



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

NOTICE: Pursuant to the Governor's Executive Orders N-25-20 and N-29-20, the Operations & Maintenance Committee meeting scheduled below will be accessible via Zoom video conferencing. Members of the public may participate in the meeting through the Zoom platform or phone number below.

- Zoom link: <https://us02web.zoom.us/j/85092103458>
- Telephone dial-in: 1(669) 900-6833, meeting ID #850 9210 3458

ITEM NO. 11

OPERATIONS & MAINTENANCE COMMITTEE AGENDA

Tuesday, April 13, 2021

9:00 A.M.

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

Committee Members: Cutter (Chair); Johnson

OM1. Call to Order

OM2. Roll Call

OM3. Public Forum

OM4. EBDA Permit Compliance

(The Committee will be updated on EBDA's NPDES compliance.)

OM5. Status Report

(The Committee will be updated on EBDA's O&M activities.)

OM6. Motion Authorizing the General Manager to Execute Amendment No. 2 to the Contract with Brown and Caldwell for Field Work Related to Acceptance of Cargill Mixed Sea Salt Brine for Discharge at the EBDA Outfall in the Amount of \$123,478, for a Total Not to Exceed Amount of \$294,589

(The Committee will consider the motion.)

OM7. 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

Agenda Explanation
East Bay Dischargers Authority
O&M Agenda
April 13, 2021

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 juanita@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 O&M Committee meeting will be held
Tuesday, May 18, 2021, at 9:00 a.m.**

