



EAST BAY DISCHARGERS AUTHORITY
2651 Grant Avenue
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A Joint Powers Public Agency

Pursuant to the Governor's Executive Order N-25-20 the Regulatory Affairs Committee meeting scheduled for July 15, 2020 at 9:00 a.m. will be telephonic. The dial-in number for the meeting is +1 669 900 6833 with meeting I.D. #836 9006 5654. Members of the public are encouraged to dial-in to the meeting using the same number. <https://us02web.zoom.us/j/83690065654>

ITEM NO. 14

REGULATORY AFFAIRS COMMITTEE AGENDA

Wednesday, July 15, 2020
9:00 a.m.

**East Bay Dischargers Authority
2651 Grant Avenue, San Lorenzo, CA 94580**

Committee Members: Johnson (Chair); Lamnin

RA1. Call to Order

RA2. Roll Call

RA3. Public Forum

RA4. EBDA NPDES Performance – See Item OM4

(The Committee will review NPDES Permit compliance data.)

RA5. Update on Nutrients

(The Committee will discuss the latest developments on permitting.)

RA6. BayAdapt Process

(The Committee will discuss this regional climate adaptation planning process.)

RA7. Resolution Committing the Authority to Jointly Funding a Laboratory Information Management System (LIMS) with the City of San Leandro
(The Committee will consider approval of the Resolution.)

RA8. Adjournment

(Any member of the public may address the Commission at the commencement of the meeting on any matter within the jurisdiction of the Commission. This should not relate to any item on the agenda. It is the policy of the Authority that each person addressing the Commission limit their presentation to three minutes. Non-English speakers using a translator will have a time limit of six minutes. Any member of the public desiring to provide comments to the Commission on an agenda item should do so at the time the item is considered. It is the policy of the Authority that oral comments be limited to three minutes per individual or ten minutes for an organization. Speaker's cards will be available in the Boardroom and are to be completed prior to speaking.)

(In compliance with the Americans with Disabilities Act of 1990, if you need special assistance to participate in an Authority meeting, or you need a copy of the agenda, or the agenda packet, in an appropriate alternative format, please contact the Administrative Assistant at the EBDA office at (510) 278-5910 or kyambao@ebda.org. Notification of at least 48 hours prior to the meeting or time when services are needed will assist the Authority staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting or service.)

(In compliance with SB 343, related writings of open session items are available for public inspection at East Bay Dischargers Authority, 2651 Grant Avenue, San Lorenzo, CA 94580. For your convenience, agenda items are posted on the East Bay Dischargers Authority website located at <http://www.ebda.org>.)

**The next Regulatory Affairs Committee meeting is scheduled for
Wednesday, September 16, 2020 at 9:00 a.m.**

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ITEM NO. RA4 EBDA NPDES PERFORMANCE – NPDES PERMIT

Please see the Operations and Maintenance Committee agenda, Item No. OM4 for permit compliance data.

ITEM NO. RA5 UPDATE ON NUTRIENTS

Recommendation

For the Committee's information only; no action is required.

Background

While the loads of nutrients such as nitrogen and phosphorus to San Francisco Bay are higher than other estuaries, the Bay has historically been very resilient, and negative impacts of nutrient enrichment such as eutrophication have not occurred. Over the last decade, concerning trends caused the scientific and regulatory community to question whether the Bay's resilience is weakening. Bay Area wastewater agencies, through the Bay Area Clean Water Agencies (BACWA), have participated in a positive collaboration with a wide variety of stakeholders to implement a Nutrient Management Strategy that focuses on conducting scientific research and modeling to determine the effects of nutrients on the Bay ecosystem and protective levels of nutrient loading going forward.

BACWA worked closely with staff of the San Francisco Bay Regional Water Quality Control Board (Water Board) to negotiate a second Watershed Permit for nutrients. The permit went into effect on July 1, 2019 and includes the following key elements:

- Influent and effluent monitoring and continued annual regional reporting.
- Increased funding for scientific research on the fate and effects of nutrients in the Bay.
- A regional assessment of the feasibility and cost for reducing nutrients through multi-benefit nature-based solutions, including wetlands and horizontal levees.
- A regional assessment of nutrient reductions that will be achieved through water recycling.
- Establishment of a baseline nutrient load based on current nitrogen discharges over the dry season.
- Inclusion of load targets for 2024 that may be used as effluent limits if supported by scientific research.
- Recognition of agencies implementing early action projects that will reduce nutrient loads during this permit term, which includes Oro Loma and Hayward.

