by the contractor and District staff to install a temporary storage system began on November 11. The contractor removed the failed tank and replaced it with a spare tank from the District's Orinda Water Treatment Plant and provided a trailer of chemicals to directly fill the tanks. District staff installed the secondary containment piping, chemical pump and eye wash station; performed the electrical and instrumentation work for the spare tank; and managed chemical procurement. The replacement tank was placed into service on November 30 and the temporary tanks were placed into service on December 9. Total estimated

costs for this work are $240,000. Ms. White said staff will continue reviewing preparedness for wet weather events and implement lessons learned across the wastewater system. She acknowledged the various District workgroups that assisted with efforts to address this issue. In response to Board questions, Ms. White explained aging infrastructure caused the failure and said the repair costs would most likely not qualify for reimbursement from President Biden's Infrastructure Investment and Jobs Act.

- Motion by Director Coleman, seconded by Patterson to approve the recommended actions for Item 14 carried (7-0) by the following roll call vote: AYES (Coleman, Katz, McIntosh, Mellon, Patterson, Young, and Linney); NOES (None); ABSTAIN (None); ABSENT (None).

Resolution No. 35261-21 – Resolution Terminating the Existence of an East Bay Municipal Utility District Emergency.

15. **Make requisite findings and adopt a resolution to continue to hold meetings of the Board of Directors via teleconference under Government Code section 54953(e) until such time as the State of Emergency resulting from the COVID-19 pandemic no longer impacts the ability of Board members to meet safely in person.**

Director of Operations and Maintenance David A. Briggs provided a COVID-19 update which included the most recent data on positive cases in Alameda and Contra counties; the number of positive employee (160) and contractor (23) cases at the District; the number of staff currently quarantined or in isolation and unable to telecommute (12); and said staff was notified in early December about plans for those that have been telecommuting full-time to return to the office 1-2 days per week beginning January 18. Mr. Briggs discussed key points of the Safe Return to Workplace plan and clarified this date could change if there is a winter surge in positive cases. Additional information will be provided when the District begins transitioning to a long-term, post-pandemic plan. He reviewed Section 54953(e) of the Ralph M. Brown Act and the safety protocols that will be in place as the Board transitions back to in-person meetings in January. General Manager Clifford C. Chan said that although the Board is planning to attend meetings in person in January, staff recommends adopting the resolution to allow the Board to continue to hold remote meetings in the event there is a winter surge in positive COVID-19 cases. General Manager Chan responded to questions regarding alternative office spaces for Board members for social distancing purposes and said he will contact Board members before January 11 to confirm if meetings will be in person. There was discussion regarding rapid antigen tests for Board members and staff that will be in close contact during Board meetings and comments on whether unvaccinated Board members should participate in person on January 11.

- Addressing the Board were the following: 1) George D. Cleveland, Chief Steward, AFSCME Local 2019 clarified remarks made during public comment earlier regarding the vaccination status of the General Manager and Board members did not mean to imply a Board member was not vaccinated but to point out Board members should have met the November 1 deadline to provide proof of vaccination; and 2) Gary Walters II, AFSCME Local 2019 Contract Negotiation Team member and ratepayer expressed concern regarding comments from the Board on whether unvaccinated Board members should participate in meetings in person.

- Motion by Director Coleman, seconded by Director Young to approve the recommended actions for Item 15 carried (7-0) by the following roll call vote: AYES (Coleman, Katz, McIntosh, Mellon, Patterson, Young, and Linney); NOES (None); ABSTAIN (None); ABSENT (None).

  Resolution No. 35262-21 - Authorizing Continued Utilization of Teleconferencing for Meetings of the East Bay Municipal Utility District Board of Directors *(Under Assembly Bill 361).*

16. **Legislative Update.**

  Manager of Legislative Affairs Marlaigne K. Dumaine said the second year of the state legislative session will focus on approximately 1,500 two-year bills, provided an update on the state budget, and on Assembly members planning to resign or not seek re-election. She highlighted seven state legislative initiatives for 2022 for Board review and consideration: 1) Climate Change – advance EBMUD's interests related to climate change and climate adaptation discussions; 2) Emerging Contaminants – advance EBMUD's interests in legislative and policy discussions and seek opportunities to support efforts to eliminate the use of Per- and Polyfluoroalkyl Substances (PFAS) and other emerging contaminants; 3) Forest Health/Wildfire Prevention and Response – advance EBMUD's interests in efforts to address forest health and vegetation management in the context of water and wastewater service; 4) Housing Fees – seek constructive ways to protect and advance EBMUD's interests as the legislature considers development-related fees, including capacity charges and connection fees, in the context of increasing housing supply and affordability; 5) Racial Equity and Justice – look for opportunities to advance EBMUD's interests as the legislature continues to consider racial equity and justice issues in the context of policy development in areas relevant to EBMUD priorities; 6) Ratepayer Assistance – seek constructive ways to advance EBMUD's interests as the administration and legislature consider ways to provide ongoing as well as additional pandemic-related assistance to water and wastewater customers; and 7) Water Supply Reliability and Resiliency – protect and advance EBMUD's interests in the context of water supply reliability and resiliency, including the use of recycled water, and the Mokelumne River fishery. Ms. Dumaine noted the climate change initiative does not cover wildfire or water which are covered under initiatives 3 and 7. The Board discussed the initiatives and asked that the District act as a resource as appropriate when the legislature begins discussing workforce transitions for those employed in the fossil fuels industry; continue monitoring and supporting ongoing funding for the infill/infrastructure program; explore the feasibility of designating a portion of surplus budget funds as start-up funding for an ongoing statewide ratepayer assistance program; and share the District's experience accessing funding from the California Water and Wastewater Arrearage Payment Program with program administrators for potential future program improvements. President Linney asked if staff could provide information on the Water Infrastructure Funding Act of 2022, and disclosed he is working to defeat the initiative. Ms. Dumaine explained staff's process for presenting initiatives to the Board and said at this time, staff could provide information on the text but are unable to analyze the initiative at this time. In conclusion, she provided a brief update on federal legislative activities. Legislative/Human Resource Committee member Lesa R. McIntosh reported the Committee met earlier in the day and voted to support the seven state legislative initiatives.