ITEM NO. OM4 EBDA PERMIT COMPLIANCE

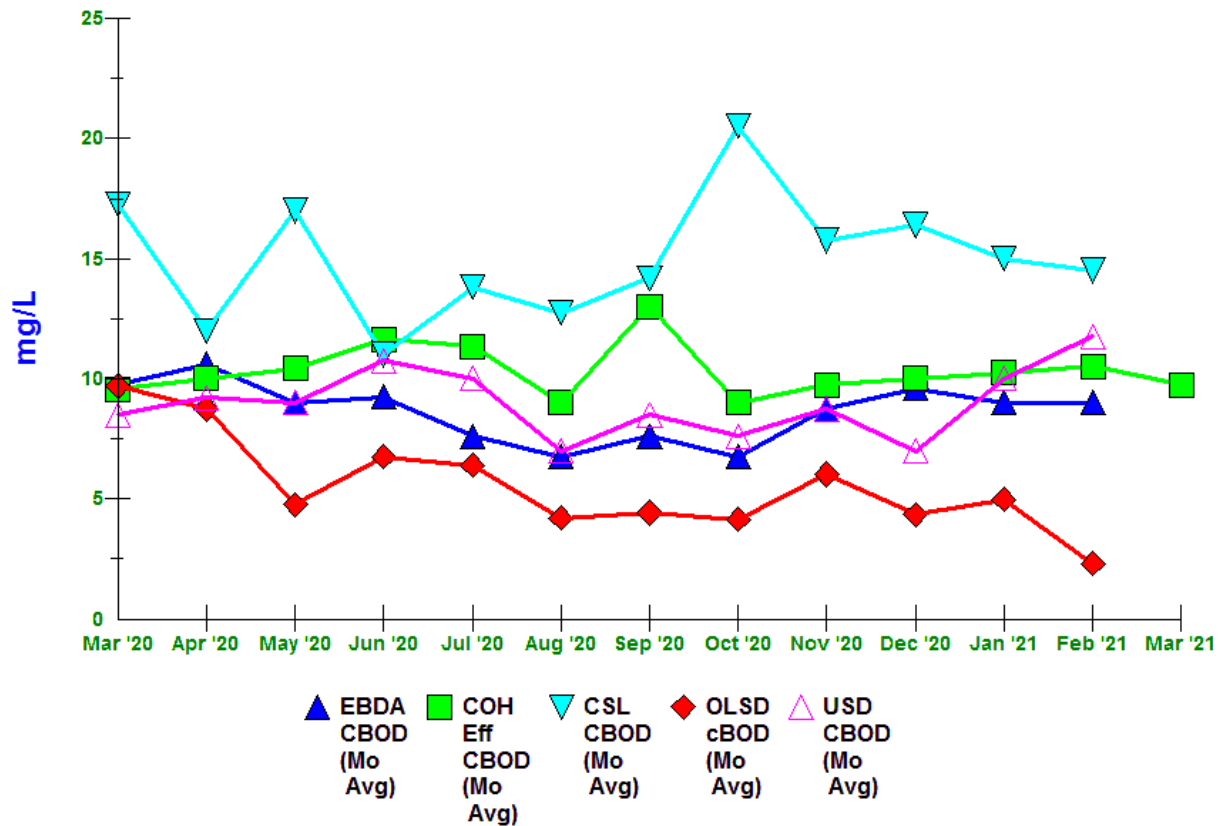
Recommendation

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

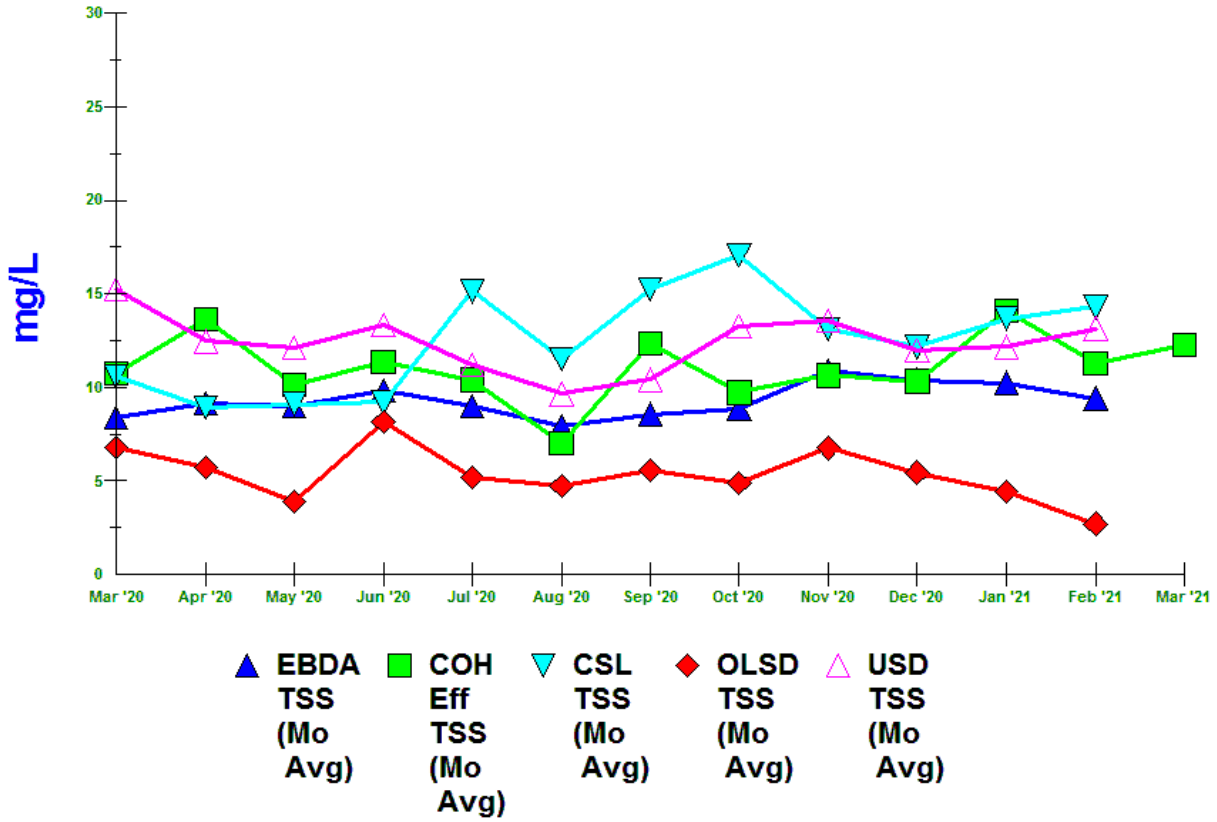
Permit Compliance Issues

There were no NPDES permit violations in February, and preliminary data from March are also free of permit exceedances. Member Agency CBOD and TSS performance are shown below. A table with bacterial indicators is also included.