Discussion

As compliance efforts continue under the second Watershed Permit, planning for the third has already begun. Water Board staff developed the attached document outlining their approach to the next Watershed Permit. As expected, the Water Board expressed their intent to implement precautionary limits on total inorganic nitrogen loads based on previous performance. They also state that a regional planning process would be required on a subembayment basis to develop action plans should nutrient reductions be warranted. That regional planning process appears to leave it up to the dischargers to determine how early actors would be credited, and how a trading program might work?

This initial document has raised a number of questions, including:

- If we agree that scientific research and results should drive management action on nutrients, why are precautionary load caps necessary?
- What level of investment in monitoring and modeling is appropriate for the third

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Watershed Permit?

- How will agencies that took early action be recognized and appropriately credited?
- What opportunities might a trading program offer and how could it be structured?

To further flesh out BACWA's questions and positions in response to the initial white paper, BACWA is reconvening its Nutrient Strategy Team. This team, made up of representatives from large and small wastewater agencies around the Bay, will be working to coalesce the wastewater community's perspectives and share them with the Water Board as we begin informal negotiations on the next Watershed Permit.

It should be noted that although the current Watershed Permit expires in 2024, the Water Board has expressed openness to administratively continuing it in order to allow more time for the scientific studies to proceed and yield actionable information. This extension may become even more necessary as a result of delays in field work stemming from shelter-in-place orders.

NUTRIENT WATERSHED PERMIT 3.0

In the third Nutrient Watershed Permit (NWP 3.0), scheduled for reissuance in 2024 or 2025, we propose to establish water quality based effluent limitations and related requirements based on an antidegradation approach to ensure that water quality standards are met. We envision effluent limitations will be based on load caps to specific embayments, or subembayments. Related requirements would include participation in an ongoing surveillance monitoring and modeling program to track trends in nutrient water quality degradation indicators in the subembayments and to conduct cause-and-response analyses. In addition, there would be requirements to maintain and enhance, as necessary, regional plans and possibly plant-specific plans to offset future loads to comply with load caps, and to possibly reduce loads if the surveillance program determines there is degradation due to nutrient loads.

Antidegradation

Clean Water Act section 301(b)(1)(C) and federal regulations [40 C.F.R. § 122.44(d)] require that permits include water quality based effluent limitations necessary to meet water quality standards. Water quality standards include three parts: (1) beneficial uses, (2) numeric and/or narrative water quality criteria (objectives), and (3) antidegradation policies. To ensure NPDES permits are protective of water quality, we evaluate if a discharge has a reasonable potential to exceed water quality standards in the receiving water. For nutrients discharges to San Francisco Bay, this has been difficult because the Water Board has not established numeric water quality objectives for use in conventional reasonable potential analyses, and interpretation of narrative water quality objects is complicated and difficult.

To assess nutrient impacts on water quality and options for nutrients water quality standards, the Water Board, along with interested stakeholders, developed a Nutrient Management Strategy, dated November 2012, that outlined the science needed to make informed decisions about assessing nutrient impacts on water quality and managing nutrient loads to the Bay. The Nutrient Management Strategy considered an approach that included developing numeric water quality objectives for nutrients; however, it concluded that the assimilative capacity of different habitat types within the Bay likely differ because physical factors often control nutrient bioavailability. Therefore, the Nutrient Management Strategy proposed the concept of Nutrient Numeric Endpoints, which would be indicators of nutrient over-enrichment, such as chlorophyll a (chl-a). These indicators would be used as part of an assessment framework that could establish the ecological conditions throughout the Bay, ranging from supporting to impairing beneficial uses.

However, conducting reasonable potential analysis and developing water quality-based effluent limitations based on Nutrient Numeric Endpoints has its own complications and difficulties, and would likely result in conservative, stringent limits. Therefore, we propose to base water quality effluent limitations on the antidegradation component of water quality standards. State Water Board Resolution 68-16 (“Statement of Policy with Respect to Maintaining High Quality of Waters in California”) incorporates the federal antidegradation policy set forth in 40 C.F.R. §131.12, which states that existing water quality must be maintained and protected. To comply with the antidegradation policy, NWP 3.0 will require dischargers to maintain existing performance for total inorganic nitrogen and provide for more stringent requirements (e.g., nutrient load reductions) if nutrient-related water quality degradation is observed in receiving waters.