- Motion by Director McIntosh, seconded by Director Young to approve the recommended actions for Item 16 carried (7-0) by the following roll call vote: AYES (Coleman, Katz, McIntosh, Mellon, Patterson, Young, and Linney); NOES (None); ABSTAIN (None); ABSENT (None).

Motion No. 220-21 – Approved the state legislative initiatives for the 2022 Legislative Year: 1) Climate Change – advance EBMUD's interests related to climate change and climate adaptation discussions; 2) Emerging Contaminants – advance EBMUD's interests in legislative and policy discussions and seek opportunities to support efforts to eliminate the use of Per- and Polyfluoroalkyl Substances (PFAS) and other emerging contaminants; 3) Forest Health/Wildfire Prevention and Response – advance EBMUD's interests in efforts to address forest health and vegetation management in the context of water and wastewater service; 4) Housing Fees – seek constructive ways to protect and advance EBMUD's interests as the legislature considers development-related fees, including capacity charges and connection fees, in the context of increasing housing supply and affordability; 5) Racial Equity and Justice – look for opportunities to advance EBMUD's interests as the legislature continues to consider racial equity and justice issues in the context of policy development in areas relevant to EBMUD priorities; 6) Ratepayer Assistance – seek constructive ways to advance EBMUD's interests as the administration and legislature consider ways to provide ongoing as well as additional pandemic-related assistance to water and wastewater customers; and 7) Water Supply Reliability and Resiliency – protect and advance EBMUD's interests in the context of water supply reliability and resiliency, including the use of recycled water, and the Mokelumne River fishery.

- Director Coleman left the meeting at 2:45 p.m. and rejoined at 2:46 p.m.

17.1-17.2 **Adopt the Proposed Wheeling Principles (EBMUD Principles) to govern negotiation of a potential wheeling agreement with Marin Municipal Water District (Marin Water) in furtherance of Marin Water's Marin East Bay Emergency Intertie Project; and authorize the General Manager to begin negotiating a wheeling agreement with Marin Water based on the EBMUD Principles for potential future consideration by the Board.**

General Manager Clifford C. Chan introduced the item and Director of Water and Natural Resources Michael T. Tognolini presented an update on Marin Water's water supply as of December 7, the recent California Environmental Quality Act challenge from the North Coast Rivers Alliance to Marin Water, and an upcoming meeting for the Ad Hoc Committee appointed by the Mayor of Richmond to review Marin Water's project. Mr. Tognolini reviewed the following proposed EBMUD Principles which were developed to protect EBMUD's interests and its customers if EBMUD determines that it can wheel transfer water for Marin Water in 2022 and include feedback received from the Planning Committee and Board in November: 1) No financial impact to EBMUD, full cost recovery (e.g., staff time, O&M costs, construction costs, recovery of capital investments; 2) No water quality impacts to EBMUD customers; 3) No reduced level of service to EBMUD customers; 4) No EBMUD water supplies (Mokelumne, local, Central Valley Project) will be sold to Marin Water; 5) No impact to EBMUD's ability to prioritize purchase of transfer water for EBMUD customers. Marin Water will not compete with EBMUD for water transfers; 6) EBMUD has the right to terminate wheeling agreement for any reasonable cause as determined by EBMUD (operational, staff resources, etc.); 7) No opposition to project from the City of Richmond; 8) Marin Water performs substantial engagement in Richmond and West Contra Costa County and includes EBMUD in meetings; 9) Mitigation for community impacts in Richmond and EBMUD's service area considered through an equity lens with follow-through on commitments; 10) Marin Water should support EBMUD customers as a community partner. Examples include a potential contribution to EBMUD Customer Assistance Program or Water Lifeline Program, full street paving for construction activities, and/or other partnerships; 11) If EBMUD is asking for customer demand reductions, Marin Water must

achieve water efficiency levels equivalent to EBMUD for EBMUD to support Marin Water in meeting public health and safety needs; 12) EBMUD will make its own determination on California Environmental Quality Act compliance; 13) No significant unmitigated impacts to native fish species; and 14) If constructed, operation of emergency intertie may only occur when Marin Water has declared a drought emergency and EBMUD principles for wheeling are met. Staff is recommending the Board adopt the EBMUD Principles to govern negotiation of a potential wheeling agreement with Marin Water regarding Marin Water's Marin East Bay Emergency Intertie Project. There was discussion regarding the status of Marin Water's Principles and whether EBMUD needed to adopt the EBMUD Principles before Marin Water adopts principles. Director Coleman expressed continued concern that EBMUD Principle 7 – No opposition to project from the City of Richmond – could set a precedent and be used against EBMUD in negotiations on future projects. There was considerable Board discussion and input from General Manager Chan and General Counsel Derek T. McDonald on Principle 7. After additional discussion, the decision was made to keep Principle 7 in the document and to table Item 17.2 for a future meeting. General Manager Chan clarified staff would not bring Item 17.2 to the Board for consideration until Marin Water has approved principles and provided them to the District.

- Motion by Director McIntosh, seconded by Director Young to approve the recommended actions for Item 17.1 carried (7-0) by the following roll call vote: AYES (Coleman, Katz, McIntosh, Mellon, Patterson, Young, and Linney); NOES (None); ABSTAIN (None); ABSENT (None).

  Motion No. 221-21 – Adopted the Proposed Wheeling Principles (EBMUD Principles) to govern negotiation of a potential wheeling agreement with Marin Municipal Water District (Marin Water) in furtherance of Marin Water's Marin East Bay Emergency Intertie Project.