EBDA CBOD (Limit=25 ppm)



EBDA TSS (Limit 30 ppm)



EBDA EFF TSS

EBDA Bacterial Indicators

Date	FECAL	ENTERO	
	MPN/ 100mL	MPN/ 100mL	
Limit (90th Percentile)	1100		
Limit (Geomean)	500		240
April 2020 Geomean	4		2
May 2020 Geomean	40		2
June 2020 Geomean	28		3
July 2020 Geomean	27		3
August 2020 Geomean	23		3
September 2020 Geomean	41		5
October 2020 Geomean	30		9
November 2020 Geomean	11		4
December 2020 Geomean	9		2
January 2021 Geomean	5		3
2/1/2021	2	<	2
2/2/2021	9		3
2/3/2021	4	<	2
2/8/2021	109		2
2/9/2021	49	<	3
2/15/2021	< 3	<	2
2/16/2021	5		9
2/17/2021	2		2
2/22/2021	135	<	2
2/23/2021	7		3
2/24/2021	4	<	2
February 2021 Geomean	6		3
3/1/2021	4	<	2
3/2/2021	5	<	4
3/3/2021	11		4
3/8/2021	< 2	<	2
3/9/2021	2		3
3/15/2021	7	<	2
3/16/2021	17		5
3/22/2021	9	<	2
3/23/2021	4		3
3/29/2021	< 2		2
3/30/2021	5		2
March 2021 Geomean	5		3

ITEM NO. OM5 STATUS REPORT

Union Effluent Pump Station (UEPS – Formerly AEPS)

No change; all equipment is operational.

Hayward Effluent Pump Station (HEPS)

No change; all equipment is operational.

Oro Loma Effluent Pump Station (OLEPS)

Wet Well Hypochlorite (Hypo) System

On March 30, 2021, the new OLEPS wet well hypo system was placed in service and is currently being tested. Before the project is completed, there are a number of items that still need to be addressed, such as displaying the data on OLSD's SCADA system.

Main Electrical Switchboard Upgrade

Staff is in the process of scheduling an electrical shutdown at OLEPS with PG&E for the first week of June. This shutdown will facilitate the first phase of the project, which includes removing the front panels of the Main Electrical Switchboard for cleaning and inspection, and taking detailed measurements for the new replacement breakers. Prior to the electrical shutdown, a thermographic survey of the Main Electrical Switchboard will be completed.

OLEPS Bypass Test

On April 8, 2021, at 5:00 am, EBDA will be conducting a test of the OLEPS bypass system. The San Leandro force main crew will be opening the OLEPS bypass valve and closing the valve that connects the UEPS and HEPS flows to OLEPS, causing the UEPS and HEPS flows to bypass OLEPS. This test is in preparation for the OLEPS electrical shutdown discussed above.

San Leandro Effluent Pump Station (SLEPS)

No change; all equipment is operational.

Skywest Pump Station

Recycled Water Production

During the month of March 2021, the Skywest Recycled Water System did not produce any recycled water.

Marina Dechlorination Facility (MDF)

No change; all equipment is operational.

Force Main

No change; all equipment is operational.

Operations Center

No change; all equipment is operational.

Miscellaneous Items

Underground Service Alerts

EBDA received eleven (11) Underground Service Alert (USA) tickets during the month of March 2021. Ten required an Electronic Positive Response (EPR), and of the ten, six required calls/emails to the excavators, and three required field verification.

Wet Weather

During the month of March 2021, there were no significant rain events that required the operation of an OLEPS diesel pump.

COVID-19 Response

Authority staff is continuing to implement the Pandemic Response Plan, which includes signage regarding closure of the office to the public and the Authority's social distancing measures on the office door. All meetings are being conducted by phone and web conference until further notice. All EBDA staff members have received two doses of vaccine.

Staff is also continuing to track research efforts utilizing data on the prevalence of SARS-CoV-2 virus in wastewater influent to identify and anticipate COVID-19 community trends, termed wastewater-based epidemiology. Alameda County Public Health is still working to prioritize locations for which wastewater surveillance data will be most helpful and determine how they would use the data. As a pilot program, Union Sanitary District continues to sample twice weekly in their Alvarado basin, which encompasses the City of Union City, with samples analyzed by UC Berkeley.

Special Projects

Cargill Brine Project Due Diligence

EBDA staff is continuing to work with Cargill to assess risks of adding brine to the EBDA transport system, particularly with respect to accelerating corrosion. Staff is recommending Commission approval of additional scope for Brown and Caldwell, EBDA's technical consultant, to assess corrosion mitigation options and costs (see Item No. OM6). In addition, in the next few weeks, staff will be issuing a Request for Proposals for a consultant to assist in preparation of the California Environmental Quality Act (CEQA) documentation for the project. Staff anticipates bringing a CEQA consultant contract to the Commission for consideration in June.