Background

Existing nutrient concentrations in the Bay can easily support eutrophic conditions when environmental circumstances are favorable (e.g., stratified water column, less turbid waters, decreased clam grazing), suggesting that physical factors are more important than nutrient loads in determining the Bay's assimilative capacity. For example, in the Lower South Bay Synthesis Report, researchers documented that, from 1995 through 2010, total nitrogen and total phosphorus loads from wastewater treatment plants decreased by about 30 percent; however, summertime chl-a concentrations in deep subtidal channels increased nearly three-fold. The fact that other factors appear to drive changes in phytoplankton biomass highlights the need to seek additional information to forecast ecosystem response under future conditions. To better understand the Bay's responses to changing conditions and to allow the Water Board to take a measured approach to nutrient load reductions, Order Nos. R2-2014-0014 (NWP 1.0) and R2-2019-0017 (NWP 2.0) required monetary support for monitoring, modeling, and subembayment studies.

While long-term monitoring by USGS in the deep subtidal channels shows that physical factors typically control eutrophication intensity, more recent monitoring by the San Francisco Estuary Institute conducted in the Bay margins (e.g., mudflats and sloughs) indicates that phytoplankton blooms have, at times, been nutrient limited. In the Lower South Bay, continuous monitoring in the margins showed that chl-a levels peaked as nitrogen levels were depleted to below the detection limit. This suggests that physical factors may not necessarily limit eutrophication intensity in the margins. If modeling and monitoring indicate that total inorganic nitrogen is, in fact, a limiting factor in the margins, it may be necessary to reduce municipal wastewater discharge to these areas more (or sooner) than those that contribute to areas of the Bay that have more assimilative capacity, such as deep subtidal channels.

Assessing Bay Conditions

Because physical factors often control eutrophication intensity in the Bay (at least in the deep subtidal channels), nutrient concentrations will not always be reliable benchmarks to predict the attainment of beneficial uses. For this reason, the Water Board is developing a framework to assess whether Bay segments are trending toward nutrient impairment. This effort, known as the Assessment Framework, will evaluate whether nutrients are causing excessive algal growth or other adverse effects, such as low dissolved oxygen. We expect the Assessment Framework to establish indicators for whether beneficial uses are protected, such as thresholds for chl-a based on duration and magnitude. Those indicators and thresholds will likely be tiered to enable determination of an early indication of change in condition at a low tier threshold that would trigger assessment of what factors may be the cause of the change and potential sources and the relevance of nutrients as a factor or source. Further observations of change to a higher tier level might trigger more comprehensive assessments and consideration of nutrient load reductions, and certain high tier indicator thresholds might trigger an immediate need for load reductions. The Assessment Framework will be the basis of an ongoing monitoring and modeling program to track and assess nutrient levels, dissolved oxygen, other indicators, and other factors that affect the Bay.

Permitting Approach

Antidegradation requirements in NWP 3.0 will include four components: (1) precautionary load caps; (2) a monitoring and modeling program; (3) regional planning initiatives; and (4) corrective action plans.

Monitoring and Modeling

The antidegradation approach depends on a sufficiently robust monitoring and modeling program to track and assess nutrient levels, dissolved oxygen, other indicators, and other factors that affect the capacity of the Bay to assimilate nutrients (see discussion above on Assessing Bay Conditions, and the Assessment Framework). NWP 2.0 required support for monitoring and modeling studies to address many questions regarding nutrient bioavailability and the Bay's response to changes in nutrient loads and co-factors. This includes the design and development of an ongoing monitoring and modeling program. NWP 3.0 will require implementation of the monitoring and modeling program developed during NWP 2.0 and possibly further improvements, which may require more resources than available through the Regional Monitoring Program.

Precautionary Load Caps

We expect to include effluent limitations in NWP 3.0 based on “existing” nutrient discharge performance (similar to the NWP 2.0 planning level targets for nutrient discharge loads), unless scientific conclusions from monitoring and load response modeling indicate more stringent effluent limitations are necessary. Limitations based on “existing” performance would be based on performance data collected between May 1, 2014, and September 30, 2017, to account for Dischargers who have taken early actions to reduce nutrient discharges so they are not penalized for their improved performance. Precautionary load caps will likely be established for each subembayment or possibly combined subembayments. We will use the nutrient model under development to evaluate options for delineating subembayments.