  Secretary of the District Rischa S. Cole asked the Board to consider making a motion to table Item 17.2 for a future meeting.

- Motion by Director McIntosh, seconded by Director Young to table Item 17.2 for a future meeting carried (7-0) by the following roll call vote: AYES (Coleman, Katz, McIntosh, Mellon, Patterson, Young, and Linney); NOES (None); ABSTAIN (None); ABSENT (None).

  Motion No. 222-21 – Tabled authorizing the General Manager to begin negotiating a wheeling agreement with Marin Water based on the EBMUD Principles for potential future consideration by the Board until a future meeting.

18. **General Manager's Report.**

Water Supply Update

Director of Operations and Maintenance David A. Briggs presented the update. He reviewed Upper Mokelumne and local precipitation, snowpack water content and total unimpaired runoff data for Water Year 2021 (October 1, 2020 – September 30, 2021) and reported the end of water year storage was 437,000 acre-feet. He reviewed the following information as of December 7: the District's current water supply and precipitation in the Mokelumne and East Bay and snow depth at Caples Lake. He said total system storage from all reservoirs is 442,410

acre-feet and concluded with an overview of water supply projections for the country and the District for Rainfall Year 2022.

2021 Drought Update

Director of Operations and Maintenance David A. Briggs reported between October 4 and December 5, the District diverted 15,500 acre-feet (AF) of its 33,250 AF Central Valley Project (CVP) allocation and that diversions are scheduled to continue until February 2022. The U.S. Bureau of Reclamation has indicated to CVP contractors that 2022 allocations could be extremely limited if dry conditions persist.

Manager of Water Supply Linda H. Hu provided an update on 2022 water transfers. Over the upcoming months, staff will present water transfer options and agreements to the Board for consideration, including a temporary water transfer option agreement with Yuba County Water Agency (YCWA) and Contra Costa Water District (CCWD). The agreement would provide EBMUD the option to purchase up to 10,000 AF of transfer water from YCWA in calendar year 2022 plus any additional YCWA water which becomes available to EBMUD.

Engineering Manager Lena L. Tam reviewed state and federal activities since August 20 and reported the District has been complying with the state's order to curtail diversions on the Mokelumne River. At the end of November, the state notified water users of plans to adopt rules to reduce water waste and in early December, the Department of Water Resources announced there would be no water allocations except for public health and safety needs for certain CVP contractors. She discussed the District's water shortage response actions noting the State Water Resources Control Board (SWRCB) has indicated it may consider imposing mandatory water rationing if dry conditions persist.

Manager of Water Conservation Alice E. Towey reviewed actions the District would take if the SWRCB imposes rationing. The Board would be required to implement a mandatory rationing goal, declare a water shortage emergency, and declare a Stage 2 or higher drought. Regulations that prohibit specific activities would be enacted and the District's Excessive Water Use Penalty Ordinance would go into effect. She discussed the planned outreach, messaging and conservation programming that would be implemented to support customers and concluded with drought outreach efforts to date, media activity and plans being developed if dry conditions persist in 2022.

Monthly Report – November 2021

General Manager Clifford C. Chan pointed out the report includes information on efforts to secure funding for customer arrearages. The District submitted its California Water and Wastewater Arrearage Payment Program application to the SWRCB for $9,631,323.40 in drinking water arrearages for 10,900 customers in arrears and an additional 9,450 accounts that received assistance via the District's Customer Assistance Program during the pandemic. He said the state's moratorium for water shutoffs is set to end on December 31, 2021 but the District does not plan to transition to implementing flow restrictors until arrearages are paid and the Board receives an additional update.

REPORTS AND DIRECTOR COMMENTS

19. **Committee Reports.**

- Filed with the Board were the Minutes for the November 23, 2021 Redistricting Ad Hoc Committee and Finance/Administration Committee meetings.

- Planning Committee Chair Marguerite Young reported the Committee met earlier (remotely) and received updates on the DSRSD/EBMUD Recycled Water Authority (DERWA) Side Agreement; the Oakland Inner Harbor Pipeline Crossing Update; and the Fiscal Year 2021 Annual Readiness Report.

- Legislative/Human Resources Committee Chair John A. Coleman reported the Committee met earlier (remotely) and received updates on the State Legislative Initiatives for 2022 Legislative Year and the Contract Equity Program Annual Report for Fiscal Year 2021.

- Los Vaqueros Reservoir JPA member John A. Coleman reported the JPA met on December 8 regarding the following: Election or Appointment of Authority Secretary; Consideration of an Administrative Agreement between the JPA and Contra Costa Water District; Establishing Committees; Discussion of Board Policies and Action Calendar; Discussion of Director and Alternate Director Roles; Discussion of Alternatives for Authority Liability and Errors and Omissions Insurance; Planning the 2022 Meeting Schedule; and Discussion of Proposed Revisions to the Authority Fact Sheet.

20. **Other Items for Future Consideration.**

None.

21. **Director Comments.**

- Director Coleman reported participating in the virtual East Bay Leadership Council Water Task Force meeting on December 8 and plans to participate in the virtual Los Vaqueros Reservoir JPA meeting on January 12, present at the virtual Walnut Creek Rotary meeting on January 18, and attend the UMRWA Board meeting at Pardee on January 28.

- Director Mellon reported attending the memorial services for former Alameda County Supervisor Wilma Chan in Oakland on December 5.

- Director Patterson reported attending the memorial services for former Alameda County Supervisor Wilma Chan (virtually) on December 5.

- President Linney reported attending the memorial services for former Alameda County Supervisor Wilma Chan (virtually) on December 5.

- Directors Katz, McIntosh, and Young had no reports.

ADJOURNMENT

President Linney adjourned the meeting at 4:16 p.m.