Advanced Quantitative Precipitation Information (AQPI) Project

The regional AQPI project, with a goal of improving prediction of rainfall events in the Bay Area, continues to move forward. The Cooperative Agreement for installation of the X-band radar in the East Bay has been approved by the East Bay agencies, but approval by Sonoma County Water District (Sonoma Water), the implementing agency, was slowed by the COVID-19 emergency and wildfires. The East Bay agreement, as well as the lease agreement with American Tower for the site, are scheduled for approval by Sonoma Water on April 20, 2021. As they await approval of the agreement, the team is preparing for installation of the X-band at Rocky Ridge. The plan is for installation to occur the first week of May.

As implementation of this current phase continues, the AQPI team is actively seeking federal and state funding for the long-term implementation of the program. Informational meetings have been taking place with California state legislators. The table below provides a summary of past and upcoming meetings.

Date	Time	Legislator	District
3/15	11:00 – 11:30	Quirk	AD 20 - Alameda Co.: Fremont, Hayward, Pleasanton
3/15	3:00 – 4:00	Wieckowski	SD 10 - Alameda, Santa Clara Co. - Fremont, Hayward, Milpitas, San Jose
3/25	12:30 – 1:00	Grayson	AD 14 - Alameda, Contra Costa, Napa, Solano Co. - Vallejo, Concord
4/15	12:00 – 12:30	Wicks	AD 15 – Alameda, Contra Costa Co. - Pinole, Richmond, Berkeley
4/21	11:00 – 12:00	Mullin	AD 22 – San Mateo Co. - South San Francisco, Redwood City, Pacifica, Moss Beach

ITEM NO. OM6 MOTION AUTHORIZING THE GENERAL MANAGER TO EXECUTE AMENDMENT NO. 2 TO THE CONTRACT WITH BROWN AND CALDWELL FOR FIELD WORK RELATED TO ACCEPTANCE OF CARGILL MIXED SEA SALT BRINE FOR DISCHARGE AT THE EBDA OUTFALL IN THE AMOUNT OF \$123,478, FOR A TOTAL NOT TO EXCEED AMOUNT OF \$294,589

Recommendation

Approve a motion authorizing the General Manager (GM) to execute Amendment No. 2 to the contract with Brown and Caldwell in the amount of \$123,478.

Background

Brown and Caldwell (BC) is an engineering consulting firm focusing on water and wastewater infrastructure. In 2016-2018, BC conducted a condition assessment of the Authority's transport system and outfall. BC has experience supporting wastewater agencies on a range of transport system issues, including a recent project assessing infrastructure risks associated with desalination brine inputs to the Monterey One Water system.

In August 2020, the Commission authorized the GM to enter into a contract with BC for due diligence work to assess infrastructure risks associated with addition of Cargill Mixed Sea Salt (MSS) brine into the transport system. In October 2020, the Commission authorized Amendment 1 to that contract for BC and their subconsultant to perform more detailed condition assessment of the pipe, including taking concrete samples.

Discussion

Due diligence work conducted to date has concluded that regulatory considerations, sedimentation, and chemical scaling, are unlikely to be limiting factors for EBDA's acceptance of Cargill brine. However, indications are that increases in chloride concentrations associated with the brine have the potential to accelerate corrosion in segments of the transport system that regularly have air entrainment or air gaps.

As noted in previous updates, staff is taking a two-pronged approach to addressing corrosion risks:

- Condition and Vulnerability Assessment: Inspections of the transport system are intended to understand the current state of the pipe and better delineate which conditions and locations are likely to be at greatest risk for accelerated corrosion and thus require mitigation. Results were recently received from the February 10 core sampling event in the San Leandro segment, and another core sampling inspection is being planned for the southern portion of the system.
- Corrosion Mitigation Strategy: Under the proposed amendment, Brown and Caldwell will perform a comprehensive alternatives analysis for addressing corrosion. They will start by developing, with significant input from Cargill and their

consultants, a broad list of options. These will include corrosion mitigation strategies such as sliplining and coating, as well as alternatives to blending the brine with effluent in vulnerable sections, including installing a parallel pipe or a pipe within EBDA's pipe, and blending the brine further downstream. BC will then rule out alternatives that are not practical or feasible, and narrow the list down to three alternatives that they will evaluate in more detail, including constructability and cost.