Regional Planning

Treatment improvements may be needed to maintain “existing” performance and offset load increases. Moreover, if the Bay were to become degraded as a result of nutrient discharges, more improvements could be necessary, including further load reductions. Therefore, NWP 3.0 will require treatment plants to proceed with regional planning for each subembayment. Regional planning should be used to manage future nutrient load increases, ensure compliance with the subembayment load caps, and inform corrective action plans for further reductions if indicator criteria are triggered by the monitoring and modeling program. Such planning should explore concepts to minimize the chances of municipal wastewater treatment plants causing degradation. Regional planning could require dischargers to do the following:

- 1) Evaluate a range of nutrient reduction options to meet potential load reductions for total inorganic nitrogen in the most cost-effective manner possible. For each discharger, the evaluation should consider the bioavailability of nutrients and the potential for nutrients to promote algal growth. It should also consider, in part, the conclusions of the three studies required by NWP 1.0 and NWP 2.0:
 - Nutrient Reduction Study – Potential Nutrient Reduction by Treatment Optimization, Sidestream Treatment, Treatment Upgrades, and Other Means;

- Regional Evaluation of Potential Nutrient Discharge Reduction by Natural Systems; and
 - Regional Evaluation of Potential Nutrient Discharge Reduction by Water Recycling.
- 2) Consider nature-based adaptation measures, such as those identified in the San Francisco Bay Shoreline Adaptation Atlas, that could offer protection against sea level rise and improve the Bay's resilience to nutrients. Some restoration work could cost effectively decrease the bioavailability of nutrients, increase denitrification rates, or improve phytoplankton biomass uptake.
 - 3) Recognize early actors that have implemented treatment plant upgrades or other multi-benefit projects to reduce nutrient loads to the Bay.
 - 4) Establish a framework for nutrient load trading to comply with subembayment load caps.

Corrective Action Plans

As described above under Assessing Bay Conditions, ongoing monitoring and modeling may trigger need for consideration of — and an immediate need for — load reductions to certain subembayments or areas of subembayments. NWP 3.0 will require dischargers to submit Corrective Action Plans individually or through a regional plan if certain indicator thresholds are exceeded. NWP 3.0 may also contain reopener provisions, triggered by certain circumstances or scenarios, to establish revised nutrient load caps and time schedules for implementation.

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ITEM NO. RA6 BAYADAPT PROCESS

Recommendation

For the Committee's information only; no action is required.

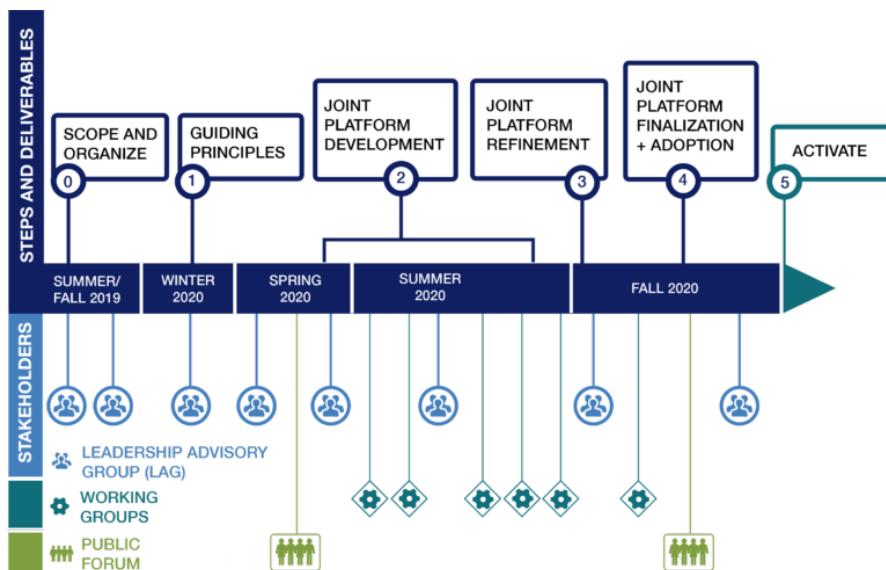
Background

As has been discussed with the Commission, there are multiple efforts underway to develop climate adaptation measures in the Bay Area. The Bay Conservation and Development Commission (BCDC) has been working on adaptation issues for a decade, having launched their Adapting to Rising Tides Program in 2010. BCDC's latest effort to facilitate regional collaboration and planning is the BayAdapt Program. <https://www.bayadapt.org/>

Discussion

It is widely acknowledged that regional planning and coordination will be necessary for the Bay Area to effectively adapt to sea level rise, since actions to adapt in one part of the Bay can directly impact others. Yet one of the greatest identified challenges to regional planning has been the dispersed responsibilities and a lack of regional leadership. The stated goal of BayAdapt is "to establish regional agreement on the actions necessary to protect people and the natural and built environment from rising sea levels." The six-month initiative aims to identify a common set of principles and actions that will guide agencies in their adaptation planning efforts going forward.