SUBMITTED BY:

Rischa S. Cole, Secretary of the District

APPROVED: January 11, 2022

Doug A. Linney, President of the Board

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HAYWARD GSP ADOPTION RESOLUTION

HAYWARD CITY COUNCIL

RESOLUTION NO. 21-238

Introduced by Council Member Salinas

RESOLUTION ADOPTING THE EAST BAY PLAIN SUBBASIN GROUNDWATER SUSTAINABILITY PLAN FOR THE CITY OF HAYWARD

WHEREAS, the California Legislature has adopted, and the Governor has signed into law, the Groundwater Management Act of 2014 (SGMA), which authorizes local agencies to ensure sustainable management of groundwater resources; and

WHEREAS, SGMA requires that by January 31, 2022, all groundwater basins designated by the California Department of Water Resources (DWR) as High- or Medium priority basins that are subjected to critical conditions of overdraft be managed under a Groundwater Sustainability Plan (GSP), or coordinated GSPs as provided for in California Water Code Section 10720.7(a); and

WHEREAS, the East Bay Plain Subbasin 2-009.04 (East Bay Plain Subbasin) is categorized as a medium-priority basin and subject to the provisions of SGMA; and

WHEREAS, the City of Hayward and East Bay Municipal Utility District (EBMUD) are the water providers that lie atop the East Bay Plain Subbasin; and

WHEREAS, the City of Hayward and EMBUD are the exclusive Groundwater Sustainability Agencies (GSAs) for the East Bay Plain Subbasin and each GSA exercises management responsibility within the portion of the East Bay Plain Subbasin underlying its boundaries; and

WHEREAS, the City of Hayward and EBMUD have agreed that working cooperatively to prepare a single GSP that covers the entire East Bay Plain Subbasin would be feasible and mutually beneficial; and

WHEREAS, on June 5, 2018, the Hayward City Council authorized the City Manager to execute a Cooperating Agreement with EBMUD to set forth the roles, responsibilities, cost-sharing, and other commitments to jointly prepare a single GSP for the East Bay Plain Subbasin in compliance with SGMA; and

WHEREAS, the Cooperating Agreement was fully executed on June 25, 2018; and

WHEREAS, on March 19, 2019, the Cooperating Agreement was amended to reflect the final scope of work, schedule, and budget for the development of the East Bay Plain Subbasin GSP: and

WHEREAS, on December 22, 2020, the Cooperating Agreement was amended to incorporate additional groundwater monitoring and analysis, including installation of new monitoring wells within Hayward's boundaries, and to develop a Data Management System; and

WHEREAS, on November 9, 2021, and November 16, 2021, the EBMUD Board and the City Council of the City of Hayward, respectively, authorized the amendment of the Cooperating Agreement to allocate responsibility for the new monitoring wells and appoint a plan manager as required by DWR; and

WHEREAS, the City of Hayward, has prepared the East Bay Plain Subbasin GSP in cooperation with EBMUD as GSAs for the Subbasin based on the best available data and science, in accordance with the Act; and

WHEREAS, development of the draft East Bay Plain Subbasin GSP was supported by three groups of public participants: General Stakeholders, a Technical Advisory Committee, and an Interbasin Working Group; and

WHEREAS, on September 7, 2021, the GSAs notified the cities and counties within the East Bay Plain Subbasin of their intent to adopt a GSP for the Subbasin pursuant to California Water Code section 10728.4; and

WHEREAS, a draft of the East Bay Plain Subbasin GSP in its entirety was made available for public review on September 17, 2021; and

WHEREAS, the GSAs have reviewed and considered all comments received from cities and counties within the area of the GSP, as required by Water Code Section 10728.4; and

WHEREAS, the Council Sustainability Committee reviewed and expressed unanimous support for the approval of the East Bay Plain Subbasin GSP; and

WHEREAS, the Director of Public Works has submitted to the City Council a copy of the draft East Bay Plain Subbasin GSP and staff report dated December 7, 2021, for review; and

WHEREAS, a public hearing was held on December 7, 2021, in a manner prescribed by law.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hayward that the plan entitled "East Bay Plain Subbasin Groundwater Sustainability Plan," a copy of which is on file in the office of the City Clerk, is hereby adopted as the Groundwater Sustainability Plan for the City of Hayward.

BE IT FURTHER RESOLVED by the City Council of the City of Hayward that, under the California Water Code Section 10728.6, adoption of the East Bay Plain Subbasin

Groundwater Sustainability Plan does not constitute a project under the California Environmental Quality Act (CEQA); therefore, this action is exempt from environmental review under CEQA.

IN COUNCIL, HAYWARD, CALIFORNIA December 7, 2021.

ADOPTED BY THE FOLLOWING VOTE:

AYES:	COUNCIL MEMBERS: Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR: Halliday
NOES:	COUNCIL MEMBERS: None
ABSTAIN:	COUNCIL MEMBERS: None
ABSENT:	COUNCIL MEMBERS: None

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____ FOR MSL
City Attorney of the City of Hayward

CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

Agenda

City Council

Tuesday, December 7, 2021 **7:00 PM** **Council Chamber and Virtual Platform (Zoom)**

CITY COUNCIL MEETING

NOTICE: The City Council will hold a hybrid meeting (in Council Chamber and Virtual Platform via Zoom). All in-person participants will be required to provide proof of vaccination and wear a face covering.

How to observe the Meeting:

1. *Comcast TV Channel 15*
2. *Live stream https://hayward.legistar.com/Calendar.aspx*
3. *YouTube Live stream: https://www.youtube.com/user/cityofhayward*

How to submit written Public Comment:

1. Use eComment on the City's Meeting & Agenda Center webpage at: https://hayward.legistar.com/Calendar.aspx. eComments are directly sent to the iLegislate application used by City Council and City staff. Comments received before 3:00 p.m. the day of the meeting will be exported into a report, distributed to the City Council and staff, and published on the City's Meeting & Agenda Center under Documents Received After Published Agenda.