Because corrosion mitigation has the potential to increase project costs significantly, EBDA and Cargill are also interested to get an early indication of costs to ensure that the overall project will still be feasible. As part of this scope, BC will develop a cost estimate for sliplining all air-exposed sections of EBDA's transport system. This cost will likely be on the high end, with more creative solutions and refinement of vulnerable areas expected to decrease the cost. Therefore, if Cargill's project finances can accommodate the sliplining cost, the parties will feel comfortable continuing to move the project forward. BC is fast-tracking this analysis, with results expected in mid-April.

Cargill has agreed to reimburse the Authority fully for this amendment, including a 5% markup for administration.

Amendment 2: Scope of Work
East Bay Dischargers Authority
Effluent Outfall Evaluation for Receiving Brine Water

April 6, 2021

Purpose

Brown and Caldwell (BC) has assisted the East Bay Dischargers Authority (Authority or EBDA) with a due diligence effort to evaluate potential impacts to the Authority's facilities from accepting Mixed Sea Salts (MSS) brine from the Cargill solar salt facility. Preliminary field work defined and directed by BC and then completed by JDH Corrosion Consultants, Inc (JDH) has indicated that the EBDA Transport Pipeline is at risk of accelerated corrosion and a reduced useful service life due to the proposed addition of brine discharge to the Transport Pipeline by Cargill, Incorporated (Cargill).

The Effluent Outfall Evaluation for Receiving Brine Water scope will be amended to include an analysis of options for corrosion protection for the Transport Pipeline including in-pipe construction alternatives, a parallel pipeline, or maintenance alternatives. This analysis will consist of a two-phased approach, including the following tasks:

- An initial screening to consider and quickly eliminate options that will not provide adequate protection for the Transport Pipeline, have not been implemented in a similar water/wastewater pipeline, or are not feasible from a constructability standpoint, or are not able to be reasonably maintained.
- A second phase will include a more detailed evaluation of feasible options, including an alternatives evaluation and development of concept screening planning level cost estimates in accordance with AACE International/AACEI--formerly Association for the Advancement of Cost Estimating International--Class 5.

BC understands that EBDA and Cargill need to evaluate a go/no go decision on the overall brine discharge project prior to the completion of the detailed alternatives analysis. To aid in this decision, BC will complete a separate task which will develop a planning level cost estimate for the installation of a slipliner within the existing Transport Pipeline. This project is assumed to be feasible both from a corrosion protection and constructability standpoint and is intended to serve as an initial discussion foundation for EBDA and Cargill agreement negotiations.

Authority and Cargill Tasks

The Authority and Cargill will provide the following information to BC as part of execution of this project:

- Available information including survey data, easement information, and record documents such as as-built plans and specifications for the out of service Shell pipeline in proximity to the Transport Pipe.
- Input on BC described potential corrosion protection alternatives as part of project kick-off meeting and alternatives that the Authority and Cargill would like BC to consider as part of initial screening. BC must receive Authority and Cargill input 2 weeks after notice to proceed.
- Draft and final reports for studies completed by Wiss, Janney, Elstner Associates, Inc. (WJE) and Chicago Corrosion Group to be provided at project kickoff will be provided 2 weeks before initial screening workshop.
- Provide available geotechnical record documents for the Transport Pipeline and Shell pipeline corridor.

- Provide design submittals for the brine pipeline and proposed pumping station for evaluation of life cycle costs.
- Authority to provide input on maintenance costs for proposed alternatives.

Amendment 2 Scope of Services

BC will complete the following tasks as part of Amendment 2.

Phase 001. Project Management

Perform Project Management activities.

Task 001.001 – Project Administration

Perform Project Administration tasks for the duration of the extended contract.

Task 001.002 – Project Meetings with Authority Staff and Cargill

Prepare for and hold one (1) kick-off meeting and one (1) progress meeting after completion of the Draft Report for the alternatives analysis. BC has assumed that meetings will be no more than two (2) hours duration each and that they will be conducted virtually using Microsoft Teams for the duration of the project.