The structure of the BayAdapt initiative is outlined in the graphic below. The Leadership Advisory Group is made up of agency and community leaders. Further informing the process are three working groups focused on Regional Consistency, Local Planning, and Project Implementation. The EBDA General Manager is serving on the Project Implementation Working Group, which is currently focusing on identifying key barriers to project implementation, and prioritizing actions to address those barriers. The actions will then be woven into the ultimate BayAdapt platform. Staff will continue to update the Commission as the initiative proceeds.



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ITEM NO. RA7 RESOLUTION COMMITTING THE AUTHORITY TO JOINTLY FUNDING A LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS) WITH THE CITY OF SAN LEANDRO

Recommendation

Approve the resolution committing the Authority to funding half of the contract between the City of San Leandro and EthoSoft for the X-LIMS product.

Background

The Authority holds the National Pollutant Discharge Elimination System (NPDES) Permit with the state for discharge of treated wastewater to San Francisco Bay. As such, the Authority is responsible for managing compliance data associated with the permit. Currently, the Authority uses a system called Hach WIMS Online to manage water quality compliance data. The product is not designed for use as a data repository and therefore does not function optimally for that purpose. WIMS is more commonly used to manage wastewater process data.

In order to facilitate compliance with recently adopted quality management standards, the City of San Leandro (San Leandro) began a process to procure a new Laboratory Information Management System (LIMS) for its laboratory. San Leandro currently generates much of the Authority's compliance data through its sampling and analysis of the EBDA common outfall in addition to its own plant effluent. San Leandro approached Authority staff regarding jointly procuring the LIMS to take advantage of synergies and lower the costs for both agencies.

Discussion

San Leandro staff managed a competitive procurement process for a LIMS. Six proposals were received, and Authority staff participated in proposal review as well as demonstrations by the proponents. Ethosoft, Inc. was selected to provide its X-LIMS product. X-LIMS was also recently selected and is being implemented by Union Sanitary District and East Bay Municipal Utility District. The product will be hosted in the cloud.

In reviewing the scope and proposals, San Leandro and Authority staff agreed that approximately half of the product setup and usage is attributable to EBDA compliance, and half to San Leandro compliance. Therefore, San Leandro and Authority staff propose to split the initial project cost as well as the ongoing annual fees. In the Authority's FY 2020/2021 budget, the Commission approved up to \$40,000 for this project. Per the attached quote, staff expects to pay \$21,532.50 for initial set-up and \$5620 annually. Currently, the Authority pays \$6344 for its annual WIMS license. This license will be discontinued when X-LIMS is fully implemented.

The contract will be between Ethosoft, Inc. and the City of San Leandro, and the Authority will reimburse San Leandro for its share. If approved, Authority staff will work with San Leandro staff to configure the new LIMS. This will include rolling over historic data from WIMS, and setting up a process to upload Member Agency data on a monthly basis.

Addendum A: X-LIMS Revised Cloud Pricing

Please find below revised pricing for X-LIMS Cloud proposal featuring discounted annual costs. This document serves as an addendum to Ethosoft's response submitted for San Leandro's RFP 58205.

Initial Project Cost

Quantity	Description	Unit Price	Line Total
1	Configuration of Custom Reports - Up To 5 Days of Work 9.2.2 Chain of Custody for transfer of samples to contract labs 9.2.4 Lab Report by Project 9.2.5 Lab Report by Method/Parameter 9.2.6 Lab Report for Pretreatment Annual & Semi-annual data for metals and organics with Influent Effluent, and Biosolids samples	\$ 5,000.00	\$ 5,000.00
1	Configuration of Custom CIWQS Reports - San Leandro and EBDA CIWQS	\$ 4,500.00	\$ 4,500.00
1	Migration of 5 Years of Historical EBDA Data from WIMS -- Migration of location and sample data from existing system to XLIMS <u>assuming data is in consistent format</u>	\$ 5,500.00	\$ 5,500.00
1	Integration of EBDA Data into X-LIMS -- Upload Excel data from the following 5 sources: 1 subcontractor lab, EBDA, USD, OLSD, COH. <u>assuming data is in consistent format</u>	\$ 6,500.00	\$ 6,500.00
2	Instruments Integration -- instruments with RS-232 serial ports requiring wedge software	\$ 350.00	\$ 700.00
1	Integration with SCADA system - OSISoft PI Historian	\$ 5,500.00	\$ 5,500.00