2. Send an email to List-Mayor-Council@hayward-ca.gov by 3:00 p.m. the day of the meeting. Please identify the Agenda Item Number in the subject line of your email. Emails will be compiled into one file, distributed to the City Council and staff, and published on the City's Meeting & Agenda Center under Documents Received After Published Agenda. Documents received after 3:00 p.m. through the adjournment of the meeting will be included as part of the meeting record and published the following day.

How to provide live Public Comment during the City Council Meeting:

Complete the online speaker card at the Council Chamber entrance or click the link below: https://hayward.zoom.us/j/86142259797?pwd=bTJRQW1GazNsQUtwRmE5dTBCQVdjdz09

Meeting ID: 861 4225 9797
Passcode: CC12721@7p

or

Dial: + 1 669 900 6833 or +1 346 248 7799

Meeting ID: 861 4225 9797
Password: 1929730215

A Guide to attend virtual meetings is provided at this link: https://bit.ly/3jmaUxa

CALL TO ORDER: Mayor Halliday

Pledge of Allegiance: Council Member Salinas

ROLL CALL

CLOSED SESSION ANNOUNCEMENT

November 30, 2021
December 6, 2021
December 7, 2021

PRESENTATION

2021 Small Business Saturday

PUBLIC COMMENTS

The Public Comment section provides an opportunity to address the City Council on items not listed on the agenda or Information Items. The Council welcomes your comments and requests that speakers present their remarks in a respectful manner, within established time limits, and focus on issues which directly affect the City or are within the jurisdiction of the City. As the Council is prohibited by State law from discussing items not listed on the agenda, your item will be taken under consideration and may be referred to staff.

CITY MANAGER'S COMMENTS

An oral report from the City Manager on upcoming activities, events, or other items of general interest to Council and the Public.

ACTION ITEMS

The Council will permit comment as each item is called for the Consent Calendar, Public Hearings, and Legislative Business. In the case of the Consent Calendar, a specific item will need to be pulled by a Council Member in order for the Council to discuss the item or to permit public comment on the item. Please notify the City Clerk any time before the Consent Calendar is voted on by Council if you wish to speak on a Consent Item.

CONSENT

1. MIN 21-157 Approve the City Council Minutes of the Special City Council Meeting on November 16, 2021

Attachments: Attachment I Draft Minutes of 11/16/2021

2. CONS 21-629 Adopt an Ordinance Amending the Zoning District Map of Chapter 10, Article 1 of the Hayward Municipal Code by Rezoning Certain Property Located at 1000 La Playa Drive from Neighborhood Commercial (CN) District to Planned Development (PD) District in Connection with General Plan Amendment, Rezone and Vesting Tentative Tract Map Application No. 202004457 for the La Playa Commons Development

Attachments: Attachment I Staff Report
Attachment II Summary of Published Ordinance

3. CONS 21-632 Adopt a Resolution Accepting Transmittal of the Annual Mitigation Fee Act Report (AB1600)

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III Annual Report of Development Fees

4. CONS 21-630 Adopt a Resolution Accepting the Fiscal Year 2022 Statement of Investment Policy and Delegation of Authority

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III Statement of Investment Policy
Attachment IV FY 2022 Statement of Investment Policy

5. CONS 21-631 Adopt an Initial Study/Mitigated Negative Declaration and a Resolution Approving the Plans and Specifications, and Call for Bids for the Water Line Improvements Project, Project No. 07093

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III IS-MND
Attachment IV Location Site Map

6. CONS 21-636 Adopt a Resolution Approving the Final Map of Tract 8359, a 13 Lot Subdivision at 24765 Hesperian Boulevard, Hayward to Allow the Construction of Single-Family Residences with Common Open Space Area, and Related Site Improvements; Applicant/Owner: Jason Creek Ventures, LLC., Application No. 202101368

Attachments:
Attachment I Staff Report
Attachment II Resolution
Attachment III Final Map Tract 8359
Attachment IV Vesting Tentative Map Tract 8359
Attachment V Vicinity Map Tract 8359

WORK SESSION

Work Session items are non-action items. Although the Council may discuss or direct staff to follow up on these items, no formal action will be taken. Any formal action will be placed on the agenda at a subsequent meeting in the action sections of the agenda.

7. WS 21-044 Measure C Annual Report: Review Annual Report of Measure C Revenues and Expenditures, Approved by Voters on June 3, 2014 (Report from Finance Director Claussen)

Attachments:
Attachment I Staff Report
Attachment II Measure C 20-Year Forecast

8. WS 21-046 2021 Resident Survey Results: Presentation of 2021 Biennial Resident Satisfaction Survey Results (Report from City Manager McAdoo)

Attachments:
Attachment I Staff Report
Attachment II FM3 Scope of Work
Attachment III 2021 Biennial Resident Satisfaction Survey

PUBLIC HEARING

9. PH 21-099 Groundwater Sustainability Plan: Adopt a Resolution Approving the East Bay Plain Subbasin Groundwater Sustainability Plan (Report from Director of Public Works Ameri)

Attachments: Attachment I Staff Report
Attachment II Resolution

LEGISLATIVE BUSINESS

10. LB 21-054 Mayor Pro Tempore Election: Adopt a Resolution Authorizing the Election of Mayor Pro Tempore of the City of Hayward for 2022 (Report from City Clerk Lens)

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III List of Mayor Pro Tempore

COUNCIL REPORTS AND ANNOUNCEMENTS

Council Members can provide oral reports on attendance at intergovernmental agency meetings, conferences, seminars, or other Council events to comply with AB 1234 requirements (reimbursable expenses for official activities).