At the kick-off meeting, identify and discuss the scope of work and responsibilities of the key team members (i.e., project manager, technical advisor(s), and staff engineer) and establish dates for future meetings and project milestones (data delivery to BC and BC delivery of draft report). The kickoff meeting will include a discussion and agreement upon potential corrosion protection measures that will be considered as part of the initial screening phase.

At the progress meeting following submittal of the draft report, present and review draft deliverables with the Authority and Cargill ahead of finalizing these documents.

Prepare and circulate meeting agendas via email 5 days prior to each meeting. Prepare meeting minutes and circulate via email within 5 days following each meeting.

This task will include 30-minute weekly check in meetings with BC's Project Manager, the Authority, and Cargill's Project Manager. Additional BC staff may attend weekly check in meetings on an as-needed basis, as agreed upon by the Authority and BC. No formal agenda or meeting minutes will be prepared for check-in meetings.

Phase 002. Reporting

Remains unchanged.

Phase 003. Agreement Assistance

Remains unchanged.

Phase 004. Prepare Amendment

Remains unchanged.

Phase 005. Transport Pipeline Condition Assessment

Remains unchanged.

Phase 006. Corrosion Protection Options Initial Screening

Conduct initial screening of corrosion protection alternatives. In parallel to this effort, develop a preliminary cost estimate for a slipliner project option.

006.001 – Background Information Review

Review previous studies completed by WJE and Chicago Corrosion Group, including the Transport Pipeline concrete coring analysis. This work may include materials developed by Cargill, Chicago Corrosion Group, and/or WJE evaluating potential corrosion mitigation options.

Review of available information on the Shell pipeline easement and existing pipeline, which may be available for repurposing as a brine pipeline.

Task 006.002 – Sliplining Preliminary Cost Estimate

BC understands that the Authority and Cargill need a preliminary cost estimate for a feasible corrosion protection alternative prior to the completion of the initial screening and detailed alternatives evaluation (Phase 008).

The Authority has selected sliplining to represent this alternative. The sliplining pipe material will be identified at the start of this task. This task will assume approximately 3 miles of slipliner constructed within the 60-in-diameter segment of the Transport Pipeline between the Oro Loma Effluent Pumping Station and Hayward Effluent Pumping Station, and an approximate 4.4-mile portion of the pipeline between the Hayward Effluent Pumping Station and Union Sanitary District. The estimate will include an allowance for partial bypass pumping and assumes work will be completed during periods of minimum flow in the Transport Pipeline. The slipliner cost estimate will represent a AACEI Class 5, concept level estimate for project construction. The detailed alternatives analysis may later identify a corrosion protection approach that is more cost effective.

Construction costs shall be based on a AACEI Class 5 order of magnitude estimate. Class 5 estimates are generally prepared based on very limited information and without a detailed scope of specific construction requirements, and subsequently have wide accuracy ranges. The range of accuracy with a Class 5 estimate ranges between -20% to -50% on the low side, and +30% to +100% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination, currently thought to be in the range of 35 to 100 percent.

Perform senior technical staff QC review of preliminary cost estimate prior to delivery to the Authority.

Summarize development of preliminary cost estimate and submit electronically to the Authority and Cargill for review and comment. Respond to comments and issue an updated preliminary cost estimate.

Task 006.003 – Initial Screening

Develop and screen potential alternatives for corrosion mitigation/protection for the Transport Pipeline. Alternatives may include:

1. Pipeline Options:
 - a. Spray in Place Linings
 - b. Cured-in-place pipe (CIPP)
 - c. HDPE or Hobas Slipliner
 - d. Spiral wound HDPE or PVC liner
 - e. Continuous fiberglass reinforced plastic (FRP) liner
 - f. Cathodic Protection
2. Small diameter (14 in) brine pipeline installed within Transport Pipeline (i.e., separation between effluent and brine flow streams)
3. Small diameter (14 in) parallel brine pipeline

- a. New pipeline including potential pipe bursting of Shell pipe and/or horizontal directional drilling (HDD) under wetlands
 - b. Rehabilitation/repurposing of Shell pipeline
4. Non-Construction Options
- a. Chemical dosing
 - b. Crown spraying

Initial screening may consider additional alternatives identified at the project kick off meeting. BC will consider up to 12 alternatives as part of the initial screening task. The initial screening will consider whether the alternative will provide adequate corrosion protection and whether the alternative has been implemented in a similar water/wastewater outfall pipeline that has had time to prove the approach and data on the performance from follow-up inspections. Concept level constructability concerns will be evaluated, including bypass pumping considerations. BC will eliminate alternatives from further consideration that are infeasible to construct.