1	Insurance Requirement - Waiver of Subrogation	\$ 300.00	\$ 300.00
1	Initial 3-Day On-Site Requirement's Analysis	\$ 4,900.00	\$ 4,900.00
1	Travel for On-Site Requirement's Analysis -- Includes Flight, Hotel, and Car Rental	\$ 1,840.00	\$ 1,840.00
1	Total Per Diem for On-Site Requirement's Analysis	\$ 300.00	\$ 300.00
1	4-Day On-Site Installation and Training -- Includes End-User and Administrator Training	\$ 5,500.00	\$ 5,500.00
1	Travel for Installation and Training -- Includes Flight, Hotel, and Car Rental	\$ 2,150.00	\$ 2,150.00
1	Total Per Diem for Installation and Training	\$ 375.00	\$ 375.00
		SUBTOTAL	\$ 43,065.00
		SALES TAX	
		TOTAL	\$ 43,065.00

Annual Cloud Cost

Please note a 10.36% discount has been applied on the annual cost from the original proposal pricing.

QUANTITY	DESCRIPTION	UNIT PRICE	LINE TOTAL
5	XLIMS - Laboratory Inf. Mgmt. System, 1-Cloud Concurrent User (\$115/month - \$1380 annually)	\$ 1,380.00	\$ 6,900.00
	License delivers all functionality included with X-LIMS such as:		

	<ul style="list-style-type: none"> • Audit Anywhere • Alerting • Custody Tracking • DocumentXChange • Inventory Tracking • Excelerator • Quality Control • Workflow Management • Scheduler • Instrument Management • Invoicing • Ad-Hoc Reporting Tool • Dynamic Dashboard 		
1	Instrument Integration to X-LIMS [\$40/ month -- \$480 annually]	\$ 480.00	\$ 480.00
1	XLIMS - Laboratory Inf. Mgmt. System Yearly Cloud Bandwidth Fee (Including Support & Maintenance)	\$ 3,860.00	\$ 3,860.00
		SUBTOTAL	\$ 11,240.00
		SALES TAX	
		TOTAL	\$ 11,240.00

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**EAST BAY DISCHARGERS COMMISSION
EAST BAY DISCHARGERS AUTHORITY
ALAMEDA COUNTY, CALIFORNIA**

RESOLUTION NO. 20-22

INTRODUCED BY _____

RESOLUTION COMMITTING THE AUTHORITY TO JOINTLY FUNDING A LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS) WITH THE CITY OF SAN LEANDRO

WHEREAS, the East Bay Dischargers Authority requires a data management system to ensure compliance with its National Pollutant Discharge Elimination System (NPDES) Permit; and

WHEREAS, Authority staff has determined that joint implementation of a Laboratory Information Management System (LIMS) with the City of San Leandro is an efficient and cost-effective approach to compliance data management; and

WHEREAS, Authority and City of San Leandro staff have agreed that half of the cost for setup and maintenance of the LIMS is in support of Authority compliance; and

WHEREAS, the City of San Leandro selected Ethosoft, Inc. to supply its X-LIMS product through a competitive procurement process; and

WHEREAS, the City of San Leandro will be entering into a contract with Ethosoft, Inc. and desires assurance that the Authority will share in the cost; and

WHEREAS, the Managers Advisory Committee and the Regulatory Affairs Committee have reviewed options and support the Authority's commitment of funds for this purpose; and

WHEREAS, funds for this purpose were included in the Authority's Fiscal Year 2020/2021 Budget, approved in May 2020.

NOW, THEREFORE, BE IT RESOLVED, the Commission of the East Bay Dischargers Authority hereby commits to reimbursing the City of San Leandro for half of the initial project cost for the LIMS as well as half of the annual cloud cost.

SAN LORENZO, CALIFORNIA, JULY 16, 2020, ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

CHAIR
EAST BAY DISCHARGERS COMMISSION

GENERAL MANAGER
EAST BAY DISCHARGERS AUTHORITY
EX OFFICIO SECRETARY