COUNCIL REFERRALS

Council Members may bring forward a Council Referral Memorandum (Memo) on any topic to be considered by the entire Council. The intent of this Council Referrals section of the agenda is to provide an orderly means through which an individual Council Member can raise an issue for discussion and possible direction by the Council to the appropriate Council Appointed Officers for action by the applicable City staff.

ADJOURNMENT

NEXT SPECIAL MEETING – December 14, 2021, 7:00 PM

PUBLIC COMMENT RULES

Any member of the public desiring to address the Council shall limit their comment to three (3) minutes unless less or further time has been granted by the Presiding Officer or in accordance with the section under Public Hearings. The Presiding Officer has the discretion to shorten or lengthen the maximum time members may speak. Speakers will be asked for their name before speaking and are expected to honor the allotted time.

PLEASE TAKE NOTICE

That if you file a lawsuit challenging any final decision on any public hearing or legislative business item listed in this agenda, the issues in the lawsuit may be limited to the issues that were raised at the City's public hearing or presented in writing to the City Clerk at or before the public hearing.

PLEASE TAKE FURTHER NOTICE

That the City Council adopted Resolution No. 87-181 C.S., which imposes the 90-day deadline set forth in Code of Civil Procedure section 1094.6 for filing of any lawsuit challenging final action on an agenda item which is subject to Code of Civil Procedure section 1094.5.

****Materials related to an item on the agenda submitted to the Council after distribution of the agenda packet are available for public inspection in the City Clerk's Office, City Hall, 777 B Street, 4th Floor, Hayward, during normal business hours. An online version of this agenda and staff reports are available on the City's website. Written comments submitted to the Council in connection with agenda items will be posted on the City's website. All Council Meetings are broadcast simultaneously on the website and on Cable Channel 15, KHRT. ****

Assistance will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the City Clerk at (510) 583-4400 or TDD (510) 247-3340.

Assistance will be provided to those requiring language assistance. To ensure that interpreters are available at the meeting, interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the City Clerk at (510) 583-4400.

CHILDCARE WILL NOT BE PROVIDED UNTIL FURTHER NOTICE DUE TO COUNTYWIDE SHELTER-IN PLACE ORDER.

CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

Action Minutes

City Council

Tuesday, December 7, 2021 **7:00 PM** **Council Chamber and Virtual Platform (Zoom)**

CITY COUNCIL MEETING

CALL TO ORDER: Mayor Halliday

Pledge of Allegiance: Council Member Salinas

ROLL CALL

Present: 7 - Council Member Angela Andrews, Council Member Sara Lamnin, Council Member Elisa Marquez, Council Member Mark Salinas, Council Member Aisha Wahab, Council Member Francisco Zermeno, and Mayor Barbara Halliday

CLOSED SESSION ANNOUNCEMENT

The City Council convened in closed session on November 30, 2021, at 5:30 p.m., pursuant to Government Code Section 54957.6, with all members present, to discuss labor negotiations with all groups. City Attorney Lawson announced the Council took no reportable action and adjourned the meeting at 7:00 p.m.

The City Council convened in closed session on December 6, 2021, at 5:30 p.m., pursuant to Government Code Section 54956.9(d)(1), (2)(3)(4), with all members present, to discuss seven anticipated litigation cases. City Attorney Lawson announced the Council took no reportable action as to six matters; and with Mayor Halliday and Council Member Salinas recusing, the Council discussed the seventh matter and took no reportable action and adjourned the meeting at 8:15 p.m.

The City Council convened in closed session on December 7, 2021, at 5:30 p.m., pursuant to Government Code Section 54956.8, with Mayor Halliday absent, regarding Caltrans Parcel Group 6: Carlos Bee Boulevard and Overlook Avenue; APN 455-0180-001-00. City Attorney Lawson announced he asked the Council to add two matters to the closed session agenda based on information that came to the City's attention after the posting of the agenda. Per Government Code Section 54956.9(d)(2) and 54956.9(e)(5), one matter involving anticipated litigation was added to the agenda by unanimous vote with Council Member Salinas moving and Council Member Márquez seconding. A second matter involving property transactions concerning Caltrans Parcel Group 3, adjacent to Tennyson Road, East 16th Street and Calhoun Street; APNs: 078C-0626-003-16, 078C-0626-003-09, 078C-0626-001-07, was added to the agenda by unanimous vote with Council Member Salinas moving and Council Member Márquez seconding and Council Member Andrews recusing. With no action taken, the closed session adjourned at 6:22 p.m.

PRESENTATION

2021 Small Business Saturday: November 27, 2021

PUBLIC COMMENTS

Ms. TJ Hayward Concerned Citizens
Mr. Tom Ferreira
Ms. Suzanne

CITY MANAGER'S COMMENTS

City Manager McAdoo

CONSENT

Approval of the Consent Calendar

A motion was made by Council Member Salinas, seconded by Council Member Lamnin, to approve the Consent Calendar. The motion carried by the following vote:

Aye: 7 - Council Member Andrews, Council Member Lamnin, Council Member Marquez, Council Member Salinas, Council Member Wahab, Council Member Zermeno, and Mayor Halliday

1. Approve the City Council Minutes of the Special City Council Meeting on November 16, 2021

Consent item approved.

2. Adopt an Ordinance Amending the Zoning District Map of Chapter 10, Article 1 of the Hayward Municipal Code by Rezoning Certain Property Located at 1000 La Playa Drive from Neighborhood Commercial (CN) District to Planned Development (PD) District in Connection with General Plan Amendment, Rezone and Vesting Tentative Tract Map Application No. 202004457 for the La Playa Commons Development

Consent item approved.

3. Adopt a Resolution Accepting Transmittal of the Annual Mitigation Fee Act Report (AB1600)

Consent item approved.

4. Adopt a Resolution Accepting the Fiscal Year 2022 Statement of Investment Policy and Delegation of Authority

Consent item approved.