Task 006.004 – Initial Screening Workshop with Stakeholders

Prepare for and attend an initial screening workshop with the Authority, Cargill, and other project stakeholders identified by the Authority and Cargill. Review alternatives considered during the initial screening process and present findings for the three criteria considered as part of Task 006.003. Identify alternatives that do not provide adequate corrosion protection or are economically infeasible to construct.

The workshop will identify three alternatives for additional consideration as part of a detailed alternatives evaluation, to be completed under Phase 007. The workshop will also identify criteria weighting for the Alternatives Analysis included in Phase 007.001.

Prepare and circulate workshop agendas via email ahead of the workshop. Prepare meeting minutes and circulate via email following the workshop.

Phase 007. Corrosion Protection Alternatives Analysis

Carry out an alternatives evaluation on the three alternatives selected as part of the Initial Screening tasks.

Task 007.001 - Alternatives Evaluation & Draft Report

The BC team will collaborate with manufacturers and installers to evaluate each alternative based on the following criteria:

- Corrosion Protection, including ability to protect the Transport Pipeline from accelerated corrosion and concrete degradation due to the addition of MSS brine.
- Constructability, including staging and laydown area, pipe access requirements, pipe surface preparation requirements, bypass pumping requirements, easement acquisition requirements, traffic control needs. Constructability considerations will be conceptual-level details and does not include coordination with property owners or regulatory agencies.
- Permitting, including approximate length of time to permit the proposed alternative, and a preliminary list of agencies and jurisdictions from which permits may be required.
- Operations and Maintenance, including hydraulic impacts to the Transport Pipeline (evaluation completed by Carollo), inspection frequency, future accessibility for inspection and maintenance, and maintenance requirements.
- Life Cycle Costs Develop capital and life-cycle cost estimates for comparison of the three alternatives. Capital costs shall be AACEI Class 5, or order of magnitude estimate. Life cycle

costs will be estimated based on a 20-year life of the project and will consider operational and maintenance costs, including pumping costs for the brine pipeline.

Evaluate the three alternatives against each of the five criteria and identify a preferred alternative for corrosion protection of the Transport Pipeline, using the criteria weights determined at the initial screening workshop. Develop a draft report summarizing the results of the initial screening and detailed alternatives analysis and submit electronically to the Authority and Cargill for review and comment. Authority to review Cargill comments and provide consolidated comments to BC to address.

Task 007.002 - Final Report

Address the Authority's and Cargill's draft report review comments and submit a final report.

Task 007.003 – QC Review

Perform senior technical staff QC review of draft and final deliverables prior to delivery to the Authority.

Assumptions:

- Reports will be in a standard BC template, submitted electronically
- No additional field work is included in this proposal.
- BC will rely on all data and existing record drawings provided by EBDA, Cargill and other third parties without independent verification. Inaccuracies in the data or record drawings may impact recommendations and conceptual cost estimates.
- This scope does not include a detailed assessment of required permits for proposed alternatives. No CEQA is included.
- This scope does not include development of engineering design calculations, drawings, or specifications for the preferred alternative.
- No geotechnical, contamination, environmental assessments, or survey work will be performed as part of this scope of work.
- Assumed easement locations will not be verified with property owners as part of this study.
- Unknown pipeline conditions, potential existing contamination issues along the transport pipeline and unique regulatory requirements may impact the design options and construction costs. These areas will require further investigation as part of a preliminary design phase and is not included in this scope of work.
- Hydraulic modeling will be completed by Carollo. BC will provide parameters for modeling effort (i.e., pipeline diameters and pipe materials for proposed corrosion mitigation alternatives, and Manning's 'n' factor based on generally accepted industry standards for pipe materials).
- No software will be used to complete the alternatives evaluation. Evaluation will be completed in a spreadsheet based on criteria weighting identified at initial screening workshop.
- This scope does not include coordination with property owners or permitting agencies.

Compensation

BC will perform the work on a time-and-materials basis, for a limiting fee not to exceed \$123,478. Table 1 presents the estimated fee. BC labor will be billed using a 3.23 effective labor multiplier. Labor costs include phone, fax, and computer charges.