5. Adopt an Initial Study/Mitigated Negative Declaration and a Resolution Approving the Plans and Specifications, and Call for Bids for the Water Line Improvements Project, Project No. 07093

Consent item approved.

6. Adopt a Resolution Approving the Final Map of Tract 8359, a 13 Lot Subdivision at 24765 Hesperian Boulevard, Hayward to Allow the Construction of Single-Family Residences with Common Open Space Area, and Related Site Improvements; Applicant/Owner: Jason Creek Ventures, LLC., Application No. 202101368

Consent item approved.

WORK SESSION

7. Measure C Annual Report: Review Annual Report of Measure C Revenues and Expenditures, Approved by Voters on June 3, 2014 (Report from Finance Director Claussen)

No action, information only.

8. 2021 Resident Survey Results: Presentation of 2021 Biennial Resident Satisfaction Survey Results (Report from City Manager McAdoo)

Sara Lamnin was called to speakSara Lamnin was called to speak

No action, information only.

PUBLIC HEARING

9. Groundwater Sustainability Plan: Adopt a Resolution Approving the East Bay Plain Subbasin Groundwater Sustainability Plan (Report from Director of Public Works Ameri)

A motion was made by Council Member Salinas, seconded by Council Member Zermeño, to adopt staff's recommendation with changes to the resolution as provided in the PowerPoint presentation. The motion carried by the following vote:

Aye: 7 - Council Member Andrews, Council Member Lamnin, Council Member Marquez, Council Member Salinas, Council Member Wahab, Council Member Zermeno, and Mayor Halliday

LEGISLATIVE BUSINESS

10. Mayor Pro Tempore Election: Adopt a Resolution Authorizing the Election of Mayor Pro Tempore of the City of Hayward for 2022 (Report from City Clerk Lens)

A motion was made by Council Member Wahab, seconded by Mayor Halliday, to select Council Member Lamnin as Mayor Pro Tempore for 2022.. The motion carried by the following vote:

Aye: 7 - Council Member Andrews, Council Member Lamnin, Council Member Marquez, Council Member Salinas, Council Member Wahab, Council Member Zermeno, and Mayor Halliday

ADJOURNMENT

Mayor Halliday adjourned the meeting at 10:06 p.m.

NEXT SPECIAL MEETING – December 14, 2021, 7:00 PM

APPENDIX 1. INTRODUCTION

1.E. Glossary: SGMA Definitions

APPENDIX 1E

Definitions Related to Sustainable Groundwater Management: Key Terms

California Water Code 10721 – SGMA Definitions

"Adjudication action" means an action filed in the superior or federal district court to determine the rights to extract groundwater from a basin or store water within a basin, including, but not limited to, actions to quiet title respecting rights to extract or store groundwater or an action brought to impose a physical solution on a basin.

"Basin" means a groundwater basin or subbasin identified and defined in Bulletin 118 or as modified pursuant to Chapter 3 (commencing with Section 10722).

"Bulletin 118" means the department's report entitled "California's Groundwater: Bulletin 118" updated in 2003, as it may be subsequently updated or revised in accordance with Section 12924.

"Coordination agreement" means a legal agreement adopted between two or more groundwater sustainability agencies that provides the basis for coordinating multiple agencies or groundwater sustainability plans within a basin pursuant to this part.

"De minimis extractor" means a person who extracts, for domestic purposes, two acre-feet or less per year.

"Governing body" means the legislative body of a groundwater sustainability agency.

"Groundwater" means water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water, but does not include water that flows in known and definite channels unless included pursuant to Section 10722.5.

"Groundwater extraction facility" means a device or method for extracting groundwater from within a basin.

"Groundwater recharge" or "recharge" means the augmentation of groundwater, by natural or artificial means.

"Groundwater sustainability agency" means one or more local agencies that implement the provisions of this part. For purposes of imposing fees pursuant to Chapter 8 (commencing with Section 10730) or taking action to enforce a groundwater sustainability plan, "groundwater sustainability agency" also means each local agency comprising the groundwater sustainability agency if the plan authorizes separate agency action.

"Groundwater sustainability plan" or "plan" means a plan of a groundwater sustainability agency proposed or adopted pursuant to this part.

"Groundwater sustainability program" means a coordinated and ongoing activity undertaken to benefit a basin, pursuant to a groundwater sustainability plan.

"In-lieu use" means the use of surface water by persons that could otherwise extract groundwater in order to leave groundwater in the basin.

"Local agency" means a local public agency that has water supply, water management, or land use responsibilities within a groundwater basin.

"Operator" means a person operating a groundwater extraction facility. The owner of a groundwater extraction facility shall be conclusively presumed to be the operator unless a satisfactory showing is made to the governing body of the groundwater sustainability agency that the groundwater extraction facility actually is operated by some other person.

"Owner" means a person owning a groundwater extraction facility or an interest in a groundwater extraction facility other than a lien to secure the payment of a debt or other obligation.

"Personal information" has the same meaning as defined in Section 1798.3 of the Civil Code.

"Planning and implementation horizon" means a 50-year time period over which a groundwater sustainability agency determines that plans and measures will be implemented in a basin to ensure that the basin is operated within its sustainable yield.

"Public water system" has the same meaning as defined in Section 116275 of the Health and Safety Code.

"Recharge area" means the area that supplies water to an aquifer in a groundwater basin.

"Sustainability goal" means the existence and implementation of one or more groundwater sustainability plans that achieve sustainable groundwater management by identifying and causing the implementation of measures targeted to ensure that the applicable basin is operated within its sustainable yield.

"Sustainable groundwater management" means the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.

"Sustainable yield" means the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.

"Undesirable result" means one or more of the following effects caused by groundwater conditions occurring throughout the basin:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.

- Significant and unreasonable reduction of groundwater storage.

- Significant and unreasonable seawater intrusion.
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.
- Significant and unreasonable land subsidence that substantially interferes with surface land uses.
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

"Water budget" means an accounting of the total groundwater and surface water entering and leaving a basin including the changes in the amount of water stored.

"Watermaster" means a watermaster appointed by a court or pursuant to other law.

"Water year" means the period from October 1 through the following September 30, inclusive.

"Wellhead protection area" means the surface and subsurface area surrounding a water well or well field that supplies a public water system through which contaminants are reasonably likely to migrate toward the water well or well field.

California Code of Regulations 351 – Groundwater Sustainability Plan Regulations

"Agency" refers to a groundwater sustainability agency as defined in the Act.

"Agricultural water management plan" refers to a plan adopted pursuant to the Agricultural Water Management Planning Act as described in Part 2.8 of Division 6 of the Water Code, commencing with Section 10800 et seq.

"Alternative" refers to an alternative to a Plan described in Water Code Section 10733.6.

"Annual report" refers to the report required by Water Code Section 10728.

"Baseline" or "baseline conditions" refer to historic information used to project future conditions for hydrology, water demand, and availability of surface water and to evaluate potential sustainable management practices of a basin.

"Basin setting" refers to the information about the physical setting, characteristics, and current conditions of the basin as described by the Agency in the hydrogeologic conceptual model, the groundwater conditions, and the water budget, pursuant to Subarticle 2 of Article 5.

"Best available science" refers to the use of sufficient and credible information and data, specific to the decision being made and the time frame available for making that decision, that is consistent with scientific and engineering professional standards of practice.

"Best management practice" refers to a practice, or combination of practices, that are designed to achieve sustainable groundwater management and have been determined to be technologically and economically effective, practicable, and based on best available science.

"CASGEM" refers to the California Statewide Groundwater Elevation Monitoring Program developed by the Department pursuant to Water Code Section 10920 et seq., or as amended.

"Data gap" refers to a lack of information that significantly affects the understanding of the basin setting or evaluation of the efficacy of Plan implementation, and could limit the ability to assess whether a basin is being sustainably managed.

"Groundwater dependent ecosystem" refers to ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface.

"Groundwater flow" refers to the volume and direction of groundwater movement into, out of, or throughout a basin.

"Interconnected surface water" refers to surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted.

"Interested parties" refers to persons and entities on the list of interested persons established by the Agency pursuant to Water Code Section 10723.4.

"Interim milestone" refers to a target value representing measurable groundwater conditions, in increments of five years, set by an Agency as part of a Plan.

"Management area" refers to an area within a basin for which the Plan may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors.

"Measurable objectives" refer to specific, quantifiable goals for the maintenance or improvement of specified groundwater conditions that have been included in an adopted Plan to achieve the sustainability goal for the basin.

"Minimum threshold" refers to a numeric value for each sustainability indicator used to define undesirable results.

"NAD83" refers to the North American Datum of 1983 computed by the National Geodetic Survey, or as modified.

"NAVD88" refers to the North American Vertical Datum of 1988 computed by the National Geodetic Survey, or as modified.

"Plain language" means language that the intended audience can readily understand and use because that language is concise, well-organized, uses simple vocabulary, avoids excessive acronyms and technical language, and follows other best practices of plain language writing.

"Plan" refers to a groundwater sustainability plan as defined in the Act.

"Plan implementation" refers to an Agency's exercise of the powers and authorities described in the Act, which commences after an Agency adopts and submits a Plan or Alternative to the Department and begins exercising such powers and authorities.

"Plan manager" is an employee or authorized representative of an Agency, or Agencies, appointed through a coordination agreement or other agreement, who has been delegated management authority for submitting the Plan and serving as the point of contact between the Agency and the Department.

"Principal aquifers" refer to aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems.

"Reference point" refers to a permanent, stationary and readily identifiable mark or point on a well, such as the top of casing, from which groundwater level measurements are taken, or other monitoring site.

"Representative monitoring" refers to a monitoring site within a broader network of sites that typifies one or more conditions within the basin or an area of the basin.

"Seasonal high" refers to the highest annual static groundwater elevation that is typically measured in the Spring and associated with stable aquifer conditions following a period of lowest annual groundwater demand.

"Seasonal low" refers to the lowest annual static groundwater elevation that is typically measured in the Summer or Fall, and associated with a period of stable aquifer conditions following a period of highest annual groundwater demand.

"Seawater intrusion" refers to the advancement of seawater into a groundwater supply that results in degradation of water quality in the basin, and includes seawater from any source.

"Statutory deadline" refers to the date by which an Agency must be managing a basin pursuant to an adopted Plan, as described in Water Code Sections 10720.7 or 10722.4.

"Sustainability indicator" refers to any of the effects caused by groundwater conditions occurring throughout the basin that, when significant and unreasonable, cause undesirable results, as described in Water Code Section 10721(x).

"Uncertainty" refers to a lack of understanding of the basin setting that significantly affects an Agency's ability to develop sustainable management criteria and appropriate projects and management actions in a Plan, or to evaluate the efficacy of Plan implementation, and therefore may limit the ability to assess whether a basin is being sustainably managed.

"Urban water management plan" refers to a plan adopted pursuant to the Urban Water Management Planning Act as described in Part 2.6 of Division 6 of the Water Code, commencing with Section 10610 et seq.

"Water source type" represents the source from which water is derived to meet the applied beneficial uses, including groundwater, recycled water, reused water, and surface water sources

identified as Central Valley Project, the State Water Project, the Colorado River Project, local supplies, and local imported supplies.

"Water use sector" refers to categories of water demand based on the general land uses to which the water is applied, including urban, industrial, agricultural, managed wetlands, managed recharge, and native vegetation.

(an) "Water year type" refers to the classification provided by the Department to assess the amount of annual precipitation in a basin.