Table 1. Project Fee	
Phase	Total Fees
Effluent Outfall Evaluation for Receiving Brine Water Project	\$102,684
Amendment 1 -- Transport Pipeline Condition Assessment	\$68,427
Amendment 2 – Corrosion Mitigation Alternatives Analysis	\$123,478
Total	\$294,589

Schedule

The work defined herein shall begin not more than ten (10) business days after BC receives the signed contract from the Authority.

The estimated time for completion for the project is six months following authorization. Delays in obtaining background information, scheduling of meetings, and receipt of comments will impact overall project schedule. Table 2 presents a summary of project milestones with estimated dates. This schedule assumes the Authority and Cargill will provide review comments within 10 days for all BC deliverables.

Table 2. Amendment 1 Schedule	
Milestone	Estimated Timeline
NTP	April 1, 2021
Project Kickoff Meeting/Information Request	April 15, 2021
Background Information Provided by Authority and Cargill	May 1, 2021
Sliplining Preliminary Cost Estimate	March 22, 2021 through April 22, 2021
Initial Screening	April 15, 2021 through May 20, 2021
Initial Screening Workshop	May 20, 2021
Alternatives Analysis	May 21, 2021 through July 12, 2021
Submit Draft Report	July 12, 2021
Authority/Cargill Review	July 13, 2021 through July 26, 2021
Final Report	August 16, 2021

East Bay Dischargers Authority -- Brine Addition to Outfall Eval

Phase	Phase Description	Philipson, Rachel	Rouhani, Shouhreh G	Faisst, William K	Konecny, Kaitlyn	Skipper, Gary N	Garrett, Christopher S	Vistacion-Sumida, Bernadette J	Agster, William P	Goodburn, Daniel L	Tanner, Deanna L	Sapp, David A	Total Labor Hours	Total Labor Effort	APC	JDH		Tom Voss		Total Sub Cost	Total Expense Cost	Total Expense Effort	Total Effort	
		PM	PA	Technical Advisor	Project Engineer	Pipeline Rehab SME	Trenchless SME\	Project Oversight	Cost Estimating	Cost Estimating	Word Processing	QAQC				Hours	Cost	Hours	Cost					
		\$191.80	\$118.77	\$309.92	\$126.07	\$367.57	\$332.59	\$263.96	\$266.09	\$234.69	\$128.65	\$295.48												
001	Project Management	40	24	6	24	6	0	6	0	0	0	0	106	19,197	848		0	0	0	0	0	0	848	20,045
001	Project Administration	12	24	0	0	0	0	6	0	0	0	0	42	6,736	336		0	0	0	0	0	0	336	7,072
002	Project Meetings	28	0	6	24	6	0	0	0	0	0	0	64	12,461	512		0	0	0	0	0	0	512	12,973
006	Corrosion Mit Initial Scrninç	76	0	12	92	22	12	0	2	6	0	4	226	45,094	1,808		4,000	4,000	8,000	8,000	8,000	8,000	10,608	55,702
001	Background Info Review	8	0	0	12	4	4	0	0	0	0	0	28	5,848	224		1,000	1,000	2,000	2,000	2,000	2,000	2,424	8,272
002	Prelim Cost Estimate	12	0	0	20	2	0	0	2	6	0	0	42	7,498	336		0	0	0	0	0	0	336	7,834
003	Initial Screening	40	0	8	60	8	4	0	0	0	0	4	124	23,168	992		3,000	3,000	6,000	6,000	6,000	6,000	7,592	30,760
004	Screening Workshop	16	0	4	0	8	4	0	0	0	0	0	32	8,579	256		0	0	0	0	0	0	256	8,835
007	Corrosion Mit Alt Analysis	48	0	12	100	20	8	0	2	20	12	12	234	45,860	1,872		0	0	0	0	0	0	1,872	47,732
001	Alt Eval & Draft Report	40	0	8	80	16	4	0	2	20	8	0	178	33,703	1424		0	0	0	0	0	0	1,424	35,127
002	Final Report	8	0	4	16	4	4	0	0	0	4	0	40	8,106	320		0	0	0	0	0	0	320	8,426
003	QAQC	0	0	0	4	0	0	0	0	0	0	12	16	4,050	128		0	0	0	0	0	0	128	4,178
GRAND TOTAL		164	24	30	216	48	20	6	4	26	12	16	566	110,150	4,528		4,000	4,000	8,000	8,000	8,000	13,328	123,478	